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Singapore  
Taiwan  
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Vietnam

#### Other Locations

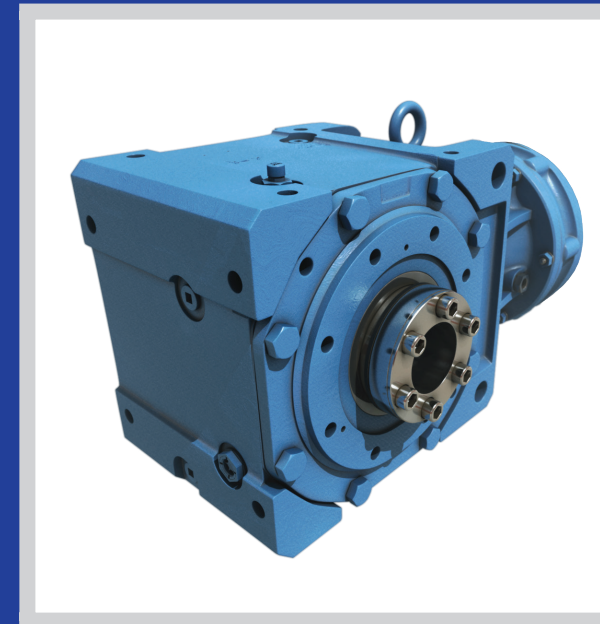
Australia  
India  
New Zealand

Sumitomo Drive Technologies

Cyclo® BBB4 BEVEL BUDDYBOX®

Reducers

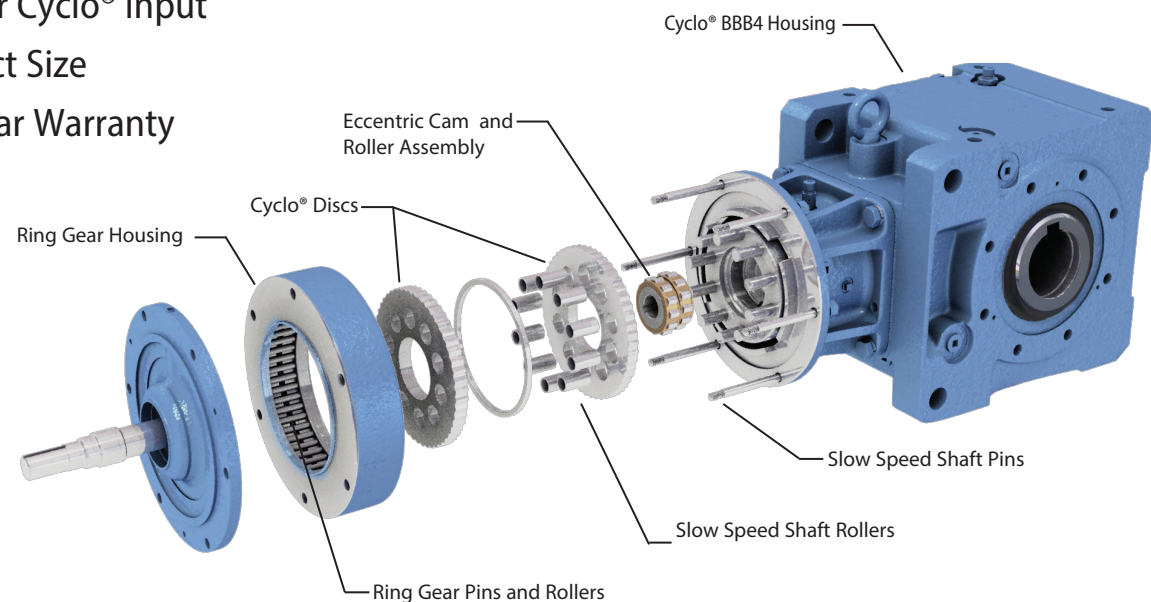
# Sumitomo Drive Technologies



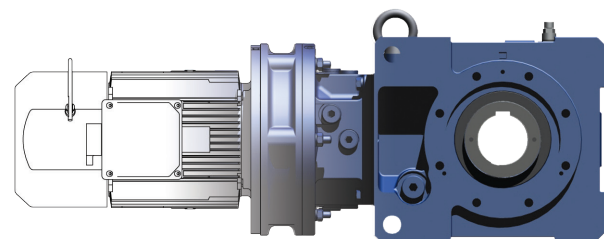
## Cyclo® BBB4 BEVEL BUDDYBOX®

Speed Reducers

- ▶ Rugged Spiral Bevel Output
- ▶ Modular Cyclo® Input
- ▶ Compact Size
- ▶ Two-Year Warranty



Use our online product configurator to build a Cyclo® BBB4 to fit your application. See inside back cover for further details. Configure your Cyclo® BBB4 today at [www.sumitomodrive.com/configurator](http://www.sumitomodrive.com/configurator)



To request a catalog, or for more information on any of our high quality products, please visit our website:

[www.sumitomodrive.com](http://www.sumitomodrive.com)



**Cyclo®**  
Highly reliable, Torque Dense Cycloidal Speed Reducers and Gearmotors in 23 standard sizes.



**Cyclo® BBB5**  
Right Angle, Spiral Bevel Gearbox with Cyclo® Reducer Input.



**Hyponic®**  
Features all-steel hypoid gear design, maintenance-free grease lubrication and high efficiency operation.



**Cyclo® HBB**  
Parallel Shaft, Helical Gearbox with Cyclo® Reducer Input; features keyless, steel Taper-Grip® Bushing for easy mounting.



**HSM**  
Helical Shaft Mounted Speed Reducer available with CEMA Screw Conveyor Drive Option.



**Paramax® 9000**  
Right Angle and Offset Parallel Industrial Gearboxes in Universal Housing.

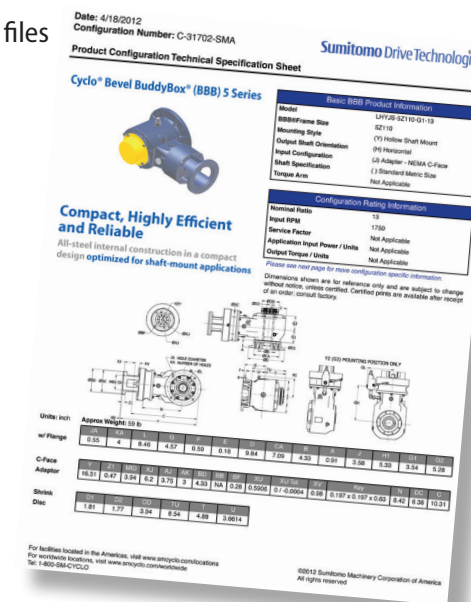
**Trying to select a drive?  
Need more technical specifications?  
Need pricing?**



Sumitomo Drive Technologies' online product Configurator streamlines the selection process, enabling you to build our power transmission products for your specific application\*.

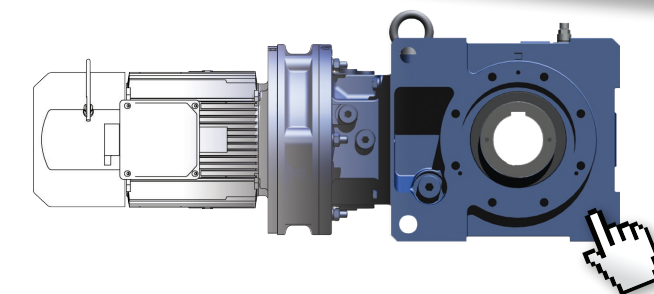
Available 24 hours a day, 7 days a week, registered users quickly receive results that include:

- ▶ Downloadable 2D and 3D CAD files
- ▶ Product literature
- ▶ Technical specification sheet
- ▶ Product ratings
- ▶ Request for quote\*\*
- ▶ Quotations\*\*

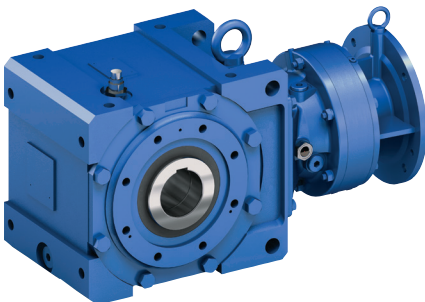
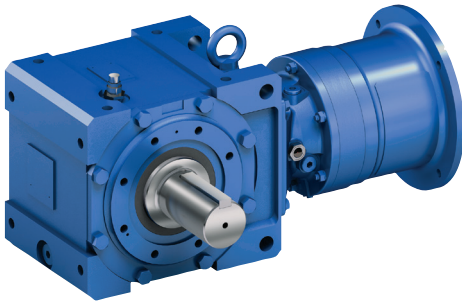
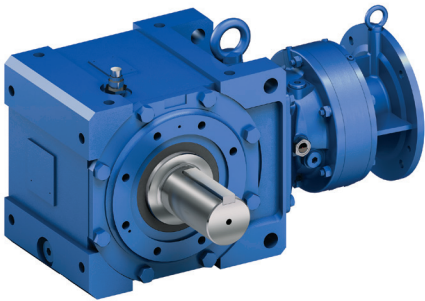


This unique interactive tool is one more reason Sumitomo Drive Technologies is the world's premier power transmission and control solutions provider.

\* Not all products are available for configuration  
\*\* Not available for all regions.



Configure your Cyclo® BBB4 today at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator)



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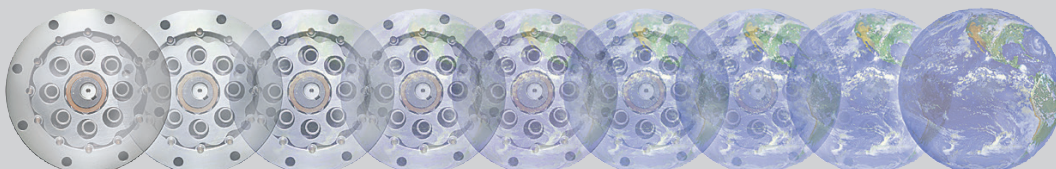
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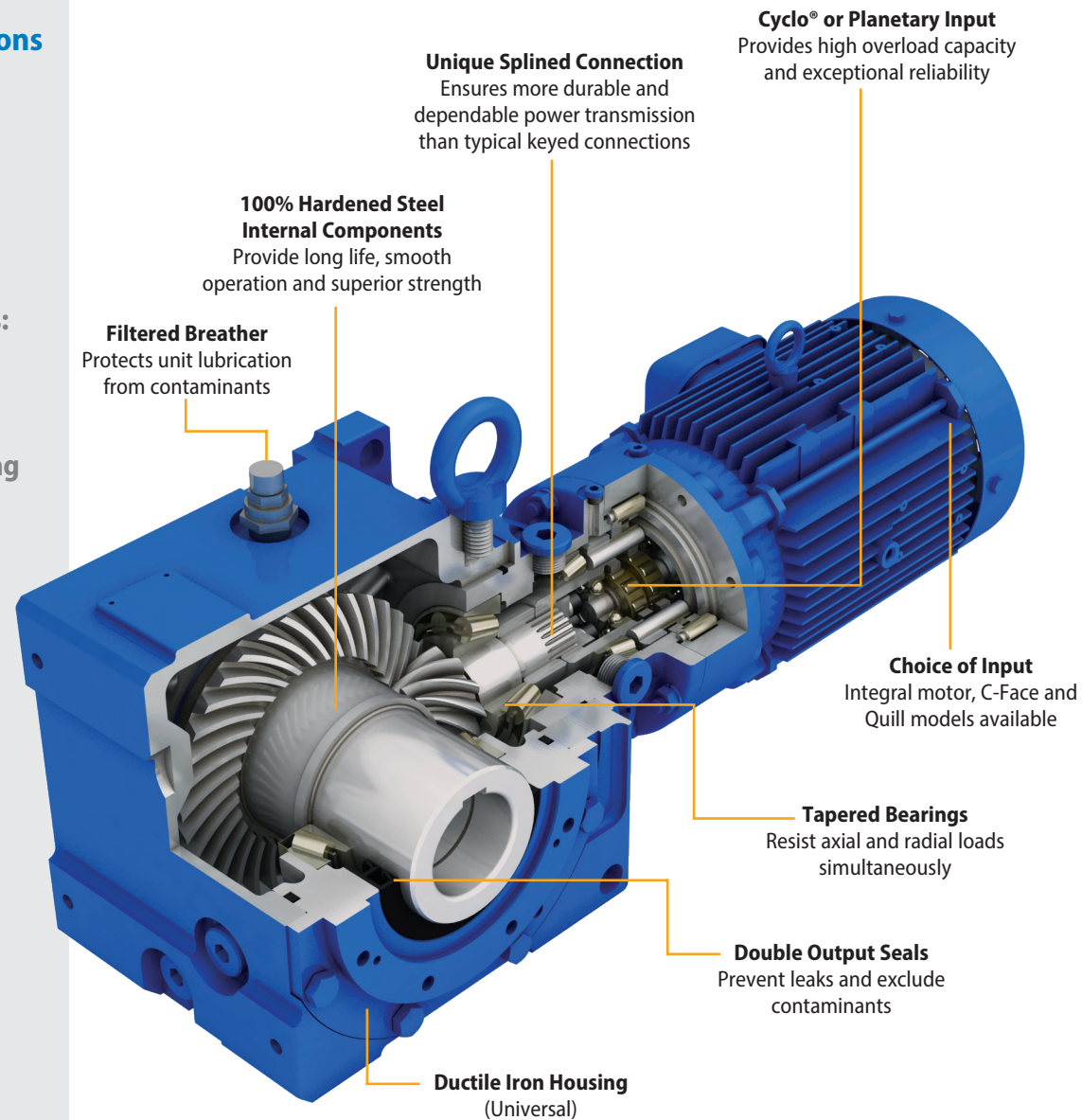
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► Flexible configurations

- Shaft Options:
  - Keyed Hollow
  - Shrink Disc
  - Solid Shaft
  - (Keyless) Taper-Grip® Bushing
- Mounting Options:
  - Flange
  - Foot
  - Shaft
  - Universal Housing



Product Description

The Cyclo® Bevel Buddy Box 4 (Cyclo® BBB4) built by Sumitomo is a robust, state of the art mid-sized all steel family of speed reducers and gearmotors. Building on more than 75 years of successful Cyclo® experience in virtually every application and industry, The result is an extremely compact, efficient and reliable unit in a very power-dense package. The Cyclo® BBB4 is a unique combination of features that results in a highly reliable, efficient and durable gearbox. The all-steel internal construction, in conjunction with the Cyclo® or planetary gear inputs, and ductile iron housing provide unmatched ruggedness.

In addition, the full array of input accessories and output mounting styles provides an amazing ability to customize the product to fit nearly any requirement. These options include solid shaft, hollow bore, shrink disc, free input shaft, integral motor, and C-Face adapter.

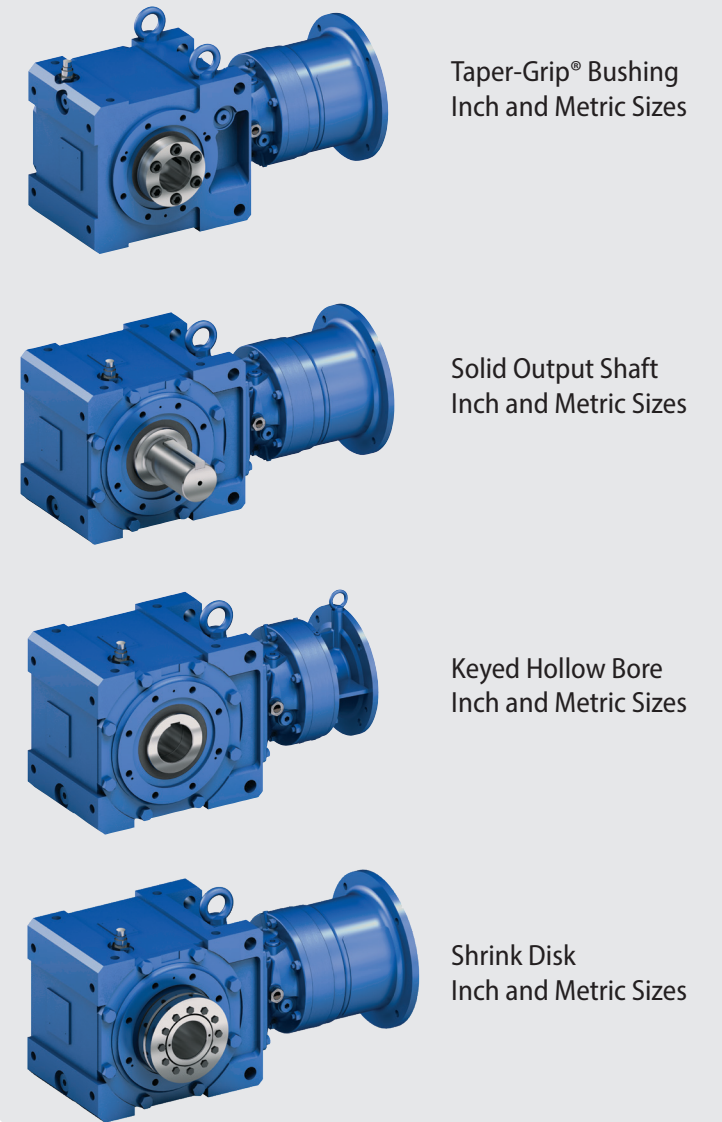
Features & Benefits

- **100% Hardened Steel Rotating Components**  
~ Provide high efficiency, long life and exceptional reliability
- **Cycloidal or Planetary Input**  
~ Unmatched capability to handle overloads
- **Double Output Seals**  
~ Four seal lips on every unit virtually eliminates the possibility of leaks
- **Dimensionally Interchangeable with BBB3**  
~ Simple, economical retrofits
- **Patented Taper-Grip® Bushing**  
~ Simple, keyless shaft mounting
- **Two year warranty**  
~ Not limited by hours of operation or duty cycles

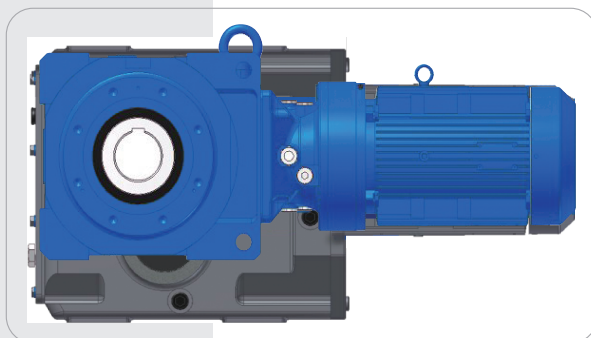
Specifications Summary

**Ratios:** 11:1 to 26,000:1 and greater  
**Torque Capacity:** 159,983 in. lbs. (17,400N-m)  
**HP:** 1/8 to 100 (0.10 to 75 kW)  
**Mounting:** Hollow Shaft, Foot, Flange, Face  
**Options:** Integral Motor, C-Face, Quill, Shrink Disc and Shovel Base  
**Motor Standards:** NEMA, IEC, JIS, UL, CSA, CE

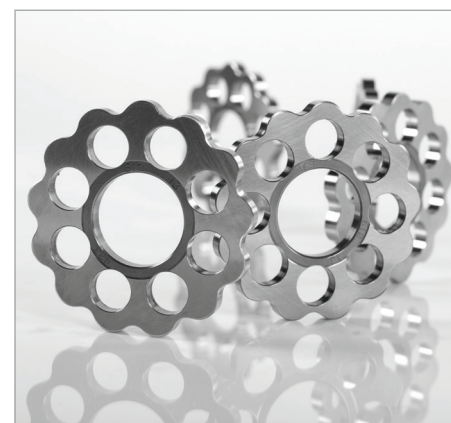
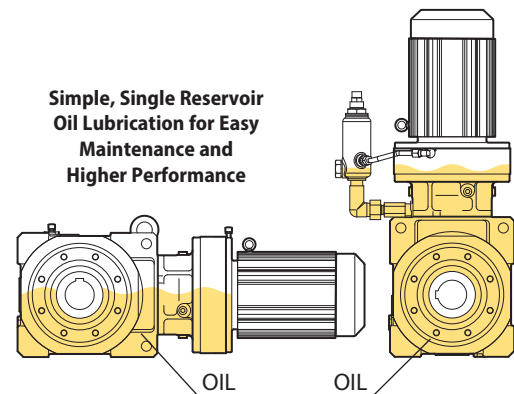
► Popular Input and Output Options



More Compact, Space-Saving Design Than Typical Right-Angle Gearboxes



Simple, Single Reservoir Oil Lubrication for Easy Maintenance and Higher Performance



Cyclo® Quality and Reliability, Right Angle Design

- High performance steel input components deliver up to 94% efficiency
- Cycloidal technology offers reliable operation, long life and high shock load capacity







# Standard Specifications

## Reducer

Reduction:	Combination of Cyclo® input and right angle spiral bevel gear output.
Lubrication:	In all mounting configurations except Y4, the Cyclo and Bevel portions are oil lubricated. For the Y4 mounting configuration, the Cyclo portion is grease lubricated and the bevel portion is oil lubricated.
Seals:	Nitrile material, dual lipped.
Material:	Rugged ductile cast iron housings in all sizes.
Paint Color:	Blue, Munsell color number 6.5PB 3.6/8.2
Bearings:	Tapered roller bearings on geared output of all sizes. Ball bearings on Cyclo® input.

## Ambient Conditions

Installation Location:	Indoors (Minimal dust and humidity)
Ambient Temperature:	14°~104° F (-10° ~ 40° C)
Ambient Humidity:	Under 85%
Elevation:	Under 3,281 ft. (1000 meters)
Atmosphere:	Well ventilated location, free of corrosive gases, explosive gases, vapors and dust.

## Shaft Rotation

On single reduction Cyclo® BBB4 speed reducers, ratios 11 through 417, the slow speed shaft rotates in a reverse direction to that of the high speed shaft.

On double reduction units, ratios 364 through 26,492, both the high speed and the slow speed shaft rotate in the same direction.

## Input Speeds

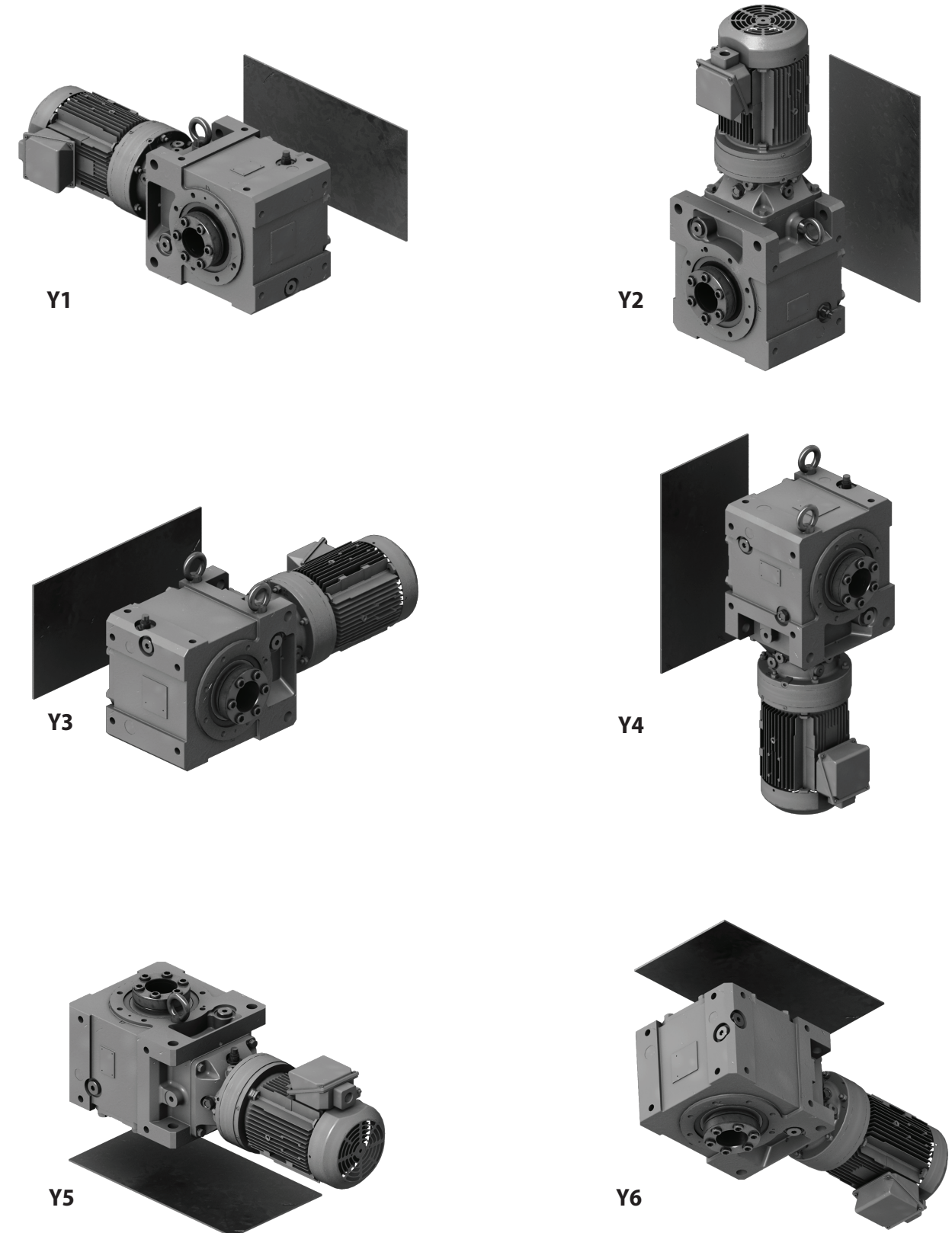
In general terms, the standard input speeds of single reduction units are 1750 and 1450 RPM. When non-standard input speeds are used, the power and torque ratings will also vary.

## Thermal Capacity

The Cyclo® BBB4 speed reducer's smooth, almost frictionless operation all but eliminates the conventional limitations due to heat. In all sizes, Cyclo® BBB4 speed reducers have thermal ratings that exceed their mechanical capacity.

# Mounting Positions

Note: 1. Mounting positions are shown with standard (Taper Grip Bushing) output option.  
2. The plane of reference represents the location of customer's equipment.





# Additional Mounting Positions

Figure 1.1 Keyed Hollow Output Bore - Output Flange Left

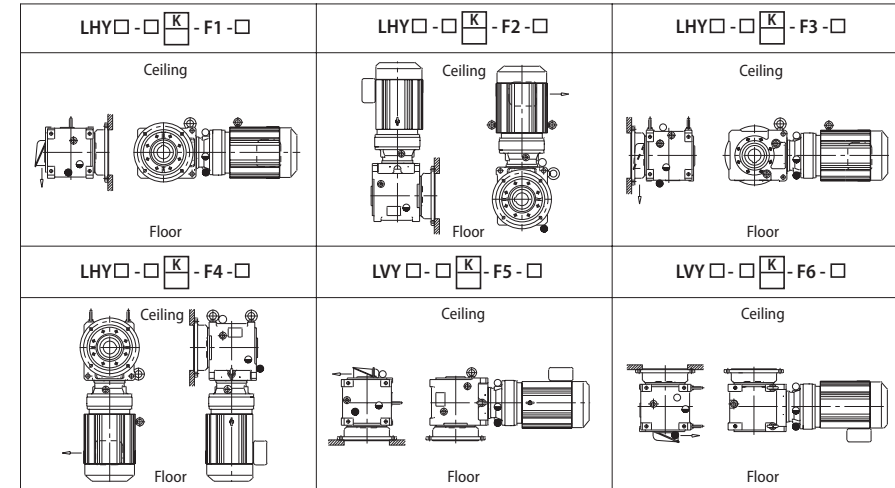


Figure 1.2 Keyed Hollow Output Bore - Output Flange Right

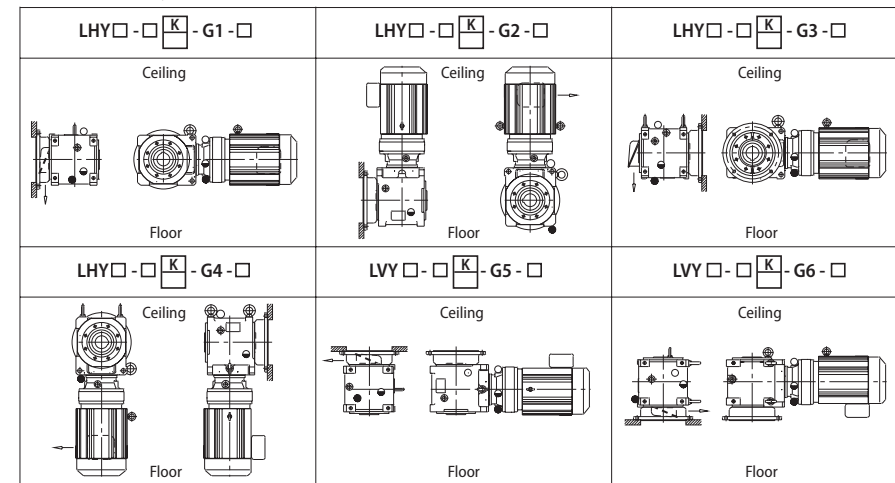
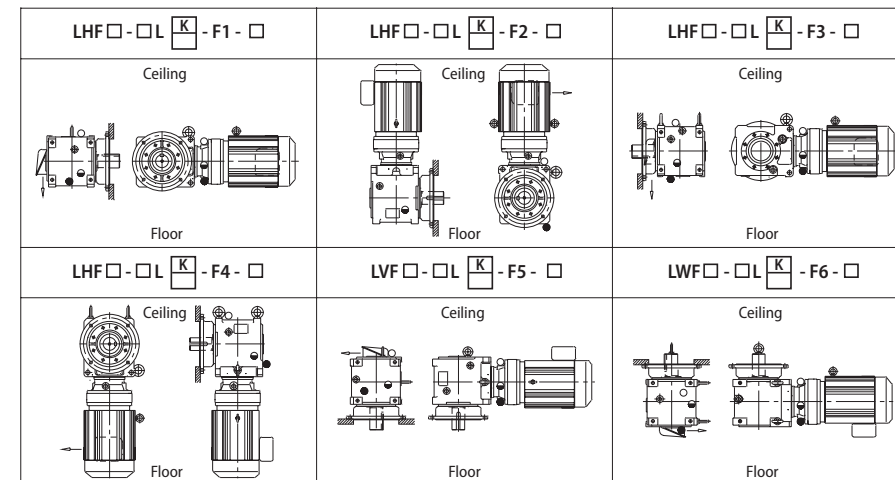


Figure 1.3 Solid Output Shaft (L) - Output Flange Left



Notes: [1] K = inch diameter shaft or keyed hollow bore; blank = metric diameter shaft or keyed hollow bore.  
 [2] ← = direction of lead wires out of terminal box.

# Additional Mounting Positions continued

Figure 1.4 Solid Output Shaft Right (R) - Output Flange Right

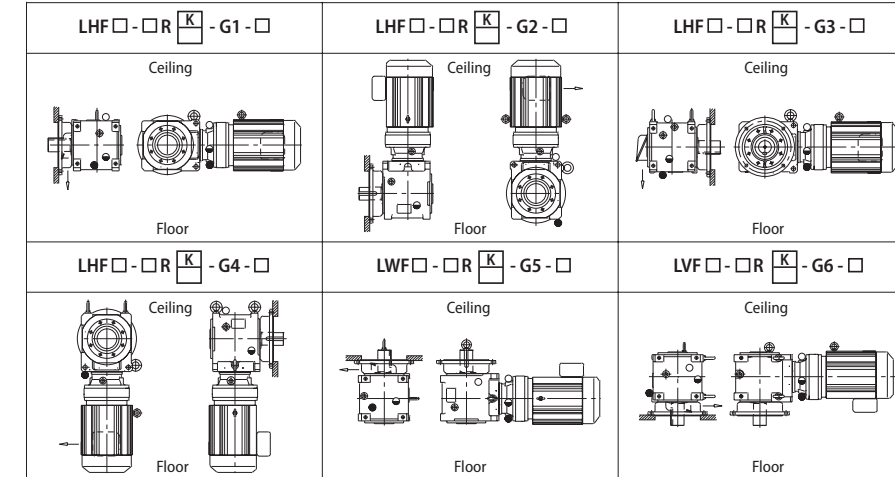


Figure 1.5 Double Extended Solid Output Shaft (T) - Output Flange Left

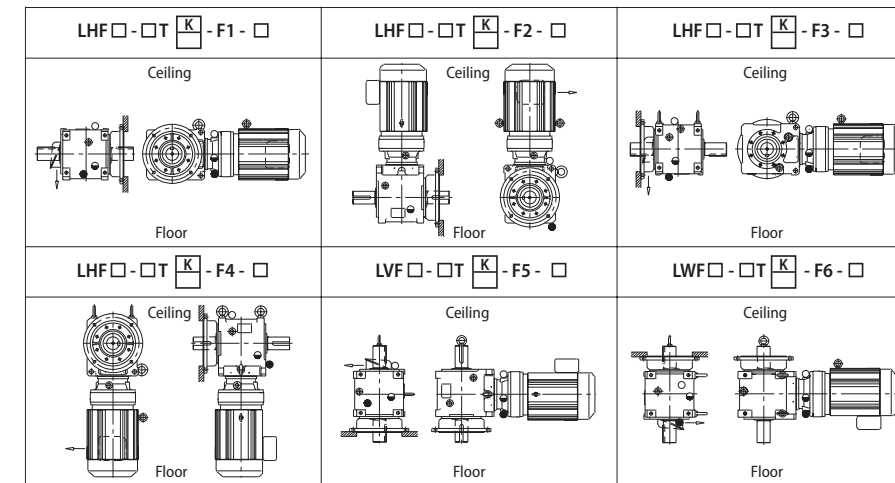
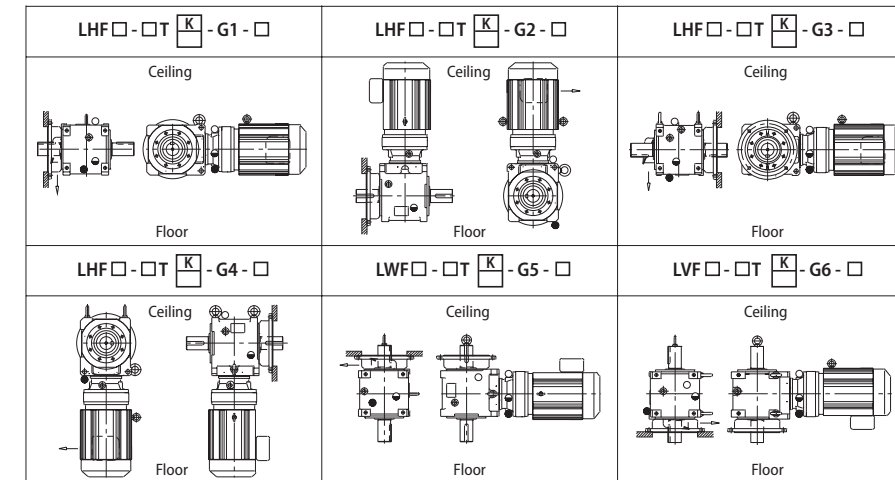


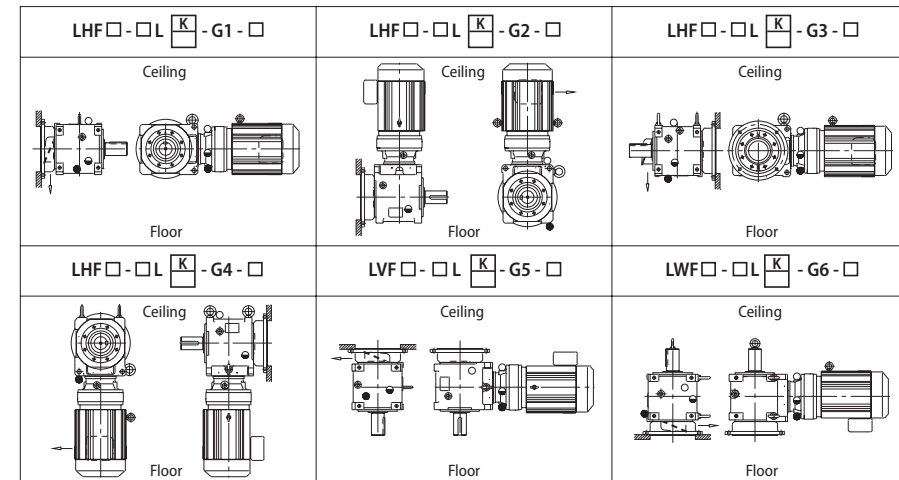
Figure 1.6 Double Extended Solid Output Shaft (T) - Output Flange Right



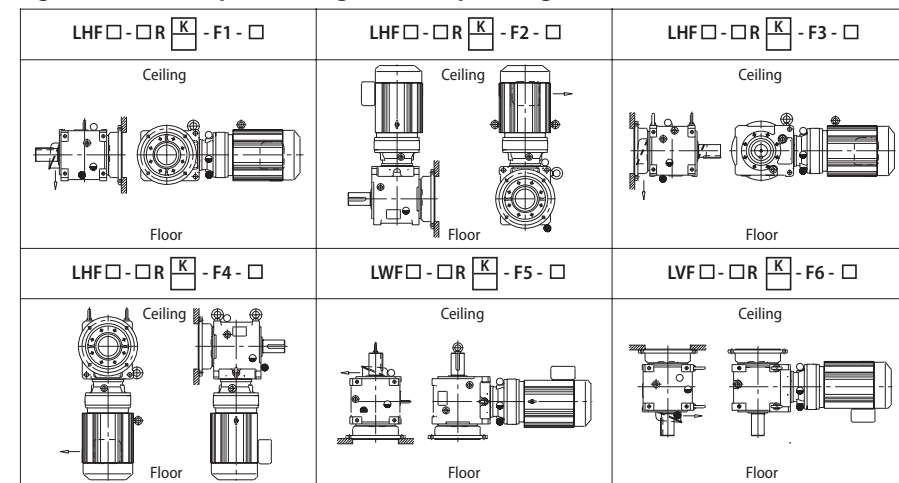
Notes: [1] K = inch diameter shaft or keyed hollow bore; blank = metric diameter shaft or keyed hollow bore.  
 [2] ← = direction of lead wires out of terminal box.

# Additional Mounting Positions continued

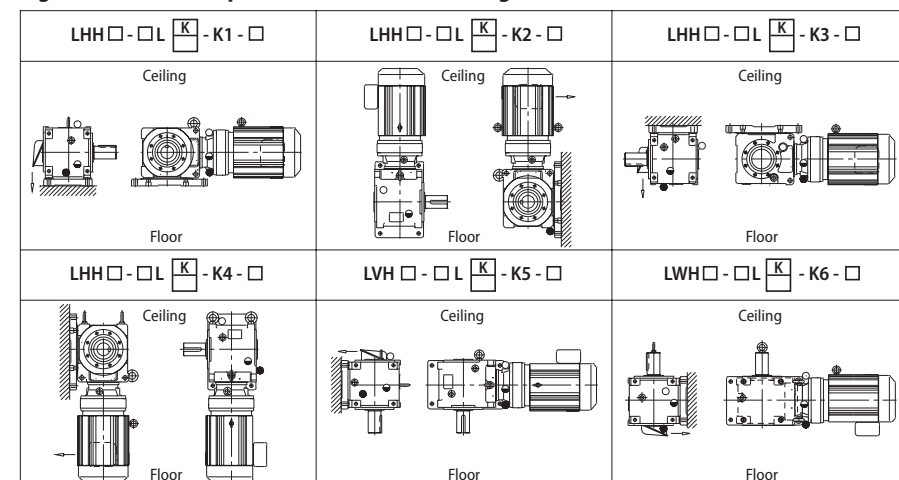
**Figure 1.7 Solid Output Shaft Left (L) - Output Flange Right**



**Figure 1.8 Solid Output Shaft Right (R) - Output Flange Left**



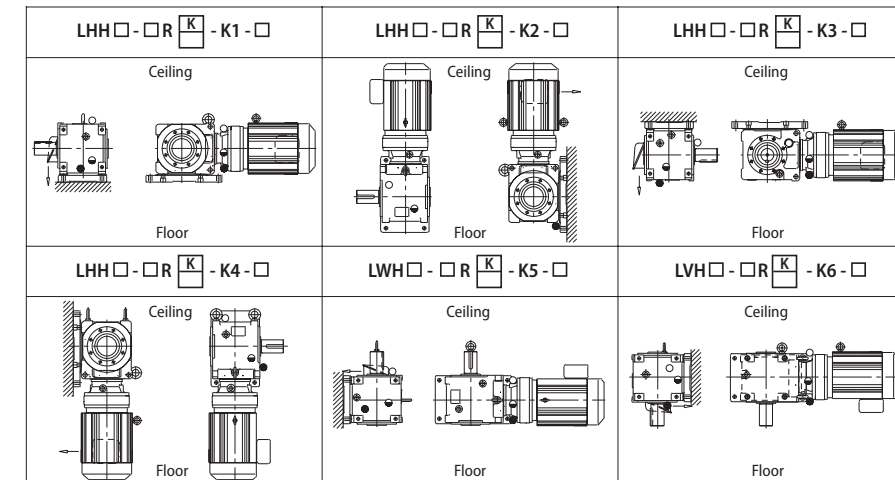
**Figure 1.9 Solid Output Shaft Left (L) - Mounting Foot Bottom**



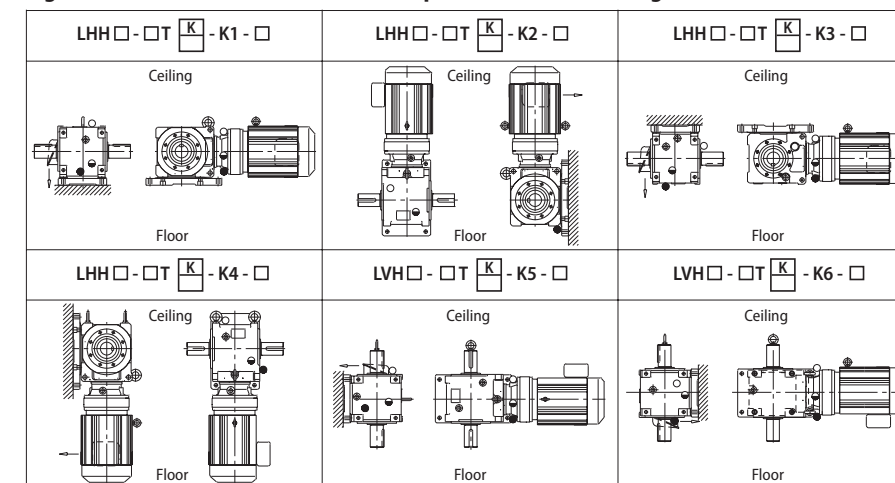
**Notes:** [1] K = inch diameter shaft or keyed hollow bore; blank = metric diameter shaft or keyed hollow bore.  
[2] ← = direction of lead wires out of terminal box.

# Additional Mounting Positions continued

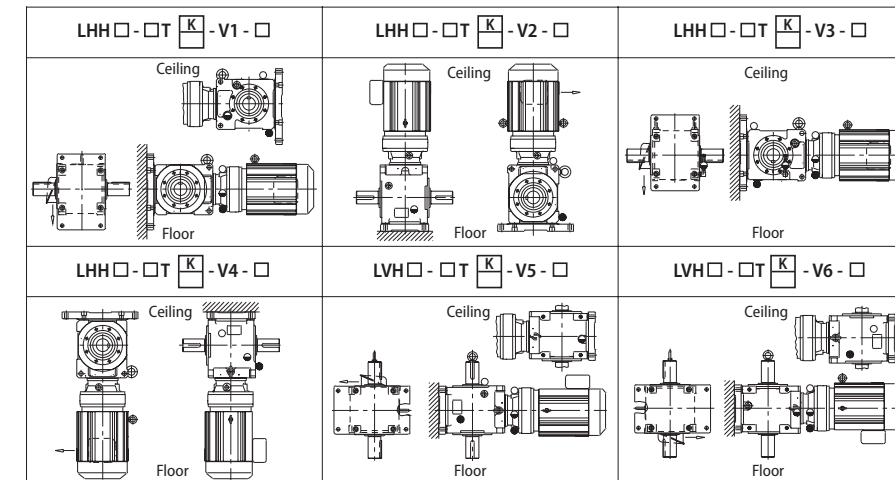
**Figure 1.10 Solid Output Shaft Right (R) - Mounting Foot Bottom**



**Figure 1.11 Double Extended Solid Output Shaft (T) - Mounting Foot Bottom**



**Figure 1.12 Double Extended Solid Output Shaft (T) - Mounting Foot Side**

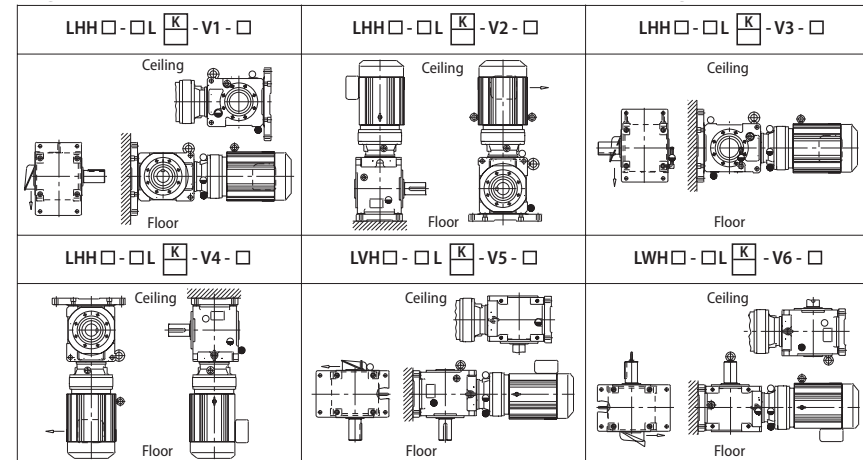


**Notes:** [1] K = inch diameter shaft or keyed hollow bore; blank = metric diameter shaft or keyed hollow bore.  
[2] ← = direction of lead wires out of terminal box.

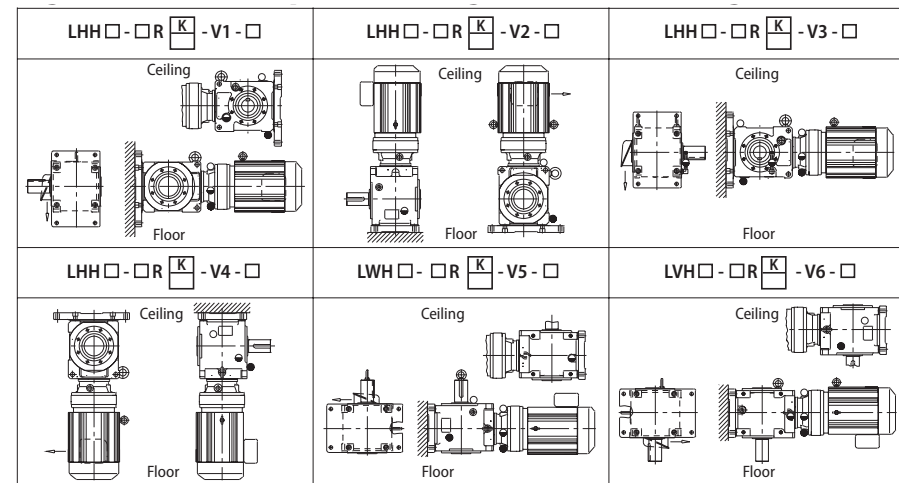


# Additional Mounting Positions continued

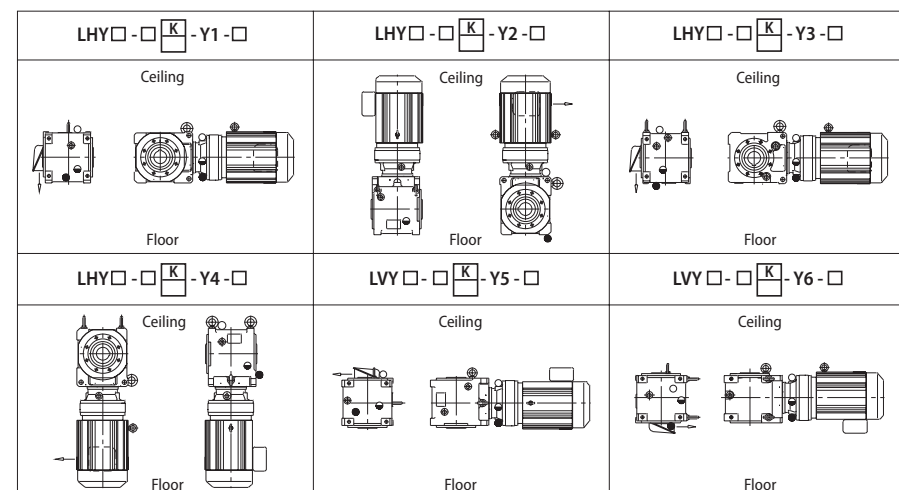
**Figure 1.13 Solid Output Shaft Left (L) - Mounting Foot Side**



**Figure 1.14 Solid Output Shaft Right (R) - Mounting Foot Side**



**Figure 1.15 Keyed Hollow Bore Output Bore**



**Notes:** [1] K = inch diameter shaft or keyed hollow bore; blank = metric diameter shaft or keyed hollow bore.  
 [2] ← = direction of lead wires out of terminal box.

# Optional Nominal and Exact Ratios

		Single Reduction										
Nominal Ratio	Overall	19	26	42	48	54	93	138	163	189	227	278
	Input	6	8	13	15	17	29	43	51	59	71	87
Exact Ratio	Overall	19.2	25.6	41.6	48	54.4	92.8	137.6	163.2	188.8	227.2	278.4
	Input	6	8	13	15	17	29	43	51	59	71	87

		Double Reduction															
Nominal Ratio	Overall	387	403	420	435	441	458	476	525	528	538	541	557	588	598		
	Input	121	126	120	136	126	143	136	150	165	168	169	174	168	187		
Exact Ratio	Overall	387.2	403.2	420.0	435.2	441.0	457.6	476.0	525.0	528.0	537.6	540.8	556.8	588.0	598.4		
	Input	(11 x 11)	(21 x 6)	(15 x 8)	(17 x 8)	(21 x 6)	(13 x 11)	(17 x 8)	(25 x 6)	(15 x 11)	(21 x 8)	(13 x 13)	(29 x 6)	(21 x 8)	(17 x 11)		
Nominal Ratio	Overall	609	624	640	655	672	707	720	739	774	788	812	816	826	874		
	Input	174	195	200	187	210	221	225	231	221	225	232	255	258	273		
Exact Ratio	Overall	609.0	624.0	640.0	654.5	672.0	707.2	720.0	739.2	773.5	787.5	812.0	816.0	825.6	873.6		
	Input	(29 x 6)	(15 x 13)	(25 x 8)	(17 x 11)	(35 x 6)	(17 x 13)	(15 x 15)	(21 x 11)	(17 x 13)	(15 x 15)	(29 x 8)	(17 x 15)	(43 x 6)	(21 x 13)		
Nominal Ratio	Overall	893	896	903	925	963	980	1008	1012	1021	1040	1071	1103	1138	1142		
	Input	255	280	258	289	275	280	315	289	319	325	306	315	325	357		
Exact Ratio	Overall	892.5	896.0	903.0	924.8	962.5	980.0	1008.0	1011.5	1020.8	1040.0	1071.0	1102.5	1137.5	1142.4		
	Input	(17 x 15)	(35 x 8)	(43 x 6)	(17 x 17)	(25 x 11)	(35 x 8)	(21 x 15)	(17 x 17)	(29 x 11)	(25 x 13)	(51 x 6)	(21 x 15)	(25 x 13)	(21 x 17)		
Nominal Ratio	Overall	1200	1204	1206	1232	1239	1250	1306	1313	1348	1360	1392	1411	1428	1456		
	Input	375	344	377	385	354	357	408	375	385	425	435	441	408	455		
Exact Ratio	Overall	1200.0	1204.0	1206.4	1232.0	1239.0	1249.5	1305.6	1312.5	1347.5	1360.0	1392.0	1411.2	1428.0	1456.0		
	Input	(25 x 15)	(43 x 8)	(29 x 13)	(35 x 11)	(59 x 6)	(21 x 17)	(51 x 8)	(25 x 15)	(35 x 11)	(25 x 17)	(29 x 15)	(21 x 21)	(51 x 8)	(35 x 13)		
Nominal Ratio	Overall	1488	1510	1514	1523	1544	1578	1593	1652	1670	1680	1726	1789	1795	1818		
	Input	425	472	473	435	441	493	455	472	522	525	525	559	561	568		
Exact Ratio	Overall	1487.5	1510.4	1513.6	1522.5	1543.5	1577.6	1592.5	1652.0	1670.4	1680.0	1725.5	1788.8	1795.2	1817.6		
	Input	(25 x 17)	(59 x 8)	(43 x 11)	(29 x 15)	(21 x 21)	(29 x 17)	(35 x 13)	(59 x 8)	(87 x 6)	(35 x 15)	(29 x 17)	(43 x 13)	(51 x 11)	(71 x 8)		
Nominal Ratio	Overall	1827	1838	1904	1949	1964	1988	2000	2064	2077	2083	2132	2188	2227	2258		
	Input	522	525	595	609	561	568	625	645	649	595	609	625	696	645		
Exact Ratio	Overall	1827.0	1837.5	1904.0	1948.8	1963.5	1988.0	2000.0	2064.0	2076.8	2082.5	2131.5	2187.5	2227.2	2257.5		
	Input	(87 x 6)	(35 x 15)	(35 x 17)	(29 x 21)	(51 x 11)	(71 x 8)	(25 x 25)	(43 x 15)	(59 x 11)	(35 x 17)	(29 x 21)	(25 x 25)	(87 x 8)	(43 x 15)		
Nominal Ratio	Overall	2320	2339	2352	2436	2448	2454	2499	2538	2573	2678	2685	2691	2734	2774		
	Input	725	731	735	696	765	767	781	725	735	765	767	841	781	867		
Exact Ratio	Overall	2320.0	2339.2	2352.0	2436.0	2448.0	2454.4	2499.2	2537.5	2572.5	2677.5	2684.5	2691.2	2733.5	2774.4		
	Input	(29 x 25)	(43 x 17)	(35 x 21)	(87 x 8)	(51 x 15)	(59 x 13)	(71 x 11)	(29 x 25)	(35 x 21)	(51 x 15)	(59 x 13)	(29 x 29)	(71 x 11)	(51 x 17)		
Nominal Ratio	Overall	2800	2832	2890	2954	3035	3062	3098	3161	3210	3231	3238	3248	3350	3408		
	Input	875	885	903	923	867	957	875	885	903	1003	923	1015	957	1065		
Exact Ratio	Overall	2800.0	2832.0	2889.6	2953.6	3034.5	3062.4	3097.5	3160.5	3209.6	3230.5	3238.0	3248.0	3349.5	3408.0		
	Input	(35 x 25)	(59 x 15)	(43 x 21)	(71 x 13)	(51 x 17)	(87 x 11)	(35 x 25)	(59 x 15)	(43 x 21)	(59 x 17)	(71 x 13)	(35 x 29)	(87 x 11)	(71 x 15)		
Nominal Ratio	Overall	3427	3440	3553	3619	3728	3749	3763	3862	3920	3965	3990	4080	4176	4225		
	Input	1071	1075	1015	1131	1065	1071	1075	1207	1225	1239	1247	1275	1305	1207		
Exact Ratio	Overall	3427.2	3440.0	3552.5	3619.2	3727.5	3748.5	3762.5	3862.4	3920.0	3964.8	3990.4	4080.0	4176.0	4224.5		
	Input	(51 x 21)	(43 x 25)	(35 x 29)	(87 x 13)	(71 x 15)	(51 x 21)	(43 x 25)	(71 x 17)	(35 x 35)	(59 x 21)	(43 x 29)	(51 x 25)	(87 x 15)	(71 x 17)		
Nominal Ratio	Overall	4288	4337	4463	4568	4720	4771	4816	5163	5219	5268	5475	5680	5712	5846		
	Input	1225	1239	1275	1305	1475	1491	1505	1475	1491	1505	1711	1775	1785	1827		
Exact Ratio	Overall	4287.5	4336.5	4462.5	4567.5	4720.0	4771.2	4816.0	5162.5	5218.5	5267.5	5475.2	5680.0	5712.0	5846.4		
	Input	(35 x 35)	(59 x 21)	(51 x 25)	(87 x 15)	(59 x 25)	(71 x 21)	(43 x 35)	(59 x 25)	(71 x 21)	(43 x 35)	(59 x 29)	(71 x 25)	(51 x 35)	(87 x 21)		
Nominal Ratio	Overall	5917	5989	6213	6248	6395	6589	6608	6960	7018	7207	7613	7676	7952	8074		
	Input	1849	1711	1775	1785	1827	2059	2065	2175	2193	2059	2175	2193	2485	2523		
Exact Ratio	Overall	5916.8	5988.5	6212.5	6247.5	6394.5	6588.8	6608.0	6960.0	7017.6	7206.5	7612.5	7675.5	7952.0	8073.6		
	Input	(43 x 43)	(59 x 29)	(71 x 25)	(51 x 35)	(87 x 21)	(71 x 29)	(59 x 35)	(87 x 25)	(51 x 43)	(71 x 29)	(87 x 25)	(51 x 43)	(71 x 35)	(87 x 29)		
Nominal Ratio	Overall	8118	8323	8698	8831	9104	9629	9744	9770	10532	10686	11139	11587	11971			
	Input	2537	2601	2485	2523	2601	3009	3045	3053	3009	3053	3481	3621	3741			
Exact Ratio	Overall	8118.4	8323.2	8697.5	8830.5	9103.5	9628.8	9744.0	9769.6	10531.5	10685.5	11139.2	11587.2	11971.2			
	Input	(59 x 43)	(51 x 51)	(71 x 35)	(87 x 29)	(51 x 51)	(59 x 51)	(87 x 35)	(71 x 43)	(59 x 51)	(71 x 43)	(59 x 59)	(71 x 51)	(87 x 43)			
Nominal Ratio	Overall	12674	13094	13405	14198	14662	16131	16426	17644	19766	24221						
	Input	3621	3741	4189	4437	4189	5041	5133	5041	6177	7569						
Exact Ratio	Overall	12673.5	13093.5	13404.8	14198.4	14661.5	16131.2	16425.6	17643.5	19766.4	24220.8						
	Input	(71 x 51)	(87 x 43)	(71 x 59)	(87 x 51)	(71 x 59)	(71 x 71)	(87 x 59)	(71 x 71)	(87 x 71)	(87 x 87)						

All ratios listed include double reduction Cyclo® inputs. Consult factory for available frame sizes and ratings.

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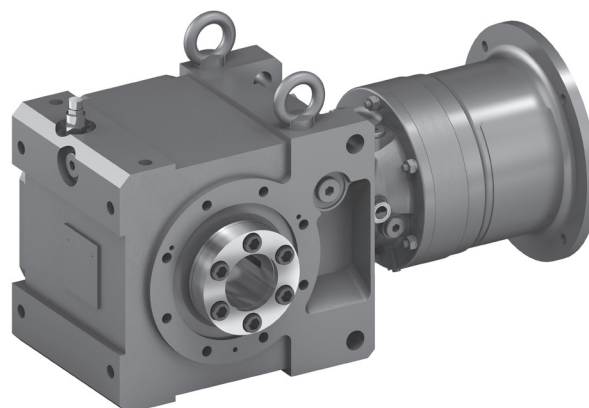
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# 2

# Speed Reducers

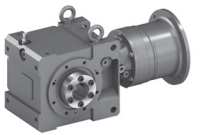
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Speed  
Reducers

How to  
Select

# How to select a Speed Reducer



## Step 1: Collect data about your application

Before starting you need to know the:

- Application (e.g. Conveyor, Mixer, etc.)
- Hours of Operation per day
- Motor Power (HP or kW) and Speed (RPM)
- Desired Output Speed
- Mounting Position and Style
- Overhung or Thrust Loads
- Bore Dimensions (inch or metric)

## Step 2: Choose a Mounting Position

Find the correct Mounting Position from the *Mounting Positions Table* on the right.

## Step 3: Select a Frame Size

**3A:** Find the **Load Classification** of your application in the *AGMA Load Classification Table* on page 2.6.

**3B:** Find the recommended Service Factor using the *Recommended Reducer Service Factor Table* on the right.

**3C:** Determine the **Selection Power** (HP or kW) by multiplying the Motor Power (HP or kW) by the Service Factor.

**3D:** Select a **Frame size** from the Reducer Selection Tables on pages 2.8–2.115 by matching both the Selection Power (HP or kW) and Desired Output Speed (RPMs) to a frame size model number.  
**Note:** For Mounting Positions Y1, Y2, Y3, Y5, and Y6 see pages 2.8–2.103. For Mounting Position Y4 see pages 2.104–2.127. For all Double Reduction Mounting Positions see pages 2.128–2.155.

## Step 4: Verify Dimensions

Use the Dimensions information on pages 2.156–2.177 to verify that the selected Frame Size is appropriate.

## Step 5: Choose an Output Connection Method

Select solid shaft, keyed hollow bore, shrink disc or Taper-Grip® Bushing, and the associated bore size. For Taper-Grip® Bushing select a Bore Size from the *Stock Bushing Bore Size Table*.

## Step 6: Choose Options

The following options may apply:

### Washdown Modification Breather

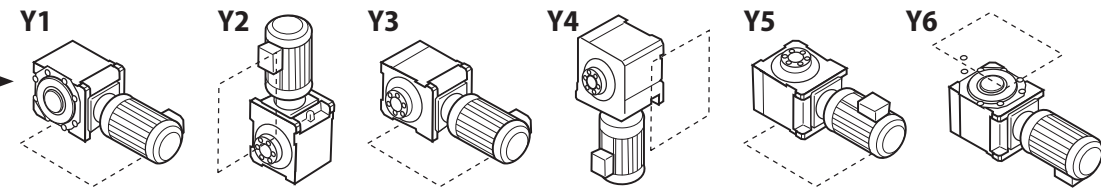
Please refer to our online Product Configurator at [www.sumitomodrive.com/configurator](http://www.sumitomodrive.com/configurator) for available modifications.

## Step 7: Configure a Model Number

Go to page 2.4 to configure a model number.

**Note:** You will use the information you gather from the procedure on this page to Configure a Model Number.

### Mounting Positions



### Primary Reducer Service Factors Classifications:

Duration of Service <sup>(1)</sup>	AGMA Load Classifications		
	Uniform (U)	Moderate Shock (M)	Heavy Shock (H)
1/2 hr. per day (Occasional)	0.50 <sup>(2)</sup>	0.80 <sup>(2)</sup>	1.25
3 hrs. per day (Intermittent)	0.80 <sup>(2)</sup>	1.00	1.50
Up to 10 hrs. per day	1.00	1.25	1.75
24 hrs. per day	1.20	1.50	2.00

**Note: [1]** For applications involving greater than 10 starts/stop per hour, consider Modifications for Frequent Starts (Special Specification Code YB51)

**Note: [2]** Maximum momentary or starting load must not exceed 200% of gear reducer rating (rating meaning service factor of 1.0). Time specified for occasional and intermittent service refers to total operating time per day.

### Alternative Method for Selecting Reducer Service Factors - Based on Application Inertia:

If the application does not match an existing AGMA Load Classification, and application inertia is known, this alternative method may be used to select the recommended service factor. For starts greater than 10x per hour, check the appropriate motor Thermal Capacity for frequent starts.

### Calculate the Ratio of Moment of Inertia

$$\text{Ratio of Moment of Inertia (WR}^2\text{)} = \frac{\text{Total Application + Reducer Moment of Inertia (WR}^2\text{) as seen from motor shaft}}{\text{Moment of Inertia (WR}^2\text{) of motor}}$$

- I = Ratio of Moment of Inertia (WR<sup>2</sup>) ≤ 0.3
- II = Ratio of Moment of Inertia (WR<sup>2</sup>) 0.3 < WR<sup>2</sup> ≤ 3.0
- III = Ratio of Moment of Inertia (WR<sup>2</sup>) 3.0 < WR<sup>2</sup> ≤ 10

Number of starts (Times/hour)	~10 hours/day			~24 hours/day		
	I	II	III	I	II	III
~10	1.00	1.15	1.50	1.20	1.30	1.65
~200	1.10	1.35	1.65	1.30	1.50	1.85
~500	1.15	1.50	1.80	1.40	1.65	2.00

### Determine Selection Power (HP or kW)

$$\text{Motor Power (HP or kW)} \times \text{Service Factor} = \text{Selection Power (HP or kW)}$$

**Example:** 10 Motor HP X 1.25 Service Factor = 12.5 Selection HP  
 11 kW X 1.25 Service Factor = 13.75 Selection kW

### Select a Frame Size

1 Match your OUTPUT RPM (or RATIO)...

Output RPM	159.1	134.6	125.0	109.4	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	15	18	21	22	25	28	35	39	46	53	
Input Power HP (kW)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	3.15 (2.35)	
Output Torque in-lbs (N-m)	1095 (124)	1335 (151)	1460 (165)	1670 (189)	1970 (227)	2480 (284)	—	—	2925 (331)	3680 (416)	4025 (451)	4750 (537)	5485 (620)	
Hollow Shaft OHL lbs (N)	3705 (16500)	3930 (17500)	4020 (17900)	4155 (18500)	4270 (19000)	4470 (19900)	—	—	4785 (21300)	5055 (22500)	5170 (23000)	5350 (23800)	5530 (24600)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	

2 ...to your SELECTION HP (kW)

3 ...to find your FRAME SIZE

### STOCK BUSHING BORE SIZE

Size	Stock Bushing Bores Inch	Stock Bushing Bores (mm)	Minimum Bores Inch	Minimum Bores (mm)
4A	1 1/16, 2 3/16	(50, 55)	1 1/16	(35)
4B	2 3/16, 2 7/16	(60, 65)	1 3/8	(45)
4C	2 1/2, 2 5/8	(65, 75)	2 3/16	(50)
4D	2 1/2, 3 1/16	(75, 85)	2 3/16	(60)
4E	3 1/16, 3 1/8	(90, 100)	2 1/2	(75)
4F	3 3/16, 4 7/16, 4 1/2	(110, 120)	3 1/2	(90)

Speed Reducers

How to Select

If Overhung Load (OHL) is present, it must be checked against the capacity of the selection.



For special circumstances in selecting a Frame Size such as:

- Overhung Load (OHL)
- Thrust Loads
- Radial Loads
- Shock Loading

Consult Appendix, pages 4.2–4.18.

Speed Reducers

How to Select



# Configure a Model Number

# Nomenclature

### Output Shaft Orientation

Type	Prefix
Horizontal	<b>H</b>
Vertical	<b>V</b>

### Mounting Style

Type	Prefix
Shaft Mount (Hollow Shaft)	<b>Y</b>
Housing Mount (Solid Shaft)	<b>U</b>
Flange (Solid Shaft)	<b>F</b>
Foot (Solid Shaft)	<b>H</b>

### Input Connection

Input Connection	Prefix	
	Reducer	Motor
Free Input Shaft		
Input Motor Adapter	<b>J</b>	<b>JM</b>
W/Input Motor Flange & Hollow Bore	<b>X</b>	<b>XM</b>

### Modification

	Prefix
Unit build with special modifications	<b>S</b>
Shrink Disc	<b>S</b>
No special modifications applied	

### Motor Power (HP or kW)

(if supplied and/or mounted by Sumitomo; applies only to 1750 RPM)

HP	(kW)	Prefix
1/8	(0.1)	<b>01</b>
1/4	(0.2)	<b>02</b>
1/3	(0.25)	<b>03</b>
1/2	(0.4)	<b>05</b>
3/4	(0.55)	<b>08</b>
1	(0.75)	<b>1</b>
1 1/2	(1.1)	<b>1H</b>
2	(1.5)	<b>2</b>
3	(2.2)	<b>3</b>
5	(3.7)	<b>5</b>
7 1/2	(5.5)	<b>8</b>
10	(7.5)	<b>10</b>
15	(11)	<b>15</b>
20	(15)	<b>20</b>
25	(18.5)	<b>25</b>
30	(22)	<b>30</b>
40	(30)	<b>40</b>
50	(37)	<b>50</b>
60	(45)	<b>60</b>
75	(55)	<b>75</b>

When ordering, the following information should be included:

- NEMA frame size for C-face adapter
- Motor Specification if supplied and/or mounted by Sumitomo (230/460 VAC 60 Hz is supplied in the United States, unless otherwise specified)
- Bushing Bore size must be supplied

Optional conduit box positions must be specified, otherwise Y1 is supplied.

### Frame Size

Single Reduction			
4A100	4B125	4C170	4E175
4A105	4B140	4C175	4E180
4A110	4B145	4D160	4E185
4A115	4B160	4D165	4E190
4A120	4B165	4D170	4E195
4A125	4C140	4D175	4F180
4A140	4C145	4D180	4F185
4A145	4C160	4D185	4F190
4B120	4C165	4E170	4F195

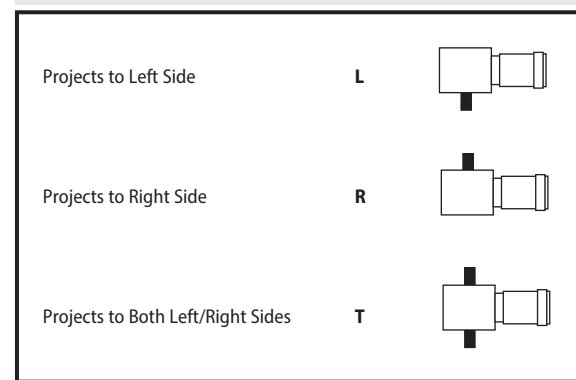
  

Double Reduction			
4A10DA	4B16DA	4C17DC	4E17DC
4A12DA	4B16DB	4D16DA	4E18DA
4A12DB	4B16DC	4D16DB	4E18DB
4A14DA	4C14DA	4D16DC	4E19DA
4A14DB	4C14DB	4D17DA	4E19DB
4A14DC	4C14DC	4D17DB	4F18DA
4B12DA	4C16DA	4D17DC	4F18DB
4B12DB	4C16DB	4D18DA	4F19DA
4B14DA	4C16DC	4D18DB	4F19DB
4B14DB	4C17DA	4E17DA	
4B14DC	4C17DB	4E17DB	

### Reducer Specifications

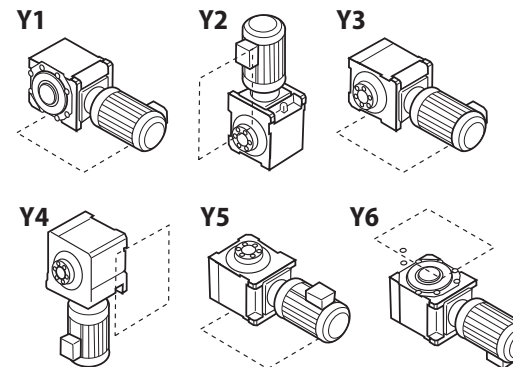
Specification	Suffix
Standard	
Shovel Base	<b>SB</b>
Torque Limiter	<b>TL</b>

### Driven Shaft Direction (Shafted Model Only)



### Shaft Specifications

Input Shaft	OUTPUT SHAFT		Suffix
	Hollow	Solid	
mm	Key (mm)	mm	
Inch	Key (Inch)	Inch	<b>K</b>
mm	Taper-Grip®		<b>M</b>
Inch	Taper-Grip®		<b>Y</b>



### Mounting Positions

### Nominal Ratio

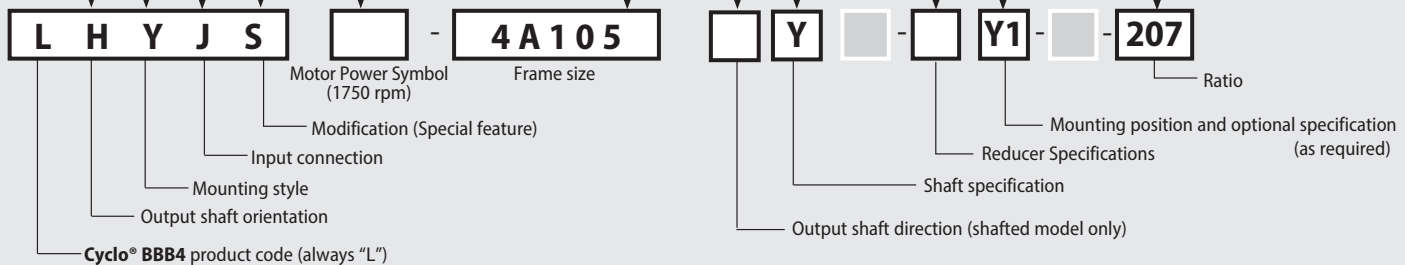
BBB4 with Planetary Input Overall Nominal Ratio
11
13
14
16
18

BBB4 with Cyclo Input	
Single Reduction Input Overall Nominal Ratio	Double Reduction Input Overall Nominal Ratio
21	364
22	424
25	501
28	578
35	683
39	809
46	956
53	1117
60	1320
67	1656
74	1957
80	2272
88	2559
102	2944
112	3511
123	4365
151	5177
179	6472
207	7228
249	8880
305	10658
417	12184

### Nomenclature Example:

**LHYJS - 4A105Y - Y1 - 207**

- L** – Cyclo® Bevel Buddybox
- H** – Horizontal Output Shaft
- Y** – Shaft Mount (Hollow Shaft)
- J** – C-Face Input
- S** – Modification (Special feature)
- 4A105** – Frame Size
- Y** – Taper-Grip® Bushing output, inch shaft input
- Y1** – Installation Position
- 207** – Ratio



# AGMA Load Classifications

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TYPE OF APPLICATION	TYPE OF LOAD	TYPE OF APPLICATION	TYPE OF LOAD	TYPE OF APPLICATION	TYPE OF LOAD
Agitators		Large (industrial)	M	Paper Mills	
Pure liquids	U	Light (small diameter)	U	Agitators (mixers)	M
Liquids and solids	M	Feeders		Barker, hydraulic	S
Variable-density liquids	M	Apron	M	Barker, mechanical	S
Blowers		Belt	M	Barking drum	S
Centrifugal	U	Disc	U	Beater and pulper	M
Lobe	M	Reciprocating	H	Bleacher	U
Vane	U	Screw	M	Calenders	M
Brewing and Distilling		Food Industry		Calenders, super	H
Bottling machinery	U	Beet slicer	M	Converting machine (except cutters, platers)	M
Brew kettles, cont. duty	U	Cereal cooker	U	Conveyors	U
Cookers, cont. duty	U	Dough mixer	M	Couch	M
Mash tubs, cont. duty	U	Meat grinders	M	Cutters, platers	H
Scale hopper, frequent starts	M	Generators (Not Welding)	U	Cylinders	M
Can Filling Machines	U	Hammer Mills	H	Dryers	M
Cane Knives	M	Hoists		Felt stretcher	M
Car Dumpers	H	Heavy duty	H	Felt whipper	H
Car Pullers	M	Medium duty	M	Jordans	H
Classifiers U	U	Skip	M	Log haul	H
Classifiers	M	Laundry Washers — Reversing	M	Presses	U
Clay Working Machinery		Laundry Tumblers	M	Pulp machine reel	M
Brick press	H	Line Shaft		Stock chest	M
Briquette machine	H	Drive processing equipment	M	Suction roll	U
Clay working machinery	M	Light	U	Washers and thickeners	M
Pug mill	M	Other line shafts	U	Winders	U
Compressors		Lumber Industry		Printing Presses	S
Centrifugal	U	Barkers — hydraulic and mechanical	S	Pullers, Barge Haul	H
Lobe	M	Burner conveyor	M	Pumps	
Reciprocating, multi-cylinder	M	Chain Saw and Drag Saw	H	Centrifugal	U
Reciprocating, single-cylinder	H	Chain transfer	H	Proportioning	M
Conveyors — Uniformly Loaded or Fed		Craneway transfer	H	Reciprocating	
Apron	U	De-barking drum	S	Single acting, 3 or more cylinders	M
Assembly	U	Edger feed	H	Double acting, 2 or more cylinders	M
Belt	U	Gang feed	M	Rotary-gear type	U
Bucket	U	Geen chain	M	Rubber and Plastics Industries	
Chain	U	Live rolls	H	Crackers	H
Flight	U	Log haul-lockline	H	Laboratory equipment	M
Oven	U	Log turning device	H	Mixing mills	H
Screw	U	Main log conveyor	H	Refiners	M
Conveyors — Heavy Duty, Not Uniformly Fed		Off bearing rolls	M	Rubber calenders	M
Apron	M	Planer feed chains	M	Rubber mill (2 on line)	M
Assembly	M	Planer floor chains	M	Rubber mill (3 on line)	U
Belt	M	Planer tilting hoist	M	Sheeter	M
Bucket	M	Re-saw merry-go-round conveyor	M	Tire building machines	S
Chain	M	Roll cases	H	Tire and tube press openers	S
Flight	M	Slab conveyor	H	Tubers and strainers	M
Live roll oven	M	Small waste-conveyor-belt	U	Warming mills	M
Reciprocating	H	Small waste-conveyor-chain	M	Sand Muller	M
Screw	M	Sorting table	M	Screens	
Shaker	H	Tipple hoist conveyor	M	Air washing	U
Cranes (Except for Dry Dock Cranes)		Tipple hoist drive	M	Rotary, stone or gravel	M
Main hoists	U	Transfer conveyors	M	Traveling water intake	U
Bridge travel	S	Transfer rolls	M	Sewage Disposal Equipment	
Trolley travel	S	Tray drive	M	Bar screens	U
Crusher		Trimmer feed	M	Chemical fenders	U
Ore	H	Waste conveyor	M	Collectors, circuline or straightline	U
Stone	H	Machine Tools		Dewatering screens	M
Sugar	M	Bending roll	M	Grit collectors	U
Dredges		Notching press, belt driven	S	Scum breakers	M
Cable reels	M	Plate planer	H	Slow or rapid mixers	M
Conveyors	M	Punch press, gear driven	H	Sludge collectors	U
Cutter head drives	H	Tapping machine	H	Thickeners	M
Jig drives	H	Other machine tools		Vacuum filters	M
Maneuvering winches	M	Main drives	M	Slab Pushers	M
Pumps	M	Auxiliary drives	U	Steering Gear	S
Screen drive	H	Metal Mills		Stokers	U
Stackers	M	Draw bench carriage and main drive	M	Sugar Industry	
Utility winches	M	Forming machines	H	Cane knives	M
Dry Dock Cranes	S	Pinch, dryer and scrubber rolls, reversing	S	Crushers	M
Elevators		Slitters	M	Mills	H
Bucket, uniform load	U	Table conveyors, nonreversing		Textile Industry	
Bucket, heavy load	M	Group drives	M	Batchers	M
Bucket, cont.	U	Individual drives	H	Calenders	M
Centrifugal discharge	U	Table conveyors, reversing	S	Cards	M
Escalators	U	Wire drawing and flattening machine	M	Dry cans	M
Freight	M	Wire winding machine	M	Dryers	M
Gravity discharge	U	Mills, Rotary Type		Dyeing machinery	M
Man lifts	S	Ball	M	Knitting machines	S
Passenger	S	Cement kilns	M	Looms	M
Extruders (Plastics)		Dryers and coolers	M	Mangles	M
Blow molders	M	Kilns	M	Nappers	M
Coating	U	Pebble	M	Pads	M
Film	U	Rod, plain and wedge bar	M	Range drives	S
Pipe	U	Tumbling barrels	H	Slashers	M
Pre-plasticizers	M	Mixers		Soapers	M
Rods	U	Concrete mixers, cont.	M	Spinners	M
Sheet	U	Concrete mixers, intermittent	M	Tenter frames	M
Tubing	U	Constant density	U	Washers	M
Fans		Variable density	M	Winders	M
Centrifugal	U	Oil Industry		Windlass	S
Cooling towers	S	Chillers	M		
Forced draft	S	Oil well pumps	S		
Induced draft	M	Paraffin filter press	M		
Large (mine, etc.)	M	Rotary kilns	M		

U = Uniform Load      H = Heavy Shock  
M = Moderate Shock    S = Contact Sumitomo

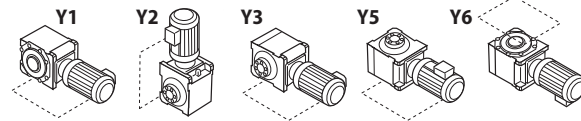
Speed Reducers  
AGMA Tables

Speed Reducers  
Selection Tables

# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

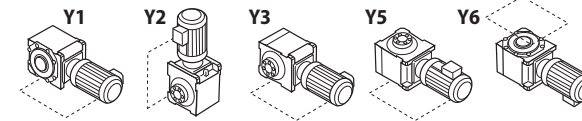
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	—	—	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	1095 (124)	1335 (151)	1460 (165)	1670 (189)	1830 (207)	2190 (248)	—	—	2925 (331)	3680 (416)	4025 (455)	4750 (537)	5485 (620)	
Hollow Shaft OHL lbs (N)	3705 (16500)	3930 (17500)	4020 (17900)	4155 (18500)	4270 (19000)	4470 (19900)	—	—	4785 (21300)	5055 (22500)	5170 (23000)	5350 (23800)	5530 (24600)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	—	—	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	
Output Torque in-lbs (N·m)	1485 (168)	1810 (205)	1980 (224)	2265 (256)	2475 (280)	2970 (336)	—	—	3960 (448)	4980 (563)	5450 (616)	6440 (728)	7430 (840)	
Hollow Shaft OHL lbs (N)	3660 (16300)	3865 (17200)	3955 (17600)	4065 (18100)	4180 (18600)	4360 (19400)	—	—	4650 (20700)	4875 (21700)	4965 (22100)	5125 (22800)	5100 (22700)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.76 (3.55)</b>	—	—	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4A110</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	3315 (375)	—	—	4420 (500)	5565 (629)	6085 (688)	7190 (813)	8300 (938)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4315 (19200)	—	—	4585 (20400)	4785 (21300)	4875 (21700)	5010 (22300)	4785 (21300)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>5.26 (3.92)</b>	—	—	<b>5.26 (3.92)</b>	<b>5.26 (3.92)</b>	<b>5.26 (3.92)</b>	<b>5.23 (3.9)</b>	<b>5.23 (3.9)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	3660 (414)	—	—	4880 (552)	6140 (694)	6715 (759)	7900 (893)	9115 (1030)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4270 (19000)	—	—	4515 (20100)	4720 (21000)	4785 (21300)	4920 (21900)	4470 (19900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>12.9 (9.6)</b>	<b>12.9 (9.6)</b>	<b>12.9 (9.6)</b>	<b>12.9 (9.6)</b>	<b>12.87 (9.6)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.26 (4.67)</b>	<b>5.43 (4.05)</b>	<b>4A120</b>
Output Torque in-lbs (N·m)	4485 (507)	5465 (618)	5980 (676)	6840 (773)	7475 (845)	6115 (691)	6520 (737)	7130 (806)	8150 (921)	7945 (898)	8690 (982)	9465 (1070)	9465 (1070)	
Hollow Shaft OHL lbs (N)	3255 (14500)	3345 (14900)	3390 (15100)	3435 (15300)	3480 (15500)	3930 (17500)	3955 (17600)	4000 (17800)	4065 (18100)	4470 (19900)	4515 (20100)	4315 (19200)	4315 (19200)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3480 (15470)	3550 (15790)	3780 (16810)	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>14.8 (11)</b>	<b>14.8 (11)</b>	<b>14.8 (11)</b>	<b>14.8 (11)</b>	<b>14.75 (11)</b>	<b>10.07 (7.51)</b>	<b>10.07 (7.51)</b>	<b>10.07 (7.51)</b>	<b>10.07 (7.51)</b>	<b>7.94 (5.92)</b>	<b>7.40 (5.52)</b>	<b>6.26 (4.67)</b>	<b>5.43 (4.05)</b>	
Output Torque in-lbs (N·m)	5140 (581)	6265 (708)	6855 (775)	7840 (886)	8575 (969)	7015 (793)	7485 (846)	8185 (925)	9380 (1060)	9290 (1050)	9465 (1070)	9465 (1070)	9465 (1070)	
Hollow Shaft OHL lbs (N)	3165 (14100)	3235 (14400)	3280 (14600)	3300 (14700)	3325 (14800)	3795 (16900)	3820 (17000)	3865 (17200)	3910 (17400)	4270 (19000)	4315 (19200)	4315 (19200)	4315 (19200)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3480 (15470)	3550 (15790)	3780 (16810)	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>2.67 (1.99)</b>	<b>2.59 (1.93)</b>	<b>2.59 (1.93)</b>	<b>1.70 (1.27)</b>	<b>1.70 (1.27)</b>	<b>1.62 (1.21)</b>	<b>1.31 (0.975)</b>	<b>1.31 (0.975)</b>	<b>1.05 (0.780)</b>	<b>0.751 (0.560)</b>	<b>0.692 (0.516)</b>	<b>0.585 (0.436)</b>	<b>0.581 (0.433)</b>	<b>0.282 (0.21)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	5255 (594)	5760 (651)	6300 (712)	4520 (511)	4945 (559)	5465 (618)	4855 (549)	5315 (601)	5230 (591)	4450 (503)	4740 (536)	4820 (545)	5875 (664)	3890 (440)	
Hollow Shaft OHL lbs (N)	5640 (25100)	5530 (24600)	5415 (24100)	5775 (25700)	5710 (25400)	5595 (24900)	5730 (25500)	5640 (25100)	5640 (25100)	5800 (25800)	5755 (25600)	5730 (25500)	5505 (24500)	5890 (26200)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>3.30 (2.46)</b>	<b>3.14 (2.34)</b>	<b>3.14 (2.34)</b>	<b>2.24 (1.67)</b>	<b>2.24 (1.67)</b>	<b>2.13 (1.59)</b>	<b>1.61 (1.20)</b>	<b>1.61 (1.20)</b>	<b>1.45 (1.08)</b>	<b>1.04 (0.776)</b>	<b>0.949 (0.708)</b>	<b>0.752 (0.561)</b>	<b>0.758 (0.565)</b>	<b>0.384 (0.286)</b>	
Output Torque in-lbs (N·m)	6500 (735)	6990 (790)	7645 (864)	5955 (673)	6510 (736)	7185 (812)	5970 (675)	6530 (738)	7270 (822)	6165 (697)	6510 (736)	6210 (702)	7660 (866)	5305 (600)	
Hollow Shaft OHL lbs (N)	5350 (23800)	5235 (23300)	5035 (22400)	5485 (24400)	5350 (23800)	5170 (23000)	5485 (24400)	5350 (23800)	5145 (22900)	5440 (24200)	5350 (23800)	5440 (24200)	5010 (22300)	5640 (25100)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>4.26 (3.18)</b>	<b>3.65 (2.72)</b>	<b>3.65 (2.72)</b>	<b>2.56 (1.91)</b>	<b>2.56 (1.91)</b>	<b>2.55 (1.90)</b>	<b>2.01 (1.50)</b>	<b>2.01 (1.50)</b>	<b>1.74 (1.30)</b>	<b>1.27 (0.944)</b>	<b>1.15 (0.859)</b>	<b>0.897 (0.669)</b>	<b>0.886 (0.661)</b>	—	<b>4A110</b>
Output Torque in-lbs (N·m)	8415 (951)	8150 (921)	8935 (1010)	6810 (770)	7450 (842)	8600 (972)	7495 (847)	8190 (926)	8705 (984)	7495 (847)	7900 (893)	7395 (836)	8935 (1010)	—	
Hollow Shaft OHL lbs (N)	4740 (21100)	4855 (21600)	4560 (20300)	5280 (23500)	5080 (22600)	4675 (20800)	5080 (22600)	4830 (21500)	4630 (20600)	5080 (22600)	4945 (22000)	5100 (22700)	4540 (20200)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.17 (3.11)</b>	<b>3.88 (2.89)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	<b>2.80 (2.09)</b>	<b>2.43 (1.81)</b>	<b>2.32 (1.73)</b>	<b>1.89 (1.41)</b>	<b>1.49 (1.11)</b>	<b>1.35 (1.01)</b>	<b>1.02 (0.758)</b>	<b>0.936 (0.698)</b>	—	
Output Torque in-lbs (N·m)	9465 (1070)	9290 (1050)	9465 (1070)	7910 (894)	8650 (978)	9465 (1070)	9025 (1020)	9465 (1070)	9465 (1070)	8830 (998)	9290 (1050)	8380 (947)	9465 (1070)	—	
Hollow Shaft OHL lbs (N)	4315 (19200)	4380 (19500)	4315 (19200)	4945 (22000)	4650 (20700)	4315 (19200)	4515 (20100)	4315 (19200)	4315 (19200)	4585 (20400)	4380 (19500)	4765 (21200)	4315 (19200)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.24 (3.16)</b>	<b>3.88 (2.89)</b>	<b>3.57 (2.66)</b>	<b>3.26 (2.43)</b>	<b>2.80 (2.09)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>1.89 (1.41)</b>	<b>1.60 (1.19)</b>	<b>1.38 (1.03)</b>	<b>1.15 (0.855)</b>	<b>0.936 (0.698)</b>	—	<b>4A120</b>
Output Torque in-lbs (N·m)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	—	
Hollow Shaft OHL lbs (N)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.24 (3.16)</b>	<b>3.88 (2.89)</b>	<b>3.57 (2.66)</b>	<b>3.26 (2.43)</b>	<b>2.80 (2.09)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>1.89 (1.41)</b>	<b>1.60 (1.19)</b>	<b>1.38 (1.03)</b>	<b>1.15 (0.855)</b>	<b>0.936 (0.698)</b>	—	
Output Torque in-lbs (N·m)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	9465 (1070)	—	
Hollow Shaft OHL lbs (N)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	

Selection Tables

Selection Tables

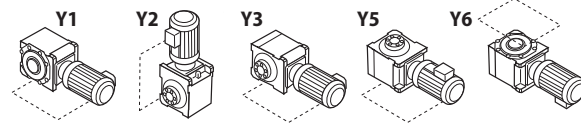




# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

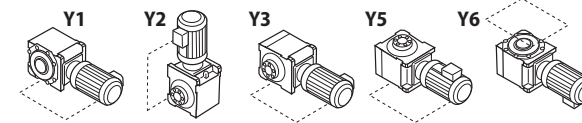
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>32.5 (24.2)</b>	<b>27.1 (20.2)</b>	<b>25.3 (18.9)</b>	<b>23.2 (17.3)</b>	<b>20.2 (15.1)</b>	<b>16.1 (12.0)</b>	<b>14.8 (11.0)</b>	<b>12.5 (9.30)</b>	<b>10.81 (8.06)</b>	<b>4B160</b>
Output Torque in-lbs (N·m)	11855 (1340)	14420 (1630)	15750 (1780)	18050 (2040)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	
Hollow Shaft OHL lbs (N)	3930 (17500)	3975 (17700)	3975 (17700)	3955 (17600)	4045 (18000)	4380 (19500)	4495 (20000)	4695 (20900)	4965 (22100)	5460 (24300)	5665 (25200)	6065 (27000)	6425 (28600)	
Solid Shaft OHL lbs (N)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3670 (16320)	3770 (16760)	4070 (18100)	4320 (19210)	4860 (21610)	5120 (22770)	5590 (24860)	5970 (26550)	
<b>Input Power HP (kW)</b>	<b>38.9 (29)</b>	<b>38.9 (29)</b>	<b>38.9 (29)</b>	<b>35.5 (26.5)</b>	<b>32.5 (24.2)</b>	<b>27.1 (20.2)</b>	<b>25.3 (18.9)</b>	<b>23.2 (17.3)</b>	<b>20.2 (15.1)</b>	<b>16.1 (12.0)</b>	<b>14.8 (11.0)</b>	<b>12.5 (9.30)</b>	<b>10.81 (8.06)</b>	<b>4B165</b>
Output Torque in-lbs (N·m)	13535 (1530)	16545 (1870)	18050 (2040)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	
Hollow Shaft OHL lbs (N)	3750 (16700)	3750 (16700)	3730 (16600)	3865 (17200)	4045 (18000)	4380 (19500)	4495 (20000)	4695 (20900)	4965 (22100)	5460 (24300)	5665 (25200)	6065 (27000)	6425 (28600)	
Solid Shaft OHL lbs (N)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3670 (16320)	3770 (16760)	4070 (18100)	4320 (19210)	4860 (21610)	5120 (22770)	5590 (24860)	5970 (26550)	
<b>Input Power HP (kW)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>16.1 (12.0)</b>	<b>4C140</b>
Output Torque in-lbs (N·m)	8845 (1000)	10795 (1220)	11855 (1340)	13535 (1530)	14775 (1670)	12210 (1380)	13005 (1470)	14245 (1610)	16190 (1830)	20440 (2310)	22300 (2520)	26370 (2980)	28050 (3170)	
Hollow Shaft OHL lbs (N)	6335 (28200)	6585 (29300)	6695 (29800)	6855 (30500)	6965 (31000)	7685 (34200)	7755 (34500)	7910 (35200)	8090 (36000)	8360 (37200)	8475 (37700)	8630 (38400)	8965 (39900)	
Solid Shaft OHL lbs (N)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4820 (21430)	4950 (22010)	5350 (23790)	5720 (25440)	6460 (28730)	6850 (30460)	7500 (33360)	8030 (35710)	
<b>Input Power HP (kW)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>19.6 (14.6)</b>	<b>4C145</b>
Output Torque in-lbs (N·m)	10265 (1160)	12565 (1420)	13715 (1550)	15660 (1770)	17165 (1940)	14155 (1600)	15130 (1710)	16545 (1870)	18845 (2130)	23715 (2680)	25925 (2930)	30530 (3450)	34070 (3850)	
Hollow Shaft OHL lbs (N)	6200 (27600)	6405 (28500)	6515 (29000)	6650 (29600)	6740 (30000)	7485 (33300)	7550 (33600)	7685 (34200)	7845 (34900)	8045 (35800)	8135 (36200)	8250 (36700)	8405 (37400)	
Solid Shaft OHL lbs (N)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4820 (21430)	4950 (22010)	5350 (23790)	5720 (25440)	6460 (28730)	6850 (30460)	7500 (33360)	8030 (35710)	
<b>Input Power HP (kW)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>27.2 (20.3)</b>	<b>27.2 (20.3)</b>	<b>26.4 (19.7)</b>	<b>26.4 (19.7)</b>	<b>26.4 (19.7)</b>	<b>24.9 (18.6)</b>	<b>21.6 (16.1)</b>	<b>4C160</b>
Output Torque in-lbs (N·m)	11855 (1340)	14420 (1630)	15750 (1780)	18050 (2040)	19730 (2230)	23625 (2670)	20265 (2290)	22120 (2500)	24510 (2770)	30885 (3490)	33805 (3820)	37695 (4260)	37695 (4260)	
Hollow Shaft OHL lbs (N)	6045 (26900)	6225 (27700)	6315 (28100)	6425 (28600)	6495 (28900)	6585 (29300)	7080 (31500)	7145 (31800)	7305 (32500)	7370 (32800)	7395 (32900)	7575 (33700)	8045 (35800)	
Solid Shaft OHL lbs (N)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4820 (21430)	4950 (22010)	5350 (23790)	5720 (25440)	6460 (28730)	6850 (30460)	7500 (33360)	8030 (35710)	
<b>Input Power HP (kW)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>32.2 (24.0)</b>	<b>29.5 (22.0)</b>	<b>24.9 (18.6)</b>	<b>21.6 (16.1)</b>	<b>4C165</b>
Output Torque in-lbs (N·m)	13980 (1580)	17075 (1930)	18670 (2110)	21415 (2420)	23360 (2640)	28050 (3170)	23980 (2710)	26190 (2960)	30000 (3390)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	
Hollow Shaft OHL lbs (N)	5845 (26000)	5975 (26600)	6045 (26900)	6090 (27100)	6135 (27300)	6180 (27500)	6720 (29900)	6765 (30100)	6785 (30200)	6720 (29900)	7010 (31200)	7575 (33700)	8045 (35800)	
Solid Shaft OHL lbs (N)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4820 (21430)	4950 (22010)	5350 (23790)	5720 (25440)	6460 (28730)	6850 (30460)	7500 (33360)	8030 (35710)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

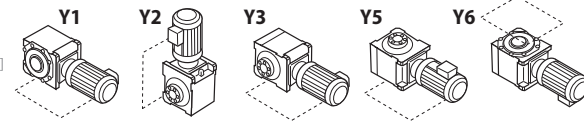
Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>9.53 (7.11)</b>	<b>8.45 (6.30)</b>	<b>7.72 (5.76)</b>	<b>7.09 (5.29)</b>	<b>6.49 (4.84)</b>	<b>5.59 (4.17)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.45)</b>	<b>3.77 (2.81)</b>	<b>3.18 (2.37)</b>	<b>2.75 (2.05)</b>	<b>2.28 (1.70)</b>	<b>1.86 (1.39)</b>	—	<b>4B160</b>
Output Torque in-lbs (N·m)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	
Hollow Shaft OHL lbs (N)	6740 (30000)	7055 (31400)	7325 (32600)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	
Solid Shaft OHL lbs (N)	6330 (28150)	6650 (29570)	6920 (30780)	7110 (31620)	7320 (32550)	7400 (32910)	7450 (33130)	7490 (33310)	7580 (33710)	7600 (33800)	7470 (33220)	7320 (32550)	7190 (31980)	—	
<b>Input Power HP (kW)</b>	<b>9.53 (7.11)</b>	<b>8.45 (6.30)</b>	<b>7.72 (5.76)</b>	<b>7.09 (5.29)</b>	<b>6.49 (4.84)</b>	<b>5.59 (4.17)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.45)</b>	<b>3.77 (2.81)</b>	<b>3.18 (2.37)</b>	<b>2.75 (2.05)</b>	<b>2.28 (1.70)</b>	<b>1.86 (1.39)</b>	—	<b>4B165</b>
Output Torque in-lbs (N·m)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	18845 (2130)	
Hollow Shaft OHL lbs (N)	6740 (30000)	7055 (31400)	7325 (32600)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	
Solid Shaft OHL lbs (N)	6330 (28150)	6650 (29570)	6920 (30780)	7110 (31620)	7320 (32550)	7400 (32910)	7450 (33130)	7490 (33310)	7580 (33710)	7600 (33800)	7470 (33220)	7320 (32550)	7190 (31980)	—	
<b>Input Power HP (kW)</b>	<b>13.5 (10.1)</b>	<b>11.6 (8.66)</b>	<b>11.6 (8.66)</b>	<b>9.24 (6.89)</b>	<b>9.24 (6.89)</b>	<b>7.98 (5.95)</b>	<b>6.99 (5.21)</b>	<b>6.99 (5.21)</b>	<b>5.28 (3.94)</b>	<b>4.60 (3.43)</b>	<b>3.97 (2.96)</b>	<b>3.26 (2.43)</b>	<b>2.66 (1.98)</b>	—	<b>4C140</b>
Output Torque in-lbs (N·m)	26635 (3010)	25925 (2930)	28315 (3200)	24510 (2770)	26810 (3030)	26900 (3040)	25925 (2930)	28405 (3210)	26460 (2990)	27255 (3080)	27255 (3080)	26900 (3040)	26810 (3030)	—	
Hollow Shaft OHL lbs (N)	9550 (42500)	10045 (44700)	10180 (45300)	10855 (48300)	11015 (49000)	11620 (51700)	12115 (53900)	12295 (54700)	13440 (59800)	14095 (62700)	14115 (62800)	14160 (63000)	14160 (63000)	—	
Solid Shaft OHL lbs (N)	8540 (37980)	9080 (40380)	9510 (42300)	9830 (43720)	10190 (45320)	10920 (48570)	11330 (50390)	11700 (52040)	12410 (55190)	12820 (57020)	12750 (56710)	12660 (56310)	12590 (56000)	—	
<b>Input Power HP (kW)</b>	<b>16.1 (12.0)</b>	<b>14.75 (11.0)</b>	<b>14.75 (11.0)</b>	<b>10.6 (7.91)</b>	<b>10.6 (7.91)</b>	<b>10.1 (7.53)</b>	<b>10.1 (7.53)</b>	<b>9.27 (6.91)</b>	<b>7.23 (5.39)</b>	<b>5.66 (4.22)</b>	<b>4.89 (3.65)</b>	<b>4.06 (3.03)</b>	<b>3.33 (2.48)</b>	—	<b>4C145</b>
Output Torque in-lbs (N·m)	31770 (3590)	32740 (3700)	35840 (4050)	28140 (3180)	30795 (3480)	34070 (3850)	37610 (4250)	37695 (4260)	36105 (4080)	33535 (3790)	33625 (3800)	33535 (3790)	33625 (3800)	—	
Hollow Shaft OHL lbs (N)	9055 (40300)	9395 (41800)	9460 (42100)	10495 (46700)	10630 (47300)	10945 (48700)	11015 (49000)	11420 (50800)	12340 (54900)	12925 (57500)	12925 (57500)	12945 (57600)	12925 (57500)	—	
Solid Shaft OHL lbs (N)	8540 (37980)	9080 (40380)	9510 (42300)	9830 (43720)	10190 (45320)	10920 (48570)	11330 (50390)	11700 (52040)	12410 (55190)	12820 (57020)	12750 (56710)	12660 (56310)	12590 (56000)	—	
<b>Input Power HP (kW)</b>	<b>17.6 (13.1)</b>	<b>16.9 (12.6)</b>	<b>15.4 (11.5)</b>	<b>13.2 (9.86)</b>	<b>13.0 (9.67)</b>	<b>11.2 (8.34)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>7.54 (5.62)</b>	<b>6.36 (4.74)</b>	<b>5.50 (4.10)</b>	<b>4.57 (3.41)</b>	<b>3.73 (2.78)</b>	—	<b>4C160</b>
Output Torque in-lbs (N·m)	34600 (3910)	37695 (4260)	37695 (4260)	35130 (3970)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	—	
Hollow Shaft OHL lbs (N)	8790 (39100)	8920 (39700)	9280 (41300)	9845 (43800)	9980 (44400)	10585 (47100)	10990 (48900)	11420 (50800)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	—	
Solid Shaft OHL lbs (N)	8540 (37980)	9080 (40380)	9510 (42300)	9830 (43720)	10190 (45320)	10920 (48570)	11330 (50390)	11700 (52040)	12410 (55190)	12820 (57020)	12750 (56710)	12660 (56310)	12590 (56000)	—	
<b>Input Power HP (kW)</b>	<b>19.0 (14.2)</b>	<b>16.9 (12.6)</b>	<b>15.4 (11.5)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.67)</b>	<b>11.2 (8.34)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>7.54 (5.62)</b>	<b>6.36 (4.74)</b>	<b>5.50 (4.10)</b>	<b>4.57 (</b>			

# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

## Single Reduction

### Y1, Y2, Y3, Y5, Y6 Mounting Positions <sup>[1]</sup>



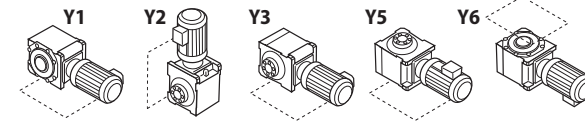
Dimensions on pages 2.156 - 2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>40.5 (30.2)</b>	<b>32.2 (24.0)</b>	<b>29.5 (22.0)</b>	<b>24.9 (18.6)</b>	<b>21.6 (16.1)</b>	<b>4C170</b>
Output Torque in-lbs (N·m)	19380 (2190)	23630 (2670)	25840 (2920)	29560 (3340)	32305 (3650)	31680 (3580)	33805 (3820)	36990 (4180)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	
Hollow Shaft OHL lbs (N)	5325 (23700)	5370 (23900)	5370 (23900)	5325 (23700)	5305 (23600)	5820 (25900)	5775 (25700)	5755 (25600)	6045 (26900)	6720 (29900)	7010 (31200)	7575 (33700)	8045 (35800)	
Solid Shaft OHL lbs (N)	4405 (19605)	4445 (19770)	4445 (19770)	4405 (19605)	4390 (19525)	4820 (21430)	4950 (22010)	5350 (23790)	5720 (25440)	6460 (28730)	6850 (30460)	7500 (33360)	8030 (35710)	
<b>Input Power HP (kW)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>48.3 (36.0)</b>	<b>48.3 (36.0)</b>	<b>46.3 (34.5)</b>	<b>40.5 (30.2)</b>	<b>32.2 (24.0)</b>	<b>29.5 (22.0)</b>	<b>24.9 (18.6)</b>	<b>21.6 (16.1)</b>	<b>4C175</b>
Output Torque in-lbs (N·m)	21060 (2380)	25665 (2900)	28055 (3170)	32035 (3620)	35045 (3960)	33630 (3800)	35930 (4060)	37700 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	
Hollow Shaft OHL lbs (N)	5170 (23000)	5170 (23000)	5170 (23000)	5100 (22700)	5035 (22400)	5640 (25100)	5595 (24900)	5685 (25300)	6045 (26900)	6720 (29900)	7010 (31200)	7575 (33700)	8045 (35800)	
Solid Shaft OHL lbs (N)	4410 (19635)	4410 (19635)	4410 (19635)	4355 (19380)	4300 (19125)	4815 (21430)	4945 (22010)	5345 (23790)	5720 (25440)	6460 (28730)	6850 (30460)	7500 (33360)	8030 (35710)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>33.9 (25.3)</b>	<b>27.2 (20.3)</b>	<b>27.2 (20.3)</b>	<b>26.4 (19.7)</b>	<b>26.4 (19.7)</b>	<b>26.4 (19.7)</b>	<b>26.4 (19.7)</b>	<b>25.1 (18.7)</b>	<b>4D160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	23625 (2670)	20265 (2290)	22120 (2500)	24510 (2770)	30885 (3490)	33805 (3820)	39910 (4510)	43805 (4950)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	10835 (48200)	11350 (50500)	11575 (51500)	11910 (53000)	12385 (55100)	12565 (55900)	12855 (57200)	13260 (59000)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	6830 (30370)	7030 (31260)	7620 (33890)	8140 (36200)	9230 (41050)	9770 (43450)	10710 (47630)	11480 (51060)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>40.2 (30.0)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>30.3 (22.6)</b>	<b>30.3 (22.6)</b>	<b>4D165</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	28050 (3170)	23980 (2710)	26190 (2960)	30000 (3390)	37695 (4260)	41235 (4660)	45750 (5170)	52830 (5970)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	10495 (46700)	11060 (49200)	11240 (50000)	11485 (51100)	11825 (52600)	11980 (53300)	12385 (55100)	12520 (55700)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	6830 (30370)	7030 (31260)	7620 (33890)	8140 (36200)	9230 (41050)	9770 (43450)	10710 (47630)	11480 (51060)	
<b>Input Power HP (kW)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>37.0 (27.6)</b>	<b>37.0 (27.6)</b>	<b>36.6 (27.3)</b>	<b>34.2 (25.5)</b>	<b>4D170</b>
Output Torque in-lbs (N·m)	19380 (2190)	23625 (2670)	25840 (2920)	29555 (3340)	32300 (3650)	31680 (3580)	33805 (3820)	36990 (4180)	42300 (4780)	43270 (4890)	47345 (5350)	55310 (6250)	59645 (6740)	
Hollow Shaft OHL lbs (N)	8790 (39100)	9080 (40400)	9215 (41000)	9375 (41700)	9460 (42100)	10205 (45400)	10250 (45600)	10385 (46200)	10495 (46700)	11375 (50600)	11485 (51100)	11620 (51700)	11980 (53300)	
Solid Shaft OHL lbs (N)	6480 (28820)	6480 (28820)	6480 (28820)	6480 (28820)	6480 (28820)	6830 (30370)	7030 (31260)	7620 (33890)	8140 (36200)	9230 (41050)	9770 (43450)	10710 (47630)	11480 (51060)	
<b>Input Power HP (kW)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	<b>36.7 (27.4)</b>	<b>4D175</b>
Output Torque in-lbs (N·m)	21060 (2380)	25660 (2900)	28050 (3170)	32035 (3620)	35040 (3960)	34600 (3910)	36900 (4170)	40350 (4560)	46105 (5210)	47165 (5330)	51590 (5830)	60970 (6890)	63980 (7230)	
Hollow Shaft OHL lbs (N)	8655 (38500)	8925 (39700)	9035 (40200)	9170 (40800)	9240 (41100)	9955 (44300)	10000 (44500)	10090 (44900)	10180 (45300)	11060 (49200)	11125 (49500)	11170 (49700)	11645 (51800)	
Solid Shaft OHL lbs (N)	6480 (28820)	6480 (28820)	6480 (28820)	6480 (28820)	6480 (28820)	6830 (30370)	7030 (31260)	7620 (33890)	8140 (36200)	9230 (41050)	9770 (43450)	10710 (47630)	11480 (51060)	

Notes: [1] For selections noted with \*, the duty cycle for units mounted in the Y2 configuration is limited to 75% Equivalent Duty (10 minute cycle time).

