



## Sumitomo Drive Technologies

A global power transmission solutions provider, with facilities strategically located throughout the world, providing comprehensive products and services in your region.

- ★ MANUFACTURING HUB
- ASSEMBLY & SERVICE
- SERVICE
- ▲ REGIONAL SALES OFFICE



Sumitomo Machinery Corporation of America

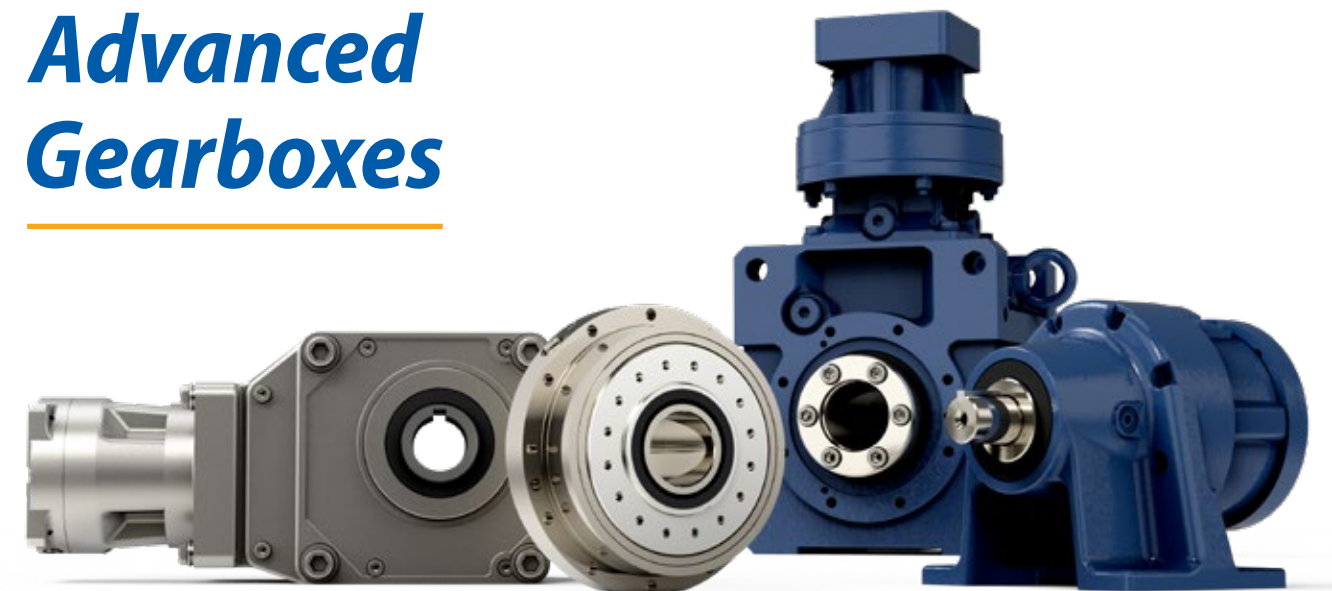
[www.SumiMotionControl.com](http://www.SumiMotionControl.com)

For worldwide locations, please visit [www.sumitomodrive.com/worldwide](http://www.sumitomodrive.com/worldwide)  
Contact your local representative at [www.sumitomodrive.com/representative](http://www.sumitomodrive.com/representative)  
Tel: 1-800-SM-CYCLO (762-9256) 01.086.51.004 Precision & Advanced Brochure 2024

Sumitomo Drive Technologies



## Precision and Advanced Gearboxes





We offer a comprehensive lineup of high quality motion control gearboxes.

For any of your motion control needs, we have the right product for you.

## We Know Motion Control

Lifestyle in general has always been changing because of the **fast development of information technologies**. Internet, social media, online shopping, video on demand, smart phones, and a high level of connectivity speed up our lives. **Products need to be available everywhere and at any time**. This has a strong influence on the development of **high-speed logistic systems and infrastructure** such as factories, storage, ports and terminals, railroads etc. In the industrial sector, the development of **Industry 4.0** has greatly changed machine and plant engineering in recent years.

The industrial world is increasingly entering an era of **automation and labour savings**. Companies that want to remain competitive need to **optimize** their operational and manufacturing processes. **Robots, machine tools**, and **automated factories** must be flexible, fast, and individual. This trend to automate all processes even affects the development of modern health equipment. **Speed and precision is key**. Most industrial processes need **high performance precision drives with low and zero backlash**.