## Single Reduction

### Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

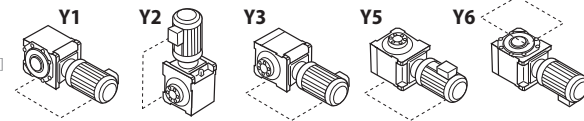
Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>19.0 (14.2)</b>	<b>16.9 (12.6)</b>	<b>15.4 (11.5)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.67)</b>	<b>11.2 (8.34)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>7.54 (5.62)</b>	<b>6.36 (4.74)</b>	<b>5.50 (4.1)</b>	<b>4.57 (3.41)</b>	<b>3.73 (2.78)</b>	—	<b>4C170</b>
Output Torque in-lbs (N·m)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	
Hollow Shaft OHL lbs (N)	8495 (37800)	8920 (39700)	9280 (41300)	9595 (42700)	9980 (44400)	10585 (47100)	10990 (48900)	11420 (50800)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	
Solid Shaft OHL lbs (N)	8540 (37980)	9080 (40380)	9510 (42300)	9830 (43720)	10190 (45320)	10920 (48570)	11330 (50390)	11700 (52040)	12410 (55190)	12820 (57020)	12750 (56710)	12660 (56310)	12590 (56000)	—	
<b>Input Power HP (kW)</b>	<b>19.0 (14.2)</b>	<b>16.9 (12.6)</b>	<b>15.4 (11.5)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.67)</b>	<b>11.2 (8.34)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>7.54 (5.62)</b>	<b>6.36 (4.74)</b>	<b>5.50 (4.1)</b>	<b>4.57 (3.41)</b>	<b>3.73 (2.78)</b>	—	<b>4C175</b>
Output Torque in-lbs (N·m)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	37695 (4260)	
Hollow Shaft OHL lbs (N)	8495 (37800)	8920 (39700)	9280 (41300)	9595 (42700)	9980 (44400)	10585 (47100)	10990 (48900)	11420 (50800)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	
Solid Shaft OHL lbs (N)	8540 (37980)	9080 (40380)	9510 (42300)	9830 (43720)	10190 (45320)	10920 (48570)	11330 (50390)	11700 (52040)	12410 (55190)	12820 (57020)	12750 (56710)	12660 (56310)	12590 (56000)	—	
<b>Input Power HP (kW)</b>	<b>17.6 (13.1)</b>	<b>17.3 (12.9)</b>	<b>17.3 (12.9)</b>	<b>13.2 (9.86)</b>	<b>13.2 (9.86)</b>	<b>14.1 (10.5)</b>	<b>13.0 (9.67)</b>	<b>13.0 (9.67)</b>	<b>9.99 (7.45)</b>	<b>7.71 (5.75)</b>	<b>5.93 (4.42)</b>	<b>4.65 (3.47)</b>	<b>4.65 (3.47)</b>	—	<b>4D160</b>
Output Torque in-lbs (N·m)	34600 (3910)	38580 (4360)	42210 (4770)	35130 (3970)	38405 (4340)	47430 (5360)	48230 (5450)	52740 (5960)	49910 (5640)	45750 (5170)	40615 (4590)	38405 (4340)	47075 (5320)	—	
Hollow Shaft OHL lbs (N)	14635 (65100)	14945 (66500)	15170 (67500)	16205 (72100)	16475 (73300)	16635 (74000)	17150 (76300)	17400 (77400)	18410 (81900)	19040 (84700)	19735 (87800)	20005 (89000)	18860 (83900)	—	
Solid Shaft OHL lbs (N)	12230 (54390)	13000 (57820)	13630 (60620)	14090 (62670)	14590 (64890)	15170 (67470)	15500 (68940)	15790 (70230)	16360 (72760)	16690 (74230)	16660 (74100)	16620 (73920)	16590 (73790)	—	
<b>Input Power HP (kW)</b>	<b>25.2 (18.8)</b>	<b>21.6 (16.1)</b>	<b>21.6 (16.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>10.6 (7.91)</b>	<b>10.1 (7.53)</b>	<b>7.71 (5.75)</b>	<b>7.58 (5.65)</b>	<b>5.23 (3.9)</b>	—	<b>4D165</b>
Output Torque in-lbs (N·m)	49910 (5640)	48050 (5430)	52565 (5940)	53715 (6070)	58670 (6630)	51590 (5830)	56900 (6430)	62210 (7030)	53005 (5990)	59910 (6770)	52830 (5970)	62565 (7070)	52830 (5970)	—	
Hollow Shaft OHL lbs (N)	13395 (59600)	14185 (63100)	14340 (63800)	14700 (65400)	14835 (66000)	16295 (72500)	16455 (73200)	15960 (71000)	17870 (79500)	16500 (73400)	17890 (79600)	15915 (70800)	17915 (79700)	—	
Solid Shaft OHL lbs (N)	12230 (54390)	13000 (57820)	13630 (60620)	14090 (62670)	14590 (64890)	15170 (67470)	15500 (68940)	15790 (70230)	16360 (72760)	16690 (74230)	16660 (74100)	16620 (73920)	16590 (73790)	—	
<b>Input Power HP (kW)</b>	<b>26.4 (19.7)</b>	<b>26.1 (19.5)</b>	<b>26.1 (19.5)</b>	<b>21.2 (15.8)</b>	<b>21.2 (15.8)</b>	<b>18.9 (14.1)</b>	<b>16.1 (12)</b>	<b>15.7 (11.7)</b>	<b>12.8 (9.54)</b>	<b>10.8 (8.04)</b>	<b>9.32 (6.95)</b>	<b>7.75 (5.78)</b>	<b>6.33 (4.72)</b>	—	<b>4D170</b>
Output Torque in-lbs (N·m)	52035 (5880)	58315 (6590)	63805 (7210)	56280 (6360)	61590 (6960)	63980 (7230)	59820 (6760)	63980 (7230)	63980 (7230)	63980 (7230)	63980 (7230)	63980 (7230)	63980 (7230)	—	
Hollow Shaft OHL lbs (N)	13240 (58900)	13350 (59400)	13420 (59700)	14475 (64400)	14610 (65000)	15305 (68100)	16205 (72100)	15555 (69200)	15555 (69200)	15555 (69200)	15555 (69200)	15555 (69200)	15555 (69200)	—	
Solid Shaft OHL lbs (N)	12230 (54390)	13000 (57820)	13630 (60620)	14090 (62670)	14590 (64890)	15170 (67470)	15500 (68940)	15790 (70230)	16360 (72760)	16690 (74230)	16660 (74100)	16620 (73920)	16590 (73790)	—	
<b>Input Power HP (kW)</b>	<b>32.3 (24.1)</b>	<b>28.7 (21.4)</b>	<b>26.1 (19.5)</b>	<b>24.0 (17.9)</b>	<b>22.0 (16.4)</b>	<b>18.9 (14.1)</b>	<b>17.2 (12.8)</b>	<b>15.7 (11.7)</b>	<b>12.8 (9.54)</b>	<b>10.8 (8.04)</b>	<b>9.32 (6.95)</b>	<b>7.75 (5.78)</b>	<b>6.33 (4.72)</b>	—	<b>4D175</b>
Output Torque in-lbs (N·m)	63715 (7200)	63980 (7230)	63980 (7230)	63980 (											



# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions <sup>[1]</sup>

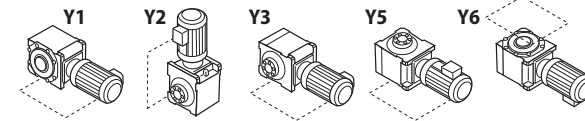


Dimensions on pages 2.156 - 2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>49.9 (37.2)</b>	<b>43.4 (32.4)</b>	<b>4D180</b>
Output Torque in-lbs (N·m)	24955 (2820)	30440 (3440)	33270 (3760)	38050 (4300)	41590 (4700)	38760 (4380)	41415 (4680)	45305 (5120)	51770 (5850)	65050 (7350)	71160 (8040)	75405 (8520)	75760 (8560)	
Hollow Shaft OHL lbs (N)	8340 (37100)	8540 (38000)	8610 (38300)	8675 (38600)	8720 (38800)	9620 (42800)	9665 (43000)	9710 (43200)	9730 (43300)	9640 (42900)	9575 (42600)	10000 (44500)	10700 (47600)	
Solid Shaft OHL lbs (N)	6480 (28820)	6480 (28820)	6480 (28820)	6480 (28820)	6480 (28820)	6830 (30370)	7030 (31260)	7620 (33890)	8140 (36200)	9230 (41050)	9770 (43450)	10710 (47630)	11480 (51060)	
<b>Input Power HP (kW)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>56.1 (41.8)</b>	<b>49.9 (37.2)</b>	<b>44.3 (33.0)</b>	<b>4D185</b>
Output Torque in-lbs (N·m)	28050 (3170)	34155 (3860)	37430 (4230)	42740 (4830)	46725 (5280)	42035 (4750)	44865 (5070)	49115 (5550)	56105 (6340)	70540 (7970)	71690 (8100)	75405 (8520)	77175 (8720)	
Hollow Shaft OHL lbs (N)	8090 (36000)	8225 (36600)	8270 (36800)	8315 (37000)	8315 (37000)	9350 (37000)	9375 (41700)	9395 (41800)	9375 (41700)	9195 (40900)	9530 (42400)	10000 (44500)	10565 (47000)	
Solid Shaft OHL lbs (N)	6480 (28820)	6480 (28820)	6480 (28820)	6480 (28820)	6480 (28820)	6830 (30370)	7030 (31260)	7620 (33890)	8140 (36200)	9230 (41050)	9770 (43450)	10710 (47630)	11480 (51060)	
<b>Input Power HP (kW)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>37.0 (27.6)</b>	<b>37.0 (27.6)</b>	<b>36.6 (27.3)</b>	<b>34.2 (25.5)</b>	<b>4E170</b>
Output Torque in-lbs (N·m)	19380 (2190)	23625 (2670)	25840 (2920)	29555 (3340)	32300 (3650)	31680 (3580)	33805 (3820)	36990 (4180)	42300 (4780)	43270 (4890)	47345 (5350)	55310 (6250)	59645 (6740)	
Hollow Shaft OHL lbs (N)	11870 (52800)	12360 (55000)	12585 (56000)	12900 (57400)	13125 (58400)	14025 (62400)	14185 (63100)	14430 (64200)	14745 (65600)	15915 (70800)	16160 (71900)	16590 (73800)	17175 (76400)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10220 (45450)	10480 (46610)	11230 (49950)	11890 (52880)	13300 (59150)	14030 (62400)	15220 (67690)	16200 (72050)	
<b>Input Power HP (kW)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	<b>4E175</b>
Output Torque in-lbs (N·m)	21060 (2380)	25660 (2900)	28050 (3170)	32035 (3620)	35040 (3960)	34600 (3910)	36900 (4170)	40350 (4560)	46105 (5210)	47165 (5330)	51590 (5830)	60970 (6890)	70440 (7960)	
Hollow Shaft OHL lbs (N)	11755 (52300)	12230 (54400)	12430 (55300)	12720 (56600)	12925 (57500)	13825 (61500)	13960 (62100)	14185 (63100)	14455 (64300)	15620 (69500)	15845 (70500)	16160 (71900)	16365 (72800)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10220 (45450)	10480 (46610)	11230 (49950)	11890 (52880)	13300 (59150)	14030 (62400)	15220 (67690)	16200 (72050)	
<b>Input Power HP (kW)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>43.4 (32.4)</b>	<b>4E180</b>
Output Torque in-lbs (N·m)	24955 (2820)	30440 (3440)	33270 (3760)	38050 (4300)	41590 (4700)	38760 (4380)	41415 (4680)	45305 (5120)	51770 (5850)	65040 (7350)	71150 (8040)	84070 (9500)	75750 (8560)	
Hollow Shaft OHL lbs (N)	11465 (51000)	11870 (52800)	12050 (53600)	12295 (54700)	12430 (55300)	13510 (60100)	13645 (60700)	13825 (61500)	14050 (62500)	14320 (63700)	14410 (64100)	14475 (64400)	15980 (71100)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10220 (45450)	10480 (46610)	11230 (49950)	11890 (52880)	13300 (59150)	14030 (62400)	15220 (67690)	16200 (72050)	
<b>Input Power HP (kW)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>52.3 (39.0)</b>	<b>4E185</b>
Output Torque in-lbs (N·m)	28050 (3170)	34155 (3860)	37430 (4230)	42740 (4830)	46725 (5280)	42035 (4750)	44865 (5070)	49115 (5550)	56105 (6340)	70530 (7970)	77165 (8720)	91160 (10300)	91160 (10300)	
Hollow Shaft OHL lbs (N)	11240 (50000)	11600 (51600)	11755 (52300)	11935 (53100)	12070 (53700)	13285 (59100)	13400 (59600)	13530 (60200)	13710 (61000)	13935 (62000)	13960 (62100)	13935 (62000)	14860 (66100)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10220 (45450)	10480 (46610)	11230 (49950)	11890 (52880)	13300 (59150)	14030 (62400)	15220 (67690)	16200 (72050)	

Notes: [1] For selections noted with \*, the duty cycle for units mounted in the Y2 configuration is limited to 75% Equivalent Duty (10 minute cycle time).

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



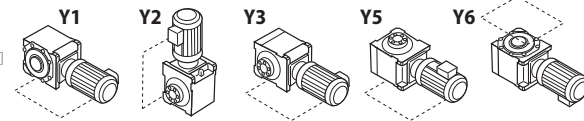
Dimensions on pages 2.156 - 2.166

Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>39.0 (29.1)</b>	<b>34.6 (25.8)</b>	<b>31.6 (23.6)</b>	<b>29.1 (21.7)</b>	<b>26.6 (19.8)</b>	<b>22.9 (17.1)</b>	<b>20.8 (15.5)</b>	<b>18.9 (14.1)</b>	<b>15.4 (11.5)</b>	<b>13.0 (9.71)</b>	<b>11.3 (8.39)</b>	<b>9.35 (6.97)</b>	<b>7.63 (5.69)</b>	—	<b>4D180</b>
Output Torque in-lbs (N·m)	77175 (8720)	77175 (8720)	77175 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11215 (49900)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	12230 (54390)	13000 (57820)	13630 (60620)	14090 (62670)	14590 (64890)	15170 (67470)	15500 (68940)	15790 (70230)	16360 (72760)	16690 (74230)	16660 (74100)	16620 (73920)	16590 (73790)	—	
<b>Input Power HP (kW)</b>	<b>39.0 (29.1)</b>	<b>34.6 (25.8)</b>	<b>31.6 (23.6)</b>	<b>29.1 (21.7)</b>	<b>26.6 (19.8)</b>	<b>22.9 (17.1)</b>	<b>20.8 (15.5)</b>	<b>18.9 (14.1)</b>	<b>15.4 (11.5)</b>	<b>13.0 (9.71)</b>	<b>11.3 (8.39)</b>	<b>9.35 (6.97)</b>	<b>7.63 (5.69)</b>	—	<b>4D185</b>
Output Torque in-lbs (N·m)	77175 (8720)	77175 (8720)	77175 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11215 (49900)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	12230 (54390)	13000 (57820)	13630 (60620)	14090 (62670)	14590 (64890)	15170 (67470)	15500 (68940)	15790 (70230)	16360 (72760)	16690 (74230)	16660 (74100)	16620 (73920)	16590 (73790)	—	
<b>Input Power HP (kW)</b>	<b>26.4 (19.7)</b>	<b>26.1 (19.5)</b>	<b>26.1 (19.5)</b>	<b>21.2 (15.8)</b>	<b>21.2 (15.8)</b>	<b>21.2 (15.8)</b>	<b>21.2 (15.8)</b>	<b>16.1 (12)</b>	<b>16.1 (12)</b>	<b>13.1 (9.75)</b>	<b>11.3 (8.39)</b>	<b>9.59 (7.15)</b>	<b>7.94 (5.92)</b>	<b>6.45 (4.81)</b>	<b>4E170</b>
Output Torque in-lbs (N·m)	52035 (5880)	58315 (6590)	63805 (7210)	56280 (6360)	61590 (6960)	64600 (7300)	59820 (6760)	65485 (7400)	65310 (7380)	66725 (7540)	65750 (7430)	65485 (7400)	65220 (7370)	—	
Hollow Shaft OHL lbs (N)	18545 (82500)	18880 (84000)	19150 (85200)	20275 (90200)	20590 (91600)	20525 (91300)	20770 (92400)	20480 (91100)	20500 (91200)	20435 (90900)	20480 (91100)	20480 (91100)	20500 (91200)	—	
Solid Shaft OHL lbs (N)	17180 (76410)	18190 (80900)	19010 (84550)	19590 (87130)	20230 (89980)	20610 (91670)	20820 (92600)	21020 (93490)	21380 (95090)	21620 (96160)	21700 (96520)	21790 (96920)	21870 (97270)	—	
<b>Input Power HP (kW)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>29.5 (22)</b>	<b>26.1 (19.5)</b>	<b>24.8 (18.5)</b>	<b>21.3 (15.9)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>15.2 (11.3)</b>	<b>14.4 (10.7)</b>	<b>11.1 (8.29)</b>	<b>9.59 (7.15)</b>	<b>7.54 (5.62)</b>	—	<b>4E175</b>
Output Torque in-lbs (N·m)	63715 (7200)	71945 (8130)	72035 (8140)	69465 (7850)	72035 (8140)	72035 (8140)	75130 (8490)	82210 (9290)	75750 (8560)	85040 (9610)	76195 (8610)	79115 (8940)	76195 (8610)	—	
Hollow Shaft OHL lbs (N)	17690 (78700)	17890 (79600)	18545 (82500)	19310 (85900)	19825 (88200)	20140 (89600)	19985 (88900)	19625 (87300)	19960 (88800)	19490 (86700)	19940 (88700)	19805 (88100)	19940 (88700)	—	
Solid Shaft OHL lbs (N)	17180 (76410)	18190 (80900)	19010 (84550)	19590 (87130)	20230 (89980)	20610 (91670)	20820 (92600)	21020 (93490)	21380 (95090)	21620 (96160)	21700 (96520)	21790 (96920)	21870 (97270)	—	
<b>Input Power HP (kW)</b>	<b>41.0 (30.6)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>26.1 (19.5)</b>	<b>25.2 (18.8)</b>	<b>25.2 (18.8)</b>	<b>20.2 (15.1)</b>	<b>16.1 (12)</b>	<b>13.1 (9.75)</b>	<b>11.8 (8.8)</b>	<b>9.59 (7.15)</b>	—	<b>4E180</b>
Output Torque in-lbs (N·m)	81060 (9160)	89390 (10100)	98240 (11100)	85840 (9700)	93815 (10600)	88150 (9960)	93805 (10600)	102665 (11600)	100885 (11400)	95575 (10800)	89380 (10100)	97345 (11000)	97345 (11000)	—	
Hollow Shaft OHL lbs (N)	16430 (73100)	16610 (73900)	16635 (74000)	18165 (80800)	18230 (81100)	19330 (86000)	19060 (84800)	18455 (82100)	18680 (83100)	18970 (84400)	19265 (85700)	18860 (83900)	18880 (84000)	—	
Solid Shaft OHL lbs (N)	17180 (76410)	18190 (80900)	19010 (84550)	19590 (87130)	20230 (89980)	20610 (91670)	20820 (92600)	21020 (93490)	21380 (95090)	21620 (96160)	21700 (96520)	21790 (			

# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions <sup>[1]</sup>

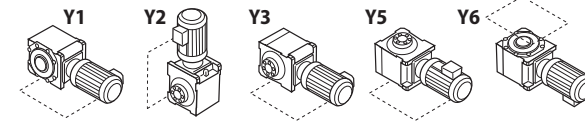


Dimensions on pages 2.156 - 2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>65.6 (48.9)</b>	<b>58.9 (43.9)</b>	<b>4E190</b>
Output Torque in-lbs (N·m)	31945 (3610)	39025 (4410)	42655 (4820)	48760 (5510)	53270 (6020)	47345 (5350)	50440 (5700)	55220 (6240)	63095 (7130)	79300 (8960)	86735 (9800)	99125 (11200)	102665 (11600)	
Hollow Shaft OHL lbs (N)	10945 (48700)	11240 (50000)	11350 (50500)	11510 (51200)	11575 (51500)	12900 (57400)	12970 (57700)	13080 (58200)	13215 (58800)	13285 (59100)	13260 (59000)	13375 (59500)	14005 (62300)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10220 (45450)	10480 (46610)	11230 (49950)	11890 (52880)	13300 (59150)	14030 (62400)	15220 (67690)	16200 (72050)	
<b>Input Power HP (kW)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.6 (54.9)</b>	<b>65.6 (48.9)</b>	
Output Torque in-lbs (N·m)	35040 (3960)	42740 (4830)	46725 (5280)	53450 (6040)	58405 (6600)	51415 (5810)	54865 (6200)	60000 (6780)	68580 (7750)	86205 (9740)	93815 (10600)	99125 (11200)	102665 (11600)	
Hollow Shaft OHL lbs (N)	10720 (47700)	10970 (48800)	11060 (49200)	11150 (49600)	11215 (49900)	12585 (56000)	12655 (56300)	12745 (56700)	12810 (57000)	12765 (56800)	12720 (56600)	13375 (59500)	14005 (62300)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10220 (45450)	10480 (46610)	11230 (49950)	11890 (52880)	13300 (59150)	14030 (62400)	15220 (67690)	16200 (72050)	
<b>Input Power HP (kW)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>43.4 (32.4)</b>	<b>4F180</b>
Output Torque in-lbs (N·m)	24955 (2820)	30440 (3440)	33270 (3760)	38050 (4300)	41590 (4700)	38760 (4380)	41415 (4680)	45305 (5120)	51770 (5850)	65040 (7350)	71160 (8040)	84080 (9500)	75760 (8560)	
Hollow Shaft OHL lbs (N)	20345 (90500)	21310 (94800)	21780 (96900)	22410 (99700)	22930 (102000)	24500 (109000)	24950 (111000)	25400 (113000)	26075 (116000)	27200 (121000)	27875 (124000)	28550 (127000)	29000 (129000)	
Solid Shaft OHL lbs (N)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	18260 (81220)	18680 (83080)	19930 (88640)	21040 (93580)	23340 (103810)	24520 (109060)	26590 (118270)	28060 (124810)	
<b>Input Power HP (kW)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>52.3 (39.0)</b>	
Output Torque in-lbs (N·m)	28050 (3170)	34155 (3860)	37430 (4230)	42740 (4830)	46725 (5280)	42035 (4750)	44865 (5070)	49115 (5550)	56105 (6340)	70530 (7970)	77165 (8720)	91150 (10300)	91150 (10300)	
Hollow Shaft OHL lbs (N)	20140 (89600)	21060 (93700)	21510 (95700)	22095 (98300)	22480 (100000)	24275 (108000)	24500 (109000)	25175 (112000)	25850 (115000)	26975 (120000)	27425 (122000)	28100 (125000)	28325 (126000)	
Solid Shaft OHL lbs (N)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	18260 (81220)	18680 (83080)	19930 (88640)	21040 (93580)	23340 (103810)	24520 (109060)	26590 (118270)	28060 (124810)	
<b>Input Power HP (kW)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>4F190</b>
Output Torque in-lbs (N·m)	31945 (3610)	39025 (4410)	42655 (4820)	48760 (5510)	53270 (6020)	47345 (5350)	50440 (5700)	55220 (6240)	63095 (7130)	79290 (8960)	86725 (9800)	99125 (11200)	118580 (13400)	
Hollow Shaft OHL lbs (N)	19870 (88400)	20745 (92300)	21150 (94100)	21715 (96600)	22120 (98400)	24050 (107000)	24275 (108000)	24725 (110000)	25400 (113000)	26300 (117000)	26750 (119000)	27425 (122000)	26975 (120000)	
Solid Shaft OHL lbs (N)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	18260 (81220)	18680 (83080)	19930 (88640)	21040 (93580)	23340 (103810)	24520 (109060)	26590 (118270)	28060 (124810)	
<b>Input Power HP (kW)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	
Output Torque in-lbs (N·m)	35040 (3960)	42740 (4830)	46725 (5280)	53450 (6040)	58405 (6600)	51415 (5810)	54865 (6200)	60000 (6780)	68580 (7750)	86195 (9740)	94690 (10700)	111500 (12600)	128315 (14500)	
Hollow Shaft OHL lbs (N)	19670 (87500)	20500 (91200)	20880 (92900)	21400 (95200)	21780 (96900)	23605 (105000)	24050 (107000)	24500 (109000)	24950 (111000)	25850 (115000)	26300 (117000)	26750 (119000)	26525 (118000)	
Solid Shaft OHL lbs (N)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	18260 (81220)	18680 (83080)	19930 (88640)	21040 (93580)	23340 (103810)	24520 (109060)	26590 (118270)	28060 (124810)	

Notes: [1] For selections noted with \*, the duty cycle for units mounted in the Y2 configuration is limited to 75% Equivalent Duty (10 minute cycle time).

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



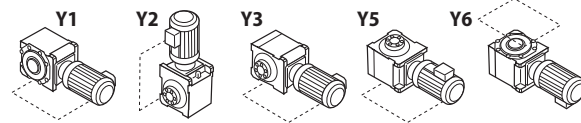
Dimensions on pages 2.156 - 2.166

Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>51.9 (38.7)</b>	<b>46.0 (34.3)</b>	<b>42.1 (31.4)</b>	<b>38.6 (28.8)</b>	<b>35.3 (26.3)</b>	<b>30.4 (22.7)</b>	<b>27.6 (20.6)</b>	<b>25.2 (18.8)</b>	<b>20.5 (15.3)</b>	<b>17.3 (12.9)</b>	<b>15.0 (11.2)</b>	<b>12.4 (9.28)</b>	<b>10.2 (7.57)</b>	—	<b>4E190</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	15665 (66000)	15665 (69700)	16300 (72500)	16905 (75200)	17580 (78200)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	17180 (76410)	18190 (80900)	19010 (84550)	19590 (87130)	20230 (89980)	20610 (91670)	20820 (92600)	21020 (93490)	21380 (95090)	21620 (96160)	21700 (96520)	21790 (96920)	21870 (97270)	—	
<b>Input Power HP (kW)</b>	<b>51.9 (38.7)</b>	<b>46.0 (34.3)</b>	<b>42.1 (31.4)</b>	<b>38.6 (28.8)</b>	<b>35.3 (26.3)</b>	<b>30.4 (22.7)</b>	<b>27.6 (20.6)</b>	<b>25.2 (18.8)</b>	<b>20.5 (15.3)</b>	<b>17.3 (12.9)</b>	<b>15.0 (11.2)</b>	<b>12.4 (9.28)</b>	<b>10.2 (7.57)</b>	—	
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	14835 (66000)	15665 (69700)	16300 (72500)	16905 (75200)	17580 (78200)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	17180 (76410)	18190 (80900)	19010 (84550)	19590 (87130)	20230 (89980)	20610 (91670)	20820 (92600)	21020 (93490)	21380 (95090)	21620 (96160)	21700 (96520)	21790 (96920)	21870 (97270)	—	
<b>Input Power HP (kW)</b>	<b>41.0 (30.6)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>26.1 (19.5)</b>	<b>25.2 (18.8)</b>	<b>25.2 (18.8)</b>	<b>20.2 (15.1)</b>	<b>16.1 (12)</b>	<b>13.1 (9.75)</b>	<b>11.8 (8.8)</b>	<b>9.59 (7.15)</b>	—	<b>4F180</b>
Output Torque in-lbs (N·m)	81070 (9160)	89390 (10100)	98240 (11100)	85850 (9700)	93815 (10600)	88150 (9960)	93805 (10600)	102665 (11600)	100885 (11400)	95575 (10800)	89380 (10100)	97345 (11000)	97345 (11000)	—	
Hollow Shaft OHL lbs (N)	28775 (128000)	28325 (126000)	27875 (124000)	28550 (127000)	28100 (125000)	28325 (126000)	28100 (125000)	27650 (123000)	27875 (124000)	28100 (125000)	28325 (126000)	27875 (124000)	27875 (124000)	—	
Solid Shaft OHL lbs (N)	28900 (128540)	28920 (128630)	28940 (128720)	28950 (128760)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28990 (128940)	29140 (129610)	29300 (130320)	29440 (130940)	—	
<b>Input Power HP (kW)</b>	<b>52.3 (39)</b>	<b>52.3 (39)</b>	<b>52.3 (39)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	<b>32.3 (24.1)</b>	<b>30.3 (22.6)</b>	<b>30.3 (22.6)</b>	<b>25.2 (18.8)</b>	<b>20.2 (15.1)</b>	<b>16.1 (12)</b>	<b>13.1 (9.79)</b>	<b>11.5 (8.59)</b>	—	
Output Torque in-lbs (N·m)	103540 (11700)	116810 (13200)	127430 (14400)	107080 (12100)	117695 (13300)	108850 (12300)	112385 (12700)	123005 (13900)	125660 (14200)	120350 (13600)	110620 (12500)	107965 (12200)	116810 (13200)	—	
Hollow Shaft OHL lbs (N)	27650 (123000)	27200 (121000)	26750 (119000)	27425 (122000)	27200 (121000)	27425 (122000)	27200 (121000)	26750 (119000)	26750 (119000)	26975 (120000)	27425 (122000)	27425 (122000)	27200 (121000)	—	
Solid Shaft OHL lbs (N)	28900 (128540)	28920 (128630)	28940 (128720)	28950 (128760)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28990 (128940)	29140 (129610)	29300 (130320)	29440 (130940)	—	
<b>Input Power HP (kW)</b>	<b>67.9 (50.6)</b>	<b>55.0 (41)</b>	<b>55.0 (41)</b>	<b>47.2 (35.2)</b>	<b>47.2 (35.2)</b>	<b>41.2 (30.7)</b>	<b>32.6 (24.3)</b>	<b>32.6 (24.3)</b>	<b>28.0 (20.9)</b>	<b>24.4 (18.2)</b>	<b>20.5 (15.3)</b>	<b>18.1 (13.5)</b>	<b>15.7 (11.7)</b>	—	<b>4F190</b>
Output Torque in-lbs (N·m)	133625 (15100)	123005 (13900)	134510 (15200)	125660 (14200)	137165 (15500)	138935 (15700)	121235 (13700)	132740 (15000)	139820 (15800)	144245 (16300)	140705 (15900)	149555 (16900)	159310 (18000)	—	
Hollow Shaft OHL lbs (N)	26300 (117000)	26750 (119000)	26300 (117000)	26750 (119000)	26300 (117000)	26075 (117000)	26975 (120000)	26525 (118000)	26075 (116000)	2585					

# Frame Size Selection Tables 50 Hz, 1450 RPM

# Frame Size Selection Tables 50 Hz, 1450 RPM

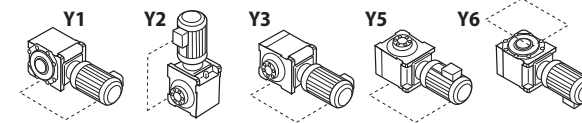
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	132	112	104	90.6	80.6	69.0	65.9	58.0	51.8	41.4	37.2	31.5	27.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	—	—	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	1325 (150)	1610 (182)	1765 (200)	2015 (228)	2200 (249)	2645 (299)	—	—	3530 (399)	4440 (502)	4855 (549)	5740 (649)	6615 (748)	
Hollow Shaft OHL lbs (N)	3910 (17400)	4110 (18300)	4225 (18800)	4360 (19400)	4470 (19900)	4675 (20800)	—	—	5010 (22300)	5280 (23500)	5370 (23900)	5550 (24700)	5325 (23700)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3530 (15700)	3800 (16900)	—	—	4290 (19080)	4530 (20140)	4560 (20280)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	—	—	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4A105</b>
Output Torque in-lbs (N·m)	1795 (203)	2185 (247)	2385 (270)	2730 (309)	2990 (338)	3580 (405)	—	—	4785 (541)	6015 (680)	6575 (743)	7775 (879)	8935 (1010)	
Hollow Shaft OHL lbs (N)	3840 (17100)	4045 (18000)	4135 (18400)	4270 (19000)	4360 (19400)	4540 (20200)	—	—	4830 (21500)	5055 (22500)	5145 (22900)	4990 (22200)	4515 (20100)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3530 (15700)	3800 (16900)	—	—	4290 (19080)	4530 (20140)	4560 (20280)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.76 (3.55)</b>	—	—	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4A110</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	4005 (453)	—	—	5335 (603)	6715 (759)	7345 (830)	8680 (981)	10000 (1130)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4495 (20000)	—	—	4765 (21200)	4965 (22100)	5035 (22400)	4650 (20700)	4020 (17900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3800 (16900)	—	—	4290 (19080)	4530 (20140)	4560 (20280)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>5.26 (3.92)</b>	—	—	<b>5.26 (3.92)</b>	<b>5.26 (3.92)</b>	<b>5.26 (3.92)</b>	<b>5.23 (3.90)</b>	<b>5.23 (3.90)</b>	<b>4A115</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	4420 (500)	—	—	5890 (666)	7415 (838)	8105 (916)	9555 (1080)	10970 (1240)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4425 (19700)	—	—	4695 (20900)	4855 (21600)	4855 (21600)	4270 (19000)	3435 (15300)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3800 (16900)	—	—	4290 (19080)	4530 (20140)	4560 (20280)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.26 (4.67)</b>	<b>5.43 (4.05)</b>	<b>4A120</b>
Output Torque in-lbs (N·m)	5415 (612)	6600 (746)	7220 (816)	8255 (933)	9025 (1020)	7380 (834)	7875 (890)	8610 (973)	9820 (1110)	9555 (1080)	10530 (1190)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3345 (14900)	3435 (15300)	3480 (15500)	3505 (15600)	3525 (15700)	4020 (17900)	4045 (18000)	4090 (18200)	4110 (18300)	4245 (18900)	3750 (16700)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3530 (15700)	3800 (16900)	3890 (17300)	4110 (18280)	4290 (19080)	4530 (20140)	4560 (20280)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>14.8 (11.0)</b>	<b>14.8 (11.0)</b>	<b>14.8 (11.0)</b>	<b>14.8 (11.0)</b>	<b>14.8 (11.0)</b>	<b>10.1 (7.51)</b>	<b>10.1 (7.51)</b>	<b>10.1 (7.51)</b>	<b>10.1 (7.51)</b>	<b>7.94 (5.92)</b>	<b>7.40 (5.52)</b>	<b>6.26 (4.67)</b>	<b>5.43 (4.05)</b>	<b>4A125</b>
Output Torque in-lbs (N·m)	6200 (701)	7565 (855)	8270 (935)	9465 (1070)	10350 (1170)	8465 (957)	9025 (1020)	9910 (1120)	11325 (1280)	11235 (1270)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3235 (14400)	3300 (14700)	3325 (14800)	3345 (14900)	3345 (14900)	3885 (17300)	3885 (17300)	3930 (17500)	3210 (14300)	3280 (14600)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3530 (15700)	3800 (16900)	3890 (17300)	4110 (18280)	4290 (19080)	4530 (20140)	4560 (20280)	4580 (20370)	4580 (20370)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

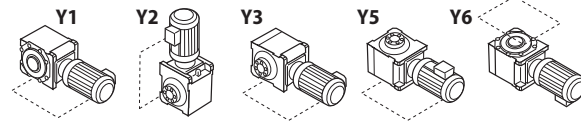
Output RPM	24.2	21.6	19.6	18.1	16.5	14.2	13.0	11.8	9.60	8.10	7.00	5.82	4.75	3.48	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>2.67 (1.99)</b>	<b>2.55 (1.90)</b>	<b>2.55 (1.90)</b>	<b>1.70 (1.27)</b>	<b>1.70 (1.27)</b>	<b>1.62 (1.21)</b>	<b>1.31 (0.975)</b>	<b>1.31 (0.975)</b>	<b>1.05 (0.780)</b>	<b>0.751 (0.560)</b>	<b>0.692 (0.516)</b>	<b>0.585 (0.436)</b>	<b>0.581 (0.433)</b>	<b>0.282 (0.210)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	6345 (717)	6865 (776)	7510 (849)	5460 (617)	5970 (675)	6600 (746)	5865 (663)	6415 (725)	6305 (713)	5370 (607)	5725 (647)	5820 (658)	7085 (801)	4695 (531)	
Hollow Shaft OHL lbs (N)	5395 (24000)	5260 (23400)	5055 (22500)	5595 (24900)	5485 (24400)	5325 (23700)	5505 (24500)	5370 (23900)	5415 (24100)	5620 (25000)	5550 (24700)	5530 (24600)	5190 (23100)	5755 (25600)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>3.30 (2.46)</b>	<b>3.06 (2.28)</b>	<b>3.06 (2.28)</b>	<b>2.24 (1.67)</b>	<b>2.24 (1.67)</b>	<b>2.13 (1.59)</b>	<b>1.61 (1.20)</b>	<b>1.61 (1.20)</b>	<b>1.45 (1.08)</b>	<b>1.04 (0.776)</b>	<b>0.913 (0.681)</b>	<b>0.679 (0.506)</b>	<b>0.675 (0.503)</b>	<b>0.384 (0.286)</b>	<b>4A105</b>
Output Torque in-lbs (N·m)	7845 (887)	8245 (932)	9025 (1020)	7190 (813)	7865 (889)	8670 (980)	7210 (815)	7880 (891)	8775 (992)	7440 (841)	7555 (854)	6750 (763)	8230 (930)	6405 (724)	
Hollow Shaft OHL lbs (N)	4945 (22000)	4810 (21400)	4515 (20100)	5170 (23000)	4945 (22000)	4650 (20700)	5170 (23000)	4945 (22000)	4605 (20500)	5080 (22600)	5055 (22500)	5305 (23600)	4830 (21500)	5395 (24000)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>4.26 (3.18)</b>	<b>3.65 (2.72)</b>	<b>3.65 (2.72)</b>	<b>2.56 (1.91)</b>	<b>2.56 (1.91)</b>	<b>2.55 (1.90)</b>	<b>2.01 (1.50)</b>	<b>2.01 (1.50)</b>	<b>1.74 (1.30)</b>	<b>1.27 (0.944)</b>	<b>1.15 (0.859)</b>	<b>0.897 (0.669)</b>	<b>0.886 (0.661)</b>	—	<b>4A110</b>
Output Torque in-lbs (N·m)	10175 (1150)	9820 (1110)	10795 (1220)	8230 (930)	9025 (1020)	10350 (1170)	9025 (1020)	9910 (1120)	10530 (1190)	9025 (1020)	9555 (1080)	8935 (1010)	10795 (1220)	—	
Hollow Shaft OHL lbs (N)	3955 (17600)	4110 (18300)	3595 (16000)	4830 (21500)	4515 (20100)	3820 (17000)	4495 (20000)	4090 (18200)	3750 (16700)	4495 (20000)	4270 (19000)	4540 (20200)	3550 (15800)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.17 (3.11)</b>	<b>3.88 (2.89)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	<b>2.80 (2.09)</b>	<b>2.43 (1.81)</b>	<b>2.32 (1.73)</b>	<b>1.89 (1.41)</b>	<b>1.49 (1.11)</b>	<b>1.35 (1.01)</b>	<b>1.02 (0.758)</b>	<b>0.936 (0.698)</b>	—	<b>4A115</b>
Output Torque in-lbs (N·m)	11415 (1290)	11235 (1270)	11415 (1290)	9555 (1080)	10440 (1180)	11415 (1290)	10885 (1230)	11415 (1290)	11415 (1290)	10615 (1200)	11235 (1270)	10085 (1140)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3255 (14500)	3120 (13900)	4270 (19000)	3775 (16800)	3120 (13900)	3505 (15600)	3120 (13900)	3120 (13900)	3660 (16300)	3280 (14600)	3975 (17700)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.24 (3.16)</b>	<b>3.88 (2.89)</b>	<b>3.57 (2.66)</b>	<b>3.26 (2.43)</b>	<b>2.80 (2.09)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>1.89 (1.41)</b>	<b>1.60 (1.19)</b>	<b>1.38 (1.03)</b>	<b>1.15 (0.855)</b>	<b>0.936 (0.698)</b>	—	<b>4A120</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.24 (3.16)</b>	<b>3.88 (2.89)</b>	<b>3.57 (2.66)</b>	<b>3.26 (2.43)</b>	<b>2.80 (2.09)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>1.89 (1.41)</b>	<b>1.60 (1.19)</b>	<b>1.38 (1.03)</b>	<b>1.15 (0.855)</b>	<b>0.936 (0.698)</b>	—	<b>4A125</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	



# Frame Size Selection Tables 50 Hz, 1450 RPM

# Frame Size Selection Tables 50 Hz, 1450 RPM

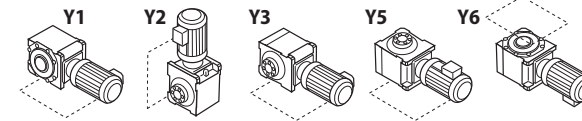
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	132	112	104	90.6	80.6	69.0	65.9	58.0	51.8	41.4	37.2	31.5	27.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>24.5 (18.3)</b>	<b>22.1 (16.5)</b>	<b>20.4 (15.2)</b>	<b>17.8 (13.3)</b>	<b>16.2 (12.1)</b>	<b>13.5 (10.1)</b>	<b>12.7 (9.48)</b>	<b>11.6 (8.67)</b>	<b>10.2 (7.59)</b>	<b>8.10 (6.04)</b>	<b>7.40 (5.52)</b>	<b>6.26 (4.67)</b>	<b>5.43 (4.05)</b>	<b>4A140</b>
Output Torque in-lbs (N·m)	10350 (1170)	11325 (1280)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	2675 (11900)	2785 (12400)	2900 (12900)	3075 (13700)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3530 (15700)	3800 (16900)	3890 (17300)	4110 (18280)	4290 (19080)	4530 (20140)	4560 (20280)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>24.5 (18.3)</b>	<b>22.1 (16.5)</b>	<b>20.4 (15.2)</b>	<b>17.8 (13.3)</b>	<b>16.2 (12.1)</b>	<b>13.5 (10.1)</b>	<b>12.7 (9.48)</b>	<b>11.6 (8.67)</b>	<b>10.2 (7.59)</b>	<b>8.10 (6.04)</b>	<b>7.40 (5.52)</b>	<b>6.26 (4.67)</b>	<b>5.43 (4.05)</b>	<b>4A145</b>
Output Torque in-lbs (N·m)	10350 (1170)	11325 (1280)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	2675 (11900)	2785 (12400)	2900 (12900)	3075 (13700)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3350 (14900)	3350 (14900)	3530 (15700)	3800 (16900)	3890 (17300)	4110 (18280)	4290 (19080)	4530 (20140)	4560 (20280)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>4B120</b>
Output Torque in-lbs (N·m)	5415 (612)	6600 (746)	7220 (816)	8255 (933)	9025 (1020)	7380 (834)	7875 (890)	8610 (973)	9820 (1110)	9555 (1080)	10530 (1190)	12385 (1400)	14335 (1620)	
Hollow Shaft OHL lbs (N)	4945 (22000)	5145 (22900)	5235 (23300)	5370 (23900)	5460 (24300)	6000 (26700)	6065 (27000)	6180 (27500)	6335 (28200)	6900 (30700)	7010 (31200)	7235 (32200)	7415 (33000)	
Solid Shaft OHL lbs (N)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3740 (16630)	4100 (18230)	4200 (18680)	4500 (20010)	4780 (21260)	5360 (23840)	5650 (25130)	6100 (27130)	6520 (29000)	
<b>Input Power HP (kW)</b>	<b>14.8 (11.0)</b>	<b>14.8 (11.0)</b>	<b>14.8 (11.0)</b>	<b>14.8 (11.0)</b>	<b>14.8 (11.0)</b>	<b>10.1 (7.51)</b>	<b>10.1 (7.51)</b>	<b>10.1 (7.51)</b>	<b>10.1 (7.51)</b>	<b>7.94 (5.92)</b>	<b>7.94 (5.92)</b>	<b>7.94 (5.92)</b>	<b>7.94 (5.92)</b>	<b>4B125</b>
Output Torque in-lbs (N·m)	6200 (701)	7565 (855)	8270 (935)	9465 (1070)	10350 (1170)	8465 (957)	9025 (1020)	9910 (1120)	11325 (1280)	11235 (1270)	12210 (1380)	14510 (1640)	16725 (1890)	
Hollow Shaft OHL lbs (N)	4855 (21600)	5035 (22400)	5125 (22800)	5235 (23300)	5325 (23700)	5890 (26200)	5955 (26500)	6045 (26900)	6180 (27500)	6720 (29900)	6830 (30400)	7010 (31200)	7145 (31800)	
Solid Shaft OHL lbs (N)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3740 (16630)	4100 (18230)	4200 (18680)	4500 (20010)	4780 (21260)	5360 (23840)	5650 (25130)	6100 (27130)	6520 (29000)	
<b>Input Power HP (kW)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>16.1 (12.0)</b>	<b>14.8 (11.0)</b>	<b>12.5 (9.30)</b>	<b>10.8 (8.06)</b>	<b>4B140</b>
Output Torque in-lbs (N·m)	10705 (1210)	13095 (1480)	14335 (1620)	16370 (1850)	17875 (2020)	14690 (1660)	15660 (1770)	17080 (1930)	19555 (2210)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4360 (19400)	4450 (19800)	4470 (19900)	4495 (20000)	4515 (20100)	5215 (23200)	5235 (23300)	5260 (23400)	5305 (23600)	5460 (24300)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3740 (16630)	4100 (18230)	4200 (18680)	4500 (20010)	4780 (21260)	5360 (23840)	5650 (25130)	6100 (27130)	6520 (29000)	
<b>Input Power HP (kW)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>16.1 (12.0)</b>	<b>14.8 (11.0)</b>	<b>12.5 (9.30)</b>	<b>10.8 (8.06)</b>	<b>4B145</b>
Output Torque in-lbs (N·m)	12385 (1400)	15130 (1710)	16545 (1870)	18935 (2140)	20705 (2340)	17075 (1930)	18230 (2060)	19910 (2250)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4180 (18600)	4225 (18800)	4225 (18800)	4200 (18700)	4200 (18700)	4945 (22000)	4945 (22000)	4965 (22100)	4965 (22100)	5460 (24300)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3740 (16630)	4100 (18230)	4200 (18680)	4500 (20010)	4780 (21260)	5360 (23840)	5650 (25130)	6100 (27130)	6520 (29000)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



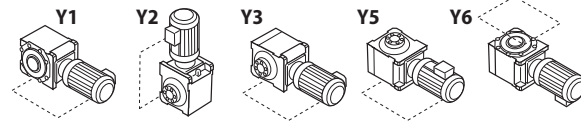
Dimensions on pages 2.156 - 2.166

Output RPM	24.2	21.6	19.6	18.1	16.5	14.2	13.0	11.8	9.60	8.10	7.00	5.82	4.75	3.48	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.24 (3.16)</b>	<b>3.88 (2.89)</b>	<b>3.57 (2.66)</b>	<b>3.26 (2.43)</b>	<b>2.80 (2.09)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>1.89 (1.41)</b>	<b>1.60 (1.19)</b>	<b>1.38 (1.03)</b>	<b>1.15 (0.855)</b>	<b>0.936 (0.698)</b>	—	<b>4A140</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.24 (3.16)</b>	<b>3.88 (2.89)</b>	<b>3.57 (2.66)</b>	<b>3.26 (2.43)</b>	<b>2.80 (2.09)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>1.89 (1.41)</b>	<b>1.60 (1.19)</b>	<b>1.38 (1.03)</b>	<b>1.15 (0.855)</b>	<b>0.936 (0.698)</b>	—	<b>4A145</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>6.56 (4.89)</b>	<b>5.31 (3.96)</b>	<b>5.31 (3.96)</b>	<b>4.14 (3.09)</b>	<b>4.14 (3.09)</b>	<b>3.85 (2.87)</b>	<b>3.18 (2.37)</b>	<b>3.18 (2.37)</b>	<b>2.56 (1.91)</b>	<b>2.19 (1.63)</b>	<b>1.74 (1.30)</b>	<b>1.28 (0.957)</b>	<b>1.27 (0.944)</b>	—	<b>4B120</b>
Output Torque in-lbs (N·m)	15660 (1770)	14245 (1610)	15660 (1770)	13270 (1500)	14510 (1640)	15660 (1770)	14245 (1610)	15660 (1770)	15485 (1750)	15660 (1770)	14510 (1640)	12740 (1440)	15485 (1750)	—	
Hollow Shaft OHL lbs (N)	7595 (33800)	8090 (36000)	8205 (36500)	8720 (38800)	8540 (38000)	8295 (36900)	8610 (38300)	8295 (36900)	8315 (37000)	8295 (36900)	8565 (38100)	8900 (39600)	8340 (37100)	—	
Solid Shaft OHL lbs (N)	6870 (30550)	7140 (31750)	7330 (32600)	7370 (32780)	7420 (33000)	7490 (33310)	7530 (33490)	7570 (33670)	7580 (33710)	7430 (33040)	7320 (32550)	7200 (32020)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>7.59 (5.66)</b>	<b>6.42 (4.79)</b>	<b>6.42 (4.79)</b>	<b>5.31 (3.96)</b>	<b>5.31 (3.96)</b>	<b>4.65 (3.47)</b>	<b>3.86 (2.88)</b>	<b>3.86 (2.88)</b>	<b>3.14 (2.34)</b>	<b>2.64 (1.97)</b>	<b>2.17 (1.62)</b>	<b>1.53 (1.14)</b>	<b>1.38 (1.03)</b>	—	<b>4B125</b>
Output Torque in-lbs (N·m)	18050 (2040)	17345 (1960)	18935 (2140)	16990 (1920)	18580 (2100)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	18935 (2140)	17960 (2030)	15220 (1720)	16810 (1900)	—	
Hollow Shaft OHL lbs (N)	7350 (32700)	7755 (34500)	7325 (32600)	7935 (35300)	7440 (33100)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7325 (32600)	7640 (34000)	8385 (37300)	7980 (35500)	—	
Solid Shaft OHL lbs (N)	6870 (30550)	7140 (31750)	7330 (32600)	7370 (32780)	7420 (33000)	7490 (33310)	7530 (33490)	7570 (33670)	7580 (33710)	7430 (33040)	7320 (32550)	7200 (32020)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>9.53 (7.11)</b>	<b>8.45 (6.30)</b>	<b>7.72 (5.76)</b>	<b>7.09 (5.29)</b>	<b>6.49 (4.84)</b>	<b>5.59 (4.17)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.45)</b>	<b>3.77 (2.81)</b>	<b>3.18 (2.37)</b>	<b>2.75 (2.05)</b>	<b>2.28 (1.70)</b>	<b>1.86 (1.39)</b>	—	<b>4B140</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	—	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	—	
Solid Shaft OHL lbs (N)	6870 (30550)	7140 (31750)	7330 (32600)	7370 (32780)	7420 (33000)	7490 (33310)	7530 (33490)	7570 (33670)	7580 (33710)	7430 (33040)	7320 (32550)	7200 (32020)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>9.53 (7.11)</b>	<b>8.45 (6.30)</b>	<b>7.72 (5.76)</b>	<b>7.09 (5.29)</b>	<b>6.49 (4.84)</b>	<b>5.59 (4.17)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.45)</b>	<b>3.77 (2.81)</b>	<b>3.18 (2.37)</b>	<b>2.75 (2.05)</b>	<b>2.28 (1.70)</b>	<b>1.86 (1.39)</b>	—	<b>4B145</b>

# Frame Size Selection Tables 50 Hz, 1450 RPM

# Frame Size Selection Tables 50 Hz, 1450 RPM

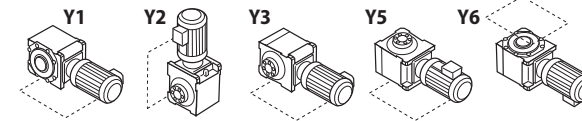
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	132	112	104	90.6	80.6	69.0	65.9	58.0	51.8	41.4	37.2	31.5	27.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.3 (24.8)</b>	<b>31.6 (23.6)</b>	<b>27.1 (20.2)</b>	<b>25.3 (18.9)</b>	<b>23.2 (17.3)</b>	<b>20.2 (15.1)</b>	<b>16.1 (12.0)</b>	<b>14.8 (11.0)</b>	<b>12.5 (9.3)</b>	<b>10.8 (8.06)</b>	<b>4B160</b>
Output Torque in-lbs (N·m)	14245 (1610)	17430 (1970)	19025 (2150)	21325 (2410)	22210 (2510)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	3975 (17700)	3975 (17700)	3955 (17600)	3955 (17600)	4045 (18000)	4335 (19300)	4450 (19800)	4675 (20800)	4965 (22100)	5460 (24300)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3740 (16630)	4100 (18230)	4200 (18680)	4500 (20010)	4780 (21260)	5360 (23840)	5650 (25130)	6100 (27130)	6520 (29000)	
<b>Input Power HP (kW)</b>	<b>38.9 (29.0)</b>	<b>38.9 (29.0)</b>	<b>37.4 (27.9)</b>	<b>33.3 (24.8)</b>	<b>31.6 (23.6)</b>	<b>27.1 (20.2)</b>	<b>25.3 (18.9)</b>	<b>23.2 (17.3)</b>	<b>20.2 (15.1)</b>	<b>16.1 (12.0)</b>	<b>14.8 (11.0)</b>	<b>12.5 (9.3)</b>	<b>10.8 (8.06)</b>	<b>4B165</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21060 (2380)	21325 (2410)	22210 (2510)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	3750 (16700)	3685 (16400)	3750 (16700)	3955 (17600)	4045 (18000)	4335 (19300)	4450 (19800)	4675 (20800)	4965 (22100)	5460 (24300)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3740 (16630)	4100 (18230)	4200 (18680)	4500 (20010)	4780 (21260)	5360 (23840)	5650 (25130)	6100 (27130)	6520 (29000)	
<b>Input Power HP (kW)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>25.5 (19.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>16.1 (12.0)</b>	<b>4C140</b>
Output Torque in-lbs (N·m)	10705 (1210)	13095 (1480)	14335 (1620)	16370 (1850)	17875 (2020)	14690 (1660)	15660 (1770)	17165 (1940)	19555 (2210)	24600 (2780)	26900 (3040)	31855 (3600)	33890 (3830)	
Hollow Shaft OHL lbs (N)	6560 (29200)	6810 (30300)	6920 (30800)	7055 (31400)	7145 (31800)	7955 (35400)	8025 (35700)	8160 (36300)	8340 (37100)	8565 (38100)	8655 (38500)	8765 (39000)	9100 (40500)	
Solid Shaft OHL lbs (N)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4910 (21830)	5400 (24010)	5550 (24680)	5940 (26420)	6250 (27800)	7170 (31890)	7580 (33710)	8210 (36510)	8860 (39400)	
<b>Input Power HP (kW)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>29.5 (22.0)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>19.4 (14.5)</b>	<b>4C145</b>
Output Torque in-lbs (N·m)	12385 (1400)	15130 (1710)	16545 (1870)	18935 (2140)	20705 (2340)	17075 (1930)	18230 (2060)	19910 (2250)	22830 (2580)	28670 (3240)	31325 (3540)	36810 (4160)	40795 (4610)	
Hollow Shaft OHL lbs (N)	6405 (28500)	6605 (29400)	6695 (29800)	6810 (30300)	6875 (30600)	7730 (34400)	7775 (34600)	7890 (35100)	8025 (35700)	8180 (36400)	8250 (36700)	8295 (36900)	8430 (37500)	
Solid Shaft OHL lbs (N)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4910 (21830)	5400 (24010)	5550 (24680)	5940 (26420)	6250 (27800)	7170 (31890)	7580 (33710)	8210 (36510)	8860 (39400)	
<b>Input Power HP (kW)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>27.2 (20.3)</b>	<b>27.2 (20.3)</b>	<b>26.4 (19.7)</b>	<b>26.4 (19.7)</b>	<b>26.4 (19.7)</b>	<b>24.9 (18.6)</b>	<b>21.6 (16.1)</b>	<b>4C160</b>
Output Torque in-lbs (N·m)	14245 (1610)	17430 (1970)	19025 (2150)	21770 (2460)	23805 (2690)	28580 (3230)	24420 (2760)	26725 (3020)	29645 (3350)	37255 (4210)	40705 (4600)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6245 (27800)	6380 (28400)	6470 (28800)	6540 (29100)	6585 (29300)	6630 (29500)	7190 (32000)	7260 (32300)	7370 (32800)	7350 (32700)	7350 (32700)	7485 (33300)	8000 (35600)	
Solid Shaft OHL lbs (N)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4910 (21830)	5400 (24010)	5550 (24680)	5940 (26420)	6250 (27800)	7170 (31890)	7580 (33710)	8210 (36510)	8860 (39400)	
<b>Input Power HP (kW)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>32.2 (24.0)</b>	<b>29.5 (22.0)</b>	<b>24.9 (18.6)</b>	<b>21.6 (16.1)</b>	<b>4C165</b>
Output Torque in-lbs (N·m)	16900 (1910)	20615 (2330)	22565 (2550)	25750 (2910)	28230 (3190)	33890 (3830)	28935 (3270)	31680 (3580)	36190 (4090)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	5975 (26600)	6090 (27100)	6135 (27300)	6155 (27400)	6180 (27500)	6135 (27300)	6765 (30100)	6785 (30200)	6765 (30100)	6560 (29200)	6900 (30700)	7485 (33300)	8000 (35600)	
Solid Shaft OHL lbs (N)	4590 (20410)	4590 (20410)	4590 (20410)	4590 (20410)	4910 (21830)	5400 (24010)	5550 (24680)	5940 (26420)	6250 (27800)	7170 (31890)	7580 (33710)	8210 (36510)	8860 (39400)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	24.2	21.6	19.6	18.1	16.5	14.2	13.0	11.8	9.60	8.10	7.00	5.82	4.75	3.48	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>9.53 (7.11)</b>	<b>8.45 (6.30)</b>	<b>7.72 (5.76)</b>	<b>7.09 (5.29)</b>	<b>6.49 (4.84)</b>	<b>5.59 (4.17)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.45)</b>	<b>3.77 (2.81)</b>	<b>3.18 (2.37)</b>	<b>2.75 (2.05)</b>	<b>2.28 (1.70)</b>	<b>1.86 (1.39)</b>	—	<b>4B160</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	6870 (30550)	7140 (31750)	7330 (32600)	7370 (32780)	7420 (33000)	7490 (33310)	7530 (33490)	7570 (33670)	7580 (33710)	7430 (33040)	7320 (32550)	7200 (32020)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>9.53 (7.11)</b>	<b>8.45 (6.30)</b>	<b>7.72 (5.76)</b>	<b>7.09 (5.29)</b>	<b>6.49 (4.84)</b>	<b>5.59 (4.17)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.45)</b>	<b>3.77 (2.81)</b>	<b>3.18 (2.37)</b>	<b>2.75 (2.05)</b>	<b>2.28 (1.70)</b>	<b>1.86 (1.39)</b>	—	<b>4B165</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	6870 (30550)	7140 (31750)	7330 (32600)	7370 (32780)	7420 (33000)	7490 (33310)	7530 (33490)	7570 (33670)	7580 (33710)	7430 (33040)	7320 (32550)	7200 (32020)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>13.5 (10.1)</b>	<b>11.6 (8.66)</b>	<b>11.6 (8.66)</b>	<b>9.24 (6.89)</b>	<b>9.24 (6.89)</b>	<b>7.98 (5.95)</b>	<b>6.99 (5.21)</b>	<b>6.99 (5.21)</b>	<b>5.28 (3.94)</b>	<b>4.60 (3.43)</b>	<b>3.97 (2.96)</b>	<b>3.26 (2.43)</b>	<b>2.66 (1.98)</b>	—	<b>4C140</b>
Output Torque in-lbs (N·m)	32210 (3640)	31325 (3540)	34245 (3870)	29645 (3350)	32385 (3660)	32475 (3670)	31325 (3540)	34245 (3870)	31855 (3600)	32920 (3720)	32830 (3710)	32475 (3670)	32385 (3660)	—	
Hollow Shaft OHL lbs (N)	9710 (43200)	10250 (45600)	10360 (46100)	11125 (49500)	11260 (50100)	11910 (53000)	12450 (55400)	12610 (56100)	13260 (59000)	13060 (58100)	13080 (58200)	13150 (58500)	13170 (58600)	—	
Solid Shaft OHL lbs (N)	9420 (41900)	9870 (43900)	10260 (45630)	10660 (47410)	11100 (49370)	11710 (52080)	12050 (53590)	12360 (54970)	12810 (56970)	12720 (56570)	12660 (56310)	12590 (56000)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	<b>16.1 (12.0)</b>	<b>12.7 (9.49)</b>	<b>12.7 (9.49)</b>	<b>10.6 (7.91)</b>	<b>10.6 (7.91)</b>	<b>10.1 (7.53)</b>	<b>8.39 (6.26)</b>	<b>8.39 (6.26)</b>	<b>6.26 (4.67)</b>	<b>4.96 (3.70)</b>	<b>4.26 (3.18)</b>	<b>3.51 (2.62)</b>	<b>2.90 (2.16)</b>	—	<b>4C145</b>
Output Torque in-lbs (N·m)	38405 (4340)	34245 (3870)	37430 (4230)	33980 (3840)	37165 (4200)	41060 (4640)	37610 (4250)	41150 (4650)	37785 (4270)	35485 (4010)	35305 (3990)	35040 (3960)	35305 (3990)	—	
Hollow Shaft OHL lbs (N)	9125 (40600)	9980 (44400)	10045 (44700)	10720 (47700)	10810 (48100)	10970 (48800)	11845 (52700)	10945 (48700)	11910 (53000)	12495 (55600)	12540 (55800)	12610 (56100)	12540 (55800)	—	
Solid Shaft OHL lbs (N)	9420 (41900)	9870 (43900)	10260 (45630)	10660 (47410)	11100 (49370)	11710 (52080)	12050 (53590)	12360 (54970)	12810 (56970)	12720 (56570)	12660 (56310)	12590 (56000)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	<b>17.6 (13.1)</b>	<b>16.9 (12.6)</b>	<b>15.4 (11.5)</b>	<b>13.2 (9.86)</b>	<b>13.0 (9.67)</b>	<b>11.2 (8.34)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>7.54 (5.62)</b>	<b>6.36 (4.74)</b>	<b>5.50 (4.10)</b>	<b>4.57 (3.41)</b>	<b>3.73 (2.78)</b>	—	<b>4C160</b>
Output Torque in-lbs (N·m)	41770 (4720)	45485 (5140)	45485 (5140)	42385 (4790)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	—	
Hollow Shaft OHL lbs (N)	8810 (39200)	8900 (39600)	9305 (41400)	9910 (44100)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	—	
Solid Shaft OHL lbs (N)	9420 (41900)	9870 (43900)	10260 (45630)	10660 (47410)	11100 (49370)	11710 (52080)	12050 (53590)	12360 (54970)	12810 (56970)	12720 (56570)	12660 (56310)	12590 (56000)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	<b>19.0 (14.2)</b>	<b>16.9 (12.6)</b>	<b>15.4 (11.5)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.67)</b>	<b>11.2 (8.34)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>7.54 (5.62)</b>	<b>6.36 (4.74)</b> </					

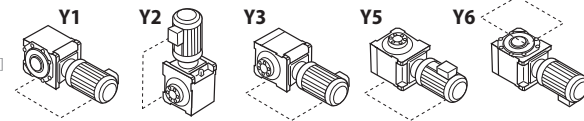




# Frame Size Selection Tables 50 Hz, 1450 RPM

# Frame Size Selection Tables 50 Hz, 1450 RPM

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions <sup>[1]</sup>

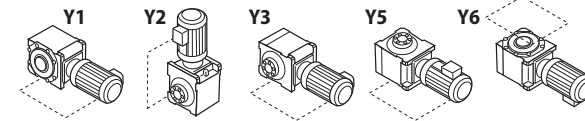


Dimensions on pages 2.156 - 2.166

Output RPM	132	112	104	90.6	80.6	69.0	65.9	58.0	51.8	41.4	37.2	31.5	27.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>53.4 (39.8)</b>	<b>49.2 (36.7)</b>	<b>42.4 (31.6)</b>	<b>36.7 (27.4)</b>	<b>4D180</b>
Output Torque in-lbs (N·m)	30085 (3400)	36725 (4150)	40175 (4540)	45925 (5190)	50175 (5670)	46810 (5290)	49910 (5640)	54600 (6170)	62485 (7060)	75320 (8510)	75850 (8570)	77175 (8720)	77175 (8720)	
Hollow Shaft OHL lbs (N)	8540 (38000)	8675 (38600)	8720 (38800)	8745 (38900)	8720 (38800)	9710 (43200)	9730 (43300)	9730 (43300)	9685 (43100)	9685 (43100)	10070 (44800)	10810 (48100)	11375 (50600)	
Solid Shaft OHL lbs (N)	6480 (28820)	6480 (28820)	6480 (28820)	6480 (28820)	6980 (31040)	7690 (34200)	7910 (35180)	8500 (37800)	9060 (40290)	10240 (45540)	10830 (48170)	11740 (52210)	12690 (56440)	
<b>Input Power HP (kW)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>53.4 (39.8)</b>	<b>49.2 (36.7)</b>	<b>42.4 (31.6)</b>	<b>36.7 (27.4)</b>	
Output Torque in-lbs (N·m)	33890 (3830)	41235 (4660)	45130 (5100)	51590 (5830)	56465 (6380)	50795 (5740)	54155 (6120)	59210 (6690)	67705 (7650)	75320 (8510)	75850 (8570)	77175 (8720)	77175 (8720)	
Hollow Shaft OHL lbs (N)	8225 (36600)	8295 (36900)	8315 (37000)	8270 (36800)	8225 (36600)	9395 (41800)	9395 (41800)	9350 (41600)	9260 (41200)	9685 (43100)	10070 (44800)	10810 (48100)	11375 (50600)	
Solid Shaft OHL lbs (N)	6480 (28820)	6480 (28820)	6480 (28820)	6480 (28820)	6980 (31040)	7690 (34200)	7910 (35180)	8500 (37800)	9060 (40290)	10240 (45540)	10830 (48170)	11740 (52210)	12690 (56440)	
<b>Input Power HP (kW)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>37.0 (27.6)</b>	<b>37.0 (27.6)</b>	<b>36.6 (27.3)</b>	<b>34.2 (25.5)</b>	<b>4E170</b>
Output Torque in-lbs (N·m)	23450 (2650)	28580 (3230)	31235 (3530)	35660 (4030)	39025 (4410)	38230 (4320)	40795 (4610)	44600 (5040)	50970 (5760)	52210 (5900)	57075 (6450)	66725 (7540)	71945 (8130)	
Hollow Shaft OHL lbs (N)	12340 (54900)	12835 (57100)	13035 (58000)	13330 (59300)	13530 (60200)	14500 (64500)	14635 (65100)	14855 (66100)	15125 (67300)	16365 (72800)	16565 (73700)	16950 (75400)	17510 (77900)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10410 (46300)	11310 (50300)	11590 (51550)	12350 (54930)	13080 (58170)	14630 (65070)	15370 (68360)	16550 (73610)	17780 (79080)	
<b>Input Power HP (kW)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	
Output Torque in-lbs (N·m)	25395 (2870)	30970 (3500)	33890 (3830)	38670 (4370)	42300 (4780)	41770 (4720)	44510 (5030)	48670 (5500)	55660 (6290)	56900 (6430)	62300 (7040)	73625 (8320)	84865 (9590)	
Hollow Shaft OHL lbs (N)	21625 (96200)	12655 (56300)	12835 (57100)	13105 (58300)	13285 (59100)	14250 (63400)	14365 (63900)	14565 (64800)	14790 (65800)	16005 (71200)	16185 (72000)	16430 (73100)	16565 (73700)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10410 (46300)	11310 (50300)	11590 (51550)	12350 (54930)	13080 (58170)	14630 (65070)	15370 (68360)	16550 (73610)	17780 (79080)	
<b>Input Power HP (kW)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>43.4 (32.4)</b>	<b>4E180</b>
Output Torque in-lbs (N·m)	30085 (3400)	36725 (4150)	40175 (4540)	45925 (5190)	50175 (5670)	46810 (5290)	49910 (5640)	54600 (6170)	62475 (7060)	78495 (8870)	85850 (9700)	101780 (11500)	91160 (10300)	
Hollow Shaft OHL lbs (N)	11845 (52700)	12230 (54400)	12385 (55100)	12585 (56000)	12700 (56500)	13870 (61700)	13980 (62200)	14115 (62800)	14295 (63600)	14455 (64300)	14475 (64400)	14385 (64000)	16095 (71600)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10410 (46300)	11310 (50300)	11590 (51550)	12350 (54930)	13080 (58170)	14630 (65070)	15370 (68360)	16550 (73610)	17780 (79080)	
<b>Input Power HP (kW)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>56.1 (41.8)</b>	<b>48.8 (36.4)</b>	
Output Torque in-lbs (N·m)	33890 (3830)	41235 (4660)	45130 (5100)	51590 (5830)	56460 (6380)	50795 (5740)	54155 (6120)	59200 (6690)	67695 (7650)	85140 (9620)	92930 (10500)	101780 (11500)	102665 (11600)	
Hollow Shaft OHL lbs (N)	11575 (51500)	11890 (52900)	12025 (53500)	12160 (54100)	12250 (54500)	13575 (60400)	13665 (60800)	13780 (61300)	13915 (61900)	13960 (62100)	13935 (62000)	14340 (63800)	15265 (67900)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10410 (46300)	11310 (50300)	11590 (51550)	12350 (54930)	13080 (58170)	14630 (65070)	15370 (68360)	16550 (73610)	17780 (79080)	

Notes: [1] For selections noted with \*, the duty cycle for units mounted in the Y2 configuration is limited to 75% Equivalent Duty (10 minute cycle time).

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



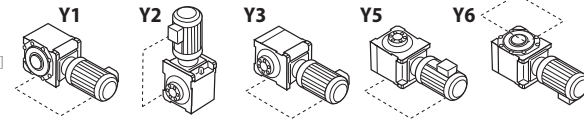
Dimensions on pages 2.156 - 2.166

Output RPM	24.2	21.6	19.6	18.1	16.5	14.2	13.0	11.8	9.60	8.10	7.00	5.82	4.75	3.48	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>32.3 (24.1)</b>	<b>28.7 (21.4)</b>	<b>26.1 (19.5)</b>	<b>24.0 (17.9)</b>	<b>22.0 (16.4)</b>	<b>18.9 (14.1)</b>	<b>17.2 (12.8)</b>	<b>15.7 (11.7)</b>	<b>12.8 (9.54)</b>	<b>10.8 (8.04)</b>	<b>9.32 (6.95)</b>	<b>7.75 (5.78)</b>	<b>6.33 (4.72)</b>	—	<b>4D180</b>
Output Torque in-lbs (N·m)	77175 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	13500 (60040)	14150 (62930)	14650 (65160)	14960 (66540)	15320 (68140)	15800 (70270)	16070 (71470)	16310 (72540)	16690 (74230)	16650 (74050)	16620 (73920)	16590 (73790)	16580 (73740)	—	
<b>Input Power HP (kW)</b>	<b>32.3 (24.1)</b>	<b>28.7 (21.4)</b>	<b>26.1 (19.5)</b>	<b>24.0 (17.9)</b>	<b>22.0 (16.4)</b>	<b>18.9 (14.1)</b>	<b>17.2 (12.8)</b>	<b>15.7 (11.7)</b>	<b>12.8 (9.54)</b>	<b>10.8 (8.04)</b>	<b>9.32 (6.95)</b>	<b>7.75 (5.78)</b>	<b>6.33 (4.72)</b>	—	
Output Torque in-lbs (N·m)	77175 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	13500 (60040)	14150 (62930)	14650 (65160)	14960 (66540)	15320 (68140)	15800 (70270)	16070 (71470)	16310 (72540)	16690 (74230)	16650 (74050)	16620 (73920)	16590 (73790)	16580 (73740)	—	
<b>Input Power HP (kW)</b>	<b>26.4 (19.7)</b>	<b>24.9 (18.6)</b>	<b>24.9 (18.6)</b>	<b>20.9 (15.6)</b>	<b>20.9 (15.6)</b>	<b>18.1 (13.5)</b>	<b>15.0 (11.2)</b>	<b>15.0 (11.2)</b>	<b>12.2 (9.08)</b>	<b>10.3 (7.66)</b>	<b>8.88 (6.62)</b>	<b>7.38 (5.50)</b>	<b>6.13 (4.57)</b>	—	<b>4E170</b>
Output Torque in-lbs (N·m)	62830 (7100)	67075 (7580)	73360 (8290)	66990 (7570)	73270 (8280)	73360 (8290)	67165 (7590)	73450 (8300)	73450 (8300)	73450 (8300)	73450 (8300)	73540 (8310)	74775 (8450)	—	
Hollow Shaft OHL lbs (N)	19060 (84800)	19580 (87100)	19825 (88200)	20410 (90800)	20095 (89400)	20075 (89300)	20410 (90800)	20075 (89300)	20075 (89300)	20075 (89300)	20075 (89300)	20075 (89300)	20005 (89000)	—	
Solid Shaft OHL lbs (N)	18840 (83800)	19670 (87490)	20270 (90160)	20480 (91090)	20700 (92070)	21020 (93490)	21200 (94290)	21360 (95000)	21630 (96210)	21720 (96610)	21790 (96920)	21860 (97230)	21920 (97500)	—	
<b>Input Power HP (kW)</b>	<b>32.3 (24.1)</b>	<b>31.6 (23.6)</b>	<b>29.5 (22.0)</b>	<b>26.1 (19.5)</b>	<b>24.8 (18.5)</b>	<b>21.3 (15.9)</b>	<b>19.3 (14.4)</b>	<b>19.3 (14.4)</b>	<b>15.2 (11.3)</b>	<b>13.2 (9.87)</b>	<b>11.1 (8.29)</b>	<b>9.36 (6.98)</b>	<b>7.54 (5.62)</b>	—	
Output Torque in-lbs (N·m)	76900 (8690)	85130 (9620)	86990 (9830)	83805 (9470)	86990 (9830)	86990 (9830)	86545 (9780)	94690 (10700)	91150 (10300)	94690 (10700)	92035 (10400)	92920 (10500)	92035 (10400)	—	
Hollow Shaft OHL lbs (N)	18025 (80200)	18250 (81200)	18835 (83800)	19555 (87000)	19400 (86300)	19400 (86300)	19420 (86400)	18995 (84500)	19175 (85300)	18995 (84500)	19150 (85200)	19085 (84900)	19150 (85200)	—	
Solid Shaft OHL lbs (N)	18840 (83800)	19670 (87490)	20270 (90160)	20480 (91090)	20700 (92070)	21020 (93490)	21200 (94290)	21360 (95000)	21630 (96210)	21720 (96610)	21790 (96920)	21860 (97230)	21920 (97500)	—	
<b>Input Power HP (kW)</b>	<b>41.0 (30.6)</b>	<b>38.1 (28.4)</b>	<b>34.9 (26.0)</b>	<b>32.0 (23.9)</b>	<b>29.2 (21.8)</b>	<b>25.5 (18.8)</b>	<b>22.9 (17.1)</b>	<b>20.9 (15.6)</b>	<b>17.0 (12.7)</b>	<b>14.4 (10.7)</b>	<b>12.4 (9.25)</b>	<b>10.3 (7.69)</b>	<b>8.41 (6.27)</b>	—	<b>4E180</b>
Output Torque in-lbs (N·m)	98240 (11100)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	—	
Hollow Shaft OHL lbs (N)	16500 (73400)	17015 (75700)	17690 (78700)	18320 (81500)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	—	
Solid Shaft OHL lbs (N)	18840 (83800)	19670 (87490)	20270 (90160)	20480 (91090)	20700 (92070)	21020 (93490)	21200 (94290)	21360 (95000)	21630 (96210)	21720					

# Frame Size Selection Tables 50 Hz, 1450 RPM

# Frame Size Selection Tables 50 Hz, 1450 RPM

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions <sup>[1]</sup>

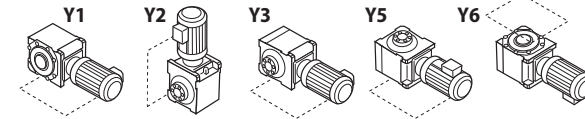


Dimensions on pages 2.156 - 2.166

Output RPM	132	112	104	90.6	80.6	69.0	65.9	58.0	51.8	41.4	37.2	31.5	27.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>64.6 (48.2)</b>	<b>56.3 (42.0)</b>	<b>48.8 (36.4)</b>	<b>4E190</b>
Output Torque in-lbs (N·m)	38580 (4360)	47075 (5320)	51500 (5820)	58845 (6650)	64335 (7270)	57075 (6450)	60885 (6880)	66635 (7530)	76105 (8600)	95585 (10800)	100010 (11300)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	11240 (50000)	11465 (51000)	11555 (51400)	11645 (51800)	11665 (51900)	13125 (58400)	13170 (58600)	13240 (58900)	13285 (59100)	13195 (58700)	13465 (59900)	14295 (63600)	15265 (67900)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10410 (46300)	11310 (50300)	11590 (51550)	12350 (54930)	13080 (58170)	14630 (65070)	15370 (68360)	16550 (73610)	17780 (79080)	
<b>Input Power HP (kW)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>70.0 (52.2)</b>	<b>64.6 (48.2)</b>	<b>56.3 (42.0)</b>	<b>48.8 (36.4)</b>	
Output Torque in-lbs (N·m)	42300 (4780)	51590 (5830)	56460 (6380)	64510 (7290)	70540 (7970)	62035 (7010)	66195 (7480)	72385 (8180)	82750 (9350)	99125 (11200)	100015 (11300)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	10945 (48700)	11125 (49500)	11195 (49800)	11215 (49900)	11215 (49900)	12765 (56800)	12790 (56900)	12810 (57000)	12790 (56900)	12970 (57700)	13465 (59900)	14295 (63600)	15265 (67900)	
Solid Shaft OHL lbs (N)	9770 (43450)	9770 (43450)	9770 (43450)	9770 (43450)	10410 (46300)	11310 (50300)	11590 (51550)	12350 (54930)	13080 (58170)	14630 (65070)	15370 (68360)	16550 (73610)	17780 (79080)	
<b>Input Power HP (kW)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>43.4 (32.4)</b>	<b>4F180</b>
Output Torque in-lbs (N·m)	30085 (3400)	36725 (4150)	40175 (4540)	45925 (5190)	50175 (5670)	46810 (5290)	49910 (5640)	54600 (6170)	62475 (7060)	78495 (8870)	85840 (9700)	101770 (11500)	91150 (10300)	
Hollow Shaft OHL lbs (N)	21285 (94700)	22255 (99000)	22705 (101000)	23380 (104000)	23825 (106000)	25625 (114000)	25850 (115000)	26300 (117000)	27200 (121000)	28325 (126000)	28550 (127000)	27875 (124000)	28325 (126000)	
Solid Shaft OHL lbs (N)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	18570 (82590)	20070 (89270)	20530 (91310)	21790 (96920)	22990 (102250)	25560 (113690)	26850 (119420)	28470 (126630)	28910 (128590)	
<b>Input Power HP (kW)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>52.3 (39.0)</b>	
Output Torque in-lbs (N·m)	33890 (3830)	41235 (4660)	45130 (5100)	51590 (5830)	56460 (6380)	50795 (5740)	54155 (6120)	59200 (6690)	67695 (7650)	85130 (9620)	92920 (10500)	109735 (12400)	109735 (12400)	
Hollow Shaft OHL lbs (N)	21040 (93600)	21940 (97600)	22390 (99600)	22930 (102000)	23380 (104000)	25400 (113000)	25625 (114000)	26075 (116000)	26750 (119000)	27875 (124000)	28100 (125000)	27425 (122000)	27425 (122000)	
Solid Shaft OHL lbs (N)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	18570 (82590)	20070 (89270)	20530 (91310)	21790 (96920)	22990 (102250)	25560 (113690)	26850 (119420)	28470 (126630)	28910 (128590)	
<b>Input Power HP (kW)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>67.9 (50.6)</b>	<b>4F190</b>
Output Torque in-lbs (N·m)	38580 (4360)	47075 (5320)	51500 (5820)	58845 (6650)	64335 (7270)	57075 (6450)	60885 (6880)	66635 (7530)	76105 (8600)	95575 (10800)	104425 (11800)	123890 (14000)	142475 (16100)	
Hollow Shaft OHL lbs (N)	20725 (92200)	21555 (95900)	21985 (97800)	22480 (100000)	22930 (102000)	24950 (111000)	25175 (112000)	25625 (114000)	26300 (117000)	27200 (121000)	27425 (122000)	26750 (119000)	26075 (116000)	
Solid Shaft OHL lbs (N)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	18570 (82590)	20070 (89270)	20530 (91310)	21790 (96920)	22990 (102250)	25560 (113690)	26850 (119420)	28470 (126630)	28910 (128590)	
<b>Input Power HP (kW)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	<b>73.8 (55.0)</b>	
Output Torque in-lbs (N·m)	42300 (4780)	51590 (5830)	56460 (6380)	64510 (7290)	70530 (7970)	62035 (7010)	66195 (7480)	72385 (8180)	82740 (9350)	104425 (11800)	114155 (12900)	134510 (15200)	154885 (17500)	
Hollow Shaft OHL lbs (N)	20480 (91100)	21265 (94600)	21645 (96300)	22120 (98400)	22480 (100000)	24500 (109000)	24725 (110000)	25175 (112000)	25850 (115000)	26525 (118000)	26975 (120000)	26300 (117000)	25400 (113000)	
Solid Shaft OHL lbs (N)	17510 (77880)	17510 (77880)	17510 (77880)	17510 (77880)	18570 (82590)	20070 (89270)	20530 (91310)	21790 (96920)	22990 (102250)	25560 (113690)	26850 (119420)	28470 (126630)	28910 (128590)	

Notes: [1] For selections noted with \*, the duty cycle for units mounted in the Y2 configuration is limited to 75% Equivalent Duty (10 minute cycle time).

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



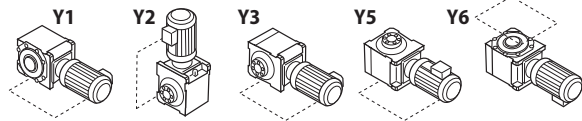
Dimensions on pages 2.156 - 2.166

Output RPM	24.2	21.6	19.6	18.1	16.5	14.2	13.0	11.8	9.60	8.10	7.00	5.82	4.75	3.48	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>43.0 (32.1)</b>	<b>38.1 (28.4)</b>	<b>34.9 (26.0)</b>	<b>32.0 (23.9)</b>	<b>29.2 (21.8)</b>	<b>25.2 (18.8)</b>	<b>22.9 (17.1)</b>	<b>20.9 (15.6)</b>	<b>17.0 (12.7)</b>	<b>14.4 (10.7)</b>	<b>12.4 (9.25)</b>	<b>10.3 (7.69)</b>	<b>8.41 (6.27)</b>	—	<b>4E190</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	16140 (71800)	17015 (75700)	17690 (78700)	18320 (81500)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	18840 (83800)	19670 (87490)	20270 (90160)	20480 (91090)	20700 (92070)	21020 (93490)	21200 (94290)	21360 (95000)	21630 (96210)	21720 (96610)	21790 (96920)	21860 (97230)	21920 (97500)	—	
<b>Input Power HP (kW)</b>	<b>43.0 (32.1)</b>	<b>38.1 (28.4)</b>	<b>34.9 (26.0)</b>	<b>32.0 (23.9)</b>	<b>29.2 (21.8)</b>	<b>25.2 (18.8)</b>	<b>22.9 (17.1)</b>	<b>20.9 (15.6)</b>	<b>17.0 (12.7)</b>	<b>14.4 (10.7)</b>	<b>12.4 (9.25)</b>	<b>10.3 (7.69)</b>	<b>8.41 (6.27)</b>	—	
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	16140 (71800)	17015 (75700)	17690 (78700)	18320 (81500)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	18840 (83800)	19670 (87490)	20270 (90160)	20480 (91090)	20700 (92070)	21020 (93490)	21200 (94290)	21360 (95000)	21630 (96210)	21720 (96610)	21790 (96920)	21860 (97230)	21920 (97500)	—	
<b>Input Power HP (kW)</b>	<b>41.0 (30.6)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>26.1 (19.5)</b>	<b>24.8 (18.5)</b>	<b>24.8 (18.5)</b>	<b>20.2 (15.1)</b>	<b>16.1 (12.0)</b>	<b>13.1 (9.75)</b>	<b>11.8 (8.80)</b>	<b>9.59 (7.15)</b>	—	<b>4F180</b>
Output Torque in-lbs (N·m)	98230 (11100)	107965 (12200)	118580 (13400)	103540 (11700)	113270 (12800)	106195 (12000)	111500 (12600)	122120 (13800)	122120 (13800)	115040 (13000)	107965 (12200)	117695 (13300)	116810 (13200)	—	
Hollow Shaft OHL lbs (N)	27875 (124000)	27425 (122000)	26975 (120000)	27650 (123000)	27200 (121000)	27650 (123000)	27425 (122000)	26975 (120000)	26975 (120000)	27200 (121000)	27425 (122000)	26975 (120000)	27200 (121000)	—	
Solid Shaft OHL lbs (N)	28940 (128720)	28950 (128760)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	29010 (129030)	29180 (129790)	29300 (130320)	29430 (130900)	29530 (131340)	—	
<b>Input Power HP (kW)</b>	<b>51.2 (38.2)</b>	<b>51.1 (38.1)</b>	<b>51.1 (38.1)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	<b>32.3 (24.1)</b>	<b>30.3 (22.6)</b>	<b>30.3 (22.6)</b>	<b>24.9 (18.6)</b>	<b>20.2 (15.1)</b>	<b>16.1 (12.0)</b>	<b>13.1 (9.79)</b>	<b>11.5 (8.59)</b>	—	
Output Torque in-lbs (N·m)	122120 (13800)	137165 (15500)	150440 (17000)	129200 (14600)	141590 (16000)	131855 (14900)	136280 (15400)	148670 (16800)	150440 (17000)	145130 (16400)	132740 (15000)	130970 (14800)	140705 (15900)	—	
Hollow Shaft OHL lbs (N)	26975 (120000)	26300 (117000)	25625 (114000)	26525 (118000)	26075 (116000)	26525 (118000)	26300 (117000)	25625 (114000)	25625 (114000)	25850 (115000)	26300 (117000)	26525 (118000)	26075 (116000)	—	
Solid Shaft OHL lbs (N)	28940 (128720)	28950 (128760)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	29010 (129030)	29180 (129790)	29300 (130320)	29430 (130900)	29530 (131340)	—	
<b>Input Power HP (kW)</b>	<b>66.8 (49.8)</b>	<b>55.0 (41.0)</b>	<b>54.0 (40.3)</b>	<b>47.2 (35.2)</b>	<b>45.5 (33.9)</b>	<b>39.2 (29.2)</b>	<b>32.6 (24.3)</b>	<b>32.5 (24.2)</b>	<b>26.4 (19.7)</b>	<b>22.3 (16.6)</b>	<b>19.3 (14.4)</b>	<b>16.0 (11.9)</b>	<b>13.0 (9.73)</b>	—	<b>4F190</b>
Output Torque in-lbs (N·m)	159310 (18000)	147785 (16700)	159310 (18000)	151325 (17100)	159310 (18000)	159310 (18000)	146015 (16500)	159310 (18000)	159310 (18000)	159310 (18000)	159310 (18000)	159310 (18000)	159310 (18000)	—	
Hollow Shaft OHL lbs (N)	25175 (112000)	25850 (115000)	25175 (112000)	25625 (114000)	25175 (112000)	25175 (112000)	25850 (115000)								

# Frame Size Selection Tables 1165 RPM

# Frame Size Selection Tables 1165 RPM

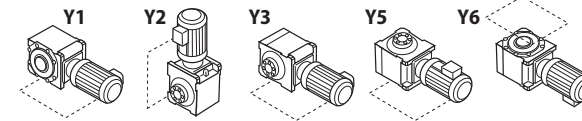
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	106	89.6	83.2	72.8	64.7	55.5	53.0	46.6	41.6	33.3	29.9	25.3	22.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	—	—	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>2.87 (2.14)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	1645 (186)	2005 (227)	2200 (249)	2510 (284)	2750 (311)	3300 (373)	—	—	4395 (497)	5530 (625)	6050 (684)	7150 (808)	7510 (849)	
Hollow Shaft OHL lbs (N)	4135 (18400)	4360 (19400)	4470 (19900)	4605 (20500)	4720 (21000)	4920 (21900)	—	—	5260 (23400)	5530 (24600)	5485 (24400)	5190 (23100)	5055 (22500)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3480 (15470)	3700 (16450)	3920 (17430)	4180 (18590)	—	—	4530 (20140)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	—	—	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>3.97 (2.96)</b>	<b>3.45 (2.57)</b>	
Output Torque in-lbs (N·m)	2230 (252)	2725 (308)	2970 (336)	3405 (385)	3725 (421)	4465 (505)	—	—	5955 (673)	7485 (846)	8185 (925)	9025 (1020)	9025 (1020)	
Hollow Shaft OHL lbs (N)	4065 (18100)	4270 (19000)	4360 (19400)	4495 (20000)	4585 (20400)	4765 (21200)	—	—	5055 (22500)	5080 (22600)	4830 (21500)	4515 (20100)	4515 (20100)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3480 (15470)	3700 (16450)	3920 (17430)	4180 (18590)	—	—	4530 (20140)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.76 (3.55)</b>	—	—	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.13 (3.08)</b>	<b>4A110</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	4980 (563)	—	—	6645 (751)	8350 (944)	9115 (1030)	10795 (1220)	10795 (1220)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4695 (20900)	—	—	4965 (22100)	4765 (21200)	4450 (19800)	3570 (15900)	3550 (15800)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4180 (18590)	—	—	4530 (20140)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>5.26 (3.92)</b>	—	—	<b>5.26 (3.92)</b>	<b>5.26 (3.92)</b>	<b>5.26 (3.92)</b>	<b>5.03 (3.75)</b>	<b>4.36 (3.25)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	5500 (622)	—	—	7345 (830)	9200 (1040)	10085 (1140)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4630 (20600)	—	—	4855 (21600)	4405 (19600)	3975 (17700)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4180 (18590)	—	—	4530 (20140)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>12.8 (9.54)</b>	<b>12.8 (9.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>8.18 (6.10)</b>	<b>6.50 (4.85)</b>	<b>5.94 (4.43)</b>	<b>5.03 (3.75)</b>	<b>4.36 (3.25)</b>	<b>4A120</b>
Output Torque in-lbs (N·m)	6740 (762)	8220 (929)	9025 (1020)	10175 (1150)	11150 (1260)	9200 (1040)	9820 (1110)	10705 (1210)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3435 (15300)	3505 (15600)	3525 (15700)	3550 (15800)	3300 (14700)	4110 (18300)	4135 (18400)	3615 (16100)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3480 (15470)	3700 (16450)	3920 (17430)	4180 (18590)	4260 (18940)	4450 (19790)	4530 (20140)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>14.8 (11.0)</b>	<b>13.5 (10.1)</b>	<b>13.5 (10.1)</b>	<b>12.8 (9.54)</b>	<b>12.8 (9.54)</b>	<b>9.79 (7.30)</b>	<b>9.11 (6.79)</b>	<b>9.11 (6.79)</b>	<b>8.18 (6.10)</b>	<b>6.50 (4.85)</b>	<b>5.94 (4.43)</b>	<b>5.03 (3.75)</b>	<b>4.36 (3.25)</b>	
Output Torque in-lbs (N·m)	7725 (873)	8625 (975)	9465 (1070)	10175 (1150)	11150 (1260)	10265 (1160)	10175 (1150)	11150 (1260)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3300 (14700)	3435 (15300)	3460 (15400)	3550 (15800)	3300 (14700)	3885 (17300)	3930 (17500)	3345 (14900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3480 (15470)	3700 (16450)	3920 (17430)	4180 (18590)	4260 (18940)	4450 (19790)	4530 (20140)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

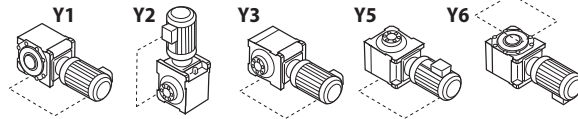
Output RPM	19.4	17.4	15.7	14.6	13.2	11.4	10.4	9.47	7.72	6.51	5.63	4.68	3.82	2.79	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>2.53 (1.89)</b>	<b>2.05 (1.53)</b>	<b>2.05 (1.53)</b>	<b>1.70 (1.27)</b>	<b>1.70 (1.27)</b>	<b>1.49 (1.11)</b>	<b>1.23 (0.917)</b>	<b>1.23 (0.917)</b>	<b>1.00 (0.747)</b>	<b>0.751 (0.560)</b>	<b>0.692 (0.516)</b>	<b>0.585 (0.436)</b>	<b>0.495 (0.369)</b>	<b>0.282 (0.210)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	7510 (849)	6865 (776)	7510 (849)	6795 (768)	7430 (840)	7510 (849)	6865 (776)	7510 (849)	7510 (849)	6690 (756)	7120 (805)	7245 (819)	7510 (849)	5845 (661)	
Hollow Shaft OHL lbs (N)	5055 (22500)	5260 (23400)	5055 (22500)	5280 (23500)	5100 (22700)	5055 (22500)	5260 (23400)	5055 (22500)	5055 (22500)	5305 (23600)	5190 (23100)	5145 (22900)	5055 (22500)	5530 (24600)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>3.04 (2.27)</b>	<b>2.45 (1.83)</b>	<b>2.45 (1.83)</b>	<b>2.07 (1.54)</b>	<b>2.07 (1.54)</b>	<b>1.78 (1.33)</b>	<b>1.48 (1.10)</b>	<b>1.48 (1.10)</b>	<b>1.20 (0.896)</b>	<b>0.937 (0.699)</b>	<b>0.809 (0.603)</b>	<b>0.601 (0.448)</b>	<b>0.570 (0.425)</b>	<b>0.351 (0.262)</b>	
Output Torque in-lbs (N·m)	9025 (1020)	8245 (932)	9025 (1020)	8245 (932)	9025 (1020)	9025 (1020)	8245 (932)	9025 (1020)	9025 (1020)	8345 (943)	8325 (941)	7440 (841)	8660 (979)	7290 (824)	
Hollow Shaft OHL lbs (N)	4515 (20100)	4810 (21400)	4515 (20100)	4810 (21400)	4515 (20100)	4515 (20100)	4810 (21400)	4515 (20100)	4515 (20100)	4785 (21300)	4785 (21300)	5080 (22600)	4650 (20700)	5125 (22800)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>3.65 (2.72)</b>	<b>2.95 (2.20)</b>	<b>2.95 (2.20)</b>	<b>2.48 (1.85)</b>	<b>2.48 (1.85)</b>	<b>2.13 (1.59)</b>	<b>1.77 (1.32)</b>	<b>1.77 (1.32)</b>	<b>1.45 (1.08)</b>	<b>1.21 (0.906)</b>	<b>1.05 (0.784)</b>	<b>0.873 (0.651)</b>	<b>0.712 (0.531)</b>	—	<b>4A110</b>
Output Torque in-lbs (N·m)	10795 (1220)	9910 (1120)	10795 (1220)	9910 (1120)	10795 (1220)	10795 (1220)	9910 (1120)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	—	
Hollow Shaft OHL lbs (N)	3550 (15800)	4090 (18200)	3550 (15800)	4090 (18200)	3550 (15800)	3550 (15800)	4090 (18200)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>3.85 (2.87)</b>	<b>3.41 (2.54)</b>	<b>3.11 (2.32)</b>	<b>2.86 (2.13)</b>	<b>2.61 (1.95)</b>	<b>2.25 (1.68)</b>	<b>2.04 (1.52)</b>	<b>1.86 (1.39)</b>	<b>1.52 (1.13)</b>	<b>1.28 (0.956)</b>	<b>1.11 (0.827)</b>	<b>0.920 (0.687)</b>	<b>0.752 (0.561)</b>	—	
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>3.85 (2.87)</b>	<b>3.41 (2.54)</b>	<b>3.11 (2.32)</b>	<b>2.86 (2.13)</b>	<b>2.61 (1.95)</b>	<b>2.25 (1.68)</b>	<b>2.04 (1.52)</b>	<b>1.86 (1.39)</b>	<b>1.52 (1.13)</b>	<b>1.28 (0.956)</b>	<b>1.11 (0.827)</b>	<b>0.920 (0.687)</b>	<b>0.752 (0.561)</b>	—	<b>4A120</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>3.85 (2.87)</b>	<b>3.41 (2.54)</b>	<b>3.11 (2.32)</b>	<b>2.86 (2.13)</b>	<b>2.61 (1.95)</b>	<b>2.25 (1.68)</b>	<b>2.04 (1.52)</b>	<b>1.86 (1.39)</b>	<b>1.52 (1.13)</b>	<b>1.28 (0.956)</b>	<b>1.11 (0.827)</b>	<b>0.920 (0.687)</b>	<b>0.752 (0.561)</b>	—	
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	—	



# Frame Size Selection Tables 1165 RPM

# Frame Size Selection Tables 1165 RPM

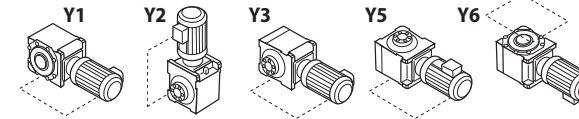
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	106	89.6	83.2	72.8	64.7	55.5	53.0	46.6	41.6	33.3	29.9	25.3	22.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>21.1 (15.7)</b>	<b>17.8 (13.3)</b>	<b>16.4 (12.2)</b>	<b>14.3 (10.7)</b>	<b>13.1 (9.75)</b>	<b>10.9 (8.13)</b>	<b>10.2 (7.62)</b>	<b>9.35 (6.97)</b>	<b>8.18 (6.10)</b>	<b>6.50 (4.85)</b>	<b>5.94 (4.43)</b>	<b>5.03 (3.75)</b>	<b>4.36 (3.25)</b>	<b>4A140</b>
Output Torque in-lbs (N·m)	11060 (1250)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	2855 (12700)	3055 (13600)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3480 (15470)	3700 (16450)	3920 (17430)	4180 (18590)	4260 (18940)	4450 (19790)	4530 (20140)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>21.1 (15.7)</b>	<b>17.8 (13.3)</b>	<b>16.4 (12.2)</b>	<b>14.3 (10.7)</b>	<b>13.1 (9.75)</b>	<b>10.9 (8.13)</b>	<b>10.2 (7.62)</b>	<b>9.35 (6.97)</b>	<b>8.18 (6.10)</b>	<b>6.50 (4.85)</b>	<b>5.94 (4.43)</b>	<b>5.03 (3.75)</b>	<b>4.36 (3.25)</b>	<b>4A145</b>
Output Torque in-lbs (N·m)	11060 (1250)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	2855 (12700)	3055 (13600)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3350 (14900)	3350 (14900)	3480 (15470)	3700 (16450)	3920 (17430)	4180 (18590)	4260 (18940)	4450 (19790)	4530 (20140)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>12.9 (9.60)</b>	<b>12.8 (9.54)</b>	<b>12.8 (9.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>8.77 (6.54)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.02 (4.49)</b>	<b>4B120</b>
Output Torque in-lbs (N·m)	6740 (762)	8220 (929)	9025 (1020)	10175 (1150)	11150 (1260)	9200 (1040)	9820 (1110)	10705 (1210)	11945 (1380)	13095 (1480)	15395 (1740)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	5170 (23000)	5370 (23900)	5460 (24300)	5575 (24800)	5665 (25200)	6270 (27900)	6335 (28200)	6450 (28700)	6585 (29300)	7170 (31900)	7305 (32500)	7485 (33300)	7845 (34900)	
Solid Shaft OHL lbs (N)	3490 (15520)	3500 (15560)	3670 (16320)	3970 (17650)	4240 (18850)	4610 (20500)	4720 (20990)	5030 (22370)	5350 (23790)	5950 (26460)	6250 (27800)	6740 (29970)	7100 (31580)	
<b>Input Power HP (kW)</b>	<b>14.8 (11.0)</b>	<b>13.5 (10.1)</b>	<b>13.5 (10.1)</b>	<b>12.8 (9.54)</b>	<b>12.8 (9.54)</b>	<b>9.79 (7.30)</b>	<b>9.11 (6.79)</b>	<b>9.11 (6.79)</b>	<b>9.15 (6.82)</b>	<b>7.93 (5.91)</b>	<b>7.93 (5.91)</b>	<b>7.16 (5.34)</b>	<b>7.23 (5.39)</b>	<b>4B125</b>
Output Torque in-lbs (N·m)	7725 (873)	8625 (975)	9465 (1070)	10175 (1150)	11150 (1260)	10265 (1160)	10175 (1150)	11150 (1260)	12740 (1440)	13890 (1570)	15220 (1720)	16280 (1840)	18935 (2140)	
Hollow Shaft OHL lbs (N)	5055 (22500)	5325 (23700)	5415 (24100)	5575 (24800)	5665 (25200)	6155 (27400)	6290 (28000)	6405 (28500)	6540 (29100)	6965 (31000)	7055 (31400)	7395 (32900)	7325 (32600)	
Solid Shaft OHL lbs (N)	3490 (15520)	3500 (15560)	3670 (16320)	3970 (17650)	4240 (18850)	4610 (20500)	4720 (20990)	5030 (22370)	5350 (23790)	5950 (26460)	6250 (27800)	6740 (29970)	7100 (31580)	
<b>Input Power HP (kW)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>16.2 (12.1)</b>	<b>13.0 (9.66)</b>	<b>11.8 (8.83)</b>	<b>10.0 (7.47)</b>	<b>8.69 (6.48)</b>	<b>4B140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	18230 (2060)	19465 (2200)	21325 (2410)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4495 (20000)	4540 (20200)	4560 (20300)	4540 (20200)	4540 (20200)	5280 (23500)	5280 (23500)	5305 (23600)	5460 (24300)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3490 (15520)	3500 (15560)	3670 (16320)	3970 (17650)	4240 (18850)	4610 (20500)	4720 (20990)	5030 (22370)	5350 (23790)	5950 (26460)	6250 (27800)	6740 (29970)	7100 (31580)	
<b>Input Power HP (kW)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>18.6 (13.9)</b>	<b>20.2 (15.1)</b>	<b>18.6 (13.9)</b>	<b>16.2 (12.1)</b>	<b>13.0 (9.66)</b>	<b>11.8 (8.83)</b>	<b>10.0 (7.47)</b>	<b>8.69 (6.48)</b>	<b>4B145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	19555 (2210)	22650 (2560)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4495 (20000)	4540 (20200)	4560 (20300)	4540 (20200)	4540 (20200)	5145 (22900)	4945 (22000)	5145 (22900)	5460 (24300)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3490 (15520)	3500 (15560)	3670 (16320)	3970 (17650)	4240 (18850)	4610 (20500)	4720 (20990)	5030 (22370)	5350 (23790)	5950 (26460)	6250 (27800)	6740 (29970)	7100 (31580)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



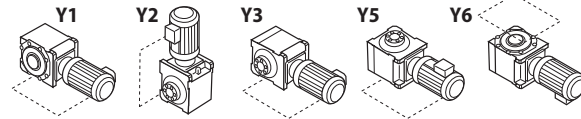
Dimensions on pages 2.156 - 2.166

Output RPM	19.4	17.4	15.7	14.6	13.2	11.4	10.4	9.47	7.72	6.51	5.63	4.68	3.82	2.79	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>3.85 (2.87)</b>	<b>3.41 (2.54)</b>	<b>3.11 (2.32)</b>	<b>2.86 (2.13)</b>	<b>2.61 (1.95)</b>	<b>2.25 (1.68)</b>	<b>2.04 (1.52)</b>	<b>1.86 (1.39)</b>	<b>1.52 (1.13)</b>	<b>1.28 (0.956)</b>	<b>1.11 (0.827)</b>	<b>0.920 (0.687)</b>	<b>0.752 (0.561)</b>	—	<b>4A140</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>3.85 (2.87)</b>	<b>3.41 (2.54)</b>	<b>3.11 (2.32)</b>	<b>2.86 (2.13)</b>	<b>2.61 (1.95)</b>	<b>2.25 (1.68)</b>	<b>2.04 (1.52)</b>	<b>1.86 (1.39)</b>	<b>1.52 (1.13)</b>	<b>1.28 (0.956)</b>	<b>1.11 (0.827)</b>	<b>0.921 (0.687)</b>	<b>0.752 (0.561)</b>	—	<b>4A145</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>5.27 (3.93)</b>	<b>4.28 (3.19)</b>	<b>4.28 (3.19)</b>	<b>3.62 (2.70)</b>	<b>3.62 (2.70)</b>	<b>3.08 (2.30)</b>	<b>2.59 (1.93)</b>	<b>2.59 (1.93)</b>	<b>2.11 (1.57)</b>	<b>1.77 (1.32)</b>	<b>1.53 (1.14)</b>	<b>1.27 (0.950)</b>	<b>1.04 (0.775)</b>	—	<b>4B120</b>
Output Torque in-lbs (N·m)	15660 (1770)	14335 (1620)	15660 (1770)	14420 (1630)	15750 (1780)	15660 (1770)	14420 (1630)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	8225 (36600)	8585 (38200)	8270 (36800)	8565 (38100)	8250 (36700)	8295 (36900)	8565 (38100)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	
Solid Shaft OHL lbs (N)	7330 (32600)	7400 (32910)	7450 (33130)	7480 (33270)	7530 (33490)	7580 (33710)	7610 (33840)	7570 (33670)	7390 (32870)	7270 (32330)	7180 (31930)	7120 (31660)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>6.38 (4.76)</b>	<b>5.16 (3.85)</b>	<b>5.16 (3.85)</b>	<b>4.34 (3.24)</b>	<b>4.34 (3.24)</b>	<b>3.74 (2.79)</b>	<b>3.10 (2.31)</b>	<b>3.10 (2.31)</b>	<b>2.52 (1.88)</b>	<b>2.13 (1.59)</b>	<b>1.84 (1.37)</b>	<b>1.29 (0.963)</b>	<b>1.16 (0.868)</b>	—	<b>4B125</b>
Output Torque in-lbs (N·m)	18935 (2140)	17345 (1960)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	16015 (1810)	17695 (2000)	—	
Hollow Shaft OHL lbs (N)	7325 (32600)	7845 (34900)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	8205 (36500)	7730 (34400)	—	
Solid Shaft OHL lbs (N)	7330 (32600)	7400 (32910)	7450 (33130)	7480 (33270)	7530 (33490)	7580 (33710)	7610 (33840)	7570 (33670)	7390 (32870)	7270 (32330)	7180 (31930)	7120 (31660)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>7.66 (5.71)</b>	<b>6.79 (5.06)</b>	<b>6.21 (4.63)</b>	<b>5.70 (4.25)</b>	<b>5.22 (3.89)</b>	<b>4.49 (3.35)</b>	<b>4.08 (3.04)</b>	<b>3.73 (2.78)</b>	<b>3.03 (2.26)</b>	<b>2.55 (1.90)</b>	<b>2.21 (1.65)</b>	<b>1.84 (1.37)</b>	<b>1.50 (1.12)</b>	—	<b>4B140</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	—	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	—	
Solid Shaft OHL lbs (N)	7330 (32600)	7400 (32910)	7450 (33130)	7480 (33270)	7530 (33490)	7580 (33710)	7610 (33840)	7570 (33670)	7390 (32870)	7270 (32330)	7180 (31930)	7120 (31660)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>7.66 (5.71)</b>	<b>6.79 (5.06)</b>	<b>6.21 (4.63)</b>	<b>5.70 (4.25)</b>	<b>5.22 (3.89)</b>	<b>4.49 (3.35)</b>	<b>4.08 (3.04)</b>	<b>3.73 (2.78)</b>	<b>3.03 (2.26)</b>	<b>2.55 (1.90)</b>	<b>2.21 (1.65)</b>	<b>1.84 (1.37)</b>	<b>1.50 (1.12)</b>	—</	

# Frame Size Selection Tables 1165 RPM

# Frame Size Selection Tables 1165 RPM

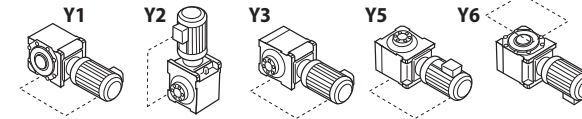
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	106	89.6	83.2	72.8	64.7	55.5	53.0	46.6	41.6	33.3	29.9	25.3	22.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>31.2 (23.3)</b>	<b>31.2 (23.3)</b>	<b>31.2 (23.3)</b>	<b>28.6 (21.3)</b>	<b>26.0 (19.4)</b>	<b>21.7 (16.2)</b>	<b>20.4 (15.2)</b>	<b>18.6 (13.9)</b>	<b>16.2 (12.1)</b>	<b>13.0 (9.66)</b>	<b>11.8 (8.83)</b>	<b>10.0 (7.47)</b>	<b>8.69 (6.48)</b>	<b>4B160</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4135 (18400)	4090 (18200)	4065 (18100)	4225 (18800)	4425 (19700)	4810 (21400)	4920 (21900)	5145 (22900)	5460 (24300)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3490 (15520)	3500 (15560)	3670 (16320)	3970 (17650)	4240 (18850)	4610 (20500)	4720 (20990)	5030 (22370)	5350 (23790)	5950 (26460)	6250 (27800)	6740 (29970)	7100 (31580)	
<b>Input Power HP (kW)</b>	<b>31.2 (23.3)</b>	<b>31.2 (23.3)</b>	<b>31.2 (23.3)</b>	<b>28.6 (21.3)</b>	<b>26.0 (19.4)</b>	<b>21.7 (16.2)</b>	<b>20.4 (15.2)</b>	<b>18.6 (13.9)</b>	<b>16.2 (12.1)</b>	<b>13.0 (9.66)</b>	<b>11.8 (8.83)</b>	<b>10.0 (7.47)</b>	<b>8.69 (6.48)</b>	<b>4B165</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4135 (18400)	4090 (18200)	4065 (18100)	4225 (18800)	4425 (19700)	4810 (21400)	4920 (21900)	5145 (22900)	5460 (24300)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3490 (15520)	3500 (15560)	3670 (16320)	3970 (17650)	4240 (18850)	4610 (20500)	4720 (20990)	5030 (22370)	5350 (23790)	5950 (26460)	6250 (27800)	6740 (29970)	7100 (31580)	
<b>Input Power HP (kW)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>16.2 (12.1)</b>	<b>14.1 (10.5)</b>	<b>4C140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	18230 (2060)	19465 (2200)	21325 (2410)	24335 (2750)	30615 (3460)	33450 (3780)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	6875 (30600)	7100 (31600)	7190 (32000)	7305 (32500)	7395 (32900)	8250 (36700)	8315 (37000)	8430 (37500)	8565 (38100)	8720 (38800)	8790 (39100)	9100 (40500)	9640 (42900)	
Solid Shaft OHL lbs (N)	4590 (20410)	4600 (20460)	4820 (21430)	5210 (23170)	5610 (24950)	6120 (27220)	6270 (27880)	6710 (29840)	7160 (31840)	7990 (35530)	8420 (37450)	9220 (41010)	9810 (43630)	
<b>Input Power HP (kW)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>24.7 (18.4)</b>	<b>18.6 (13.9)</b>	<b>20.2 (15.1)</b>	<b>20.2 (15.1)</b>	<b>17.8 (13.3)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.1 (13.5)</b>	<b>15.6 (11.6)</b>	<b>4C145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	19555 (2210)	22650 (2560)	24775 (2800)	24865 (2810)	32385 (3660)	35395 (4000)	40970 (4630)	40795 (4610)	
Hollow Shaft OHL lbs (N)	6875 (30600)	7100 (31600)	7190 (32000)	7305 (32500)	7395 (32900)	8115 (36100)	8000 (35600)	8090 (36000)	8520 (37900)	8565 (38100)	8610 (38300)	8700 (38700)	9260 (41200)	
Solid Shaft OHL lbs (N)	4590 (20410)	4600 (20460)	4820 (21430)	5210 (23170)	5610 (24950)	6120 (27220)	6270 (27880)	6710 (29840)	7160 (31840)	7990 (35530)	8420 (37450)	9220 (41010)	9810 (43630)	
<b>Input Power HP (kW)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>27.2 (20.3)</b>	<b>27.2 (20.3)</b>	<b>26.4 (19.7)</b>	<b>25.9 (19.3)</b>	<b>23.7 (17.7)</b>	<b>20.0 (14.9)</b>	<b>17.4 (13.0)</b>	<b>4C160</b>
Output Torque in-lbs (N·m)	17785 (2010)	21680 (2450)	23715 (2680)	27075 (3060)	29645 (3350)	35575 (4020)	30440 (3440)	33270 (3760)	36900 (4170)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6425 (28600)	6540 (29100)	6585 (29300)	6605 (29400)	6630 (29500)	6605 (29400)	7280 (32400)	7305 (32500)	7370 (32800)	7305 (32500)	7665 (34100)	8270 (36800)	8835 (39300)	
Solid Shaft OHL lbs (N)	4590 (20410)	4600 (20460)	4820 (21430)	5210 (23170)	5610 (24950)	6120 (27220)	6270 (27880)	6710 (29840)	7160 (31840)	7990 (35530)	8420 (37450)	9220 (41010)	9810 (43630)	
<b>Input Power HP (kW)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>38.0 (28.3)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>32.3 (24.1)</b>	<b>25.9 (19.3)</b>	<b>23.7 (17.7)</b>	<b>20.0 (14.9)</b>	<b>17.4 (13.0)</b>	<b>4C165</b>
Output Torque in-lbs (N·m)	21060 (2380)	25660 (2900)	28050 (3170)	32120 (3630)	35130 (3970)	39820 (4500)	36105 (4080)	39465 (4460)	45130 (5100)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6110 (27200)	6155 (27400)	6180 (27500)	6135 (27300)	6110 (27200)	6200 (27600)	6740 (30000)	6720 (29900)	6605 (29400)	7305 (32500)	7665 (34100)	8270 (36800)	8835 (39300)	
Solid Shaft OHL lbs (N)	4590 (20410)	4600 (20460)	4820 (21430)	5210 (23170)	5610 (24950)	6120 (27220)	6270 (27880)	6710 (29840)	7160 (31840)	7990 (35530)	8420 (37450)	9220 (41010)	9810 (43630)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	19.4	17.4	15.7	14.6	13.2	11.4	10.4	9.47	7.72	6.51	5.63	4.68	3.82	2.79	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>7.66 (5.71)</b>	<b>6.79 (5.06)</b>	<b>6.21 (4.63)</b>	<b>5.70 (4.25)</b>	<b>5.22 (3.89)</b>	<b>4.49 (3.35)</b>	<b>4.08 (3.04)</b>	<b>3.73 (2.78)</b>	<b>3.03 (2.26)</b>	<b>2.55 (1.90)</b>	<b>2.21 (1.65)</b>	<b>1.84 (1.37)</b>	<b>1.50 (1.12)</b>	—	<b>4B160</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	—	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	—	
Solid Shaft OHL lbs (N)	7330 (32600)	7400 (32910)	7450 (33130)	7480 (33270)	7530 (33490)	7580 (33710)	7610 (33840)	7570 (33670)	7390 (32870)	7270 (32330)	7180 (31930)	7120 (31660)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>7.66 (5.71)</b>	<b>6.79 (5.06)</b>	<b>6.21 (4.63)</b>	<b>5.70 (4.25)</b>	<b>5.22 (3.89)</b>	<b>4.49 (3.35)</b>	<b>4.08 (3.04)</b>	<b>3.73 (2.78)</b>	<b>3.03 (2.26)</b>	<b>2.55 (1.90)</b>	<b>2.21 (1.65)</b>	<b>1.84 (1.37)</b>	<b>1.50 (1.12)</b>	—	<b>4B165</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	—	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	—	
Solid Shaft OHL lbs (N)	7330 (32600)	7400 (32910)	7450 (33130)	7480 (33270)	7530 (33490)	7580 (33710)	7610 (33840)	7570 (33670)	7390 (32870)	7270 (32330)	7180 (31930)	7120 (31660)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>12.4 (9.25)</b>	<b>10.0 (7.49)</b>	<b>10.0 (7.49)</b>	<b>8.44 (6.29)</b>	<b>8.44 (6.29)</b>	<b>7.27 (5.42)</b>	<b>6.02 (4.49)</b>	<b>6.02 (4.49)</b>	<b>4.91 (3.66)</b>	<b>4.13 (3.08)</b>	<b>3.58 (2.67)</b>	<b>2.98 (2.22)</b>	<b>2.43 (1.81)</b>	—	<b>4C140</b>
Output Torque in-lbs (N·m)	36810 (4160)	33625 (3800)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	—	
Hollow Shaft OHL lbs (N)	10160 (45200)	10925 (48600)	11035 (49100)	11690 (52000)	11825 (52600)	12160 (54100)	12900 (57400)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	—	
Solid Shaft OHL lbs (N)	10310 (45850)	10860 (48300)	11300 (50260)	11610 (51640)	11970 (53240)	12450 (55370)	12730 (56620)	12800 (56930)	12700 (56480)	12630 (56170)	12580 (55950)	12550 (55820)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	<b>13.8 (10.3)</b>	<b>10.8 (8.02)</b>	<b>10.8 (8.02)</b>	<b>9.44 (7.04)</b>	<b>9.44 (7.04)</b>	<b>8.14 (6.07)</b>	<b>6.75 (5.03)</b>	<b>6.75 (5.03)</b>	<b>5.30 (3.95)</b>	<b>4.20 (3.13)</b>	<b>3.61 (2.69)</b>	<b>2.98 (2.22)</b>	<b>2.45 (1.83)</b>	—	<b>4C145</b>
Output Torque in-lbs (N·m)	41150 (4650)	36105 (4080)	39465 (4460)	37610 (4250)	41150 (4650)	41150 (4650)	37610 (4250)	41150 (4650)	39730 (4490)	37345 (4220)	37165 (4200)	36900 (4170)	37165 (4200)	—	
Hollow Shaft OHL lbs (N)	9730 (43300)	10700 (47600)	10790 (48000)	11305 (50300)	10945 (48700)	10945 (48700)	11955 (53200)	10945 (48700)	11375 (50600)	12025 (53500)	12070 (53700)	12160 (54100)	12070 (53700)	—	
Solid Shaft OHL lbs (N)	10310 (45850)	10860 (48300)	11300 (50260)	11610 (51640)	11970 (53240)	12450 (55370)	12730 (56620)	12800 (56930)	12700 (56480)	12630 (56170)	12580 (55950)	12550 (55820)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	<b>15.3 (11.4)</b>	<b>13.5 (10.1)</b>	<b>12.4 (9.25)</b>	<b>11.4 (8.50)</b>	<b>10.4 (7.77)</b>	<b>8.98 (6.70)</b>	<b>8.14 (6.07)</b>	<b>7.44 (5.55)</b>	<b>6.06 (4.52)</b>	<b>5.11 (3.81)</b>	<b>4.41 (3.29)</b>	<b>3.67 (2.74)</b>	<b>2.99 (2.23)</b>	—	<b>4C160</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	—	
Hollow Shaft OHL lbs (N)	9325 (41500)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	—	
Solid Shaft OHL lbs (N)	10310 (45850)	10860 (48300)	11300 (50260)	11610 (51640)	11970 (53240)	12450 (55370)	12730 (56620)	12800 (56930)	12700 (56480)	12630 (56170)	12580 (55950)	12550 (55820)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	<b>15.3 (11.4)</b>	<b>13.5 (10.1)</b>	<b>12.4 (9.25)</b>	<b>11.4 (8.50)</b>	<b>10.4 (7.77)</b>	<b>8.98 (6.70)</b>	<b>8.14 (6.07)</b>	<b>7.44 (5.55)</b>	<b>6.06 (4.52)</b>	<b>5.11 (3.81)</b>	<b>4.41 (3.29)</b>	<b>3.67 (2.74)</b>	<b>2.99 (2.</b>		

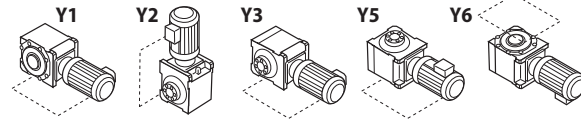




# Frame Size Selection Tables 1165 RPM

# Frame Size Selection Tables 1165 RPM

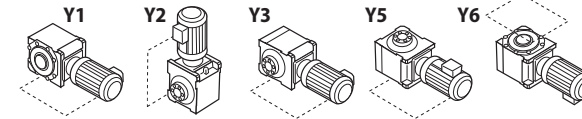
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	106	89.6	83.2	72.8	64.7	55.5	53.0	46.6	41.6	33.3	29.9	25.3	22.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>52.7 (39.3)</b>	<b>44.0 (32.8)</b>	<b>40.2 (30.0)</b>	<b>34.1 (25.4)</b>	<b>29.5 (22.0)</b>	<b>4D180</b>
Output Torque in-lbs (N·m)	37520 (4240)	45750 (5170)	50000 (5650)	57165 (6460)	62485 (7060)	58315 (6590)	62220 (7030)	67970 (7680)	73635 (8320)	77175 (8720)	77175 (8720)	77175 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	8675 (38600)	8745 (38900)	8720 (38800)	8675 (38600)	8610 (38300)	9710 (43200)	9685 (43100)	9620 (42800)	9775 (43500)	10610 (47200)	11060 (49200)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	6480 (28820)	6500 (28910)	6840 (30420)	7430 (33040)	7990 (35530)	8730 (38830)	8960 (39850)	9590 (42650)	10220 (45450)	11430 (50840)	12050 (53590)	13210 (58750)	14060 (62530)	
<b>Input Power HP (kW)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>75.5 (60.0)</b>	<b>72.5 (60.0)</b>	<b>66.6 (56.6)</b>	<b>56.6 (45.0)</b>	<b>55.3 (45.0)</b>	<b>50.8 (43.2)</b>	<b>46.3 (39.3)</b>	<b>40.2 (32.8)</b>	<b>37.0 (30.0)</b>	<b>33.0 (25.4)</b>	<b>29.5 (22.0)</b>	<b>4D185</b>
Output Torque in-lbs (N·m)	42120 (4760)	51325 (5800)	56200 (6350)	64255 (7260)	66200 (7480)	63190 (7140)	67440 (7620)	70715 (7990)	73635 (8320)	77175 (8720)	77175 (8720)	77175 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	8315 (37000)	8270 (36800)	8225 (36600)	8115 (36600)	8315 (36100)	9305 (41400)	9260 (41200)	9395 (41800)	9775 (43500)	10610 (47200)	11060 (49200)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	6480 (28820)	6500 (28910)	6840 (30420)	7430 (33040)	7990 (35530)	8730 (38830)	8960 (39850)	9590 (42650)	10220 (45450)	11430 (50840)	12050 (53590)	13210 (58750)	14060 (62530)	
<b>Input Power HP (kW)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>37.0 (27.6)</b>	<b>37.0 (27.6)</b>	<b>33.5 (25.0)</b>	<b>29.1 (21.7)</b>	<b>4E170</b>
Output Torque in-lbs (N·m)	29115 (3290)	35485 (4010)	38845 (4390)	44420 (5020)	48580 (5490)	47610 (5380)	50795 (5740)	55575 (6280)	63450 (7170)	64955 (7340)	71060 (8030)	75925 (8580)	76015 (8590)	
Hollow Shaft OHL lbs (N)	12880 (57300)	13330 (59300)	13510 (60100)	13780 (61300)	13935 (62000)	14990 (66700)	15105 (67200)	15285 (68000)	15485 (68900)	16790 (74700)	16970 (75500)	17735 (78900)	18770 (83500)	
Solid Shaft OHL lbs (N)	9770 (43450)	9790 (43540)	10230 (45500)	10980 (48830)	11700 (52040)	12650 (56260)	12950 (57600)	13780 (61290)	14600 (64940)	16140 (71790)	16950 (75390)	18450 (82060)	19560 (87000)	
<b>Input Power HP (kW)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>40.4 (30.1)</b>	<b>40.4 (30.1)</b>	<b>38.4 (28.6)</b>	<b>33.3 (24.8)</b>	<b>4E175</b>
Output Torque in-lbs (N·m)	31590 (3570)	38495 (4350)	42120 (4760)	48140 (5440)	52655 (5950)	51945 (5870)	55395 (6260)	60615 (6850)	69290 (7830)	77520 (8760)	86990 (9830)	86990 (9830)	86990 (9830)	
Hollow Shaft OHL lbs (N)	12700 (56500)	13105 (58300)	13285 (59100)	13510 (60100)	13645 (60700)	14745 (65300)	14900 (65600)	15060 (66300)	16340 (67000)	16475 (73300)	16925 (75300)	17960 (79900)		
Solid Shaft OHL lbs (N)	9770 (43450)	9790 (43540)	10230 (45500)	10980 (48830)	11700 (52040)	12650 (56260)	12950 (57600)	13780 (61290)	14600 (64940)	16140 (71790)	16950 (75390)	18450 (82060)	19560 (87000)	
<b>Input Power HP (kW)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>53.0 (39.5)</b>	<b>55.7 (41.5)</b>	<b>53.5 (39.9)</b>	<b>45.2 (33.7)</b>	<b>39.2 (29.2)</b>	<b>4E180</b>
Output Torque in-lbs (N·m)	37520 (4240)	45750 (5170)	50000 (5650)	57165 (6460)	62475 (7060)	58315 (6590)	62210 (7030)	67960 (7680)	73980 (8360)	97355 (11000)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	12275 (54600)	12585 (56000)	12700 (56500)	12835 (57100)	12925 (57500)	14205 (63200)	14275 (63500)	14365 (63900)	14725 (65500)	14410 (64100)	14655 (65200)	15780 (70200)	16815 (74800)	
Solid Shaft OHL lbs (N)	9770 (43450)	9790 (43540)	10230 (45500)	10980 (48830)	11700 (52040)	12650 (56260)	12950 (57600)	13780 (61290)	14600 (64940)	16140 (71790)	16950 (75390)	18450 (82060)	19560 (87000)	
<b>Input Power HP (kW)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>80.5 (60.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>60.3 (45.0)</b>	<b>53.9 (40.2)</b>	<b>58.5 (43.6)</b>	<b>53.5 (39.9)</b>	<b>45.2 (33.7)</b>	<b>39.2 (29.2)</b>	<b>4E185</b>
Output Torque in-lbs (N·m)	42120 (4760)	51325 (5800)	56190 (6350)	64245 (7260)	70265 (7940)	63185 (7140)	67430 (7620)	73715 (8330)	75310 (8510)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	11935 (53100)	12160 (54100)	12250 (54500)	12320 (54800)	12360 (55000)	13845 (61600)	13890 (61800)	13960 (62100)	14635 (65100)	14050 (62500)	14655 (65200)	15780 (70200)	16815 (74800)	
Solid Shaft OHL lbs (N)	9770 (43450)	9790 (43540)	10230 (45500)	10980 (48830)	11700 (52040)	12650 (56260)	12950 (57600)	13780 (61290)	14600 (64940)	16140 (71790)	16950 (75390)	18450 (82060)	19560 (87000)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

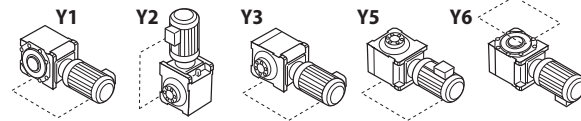
Output RPM	19.4	17.4	15.7	14.6	13.2	11.4	10.4	9.47	7.72	6.51	5.63	4.68	3.82	2.79	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>26.0 (19.4)</b>	<b>23.1 (17.2)</b>	<b>21.1 (15.7)</b>	<b>19.3 (14.4)</b>	<b>17.7 (13.2)</b>	<b>15.3 (11.4)</b>	<b>13.8 (10.3)</b>	<b>12.6 (9.42)</b>	<b>10.3 (7.67)</b>	<b>8.66 (6.46)</b>	<b>7.50 (5.59)</b>	<b>6.22 (4.64)</b>	<b>5.08 (3.79)</b>	—	<b>4D180</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	—	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	—	
Solid Shaft OHL lbs (N)	14690 (65340)	15120 (67250)	15470 (68810)	15720 (69920)	16010 (71210)	16390 (72900)	16610 (73880)	16680 (74190)	16640 (74010)	16610 (73880)	16590 (73790)	16580 (73740)	16580 (73740)	—	
<b>Input Power HP (kW)</b>	<b>26.0 (19.4)</b>	<b>23.1 (17.2)</b>	<b>21.1 (15.7)</b>	<b>19.3 (14.4)</b>	<b>17.7 (13.2)</b>	<b>15.3 (11.4)</b>	<b>13.8 (10.3)</b>	<b>12.6 (9.42)</b>	<b>10.3 (7.67)</b>	<b>8.66 (6.46)</b>	<b>7.50 (5.59)</b>	<b>6.22 (4.64)</b>	<b>5.08 (3.79)</b>	—	<b>4D185</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	—	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	—	
Solid Shaft OHL lbs (N)	14690 (65340)	15120 (67250)	15470 (68810)	15720 (69920)	16010 (71210)	16390 (72900)	16610 (73880)	16680 (74190)	16640 (74010)	16610 (73880)	16590 (73790)	16580 (73740)	16580 (73740)	—	
<b>Input Power HP (kW)</b>	<b>25.6 (19.1)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>15.0 (11.2)</b>	<b>12.4 (9.28)</b>	<b>12.4 (9.28)</b>	<b>10.1 (7.56)</b>	<b>8.54 (6.37)</b>	<b>7.39 (5.51)</b>	<b>6.14 (4.58)</b>	<b>5.00 (3.73)</b>	—	<b>4E170</b>
Output Torque in-lbs (N·m)	76015 (8590)	69555 (7860)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	—	
Hollow Shaft OHL lbs (N)	19690 (87600)	20275 (90200)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	—	
Solid Shaft OHL lbs (N)	20300 (90290)	20580 (91530)	20810 (92560)	20970 (93270)	21150 (94070)	21410 (95230)	21550 (95850)	21640 (96250)	21750 (96740)	21820 (97050)	21880 (97320)	21920 (97500)	21920 (97500)	—	
<b>Input Power HP (kW)</b>	<b>29.4 (21.9)</b>	<b>25.9 (19.3)</b>	<b>23.7 (17.7)</b>	<b>21.7 (16.2)</b>	<b>20.0 (14.9)</b>	<b>17.2 (12.8)</b>	<b>15.6 (11.6)</b>	<b>15.6 (11.6)</b>	<b>12.6 (9.41)</b>	<b>10.6 (7.93)</b>	<b>9.20 (6.86)</b>	<b>7.64 (5.70)</b>	<b>6.24 (4.65)</b>	—	<b>4E175</b>
Output Torque in-lbs (N·m)	86990 (9830)	86545 (9780)	86990 (9830)	86545 (9780)	86990 (9830)	86545 (9780)	86990 (9830)	86545 (9780)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	—	
Hollow Shaft OHL lbs (N)	18880 (84000)	19420 (86400)	19400 (86300)	19420 (86400)	19400 (86300)	19400 (86300)	19420 (86400)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	—	
Solid Shaft OHL lbs (N)	20300 (90290)	20580 (91530)	20810 (92560)	20970 (93270)	21150 (94070)	21410 (95230)	21550 (95850)	21640 (96250)	21750 (96740)	21820 (97050)	21880 (97320)	21920 (97500)	21920 (97500)	—	
<b>Input Power HP (kW)</b>	<b>34.6 (25.8)</b>	<b>30.6 (22.8)</b>	<b>28.0 (20.9)</b>	<b>25.7 (19.2)</b>	<b>23.5 (17.5)</b>	<b>20.2 (15.1)</b>	<b>18.4 (13.7)</b>	<b>16.8 (12.5)</b>	<b>13.7 (10.2)</b>	<b>11.5 (8.60)</b>	<b>9.96 (7.43)</b>	<b>8.29 (6.18)</b>	<b>6.76 (5.04)</b>	—	<b>4E180</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	—	
Hollow Shaft OHL lbs (N)	17735 (78900)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	—	
Solid Shaft OHL lbs (N)	20300 (90290)	20580 (91530)	20810 (92560)	20970 (93270)	21150 (94070)	21410 (95230)	21550 (95850)	21640 (96250)	21750 (96740)	21820 (97050)	21880 (97320)	21920 (97500)	21920 (97500)	—	
<b>Input Power HP (kW)</b>	<b>34.6 (25.8)</b>	<b>30.6 (22.</b>													



# Frame Size Selection Tables 980 RPM

# Frame Size Selection Tables 980 RPM

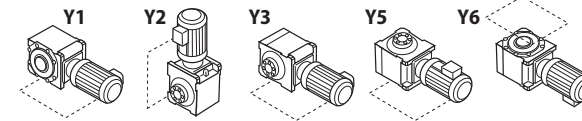
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	89.1	75.4	70.0	61.3	54.4	46.7	44.5	39.2	35.0	28.0	25.1	21.3	18.5	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	—	—	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>2.79 (2.08)</b>	<b>2.41 (1.80)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	1960 (222)	2385 (270)	2615 (296)	2990 (338)	3265 (369)	3920 (443)	—	—	5230 (591)	6575 (743)	7190 (813)	7510 (849)	7510 (849)	
Hollow Shaft OHL lbs (N)	4335 (19300)	4560 (20300)	4650 (20700)	4810 (21400)	4920 (21900)	5125 (22800)	—	—	5460 (24300)	5350 (23800)	5170 (23000)	5055 (22500)	5055 (22500)	
Solid Shaft OHL lbs (N)	3360 (14940)	3640 (16190)	3780 (16810)	4010 (17830)	4210 (18720)	4450 (19790)	—	—	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>4.05 (3.02)</b>	<b>4.05 (3.02)</b>	<b>4.05 (3.02)</b>	<b>4.05 (3.02)</b>	<b>4.05 (3.02)</b>	<b>4.05 (3.02)</b>	—	—	<b>3.73 (2.78)</b>	<b>3.84 (2.86)</b>	<b>3.84 (2.86)</b>	<b>3.34 (2.49)</b>	<b>2.90 (2.16)</b>	
Output Torque in-lbs (N·m)	2520 (285)	3075 (348)	3360 (380)	3845 (435)	4200 (475)	5040 (570)	—	—	6200 (701)	8000 (904)	8750 (989)	9025 (1020)	9025 (1020)	
Hollow Shaft OHL lbs (N)	4245 (18900)	4470 (19900)	4560 (20300)	4695 (20900)	4785 (21300)	4965 (22100)	—	—	5325 (23700)	4900 (21800)	4605 (20500)	4515 (20100)	4515 (20100)	
Solid Shaft OHL lbs (N)	3360 (14940)	3640 (16190)	3780 (16810)	4010 (17830)	4210 (18720)	4450 (19790)	—	—	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.67 (3.48)</b>	—	—	<b>4.76 (3.55)</b>	<b>4.75 (3.54)</b>	<b>4.75 (3.54)</b>	<b>4.01 (2.99)</b>	<b>3.47 (2.59)</b>	<b>4A110</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	5810 (657)	—	—	7900 (893)	9910 (1120)	10795 (1220)	10795 (1220)	10795 (1220)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4875 (21700)	—	—	4945 (22000)	4090 (18200)	3550 (15800)	3550 (15800)	3550 (15800)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4450 (19790)	—	—	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.67 (3.48)</b>	—	—	<b>5.26 (3.92)</b>	<b>5.26 (3.92)</b>	<b>5.00 (3.73)</b>	<b>4.24 (3.16)</b>	<b>3.66 (2.73)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	5810 (657)	—	—	8725 (986)	10970 (1240)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4875 (21700)	—	—	4630 (20600)	3460 (15400)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4450 (19790)	—	—	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>12.9 (9.60)</b>	<b>12.0 (8.93)</b>	<b>12.0 (8.93)</b>	<b>11.3 (8.45)</b>	<b>11.0 (8.20)</b>	<b>8.58 (6.40)</b>	<b>7.98 (5.95)</b>	<b>7.86 (5.86)</b>	<b>6.88 (5.13)</b>	<b>5.47 (4.08)</b>	<b>5.00 (3.73)</b>	<b>4.24 (3.16)</b>	<b>3.66 (2.73)</b>	<b>4A120</b>
Output Torque in-lbs (N·m)	8015 (906)	9115 (1030)	9910 (1120)	10795 (1220)	11415 (1290)	10705 (1210)	10615 (1200)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3505 (15600)	3640 (16200)	3660 (16300)	3595 (16000)	3120 (13900)	3640 (16200)	3685 (16400)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3360 (14940)	3640 (16190)	3780 (16810)	4010 (17830)	4210 (18720)	4450 (19790)	4510 (20060)	4550 (20230)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>13.3 (9.90)</b>	<b>12.0 (8.93)</b>	<b>12.0 (8.93)</b>	<b>11.3 (8.45)</b>	<b>11.0 (8.20)</b>	<b>8.58 (6.40)</b>	<b>7.98 (5.95)</b>	<b>7.86 (5.86)</b>	<b>6.88 (5.13)</b>	<b>5.47 (4.08)</b>	<b>5.00 (3.73)</b>	<b>4.24 (3.16)</b>	<b>3.66 (2.73)</b>	
Output Torque in-lbs (N·m)	8265 (934)	9115 (1030)	9910 (1120)	10795 (1220)	11415 (1290)	10705 (1210)	10615 (1200)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3460 (15400)	3640 (16200)	3660 (16300)	3595 (16000)	3120 (13900)	3640 (16200)	3685 (16400)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3360 (14940)	3640 (16190)	3780 (16810)	4010 (17830)	4210 (18720)	4450 (19790)	4510 (20060)	4550 (20230)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

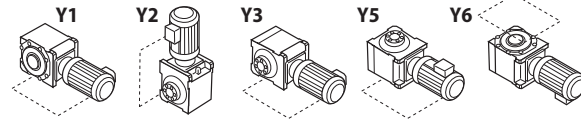
Output RPM	16.3	14.6	13.2	12.3	11.1	9.61	8.75	7.97	6.49	5.47	4.73	3.94	3.21	2.35	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>2.13 (1.59)</b>	<b>1.73 (1.29)</b>	<b>1.73 (1.29)</b>	<b>1.45 (1.08)</b>	<b>1.45 (1.08)</b>	<b>1.25 (0.931)</b>	<b>1.04 (0.772)</b>	<b>1.04 (0.772)</b>	<b>0.840 (0.628)</b>	<b>0.711 (0.530)</b>	<b>0.614 (0.458)</b>	<b>0.510 (0.380)</b>	<b>0.416 (0.310)</b>	<b>0.282 (0.210)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	7510 (849)	6865 (776)	7510 (849)	6865 (776)	7510 (849)	7510 (849)	6865 (776)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	6955 (786)	
Hollow Shaft OHL lbs (N)	5055 (22500)	5260 (23400)	5055 (22500)	5260 (23400)	5055 (22500)	5055 (22500)	5260 (23400)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	5235 (23300)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>2.56 (1.91)</b>	<b>2.07 (1.54)</b>	<b>2.07 (1.54)</b>	<b>1.74 (1.30)</b>	<b>1.74 (1.30)</b>	<b>1.50 (1.12)</b>	<b>1.24 (0.926)</b>	<b>1.24 (0.926)</b>	<b>1.01 (0.754)</b>	<b>0.844 (0.629)</b>	<b>0.711 (0.530)</b>	<b>0.539 (0.402)</b>	<b>0.499 (0.372)</b>	<b>0.315 (0.235)</b>	
Output Torque in-lbs (N·m)	9025 (1020)	8245 (932)	9025 (1020)	8245 (932)	9025 (1020)	9025 (1020)	8245 (932)	9025 (1020)	9025 (1020)	8935 (1010)	8705 (984)	7935 (897)	9025 (1020)	7765 (878)	
Hollow Shaft OHL lbs (N)	4515 (20100)	4810 (21400)	4515 (20100)	4810 (21400)	4515 (20100)	4515 (20100)	4810 (21400)	4515 (20100)	4515 (20100)	4540 (20200)	4630 (20600)	4920 (21900)	4515 (20100)	4990 (22200)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>3.07 (2.29)</b>	<b>2.48 (1.85)</b>	<b>2.48 (1.85)</b>	<b>2.09 (1.56)</b>	<b>2.09 (1.56)</b>	<b>1.80 (1.34)</b>	<b>1.49 (1.11)</b>	<b>1.49 (1.11)</b>	<b>1.21 (0.904)</b>	<b>1.02 (0.762)</b>	<b>0.880 (0.659)</b>	<b>0.735 (0.548)</b>	<b>0.599 (0.447)</b>	—	<b>4A110</b>
Output Torque in-lbs (N·m)	10795 (1220)	9910 (1120)	10795 (1220)	9910 (1120)	10795 (1220)	9910 (1120)	10795 (1220)	9910 (1120)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	—	
Hollow Shaft OHL lbs (N)	3550 (15800)	4090 (18200)	3550 (15800)	4090 (18200)	3550 (15800)	3550 (15800)	4090 (18200)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>3.23 (2.41)</b>	<b>2.87 (2.14)</b>	<b>2.61 (1.95)</b>	<b>2.40 (1.79)</b>	<b>2.20 (1.64)</b>	<b>1.89 (1.41)</b>	<b>1.72 (1.28)</b>	<b>1.57 (1.17)</b>	<b>1.28 (0.954)</b>	<b>1.08 (0.804)</b>	<b>0.930 (0.695)</b>	<b>0.780 (0.578)</b>	<b>0.633 (0.472)</b>	—	
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>3.23 (2.41)</b>	<b>2.87 (2.14)</b>	<b>2.61 (1.95)</b>	<b>2.40 (1.79)</b>	<b>2.20 (1.64)</b>	<b>1.89 (1.41)</b>	<b>1.72 (1.28)</b>	<b>1.57 (1.17)</b>	<b>1.28 (0.954)</b>	<b>1.08 (0.804)</b>	<b>0.930 (0.695)</b>	<b>0.780 (0.578)</b>	<b>0.633 (0.472)</b>	—	<b>4A120</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>3.23 (2.41)</b>	<b>2.87 (2.14)</b>	<b>2.61 (1.95)</b>	<b>2.40 (1.79)</b>	<b>2.20 (1.64)</b>	<b>1.89 (1.41)</b>	<b>1.72 (1.28)</b>	<b>1.57 (1.17)</b>	<b>1.28 (0.954)</b>	<b>1.08 (0.804)</b>	<b>0.930 (0.695)</b>	<b>0.780 (0.578)</b>	<b>0.633 (0.472)</b>	—	
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)			



# Frame Size Selection Tables 980 RPM

# Frame Size Selection Tables 980 RPM

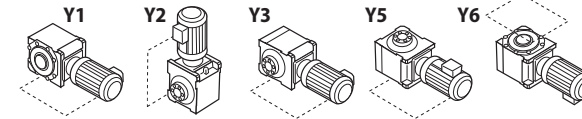
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	89.1	75.4	70.0	61.3	54.4	46.7	44.5	39.2	35.0	28.0	25.1	21.3	18.5	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>18.4 (13.7)</b>	<b>15.0 (11.2)</b>	<b>13.8 (10.3)</b>	<b>12.0 (8.97)</b>	<b>11.0 (8.20)</b>	<b>9.17 (6.84)</b>	<b>8.60 (6.41)</b>	<b>7.86 (5.86)</b>	<b>6.88 (5.13)</b>	<b>5.47 (4.08)</b>	<b>5.00 (3.73)</b>	<b>4.24 (3.16)</b>	<b>3.66 (2.73)</b>	<b>4A140</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3030 (13500)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3360 (14940)	3640 (16190)	3780 (16810)	4010 (17830)	4210 (18720)	4450 (19790)	4510 (20060)	4550 (20230)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>18.4 (13.7)</b>	<b>15.0 (11.2)</b>	<b>13.8 (10.3)</b>	<b>12.0 (8.97)</b>	<b>11.0 (8.20)</b>	<b>9.17 (6.84)</b>	<b>8.60 (6.41)</b>	<b>7.86 (5.86)</b>	<b>6.88 (5.13)</b>	<b>5.47 (4.08)</b>	<b>5.00 (3.73)</b>	<b>4.24 (3.16)</b>	<b>3.66 (2.73)</b>	<b>4A145</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3030 (13500)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3360 (14940)	3640 (16190)	3780 (16810)	4010 (17830)	4210 (18720)	4450 (19790)	4510 (20060)	4550 (20230)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>12.9 (9.60)</b>	<b>12.0 (8.93)</b>	<b>12.0 (8.93)</b>	<b>11.3 (8.45)</b>	<b>11.3 (8.45)</b>	<b>8.58 (6.40)</b>	<b>7.98 (5.95)</b>	<b>7.98 (5.95)</b>	<b>8.01 (5.97)</b>	<b>6.95 (5.18)</b>	<b>6.95 (5.18)</b>	<b>6.28 (4.68)</b>	<b>5.07 (3.78)</b>	<b>4B120</b>
Output Torque in-lbs (N·m)	8015 (906)	9115 (1030)	9910 (1120)	10795 (1220)	11765 (1330)	10705 (1210)	10615 (1200)	11590 (1310)	13270 (1500)	14155 (1600)	15485 (1750)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	5350 (23800)	5595 (24900)	5710 (25400)	5890 (26200)	5975 (26600)	6495 (28900)	6650 (29600)	6765 (30100)	6900 (30700)	7395 (32900)	7505 (33400)	7935 (35300)	8250 (36700)	
Solid Shaft OHL lbs (N)	3510 (15610)	3890 (17300)	4070 (18100)	4360 (19390)	4460 (19830)	5030 (22370)	5150 (22900)	5510 (24500)	5800 (25790)	6450 (28680)	6760 (30060)	7170 (31890)	7360 (32730)	
<b>Input Power HP (kW)</b>	<b>13.3 (9.90)</b>	<b>12.0 (8.93)</b>	<b>12.0 (8.93)</b>	<b>11.3 (8.45)</b>	<b>11.3 (8.45)</b>	<b>8.58 (6.40)</b>	<b>7.98 (5.95)</b>	<b>7.98 (5.95)</b>	<b>8.01 (5.97)</b>	<b>6.95 (5.18)</b>	<b>6.95 (5.18)</b>	<b>6.28 (4.68)</b>	<b>5.07 (3.78)</b>	<b>4B125</b>
Output Torque in-lbs (N·m)	8265 (934)	9115 (1030)	9910 (1120)	10795 (1220)	11765 (1330)	10705 (1210)	10615 (1200)	11590 (1310)	13270 (1500)	14155 (1600)	15485 (1750)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	5325 (23700)	5595 (24900)	5710 (25400)	5890 (26200)	5975 (26600)	6495 (28900)	6650 (29600)	6765 (30100)	6900 (30700)	7350 (32700)	7460 (33200)	7820 (34800)	7325 (32600)	
Solid Shaft OHL lbs (N)	3510 (15610)	3890 (17300)	4070 (18100)	4360 (19390)	4460 (19830)	5030 (22370)	5150 (22900)	5510 (24500)	5800 (25790)	6450 (28680)	6760 (30060)	7170 (31890)	7360 (32730)	
<b>Input Power HP (kW)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>16.4 (12.2)</b>	<b>17.2 (12.8)</b>	<b>15.7 (11.7)</b>	<b>13.7 (10.2)</b>	<b>10.9 (8.13)</b>	<b>9.96 (7.43)</b>	<b>8.44 (6.29)</b>	<b>7.31 (5.45)</b>	<b>4B140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	20350 (2300)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4810 (21400)	4875 (21700)	4900 (21800)	4900 (21800)	4920 (21900)	5440 (24200)	5325 (23700)	5550 (24700)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3510 (15610)	3890 (17300)	4070 (18100)	4360 (19390)	4460 (19830)	5030 (22370)	5150 (22900)	5510 (24500)	5800 (25790)	6450 (28680)	6760 (30060)	7170 (31890)	7360 (32730)	
<b>Input Power HP (kW)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>16.4 (12.2)</b>	<b>17.2 (12.8)</b>	<b>15.7 (11.7)</b>	<b>13.7 (10.2)</b>	<b>10.9 (8.13)</b>	<b>9.96 (7.43)</b>	<b>8.44 (6.29)</b>	<b>7.31 (5.45)</b>	<b>4B145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	20350 (2300)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4810 (21400)	4875 (21700)	4900 (21800)	4900 (21800)	4920 (21900)	5440 (24200)	5325 (23700)	5550 (24700)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3510 (15610)	3890 (17300)	4070 (18100)	4360 (19390)	4460 (19830)	5030 (22370)	5150 (22900)	5510 (24500)	5800 (25790)	6450 (28680)	6760 (30060)	7170 (31890)	7360 (32730)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



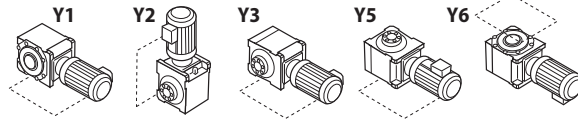
Dimensions on pages 2.156 - 2.166

Output RPM	16.3	14.6	13.2	12.3	11.1	9.61	8.75	7.97	6.49	5.47	4.73	3.94	3.21	2.35	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>3.23 (2.41)</b>	<b>2.87 (2.14)</b>	<b>2.61 (1.95)</b>	<b>2.40 (1.79)</b>	<b>2.20 (1.64)</b>	<b>1.89 (1.41)</b>	<b>1.72 (1.28)</b>	<b>1.57 (1.17)</b>	<b>1.28 (0.954)</b>	<b>1.08 (0.804)</b>	<b>0.932 (0.695)</b>	<b>0.775 (0.578)</b>	<b>0.633 (0.472)</b>	—	<b>4A140</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>3.23 (2.41)</b>	<b>2.87 (2.14)</b>	<b>2.61 (1.95)</b>	<b>2.40 (1.79)</b>	<b>2.20 (1.64)</b>	<b>1.89 (1.41)</b>	<b>1.72 (1.28)</b>	<b>1.57 (1.17)</b>	<b>1.28 (0.954)</b>	<b>1.08 (0.804)</b>	<b>0.932 (0.695)</b>	<b>0.775 (0.578)</b>	<b>0.633 (0.472)</b>	—	<b>4A145</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>4.43 (3.30)</b>	<b>3.59 (2.68)</b>	<b>3.59 (2.68)</b>	<b>3.04 (2.27)</b>	<b>3.04 (2.27)</b>	<b>2.60 (1.94)</b>	<b>2.17 (1.62)</b>	<b>2.17 (1.62)</b>	<b>1.77 (1.32)</b>	<b>1.49 (1.11)</b>	<b>1.29 (0.961)</b>	<b>1.07 (0.799)</b>	<b>0.874 (0.652)</b>	—	<b>4B120</b>
Output Torque in-lbs (N·m)	15660 (1770)	14335 (1620)	15660 (1770)	14420 (1630)	15750 (1780)	15660 (1770)	14420 (1630)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	8295 (36900)	8585 (38200)	8270 (36800)	8565 (38100)	8250 (36700)	8295 (36900)	8565 (38100)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	
Solid Shaft OHL lbs (N)	7430 (33040)	7480 (33270)	7520 (33440)	7560 (33620)	7590 (33760)	7590 (33760)	7500 (33360)	7420 (33000)	7270 (32330)	7160 (31840)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>5.36 (4.00)</b>	<b>4.34 (3.24)</b>	<b>4.34 (3.24)</b>	<b>3.65 (2.72)</b>	<b>3.65 (2.72)</b>	<b>3.15 (2.35)</b>	<b>2.60 (1.94)</b>	<b>2.60 (1.94)</b>	<b>2.12 (1.58)</b>	<b>1.78 (1.33)</b>	<b>1.54 (1.15)</b>	<b>1.13 (0.843)</b>	<b>1.02 (0.761)</b>	—	<b>4B125</b>
Output Torque in-lbs (N·m)	18935 (2140)	17345 (1960)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	16635 (1880)	18405 (2080)	—	
Hollow Shaft OHL lbs (N)	7325 (32600)	7845 (34900)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	8025 (35700)	7505 (33400)	—	
Solid Shaft OHL lbs (N)	7430 (33040)	7480 (33270)	7520 (33440)	7560 (33620)	7590 (33760)	7590 (33760)	7500 (33360)	7420 (33000)	7270 (32330)	7160 (31840)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>6.45 (4.81)</b>	<b>5.71 (4.26)</b>	<b>5.22 (3.89)</b>	<b>4.80 (3.58)</b>	<b>4.39 (3.27)</b>	<b>3.78 (2.82)</b>	<b>3.42 (2.55)</b>	<b>3.14 (2.34)</b>	<b>2.55 (1.90)</b>	<b>2.15 (1.60)</b>	<b>1.86 (1.39)</b>	<b>1.54 (1.15)</b>	<b>1.26 (0.939)</b>	—	<b>4B140</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7430 (33040)	7480 (33270)	7520 (33440)	7560 (33620)	7590 (33760)	7590 (33760)	7500 (33360)	7420 (33000)	7270 (32330)	7160 (31840)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>6.45 (4.81)</b>	<b>5.71 (4.26)</b>	<b>5.22 (3.89)</b>	<b>4.80 (3.58)</b>	<b>4.39 (3.27)</b>	<b>3.78 (2.82)</b>	<b>3.42 (2.55)</b>	<b>3.14 (2.34)</b>	<b>2.55 (1.90)</b> </						

# Frame Size Selection Tables 980 RPM

# Frame Size Selection Tables 980 RPM

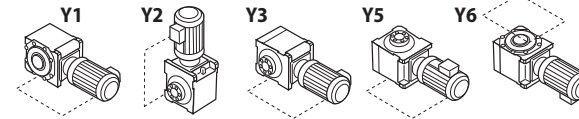
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	89.1	75.4	70.0	61.3	54.4	46.7	44.5	39.2	35.0	28.0	25.1	21.3	18.5	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>26.3 (19.6)</b>	<b>26.3 (19.6)</b>	<b>26.3 (19.6)</b>	<b>24.0 (17.9)</b>	<b>21.9 (16.3)</b>	<b>18.2 (13.6)</b>	<b>17.2 (12.8)</b>	<b>15.7 (11.7)</b>	<b>13.7 (10.2)</b>	<b>10.9 (8.13)</b>	<b>9.96 (7.43)</b>	<b>8.44 (6.29)</b>	<b>7.31 (5.45)</b>	<b>4B160</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4450 (19800)	4425 (19700)	4425 (19700)	4585 (20400)	4785 (21300)	5190 (23100)	5325 (23700)	5550 (24700)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3510 (15610)	3890 (17300)	4070 (18100)	4360 (19390)	4460 (19830)	5030 (22370)	5150 (22900)	5510 (24500)	5800 (25790)	6450 (28680)	6760 (30060)	7170 (31890)	7360 (32730)	
<b>Input Power HP (kW)</b>	<b>26.3 (19.6)</b>	<b>26.3 (19.6)</b>	<b>26.3 (19.6)</b>	<b>24.0 (17.9)</b>	<b>21.9 (16.3)</b>	<b>18.2 (13.6)</b>	<b>17.2 (12.8)</b>	<b>15.7 (11.7)</b>	<b>13.7 (10.2)</b>	<b>10.9 (8.13)</b>	<b>9.96 (7.43)</b>	<b>8.44 (6.29)</b>	<b>7.31 (5.45)</b>	<b>4B165</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4450 (19800)	4425 (19700)	4425 (19700)	4585 (20400)	4785 (21300)	5190 (23100)	5325 (23700)	5550 (24700)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3510 (15610)	3890 (17300)	4070 (18100)	4360 (19390)	4460 (19830)	5030 (22370)	5150 (22900)	5510 (24500)	5800 (25790)	6450 (28680)	6760 (30060)	7170 (31890)	7360 (32730)	
<b>Input Power HP (kW)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>16.4 (12.2)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>15.6 (11.6)</b>	<b>16.1 (12.0)</b>	<b>16.1 (12.0)</b>	<b>13.7 (10.2)</b>	<b>11.8 (8.82)</b>	<b>4C140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	20350 (2300)	23185 (2620)	25305 (2860)	25925 (2930)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	7305 (32500)	7550 (33600)	7665 (34100)	7800 (34700)	7910 (35200)	8585 (38200)	8495 (37800)	8610 (38300)	8990 (40000)	9055 (40300)	9125 (40600)	9755 (43400)	10340 (46000)	
Solid Shaft OHL lbs (N)	4620 (20540)	5090 (22640)	5350 (23790)	5780 (25700)	6180 (27480)	6710 (29840)	6880 (30600)	7390 (32870)	7790 (34640)	8750 (38920)	9250 (41140)	9930 (44160)	10560 (46970)	
<b>Input Power HP (kW)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>16.4 (12.2)</b>	<b>18.0 (13.4)</b>	<b>18.0 (13.4)</b>	<b>15.6 (11.6)</b>	<b>16.2 (12.1)</b>	<b>16.2 (12.1)</b>	<b>15.3 (11.4)</b>	<b>13.1 (9.78)</b>	<b>4C145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	20350 (2300)	23980 (2710)	26190 (2960)	25925 (2930)	33715 (3810)	36900 (4170)	41150 (4650)	40795 (4610)	
Hollow Shaft OHL lbs (N)	7305 (32500)	7550 (33600)	7665 (34100)	7800 (34700)	7910 (35200)	8585 (38200)	8430 (37500)	8520 (37900)	8990 (40000)	9055 (40300)	9100 (40500)	9350 (41600)	9955 (44300)	
Solid Shaft OHL lbs (N)	4620 (20540)	5090 (22640)	5350 (23790)	5780 (25700)	6180 (27480)	6710 (29840)	6880 (30600)	7390 (32870)	7790 (34640)	8750 (38920)	9250 (41140)	9930 (44160)	10560 (46970)	
<b>Input Power HP (kW)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>31.9 (23.8)</b>	<b>27.2 (20.3)</b>	<b>27.2 (20.3)</b>	<b>26.4 (19.7)</b>	<b>21.9 (16.3)</b>	<b>20.0 (14.9)</b>	<b>16.9 (12.6)</b>	<b>14.6 (10.9)</b>	<b>4C160</b>
Output Torque in-lbs (N·m)	21150 (2390)	25750 (2910)	28140 (3180)	32210 (3640)	35220 (3980)	39820 (4500)	36190 (4090)	39555 (4470)	43890 (4960)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6540 (29100)	6605 (29400)	6630 (29500)	6605 (29400)	6605 (29400)	6740 (30000)	7260 (32300)	7260 (32300)	7305 (32500)	7935 (35300)	8295 (36900)	8945 (39800)	9415 (41900)	
Solid Shaft OHL lbs (N)	4620 (20540)	5090 (22640)	5350 (23790)	5780 (25700)	6180 (27480)	6710 (29840)	6880 (30600)	7390 (32870)	7790 (34640)	8750 (38920)	9250 (41140)	9930 (44160)	10560 (46970)	
<b>Input Power HP (kW)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>31.9 (23.8)</b>	<b>32.3 (24.1)</b>	<b>31.4 (23.4)</b>	<b>27.4 (20.4)</b>	<b>21.9 (16.3)</b>	<b>20.0 (14.9)</b>	<b>16.9 (12.6)</b>	<b>14.6 (10.9)</b>	<b>4C165</b>
Output Torque in-lbs (N·m)	25040 (2830)	30530 (3450)	33360 (3770)	38140 (4310)	41770 (4720)	39820 (4500)	42920 (4850)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6155 (27400)	6135 (27300)	6135 (27300)	6045 (26900)	6000 (26700)	6740 (30000)	6630 (29500)	6695 (29800)	7145 (31800)	7935 (35300)	8295 (36900)	8945 (39800)	9415 (41900)	
Solid Shaft OHL lbs (N)	4620 (20540)	5090 (22640)	5350 (23790)	5780 (25700)	6180 (27480)	6710 (29840)	6880 (30600)	7390 (32870)	7790 (34640)	8750 (38920)	9250 (41140)	9930 (44160)	10560 (46970)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	16.3	14.6	13.2	12.3	11.1	9.61	8.75	7.97	6.49	5.47	4.73	3.94	3.21	2.35	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>6.45 (4.81)</b>	<b>5.71 (4.26)</b>	<b>5.22 (3.89)</b>	<b>4.80 (3.58)</b>	<b>4.39 (3.27)</b>	<b>3.78 (2.82)</b>	<b>3.42 (2.55)</b>	<b>3.14 (2.34)</b>	<b>2.55 (1.90)</b>	<b>2.15 (1.60)</b>	<b>1.86 (1.39)</b>	<b>1.54 (1.15)</b>	<b>1.26 (0.939)</b>	—	<b>4B160</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7430 (33040)	7480 (33270)	7520 (33440)	7560 (33620)	7590 (33760)	7590 (33760)	7500 (33360)	7420 (33000)	7270 (32330)	7160 (31840)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>6.45 (4.81)</b>	<b>5.71 (4.26)</b>	<b>5.22 (3.89)</b>	<b>4.80 (3.58)</b>	<b>4.39 (3.27)</b>	<b>3.78 (2.82)</b>	<b>3.42 (2.55)</b>	<b>3.14 (2.34)</b>	<b>2.55 (1.90)</b>	<b>2.15 (1.60)</b>	<b>1.86 (1.39)</b>	<b>1.54 (1.15)</b>	<b>1.26 (0.939)</b>	—	<b>4B165</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7430 (33040)	7480 (33270)	7520 (33440)	7560 (33620)	7590 (33760)	7590 (33760)	7500 (33360)	7420 (33000)	7270 (32330)	7160 (31840)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>10.43 (7.78)</b>	<b>8.45 (6.30)</b>	<b>8.45 (6.30)</b>	<b>7.09 (5.29)</b>	<b>7.09 (5.29)</b>	<b>6.12 (4.56)</b>	<b>5.07 (3.78)</b>	<b>5.07 (3.78)</b>	<b>4.13 (3.08)</b>	<b>3.47 (2.59)</b>	<b>3.00 (2.24)</b>	<b>2.49 (1.86)</b>	<b>2.04 (1.52)</b>	—	<b>4C140</b>
Output Torque in-lbs (N·m)	36810 (4160)	33625 (3800)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	10880 (48400)	11690 (52000)	11825 (52600)	12475 (55500)	12160 (54100)	12160 (54100)	12900 (57400)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	
Solid Shaft OHL lbs (N)	11140 (49550)	11600 (51590)	11970 (53240)	12230 (54390)	12530 (55730)	12810 (56970)	12760 (56750)	12720 (56570)	12630 (56170)	12570 (55910)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>11.7 (8.70)</b>	<b>9.23 (6.88)</b>	<b>9.23 (6.88)</b>	<b>7.94 (5.92)</b>	<b>7.94 (5.92)</b>	<b>6.84 (5.10)</b>	<b>5.67 (4.23)</b>	<b>5.67 (4.23)</b>	<b>4.61 (3.44)</b>	<b>3.67 (2.74)</b>	<b>3.16 (2.36)</b>	<b>2.60 (1.94)</b>	<b>2.08 (1.55)</b>	—	<b>4C145</b>
Output Torque in-lbs (N·m)	41150 (4650)	36810 (4160)	40265 (4550)	37610 (4250)	41150 (4650)	41150 (4650)	37610 (4250)	41150 (4650)	41150 (4400)	38935 (4380)	38760 (4340)	38405 (4340)	37520 (4240)	—	
Hollow Shaft OHL lbs (N)	10475 (46600)	11395 (50700)	11240 (50000)	11955 (53200)	10945 (48700)	10945 (48700)	11955 (53200)	10945 (48700)	10945 (51700)	11620 (51900)	11665 (51900)	11755 (52300)	11980 (53300)	—	
Solid Shaft OHL lbs (N)	11140 (49550)	11600 (51590)	11970 (53240)	12230 (54390)	12530 (55730)	12810 (56970)	12760 (56750)	12720 (56570)	12630 (56170)	12570 (55910)	12550 (55820)	12550 (55820)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	<b>12.9 (9.61)</b>	<b>11.4 (8.51)</b>	<b>10.4 (7.78)</b>	<b>9.59 (7.15)</b>	<b>8.77 (6.54)</b>	<b>7.56 (5.64)</b>	<b>6.85 (5.11)</b>	<b>6.26 (4.67)</b>	<b>5.10 (3.80)</b>	<b>4.29 (3.20)</b>	<b>3.71 (2.77)</b>	<b>3.08 (2.30)</b>	<b>2.52 (1.88)</b>	—	<b>4C160</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	—	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	—	
Solid Shaft OHL lbs (N)	11140 (49550)	11600 (51590)	11970 (53240)	12230 (54390)	12530 (55730)	12810 (56970)	12760 (56750)	12720 (56570)	12630 (56170)	12570 (55910)	12550 (55820)	12550 (55820)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	<b>12.9 (9.61)</b>	<b>11.4 (8.51)</b>	<b>10.4 (7.78)</b>	<b>9.59 (7.15)</b>	<b>8.77 (6.54)</b>	<b>7.56 (5.64)</b>	<b></b>								

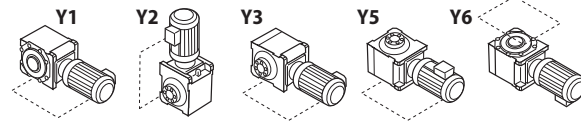




# Frame Size Selection Tables 980 RPM

# Frame Size Selection Tables 980 RPM

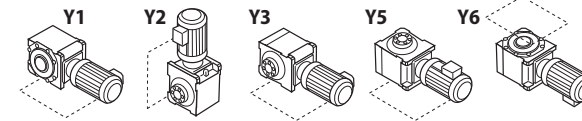
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	89.1	75.4	70.0	61.3	54.4	46.7	44.5	39.2	35.0	28.0	25.1	21.3	18.5	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>67.2 (50.1)</b>	<b>55.7 (41.5)</b>	<b>50.2 (37.4)</b>	<b>50.2 (37.4)</b>	<b>44.7 (33.3)</b>	<b>37.0 (27.6)</b>	<b>33.8 (25.2)</b>	<b>28.6 (21.3)</b>	<b>24.8 (18.5)</b>	<b>4D180</b>
Output Torque in-lbs (N·m)	44600 (5040)	54335 (6140)	59475 (6270)	67970 (7680)	69740 (7880)	69300 (7830)	66645 (7530)	72840 (8230)	74165 (8380)	77175 (8720)	77175 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	8745 (38900)	8700 (38700)	8655 (38500)	8520 (37900)	8745 (38900)	9595 (42700)	10090 (44900)	10025 (44600)	10585 (47100)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	6520 (29000)	7250 (32240)	7620 (33890)	8230 (36600)	8820 (39230)	9580 (42610)	9820 (43670)	10550 (46920)	11130 (49500)	12530 (55730)	13260 (58980)	14230 (63290)	14890 (66230)	
<b>Input Power HP (kW)</b>	<b>75.0 (55.9)</b>	<b>75.0 (55.9)</b>	<b>75.0 (55.9)</b>	<b>73.1 (54.5)</b>	<b>67.2 (50.1)</b>	<b>57.1 (42.6)</b>	<b>51.0 (38.0)</b>	<b>51.0 (38.0)</b>	<b>45.3 (33.8)</b>	<b>37.0 (27.6)</b>	<b>33.8 (25.2)</b>	<b>28.6 (21.3)</b>	<b>24.8 (18.5)</b>	<b>4D185</b>
Output Torque in-lbs (N·m)	46635 (5270)	56910 (6430)	62220 (7030)	69390 (7840)	69740 (7880)	71160 (8040)	67705 (7650)	73990 (8360)	75230 (8500)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	8565 (38100)	8494 (37800)	8430 (37500)	8408 (37400)	8745 (38900)	9442 (42000)	10026 (44600)	9937 (44200)	10499 (46700)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	6520 (29000)	7250 (32240)	7620 (33890)	8230 (36600)	8820 (39230)	9580 (42610)	9820 (43670)	10550 (46920)	11130 (49500)	12530 (55730)	13260 (58980)	14230 (63290)	14890 (66230)	
<b>Input Power HP (kW)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>55.7 (41.5)</b>	<b>44.8 (33.4)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>33.3 (24.8)</b>	<b>33.3 (24.8)</b>	<b>28.2 (21.0)</b>	<b>24.4 (18.2)</b>	<b>4E170</b>
Output Torque in-lbs (N·m)	34690 (3920)	42210 (4770)	46190 (5220)	52830 (5970)	57785 (6530)	55840 (6310)	60350 (6820)	66015 (7460)	75485 (8530)	69555 (7860)	76015 (8590)	75925 (8580)	76015 (8590)	
Hollow Shaft OHL lbs (N)	13285 (59100)	13690 (60900)	13845 (61600)	14070 (62600)	14205 (63200)	15375 (68400)	15395 (68500)	15555 (69200)	15690 (69800)	17600 (78300)	17780 (79100)	18995 (84500)	19940 (88700)	
Solid Shaft OHL lbs (N)	9830 (43720)	10760 (47860)	11230 (49950)	12000 (53370)	12770 (56800)	13770 (61240)	14080 (62620)	15010 (66760)	15750 (70050)	17570 (78150)	18520 (82370)	19780 (87980)	20420 (90820)	
<b>Input Power HP (kW)</b>	<b>56.5 (42.1)</b>	<b>56.5 (42.1)</b>	<b>56.5 (42.1)</b>	<b>56.5 (42.1)</b>	<b>56.5 (42.1)</b>	<b>44.8 (33.4)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>47.1 (35.1)</b>	<b>40.4 (30.1)</b>	<b>38.1 (28.4)</b>	<b>32.2 (24.0)</b>	<b>27.9 (20.8)</b>	<b>4E175</b>
Output Torque in-lbs (N·m)	35130 (3970)	42830 (4840)	46900 (5300)	53540 (6050)	58580 (6620)	55840 (6310)	65925 (7450)	72035 (8140)	78230 (8840)	84245 (9520)	86990 (9830)	86990 (9830)	86990 (9830)	
Hollow Shaft OHL lbs (N)	13240 (58900)	13645 (60700)	13800 (61400)	14025 (62400)	14140 (62900)	15375 (68400)	14990 (66700)	15105 (67200)	15485 (68900)	16500 (73400)	16970 (75500)	18185 (80900)	19240 (85600)	
Solid Shaft OHL lbs (N)	9830 (43720)	10760 (47860)	11230 (49950)	12000 (53370)	12770 (56800)	13770 (61240)	14080 (62620)	15010 (66760)	15750 (70050)	17570 (78150)	18520 (82370)	19780 (87980)	20420 (90820)	
<b>Input Power HP (kW)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>55.7 (41.5)</b>	<b>50.2 (37.4)</b>	<b>50.2 (37.4)</b>	<b>44.7 (33.3)</b>	<b>49.2 (36.7)</b>	<b>44.9 (33.5)</b>	<b>38.1 (28.4)</b>	<b>33.0 (24.6)</b>	<b>4E180</b>
Output Torque in-lbs (N·m)	44600 (5040)	54335 (6140)	59465 (6720)	67960 (7680)	74335 (8400)	69290 (7830)	66635 (7530)	72830 (8230)	74155 (8380)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (9830)	
Hollow Shaft OHL lbs (N)	12540 (55800)	12790 (56900)	12880 (57300)	12970 (57700)	12990 (57800)	14385 (64000)	14950 (66500)	15040 (66900)	15800 (70300)	15195 (67600)	15825 (70400)	17015 (75700)	18095 (80500)	
Solid Shaft OHL lbs (N)	9830 (43720)	10760 (47860)	11230 (49950)	12000 (53370)	12770 (56800)	13770 (61240)	14080 (62620)	15010 (66760)	15750 (70050)	17570 (78150)	18520 (82370)	19780 (87980)	20420 (90820)	
<b>Input Power HP (kW)</b>	<b>75.0 (55.9)</b>	<b>75.0 (55.9)</b>	<b>75.0 (55.9)</b>	<b>75.0 (55.9)</b>	<b>75.0 (55.9)</b>	<b>57.4 (42.8)</b>	<b>51.0 (38.0)</b>	<b>51.0 (38.0)</b>	<b>45.3 (33.8)</b>	<b>49.2 (36.7)</b>	<b>44.9 (33.5)</b>	<b>38.1 (28.4)</b>	<b>33.0 (24.6)</b>	<b>4E185</b>
Output Torque in-lbs (N·m)	46635 (5270)	56900 (6430)	62210 (7030)	71150 (8040)	77785 (8790)	71500 (8080)	67695 (7650)	73980 (8360)	75220 (8500)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	12385 (55100)	12610 (56100)	12675 (56400)	12720 (56600)	12720 (56600)	14230 (63300)	14880 (66200)	14970 (66600)	15710 (69900)	15195 (67600)	15825 (70400)	17015 (75700)	18095 (80500)	
Solid Shaft OHL lbs (N)	9830 (43720)	10760 (47860)	11230 (49950)	12000 (53370)	12770 (56800)	13770 (61240)	14080 (62620)	15010 (66760)	15750 (70050)	17570 (78150)	18520 (82370)	19780 (87980)	20420 (90820)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

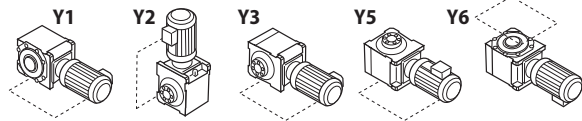
Output RPM	16.3	14.6	13.2	12.3	11.1	9.61	8.75	7.97	6.49	5.47	4.73	3.94	3.21	2.35	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>21.9 (16.3)</b>	<b>19.3 (14.4)</b>	<b>17.7 (13.2)</b>	<b>16.2 (12.1)</b>	<b>14.9 (11.1)</b>	<b>12.8 (9.56)</b>	<b>11.6 (8.67)</b>	<b>10.6 (7.92)</b>	<b>8.65 (6.45)</b>	<b>7.30 (5.44)</b>	<b>6.30 (4.70)</b>	<b>5.24 (3.91)</b>	<b>4.28 (3.19)</b>	—	<b>4D180</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	15350 (68270)	15710 (69870)	16000 (71160)	16220 (72140)	16450 (73160)	16690 (74230)	16670 (74140)	16650 (74050)	16610 (73880)	16590 (73790)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>21.9 (16.3)</b>	<b>19.3 (14.4)</b>	<b>17.7 (13.2)</b>	<b>16.2 (12.1)</b>	<b>14.9 (11.1)</b>	<b>12.8 (9.56)</b>	<b>11.6 (8.67)</b>	<b>10.6 (7.92)</b>	<b>8.65 (6.45)</b>	<b>7.30 (5.44)</b>	<b>6.30 (4.70)</b>	<b>5.24 (3.91)</b>	<b>4.28 (3.19)</b>	—	<b>4D185</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	15350 (68270)	15710 (69870)	16000 (71160)	16220 (72140)	16450 (73160)	16690 (74230)	16670 (74140)	16650 (74050)	16610 (73880)	16590 (73790)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>21.6 (16.1)</b>	<b>17.4 (13.0)</b>	<b>17.4 (13.0)</b>	<b>14.6 (10.9)</b>	<b>14.6 (10.9)</b>	<b>12.6 (9.42)</b>	<b>10.5 (7.81)</b>	<b>10.5 (7.81)</b>	<b>8.53 (6.36)</b>	<b>7.19 (5.36)</b>	<b>6.21 (4.63)</b>	<b>5.16 (3.85)</b>	<b>4.21 (3.14)</b>	—	<b>4E170</b>
Output Torque in-lbs (N·m)	76015 (8590)	69555 (7860)	76015 (8590)	69555 (7860)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	
Hollow Shaft OHL lbs (N)	19940 (88700)	20275 (90200)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	
Solid Shaft OHL lbs (N)	20720 (92160)	20960 (93230)	21150 (94070)	21290 (94690)	21450 (95400)	21630 (96210)	21680 (96430)	21730 (96650)	21820 (97050)	21890 (97360)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>24.7 (18.4)</b>	<b>21.7 (16.2)</b>	<b>20.0 (14.9)</b>	<b>18.2 (13.6)</b>	<b>16.8 (12.5)</b>	<b>14.5 (10.8)</b>	<b>13.0 (9.72)</b>	<b>13.0 (9.72)</b>	<b>10.6 (7.91)</b>	<b>8.94 (6.67)</b>	<b>7.74 (5.77)</b>	<b>6.42 (4.79)</b>	<b>5.24 (3.91)</b>	—	<b>4E175</b>
Output Torque in-lbs (N·m)	86990 (9830)	86545 (9780)	86990 (9830)	86545 (9780)	86990 (9830)	86545 (9780)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	19400 (86300)	19420 (86400)	19400 (86300)	19420 (86400)	19400 (86300)	19400 (86300)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	20720 (92160)	20960 (93230)	21150 (94070)	21290 (94690)	21450 (95400)	21630 (96210)	21680 (96430)	21730 (96650)	21820 (97050)	21890 (97360)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>29.1 (21.7)</b>	<b>25.7 (19.2)</b>	<b>23.6 (17.6)</b>	<b>21.6 (16.1)</b>	<b>19.8 (14.8)</b>	<b>17.0 (12.7)</b>	<b>15.4 (11.5)</b>	<b>14.1 (10.5)</b>	<b>11.5 (8.58)</b>	<b>9.70 (7.23)</b>	<b>8.38 (6.25)</b>	<b>6.97 (5.20)</b>	<b>5.69 (4.24)</b>	—	<b>4E180</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	20720 (92160)	20960 (93230)	21150 (94070)	21290 (94690)	21450 (95400)	21630 (96210)	21680 (9								



# Frame Size Selection Tables 870 RPM

# Frame Size Selection Tables 870 RPM

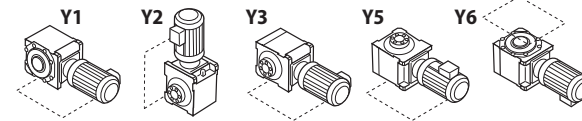
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	79.1	66.9	62.1	54.4	48.3	41.4	39.5	34.8	31.1	24.9	22.3	18.9	16.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	—	—	<b>3.15 (2.35)</b>	<b>2.92 (2.18)</b>	<b>2.92 (2.18)</b>	<b>2.47 (1.84)</b>	<b>2.15 (1.60)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	2210 (250)	2690 (304)	2945 (333)	3370 (381)	3680 (416)	4415 (499)	—	—	5890 (666)	6865 (776)	7510 (849)	7510 (849)	7510 (849)	
Hollow Shaft OHL lbs (N)	4470 (19900)	4695 (20900)	4810 (21400)	4945 (22000)	5055 (22500)	5260 (23400)	—	—	5505 (24500)	5260 (23400)	5055 (22500)	5055 (22500)	5055 (22500)	
Solid Shaft OHL lbs (N)	3560 (15830)	3860 (17160)	3990 (17740)	4210 (18720)	4400 (19570)	4530 (20140)	—	—	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>3.66 (2.73)</b>	<b>3.66 (2.73)</b>	<b>3.66 (2.73)</b>	<b>3.66 (2.73)</b>	<b>3.66 (2.73)</b>	<b>3.66 (2.73)</b>	—	—	<b>3.41 (2.54)</b>	<b>3.50 (2.61)</b>	<b>3.50 (2.61)</b>	<b>2.96 (2.21)</b>	<b>2.57 (1.92)</b>	
Output Torque in-lbs (N·m)	2565 (290)	3120 (353)	3415 (386)	3910 (442)	4270 (483)	5130 (580)	—	—	6370 (720)	8230 (930)	9025 (1020)	9025 (1020)	9025 (1020)	
Hollow Shaft OHL lbs (N)	4425 (19700)	4630 (20600)	4740 (21100)	4875 (21700)	4965 (22100)	5170 (23000)	—	—	5395 (24000)	4810 (21400)	4515 (20100)	4515 (20100)	4515 (20100)	
Solid Shaft OHL lbs (N)	3560 (15830)	3860 (17160)	3990 (17740)	4210 (18720)	4400 (19570)	4530 (20140)	—	—	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.14 (3.09)</b>	—	—	<b>4.76 (3.55)</b>	<b>4.21 (3.14)</b>	<b>4.21 (3.14)</b>	<b>3.57 (2.66)</b>	<b>3.08 (2.30)</b>	<b>4A110</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	5810 (657)	—	—	8935 (1010)	9910 (1120)	10795 (1220)	10795 (1220)	10795 (1220)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5080 (22600)	—	—	4560 (20300)	4090 (18200)	3550 (15800)	3550 (15800)	3550 (15800)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4530 (20140)	—	—	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.14 (3.09)</b>	—	—	<b>5.26 (3.92)</b>	<b>4.85 (3.62)</b>	<b>4.44 (3.31)</b>	<b>3.75 (2.80)</b>	<b>3.26 (2.43)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	5810 (657)	—	—	9820 (1110)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5080 (22600)	—	—	4135 (18400)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4530 (20140)	—	—	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>11.8 (8.79)</b>	<b>11.0 (8.21)</b>	<b>11.0 (8.21)</b>	<b>10.4 (7.78)</b>	<b>9.76 (7.28)</b>	<b>7.83 (5.84)</b>	<b>7.28 (5.43)</b>	<b>6.97 (5.20)</b>	<b>6.10 (4.55)</b>	<b>4.85 (3.62)</b>	<b>4.44 (3.31)</b>	<b>3.75 (2.80)</b>	<b>3.26 (2.43)</b>	<b>4A120</b>
Output Torque in-lbs (N·m)	8265 (934)	9380 (1060)	10265 (1160)	11150 (1260)	11415 (1290)	10970 (1240)	10885 (1230)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3640 (16200)	3750 (16700)	3795 (16900)	3325 (14800)	3120 (13900)	3435 (15300)	3505 (15600)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3560 (15830)	3860 (17160)	3990 (17740)	4210 (18720)	4400 (19570)	4530 (20140)	4540 (20190)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>11.8 (8.79)</b>	<b>11.0 (8.21)</b>	<b>11.0 (8.21)</b>	<b>10.4 (7.78)</b>	<b>9.76 (7.28)</b>	<b>7.83 (5.84)</b>	<b>7.28 (5.43)</b>	<b>6.97 (5.20)</b>	<b>6.10 (4.55)</b>	<b>4.85 (3.62)</b>	<b>4.44 (3.31)</b>	<b>3.75 (2.80)</b>	<b>3.26 (2.43)</b>	
Output Torque in-lbs (N·m)	8265 (934)	9380 (1060)	10265 (1160)	11150 (1260)	11415 (1290)	10970 (1240)	10885 (1230)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3640 (16200)	3750 (16700)	3795 (16900)	3325 (14800)	3120 (13900)	3435 (15300)	3505 (15600)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3560 (15830)	3860 (17160)	3990 (17740)	4210 (18720)	4400 (19570)	4530 (20140)	4540 (20190)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

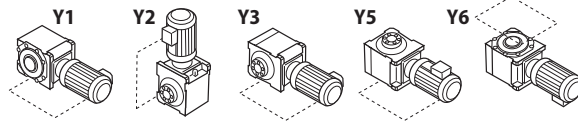
Output RPM	14.5	13.0	11.8	10.9	9.89	8.53	7.77	7.07	5.76	4.86	4.20	3.49	2.85	2.09	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>1.89 (1.41)</b>	<b>1.53 (1.14)</b>	<b>1.53 (1.14)</b>	<b>1.29 (0.959)</b>	<b>1.29 (0.959)</b>	<b>1.11 (0.827)</b>	<b>0.92 (0.685)</b>	<b>0.92 (0.685)</b>	<b>0.750 (0.558)</b>	<b>0.630 (0.47)</b>	<b>0.544 (0.406)</b>	<b>0.453 (0.338)</b>	<b>0.370 (0.276)</b>	<b>0.270 (0.201)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	7510 (849)	6865 (776)	7510 (849)	6865 (776)	7510 (849)	7510 (849)	6865 (776)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	
Hollow Shaft OHL lbs (N)	5055 (22500)	5260 (23400)	5055 (22500)	5260 (23400)	5055 (22500)	5055 (22500)	5260 (23400)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>2.27 (1.69)</b>	<b>1.84 (1.37)</b>	<b>1.84 (1.37)</b>	<b>1.54 (1.15)</b>	<b>1.54 (1.15)</b>	<b>1.33 (0.992)</b>	<b>1.10 (0.822)</b>	<b>1.10 (0.822)</b>	<b>0.900 (0.669)</b>	<b>0.748 (0.558)</b>	<b>0.645 (0.481)</b>	<b>0.479 (0.357)</b>	<b>0.444 (0.331)</b>	<b>0.279 (0.208)</b>	
Output Torque in-lbs (N·m)	9025 (1020)	8245 (932)	9025 (1020)	8245 (932)	9025 (1020)	9025 (1020)	8245 (932)	9025 (1020)	9025 (1020)	8935 (1010)	8935 (1010)	7935 (897)	9025 (1020)	7765 (878)	
Hollow Shaft OHL lbs (N)	4515 (20100)	4810 (21400)	4515 (20100)	4810 (21400)	4515 (20100)	4515 (20100)	4810 (21400)	4515 (20100)	4515 (20100)	4540 (20200)	4560 (20300)	4920 (21900)	4515 (20100)	4990 (22200)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>2.72 (2.03)</b>	<b>2.20 (1.64)</b>	<b>2.20 (1.64)</b>	<b>1.85 (1.38)</b>	<b>1.85 (1.38)</b>	<b>1.60 (1.19)</b>	<b>1.32 (0.986)</b>	<b>1.32 (0.986)</b>	<b>1.08 (0.803)</b>	<b>0.910 (0.677)</b>	<b>0.780 (0.585)</b>	<b>0.652 (0.486)</b>	<b>0.532 (0.397)</b>	—	<b>4A110</b>
Output Torque in-lbs (N·m)	10795 (1220)	9910 (1120)	10795 (1220)	9910 (1120)	10795 (1220)	9910 (1120)	10795 (1220)	9910 (1120)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	—	
Hollow Shaft OHL lbs (N)	3550 (15800)	4090 (18200)	3550 (15800)	4090 (18200)	3550 (15800)	3550 (15800)	4090 (18200)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>2.87 (2.14)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>2.13 (1.59)</b>	<b>1.96 (1.46)</b>	<b>1.69 (1.26)</b>	<b>1.53 (1.14)</b>	<b>1.39 (1.04)</b>	<b>1.14 (0.847)</b>	<b>0.960 (0.714)</b>	<b>0.830 (0.617)</b>	<b>0.690 (0.513)</b>	<b>0.562 (0.419)</b>	—	
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>2.87 (2.14)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>2.13 (1.59)</b>	<b>1.96 (1.46)</b>	<b>1.69 (1.26)</b>	<b>1.53 (1.14)</b>	<b>1.39 (1.04)</b>	<b>1.14 (0.847)</b>	<b>0.960 (0.714)</b>	<b>0.830 (0.617)</b>	<b>0.690 (0.513)</b>	<b>0.562 (0.419)</b>	—	<b>4A120</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>2.87 (2.14)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>2.13 (1.59)</b>	<b>1.96 (1.46)</b>	<b>1.69 (1.26)</b>	<b>1.53 (1.14)</b>	<b>1.39 (1.04)</b>	<b>1.14 (0.847)</b>	<b>0.960 (0.714)</b>	<b>0.830 (0.617)</b>	<b>0.690 (0.513)</b>	<b>0.562 (0.419)</b>	—	
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20		



# Frame Size Selection Tables 870 RPM

# Frame Size Selection Tables 870 RPM

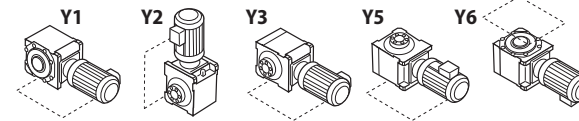
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	79.1	66.9	62.1	54.4	48.3	41.4	39.5	34.8	31.1	24.9	22.3	18.9	16.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>16.2 (12.1)</b>	<b>13.4 (9.96)</b>	<b>12.2 (9.10)</b>	<b>10.7 (7.97)</b>	<b>9.76 (7.28)</b>	<b>8.14 (6.07)</b>	<b>7.63 (5.69)</b>	<b>6.97 (5.20)</b>	<b>6.10 (4.55)</b>	<b>4.85 (3.62)</b>	<b>4.44 (3.31)</b>	<b>3.75 (2.80)</b>	<b>3.26 (2.43)</b>	<b>4A140</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3560 (15830)	3860 (17160)	3990 (17740)	4210 (18720)	4400 (19570)	4530 (20140)	4540 (20190)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>16.2 (12.1)</b>	<b>13.4 (9.96)</b>	<b>12.2 (9.10)</b>	<b>10.7 (7.97)</b>	<b>9.76 (7.28)</b>	<b>8.14 (6.07)</b>	<b>7.63 (5.69)</b>	<b>6.97 (5.20)</b>	<b>6.10 (4.55)</b>	<b>4.85 (3.62)</b>	<b>4.44 (3.31)</b>	<b>3.75 (2.80)</b>	<b>3.26 (2.43)</b>	<b>4A145</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3560 (15830)	3860 (17160)	3990 (17740)	4210 (18720)	4400 (19570)	4530 (20140)	4540 (20190)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>11.8 (8.79)</b>	<b>11.0 (8.21)</b>	<b>11.0 (8.21)</b>	<b>10.4 (7.78)</b>	<b>10.4 (7.78)</b>	<b>7.83 (5.84)</b>	<b>7.28 (5.43)</b>	<b>7.28 (5.43)</b>	<b>7.31 (5.45)</b>	<b>6.14 (4.58)</b>	<b>6.14 (4.58)</b>	<b>5.19 (3.87)</b>	<b>4.51 (3.36)</b>	<b>4B120</b>
Output Torque in-lbs (N·m)	8265 (934)	9380 (1060)	10265 (1160)	11150 (1260)	12210 (1380)	10970 (1240)	10885 (1230)	11945 (1350)	13715 (1550)	14420 (1630)	15750 (1780)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	5550 (24700)	5800 (25800)	5910 (26300)	6090 (27100)	6180 (27500)	6740 (30000)	6900 (30700)	7010 (31200)	7170 (31900)	7685 (34200)	7800 (34700)	8250 (36700)	8250 (36700)	
Solid Shaft OHL lbs (N)	3780 (16810)	4170 (18540)	4330 (19250)	4660 (20720)	4940 (21970)	5360 (23840)	5490 (24410)	5810 (25840)	6140 (27310)	6790 (30200)	7070 (31440)	7350 (32690)	7430 (33040)	
<b>Input Power HP (kW)</b>	<b>11.8 (8.79)</b>	<b>11.0 (8.21)</b>	<b>11.0 (8.21)</b>	<b>10.4 (7.78)</b>	<b>10.4 (7.78)</b>	<b>7.83 (5.84)</b>	<b>7.28 (5.43)</b>	<b>7.28 (5.43)</b>	<b>7.31 (5.45)</b>	<b>6.34 (4.73)</b>	<b>6.34 (4.73)</b>	<b>5.73 (4.27)</b>	<b>5.40 (4.03)</b>	<b>4B125</b>
Output Torque in-lbs (N·m)	8265 (934)	9380 (1060)	10265 (1160)	11150 (1260)	12210 (1380)	10970 (1240)	10885 (1230)	11945 (1350)	13715 (1550)	14865 (1680)	16280 (1840)	17430 (1970)	18935 (2140)	
Hollow Shaft OHL lbs (N)	5550 (24700)	5800 (25800)	5910 (26300)	6090 (27100)	6180 (27500)	6740 (30000)	6900 (30700)	7010 (31200)	7170 (31900)	7640 (34000)	7755 (34500)	7800 (34700)	7325 (32600)	
Solid Shaft OHL lbs (N)	3780 (16810)	4170 (18540)	4330 (19250)	4660 (20720)	4940 (21970)	5360 (23840)	5490 (24410)	5810 (25840)	6140 (27310)	6790 (30200)	7070 (31440)	7350 (32690)	7430 (33040)	
<b>Input Power HP (kW)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>15.0 (11.2)</b>	<b>15.2 (11.3)</b>	<b>13.9 (10.4)</b>	<b>12.2 (9.07)</b>	<b>9.67 (7.21)</b>	<b>8.85 (6.60)</b>	<b>7.48 (5.58)</b>	<b>6.49 (4.84)</b>	<b>4B140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	20970 (2370)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5035 (22400)	5125 (22800)	5145 (22900)	5170 (23000)	5170 (23000)	5665 (25200)	5620 (25000)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3780 (16810)	4170 (18540)	4330 (19250)	4660 (20720)	4940 (21970)	5360 (23840)	5490 (24410)	5810 (25840)	6140 (27310)	6790 (30200)	7070 (31440)	7350 (32690)	7430 (33040)	
<b>Input Power HP (kW)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>15.0 (11.2)</b>	<b>15.2 (11.3)</b>	<b>13.9 (10.4)</b>	<b>12.2 (9.07)</b>	<b>9.67 (7.21)</b>	<b>8.85 (6.60)</b>	<b>7.48 (5.58)</b>	<b>6.49 (4.84)</b>	<b>4B145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	20970 (2370)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5035 (22400)	5125 (22800)	5145 (22900)	5170 (23000)	5170 (23000)	5665 (25200)	5620 (25000)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3780 (16810)	4170 (18540)	4330 (19250)	4660 (20720)	4940 (21970)	5360 (23840)	5490 (24410)	5810 (25840)	6140 (27310)	6790 (30200)	7070 (31440)	7350 (32690)	7430 (33040)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



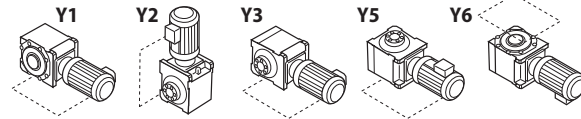
Dimensions on pages 2.156 - 2.166

Output RPM	14.5	13.0	11.8	10.9	9.89	8.53	7.77	7.07	5.76	4.86	4.20	3.49	2.85	2.09	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>2.87 (2.14)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>2.13 (1.59)</b>	<b>1.96 (1.46)</b>	<b>1.69 (1.26)</b>	<b>1.53 (1.14)</b>	<b>1.39 (1.04)</b>	<b>1.14 (0.847)</b>	<b>0.957 (0.714)</b>	<b>0.827 (0.617)</b>	<b>0.688 (0.513)</b>	<b>0.562 (0.419)</b>	—	<b>4A140</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>2.87 (2.14)</b>	<b>2.55 (1.90)</b>	<b>2.32 (1.73)</b>	<b>2.13 (1.59)</b>	<b>1.96 (1.46)</b>	<b>1.69 (1.26)</b>	<b>1.53 (1.14)</b>	<b>1.39 (1.04)</b>	<b>1.14 (0.847)</b>	<b>0.957 (0.714)</b>	<b>0.827 (0.617)</b>	<b>0.688 (0.513)</b>	<b>0.562 (0.419)</b>	—	<b>4A145</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>3.93 (2.93)</b>	<b>3.19 (2.38)</b>	<b>3.19 (2.38)</b>	<b>2.70 (2.01)</b>	<b>2.70 (2.01)</b>	<b>2.31 (1.72)</b>	<b>1.93 (1.44)</b>	<b>1.93 (1.44)</b>	<b>1.57 (1.17)</b>	<b>1.32 (0.987)</b>	<b>1.14 (0.853)</b>	<b>0.951 (0.709)</b>	<b>0.776 (0.579)</b>	—	<b>4B120</b>
Output Torque in-lbs (N·m)	15660 (1770)	14335 (1620)	15660 (1770)	14420 (1630)	15750 (1780)	15660 (1770)	14420 (1630)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	8295 (36900)	8585 (38200)	8270 (36800)	8565 (38100)	8250 (36700)	8295 (36900)	8565 (38100)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	
Solid Shaft OHL lbs (N)	7490 (33310)	7530 (33490)	7576 (33690)	7600 (33800)	7610 (33840)	7480 (33270)	7400 (32910)	7330 (32600)	7190 (31980)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>4.76 (3.55)</b>	<b>3.86 (2.88)</b>	<b>3.86 (2.88)</b>	<b>3.25 (2.42)</b>	<b>3.25 (2.42)</b>	<b>2.79 (2.08)</b>	<b>2.32 (1.73)</b>	<b>2.32 (1.73)</b>	<b>1.88 (1.40)</b>	<b>1.58 (1.18)</b>	<b>1.37 (1.02)</b>	<b>1.03 (0.770)</b>	<b>0.931 (0.694)</b>	—	<b>4B125</b>
Output Torque in-lbs (N·m)	18935 (2140)	17345 (1960)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	17165 (1940)	18935 (2140)	18935 (2140)	
Hollow Shaft OHL lbs (N)	7325 (32600)	7845 (34900)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (35100)	7325 (32600)	7325 (32600)	
Solid Shaft OHL lbs (N)	7490 (33310)	7530 (33490)	7576 (33690)	7600 (33800)	7610 (33840)	7480 (33270)	7400 (32910)	7330 (32600)	7190 (31980)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>5.73 (4.27)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.45)</b>	<b>4.25 (3.17)</b>	<b>3.89 (2.90)</b>	<b>3.35 (2.50)</b>	<b>3.04 (2.27)</b>	<b>2.78 (2.07)</b>	<b>2.27 (1.69)</b>	<b>1.90 (1.42)</b>	<b>1.65 (1.23)</b>	<b>1.37 (1.02)</b>	<b>1.12 (0.834)</b>	—	<b>4B140</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7490 (33310)	7530 (33490)	7576 (33690)	7600 (33800)	7610 (33840)	7480 (33270)	7400 (32910)	7330 (32600)	7190 (31980)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>5.73 (4.27)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.45)</b>	<b>4.25 (3.17)</b>	<b>3.89 (2.90)</b>	<b>3.35 (2.50)</b>	<b>3.04 (2.27)</b>	<b>2.78 (2.07)</b>							