Sumitomo Drive Technologies understands these growing challenges and offers a comprehensive range of products for high performance tasks. **We support our customers** with the creation of **tailor-made differentiating solutions**.

## Centers of Excellence

Our Centers of Excellence offer customers a **nationwide support network**. From inventory distribution to manufacturing to assembly, we have the team to ensure **high quality, responsiveness, on-time delivery, and quick lead times**.



### Chesapeake, VA

Our Western Hemisphere **headquarters** has **360,000 sq ft of manufacturing space**, and cutting-edge technology. **Centralized inventory distribution** with a **Foreign trade zone (FTZ)**, focused on inventory optimization, motor assembly, and hands-on training at our Power Institute.



### Nagoya, Japan

**Global** Sumitomo Power Transmission Control Manufacturing **Headquarters**. The Nagoya factory has been manufacturing the CYCLO® Reducer, Fine Cyclo®, as well as other reducers and motors, since it began operations back in 1961.



### Glendale Heights, IL

Houses our **state-of-the-art paint system** for our SHIELD360® packages for Cyclo®, BuddyBox®, and Hyponic®.



### Markt Indersdorf, Germany

**State-of-the-art facility** where precision drives, standard drives, and custom drive solutions are developed, manufactured, and assembled.

## Precision Gearboxes



### FC FINE CYCLO®

- Zero backlash Cycloidal
- Up to 138mm (Hollow Bore)
- Up to 265,522 N·m (30,000 lb·in)
- 29:1 up to 283:1



### EC ECY

- Zero Backlash Strain Wave
- Up to 25.5 mm (Hollow Bore)
- Up to 284 N·m (Momentary Torque)
- 50:1 up to 100:1

## Advanced Gearboxes



### C SERVO CYCLO®

- Up to 4,000 RPM Input Speed
- Up to 603,000 N·m
- 3:1 up to 658,503:1
- 1/2in to 7in (Output Shaft)



### H SERVO HYPONIC®

- Up to 3,600 RPM Input Speed
- Up to 269 N·m
- 5:1 up to 60:1
- 3/4in to 2in (Output Shaft)

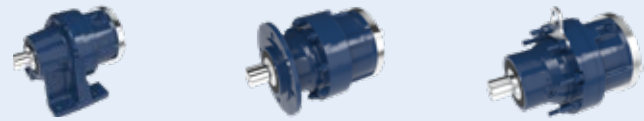


### B4 SERVO BEVEL BUDDYBOX®

- Up to 4,000 RPM Input Speed
- Up to 159,983 N·m
- 11:1 up to 26,000:1 and greater
- 1in to 4-15/16in (Output Shaft)

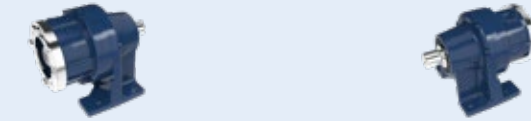


- "H" Foot
- V-Flange
- F-Flange



**MOUNTING**

- Key Hollow Bore
- Clamp Ring (Standard)



**INPUTS**

**SEALS**

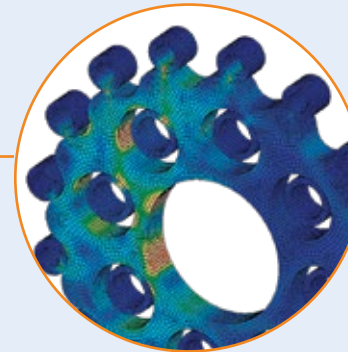
Wear sleeves and pressure-rated to prevent leaks.

**HOUSING**

Rugged, shock-resistant cast iron housing. Optional ductile iron housing also available.

**500% MOMENTARY SHOCK LOAD**

The Cyclo® design spreads the load across 2/3 of the reduction components, enabling the units to absorb and dissipate shocks better than typical concentric drives.



\*Rating applies to specific products.

**SLOW-SPEED SHAFT**

**CYCLO® DISC**

All rotating components are manufactured from fully hardened, vacuum degassed bearing-grade steel, for consistent, reliable performance.

**HIGH-SPEED SHAFT**

**CLAMP RING**

**SERVO MOTOR FLANGE**

**SERVO CYCLO®**

**UNMATCHED RELIABILITY & EXCEPTIONAL PERFORMANCE**

Cyclo® speed reducers and gearmotors are the **premier in-line drives**. The revolutionary Cyclo® design provides **quiet, efficient, and reliable** performance exceeding that of involute tooth gear designs.