# Frame Size Selection Tables 870 RPM

# Frame Size Selection Tables 870 RPM

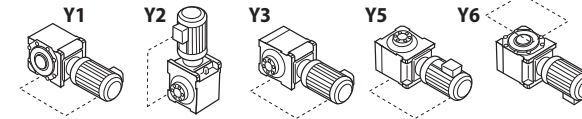
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	79.1	66.9	62.1	54.4	48.3	41.4	39.5	34.8	31.1	24.9	22.3	18.9	16.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>23.3 (17.4)</b>	<b>23.3 (17.4)</b>	<b>23.3 (17.4)</b>	<b>21.3 (15.9)</b>	<b>19.4 (14.5)</b>	<b>16.2 (12.1)</b>	<b>15.2 (11.3)</b>	<b>13.9 (10.4)</b>	<b>12.2 (9.07)</b>	<b>9.67 (7.21)</b>	<b>8.85 (6.60)</b>	<b>7.48 (5.58)</b>	<b>6.49 (4.84)</b>	<b>4B160</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4675 (20800)	4650 (20700)	4675 (20800)	4830 (21500)	5055 (22500)	5460 (24300)	5620 (25000)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3780 (16810)	4170 (18540)	4330 (19250)	4660 (20720)	4940 (21970)	5360 (23840)	5490 (24410)	5810 (25840)	6140 (27310)	6790 (30200)	7070 (31440)	7350 (32690)	7430 (33040)	
<b>Input Power HP (kW)</b>	<b>23.3 (17.4)</b>	<b>23.3 (17.4)</b>	<b>23.3 (17.4)</b>	<b>21.3 (15.9)</b>	<b>19.4 (14.5)</b>	<b>16.2 (12.1)</b>	<b>15.2 (11.3)</b>	<b>13.9 (10.4)</b>	<b>12.2 (9.07)</b>	<b>9.67 (7.21)</b>	<b>8.85 (6.60)</b>	<b>7.48 (5.58)</b>	<b>6.49 (4.84)</b>	<b>4B165</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	4675 (20800)	4650 (20700)	4675 (20800)	4830 (21500)	5055 (22500)	5460 (24300)	5620 (25000)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	3780 (16810)	4170 (18540)	4330 (19250)	4660 (20720)	4940 (21970)	5360 (23840)	5490 (24410)	5810 (25840)	6140 (27310)	6790 (30200)	7070 (31440)	7350 (32690)	7430 (33040)	
<b>Input Power HP (kW)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>15.0 (11.2)</b>	<b>16.5 (12.3)</b>	<b>16.5 (12.3)</b>	<b>14.2 (10.6)</b>	<b>14.3 (10.7)</b>	<b>14.3 (10.7)</b>	<b>12.1 (9.04)</b>	<b>10.5 (7.83)</b>	<b>4C140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	20970 (2370)	24600 (2780)	26900 (3040)	26635 (3010)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	7620 (33900)	7890 (35100)	8000 (35600)	8160 (36300)	8270 (36800)	8900 (39600)	8745 (38900)	8855 (39400)	9350 (41600)	9505 (42300)	9575 (42600)	10250 (45600)	10855 (48300)	
Solid Shaft OHL lbs (N)	4960 (22060)	5500 (24460)	5740 (25530)	6190 (27530)	6580 (29260)	7170 (31890)	7350 (32690)	7810 (34730)	8260 (36740)	9300 (41360)	9750 (43360)	10450 (46480)	11120 (49460)	
<b>Input Power HP (kW)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>18.5 (13.8)</b>	<b>15.0 (11.2)</b>	<b>16.5 (12.3)</b>	<b>16.5 (12.3)</b>	<b>14.2 (10.6)</b>	<b>14.8 (11.0)</b>	<b>14.8 (11.0)</b>	<b>13.5 (10.1)</b>	<b>11.6 (8.68)</b>	<b>4C145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	20970 (2370)	24600 (2780)	26900 (3040)	26635 (3010)	34690 (3920)	37960 (4290)	41150 (4650)	40795 (4610)	
Hollow Shaft OHL lbs (N)	7620 (33900)	7890 (35100)	8000 (35600)	8160 (36300)	8270 (36800)	8900 (39600)	8745 (38900)	8855 (39400)	9350 (41600)	9395 (41800)	9460 (42100)	9845 (43800)	10475 (46600)	
Solid Shaft OHL lbs (N)	4960 (22060)	5500 (24460)	5740 (25530)	6190 (27530)	6580 (29260)	7170 (31890)	7350 (32690)	7810 (34730)	8260 (36740)	9300 (41360)	9750 (43360)	10450 (46480)	11120 (49460)	
<b>Input Power HP (kW)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>28.4 (21.2)</b>	<b>27.2 (20.3)</b>	<b>27.2 (20.3)</b>	<b>24.3 (18.1)</b>	<b>19.3 (14.4)</b>	<b>17.7 (13.2)</b>	<b>15.0 (11.2)</b>	<b>13.0 (9.67)</b>	<b>4C160</b>
Output Torque in-lbs (N·m)	23805 (2690)	29025 (3280)	31680 (3580)	36280 (4100)	39645 (4480)	39820 (4500)	40705 (4600)	44510 (5030)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6585 (29300)	6630 (29500)	6630 (29500)	6585 (29300)	6560 (29200)	7125 (31700)	7215 (32100)	7190 (32000)	7575 (33700)	8385 (37300)	8745 (38900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	4960 (22060)	5500 (24460)	5740 (25530)	6190 (27530)	6580 (29260)	7170 (31890)	7350 (32690)	7810 (34730)	8260 (36740)	9300 (41360)	9750 (43360)	10450 (46480)	11120 (49460)	
<b>Input Power HP (kW)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>40.2 (30.0)</b>	<b>37.7 (28.1)</b>	<b>37.7 (28.1)</b>	<b>28.4 (21.2)</b>	<b>29.0 (21.6)</b>	<b>27.8 (20.7)</b>	<b>24.3 (18.1)</b>	<b>19.3 (14.4)</b>	<b>17.7 (13.2)</b>	<b>15.0 (11.2)</b>	<b>13.0 (9.67)</b>	<b>4C165</b>
Output Torque in-lbs (N·m)	28230 (3190)	34420 (3890)	37610 (4250)	40265 (4550)	44070 (4980)	39820 (4500)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6180 (27500)	6110 (27200)	6090 (27100)	6180 (27500)	6135 (27300)	7125 (31700)	6965 (31000)	7100 (31600)	7575 (33700)	8385 (37300)	8745 (38900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	4960 (22060)	5500 (24460)	5740 (25530)	6190 (27530)	6580 (29260)	7170 (31890)	7350 (32690)	7810 (34730)	8260 (36740)	9300 (41360)	9750 (43360)	10450 (46480)	11120 (49460)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	14.5	13.0	11.8	10.9	9.89	8.53	7.77	7.07	5.76	4.86	4.20	3.49	2.85	2.09	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>5.73 (4.27)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.45)</b>	<b>4.25 (3.17)</b>	<b>3.89 (2.90)</b>	<b>3.35 (2.50)</b>	<b>3.04 (2.27)</b>	<b>2.78 (2.07)</b>	<b>2.27 (1.69)</b>	<b>1.90 (1.42)</b>	<b>1.65 (1.23)</b>	<b>1.37 (1.02)</b>	<b>1.12 (0.834)</b>	—	<b>4B160</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7490 (33310)	7530 (33490)	7576 (33690)	7600 (33800)	7610 (33840)	7480 (33270)	7400 (32910)	7330 (32600)	7190 (31980)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>5.73 (4.27)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.45)</b>	<b>4.25 (3.17)</b>	<b>3.89 (2.90)</b>	<b>3.35 (2.50)</b>	<b>3.04 (2.27)</b>	<b>2.78 (2.07)</b>	<b>2.27 (1.69)</b>	<b>1.90 (1.42)</b>	<b>1.65 (1.23)</b>	<b>1.37 (1.02)</b>	<b>1.12 (0.834)</b>	—	<b>4B165</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7490 (33310)	7530 (33490)	7576 (33690)	7600 (33800)	7610 (33840)	7480 (33270)	7400 (32910)	7330 (32600)	7190 (31980)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>9.27 (6.91)</b>	<b>7.50 (5.59)</b>	<b>7.50 (5.59)</b>	<b>6.30 (4.70)</b>	<b>6.30 (4.70)</b>	<b>5.43 (4.05)</b>	<b>4.51 (3.36)</b>	<b>4.51 (3.36)</b>	<b>3.66 (2.73)</b>	<b>3.08 (2.30)</b>	<b>2.67 (1.99)</b>	<b>2.21 (1.65)</b>	<b>1.81 (1.35)</b>	—	<b>4C140</b>
Output Torque in-lbs (N·m)	36810 (4160)	33625 (3800)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	11395 (50700)	12225 (54400)	12160 (54100)	12900 (57400)	12160 (54100)	12160 (54100)	12900 (57400)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	
Solid Shaft OHL lbs (N)	11630 (51730)	12040 (53550)	12360 (54970)	12600 (56040)	12830 (57060)	12750 (56710)	12710 (56530)	12670 (56350)	12590 (56000)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>10.4 (7.72)</b>	<b>8.19 (6.11)</b>	<b>8.19 (6.11)</b>	<b>7.05 (5.26)</b>	<b>7.05 (5.26)</b>	<b>6.07 (4.53)</b>	<b>5.03 (3.75)</b>	<b>5.03 (3.75)</b>	<b>4.10 (3.06)</b>	<b>3.35 (2.50)</b>	<b>2.88 (2.15)</b>	<b>2.37 (1.77)</b>	<b>1.85 (1.38)</b>	—	<b>4C145</b>
Output Torque in-lbs (N·m)	41150 (4650)	36810 (4160)	40265 (4550)	37610 (4250)	41150 (4650)	41150 (4650)	37610 (4250)	41150 (4650)	41150 (4650)	40000 (4520)	39820 (4500)	39465 (4460)	37520 (4240)	—	
Hollow Shaft OHL lbs (N)	10945 (48700)	11935 (53100)	11240 (50000)	11955 (53200)	10945 (48700)	10945 (48700)	11955 (53200)	10945 (48700)	10945 (48700)	11285 (50200)	11350 (50500)	11440 (50900)	11980 (53300)	—	
Solid Shaft OHL lbs (N)	11630 (51730)	12040 (53550)	12360 (54970)	12600 (56040)	12830 (57060)	12750 (56710)	12710 (56530)	12670 (56350)	12590 (56000)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	<b>11.5 (8.54)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>8.52 (6.35)</b>	<b>7.78 (5.80)</b>	<b>6.71 (4.53)</b>	<b>6.07 (4.53)</b>	<b>5.57 (4.15)</b>	<b>4.52 (3.37)</b>	<b>3.82 (2.85)</b>	<b>3.30 (2.46)</b>	<b>2.74 (2.04)</b>	<b>2.24 (1.67)</b>	—	<b>4C160</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	—	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	—	
Solid Shaft OHL lbs (N)	11630 (51730)	12040 (53550)	12360 (54970)	12600 (56040)	12830 (57060)	12750 (56710)	12710 (56530)	12670 (56350)	12590 (56000)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	<b>11.5 (8.54)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>8.52 (6.35)</b>	<b>7.78 (5.80)</b>	<b>6.71 (4.53)</b>	<b>6.07 (4.53)</b>	<b>5.57 (4.15)</b>							

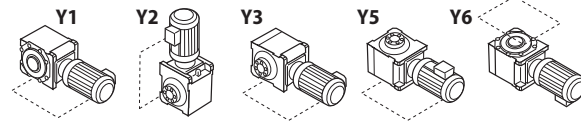




# Frame Size Selection Tables 870 RPM

# Frame Size Selection Tables 870 RPM

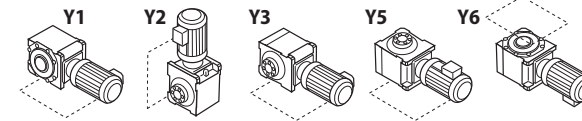
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	79.1	66.9	62.1	54.4	48.3	41.4	39.5	34.8	31.1	24.9	22.3	18.9	16.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>61.8 (46.1)</b>	<b>50.2 (37.4)</b>	<b>44.5 (33.2)</b>	<b>44.5 (33.2)</b>	<b>39.6 (29.5)</b>	<b>32.9 (24.5)</b>	<b>30.0 (22.4)</b>	<b>25.3 (18.9)</b>	<b>22.0 (16.4)</b>	<b>4D180</b>
Output Torque in-lbs (N-m)	46635 (5270)	56900 (6430)	62220 (7030)	71070 (8030)	72310 (8170)	70360 (7950)	66635 (7530)	72840 (8230)	73990 (8360)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	9015 (40100)	8970 (39900)	8925 (39700)	8765 (39000)	9080 (40400)	10070 (44800)	10655 (47400)	10610 (47200)	11170 (49700)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	7060 (31400)	7840 (34870)	8170 (36340)	8830 (39270)	9400 (41810)	10240 (45540)	10500 (46700)	11160 (49630)	11820 (52570)	13330 (59290)	13980 (62180)	14800 (65830)	15330 (68180)	
<b>Input Power HP (kW)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>61.8 (46.1)</b>	<b>51.0 (38.0)</b>	<b>45.2 (33.7)</b>	<b>45.2 (33.7)</b>	<b>40.2 (30.0)</b>	<b>32.9 (24.5)</b>	<b>30.0 (22.4)</b>	<b>25.3 (18.9)</b>	<b>22.0 (16.4)</b>	
Output Torque in-lbs (N-m)	46635 (5270)	56900 (6430)	62220 (7030)	71070 (8030)	72310 (8170)	71510 (8080)	67620 (7640)	73990 (8360)	75230 (8500)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	9015 (40100)	8970 (39900)	8925 (39700)	8765 (39000)	9080 (40400)	9980 (44400)	10585 (47100)	10520 (46800)	11080 (49300)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	7060 (31400)	7840 (34870)	8170 (36340)	8830 (39270)	9400 (41810)	10240 (45540)	10500 (46700)	11160 (49630)	11820 (52570)	13330 (59290)	13980 (62180)	14800 (65830)	15330 (68180)	
<b>Input Power HP (kW)</b>	<b>50.2 (37.4)</b>	<b>50.2 (37.4)</b>	<b>50.2 (37.4)</b>	<b>50.2 (37.4)</b>	<b>50.2 (37.4)</b>	<b>39.8 (29.7)</b>	<b>45.5 (33.9)</b>	<b>45.5 (33.9)</b>	<b>40.6 (30.3)</b>	<b>29.6 (22.1)</b>	<b>29.6 (22.1)</b>	<b>24.9 (18.6)</b>	<b>21.7 (16.2)</b>	<b>4E170</b>
Output Torque in-lbs (N-m)	35130 (3970)	42920 (4850)	46900 (5300)	53625 (6060)	58580 (6620)	55840 (6310)	68050 (7690)	74425 (8410)	76015 (8590)	69555 (7860)	76015 (8590)	75925 (8580)	76015 (8590)	
Hollow Shaft OHL lbs (N)	13825 (61500)	14250 (63400)	14430 (64200)	14680 (65300)	14815 (65900)	16095 (71600)	15555 (69200)	15690 (69800)	16430 (73100)	18430 (82000)	18635 (82900)	19870 (88400)	19940 (88700)	
Solid Shaft OHL lbs (N)	10510 (46740)	11500 (51150)	11920 (53020)	12780 (56840)	13530 (60180)	14630 (65070)	14950 (66490)	15790 (70230)	16660 (74100)	18610 (82770)	19450 (86510)	20370 (90600)	20710 (92110)	
<b>Input Power HP (kW)</b>	<b>50.2 (37.4)</b>	<b>50.2 (37.4)</b>	<b>50.2 (37.4)</b>	<b>50.2 (37.4)</b>	<b>50.2 (37.4)</b>	<b>39.8 (29.7)</b>	<b>49.6 (37.0)</b>	<b>49.6 (37.0)</b>	<b>41.8 (31.2)</b>	<b>36.9 (27.5)</b>	<b>33.8 (25.2)</b>	<b>28.6 (21.3)</b>	<b>24.8 (18.5)</b>	
Output Torque in-lbs (N-m)	35130 (3970)	42920 (4850)	46900 (5300)	53625 (6060)	58580 (6620)	55840 (6310)	74245 (8390)	81150 (9170)	78230 (8840)	86545 (9780)	86990 (9830)	86990 (9830)	86990 (9830)	
Hollow Shaft OHL lbs (N)	13825 (61500)	14250 (63400)	14430 (64200)	14680 (65300)	14815 (65900)	16095 (71600)	15080 (67100)	15170 (67500)	16250 (72300)	17175 (76400)	17825 (79300)	19060 (84800)	19400 (86300)	
Solid Shaft OHL lbs (N)	10510 (46740)	11500 (51150)	11920 (53020)	12780 (56840)	13530 (60180)	14630 (65070)	14950 (66490)	15790 (70230)	16660 (74100)	18610 (82770)	19450 (86510)	20370 (90600)	20710 (92110)	
<b>Input Power HP (kW)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>50.2 (37.4)</b>	<b>44.5 (33.2)</b>	<b>44.5 (33.2)</b>	<b>39.6 (29.5)</b>	<b>43.7 (32.6)</b>	<b>40.0 (29.8)</b>	<b>33.8 (25.2)</b>	<b>29.2 (21.8)</b>	<b>4E180</b>
Output Torque in-lbs (N-m)	46635 (5270)	56900 (6430)	62210 (7030)	71060 (8030)	77695 (8780)	70350 (7950)	66635 (7530)	72830 (8230)	73980 (8360)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	12970 (57700)	13215 (58800)	13305 (59200)	13375 (59500)	13400 (59600)	15015 (66800)	15690 (69800)	15780 (70200)	16565 (73700)	16025 (71300)	16680 (74200)	17915 (79700)	18430 (82000)	
Solid Shaft OHL lbs (N)	10510 (46740)	11500 (51150)	11920 (53020)	12780 (56840)	13530 (60180)	14630 (65070)	14950 (66490)	15790 (70230)	16660 (74100)	18610 (82770)	19450 (86510)	20370 (90600)	20710 (92110)	
<b>Input Power HP (kW)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>51.0 (38.0)</b>	<b>45.2 (33.7)</b>	<b>45.2 (33.7)</b>	<b>40.2 (30.0)</b>	<b>43.7 (32.6)</b>	<b>40.0 (29.8)</b>	<b>33.8 (25.2)</b>	<b>29.2 (21.8)</b>	
Output Torque in-lbs (N-m)	46635 (5270)	56900 (6430)	62210 (7030)	71060 (8030)	77695 (8780)	71500 (8080)	67610 (7640)	73980 (8360)	75220 (8500)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	12970 (57700)	13215 (58800)	13305 (59200)	13375 (59500)	13400 (59600)	14950 (66500)	15600 (69400)	15710 (69900)	16475 (73300)	16025 (71300)	16680 (74200)	17915 (79700)	18430 (82000)	
Solid Shaft OHL lbs (N)	10510 (46740)	11500 (51150)	11920 (53020)	12780 (56840)	13530 (60180)	14630 (65070)	14950 (66490)	15790 (70230)	16660 (74100)	18610 (82770)	19450 (86510)	20370 (90600)	20710 (92110)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



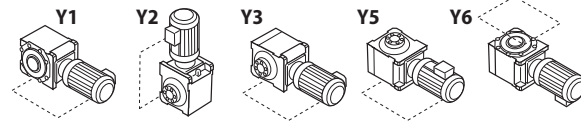
Dimensions on pages 2.156 - 2.166

Output RPM	14.5	13.0	11.8	10.9	9.89	8.53	7.77	7.07	5.76	4.86	4.20	3.49	2.85	2.09	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>19.4 (14.5)</b>	<b>17.2 (12.8)</b>	<b>15.7 (11.7)</b>	<b>14.5 (10.8)</b>	<b>13.2 (9.85)</b>	<b>11.4 (8.49)</b>	<b>10.3 (7.69)</b>	<b>9.43 (7.03)</b>	<b>7.67 (5.72)</b>	<b>6.48 (4.83)</b>	<b>5.59 (4.17)</b>	<b>4.65 (3.47)</b>	<b>3.80 (2.83)</b>	—	<b>4D180</b>
Output Torque in-lbs (N-m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	15740 (70010)	16060 (71430)	16320 (72590)	16510 (73430)	16690 (74230)	16660 (74100)	16640 (74010)	16620 (73920)	16590 (73790)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>19.4 (14.5)</b>	<b>17.2 (12.8)</b>	<b>15.7 (11.7)</b>	<b>14.5 (10.8)</b>	<b>13.2 (9.85)</b>	<b>11.4 (8.49)</b>	<b>10.3 (7.69)</b>	<b>9.43 (7.03)</b>	<b>7.67 (5.72)</b>	<b>6.48 (4.83)</b>	<b>5.59 (4.17)</b>	<b>4.65 (3.47)</b>	<b>3.80 (2.83)</b>	—	
Output Torque in-lbs (N-m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	15740 (70010)	16060 (71430)	16320 (72590)	16510 (73430)	16690 (74230)	16660 (74100)	16640 (74010)	16620 (73920)	16590 (73790)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>19.2 (14.3)</b>	<b>15.6 (11.6)</b>	<b>15.6 (11.6)</b>	<b>13.0 (9.70)</b>	<b>13.0 (9.70)</b>	<b>11.2 (8.37)</b>	<b>9.29 (6.93)</b>	<b>9.29 (6.93)</b>	<b>7.56 (5.64)</b>	<b>6.38 (4.76)</b>	<b>5.51 (4.11)</b>	<b>4.59 (3.42)</b>	<b>3.74 (2.79)</b>	—	<b>4E170</b>
Output Torque in-lbs (N-m)	76015 (8590)	69555 (7860)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	
Hollow Shaft OHL lbs (N)	19940 (88700)	20275 (90200)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	
Solid Shaft OHL lbs (N)	20980 (93310)	21190 (94250)	21360 (95000)	21480 (95540)	21610 (96120)	21700 (96520)	21740 (96690)	21790 (96920)	21870 (97270)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>21.9 (16.3)</b>	<b>19.3 (14.4)</b>	<b>17.7 (13.2)</b>	<b>16.2 (12.1)</b>	<b>14.9 (11.1)</b>	<b>12.8 (9.57)</b>	<b>11.6 (8.63)</b>	<b>11.6 (8.63)</b>	<b>9.41 (7.02)</b>	<b>7.94 (5.92)</b>	<b>6.87 (5.12)</b>	<b>5.70 (4.25)</b>	<b>4.65 (3.47)</b>	—	
Output Torque in-lbs (N-m)	86990 (9830)	86545 (9780)	86990 (9830)	86545 (9780)	86990 (9830)	86990 (9830)	86545 (9780)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	19400 (86300)	19420 (86400)	19400 (86300)	19420 (86400)	19400 (86300)	19400 (86300)	19420 (86400)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	20980 (93310)	21190 (94250)	21360 (95000)	21480 (95540)	21610 (96120)	21700 (96520)	21740 (96690)	21790 (96920)	21870 (97270)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>25.9 (19.3)</b>	<b>22.9 (17.1)</b>	<b>20.9 (15.6)</b>	<b>19.2 (14.3)</b>	<b>17.6 (13.1)</b>	<b>15.2 (11.3)</b>	<b>13.7 (10.2)</b>	<b>12.6 (9.36)</b>	<b>10.2 (7.62)</b>	<b>8.61 (6.42)</b>	<b>7.44 (5.55)</b>	<b>6.18 (4.61)</b>	<b>5.04 (3.76)</b>	—	<b>4E180</b>
Output Torque in-lbs (N-m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	20980 (93310)	21190 (94250)	21360 (95000)	21480 (95540)	21610 (96120)	21700 (96520)	21740 (96690)								

# Frame Size Selection Tables 870 RPM

# Frame Size Selection Tables 870 RPM

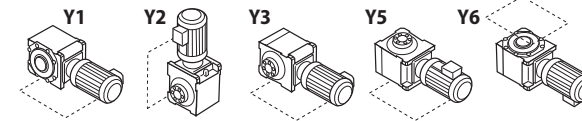
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	79.1	66.9	62.1	54.4	48.3	41.4	39.5	34.8	31.1	24.9	22.3	18.9	16.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>88.9 (66.3)</b>	<b>81.9 (61.1)</b>	<b>62.6 (46.7)</b>	<b>55.4 (41.3)</b>	<b>55.4 (41.3)</b>	<b>49.2 (36.7)</b>	<b>43.7 (32.6)</b>	<b>40.0 (29.8)</b>	<b>33.8 (25.2)</b>	<b>29.2 (21.8)</b>	<b>4E190</b>
Output Torque in-lbs (N·m)	64335 (7270)	78418 (8860)	85764 (9690)	94703 (10700)	95588 (10800)	87888 (9930)	82830 (9360)	90278 (10200)	92048 (10400)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	11655 (51900)	11645 (51800)	11575 (51500)	11620 (51700)	12095 (53800)	13735 (61100)	14500 (64500)	14500 (64500)	15265 (67900)	16025 (71300)	16680 (74200)	17915 (79700)	18430 (82000)	
Solid Shaft OHL lbs (N)	10510 (46740)	11500 (51150)	11920 (53020)	12780 (56840)	13530 (60180)	14630 (65070)	14950 (66490)	15790 (70230)	16660 (74100)	18610 (82770)	19450 (86510)	20370 (90600)	20710 (92110)	
<b>Input Power HP (kW)</b>	<b>99.9 (74.5)</b>	<b>100.3 (74.8)</b>	<b>92.4 (68.9)</b>	<b>88.9 (66.3)</b>	<b>81.9 (61.1)</b>	<b>63.8 (47.6)</b>	<b>56.5 (42.1)</b>	<b>56.5 (42.1)</b>	<b>50.2 (37.4)</b>	<b>43.7 (32.6)</b>	<b>40.0 (29.8)</b>	<b>33.8 (25.2)</b>	<b>29.2 (21.8)</b>	<b>4E195</b>
Output Torque in-lbs (N·m)	70095 (7920)	85760 (9690)	86470 (9770)	94700 (10700)	95585 (10800)	89390 (10100)	84425 (9540)	92045 (10400)	93815 (10600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	11240 (50000)	11105 (49400)	11530 (51300)	11620 (51700)	12095 (53800)	13600 (60500)	14385 (64000)	14365 (63900)	15130 (67300)	16025 (71300)	16680 (74200)	17915 (79700)	18430 (82000)	
Solid Shaft OHL lbs (N)	10510 (46740)	11500 (51150)	11920 (53020)	12780 (56840)	13530 (60180)	14630 (65070)	14950 (66490)	15790 (70230)	16660 (74100)	18610 (82770)	19450 (86510)	20370 (90600)	20710 (92110)	
<b>Input Power HP (kW)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>50.2 (37.4)</b>	<b>44.5 (33.2)</b>	<b>44.5 (33.2)</b>	<b>39.6 (29.5)</b>	<b>47.5 (35.4)</b>	<b>47.5 (35.4)</b>	<b>40.1 (29.9)</b>	<b>34.9 (26.0)</b>	<b>4F180</b>
Output Torque in-lbs (N·m)	46635 (5270)	56900 (6430)	62210 (7030)	71060 (8030)	77695 (8780)	70350 (7950)	66635 (7530)	72830 (8230)	73980 (8360)	111500 (12600)	122120 (13800)	122120 (13800)	122120 (13800)	
Hollow Shaft OHL lbs (N)	24050 (107000)	24950 (111000)	25400 (113000)	26075 (116000)	26525 (118000)	28775 (128000)	29225 (130000)	29000 (129000)	29000 (129000)	27425 (122000)	26975 (120000)	26975 (120000)	26975 (120000)	
Solid Shaft OHL lbs (N)	18730 (83310)	20390 (90690)	21090 (93800)	22490 (100030)	23720 (105500)	25560 (113690)	26130 (116220)	27560 (122580)	28600 (127210)	28930 (128680)	28950 (128760)	28970 (128850)	28970 (128850)	
<b>Input Power HP (kW)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>66.5 (49.6)</b>	<b>51.0 (38.0)</b>	<b>45.2 (33.7)</b>	<b>45.2 (33.7)</b>	<b>40.2 (30.0)</b>	<b>54.2 (40.4)</b>	<b>54.2 (40.4)</b>	<b>48.5 (36.2)</b>	<b>36.5 (27.2)</b>	<b>4F185</b>
Output Torque in-lbs (N·m)	46635 (5270)	56900 (6430)	62210 (7030)	71060 (8030)	77695 (8780)	71500 (8080)	67610 (7640)	73980 (8360)	75220 (8500)	127430 (14400)	138935 (15700)	147785 (16700)	128315 (14500)	
Hollow Shaft OHL lbs (N)	24050 (107000)	24950 (111000)	25400 (113000)	26075 (116000)	26525 (118000)	28775 (128000)	29225 (130000)	29000 (129000)	29000 (129000)	26750 (119000)	26075 (116000)	25850 (115000)	26525 (118000)	
Solid Shaft OHL lbs (N)	18730 (83310)	20390 (90690)	21090 (93800)	22490 (100030)	23720 (105500)	25560 (113690)	26130 (116220)	27560 (122580)	28600 (127210)	28930 (128680)	28950 (128760)	28970 (128850)	28970 (128850)	
<b>Input Power HP (kW)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>91.7 (68.4)</b>	<b>62.6 (46.7)</b>	<b>55.4 (41.3)</b>	<b>55.4 (41.3)</b>	<b>49.2 (36.7)</b>	<b>67.7 (50.5)</b>	<b>62.0 (46.2)</b>	<b>52.4 (39.1)</b>	<b>45.5 (33.9)</b>	<b>4F190</b>
Output Torque in-lbs (N·m)	64335 (7270)	78405 (8860)	85750 (9690)	98230 (11100)	107080 (12100)	87875 (9930)	82830 (9360)	90265 (10200)	92035 (10400)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	22930 (102000)	23605 (105000)	23825 (106000)	24275 (108000)	24500 (109000)	27650 (123000)	28550 (127000)	28325 (126000)	28100 (125000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	
Solid Shaft OHL lbs (N)	18730 (83310)	20390 (90690)	21090 (93800)	22490 (100030)	23720 (105500)	25560 (113690)	26130 (116220)	27560 (122580)	28600 (127210)	28930 (128680)	28950 (128760)	28970 (128850)	28970 (128850)	
<b>Input Power HP (kW)</b>	<b>99.9 (74.5)</b>	<b>101 (75.0)</b>	<b>101 (75.0)</b>	<b>95.2 (71.0)</b>	<b>95.2 (71.0)</b>	<b>63.8 (47.6)</b>	<b>56.5 (42.1)</b>	<b>56.5 (42.1)</b>	<b>50.2 (37.4)</b>	<b>67.7 (50.5)</b>	<b>62.0 (46.2)</b>	<b>52.4 (39.1)</b>	<b>45.5 (33.9)</b>	<b>4F195</b>
Output Torque in-lbs (N·m)	70085 (7920)	86015 (9720)	93805 (10600)	101780 (11500)	111515 (12600)	89380 (10100)	84425 (9540)	92035 (10400)	93805 (10600)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	22480 (100000)	23155 (103000)	23380 (104000)	24055 (107000)	24275 (108000)	27425 (122000)	28325 (126000)	28100 (125000)	28100 (125000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	
Solid Shaft OHL lbs (N)	18730 (83310)	20390 (90690)	21090 (93800)	22490 (100030)	23720 (105500)	25560 (113690)	26130 (116220)	27560 (122580)	28600 (127210)	28930 (128680)	28950 (128760)	28970 (128850)	28970 (128850)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	14.5	13.0	11.8	10.9	9.89	8.53	7.77	7.07	5.76	4.86	4.20	3.49	2.85	2.09	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>25.9 (19.3)</b>	<b>22.9 (17.1)</b>	<b>20.9 (15.6)</b>	<b>19.2 (14.3)</b>	<b>17.6 (13.1)</b>	<b>15.2 (11.3)</b>	<b>13.7 (10.2)</b>	<b>12.6 (9.36)</b>	<b>10.2 (7.62)</b>	<b>8.61 (6.42)</b>	<b>7.44 (5.55)</b>	<b>6.18 (4.61)</b>	<b>5.04 (3.76)</b>	—	<b>4E190</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	20980 (93310)	21190 (94250)	21360 (95000)	21480 (95540)	21610 (96120)	21700 (96520)	21740 (96690)	21790 (96920)	21870 (97270)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>25.9 (19.3)</b>	<b>22.9 (17.1)</b>	<b>20.9 (15.6)</b>	<b>19.2 (14.3)</b>	<b>17.6 (13.1)</b>	<b>15.2 (11.3)</b>	<b>13.7 (10.2)</b>	<b>12.6 (9.36)</b>	<b>10.2 (7.62)</b>	<b>8.61 (6.42)</b>	<b>7.44 (5.55)</b>	<b>6.18 (4.61)</b>	<b>5.04 (3.76)</b>	—	<b>4E195</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	20980 (93310)	21190 (94250)	21360 (95000)	21480 (95540)	21610 (96120)	21700 (96520)	21740 (96690)	21790 (96920)	21870 (97270)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>30.7 (22.9)</b>	<b>24.8 (18.5)</b>	<b>24.8 (18.5)</b>	<b>20.8 (15.5)</b>	<b>20.8 (15.5)</b>	<b>18.0 (13.4)</b>	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>12.1 (9.05)</b>	<b>10.2 (7.62)</b>	<b>8.82 (6.58)</b>	<b>7.34 (5.47)</b>	<b>6.01 (4.48)</b>	—	<b>4F180</b>
Output Torque in-lbs (N·m)	122120 (13800)	111500 (12600)	122120 (13800)	110620 (12500)	121235 (13700)	122120 (13800)	111500 (12600)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	
Hollow Shaft OHL lbs (N)	26975 (120000)	27425 (122000)	26975 (120000)	27425 (122000)	26975 (120000)	26975 (120000)	27425 (122000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	
Solid Shaft OHL lbs (N)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	29130 (129570)	29220 (129970)	29290 (130280)	29440 (130940)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	<b>34.6 (25.8)</b>	<b>30.6 (22.8)</b>	<b>30.6 (22.8)</b>	<b>25.7 (19.2)</b>	<b>25.7 (19.2)</b>	<b>22.1 (16.5)</b>	<b>18.4 (13.7)</b>	<b>18.4 (13.7)</b>	<b>15.0 (11.2)</b>	<b>12.6 (9.40)</b>	<b>10.9 (8.13)</b>	<b>8.18 (6.10)</b>	<b>7.39 (5.51)</b>	—	<b>4F185</b>
Output Torque in-lbs (N·m)	137165 (15500)	137165 (15500)	150440 (17000)	137165 (15500)	150440 (17000)	149555 (16900)	137165 (15500)	150440 (17000)	151325 (17100)	150440 (17000)	150440 (17000)	135395 (15300)	150440 (17000)	150440 (17000)	
Hollow Shaft OHL lbs (N)	26300 (117000)	26300 (117000)	25625 (114000)	26300 (117000)	25625 (114000)	25625 (114000)	26300 (117000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)	26300 (117000)	25625 (114000)	
Solid Shaft OHL lbs (N)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	29130 (129570)	29220 (129970)	29290 (130280)	29440 (130940)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	<b>40.1 (29.9)</b>	<b>35.5 (26.5)</b>	<b>32.5 (24.2)</b>	<b>29.8 (22.2)</b>	<b>27.2 (20.3)</b>	<b>23.5 (17.5)</b>	<b>21.3 (15.9)</b>	<b>19.4 (14.5)</b>	<b>15.8 (11.8)</b>	<b>13.4 (10.0)</b>	<b>11.5 (8.60)</b>	<b>9.60 (7.20)</b>	<b>7.83 (5.80)</b>	—	<b>4F190</b>
Output Torque in-lbs (N·m)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	25175 (112000)	25175 (112000)													

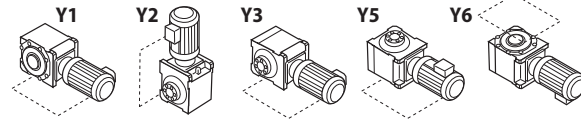




# Frame Size Selection Tables 720 RPM

# Frame Size Selection Tables 720 RPM

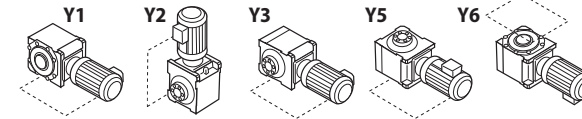
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	65.5	55.4	51.4	45.0	40.0	34.3	32.7	28.8	25.7	20.6	18.5	15.7	13.6	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>13.4 (10.0)</b>	<b>11.1 (8.24)</b>	<b>10.1 (7.53)</b>	<b>8.80 (6.59)</b>	<b>8.09 (6.03)</b>	<b>6.73 (5.02)</b>	<b>6.32 (4.71)</b>	<b>5.78 (4.31)</b>	<b>5.06 (3.77)</b>	<b>4.02 (3.00)</b>	<b>3.67 (2.74)</b>	<b>3.11 (2.32)</b>	<b>2.70 (2.01)</b>	<b>4A140</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3900 (17340)	4180 (18590)	4300 (19120)	4510 (20060)	4540 (20190)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>13.4 (10.0)</b>	<b>11.1 (8.24)</b>	<b>10.1 (7.53)</b>	<b>8.80 (6.59)</b>	<b>8.09 (6.03)</b>	<b>6.73 (5.02)</b>	<b>6.32 (4.71)</b>	<b>5.78 (4.31)</b>	<b>5.06 (3.77)</b>	<b>4.02 (3.00)</b>	<b>3.67 (2.74)</b>	<b>3.11 (2.32)</b>	<b>2.70 (2.01)</b>	<b>4A145</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	3900 (17340)	4180 (18590)	4300 (19120)	4510 (20060)	4540 (20190)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>9.76 (7.28)</b>	<b>9.66 (7.20)</b>	<b>9.66 (7.20)</b>	<b>9.13 (6.81)</b>	<b>9.13 (6.81)</b>	<b>6.50 (4.85)</b>	<b>6.30 (4.70)</b>	<b>6.30 (4.70)</b>	<b>6.33 (4.72)</b>	<b>5.08 (3.79)</b>	<b>5.08 (3.79)</b>	<b>4.29 (3.20)</b>	<b>3.73 (2.78)</b>	<b>4B120</b>
Output Torque in-lbs (N·m)	8265 (934)	10000 (1130)	10885 (1230)	11765 (1330)	12920 (1460)	10970 (1240)	11415 (1290)	12475 (1410)	14335 (1620)	14420 (1630)	15750 (1780)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	5910 (26300)	6135 (27300)	6245 (27800)	6450 (28700)	6540 (29100)	7190 (32000)	7305 (32500)	7440 (33100)	7595 (33800)	8225 (36600)	8250 (36700)	8250 (36700)	8250 (36700)	
Solid Shaft OHL lbs (N)	4220 (18770)	4610 (20500)	4790 (21300)	5120 (22770)	5460 (24280)	5860 (26060)	6000 (26680)	6370 (28330)	6700 (29800)	7250 (32240)	7360 (32730)	7450 (33130)	7510 (33400)	
<b>Input Power HP (kW)</b>	<b>9.80 (7.28)</b>	<b>9.70 (7.20)</b>	<b>9.70 (7.20)</b>	<b>9.10 (6.81)</b>	<b>9.10 (6.81)</b>	<b>6.50 (4.85)</b>	<b>6.30 (4.70)</b>	<b>6.30 (4.70)</b>	<b>6.33 (4.72)</b>	<b>5.48 (4.09)</b>	<b>5.48 (4.09)</b>	<b>4.95 (3.69)</b>	<b>4.47 (3.33)</b>	<b>4B125</b>
Output Torque in-lbs (N·m)	8265 (934)	10000 (1130)	10885 (1230)	11765 (1330)	12920 (1460)	10970 (1240)	11415 (1290)	12475 (1410)	14335 (1620)	15575 (1760)	17075 (1930)	18230 (2060)	18935 (2140)	
Hollow Shaft OHL lbs (N)	5910 (26300)	6135 (27300)	6245 (27800)	6450 (28700)	6540 (29100)	7190 (32000)	7305 (32500)	7440 (33100)	7595 (33800)	8090 (36000)	7910 (35200)	7575 (33700)	7325 (32600)	
Solid Shaft OHL lbs (N)	4220 (18770)	4610 (20500)	4790 (21300)	5120 (22770)	5460 (24280)	5860 (26060)	6000 (26680)	6370 (28330)	6700 (29800)	7250 (32240)	7360 (32730)	7450 (33130)	7510 (33400)	
<b>Input Power HP (kW)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>12.7 (9.48)</b>	<b>12.6 (9.38)</b>	<b>11.5 (8.58)</b>	<b>10.1 (7.51)</b>	<b>8.01 (5.97)</b>	<b>7.32 (5.46)</b>	<b>6.20 (4.62)</b>	<b>5.36 (4.00)</b>	<b>4B140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	21590 (2440)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5415 (24100)	5505 (24500)	5575 (24800)	5595 (24900)	5620 (25000)	6065 (27000)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	4220 (18770)	4610 (20500)	4790 (21300)	5120 (22770)	5460 (24280)	5860 (26060)	6000 (26680)	6370 (28330)	6700 (29800)	7250 (32240)	7360 (32730)	7450 (33130)	7510 (33400)	
<b>Input Power HP (kW)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>12.7 (9.48)</b>	<b>12.6 (9.38)</b>	<b>11.5 (8.58)</b>	<b>10.1 (7.51)</b>	<b>8.01 (5.97)</b>	<b>7.32 (5.46)</b>	<b>6.20 (4.62)</b>	<b>5.36 (4.00)</b>	<b>4B145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	21590 (2440)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5415 (24100)	5505 (24500)	5575 (24800)	5595 (24900)	5620 (25000)	6065 (27000)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	4220 (18770)	4610 (20500)	4790 (21300)	5120 (22770)	5460 (24280)	5860 (26060)	6000 (26680)	6370 (28330)	6700 (29800)	7250 (32240)	7360 (32730)	7450 (33130)	7510 (33400)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



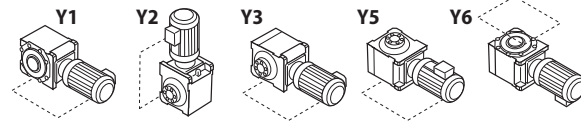
Dimensions on pages 2.156 - 2.166

Output RPM	12.0	10.7	9.73	9.00	8.18	7.06	6.43	5.85	4.77	4.02	3.48	2.89	2.36	1.73	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>2.37 (1.77)</b>	<b>2.11 (1.57)</b>	<b>1.93 (1.44)</b>	<b>1.77 (1.32)</b>	<b>1.62 (1.21)</b>	<b>1.39 (1.04)</b>	<b>1.26 (0.942)</b>	<b>1.15 (0.861)</b>	<b>0.940 (0.701)</b>	<b>0.793 (0.591)</b>	<b>0.685 (0.511)</b>	<b>0.569 (0.424)</b>	<b>0.464 (0.346)</b>	—	<b>4A140</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4570 (20320)	4570 (20320)	4560 (20280)	4550 (20230)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>2.37 (1.77)</b>	<b>2.11 (1.57)</b>	<b>1.93 (1.44)</b>	<b>1.77 (1.32)</b>	<b>1.62 (1.21)</b>	<b>1.39 (1.04)</b>	<b>1.26 (0.942)</b>	<b>1.15 (0.861)</b>	<b>0.940 (0.701)</b>	<b>0.793 (0.591)</b>	<b>0.685 (0.511)</b>	<b>0.569 (0.424)</b>	<b>0.464 (0.346)</b>	—	<b>4A145</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4570 (20320)	4570 (20320)	4560 (20280)	4550 (20230)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>3.26 (2.43)</b>	<b>2.64 (1.97)</b>	<b>2.64 (1.97)</b>	<b>2.24 (1.67)</b>	<b>2.24 (1.67)</b>	<b>1.90 (1.42)</b>	<b>1.60 (1.19)</b>	<b>1.60 (1.19)</b>	<b>1.30 (0.969)</b>	<b>1.10 (0.817)</b>	<b>0.950 (0.706)</b>	<b>0.787 (0.587)</b>	<b>0.642 (0.479)</b>	—	<b>4B120</b>
Output Torque in-lbs (N·m)	15660 (1770)	14335 (1620)	15660 (1770)	14420 (1630)	15750 (1780)	15660 (1770)	14420 (1630)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	8295 (36900)	8585 (38200)	8270 (36800)	8565 (38100)	8250 (36700)	8295 (36900)	8565 (38100)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	
Solid Shaft OHL lbs (N)	7560 (33620)	7600 (33800)	7600 (33800)	7520 (33440)	7440 (33090)	7330 (32600)	7260 (32290)	7200 (32020)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>3.94 (2.94)</b>	<b>3.19 (2.38)</b>	<b>3.19 (2.38)</b>	<b>2.68 (2.00)</b>	<b>2.68 (2.00)</b>	<b>2.31 (1.72)</b>	<b>1.92 (1.43)</b>	<b>1.92 (1.43)</b>	<b>1.56 (1.16)</b>	<b>1.31 (0.980)</b>	<b>1.14 (0.847)</b>	<b>0.890 (0.661)</b>	<b>0.771 (0.575)</b>	—	<b>4B125</b>
Output Torque in-lbs (N·m)	18935 (2140)	17345 (1960)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	17785 (2010)	18935 (2140)	18935 (2140)	
Hollow Shaft OHL lbs (N)	7325 (32600)	7845 (34900)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	
Solid Shaft OHL lbs (N)	7560 (33620)	7600 (33800)	7600 (33800)	7520 (33440)	7440 (33090)	7330 (32600)	7260 (32290)	7200 (32020)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>4.73 (3.53)</b>	<b>4.20 (3.13)</b>	<b>3.84 (2.86)</b>	<b>3.53 (2.63)</b>	<b>3.22 (2.40)</b>	<b>2.78 (2.07)</b>	<b>2.52 (1.88)</b>	<b>2.31 (1.72)</b>	<b>1.88 (1.40)</b>	<b>1.58 (1.18)</b>	<b>1.37 (1.02)</b>	<b>1.13 (0.846)</b>	<b>0.930 (0.690)</b>	—	<b>4B140</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7560 (33620)	7600 (33800)	7600 (33800)	7520 (33440)	7440 (33090)	7330 (32600)	7260 (32290)	7200 (32020)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>4.73 (3.53)</b>	<b>4.20 (3.13)</b>	<b>3.84 (2.86)</b>	<b>3.53 (2.63)</b>	<b>3.22 (2.40)</b>	<b>2.78 (2.07)</b>	<b>2.52 (1.88)</b>	<b>2</b>							

# Frame Size Selection Tables 720 RPM

# Frame Size Selection Tables 720 RPM

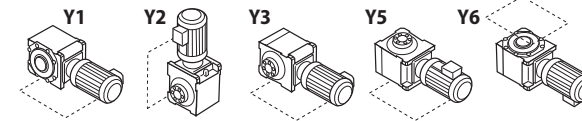
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	65.5	55.4	51.4	45.0	40.0	34.3	32.7	28.8	25.7	20.6	18.5	15.7	13.6	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>19.3 (14.4)</b>	<b>19.3 (14.4)</b>	<b>19.3 (14.4)</b>	<b>17.6 (13.1)</b>	<b>16.1 (12.0)</b>	<b>13.4 (10.0)</b>	<b>12.6 (9.38)</b>	<b>11.5 (8.58)</b>	<b>10.1 (7.51)</b>	<b>8.01 (5.97)</b>	<b>7.32 (5.46)</b>	<b>6.20 (4.62)</b>	<b>5.36 (4.00)</b>	<b>4B160</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5055 (22500)	5055 (22500)	5080 (22600)	5260 (23400)	5485 (24400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	4220 (18770)	4610 (20500)	4790 (21300)	5120 (22770)	5460 (24280)	5860 (26060)	6000 (26680)	6370 (28330)	6700 (29800)	7250 (32240)	7360 (32730)	7450 (33130)	7510 (33400)	
<b>Input Power HP (kW)</b>	<b>19.3 (14.4)</b>	<b>19.3 (14.4)</b>	<b>19.3 (14.4)</b>	<b>17.6 (13.1)</b>	<b>16.1 (12.0)</b>	<b>13.4 (10.0)</b>	<b>12.6 (9.38)</b>	<b>11.5 (8.58)</b>	<b>10.1 (7.51)</b>	<b>8.01 (5.97)</b>	<b>7.32 (5.46)</b>	<b>6.20 (4.62)</b>	<b>5.36 (4.00)</b>	<b>4B165</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5055 (22500)	5055 (22500)	5080 (22600)	5260 (23400)	5485 (24400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	4220 (18770)	4610 (20500)	4790 (21300)	5120 (22770)	5460 (24280)	5860 (26060)	6000 (26680)	6370 (28330)	6700 (29800)	7250 (32240)	7360 (32730)	7450 (33130)	7510 (33400)	
<b>Input Power HP (kW)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>12.7 (9.48)</b>	<b>14.2 (10.6)</b>	<b>14.2 (10.6)</b>	<b>12.3 (9.20)</b>	<b>11.9 (8.84)</b>	<b>11.9 (8.84)</b>	<b>10.0 (7.48)</b>	<b>8.70 (6.48)</b>	<b>4C140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	21590 (2440)	25665 (2900)	28140 (3180)	27875 (3150)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	8135 (36200)	8430 (37500)	8565 (38100)	8745 (38900)	8875 (39500)	9485 (42200)	9305 (41400)	9395 (41800)	9935 (44200)	10250 (45600)	10340 (46000)	11060 (49200)	11690 (52000)	
Solid Shaft OHL lbs (N)	5580 (24810)	6130 (27260)	6370 (28330)	6840 (30420)	7310 (32510)	7870 (35000)	8060 (35850)	8610 (38290)	9150 (40690)	10050 (44700)	10570 (47010)	11320 (50350)	11870 (52790)	
<b>Input Power HP (kW)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>15.3 (11.4)</b>	<b>12.7 (9.48)</b>	<b>14.2 (10.6)</b>	<b>14.2 (10.6)</b>	<b>12.3 (9.20)</b>	<b>12.5 (9.32)</b>	<b>12.5 (9.32)</b>	<b>11.2 (8.36)</b>	<b>9.60 (7.18)</b>	<b>4C145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	21590 (2440)	25750 (2910)	28140 (3180)	27875 (3150)	35485 (4010)	38845 (4390)	41150 (4650)	40795 (4610)	
Hollow Shaft OHL lbs (N)	8135 (36200)	8430 (37500)	8565 (38100)	8745 (38900)	8875 (39500)	9485 (42200)	9305 (41400)	9395 (41800)	9935 (44200)	10070 (44800)	10135 (45100)	10630 (47300)	11060 (49200)	
Solid Shaft OHL lbs (N)	5580 (24810)	6130 (27260)	6370 (28330)	6840 (30420)	7310 (32510)	7870 (35000)	8060 (35850)	8610 (38290)	9150 (40690)	10050 (44700)	10570 (47010)	11320 (50350)	11870 (52790)	
<b>Input Power HP (kW)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.9 (25.3)</b>	<b>33.0 (24.6)</b>	<b>32.2 (24.0)</b>	<b>23.5 (17.5)</b>	<b>24.0 (17.9)</b>	<b>23.1 (17.2)</b>	<b>20.1 (15.0)</b>	<b>16.0 (11.9)</b>	<b>14.6 (10.9)</b>	<b>12.4 (9.24)</b>	<b>10.7 (8.01)</b>	<b>4C160</b>
Output Torque in-lbs (N·m)	28760 (3250)	35040 (3960)	38315 (4330)	42655 (4820)	45485 (5140)	39820 (4500)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6630 (29500)	6585 (29300)	6585 (29300)	6560 (29200)	6605 (29400)	7755 (34500)	7620 (33900)	7755 (34500)	8250 (36700)	9125 (40600)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	5580 (24810)	6130 (27260)	6370 (28330)	6840 (30420)	7310 (32510)	7870 (35000)	8060 (35850)	8610 (38290)	9150 (40690)	10050 (44700)	10570 (47010)	11320 (50350)	11870 (52790)	
<b>Input Power HP (kW)</b>	<b>34.1 (25.4)</b>	<b>34.1 (25.4)</b>	<b>34.1 (25.4)</b>	<b>33.0 (24.6)</b>	<b>32.2 (24.0)</b>	<b>23.5 (17.5)</b>	<b>24.0 (17.9)</b>	<b>23.1 (17.2)</b>	<b>20.1 (15.0)</b>	<b>16.0 (11.9)</b>	<b>14.6 (10.9)</b>	<b>12.4 (9.24)</b>	<b>10.7 (8.01)</b>	<b>4C165</b>
Output Torque in-lbs (N·m)	28845 (3260)	35220 (3980)	38495 (4350)	42655 (4820)	45485 (5140)	39820 (4500)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6630 (29500)	6585 (29300)	6560 (29200)	6560 (29200)	6605 (29400)	7755 (34500)	7620 (33900)	7755 (34500)	8250 (36700)	9125 (40600)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	5580 (24810)	6130 (27260)	6370 (28330)	6840 (30420)	7310 (32510)	7870 (35000)	8060 (35850)	8610 (38290)	9150 (40690)	10050 (44700)	10570 (47010)	11320 (50350)	11870 (52790)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



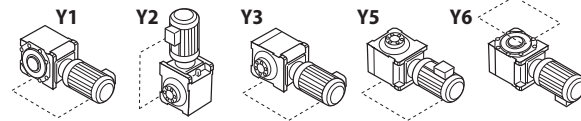
Dimensions on pages 2.156 - 2.166

Output RPM	12.0	10.7	9.73	9.00	8.18	7.06	6.43	5.85	4.77	4.02	3.48	2.89	2.36	1.73	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>4.73 (3.53)</b>	<b>4.20 (3.13)</b>	<b>3.84 (2.86)</b>	<b>3.53 (2.63)</b>	<b>3.22 (2.40)</b>	<b>2.78 (2.07)</b>	<b>2.52 (1.88)</b>	<b>2.31 (1.72)</b>	<b>1.88 (1.40)</b>	<b>1.58 (1.18)</b>	<b>1.37 (1.02)</b>	<b>1.13 (0.846)</b>	<b>0.925 (0.690)</b>	—	<b>4B160</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7560 (33620)	7600 (33800)	7600 (33800)	7520 (33440)	7440 (33090)	7330 (32600)	7260 (32290)	7200 (32020)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>4.73 (3.53)</b>	<b>4.20 (3.13)</b>	<b>3.84 (2.86)</b>	<b>3.53 (2.63)</b>	<b>3.22 (2.40)</b>	<b>2.78 (2.07)</b>	<b>2.52 (1.88)</b>	<b>2.31 (1.72)</b>	<b>1.88 (1.40)</b>	<b>1.58 (1.18)</b>	<b>1.37 (1.02)</b>	<b>1.13 (0.846)</b>	<b>0.925 (0.690)</b>	—	<b>4B165</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7560 (33620)	7600 (33800)	7600 (33800)	7520 (33440)	7440 (33090)	7330 (32600)	7260 (32290)	7200 (32020)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>7.67 (5.72)</b>	<b>6.21 (4.63)</b>	<b>6.21 (4.63)</b>	<b>5.22 (3.89)</b>	<b>5.22 (3.89)</b>	<b>4.49 (3.35)</b>	<b>3.73 (2.78)</b>	<b>3.73 (2.78)</b>	<b>3.03 (2.26)</b>	<b>2.56 (1.91)</b>	<b>2.21 (1.65)</b>	<b>1.84 (1.37)</b>	<b>1.50 (1.12)</b>	—	<b>4C140</b>
Output Torque in-lbs (N·m)	36810 (4160)	33625 (3800)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	12160 (54100)	12900 (57400)	12160 (54100)	12900 (57400)	12160 (54100)	12160 (54100)	12900 (57400)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	
Solid Shaft OHL lbs (N)	12300 (54710)	12640 (56220)	12820 (57020)	12780 (56840)	12730 (56620)	12660 (56310)	12630 (56170)	12590 (56000)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>8.60 (6.39)</b>	<b>6.79 (5.06)</b>	<b>6.79 (5.06)</b>	<b>5.83 (4.35)</b>	<b>5.83 (4.35)</b>	<b>5.03 (3.75)</b>	<b>4.17 (3.11)</b>	<b>4.17 (3.11)</b>	<b>3.39 (2.53)</b>	<b>2.86 (2.13)</b>	<b>2.47 (1.84)</b>	<b>1.98 (1.48)</b>	<b>1.53 (1.14)</b>	—	<b>4C145</b>
Output Torque in-lbs (N·m)	41150 (4650)	36810 (4160)	40265 (4550)	37610 (4250)	41150 (4650)	41150 (4650)	37610 (4250)	41150 (4650)	41150 (4650)	41150 (4650)	41150 (4650)	39820 (4500)	37520 (4240)	—	
Hollow Shaft OHL lbs (N)	10945 (48700)	12180 (54200)	11240 (50000)	11955 (53200)	10945 (48700)	10945 (48700)	11955 (53200)	10945 (48700)	10945 (48700)	10945 (48700)	10945 (48700)	11375 (50600)	11980 (53300)	—	
Solid Shaft OHL lbs (N)	12300 (54710)	12640 (56220)	12820 (57020)	12780 (56840)	12730 (56620)	12660 (56310)	12630 (56170)	12590 (56000)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>9.50 (7.06)</b>	<b>8.40 (6.25)</b>	<b>7.67 (5.72)</b>	<b>7.04 (5.25)</b>	<b>6.44 (4.80)</b>	<b>5.55 (4.14)</b>	<b>5.03 (3.75)</b>	<b>4.60 (3.43)</b>	<b>3.74 (2.79)</b>	<b>3.15 (2.35)</b>	<b>2.74 (2.04)</b>	<b>2.27 (1.69)</b>	<b>1.85 (1.38)</b>	—	<b>4C160</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12300 (54710)	12640 (56220)	12820 (57020)	12780 (56840)	12730 (56620)	12660 (56310)	12630 (56170)	12590 (56000)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>9.47 (7.06)</b>	<b>8.38 (6.25)</b>	<b>7.67 (5.72)</b>	<b>7.04 (5.25)</b>	<b>6.44 (4.80)&lt;/</b>										

# Frame Size Selection Tables 720 RPM

# Frame Size Selection Tables 720 RPM

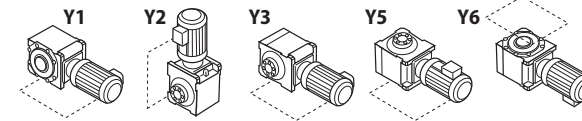
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	65.5	55.4	51.4	45.0	40.0	34.3	32.7	28.8	25.7	20.6	18.5	15.7	13.6	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>38.4 (28.6)</b>	<b>35.3 (26.3)</b>	<b>31.1 (23.2)</b>	<b>24.0 (17.9)</b>	<b>24.0 (17.9)</b>	<b>23.1 (17.2)</b>	<b>20.1 (15.0)</b>	<b>16.0 (11.9)</b>	<b>14.6 (10.9)</b>	<b>12.4 (9.24)</b>	<b>10.7 (8.01)</b>	<b>4C170</b>
Output Torque in-lbs (N·m)	35135 (3970)	42835 (4840)	43370 (4900)	45490 (5140)	43900 (4960)	40615 (4590)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6045 (26900)	5865 (26100)	6090 (27100)	6315 (28100)	6765 (30100)	7665 (34100)	7640 (34000)	7755 (34500)	8250 (36700)	9125 (40600)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	7940 (35310)	8740 (38870)	9100 (40470)	9760 (43410)	10400 (46430)	7870 (35000)	8060 (35850)	8610 (38290)	9150 (40690)	10050 (44700)	10570 (47010)	11320 (50350)	11870 (52790)	
<b>Input Power HP (kW)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>38.4 (28.6)</b>	<b>35.3 (26.3)</b>	<b>31.1 (23.2)</b>	<b>24.0 (17.9)</b>	<b>24.0 (17.9)</b>	<b>23.1 (17.2)</b>	<b>20.1 (15.0)</b>	<b>16.0 (11.9)</b>	<b>14.6 (10.9)</b>	<b>12.4 (9.24)</b>	<b>10.7 (8.01)</b>	<b>4C175</b>
Output Torque in-lbs (N·m)	35135 (3970)	42835 (4840)	43370 (4900)	45490 (5140)	43900 (4960)	40615 (4590)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6045 (26900)	5865 (26100)	6090 (27100)	6315 (28100)	6765 (30100)	7665 (34100)	7640 (34000)	7755 (34500)	8250 (36700)	9125 (40600)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	7940 (35310)	8740 (38870)	9100 (40470)	9760 (43410)	10440 (46430)	7870 (35000)	8060 (35850)	8610 (38290)	9150 (40690)	10050 (44700)	10570 (47010)	11320 (50350)	11870 (52790)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>23.5 (17.5)</b>	<b>26.4 (19.7)</b>	<b>26.4 (19.7)</b>	<b>23.3 (17.4)</b>	<b>17.0 (12.7)</b>	<b>17.0 (12.7)</b>	<b>14.3 (10.7)</b>	<b>12.5 (9.29)</b>	<b>4D160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	39820 (4500)	47695 (5390)	52120 (5890)	52740 (5960)	48230 (5450)	52740 (5960)	52740 (5960)	52740 (5960)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	13440 (59800)	13105 (58300)	13240 (58900)	13890 (61800)	15530 (69100)	15710 (69900)	16745 (74500)	17670 (78600)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	11250 (50040)	11530 (51280)	12320 (54790)	13110 (58310)	14420 (64140)	14890 (66230)	15490 (68890)	15930 (70850)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>23.5 (17.5)</b>	<b>26.4 (19.7)</b>	<b>26.4 (19.7)</b>	<b>23.9 (17.8)</b>	<b>20.4 (15.2)</b>	<b>20.4 (15.2)</b>	<b>17.2 (12.8)</b>	<b>14.9 (11.1)</b>	<b>4D165</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	39820 (4500)	47695 (5390)	52120 (5890)	53890 (6090)	57695 (6520)	63095 (7130)	63095 (7130)	63095 (7130)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	13440 (59800)	13105 (58300)	13240 (58900)	13800 (61400)	14745 (65600)	14880 (66200)	15755 (70100)	15755 (70100)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	11250 (50040)	11530 (51280)	12320 (54790)	13110 (58310)	14420 (64140)	14890 (66230)	15490 (68890)	15930 (70850)	
<b>Input Power HP (kW)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>33.0 (24.6)</b>	<b>38.5 (28.7)</b>	<b>38.5 (28.7)</b>	<b>33.7 (25.1)</b>	<b>24.5 (18.3)</b>	<b>24.5 (18.3)</b>	<b>20.7 (15.4)</b>	<b>18.0 (13.4)</b>	<b>4D170</b>
Output Torque in-lbs (N·m)	35130 (3970)	42830 (4840)	46810 (5290)	53540 (6050)	58495 (6610)	55840 (6310)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	75925 (8580)	76015 (8590)	
Hollow Shaft OHL lbs (N)	10700 (47600)	10900 (48500)	10970 (48800)	11035 (49100)	11035 (49100)	12135 (54000)	11330 (50400)	11305 (50300)	11825 (52600)	13800 (61400)	11825 (52600)	11865 (52800)	11825 (52600)	
Solid Shaft OHL lbs (N)	7940 (35310)	8740 (38870)	9100 (40470)	9760 (43410)	10440 (46430)	11250 (50040)	11530 (51280)	12320 (54790)	13110 (58310)	14420 (64140)	14890 (66230)	15490 (68890)	15930 (70850)	
<b>Input Power HP (kW)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>33.0 (24.6)</b>	<b>41.4 (30.9)</b>	<b>39.0 (29.1)</b>	<b>34.2 (25.5)</b>	<b>27.2 (20.3)</b>	<b>24.8 (18.5)</b>	<b>21.1 (15.7)</b>	<b>18.2 (13.6)</b>	<b>4D175</b>
Output Torque in-lbs (N·m)	35130 (3970)	42830 (4840)	46810 (5290)	53540 (6050)	58495 (6610)	55840 (6310)	74955 (8470)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	10700 (47600)	10900 (48500)	10970 (48800)	11035 (49100)	11035 (49100)	12135 (54000)	10900 (48500)	11215 (49900)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	7940 (35310)	8740 (38870)	9100 (40470)	9760 (43410)	10440 (46430)	11250 (50040)	11530 (51280)	12320 (54790)	13110 (58310)	14420 (64140)	14890 (66230)	15490 (68890)	15930 (70850)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

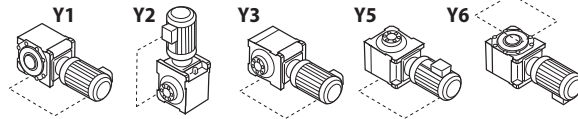
Output RPM	12.0	10.7	9.73	9.00	8.18	7.06	6.43	5.85	4.77	4.02	3.48	2.89	2.36	1.73	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>9.50 (7.06)</b>	<b>8.40 (6.25)</b>	<b>7.67 (5.72)</b>	<b>7.04 (5.25)</b>	<b>6.44 (4.80)</b>	<b>5.55 (4.14)</b>	<b>5.03 (3.75)</b>	<b>4.60 (3.43)</b>	<b>3.74 (2.79)</b>	<b>3.15 (2.35)</b>	<b>2.74 (2.04)</b>	<b>2.27 (1.69)</b>	<b>1.85 (1.38)</b>	—	<b>4C170</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12300 (54710)	12640 (56220)	12820 (57020)	12780 (56840)	12730 (56620)	12660 (56310)	12630 (56170)	12590 (56000)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>9.50 (7.06)</b>	<b>8.40 (6.25)</b>	<b>7.67 (5.72)</b>	<b>7.04 (5.25)</b>	<b>6.44 (4.80)</b>	<b>5.55 (4.14)</b>	<b>5.03 (3.75)</b>	<b>4.60 (3.43)</b>	<b>3.74 (2.79)</b>	<b>3.15 (2.35)</b>	<b>2.74 (2.04)</b>	<b>2.27 (1.69)</b>	<b>1.85 (1.38)</b>	—	<b>4C175</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12300 (54710)	12640 (56220)	12820 (57020)	12780 (56840)	12730 (56620)	12660 (56310)	12630 (56170)	12590 (56000)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>11.0 (8.19)</b>	<b>8.90 (6.63)</b>	<b>8.90 (6.63)</b>	<b>7.47 (5.57)</b>	<b>7.47 (5.57)</b>	<b>6.44 (4.80)</b>	<b>5.34 (3.98)</b>	<b>5.34 (3.98)</b>	<b>4.29 (3.20)</b>	<b>3.66 (2.73)</b>	<b>3.16 (2.36)</b>	<b>2.63 (1.96)</b>	<b>2.15 (1.60)</b>	—	<b>4D160</b>
Output Torque in-lbs (N·m)	52740 (5960)	48230 (5450)	52740 (5960)	48230 (5450)	52740 (5960)	52740 (5960)	48230 (5450)	52740 (5960)	52120 (5890)	52740 (5960)	52740 (5960)	52740 (5960)	52740 (5960)	52740 (5960)	
Hollow Shaft OHL lbs (N)	17915 (79700)	18680 (83100)	17915 (79700)	18680 (83100)	17915 (79700)	17915 (79700)	18680 (83100)	17915 (79700)	18025 (80200)	17915 (79700)	17915 (79700)	17915 (79700)	17915 (79700)	17915 (79700)	
Solid Shaft OHL lbs (N)	16270 (72360)	16540 (73560)	16690 (74230)	16670 (74140)	16650 (74050)	16620 (73920)	16610 (73880)	16600 (73830)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>13.1 (9.80)</b>	<b>10.6 (7.94)</b>	<b>10.6 (7.94)</b>	<b>8.90 (6.67)</b>	<b>8.90 (6.67)</b>	<b>7.71 (5.75)</b>	<b>6.38 (4.76)</b>	<b>6.38 (4.76)</b>	<b>5.20 (3.88)</b>	<b>4.39 (3.27)</b>	<b>3.78 (2.82)</b>	<b>3.15 (2.35)</b>	<b>2.51 (1.87)</b>	—	<b>4D165</b>
Output Torque in-lbs (N·m)	63095 (7130)	57695 (6520)	63095 (7130)	57695 (6520)	63095 (7130)	63095 (7130)	57695 (6520)	63095 (7130)	63095 (7130)	63095 (7130)	63095 (7130)	63095 (7130)	63095 (7130)	61680 (6970)	
Hollow Shaft OHL lbs (N)	15755 (70100)	16970 (75500)	15755 (70100)	16970 (75500)	15755 (70100)	15755 (70100)	16970 (75500)	15755 (70100)	15755 (70100)	15755 (70100)	15755 (70100)	15755 (70100)	15755 (70100)	16115 (71700)	
Solid Shaft OHL lbs (N)	16270 (72360)	16540 (73560)	16690 (74230)	16670 (74140)	16650 (74050)	16620 (73920)	16610 (73880)	16600 (73830)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>15.8 (11.8)</b>	<b>12.8 (9.56)</b>	<b>12.8 (9.56)</b>	<b>10.8 (8.03)</b>	<b>10.8 (8.03)</b>	<b>9.30 (6.92)</b>	<b>7.70 (5.74)</b>	<b>7.70 (5.74)</b>	<b>6.26 (4.67)</b>	<b>5.28 (3.94)</b>	<b>4.56 (3.40)</b>	<b>3.80 (2.83)</b>	<b>3.10 (2.31)</b>	—	<b>4D170</b>
Output Torque in-lbs (N·m)	76015 (8590)	69555 (7860)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	
Hollow Shaft OHL lbs (N)	11825 (52600)	14050 (62500)	11825 (52600)	14050 (62500)	11825 (52600)	11825 (52600)	14050 (62500)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	
Solid Shaft OHL lbs (N)	16270 (72360)	16540 (73560)	16690 (74230)	16670 (74140)	16650 (74050)	16620 (73920)	16610 (73880)	16600 (73830)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>16.1 (12.0)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.70)</b>	<b>11.9 (8.91)</b>	<b>10.9 (8.15)</b>	<b>9.40 (7.03)</b>	<b>8.50 (6.37)</b>	<b>7.80 (5.82)</b>	<b>6.36 (4.74)</b>	<b>5.35 (3.99)</b>	<b>4.63 (3.45)</b>	<b>3.85 (2.87)</b>	<b>3.14 (2.34)</b>	—	<b>4D175</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77										



# Frame Size Selection Tables 720 RPM

# Frame Size Selection Tables 720 RPM

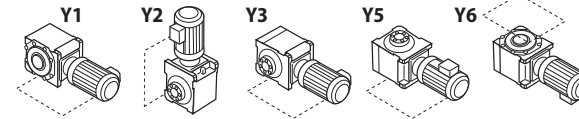
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	65.5	55.4	51.4	45.0	40.0	34.3	32.7	28.8	25.7	20.6	18.5	15.7	13.6	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>54.2 (40.4)</b>	<b>41.4 (30.9)</b>	<b>36.9 (27.5)</b>	<b>36.9 (27.5)</b>	<b>32.7 (24.4)</b>	<b>27.2 (20.3)</b>	<b>24.8 (18.5)</b>	<b>21.1 (15.7)</b>	<b>18.2 (13.6)</b>	<b>4D180</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62305 (7040)	71160 (8040)	76470 (8640)	70275 (7940)	66635 (7530)	72930 (8240)	73980 (8360)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	9755 (43400)	9755 (43400)	9730 (43300)	9600 (42700)	9600 (42700)	10990 (48900)	11600 (51600)	11555 (51400)	12185 (54200)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	7940 (35310)	8740 (38870)	9100 (40470)	9760 (43410)	10440 (46430)	11250 (50040)	11530 (51280)	12320 (54790)	13110 (58310)	14420 (64140)	14890 (66230)	15490 (68890)	15930 (70850)	
<b>Input Power HP (kW)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>54.2 (40.4)</b>	<b>42.1 (31.4)</b>	<b>37.4 (27.9)</b>	<b>37.4 (27.9)</b>	<b>33.3 (24.8)</b>	<b>27.2 (20.3)</b>	<b>24.8 (18.5)</b>	<b>21.1 (15.7)</b>	<b>18.2 (13.6)</b>	<b>4D185</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62305 (7040)	71160 (8040)	76470 (8640)	71335 (8060)	67620 (7640)	73990 (8360)	75140 (8490)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	9755 (43400)	9755 (43400)	9730 (43300)	9595 (42700)	9595 (42700)	10900 (48500)	11510 (51200)	11465 (51000)	12095 (53800)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	7940 (35310)	8740 (38870)	9100 (40470)	9760 (43410)	10440 (46430)	11250 (50040)	11530 (51280)	12320 (54790)	13110 (58310)	14420 (64140)	14890 (66230)	15490 (68890)	15930 (70850)	
<b>Input Power HP (kW)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>33.0 (24.6)</b>	<b>38.5 (28.7)</b>	<b>38.5 (28.7)</b>	<b>33.7 (25.1)</b>	<b>24.5 (18.3)</b>	<b>24.5 (18.3)</b>	<b>20.7 (15.4)</b>	<b>18.0 (13.4)</b>	<b>4E170</b>
Output Torque in-lbs (N·m)	35130 (3970)	42830 (4840)	46810 (5290)	53540 (6050)	58495 (6610)	55840 (6310)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	75925 (8580)	76015 (8590)	
Hollow Shaft OHL lbs (N)	14770 (65700)	15265 (67900)	15485 (68900)	15755 (70100)	15935 (70900)	17265 (76800)	16635 (74000)	16790 (74700)	17715 (78800)	19805 (88100)	19940 (88700)	19960 (88800)	19940 (88700)	
Solid Shaft OHL lbs (N)	11630 (51730)	12660 (56310)	13130 (58400)	14010 (62310)	14880 (66180)	15910 (70760)	16270 (72360)	17300 (76950)	18320 (81480)	20030 (89090)	20430 (90870)	20820 (92600)	21110 (93890)	
<b>Input Power HP (kW)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>33.0 (24.6)</b>	<b>41.4 (30.9)</b>	<b>41.4 (30.9)</b>	<b>34.6 (25.8)</b>	<b>30.4 (22.7)</b>	<b>28.0 (20.9)</b>	<b>23.7 (17.7)</b>	<b>20.5 (15.3)</b>	<b>4E175</b>
Output Torque in-lbs (N·m)	35130 (3970)	42830 (4840)	46810 (5290)	53540 (6050)	58495 (6610)	55840 (6310)	74955 (8470)	81945 (9260)	78230 (8840)	86545 (9780)	86990 (9830)	86990 (9830)	86990 (9830)	
Hollow Shaft OHL lbs (N)	14770 (65700)	15265 (67900)	15485 (68900)	15755 (70100)	15935 (70900)	17265 (76800)	16250 (72300)	16365 (72800)	17555 (78100)	18545 (82500)	19240 (85600)	19400 (86300)	19400 (86300)	
Solid Shaft OHL lbs (N)	11630 (51730)	12660 (56310)	13130 (58400)	14010 (62310)	14880 (66180)	15910 (70760)	16270 (72360)	17300 (76950)	18320 (81480)	20030 (89090)	20430 (90870)	20820 (92600)	21110 (93890)	
<b>Input Power HP (kW)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>41.4 (30.9)</b>	<b>36.9 (27.5)</b>	<b>36.9 (27.5)</b>	<b>32.7 (24.4)</b>	<b>36.1 (26.9)</b>	<b>33.0 (24.6)</b>	<b>27.9 (20.8)</b>	<b>24.3 (18.1)</b>	<b>4E180</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62300 (7040)	71150 (8040)	77875 (8800)	70265 (7940)	66635 (7530)	72920 (8240)	73980 (8360)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	13915 (61900)	14230 (63300)	14340 (63800)	14455 (64300)	14520 (64600)	16205 (72100)	16880 (75100)	17015 (75700)	17850 (79400)	17400 (77400)	18095 (80500)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	11630 (51730)	12660 (56310)	13130 (58400)	14010 (62310)	14880 (66180)	15910 (70760)	16270 (72360)	17300 (76950)	18320 (81480)	20030 (89090)	20430 (90870)	20820 (92600)	21110 (93890)	
<b>Input Power HP (kW)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>42.1 (31.4)</b>	<b>37.4 (27.9)</b>	<b>37.4 (27.9)</b>	<b>33.3 (24.8)</b>	<b>36.1 (26.9)</b>	<b>33.0 (24.6)</b>	<b>27.9 (20.8)</b>	<b>24.3 (18.1)</b>	<b>4E185</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62300 (7040)	71150 (8040)	77875 (8800)	71325 (8060)	67610 (7640)	73980 (8360)	75130 (8490)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	13915 (61900)	14230 (63300)	14340 (63800)	14455 (64300)	14520 (64600)	16115 (71700)	16815 (74800)	16950 (75400)	17760 (79000)	17400 (77400)	18095 (80500)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	11630 (51730)	12660 (56310)	13130 (58400)	14010 (62310)	14880 (66180)	15910 (70760)	16270 (72360)	17300 (76950)	18320 (81480)	20030 (89090)	20430 (90870)	20820 (92600)	21110 (93890)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



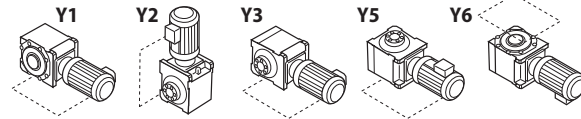
Dimensions on pages 2.156 - 2.166

Output RPM	12.0	10.7	9.73	9.00	8.18	7.06	6.43	5.85	4.77	4.02	3.48	2.89	2.36	1.73	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>16.1 (12.0)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.70)</b>	<b>11.9 (8.91)</b>	<b>10.9 (8.15)</b>	<b>9.40 (7.03)</b>	<b>8.50 (6.37)</b>	<b>7.80 (5.82)</b>	<b>6.36 (4.74)</b>	<b>5.35 (3.99)</b>	<b>4.63 (3.45)</b>	<b>3.85 (2.87)</b>	<b>3.14 (2.34)</b>	—	<b>4D180</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	16270 (72360)	16540 (73560)	16690 (74230)	16670 (74140)	16650 (74050)	16620 (73920)	16610 (73880)	16600 (73830)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>16.1 (12.0)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.70)</b>	<b>11.9 (8.91)</b>	<b>10.9 (8.15)</b>	<b>9.40 (7.03)</b>	<b>8.50 (6.37)</b>	<b>7.80 (5.82)</b>	<b>6.36 (4.74)</b>	<b>5.35 (3.99)</b>	<b>4.63 (3.45)</b>	<b>3.85 (2.87)</b>	<b>3.14 (2.34)</b>	—	<b>4D185</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	16270 (72360)	16540 (73560)	16690 (74230)	16670 (74140)	16650 (74050)	16620 (73920)	16610 (73880)	16600 (73830)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>15.8 (11.8)</b>	<b>12.8 (9.56)</b>	<b>12.8 (9.56)</b>	<b>10.8 (8.03)</b>	<b>10.8 (8.03)</b>	<b>9.30 (6.92)</b>	<b>7.70 (5.74)</b>	<b>7.70 (5.74)</b>	<b>6.26 (4.67)</b>	<b>5.28 (3.94)</b>	<b>4.56 (3.40)</b>	<b>3.80 (2.83)</b>	<b>3.10 (2.31)</b>	—	<b>4E170</b>
Output Torque in-lbs (N·m)	76015 (8590)	69555 (7860)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	
Hollow Shaft OHL lbs (N)	19940 (88700)	20275 (90200)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	
Solid Shaft OHL lbs (N)	21330 (94870)	21500 (95630)	21620 (96160)	21670 (96380)	21720 (96610)	21790 (96920)	21830 (97090)	21860 (97230)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>18.1 (13.5)</b>	<b>16.0 (11.9)</b>	<b>14.6 (10.9)</b>	<b>13.4 (10.0)</b>	<b>12.3 (9.19)</b>	<b>10.6 (7.92)</b>	<b>9.60 (7.14)</b>	<b>9.60 (7.14)</b>	<b>7.79 (5.81)</b>	<b>6.57 (4.90)</b>	<b>5.69 (4.24)</b>	<b>4.72 (3.52)</b>	<b>3.85 (2.87)</b>	—	<b>4E175</b>
Output Torque in-lbs (N·m)	86990 (9830)	86545 (9780)	86990 (9830)	86545 (9780)	86990 (9830)	86990 (9830)	86545 (9780)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	19400 (86300)	19420 (86400)	19400 (86300)	19420 (86400)	19400 (86300)	19400 (86300)	19420 (86400)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21330 (94870)	21500 (95630)	21620 (96160)	21670 (96380)	21720 (96610)	21790 (96920)	21830 (97090)	21860 (97230)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>21.3 (15.9)</b>	<b>18.9 (14.1)</b>	<b>17.3 (12.9)</b>	<b>16.0 (11.9)</b>	<b>14.5 (10.8)</b>	<b>12.5 (9.4)</b>	<b>11.4 (8.47)</b>	<b>10.4 (7.74)</b>	<b>8.40 (6.30)</b>	<b>7.12 (5.31)</b>	<b>6.16 (4.59)</b>	<b>5.12 (3.82)</b>	<b>4.18 (3.12)</b>	—	<b>4E180</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21330 (94870)	21500 (95630)	21620 (96160)	21670 (96380)	21720 (96610)	21790 (9692									

# Frame Size Selection Tables 720 RPM

# Frame Size Selection Tables 720 RPM

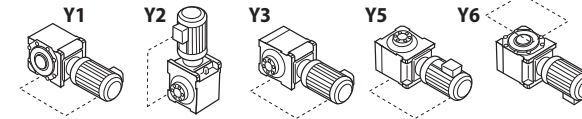
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	65.5	55.4	51.4	45.0	40.0	34.3	32.7	28.8	25.7	20.6	18.5	15.7	13.6	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>88.6 (66.1)</b>	<b>88.0 (65.6)</b>	<b>81.0 (60.4)</b>	<b>77.9 (58.1)</b>	<b>71.7 (53.5)</b>	<b>51.9 (38.7)</b>	<b>45.7 (34.1)</b>	<b>45.7 (34.1)</b>	<b>40.6 (30.3)</b>	<b>36.1 (26.9)</b>	<b>33.0 (24.6)</b>	<b>27.9 (20.8)</b>	<b>24.3 (18.1)</b>	<b>4E190</b>
Output Torque in-lbs (N·m)	75140 (8490)	91160 (10300)	91160 (10300)	100895 (11400)	101780 (11500)	87975 (9940)	82655 (9340)	90275 (10200)	92045 (10400)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	11845 (52700)	11755 (52300)	12205 (54300)	12295 (54700)	12790 (56900)	14905 (66300)	15690 (69800)	15735 (70000)	16545 (73600)	17400 (77400)	18095 (80500)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	11630 (51730)	12660 (56310)	13130 (58400)	14010 (62310)	14880 (66180)	15910 (70760)	16270 (72360)	17300 (76950)	18320 (81480)	20030 (89090)	20430 (90870)	20820 (92600)	21110 (93890)	
<b>Input Power HP (kW)</b>	<b>88.6 (66.1)</b>	<b>88.0 (65.6)</b>	<b>81.0 (60.4)</b>	<b>77.9 (58.1)</b>	<b>71.7 (53.5)</b>	<b>52.8 (39.4)</b>	<b>46.7 (34.8)</b>	<b>46.7 (34.8)</b>	<b>41.4 (30.9)</b>	<b>36.1 (26.9)</b>	<b>33.0 (24.6)</b>	<b>27.9 (20.8)</b>	<b>24.3 (18.1)</b>	<b>4E195</b>
Output Torque in-lbs (N·m)	75140 (8490)	91160 (10300)	91160 (10300)	100895 (11400)	101780 (11500)	89390 (10100)	84335 (9530)	92045 (10400)	93815 (10600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	11845 (52700)	11755 (52300)	12205 (54300)	12295 (54700)	12790 (56900)	14790 (65800)	15575 (69300)	15600 (69400)	16410 (73000)	17400 (77400)	18095 (80500)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	11630 (51730)	12660 (56310)	13130 (58400)	14010 (62310)	14880 (66180)	15910 (70760)	16270 (72360)	17300 (76950)	18320 (81480)	20030 (89090)	20430 (90870)	20820 (92600)	21110 (93890)	
<b>Input Power HP (kW)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>41.4 (30.9)</b>	<b>36.9 (27.5)</b>	<b>36.9 (27.5)</b>	<b>32.7 (24.4)</b>	<b>39.3 (29.3)</b>	<b>39.3 (29.3)</b>	<b>33.3 (24.8)</b>	<b>28.8 (21.5)</b>	<b>4F180</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62300 (7040)	71150 (8040)	77875 (8800)	70265 (7940)	66635 (7530)	72920 (8240)	73980 (8360)	111500 (12600)	122120 (13800)	122120 (13800)	122120 (13800)	
Hollow Shaft OHL lbs (N)	25625 (114000)	26750 (119000)	27200 (121000)	27875 (124000)	28325 (126000)	29225 (130000)	29225 (130000)	29225 (129000)	29000 (129000)	27425 (122000)	26975 (120000)	26975 (120000)	26975 (120000)	
Solid Shaft OHL lbs (N)	20600 (91620)	22300 (99190)	23060 (102570)	24490 (108930)	26000 (115640)	27700 (123200)	28140 (125160)	28900 (128540)	28930 (128680)	28960 (128810)	28970 (128850)	28970 (128850)	28970 (128850)	
<b>Input Power HP (kW)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>55.1 (41.1)</b>	<b>42.1 (31.4)</b>	<b>37.4 (27.9)</b>	<b>37.4 (27.9)</b>	<b>33.3 (24.8)</b>	<b>46.5 (34.7)</b>	<b>46.5 (34.7)</b>	<b>40.1 (29.9)</b>	<b>31.5 (23.5)</b>	<b>4F185</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62300 (7040)	71150 (8040)	77875 (8800)	71325 (8060)	67610 (7640)	73980 (8360)	75130 (8490)	131855 (14900)	144245 (16300)	146900 (16600)	133625 (15100)	
Hollow Shaft OHL lbs (N)	25625 (114000)	26750 (119000)	27200 (121000)	27875 (124000)	28325 (126000)	29000 (129000)	29225 (130000)	29000 (129000)	29000 (129000)	26525 (118000)	25850 (115000)	25850 (115000)	26300 (117000)	
Solid Shaft OHL lbs (N)	20600 (91620)	22300 (99190)	23060 (102570)	24490 (108930)	26000 (115640)	27700 (123200)	28140 (125160)	28900 (128540)	28930 (128680)	28960 (128810)	28970 (128850)	28970 (128850)	28970 (128850)	
<b>Input Power HP (kW)</b>	<b>88.6 (66.1)</b>	<b>90.5 (67.5)</b>	<b>90.5 (67.5)</b>	<b>83.3 (62.1)</b>	<b>83.3 (62.1)</b>	<b>51.9 (38.7)</b>	<b>45.7 (34.1)</b>	<b>45.7 (34.1)</b>	<b>40.6 (30.3)</b>	<b>56.1 (41.8)</b>	<b>51.2 (38.2)</b>	<b>43.3 (32.3)</b>	<b>37.5 (28.0)</b>	<b>4F190</b>
Output Torque in-lbs (N·m)	75130 (8490)	93815 (10600)	102665 (11600)	107975 (12200)	117715 (13300)	87965 (9940)	82655 (9340)	90265 (10200)	92035 (10400)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	23825 (106000)	24275 (108000)	24500 (109000)	25400 (113000)	25625 (114000)	28325 (126000)	28550 (127000)	28325 (126000)	28100 (125000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	
Solid Shaft OHL lbs (N)	20600 (91620)	22300 (99190)	23060 (102570)	24490 (108930)	26000 (115640)	27700 (123200)	28140 (125160)	28900 (128540)	28930 (128680)	28960 (128810)	28970 (128850)	28970 (128850)	28970 (128850)	
<b>Input Power HP (kW)</b>	<b>88.6 (66.1)</b>	<b>90.5 (67.5)</b>	<b>90.5 (67.5)</b>	<b>83.3 (62.1)</b>	<b>83.3 (62.1)</b>	<b>52.8 (39.4)</b>	<b>46.7 (34.8)</b>	<b>46.7 (34.8)</b>	<b>41.4 (30.9)</b>	<b>56.1 (41.8)</b>	<b>51.2 (38.2)</b>	<b>43.3 (32.3)</b>	<b>37.5 (28.0)</b>	<b>4F195</b>
Output Torque in-lbs (N·m)	75130 (8490)	93815 (10600)	102665 (11600)	107975 (122000)	117715 (13300)	89380 (10100)	84335 (9530)	92035 (10400)	93805 (10600)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	23825 (106000)	24275 (108000)	24500 (109000)	25400 (113000)	25625 (114000)	28325 (126000)	28550 (127000)	28100 (125000)	28100 (125000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	
Solid Shaft OHL lbs (N)	20600 (91620)	22300 (99190)	23060 (102570)	24490 (108930)	26000 (115640)	27700 (123200)	28140 (125160)	28900 (128540)	28930 (128680)	28960 (128810)	28970 (128850)	28970 (128850)	28970 (128850)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	12.0	10.7	9.73	9.00	8.18	7.06	6.43	5.85	4.77	4.02	3.48	2.89	2.36	1.73	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>21.3 (15.9)</b>	<b>189 (14.1)</b>	<b>17.3 (12.9)</b>	<b>16.0 (11.9)</b>	<b>14.5 (10.8)</b>	<b>12.5 (9.40)</b>	<b>11.4 (8.47)</b>	<b>10.4 (7.74)</b>	<b>8.40 (6.30)</b>	<b>7.12 (5.31)</b>	<b>6.16 (4.59)</b>	<b>5.12 (3.82)</b>	<b>4.18 (3.12)</b>	—	<b>4E190</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21330 (94870)	21500 (95630)	21620 (96160)	21670 (96380)	21720 (96610)	21790 (96920)	21830 (97090)	21860 (97230)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>21.3 (15.9)</b>	<b>18.9 (14.1)</b>	<b>17.3 (12.9)</b>	<b>16.0 (11.9)</b>	<b>14.5 (10.8)</b>	<b>12.5 (9.35)</b>	<b>11.4 (8.47)</b>	<b>10.4 (7.74)</b>	<b>8.40 (6.30)</b>	<b>7.12 (5.31)</b>	<b>6.16 (4.59)</b>	<b>5.12 (3.82)</b>	<b>4.18 (3.12)</b>	—	<b>4E195</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21330 (94870)	21500 (95630)	21620 (96160)	21670 (96380)	21720 (96610)	21790 (96920)	21830 (97090)	21860 (97230)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>25.5 (19.0)</b>	<b>20.5 (15.3)</b>	<b>20.5 (15.3)</b>	<b>17.3 (12.9)</b>	<b>17.3 (12.9)</b>	<b>14.9 (11.1)</b>	<b>12.3 (9.19)</b>	<b>12.3 (9.19)</b>	<b>10.0 (7.49)</b>	<b>8.40 (6.30)</b>	<b>7.31 (5.45)</b>	<b>6.07 (4.53)</b>	<b>4.96 (3.70)</b>	—	<b>4F180</b>
Output Torque in-lbs (N·m)	122120 (13800)	111500 (12600)	122120 (13800)	111500 (12600)	122120 (13800)	122120 (13800)	111500 (12600)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	
Hollow Shaft OHL lbs (N)	26975 (120000)	27425 (122000)	26975 (120000)	27425 (122000)	26975 (120000)	26975 (120000)	27425 (122000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	
Solid Shaft OHL lbs (N)	28970 (128850)	28970 (128850)	29000 (128990)	29080 (129340)	29170 (129740)	29290 (130280)	29370 (130630)	29430 (130900)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	<b>30.0 (22.4)</b>	<b>25.3 (18.9)</b>	<b>25.3 (18.9)</b>	<b>21.3 (15.9)</b>	<b>21.3 (15.9)</b>	<b>18.4 (13.7)</b>	<b>15.2 (11.3)</b>	<b>15.2 (11.3)</b>	<b>12.4 (9.23)</b>	<b>10.4 (7.78)</b>	<b>9.00 (6.73)</b>	<b>6.77 (5.05)</b>	<b>6.12 (4.56)</b>	—	<b>4F185</b>
Output Torque in-lbs (N·m)	144245 (16300)	137165 (15500)	150440 (17000)	138050 (15600)	150440 (17000)	150440 (17000)	137165 (15500)	149555 (16900)	150440 (17000)	150440 (17000)	150440 (17000)	135395 (15300)	150440 (17000)	150440 (17000)	
Hollow Shaft OHL lbs (N)	25850 (115000)	26300 (117000)	25625 (114000)	26300 (117000)	25625 (114000)	25625 (114000)	26300 (117000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)	26300 (117000)	25625 (114000)	25625 (114000)	
Solid Shaft OHL lbs (N)	28970 (128850)	28970 (128850)	29000 (128990)	29080 (129340)	29170 (129740)	29290 (130280)	29370 (130630)	29430 (130900)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	<b>33.1 (24.7)</b>	<b>29.4 (21.9)</b>	<b>26.8 (20.0)</b>	<b>24.7 (18.4)</b>	<b>22.5 (16.8)</b>	<b>19.4 (14.5)</b>	<b>17.6 (13.1)</b>	<b>16.1 (12.0)</b>	<b>13.1 (9.78)</b>	<b>11.1 (8.25)</b>	<b>9.60 (7.13)</b>	<b>7.94 (5.92)</b>	<b>6.48 (4.83)</b>	—	<b>4F190</b>
Output Torque in-lbs (N·m)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	25175 (112000)</														

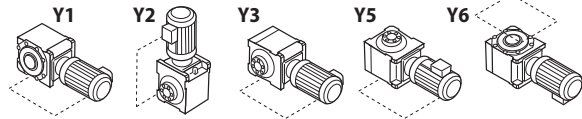




# Frame Size Selection Tables 580 RPM

# Frame Size Selection Tables 580 RPM

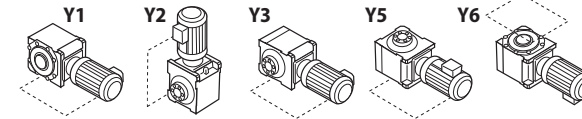
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	52.7	44.6	41.4	36.3	32.2	27.6	26.4	23.2	20.7	16.6	14.9	12.6	10.9	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>10.8 (8.09)</b>	<b>8.90 (6.64)</b>	<b>8.10 (6.07)</b>	<b>7.10 (5.31)</b>	<b>6.52 (4.86)</b>	<b>5.43 (4.05)</b>	<b>5.08 (3.79)</b>	<b>4.65 (3.47)</b>	<b>4.06 (3.03)</b>	<b>3.23 (2.41)</b>	<b>2.96 (2.21)</b>	<b>2.51 (1.87)</b>	<b>2.17 (1.62)</b>	<b>4A140</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4260 (18940)	4510 (20060)	4530 (20140)	4570 (20320)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>10.8 (8.09)</b>	<b>8.90 (6.64)</b>	<b>8.10 (6.07)</b>	<b>7.10 (5.31)</b>	<b>6.52 (4.86)</b>	<b>5.43 (4.05)</b>	<b>5.08 (3.79)</b>	<b>4.65 (3.47)</b>	<b>4.06 (3.03)</b>	<b>3.23 (2.41)</b>	<b>2.96 (2.21)</b>	<b>2.51 (1.87)</b>	<b>2.17 (1.62)</b>	<b>4A145</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4260 (18940)	4510 (20060)	4530 (20140)	4570 (20320)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	<b>7.86 (5.86)</b>	<b>7.86 (5.86)</b>	<b>7.86 (5.86)</b>	<b>7.86 (5.86)</b>	<b>7.86 (5.86)</b>	<b>5.23 (3.90)</b>	<b>5.34 (3.98)</b>	<b>5.34 (3.98)</b>	<b>5.36 (4.00)</b>	<b>4.09 (3.05)</b>	<b>4.09 (3.05)</b>	<b>3.46 (2.58)</b>	<b>3.00 (2.24)</b>	<b>4B120</b>
Output Torque in-lbs (N·m)	8265 (934)	10085 (1140)	11060 (1250)	12565 (1420)	13805 (1560)	10970 (1240)	12035 (1360)	13095 (1480)	15040 (1700)	14420 (1630)	15750 (1780)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	6380 (28400)	6605 (29400)	6740 (30000)	6875 (30600)	6990 (31100)	7755 (34500)	7820 (34800)	7955 (35400)	8135 (36200)	8565 (38100)	8250 (36700)	8250 (36700)	8250 (36700)	
Solid Shaft OHL lbs (N)	4730 (21030)	5140 (22860)	5360 (23840)	5710 (25390)	6010 (26730)	6490 (28860)	6630 (29490)	6970 (31000)	7240 (32200)	7420 (33000)	7470 (33220)	7540 (33530)	7600 (33800)	
<b>Input Power HP (kW)</b>	<b>7.86 (5.86)</b>	<b>7.86 (5.86)</b>	<b>7.86 (5.86)</b>	<b>7.86 (5.86)</b>	<b>7.86 (5.86)</b>	<b>5.23 (3.90)</b>	<b>5.34 (3.98)</b>	<b>5.34 (3.98)</b>	<b>5.36 (4.00)</b>	<b>4.65 (3.47)</b>	<b>4.65 (3.47)</b>	<b>4.16 (3.10)</b>	<b>3.61 (2.69)</b>	<b>4B125</b>
Output Torque in-lbs (N·m)	8265 (934)	10085 (1140)	11060 (1250)	12565 (1420)	13805 (1560)	10970 (1240)	12035 (1360)	13095 (1480)	15040 (1700)	16370 (1850)	17960 (2030)	18935 (2140)	18935 (2140)	
Hollow Shaft OHL lbs (N)	6380 (28400)	6605 (29400)	6740 (30000)	6875 (30600)	6990 (31100)	7755 (34500)	7820 (34800)	7955 (35400)	8135 (36200)	8090 (36000)	7640 (34000)	7325 (32600)	7325 (32600)	
Solid Shaft OHL lbs (N)	4730 (21030)	5140 (22860)	5360 (23840)	5710 (25390)	6010 (26730)	6490 (28860)	6630 (29490)	6970 (31000)	7240 (32200)	7420 (33000)	7470 (33220)	7540 (33530)	7600 (33800)	
<b>Input Power HP (kW)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>10.2 (7.64)</b>	<b>10.1 (7.56)</b>	<b>9.3 (6.91)</b>	<b>8.1 (6.05)</b>	<b>6.45 (4.81)</b>	<b>5.90 (4.40)</b>	<b>4.99 (3.72)</b>	<b>4.32 (3.22)</b>	<b>4B140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	21590 (2440)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5865 (26100)	6000 (26700)	6065 (27000)	6110 (27200)	6155 (27400)	6290 (28000)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	4730 (21030)	5140 (22860)	5360 (23840)	5710 (25390)	6010 (26730)	6490 (28860)	6630 (29490)	6970 (31000)	7240 (32200)	7420 (33000)	7470 (33220)	7540 (33530)	7600 (33800)	
<b>Input Power HP (kW)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>10.2 (7.64)</b>	<b>10.1 (7.56)</b>	<b>9.3 (6.91)</b>	<b>8.1 (6.05)</b>	<b>6.45 (4.81)</b>	<b>5.90 (4.40)</b>	<b>4.99 (3.72)</b>	<b>4.32 (3.22)</b>	<b>4B145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	21590 (2440)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5865 (26100)	6000 (26700)	6065 (27000)	6110 (27200)	6155 (27400)	6290 (28000)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	4730 (21030)	5140 (22860)	5360 (23840)	5710 (25390)	6010 (26730)	6490 (28860)	6630 (29490)	6970 (31000)	7240 (32200)	7420 (33000)	7470 (33220)	7540 (33530)	7600 (33800)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



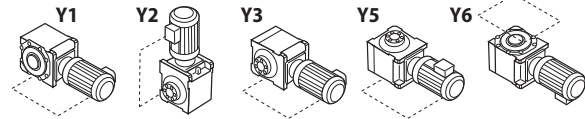
Dimensions on pages 2.156 - 2.166

Output RPM	9.67	8.66	7.84	7.25	6.59	5.69	5.18	4.72	3.84	3.24	2.80	2.33	1.90	1.39	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>1.92 (1.43)</b>	<b>1.69 (1.26)</b>	<b>1.56 (1.16)</b>	<b>1.42 (1.06)</b>	<b>1.30 (0.971)</b>	<b>1.12 (0.837)</b>	<b>1.02 (0.759)</b>	<b>0.931 (0.694)</b>	<b>0.758 (0.565)</b>	<b>0.638 (0.476)</b>	<b>0.551 (0.411)</b>	<b>0.459 (0.342)</b>	<b>0.374 (0.279)</b>	—	<b>4A140</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4570 (20320)	4560 (20280)	4560 (20280)	4550 (20230)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>1.92 (1.43)</b>	<b>1.69 (1.26)</b>	<b>1.56 (1.16)</b>	<b>1.42 (1.06)</b>	<b>1.30 (0.971)</b>	<b>1.12 (0.837)</b>	<b>1.02 (0.759)</b>	<b>0.930 (0.694)</b>	<b>0.760 (0.565)</b>	<b>0.638 (0.476)</b>	<b>0.551 (0.411)</b>	<b>0.459 (0.342)</b>	<b>0.374 (0.279)</b>	—	<b>4A145</b>
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4570 (20320)	4560 (20280)	4560 (20280)	4550 (20230)	4550 (20230)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>2.63 (1.96)</b>	<b>2.13 (1.59)</b>	<b>2.13 (1.59)</b>	<b>1.80 (1.34)</b>	<b>1.80 (1.34)</b>	<b>1.54 (1.15)</b>	<b>1.29 (0.959)</b>	<b>1.29 (0.959)</b>	<b>1.05 (0.781)</b>	<b>0.880 (0.658)</b>	<b>0.760 (0.569)</b>	<b>0.634 (0.473)</b>	<b>0.518 (0.386)</b>	—	<b>4B120</b>
Output Torque in-lbs (N·m)	15660 (1770)	14335 (1620)	15660 (1770)	14420 (1630)	15750 (1780)	15660 (1770)	14420 (1630)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	15750 (1780)	
Hollow Shaft OHL lbs (N)	8295 (36900)	8585 (38200)	8270 (36800)	8565 (38100)	8250 (36700)	8295 (36900)	8565 (38100)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	8250 (36700)	
Solid Shaft OHL lbs (N)	7590 (33760)	7490 (33310)	7400 (32910)	7350 (32690)	7280 (32380)	7190 (31980)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>3.18 (2.37)</b>	<b>2.57 (1.92)</b>	<b>2.57 (1.92)</b>	<b>2.16 (1.61)</b>	<b>2.16 (1.61)</b>	<b>1.86 (1.39)</b>	<b>1.54 (1.15)</b>	<b>1.54 (1.15)</b>	<b>1.26 (0.937)</b>	<b>1.06 (0.790)</b>	<b>0.920 (0.683)</b>	<b>0.710 (0.533)</b>	<b>0.621 (0.463)</b>	—	<b>4B125</b>
Output Torque in-lbs (N·m)	18935 (2140)	17345 (1960)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	17345 (1960)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	17785 (2010)	18935 (2140)	18935 (2140)	
Hollow Shaft OHL lbs (N)	7325 (32600)	7845 (34900)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	7325 (32600)	
Solid Shaft OHL lbs (N)	7590 (33760)	7490 (33310)	7400 (32910)	7350 (32690)	7280 (32380)	7190 (31980)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>3.82 (2.85)</b>	<b>3.38 (2.52)</b>	<b>3.08 (2.30)</b>	<b>2.84 (2.12)</b>	<b>2.59 (1.93)</b>	<b>2.24 (1.67)</b>	<b>2.02 (1.51)</b>	<b>1.85 (1.38)</b>	<b>1.50 (1.12)</b>	<b>1.27 (0.948)</b>	<b>1.10 (0.820)</b>	<b>0.910 (0.681)</b>	<b>0.750 (0.556)</b>	—	<b>4B140</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7590 (33760)	7490 (33310)	7400 (32910)	7350 (32690)	7280 (32380)	7190 (31980)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>3.82 (2.85)</b>	<b>3.38 (2.52)</b>	<b>3.08 (2.30)</b>	<b>2.84 (2.12)</b>	<b>2.59 (1.93)</b>	<b>2.24 (1.67)</b>	<b>2.02 (1.51)&lt;/</b>								