Unlike geared designs, the Cyclo®'s reduction components operate in compression rather than shear, which results in exceptionally rugged and **shock resistant** performance.

The Cyclo® technology coupled with innovative product options and accessories offer the most extensive range of application solutions available.

**MOBIL SHC™ GEAR HI-SHOCK 150**

- High-Performance Synthetic Lubricant
- Available for Cyclo® Products
- Extends the Life up to 3 Times
- Available 3-Year Warranty

**SPECS**



**INPUT SPEED**  
Up to 4,000 RPM



**OUTPUT DIAMETER**  
1/2in to 7in  
(Solid Shaft)



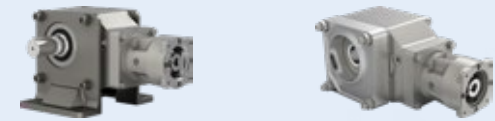
**TORQUE**  
Up to 603,000 lb·in  
(68,130 N·m)



**RATIO RANGE**  
3:1 up to 658,503:1

• Foot Mount

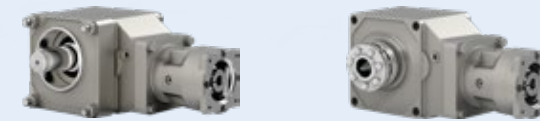
• Flange



### MOUNTING

• Plug-In-Shaft

• Shrink Disc



• Clamp Ring(Standard)

### OUTPUTS



### INPUTS

### QUALITY HOUSING

Aluminum housing is lighter and increases thermal rating.

### SEALS

Multiple lip, harsh duty, and food-grade designs available to prevent leaks.

### DUAL TAPER ROLLER BEARINGS

### CLAMP RING INPUT

Hollow bore input for a smooth shaft. Ideal for easy installation and torque transfer.



### ALL-STEEL HYPOID GEARING

Patented Hyponic® gear technology is up to 93% gear efficient across all ratios providing a smooth, quiet operation which does not require a cooling fan.

### HYPOID PINION

Single-piece all steel hypoidal pinion for longer life. Lasts millions of cycles without measurable wear.

### CLAMP RING

### MOTOR ADAPTER

## H SERVO HYPONIC®

### REQUIRES NO OIL CHANGES AND UP TO 93% EFFICIENT

The Sumitomo Hyponic® gearing represents over 25 years of hypoid gearing excellence. With millions of Hyponic® units currently in service, the product features a compact, modular housing, maintenance-free grease lubrication and boasts a gear efficiency of up to 93% across all ratios.

The maintenance-free grease lubrication enables the unit to be mounted in any orientation without custom modifications. In addition to general-purpose solutions, with multiple food grade options, Hyponic® is perfect for harsh, high-pressure wash-down environments.

Simplify your gear drive assembly and increase efficiency by switching to Hyponic®.

### OPTIONS



SHIELD360® Protection



Easy-Grip™

### SPECS



INPUT SPEED  
Up to 3,600 RPM



OUTPUT DIAMETER  
3/4in to 2in



TORQUE  
Up to 269 N·m



RATIO RANGE  
5:1 up to 60:1







**DUCTILE IRON HOUSING**

Twice as strong as cast iron, making it one of the most rugged bevel gearboxes on the market.

**OPTIONAL TACONITE SEAL ASSEMBLY**

Heavy-duty, fortified, grease purgeable system withstands the most demanding applications.

**TAPERED BEARINGS**

Resist axial and radial loads simultaneously.

**TANDEM DUAL LIP SEALS**

Prevent leaks and exclude contaminants.



**ONE PIECE PINION**

Oversized, single-piece pinion provides a robust solution capable of 300% momentary shock-load. Designed and manufactured in the USA.

**100% HARDENED STEEL COMPONENTS**

Provide long life, smooth operation, and superior strength.

**CYCLO® DISC**

All rotating components are manufactured from fully hardened, vacuum degassed bearing-grade steel, for consistent, reliable performance.

**BEARING**

**B4 SERVO BEVEL BUDDYBOX®**

**RIGHT ANGLE SPIRAL BEVEL WITH CYCLO® OR PLANETARY INPUTS**

A robust, state-of-the-art, mid-sized family of speed reducers and gearmotors. The Cyclo® BBB4 has a unique combination of features that result in a **highly reliable, efficient, and durable gearbox**. The all-steel internal construction, Cyclo® or planetary gear inputs and the ductile iron housing, provide **unmatched ruggedness**.

Also available as a **mixer drive** with an **integrated drywell** and space-saving footprint. BBBH design available for **low ratio options**.

**MOBIL SHC™ GEAR HI-SHOCK 150**

- High-Performance Synthetic Lubricant
- Available for Cyclo® Products
- Extends the Life up to 3 Times
- Available 3-Year Warranty

**SPECS**



**INPUT SPEED**  
Up to 4,000 RPM



**OUTPUT DIAMETER**  
1 in to 4-15/16 in  
(Hollow & Solid)



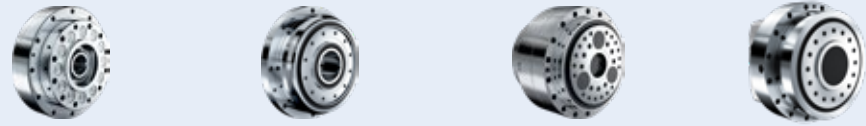
**TORQUE**  
Up to 159,983 lb·in  
(18,076 N·m)



**RATIO RANGE**  
11:1 up to 26,000:1  
and greater



- A-Series
- C-Series
- UA-Series
- DA-Series

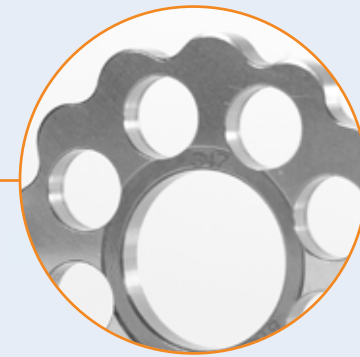


**SERIES**

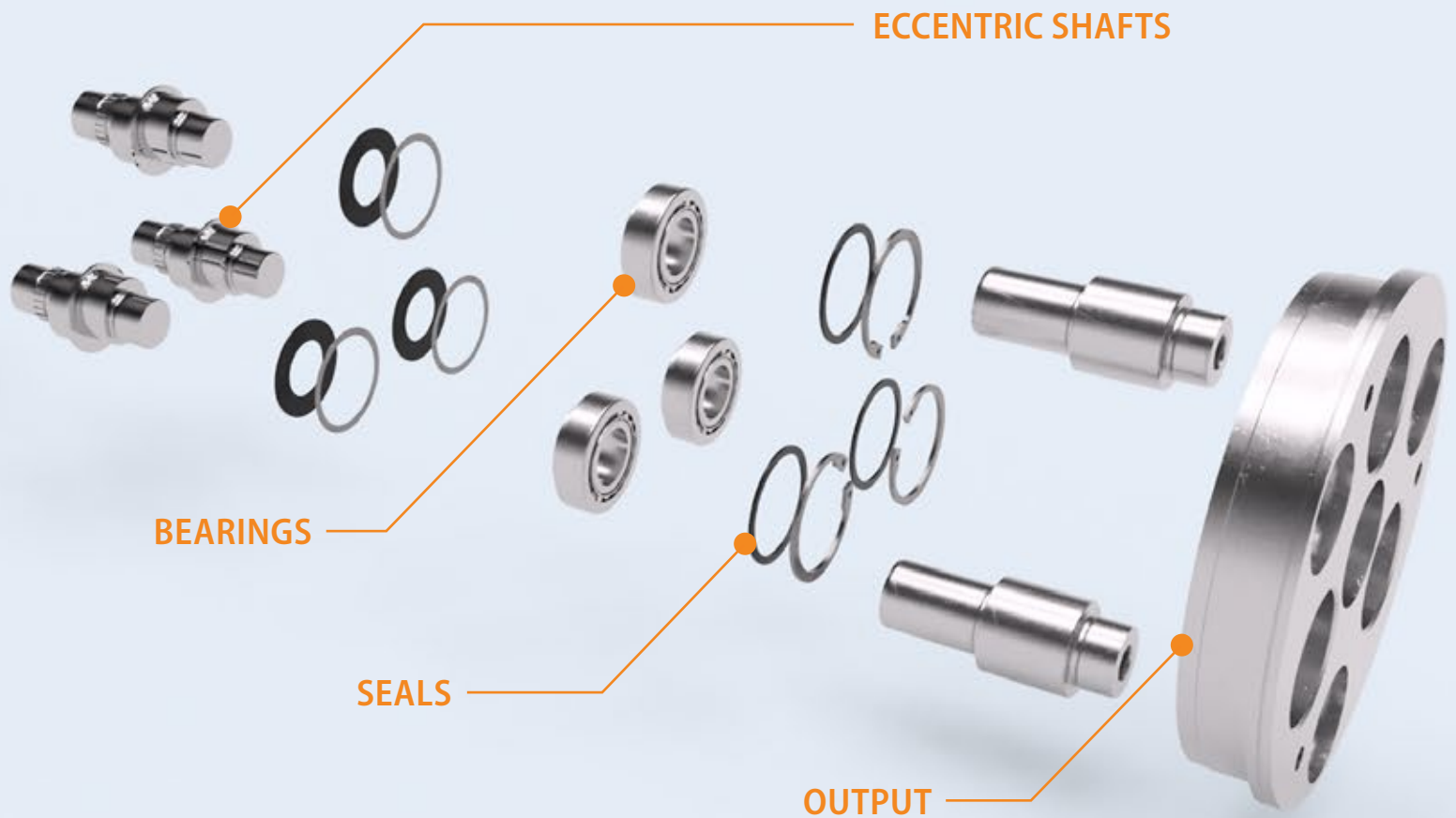
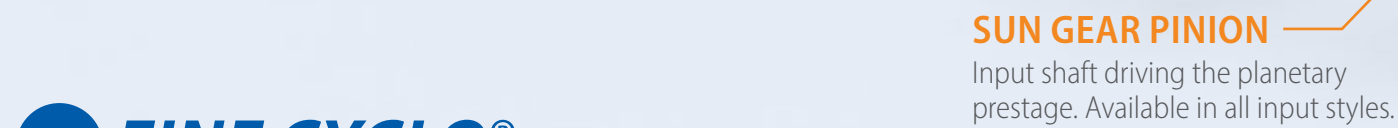
- Hollow Shaft
- Keyed
- Coupling
- Clamp Ring