# Frame Size Selection Tables 580 RPM

# Frame Size Selection Tables 580 RPM

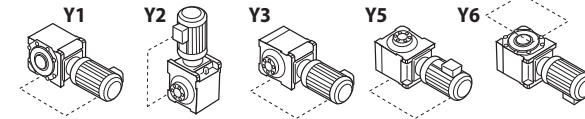
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	52.7	44.6	41.4	36.3	32.2	27.6	26.4	23.2	20.7	16.6	14.9	12.6	10.9	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>15.6 (11.6)</b>	<b>15.6 (11.6)</b>	<b>15.6 (11.6)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.67)</b>	<b>10.8 (8.06)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>8.11 (6.05)</b>	<b>6.45 (4.81)</b>	<b>5.90 (4.40)</b>	<b>4.99 (3.72)</b>	<b>4.32 (3.22)</b>	<b>4B160</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5505 (24500)	5550 (24700)	5575 (24800)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	4730 (21030)	5140 (22860)	5360 (23840)	5710 (25390)	6010 (26730)	6490 (28860)	6630 (29490)	6970 (31000)	7240 (32200)	7420 (33000)	7470 (33220)	7540 (33530)	7600 (33800)	
<b>Input Power HP (kW)</b>	<b>15.6 (11.6)</b>	<b>15.6 (11.6)</b>	<b>15.6 (11.6)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.67)</b>	<b>10.8 (8.06)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>8.11 (6.05)</b>	<b>6.45 (4.81)</b>	<b>5.90 (4.40)</b>	<b>4.99 (3.72)</b>	<b>4.32 (3.22)</b>	<b>4B165</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5505 (24500)	5550 (24700)	5575 (24800)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	4730 (21030)	5140 (22860)	5360 (23840)	5710 (25390)	6010 (26730)	6490 (28860)	6630 (29490)	6970 (31000)	7240 (32200)	7420 (33000)	7470 (33220)	7540 (33530)	7600 (33800)	
<b>Input Power HP (kW)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>10.2 (7.64)</b>	<b>12.1 (9.00)</b>	<b>12.1 (9.00)</b>	<b>10.5 (7.80)</b>	<b>9.55 (7.12)</b>	<b>9.55 (7.12)</b>	<b>8.07 (6.02)</b>	<b>7.00 (5.22)</b>	<b>4C140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	21590 (2440)	27075 (3060)	29645 (3350)	29380 (3320)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	8765 (39000)	9100 (40500)	9260 (41200)	9460 (42100)	9595 (42700)	10250 (45600)	9955 (44300)	10070 (44800)	10630 (47300)	11150 (49600)	11260 (50100)	12025 (53500)	12160 (54100)	
Solid Shaft OHL lbs (N)	6290 (27970)	6870 (30550)	7170 (31890)	7670 (34110)	8090 (35980)	8810 (39180)	9040 (40200)	9590 (42650)	10030 (44610)	11070 (49230)	11530 (51280)	12140 (53990)	12580 (55950)	
<b>Input Power HP (kW)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>12.3 (9.17)</b>	<b>10.2 (7.64)</b>	<b>12.1 (9.00)</b>	<b>12.1 (9.00)</b>	<b>10.5 (7.80)</b>	<b>10.1 (7.51)</b>	<b>10.1 (7.51)</b>	<b>9.03 (6.73)</b>	<b>7.76 (5.79)</b>	<b>4C145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	21590 (2440)	27075 (3060)	29645 (3350)	29380 (3320)	35485 (4010)	38845 (4390)	41150 (4650)	40795 (4610)	
Hollow Shaft OHL lbs (N)	8765 (39000)	9100 (40500)	9260 (41200)	9460 (42100)	9595 (42700)	10250 (45600)	9955 (44300)	10070 (44800)	10630 (47300)	10970 (48800)	11080 (49300)	10945 (48700)	11060 (49200)	
Solid Shaft OHL lbs (N)	6290 (27970)	6870 (30550)	7170 (31890)	7670 (34110)	8090 (35980)	8810 (39180)	9040 (40200)	9590 (42650)	10030 (44610)	11070 (49230)	11530 (51280)	12140 (53990)	12580 (55950)	
<b>Input Power HP (kW)</b>	<b>27.5 (20.5)</b>	<b>27.5 (20.5)</b>	<b>27.5 (20.5)</b>	<b>27.5 (20.5)</b>	<b>25.9 (19.3)</b>	<b>18.9 (14.1)</b>	<b>19.3 (14.4)</b>	<b>18.5 (13.8)</b>	<b>16.2 (12.1)</b>	<b>12.9 (9.62)</b>	<b>11.8 (8.79)</b>	<b>10.0 (7.44)</b>	<b>8.6 (6.45)</b>	<b>4C160</b>
Output Torque in-lbs (N·m)	28845 (3260)	35220 (3980)	38495 (4350)	43980 (4970)	45485 (5140)	39820 (4500)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	7260 (32300)	7235 (32200)	7235 (32200)	7145 (31800)	7325 (32600)	8520 (37900)	8405 (37400)	8565 (38100)	9100 (40500)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	6290 (27970)	6870 (30550)	7170 (31890)	7670 (34110)	8090 (35980)	8810 (39180)	9040 (40200)	9590 (42650)	10030 (44610)	11070 (49230)	11530 (51280)	12140 (53990)	12580 (55950)	
<b>Input Power HP (kW)</b>	<b>27.5 (20.5)</b>	<b>27.5 (20.5)</b>	<b>27.5 (20.5)</b>	<b>27.5 (20.5)</b>	<b>25.9 (19.3)</b>	<b>18.9 (14.1)</b>	<b>19.3 (14.4)</b>	<b>18.5 (13.8)</b>	<b>16.2 (12.1)</b>	<b>12.9 (9.62)</b>	<b>11.8 (8.79)</b>	<b>10.0 (7.44)</b>	<b>8.65 (6.45)</b>	<b>4C165</b>
Output Torque in-lbs (N·m)	28845 (3260)	35220 (3980)	38495 (4350)	43980 (4970)	45485 (5140)	39820 (4500)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	7260 (32300)	7235 (32200)	7235 (32200)	7145 (31800)	7325 (32600)	8520 (37900)	8405 (37400)	8565 (38100)	9100 (40500)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	6290 (27970)	6870 (30550)	7170 (31890)	7670 (34110)	8090 (35980)	8810 (39180)	9040 (40200)	9590 (42650)	10030 (44610)	11070 (49230)	11530 (51280)	12140 (53990)	12580 (55950)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



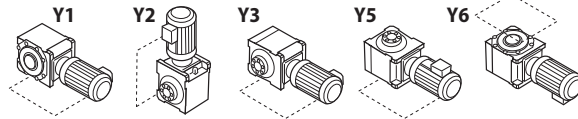
Dimensions on pages 2.156 - 2.166

Output RPM	9.67	8.66	7.84	7.25	6.59	5.69	5.18	4.72	3.84	3.24	2.80	2.33	1.90	1.39	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>3.82 (2.85)</b>	<b>3.38 (2.52)</b>	<b>3.08 (2.30)</b>	<b>2.84 (2.12)</b>	<b>2.59 (1.93)</b>	<b>2.24 (1.67)</b>	<b>2.02 (1.51)</b>	<b>1.85 (1.38)</b>	<b>1.50 (1.12)</b>	<b>1.27 (0.948)</b>	<b>1.10 (0.820)</b>	<b>0.913 (0.681)</b>	<b>0.746 (0.556)</b>	—	<b>4B160</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7590 (33760)	7490 (33310)	7400 (32910)	7350 (32690)	7280 (32380)	7190 (31980)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>3.82 (2.85)</b>	<b>3.38 (2.52)</b>	<b>3.08 (2.30)</b>	<b>2.84 (2.12)</b>	<b>2.59 (1.93)</b>	<b>2.24 (1.67)</b>	<b>2.02 (1.51)</b>	<b>1.85 (1.38)</b>	<b>1.50 (1.12)</b>	<b>1.27 (0.948)</b>	<b>1.10 (0.820)</b>	<b>0.913 (0.681)</b>	<b>0.746 (0.556)</b>	—	<b>4B165</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7590 (33760)	7490 (33310)	7400 (32910)	7350 (32690)	7280 (32380)	7190 (31980)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>6.18 (4.61)</b>	<b>5.00 (3.73)</b>	<b>5.00 (3.73)</b>	<b>4.20 (3.13)</b>	<b>4.20 (3.13)</b>	<b>3.62 (2.70)</b>	<b>3.00 (2.24)</b>	<b>3.00 (2.24)</b>	<b>2.44 (1.82)</b>	<b>2.07 (1.54)</b>	<b>1.78 (1.33)</b>	<b>1.48 (1.10)</b>	<b>1.21 (0.900)</b>	—	<b>4C140</b>
Output Torque in-lbs (N·m)	36810 (4160)	33625 (3800)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	12160 (54100)	12900 (57400)	12160 (54100)	12900 (57400)	12160 (54100)	12160 (54100)	12900 (57400)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	
Solid Shaft OHL lbs (N)	12820 (57020)	12760 (56750)	12710 (56530)	12680 (56400)	12640 (56220)	12580 (55950)	12560 (55860)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>6.91 (5.15)</b>	<b>5.46 (4.07)</b>	<b>5.46 (4.07)</b>	<b>4.69 (3.50)</b>	<b>4.69 (3.50)</b>	<b>4.05 (3.02)</b>	<b>3.35 (2.50)</b>	<b>3.35 (2.50)</b>	<b>2.74 (2.04)</b>	<b>2.31 (1.72)</b>	<b>1.98 (1.48)</b>	<b>1.60 (1.19)</b>	<b>1.23 (0.917)</b>	—	<b>4C145</b>
Output Torque in-lbs (N·m)	41150 (4650)	36810 (4160)	40265 (4550)	37610 (4250)	41150 (4650)	41150 (4650)	37610 (4250)	41150 (4650)	41150 (4650)	41150 (4650)	41150 (4650)	39820 (4500)	37520 (4240)	—	
Hollow Shaft OHL lbs (N)	10945 (48700)	12180 (54200)	11240 (50000)	11955 (53200)	10945 (48700)	10945 (48700)	11955 (53200)	10945 (48700)	10945 (48700)	10945 (48700)	10945 (48700)	10945 (48700)	11375 (50600)	11980 (53300)	
Solid Shaft OHL lbs (N)	12820 (57020)	12760 (56750)	12710 (56530)	12680 (56400)	12640 (56220)	12580 (55950)	12560 (55860)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>7.63 (5.69)</b>	<b>6.76 (5.04)</b>	<b>6.18 (4.61)</b>	<b>5.67 (4.23)</b>	<b>5.19 (3.87)</b>	<b>4.48 (3.34)</b>	<b>4.05 (3.02)</b>	<b>3.70 (2.76)</b>	<b>3.02 (2.25)</b>	<b>2.55 (1.90)</b>	<b>2.20 (1.64)</b>	<b>1.82 (1.36)</b>	<b>1.49 (1.11)</b>	—	<b>4C160</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12820 (57020)	12760 (56750)	12710 (56530)	12680 (56400)	12640 (56220)	12580 (55950)	12560 (55860)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>7.63 (5.69)</b>	<b>6.76 (5.04)</b>	<b>6.18 (4.61)</b>	<b>5.</b>											

# Frame Size Selection Tables 580 RPM

# Frame Size Selection Tables 580 RPM

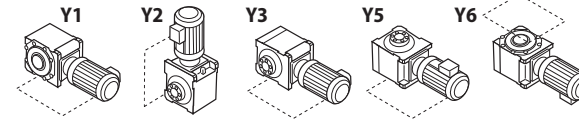
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	52.7	44.6	41.4	36.3	32.2	27.6	26.4	23.2	20.7	16.6	14.9	12.6	10.9	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>31.0 (23.1)</b>	<b>28.4 (21.2)</b>	<b>25.1 (18.7)</b>	<b>19.3 (14.4)</b>	<b>19.3 (14.4)</b>	<b>18.5 (13.8)</b>	<b>16.2 (12.1)</b>	<b>12.9 (9.62)</b>	<b>11.8 (8.79)</b>	<b>10.0 (7.44)</b>	<b>8.60 (6.45)</b>	<b>4C170</b>
Output Torque in-lbs (N·m)	35135 (3970)	42835 (4840)	43365 (4900)	45490 (5140)	43900 (4960)	40615 (4590)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6650 (29600)	6540 (29100)	6785 (30200)	7010 (31200)	7485 (33300)	8450 (37600)	8430 (37500)	8565 (38100)	9100 (40500)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	6930 (30830)	6810 (30310)	7070 (31460)	7305 (32510)	7800 (34700)	8810 (39180)	9040 (40200)	9590 (42650)	10030 (44610)	11070 (49230)	11530 (51280)	12140 (53990)	12580 (55950)	
<b>Input Power HP (kW)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>31.0 (23.1)</b>	<b>28.4 (21.2)</b>	<b>25.1 (18.7)</b>	<b>19.3 (14.4)</b>	<b>19.3 (14.4)</b>	<b>18.5 (13.8)</b>	<b>16.2 (12.1)</b>	<b>12.9 (9.62)</b>	<b>11.8 (8.79)</b>	<b>10.0 (7.44)</b>	<b>8.60 (6.45)</b>	<b>4C175</b>
Output Torque in-lbs (N·m)	35135 (3970)	42835 (4840)	43365 (4900)	45490 (5140)	43900 (4960)	40615 (4590)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	6650 (29600)	6540 (29100)	6785 (30200)	7010 (31200)	7485 (33300)	8450 (37600)	8430 (37500)	8565 (38100)	9100 (40500)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	6930 (30830)	6810 (30310)	7070 (31460)	7305 (32510)	7800 (34700)	8810 (39180)	9040 (40200)	9590 (42650)	10030 (44610)	11070 (49230)	11530 (51280)	12140 (53990)	12580 (55950)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>18.9 (14.1)</b>	<b>21.5 (16.0)</b>	<b>21.5 (16.0)</b>	<b>18.8 (14.0)</b>	<b>13.7 (10.2)</b>	<b>13.7 (10.2)</b>	<b>11.6 (8.63)</b>	<b>10.0 (7.48)</b>	<b>4D160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	39820 (4500)	48230 (5450)	52740 (5960)	52740 (5960)	48230 (5450)	52740 (5960)	52740 (5960)	52740 (5960)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	14545 (64700)	14205 (63200)	14340 (63800)	15105 (67200)	16815 (74800)	17060 (75900)	17915 (79700)	17915 (79700)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	12620 (56130)	12940 (57550)	13750 (61160)	14380 (63960)	15300 (68050)	15660 (69650)	16140 (71790)	16490 (73340)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>18.9 (14.1)</b>	<b>22.1 (16.5)</b>	<b>22.1 (16.5)</b>	<b>20.0 (14.9)</b>	<b>16.4 (12.2)</b>	<b>16.4 (12.2)</b>	<b>13.8 (10.3)</b>	<b>12.0 (8.95)</b>	<b>4D165</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	39820 (4500)	49645 (5610)	54335 (6140)	56105 (6340)	57695 (6520)	63095 (7130)	63095 (7130)	63095 (7130)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	14545 (64700)	14070 (62600)	14230 (63300)	14835 (66000)	16050 (71400)	15755 (70100)	15755 (70100)	15755 (70100)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	12620 (56130)	12940 (57550)	13750 (61160)	14380 (63960)	15300 (68050)	15660 (69650)	16140 (71790)	16490 (73340)	
<b>Input Power HP (kW)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>26.6 (19.8)</b>	<b>31.0 (23.1)</b>	<b>31.0 (23.1)</b>	<b>27.1 (20.2)</b>	<b>19.7 (14.7)</b>	<b>19.7 (14.7)</b>	<b>16.6 (12.4)</b>	<b>14.5 (10.8)</b>	<b>4D170</b>
Output Torque in-lbs (N·m)	35130 (3970)	42830 (4840)	46810 (5290)	53540 (6050)	58580 (6620)	55840 (6310)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	75925 (8580)	76015 (8590)	
Hollow Shaft OHL lbs (N)	11600 (51600)	11870 (52800)	11960 (53200)	12050 (53600)	12095 (53800)	13260 (59000)	12475 (55500)	11825 (52600)	11825 (52600)	14050 (62500)	11825 (52600)	11865 (52800)	11825 (52600)	
Solid Shaft OHL lbs (N)	8980 (39940)	9810 (43630)	10240 (45540)	10950 (48700)	11570 (51460)	12620 (56130)	12940 (57550)	13750 (61160)	14380 (63960)	15300 (68050)	15660 (69650)	16140 (71790)	16490 (73340)	
<b>Input Power HP (kW)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>26.6 (19.8)</b>	<b>33.4 (24.9)</b>	<b>31.4 (23.4)</b>	<b>27.5 (20.5)</b>	<b>21.9 (16.3)</b>	<b>20.0 (14.9)</b>	<b>16.9 (12.6)</b>	<b>14.6 (10.9)</b>	<b>4D175</b>
Output Torque in-lbs (N·m)	35130 (3970)	42830 (4840)	46810 (5290)	53540 (6050)	58580 (6620)	55840 (6310)	74955 (8470)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11600 (51600)	11870 (52800)	11960 (53200)	12050 (53600)	12095 (53800)	13260 (59000)	12025 (53500)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	8980 (39940)	9810 (43630)	10240 (45540)	10950 (48700)	11570 (51460)	12620 (56130)	12940 (57550)	13750 (61160)	14380 (63960)	15300 (68050)	15660 (69650)	16140 (71790)	16490 (73340)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

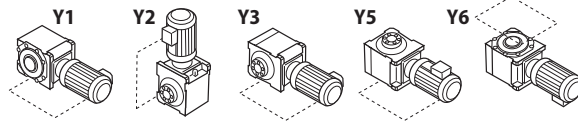
Output RPM	9.67	8.66	7.84	7.25	6.59	5.69	5.18	4.72	3.84	3.24	2.80	2.33	1.90	1.39	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>7.63 (5.69)</b>	<b>6.76 (5.04)</b>	<b>6.18 (4.61)</b>	<b>5.67 (4.23)</b>	<b>5.19 (3.87)</b>	<b>4.48 (3.34)</b>	<b>4.05 (3.02)</b>	<b>3.70 (2.76)</b>	<b>3.02 (2.25)</b>	<b>2.55 (1.90)</b>	<b>2.20 (1.64)</b>	<b>1.82 (1.36)</b>	<b>1.49 (1.11)</b>	—	<b>4C170</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12820 (57020)	12760 (56750)	12710 (56530)	12680 (56400)	12640 (56220)	12580 (55950)	12560 (55860)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>7.63 (5.69)</b>	<b>6.80 (5.04)</b>	<b>6.18 (4.61)</b>	<b>5.67 (4.23)</b>	<b>5.19 (3.87)</b>	<b>4.48 (3.34)</b>	<b>4.05 (3.02)</b>	<b>3.70 (2.76)</b>	<b>3.02 (2.25)</b>	<b>2.55 (1.90)</b>	<b>2.20 (1.64)</b>	<b>1.82 (1.36)</b>	<b>1.49 (1.11)</b>	—	<b>4C175</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12820 (57020)	12760 (56750)	12710 (56530)	12680 (56400)	12640 (56220)	12580 (55950)	12560 (55860)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	<b>8.85 (6.60)</b>	<b>7.16 (5.34)</b>	<b>7.16 (5.34)</b>	<b>6.02 (4.49)</b>	<b>6.02 (4.49)</b>	<b>5.19 (3.87)</b>	<b>4.30 (3.21)</b>	<b>4.30 (3.21)</b>	<b>3.46 (2.58)</b>	<b>2.95 (2.20)</b>	<b>2.55 (1.90)</b>	<b>2.12 (1.58)</b>	<b>1.73 (1.29)</b>	—	<b>4D160</b>
Output Torque in-lbs (N·m)	52740 (5960)	48230 (5450)	52740 (5960)	48230 (5450)	52740 (5960)	52740 (5960)	48230 (5450)	52740 (5960)	52120 (5890)	52740 (5960)	52740 (5960)	52740 (5960)	52740 (5960)	52740 (5960)	
Hollow Shaft OHL lbs (N)	17915 (79700)	18680 (83100)	17915 (79700)	18680 (83100)	17915 (79700)	17915 (79700)	18680 (83100)	17915 (79700)	18025 (80200)	17915 (79700)	17915 (79700)	17915 (79700)	17915 (79700)	17915 (79700)	
Solid Shaft OHL lbs (N)	16690 (74230)	16660 (74100)	16640 (74010)	16630 (73970)	16610 (73880)	16590 (73790)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>10.6 (7.90)</b>	<b>8.60 (6.39)</b>	<b>8.60 (6.39)</b>	<b>7.20 (5.37)</b>	<b>7.20 (5.37)</b>	<b>6.21 (4.63)</b>	<b>5.15 (3.84)</b>	<b>5.15 (3.84)</b>	<b>4.18 (3.12)</b>	<b>3.53 (2.63)</b>	<b>3.06 (2.28)</b>	<b>2.53 (1.89)</b>	<b>2.02 (1.51)</b>	—	<b>4D165</b>
Output Torque in-lbs (N·m)	63095 (7130)	57695 (6520)	63095 (7130)	57695 (6520)	63095 (7130)	63095 (7130)	57695 (6520)	63095 (7130)	63095 (7130)	63095 (7130)	63095 (7130)	63095 (7130)	63095 (7130)	61680 (6970)	
Hollow Shaft OHL lbs (N)	15755 (70100)	16970 (75500)	15755 (70100)	16970 (75500)	15755 (70100)	15755 (70100)	16970 (75500)	15755 (70100)	15755 (70100)	15755 (70100)	15755 (70100)	15755 (70100)	15755 (70100)	16115 (71700)	
Solid Shaft OHL lbs (N)	16690 (74230)	16660 (74100)	16640 (74010)	16630 (73970)	16610 (73880)	16590 (73790)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>12.8 (9.51)</b>	<b>10.3 (7.70)</b>	<b>10.3 (7.70)</b>	<b>8.70 (6.47)</b>	<b>8.70 (6.47)</b>	<b>7.50 (5.58)</b>	<b>6.20 (4.62)</b>	<b>6.20 (4.62)</b>	<b>5.04 (3.76)</b>	<b>4.25 (3.17)</b>	<b>3.67 (2.74)</b>	<b>3.06 (2.28)</b>	<b>2.49 (1.86)</b>	—	<b>4D170</b>
Output Torque in-lbs (N·m)	76015 (8590)	69555 (7860)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	
Hollow Shaft OHL lbs (N)	11825 (52600)	14050 (62500)	11825 (52600)	14050 (62500)	11825 (52600)	11825 (52600)	14050 (62500)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	
Solid Shaft OHL lbs (N)	16690 (74230)	16660 (74100)	16640 (74010)	16630 (73970)	16610 (73880)	16590 (73790)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>12.9 (9.65)</b>	<b>11.5 (8.55)</b>	<b>10.5 (7.81)</b>	<b>9.60 (7.18)</b>	<b>8.80 (6.56)</b>	<b>7.60 (5.66)</b>	<b>6.90 (5.13)</b>	<b>6.29 (4.69)</b>	<b>5.12 (3.82)</b>	<b>4.32 (3.22)</b>	<b>3.73 (2.78)</b>	<b>3.10 (2.31)</b>	<b>2.53 (1.89)</b>	—	<b>4D175</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (87												



# Frame Size Selection Tables 580 RPM

# Frame Size Selection Tables 580 RPM

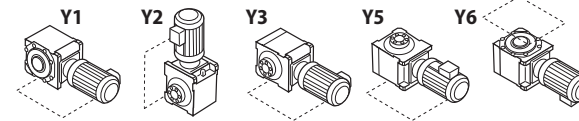
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	52.7	44.6	41.4	36.3	32.2	27.6	26.4	23.2	20.7	16.6	14.9	12.6	10.9	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.0 (32.8)</b>	<b>33.4 (24.9)</b>	<b>29.6 (22.1)</b>	<b>29.6 (22.1)</b>	<b>26.4 (19.7)</b>	<b>21.9 (16.3)</b>	<b>20.0 (14.9)</b>	<b>16.9 (12.6)</b>	<b>14.6 (10.9)</b>	<b>4D180</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62210 (7030)	71150 (8040)	77165 (8720)	70265 (7940)	66545 (7520)	72740 (8220)	74070 (8370)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	10655 (47400)	10720 (47700)	10720 (47700)	10630 (47300)	10610 (47200)	12095 (53800)	12745 (56700)	12720 (56600)	12565 (55900)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	8980 (39940)	9810 (43630)	10240 (45540)	10950 (48700)	11570 (51460)	12620 (56130)	12940 (57550)	13750 (61160)	14380 (63960)	15300 (68050)	15660 (69650)	16140 (71790)	16490 (73340)	
<b>Input Power HP (kW)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.0 (32.8)</b>	<b>33.9 (25.3)</b>	<b>30.2 (22.5)</b>	<b>30.2 (22.5)</b>	<b>26.8 (20.0)</b>	<b>21.9 (16.3)</b>	<b>20.0 (14.9)</b>	<b>16.9 (12.6)</b>	<b>14.6 (10.9)</b>	<b>4D185</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62210 (7030)	71150 (8040)	77165 (8720)	71415 (8070)	67695 (7650)	74070 (8370)	75220 (8500)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	10655 (47400)	10720 (47700)	10720 (4700)	10630 (47300)	10610 (47200)	12005 (53400)	12655 (56300)	12585 (56000)	12160 (54100)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	8980 (39940)	9810 (43630)	10240 (45540)	10950 (48700)	11570 (51460)	12620 (56130)	12940 (57550)	13750 (61160)	14380 (63960)	15300 (68050)	15660 (69650)	16140 (71790)	16490 (73340)	
<b>Input Power HP (kW)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>26.6 (19.8)</b>	<b>31.0 (23.1)</b>	<b>31.0 (23.1)</b>	<b>27.1 (20.2)</b>	<b>19.7 (14.7)</b>	<b>19.7 (14.7)</b>	<b>16.6 (12.4)</b>	<b>14.5 (10.8)</b>	<b>4E170</b>
Output Torque in-lbs (N·m)	35130 (3970)	42830 (4840)	46810 (5290)	53540 (6050)	58580 (6620)	55840 (6310)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	75925 (8580)	76015 (8590)	
Hollow Shaft OHL lbs (N)	15935 (70900)	16500 (73400)	16745 (74500)	17085 (76000)	17285 (76900)	18700 (83200)	18095 (80500)	18295 (81400)	19265 (85700)	20275 (90200)	19940 (88700)	19960 (88800)	19940 (88700)	
Solid Shaft OHL lbs (N)	12970 (57690)	14070 (62580)	14630 (65070)	15530 (69070)	16320 (72590)	17690 (78680)	18110 (80550)	19160 (85220)	19980 (88870)	20690 (92020)	20930 (93090)	21240 (94470)	21470 (95490)	
<b>Input Power HP (kW)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>26.6 (19.8)</b>	<b>33.4 (24.9)</b>	<b>33.4 (24.9)</b>	<b>27.9 (20.8)</b>	<b>24.5 (18.3)</b>	<b>22.5 (16.8)</b>	<b>19.0 (14.2)</b>	<b>16.5 (12.3)</b>	<b>4E175</b>
Output Torque in-lbs (N·m)	35130 (3970)	42830 (4840)	46810 (5290)	53540 (6050)	58580 (6620)	55840 (6310)	74955 (8470)	81945 (9260)	78230 (8840)	86545 (9780)	86990 (9830)	86990 (9830)	86990 (9830)	
Hollow Shaft OHL lbs (N)	15935 (70900)	16500 (73400)	16745 (74500)	17085 (76000)	17285 (76900)	18700 (83200)	17715 (78800)	17845 (79400)	19105 (85000)	19420 (86400)	19400 (86300)	19400 (86300)	19400 (86300)	
Solid Shaft OHL lbs (N)	12970 (57690)	14070 (62580)	14630 (65070)	15530 (69070)	16320 (72590)	17690 (78680)	18110 (80550)	19160 (85220)	19980 (88870)	20690 (92020)	20930 (93090)	21240 (94470)	21470 (95490)	
<b>Input Power HP (kW)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>33.4 (24.9)</b>	<b>29.6 (22.1)</b>	<b>29.6 (22.1)</b>	<b>26.4 (19.7)</b>	<b>29.1 (21.7)</b>	<b>26.6 (19.8)</b>	<b>22.5 (16.8)</b>	<b>19.6 (14.6)</b>	<b>4E180</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62210 (7030)	71150 (8040)	77785 (8790)	70265 (7940)	66545 (7520)	72740 (8220)	74070 (8370)	102655 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	15085 (67100)	15465 (68800)	15620 (69500)	15780 (70200)	15870 (70600)	17625 (78400)	18340 (81600)	18520 (82400)	19420 (86400)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	12970 (57690)	14070 (62580)	14630 (65070)	15530 (69070)	16320 (72590)	17690 (78680)	18110 (80550)	19160 (85220)	19980 (88870)	20690 (92020)	20930 (93090)	21240 (94470)	21470 (95490)	
<b>Input Power HP (kW)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>33.9 (25.3)</b>	<b>30.2 (22.5)</b>	<b>30.2 (22.5)</b>	<b>26.8 (20.0)</b>	<b>29.1 (21.7)</b>	<b>26.6 (19.8)</b>	<b>22.5 (16.8)</b>	<b>19.6 (14.6)</b>	<b>4E185</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62210 (7030)	71150 (8040)	77785 (8790)	71425 (8070)	67705 (7650)	74080 (8370)	75230 (8500)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	15085 (67100)	15465 (68800)	15620 (69500)	15780 (70200)	15870 (70600)	17555 (78100)	18275 (81300)	18430 (82000)	19330 (86000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	12970 (57690)	14070 (62580)	14630 (65070)	15530 (69070)	16320 (72590)	17690 (78680)	18110 (80550)	19160 (85220)	19980 (88870)	20690 (92020)	20930 (93090)	21240 (94470)	21470 (95490)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



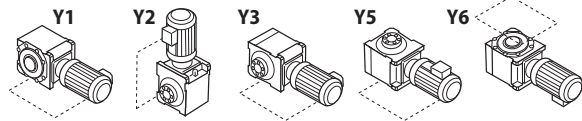
Dimensions on pages 2.156 - 2.166

Output RPM	9.67	8.66	7.84	7.25	6.59	5.69	5.18	4.72	3.84	3.24	2.80	2.33	1.90	1.39	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>12.9 (9.65)</b>	<b>11.5 (8.55)</b>	<b>10.5 (7.81)</b>	<b>9.60 (7.18)</b>	<b>8.80 (6.56)</b>	<b>7.60 (5.66)</b>	<b>6.90 (5.13)</b>	<b>6.29 (4.69)</b>	<b>5.12 (3.82)</b>	<b>4.32 (3.22)</b>	<b>3.73 (2.78)</b>	<b>3.10 (2.31)</b>	<b>2.53 (1.89)</b>	—	<b>4D180</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	16690 (74230)	16660 (74100)	16640 (74010)	16630 (73970)	16610 (73880)	16590 (73790)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>12.9 (9.65)</b>	<b>11.5 (8.55)</b>	<b>10.5 (7.81)</b>	<b>9.60 (7.18)</b>	<b>8.80 (6.56)</b>	<b>7.60 (5.66)</b>	<b>6.90 (5.13)</b>	<b>6.29 (4.69)</b>	<b>5.12 (3.82)</b>	<b>4.32 (3.22)</b>	<b>3.73 (2.78)</b>	<b>3.10 (2.31)</b>	<b>2.53 (1.89)</b>	—	<b>4D185</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	16690 (74230)	16660 (74100)	16640 (74010)	16630 (73970)	16610 (73880)	16590 (73790)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	<b>12.8 (9.51)</b>	<b>10.3 (7.70)</b>	<b>10.3 (7.70)</b>	<b>8.70 (6.47)</b>	<b>8.70 (6.47)</b>	<b>7.50 (5.58)</b>	<b>6.20 (4.62)</b>	<b>6.20 (4.62)</b>	<b>5.04 (3.76)</b>	<b>4.25 (3.17)</b>	<b>3.67 (2.74)</b>	<b>3.06 (2.28)</b>	<b>2.49 (1.86)</b>	—	<b>4E170</b>
Output Torque in-lbs (N·m)	76015 (8590)	69555 (7860)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	
Hollow Shaft OHL lbs (N)	19940 (88700)	20275 (90200)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	
Solid Shaft OHL lbs (N)	21630 (96210)	21690 (96470)	21740 (96690)	21780 (96870)	21820 (97050)	21870 (97270)	21900 (97410)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>14.6 (10.9)</b>	<b>12.9 (9.59)</b>	<b>11.8 (8.81)</b>	<b>10.8 (8.06)</b>	<b>9.90 (7.40)</b>	<b>8.60 (6.38)</b>	<b>7.70 (5.75)</b>	<b>7.70 (5.75)</b>	<b>6.28 (4.68)</b>	<b>5.30 (3.95)</b>	<b>4.57 (3.41)</b>	<b>3.81 (2.84)</b>	<b>3.10 (2.31)</b>	—	<b>4E175</b>
Output Torque in-lbs (N·m)	86990 (9830)	86545 (9780)	86990 (9830)	86545 (9780)	86990 (9830)	86990 (9830)	86545 (9780)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	19400 (86300)	19420 (86400)	19400 (86300)	19420 (86400)	19400 (86300)	19400 (86300)	19420 (86400)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21630 (96210)	21690 (96470)	21740 (96690)	21780 (96870)	21820 (97050)	21870 (97270)	21900 (97410)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>17.2 (12.8)</b>	<b>15.3 (11.4)</b>	<b>13.9 (10.4)</b>	<b>12.8 (9.60)</b>	<b>11.7 (8.70)</b>	<b>10.1 (7.50)</b>	<b>9.10 (6.82)</b>	<b>8.40 (6.24)</b>	<b>6.80 (5.08)</b>	<b>5.74 (4.28)</b>	<b>4.96 (3.70)</b>	<b>4.12 (3.07)</b>	<b>3.37 (2.51)</b>	—	<b>4E180</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21630 (96210)	21690 (96470)	21740 (96690)	21780 (96870)	21820 (97050)	2187									

# Frame Size Selection Tables 580 RPM

# Frame Size Selection Tables 580 RPM

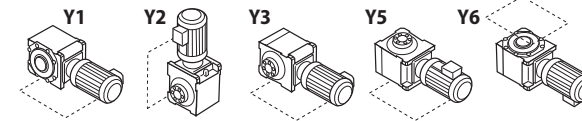
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	52.7	44.6	41.4	36.3	32.2	27.6	26.4	23.2	20.7	16.6	14.9	12.6	10.9	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	<b>73.0 (54.4)</b>	<b>73.0 (54.4)</b>	<b>69.6 (51.9)</b>	<b>64.1 (47.8)</b>	<b>58.6 (43.7)</b>	<b>42.6 (31.8)</b>	<b>37.5 (28.0)</b>	<b>37.5 (28.0)</b>	<b>33.4 (24.9)</b>	<b>29.1 (21.7)</b>	<b>26.6 (19.8)</b>	<b>22.5 (16.8)</b>	<b>19.6 (14.6)</b>	<b>4E190</b>
Output Torque in-lbs (N·m)	76735 (8670)	93815 (10600)	97355 (11000)	102665 (11600)	102665 (11600)	87710 (9910)	82750 (9350)	90275 (10200)	92045 (10400)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	12880 (57300)	12790 (56900)	13015 (57900)	13465 (59900)	14050 (62500)	16340 (72700)	17150 (76300)	17240 (76700)	18095 (80500)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	12970 (57690)	14070 (62580)	14630 (65070)	15530 (69070)	16320 (72590)	17690 (78680)	18110 (80550)	19160 (85220)	19980 (88870)	20690 (92020)	20930 (93090)	21240 (94470)	21470 (95490)	
<b>Input Power HP (kW)</b>	<b>73.0 (54.4)</b>	<b>73.0 (54.4)</b>	<b>69.6 (51.9)</b>	<b>64.1 (47.8)</b>	<b>58.6 (43.7)</b>	<b>42.6 (31.8)</b>	<b>37.5 (28.0)</b>	<b>37.5 (28.0)</b>	<b>33.4 (24.9)</b>	<b>29.1 (21.7)</b>	<b>26.6 (19.8)</b>	<b>22.5 (16.8)</b>	<b>19.6 (14.6)</b>	<b>4E195</b>
Output Torque in-lbs (N·m)	76735 (8670)	93815 (10600)	97355 (11000)	102665 (11600)	102665 (11600)	89390 (10100)	84255 (9520)	92045 (10400)	93815 (10600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	12880 (57300)	12790 (56900)	13015 (57900)	13465 (59900)	14050 (62500)	16230 (72200)	17040 (75800)	17105 (76100)	17960 (79900)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	12970 (57690)	14070 (62580)	14630 (65070)	15530 (69070)	16320 (72590)	17690 (78680)	18110 (80550)	19160 (85220)	19980 (88870)	20690 (92020)	20930 (93090)	21240 (94470)	21470 (95490)	
<b>Input Power HP (kW)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>33.4 (24.9)</b>	<b>29.6 (22.1)</b>	<b>29.6 (22.1)</b>	<b>26.4 (19.7)</b>	<b>31.6 (23.6)</b>	<b>31.6 (23.6)</b>	<b>26.8 (20.0)</b>	<b>23.2 (17.3)</b>	<b>4F180</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62210 (7030)	71150 (8040)	77785 (8790)	70265 (7940)	66545 (7520)	72740 (8220)	74070 (8370)	111500 (12600)	122120 (13800)	122120 (13800)	122120 (13800)	
Hollow Shaft OHL lbs (N)	27650 (123000)	28775 (128000)	29225 (130000)	29000 (129000)	28775 (128000)	29225 (130000)	29225 (130000)	29000 (129000)	29000 (129000)	27425 (122000)	26975 (120000)	26975 (120000)	26975 (120000)	
Solid Shaft OHL lbs (N)	22810 (101450)	24600 (109420)	25560 (113690)	27130 (120670)	28200 (125430)	28910 (128590)	28920 (128630)	28940 (128720)	28960 (128810)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	
<b>Input Power HP (kW)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>44.4 (33.1)</b>	<b>33.9 (25.3)</b>	<b>30.2 (22.5)</b>	<b>30.2 (22.5)</b>	<b>26.8 (20.0)</b>	<b>37.4 (27.9)</b>	<b>37.4 (27.9)</b>	<b>32.3 (24.1)</b>	<b>26.7 (19.9)</b>	<b>4F185</b>
Output Torque in-lbs (N·m)	46725 (5280)	56900 (6430)	62210 (7030)	71150 (8040)	77785 (8790)	71415 (8070)	67695 (7650)	74070 (8370)	75220 (8500)	131855 (14900)	144245 (16300)	146900 (16600)	140705 (15900)	
Hollow Shaft OHL lbs (N)	27650 (123000)	28775 (128000)	29225 (130000)	29000 (129000)	28775 (128000)	29000 (129000)	29225 (130000)	29000 (129000)	29000 (129000)	26525 (118000)	25850 (115000)	25850 (115000)	26075 (116000)	
Solid Shaft OHL lbs (N)	22810 (101450)	24600 (109420)	25560 (113690)	27130 (120670)	28200 (125430)	28910 (128590)	28920 (128630)	28940 (128720)	28960 (128810)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	
<b>Input Power HP (kW)</b>	<b>73.0 (54.4)</b>	<b>73.0 (54.4)</b>	<b>73.0 (54.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>41.7 (31.1)</b>	<b>36.9 (27.5)</b>	<b>36.9 (27.5)</b>	<b>32.7 (24.4)</b>	<b>45.2 (33.7)</b>	<b>41.3 (30.8)</b>	<b>35.0 (26.1)</b>	<b>30.3 (22.6)</b>	<b>4F190</b>
Output Torque in-lbs (N·m)	76735 (8670)	93815 (10600)	102665 (11600)	115060 (13000)	125680 (14200)	87695 (9910)	82740 (9350)	90265 (10200)	92035 (10400)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	25625 (114000)	26300 (117000)	26750 (119000)	27200 (121000)	26750 (119000)	28325 (126000)	28550 (127000)	28325 (126000)	28100 (125000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	
Solid Shaft OHL lbs (N)	22810 (101450)	24600 (109420)	25560 (113690)	27130 (120670)	28200 (125430)	28910 (128590)	28920 (128630)	28940 (128720)	28960 (128810)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	
<b>Input Power HP (kW)</b>	<b>73.0 (54.4)</b>	<b>73.0 (54.4)</b>	<b>73.0 (54.4)</b>	<b>71.6 (53.4)</b>	<b>71.6 (53.4)</b>	<b>42.6 (31.8)</b>	<b>37.5 (28.0)</b>	<b>37.5 (28.0)</b>	<b>33.4 (24.9)</b>	<b>45.2 (33.7)</b>	<b>41.3 (30.8)</b>	<b>35.0 (26.1)</b>	<b>30.3 (22.6)</b>	<b>4F195</b>
Output Torque in-lbs (N·m)	76735 (8670)	93815 (10600)	102665 (11600)	115060 (13000)	125680 (14200)	89380 (10100)	84245 (9520)	92035 (10400)	93805 (10600)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	25625 (114000)	26300 (117000)	26750 (119000)	27200 (121000)	26750 (119000)	28325 (126000)	28550 (127000)	28100 (125000)	28100 (125000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	
Solid Shaft OHL lbs (N)	22810 (101450)	24600 (109420)	25560 (113690)	27130 (120670)	28200 (125430)	28910 (128590)	28920 (128630)	28940 (128720)	28960 (128810)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



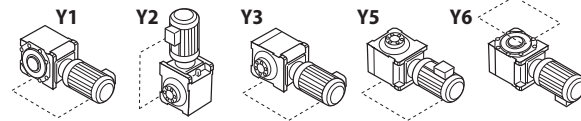
Dimensions on pages 2.156 - 2.166

Output RPM	9.67	8.66	7.84	7.25	6.59	5.69	5.18	4.72	3.84	3.24	2.80	2.33	1.90	1.39	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>17.2 (12.8)</b>	<b>15.3 (11.4)</b>	<b>13.9 (10.4)</b>	<b>12.8 (9.55)</b>	<b>11.7 (8.73)</b>	<b>10.4 (7.53)</b>	<b>9.10 (6.82)</b>	<b>8.40 (6.24)</b>	<b>6.80 (5.08)</b>	<b>5.74 (4.28)</b>	<b>4.96 (3.70)</b>	<b>4.12 (3.07)</b>	<b>3.37 (2.51)</b>	—	<b>4E190</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21630 (96210)	21690 (96470)	21740 (96690)	21780 (96870)	21820 (97050)	21870 (97270)	21900 (97410)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>17.2 (12.8)</b>	<b>15.3 (11.4)</b>	<b>13.9 (10.4)</b>	<b>12.8 (9.55)</b>	<b>11.7 (8.73)</b>	<b>10.1 (7.53)</b>	<b>9.10 (6.82)</b>	<b>8.40 (6.24)</b>	<b>6.80 (5.08)</b>	<b>5.74 (4.28)</b>	<b>4.96 (3.70)</b>	<b>4.12 (3.07)</b>	<b>3.37 (2.51)</b>	—	<b>4E195</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21630 (96210)	21690 (96470)	21740 (96690)	21780 (96870)	21820 (97050)	21870 (97270)	21900 (97410)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>20.5 (15.3)</b>	<b>16.5 (12.3)</b>	<b>16.5 (12.3)</b>	<b>13.9 (10.4)</b>	<b>13.9 (10.4)</b>	<b>12.0 (8.93)</b>	<b>9.90 (7.40)</b>	<b>9.90 (7.40)</b>	<b>8.10 (6.03)</b>	<b>6.80 (5.08)</b>	<b>5.89 (4.39)</b>	<b>4.89 (3.65)</b>	<b>4.00 (2.98)</b>	—	<b>4F180</b>
Output Torque in-lbs (N·m)	122120 (13800)	110620 (12500)	121235 (13700)	115000 (12600)	122120 (13800)	122120 (13800)	115000 (12600)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	122120 (13800)	
Hollow Shaft OHL lbs (N)	26975 (120000)	27425 (122000)	26975 (120000)	27425 (122000)	26975 (120000)	26975 (120000)	27425 (122000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	
Solid Shaft OHL lbs (N)	29000 (128990)	29120 (129520)	29210 (129920)	29270 (130190)	29350 (130540)	29450 (130990)	29510 (131260)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	<b>25.2 (18.8)</b>	<b>20.4 (15.2)</b>	<b>20.4 (15.2)</b>	<b>17.2 (12.8)</b>	<b>17.2 (12.8)</b>	<b>14.8 (11.0)</b>	<b>12.2 (9.13)</b>	<b>12.2 (9.13)</b>	<b>10.0 (7.43)</b>	<b>8.40 (6.27)</b>	<b>7.30 (5.42)</b>	<b>5.44 (4.06)</b>	<b>4.92 (3.67)</b>	—	<b>4F185</b>
Output Torque in-lbs (N·m)	150440 (17000)	137165 (15500)	150440 (17000)	137165 (15500)	150440 (17000)	149555 (16900)	137165 (15500)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	135395 (15300)	150440 (17000)	150440 (17000)	
Hollow Shaft OHL lbs (N)	25625 (114000)	26300 (117000)	25625 (114000)	26300 (117000)	25625 (114000)	25625 (114000)	26300 (117000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)	
Solid Shaft OHL lbs (N)	29000 (128990)	29120 (129520)	29210 (129920)	29270 (130190)	29350 (130540)	29450 (130990)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	<b>26.7 (19.9)</b>	<b>23.6 (17.6)</b>	<b>21.6 (16.1)</b>	<b>19.8 (14.8)</b>	<b>18.2 (13.6)</b>	<b>15.7 (11.7)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.68)</b>	<b>10.6 (7.88)</b>	<b>8.90 (6.64)</b>	<b>7.70 (5.74)</b>	<b>6.40 (4.77)</b>	<b>5.22 (3.89)</b>	—	<b>4F190</b>
Output Torque in-lbs (N·m)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	25175 (112														

# Frame Size Selection Tables 50 RPM

# Frame Size Selection Tables 50 RPM

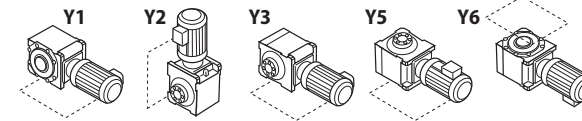
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	4.55	3.85	3.57	3.13	2.78	2.38	2.27	2.00	1.79	1.43	1.28	1.09	0.943	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4A100</b>
Output Torque in-lbs (N·m)	2565 (290)	3120 (353)	3415 (386)	3910 (442)	4270 (483)	5130 (580)	—	—	7510 (849)	6865 (776)	7510 (849)	7510 (849)	7510 (849)	
Hollow Shaft OHL lbs (N)	6020 (26800)	5975 (26600)	5930 (26400)	5865 (26100)	5820 (25900)	5665 (25200)	—	—	5055 (22500)	5260 (23400)	5055 (22500)	5055 (22500)	5055 (22500)	
Solid Shaft OHL lbs (N)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	—	—	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	2565 (290)	3120 (353)	3415 (386)	3910 (442)	4270 (483)	5130 (580)	—	—	8300 (938)	8450 (955)	9290 (1050)	9025 (1020)	9025 (1020)	<b>4A105</b>
Hollow Shaft OHL lbs (N)	6020 (26800)	5975 (26600)	5930 (26400)	5865 (26100)	5820 (25900)	5665 (25200)	—	—	4785 (21300)	4740 (21100)	4405 (19600)	4515 (20100)	4515 (20100)	
Solid Shaft OHL lbs (N)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	—	—	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	5810 (657)	—	—	10795 (1220)	9910 (1120)	10795 (1220)	10795 (1220)	10795 (1220)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5530 (24600)	—	—	3550 (15800)	4090 (18200)	3550 (15800)	3550 (15800)	3550 (15800)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4540 (20190)	—	—	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	5810 (657)	—	—	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	<b>4A115</b>
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5530 (24600)	—	—	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4540 (20190)	—	—	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	8265 (934)	10085 (1140)	11060 (1250)	11415 (1290)	11415 (1290)	10970 (1240)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	4810 (21400)	4000 (17800)	3415 (15200)	3120 (13900)	3120 (13900)	3415 (15200)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	8265 (934)	10085 (1140)	11060 (1250)	11415 (1290)	11415 (1290)	10970 (1240)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	<b>4A125</b>
Hollow Shaft OHL lbs (N)	4810 (21400)	4000 (17800)	3415 (15200)	3120 (13900)	3120 (13900)	3415 (15200)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	0.833	0.746	0.676	0.625	0.568	0.490	0.446	0.407	0.331	0.279	0.242	0.201	0.164	0.120	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4A100</b>
Output Torque in-lbs (N·m)	7510 (849)	6865 (776)	7510 (849)	6865 (776)	7510 (849)	7510 (849)	6865 (776)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	7510 (849)	
Hollow Shaft OHL lbs (N)	5055 (22500)	5260 (23400)	5055 (22500)	5260 (23400)	5055 (22500)	5055 (22500)	5260 (23400)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	5055 (22500)	
Solid Shaft OHL lbs (N)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	9025 (1020)	8245 (932)	9025 (1020)	8245 (932)	9025 (1020)	9025 (1020)	8245 (932)	9025 (1020)	9025 (1020)	8935 (1010)	8935 (1010)	7935 (897)	9025 (1020)	7765 (878)	<b>4A105</b>
Hollow Shaft OHL lbs (N)	4515 (20100)	4810 (21400)	4515 (20100)	4810 (21400)	4515 (20100)	4515 (20100)	4810 (21400)	4515 (20100)	4515 (20100)	4540 (20200)	4560 (20300)	4920 (21900)	4515 (20100)	4990 (22200)	
Solid Shaft OHL lbs (N)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	10795 (1220)	9910 (1120)	10795 (1220)	9910 (1120)	10795 (1220)	10795 (1220)	9910 (1120)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	10795 (1220)	
Hollow Shaft OHL lbs (N)	3550 (15800)	4090 (18200)	3550 (15800)	4090 (18200)	3550 (15800)	3550 (15800)	4090 (18200)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	3550 (15800)	
Solid Shaft OHL lbs (N)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	<b>4A115</b>
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	11415 (1290)	<b>4A125</b>
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	4540 (20190)	

Selection Tables

Selection Tables

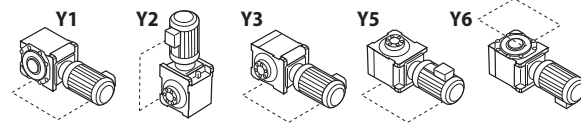




# Frame Size Selection Tables 50 RPM

# Frame Size Selection Tables 50 RPM

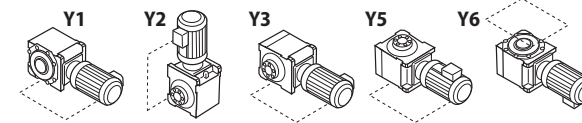
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	4.55	3.85	3.57	3.13	2.78	2.38	2.27	2.00	1.79	1.43	1.28	1.09	0.943	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B160</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	8090 (36000)	6965 (31000)	6180 (27500)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B165</b>
Output Torque in-lbs (N·m)	16370 (1850)	19910 (2250)	21855 (2470)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	8090 (36000)	6965 (31000)	6180 (27500)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C140</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	21590 (2440)	27610 (3120)	30175 (3410)	34510 (3900)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	15710 (69900)	15485 (68900)	15350 (68300)	15105 (67200)	14900 (66300)	14900 (66300)	14050 (62500)	13600 (60500)	12720 (56600)	12900 (57400)	12160 (54100)	12160 (54100)	12160 (54100)	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C145</b>
Output Torque in-lbs (N·m)	12920 (1460)	15750 (1780)	17255 (1950)	19730 (2230)	21590 (2440)	21590 (2440)	27610 (3120)	30175 (3410)	34510 (3900)	35485 (4010)	38845 (4390)	41150 (4650)	40795 (4610)	
Hollow Shaft OHL lbs (N)	15710 (69900)	15485 (68900)	15350 (68300)	15105 (67200)	14900 (66300)	14900 (66300)	14050 (62500)	13600 (60500)	12720 (56600)	12475 (55500)	11645 (51800)	10945 (48700)	11060 (49200)	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C160</b>
Output Torque in-lbs (N·m)	28845 (3260)	35220 (3980)	38495 (4350)	43980 (4970)	45485 (5140)	39820 (4500)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	13825 (61500)	12565 (55900)	11735 (52200)	10000 (44500)	9415 (41900)	11350 (50500)	10225 (45500)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C165</b>
Output Torque in-lbs (N·m)	28845 (3260)	35220 (3980)	38495 (4350)	43980 (4970)	45485 (5140)	39820 (4500)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	13825 (61500)	12565 (55900)	11735 (52200)	10000 (44500)	9415 (41900)	11350 (50500)	10225 (45500)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	0.833	0.746	0.676	0.625	0.568	0.490	0.446	0.407	0.331	0.279	0.242	0.201	0.164	0.120	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B160</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B165</b>
Output Torque in-lbs (N·m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C140</b>
Output Torque in-lbs (N·m)	36810 (4160)	33625 (3800)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	33625 (3800)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	36810 (4160)	
Hollow Shaft OHL lbs (N)	12160 (54100)	12900 (57400)	12160 (54100)	12900 (57400)	12160 (54100)	12160 (54100)	12900 (57400)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	12160 (54100)	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C145</b>
Output Torque in-lbs (N·m)	41150 (4650)	36810 (4160)	40265 (4550)	37610 (4250)	41150 (4650)	41150 (4650)	37610 (4250)	41150 (4650)	41150 (4650)	41150 (4650)	41150 (4650)	39820 (4500)	37520 (4240)	—	
Hollow Shaft OHL lbs (N)	10945 (48700)	12180 (54200)	11240 (50000)	11955 (53200)	10945 (48700)	10945 (48700)	11955 (53200)	10945 (48700)	10945 (48700)	10945 (48700)	10945 (48700)	10945 (48700)	11375 (50600)	11980 (53300)	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C160</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C165</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	

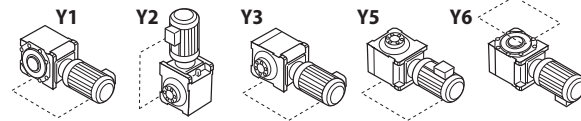
Selection Tables

Selection Tables

# Frame Size Selection Tables 50 RPM

# Frame Size Selection Tables 50 RPM

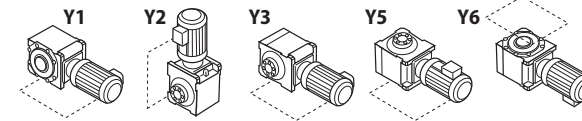
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	4.55	3.85	3.57	3.13	2.78	2.38	2.27	2.00	1.79	1.43	1.28	1.09	0.943	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C170</b>
Output Torque in-lbs (N·m)	35225 (3980)	45925 (4850)	43365 (4900)	45490 (5140)	43900 (4960)	40615 (4590)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	12565 (55900)	10405 (46300)	10225 (45500)	9415 (41900)	10025 (44600)	11125 (49500)	10250 (45600)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C175</b>
Output Torque in-lbs (N·m)	35225 (3980)	42925 (4850)	43365 (4900)	45490 (5140)	43900 (4960)	40615 (4590)	43360 (4900)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	
Hollow Shaft OHL lbs (N)	12565 (55900)	10405 (46300)	10225 (45500)	9415 (41900)	10025 (44600)	11125 (49500)	10250 (45600)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	39820 (4500)	48230 (5450)	52740 (5960)	52740 (5960)	48230 (5450)	52740 (5960)	52740 (5960)	52740 (5960)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	19825 (88200)	18680 (83100)	17915 (79700)	17915 (79700)	18680 (83100)	17915 (79700)	17915 (79700)	17915 (79700)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D165</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	39820 (4500)	49645 (5610)	54335 (6140)	56105 (6340)	57695 (6520)	63095 (7130)	63095 (7130)	63095 (7130)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	19825 (88200)	18430 (82000)	17625 (78400)	17285 (76900)	16970 (75500)	15755 (70100)	15755 (70100)	15755 (70100)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D170</b>
Output Torque in-lbs (N·m)	35220 (3980)	42920 (4850)	46900 (5300)	53625 (6060)	58670 (6630)	55840 (6310)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	75925 (8580)	76015 (8590)	
Hollow Shaft OHL lbs (N)	20365 (90600)	19445 (86500)	18880 (84000)	17780 (79100)	16790 (74700)	17355 (77200)	14050 (62500)	11825 (52600)	11825 (52600)	14050 (62500)	11825 (52600)	11865 (52800)	11825 (52600)	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D175</b>
Output Torque in-lbs (N·m)	35220 (3980)	42920 (4850)	46900 (5300)	53625 (6060)	58670 (6630)	55840 (6310)	74955 (8470)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	20365 (90600)	19445 (86500)	18880 (84000)	17780 (79100)	16790 (74700)	17355 (77200)	12250 (54500)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	0.833	0.746	0.676	0.625	0.568	0.490	0.446	0.407	0.331	0.279	0.242	0.201	0.164	0.120	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C170</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	—	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	—	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C175</b>
Output Torque in-lbs (N·m)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	45485 (5140)	—	
Hollow Shaft OHL lbs (N)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	—	
Solid Shaft OHL lbs (N)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D160</b>
Output Torque in-lbs (N·m)	52740 (5960)	48230 (5450)	52740 (5960)	48230 (5450)	52740 (5960)	52740 (5960)	48230 (5450)	52740 (5960)	52120 (5890)	52740 (5960)	52740 (5960)	52740 (5960)	52740 (5960)	—	
Hollow Shaft OHL lbs (N)	17915 (79700)	18680 (83100)	17915 (79700)	18680 (83100)	17915 (79700)	17915 (79700)	18680 (83100)	17915 (79700)	18025 (80200)	17915 (79700)	17915 (79700)	17915 (79700)	17915 (79700)	—	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D165</b>
Output Torque in-lbs (N·m)	63095 (7130)	57695 (6520)	63095 (7130)	57695 (6520)	63095 (7130)	63095 (7130)	57695 (6520)	63095 (7130)	63095 (7130)	63095 (7130)	63095 (7130)	63095 (7130)	61680 (6970)	—	
Hollow Shaft OHL lbs (N)	15755 (70100)	16970 (75500)	15755 (70100)	16970 (75500)	15755 (70100)	15755 (70100)	16970 (75500)	15755 (70100)	15755 (70100)	15755 (70100)	15755 (70100)	15755 (70100)	16115 (71700)	—	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D170</b>
Output Torque in-lbs (N·m)	76015 (8590)	69555 (7860)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	—	
Hollow Shaft OHL lbs (N)	11825 (52600)	14050 (62500)	11825 (52600)	14050 (62500)	11825 (52600)	11825 (52600)	14050 (62500)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	11825 (52600)	—	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D175</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	—	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	—	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	—	

Selection Tables

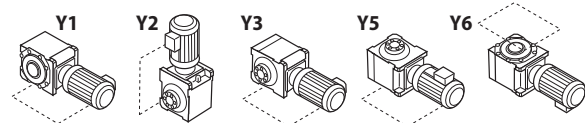
Selection Tables



# Frame Size Selection Tables 50 RPM

# Frame Size Selection Tables 50 RPM

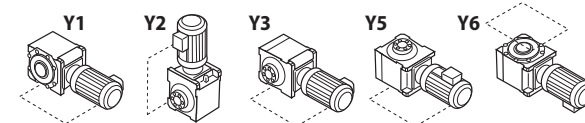
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	4.55	3.85	3.57	3.13	2.78	2.38	2.27	2.00	1.79	1.43	1.28	1.09	0.943	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D180</b>
Output Torque in-lbs (N·m)	46635 (5270)	56810 (6420)	62210 (7030)	71060 (8030)	77175 (8720)	70350 (7950)	66635 (7530)	72920 (8240)	74155 (8380)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	18905 (84100)	17130 (76200)	15960 (71000)	13530 (60200)	11375 (50600)	13800 (61400)	14855 (66100)	12970 (57700)	12565 (55900)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D185</b>
Output Torque in-lbs (N·m)	46635 (5270)	56810 (6420)	62210 (7030)	71060 (8030)	77175 (8720)	71325 (8060)	67695 (7650)	74070 (8370)	75040 (8480)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	18905 (84100)	17130 (76200)	15960 (71000)	13530 (60200)	11375 (50600)	13465 (59900)	14565 (64800)	12585 (56000)	12160 (54100)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E170</b>
Output Torque in-lbs (N·m)	35220 (3980)	42920 (4850)	46900 (5300)	53625 (6060)	58670 (6630)	55840 (6310)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	75925 (8580)	76015 (8590)	
Hollow Shaft OHL lbs (N)	22030 (98000)	21625 (96200)	21420 (95300)	21085 (93800)	20835 (92700)	20970 (93300)	20275 (90200)	19940 (88700)	19940 (88700)	20275 (90200)	19940 (88700)	19960 (88800)	19940 (88700)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E175</b>
Output Torque in-lbs (N·m)	35220 (3980)	42920 (4850)	46900 (5300)	53625 (6060)	58670 (6630)	55840 (6310)	74955 (8470)	81945 (9260)	78230 (8840)	86545 (9780)	86990 (9830)	86990 (9830)	86990 (9830)	
Hollow Shaft OHL lbs (N)	22030 (98000)	21420 (95300)	21085 (93800)	20840 (92700)	20835 (92700)	20970 (93300)	20005 (89000)	19645 (87400)	19850 (88300)	19420 (86400)	19400 (86300)	19400 (86300)	19400 (86300)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E180</b>
Output Torque in-lbs (N·m)	46635 (5270)	56810 (6420)	62210 (7030)	71060 (8030)	77695 (8780)	70350 (7950)	66635 (7530)	72920 (8240)	74155 (8380)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	21445 (95400)	20925 (93100)	20660 (91900)	20210 (89900)	19870 (88400)	20230 (90000)	20435 (90900)	20120 (89500)	20050 (89200)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E185</b>
Output Torque in-lbs (N·m)	46635 (5270)	56810 (6420)	62210 (7030)	71060 (8030)	77695 (8780)	71325 (8060)	67695 (7650)	74070 (8370)	75040 (8480)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	21445 (95400)	20925 (93100)	20660 (91900)	20210 (89900)	19870 (88400)	20185 (89800)	20365 (90600)	20050 (89200)	20005 (89000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	0.833	0.746	0.676	0.625	0.568	0.490	0.446	0.407	0.331	0.279	0.242	0.201	0.164	0.120	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D180</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D185</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	
Hollow Shaft OHL lbs (N)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E170</b>
Output Torque in-lbs (N·m)	76015 (8590)	69555 (7860)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	69555 (7860)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	76015 (8590)	
Hollow Shaft OHL lbs (N)	19940 (88700)	20275 (90200)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	20275 (90200)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	19940 (88700)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E175</b>
Output Torque in-lbs (N·m)	86990 (9830)	86545 (9780)	86990 (9830)	86545 (9780)	86990 (9830)	86990 (9830)	86545 (9780)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	19400 (86300)	19420 (86400)	19400 (86300)	19420 (86400)	19400 (86300)	19400 (86300)	19420 (86400)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E180</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E185</b>
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	

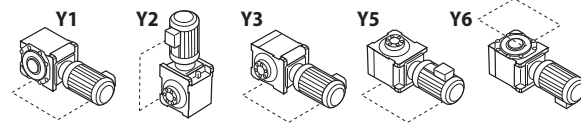
Selection Tables

Selection Tables

# Frame Size Selection Tables 50 RPM

# Frame Size Selection Tables 50 RPM

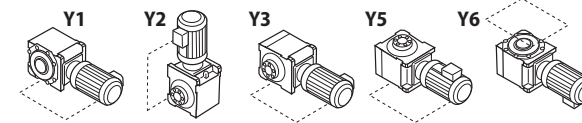
## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	4.55	3.85	3.57	3.13	2.78	2.38	2.27	2.00	1.79	1.43	1.28	1.09	0.943	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E190</b>
Output Torque in-lbs (N·m)	76735 (8760)	93815 (10600)	102665 (11600)	102665 (11600)	102665 (11600)	88065 (9950)	82740 (9350)	90275 (10200)	92045 (10400)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	19915 (88600)	19060 (84800)	18520 (82400)	18430 (82000)	18430 (82000)	19330 (86000)	19600 (87200)	19220 (85500)	19130 (85100)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E195</b>
Output Torque in-lbs (N·m)	76735 (8670)	93815 (10600)	102665 (11600)	102665 (11600)	102665 (11600)	89390 (10100)	84510 (9550)	92045 (10400)	93815 (10600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	
Hollow Shaft OHL lbs (N)	19915 (88600)	19060 (84800)	18520 (82400)	18430 (82000)	18430 (82000)	19265 (85700)	19510 (86800)	19130 (85100)	19040 (84700)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F180</b>
Output Torque in-lbs (N·m)	46635 (5270)	56810 (6420)	62210 (7030)	71060 (8030)	77695 (8780)	70350 (7950)	66635 (7530)	72920 (8240)	74155 (8380)	111500 (12600)	122120 (13800)	122120 (13800)	122120 (13800)	
Hollow Shaft OHL lbs (N)	30120 (134000)	29670 (132000)	29450 (131000)	29000 (129000)	28775 (128000)	29225 (130000)	29225 (130000)	29000 (129000)	29000 (129000)	27425 (122000)	26975 (120000)	26975 (120000)	26975 (120000)	
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F185</b>
Output Torque in-lbs (N·m)	46635 (5270)	56810 (6420)	62210 (7030)	71060 (8030)	77695 (8780)	71325 (8060)	67695 (7650)	74070 (8370)	75040 (8480)	131855 (14900)	144245 (16300)	147785 (16700)	147785 (16700)	
Hollow Shaft OHL lbs (N)	30120 (134000)	29670 (132000)	29450 (131000)	29000 (129000)	28775 (128000)	29000 (129000)	29225 (130000)	29000 (129000)	29000 (129000)	26525 (118000)	25850 (115000)	25850 (115000)	25850 (115000)	
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F190</b>
Output Torque in-lbs (N·m)	76735 (8670)	93815 (10600)	102665 (11600)	116830 (13200)	128335 (14500)	88050 (9950)	82740 (9350)	90265 (10200)	92035 (10400)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	28775 (128000)	28100 (125000)	27650 (123000)	27200 (121000)	26525 (118000)	28325 (126000)	28550 (127000)	28325 (126000)	28100 (125000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F195</b>
Output Torque in-lbs (N·m)	76735 (8670)	93815 (10600)	102665 (11600)	116830 (13200)	128335 (14500)	89380 (10100)	84510 (9550)	92035 (10400)	93805 (10600)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	
Hollow Shaft OHL lbs (N)	28775 (128000)	28100 (125000)	27650 (123000)	27200 (121000)	26525 (118000)	28325 (126000)	28550 (127000)	28100 (125000)	28100 (125000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	

## Single Reduction Y1, Y2, Y3, Y5, Y6 Mounting Positions



Dimensions on pages 2.156 - 2.166

Output RPM	0.833	0.746	0.676	0.625	0.568	0.490	0.446	0.407	0.331	0.279	0.242	0.201	0.164	0.120	Frame Size	
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417		
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E190</b>	
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	—		
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	—		
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	—		
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E195</b>	
Output Torque in-lbs (N·m)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	102665 (11600)	—		
Hollow Shaft OHL lbs (N)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	—		
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	—		
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F180</b>	
Output Torque in-lbs (N·m)	122120 (13800)	110620 (12500)	121235 (13700)	111500 (12600)	122120 (13800)	122120 (13800)	111500 (12600)	122120 (13800)	122120 (13800)	122120 (13800)	121235 (13700)	121235 (13700)	122120 (13800)	—		
Hollow Shaft OHL lbs (N)	26975 (120000)	27425 (122000)	26975 (120000)	27425 (122000)	26975 (120000)	26975 (120000)	27425 (122000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	26975 (120000)	—		
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	—		
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F185</b>	
Output Torque in-lbs (N·m)	150440 (17000)	137165 (15500)	150440 (17000)	137165 (15500)	149555 (16900)	150440 (17000)	137165 (15500)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	135395 (15300)	150440 (17000)		—
Hollow Shaft OHL lbs (N)	25625 (114000)	26300 (117000)	25625 (114000)	26300 (117000)	25625 (114000)	25625 (114000)	26300 (117000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)	25625 (114000)		—
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)		—
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F190</b>	
Output Torque in-lbs (N·m)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	—		
Hollow Shaft OHL lbs (N)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	—		
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	—		
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F195</b>	
Output Torque in-lbs (N·m)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	159290 (18000)	—		
Hollow Shaft OHL lbs (N)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	25175 (112000)	—		
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	—		

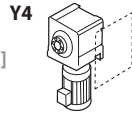
Selection Tables

Selection Tables

# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

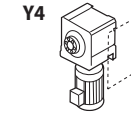
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>3.15 (2.35)</b>	—	—	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>3.15 (2.35)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	2195 (248)	—	—	2927 (331)	3658 (413)	4076 (461)	4808 (543)	5540 (626)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4470 (19900)	—	—	4785 (21300)	5055 (22500)	5170 (23000)	5350 (23800)	5530 (24600)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.26 (3.18)</b>	—	—	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	2973 (336)	—	—	3964 (448)	4955 (560)	5522 (624)	6513 (736)	7504 (848)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4360 (19400)	—	—	4650 (20700)	4875 (21700)	4965 (22100)	5125 (22800)	5100 (22700)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.76 (3.55)</b>	—	—	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4.76 (3.55)</b>	<b>4A110</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	3319 (375)	—	—	4425 (500)	5531 (625)	6164 (696)	7271 (822)	8378 (947)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4315 (19200)	—	—	4585 (20400)	4785 (21300)	4875 (21700)	5010 (22300)	4785 (21300)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>5.26 (3.92)</b>	—	—	<b>5.26 (3.92)</b>	<b>5.26 (3.92)</b>	<b>5.26 (3.92)</b>	<b>5.23 (3.90)</b>	<b>5.23 (3.90)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	3664 (414)	—	—	4886 (552)	6107 (690)	6805 (769)	7988 (903)	9204 (1040)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4270 (19000)	—	—	4515 (20100)	4720 (21000)	4785 (21300)	4920 (21900)	4470 (19900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>6.80 (5.07)</b>	—	—	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	—	—	<b>4A120</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	4741 (536)	—	—	6321 (714)	7902 (893)	8805 (995)	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	3930 (17500)	—	—	4065 (18100)	4470 (19900)	4515 (20100)	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>7.80 (5.81)</b>	—	—	<b>9.31 (6.95)</b>	<b>7.94 (5.92)</b>	<b>7.41 (5.52)</b>	<b>6.27 (4.67)</b>	<b>5.43 (4.05)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	5437 (614)	—	—	8660 (978)	9226 (1042)	9593 (1084)	9574 (1082)	9560 (1080)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	3795 (16900)	—	—	3910 (17400)	4270 (19000)	4315 (19200)	4315 (19200)	4315 (19200)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	<b>2.66 (1.99)</b>	<b>2.58 (1.93)</b>	<b>2.58 (1.93)</b>	<b>1.70 (1.27)</b>	<b>1.70 (1.27)</b>	<b>1.62 (1.21)</b>	<b>1.31 (0.975)</b>	<b>1.31 (0.975)</b>	<b>1.05 (0.780)</b>	<b>0.751 (0.560)</b>	<b>0.692 (0.516)</b>	<b>0.584 (0.436)</b>	<b>0.581 (0.433)</b>	<b>0.282 (0.210)</b>	<b>4A100</b>
Output Torque in-lbs (N·m)	5305 (599)	5744 (649)	6344 (717)	4523 (511)	4975 (562)	5496 (621)	4862 (549)	5340 (603)	5245 (593)	4464 (504)	4756 (537)	4832 (546)	5884 (665)	3899 (441)	
Hollow Shaft OHL lbs (N)	5640 (25100)	5530 (24600)	5415 (24100)	5775 (25700)	5710 (25400)	5595 (24900)	5730 (25500)	5640 (25100)	5640 (25100)	5800 (25800)	5755 (25600)	5730 (25500)	5505 (24500)	5890 (26200)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>3.29 (2.46)</b>	<b>3.13 (2.34)</b>	<b>3.13 (2.34)</b>	<b>2.24 (1.67)</b>	<b>2.24 (1.67)</b>	<b>2.13 (1.59)</b>	<b>1.61 (1.20)</b>	<b>1.61 (1.20)</b>	<b>1.45 (1.08)</b>	<b>1.04 (0.776)</b>	<b>0.950 (0.708)</b>	<b>0.753 (0.561)</b>	<b>0.758 (0.565)</b>	<b>0.384 (0.286)</b>	
Output Torque in-lbs (N·m)	6562 (742)	6968 (787)	7696 (870)	5959 (673)	6554 (741)	7221 (816)	5975 (675)	6561 (741)	7295 (824)	6186 (699)	6528 (738)	6222 (703)	7675 (867)	5316 (601)	
Hollow Shaft OHL lbs (N)	5350 (23800)	5235 (23300)	5035 (22400)	5485 (24400)	5350 (23800)	5170 (23000)	5485 (24400)	5350 (23800)	5145 (22900)	5440 (24200)	5350 (23800)	5440 (24200)	5010 (22300)	5640 (25100)	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	
<b>Input Power HP (kW)</b>	<b>4.26 (3.18)</b>	<b>3.65 (2.72)</b>	<b>3.65 (2.72)</b>	<b>2.57 (1.91)</b>	<b>2.57 (1.91)</b>	<b>2.55 (1.90)</b>	<b>2.02 (1.50)</b>	<b>2.02 (1.50)</b>	<b>1.74 (1.30)</b>	<b>1.27 (0.944)</b>	<b>1.15 (0.859)</b>	<b>0.897 (0.669)</b>	<b>0.887 (0.661)</b>	—	<b>4A110</b>
Output Torque in-lbs (N·m)	8491 (959)	8126 (918)	8975 (1014)	6816 (770)	7497 (847)	8649 (977)	7496 (847)	8233 (930)	8741 (988)	7520 (850)	7919 (895)	7416 (838)	8981 (1015)	—	
Hollow Shaft OHL lbs (N)	4740 (21100)	4855 (21600)	4560 (20300)	5280 (23500)	5080 (22600)	4675 (20800)	5080 (22600)	4830 (21500)	4630 (20600)	5080 (22600)	4945 (22000)	5100 (22700)	4540 (20200)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.17 (3.11)</b>	<b>3.88 (2.89)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	<b>2.81 (2.10)</b>	<b>2.42 (1.81)</b>	<b>2.33 (1.74)</b>	<b>1.90 (1.41)</b>	<b>1.49 (1.11)</b>	<b>1.35 (1.01)</b>	<b>1.02 (0.758)</b>	<b>0.937 (0.698)</b>	—	
Output Torque in-lbs (N·m)	9550 (1079)	9284 (1049)	9535 (1077)	7915 (894)	8707 (984)	9517 (1075)	9018 (1019)	9509 (1074)	9502 (1074)	8855 (1001)	9309 (1052)	8399 (949)	9486 (1072)	—	
Hollow Shaft OHL lbs (N)	4315 (19200)	4380 (19500)	4315 (19200)	4945 (22000)	4650 (20700)	4315 (19200)	4515 (20100)	4315 (19200)	4315 (19200)	4585 (20400)	4380 (19500)	4765 (21200)	4315 (19200)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4A120</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.24 (3.16)</b>	<b>3.88 (2.89)</b>	<b>3.56 (2.66)</b>	<b>3.26 (2.43)</b>	<b>2.81 (2.10)</b>	<b>2.55 (1.90)</b>	<b>2.33 (1.74)</b>	<b>1.90 (1.41)</b>	<b>1.60 (1.19)</b>	<b>1.38 (1.03)</b>	<b>1.15 (0.856)</b>	<b>0.937 (0.698)</b>	—	
Output Torque in-lbs (N·m)	9550 (1079)	9442 (1067)	9535 (1077)	9470 (1070)	9524 (1076)	9517 (1075)	9470 (1070)	9509 (1074)	9502 (1074)	9497 (1073)	9493 (1073)	9489 (1072)	9486 (1072)	—	
Hollow Shaft OHL lbs (N)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

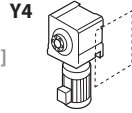
Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.



# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

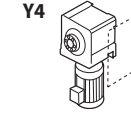
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4A140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>13.6 (10.1)</b>	—	—	<b>10.2 (7.60)</b>	<b>8.10 (6.04)</b>	<b>7.41 (5.52)</b>	<b>6.27 (4.67)</b>	<b>5.43 (4.05)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	9470 (1070)	—	—	9470 (1070)	9416 (1064)	9593 (1084)	9574 (1082)	9560 (1080)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	3460 (15400)	—	—	3885 (17300)	4245 (18900)	4315 (19200)	4315 (19200)	4315 (19200)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3480 (15470)	—	—	3980 (17700)	4350 (19340)	4510 (20060)	4550 (20230)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>6.80 (5.07)</b>	—	—	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>4B120</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	4741 (536)	—	—	6321 (714)	7902 (893)	8805 (995)	10385 (1173)	11965 (1352)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5775 (25700)	—	—	6135 (27300)	6630 (29500)	6765 (30100)	6990 (31100)	7170 (31900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3670 (16320)	—	—	4320 (19210)	4860 (21610)	5120 (22770)	5590 (24860)	5970 (26550)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>7.80 (5.81)</b>	—	—	<b>9.31 (6.95)</b>	<b>7.94 (5.92)</b>	<b>7.94 (5.92)</b>	<b>7.94 (5.92)</b>	<b>7.94 (5.92)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	5437 (614)	—	—	8660 (978)	9226 (1042)	10281 (1162)	12126 (1370)	13971 (1579)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5665 (25200)	—	—	6000 (26700)	6495 (28900)	6605 (29400)	6810 (30300)	6965 (31000)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3670 (16320)	—	—	4320 (19210)	4860 (21610)	5120 (22770)	5590 (24860)	5970 (26550)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>14.9 (11.1)</b>	—	—	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>14.7 (11.0)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	10389 (1174)	—	—	13852 (1565)	17315 (1956)	19096 (2158)	15516 (1753)	17877 (2020)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5100 (22700)	—	—	4965 (22100)	5460 (24300)	5665 (25200)	6065 (27000)	6425 (28600)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3670 (16320)	—	—	4320 (19210)	4860 (21610)	5120 (22770)	5590 (24860)	5970 (26550)	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4A140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.24 (3.16)</b>	<b>3.88 (2.89)</b>	<b>3.56 (2.66)</b>	<b>3.26 (2.43)</b>	<b>2.81 (2.10)</b>	<b>2.55 (1.90)</b>	<b>2.33 (1.74)</b>	<b>1.90 (1.41)</b>	<b>1.60 (1.19)</b>	<b>1.38 (1.03)</b>	<b>1.15 (0.856)</b>	<b>0.937 (0.698)</b>	—	
Output Torque in-lbs (N·m)	9550 (1079)	9442 (1067)	9535 (1077)	9470 (1070)	9524 (1076)	9517 (1075)	9470 (1070)	9509 (1074)	9502 (1074)	9497 (1073)	9493 (1073)	9489 (1072)	9486 (1072)	—	
Hollow Shaft OHL lbs (N)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	4315 (19200)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>6.80 (5.07)</b>	<b>5.31 (3.96)</b>	<b>5.31 (3.96)</b>	<b>4.14 (3.09)</b>	<b>4.14 (3.09)</b>	<b>4.02 (2.99)</b>	<b>3.34 (2.49)</b>	<b>3.34 (2.49)</b>	<b>2.57 (1.91)</b>	<b>2.30 (1.72)</b>	<b>1.75 (1.30)</b>	<b>1.28 (0.957)</b>	<b>1.27 (0.944)</b>	—	<b>4B120</b>
Output Torque in-lbs (N·m)	13545 (1530)	11817 (1335)	13051 (1475)	11003 (1243)	12104 (1368)	13601 (1537)	12438 (1405)	13659 (1543)	12869 (1454)	13685 (1546)	12028 (1359)	10608 (1199)	12818 (1448)	—	
Hollow Shaft OHL lbs (N)	7325 (32600)	7820 (34800)	7955 (35400)	8405 (37400)	8565 (38100)	8765 (39000)	8965 (39900)	8745 (38900)	8900 (39600)	8745 (38900)	9055 (40300)	9280 (41300)	8900 (39600)	—	
Solid Shaft OHL lbs (N)	6330 (28150)	6650 (29570)	6920 (30780)	7110 (31620)	7320 (32550)	7400 (32910)	7450 (33130)	7490 (33310)	7580 (33710)	7600 (33800)	7470 (33220)	7320 (32550)	7190 (31980)	—	
<b>Input Power HP (kW)</b>	<b>7.59 (5.66)</b>	<b>6.55 (4.88)</b>	<b>6.55 (4.88)</b>	<b>5.30 (3.96)</b>	<b>5.30 (3.96)</b>	<b>5.05 (3.77)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>3.19 (2.38)</b>	<b>3.06 (2.28)</b>	<b>2.17 (1.62)</b>	<b>1.61 (1.20)</b>	<b>1.52 (1.13)</b>	—	
Output Torque in-lbs (N·m)	15118 (1708)	14573 (1646)	16095 (1818)	14091 (1592)	15500 (1751)	17111 (1933)	15857 (1792)	17415 (1968)	16009 (1809)	18159 (2052)	14932 (1687)	13283 (1501)	15349 (1734)	—	
Hollow Shaft OHL lbs (N)	7170 (31900)	7530 (33500)	7640 (34000)	8070 (35900)	8205 (36500)	7910 (35200)	8225 (36600)	7820 (34800)	8205 (36500)	7595 (33800)	8475 (37700)	8810 (39200)	8360 (37200)	—	
Solid Shaft OHL lbs (N)	6330 (28150)	6650 (29570)	6920 (30780)	7110 (31620)	7320 (32550)	7400 (32910)	7450 (33130)	7490 (33310)	7580 (33710)	7600 (33800)	7470 (33220)	7320 (32550)	7190 (31980)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>7.10 (5.29)</b>	<b>6.49 (4.84)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>4.63 (3.46)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	<b>2.75 (2.05)</b>	<b>2.03 (1.52)</b>	<b>1.86 (1.39)</b>	—	
Output Torque in-lbs (N·m)	14841 (1677)	16573 (1872)	18304 (2068)	18852 (2130)	18959 (2142)	16973 (1918)	18637 (2106)	18929 (2139)	14940 (1688)	17711 (2001)	18897 (2135)	16798 (1898)	18883 (2133)	—	
Hollow Shaft OHL lbs (N)	6740 (30000)	7055 (31400)	7325 (32600)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	—	
Solid Shaft OHL lbs (N)	6330 (28150)	6650 (29570)	6920 (30780)	7110 (31620)	7320 (32550)	7400 (32910)	7450 (33130)	7490 (33310)	7580 (33710)	7600 (33800)	7470 (33220)	7320 (32550)	7190 (31980)	—	

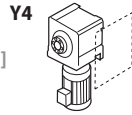
Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

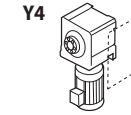
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>27.0 (20.2)</b>	—	—	<b>20.3 (15.1)</b>	<b>16.1 (12.0)</b>	<b>14.7 (11.0)</b>	<b>12.5 (9.30)</b>	<b>10.8 (8.06)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	18852 (2130)	—	—	18852 (2130)	18745 (2118)	19096 (2158)	19059 (2153)	19031 (2150)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4380 (19500)	—	—	4965 (22100)	5460 (24300)	5665 (25200)	6065 (27000)	6425 (28600)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3670 (16320)	—	—	4320 (19210)	4860 (21610)	5120 (22770)	5590 (24860)	5970 (26550)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B165</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>14.9 (11.1)</b>	—	—	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>4C140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	10389 (1174)	—	—	13852 (1565)	17315 (1956)	19294 (2180)	15516 (1753)	17877 (2020)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	7485 (33300)	—	—	7845 (34900)	8045 (35800)	8475 (37700)	8250 (36700)	8405 (37400)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4820 (21430)	—	—	5720 (25440)	6460 (28730)	6850 (30460)	7500 (33360)	8030 (35710)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>19010 (2148)</b>	<b>18796 (2124)</b>	<b>18980 (2144)</b>	<b>18852 (2130)</b>	<b>18959 (2142)</b>	<b>18945 (2140)</b>	<b>18852 (2130)</b>	<b>18929 (2139)</b>	<b>18914 (2137)</b>	<b>18904 (2136)</b>	<b>18897 (2135)</b>	<b>18890 (2134)</b>	<b>18883 (2133)</b>	—	
Output Torque in-lbs (N·m)	19010 (2148)	18796 (2124)	18980 (2144)	18852 (2130)	18959 (2142)	18945 (2140)	18852 (2130)	18929 (2139)	18914 (2137)	18904 (2136)	18897 (2135)	18890 (2134)	18883 (2133)	—	
Hollow Shaft OHL lbs (N)	6740 (30000)	7055 (31400)	7325 (32600)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	7350 (32700)	—	
Solid Shaft OHL lbs (N)	6330 (28150)	6650 (29570)	6920 (30780)	7110 (31620)	7320 (32550)	7400 (32910)	7450 (33130)	7490 (33310)	7580 (33710)	7600 (33800)	7470 (33220)	7320 (32550)	7190 (31980)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B165</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	<b>2.03 (1.52)</b>	<b>2.03 (1.52)</b>	—	
Output Torque in-lbs (N·m)	14841 (1677)	16573 (1872)	18304 (2068)	19788 (2236)	21767 (2459)	16973 (1918)	18637 (2106)	20467 (2313)	14940 (1688)	17711 (2001)	20481 (2314)	16798 (1898)	20575 (2325)	—	
Hollow Shaft OHL lbs (N)	9055 (40300)	9395 (41800)	9460 (42100)	10495 (46700)	11015 (49000)	10945 (48700)	11015 (49000)	11420 (50800)	12340 (54900)	12925 (57500)	12925 (57500)	12945 (57600)	12925 (57500)	—	
Solid Shaft OHL lbs (N)	8540 (37980)	9080 (40380)	9510 (42300)	9830 (43720)	10190 (45320)	10920 (48570)	11330 (50390)	11700 (52040)	12410 (55190)	12820 (57020)	12750 (56710)	12660 (56310)	12590 (56000)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>14.9 (11.1)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	—	
Output Torque in-lbs (N·m)	29682 (3354)	22599 (2553)	24960 (2820)	26984 (3049)	29682 (3354)	34405 (3887)	37703 (4260)	37857 (4277)	25127 (2839)	29786 (3365)	34445 (3892)	24636 (2784)	30177 (3410)	—	
Hollow Shaft OHL lbs (N)	8495 (37800)	8920 (39700)	9280 (41300)	9595 (42700)	9980 (44400)	10585 (47100)	10990 (48900)	11420 (50800)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	—	
Solid Shaft OHL lbs (N)	8540 (37980)	9080 (40380)	9510 (42300)	9830 (43720)	10190 (45320)	10920 (48570)	11330 (50390)	11700 (52040)	12410 (55190)	12820 (57020)	12750 (56710)	12660 (56310)	12590 (56000)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C145</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

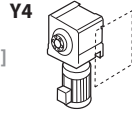
Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

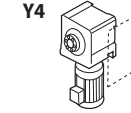
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>45.5 (33.9)</b>	—	—	—	—	—	—	—	<b>4C170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	31700 (3582)	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5820 (25900)	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4820 (21430)	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>48.3 (36.0)</b>	—	—	<b>40.6 (30.2)</b>	<b>19.1 (14.2)</b>	<b>19.1 (14.2)</b>	<b>19.1 (14.2)</b>	<b>16.1 (12.0)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	33663 (3803)	—	—	37703 (4260)	22198 (2508)	24735 (2795)	29175 (3296)	28267 (3194)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5640 (25900)	—	—	6045 (26900)	6720 (29900)	7010 (31200)	7575 (33700)	8045 (35800)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4820 (21430)	—	—	5720 (25440)	6460 (28730)	6850 (30460)	7500 (33360)	8030 (35710)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>33.9 (25.3)</b>	—	—	—	—	—	—	—	<b>4D160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	23658 (2673)	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	10835 (48200)	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	6830 (30370)	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>40.2 (30.0)</b>	—	—	<b>20.3 (15.2)</b>	<b>20.3 (15.2)</b>	<b>20.3 (15.2)</b>	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	28053 (3170)	—	—	18889 (2134)	23611 (2668)	26309 (2973)	22757 (2571)	26220 (2963)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	10495 (46700)	—	—	11485 (51100)	11825 (52600)	11980 (53300)	12385 (55100)	12520 (55700)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	6830 (30370)	—	—	8140 (36200)	9230 (41050)	9770 (43450)	10710 (47630)	11480 (51060)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>45.5 (33.9)</b>	—	—	—	—	—	—	—	<b>4D170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	31700 (3582)	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	10205 (45400)	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	6830 (30370)	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>49.6 (37.0)</b>	—	—	<b>49.6 (37.0)</b>	<b>19.1 (14.2)</b>	<b>19.1 (14.2)</b>	<b>19.1 (14.2)</b>	<b>16.1 (12.0)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	34598 (3909)	—	—	46131 (5213)	22198 (2508)	24735 (2795)	29175 (3297)	28267 (3194)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	9955 (44300)	—	—	10180 (45300)	11060 (49200)	11125 (49500)	11170 (49700)	11645 (51800)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	6830 (30370)	—	—	8140 (36200)	9230 (41050)	9770 (43450)	10710 (47630)	11480 (51060)	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>13.0 (9.71)</b>	<b>13.0 (9.71)</b>	<b>13.0 (9.71)</b>	<b>14.2 (10.6)</b>	<b>13.0 (9.68)</b>	<b>11.2 (8.34)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>7.54 (5.63)</b>	<b>6.36 (4.74)</b>	<b>5.50 (4.10)</b>	<b>4.57 (3.41)</b>	<b>3.73 (2.78)</b>	—	
Output Torque in-lbs (N·m)	25946 (2932)	28973 (3274)	32000 (3616)	37703 (4260)	37919 (4284)	37889 (4281)	37703 (4260)	37857 (4277)	37829 (4274)	37809 (4272)	37795 (4270)	37779 (4268)	37765 (4267)	—	
Hollow Shaft OHL lbs (N)	8495 (37800)	8920 (39700)	9280 (41300)	9595 (42700)	9980 (44400)	10585 (47100)	10990 (48900)	11420 (50800)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	11935 (53100)	—	
Solid Shaft OHL lbs (N)	8540 (37980)	9080 (40380)	9510 (42300)	9830 (43720)	10190 (45320)	10920 (48570)	11330 (50390)	11700 (52040)	12410 (55190)	12820 (57020)	12750 (56710)	12660 (56310)	12590 (56000)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>14.9 (11.1)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	—	
Output Torque in-lbs (N·m)	29682 (3354)	22599 (2554)	24960 (2820)	26984 (3049)	29682 (3354)	34405 (3888)	37778 (4269)	41488 (4688)	25127 (2839)	29786 (3366)	34445 (3892)	24636 (2784)	30177 (3410)	—	
Hollow Shaft OHL lbs (N)	13395 (59600)	14185 (63100)	14340 (63800)	14700 (65400)	14835 (66000)	16295 (72500)	16455 (73200)	15960 (71000)	17870 (79500)	16500 (73400)	17890 (79600)	15915 (70800)	17915 (79700)	—	
Solid Shaft OHL lbs (N)	12230 (54390)	13000 (57820)	13630 (60620)	14090 (62670)	14590 (64890)	15170 (67470)	15500 (68940)	15790 (70230)	16360 (72760)	16690 (74230)	16660 (74100)	16620 (73920)	16590 (73790)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>13.0 (9.71)</b>	<b>13.0 (9.71)</b>	<b>13.0 (9.71)</b>	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	—	
Output Torque in-lbs (N·m)	25946 (2932)	28973 (3274)	32000 (3616)	39577 (4472)	43534 (4919)	50460 (5702)	37778 (4269)	41488 (4688)	50932 (5755)	44276 (5003)	51202 (5786)	41434 (4682)	50753 (5735)	—	
Hollow Shaft OHL lbs (N)	12295 (54700)	12900 (57400)	13420 (59700)	13870 (61700)	14410 (64100)	15305 (68100)	15555 (69200)	15555 (69200)	15555 (69200)	15555 (69200)	15555 (69200)	15555 (69200)	15555 (69200)	—	
Solid Shaft OHL lbs (N)	12230 (54390)	13000 (57820)	13630 (60620)	14090 (62670)	14590 (64890)	15170 (67470)	15500 (68940)	15790 (70230)	16360 (72760)	16690 (74230)	16660 (74100)	16620 (73920)	16590 (73790)	—	

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

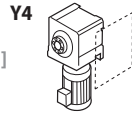
Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.



# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

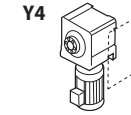
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D180</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	<b>26.0 (19.4)</b>	<b>26.0 (19.4)</b>	<b>26.0 (19.4)</b>	<b>19.1 (14.2)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	30271 (3420)	33730 (3811)	39784 (4495)	33615 (3798)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	8945 (39800)	9215 (41000)	9685 (43100)	10115 (45000)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	9230 (41050)	9770 (43450)	10710 (47630)	11480 (51060)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>45.5 (33.9)</b>	—	—	—	—	—	—	—	<b>4E170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	31700 (3582)	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	14025 (62400)	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	10220 (45450)	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>49.6 (37.0)</b>	—	—	<b>49.6 (37.0)</b>	<b>19.1 (14.2)</b>	<b>19.1 (14.2)</b>	<b>19.1 (14.2)</b>	<b>16.1 (12.0)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	34598 (3909)	—	—	46131 (5213)	22198 (2508)	24735 (2795)	29175 (3297)	28267 (3194)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	13825 (61500)	—	—	14455 (64300)	15620 (69500)	15845 (70500)	16160 (71900)	16365 (72800)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	10220 (45450)	—	—	11890 (52880)	13300 (59150)	14030 (62400)	15220 (67690)	16200 (72050)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E175</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	<b>26.0 (19.4)</b>	<b>26.0 (19.4)</b>	<b>26.0 (19.4)</b>	<b>19.1 (14.2)</b>	<b>4E185</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	30271 (3420)	33730 (3811)	39784 (4495)	33615 (3798)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	13530 (60200)	13440 (59800)	13845 (61600)	14590 (64900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	13300 (59150)	14030 (62400)	15220 (67690)	16200 (72050)	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D180</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>19.1 (14.2)</b>	<b>19.1 (14.2)</b>	<b>19.1 (14.2)</b>	<b>16.1 (12.0)</b>	<b>16.1 (12.0)</b>	<b>13.0 (9.71)</b>	<b>13.0 (9.71)</b>	<b>13.0 (9.71)</b>	<b>9.55 (7.12)</b>	<b>6.51 (4.86)</b>	<b>10.16 (7.58)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	—	
Output Torque in-lbs (N·m)	38054 (4300)	42494 (4802)	46934 (5303)	42667 (4821)	46934 (5303)	44109 (4984)	48433 (5473)	53190 (6010)	47885 (5411)	38703 (4373)	69821 (7889)	61591 (6960)	75443 (8525)	—	
Hollow Shaft OHL lbs (N)	10495 (46700)	10855 (48300)	11195 (49800)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	—	
Solid Shaft OHL lbs (N)	12230 (54390)	13000 (57820)	13630 (60620)	14090 (62670)	14590 (64890)	15170 (67470)	15500 (68940)	15790 (70230)	16360 (72760)	16690 (74230)	16660 (74100)	16620 (73920)	16590 (73790)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D185</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>13.0 (9.71)</b>	<b>13.0 (9.71)</b>	<b>13.0 (9.71)</b>	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	—	
Output Torque in-lbs (N·m)	25946 (2932)	28973 (3274)	32000 (3616)	39577 (4472)	43534 (4919)	50460 (5702)	37778 (4269)	41488 (4688)	50932 (5755)	44276 (5003)	51202 (5786)	41434 (4682)	50753 (5735)	—	
Hollow Shaft OHL lbs (N)	17690 (78700)	17890 (79600)	18545 (82500)	19310 (85900)	19825 (88200)	20140 (89600)	19985 (88900)	19625 (87300)	19960 (88800)	19490 (86700)	19940 (88700)	19805 (88100)	19940 (88700)	—	
Solid Shaft OHL lbs (N)	17180 (76410)	18190 (80900)	19010 (84550)	19590 (87130)	20230 (89980)	20610 (91670)	20820 (92600)	21020 (93490)	21380 (95090)	21620 (96160)	21700 (96520)	21790 (96920)	21870 (97270)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>19.1 (14.2)</b>	<b>19.1 (14.2)</b>	<b>19.1 (14.2)</b>	<b>16.1 (12.0)</b>	<b>16.1 (12.0)</b>	<b>13.0 (9.71)</b>	<b>13.0 (9.71)</b>	<b>13.0 (9.71)</b>	<b>9.6 (7.12)</b>	<b>6.51 (4.86)</b>	<b>10.16 (7.58)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	—	
Output Torque in-lbs (N·m)	38054 (4300)	42494 (4802)	46934 (5303)	42667 (4821)	46934 (5303)	44109 (4984)	48433 (5473)	53190 (6010)	47885 (5411)	38703 (4373)	69821 (7889)	61591 (6960)	75443 (8525)	—	
Hollow Shaft OHL lbs (N)	15395 (68500)	16320 (72600)	16860 (75000)	17580 (78200)	18140 (80700)	19285 (85800)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	—	
Solid Shaft OHL lbs (N)	17180 (76410)	18190 (80900)	19010 (84550)	19590 (87130)	20230 (89980)	20610 (91670)	20820 (92600)	21020 (93490)	21380 (95090)	21620 (96160)	21700 (96520)	21790 (96920)	21870 (97270)	—	

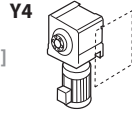
Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

# Frame Size Selection Tables 60 Hz, 1750 RPM

# Frame Size Selection Tables 60 Hz, 1750 RPM

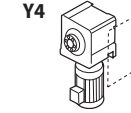
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	159	135	125	109	97.2	83.3	79.5	70.0	62.5	50.0	44.9	38.0	33.0	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E190</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	32.1 (24.0)	32.1 (24.0)	32.1 (24.0)	32.1 (24.0)	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	37334 (4219)	41600 (4701)	49067 (5544)	56534 (6388)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	12855 (57200)	13215 (58800)	13915 (61900)	14590 (64900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	13300 (59150)	14030 (62400)	15220 (67690)	16200 (72050)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F180</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	26.0 (19.4)	26.0 (19.4)	26.0 (19.4)	19.1 (14.2)	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	30271 (3420)	33730 (3811)	39784 (4495)	33615 (3798)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	26975 (120000)	27425 (122000)	28100 (125000)	28325 (126000)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	23340 (103810)	24520 (109060)	26590 (118270)	28060 (124810)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F190</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	32.1 (24.0)	32.1 (24.0)	32.1 (24.0)	32.1 (24.0)	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	37334 (4219)	41600 (4701)	49067 (5544)	56534 (6388)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	25850 (115000)	26300 (117000)	26750 (119000)	26525 (118000)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	23340 (103810)	24520 (109060)	26590 (118270)	28060 (124810)	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	29.2	26.1	23.6	21.9	19.9	17.2	15.6	14.2	11.6	9.78	8.45	7.03	5.74	4.20	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E190</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	32.1 (24.0)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	16.1 (12.0)	13.0 (9.71)	9.55 (7.12)	9.55 (7.12)	6.51 (4.86)	6.51 (4.86)	—	
Output Torque in-lbs (N·m)	64001 (7232)	42494 (4802)	46934 (5303)	50739 (5733)	55813 (6307)	64693 (7310)	59734 (6750)	65601 (7413)	65298 (7378)	56765 (6414)	65644 (7417)	53838 (6084)	65947 (7452)	—	
Hollow Shaft OHL lbs (N)	15395 (68500)	16320 (72600)	16860 (75000)	17580 (78200)	18140 (80700)	19285 (85800)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	—	
Solid Shaft OHL lbs (N)	17180 (76410)	18190 (80900)	19010 (84550)	19590 (87130)	20230 (89980)	20610 (91670)	20820 (92600)	21020 (93490)	21380 (95090)	21620 (96160)	21700 (96520)	21790 (96920)	21870 (97270)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F180</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	16.1 (12.0)	13.0 (9.71)	13.0 (9.71)	13.0 (9.71)	9.55 (7.12)	6.51 (4.86)	10.2 (7.58)	7.45 (5.56)	7.45 (5.56)	—	
Output Torque in-lbs (N·m)	38054 (4300)	42494 (4802)	46934 (5303)	42667 (4821)	46934 (5303)	44109 (4984)	48433 (5473)	53190 (6010)	47885 (5411)	38703 (4373)	69821 (7889)	61591 (6960)	75443 (8525)	—	
Hollow Shaft OHL lbs (N)	27650 (123000)	27200 (121000)	26750 (119000)	27425 (122000)	27200 (121000)	27425 (122000)	27200 (121000)	26750 (119000)	26750 (119000)	26975 (120000)	27425 (122000)	27425 (122000)	27200 (121000)	—	
Solid Shaft OHL lbs (N)	28900 (128540)	28920 (128630)	28940 (128720)	28950 (128760)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28990 (128940)	29140 (129610)	29300 (130320)	29440 (130940)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F190</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	32.1 (24.0)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	16.1 (12.0)	13.0 (9.71)	9.55 (7.12)	9.55 (7.12)	6.51 (4.86)	6.51 (4.86)	—	
Output Torque in-lbs (N·m)	64001 (7232)	42494 (4802)	46934 (5303)	50739 (5733)	55813 (6307)	64693 (7310)	59734 (6750)	65601 (7413)	65298 (7378)	56765 (6414)	65644 (7417)	53838 (6084)	65947 (7452)	—	
Hollow Shaft OHL lbs (N)	25850 (115000)	25850 (115000)	25400 (113000)	25850 (115000)	25400 (113000)	25400 (113000)	25625 (114000)	25400 (113000)	25400 (113000)	25400 (113000)	25400 (113000)	25400 (113000)	25400 (113000)	—	
Solid Shaft OHL lbs (N)	28900 (128540)	28920 (128630)	28940 (128720)	28950 (128760)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28990 (128940)	29140 (129610)	29300 (130320)	29440 (130940)	—	

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

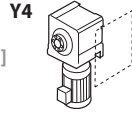




# Frame Size Selection Tables 50 Hz, 1450 RPM

# Frame Size Selection Tables 50 Hz, 1450 RPM

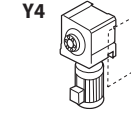
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	131.8	111.5	103.6	90.6	80.6	69.0	65.9	58.0	51.8	41.4	37.2	31.5	27.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4A140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>13.6 (10.1)</b>	—	—	<b>10.2 (7.59)</b>	<b>8.09 (6.04)</b>	<b>7.40 (5.52)</b>	<b>6.26 (4.67)</b>	<b>5.43 (4.05)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	11417 (1290)	—	—	11417 (1290)	11352 (1283)	11565 (1307)	11543 (1304)	11526 (1302)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	3120 (13900)	—	—	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	3800 (16900)	—	—	4290 (19080)	4530 (20140)	4560 (20280)	4580 (20370)	4580 (20370)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>6.80 (5.07)</b>	—	—	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>6.80 (5.07)</b>	<b>4B120</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	5722 (646)	—	—	7629 (862)	9536 (1077)	10626 (1201)	12533 (1416)	14441 (1632)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	6000 (26700)	—	—	6335 (28200)	6900 (30700)	7010 (31200)	7235 (32200)	7415 (33000)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4100 (18230)	—	—	4780 (21260)	5360 (23840)	5650 (25130)	6100 (27130)	6520 (29000)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>9.34 (6.96)</b>	—	—	<b>9.31 (6.95)</b>	<b>7.94 (5.92)</b>	<b>7.94 (5.92)</b>	<b>7.94 (5.92)</b>	<b>7.94 (5.92)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	7858 (888)	—	—	10452 (1181)	11135 (1258)	12408 (1402)	14635 (1653)	16862 (1905)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5890 (26200)	—	—	6180 (27500)	6720 (29900)	6830 (30400)	7010 (31200)	7145 (31800)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4100 (18230)	—	—	4780 (21260)	5360 (23840)	5650 (25130)	6100 (27130)	6520 (29000)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>14.9 (11.1)</b>	—	—	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>14.7 (11.0)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	12538 (1417)	—	—	16718 (1889)	20897 (2361)	23041 (2603)	18726 (2116)	21576 (2438)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4945 (22000)	—	—	4965 (22100)	5460 (24300)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4100 (18230)	—	—	4780 (21260)	5360 (23840)	5650 (25130)	6100 (27130)	6520 (29000)	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	24.2	21.6	19.6	18.1	16.48	14.22	12.95	11.79	9.60	8.10	7.00	5.82	4.75	3.48	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4A140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>4.79 (3.57)</b>	<b>4.24 (3.16)</b>	<b>3.88 (2.89)</b>	<b>3.56 (2.66)</b>	<b>3.26 (2.43)</b>	<b>2.81 (2.09)</b>	<b>2.54 (1.90)</b>	<b>2.33 (1.73)</b>	<b>1.89 (1.41)</b>	<b>1.60 (1.19)</b>	<b>1.38 (1.03)</b>	<b>1.15 (0.855)</b>	<b>0.936 (0.698)</b>	—	
Output Torque in-lbs (N·m)	11513 (1301)	11383 (1286)	11495 (1299)	11417 (1290)	11482 (1297)	11473 (1296)	11417 (1290)	11464 (1295)	11455 (1294)	11449 (1294)	11445 (1293)	11440 (1293)	11436 (1292)	—	
Hollow Shaft OHL lbs (N)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	3120 (13900)	—	
Solid Shaft OHL lbs (N)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4580 (20370)	4570 (20320)	4560 (20280)	4550 (20230)	4540 (20190)	4540 (20190)	—	
<b>Input Power HP (kW)</b>	<b>6.56 (4.89)</b>	<b>5.31 (3.96)</b>	<b>5.31 (3.96)</b>	<b>4.14 (3.09)</b>	<b>4.14 (3.09)</b>	<b>3.84 (2.87)</b>	<b>3.18 (2.37)</b>	<b>3.18 (2.37)</b>	<b>2.57 (1.91)</b>	<b>2.19 (1.63)</b>	<b>1.75 (1.30)</b>	<b>1.28 (0.957)</b>	<b>1.27 (0.944)</b>	—	<b>4A145</b>
Output Torque in-lbs (N·m)	15763 (1781)	14250 (1610)	15738 (1778)	13280 (1500)	14608 (1650)	15709 (1775)	14292 (1615)	15696 (1773)	15532 (1755)	15676 (1771)	14517 (1640)	12803 (1447)	15471 (1748)	—	
Hollow Shaft OHL lbs (N)	7595 (33800)	8090 (36000)	8205 (36500)	8720 (38800)	8540 (38000)	8295 (36900)	8610 (38300)	8295 (36900)	8315 (37000)	8295 (36900)	8565 (38100)	8900 (39600)	8340 (37100)	—	
Solid Shaft OHL lbs (N)	6870 (30550)	7140 (31750)	7330 (32600)	7370 (32780)	7420 (33000)	7490 (33310)	7530 (33490)	7570 (33670)	7580 (33710)	7430 (33040)	7320 (32550)	7200 (32020)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	<b>7.59 (5.66)</b>	<b>6.43 (4.79)</b>	<b>6.43 (4.79)</b>	<b>5.30 (3.96)</b>	<b>5.30 (3.96)</b>	<b>4.66 (3.47)</b>	<b>3.86 (2.88)</b>	<b>3.86 (2.88)</b>	<b>3.14 (2.34)</b>	<b>2.65 (1.97)</b>	<b>2.17 (1.62)</b>	<b>1.53 (1.14)</b>	<b>1.38 (1.03)</b>	—	
Output Torque in-lbs (N·m)	18246 (2061)	17264 (1951)	19068 (2154)	17006 (1921)	18707 (2114)	19032 (2150)	17305 (1955)	19004 (2147)	19002 (2147)	18980 (2144)	18021 (2036)	15228 (1721)	16823 (1901)	—	
Hollow Shaft OHL lbs (N)	7350 (32700)	7755 (34500)	7325 (32600)	7935 (35300)	7440 (33100)	7325 (32600)	7845 (34900)	7325 (32600)	7325 (32600)	7325 (32600)	7640 (34000)	8385 (37300)	7980 (35500)	—	
Solid Shaft OHL lbs (N)	6870 (30550)	7140 (31750)	7330 (32600)	7370 (32780)	7420 (33000)	7490 (33310)	7530 (33490)	7570 (33670)	7580 (33710)	7430 (33040)	7320 (32550)	7200 (32020)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B120</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>7.09 (5.29)</b>	<b>6.49 (4.84)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>4.63 (3.46)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	<b>2.75 (2.05)</b>	<b>2.03 (1.52)</b>	<b>1.86 (1.39)</b>	—	
Output Torque in-lbs (N·m)	17912 (2024)	20002 (2260)	22091 (2496)	22746 (2570)	22876 (2585)	20485 (2314)	22493 (2541)	22839 (2580)	18031 (2037)	21375 (2415)	22801 (2576)	20273 (2291)	22783 (2574)	—	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	—	
Solid Shaft OHL lbs (N)	6870 (30550)	7140 (31750)	7330 (32600)	7370 (32780)	7420 (33000)	7490 (33310)	7530 (33490)	7570 (33670)	7580 (33710)	7430 (33040)	7320 (32550)	7200 (32020)	7120 (31660)	—	

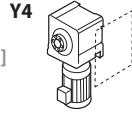
Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

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# Frame Size Selection Tables 50 Hz, 1450 RPM

# Frame Size Selection Tables 50 Hz, 1450 RPM

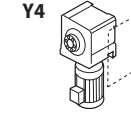
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	131.8	111.5	103.6	90.6	80.6	69.0	65.9	58.0	51.8	41.4	37.2	31.5	27.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>27.0 (20.2)</b>	—	—	<b>20.3 (15.1)</b>	<b>16.1 (12.0)</b>	<b>14.7 (11.0)</b>	<b>12.5 (9.30)</b>	<b>10.8 (8.06)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	22746 (2570)	—	—	22746 (2570)	22617 (2555)	23041 (2603)	22996 (2598)	22963 (2594)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	4335 (19300)	—	—	4965 (22100)	5460 (24300)	5710 (25400)	5710 (25400)	5710 (25400)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	4100 (18230)	—	—	4780 (21260)	5360 (23840)	5650 (25130)	6100 (27130)	6520 (29000)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>14.9 (11.1)</b>	—	—	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	12538 (1417)	—	—	16718 (1889)	20897 (2361)	23285 (2631)	18726 (2116)	21576 (2438)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	7730 (34400)	—	—	8025 (35700)	8180 (36400)	8250 (36700)	8295 (36900)	8430 (37500)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	5400 (24010)	—	—	6250 (27800)	7170 (31890)	7580 (33710)	8210 (36510)	8860 (39400)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>33.9 (25.3)</b>	—	—	—	—	—	—	—	<b>4C160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	28553 (3226)	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	6630 (29500)	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	5400 (24010)	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>40.2 (30.0)</b>	—	—	<b>20.3 (15.2)</b>	<b>20.3 (15.2)</b>	<b>20.3 (15.2)</b>	<b>14.9 (11.1)</b>	<b>14.9 (11.1)</b>	
Output Torque in-lbs (N·m)	—	—	—	—	—	33857 (3825)	—	—	22797 (2576)	28496 (3220)	31753 (3588)	27465 (3103)	31644 (3575)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	6135 (27300)	—	—	6765 (30100)	6560 (29200)	6900 (30700)	7485 (33300)	8000 (35600)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	5400 (24010)	—	—	6250 (27800)	7170 (31890)	7580 (33710)	8210 (36510)	8860 (39400)	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	24.2	21.6	19.6	18.1	16.48	14.22	12.95	11.79	9.60	8.10	7.00	5.82	4.75	3.48	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4B160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—		
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—		
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—		
<b>Input Power HP (kW)</b>	<b>9.54 (7.11)</b>	<b>8.45 (6.30)</b>	<b>7.72 (5.76)</b>	<b>7.09 (5.29)</b>	<b>6.49 (4.84)</b>	<b>5.59 (4.17)</b>	<b>5.07 (3.78)</b>	<b>4.63 (3.46)</b>	<b>3.77 (2.81)</b>	<b>3.18 (2.37)</b>	<b>2.75 (2.05)</b>	<b>2.28 (1.70)</b>	<b>1.86 (1.39)</b>	—	
Output Torque in-lbs (N·m)	22937 (2592)	22678 (2562)	22901 (2587)	22746 (2570)	22876 (2585)	22858 (2583)	22746 (2570)	22839 (2580)	22821 (2578)	22810 (2577)	22801 (2576)	22792 (2575)	22783 (2574)	—	
Hollow Shaft OHL lbs (N)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	5710 (25400)	—	
Solid Shaft OHL lbs (N)	6870 (30550)	7140 (31750)	7330 (32600)	7370 (32780)	7420 (33000)	7490 (33310)	7530 (33490)	7570 (33670)	7580 (33710)	7430 (33040)	7320 (32550)	7200 (32020)	7120 (31660)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C140</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—		
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—		
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—		
<b>Input Power HP (kW)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>7.45 (5.56)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	<b>2.03 (1.52)</b>	<b>2.03 (1.52)</b>	—	
Output Torque in-lbs (N·m)	17912 (2024)	20002 (2260)	22091 (2496)	23882 (2698)	26271 (2968)	20485 (2314)	22493 (2541)	24702 (2791)	18031 (2037)	21375 (2415)	24718 (2793)	20273 (2291)	24832 (2806)	—	
Hollow Shaft OHL lbs (N)	9125 (40600)	9980 (44400)	10045 (44700)	10720 (47700)	10810 (48100)	10970 (48800)	11845 (52700)	10945 (48700)	11910 (53000)	12495 (55600)	12540 (55800)	12610 (56100)	12540 (55800)	—	
Solid Shaft OHL lbs (N)	9420 (41900)	9870 (43900)	10260 (45630)	10660 (47410)	11100 (49370)	11710 (52080)	12050 (53590)	12360 (54970)	12810 (56970)	12720 (56570)	12660 (56310)	12590 (56000)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—		
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—		
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—		
<b>Input Power HP (kW)</b>	<b>14.9 (11.1)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.2 (7.58)</b>	<b>10.1 (7.56)</b>	<b>9.27 (6.91)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>5.01 (3.74)</b>	<b>2.98 (2.22)</b>	<b>2.98 (2.22)</b>	—	
Output Torque in-lbs (N·m)	35824 (4048)	27275 (3082)	30124 (3404)	32567 (3680)	35824 (4048)	41523 (4691)	45492 (5140)	45678 (5161)	30325 (3426)	35948 (4062)	41572 (4697)	29734 (3359)	36421 (4115)	—	
Hollow Shaft OHL lbs (N)	8450 (37600)	8900 (39600)	9305 (41400)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	—	
Solid Shaft OHL lbs (N)	9420 (41900)	9870 (43900)	10260 (45630)	10660 (47410)	11100 (49370)	11710 (52080)	12050 (53590)	12360 (54970)	12810 (56970)	12720 (56570)	12660 (56310)	12590 (56000)	12550 (55820)	—	

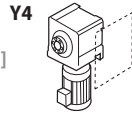
Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

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# Frame Size Selection Tables 50 Hz, 1450 RPM

# Frame Size Selection Tables 50 Hz, 1450 RPM

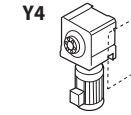
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	131.8	111.5	103.6	90.6	80.6	69.0	65.9	58.0	51.8	41.4	37.2	31.5	27.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	45.5 (33.9)	—	—	—	—	—	—	—	<b>4C170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	38258 (4323)	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5710 (25400)	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	5400 (24010)	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	48.3 (36.0)	—	—	39.4 (29.4)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	
Output Torque in-lbs (N·m)	—	—	—	—	—	40628 (4590)	—	—	44239 (4998)	26791 (3027)	29853 (3373)	35211 (3978)	34115 (3855)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	5505 (25400)	—	—	6000 (26700)	6560 (29200)	6900 (30700)	7485 (33300)	8000 (35600)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	5400 (24010)	—	—	6250 (27800)	7170 (31890)	7580 (33710)	8210 (36510)	8860 (39400)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	33.9 (25.3)	—	—	—	—	—	—	—	<b>4D160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	28553 (3226)	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	11195 (49800)	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	7690 (34200)	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	40.2 (30.0)	—	—	20.3 (15.2)	20.3 (15.2)	20.3 (15.2)	14.9 (11.1)	14.9 (11.1)	
Output Torque in-lbs (N·m)	—	—	—	—	—	33857 (3826)	—	—	22797 (2576)	28496 (3220)	31753 (3588)	27465 (3103)	31644 (3576)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	10765 (47900)	—	—	11800 (52500)	12070 (53700)	12180 (54200)	12565 (55900)	12675 (56400)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	7690 (34200)	—	—	9060 (40290)	10240 (45540)	10830 (48170)	11740 (52210)	12690 (56440)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	45.5 (33.9)	—	—	—	—	—	—	—	<b>4D170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	38258 (4323)	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	10405 (46300)	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	7690 (34200)	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	49.6 (37.0)	—	—	49.6 (37.0)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	
Output Torque in-lbs (N·m)	—	—	—	—	—	41757 (4718)	—	—	55676 (6291)	26791 (3027)	29853 (3373)	35211 (3979)	34115 (3855)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	10135 (45100)	—	—	10225 (45500)	11125 (49500)	11170 (49700)	11080 (49300)	11375 (50600)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	7690 (34200)	—	—	9060 (40290)	10240 (45540)	10830 (48170)	11740 (52210)	12690 (56440)	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	24.2	21.6	19.6	18.1	16.48	14.22	12.95	11.79	9.60	8.10	7.00	5.82	4.75	3.48	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4C170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	13.0 (9.71)	13.0 (9.71)	13.0 (9.71)	14.2 (10.58)	13.0 (9.67)	11.2 (8.34)	10.1 (7.56)	9.27 (6.91)	7.54 (5.62)	6.36 (4.74)	5.50 (4.10)	4.57 (3.41)	3.73 (2.78)	—	
Output Torque in-lbs (N·m)	31314 (3538)	34968 (3951)	38621 (4364)	45492 (5140)	45752 (5169)	45716 (5165)	45492 (5140)	45678 (5161)	45643 (5157)	45619 (5154)	45602 (5152)	45583 (5150)	45567 (5148)	—	
Hollow Shaft OHL lbs (N)	8450 (37600)	8900 (39600)	9305 (41400)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	9415 (41900)	—	
Solid Shaft OHL lbs (N)	9420 (41900)	9870 (43900)	10260 (45630)	10660 (47410)	11100 (49370)	11710 (52080)	12050 (53590)	12360 (54970)	12810 (56970)	12720 (56570)	12660 (56310)	12590 (56000)	12550 (55820)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D160</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	14.9 (11.1)	10.2 (7.58)	10.2 (7.58)	10.2 (7.58)	10.2 (7.58)	10.2 (7.58)	10.2 (7.58)	10.2 (7.58)	5.01 (3.74)	5.01 (3.74)	5.01 (3.74)	2.98 (2.22)	2.98 (2.22)	—	
Output Torque in-lbs (N·m)	35824 (4048)	27275 (3082)	30124 (3404)	32567 (3680)	35824 (4048)	41523 (4692)	45594 (5152)	50072 (5658)	30325 (3427)	35948 (4062)	41572 (4697)	29734 (3360)	36421 (4115)	—	
Hollow Shaft OHL lbs (N)	13600 (60500)	14455 (64300)	14565 (64800)	15465 (68800)	15620 (69500)	15960 (71000)	16970 (75500)	15755 (70100)	15755 (70100)	15755 (70100)	15755 (70100)	15755 (70100)	16115 (71700)	—	
Solid Shaft OHL lbs (N)	13500 (60040)	14150 (62930)	14650 (65160)	14960 (66540)	15320 (68140)	15800 (70270)	16070 (71470)	16310 (72540)	16690 (74230)	16650 (74050)	16620 (73920)	16590 (73790)	16580 (73740)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	13.0 (9.71)	13.0 (9.71)	13.0 (9.71)	14.9 (11.1)	14.9 (11.1)	14.9 (11.1)	10.2 (7.58)	10.2 (7.58)	10.2 (7.58)	7.45 (5.56)	7.45 (5.56)	5.01 (3.74)	5.01 (3.74)	—	
Output Torque in-lbs (N·m)	31314 (3538)	34968 (3951)	38621 (4364)	47765 (5397)	52541 (5937)	60900 (6881)	45594 (5152)	50072 (5658)	61470 (6946)	53437 (6038)	61796 (6983)	50007 (5651)	61253 (6921)	—	
Hollow Shaft OHL lbs (N)	11485 (51100)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	—	
Solid Shaft OHL lbs (N)	13500 (60040)	14150 (62930)	14650 (65160)	14960 (66540)	15320 (68140)	15800 (70270)	16070 (71470)	16310 (72540)	16690 (74230)	16650 (74050)	16620 (73920)	16590 (73790)	16580 (73740)	—	

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

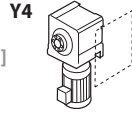
Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.



# Frame Size Selection Tables 50 Hz, 1450 RPM

# Frame Size Selection Tables 50 Hz, 1450 RPM

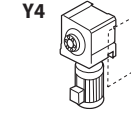
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	131.8	111.5	103.6	90.6	80.6	69.0	65.9	58.0	51.8	41.4	37.2	31.5	27.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D180</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	26.0 (19.4)	26.0 (19.4)	26.0 (19.4)	19.1 (14.2)	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	36533 (4128)	40709 (4600)	48015 (5426)	40570 (4584)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	9460 (42100)	9755 (43400)	10250 (45600)	10700 (47600)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	10240 (45540)	10830 (48170)	11740 (52210)	12690 (56440)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	45.5 (33.9)	—	—	—	—	—	—	—	<b>4E170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	38258 (4323)	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	14500 (64500)	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	11310 (50300)	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	49.6 (37.0)	—	—	49.6 (37.0)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	
Output Torque in-lbs (N·m)	—	—	—	—	—	41757 (4718)	—	—	55676 (6291)	26791 (3027)	29853 (3373)	35211 (3979)	34115 (3855)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	14250 (63400)	—	—	14790 (65800)	16005 (71200)	16185 (72000)	16430 (73100)	16565 (73700)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	11310 (50300)	—	—	13080 (58170)	14630 (65070)	15370 (68360)	16550 (73610)	17780 (79080)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E180</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	26.0 (19.4)	26.0 (19.4)	26.0 (19.4)	19.1 (14.2)	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	36533 (4128)	40709 (4600)	48015 (5426)	40570 (4584)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	13530 (60200)	13935 (62000)	14880 (66200)	15825 (70400)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	14630 (65070)	15370 (68360)	16550 (73610)	17780 (79080)	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	24.2	21.6	19.6	18.1	16.48	14.22	12.95	11.79	9.60	8.10	7.00	5.82	4.75	3.48	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D180</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	16.1 (12.0)	13.0 (9.71)	13.0 (9.71)	13.0 (9.71)	9.55 (7.12)	6.51 (4.86)	9.33 (6.95)	7.45 (5.56)	6.32 (4.72)	—	
Output Torque in-lbs (N·m)	45928 (5190)	51286 (5795)	56644 (6401)	51495 (5819)	56644 (6401)	53234 (6015)	58454 (6605)	64194 (7254)	57792 (6530)	46711 (5278)	77364 (8742)	74334 (8399)	77304 (8735)	—	
Hollow Shaft OHL lbs (N)	11125 (49500)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	11375 (50600)	—	
Solid Shaft OHL lbs (N)	13500 (60040)	14150 (62930)	14650 (65160)	14960 (66540)	15320 (68140)	15800 (70270)	16070 (71470)	16310 (72540)	16690 (74230)	16650 (74050)	16620 (73920)	16590 (73790)	16580 (73740)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E170</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	13.0 (9.71)	13.0 (9.71)	13.0 (9.71)	14.9 (11.1)	14.9 (11.1)	14.9 (11.1)	10.2 (7.58)	10.2 (7.58)	10.2 (7.58)	7.45 (5.56)	7.45 (5.56)	5.01 (3.74)	5.01 (3.74)	—	
Output Torque in-lbs (N·m)	31314 (3538)	34968 (3951)	38621 (4364)	47765 (5397)	52541 (5937)	60900 (6881)	45594 (5152)	50072 (5658)	61470 (6946)	53437 (6038)	61796 (6983)	50007 (5651)	61253 (6921)	—	
Hollow Shaft OHL lbs (N)	18025 (80200)	18250 (81200)	18835 (83800)	19555 (87000)	19400 (86300)	19400 (86300)	19420 (86400)	18995 (84500)	19175 (85300)	18995 (84500)	19150 (85200)	19085 (84900)	19150 (85200)	—	
Solid Shaft OHL lbs (N)	18840 (83800)	19670 (87490)	20270 (90160)	20480 (91090)	20700 (92070)	21020 (93490)	21200 (94290)	21360 (95000)	21630 (96210)	21720 (96610)	21790 (96920)	21860 (97230)	21920 (97500)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E180</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	16.1 (12.0)	13.0 (9.71)	13.0 (9.71)	13.0 (9.71)	9.55 (7.12)	6.51 (4.86)	10.16 (7.58)	7.45 (5.56)	7.45 (5.56)	—	
Output Torque in-lbs (N·m)	45928 (5190)	51286 (5795)	56644 (6401)	51495 (5819)	56644 (6401)	53234 (6015)	58454 (6605)	64194 (7254)	57792 (6530)	46711 (5278)	84267 (9522)	74334 (8399)	91052 (10288)	—	
Hollow Shaft OHL lbs (N)	16700 (74300)	17670 (78600)	18250 (81200)	18995 (84500)	19400 (86300)	19400 (86300)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	—	
Solid Shaft OHL lbs (N)	18840 (83800)	19670 (87490)	20270 (90160)	20480 (91090)	20700 (92070)	21020 (93490)	21200 (94290)	21360 (95000)	21630 (96210)	21720 (96610)	21790 (96920)	21860 (97230)	21920 (97500)	—	

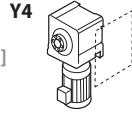
Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

# Frame Size Selection Tables 50 Hz, 1450 RPM

# Frame Size Selection Tables 50 Hz, 1450 RPM

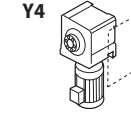
## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	131.8	111.5	103.6	90.6	80.6	69.0	65.9	58.0	51.8	41.4	37.2	31.5	27.4	Frame Size
Ratio	11	13	14	16	18	21	22	25	28	35	39	46	53	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E190</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	32.1 (24.0)	32.1 (24.0)	32.1 (24.0)	32.1 (24.0)	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	45058 (5091)	50207 (5673)	59219 (6691)	68231 (7710)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	13600 (60500)	14005 (62300)	14880 (66200)	15825 (70400)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	14630 (65070)	15370 (68360)	16550 (73610)	17780 (79080)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F180</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	26.0 (19.4)	26.0 (19.4)	26.0 (19.4)	19.1 (14.2)	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	36533 (4128)	40709 (4600)	48015 (5426)	40570 (4584)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	27875 (124000)	28100 (125000)	27425 (122000)	27425 (122000)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	25560 (113690)	26850 (119420)	28470 (126630)	28910 (128590)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F190</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	32.1 (24.0)	32.1 (24.0)	32.1 (24.0)	32.1 (24.0)	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	45058 (5091)	50207 (5673)	59219 (6691)	68231 (7710)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	26525 (118000)	26975 (120000)	26300 (117000)	25400 (113000)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	25560 (113690)	26850 (119420)	28470 (126630)	28910 (128590)	

## Single Reduction Y4 Mounting Position<sup>[1]</sup>



Dimensions on pages 2.156–2.166

Output RPM	24.2	21.6	19.6	18.1	16.48	14.22	12.95	11.79	9.60	8.10	7.00	5.82	4.75	3.48	Frame Size
Ratio	60	67	74	80	88	102	112	123	151	179	207	249	305	417	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4E190</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	32.1 (24.0)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	16.1 (12.0)	13.0 (9.71)	9.55 (7.12)	9.55 (7.12)	6.51 (4.86)	6.51 (4.86)	—	
Output Torque in-lbs (N·m)	77242 (8728)	51286 (5795)	56644 (6401)	61237 (6920)	67361 (7611)	78077 (8822)	72093 (8146)	79173 (8946)	78808 (8905)	68509 (7741)	79225 (8952)	64977 (7342)	79591 (8993)	—	
Hollow Shaft OHL lbs (N)	16700 (74300)	17670 (78600)	18250 (81200)	18995 (84500)	19400 (86300)	19400 (86300)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	18430 (82000)	—	
Solid Shaft OHL lbs (N)	18840 (83800)	19670 (87490)	20270 (90160)	20480 (91090)	20700 (92070)	21020 (93490)	21200 (94290)	21360 (95000)	21630 (96210)	21720 (96610)	21790 (96920)	21860 (97230)	21920 (97500)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F180</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	16.1 (12.0)	13.0 (9.71)	13.0 (9.71)	13.0 (9.71)	9.55 (7.12)	6.51 (4.86)	10.2 (7.58)	7.45 (5.56)	7.45 (5.56)	—	
Output Torque in-lbs (N·m)	45928 (5190)	51286 (5795)	56644 (6401)	51495 (5819)	56644 (6401)	53234 (6015)	58454 (6605)	64194 (7254)	57792 (6530)	46711 (5278)	84267 (9522)	74334 (8399)	91052 (10288)	—	
Hollow Shaft OHL lbs (N)	26975 (120000)	26300 (117000)	25625 (114000)	26525 (118000)	26075 (116000)	26525 (118000)	26300 (117000)	25625 (114000)	25625 (114000)	25850 (115000)	26300 (117000)	26525 (118000)	26075 (116000)	—	
Solid Shaft OHL lbs (N)	28940 (128720)	28950 (128760)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	29010 (129030)	29180 (129790)	29300 (130320)	29430 (130900)	29530 (131340)	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F190</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	32.1 (24.0)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	19.1 (14.2)	16.1 (12.0)	16.1 (12.0)	13.0 (9.71)	9.55 (7.12)	9.55 (7.12)	6.51 (4.86)	6.51 (4.86)	—	
Output Torque in-lbs (N·m)	77242 (8728)	51286 (5795)	56644 (6401)	61237 (6920)	67361 (7611)	78077 (8822)	72093 (8146)	79173 (8946)	78808 (8905)	68509 (7741)	79225 (8952)	64977 (7342)	79591 (8993)	—	
Hollow Shaft OHL lbs (N)	25400 (113000)	25175 (112000)	25400 (113000)	25175 (112000)	25400 (113000)	25400 (113000)	25175 (112000)	25400 (113000)	25400 (113000)	25400 (113000)	25400 (113000)	25400 (113000)	25400 (113000)	—	
Solid Shaft OHL lbs (N)	28940 (128720)	28950 (128760)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	28970 (128850)	29010 (129030)	29180 (129790)	29300 (130320)	29430 (130900)	29530 (131340)	—	

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.

Note: [1] Please visit Sumitomo's Product Configurator at [www.sumitomodrive.com/Configurator](http://www.sumitomodrive.com/Configurator) for Y4 ratings not listed in the table.











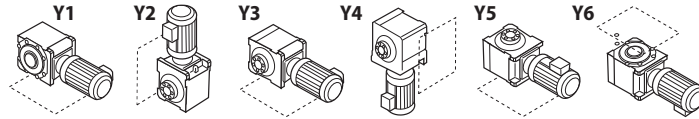




# Frame Size Selection Tables 60 Hz, 1750 RPM

# 60 Hz, 1750 RPM Frame Size Selection Tables

## Double Reduction Y1, Y2, Y3, Y4, Y5, Y6 Mounting Positions

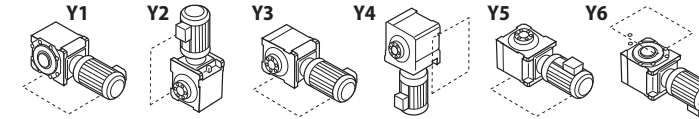


Dimensions on pages 2.168 - 2.177

Output RPM	4.81	4.13	3.49	3.03	2.56	2.16	1.83	1.57	1.33	1.06	0.89	0.77	0.68	Frame Size
Ratio	364	424	501	578	683	809	956	1117	1320	1656	1957	2272	2559	
<b>Input Power HP (kW)</b>	<b>6.73 (5.02)</b>	<b>5.78 (4.31)</b>	<b>4.89 (3.65)</b>	<b>4.24 (3.16)</b>	<b>3.59 (2.68)</b>	<b>3.03 (2.26)</b>	<b>2.56 (1.91)</b>	<b>2.20 (1.64)</b>	<b>1.85 (1.38)</b>	—	—	—	—	<b>4D18DB</b>
Output Torque in-lbs (N-m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	—	—	—	—	
Hollow Shaft OHL lbs (N)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	—	—	—	—	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>1.81 (1.35)</b>	<b>1.54 (1.15)</b>	<b>1.32 (0.987)</b>	<b>1.17 (0.876)</b>	
Output Torque in-lbs (N-m)	23360 (2640)	27075 (3060)	32035 (3620)	36990 (4180)	43715 (4940)	51770 (5850)	61150 (6910)	71680 (8100)	84775 (9580)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	22705 (101000)	22435 (99800)	22185 (98700)	21940 (97600)	21580 (96000)	21175 (94200)	20705 (92100)	20165 (89700)	19510 (86800)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>3.71 (2.77)</b>	<b>3.15 (2.35)</b>	<b>2.70 (2.01)</b>	<b>2.28 (1.70)</b>	<b>1.81 (1.35)</b>	<b>1.54 (1.15)</b>	<b>1.32 (0.987)</b>	<b>1.17 (0.876)</b>	<b>4E17DB</b>
Output Torque in-lbs (N-m)	48935 (5530)	56900 (6430)	67255 (7600)	77610 (8770)	92035 (10400)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	21330 (94900)	20925 (93100)	20390 (90700)	19870 (88400)	19150 (85200)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>8.26 (6.16)</b>	<b>7.09 (5.29)</b>	<b>6.01 (4.48)</b>	<b>5.20 (3.88)</b>	<b>4.40 (3.28)</b>	<b>3.71 (2.77)</b>	<b>3.15 (2.35)</b>	<b>2.70 (2.01)</b>	<b>2.28 (1.70)</b>	<b>1.81 (1.35)</b>	<b>1.54 (1.15)</b>	<b>1.32 (0.987)</b>	<b>1.17 (0.876)</b>	
Output Torque in-lbs (N-m)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.02 (3.00)</b>	<b>3.41 (2.54)</b>	<b>2.92 (2.18)</b>	<b>2.47 (1.84)</b>	<b>1.97 (1.47)</b>	<b>1.66 (1.24)</b>	<b>1.43 (1.07)</b>	<b>1.27 (0.95)</b>	<b>4E18DA</b>
Output Torque in-lbs (N-m)	—	—	—	—	—	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>8.94 (6.67)</b>	<b>7.70 (5.74)</b>	<b>6.50 (4.85)</b>	<b>5.65 (4.21)</b>	<b>4.77 (3.56)</b>	<b>4.02 (3.00)</b>	<b>3.41 (2.54)</b>	<b>2.92 (2.18)</b>	<b>2.47 (1.84)</b>	—	—	—	—	
Output Torque in-lbs (N-m)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	—	—	—	—	
Hollow Shaft OHL lbs (N)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	—	—	—	—	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	—	—	—	—	

**Note:** The motor Input Powers listed in **GRAY** are to overcome breakaway torque requirements in cold temperature or high inertia applications. A torque limiting device is recommended to protect the unit or the driven machine.

## Double Reduction Y1, Y2, Y3, Y4, Y5, Y6 Mounting Positions



Dimensions on pages 2.168 - 2.177

Output RPM	0.59	0.50	0.40	0.34	0.27	0.24	0.20	0.16	0.14	0.11	0.10	0.08	0.07	Frame Size
Ratio	2944	3511	4365	5177	6472	7228	8880	10658	12184	15530	17966	21620	26492	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D18DB</b>
Output Torque in-lbs (N-m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>1.02 (0.761)</b>	<b>0.856 (0.638)</b>	<b>0.688 (0.513)</b>	<b>0.581 (0.433)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	
Output Torque in-lbs (N-m)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>1.02 (0.761)</b>	<b>0.856 (0.638)</b>	<b>0.688 (0.513)</b>	<b>0.581 (0.433)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>4E17DB</b>
Output Torque in-lbs (N-m)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>1.02 (0.761)</b>	<b>0.856 (0.638)</b>	<b>0.688 (0.513)</b>	<b>0.581 (0.433)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	
Output Torque in-lbs (N-m)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>1.11 (0.825)</b>	<b>1.01 (0.750)</b>	<b>1.01 (0.750)</b>	<b>1.01 (0.750)</b>	<b>1.01 (0.750)</b>	<b>1.01 (0.750)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>4E18DA</b>
Output Torque in-lbs (N-m)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	
Hollow Shaft OHL lbs (N)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N-m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	

**Note:** The motor Input Powers listed in **GRAY** are to overcome breakaway torque requirements in cold temperature or high inertia applications. A torque limiting device is recommended to protect the unit or the driven machine.



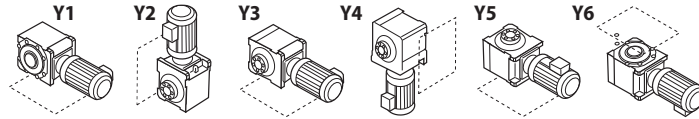




# Frame Size Selection Tables 50 Hz, 1450 RPM

# 50 Hz, 1450 RPM Frame Size Selection Tables

## Double Reduction Y1, Y2, Y3, Y4, Y5, Y6 Mounting Positions

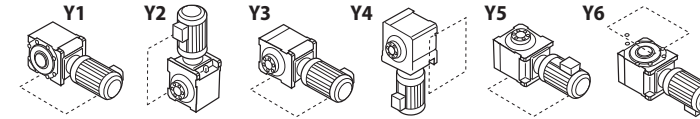


Dimensions on pages 2.168 - 2.177

Output RPM	3.98	3.42	2.89	2.51	2.12	1.79	1.52	1.30	1.10	0.88	0.74	0.64	0.57	Frame Size
Ratio	364	424	501	578	683	809	956	1117	1320	1656	1957	2272	2559	
<b>Input Power HP (kW)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.522 (0.389)</b>	<b>0.447 (0.333)</b>	<b>0.378 (0.282)</b>	<b>0.302 (0.225)</b>	<b>0.255 (0.190)</b>	<b>0.220 (0.164)</b>	<b>0.194 (0.145)</b>	4B12DA
Output Torque in-lbs (N-m)	7545 (853)	8785 (993)	10350 (1170)	11945 (1350)	14155 (1600)	16810 (1900)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	
Hollow Shaft OHL lbs (N)	9620 (42800)	9460 (42100)	9215 (41000)	8945 (39800)	8450 (37600)	7730 (34400)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>1.37 (1.02)</b>	<b>1.16 (0.867)</b>	<b>1.00 (0.743)</b>	<b>0.860 (0.644)</b>	<b>0.731 (0.545)</b>	<b>0.617 (0.460)</b>	<b>0.522 (0.389)</b>	<b>0.447 (0.333)</b>	<b>0.378 (0.282)</b>	<b>0.302 (0.225)</b>	<b>0.255 (0.190)</b>	<b>0.220 (0.164)</b>	<b>0.194 (0.145)</b>	4B12DB
Output Torque in-lbs (N-m)	18935 (2140)	18760 (2120)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	
Hollow Shaft OHL lbs (N)	6945 (30900)	7035 (31300)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.546 (0.407)</b>	<b>0.535 (0.399)</b>	<b>0.453 (0.338)</b>	<b>0.361 (0.269)</b>	<b>0.306 (0.228)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	4B14DA
Output Torque in-lbs (N-m)	7545 (853)	8785 (993)	10350 (1170)	11945 (1350)	14155 (1600)	16810 (1900)	19820 (2240)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	9620 (42800)	9460 (42100)	9215 (41000)	8945 (39800)	8450 (37600)	7730 (34400)	6585 (29300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>1.65 (1.23)</b>	<b>1.41 (1.05)</b>	<b>1.19 (0.891)</b>	<b>1.04 (0.772)</b>	<b>0.880 (0.653)</b>	<b>0.740 (0.552)</b>	<b>0.626 (0.467)</b>	<b>0.535 (0.399)</b>	<b>0.453 (0.338)</b>	<b>0.361 (0.269)</b>	<b>0.306 (0.228)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	4B14DB
Output Torque in-lbs (N-m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>1.65 (1.23)</b>	<b>1.41 (1.05)</b>	<b>1.19 (0.891)</b>	<b>1.04 (0.772)</b>	<b>0.880 (0.653)</b>	<b>0.740 (0.552)</b>	<b>0.626 (0.467)</b>	<b>0.535 (0.399)</b>	<b>0.453 (0.338)</b>	<b>0.361 (0.269)</b>	<b>0.306 (0.228)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	4B14DC
Output Torque in-lbs (N-m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>1.65 (1.23)</b>	<b>1.41 (1.05)</b>	<b>1.19 (0.891)</b>	<b>1.04 (0.772)</b>	<b>0.880 (0.653)</b>	<b>0.740 (0.552)</b>	<b>0.626 (0.467)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>	4B16DA
Output Torque in-lbs (N-m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	

**Note:** The motor Input Powers listed in **GRAY** are to overcome breakaway torque requirements in cold temperature or high inertia applications. A torque limiting device is recommended to protect the unit or the driven machine.

## Double Reduction Y1, Y2, Y3, Y4, Y5, Y6 Mounting Positions



Dimensions on pages 2.168 - 2.177

Output RPM	0.49	0.41	0.33	0.28	0.22	0.20	0.16	0.14	0.12	0.09	0.08	0.07	0.05	Frame Size
Ratio	2944	3511	4365	5177	6472	7228	8880	10658	12184	15530	17966	21620	26492	
<b>Input Power HP (kW)</b>	<b>0.169 (0.126)</b>	<b>0.142 (0.106)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	4B12DA
Output Torque in-lbs (N-m)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	
Hollow Shaft OHL lbs (N)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>0.169 (0.126)</b>	<b>0.142 (0.106)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	<b>0.134 (0.100)</b>	4B12DB
Output Torque in-lbs (N-m)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	18935 (2140)	
Hollow Shaft OHL lbs (N)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	6945 (30900)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	4B14DA
Output Torque in-lbs (N-m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	4B14DB
Output Torque in-lbs (N-m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	<b>0.268 (0.200)</b>	4B14DC
Output Torque in-lbs (N-m)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	22740 (2570)	
Hollow Shaft OHL lbs (N)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	5010 (22300)	
Solid Shaft OHL lbs (N)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	7120 (31660)	
<b>Input Power HP (kW)</b>	<b>0.536 (0.400)</b>	<b>0.536 (0.400)</b>												





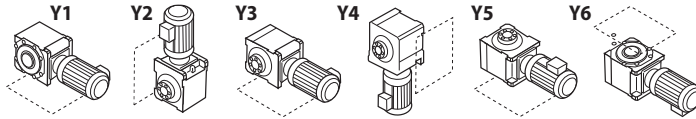




# Frame Size Selection Tables 50 Hz, 1450 RPM

# 50 Hz, 1450 RPM Frame Size Selection Tables

## Double Reduction Y1, Y2, Y3, Y4, Y5, Y6 Mounting Positions

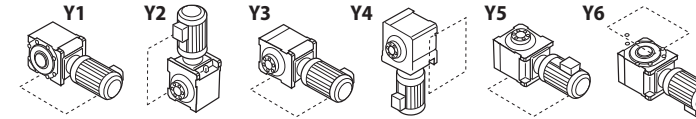


Dimensions on pages 2.168 - 2.177

Output RPM	3.98	3.42	2.89	2.51	2.12	1.79	1.52	1.30	1.10	0.88	0.74	0.64	0.57	Frame Size
Ratio	364	424	501	578	683	809	956	1117	1320	1656	1957	2272	2559	
<b>Input Power HP (kW)</b>	<b>5.58 (4.16)</b>	<b>4.79 (3.57)</b>	<b>4.05 (3.02)</b>	<b>3.51 (2.62)</b>	<b>2.98 (2.22)</b>	<b>2.51 (1.87)</b>	<b>2.12 (1.58)</b>	<b>1.82 (1.36)</b>	<b>1.54 (1.15)</b>	—	—	—	—	<b>4D18DB</b>
Output Torque in-lbs (N·m)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	77165 (8720)	—	—	—	—	
Hollow Shaft OHL lbs (N)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	9485 (42200)	—	—	—	—	
Solid Shaft OHL lbs (N)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	16580 (73740)	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>2.04 (1.52)</b>	<b>1.89 (1.41)</b>	<b>1.50 (1.12)</b>	<b>1.27 (0.949)</b>	<b>1.10 (0.817)</b>	<b>0.970 (0.726)</b>	
Output Torque in-lbs (N·m)	28230 (3190)	32830 (3710)	38670 (4370)	44775 (5060)	52740 (5960)	62475 (7060)	73805 (8340)	86545 (9780)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	22365 (99500)	22140 (98500)	21850 (97200)	21535 (95800)	21130 (94000)	20635 (91800)	20050 (89200)	19420 (86400)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>4.26 (3.18)</b>	<b>3.65 (2.72)</b>	<b>3.08 (2.30)</b>	<b>2.60 (1.94)</b>	<b>2.23 (1.66)</b>	<b>1.89 (1.41)</b>	<b>1.50 (1.12)</b>	<b>1.27 (0.949)</b>	<b>1.10 (0.817)</b>	<b>0.970 (0.726)</b>	<b>4E17DB</b>
Output Torque in-lbs (N·m)	59025 (6670)	68670 (7760)	81150 (9170)	93805 (10600)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	20815 (92600)	20320 (90400)	19690 (87600)	19060 (84800)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>6.84 (5.10)</b>	<b>5.87 (4.38)</b>	<b>4.98 (3.71)</b>	<b>4.32 (3.22)</b>	<b>3.65 (2.72)</b>	<b>3.08 (2.30)</b>	<b>2.60 (1.94)</b>	<b>2.23 (1.66)</b>	<b>1.89 (1.41)</b>	<b>1.50 (1.12)</b>	<b>1.27 (0.949)</b>	<b>1.10 (0.817)</b>	<b>0.970 (0.726)</b>	
Output Torque in-lbs (N·m)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>3.34 (2.49)</b>	<b>2.83 (2.11)</b>	<b>2.41 (1.80)</b>	<b>2.05 (1.53)</b>	<b>1.64 (1.22)</b>	<b>1.38 (1.03)</b>	<b>1.19 (0.886)</b>	<b>1.06 (0.787)</b>	<b>4E18DA</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>7.42 (5.53)</b>	<b>6.37 (4.75)</b>	<b>5.39 (4.02)</b>	<b>4.68 (3.49)</b>	<b>3.96 (2.95)</b>	<b>3.34 (2.49)</b>	<b>2.83 (2.11)</b>	<b>2.41 (1.80)</b>	<b>2.05 (1.53)</b>	—	—	—	—	
Output Torque in-lbs (N·m)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	—	—	—	—	
Hollow Shaft OHL lbs (N)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	—	—	—	—	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	—	—	—	—	

**Note:** The motor Input Powers listed in **GRAY** are to overcome breakaway torque requirements in cold temperature or high inertia applications. A torque limiting device is recommended to protect the unit or the driven machine.

## Double Reduction Y1, Y2, Y3, Y4, Y5, Y6 Mounting Positions



Dimensions on pages 2.168 - 2.177

Output RPM	0.49	0.41	0.33	0.28	0.22	0.20	0.16	0.14	0.12	0.09	0.08	0.07	0.05	Frame Size
Ratio	2944	3511	4365	5177	6472	7228	8880	10658	12184	15530	17966	21620	26492	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4D18DB</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>0.850 (0.631)</b>	<b>0.709 (0.529)</b>	<b>0.570 (0.425)</b>	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	
Output Torque in-lbs (N·m)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>0.850 (0.631)</b>	<b>0.709 (0.529)</b>	<b>0.570 (0.425)</b>	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	<b>4E17DB</b>
Output Torque in-lbs (N·m)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>0.850 (0.631)</b>	<b>0.709 (0.529)</b>	<b>0.570 (0.425)</b>	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	0.268 (0.200)	
Output Torque in-lbs (N·m)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	94690 (10700)	
Hollow Shaft OHL lbs (N)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	18995 (84500)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	0.540 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	<b>4E18DA</b>
Output Torque in-lbs (N·m)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	
Hollow Shaft OHL lbs (N)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	

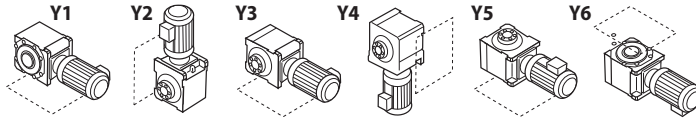
**Note:** The motor Input Powers listed in **GRAY** are to overcome breakaway torque requirements in cold temperature or high inertia applications. A torque limiting device is recommended to protect the unit or the driven machine.



# Frame Size Selection Tables 50 Hz, 1450 RPM

# 50 Hz, 1450 RPM Frame Size Selection Tables

## Double Reduction Y1, Y2, Y3, Y4, Y5, Y6 Mounting Positions

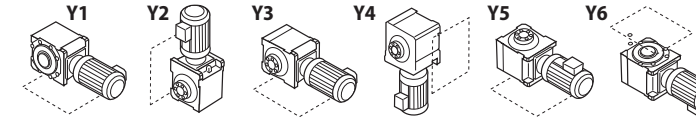


Dimensions on pages 2.168 - 2.177

Output RPM	3.98	3.42	2.89	2.51	2.12	1.79	1.52	1.30	1.10	0.88	0.74	0.64	0.57	Frame Size
Ratio	364	424	501	578	683	809	956	1117	1320	1656	1957	2272	2559	
<b>Input Power HP (kW)</b>	—	—	—	—	<b>3.96 (2.95)</b>	<b>3.34 (2.49)</b>	<b>2.83 (2.11)</b>	<b>2.41 (1.80)</b>	<b>2.05 (1.53)</b>	<b>1.64 (1.22)</b>	<b>1.38 (1.03)</b>	<b>1.19 (0.886)</b>	<b>1.06 (0.787)</b>	<b>4E19DA</b>
Output Torque in-lbs (N·m)	—	—	—	—	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	
Hollow Shaft OHL lbs (N)	—	—	—	—	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	
Solid Shaft OHL lbs (N)	—	—	—	—	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	<b>7.42 (5.53)</b>	<b>6.37 (4.75)</b>	<b>5.39 (4.02)</b>	<b>4.68 (3.49)</b>	<b>3.96 (2.95)</b>	<b>3.34 (2.49)</b>	<b>2.83 (2.11)</b>	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	—	<b>4.26 (3.18)</b>	<b>4.14 (3.09)</b>	<b>3.54 (2.64)</b>	<b>3.00 (2.24)</b>	<b>2.39 (1.78)</b>	<b>2.02 (1.51)</b>	<b>1.74 (1.30)</b>	<b>1.54 (1.15)</b>	<b>4F18DA</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	130970 (14800)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	32145 (143000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	
Solid Shaft OHL lbs (N)	—	—	—	—	—	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	<b>10.7 (7.95)</b>	<b>8.98 (6.70)</b>	<b>7.75 (5.78)</b>	<b>6.75 (5.03)</b>	<b>5.71 (4.26)</b>	<b>4.89 (3.65)</b>	<b>4.14 (3.09)</b>	<b>3.54 (2.64)</b>	<b>3.00 (2.24)</b>	—	—	—	—	<b>4F18DB</b>
Output Torque in-lbs (N·m)	147785 (16700)	145130 (16400)	147785 (16700)	147785 (16700)	147785 (16700)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	—	—	—	—	
Hollow Shaft OHL lbs (N)	31245 (139000)	31695 (141000)	31245 (139000)	31020 (138000)	31020 (138000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	—	—	—	—	
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	—	—	—	—	
<b>Input Power HP (kW)</b>	—	—	—	—	<b>5.93 (4.42)</b>	<b>5.00 (3.73)</b>	<b>4.24 (3.16)</b>	<b>3.62 (2.70)</b>	<b>3.07 (2.29)</b>	<b>2.44 (1.82)</b>	<b>2.07 (1.54)</b>	<b>1.78 (1.33)</b>	<b>1.58 (1.18)</b>	<b>4F19DA</b>
Output Torque in-lbs (N·m)	—	—	—	—	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	
Hollow Shaft OHL lbs (N)	—	—	—	—	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	
Solid Shaft OHL lbs (N)	—	—	—	—	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	<b>11.1 (8.29)</b>	<b>9.56 (7.13)</b>	<b>8.09 (6.03)</b>	<b>7.01 (5.23)</b>	<b>5.93 (4.42)</b>	<b>5.00 (3.73)</b>	<b>4.24 (3.16)</b>	—	—	—	—	—	—	<b>4F19DB</b>
Output Torque in-lbs (N·m)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	—	—	—	—	—	—	

**Note:** The motor Input Powers listed in **GRAY** are to overcome breakaway torque requirements in cold temperature or high inertia applications. A torque limiting device is recommended to protect the unit or the driven machine. For selections noted with shade, the continuous duty thermal rating for Y2, Y4 mounting is up to 10.2HP (7.58kW).

## Double Reduction Y1, Y2, Y3, Y4, Y5, Y6 Mounting Positions



Dimensions on pages 2.168 - 2.177

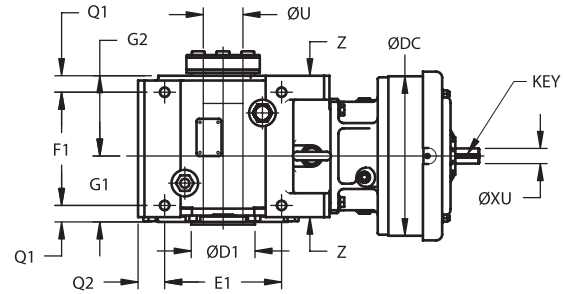
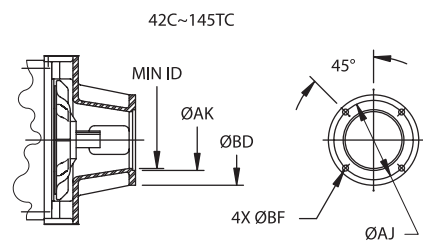
Output RPM	0.49	0.41	0.33	0.28	0.22	0.20	0.16	0.14	0.12	0.09	0.08	0.07	0.05	Frame Size
Ratio	2944	3511	4365	5177	6472	7228	8880	10658	12184	15530	17966	21620	26492	
<b>Input Power HP (kW)</b>	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	<b>4E19DA</b>
Output Torque in-lbs (N·m)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	102655 (11600)	
Hollow Shaft OHL lbs (N)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	16995 (75600)	
Solid Shaft OHL lbs (N)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	21920 (97500)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>1.34 (1.00)</b>	<b>1.13 (0.841)</b>	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	<b>0.547 (0.408)</b>	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	0.536 (0.400)	<b>4F18DA</b>
Output Torque in-lbs (N·m)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	150440 (17000)	
Hollow Shaft OHL lbs (N)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	30570 (136000)	
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F18DB</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Input Power HP (kW)</b>	<b>1.38 (1.03)</b>	<b>1.15 (0.860)</b>	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	1.01 (0.750)	<b>4F19DA</b>
Output Torque in-lbs (N·m)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	153980 (17400)	
Hollow Shaft OHL lbs (N)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	29670 (132000)	
Solid Shaft OHL lbs (N)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	29530 (131340)	
<b>Input Power HP (kW)</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>4F19DB</b>
Output Torque in-lbs (N·m)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hollow Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	
Solid Shaft OHL lbs (N)	—	—	—	—	—	—	—	—	—	—	—	—	—	

**Note:** The motor Input Powers listed in **GRAY** are to overcome breakaway torque requirements in cold temperature or high inertia applications. A torque limiting device is recommended to protect the unit or the driven machine.

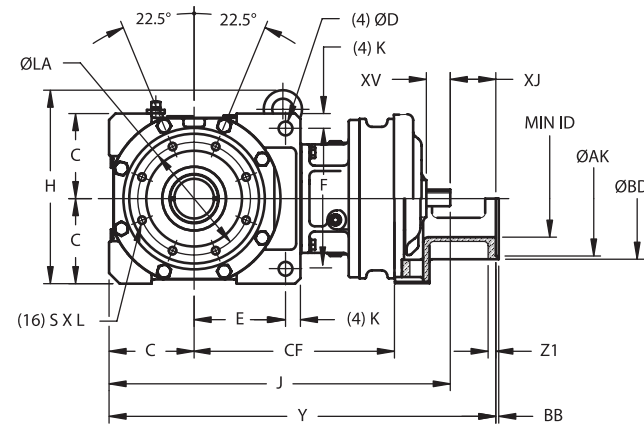
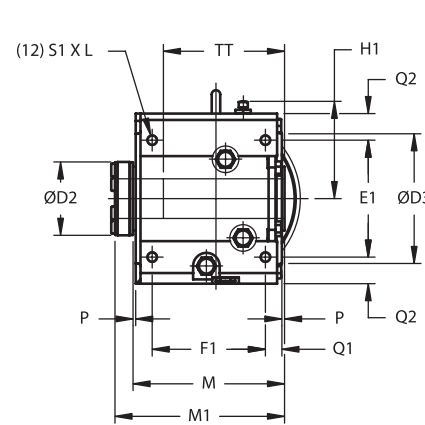
# Dimensions

## Single Reduction LHY(J)-4A100Y~4B165Y Dimensions

### Single Reduction LHY(J)-4A100Y~4B165Y



Minimum Engagement		
Frame Size	TT	
	inch	(mm)
4A	8.19	(208)
4B	9.53	(242)



All dimensions are in inches (mm).  
For units ordered in the Y2 mounting configuration, please refer to page 2.166 for external lubricant piping dimensions.

Model	C	E	F	K	Z	ØD	E1	F1	Q1	Q2	S1 x L	M
4A100, 4A105 4A110, 4A115 4A120, 4A125 4A140, 4A145	4.33 (110)	4.49 (114)	7.24 (184)	0.71 (18)	1.38 (35)	0.71 (18)	5.91 (150)	6.30 (160)	0.91 (23)	1.38 (35)	M12 x 0.79 (M12 x 20)	8.50 (216)
4B120, 4B125 4B140, 4B145 4B160, 4B165	5.12 (130)	5.59 (142)	8.43 (214)	0.91 (23)	1.58 (40)	0.87 (22)	7.48 (190)	7.68 (195)	1.06 (27)	1.38 (35)	M16 x 1.02 (M16 x 26)	10.2 (259)

Model	P	G1	G2	H	H1	ØLA	ØD3	S x L	M1	ØD1	ØD2	ØU	
												Std & Max	Min
4A100, 4A105 4A110, 4A115 4A120, 4A125 4A140, 4A145	0.20 (5)	3.78 (96)	4.33 (110)	10.9 (276)	5.16 (131)	6.10 (155)	6.89 (175)	M10 x 0.67 (M10 x 17)	9.84 (250)	3.35 (85)	4.09 (104)	2-3/16 (55.563)	1-11/16 (42.863)
4B120, 4B125 4B140, 4B145 4B160, 4B165	0.20 (5)	4.80 (122)	5.00 (127)	12.1 (308)	5.94 (151)	6.89 (175)	7.83 (199)	M12 x 0.79 (M12 x 20)	11.5 (293)	3.94 (100)	4.49 (114)	2-7/16 (61.913)	1-15/16 (49.213)

All dimensions are in inches (mm).

With C-Face Adapter						
Model	NEMA C-Face	Y	Z1	Min. ID	XJ	Weight lb (kg)
4A100, 4A105	48C	17.87 (454)	0.47 (12)	2.44 (62)	2.16 (55)	111 (50)
	56C-145TC	18.33 (466)	0.47 (12)	4.21 (107)	2.63 (67)	113 (51)
	182TC-184TC	19.16 (487)	0.47 (12)	5.43 (138)	3.45 (88)	117 (53)
4A110, 4A115	56C	18.60 (472)	0.47 (12)	3.93 (100)	2.62 (67)	126 (57)
	143TC-145TC	18.60 (472)	0.47 (12)	3.93 (100)	2.62 (67)	126 (57)
	182TC-184TC	19.40 (493)	0.47 (12)	3.93 (100)	3.44 (87)	131 (59)
4A120, 4A125	143TC-145TC	19.40 (493)	0.47 (12)	4.21 (107)	2.63 (67)	133 (60)
	182TC-184TC	20.14 (512)	0.47 (12)	5.43 (138)	3.37 (86)	137 (62)
	213TC-215TC	21.14 (537)	1.47 (37)	5.43 (138)	4.37 (111)	147 (67)
4A140, 4A145	182TC-184TC	21.33 (542)	0.47 (12)	5.43 (138)	3.37 (86)	155 (70)
	213TC-215TC	21.95 (558)	1.10 (28)	5.43 (138)	4.00 (102)	161 (73)
	254TC-256TC	22.88 (581)	0.57 (14)	5.08 (129)	4.93 (125)	163 (74)
4B120, 4B125	56C-145TC	21.64 (550)	0.47 (12)	4.21 (107)	2.63 (67)	197 (89)
	182TC-184TC	22.39 (569)	0.47 (12)	5.43 (138)	3.37 (86)	201 (91)
	213TC-215TC	23.39 (594)	1.47 (37)	5.43 (138)	4.37 (111)	211 (96)
4B140, 4B145	143TC-145TC	22.63 (575)	0.47 (12)	4.21 (107)	2.63 (67)	217 (98)
	182TC-184TC	23.37 (594)	0.47 (12)	5.43 (138)	3.37 (86)	221 (100)
	213TC-215TC	24.0 (610)	1.1 (28)	5.43 (138)	4 (102)	227 (103)
	254TC-256TC	24.93 (633)	0.57 (14)	5.08 (129)	4.93 (125)	230 (104)
4B160, 4B165	182TC-184TC	25.46 (647)	0.57 (14)	5.71 (145)	3.37 (86)	304 (138)
	213TC-215TC	26.09 (663)	1.20 (30)	5.71 (145)	4.00 (102)	310 (141)
	254TC-256TC	26.84 (682)	0.57 (14)	5.71 (145)	4.75 (121)	306 (139)
	284TC-286TC	27.52 (699)	0.57 (14)	7.09 (180)	5.44 (138)	300 (136)
	324TC-326TC	28.59 (726)	0.57 (14)	7.87 (200)	6.50 (165)	311 (141)

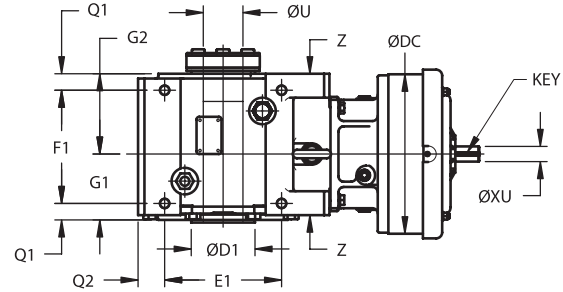
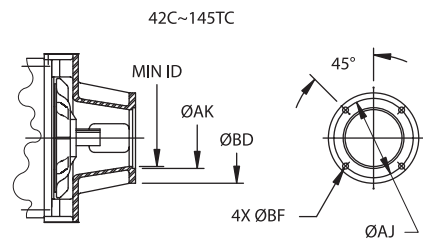
Free Shaft Input							
Model	ØXU	XV	Key	CF	ØDC	J	Weight lb (kg)
4A100, 4A105	0.625 (15.875)	0.98 (25)	3/16 x 3/16 x 0.75 (4.76 x 4.76 x 19)	9.33 (237)	5.91 (150)	15.71 (399)	106 (48)
4A110, 4A115	0.625 (15.875)	0.98 (25)	3/16 x 3/16 x 0.75 (4.76 x 4.76 x 19)	9.76 (248)	6.38 (162)	15.98 (406)	119 (54)
4A120, 4A125	0.750 (19.050)	1.38 (35)	3/16 x 3/16 x 1.02 (4.76 x 4.76 x 26)	9.57 (243)	8.03 (204)	16.77 (426)	123 (56)
4A140, 4A145	0.875 (22.225)	1.57 (40)	3/16 x 3/16 x 1.38 (4.76 x 4.76 x 33)	10.43 (265)	9.06 (230)	17.95 (456)	139 (63)
4B120, 4B125	0.750 (19.050)	1.38 (35)	3/16 x 3/16 x 1.02 (4.76 x 4.76 x 26)	11.02 (280)	8.03 (204)	19.02 (483)	187 (85)
4B140, 4B145	0.875 (22.225)	1.57 (40)	3/16 x 3/16 x 1.38 (4.76 x 4.76 x 33)	11.69 (297)	9.06 (230)	20.00 (508)	205 (93)
4B160, 4B165	1.125 (28.575)	1.77 (45)	1/4 x 1/4 x 1.77 (6.35 x 6.35 x 45)	12.83 (326)	11.81 (300)	22.09 (561)	258 (117)

NEMA C-Face Adapter	ØAJ	ØAK	ØBD	BB	ØBF
42C-48C	3.75 (95)	3 (76)	4.33 (110)	—	0.28 (7)
56C-145TC	5.87 (149)	4.5 (114)	6.69 (170)	—	0.43 (11)
182TC-256TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)
284TC-286TC	9.02 (229)	10.5 (267)	11.1 (282)	0.22 (6)	0.55 (14)
324TC-326TC	11.0 (279)	12.5 (318)	14.17 (360)	0.22 (6)	0.71 (18)

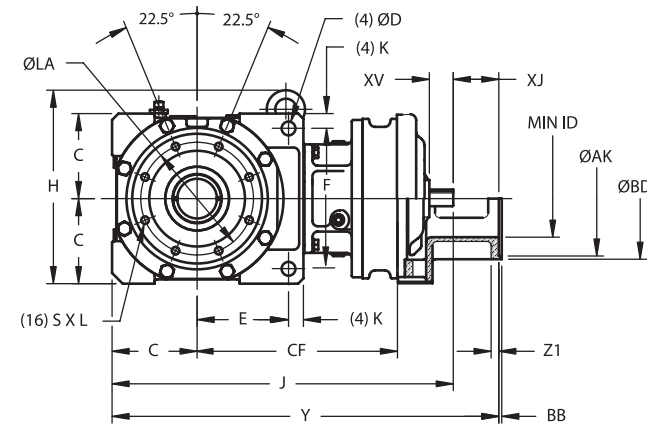
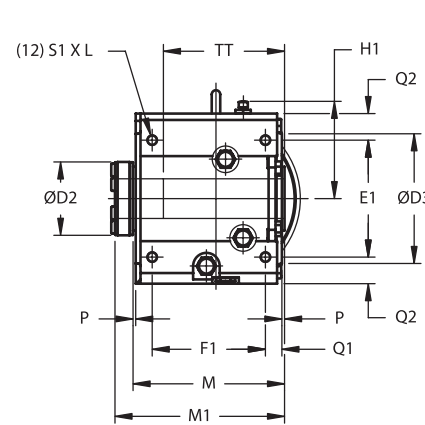
# Dimensions

## Single Reduction LHY(J)-4C140Y~4D175Y Dimensions

### Single Reduction LHY(J)-4C140Y~4D175Y



Min. Engagement		
Frame Size	TT	
	inch	(mm)
4C	10.98	(279)
4D	12.83	(326)



All dimensions are in inches (mm).

For units ordered in the Y2 mounting configuration, please refer to page 2.166 for external lubricant piping dimensions.

Model	C	E	F	K	Z	ØD	E1	F1	Q1	Q2	S1 x L	M
4C140, 4C145 4C160, 4C165 4C170, 4C175	6.30 (160)	6.77 (172)	10.4 (264)	1.10 (28)	1.77 (45)	1.02 (26)	8.66 (220)	8.39 (213)	1.22 (31)	1.97 (50)	M20 x 1.30 (M20 x 33)	11.2 (285)
4D160, 4D165 4D170, 4D175	7.48 (190)	7.60 (193)	12.2 (310)	1.38 (35)	2.17 (55)	1.30 (33)	9.84 (250)	10.0 (254)	1.42 (36)	2.56 (65)	M24 x 1.57 (M24 x 40)	13.4 (340)

Model	P	G1	G2	H	H1	ØLA	ØD3	S x L	M1	ØD1	ØD2	ØU	
												Std & Max	Min
4C140, 4C145 4C160, 4C165 4C170, 4C175	0.20 (5)	4.88 (124)	5.94 (151)	14.3 (364)	7.20 (183)	8.35 (212)	9.61 (244)	M16 x 1.02 (M16 x 26)	12.8 (326)	4.72 (120)	5.43 (138)	2-15/16 (74.613)	2-3/16 (55.563)
4D160, 4D165 4D170, 4D175	0.28 (7)	5.83 (148)	7.01 (178)	16.7 (424)	8.39 (213)	10.0 (255)	11.6 (295)	M20 x 1.30 (M20 x 33)	15.0 (381)	5.51 (140)	5.98 (152)	3-7/16 (87.313)	2-7/16 (61.913)

All dimensions are in inches (mm).

With C-Face Adapter						
Model	NEMA C-Face	Y	Z1	Min. ID	XJ	Weight lb (kg)
4C140, 4C145	143TC-145TC	26.13 (664)	0.47 (12)	4.21 (107)	2.63 (67)	321 (146)
	182TC-184TC	26.88 (683)	0.47 (12)	5.43 (138)	3.37 (86)	325 (147)
	213TC-215TC	27.50 (699)	1.1 (28)	5.43 (138)	4 (102)	331 (150)
	254TC-256TC	28.43 (722)	0.57 (14)	5.08 (129)	4.93 (125)	333 (151)
4C160, 4C165	143TC-145TC	27.90 (709)	0.47 (12)	4.21 (107)	2.63 (67)	401 (182)
	182TC-184TC	28.65 (728)	0.57 (14)	5.71 (145)	3.37 (86)	405 (184)
	213TC-215TC	29.28 (744)	1.20 (30)	5.71 (145)	4.00 (102)	412 (187)
	254TC-256TC	30.03 (763)	0.57 (14)	5.71 (145)	4.75 (121)	408 (185)
	284TC-286TC	30.71 (780)	0.57 (14)	7.09 (180)	5.44 (138)	402 (182)
4C170, 4C175	324TC-326TC	31.78 (807)	0.57 (14)	7.87 (200)	6.50 (165)	412 (187)
	182TC-184TC	30.07 (764)	0.57 (14)	5.71 (145)	3.38 (86)	448 (203)
	213TC-215TC	30.70 (780)	1.20 (30)	5.71 (145)	4.00 (102)	454 (206)
	254TC-256TC	31.44 (799)	0.57 (14)	5.71 (145)	4.75 (121)	450 (204)
4D160, 4D165	284TC-286TC	32.13 (816)	0.57 (14)	7.87 (200)	5.44 (138)	461 (209)
	324TC-326TC	32.70 (831)	0.57 (14)	7.87 (200)	6.00 (152)	456 (207)
	143TC-145TC	31.92 (811)	0.47 (12)	4.21 (107)	2.63 (67)	549 (249)
	182TC-184TC	32.67 (830)	0.57 (14)	5.71 (145)	3.37 (86)	553 (251)
	213TC-215TC	33.29 (846)	1.20 (30)	5.71 (145)	4.00 (102)	559 (254)
4D170, 4D175	254TC-256TC	34.04 (865)	0.57 (14)	5.71 (145)	4.75 (121)	556 (252)
	284TC-286TC	34.73 (882)	0.57 (14)	7.09 (180)	5.44 (138)	549 (249)
	324TC-326TC	35.79 (909)	0.57 (14)	7.87 (200)	6.50 (165)	560 (254)
	182TC-184TC	33.22 (844)	0.57 (14)	5.71 (145)	3.38 (86)	587 (266)
	213TC-215TC	33.85 (860)	1.20 (30)	5.71 (145)	4.00 (102)	593 (269)
4D170, 4D175	254TC-256TC	34.59 (879)	0.57 (14)	5.71 (145)	4.75 (121)	589 (267)
	284TC-286TC	35.28 (896)	0.57 (14)	7.87 (200)	5.44 (138)	600 (272)
	324TC-326TC	35.85 (911)	0.57 (14)	7.87 (200)	6.00 (152)	594 (269)

Free Shaft Input							
Model	ØXU	XV	Key	CF	ØDC	J	Weight lb (kg)
4C140, 4C145	0.875 (22.225)	1.57 (40)	3/16 x 3/16 x 1.38 (4.76 x 4.76 x 33)	14.02 (356)	9.06 (230)	23.50 (597)	309 (140)
4C160, 4C165	1.125 (28.575)	1.77 (45)	1/4 x 1/4 x 1.77 (6.35 x 6.35 x 45)	14.84 (377)	11.81 (300)	25.28 (642)	359 (163)
4C170, 4C175	1.375 (34.925)	2.17 (55)	5/16 x 5/16 x 2.16 (7.94 x 7.94 x 55)	15.47 (393)	13.39 (340)	26.69 (678)	410 (186)
4D160, 4D165	1.125 (28.575)	1.77 (45)	1/4 x 1/4 x 1.77 (6.35 x 6.35 x 45)	17.68 (449)	11.81 (300)	29.29 (744)	507 (230)
4D170, 4D175	1.375 (34.925)	2.17 (55)	5/16 x 5/16 x 2.16 (7.94 x 7.94 x 55)	17.44 (443)	13.39 (340)	29.84 (758)	549 (249)

NEMA C-Face Adapter	ØAJ	ØAK	ØBD	BB	ØBF
42C-48C	3.75 (95)	3.00 (76)	4.33 (110)	—	0.28 (7)
56C-145TC	5.87 (149)	4.50 (114)	6.69 (170)	—	0.43 (11)
182TC-256TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)
284TC-286TC	9.00 (229)	10.5 (267)	11.1 (282)	0.22 (6)	0.55 (14)
324TC-326TC	11.0 (279)	12.5 (318)	14.17 (360)	0.22 (6)	0.71 (18)

Speed Reducers  
Dimensions

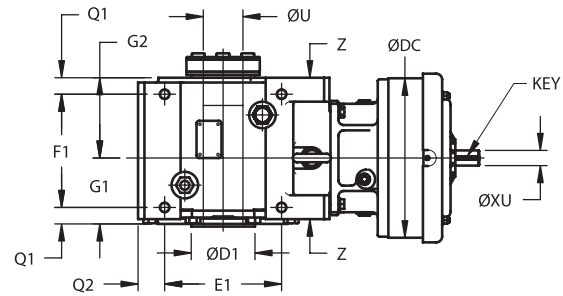
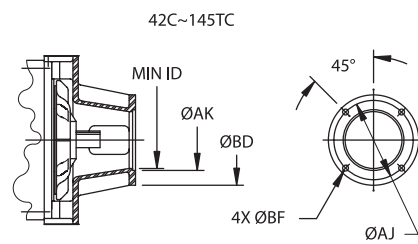
Speed Reducers  
Dimensions



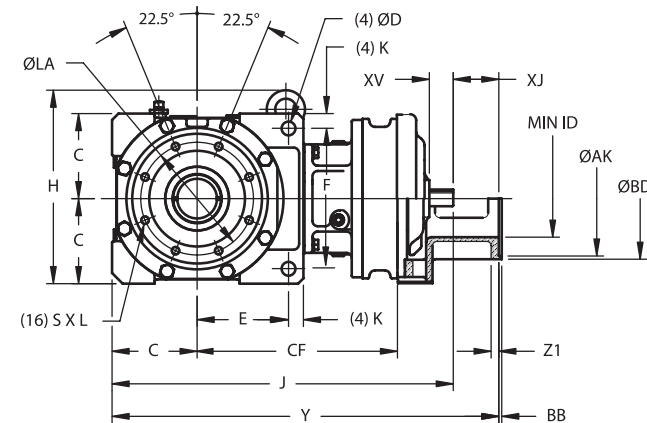
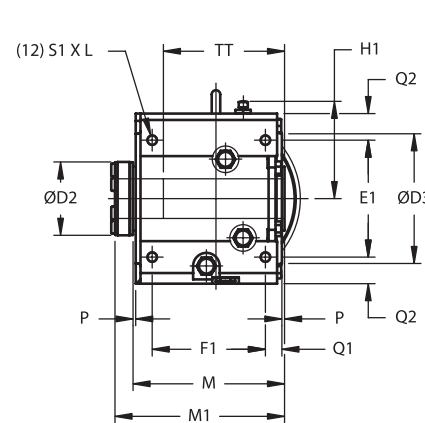
# Dimensions

## Single Reduction LHY(J)-4D180Y~4F195Y Dimensions

### Single Reduction LHY(J)-4D180Y~4F195Y



Min. Engagement		
Frame Size	TT	
	inch	(mm)
4D	12.83	(326)
4E	14.13	(359)
4F	16.22	(412)



All dimensions are in inches (mm).  
For units ordered in the Y2 mounting configuration, please refer to page 2.166 for external lubricant piping dimensions.

Model	C	E	F	K	Z	ØD	E1	F1	Q1	Q2	S1 x L	M
<b>4D180, 4D185</b>	7.48 (190)	7.60 (193)	12.22 (310)	1.38 (35)	2.17 (55)	1.30 (33)	9.84 (250)	10.0 (254)	1.42 (36)	2.56 (65)	M24 x 1.57 (M24 x 40)	13.4 (340)
<b>4E170, 4E175</b> <b>4E180, 4E185</b> <b>4E190, 4E195</b>	8.46 (215)	9.06 (230)	14.2 (360)	1.38 (35)	2.17 (55)	1.30 (33)	11.8 (300)	11.1 (283)	1.50 (38)	2.56 (65)	M24 x 1.57 (M24 x 40)	14.7 (373)
<b>4F180, 4F185</b> <b>4F190, 4F195</b>	9.45 (240)	9.92 (252)	15.8 (400)	1.77 (45)	2.76 (70)	1.54 (39)	13.4 (340)	12.6 (320)	1.99 (51)	2.76 (70)	M30 x 1.97 (M30 x 50)	17.1 (435)

Model	P	G1	G2	H	H1	ØLA	ØD3	S x L	M1	ØD1	ØD2	ØU	
												Std & Max	Min
<b>4D180, 4D185</b>	0.28 (7)	5.83 (148)	7.01 (178)	16.7 (424)	8.39 (213)	10.0 (255)	11.6 (295)	M20 x 1.30 (M20 x 33)	15.0 (381)	5.51 (140)	5.98 (152)	3-7/16 (87.313)	2-7/16 (61.913)
<b>4E170, 4E175</b> <b>4E180, 4E185</b> <b>4E190, 4E195</b>	0.28 (7)	6.14 (156)	7.99 (203)	19.6 (498)	9.37 (238)	11.0 (280)	12.6 (320)	M20 x 1.38 (M20 x 35)	16.3 (414)	6.30 (160)	6.69 (170)	3-15/16 (100.013)	2-15/16 (74.613)
<b>4F180, 4F185</b> <b>4F190, 4F195</b>	0.28 (7)	9.37 (238)	7.20 (183)	23.2 (590)	10.8 (273)	12.6 (320)	14.6 (370)	M24 x 1.57 (M24 x 40)	19.2 (486)	7.09 (180)	8.15 (207)	4-15/16 (125.413)	3-15/16 (100.013)

All dimensions are in inches (mm).

Model	NEMA C-Face	With C-Face Adapter					Weight lb (kg)
		Y	Z1	Min-ID	XJ		
<b>4D180, 4D185</b>	182TC-184TC	33.97 (863)	0.57 (14)	5.71 (145)	3.50 (89)	554 (251)	
	213TC-215TC	34.47 (876)	1.07 (27)	5.71 (145)	4.00 (102)	554 (251)	
	254TC-256TC	35.22 (895)	0.57 (14)	5.71 (145)	4.75 (121)	568 (257)	
	284TC-286TC	35.91 (912)	0.57 (14)	7.87 (200)	5.44 (138)	562 (255)	
	324TC-326TC	36.97 (939)	0.57 (14)	7.87 (200)	6.50 (165)	566 (257)	
<b>4E170, 4E175</b>	182TC-184TC	35.19 (894)	0.57 (14)	5.71 (145)	3.38 (86)	750 (340)	
	213TC-215TC	35.81 (910)	1.20 (30)	5.71 (145)	4.00 (102)	756 (343)	
	254TC-256TC	36.56 (929)	0.57 (14)	5.71 (145)	4.75 (121)	752 (341)	
	284TC-286TC	37.25 (946)	0.57 (14)	7.87 (200)	5.44 (138)	763 (346)	
	324TC-326TC	37.81 (960)	0.57 (14)	7.87 (200)	6.00 (152)	758 (344)	
<b>4E180, 4E185</b>	182TC-184TC	35.94 (913)	0.57 (14)	5.71 (145)	3.50 (89)	715 (324)	
	213TC-215TC	36.44 (926)	1.07 (27)	5.71 (145)	4.00 (102)	721 (327)	
	254TC-256TC	37.19 (945)	0.57 (14)	5.71 (145)	4.75 (121)	729 (331)	
	284TC-286TC	37.88 (962)	0.57 (14)	7.87 (200)	5.44 (138)	724 (328)	
	324TC-326TC	38.94 (989)	0.57 (14)	7.87 (200)	6.50 (165)	728 (330)	
<b>4E190, 4E195</b>	213TC-215TC	37.99 (965)	1.07 (27)	5.71 (145)	4.00 (102)	798 (362)	
	254TC-256TC	38.61 (981)	0.57 (14)	5.71 (145)	4.75 (121)	806 (366)	
	284TC-286TC	39.30 (998)	0.57 (14)	7.87 (200)	5.44 (138)	801 (363)	
	324TC-326TC	40.36 (1025)	0.57 (14)	7.87 (200)	6.50 (165)	805 (365)	
<b>4F180, 4F185</b>	182TC-184TC	39.44 (1002)	0.57 (14)	5.71 (145)	3.50 (89)	910 (413)	
	213TC-215TC	39.94 (1014)	1.07 (27)	5.71 (145)	4.00 (102)	916 (415)	
	254TC-256TC	40.70 (1034)	0.57 (14)	5.71 (145)	4.75 (121)	924 (419)	
	284TC-286TC	41.38 (1051)	0.57 (14)	7.87 (200)	5.44 (138)	919 (417)	
	324TC-326TC	42.44 (1078)	0.57 (14)	7.87 (200)	6.50 (165)	923 (419)	
<b>4F190, 4F195</b>	213TC-215TC	41.41 (1052)	1.07 (27)	5.71 (145)	4.00 (102)	987 (448)	
	254TC-256TC	42.03 (1068)	0.57 (14)	5.71 (145)	4.75 (121)	995 (451)	
	284TC-286TC	42.72 (1085)	0.57 (14)	7.87 (200)	5.44 (138)	990 (449)	
	324TC-326TC	43.78 (1112)	0.57 (14)	7.87 (200)	6.50 (165)	994 (451)	

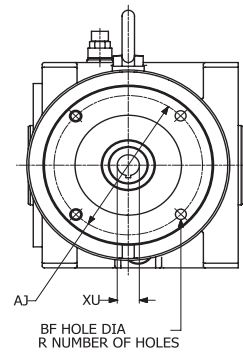
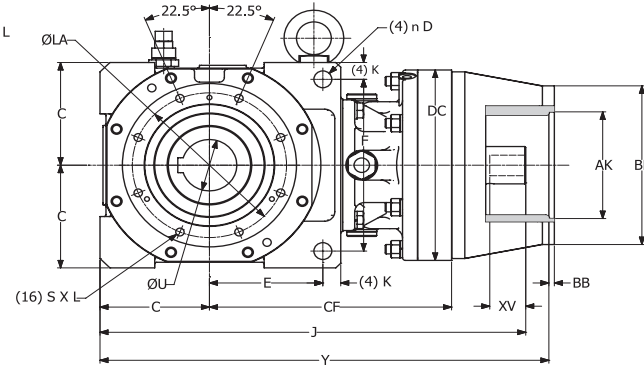
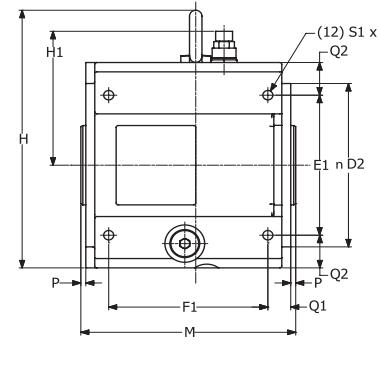
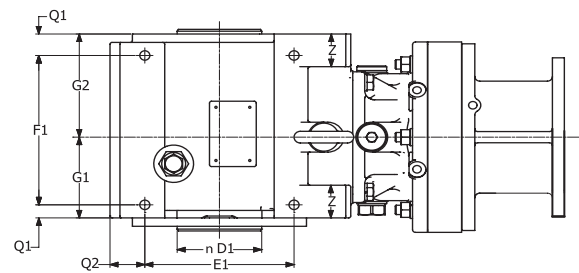
Model	Free Shaft Input						Weight lb (kg)
	ØXU	XV	Key	CF	ØDC	J	
<b>4D180, 4D185</b>	1.500 (38.100)	2.56 (65)	3/8 x 3/8 x 2.56 (9.53 x 9.53 x 65)	17.56 (446)	14.57 (370)	30.47 (774)	506 (229)
<b>4E170, 4E175</b>	1.375 (34.925)	2.17 (55)	5/16 x 5/16 x 2.16 (7.94 x 7.94 x 55)	18.43 (468)	13.39 (340)	31.81 (808)	712 (323)
<b>4E180, 4E185</b>	1.5	2.56 (65)	3/8 x 3/8 x 2.56 (9.53 x 9.53 x 65)	18.54 (471)	14.57 (370)	32.44 (824)	667 (302)
<b>4E190, 4E195</b>	1.75 (44.450)	2.76 (70)	3/8 x 3/8 x 2.76 (9.53 x 9.53 x 70)	19.29 (490)	16.93 (430)	33.86 (860)	728 (330)
<b>4F180, 4F185</b>	1.5	2.56 (65)	3/8 x 3/8 x 2.56 (9.53 x 9.53 x 65)	21.06 (535)	14.57 (370)	35.94 (913)	862 (391)
<b>4F190, 4F195</b>	1.75 (44.450)	2.76 (70)	3/8 x 3/8 x 2.76 (9.53 x 9.53 x 70)	21.73 (552)	16.93 (430)	37.28 (947)	917 (416)

NEMA C-Face Adapter	ØAJ	ØAK	ØBD	BB	ØBF
42C-48C	3.75 (95)	3 (76)	4.33 (110)	—	0.28 (7)
56C-145TC	5.87 (149)	4.5 (114)	6.69 (170)	—	0.43 (11)
182TC-256TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)
284TC-286TC	9 (229)	10.5 (267)	11.1 (282)	0.22 (6)	0.55 (14)
324TC-326TC	11 (279)	12.5 (318)	14.17 (360)	0.22 (6)	0.71 (18)

# Dimensions

## Quill Dimensions 4A100~4B165 Dimensions

### Quill Dimensions 4A100 ~ 4B165



All dimensions are in inches (mm).

For units ordered in the Y2 mounting configuration, please refer to page 2.166 for external lubricant piping dimensions.

Model	C	E	F	K	Z	ØD	E1	F1	Q1	Q2	S1 x L
4A100, 4A105											
4A110, 4A115	4.33 (110)	4.49 (114)	7.24 (184)	0.71 (18)	1.38 (35)	0.71 (18)	5.91 (150)	6.3 (160)	0.91 (23)	1.38 (35)	M12 x 0.79 (M12 x 20)
4A120, 4A125											
4A140, 4A145											
4B120, 4B125	5.12 (130)	5.59 (142)	8.43 (214)	0.91 (23)	1.58 (40)	0.87 (22)	7.48 (190)	7.68 (195)	1.06 (27)	1.38 (35)	M16 x 1.02 (M16 x 26)

Model	ØDC	M	P	G1	G2	H	H1	ØLA	ØD1	S x L	ØD2
4A100	5.91 (150)										
4A105											
4A110	6.38	8.5 (216)	0.20 (5)	3.78 (96)	4.33 (110)	10.9 (276)	5.16 (131)	6.10 (155)	3.35 (85)	M10 x 0.67 (M10 x 17)	6.89 (175)
4A115											
4A120	8.03 (204)										
4A125											
4A140	9.06 (230)										
4A145											
4B120	8.03 (204)	10.2 (259)	0.20 (5)	4.80 (122)	5.00 (127)	12.1 (308)	5.94 (151)	6.89 (175)	3.94 (100)	M12 x 0.79 (M12 x 20)	7.83 (199)
4B125											
4B140	9.06 (230)										
4B145											
4B160	11.81 (300)										
4B165											

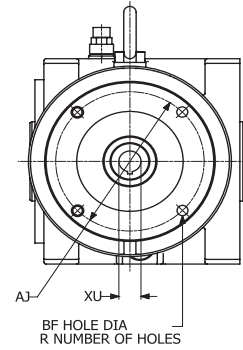
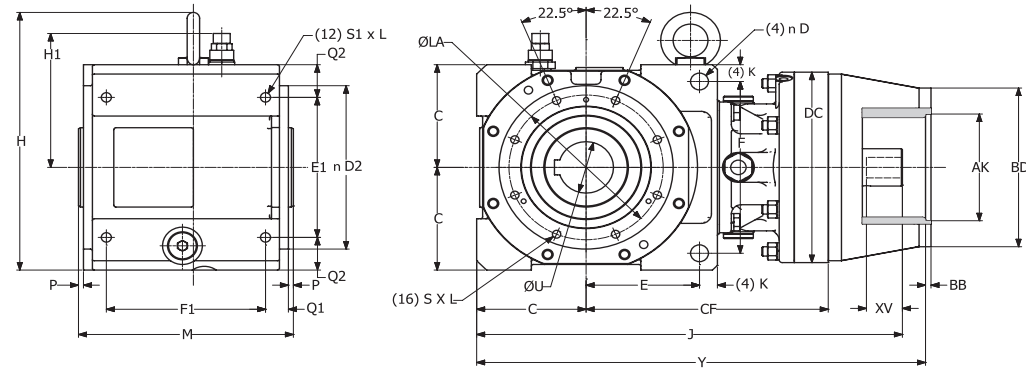
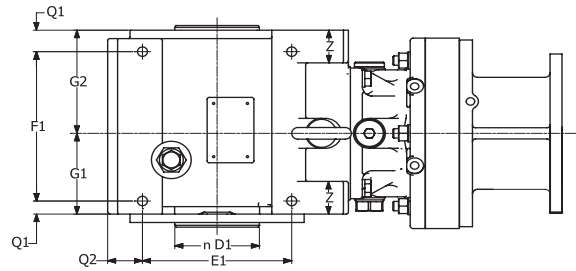
All dimensions are in inches (mm).

Model	Motor Frame	AJ	AK	BD	BB	BF	R	Y	CL	Z	High Speed Shaft			J	Weight lb (kg)	
											XU	XV	Keyway			
4A100, 4A105	56C	5.88 (149)	4.50 (114)	6.69 (170)	0.20 (5)	0.43 (11)	4	16.61 (422)	3.15 (80)	0.47 (12)	0.625 (15.875)	+0.0007/-0 (+0.018/-0)	1.18 (30)	3/16 x 3/32 (4.75 x 2.38)	15.74 (400)	110 (50)
	143TC-145TC	5.88 (149)	4.50 (114)	6.69 (170)	0.20 (5)	0.43 (11)	4	16.61 (422)	3.15 (80)	0.47 (12)	0.875 (22.225)	+0.0008/-0 (+0.020/-0)	1.65 (42)	3/16 x 3/32 (4.75 x 2.38)	16.09 (409)	110 (50)
4A110, 4A115	56C	5.88 (149)	4.50 (114)	6.69 (170)	0.20 (5)	0.43 (11)	4	17.16 (436)	3.27 (83)	0.47 (12)	0.625 (15.875)	+0.0007/-0 (+0.018/-0)	1.56 (40)	3/16 x 3/32 (4.75 x 2.38)	16.72 (425)	124 (56)
	143TC-145TC	5.88 (149)	4.50 (114)	6.69 (170)	0.20 (5)	0.43 (11)	4	17.16 (436)	3.27 (83)	0.47 (12)	0.875 (22.225)	+0.0008/-0 (+0.020/-0)	1.65 (42)	3/16 x 3/32 (4.75 x 2.38)	16.66 (423)	124 (56)
	182TC-184TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.59 (15)	4	17.89 (454)	4.02 (102)	0.69 (18)	1.125 (28.575)	+0.0008/-0 (+0.020/-0)	1.85 (47)	1/4 x 1/8 (6.35 x 3.175)	16.8 (427)	130 (59)
4A120, 4A125	56C	5.88 (149)	4.50 (114)	6.69 (170)	0.22 (6)	0.43 (11)	4	17.66 (449)	3.98 (101)	0.47 (12)	0.625 (15.875)	+0.0007/-0 (+0.018/-0)	1.18 (30)	3/16 x 3/32 (4.75 x 2.38)	16.81 (427)	131 (59)
	143TC-145TC	5.88 (149)	4.50 (114)	6.69 (170)	0.22 (6)	0.43 (11)	4	17.66 (449)	3.98 (101)	0.47 (12)	0.875 (22.225)	+0.0016/+0.0008 (+0.041/+0.020)	1.50 (38)	3/16 x 3/32 (4.75 x 2.38)	17.01 (432)	131 (59)
	182TC-184TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	18.80 (478)	5.12 (130)	0.67 (17)	1.125 (28.575)	+0.0016/+0.0008 (+0.041/+0.020)	1.97 (50)	1/4 x 1/8 (6.35 x 3.175)	18.41 (468)	134 (61)
	213TC-215TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	18.80 (478)	5.12 (130)	0.67 (17)	1.375 (34.925)	+0.0020/+0.0010 (+0.051/+0.025)	2.64 (67)	5/16 x 5/32 (7.938 x 3.969)	17.76 (451)	134 (61)
4A140, 4A145	143TC-145TC	5.88 (149)	4.50 (114)	6.69 (170)	0.20 (5)	0.43 (11)	4	18.62 (473)	4.06 (103)	0.47 (12)	0.875 (22.225)	+0.0008/-0 (+0.020/-0)	1.61 (41)	3/16 x 3/32 (4.75 x 2.38)	18.26 (464)	152 (69)
	182TC-184TC	7.25 (184)	8.50 (216)	9.00 (229)	0.22 (6)	0.55 (14)	4	20.50 (521)	5.96 (151)	0.67 (17)	1.125 (28.575)	+0.0016/+0.0008 (+0.041/+0.020)	1.91 (49)	1/4 x 1/8 (6.35 x 3.175)	19.48 (495)	160 (73)
	213TC-215TC	7.25 (184)	8.50 (216)	9.00 (229)	0.22 (6)	0.55 (14)	4	20.50 (521)	5.96 (151)	0.67 (17)	1.375 (34.925)	+0.0020/+0.0010 (+0.051/+0.025)	2.68 (68)	5/16 x 5/32 (7.938 x 3.969)	19.14 (486)	159 (72)
	254TC-256TC	7.25 (184)	8.50 (216)	9.00 (229)	0.22 (6)	0.55 (14)	4	20.50 (521)	5.96 (151)	0.67 (17)	1.625 (41.275)	+0.0020/+0.0010 (+0.051/+0.025)	2.99 (76)	3/8 x 3/8 (9.525 x 9.525)	19.46 (494)	160 (73)
4B120, 4B125	56C	5.88 (149)	4.50 (114)	6.69 (170)	0.22 (6)	0.43 (11)	4	19.90 (505)	3.98 (101)	0.47 (12)	0.625 (15.875)	+0.0007/-0 (+0.018/-0)	1.18 (30)	3/16 x 3/32 (4.75 x 2.38)	19.05 (484)	195 (88)
	143TC-145TC	5.88 (149)	4.50 (114)	6.69 (170)	0.22 (6)	0.43 (11)	4	19.90 (505)	3.98 (101)	0.47 (12)	0.875 (22.225)	+0.0016/+0.0008 (+0.041/+0.020)	1.50 (38)	3/16 x 3/32 (4.75 x 2.38)	19.24 (489)	195 (88)
	182TC-184TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	21.04 (534)	5.12 (130)	0.67 (17)	1.125 (28.575)	+0.0016/+0.0008 (+0.041/+0.020)	1.97 (50)	1/4 x 1/8 (6.35 x 3.175)	20.64 (524)	198 (437)
	213TC-215TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	21.04 (534)	5.12 (130)	0.67 (17)	1.375 (34.925)	+0.0020/+0.0010 (+0.051/+0.025)	2.64 (67)	5/16 x 5/32 (7.938 x 3.969)	19.99 (508)	198 (90)
4B140, 4B145	143TC-145TC	5.88 (149)	4.50 (114)	6.69 (170)	0.20 (5)	0.43 (11)	4	20.67 (525)	4.06 (103)	0.47 (12)	0.875 (22.225)	+0.0008/-0 (+0.020/-0)	1.61 (41)	3/16 x 3/32 (4.75 x 2.38)	20.33 (516)	218 (99)
	182TC-184TC	7.25 (184)	8.50 (216)	9.00 (229)	0.22 (6)	0.55 (14)	4	22.55 (573)	5.96 (151)	0.67 (17)	1.125 (28.575)	+0.0016/+0.0008 (+0.041/+0.020)	1.91 (49)	1/4 x 1/8 (6.35 x 3.175)	21.55 (547)	226 (498)
	213TC-215TC	7.25 (184)	8.50 (216)	9.00 (229)	0.22 (6)	0.55 (14)	4	22.55 (573)	5.96 (151)	0.67 (17)	1.375 (34.925)	+0.0020/+0.0010 (+0.051/+0.025)	2.68 (68)	5/16 x 5/32 (7.938 x 3.969)	21.21 (539)	225 (496)
	254TC-256TC	7.25 (184)	8.50 (216)	9.00 (229)	0.22 (6)	0.55 (14)	4	22.55 (573)	5.96 (151)	0.67 (17)	1.625 (41.275)	+0.0020/+0.0010 (+0.051/+0.025)	2.99 (76)	3/8 x 3/8 (9.525 x 9.525)	21.53 (547)	226 (102)
4B160, 4B165	182TC-184TC	7.25 (184)	8.5 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	22.99 (584)	5.26 (134)	0.79 (20)	1.125 (28.575)	+0.0016/+0.0008 (+0.041/+0.020)	2.01 (51)	1/4 x 1/8 (6.35 x 3.175)	22.07 (561)	264 (120)
	213TC-215TC	7.25 (184)	8.5 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	22.99 (584)	5.26 (134)	0.79 (20)	1.375 (34.925)	+0.0020/+0.0010 (+0.051/+0.025)	2.48 (63)	5/16 x 5/32 (7.938 x 3.969)	22.07 (561)	267 (121)
	254TC-256TC	7.25 (184)	8.5 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	22.99 (584)	5.26 (134)	0.79 (20)	1.625 (41.275)	+0.0020/+0.0010 (+0.051/+0.025)	3.11 (79)	3/8 x 3/8 (9.525 x 9.525)	22.07 (561)	266 (121)

# Dimensions

## Quill Dimensions 4C140~4D165 Dimensions

### Quill Dimensions 4C140 ~ 4D165



All dimensions are in inches (mm).

For units ordered in the Y2 mounting configuration, please refer to page 2.166 for external lubricant piping dimensions.

Model	C	E	F	K	Z	ØD	E1	F1	Q1	Q2	S1 x L
4C140, 4C145	6.30 (160)	6.77 (172)	10.4 (264)	1.10 (28)	1.77 (45)	1.02 (26)	8.66 (220)	8.39 (213)	1.22 (31)	1.97 (50)	M20 x 1.30 (M20 x 33)
4D160, 4D165	7.48 (190)	7.60 (193)	12.2 (310)	1.38 (35)	2.17 (55)	1.30 (33)	9.84 (250)	10.0 (254)	1.42 (36)	2.56 (65)	M24 x 1.57 (M24 x 40)

Model	ØDC	M	P	G1	G2	H	H1	ØLA	ØD1	S x L	ØD2
4C140	9.06 (230)	11.2 (285)	0.20 (5)	4.88 (124)	5.94 (151)	14.3 (364)	7.20 (183)	8.35 (212)	4.72 (120)	M16 x 1.02 (M16 x 26)	9.61 (244)
4C145											
4C160	11.81 (300)	13.4 (340)	0.28 (7)	5.83 (148)	7.01 (178)	16.7 (424)	8.39 (213)	10.0 (255)	5.51 (140)	M20 x 1.30 (M20 x 33)	11.6 (295)
4C165											
4D160	11.81 (300)										
4D165											

All dimensions are in inches (mm).

Model	Motor Frame	AJ	AK	BD	BB	BF	R	Y	CL	Z	High Speed Shaft			J	Weight lb (kg)	
											XU	XV	Keyway			
4C140, 4C145	143TC-145TC	5.88 (149)	4.50 (114)	6.69 (170)	0.20 (5)	0.43 (11)	4	24.18 (614)	4.06 (103)	0.47 (12)	0.875 (22.225)	+0.0008/-0 (+0.020/-0)	1.61 (41)	3/16 x 3/32 (4.75 x 2.38)	23.8 (605)	322 (146)
	182TC-184TC	7.25 (184)	8.50 (216)	9.00 (229)	0.22 (6)	0.55 (14)	4	26.06 (662)	5.96 (151)	0.67 (17)	1.125 (28.575)	+0.0016/+0.0008 (+0.041/+0.020)	1.91 (49)	1/4 x 1/8 (6.35 x 3.175)	25.02 (636)	330 (150)
	213TC-215TC	7.25 (184)	8.50 (216)	9.00 (229)	0.22 (6)	0.55 (14)	4	26.06 (662)	5.96 (151)	0.67 (17)	1.375 (34.925)	+0.0020/+0.0010 (+0.051/+0.025)	2.68 (68)	5/16 x 5/32 (7.938 x 3.969)	24.69 (627)	329 (149)
	254TC-256TC	7.25 (184)	8.50 (216)	9.00 (229)	0.22 (6)	0.55 (14)	4	26.06 (662)	5.96 (151)	0.67 (17)	1.625 (41.275)	+0.0020/+0.0010 (+0.051/+0.025)	2.99 (76)	3/8 x 3/8 (9.525 x 9.525)	25 (635)	330 (150)
4C160, 4C165	182TC-184TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	26.18 (665)	5.26 (134)	0.79 (20)	1.125 (28.575)	+0.0016/+0.0008 (+0.041/+0.020)	2.01 (51)	1/4 x 1/8 (6.35 x 3.175)	25.25 (641)	365 (166)
	213TC-215TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	26.18 (665)	5.26 (134)	0.79 (20)	1.375 (34.925)	+0.0020/+0.0010 (+0.051/+0.025)	2.48 (63)	5/16 x 5/32 (7.938 x 3.969)	25.25 (641)	368 (167)
	254TC-256TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	26.18 (665)	5.26 (134)	0.79 (20)	1.625 (41.275)	+0.0020/+0.0010 (+0.051/+0.025)	3.11 (79)	3/8 x 3/8 (9.525 x 9.525)	25.25 (641)	367 (166)
4D160, 4D165	182TC-184TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	30.20 (767)	5.26 (134)	0.79 (20)	1.125 (28.575)	+0.0016/+0.0008 (+0.041/+0.020)	2.01 (51)	1/4 x 1/8 (6.35 x 3.175)	29.28 (744)	513 (233)
	213TC-215TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	30.20 (767)	5.26 (134)	0.79 (20)	1.375 (34.925)	+0.0020/+0.0010 (+0.051/+0.025)	2.48 (63)	5/16 x 5/32 (7.938 x 3.969)	29.28 (744)	516 (234)
	254TC-256TC	7.25 (184)	8.50 (216)	8.98 (228)	0.22 (6)	0.55 (14)	4	30.20 (767)	5.26 (134)	0.79 (20)	1.625 (41.275)	+0.0020/+0.0010 (+0.051/+0.025)	3.11 (79)	3/8 x 3/8 (9.525 x 9.525)	29.28 (744)	515 (234)

Speed Reducers  
Dimensions

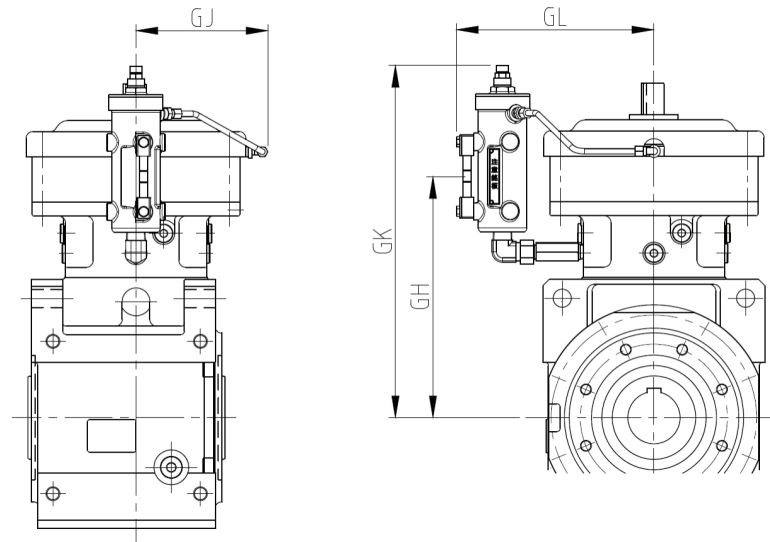
Speed Reducers  
Dimensions



# Dimensions

## Single Reduction, External Lubricant Piping LHY(J)-4A100 ~ 4F195

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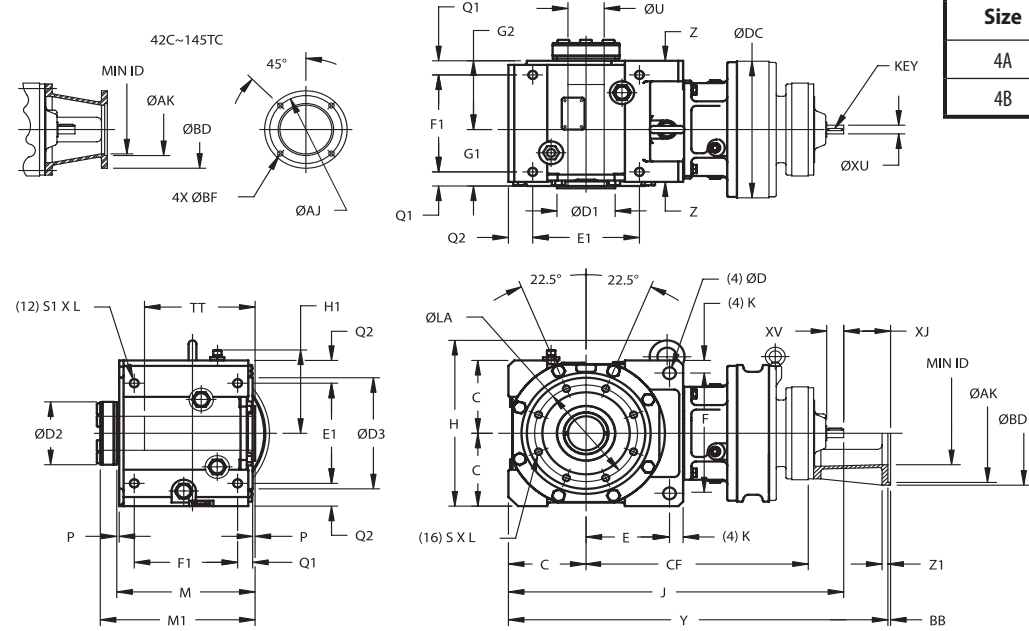
All dimensions are in inches (mm).