**INPUTS & OUTPUTS**



**CYCLO® DISC**  
The same proven Cyclo® technology found in our industrial reducers, designed and optimized for precision applications where zero backlash is required.



**HIGH PRECISION POINT TO POINT AND TRAVERSE MOVEMENT**

The Fine Cyclo® product series are **high precision cycloidal gearboxes** with **zero backlash**. These single and double stage gearboxes are **highly compact** in design, provide **long life**, and can be optimally integrated into your application. **High torsion** combined with their **low moments of inertia**, create ideal solutions for highly dynamic tasks.

- A Series** - High precision point to point movement. Single stage with high acceleration torque and bearing capacity.
- C Series** - Large hollow shaft with high precision point to point movement. Fully sealed, single stage gearbox.
- UA Series** - Highly efficient traverse movement. Double stage gearbox with a planetary 1st stage and cycloidal 2nd.
- DA Series** - New single stage gearbox with high acceleration torque and stiffness. Fully sealed.

**Servorun Sizing Software**

As part of our support in the design phase of new applications, our sizing software Servorun verifies the gearbox selection as well as motor suitability.

**SPECS**

- NOM TORQUE**  
Up to 12,000 N·m  
(106,209 lb·in)
- DIAMETER**  
Up to 138 mm  
(Hollow Bore)
- ACCEL TORQUE**  
Up to 30,000 N·m  
(265,522 lb·in)