Frame Size	GJ	GL	GH	GK
4A100	3.86	8.43	8.82	14.5
4A105	(98)	(214)	(224)	(369)
4A110	4.02	8.5	8.98	14.5
4A115	(102)	(216)	(228)	(369)
4A120	6.38	10.1	8.94	14.6
4A125	(162)	(256)	(227)	(371)
4A140	6.46	10.8	9.61	16.1
4A145	(164)	(275)	(244)	(408)
4B120	6.38	10.1	10.4	16.1
4B125	(162)	(256)	(263)	(408)
4B140	6.46	10.8	10.9	17.3
4B145	(164)	(275)	(277)	(440)
4B160	7.09	11.2	11.7	18.0
4B165	(180)	(285)	(297)	(457)
4C140	6.46	10.8	13.2	19.6
4C145	(164)	(275)	(335)	(498)
4C160	7.09	11.2	13.7	20.0
4C165	(180)	(285)	(348)	(508)
4C170	7.95	12.2	14.1	22.4
4C175	(202)	(311)	(359)	(568)
4D160	7.09	11.2	16.5	22.8
4D165	(180)	(285)	(420)	(580)
4D170	7.95	12.2	16.1	24.3
4D175	(202)	(311)	(408)	(618)
4D180	9.06	13.0	16.3	26.9
4D185	(230)	(331)	(414)	(684)
4E170	7.95	12.2	17.0	25.3
4E175	(202)	(311)	(433)	(643)
4E180	9.06	13.0	17.3	27.9
4E185	(230)	(331)	(439)	(709)
4E190	10.2	15.0	17.7	28.3
4E195	(260)	(381)	(449)	(719)
4F180	9.06	13.0	19.8	30.4
4F185	(230)	(331)	(503)	(772)
4F190	10.2	15.0	20.1	30.7
4F195	(260)	(381)	(511)	(781)

# Dimensions

## Double Reduction LHY(J)-4A10DAY~4B14DCY Dimensions

### Double Reduction LHY(J)-4A10DAY ~ 4B14DCY



Frame Size	Min. Engagement	
	inch	(mm)
4A	8.19	(208)
4B	9.53	(242)

All dimensions are in inches (mm).

Model	NEMA C-Face	With C-Face Adapter				
		Y	Z1	Min. ID	XJ	Weight lb (kg)
4A10DA	42C	19.4 (493)	0.47 (12)	2.44 (62)	1.78 (45)	113 (51)
	48C	19.8 (503)	0.47 (12)	2.44 (62)	2.16 (55)	113 (51)
	56C	20.2 (513)	0.47 (12)	3.15 (80)	2.56 (65)	116 (53)
4A12DA	42C	19.9 (505)	0.47 (12)	2.44 (62)	1.78 (45)	131 (59)
	48C	20.3 (515)	0.47 (12)	2.44 (62)	2.16 (55)	131 (59)
	56C	20.7 (525)	0.47 (12)	3.15 (80)	2.56 (65)	133 (60)
4A12DB	48C	21.0 (534)	0.47 (12)	2.44 (62)	2.16 (55)	139 (63)
	56C-145TC	21.5 (546)	0.47 (12)	4.21 (107)	2.63 (67)	142 (64)
4A14DA	48C	21.1 (536)	0.47 (12)	2.44 (62)	2.16 (55)	129 (59)
	56C	21.5 (547)	0.47 (12)	3.15 (80)	2.56 (65)	131 (59)
4A14DB	48C	21.8 (552)	0.47 (12)	2.44 (62)	2.16 (55)	147 (67)
	56C-145TC	22.2 (564)	0.47 (12)	4.21 (107)	2.63 (67)	149 (68)
4A14DC	143TC-145TC	22.5 (570)	0.47 (12)	4.21 (107)	2.63 (67)	154 (70)
	182TC-184TC	23.3 (591)	0.47 (12)	5.43 (138)	3.45 (88)	158 (72)
4B12DA	42C	22.1 (562)	0.47 (12)	2.44 (62)	1.78 (45)	195 (88)
	48C	22.5 (572)	0.47 (12)	2.44 (62)	2.16 (55)	195 (88)
	56C	22.9 (582)	0.47 (12)	3.15 (80)	2.56 (65)	197 (89)
4B12DB	48C	23.3 (591)	0.47 (12)	2.44 (62)	2.16 (55)	203 (92)
	56C-145TC	23.7 (603)	0.47 (12)	4.21 (107)	2.63 (67)	206 (93)
4B14DA	48C	23.2 (589)	0.47 (12)	2.44 (62)	2.16 (55)	202 (92)
	56C	23.6 (599)	0.47 (12)	3.15 (80)	2.56 (65)	204 (93)
4B14DB	48C	23.8 (605)	0.47 (12)	2.44 (62)	2.16 (55)	212 (96)
	56C-145TC	24.3 (617)	0.47 (12)	4.21 (107)	2.63 (67)	215 (98)
4B14DC	143TC-145TC	24.5 (623)	0.47 (12)	4.21 (107)	2.63 (67)	220 (100)
	182TC-184TC	25.3 (644)	0.47 (12)	5.43 (138)	3.45 (88)	224 (102)

Model	ØXU	XV	Free Shaft Input				J	Weight lb (kg)
			Key	CF	ØDC	J		
4A10DA	0.500 (12.7)	0.98 (24.9)	1/8 x 1/8 x 0.71 (3.175 x 3.175 x 18)	11.22 (285)	5.91 (150)	17.64 (448)	110 (50)	
4A12DA	0.500 (12.7)	0.98 (24.9)	1/8 x 1/8 x 0.71 (3.175 x 3.175 x 18)	11.69 (297)	8.03 (204)	18.11 (460)	128 (58)	
4A12DB	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	12.17 (309)	8.03 (204)	18.86 (479)	135 (61)	
4A14DA	0.500 (12.7)	0.98 (24.9)	1/8 x 1/8 x 0.71 (3.175 x 3.175 x 18)	12.50 (319)	9.06 (230)	18.98 (482)	137 (62)	
4A14DB	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	12.90 (328)	9.06 (230)	19.61 (498)	139 (63)	
4A14DC	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	13.45 (342)	9.06 (230)	19.84 (504)	143 (65)	
4B12DA	0.500 (12.7)	0.98 (24.9)	1/8 x 1/8 x 0.71 (3.175 x 3.175 x 18)	13.15 (334)	8.03 (204)	20.35 (517)	192 (87.1)	
4B12DB	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	13.62 (346)	8.03 (204)	21.10 (536)	198 (90)	
4B14DA	0.500 (12.7)	0.98 (24.9)	1/8 x 1/8 x 0.71 (3.175 x 3.175 x 18)	13.82 (351)	9.06 (230)	21.02 (534)	198 (90)	
4B14DB	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	14.17 (360)	9.06 (230)	21.65 (550)	207 (94)	
4B14DC	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	14.72 (374)	9.06 (230)	21.89 (556)	209 (95)	

All dimensions are in inches (mm).  
For units ordered in the Y2 mounting configuration, please refer to page 2.176 for external lubricant piping dimensions.

Model	C	E	F	K	Z	ØD	E1	F1	Q1	Q2	S1 x L	M
4A10DA, 4A12DA, 4A12DB, 4A14DA, 4A14DB, 4A14DC	4.33 (110)	4.49 (114)	7.24 (184)	0.71 (18)	1.38 (35)	0.71 (18)	5.91 (150)	6.30 (160)	0.91 (23)	1.38 (35)	M12 x 0.79 (M12 x 20)	8.50 (216)
4B12DA, 4B12DB, 4B14DA, 4B14DB, 4B14DC	5.12 (130)	5.59 (142)	8.43 (214)	0.91 (23)	1.58 (40)	0.87 (22)	7.48 (190)	7.68 (195)	1.06 (27)	1.38 (35)	M16 x 1.02 (M16 x 26)	10.2 (259)

Model	P	G1	G2	H	H1	ØLA	ØD3	S x L	M1	ØD1	ØD2	ØU	
												Std & Max	Min
4A10DA, 4A12DA, 4A12DB, 4A14DA, 4A14DB, 4A14DC	0.20 (5)	3.78 (96)	4.33 (110)	10.9 (276)	5.16 (131)	6.10 (155)	6.89 (175)	M10 x 0.67 (M10 x 17)	9.84 (250)	3.35 (85)	4.09 (104)	2-3/16 (55.563)	1-11/16 (42.863)
4B12DA, 4B12DB, 4B14DA, 4B14DB, 4B14DC	0.20 (5)	4.80 (122)	5.00 (127)	12.1 (308)	5.94 (151)	6.89 (175)	7.83 (199)	M12 x 0.79 (M12 x 20)	11.5 (293)	3.94 (100)	4.49 (114)	2-7/16 (61.913)	1-15/16 (49.213)

NEMA C-Face Adapter	ØAJ	ØAK	ØBD	BB	ØBF
42C-48C	3.75 (95)	3 (76)	4.33 (110)	—	0.28 (7)
56C-145TC	5.87 (149)	4.5 (114)	6.69 (170)	—	0.43 (11)
182TC-256TC	7.25 (184)	8.5 (216)	8.98 (228)	0.22 (6)	0.55 (14)
284TC-286TC	9 (229)	10.5 (267)	11.1 (282)	0.22 (6)	0.55 (14)
324TC-326TC	11 (279)	12.5 (318)	14.17 (360)	0.22 (6)	0.71 (18)

Speed Reducers  
Dimensions

Speed Reducers  
Dimensions

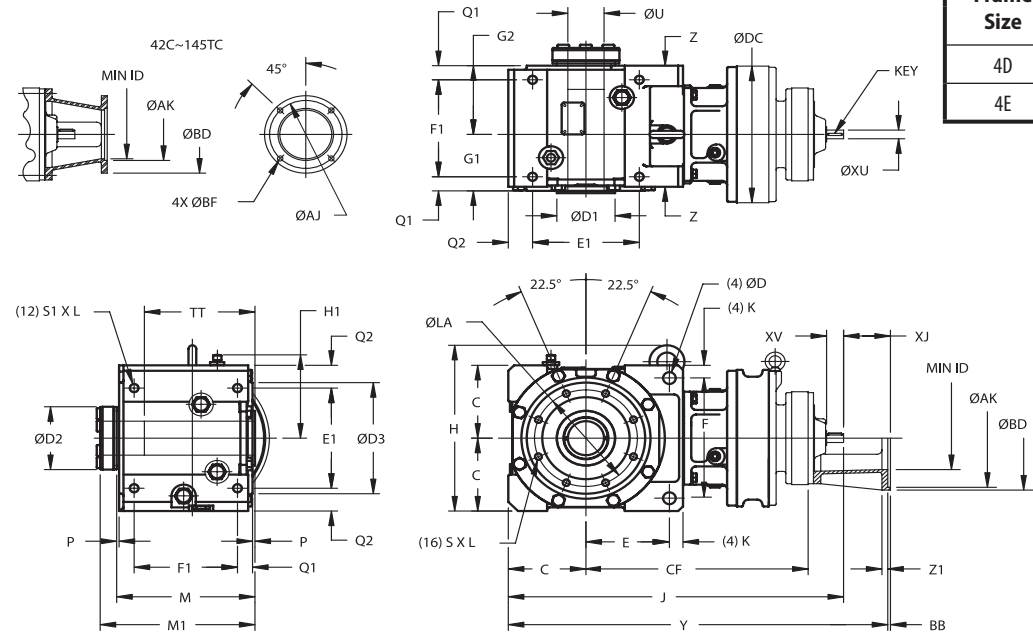




# Dimensions

## Double Reduction LHY(J)-4D16DBY~4E18DAY Dimensions

### Double Reduction LHY(J)-4D16DBY ~ 4E18DAY



Frame Size	Min. Engagement	
	TT	
4D	12.83	(326)
4E	14.13	(359)

All dimensions are in inches (mm).

With C-Face Adapter						
Model	NEMA C-Face	Y	Z1	Min. ID	XJ	Weight lb (kg)
4D16DB	143TC-145TC	32.9 (837)	0.47 (12)	4.21 (107)	2.63 (67)	521 (236)
	182TC-184TC	33.8 (858)	0.47 (12)	5.43 (138)	3.45 (88)	525 (238)
4D16DC	182TC-184TC	34.2 (868)	0.47 (12)	5.43 (138)	3.37 (86)	542 (246)
	213TC-215TC	35.2 (893)	1.47 (37)	5.43 (138)	4.37 (111)	544 (247)
4D17DA	56C-145TC	32.5 (826)	0.47 (12)	4.21 (107)	2.63 (67)	548 (249)
4D17DB	143TC-145TC	32.7 (832)	0.47 (12)	4.21 (107)	2.63 (67)	552 (250)
	182TC-184TC	33.6 (853)	0.47 (12)	5.43 (138)	3.45 (88)	556 (252)
4D17DC	182TC-184TC	34.5 (876)	0.47 (12)	5.43 (138)	3.37 (86)	569 (258)
	213TC-215TC	35.5 (901)	1.47 (37)	5.43 (138)	4.37 (111)	579 (263)
4D18DA	143TC-145TC	35.62 (905)	0.47 (12)	4.21 (107)	2.63 (67)	643 (292)
	182TC-184TC	36.36 (924)	0.47 (12)	5.43 (138)	3.45 (88)	646 (293)
4D18DB	56C-145TC	37.59 (955)	0.47 (12)	4.21 (107)	2.63 (67)	666 (302)
	182TC-184TC	38.33 (974)	0.47 (12)	5.43 (138)	3.37 (86)	670 (304)
	213TC-215TC	38.96 (990)	1.47 (37)	5.43 (138)	4.37 (111)	675 (306)
4E17DA	48C	34.0 (864)	0.47 (12)	2.44 (62)	2.16 (55)	708 (321)
	56C-145TC	34.5 (876)	0.47 (12)	4.21 (107)	2.63 (67)	711 (322)
4E17DB	143TC-145TC	34.7 (882)	0.47 (12)	4.21 (107)	2.63 (67)	715 (324)
	182TC-184TC	35.5 (903)	0.47 (12)	5.43 (138)	3.45 (88)	719 (326)
4E17DC	182TC-184TC	36.4 (926)	0.47 (12)	5.43 (138)	3.37 (86)	732 (332)
	213TC-215TC	37.4 (951)	1.47 (37)	5.43 (138)	4.37 (111)	743 (337)
4E18DA	143TC-145TC	37.6 (955)	0.47 (12)	4.21 (107)	2.63 (67)	808 (366)
	182TC-184TC	38.33 (974)	0.47 (12)	5.43 (138)	3.45 (88)	812 (368)

Free Shaft Input							
Model	ØXU	XV	Key	CF	ØDC	J	Weight lb (kg)
4D16DB	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	20.79 (528)	11.81 (300)	30.31 (770)	514 (233)
4D16DC	0.750 (19.1)	1.38 (35.1)	3/16 x 3/16 x 1.02 (4.762 x 4.762 x 26)	20.87 (530)	11.81 (300)	31.22 (793)	529 (240)
4D17DA	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	20.04 (509)	13.39 (340)	29.88 (759)	540 (245)
4D17DB	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	20.59 (523)	13.39 (340)	30.12 (765)	545 (247)
4D17DC	0.750 (19.1)	1.38 (35.1)	3/16 x 3/16 x 1.02 (4.762 x 4.762 x 26)	20.75 (527)	13.39 (340)	31.10 (790)	556 (252)
4D18DA	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	20.08 (510)	14.57 (370)	32.99 (838)	635 (288)
4D18DB	0.875 (22.2)	1.57 (39.9)	3/16 x 3/16 x 1.38 (4.762 x 4.762 x 35.05)	22.08 (561)	14.57 (370)	34.96 (888)	659 (299)
4E17DA	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	21.02 (534)	13.39 (340)	31.85 (809)	703 (319)
4E17DB	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	21.57 (548)	13.39 (340)	32.09 (815)	708 (321)
4E17DC	0.750 (19.1)	1.38 (35.1)	3/16 x 3/16 x 1.02 (4.762 x 4.762 x 26)	21.73 (552)	13.39 (340)	33.07 (840)	719 (326)
4E18DA	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	24.45 (621)	14.57 (370)	34.96 (888)	800 (363)

All dimensions are in inches (mm).  
For units ordered in the Y2 mounting configuration, please refer to page 2.176 for external lubricant piping dimensions.

Model	C	E	F	K	Z	ØD	E1	F1	Q1	Q2	S1 x L	M
4D16DB, 4D16DC, 4D17DA, 4D17DB, 4D17DC, 4D18DA, 4D18DB	7.48 (190)	7.60 (193)	12.2 (310)	1.38 (35)	2.17 (55)	1.30 (33)	9.84 (250)	10.0 (254)	1.42 (36)	2.56 (65)	M24 x 1.57 (M24 x 40)	13.4 (340)
4E17DA, 4E17DB, 4E17DC, 4E18DA	8.46 (215)	9.06 (230)	14.2 (360)	1.38 (35)	2.17 (55)	1.30 (33)	11.8 (300)	11.1 (283)	1.50 (38)	2.56 (65)	M24 x 1.57 (M24 x 40)	14.7 (373)

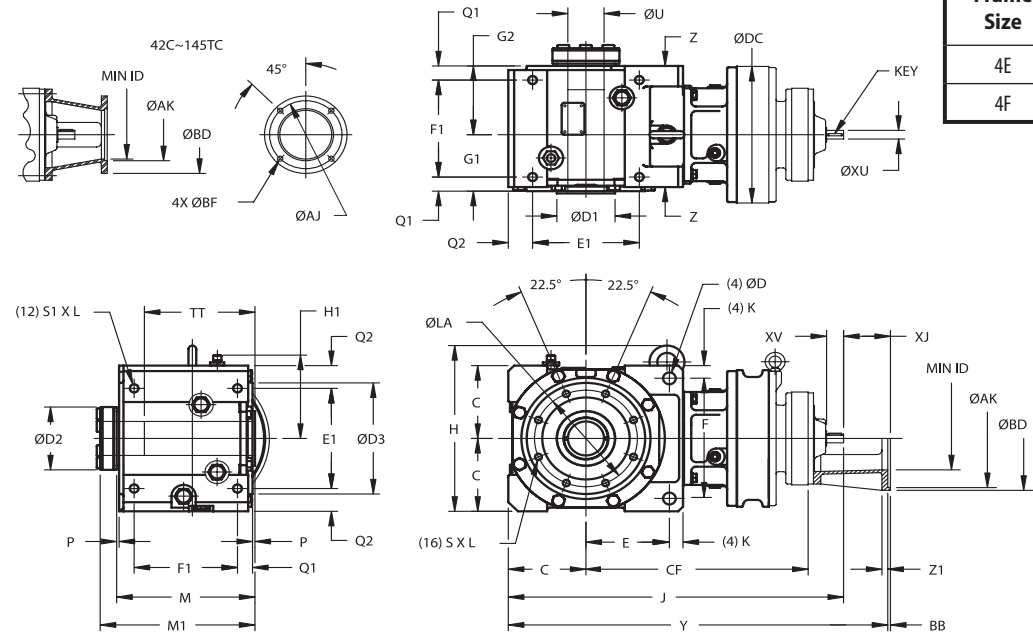
Model	P	G1	G2	H	H1	ØLA	ØD3	S x L	M1	ØD1	ØD2	ØU	
												Std & Max	Min
4D16DB, 4D16DC, 4D17DA, 4D17DB, 4D17DC, 4D18DA, 4D18DB	0.28 (7)	5.83 (148)	7.01 (178)	16.7 (424)	8.39 (213)	10.0 (255)	11.6 (295)	M20 x 1.30 (M20 x 33)	15.0 (381)	5.51 (140)	5.98 (152)	3-7/16 (87.313)	2-7/16 (61.913)
4E17DA, 4E17DB, 4E17DC, 4E18DA	0.28 (7)	6.14 (156)	7.99 (203)	19.6 (498)	9.37 (238)	11.0 (280)	12.6 (320)	M20 x 1.38 (M20 x 35)	16.3 (414)	6.30 (160)	6.69 (170)	3-15/16 (100.013)	2-15/16 (74.613)

NEMA C-Face Adapter	ØAJ	ØAK	ØBD	BB	ØBF
42C-48C	3.75 (95)	3 (76)	4.33 (110)	—	0.28 (7)
56C-145TC	5.87 (149)	4.5 (114)	6.69 (170)	—	0.43 (11)
182TC-256TC	7.25 (184)	8.5 (216)	8.98 (228)	0.22 (6)	0.55 (14)
284TC-286TC	9 (229)	10.5 (267)	11.1 (282)	0.22 (6)	0.55 (14)
324TC-326TC	11 (279)	12.5 (318)	14.17 (360)	0.22 (6)	0.71 (18)

# Dimensions

## Double Reduction LHY(J)-4E18DBY~4F19DBY Dimensions

### Double Reduction LHY(J)-4E18DBY ~ 4F19DBY



Min. Engagement		
Frame Size	TT	
	inch	(mm)
4E	14.13	(359)
4F	16.22	(412)

All dimensions are in inches (mm).

With C-Face Adapter						
Model	NEMA C-Face	Y	Z1	Min. ID	XJ	Weight lb (kg)
4E18DB	56C-145TC	39.56 (1005)	0.47 (12)	4.21 (107)	2.63 (67)	833 (378)
	182TC-184TC	40.30 (1024)	0.47 (12)	5.43 (138)	3.37 (86)	837 (380)
	213TC-215TC	40.93 (1040)	1.47 (37)	5.43 (138)	4.37 (111)	839 (380)
4E19DA	56C-145TC	39.80 (1011)	0.47 (12)	4.21 (107)	2.63 (67)	912 (414)
	182TC-184TC	40.54 (1030)	0.47 (12)	5.43 (138)	3.37 (86)	916 (415)
4E19DB	56C-145TC	40.70 (1034)	0.47 (12)	4.21 (107)	2.63 (67)	916 (415)
	182TC-184TC	41.44 (1053)	0.47 (12)	5.43 (138)	3.45 (88)	920 (417)
	213TC-215TC	42.07 (1069)	1.47 (37)	5.43 (138)	4.37 (111)	925 (420)
4F18DA	143TC-145TC	41.17 (1046)	0.47 (12)	4.21 (107)	2.63 (67)	1195 (542)
	182TC-184TC	41.91 (1065)	0.47 (12)	5.43 (138)	3.45 (88)	1199 (544)
4F18DB	56C-145TC	43.02 (1093)	0.47 (12)	4.21 (107)	2.63 (67)	1221 (554)
	182TC-184TC	43.76 (1112)	0.47 (12)	5.43 (138)	3.37 (86)	1225 (556)
	213TC-215TC	44.39 (1128)	1.47 (37)	5.43 (138)	4.37 (111)	1236 (561)
4F19DA	182TC-184TC	43.96 (1117)	0.47 (12)	5.43 (138)	3.37 (86)	1305 (592)
	213TC-215TC	44.49 (1130)	1.47 (37)	5.43 (138)	4.37 (111)	1316 (597)
4F19DB	56C-145TC	44.13 (1121)	0.47 (12)	4.21 (107)	2.63 (67)	1305 (592)
	182TC-184TC	44.87 (1140)	0.47 (12)	5.43 (138)	3.45 (88)	1316 (597)
	213TC-215TC	45.50 (1156)	1.47 (37)	5.43 (138)	4.37 (111)	1327 (602)

Free Shaft Input							
Model	ØXU	XV	Key	CF	ØDC	J	Weight lb (kg)
4E18DB	0.875 (22.2)	1.57 (39.9)	3/16 x 3/16 x 1.38 (4.762 x 4.762 x 35.05)	25.31 (643)	14.57 (370)	36.93 (938)	825 (374)
4E19DA	0.750 (19.1)	1.38 (35.1)	3/16 x 3/16 x 1.02 (4.762 x 4.762 x 26)	25.83 (656)	16.93 (430)	37.17 (944)	904 (410)
4E19DB	0.875 (22.2)	1.57 (39.9)	3/16 x 3/16 x 1.38 (4.762 x 4.762 x 35.05)	26.46 (672)	16.93 (430)	38.07 (967)	908 (412)
4F18DA	0.625 (15.9)	0.98 (24.9)	3/16 x 3/16 x 0.75 (4.762 x 4.762 x 19.05)	26.93 (684)	14.57 (370)	38.54 (979)	1188 (539)
4F18DB	0.875 (22.2)	1.57 (39.9)	3/16 x 3/16 x 1.38 (4.762 x 4.762 x 35.05)	27.80 (706)	14.57 (370)	40.39 (1026)	1213 (550)
4F19DA	0.750 (19.1)	1.38 (35.1)	3/16 x 3/16 x 1.02 (4.762 x 4.762 x 26)	28.27 (718)	16.93 (430)	40.59 (1031)	1292 (586)
4F19DB	0.875 (22.2)	1.57 (39.9)	3/16 x 3/16 x 1.38 (4.762 x 4.762 x 35.05)	28.90 (734)	16.93 (430)	41.50 (1054)	1297 (588)

NEMA C-Face Adapter	ØAJ	ØAK	ØBD	BB	ØBF
42C-48C	3.75 (95)	3 (76)	4.33 (110)	—	0.28 (7)
56C-145TC	5.87 (149)	4.5 (114)	6.69 (170)	—	0.43 (11)
182TC-256TC	7.25 (184)	8.5 (216)	8.98 (228)	0.22 (6)	0.55 (14)
284TC-286TC	9 (229)	10.5 (267)	11.1 (282)	0.22 (6)	0.55 (14)
324TC-326TC	11 (279)	12.5 (318)	14.17 (360)	0.22 (6)	0.71 (18)

All dimensions are in inches (mm).  
For units ordered in the Y2 mounting configuration, please refer to page 2.176 for external lubricant piping dimensions.

Model	C	E	F	K	Z	ØD	E1	F1	Q1	Q2	S1 x L	M
4E18DB, 4E19DA, 4E19DB	8.46 (215)	9.06 (230)	14.2 (360)	1.38 (35)	2.17 (55)	1.30 (33)	11.8 (300)	11.1 (283)	1.50 (38)	2.56 (65)	M24 x 1.57 (M24 x 40)	14.7 (373)
4F18DA, 4F18DB, 4F19DA, 4F19DB	9.45 (240)	9.92 (252)	15.8 (400)	1.77 (45)	2.76 (70)	1.54 (39)	13.4 (340)	12.6 (320)	1.99 (51)	2.76 (70)	M30 x 1.97 (M30 x 50)	17.1 (435)

Model	P	G1	G2	H	H1	ØLA	ØD3	S x L	M1	ØD1	ØD2	ØU	
												Std & Max	Min
4E18DB, 4E19DA, 4E19DB	0.28 (7)	6.14 (156)	7.99 (203)	19.6 (498)	9.37 (238)	11.0 (280)	12.6 (320)	M20 x 1.38 (M20 x 35)	16.3 (414)	6.30 (160)	6.69 (170)	3-15/16 (100.013)	2-15/16 (74.613)
4F18DA, 4F18DB, 4F19DA, 4F19DB	0.28 (7)	9.37 (238)	7.20 (183)	23.2 (590)	10.8 (273)	12.6 (320)	14.6 (370)	M24 x 1.57 (M24 x 40)	19.2 (486)	7.09 (180)	8.15 (207)	4-15/16 (125.413)	3-15/16 (100.013)

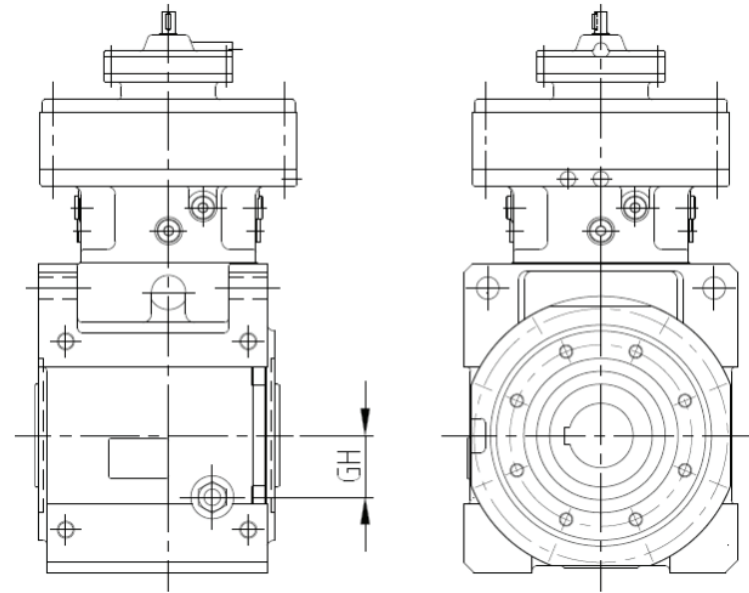
Speed Reducers  
Dimensions

Speed Reducers  
Dimensions

# Dimensions

## Double Reduction, External Lubricant Piping LHY(J)-4A10DA ~ 4F19DB

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All dimensions are in inches (*mm*).

Frame Size	GH
4A	46 (1.81)
4B	60 (2.36)
4C	72 (2.83)
4D	97 (3.82)
4E	111 (4.37)
4F	120 (4.72)



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Speed  
Reducers

**Dimensions**

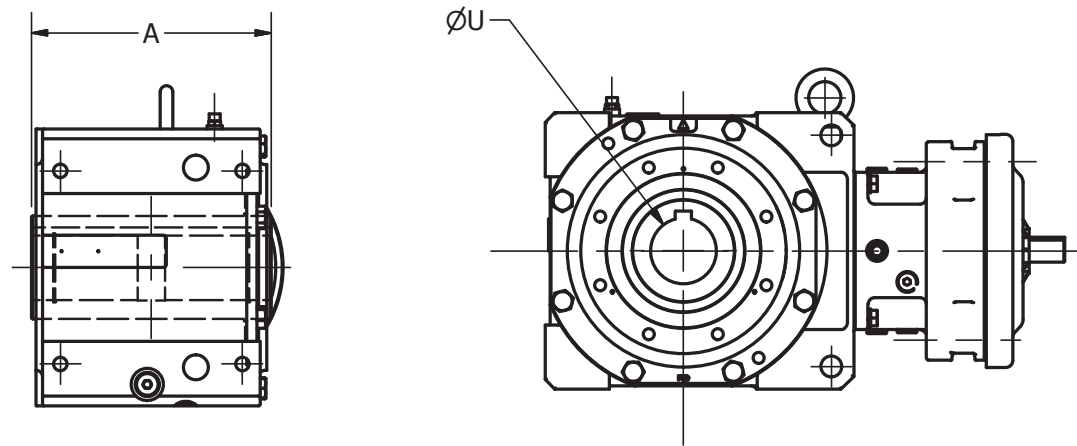
# 3

# Options

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## Options

## Keyed Hollow Shaft

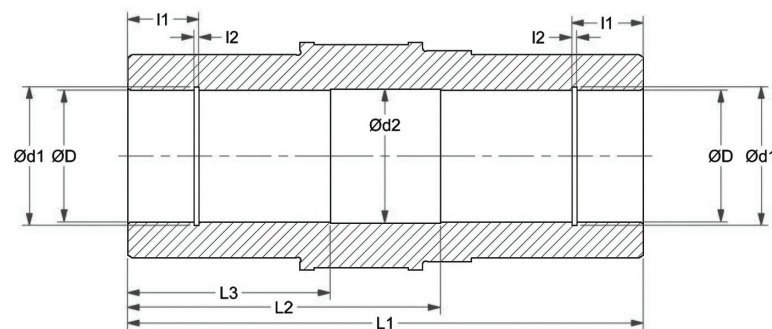


All dimensions are in inches (mm).

Frame Size	Standard Inch Bore Dimension			Standard Metric Bore Dimension			A	TK*
	ØU	ØU Tolerance	Keyway	ØU	ØU Tolerance	Keyway		
4A	2.000	+0.0018/+0.0006	1/2 x 1/4	(55)	(+0.046/+0.016)	(16 x 10)	8.50 (216)	6.50 (165)
4B	2.375	+0.0018/+0.0006	5/8 x 5/16	(65)	(+0.046/+0.016)	(18 x 11)	10.20 (259)	7.87 (200)
4C	2.750	+0.0018/+0.0006	5/8 x 5/16	(75)	(+0.046/+0.016)	(20 x 12)	11.22 (285)	9.76 (248)
4D	3.250	+0.0021/+0.0007	3/4 x 3/8	(85)	(+0.054/+0.019)	(22 x 14)	13.39 (340)	11.93 (303)
4E	4.000	+0.0021/+0.0007	1 X 1/2	(100)	(+0.054/+0.019)	(28 x 16)	14.69 (373)	10.24 (260)
4F	4.500	+0.0023/+0.0009	1 X 1/2	(120)	(+0.058/+0.023)	(32 x 18)	17.13 (435)	12.44 (316)

\*Recommended minimum shaft engagement

## Internal Retaining Ring

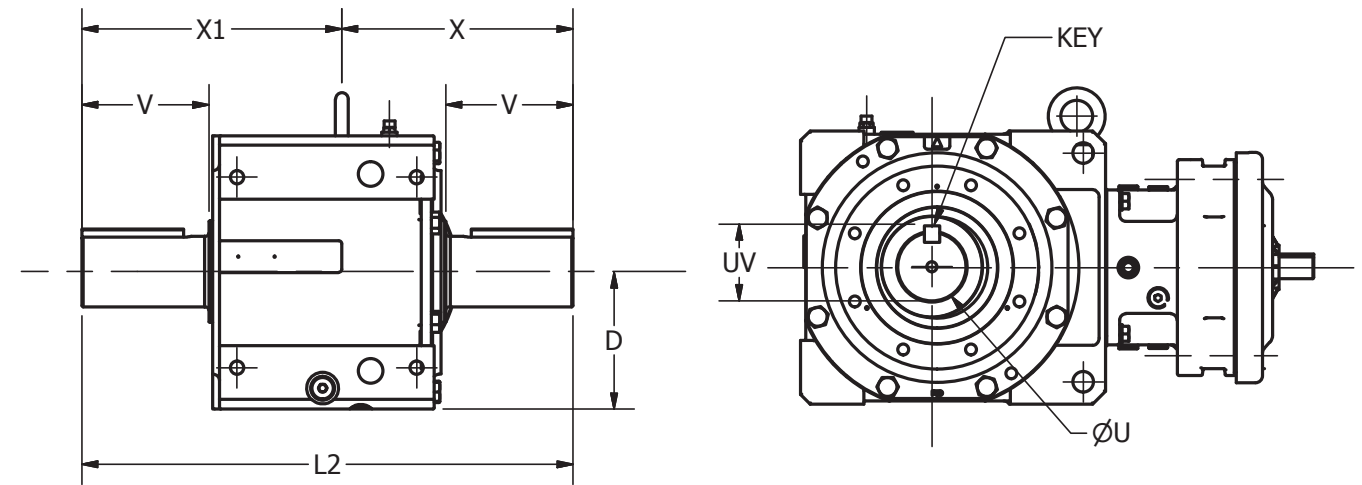


All dimensions are in inches (mm).

Frame Size	BBB			Retaining Ring Groove				
	ØD	L1	Ød1	I1	I2	Ød2	L2	L3
4A	2 (55)	8.50 (216)	2.09 (58)	1.18 (30)	.069 (2.2)	2.04 (56)	5.16 (131)	3.35 (85)
4B	2-3/8 (65)	10.2 (259)	2.51 (68)	1.18 (30)	0.085 (2.7)	2.42 (66)	6.26 (159)	3.94 (100)
4C	2-3/4 (75)	11.2 (285)	2.93 (78)	1.18 (30)	0.100 (2.7)	2.80 (76)	6.50 (165)	4.72 (120)
4D	3-1/4 (85)	13.4 (340)	3.43 (88.5)	1.46 (30)	0.116 (3.2)	3.31 (101)	7.68 (208)	5.71 (165)
4E	4 (100)	14.7 (373)	4.27 (103.5)	1.46 (30)	0.116 (3.2)	4.06 (101)	8.19 (208)	6.50 (165)
4F	4-1/2 (120)	17.1 (435)	4.74 (124)	1.93 (30)	0.120 (4.2)	4.55 (121)	9.49 or 9.69 (3) (241 or 246 (3))	7.44 or 7.64 (3) (189 or 194 (3))

## Options

## Solid Output Shaft



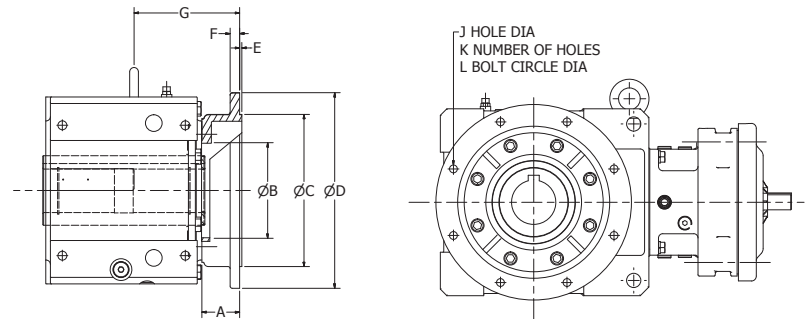
All dimensions are in inches (mm).

Frame Size	Standard Inch Shaft Dimension				Standard Metric Shaft Dimensions				D	V	X	X1	L2
	ØU	ØU Tolerance	UV	Key	ØU	ØU Tolerance	UV	Key					
4A	2.000	h6: 0/-0.0006	2.22	1/2 x 1/2 x 2.76	(50)	(h6: 0/-0.016)	(53.5)	(14 x 9 x 70)	4.33 (110)	3.54 (90)	7.48 (190)	8.11 (206)	15.59 (396)
4B	2.875	h6: 0/-0.0007	3.20	3/4 x 3/4 x 3.15	(65)	(h6: 0/-0.019)	(69.0)	(18 x 11 x 80)	5.12 (130)	4.53 (115)	9.53 (242)	9.72 (247)	19.25 (489)
4C	3.125	h6: 0/-0.0007	3.45	3/4 x 3/4 x 4.72	(80)	(h6: 0/-0.019)	(85.0)	(22 x 14 x 120)	6.30 (160)	5.71 (145)	10.79 (274)	11.85 (301)	22.64 (575)
4D	3.625	h6 0/-0.0009	4.01	7/8 x 7/8 x 5.51	(95)	(h6: 0/-0.022)	(100)	(25 x 14 x 140)	7.48 (190)	6.69 (170)	12.80 (325)	13.98 (355)	26.77 (680)
4E	4.375	h6 0/-0.0009	4.82	1 x 1 x 6.30	(110)	(h6: 0/-0.022)	(116)	(28 x 16 x 160)	8.46 (215)	7.87 (200)	14.29 (363)	16.14 (410)	30.43 (773)
4F	4.750	h6 0/-0.0010	5.29	1-1/4 x 1-1/4 x 6.69	(130)	(h6: 0/-0.025)	(137)	(32 x 18 x 170)	9.45 (240)	8.27 (210)	15.75 (400)	17.91 (455)	33.66 (855)



## Options

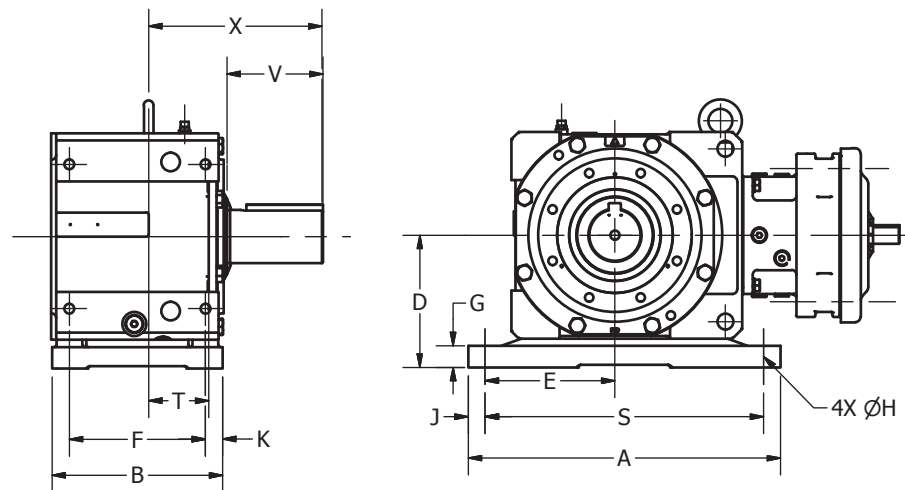
## Output Flange



All dimensions are in inches (mm).

Frame Size	A	ØB	ØC	ØD	E	F	G	J	K	L
4A	2.36 (60)	4.72 (120)	7.09 (180)	9.84 (250)	0.16 (4)	0.59 (15)	6.30 (160)	0.55 (14)	4	8.46 (215)
4B	2.40 (61)	5.51 (140)	9.06 (230)	11.8 (300)	0.16 (4)	0.63 (16)	7.40 (188)	0.55 (14)	4	10.4 (265)
4C	2.87 (73)	6.50 (165)	9.84 (250)	13.8 (350)	0.20 (5)	0.71 (18)	7.95 (202)	0.71 (18)	4	11.8 (300)
4D	3.15 (80)	7.68 (195)	13.8 (350)	17.7 (450)	0.20 (5)	0.87 (22)	9.25 (235)	0.71 (18)	8	15.8 (400)
4E	3.15 (80)	8.66 (220)	13.8 (350)	17.7 (450)	0.20 (5)	0.87 (22)	9.57 (243)	0.71 (18)	8	15.8 (400)
4F	2.56 (65)	9.45 (240)	21.7 (550)	26.0 (660)	0.20 (5)	0.94 (24)	10.0 (255)	0.87 (22)	8	23.6 (600)

## Foot Mounted

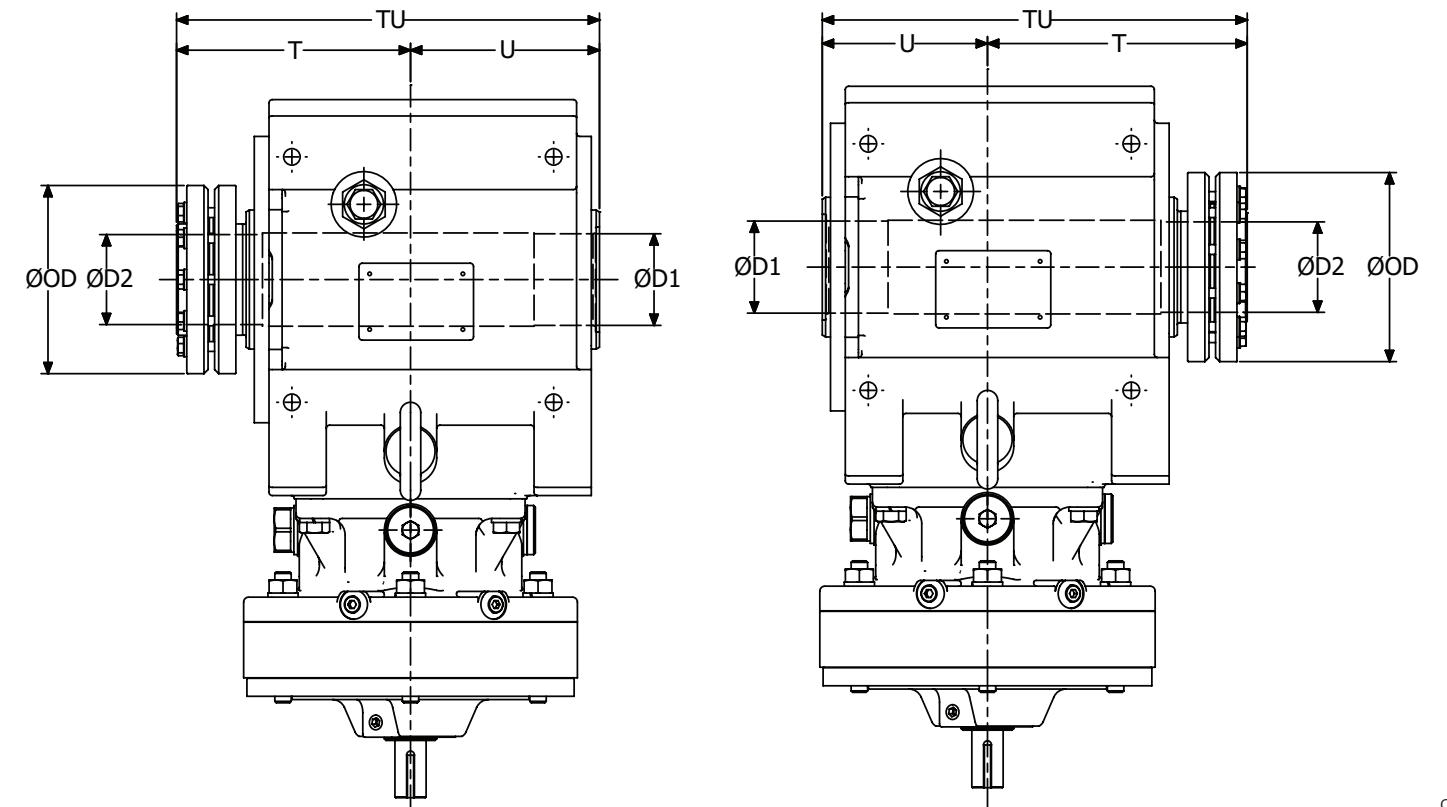


All dimensions are in inches (mm).

Frame Size	A	B	D	E	F	G	ØH	J	K	S	T	V	X
4A	12.6 (320)	7.95 (202)	5.51 (140)	5.31 (135)	6.30 (160)	0.98 (25)	0.55 (14)	0.79 (20)	0.83 (21)	11.0 (280)	2.83 (72)	3.54 (90)	7.48 (190)
4B	15.2 (385)	9.65 (245)	6.69 (170)	6.30 (160)	7.68 (195)	1.38 (35)	0.71 (18)	0.79 (20)	0.98 (25)	13.6 (345)	3.74 (95)	4.53 (115)	9.53 (242)
4C	19.9 (505)	10.6 (270)	8.27 (210)	7.68 (195)	8.27 (210)	1.57 (40)	0.87 (22)	1.18 (30)	1.18 (30)	17.5 (445)	3.58 (91)	5.71 (145)	10.8 (274)
4D	22.1 (560)	12.6 (320)	9.65 (245)	9.25 (235)	10.2 (260)	1.77 (45)	1.02 (26)	1.18 (30)	1.18 (30)	19.7 (500)	4.53 (115)	6.69 (170)	12.8 (325)
4E	25.6 (650)	14.0 (355)	10.8 (275)	10.6 (270)	11.0 (280)	1.77 (45)	1.30 (33)	1.38 (35)	1.50 (38)	22.8 (580)	4.57 (116)	7.87 (200)	14.3 (363)
4F	29.1 (740)	15.8 (400)	12.6 (320)	11.8 (300)	12.6 (320)	2.56 (65)	1.30 (33)	1.38 (35)	1.57 (40)	26.4 (670)	4.43 (113)	8.27 (210)	15.8 (400)

## Options

## Shrink Disk



Left Projecting Shrink Disk

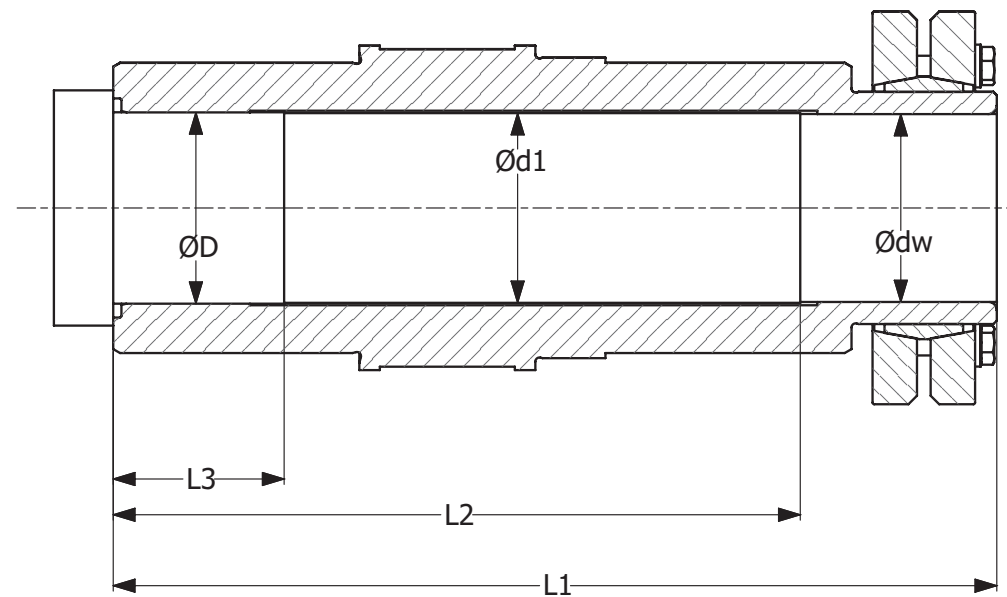
Right Projecting Shrink Disk

All dimensions are in inches (mm).

Frame Size	ØD1	ØD2	ØOD	TU	Left Projecting Shrink Disc		Right Projecting Shrink Disc	
					T	U	T	U
4A	2.20 (56)	2.17 (55)	4.53 (115)	10.2 (259)	5.28 (134)	4.90 (125)	6.40 (163)	3.78 (96)
4B	2.60 (66)	2.56 (65)	5.71 (145)	12.0 (304)	6.76 (172)	5.19 (132)	6.95 (177)	5.00 (127)
4C	2.99 (76)	2.95 (75)	6.69 (170)	13.3 (337)	7.11 (181)	6.14 (156)	8.17 (208)	5.08 (129)
4D	3.39 (86)	3.35 (85)	7.28 (185)	16.0 (408)	8.76 (223)	7.28 (185)	9.94 (253)	6.10 (155)
4E	3.98 (101)	3.94 (100)	9.06 (230)	17.3 (441)	9.07 (231)	8.27 (210)	10.9 (278)	6.42 (163)
4F	4.76 (121)	4.72 (120)	11.4 (290)	20.2 (513)	10.6 (268)	9.65 (245)	12.7 (323)	7.48 (190)

## Options

## Shrink Disc - Recommended Driven Inch Shaft Dimensions

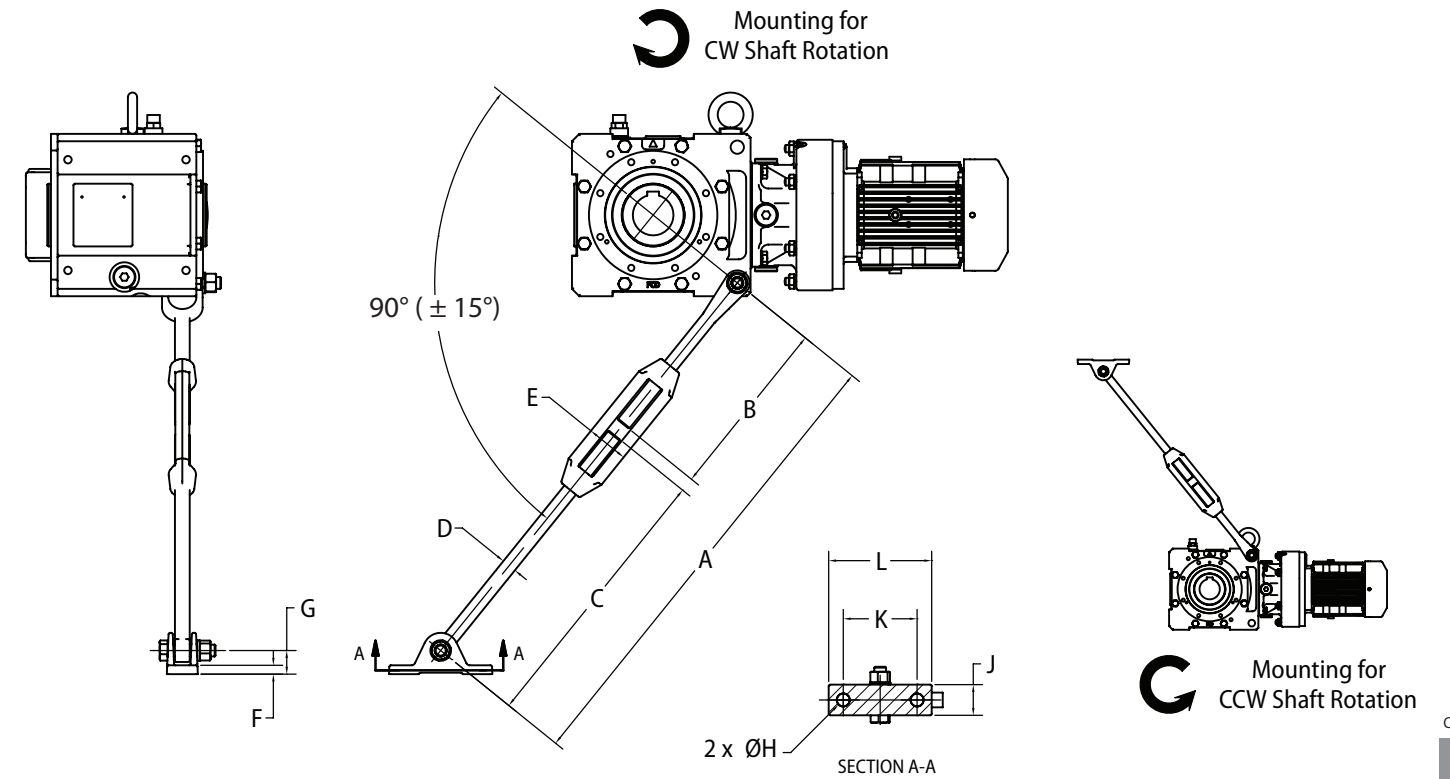


Recommendations for the design of the driven shaft if Shrink Disc connection method is selected:

- When ordering the Cyclo® BBB4 with a shrink disc output option, be sure to designate the orientation (left or right) in which to install the shrink disc.
- Once the product is shipped from the Sumitomo factory, the orientation of the shrink disc **cannot** be changed in the field.
- When designing the driven shaft to be inserted into the shrink disc, refer to the table below for shaft design recommendations.

All dimensions are in inches (mm).

Model	Driven Shaft Recommended Dimensions							
	Ødw	Ødw tolerance	Ød1	ØD	ØD tolerance	L1	L2	L3
4A100, 4A105 4A110, 4A115 4A120, 4A125 4A140, 4A145	2.17 (55)	h6: +0/-0.0007 (h6: +0/-0.019)	2.19 (55.5)	2.20 (56)	h7: +0/-0.0012 (h7: +0/-0.030)	10.18 (258.5)	7.91 (201)	1.97 (50)
4B120, 4B125 4B140, 4B145 4B160, 4B165	2.56 (65)	h6: +0/-0.0007 (h6: +0/-0.019)	2.58 (65.5)	2.60 (66)	h7: +0/-0.0012 (h7: +0/-0.030)	11.95 (303.5)	9.61 (244)	1.97 (50)
4C140, 4C145 4C160, 4C165 4C170, 4C175	2.95 (75)	h6: +0/-0.0007 (h6: +0/-0.019)	2.97 (75.5)	2.99 (76)	h7: +0/-0.0012 (h7: +0/-0.030)	13.25 (336.5)	10.63 (270)	1.97 (50)
4D160, 4D165 4D170, 4D175 4D180, 4D185	3.35 (85)	h6: +0/-0.0009 (h6: +0/-0.022)	3.37 (85.5)	3.39 (86)	h7: +0/-0.0014 (h7: +0/-0.035)	16.04 (407.5)	12.80 (325)	2.56 (65)
4E170, 4E175 4E180, 4E185 4E190, 4E195	3.94 (100)	h6: +0/-0.0009 (h6: +0/-0.022)	3.96 (100.5)	3.98 (101)	h7: +0/-0.0014 (h7: +0/-0.035)	17.34 (440.5)	14.09 (358)	2.56 (65)
4F180, 4F185 4F190, 4F195	4.72 (120)	h6: +0/-0.0009 (h6: +0/-0.022)	4.74 (120.5)	4.76 (121)	h7: +0/-0.0014 (h7: +0/-0.035)	20.20 (513)	16.34 (415)	3.86 (98)

Torque Arm Turnbuckle Type<sup>[1]</sup>

All dimensions are in inches (mm).

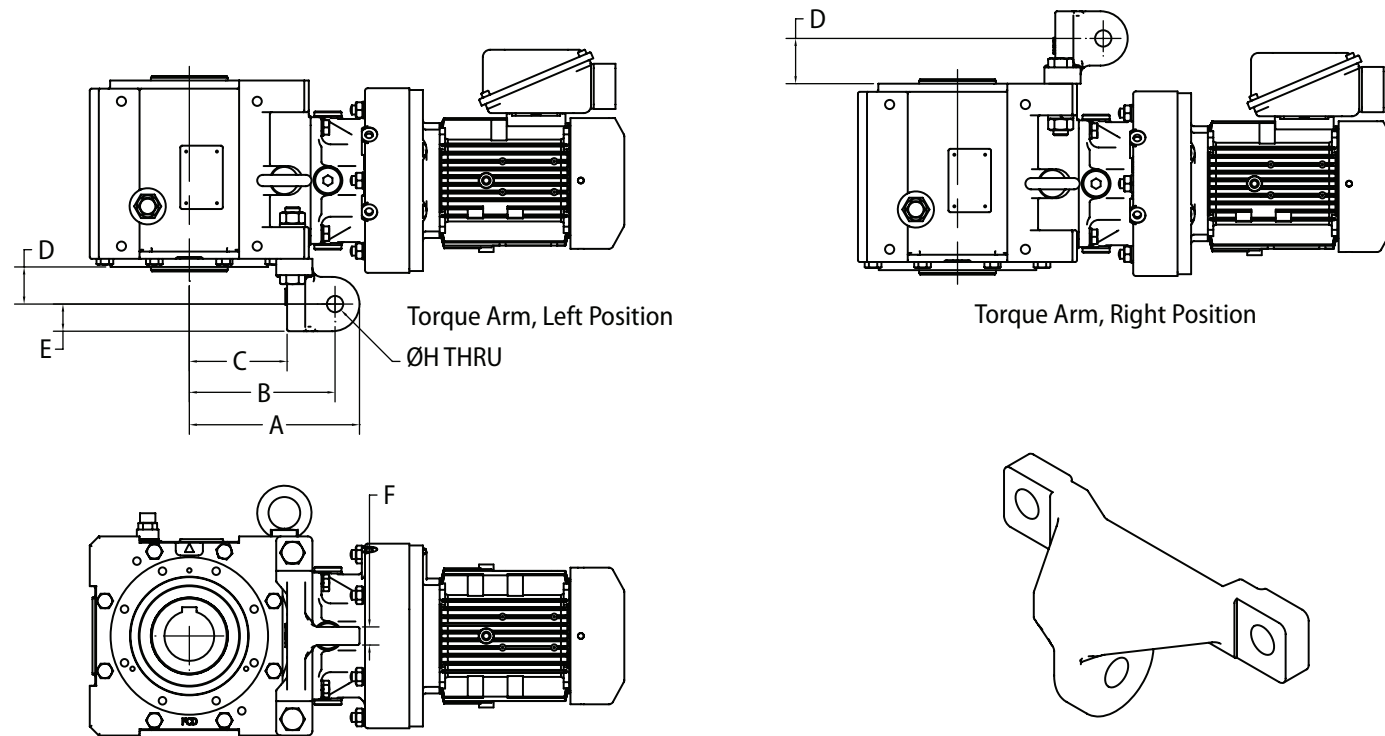
Frame Size	Turnbuckle Type Torque Arm Dimensions											
	Min	Max	B	C	D Thread	E	F	G	ØH	J	K	L
4A	25.2 (640)	28.7 (730)	9.69 (246)	14.8 (375)	M20	2.24 (57)	0.47 (12.0)	1.26 (32)	0.69 (17.5)	1.65 (42)	3.94 (100)	5.51 (140)
4B	26.0 (660)	29.5 (750)	10.4 (263)	14.8 (375)	M24	2.32 (59)	0.81 (20.5)	2.13 (54)	0.69 (17.5)	2.76 (70)	4.76 (121)	6.61 (168)
4C	26.0 (660)	29.5 (750)	10.4 (263)	14.8 (375)	M24	2.32 (59)	0.81 (20.5)	2.13 (54)	0.69 (17.5)	2.76 (70)	4.76 (121)	6.61 (168)
4D, 4E	33.9 (860)	37.4 (950)	18.3 <sup>[2]</sup> (465) <sup>[2]</sup>	14.8 (375)	M24	2.32 (59)	0.81 (20.5)	2.13 (54)	0.69 (17.5)	2.76 (70)	4.76 (121)	6.61 (168)

**Note: [1]** The Cyclo® BBB4 is shown in Y1 mounting position; use two turnbuckle torque arms if application requires shaft rotation in both directions and use torque arm in tension, not compression. Consult Operation and Maintenance Manual or the Factory when mounting in positions other than Y1.

**[2]** Value may vary from shown.

**[3]** Turnbuckle Type torque arm is not available for size F Cyclo(R) BBB4 units. Consult Factory for F-size torque arm type and dimensions.

## Options

Torque Arm T-Type (Optional)<sup>[1]</sup>

All dimensions are in inches (mm).

T- Type Torque Arm Dimensions								
Frame Size	A	B	C	D Left <sup>[2]</sup>	D Right <sup>[2]</sup>	E	F	ØH
4A	7.40 (188)	6.34 (161)	4.25 (108)	1.61 (41)	1.97 (50)	1.18 (30)	0.79 (20)	0.71 (18)
4B	8.98 (228)	7.68 (195)	5.00 (127)	2.09 (53)	2.44 (62)	1.42 (36)	1.13 (29)	0.87 (22)
4C	10.8 (274)	9.13 (232)	6.14 (156)	2.60 (66)	2.95 (75)	1.77 (45)	1.25 (32)	1.02 (26)
4D	12.9 (327)	11.0 (279)	7.40 (188)	3.19 (81)	3.58 (91)	2.17 (55)	1.50 (38)	1.30 (33)
4E	14.2 (361)	12.1 (306)	8.27 (210)	3.17 (81)	3.58 (91)	2.17 (55)	1.42 (36)	1.30 (33)

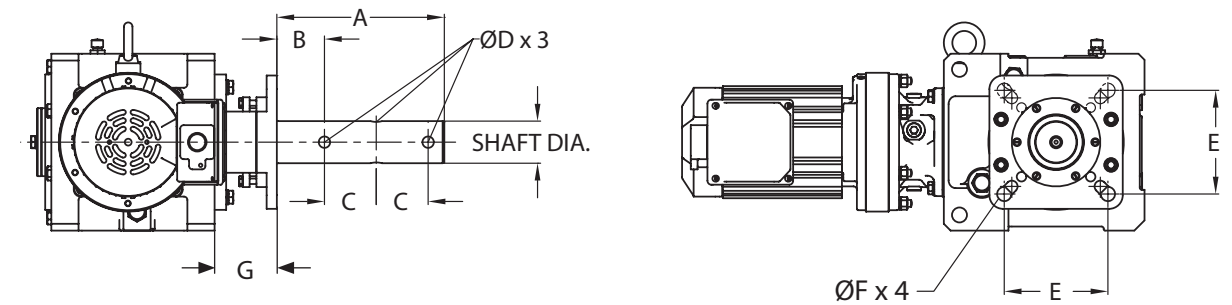
**Note:** [1] The Cyclo® BBB4 is shown in Y1 mounting position

[2] D dimension is from flange-mount casing surface to hole ØH.

[3] Turnbuckle Type torque arm is not available for size F Cyclo(R) BBB4 units. Consult Factory for F-size torque arm type and dimensions.

## Options

## Screw Conveyor Drive



- The Screw Conveyor option design conforms to established CEMA inch dimensions.
- Complete Cyclo® BBB screw conveyor drive consists of reducer, CEMA drive shaft assembly and mounting adapter kit. The CEMA drive shaft and mounting adapter kit require customer assembly.
- CEMA drive shafts are three hole style.

All dimensions are in inches.

Model	Shaft Diameter	To Fit Screw Diameter	A	B	C	ØD	E	ØF
4A, 4B	1-1/2	6 to 9	9.00	2.13	3.00	17/32	4.00	0.531
	2	9 to 12	9.00	2.13	3.00	21/32	0.38	0.669
	2-7/16	12 to 14	9.69	2.75	3.00	21/32	5.63	0.669
	3	12 to 20	9.88	2.88	3.00	25/32	6.00	0.827
4C, 4D	2	9 to 12	9.00	2.13	3.00	21/32	5.13	0.669
	2-7/16	12 to 14	9.69	2.75	3.00	21/32	5.63	0.669
	3	12 to 20	9.88	2.88	3.00	25/32	6.00	0.827
4E	3-7/16	18 to 24	13.10	3.88	4.00	29/32	6.75	0.827
	2-7/16	12 to 14	9.69	2.75	3.00	21/32	5.63	0.669
	3	12 to 20	9.88	2.88	3.00	25/32	6.00	0.827
	3-7/16	18 to 24	13.10	3.88	4.00	29/32	6.75	0.827

All dimensions are in inches.

Model	G	
	Fabricated steel Adapter	Cast Iron Adapter
A	3.60	4.17
B	3.60	3.96
C	3.92	4.31
D	4.25	4.65
E	5.49	5.93

Shaft Option 1: Standard 'Taper Grip Hub' 3-Hole Screw Conveyor Steel Shafts

Model	Drive Shaft Diameters & CEMA Drive Shaft Assembly Part Number					Adapter Kit	
	Ø 1-1/2"	Ø 2"	Ø 2-7/16"	Ø 3"	Ø 3-7/16"	Cast Iron Option	Fabricated steel Option
4A	116E4108-C3	116E4200-C3	116E4207-C3	116E4300-C3	-	118A4050	118A4040
4B	116F4108-C3	116F4200-C3	116F4207-C3	116F4300-C3	-	118B4050	118B4040
4C	-	116G4200-C3	116G4207-C3	116G4300-C3	116G4307-C3	118C4050	118C4040
4D	-	116H4200-C3	116H4207-C3	116H4300-C3	116H4307-C3	118D4050	118D4040
4E	-	-	116J4207-C3	116J4300-C3	116J4307-C3	118E4050	118E4040

Shaft Option 2: Standard 'Keyed' 3-Hole Screw Conveyor Shafts [Steel and Stainless steel options]

Model	Drive Shaft Diameters & CEMA Drive Shaft Assembly Part Number <sup>[3]</sup>					Adapter Kit	
	Ø 1-1/2"	Ø 2"	Ø 2-7/16"	Ø 3"	Ø 3-7/16"	Cast Iron Option	Fabricated steel Option
4A	118A5108-C3/ S3	118A5200-C3/ S3	118A5207-C3/ S3	118A5300-C3/ S3	-	118A4060	118A4040
4B	118B5108-C3/ S3	118B5200-C3/ S3	118B5207-C3/ S3	118B5300-C3/ S3	-	118B4060	118B4040
4C	-	118C5200-C3/ S3	118C5207-C3/ S3	118C5300-C3/ S3	118C5307-C3/ S3	118C4060	118C4040
4D	-	118D5200-C3/ S3	118D5207-C3/ S3	118D5300-C3/ S3	118D5307-C3/ S3	-	118D4040
4E	-	-	118E5207-C3/ S3	118E5300-C3/ S3	118E5307-C3/ S3	-	118E4040

**Note:** [1] The dimension shown is E maximum.

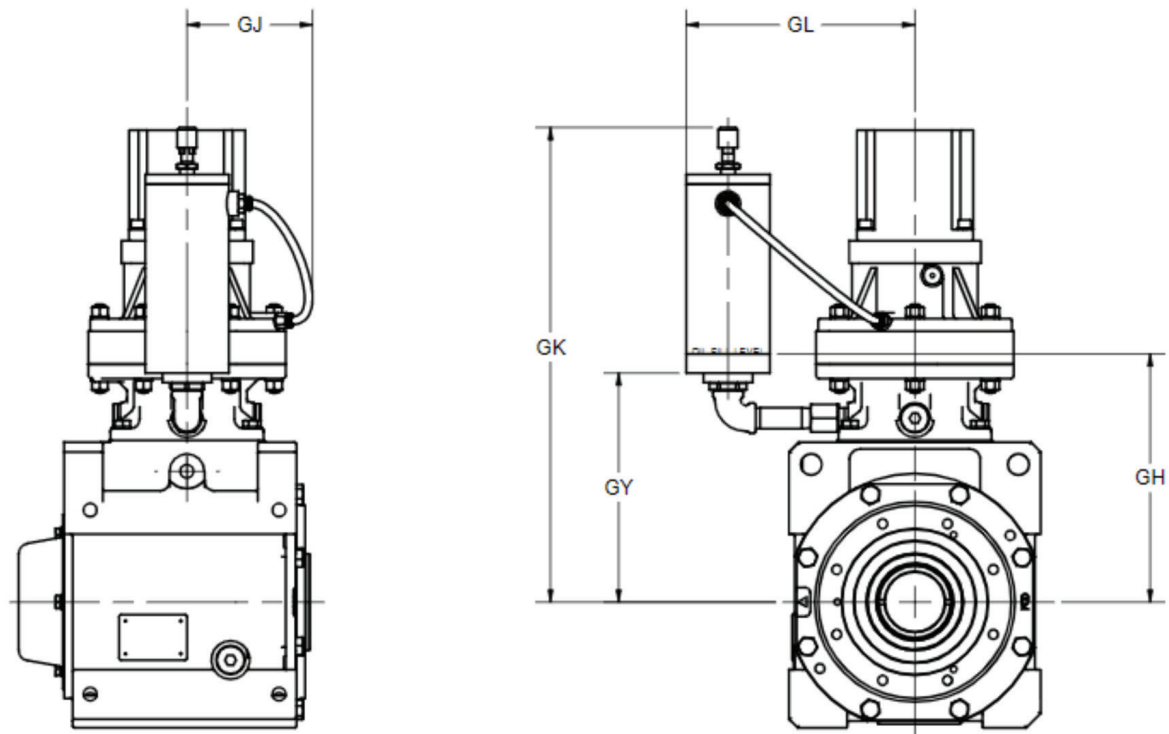
[2] Consult Factory for information on F-size Screw Conveyor options

[3] Use suffix 'C3' for Carbon Steel, and 'S3' for Stainless Steel (AISI316) shaft material



## Options

## Clear Oil Fill Cup

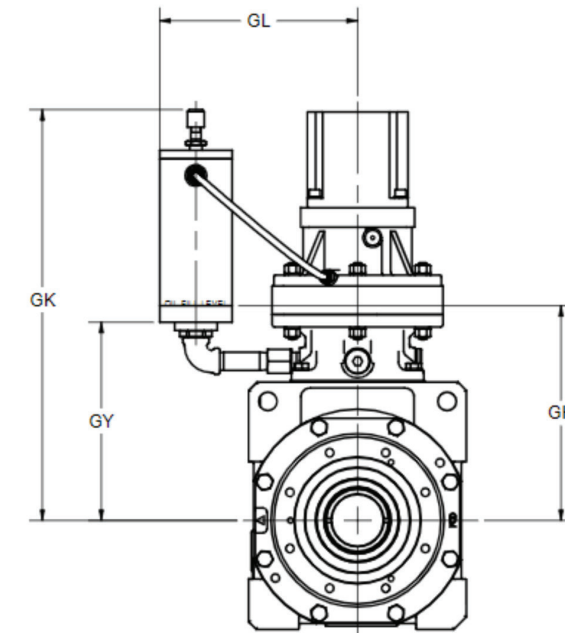


Frame Size	GH	GL	GK	GY	GJ.
4A100/5	8.66 (220)	9.09 (231)	18.73 (476)	8.66 (220)	3.78 (96)
4A110/5	8.98 (228)	10.18 (259)	18.74 (476)	8.67 (220)	4.02 (102)
4A120/5	8.90 (226)	9.96 (253)	18.55 (471)	8.47 (215)	5.28 (134)
4A140/5	9.61 (244)	11.89 (302)	18.61 (473)	8.54 (217)	5.28 (134)
4B120/5	10.35 (263)	9.96 (253)	19.99 (508)	9.92 (252)	5.28 (134)
4B140/5	10.87 (276)	11.89 (302)	19.89 (505)	9.82 (250)	5.28 (134)
4B160/5	11.54 (293)	12.79 (325)	19.85 (504)	9.78 (248)	6.61 (168)

Note: Polyalkylene Glycol (PAG)-based oil such as Klübersynth UH1 is not compatible, and cannot be used, with the clear polycarbonate fill cup.

## Options

## Clear Oil Fill Cup



Frame Size	GH	GL	GK	GY
4A10DA	10.94 (278)	8.09 (205)	19.23 (488)	9.16 (233)
4A12DA	11.42 (290)	9.46 (240)	20.05 (509)	9.97 (253)
4A12DB	11.77 (299)	9.46 (240)	20.05 (509)	9.97 (253)
4B12DA	12.87 (327)	9.46 (240)	21.49 (546)	11.42 (290)
4B12DB	13.23 (336)	9.46 (240)	21.49 (546)	11.42 (290)

Note: Polyalkylene Glycol (PAG)-based oil such as Klübersynth UH1 is not compatible, and cannot be used, with the clear polycarbonate fill cup.

## Shaft Availability - Keyed Hollow Bore

All dimensions are in inches.

Bore (in)	Frame Size					
	4A	4B	4C	4D	4E	4F
1-7/16"	○					
1-1/2"	○					
1-5/8"	○					
1-11/16"	○					
1-3/4"	○					
1-13/16"	○	○				
1-7/8"	○	○				
1-15/16"	●◇	○				
2"	●◇	○				
2-3/16"	●◇	●◇				
2-1/4"		○				
2-3/8"		●◇	○			
2-7/16"		●◇	○			
2-1/2"		○	○			
2-9/16"			○			
2-5/8"			○			
2-3/4"			●◇			
2-7/8"			○			
2-15/16"			●◇	○		
3"			○	○		
3-1/8"			○	○		
3-3/16"			○	○		
3-1/4"			○	○		
3-3/8"			○	○	○	○
3-7/16"			○	●	○	○
3-1/2"			○	○	○	○
3-5/8"				○	○	○
3-3/4"				○	○	○
3-7/8"				○	○	○
3-15/16"				○	○	○
4"				○	●	○
4-7/16"						○
4-1/2"						●
4-3/4"						○

All dimensions are in millimeters.

Bore (mm)	Frame Size					
	4A	4B	4C	4D	4E	4F
35	○					
40	○					
45	○	○				
50	○	○				
55	●	○				
60		○	○			
65		●	○			
70			○			
75			●	○		
80				○		
85				●	○	
90				○	○	
95					○	
100					●	
105					○	
110						○
115						○
120						●

- Standard shaft size (Carbon steel material)
- On-demand shaft size (carbon steel material)
- ◇ Standard Stainless Steel shaft size (AIS 304 grade material)

- Note:
- 1) The customer is responsible for validating the strength of the driven shaft.
  - 2) Consult factory for the price and delivery of 'On-demand' shaft sizes.
  - 3) If the required shaft size is different than the above mentioned sizes, please consult the factory.

## Shaft Availability - Shrink Disc

All dimensions are in inches.

Bore (in)	Frame Size					
	4A	4B	4C	4D	4E	4F
1-15/16"	○◇					
2"	○◇	○				
2-3/16"	○◇	○◇				
2-3/8"		○◇				
2-7/16"		○◇				
2-3/4"			○◇			
2-15/16"			○◇			
3-15/16"						

- Standard shaft size (Carbon steel material)
- On-demand shaft size (carbon steel material)
- ◇ Standard Stainless Steel shaft size (AIS 304 grade material)

- Note:
- 1) Shrink disc bore with LEFT as well as RIGHT projections are available (refer figures on page 3.5).
  - 2) Shrink disc bore size mentioned in above is  $\phi$ dw dimension of the Table on page 3.6
  - 3) If the required shaft size is different than the above mentioned sizes, please consult the factory.

All dimensions are in millimeters.

Bore (mm)	Frame Size					
	4A	4B	4C	4D	4E	4F
55	●					
65		●				
66						
75			●			
85				●		
100					●	
120						●

## Shaft Availability - Taper Grip Bushing

Please refer  $\phi$ U dimensions in 'Dimensions' section for the shaft size range (Min. & Max.)

## Options

## Shaft Availability - Solid Shaft

All dimensions are in inches.

Bore (in)	Frame Size					
	4A	4B	4C	4D	4E	4F
1-7/16"	○					
1-1/2"	○					
1-9/16"	○					
1-5/8"	○					
1-3/4"	○					
1-7/8"	○	○				
1-15/16"	○	○				
2"	●	○				
2-1/8"	○	○				
2-3/16"	○	○				
2-1/4"		○				
2.236"		○				
2-3/8"		○	○			
2-7/16"		○	○			
2-1/2"		○	○			
2-5/8"		○	○			
2-3/4"		○	○			
2-7/8"		●	○	○		
2-15/16"			○	○		
3"			○	○		
3-1/8"			●	○		
3-1/4"				○		
3-3/8"				○	○	
3-7/16"				○	○	
3-5/8"				●	○	
3-7/8"					○	
4"					○	
4-3/8"					●	○
4-7/16"					●	○
4-1/2"					○	○
4-5/8"						○
4-3/4"						●

- Note:
- 1) The customer is responsible for validating the strength of the driven shaft.
  - 2) Consult factory for the price and delivery of 'On-demand' shaft sizes.
  - 3) If the required shaft size is different than the above mentioned sizes, please consult the factory.
  - 4) Solid shaft with LEFT, RIGHT as well as DOUBLE EXTENDED projections are available.

All dimensions are in millimeters.

Bore (mm)	Frame Size					
	4A	4B	4C	4D	4E	4F
25	○					
45	○					
50	●					
55						
60		○				
65		●				
70						
75			○			
80			●			
85				○		
90				○		
95				●	○	
100					○	
110					●	
115						
120						
130						●

- Standard shaft size (Carbon steel material)
- On-demand shaft size (carbon steel material)
- ◇ Standard Stainless Steel shaft size (AIS 304 grade material)

## Options

## Food Industry Packages

Three food-grade packages are available for use in machinery where there is incidental food contact. When ordering, choose the Special Specification Code (SSC) that meets your requirements to obtain the features listed below.

## Available Food Industry Option Packages

REDUCER OPTIONS	SHIELD360°™	CHEMI SHIELD360°™	ULTRA SHIELD360°™*
DuPont Alesta AM Powder Coat			
FDA White Acrylic Topcoat	◇		
Stainless Steel Gray Acrylic Topcoat		◇	
Stainless Steel Gray 2-Part Epoxy Topcoat			◇
FDA Approved Grease	◇		
Triple Lip Seals	◇		
FKM Antimicrobial Cassette Seals		◇	◇
Stainless Steel Hardware			
Stainless Steel Nameplate		◇	◇
Corrosion Preventative Plugs		◇	◇
Carbon Output Shaft	◇		
Stainless Steel Output Shaft		◇	◇

Stainless Steel Hollow Shaft - ratings with stainless steel hollow shaft are the same as those listed in this catalog for standard models

\* UltraShield360°™ available in quill option only



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# 4

# Technical Information

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Cyclo® BBB4

Technical  
Information

# Exact Ratios

Bevel Buddybox catalog ratio 11, 13, 14, 16, and 18 utilize a planetary gearset for the first reduction stage.

The exact ratio of planetary gearing can be calculated using the following formula:

$$i_{\text{PLANETARY}} = (Z_{\text{SUN}} + Z_{\text{RING}}) / Z_{\text{SUN}}$$

where:  $Z_{\text{SUN}}$  = Number of teeth in the sun gear

$Z_{\text{RING}}$  = Number of teeth in the ring gear

The overall gearbox ratio can be determined using the following formula:

$$i_{\text{OVERALL}} = (Z_{\text{GEAR}} / Z_{\text{PINION}}) \times i_{\text{PLANETARY}}$$

where:  $Z_{\text{GEAR}}$  = Number of teeth in the bevel gear

$Z_{\text{PINION}}$  = Number of teeth in the bevel pinion

**Table 4.1 BBB4 with Planetary Input - Exact Ratios**

Nominal Ratio	Frame Size	Gearing Tooth Count				Calculated Ratio $i_{\text{OVERALL}}$
		Bevel		Planetary		
		$Z_{\text{GEAR}}$	$Z_{\text{PINION}}$	$Z_{\text{SUN}}$	$Z_{\text{RING}}$	
11	4A100/5	35	10	46	92	10.50
	4A120/5	35	10	60	120	10.50
	4A140/5	35	10	54	114	10.89
	4B120/5	35	10	60	120	10.50
	4B140/5	35	10	54	114	10.89
	4B160/5	35	10	60	126	10.85
	4C140/5	35	10	54	114	10.89
	4C160/5	35	10	60	126	10.85
	4C170/5	35	10	58	122	10.86
	4D170/5	35	10	58	122	10.86
	4D180/5	35	10	68	136	10.50
	4E170/5	35	10	58	122	10.86
	4E180/5	35	10	68	136	10.50
	4E190/5	35	10	66	138	10.82
13	4A100/5	32	10	34	104	12.99
	4A120/5	32	10	45	135	12.80
	4A140/5	32	10	43	131	12.95
	4B120/5	32	10	45	135	12.80
	4B140/5	32	10	43	131	12.95
	4B160/5	32	10	48	144	12.80
	4C140/5	32	10	43	131	12.95
	4C160/5	32	10	48	144	12.80
	4C170/5	32	10	44	136	13.09
	4D170/5	32	10	44	136	13.09
	4D180/5	32	10	44	136	13.09
	4E170/5	32	10	44	136	13.09
	4E180/5	32	10	44	136	13.09
	4E190/5	32	10	45	138	13.01
14	4A100/5	35	10	34	104	14.21
	4A120/5	35	10	45	135	14.00
	4A140/5	35	10	43	131	14.16
	4B120/5	35	10	45	135	14.00
	4B140/5	35	10	43	131	14.16
	4B160/5	35	10	48	144	14.00
	4C140/5	35	10	43	131	14.16
	4C160/5	35	10	48	144	14.00
	4C170/5	35	10	44	136	14.32
	4D170/5	35	10	44	136	14.32
	4D180/5	35	10	44	136	14.32
	4E170/5	35	10	44	136	14.32
	4E180/5	35	10	44	136	14.32
	4E190/5	35	10	45	138	14.23
16	4A100/5	32	10	30	114	15.36
	4A120/5	32	10	38	148	15.66
	4A140/5	32	10	36	144	16.00
	4B120/5	32	10	38	148	15.66
	4B140/5	32	10	36	144	16.00
	4B160/5	32	10	39	159	16.25
	4C140/5	32	10	36	144	16.00
	4C160/5	32	10	39	159	16.25
	4C170/5	32	10	38	154	16.17
	4D170/5	32	10	38	154	16.17
	4D180/5	32	10	35	136	15.63
	4E170/5	32	10	38	154	16.17
	4E180/5	32	10	35	136	15.63
	4E190/5	32	10	36	138	15.47
18	4A100/5	35	10	30	114	16.80
	4A120/5	35	10	38	148	17.13
	4A140/5	35	10	36	144	17.50
	4B120/5	35	10	38	148	17.13
	4B140/5	35	10	36	144	17.50
	4B160/5	35	10	39	159	17.77
	4C140/5	35	10	36	144	17.50
	4C160/5	35	10	39	159	17.77
	4C170/5	35	10	38	154	17.68
	4D170/5	35	10	38	154	17.68
	4D180/5	35	10	35	136	17.10
	4E170/5	35	10	38	154	17.68
	4E180/5	35	10	35	136	17.10
	4E190/5	35	10	36	138	16.92

# Exact Ratios

**Table 4.1 BBB4 with Planetary Input - Exact Ratios** continued

Nominal Ratio	Frame Size	Gearing Tooth Count				Calculated Ratio $i_{\text{OVERALL}}$
		Bevel		Planetary		
		$Z_{\text{GEAR}}$	$Z_{\text{PINION}}$	$Z_{\text{SUN}}$	$Z_{\text{RING}}$	
14	4A100/5	35	10	34	104	14.21
	4A120/5	35	10	45	135	14.00
	4A140/5	35	10	43	131	14.16
	4B120/5	35	10	45	135	14.00
	4B140/5	35	10	43	131	14.16
	4B160/5	35	10	48	144	14.00
	4C140/5	35	10	43	131	14.16
	4C160/5	35	10	48	144	14.00
	4C170/5	35	10	44	136	14.32
	4D170/5	35	10	44	136	14.32
	4D180/5	35	10	44	136	14.32
	4E170/5	35	10	44	136	14.32
	4E180/5	35	10	44	136	14.32
	4E190/5	35	10	45	138	14.23
16	4A100/5	32	10	30	114	15.36
	4A120/5	32	10	38	148	15.66
	4A140/5	32	10	36	144	16.00
	4B120/5	32	10	38	148	15.66
	4B140/5	32	10	36	144	16.00
	4B160/5	32	10	39	159	16.25
	4C140/5	32	10	36	144	16.00
	4C160/5	32	10	39	159	16.25
	4C170/5	32	10	38	154	16.17
	4D170/5	32	10	38	154	16.17
	4D180/5	32	10	35	136	15.63
	4E170/5	32	10	38	154	16.17
	4E180/5	32	10	35	136	15.63
	4E190/5	32	10	36	138	15.47
18	4A100/5	35	10	30	114	16.80
	4A120/5	35	10	38	148	17.13
	4A140/5	35	10	36	144	17.50
	4B120/5	35	10	38	148	17.13
	4B140/5	35	10	36	144	17.50
	4B160/5	35	10	39	159	17.77
	4C140/5	35	10	36	144	17.50
	4C160/5	35	10	39	159	17.77
	4C170/5	35	10	38	154	17.68
	4D170/5	35	10	38	154	17.68
	4D180/5	35	10	35	136	17.10
	4E170/5	35	10	38	154	17.68
	4E180/5	35	10	35	136	17.10
	4E190/5	35	10	36	138	16.92

# Exact Ratios

Bevel Buddybox catalog ratios greater than 18:1 utilize Cyclo as the first (or first and second) reduction stage

Cyclo reduction ratios are exact thus the exact overall Bevel Buddybox reduction ratio can be calculated as:

$$i_{OVERALL} = (Z_{GEAR} / Z_{PINION}) \times i_{CYCLO}$$

where:  $Z_{GEAR}$  = Number of teeth in the bevel gear

$Z_{PINION}$  = Number of teeth in the bevel pinion

**Table 4.2 BBB4 with Cyclo Input - Exact Ratios**

Single Reduction Cyclo

Nominal Ratio	Frame Size	Bevel Gear Tooth Count		Cyclo Ratio ( $i_{CYCLO}$ )	Calculated Ratio $i_{OVERALL}$
		$Z_{GEAR}$	$Z_{PINION}$		
21	ALL <sup>[1]</sup>	35	10	6	21.00
22		32	10	7	22.40
25		35	10	7	24.50
28		35	10	8	28.00
35		32	10	11	35.20
39		35	10	11	38.50
46		35	10	13	45.50
53		35	10	15	52.50
60		35	10	17	59.50
67		32	10	21	67.20
74		35	10	21	73.50
80		32	10	25	80.00
88		35	10	25	87.50
102		35	10	29	101.50
112		32	10	35	112.00
123		35	10	35	122.50
151		35	10	43	150.50
179		35	10	51	178.50
207		35	10	59	206.50
249		35	10	71	248.50
305	35	10	87	304.50	
417	4A10	35	10	119	416.50

Note [1]: 22:1 and 25:1 ratios are not available for 4A100/5 and 4A110/5 sizes.

# Exact Ratios

**Table 4.3 BBB4 with Cyclo Input - Exact Ratios**

Double Reduction Cyclo

Nominal Ratio	Frame Size	Bevel Gearing Tooth Count		Cyclo Ratio ( $i_{CYCLO}$ )	Calculated Ratio $i_{OVERALL}$
		$Z_{GEAR}$	$Z_{PINION}$		
364	ALL	35	10	104	364.000
424		35	10	121	423.500
501		35	10	143	500.500
578		35	10	165	577.500
683		35	10	195	682.500
809		35	10	231	808.500
956		35	10	273	955.500
1117		35	10	319	1116.50
1320		35	10	377	1319.50
1656		35	10	473	1655.50
1957		35	10	559	1956.50
2272		35	10	649	2271.50
2559		35	10	731	2558.50
2944		35	10	841	2943.50
3511		35	10	1003	3510.50
4365		35	10	1247	4364.50
5177		35	10	1479	5176.50
6472		35	10	1849	6471.50
7228		35	10	2065	7227.50
8880		35	10	2537	8879.50
10658		35	10	3045	10657.5
12184		35	10	3481	12183.5
15530		35	10	4437	15529.5
17966		35	10	5133	17965.5
21620		35	10	6177	21619.5
26492		35	10	7569	26491.5

Technical Information

Technical Information



# Special Load Guidelines Overhung Load

# Special Load Guidelines Output Shaft Overhung Load continued

## Reducer Output Shaft Allowable Overhung Load

When a sprocket, sheave, or gear is mounted on the slowspeed of a reducer, an overhung load is applied on that shaft. It is necessary to check if the shaft of the Cyclo® BBB4 Speed Reducer will allow the overhung load. Calculate the overhung load using the following formulas:

### 1) Radial load, Pr

$$Pr = \frac{TI}{R} \leq \frac{Pro}{Lf \cdot Cf \cdot Sf} \quad (\text{lbs, N})$$

### 2) Axial Load, Pa

$$Pa \leq \frac{Pao}{Cf \cdot Sf} \quad (\text{lbs, N})$$

### 3) When there is combined radial and axial loading on the output shaft

$$\left( \frac{Pr}{Pro} + \frac{Pa}{Pao} \right) \cdot Cf \cdot Sf \leq 1 \quad (\text{lbs, N})$$

### LEGEND

- Pr** = Actual radial load (lbs, N)
- TI** = Actual transmitted torque on slow speed shaft of reducer (lb-in, N-m)
- R** = Pitch circle radius of sprocket, gear, pulley, etc. (inch, meter)
- Pro** = Allowable radial load (lbs, N)
- Pa** = Actual axial load (lbs, N)
- Pao** = Allowable axial load (lbs, N)
- Cf** = Coupling factor
- Sf** = Service factor
- Lf** = Load Location factor = 1.0<sup>[1]</sup>

The values shown in the tables within are the allowable OHL<sup>[2]</sup> when it is applied to the center of the solid shaft extension or at the load-side edge of the hollow bore. Please consult the factory when the center point of the load is located elsewhere.

**Table 4.4 Coupling Factor, Cf**

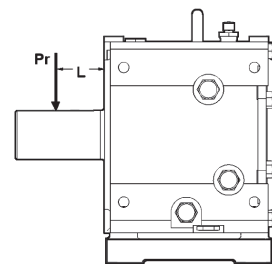
Type of Connection	Cf
General Purpose Chain	1.0
Machined Gear, Pinion or Synchronous Belt	1.25
V-Belt	1.5
Flat Belt	2.5

**Table 4.5 Service Factor, Sf**

Shock Factor	Sf
No Shock	1.0
Moderate Shock	1.5
Heavy Shock	2.0

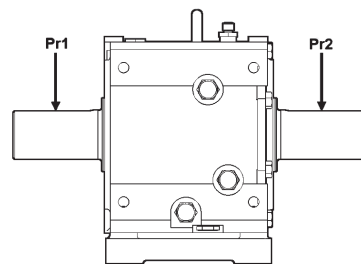
### Overhung Load, capacity for solid output shaft

OHL<sup>[2]</sup> ratings assume there is no axial load applied to the shaft and that the unit is horizontal to floor/foundation. (Mounting feet at bottom or top.) Consult factory when it is wall mount or vertical position. When flange mounted, OHL location should be same side as flange. Consult factory when OHL is opposite flange side. Use ISO/JIS Class 12.9 for mounting hardware.



Loading position L is the distance from the output shaft shoulder

Pro from table must be ≥ Pr



For double extension, Pr1 and Pr2 is assumed to be in the same direction. Pro from table must be ≥ Pr1 + Pr2

**Note [1]:** For output speeds that are in between those detailed in Tables 4.6a through 4.7c, the overhung load capacity may be calculated through interpolation.

**[2]:** OHL = Overhung Load

**Table 4.6a Allowable Overhung Load for Output Shaft (Solid Output Shaft) (Cf, Sf = 1)**

Force Units: lbs, (N)

Model	L inch (mm)	Output Shaft, RPM									
		5	10	20	30	35	45	50	60	75	90
4A100 4A105 4A110 4A115 4A120 4A125 4A140 4A145	0.75 (19.1)	7170 (31890)	8360 (37180)	7190 (31980)	6110 (27170)	5740 (25530)	5160 (22950)	4940 (21970)	4570 (20320)	4120 (18320)	3790 (16850)
	1.00 (25.4)	6850 (30460)	7490 (33310)	6960 (30950)	5940 (26420)	5560 (24730)	5020 (22320)	4790 (21300)	4420 (19660)	3990 (17740)	3670 (16320)
	1.25 (31.8)	5940 (26420)	6240 (27750)	6240 (27750)	5760 (25620)	5410 (24060)	4870 (21660)	4640 (20630)	4290 (19080)	3890 (17300)	3570 (15870)
	1.50 (38.1)	5230 (23260)	5340 (23750)	5340 (23750)	5340 (23750)	5260 (23390)	4740 (21080)	4520 (20100)	4170 (18540)	3770 (16760)	3470 (15430)
	1.75 (44.5)	4670 (20770)	4670 (20770)	4670 (20770)	4670 (20770)	4670 (20770)	4590 (20410)	4390 (19520)	4070 (18100)	3670 (16320)	3370 (14980)
	1.88 (47.6)	3970 (17650)	4170 (18540)	4170 (18540)	4170 (18540)	4170 (18540)	4170 (18540)	4170 (18540)	3970 (17650)	3570 (15870)	3290 (14630)
	2.00 (50.8)	3420 (15210)	3740 (16630)	3740 (16630)	3740 (16630)	3740 (16630)	3740 (16630)	3740 (16630)	3740 (16630)	3490 (15520)	3190 (14180)
	2.50 (63.5)	2970 (13210)	3120 (13870)	3120 (13870)	3120 (13870)	3120 (13870)	3120 (13870)	3120 (13870)	3120 (13870)	3120 (13870)	3040 (13520)
	3.00 (76.2)	2610 (11600)	2670 (11870)	2670 (11870)	2670 (11870)	2670 (11870)	2670 (11870)	2670 (11870)	2670 (11870)	2670 (11870)	2670 (11870)
	3.50 (88.9)	2340 (10400)	2340 (10400)	2340 (10400)	2340 (10400)	2340 (10400)	2340 (10400)	2340 (10400)	2340 (10400)	2340 (10400)	2340 (10400)
	4.00 (102)	2110 (9380)	2080 (9250)	2080 (9250)	2080 (9250)	2080 (9250)	2080 (9250)	2080 (9250)	2080 (9250)	2080 (9250)	2080 (9250)
	0.75 (19.1)	11800 (52480)	11830 (52610)	8810 (39180)	7340 (32640)	6810 (30290)	6010 (26730)	5690 (25300)	5160 (22950)	4570 (20320)	4120 (18320)
	1.00 (25.4)	12350 (54930)	11530 (51280)	8610 (38290)	7160 (31840)	6660 (29620)	5860 (26060)	5560 (24730)	5040 (22410)	4470 (19880)	4020 (17880)
	1.25 (31.8)	12620 (56130)	11260 (50080)	8410 (37400)	6990 (31090)	6490 (28860)	5740 (25530)	5440 (24190)	4940 (21970)	4370 (19430)	3920 (17430)
1.50 (38.1)	11720 (52130)	11010 (48970)	8210 (36510)	6840 (30420)	6340 (28200)	5610 (24950)	5310 (23610)	4820 (21430)	4270 (18990)	3820 (16990)	
1.75 (44.5)	10460 (46520)	10460 (46520)	8040 (35760)	6660 (29620)	6210 (27620)	5460 (24280)	5190 (23080)	4720 (20990)	4170 (18540)	3740 (16630)	
1.88 (47.6)	8870 (39450)	9310 (41410)	7860 (34960)	6540 (29080)	6060 (26950)	5360 (23840)	5060 (22500)	4620 (20540)	4070 (18100)	3670 (16320)	
2.00 (50.8)	7650 (34020)	8360 (37180)	7690 (34200)	6390 (28420)	5940 (26420)	5240 (23300)	4970 (22100)	4520 (20100)	3990 (17740)	3570 (15870)	
2.50 (63.5)	6650 (29570)	6990 (31090)	6990 (31090)	6110 (27170)	5690 (25300)	5020 (22320)	4770 (21210)	4320 (19210)	3820 (16990)	3420 (15210)	
3.00 (76.2)	5870 (26100)	5990 (26640)	5990 (26640)	5890 (26190)	5460 (24280)	4820 (21430)	4570 (20320)	4140 (18410)	3670 (16320)	3290 (14630)	
3.50 (88.9)	5240 (23300)	5240 (23300)	5240 (23300)	5240 (23300)	5240 (23300)	4640 (20630)	4390 (19520)	3990 (17740)	3520 (15650)	3170 (14100)	
4.00 (102)	4720 (20990)	4640 (20630)	4640 (20630)	4640 (20630)	4640 (20630)	4470 (19880)	4240 (18850)	3840 (17080)	3390 (15070)	3040 (13520)	
4.50 (114)	4310 (19170)	4190 (18630)	4190 (18630)	4190 (18630)	4190 (18630)	4190 (18630)	4090 (18190)	3720 (16540)	3270 (14540)	2940 (13070)	
5.00 (127)	3320 (14760)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3490 (15520)	3470 (15430)	3070 (13650)	2740 (12180)	

**Note [1]:** For output speeds that are in between those detailed in Tables 4.6a through 4.7c, the overhung load capacity may be calculated through interpolation.