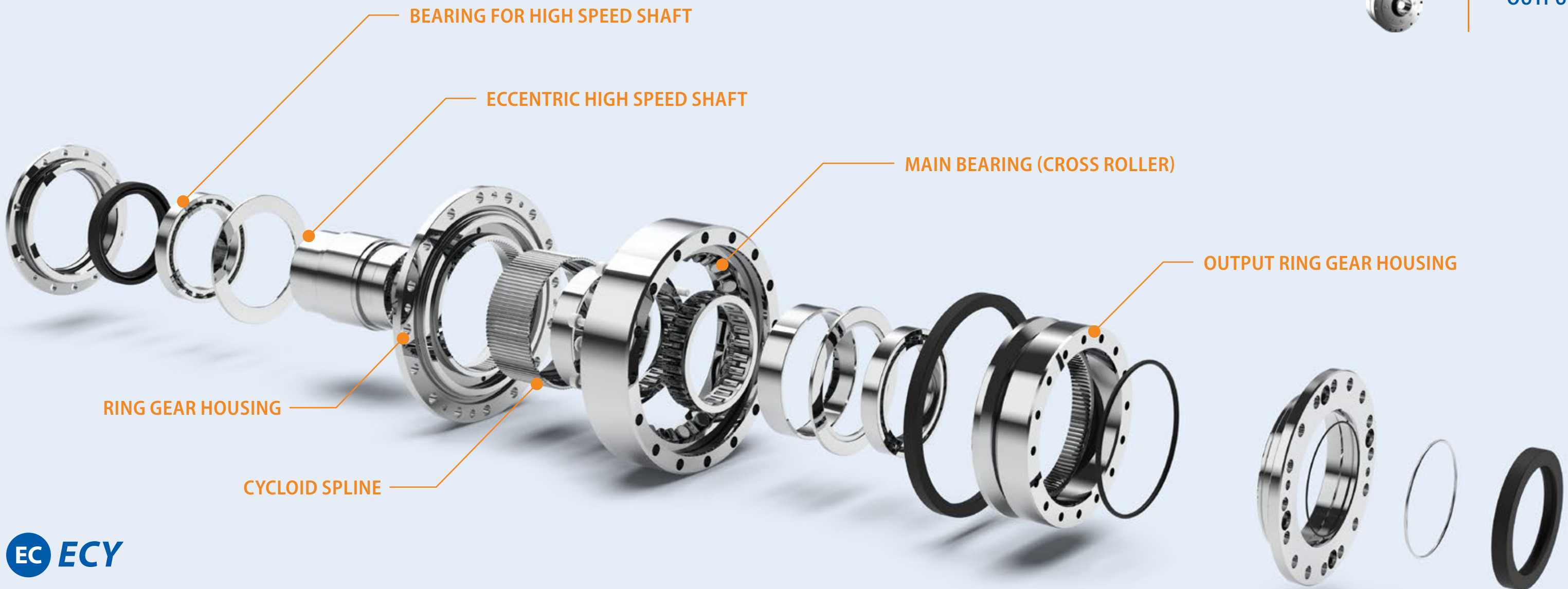
- RATIO RANGE**  
29:1 to 283:1
- INPUT SPEED**  
Up to 10,260 RPM



• Hollow Shaft



INPUTS & OUTPUTS



### HIGH PRECISION POINT TO POINT AND TRAVERSE MOVEMENT

Compact Zero Backlash Gearbox blending traditional strain wave reduction and cycloidal engagement technology.

The ECY precision gearboxes were created using a trochoid tooth design similar to our Cyclo® for zero backlash applications.

The ECY features a highly compact design to achieve excellent torque density. The torsional stiffness is approximately twice that of the general strain wave gear competitor. The ratcheting torque (safety in the event of an overload) is much higher due to our inclusion of the cycloidal tooth design which is unique to the market.

### Servorun Sizing Software

As part of our support in the design phase of new applications, our sizing software Servorun verifies the gearbox selection as well as motor suitability.

SPECS



**NOM TORQUE**  
Up to 67 N·m  
(6.8 kgf·m)



**DIAMETER**  
Up to 25.5 mm  
(Hollow Bore)



**ACCEL TORQUE**  
Up to 284 N·m  
(29.0 kgf·m)



**RATIO RANGE**  
29:1 to 283:1



**INPUT SPEED**  
Up to 8,500 RPM



# Precision Gearboxes

For over 30 years, Sumitomo Drive Technologies has been providing reducers which excel in applications where you demand precise positioning and zero backlash, such as the robotics, automation, machine tools, and medical industries.

## Fine Cyclo

- Single and Double Stage Options
- Clamp Ring and Keyed Hollow Bored Options
- Highest Torque Density
- Zero Backlash
- High Inout Speed
- Low Moment of Inertia

## ECY

- Unique Strain Wave Design
- Light Weight
- Highest Torque Density
- Zero Backlash
- High Input Speed

## Industries

Aerospace



Food and Beverage



Machine Tool



Packaging



Medical



Communications



Material Handling



AGV



## Applications

Pick and Place



Robotics



Gantry



Conveyor/  
Accumulator



Backstop  
Positioning



Robot/Material  
Transfer



Antenna  
Positioning



Material Storage/  
Racks



# Advanced Gearboxes

Sumitomo Drive Technologies is a global industry leader in Power Transmission gearing. We are taking that same quality, ruggedness, and commitment to the customer and adapting our standard backlash reducers.

These gearboxes have been redesigned for advanced servo mechatronic systems. These gearboxes excel in applications where you demand reliability and consistency such as the material handling, warehouse, Food & Beverage, and the Autonomous Guided Vehicle (AGV) industries.