# Special Load Guidelines Output Shaft Overhung Load continued

**Table 4.6b Allowable Overhung Load for Output Shaft (Solid Output Shaft) (Cf, Sf = 1), continued**

Force Units: lbs, (N)

Model	L inch (mm)	Output shaft, RPM									
		5	10	20	30	35	45	50	60	75	90
<b>4C140</b> <b>4C145</b> <b>4C160</b> <b>4C165</b> <b>4C170</b> <b>4C175</b>	0.75 (19.1)	16770 (74590)	16650 (74050)	12330 (54840)	10180 (45280)	9460 (42070)	8310 (36960)	7860 (34960)	7090 (31530)	6240 (27750)	5560 (24730)
	1.00 (25.4)	17560 (78100)	16280 (72410)	12060 (53640)	9960 (44300)	9240 (41090)	8110 (36070)	7690 (34200)	6940 (30860)	6090 (27080)	5440 (24190)
	1.25 (31.8)	17980 (79970)	15930 (70850)	11810 (52530)	9760 (43410)	9040 (40200)	7940 (35310)	7510 (33400)	6790 (30200)	5960 (26510)	5310 (23610)
	1.50 (38.1)	18210 (80990)	15580 (69290)	11530 (51280)	9540 (42430)	8840 (39320)	7790 (34640)	7360 (32730)	6640 (29530)	5840 (25970)	5210 (23170)
	1.75 (44.5)	18280 (81300)	15250 (67830)	11310 (50300)	9340 (41540)	8660 (38510)	7610 (33840)	7190 (31980)	6510 (28950)	5710 (25390)	5090 (22640)
	1.88 (47.6)	17120 (76140)	14960 (66540)	11080 (49280)	9160 (40740)	8490 (37760)	7460 (33180)	7060 (31400)	6360 (28280)	5590 (24860)	4990 (22190)
	2.00 (50.8)	15780 (70180)	14660 (65200)	10860 (48300)	8990 (39980)	8310 (36960)	7310 (32510)	6910 (30730)	6240 (27750)	5490 (24410)	4890 (21750)
	2.50 (63.5)	13690 (60890)	14080 (62620)	10430 (46390)	8640 (38430)	7990 (35530)	7040 (31310)	6640 (29530)	6010 (26730)	5260 (23390)	4720 (20990)
	3.00 (76.2)	12090 (53770)	12330 (54840)	10060 (44740)	8310 (36960)	7710 (34290)	6760 (30060)	6390 (28420)	5790 (25750)	5060 (22500)	4540 (20190)
	3.50 (88.9)	10780 (47940)	10780 (47940)	9690 (43100)	8010 (35620)	7440 (33090)	6540 (29080)	6160 (27390)	5590 (24860)	4890 (21750)	4370 (19430)
	4.00 (102)	9740 (43320)	9590 (42650)	9360 (41630)	7740 (34420)	7160 (31840)	6310 (28060)	5960 (26510)	5390 (23970)	4720 (20990)	4220 (18770)
	4.50 (114)	8860 (39400)	8610 (38290)	8610 (38290)	7490 (33310)	6940 (30860)	6090 (27080)	5760 (25620)	5210 (23170)	4570 (20320)	4090 (18190)
	5.00 (127)	6840 (30420)	7190 (31980)	7190 (31980)	7010 (31180)	6490 (28860)	5710 (25390)	5390 (23970)	4890 (21750)	4290 (19080)	3820 (16990)
	6.00 (152)	6040 (26860)	6160 (27390)	6160 (27390)	6160 (27390)	6110 (27170)	5360 (23840)	5090 (22640)	4590 (20410)	4040 (17960)	3590 (15960)

# Special Load Guidelines Output Shaft Overhung Load continued

**Table 4.6c Allowable Overhung Load for Output Shaft (Solid Output Shaft) (Cf, Sf = 1), continued**

Force Units: lbs, (N)

Model	L inch (mm)	Output Shaft, RPM									
		5	10	20	30	35	45	50	60	75	90
<b>4D160</b> <b>4D165</b> <b>4D170</b> <b>4D175</b> <b>4D180</b> <b>4D185</b>	0.75 (19.1)	21850 (97180)	23970 (106610)	17730 (78860)	14630 (65070)	13530 (60180)	11880 (52840)	11210 (49860)	10110 (44960)	8860 (39400)	7890 (35090)
	1.00 (25.4)	23060 (102570)	23550 (104750)	17400 (77390)	14360 (63870)	13280 (59060)	11660 (51860)	11010 (48970)	9940 (44210)	8690 (38650)	7740 (34420)
	1.25 (31.8)	23590 (104920)	23100 (102740)	17080 (75970)	14080 (62620)	13030 (57950)	11430 (50840)	10810 (48080)	9740 (43320)	8540 (37980)	7590 (33760)
	1.50 (38.1)	23940 (106480)	22700 (100960)	16780 (74630)	13830 (61510)	12810 (56970)	11230 (49950)	10610 (47190)	9560 (42520)	8390 (37310)	7460 (33180)
	1.75 (44.5)	24070 (107060)	22300 (99190)	16480 (73300)	13580 (60400)	12580 (55950)	11030 (49060)	10410 (46300)	9410 (41850)	8240 (36650)	7340 (32640)
	1.88 (47.6)	22610 (100560)	21900 (97410)	16180 (71960)	13360 (59420)	12360 (54970)	10830 (48170)	10230 (45500)	9240 (41090)	8090 (35980)	7210 (32070)
	2.00 (50.8)	21420 (95270)	21520 (95720)	15900 (70720)	13130 (58400)	12160 (54080)	10660 (47410)	10060 (44740)	9090 (40430)	7960 (35400)	7090 (31530)
	2.50 (63.5)	20310 (90330)	20820 (92600)	15380 (68410)	12680 (56400)	11760 (52300)	10310 (45850)	9740 (43320)	8790 (39090)	7690 (34200)	6840 (30420)
	3.00 (76.2)	17910 (79660)	18280 (81300)	14910 (66310)	12280 (54620)	11380 (50610)	9990 (44430)	9440 (41980)	8510 (37850)	7440 (33090)	6640 (29530)
	3.50 (88.9)	16000 (71160)	16000 (71160)	14430 (64180)	11910 (52970)	11030 (49060)	9660 (42960)	9140 (40650)	8240 (36650)	7210 (32070)	6410 (28510)
	4.00 (102)	14440 (64220)	14210 (63200)	14010 (62310)	11560 (51410)	10680 (47500)	9390 (41760)	8860 (39400)	7990 (35530)	6990 (31090)	6240 (27750)
	4.50 (114)	13180 (58620)	12810 (56970)	12810 (56970)	11210 (49860)	10380 (46170)	9110 (40520)	8610 (38290)	7760 (34510)	6790 (30200)	6040 (26860)
	5.00 (127)	10150 (45140)	10660 (47410)	10660 (47410)	10610 (47190)	9810 (43630)	8610 (38290)	8140 (36200)	7340 (32640)	6410 (28510)	5710 (25390)
	6.00 (152)	8950 (39800)	9140 (40650)	9140 (40650)	9140 (40650)	9140 (40650)	8160 (36290)	7710 (34290)	6960 (30950)	6090 (27080)	5410 (24060)
	7.00 (178)	7990 (35530)	7990 (35530)	7990 (35530)	7990 (35530)	7990 (35530)	7760 (34510)	7310 (32510)	6610 (29400)	5790 (25750)	5140 (22860)

**Note [1]:** For output speeds that are in between those detailed in Tables 4.6a through 4.7c, the overhung load capacity may be calculated through interpolation.

**Note [1]:** For output speeds that are in between those detailed in Tables 4.6a through 4.7c, the overhung load capacity may be calculated through interpolation.

# Special Load Guidelines Output Shaft Overhung Load continued

**Table 4.6d Allowable Overhung Load for Output Shaft (Solid Output Shaft) (Cf, Sf = 1), continued**

Force Units: lbs, (N)

Model	L inch (mm)	Output Shaft, RPM									
		5	10	20	30	35	45	50	60	75	90
4E170 4E175 4E180 4E185 4E190 4E195	0.75 (19.1)	22060 (98120)	25720 (114400)	24970 (111060)	20970 (93270)	19550 (86950)	17350 (77170)	16480 (73300)	15030 (66850)	13380 (59510)	12110 (53860)
	1.00 (25.4)	23290 (103590)	25470 (113290)	24620 (109500)	20600 (91620)	19200 (85400)	17050 (75830)	16200 (72050)	14780 (65740)	13160 (58530)	11880 (52840)
	1.25 (31.8)	23780 (105770)	24970 (111060)	24200 (107640)	20250 (90070)	18880 (83970)	16780 (74630)	15930 (70850)	14530 (64620)	12930 (57510)	11680 (51950)
	1.50 (38.1)	24210 (107680)	24700 (109860)	23800 (105860)	19930 (88640)	18580 (82640)	16480 (73300)	15650 (69610)	14280 (63510)	12710 (56530)	11510 (51190)
	1.75 (44.5)	24370 (108390)	24370 (108390)	23420 (104170)	19600 (87180)	18280 (81300)	16230 (72190)	15400 (68490)	14060 (62530)	12510 (55640)	11310 (50300)
	1.88 (47.6)	22920 (101940)	24070 (107060)	23050 (102520)	19280 (85750)	17980 (79970)	15950 (70940)	15150 (67380)	13830 (61510)	12310 (54750)	11130 (49500)
	2.00 (50.8)	21720 (96610)	23750 (105640)	22670 (100830)	18980 (84420)	17700 (78720)	15700 (69830)	14930 (66400)	13610 (60530)	12110 (53860)	10960 (48750)
	2.50 (63.5)	22070 (98160)	23170 (103060)	22000 (97850)	18400 (81840)	17150 (76280)	15230 (67740)	14460 (64310)	13210 (58750)	11730 (52170)	10630 (47280)
	3.00 (76.2)	22150 (98520)	22600 (100520)	21350 (94960)	17850 (79390)	16650 (74050)	14780 (65740)	14030 (62400)	12810 (56970)	11380 (50610)	10310 (45850)
	3.50 (88.9)	22070 (98160)	22070 (98160)	20720 (92160)	17350 (77170)	16150 (71830)	14360 (63870)	13630 (60620)	12430 (55280)	11060 (49190)	10010 (44520)
	4.00 (102)	21900 (97410)	21550 (95850)	20150 (89620)	16850 (74940)	15700 (69830)	13960 (62090)	13260 (58980)	12080 (53730)	10760 (47860)	9740 (43320)
	4.50 (114)	21680 (96430)	21070 (93710)	19600 (87180)	16400 (72940)	15280 (67960)	13580 (60400)	12880 (57290)	11760 (52300)	10460 (46520)	9460 (42070)
	5.00 (127)	17810 (79210)	18700 (83170)	18580 (82640)	15550 (69160)	14510 (64540)	12880 (57290)	12230 (54390)	11160 (49630)	9940 (44210)	8990 (39980)
	6.00 (152)	15710 (69870)	16030 (71300)	16030 (71300)	14780 (65740)	13780 (61290)	12230 (54390)	11630 (51730)	10610 (47190)	9440 (41980)	8540 (37980)
	7.00 (178)	14030 (62400)	14030 (62400)	14030 (62400)	14030 (62400)	13130 (58400)	11660 (51860)	11080 (49280)	10110 (44960)	8990 (39980)	8140 (36200)
4F180 4F185 4F190 4F195	0.75 (19.1)	28700 (127650)	33460 (148830)	33460 (148830)	33460 (148830)	33210 (147710)	29720 (132190)	28470 (126630)	25970 (115510)	23320 (103720)	21270 (94600)
	1.00 (25.4)	30370 (135080)	33210 (147710)	33210 (147710)	33210 (147710)	32710 (145490)	29220 (129970)	27970 (124410)	25720 (114400)	23000 (102300)	20950 (93180)
	1.25 (31.8)	31150 (138550)	32710 (145490)	32710 (145490)	32710 (145490)	32460 (144380)	28970 (128850)	27470 (122180)	25220 (112170)	22650 (100740)	20650 (91850)
	1.50 (38.1)	31820 (141530)	32460 (144380)	32460 (144380)	32460 (144380)	31960 (142150)	28470 (126630)	27220 (121070)	24920 (110840)	22350 (99410)	20350 (90510)
	1.75 (44.5)	31960 (142150)	31960 (142150)	31960 (142150)	31960 (142150)	31460 (139930)	28220 (125520)	26720 (118850)	24570 (109280)	22020 (97940)	20080 (89310)
	1.88 (47.6)	30200 (134320)	31710 (141040)	31710 (141040)	31710 (141040)	30960 (137710)	27720 (123290)	26470 (117730)	24220 (107730)	21720 (96610)	19800 (88070)
	2.00 (50.8)	28770 (127960)	31460 (139930)	31460 (139930)	31460 (139930)	30460 (135480)	27220 (121070)	25970 (115510)	23900 (106300)	21420 (95270)	19530 (86860)
	2.50 (63.5)	29250 (130100)	30710 (136590)	30710 (136590)	30710 (136590)	29720 (132190)	26720 (118850)	25470 (113290)	23270 (103500)	20870 (92820)	19030 (84640)
	3.00 (76.2)	29620 (131740)	30220 (134410)	30220 (134410)	30220 (134410)	28970 (128850)	25970 (115510)	24700 (109860)	22670 (100830)	20320 (90380)	18530 (82420)
	3.50 (88.9)	29470 (131080)	29470 (131080)	29470 (131080)	29470 (131080)	28220 (125520)	25220 (112170)	24070 (107060)	22100 (98300)	19830 (88200)	18050 (80280)
	4.00 (102)	29440 (130940)	28970 (128850)	28970 (128850)	28970 (128850)	27720 (123290)	24650 (109640)	23500 (104520)	21550 (95850)	19330 (85970)	17630 (78410)
	4.50 (114)	29800 (132550)	28970 (128850)	28970 (128850)	28720 (127740)	26970 (119960)	24070 (107060)	22920 (101940)	21050 (93630)	18880 (83970)	17200 (76500)
	5.00 (127)	27110 (120580)	28470 (126630)	28470 (126630)	27470 (122180)	25720 (114400)	22970 (102170)	21870 (97270)	20080 (89310)	18000 (80060)	16400 (72940)
	6.00 (152)	25700 (114310)	26220 (116620)	26220 (116620)	26220 (116620)	24600 (109420)	21970 (97720)	20920 (93050)	19200 (85400)	17230 (76630)	15700 (69830)
	7.00 (178)	23900 (106300)	23900 (106300)	23900 (106300)	23900 (106300)	23550 (104750)	21050 (93630)	20050 (89180)	18400 (81840)	16500 (73390)	15030 (66850)

**Note [1]:** For output speeds that are in between those detailed in Tables 4.6a through 4.7c, the overhung load capacity may be calculated through interpolation.

# Special Load Guidelines Output Shaft Overhung Load continued

**Table 4.7a Allowable Overhung Load for Output Shaft (Keyed Hollow Bore, Shrink Disc, Taper Grip Bushing) (Cf, Sf = 1)**

Force Units: lbs, (N)

Model	L inch (mm)	Output Shaft, RPM									
		5	10	20	30	35	45	50	60	75	90
4A100 4A105 4A110 4A115 4A120 4A125 4A140 4A145	0.75 (19.1)	7170 (31890)	8360 (37180)	7510 (33400)	6440 (28640)	6060 (26950)	5490 (24410)	5260 (23390)	4870 (21660)	4440 (19740)	4120 (18320)
	1.00 (25.4)	7490 (33310)	8190 (36420)	7290 (32420)	6240 (27750)	5890 (26190)	5310 (23610)	5090 (22640)	4740 (21080)	4320 (19210)	3990 (17740)
	1.25 (31.8)	7610 (33840)	7990 (35530)	7060 (31400)	6060 (26950)	5710 (25390)	5160 (22950)	4940 (21970)	4590 (20410)	4190 (18630)	3870 (17210)
	1.50 (38.1)	7680 (34160)	7840 (34870)	6860 (30510)	5890 (26190)	5540 (24640)	5020 (22320)	4820 (21430)	4470 (19880)	4070 (18100)	3770 (16760)
	1.75 (44.5)	7660 (34070)	7660 (34070)	6690 (29750)	5740 (25530)	5390 (23970)	4890 (21750)	4690 (20860)	4340 (19300)	3970 (17650)	3670 (16320)
	1.88 (47.6)	7150 (31800)	7510 (33400)	6510 (28950)	5590 (24860)	5260 (23390)	4770 (21210)	4570 (20320)	4240 (18850)	3870 (17210)	3570 (15870)
	2.00 (50.8)	6730 (29930)	7360 (32730)	6340 (28200)	5440 (24190)	5110 (22720)	4640 (20630)	4440 (19740)	4120 (18320)	3770 (16760)	3470 (15430)
	2.50 (63.5)	6730 (29930)	7060 (31400)	6040 (26860)	5160 (22950)	4870 (21660)	4420 (19660)	4220 (18770)	3920 (17430)	3570 (15870)	3290 (14630)
	3.00 (76.2)	6680 (29710)	6810 (30290)	5760 (25620)	4940 (21970)	4640 (20630)	4220 (18770)	4040 (17960)	3740 (16630)	3420 (15210)	3140 (13960)
	3.50 (88.9)	6560 (29170)	6560 (29170)	5490 (24410)	4720 (20990)	4440 (19740)	4020 (17880)	3840 (17080)	3570 (15870)	3240 (14410)	3020 (13430)
	4.00 (102)	6390 (28420)	6290 (27970)	5260 (23390)	4520 (20100)	4240 (18850)	3840 (17080)	3690 (16410)	3420 (15210)	3120 (13870)	2890 (12850)
	4.50 (114)	6180 (27480)	6180 (27480)	5100 (44520)	4310 (19310)	4020 (18060)	3610 (16210)	3460 (15510)	3160 (14160)	2860 (12860)	2620 (11780)
	5.00 (127)	5180 (23080)	5180 (23080)	4310 (19310)	3510 (15610)	3220 (14460)	2810 (12610)	2660 (11910)	2360 (10610)	2110 (9410)	1960 (8760)
	6.00 (152)	4180 (18780)	4180 (18780)	3310 (14830)	2510 (11130)	2220 (9980)	1810 (8110)	1660 (7410)	1360 (6060)	1110 (4960)	960 (4320)
	7.00 (178)	3180 (14130)	3180 (14130)	2310 (10330)	1510 (6730)	1220 (5430)	810 (3630)	660 (2930)	360 (1610)	110 (490)	60 (270)
4B120 4B125 4B140 4B145 4B160 4B165	0.75 (19.1)	11800 (52480)	13010 (57860)	10010 (44520)	8510 (37850)	7990 (35530)	7190 (31980)	6890 (30640)	6360 (28280)	5740 (25530)	5290 (23520)
	1.00 (25.4)	12350 (54930)	12680 (56400)	9760 (43410)	8310 (36960)	7790 (34640)	7010 (31180)	6710 (29840)	6190 (27530)	5610 (24950)	5160 (22950)
	1.25 (31.8)	12410 (55190)	12380 (55060)	9540 (42430)	8110 (36070)	7610 (33840)	6860 (30510)	6560 (29170)	6060 (26950)	5490 (24410)	5040 (22410)
	1.50 (38.1)	12210 (54310)	12110 (53860)	9310 (41410)	7910 (35180)	7440 (33090)	6690 (29750)	6410 (28510)	5910 (26280)	5340 (23750)	4920 (21880)
	1.75 (44.5)	11910 (52970)	11830 (52610)	9110 (40520)	7740 (34420)	7260 (32290)	6540 (29080)	6260 (27840)	5790 (25750)	5240 (23300)	4820 (21430)
	1.88 (47.6)	10890 (48430)	11430 (50840)	8910 (39630)	7590 (33760)	7110 (31620)	6410 (28510)	6110 (27170)	5660 (25170)	5110 (22720)	4690 (20860)
	2.00 (50.8)	10040 (44650)	10980 (48830)	8710 (38740)	7410 (32950)	6960 (30950)	6260 (27840)	5990 (26640)	5540 (24640)	5020 (22320)	4590 (20410)
	2.50 (63.5)	9680 (43050)	10160 (45190)	8340 (37090)	7110 (31620)	6660 (29620)	6010 (26730)	5740 (25530)	5310 (23610)	4790 (21300)	4420 (19660)
	3.00 (76.2)	9300 (41360)	9490 (42210)	8010 (35620)	6810 (30290)	6410 (28510)	5760 (25620)	5510 (24500)	5090 (22640)	4620 (20540)	4240 (18850)
	3.50 (88.9)	8860 (39400)	8860 (39400)	7710 (34290)	6560 (29170)	6160 (27390)	5540 (24640)	5310 (23610)	4890 (21750)	4440 (19740)	4070 (18100)
	4.00 (102)	8470 (37670)	8340 (37090)	7440 (33090)	6310 (28060)	5940 (26420)	5340 (23750)	5110 (22720)	4720 (20990)	4270 (18990)	3920 (17430)
	4.50 (114)	8090 (35980)	7860 (34960)	7160 (31840)	6090 (27080)	5740 (25530)	5160 (22950)	4940 (21970)	4540 (20190)	4120 (18320)	3790 (16850)
	5.00 (127)	6730 (29930)	7060 (31400)	6690 (29750)	5690 (25300)	5340 (23750)	4820 (21				



# Special Load Guidelines Output Shaft Overhung Load continued

**Table 4.7b Allowable Overhung Load for Output Shaft (Keyed Hollow Bore, Shrink Disc, Taper Grip Bushing) (Cf, Sf = 1), continued** Force Units: lbs, (N)

Model	L inch (mm)	Output Shaft, RPM									
		5	10	20	30	35	45	50	60	75	90
4C140 4C145 4C160 4C165 4C170 4C175	0.75 (19.1)	16770 (74590)	17480 (77750)	13160 (58530)	11030 (49060)	10280 (45720)	9140 (40650)	8690 (38650)	7940 (35310)	7060 (31400)	6390 (28420)
	1.00 (25.4)	17560 (78100)	17080 (75970)	12880 (57290)	10780 (47940)	10060 (44740)	8940 (39760)	8490 (37760)	7760 (34510)	6910 (30730)	6260 (27840)
	1.25 (31.8)	17980 (79970)	16730 (74410)	12610 (56080)	10560 (46970)	9840 (43760)	8740 (38870)	8310 (36960)	7590 (33760)	6760 (30060)	6110 (27170)
	1.50 (38.1)	18210 (80990)	16350 (72720)	12330 (54840)	10330 (45940)	9640 (42870)	8560 (38070)	8140 (36200)	7440 (33090)	6610 (29400)	5990 (26640)
	1.75 (44.5)	18280 (81300)	16030 (71300)	12080 (53730)	10110 (44960)	9440 (41980)	8390 (37310)	7960 (35400)	7260 (32290)	6490 (28860)	5860 (26060)
	1.88 (47.6)	17120 (76140)	15700 (69830)	11830 (52610)	9910 (44070)	9240 (41090)	8210 (36510)	7810 (34730)	7110 (31620)	6340 (28200)	5740 (25530)
	2.00 (50.8)	16170 (71920)	15380 (68410)	11580 (51500)	9710 (43190)	9060 (40290)	8040 (35760)	7640 (33980)	6990 (31090)	6210 (27620)	5640 (25080)
	2.50 (63.5)	16260 (72320)	14780 (65740)	11130 (49500)	9340 (41540)	8710 (38740)	7740 (34420)	7360 (32730)	6710 (29840)	5990 (26640)	5410 (24060)
	3.00 (76.2)	15640 (69560)	14260 (63420)	10730 (47720)	8990 (39980)	8390 (37310)	7460 (33180)	7090 (31530)	6460 (28730)	5760 (25620)	5210 (23170)
	3.50 (88.9)	14980 (66630)	13730 (61070)	10360 (46080)	8660 (38510)	8090 (35980)	7190 (31980)	6840 (30420)	6240 (27750)	5560 (24730)	5040 (22410)
	4.00 (102)	14360 (63870)	13260 (58980)	9990 (44430)	8360 (37180)	7810 (34730)	6940 (30860)	6590 (29310)	6010 (26730)	5360 (23840)	4870 (21660)
	4.50 (114)	13740 (61110)	12830 (57060)	9660 (42960)	8090 (35980)	7540 (33530)	6710 (29840)	6360 (28280)	5810 (25840)	5190 (23080)	4690 (20860)
	5.00 (127)	11480 (51060)	12030 (53500)	9060 (40290)	7590 (33760)	7060 (31400)	6290 (27970)	5960 (26510)	5460 (24280)	4870 (21660)	4390 (19520)
	6.00 (152)	10770 (47900)	10980 (48830)	8540 (37980)	7140 (31750)	6660 (29620)	5910 (26280)	5610 (24950)	5140 (22860)	4570 (20320)	4140 (18410)
	0.75 (19.1)	21850 (97180)	25470 (113290)	19150 (85170)	16050 (71390)	14960 (66540)	13310 (59200)	12630 (56170)	11560 (51410)	10280 (45720)	9310 (41410)
1.00 (25.4)	23060 (102570)	24950 (110970)	18800 (83620)	15750 (70050)	14680 (65290)	13060 (58090)	12410 (55190)	11330 (50390)	10090 (44880)	9140 (40650)	
1.25 (31.8)	23590 (104920)	24500 (108970)	18450 (82060)	15450 (68720)	14430 (64180)	12810 (56970)	12180 (54170)	11130 (49500)	9910 (44070)	8990 (39980)	
1.50 (38.1)	23940 (106480)	24050 (106970)	18130 (80640)	15180 (67520)	14160 (62980)	12580 (55950)	11960 (53190)	10930 (48610)	9740 (43320)	8810 (39180)	
1.75 (44.5)	24070 (107060)	23620 (105060)	17800 (79170)	14930 (66400)	13910 (61870)	12360 (54970)	11760 (52300)	10730 (47720)	9560 (42520)	8660 (38510)	
1.88 (47.6)	22610 (100560)	23220 (103280)	17500 (77840)	14660 (65200)	13680 (60840)	12160 (54080)	11560 (51410)	10560 (46970)	9390 (41760)	8510 (37850)	
2.00 (50.8)	21420 (95270)	22820 (101500)	17200 (76500)	14410 (64090)	13430 (59730)	11960 (53190)	11360 (50520)	10360 (46080)	9240 (41090)	8360 (37180)	
2.50 (63.5)	21710 (96560)	22070 (98160)	16630 (73970)	13930 (61960)	13010 (57860)	11560 (51410)	10980 (48830)	10040 (44650)	8940 (39760)	8090 (35980)	
3.00 (76.2)	21760 (96780)	21370 (95050)	16100 (71610)	13510 (60090)	12580 (55950)	11180 (49720)	10630 (47280)	9710 (43190)	8640 (38430)	7840 (34870)	
3.50 (88.9)	21650 (96290)	20700 (92070)	15600 (69380)	13080 (58170)	12180 (54170)	10830 (48170)	10310 (45850)	9410 (41850)	8390 (37310)	7590 (33760)	
4.00 (102)	21470 (95490)	20080 (89310)	15130 (67290)	12680 (56400)	11830 (52610)	10510 (46740)	9990 (44430)	9140 (40650)	8140 (36200)	7360 (32730)	
4.50 (114)	20940 (93140)	19500 (86730)	14710 (65430)	12310 (54750)	11480 (51060)	10210 (45410)	9710 (43190)	8860 (39400)	7890 (35090)	7140 (31750)	
5.00 (127)	17570 (78150)	18430 (81970)	13880 (61730)	11630 (51730)	10860 (48300)	9640 (42870)	9160 (40740)	8390 (37310)	7460 (33180)	6760 (30060)	
6.00 (152)	16540 (73560)	16880 (75080)	13160 (58530)	11030 (49060)	10280 (45720)	9140 (40650)	8690 (38650)	7940 (35310)	7060 (31400)	6410 (28510)	
7.00 (178)	15550 (69160)	15550 (69160)	12510 (55640)	10480 (46610)	9790 (43540)	8690 (38650)	8260 (36740)	7540 (33530)	6710 (29840)	6090 (27080)	

**Note [1]:** For output speeds that are in between those detailed in Tables 4.6a through 4.7c, the overhung load capacity may be calculated through interpolation.

# Special Load Guidelines Output Shaft Overhung Load continued

**Table 4.7c Allowable Overhung Load for Output Shaft (Keyed Hollow Bore, Shrink Disc, Taper Grip Bushing) (Cf, Sf = 1)** Force Units: lbs, (N)

Model	L inch (mm)	Output Shaft, RPM									
		5	10	20	30	35	45	50	60	75	90
4E170 4E175 4E180 4E185 4E190 4E195	0.75 (19.1)	22060 (98120)	25720 (114400)	25720 (114400)	21700 (96520)	20270 (90160)	18100 (80500)	17230 (76630)	15780 (70180)	14130 (62850)	12830 (57060)
	1.00 (25.4)	23290 (103590)	25470 (113290)	25470 (113290)	21350 (94960)	19930 (88640)	17780 (79080)	16930 (75300)	15500 (68940)	13880 (61730)	12630 (56170)
	1.25 (31.8)	23780 (105770)	24970 (111060)	24920 (110840)	20970 (93270)	19600 (87180)	17480 (77750)	16650 (74050)	15250 (67830)	13660 (60750)	12410 (55190)
	1.50 (38.1)	24210 (107680)	24700 (109860)	24520 (109060)	20620 (91710)	19280 (85750)	17200 (76500)	16380 (72850)	15010 (66760)	13430 (59730)	12210 (54310)
	1.75 (44.5)	24370 (108390)	24370 (108390)	24120 (107280)	20300 (90290)	18950 (84280)	16900 (75170)	16100 (71610)	14760 (65650)	13210 (58750)	12010 (53420)
	1.88 (47.6)	22920 (101940)	24070 (107060)	23720 (105500)	19980 (88870)	18650 (82950)	16650 (74050)	15850 (70500)	14510 (64540)	12980 (57730)	11810 (52530)
	2.00 (50.8)	21720 (96610)	23750 (105640)	23350 (103860)	19650 (87400)	18380 (81750)	16380 (72850)	15600 (69380)	14280 (63510)	12780 (56840)	11630 (51730)
	2.50 (63.5)	22070 (98160)	23170 (103060)	22650 (100740)	19050 (84730)	17800 (79170)	15880 (70630)	15130 (67290)	13860 (61640)	12410 (55190)	11280 (50170)
	3.00 (76.2)	22150 (98520)	22600 (100520)	21970 (97720)	18500 (82280)	17280 (76860)	15400 (68490)	14680 (65290)	13430 (59730)	12030 (53500)	10930 (48610)
	3.50 (88.9)	22070 (98160)	22070 (98160)	21350 (94960)	17950 (79840)	16780 (74630)	14960 (66540)	14260 (63420)	13060 (58090)	11680 (51950)	10630 (47280)
	4.00 (102)	21900 (97410)	21550 (95850)	20750 (92290)	17450 (77610)	16300 (72500)	14560 (64760)	13860 (61640)	12680 (56400)	11360 (50520)	10330 (45940)
	4.50 (114)	21680 (96430)	21070 (93710)	20180 (89760)	16980 (75520)	15850 (70500)	14160 (62980)	13480 (59950)	12330 (54840)	11030 (49060)	10040 (44650)
	5.00 (127)	19190 (85350)	20150 (89620)	19130 (85090)	16100 (71610)	15060 (66980)	13430 (59730)	12780 (56840)	11710 (52080)	10480 (46610)	9540 (42430)
	6.00 (152)	18940 (84240)	19330 (85970)	18200 (80950)	15300 (68050)	14310 (63650)	12760 (56750)	12160 (54080)	11130 (49500)	9960 (44300)	9060 (40290)
	7.00 (178)	18550 (82510)	18550 (82510)	17350 (77170)	14610 (64980)	13630 (60620)	12160 (54080)	11580 (51500)	10610 (47190)	9490 (42210)	8640 (38430)
0.75 (19.1)	28700 (127650)	33460 (148830)	33460 (148830)	33460 (148830)	32960 (146600)	29470 (131080)	28220 (125520)	25720 (114400)	23150 (102970)	21100 (93850)	
1.00 (25.4)	30370 (135080)	33210 (147710)	33210 (147710)	33210 (147710)	32460 (144380)	29220 (129970)	27720 (123290)	25470 (113290)	22820 (101500)	20800 (92510)	
1.25 (31.8)	31150 (138550)	32710 (145490)	32710 (145490)	32710 (145490)	32210 (143270)	28720 (127740)	27220 (121070)	24970 (11060)	22500 (100080)	20500 (91180)	
1.50 (38.1)	31820 (141530)	32460 (144380)	32460 (144380)	32460 (144380)	31710 (141040)	28220 (125520)	26970 (119960)	24750 (110080)	22170 (98610)	20220 (89930)	
1.75 (44.5)	31960 (142150)	31960 (142150)	31960 (142150)	31960 (142150)	31210 (138820)	27970 (124410)	26470 (117730)	24400 (108530)	21870 (97270)	19950 (88730)	
1.88 (47.6)	30200 (134320)	31710 (141040)	31710 (141040)	31710 (141040)	30710 (136590)	27470 (122180)	26220 (116620)	24070 (107060)	21570 (95940)	19680 (87530)	
2.00 (50.8)	28770 (127960)	31460 (139930)	31460 (139930)	31460 (139930)	30460 (135480)	27220 (121070)	25970 (115510)	23750 (105640)	21270 (94600)	19400 (86290)	
2.50 (63.5)	29250 (130100)	30710 (136590)	30710 (136590)	30710 (136590)	29470 (131080)	26470 (117730)	25220 (112170)	23120 (102830)	20720 (92160)	18900 (84060)	
3.00 (76.2)	29620 (131740)	30220 (134410)	30220 (134410)	30220 (134410)	28720 (127740)	25720 (114400)	24550 (109190)	22520 (100160)	20200 (89840)	18400 (81840)	
3.50 (88.9)	29470 (131080)	29470 (131080)	29470 (131080)	29470 (131080)	28220 (125520)	25220 (112170)	23920 (106390)	21970 (97720)	19700 (87620)	17950 (79840)	
4.00 (102)	29440 (130940)	28970 (128850)	28970 (128850)	28970 (128850)	27470 (122180)	24500 (108970)	23350 (103860)	21420 (95270)	19230 (85530)	17500 (77840)	
4.50 (114)	29800 (132550)	28970 (128850)	28970 (128850)	28720 (127740)	26720 (118850)	23920 (106390)	22800 (101410)	20920 (93050)	18750 (83400)	17100 (76060)	
5.00 (127)	27110 (120580)	28470 (126630)	28470 (126630)	27220 (121070)	25470 (113290)	22850 (101630)	21750 (96740)	19980 (88870)	17900 (79610)	16330 (72630)	
6.00 (152)	25700 (114310)	26220 (116620)	26220 (116620)	26220 (116620)	24450 (108750)	21850 (97180					



## Allowable Axial Load for Hollow and Solid Shafts

Table 4.8 Allowable Axial Load (Common to Hollow and Solid Shafts)

[Units] Upper line: lbs; lower line: (N)

Frame Size	Output Shaft Speed r/min									
	5	10	20	30	35	45	50	60	75	90
4A10 □, 4A11 □, 4A12 □, 4A14 □	4968 (22100)	4968 (22100)	4968 (22100)	4586 (20400)	4249 (18900)	3709 (16500)	3507 (15600)	3147 (14000)	2743 (12200)	2428 (10800)
4B12 □, 4B14 □, 4B16 □	9329 (41500)	8835 (39300)	6227 (27700)	4923 (21900)	4474 (19900)	3754 (16700)	3462 (15400)	2990 (13300)	2450 (10900)	2025 (9010)
4C14 □, 4C16 □, 4C17 □	14567 (64800)	10903 (48500)	7373 (32800)	5620 (25000)	4991 (22200)	4024 (17900)	3642 (16200)	2990 (13300)	2248 (10000)	1675 (7450)
4D16 □, 4D17 □, 4D18 □	20816 (92600)	14859 (66100)	9981 (44400)	7531 (33500)	6677 (29700)	5328 (23700)	4811 (21400)	3912 (17400)	2877 (12800)	2070 (9210)
4E17 □, 4E18 □, 4E19 □	20974 (93300)	20569 (91500)	14297 (63600)	11150 (49600)	10049 (44700)	8340 (37100)	7666 (34100)	6542 (29100)	5215 (23200)	4204 (18700)
4F18 □, 4F19 □	33720 (150000)	33720 (150000)	24503 (109000)	19670 (87500)	17962 (79900)	15331 (68200)	14297 (63600)	12544 (55800)	10521 (46800)	8947 (39800)

\*The □ mark of each frame size represents 0, 5, DA, DB, or DC.

## Reducer Input Shaft Allowable Overhung Load

The radial load acting on the high speed shaft (ie: unit supplied as a reducer) may be calculated with the following formula:

$$Pr \leq \frac{Pro}{Lf \cdot Cf \cdot Sf}$$

LEGEND

- Pr = Actual radial load (lbs, N)
- Pro = Allowable radial load (lbs, N)
- Lf = Load Location factor (Table 4.6a)
- Cf = Coupling Factor (Table 4.4)
- Sf = Service factor (Table 4.5)

Figure 4.1 Input Shaft Load Location Factor (Lf)

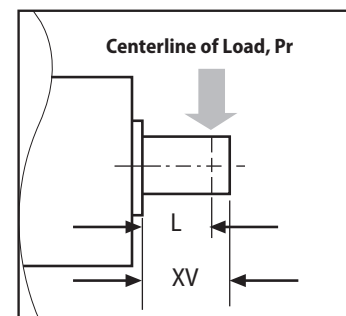


Table 4.9 Input Shaft Load Location Factor (Lf)

Model	L inch/(mm)											
	0.25 (6.35)	0.50 (12.7)	0.75 (19.05)	1.00 (25.4)	1.25 (31.75)	1.50 (38.1)	1.75 (44.45)	2.00 (50.8)	2.50 (63.5)	3.00 (76.2)	3.50 (88.9)	4.00 (101.6)
4A10DA, 4A12DA, 4B12DA, 4B14DA, 4C14DA	0.78	1.07	1.52	2.02	—	—	—	—	—	—	—	—
4A12DB, 4B12DB, 4B14DB, 4C14DB, 4C16DA, 4D16DA, 4D17DA, 4E17DA	0.90	1.09	1.52	2.03	2.53	—	—	—	—	—	—	—
4A100, 4A105, 4C14DC, 4D16DB, 4D17DB, 4D18DA, 4E17DB, 4E18DA, 4F18DA	0.93	1.09	1.52	2.03	2.53	—	—	—	—	—	—	—
4A110, 4A115	0.93	1.09	1.52	2.03	2.53	—	—	—	—	—	—	—
4A120, 4A125, 4B120, 4B125, 4D17DC, 4E17DC, 4E19DA, 4F19DA	0.68	0.87	1.10	1.43	1.77	2.12	2.46	—	—	—	—	—
4C145, 4D18DB, 4E18DB, 4E19DB, 4F18DB, 4F19DB	0.70	0.84	0.98	1.25	1.53	1.83	2.11	—	—	—	—	—
4B160, 4B165, 4C160, 4C165, 4D160, 4D165	0.90	0.94	0.97	1.06	1.22	1.36	1.51	1.66	1.94	—	—	—
4C170, 4C175, 4D170, 4D175, 4E170, 4E175	—	0.91	0.95	0.99	1.09	1.23	1.38	1.51	1.79	2.08	—	—
4D180, 4D185, 4E180, 4E185, 4F180, 4F185	—	—	0.92	0.96	1.01	1.11	1.24	1.37	1.63	1.88	2.15	2.40
4E190, 4E195, 4F190, 4F195	—	—	0.92	0.95	0.99	1.06	1.15	1.26	1.47	1.69	1.90	2.12

Table 4.10 Input Shaft Overhung Load Capacity Pro (Lf, Cf, Sf=1)

Force Units: lbs, (N)

Model	Reduction Ratio	Input Speed (RPM)						
		1750	1450	1165	980	870	720	580
4A10DA, 4A12DA, 4B12DA, 4B14DA, 4C14DA	364 - 5177, 7228, 10658	44 (196)	33 (147)	33 (147)	44 (196)	44 (196)	44 (196)	44 (196)
	1849, 2537	11 (49.1)	11 (49.1)	11 (49.1)	11 (49.1)	11 (49.1)	33 (147)	44 (196)
4A12DB, 4B12DB, 4B14DB, 4C14DB, 4C16DA, 4D16DA, 4D17DA, 4E17DA	All Ratios	44 (196)	44 (196)	44 (196)	44 (196)	55 (245)	55 (245)	66 (294)
4A100, 4A105, 4C14DC, 4D16DB, 4D17DB, 4D18DA, 4E17DB, 4E18DA, 4F18DA	11 - 39, 54 - 578, 809, 1117, 1656, 2272 - 10658	99 (441)	99 (441)	110 (491)	121 (540)	132 (589)	132 (589)	132 (589)
	42, 46, 48, 53, 683, 956, 1320, 1957	99 (441)	77 (343)	99 (441)	110 (491)	110 (491)	121 (540)	132 (589)
4A110, 4A115	19 - 28, 67 - 305	99 (441)	77 (343)	99 (441)	110 (491)	110 (491)	121 (540)	132 (589)
	35 - 60	44 (196)	44 (196)	44 (196)	44 (196)	55 (245)	55 (245)	66 (294)
4A120, 4A125, 4B120, 4B125, 4D17DC, 4E17DC, 4E19DA, 4F19DA	11 - 60, 364 - 2559, 3511, 5177	133 (590)	155 (690)	166 (740)	175 (780)	198 (880)	198 (880)	198 (880)
	67 - 305, 2944, 4365, 6472 - 10658	121 (540)	99 (440)	110 (490)	121 (540)	133 (590)	198 (880)	198 (880)
4D18DB, 4E18DB, 4E19DB, 4F18DB, 4F19DB	11 - 74	308 (1370)	308 (1370)	308 (1370)	342 (1520)	364 (1620)	387 (1720)	418 (1860)
	80 - 305	288 (1280)	288 (1280)	288 (1280)	308 (1370)	330 (1470)	353 (1570)	398 (1770)
4A140, 4A145, 4B140, 4B145, 4C140, 4C145	11 - 28	308 (1370)	308 (1370)	308 (1370)	342 (1520)	364 (1620)	387 (1720)	418 (1860)
	35 - 74	277 (1230)	220 (980)	243 (1080)	265 (1180)	277 (1230)	297 (1320)	330 (1470)
	80, 88	243 (1080)	254 (1130)	265 (1180)	288 (1280)	297 (1320)	308 (1370)	330 (1470)
	93 - 305	121 (540)	133 (590)	133 (590)	155 (690)	155 (690)	155 (690)	243 (1080)
4B160, 4B165, 4C160, 4C165, 4D160, 4D165	11 - 88, 163 - 207	398 (1770)	398 (1770)	441 (1960)	463 (2060)	486 (2160)	486 (2160)	486 (2160)
	93 - 151, 227 - 305	243 (1080)	265 (1180)	288 (1280)	308 (1370)	308 (1370)	353 (1570)	398 (1770)
4C170, 4C175, 4D170, 4D175, 4E170, 4E175	All Ratios	463 (2060)	463 (2060)	508 (2260)	508 (2260)	528 (2350)	551 (2450)	596 (2650)
4D180, 4D185, 4E180, 4E185, 4F180, 4F185	All Ratios	618 (2750)	573 (2550)	618 (2750)	661 (2940)	683 (3040)	751 (3340)	771 (3430)
4E190, 4E195, 4F190, 4F195	35 - 88	683 (3040)	683 (3040)	728 (3240)	794 (3530)	816 (3630)	881 (3920)	881 (3920)
	93 - 305	596 (2650)	573 (2550)	638 (2840)	661 (2940)	706 (3140)	751 (3340)	816 (3630)

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**Table 4.11 Reducer Moment of Inertia on reducer input shaft: Hollow Output Shaft, Ratios 11 - 53<sup>[1]</sup>**  
Units: lb·inch<sup>2</sup> (x 10<sup>-4</sup> kg·m<sup>2</sup>)

Model	Nominal Reduction Ratio												
	11	13	14	16	18	21	22	25	28	35	39	46	53
<b>4A100</b>	1.57	0.978	0.904	0.608	0.586	0.462	—	—	0.302	0.186	0.176	0.162	0.141
<b>4A105</b>	(4.60)	(2.86)	(2.64)	(1.78)	(1.72)	(1.35)	—	—	(0.884)	(0.544)	(0.514)	(0.475)	(0.414)
<b>4A110</b>	—	—	—	—	—	0.710	—	—	0.491	0.358	0.348	0.304	0.278
<b>4A115</b>	—	—	—	—	—	(2.08)	—	—	(1.44)	(1.05)	(1.02)	(0.891)	(0.813)
<b>4A120</b>	3.86	2.35	2.28	1.70	1.65	1.28	1.44	1.42	0.986	0.608	0.598	0.631	0.589
<b>4A125</b>	(11.3)	(6.89)	(6.67)	(4.99)	(4.84)	(3.74)	(4.21)	(4.14)	(2.89)	(1.78)	(1.75)	(1.85)	(1.72)
<b>4A140</b>	8.32	5.30	5.22	3.77	3.72	3.37	3.47	3.45	2.27	1.61	1.60	1.29	1.16
<b>4A145</b>	(24.4)	(15.5)	(15.3)	(11.0)	(10.9)	(9.87)	(10.2)	(10.1)	(6.65)	(4.71)	(4.68)	(3.77)	(3.40)
<b>4B120</b>	5.24	3.24	3.05	2.30	1.47	1.62	1.73	1.67	1.18	0.726	0.700	0.704	0.644
<b>4B125</b>	(15.3)	(9.48)	(8.93)	(6.72)	(4.31)	(4.75)	(5.06)	(4.88)	(3.45)	(2.12)	(2.05)	(2.06)	(1.88)
<b>4B140</b>	9.69	6.22	6.03	4.37	4.25	3.75	3.79	3.72	2.48	1.74	1.71	1.37	1.22
<b>4B145</b>	(28.4)	(18.2)	(17.7)	(12.8)	(12.4)	(11.0)	(11.1)	(10.9)	(7.27)	(5.08)	(5.01)	(4.01)	(3.58)
<b>4B160</b>	27.7	17.8	17.6	12.1	12.0	8.93	10.1	10.0	6.17	4.41	4.39	3.87	3.46
<b>4B165</b>	(81.0)	(52.1)	(51.6)	(35.5)	(35.1)	(26.1)	(29.5)	(29.3)	(18.0)	(12.9)	(12.8)	(11.3)	(10.1)
<b>4C140</b>	13.7	9.01	8.40	6.20	3.96	4.84	4.73	4.52	3.10	2.12	2.04	1.60	1.40
<b>4C145</b>	(40.1)	(26.4)	(24.6)	(18.1)	(11.6)	(14.2)	(13.8)	(13.2)	(9.06)	(6.20)	(5.96)	(4.69)	(4.09)
<b>4C160</b>	31.9	20.8	20.1	14.0	13.6	10.0	11.0	10.8	6.75	4.78	4.69	4.09	3.63
<b>4C165</b>	(93.4)	(60.8)	(59.0)	(40.9)	(39.7)	(29.2)	(32.1)	(31.6)	(19.8)	(14.0)	(13.7)	(12.0)	(10.6)
<b>4C170</b>	55.0	35.0	34.4	26.4	26.0	23.8	23.4	23.1	17.6	13.3	13.2	12.3	10.9
<b>4C175</b>	(161)	(102)	(101)	(77.2)	(76.0)	(69.8)	(68.3)	(67.7)	(51.4)	(38.9)	(38.6)	(36.1)	(31.9)
<b>4D160</b>	—	—	—	—	—	12.6	13.3	12.7	8.21	5.73	5.47	4.64	4.04
<b>4D165</b>	—	—	—	—	—	(36.8)	(39.0)	(37.1)	(24.0)	(16.8)	(16.0)	(13.6)	(11.8)
<b>4D170</b>	68.5	44.1	42.2	32.3	31.1	26.5	25.7	25.1	19.0	14.2	14.0	12.9	11.3
<b>4D175</b>	(200)	(129)	(123)	(94.5)	(90.9)	(77.5)	(75.3)	(73.4)	(55.7)	(41.7)	(40.9)	(37.7)	(33.1)
<b>4D180</b>	104	52.8	50.9	36.4	35.1	36.6	31.5	30.9	26.5	21.5	21.2	18.9	16.6
<b>4D185</b>	(304)	(155)	(149)	(107)	(103)	(107)	(92.2)	(90.3)	(77.5)	(62.8)	(62.1)	(55.4)	(48.7)
<b>4E170</b>	—	—	—	—	—	30.5	29.0	28.0	21.3	15.6	15.2	13.7	12.0
<b>4E175</b>	—	—	—	—	—	(89.2)	(84.7)	(82.0)	(62.3)	(45.5)	(44.4)	(40.2)	(35.0)
<b>4E180</b>	120	62.3	59.5	43.0	41.1	40.6	34.7	33.8	28.7	22.8	22.4	19.8	17.3
<b>4E185</b>	(351)	(182)	(174)	(126)	(120)	(119)	(102)	(98.9)	(84.0)	(66.7)	(65.5)	(57.8)	(50.6)
<b>4E190</b>	188	102	99.6	70.7	68.8	77.0	64.9	64.0	56.7	48.5	48.1	44.2	41.9
<b>4E195</b>	(551)	(300)	(291)	(207)	(201)	(225)	(190)	(187)	(166)	(142)	(141)	(129)	(123)
<b>4F180</b>	178	97.6	92.8	68.4	65.1	52.8	44.4	42.7	35.6	26.7	26.0	22.4	19.2
<b>4F185</b>	(522)	(286)	(272)	(200)	(190)	(155)	(130)	(125)	(104)	(78.1)	(76.2)	(65.4)	(56.3)
<b>4F190</b>	234	131	126	91.0	87.7	90.0	75.2	73.6	64.1	52.7	52.0	47.0	44.0
<b>4F195</b>	(686)	(383)	(369)	(266)	(257)	(263)	(220)	(215)	(187)	(154)	(152)	(138)	(129)

**Table 4.12 Reducer Moment of Inertia on reducer input shaft: Hollow Output Shaft, Ratios 11 - 53<sup>[1]</sup>**  
Units: lb·inch<sup>2</sup> (x 10<sup>-4</sup> kg·m<sup>2</sup>)

Model	Nominal Reduction Ratio												
	60	67	74	80	88	102	112	123	151	179	207	249	305
<b>4A100</b>	0.101	0.107	0.104	0.094	0.092	0.064	0.059	0.058	0.053	0.070	0.047	0.067	0.045
<b>4A105</b>	(0.297)	(0.314)	(0.306)	(0.275)	(0.270)	(0.188)	(0.172)	(0.169)	(0.154)	(0.206)	(0.138)	(0.196)	(0.131)
<b>4A110</b>	0.260	0.227	0.225	0.217	0.215	0.207	0.197	0.196	0.191	0.185	0.183	0.181	0.179
<b>4A115</b>	(0.760)	(0.665)	(0.657)	(0.634)	(0.628)	(0.605)	(0.577)	(0.575)	(0.559)	(0.541)	(0.536)	(0.529)	(0.525)
<b>4A120</b>	0.441	0.496	0.493	0.455	0.453	0.320	0.303	0.302	0.286	0.396	0.272	0.384	0.261
<b>4A125</b>	(1.29)	(1.45)	(1.44)	(1.33)	(1.33)	(0.935)	(0.887)	(0.884)	(0.838)	(1.16)	(0.795)	(1.12)	(0.763)
<b>4A140</b>	1.03	0.876	0.873	0.814	0.812	0.745	0.720	0.719	0.673	0.655	0.654	0.637	0.633
<b>4A145</b>	(3.01)	(2.56)	(2.56)	(2.38)	(2.38)	(2.18)	(2.11)	(2.10)	(1.97)	(1.92)	(1.91)	(1.86)	(1.85)
<b>4B120</b>	0.484	0.528	0.521	0.478	0.473	0.334	0.315	0.312	0.293	0.401	0.275	0.387	0.262
<b>4B125</b>	(1.42)	(1.54)	(1.52)	(1.40)	(1.38)	(0.978)	(0.921)	(0.913)	(0.857)	(1.17)	(0.805)	(1.13)	(0.768)
<b>4B140</b>	1.07	0.911	0.904	0.838	0.833	0.761	0.732	0.730	0.680	0.660	0.658	0.639	0.635
<b>4B145</b>	(3.14)	(2.67)	(2.65)	(2.45)	(2.44)	(2.23)	(2.14)	(2.14)	(1.99)	(1.93)	(1.93)	(1.87)	(1.86)
<b>4B160</b>	2.92	2.66	2.65	2.48	2.47	2.19	2.10	2.10	2.01	1.97	1.98	1.89	1.86
<b>4B165</b>	(8.53)	(7.79)	(7.77)	(7.25)	(7.23)	(6.41)	(6.15)	(6.14)	(5.88)	(5.77)	(5.80)	(5.54)	(5.46)
<b>4C140</b>	1.21	1.02	0.993	0.912	0.896	0.807	0.770	0.762	0.701	0.675	0.669	0.647	0.640
<b>4C145</b>	(3.54)	(2.97)	(2.91)	(2.67)	(2.62)	(2.36)	(2.25)	(2.23)	(2.05)	(1.98)	(1.96)	(1.89)	(1.87)
<b>4C160</b>	3.04	2.76	2.74	2.55	2.53	2.24	2.14	2.13	2.03	1.99	1.99	1.90	1.87
<b>4C165</b>	(8.91)	(8.08)	(8.02)	(7.46)	(7.41)	(6.54)	(6.26)	(6.23)	(5.94)	(5.81)	(5.83)	(5.56)	(5.47)
<b>4C170</b>	10.4	9.70	9.67	9.32	9.30	8.77	8.69	8.68	8.40	8.29	8.18	8.14	8.10
<b>4C175</b>	(30.5)	(28.4)	(28.3)	(27.3)	(27.2)	(25.7)	(25.4)	(25.4)	(24.6)	(24.3)	(23.9)	(23.8)	(23.7)
<b>4D160</b>	3.37	3.02	2.95	2.73	2.68	2.35	2.23	2.21	2.08	2.02	2.02	1.92	1.88
<b>4D165</b>	(9.86)	(8.85)	(8.64)	(8.00)	(7.85)	(6.87)	(6.53)	(6.46)	(6.09)	(5.92)	(5.90)	(5.62)	(5.51)
<b>4D170</b>	10.7	9.96	9.89	9.50	9.45	8.88	8.79	8.76	8.45	8.32	8.21	8.16	8.12
<b>4D175</b>	(31.4)	(29.1)	(28.9)	(27.8)	(27.7)	(26.0)	(25.7)	(25.6)	(24.7)	(24.4)	(24.0)	(23.9)	(23.8)
<b>4D180</b>	15.7	14.9	14.8	13.7	13.7	13.0	12.8	12.8	12.4	12.0	11.9	11.8	11.7
<b>4D185</b>	(46.0)	(43.5)	(43.3)	(40.1)	(40.0)	(38.0)	(37.4)	(37.4)	(36.2)	(35.2)	(34.9)	(34.6)	(34.4)
<b>4E170</b>	11.2	10.3	10.21	9.76	9.68	9.05	8.92	8.88	8.53	8.38	8.25	8.19	8.14
<b>4E175</b>	(32.9)	(30.2)	(29.9)	(28.6)	(28.3)	(26.5)	(26.1)	(26.0)	(25.0)	(24.5)	(24.1)	(24.0)	(23.8)
<b>4E180</b>	16.2	15.2	15.1	14.0	13.9	13.2	12.9	12.9	12.5	12.1	12.0	11.8	11.8
<b>4E185</b>	(47.4)	(44.5)	(44.2)	(40.9)	(40.7)	(38.5)	(37.8)	(37.7)	(36.5)	(35.3)	(35.0)	(34.7)	(34.4)
<b>4E190</b>	40.0	37.1	37.0	35.9	35.9	34.7	33.8	33.8	33.2	32.8	32.5	32.3	32.1
<b>4E195</b>	(117)	(109)	(108)	(105)	(105)	(102)	(98.9)	(98.8)	(97.1)	(96.0)	(95.2)	(94.6)	(94.1)
<b>4F180</b>	17.7	16.3	16.1	14.7	14.6	13.7	13.3	13.2	12.7	12.2	12.1	11.9	11.8
<b>4F185</b>	(51.9)	(47.7)	(47.1)	(43.1)	(42.7)	(40.0)	(38.9)	(38.7)	(37.2)	(35.8)	(35.4)	(34.9)	(34.6)
<b>4F190</b>	41.6	38.3	38.1	36.7	36.6	35.3	34.2	34.1	33.4	33.0	32.7	32.4	32.2
<b>4F195</b>	(122)	(112)	(111)	(108)	(107)	(103)	(100)	(99.9)	(97.9)	(96.6)	(95.6)	(94.9)	(94.3)

**Note: [1]** The inertia tables does not include the inertia of the integral motors. Total unit inertia is obtained by adding the reducer inertia to the motor inertia.

**Note: [1]** The inertia tables does not include the inertia of the integral motors. Total unit inertia is obtained by adding the reducer inertia to the motor inertia.

**Table 4.13 Reducer Moment of Inertia on reducer input shaft: Solid Shaft [Left (L) or Right (R)] Output, Ratios 11 - 53<sup>[1]</sup>**  
Units: lb·inch<sup>2</sup> (x 10<sup>-4</sup> kg·m<sup>2</sup>)

Model	Nominal Reduction Ratio												
	11	13	14	16	18	21	22	25	28	35	39	46	53
<b>4A100</b>	1.58	0.986	0.910	0.614	0.560	0.465	—	—	0.304	0.187	0.177	0.163	0.142
<b>4A105</b>	(4.64)	(2.88)	(2.66)	(1.80)	(1.64)	(1.36)	—	—	(0.890)	(0.547)	(0.517)	(0.477)	(0.415)
<b>4A100</b>	—	—	—	—	—	0.713	—	—	0.492	0.359	0.349	0.305	0.278
<b>4A115</b>	—	—	—	—	—	(2.09)	—	—	(1.44)	(1.05)	(1.02)	(0.893)	(0.814)
<b>4A120</b>	3.88	2.36	2.29	1.71	1.66	1.28	1.44	1.42	0.988	0.610	0.599	0.632	0.589
<b>4A125</b>	(11.3)	(6.92)	(6.69)	(5.01)	(4.85)	(3.75)	(4.22)	(4.15)	(2.89)	(1.78)	(1.75)	(1.85)	(1.72)
<b>4A140</b>	8.34	5.31	5.23	3.77	3.72	3.37	3.48	3.45	2.27	1.61	1.60	1.29	1.16
<b>4A145</b>	(24.4)	(15.5)	(15.3)	(11.0)	(10.9)	(9.88)	(10.2)	(10.1)	(6.65)	(4.71)	(4.68)	(3.78)	(3.40)
<b>4B120</b>	5.30	3.28	3.09	2.32	2.19	1.64	1.74	1.68	1.19	0.731	0.705	0.708	0.646
<b>4B125</b>	(15.5)	(9.61)	(9.03)	(6.80)	(6.42)	(4.79)	(5.10)	(4.91)	(3.48)	(2.14)	(2.06)	(2.07)	(1.89)
<b>4B120</b>	9.75	3.91	3.72	4.40	4.27	3.76	3.80	3.74	2.49	1.74	1.72	1.37	1.22
<b>4B125</b>	(28.5)	(11.4)	(10.9)	(12.9)	(12.5)	(11.0)	(11.1)	(10.9)	(7.29)	(5.10)	(5.02)	(4.02)	(3.58)
<b>4B140</b>	27.7	17.8	17.7	12.2	12.0	8.95	10.1	10.0	6.18	4.42	4.39	3.87	3.47
<b>4B145</b>	(81.2)	(52.2)	(51.7)	(35.6)	(35.2)	(26.2)	(29.5)	(29.4)	(18.1)	(12.9)	(12.8)	(11.3)	(10.1)
<b>4B160</b>	13.8	9.10	8.47	6.26	5.85	4.87	4.76	4.55	3.12	2.13	2.05	1.61	1.40
<b>4B165</b>	(40.5)	(26.6)	(24.8)	(18.3)	(17.1)	(14.3)	(13.9)	(13.3)	(9.12)	(6.23)	(5.99)	(4.71)	(4.10)
<b>4C160</b>	32.0	12.4	11.8	14.0	13.6	10.0	11.0	10.8	6.77	4.79	4.70	4.09	3.63
<b>4C165</b>	(93.7)	(36.4)	(34.5)	(41.0)	(39.9)	(29.3)	(32.2)	(31.6)	(19.8)	(14.0)	(13.8)	(12.0)	(10.6)
<b>4C170</b>	55.1	35.1	34.5	26.4	26.0	23.9	23.4	23.2	17.6	13.3	13.2	12.3	10.9
<b>4C175</b>	(161)	(103)	(101)	(77.3)	(76.1)	(69.9)	(68.4)	(67.8)	(51.4)	(38.9)	(38.7)	(36.1)	(31.9)
<b>4D160</b>	—	—	—	—	—	12.6	13.4	12.7	8.25	5.76	5.49	4.65	4.06
<b>4D165</b>	—	—	—	—	—	(37.0)	(39.2)	(37.3)	(24.1)	(16.8)	(16.1)	(13.6)	(11.9)
<b>4D170</b>	68.7	27.4	25.4	32.4	31.2	26.6	25.8	25.1	19.1	14.3	14.0	12.9	11.3
<b>4D175</b>	(201)	(80.1)	(74.4)	(94.9)	(91.2)	(77.7)	(75.5)	(73.6)	(55.8)	(41.8)	(41.0)	(37.8)	(33.2)
<b>4D180</b>	104	53.0	51.1	36.6	35.2	36.7	31.6	30.9	26.5	21.5	21.2	18.9	16.7
<b>4D185</b>	(305)	(155)	(150)	(107)	(103)	(107)	(92.4)	(90.5)	(77.6)	(62.9)	(62.1)	(55.4)	(48.8)
<b>4E170</b>	—	—	—	—	—	30.7	29.1	28.2	21.4	15.6	15.2	13.8	12.0
<b>4E175</b>	—	—	—	—	—	(89.7)	(85.2)	(82.4)	(62.6)	(45.7)	(44.6)	(40.4)	(35.1)
<b>4E180</b>	121	48.3	45.4	43.4	41.4	40.8	34.9	33.9	28.8	22.8	22.5	19.8	17.3
<b>4E185</b>	(353)	(141)	(133)	(127)	(121)	(119)	(102)	(99.3)	(84.3)	(66.9)	(65.7)	(58.0)	(50.7)
<b>4E190</b>	189	103	100	71.1	69.1	77.2	65.1	64.1	56.8	48.6	48.2	44.3	41.9
<b>4E195</b>	(553)	(301)	(293)	(208)	(202)	(226)	(191)	(188)	(166)	(142)	(141)	(130)	(123)
<b>4F180</b>	180	76.9	71.9	69.4	65.9	53.4	44.8	43.1	35.9	26.9	26.2	22.5	19.3
<b>4F185</b>	(528)	(225)	(210)	(203)	(193)	(156)	(131)	(126)	(105)	(78.6)	(76.6)	(65.8)	(56.5)
<b>4F190</b>	236	132	127	92.0	88.5	90.5	75.7	74.0	64.4	52.8	52.2	47.1	44.1
<b>4F195</b>	(692)	(388)	(373)	(269)	(259)	(265)	(221)	(216)	(188)	(155)	(153)	(138)	(129)

**Table 4.14 Reducer Moment of Inertia on reducer input shaft: Solid Shaft [Left (L) or Right (R)] Output, Ratios 60 - 305<sup>[1]</sup>**  
Units: lb·inch<sup>2</sup> (x 10<sup>-4</sup> kg·m<sup>2</sup>)

Model	Nominal Reduction Ratio												
	60	67	74	80	88	102	112	123	151	179	207	249	305
<b>4A100</b>	0.102	0.108	0.105	0.094	0.092	0.064	0.060	0.058	0.053	0.070	0.047	0.067	0.045
<b>4A105</b>	(0.298)	(0.315)	(0.307)	(0.276)	(0.270)	(0.188)	(0.175)	(0.169)	(0.155)	(0.206)	(0.138)	(0.196)	(0.131)
<b>4A110</b>	0.260	0.228	0.225	0.217	0.215	0.207	0.197	0.196	0.191	0.185	0.183	0.181	0.179
<b>4A115</b>	(0.761)	(0.666)	(0.658)	(0.635)	(0.629)	(0.605)	(0.578)	(0.575)	(0.559)	(0.541)	(0.536)	(0.529)	(0.525)
<b>4A120</b>	0.441	0.496	0.493	0.456	0.454	0.320	0.303	0.302	0.286	0.396	0.272	0.384	0.261
<b>4A125</b>	(1.29)	(1.45)	(1.44)	(1.33)	(1.33)	(0.936)	(0.887)	(0.884)	(0.838)	(1.159)	(0.795)	(1.125)	(0.763)
<b>4A140</b>	1.03	0.877	0.874	0.814	0.812	0.745	0.720	0.719	0.673	0.655	0.654	0.637	0.633
<b>4A145</b>	(3.01)	(2.57)	(2.56)	(2.38)	(2.38)	(2.18)	(2.11)	(2.10)	(1.97)	(1.92)	(1.91)	(1.86)	(1.85)
<b>4B120</b>	0.486	0.529	0.522	0.479	0.474	0.335	0.317	0.313	0.293	0.401	0.275	0.387	0.262
<b>4B125</b>	(1.42)	(1.55)	(1.53)	(1.40)	(1.39)	(0.98)	(0.93)	(0.91)	(0.86)	(1.17)	(0.81)	(1.13)	(0.768)
<b>4B140</b>	1.08	0.912	0.905	0.839	0.834	0.761	0.733	0.730	0.680	0.660	0.658	0.639	0.635
<b>4B145</b>	(3.15)	(2.67)	(2.65)	(2.46)	(2.44)	(2.23)	(2.14)	(2.14)	(1.99)	(1.93)	(1.93)	(1.87)	(1.86)
<b>4B160</b>	2.92	2.66	2.66	2.48	2.47	2.19	2.10	2.10	2.01	1.97	1.98	1.89	1.86
<b>4B165</b>	(8.54)	(7.79)	(7.77)	(7.25)	(7.24)	(6.41)	(6.15)	(6.14)	(5.88)	(5.77)	(5.80)	(5.54)	(5.46)
<b>4C140</b>	1.21	1.02	0.996	0.914	0.898	0.809	0.776	0.763	0.702	0.675	0.670	0.647	0.640
<b>4C145</b>	(3.55)	(2.98)	(2.91)	(2.68)	(2.63)	(2.37)	(2.27)	(2.23)	(2.05)	(1.98)	(1.96)	(1.89)	(1.87)
<b>4C160</b>	3.05	2.77	2.74	2.55	2.53	2.24	2.14	2.13	2.03	1.99	1.99	1.90	1.87
<b>4C165</b>	(8.92)	(8.09)	(8.03)	(7.46)	(7.41)	(6.55)	(6.26)	(6.24)	(5.94)	(5.81)	(5.83)	(5.56)	(5.47)
<b>4C170</b>	10.4	9.70	9.68	9.32	9.30	8.77	8.69	8.68	8.40	8.29	8.18	8.14	8.10
<b>4C175</b>	(30.5)	(28.4)	(28.3)	(27.3)	(27.2)	(25.7)	(25.4)	(25.4)	(24.6)	(24.3)	(23.9)	(23.8)	(23.7)
<b>4D160</b>	3.38	3.03	2.96	2.74	2.69	2.35	2.24	2.21	2.08	2.02	2.02	1.92	1.88
<b>4D165</b>	(9.88)	(8.87)	(8.65)	(8.01)	(7.86)	(6.88)	(6.56)	(6.46)	(6.09)	(5.92)	(5.91)	(5.62)	(5.51)
<b>4D170</b>	10.7	9.97	9.89	9.51	9.46	8.88	8.79	8.76	8.45	8.32	8.21	8.16	8.12
<b>4D175</b>	(31.5)	(29.2)	(29.0)	(27.8)	(27.7)	(26.0)	(25.7)	(25.6)	(24.7)	(24.4)	(24.0)	(23.9)	(23.8)
<b>4D180</b>	15.7	14.9	14.8	13.7	13.7	13.0	12.8	12.8	12.4	12.0	11.9	11.8	11.7
<b>4D185</b>	(46.0)	(43.5)	(43.3)	(40.2)	(40.0)	(38.0)	(37.4)	(37.4)	(36.2)	(35.2)	(34.9)	(34.6)	(34.4)
<b>4E170</b>	11.3	10.3	10.2	9.77	9.69	9.06	8.94	8.88	8.53	8.38	8.25	8.19	8.14
<b>4E175</b>	(33.0)	(30.3)	(29.9)	(28.6)	(28.4)	(26.5)	(26.2)	(26.0)	(25.0)	(24.5)	(24.1)	(24.0)	(23.8)
<b>4E180</b>	16.2	15.2	15.1	14.0	13.9	13.2	12.9	12.9	12.5	12.1	12.0	11.8	11.8
<b>4E185</b>	(47.5)	(44.6)	(44.3)	(40.9)	(40.7)	(38.5)	(37.8)	(37.7)	(36.5)	(35.3)	(35.1)	(34.7)	(34.4)
<b>4E190</b>	40.0	37.1	37.0	35.9	35.9	34.8	33.8	33.8	33.2	32.8	32.5	32.3	32.1
<b>4E195</b>	(117)	(109)	(108)	(105)	(105)	(102)	(98.9)	(98.8)	(97.1)	(96.0)	(95.2)	(94.6)	(94.1)
<b>4F180</b>	17.8	16.3	16.2	14.8	14.6	13.7	13.3	13.3	12.7	12.2	12.1	11.9	11.8
<b>4F185</b>	(52.1)	(47.8)	(47.3)	(43.2)	(42.8)	(40.1)	(39.0)	(38.8)	(37.2)	(35.8)	(35.4)	(34.9)	(34.6)
<b>4F190</b>	41.7	38.3	38.1	36.8	36.6	35.3	34.2	34.2	33.4	33.0	32.7	32.4	32.2
<b>4F195</b>	(122)	(112)	(112)	(108)	(107)	(103)	(100)	(99.9)	(97.9)	(96.6)	(95.6)	(94.9)	(94.3)

**Note: [1]** The inertia tables does not include the inertia of the integral motors. Total unit inertia is obtained by adding the reducer inertia to the motor inertia.

**Note: [1]** The inertia tables does not include the inertia of the integral motors. Total unit inertia is obtained by adding the reducer inertia to the motor inertia.

**Table 4.15 Reducer Moment of Inertia on reducer input shaft: Dual Extended Solid Shaft (T) Output, Ratios 11 - 53<sup>[1]</sup>**  
Units: lb·inch<sup>2</sup> (x 10<sup>-4</sup> kg·m<sup>2</sup>)

Model	Nominal Reduction Ratio												
	11	13	14	16	18	21	22	25	28	35	39	46	53
<b>4A100</b>	1.65	1.03	0.947	0.645	0.586	0.482	—	—	0.313	0.193	0.182	0.166	0.145
<b>4A105</b>	(4.83)	(3.01)	(2.77)	(1.89)	(1.72)	(1.41)	—	—	(0.917)	(0.565)	(0.532)	(0.487)	(0.423)
<b>4A100</b>	—	—	—	—	—	0.730	—	—	0.502	0.365	0.354	0.309	0.281
<b>4A115</b>	—	—	—	—	—	(2.14)	—	—	(1.47)	(1.07)	(1.03)	(0.903)	(0.822)
<b>4A120</b>	3.47	2.41	2.32	1.74	1.68	1.30	1.46	1.43	0.997	0.616	0.604	0.635	0.592
<b>4A125</b>	(10.2)	(7.05)	(6.80)	(5.09)	(4.93)	(3.80)	(4.27)	(4.18)	(2.92)	(1.80)	(1.77)	(1.86)	(1.73)
<b>4A140</b>	7.29	5.35	5.27	3.80	3.75	3.39	3.48	3.46	2.28	1.62	1.61	1.29	1.17
<b>4A145</b>	(21.3)	(15.7)	(15.4)	(11.1)	(11.0)	(9.93)	(10.2)	(10.1)	(6.68)	(4.73)	(4.70)	(3.79)	(3.41)
<b>4B120</b>	5.46	3.39	3.17	2.40	2.25	1.68	1.78	1.71	1.21	0.745	0.717	0.716	0.652
<b>4B125</b>	(16.0)	(9.92)	(9.29)	(7.01)	(6.59)	(4.91)	(5.20)	(5.00)	(3.54)	(2.18)	(2.10)	(2.09)	(1.91)
<b>4B120</b>	9.90	6.36	6.15	4.47	4.33	3.80	3.84	3.76	2.51	1.76	1.73	1.38	1.23
<b>4B125</b>	(29.0)	(18.6)	(18.0)	(13.1)	(12.7)	(11.1)	(11.2)	(11.0)	(7.36)	(5.14)	(5.06)	(4.04)	(3.60)
<b>4B140</b>	23.9	18.0	17.7	12.2	12.1	9.0	10.1	10.1	6.20	4.43	4.40	3.88	3.47
<b>4B145</b>	(70.0)	(52.5)	(51.9)	(35.8)	(35.4)	(26.3)	(29.6)	(29.4)	(18.1)	(13.0)	(12.9)	(11.3)	(10.2)
<b>4B160</b>	14.2	9.34	8.68	6.42	5.98	4.96	4.84	4.62	3.17	2.16	2.07	1.63	1.42
<b>4B165</b>	(41.5)	(27.3)	(25.4)	(18.8)	(17.5)	(14.5)	(14.2)	(13.5)	(9.27)	(6.33)	(6.07)	(4.77)	(4.15)
<b>4C160</b>	32.4	21.1	20.4	14.2	13.8	10.1	11.1	10.9	6.82	4.82	4.73	4.11	3.65
<b>4C165</b>	(94.8)	(61.8)	(59.8)	(41.5)	(40.3)	(29.5)	(32.5)	(31.8)	(20.0)	(14.1)	(13.8)	(12.0)	(10.7)
<b>4C170</b>	47.8	35.3	34.7	26.6	26.2	24.0	23.5	23.2	17.6	13.3	13.2	12.4	10.9
<b>4C175</b>	(140)	(103)	(102)	(77.8)	(76.5)	(70.2)	(68.7)	(68.0)	(51.6)	(39.0)	(38.7)	(36.2)	(32.0)
<b>4D160</b>	—	—	—	—	—	12.8	13.6	12.9	8.36	5.83	5.55	4.70	4.09
<b>4D165</b>	—	—	—	—	—	(37.6)	(39.7)	(37.7)	(24.5)	(17.0)	(16.2)	(13.7)	(12.0)
<b>4D170</b>	69.5	44.8	42.8	32.8	31.4	26.8	25.8	25.3	19.2	14.3	14.1	13.0	11.4
<b>4D175</b>	(203)	(131)	(125)	(95.9)	(92.0)	(78.3)	(75.6)	(74.0)	(56.2)	(42.0)	(41.2)	(37.9)	(33.3)
<b>4D180</b>	82.7	53.5	51.5	36.9	35.5	36.9	31.7	31.1	26.6	21.6	21.3	19.0	16.7
<b>4D185</b>	(242)	(157)	(151)	(108)	(104)	(108)	(92.9)	(90.9)	(77.9)	(63.1)	(62.3)	(55.5)	(48.8)
<b>4E170</b>	—	—	—	—	—	31.0	29.5	28.4	21.6	15.8	15.3	13.9	12.1
<b>4E175</b>	—	—	—	—	—	(90.9)	(86.2)	(83.2)	(63.2)	(46.1)	(44.9)	(40.6)	(35.3)
<b>4E180</b>	122	63.8	60.7	44.1	42.0	41.2	35.3	34.2	29.0	23.0	22.6	19.9	17.4
<b>4E185</b>	(358)	(187)	(178)	(129)	(123)	(121)	(103)	(100)	(85.0)	(67.3)	(66.0)	(58.2)	(50.9)
<b>4E190</b>	153	104	101	71.8	69.7	77.5	65.4	64.4	57.0	48.7	48.3	44.4	42.0
<b>4E195</b>	(446)	(304)	(295)	(210)	(204)	(227)	(192)	(188)	(167)	(143)	1(41)	(130)	(123)
<b>4F180</b>	182	100	95.1	70.3	66.6	53.9	46.1	43.5	36.2	27.0	26.3	22.6	19.4
<b>4F185</b>	(534)	(293)	(278)	(206)	(195)	(158)	(135)	(127)	(106)	(79.1)	(77.1)	(66.1)	(56.8)
<b>4F190</b>	200	134	129	92.9	89.2	91.0	76.1	74.3	64.6	53.0	52.3	47.2	44.1
<b>4F195</b>	(587)	(391)	(376)	(272)	(261)	(266)	(223)	(218)	(189)	(155)	(153)	(138)	(129)

**Table 4.16 Reducer Moment of Inertia on reducer input shaft: Dual Extended Solid Shaft (T) Output, Ratios 60 - 305<sup>[1]</sup>**  
Units: lb·inch<sup>2</sup> (x 10<sup>-4</sup> kg·m<sup>2</sup>)

Model	Nominal Reduction Ratio												
	60	67	74	80	88	102	112	123	151	179	207	249	305
<b>4A100</b>	0.104	0.109	0.106	0.095	0.093	0.065	0.059	0.058	0.053	0.071	0.047	0.067	0.045
<b>4A105</b>	(0.304)	(0.320)	(0.311)	(0.279)	(0.273)	(0.191)	(0.174)	(0.171)	(0.156)	(0.207)	(0.139)	(0.197)	(0.131)
<b>4A110</b>	0.262	0.229	0.226	0.218	0.216	0.208	0.198	0.197	0.191	0.185	0.183	0.181	0.180
<b>4A115</b>	(0.767)	(0.671)	(0.662)	(0.638)	(0.632)	(0.607)	(0.579)	(0.576)	(0.560)	(0.541)	(0.537)	(0.530)	(0.526)
<b>4A120</b>	0.443	0.498	0.495	0.457	0.455	0.321	0.304	0.303	0.287	0.396	0.272	0.384	0.261
<b>4A125</b>	(1.30)	(1.46)	(1.45)	(1.34)	(1.33)	(0.938)	(0.889)	(0.886)	(0.839)	(1.16)	(0.795)	(1.13)	(0.763)
<b>4A140</b>	1.03	0.878	0.875	0.815	0.813	0.745	0.720	0.719	0.673	0.655	0.654	0.637	0.633
<b>4A145</b>	(3.01)	(2.57)	(2.56)	(2.39)	(2.38)	(2.18)	(2.11)	(2.10)	(1.97)	(1.92)	(1.92)	(1.86)	(1.85)
<b>4B120</b>	0.490	0.533	0.525	0.482	0.476	0.337	0.317	0.314	0.294	0.401	0.276	0.387	0.263
<b>4B125</b>	(1.44)	(1.56)	(1.54)	(1.41)	(1.39)	(0.985)	(0.926)	(0.918)	(0.860)	(1.18)	(0.807)	(1.13)	(0.769)
<b>4B140</b>	1.08	0.916	0.909	0.842	0.836	0.763	0.734	0.731	0.681	0.661	0.659	0.640	0.635
<b>4B145</b>	(3.16)	(2.68)	(2.66)	(2.46)	(2.45)	(2.23)	(2.15)	(2.14)	(1.99)	(1.93)	(1.93)	(1.87)	(1.86)
<b>4B160</b>	2.92	2.67	2.66	2.48	2.48	2.19	2.10	2.10	2.01	1.97	1.98	1.89	1.86
<b>4B165</b>	(8.55)	(7.81)	(7.78)	(7.26)	(7.24)	(6.42)	(6.16)	(6.15)	(5.88)	(5.77)	(5.80)	(5.54)	(5.46)
<b>4C140</b>	1.23	1.03	1.00	0.921	0.903	0.813	0.774	0.765	0.704	0.677	0.671	0.648	0.640
<b>4C145</b>	(3.59)	(3.01)	(2.94)	(2.69)	(2.64)	(2.38)	(2.27)	(2.24)	(2.06)	(1.98)	(1.96)	(1.90)	(1.87)
<b>4C160</b>	3.06	2.77	2.75	2.56	2.54	2.24	2.14	2.13	2.03	1.99	1.99	1.90	1.87
<b>4C165</b>	(8.96)	(8.12)	(8.05)	(7.48)	(7.43)	(6.56)	(6.27)	(6.24)	(5.94)	(5.82)	(5.83)	(5.56)	(5.47)
<b>4C170</b>	10.4	9.71	9.68	9.33	9.31	8.77	8.70	8.69	8.40	8.29	8.18	8.14	8.11
<b>4C175</b>	(30.5)	(28.4)	(28.3)	(27.3)	(27.2)	(25.7)	(25.4)	(25.4)	(24.6)	(24.3)	(23.9)	(23.8)	(23.7)
<b>4D160</b>	3.40	3.05	2.97	2.75	2.70	2.36	2.24	2.21	2.08	2.03	2.02	1.92	1.88
<b>4D165</b>	(9.95)	(8.93)	(8.70)	(8.05)	(7.89)	(6.90)	(6.56)	(6.48)	(6.10)	(5.93)	(5.91)	(5.62)	(5.51)
<b>4D170</b>	10.8	9.99	9.91	9.52	9.47	8.89	8.80	8.77	8.45	8.33	8.21	8.16	8.12
<b>4D175</b>	(31.5)	(29.2)	(29.0)	(27.9)	(27.7)	(26.0)	(25.7)	(25.7)	(24.7)	(24.4)	(24.0)	(23.9)	(23.8)
<b>4D180</b>	15.7	14.9	14.8	13.7	13.7	13.0	12.8	12.8	12.4	12.0	11.9	11.8	11.7
<b>4D185</b>	(46.1)	(43.6)	(43.3)	(40.2)	(40.0)	(38.0)	(37.5)	(37.4)	(36.2)	(35.2)	(34.9)	(34.6)	(34.4)
<b>4E170</b>	11.3	10.4	10.3	9.80	9.72	9.08	8.94	8.89	8.54	8.39	8.25	8.19	8.14
<b>4E175</b>	(33.1)	(30.4)	(30.0)	(28.7)	(28.4)	(26.6)	(26.2)	(26.0)	(25.0)	(24.5)	(24.2)	(24.0)	(23.8)
<b>4E180</b>	16.3	15.3	15.2	14.0	13.9	13.2	12.9	12.9	12.5	12.1	12.0	11.9	11.8
<b>4E185</b>	(47.7)	(44.7)	(44.4)	(41.0)	(40.8)	(38.6)	(37.9)	(37.7)	(36.5)	(35.4)	(35.1)	(34.7)	(34.4)
<b>4E190</b>	40.1	37.2	37.1	36.0	35.9	34.8	33.8	33.8	33.2	32.8	32.5	32.3	32.1
<b>4E195</b>	(117)	(109)	(108)	(105)	(105)	(102)	(98.9)	(98.8)	(97.1)	(96.0)	(95.2)	(94.6)	(94.1)
<b>4F180</b>	17.9	16.4	16.2	14.8	14.7	13.7	13.3	13.3	12.7	12.3	12.1	11.9	11.8
<b>4F185</b>	(52.3)	(48.0)	(47.4)	(43.3)	(42.9)	(40.2)	(39.0)	(38.8)	(37.2)	(35.9)	(35.4)	(34.9)	(34.6)
<b>4F190</b>	41.7	38.4	38.2	36.8	36.7	35.4	34.2	34.2	33.5	33.0	32.7	32.4	32.2
<b>4F195</b>	(122)	(112)	(112)	(108)	(107)	(103)	(100)	(100.0)	(97.9)	(96.6)	(95.6)	(94.9)	(94.3)

**Note: [1]** The inertia tables does not include the inertia of the integral motors. Total unit inertia is obtained by adding the reducer inertia to the motor inertia.

**Note: [1]** The inertia tables does not include the inertia of the integral motors. Total unit inertia is obtained by adding the reducer inertia to the motor inertia.



**Table 4.17 Moment of Inertia on Motor Shaft of N-Frame Integral Motor**

1 HP (0.75 kW) x 4 Pole		1.5 HP (1.1 kW) x 4 Pole		2 HP (1.5 kW) x 4 Pole		3 HP (2.2 kW) x 4 Pole		5 HP (3.7 kW) x 4 Pole	
Standard	w/ Brake	Standard	w/Brake	Standard	w/Brake	Standard	w/Brake	Standard	w/Brake
8.03 (23.5)	8.82 (25.8)	11.5 (33.7)	13.5 (39.6)	13.4 (39.1)	15.4 (45)	30.1 (88)	33.4 (97.8)	66.3 (194)	71.4 (209)
7.5 HP (5.5 kW) x 4 Pole		10 HP (7.5 kW) x 4 Pole		15 HP (11 kW) x 4 Pole		20 HP (15 kW) x 4 Pole		25 HP (18.5 kW) x 4 Pole	
Standard	w/ Brake	Standard	w/ Brake	Standard	w/ Brake	Standard	w/ Brake	Standard	w/ Brake
99.4 (291)	105 (306)	140 (409)	154 (450)	192 (561)	206 (602)	340 (995)	393 (1150)	875 (2560)	926 (2710)
30 HP (22 kW) x 4 Pole		40 HP (30 kW) x 4 Pole		50 HP (37 kW) x 4 Pole		60 HP (45 kW) x 4 Pole		75 HP (55 kW) x 4 Pole	
Standard	w/ Brake	Standard	w/ Brake	Standard	w/ Brake	Standard	w/ Brake	Standard	w/ Brake
875 (2560)	926 (2710)	1110 (3260)	1170 (3420)	1330 (3900)	1380 (4040)	2500 (7310)	2550 (7450)	2950 (8640)	- -

## Excessive Overloads

Cyclo® BBB4 Speed Reducers provide 200% momentary intermittent shock load capacity and are warranted for two years from date of shipment. Refer to our standard terms and conditions for our complete warranty.

## Selection for Applications Involving Shock Loading

For applications involving frequent start-stop, braking or reversing, or quick starting of load having large inertia, consult factory for model selection or recommended modifications.

## Allowable Radial and Thrust Loads

The loads imposed on the reducer shafts vary with the method of connecting the shaft to the driven machine. Frequently, in addition to torsional forces, radial and thrust loads are applied to the slow speed shaft at the same time. For example, coupling connections normally involve torsional forces only. However, when power is transmitted through spur gears, belts, pulleys or chains, both torsional

and radial forces may be applied to the reducer shafts. When driving through helical or bevel gears, all three conditions (torsional, radial and thrust load) may be referred to the reducer shaft.

The reducer shafts and bearings must have sufficient strength to withstand these loads, and it is, therefore, necessary to determine the allowable limits for each condition. Please consult factory for further information.

## Load Centering

The radial load capacities are calculated with the load concentrated at the midpoint of the slow speed shaft extension. Radial load capacities decrease if the center of the load is moved farther from the reducer and the values obtained from the charts must be adjusted accordingly..

# Lubrication

## Oil lubricated models are not filled with oil prior to shipping.

Before operating, fill the unit with the appropriate amount of the correct lubricant for the mounting position (see Table 4.22 and Table 4.23). When operating in winter or other relatively low ambient temperatures, use the lower viscosity oil specified for each ambient temperature range. Please consult the factory if the unit will be operated consistently in ambient temperatures other than 14°F to 104°F (-10° to 40°C).

## Grease lubricated models are lubricated with grease prior to shipment from the factory.

NOTE: For units supplied in the Y4 mounting position (input shaft vertical down), the Cyclo® portion is filled at the factory with grease. For these units, the Cyclo® portion does not need to be filled with lubricant before start-up. The Bevel Gear portion of models built for the Y4 mounting configuration still requires filling with gear oil before start-up. Refer to the unit Operating and Maintenance manual for further details.

Adding grease prior to initial start-up is not required. If grease must be replenished or changed avoid using greases other than those shown in the Table 4.20. Please consult the factory when the units will be used in widely fluctuating temperatures, ambient temperatures other than those specified in Table 4.20, or when other special conditions exist for the application. When motors from another manufacturer will be used, please consult and adhere to the associated motor maintenance manual for the appropriate lubrication instructions.

**Oil lubricated units** are shipped without oil. Prior to initial start-up, the unit must be filled with the correct amount of oil (see Table 4.22 and Table 4.23).

**Grease lubricated models** are lubricated at the factory. Additional grease does not need to be added prior to initial start-up.

## Oil Replenishment and Change Interval

- Maintain proper oil levels at all times.
- An oil change after the first 500 hours of operation is highly recommended.
- Sumitomo recommends an oil change every 2500 hours, or six months, whichever comes first. If a proper preventive maintenance program is implemented and maintained, a longer change period may be acceptable.
- If the unit is running in a high ambient, high humidity, or corrosive environment, the lubricant will have to be changed more frequently. Consult the factory for recommendations.

## Grease Replenishment and Change Interval

For units ordered for mounting in the Y4 configuration (motor vertical down), please consult the Operating and Maintenance manual for proper grease replenishment and change interval for the Cyclo® portion.

\*VG68 is not available for ExxonMobil Spartan.

\*\*Shell Gadus S2 V220 NLGI 0 can be used for 4A100 and 4A105 sizes only

**Table 4.18 Lubrication Type**

Unit Size	Output (Bevel Gear Portion)	Input (Cyclo® Portion)		
		Motor Horizontal	Motor Vertical Up	Motor Vertical Down
All	Oil	Oil	Oil	Grease

## Recommended Oils:

<b>Gulf Oil:</b>	EP Lubricant HD	<b>Shell Oil:</b>	Omala S2 G	<b>Kluber:</b>	Kluberoil GEM1
<b>ExxonMobil Oil:</b>	Spartan EP	<b>Caltex:</b>	Meropa	<b>Idemitsu Oil:</b>	Daphane Mechanic
<b>Mobil Oil:</b>	Mobilgear 600XP	<b>Castrol:</b>	Alpha SP	<b>BP Oil:</b>	Energol GR-XP

**Table 4.19 Ambient Temperatures**

°F	14	32	50	68	86	104	122
°C	-10	0	10	20	30	40	50
ISO VG	68* (14° F to 41° F)						
	100 / 150 (32° F to 95° F)						
							220 / 320 / 460 (86° F to 122° F)

**Food Grade Oil:** Klüber: Klübersynth UH1 6-460

**Table 4.20 Standard Greases**

Ambient Temperature °F (°C)	Reduction Ratio	Input (Cyclo® Portion)
14° to 122°F (-10° to 50°C)	11 through 18:1	N/A**
	19:1 and higher	Exxon Unirex N2

**Table 4.21 Food Grade Grease**

Ambient Temperature °F (°C)	Reduction Ratio	Input (Cyclo® Portion)
14° to 122°F (-10° to 50°C)	11 through 18:1	N/A
	19:1 and higher	Ultrachem Omnilube FGM2

Oil Quantities

Table 4.22 BBB with Single Reduction Cyclo - Approximate Oil Quantity

Units: US liquid gallon (liter) **Note: Output =** Bevel Gear Portion **Input =** Cyclo® Portion

Bevel Gear Unit Size	Mounting Configuration						
	Y1	Y3	Y2	Y4	Y5	Y6	
4A10	0.43 (1.62)		0.86 (3.26)	0.30 (1.13)	Grease	0.37 (1.36)	0.48 (1.84)
4A11	0.44 (1.66)		0.89 (3.36)			0.37 (1.40)	0.50 (1.88)
4A12	0.45 (1.71)		0.93 (3.51)			0.40 (1.45)	0.50 (1.93)
4A14	0.50 (1.91)		1.08 (4.11)			0.45 (1.65)	0.55 (2.13)
4B12	0.87 (3.29)		1.74 (6.61)	0.45 (1.72)	Grease	0.87 (3.34)	0.85 (3.23)
4B14	0.92 (3.49)		1.93 (7.31)			0.92 (3.54)	0.90 (3.43)
4B16	1.04 (3.92)		2.06 (7.8)			1.06 (3.97)	1.03 (3.86)
4C14	1.46 (5.52)		3.01 (11.4)	0.72 (2.72)	Grease	1.40 (5.30)	1.56 (5.88)
4C16	1.57 (5.96)		3.18 (12)			1.51 (5.74)	1.66 (6.32)
4C17	1.68 (6.34)		3.37 (12.8)			1.61 (6.12)	1.77 (6.70)
4D16	2.67 (10.1)		5.32 (20.1)			2.56 (9.69)	2.75 (10.4)
4D17	2.75 (10.4)		5.48 (20.8)	1.22 (4.61)	Grease	2.64 (10.0)	2.85 (10.8)
4D18	2.83 (10.7)		5.62 (21.3)			2.72 (10.3)	2.93 (11.1)
4E17	3.86 (14.6)		7.73 (29.3)			3.46 (13.1)	4.25 (16.1)
4E18	3.88 (14.7)		7.85 (29.7)	1.66 (6.26)	Grease	3.49 (13.2)	4.28 (16.2)
4E19	4.15 (15.7)		8.24 (31.2)			3.75 (14.2)	4.54 (17.2)
4F18	5.28 (20.0)		10.6 (40.3)			4.89 (18.5)	5.65 (21.4)
4F19	5.50 (20.8)		10.9 (41.2)	1.93 (7.28)	Grease	5.10 (19.3)	5.87 (22.2)

Note: Polyalkylene Glycol (PAG)-based oil such as Klubersynth UH1 is not compatible, and cannot be used, with the clear polycarbonate fill cup.

Table 4.23 BBB with Double Reduction Cyclo - Approximate Oil Quantity

Units: US liquid gallon (liter) **Note: Output =** Bevel Gear Portion **Input =** Cyclo® Portion

Bevel Gear Unit Size	Mounting Configuration								
	Y1	Y3	Y2		Y4	Y5	Y6		
			Standard	Clear Cup					
4A10DA	0.44 (1.65)		0.26 (1.0)	Grease	0.30 (1.13)	Grease	0.37 (1.39)	0.49 (1.87)	
4A12DA	0.46 (1.74)						0.85 (3.23)	0.39 (1.48)	0.52 (1.96)
4A12DB	0.47 (1.78)		0.53 (2.0)	Grease	0.45 (1.72)	Grease	0.91 (3.46)	0.53 (2.00)	
4B12DA	0.88 (3.32)						1.73 (6.56)	0.89 (3.37)	0.86 (3.26)
4B12DB	0.89 (3.36)						1.74 (6.6)	0.90 (3.41)	0.87 (3.30)
4B14DA	0.93 (3.52)						1.85 (7.02)	0.94 (3.57)	0.91 (3.46)
4B14DB	0.94 (3.56)		0.92 (3.5)	Grease	0.72 (2.72)	Grease	1.86 (7.06)	0.92 (3.50)	
4B14DC	0.95 (3.61)						1.89 (7.17)	0.97 (3.66)	0.94 (3.55)
4C14DA	1.47 (5.55)						2.98 (11.3)	1.41 (5.33)	1.56 (5.91)
4C14DB	1.48 (5.59)						2.98 (11.3)	1.42 (5.37)	1.57 (5.95)
4C14DC	1.49 (5.64)		3.01 (11.4)	1.43 (5.42)	1.59 (6.00)				
4C16DA	1.59 (6.03)		1.32 (5.0)	Grease	1.22 (4.61)	Grease	3.18 (12)	1.69 (5.39)	
4C16DB	1.61 (6.08)						3.2 (12.1)	1.55 (5.86)	1.70 (6.44)
4C17DA	1.69 (6.41)						3.38 (12.8)	1.63 (6.19)	1.79 (6.77)
4C17DB	1.70 (6.44)						3.38 (12.8)	1.67 (6.32)	1.80 (6.80)
4C17DC	1.75 (6.64)		3.4 (12.9)	1.70 (6.42)	1.82 (6.90)				
4D16DA	2.68 (10.1)		1.93 (7.3)	Grease	1.7 (6.3)	Grease	5.34 (20.2)	2.77 (10.5)	
4D16DB	2.69 (10.2)						5.34 (20.2)	2.59 (9.81)	2.79 (10.6)
4D16DC	2.72 (10.3)						5.37 (20.3)	2.59 (9.82)	2.83 (10.7)
4D17DA	2.69 (10.2)						5.33 (20.2)	2.59 (9.81)	2.80 (10.6)
4D17DB	2.78 (10.5)		5.49 (20.8)	2.68 (10.2)	2.88 (10.9)				
4D17DC	2.82 (10.7)		5.52 (20.9)	2.72 (10.3)	2.91 (11.0)				
4D18DA	2.85 (10.8)		5.63 (21.3)	2.77 (10.5)	2.96 (11.2)				
4D18DB	3.09 (11.7)		5.71 (21.6)	3.01 (11.4)	3.20 (12.1)				
4E17DA	3.86 (14.6)		3.17 (12.0)	Grease	1.9 (7.3)	Grease	7.73 (29.3)	4.26 (16.1)	
4E17DB	3.88 (14.7)						7.75 (29.3)	3.47 (13.1)	4.27 (16.2)
4E17DC	3.91 (14.8)						7.78 (29.5)	3.52 (13.3)	4.31 (16.3)
4E18DA	3.9 (14.8)						7.9 (29.9)	3.5 (13.3)	4.3 (16.3)
4E18DB	4.1 (15.7)		7.98 (30.2)	3.8 (14.2)	4.5 (17.2)				
4E19DA	4.6 (17.5)		8.4 (31.8)	4.2 (16)	5 (19)				
4E19DB	4.7 (17.7)		8.4 (31.8)	4.3 (16.2)	5.1 (19.2)				
4F18DA	5.3 (20.1)		10.7 (40.5)	4.9 (18.6)	5.7 (21.5)				
4F18DB	5.5 (21)		10.8 (40.8)	5.2 (19.5)	5.9 (22.4)				
4F19DA	6 (22.6)		11 (41.8)	5.6 (21.1)	6.3 (24)				
4F19DB	6 (22.8)		11 (41.8)	5.6 (21.3)	6.4 (24.2)				

Company warrants that (i) all new equipment and parts (collectively, "Equipment") sold by Company will conform to printed drawings and specification sheets issued by Company and (ii) are free of defects in material and workmanship for the time period shown in Table 4.24. The warranty period commences on the date of shipment of the Equipment by Company.

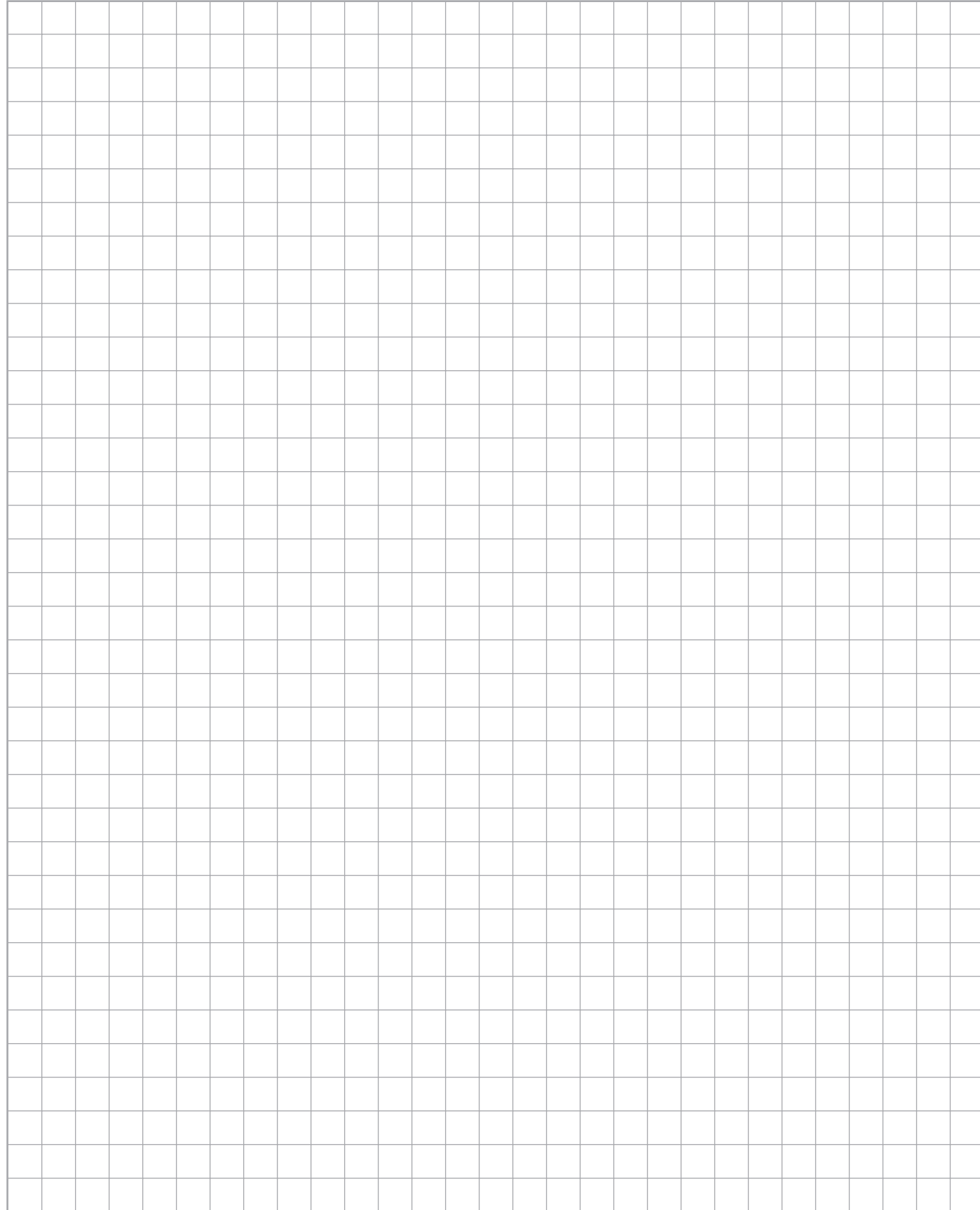
If, within the warranty period, Company receives from Buyer written notice of any alleged defect in any of the Equipment and, if the Equipment is found by Company not to conform with these warranties (after Buyer has provided Company a reasonable opportunity to perform any appropriate tests on the allegedly defective Equipment), Company will, at its sole option and expense, either repair or replace the Equipment. In all instances, Company reserves the right to require Buyer to deliver the Equipment for repair or replacement to a designated service center and require Buyer to pay all charges for inbound and outbound transportation and for services of any kind, diagnostic or otherwise, excepting only the direct and actual cost of Equipment repair or replacement. Warranty coverage is limited to parts and labor and does not include travel and other expenses. Buyer applications and use of the Equipment may require installation of safety features. Buyer is responsible for furnishing and installing guards or other safety equipment needed to protect operating personnel, even though such equipment may not be furnished by Company with the Equipment purchased. Equipment supplied, but not manufactured, by Company is warranted only to the extent of the original manufacturer's warranty.

Table 4.24 - Product Warranty

Product	Warranty Period (After Shipment)	Components Excluded
Cyclo® Speed Reducers and Gearmotors	2 Years	Bearings and Seals
Cyclo® Bevel Buddybox Speed Reducers and Gearmotors	2 Years	Bearings and Seals
Cyclo® Helical Buddybox Speed Reducers and Gearmotors	2 Years	Bearings and Seals
Fine Cyclo® Speed Reducers	2 Years	Bearings and Seals
Beier® Variator Mechanical Adjustable Speed Reducers	2 Years	Bearings and Seals
Hyponic® Speed Reducers and Gearmotors	2 Years	Bearings and Seals
Hedcon® Double Enveloping Worm Gear Speed Reducers	2 Years	Bearings and Seals
Helical Shaft Mount Speed Reducers	2 Years	Bearings and Seals
Rhytax®	2 Years	Bearings and Seals
IB Series Servo Gearheads	1 Year	Bearings and Seals
Astero Gearmotors	1 Year	Bearings and Seals
Variable Frequency Inverters	1 Year	---
Paramax® Speed Reducers	2 Years	Bearings and Seals
Compower Planetary Speed Reducers	1 Year	Bearings and Seals
Hansen UniMiner	2 Years	Bearings and Seals
Hansen P4	2 Years	Bearings and Seals
Parts	1 Year	---
Repairs	1 Year	Bearings and Seals

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