

CYCLO Reducer	Lubrication Method
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Table below shows standard lubrications for CYCLO DRIVE (#4000 and #6000). Consult Sumitomo when changing lubrication for specific operating conditions (ambient temperature, operating time, start/stop frequency, load condition, etc.)

Table 1 (6000#)

	Horizontal		Vertical	
Single Reduction	Grease lubrication for 612H and below (SHELL ALVANIA GREASE RA) Oil bath lubrication for 6130 and above (Industrial extreme-pressure gear oil)		Grease lubrication for 6125 and below (SHELL ALVANIA GREASE RA) Oil bath lubrication 6130~6145 (Industrial extreme pressure gear oil) Forced oil lubrication 6160 and above (Industrial extreme pressure gear oil) (Plunger pump system and trochoid pump system) (Refer to Table 2.)	
Double Reduction	6060DA, 6070DA, 6090DA, 6065DA, 6075DA, 6095DA, 6100DA, 6120DA, 6120DB, 6105DA, 6125DA, 6125DB,	Grease lubrication (SHELL ALVANIA GREASE RA)	6060DA ,6070DA ,6090DA 6065DA ,6075DA ,6095DA 6100DA ,6120DA ,6120DB 6105DA ,6125DA ,6125DB	Grease lubrication (SHELL ALVANIA GREASE RA)
	6130DA, 6130DB, 6130DC, 6135DA, 6135DB, 6135DC, 6140DA, 6140DB, 6140DC, 6145DA, 6145DB, 6145DC, 6160DA, 6160DB, 6165DA, 6165DB, 6170DA, 6170DB, 6175DA, 6175DB, 6180DA, 6185DA	Grease lubrication (SHELL ALVANIA GREASE 2 or Cosmo Grease DYNAMAX SH No.2)	6130DA, 6130DB, 6130DC 6135DA, 6135DB, 6135DC 6140DA, 6140DB, 6140DC 6145DA, 6145DB, 6145DC 6160DA, 6160DB, 6165DA 6165DB, 6170DA, 6170DB 6175DA, 6175DB, 6180DA 6185DA	Grease lubrication (SHELL ALVANIA GREASE 2 or Cosmo grease DYNAMAX SH No.2)
	6160DC, 6165DC, 6170DC 6175DC, 6180DB, 6185DB 6190DA, 6190DB, 6195DA 6195DB, 6205DA, 6205DB 6215DA, 6215DB, 6225DA 6225DB, 6235DA, 6235DB 6245DA, 6245DB, 6255DA 6255DB, 6265DA, 6275DA	Oil bath lubrication (Industrial extreme pressure gear oil)	6160DC, 6165DC, 6170DC 6175DC, 6180DB, 6185DB 6190DA, 6190DB, 6195DA 6195DB, 6205DA, 6205DB 6215DA, 6215DB, 6225DA 6225DB, 6235DA, 6235DB 6245DA, 6245DB, 6255DA 6255DB, 6265DA, 6275DA	Refer to Table 6
Triple Reduction	Grease lubrication for types with 6105 and below for first reduction. (SHELL ALVANIA GREASE 2 or Cosmo Grease) DYNAMAX SH No.2 Oil lubrication for single-phase 6110 and above. (Industrial extreme pressure gear oil)		Grease lubrication for 6060TA ~ 6265TB. (SHELL ALVANIA GREASE 2 or Cosmo Grease) DYNAMAX SH No.2 Determine on case-by-case for 6275TA and above.	

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Table of Lubrication Methods

Table 2 (6000#)

Lubrication for Standard Vertical Type Single Reduction

Reduction Ratio Frame Size	6	8	11	13	15	17	21	25	29	35	43	51	59	71	87	Remarks
6160 6165	1R, 1P*	1R, 1P*	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	Small plunger pump
6170 6175	1R, 1P*		1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	6R, 1P	6R, 1P	Small plunger pump
6180 6185			2R, 1P	2R, 1P	2R, 1P	2R, 1P	2R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	6R, 1P	6R, 1P	Small plunger pump
6190 6195			2R, 2P	2R, 2P	2R, 2P	2R, 2P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	6R, 2P	6R, 2P	Small plunger pump
6205			1R, 1P		1R, 1P		2R, 1P		3R, 1P		3R, 1P		3R, 1P		6R, 1P	Large plunger pump
6215			1R, 1P		1R, 1P		2R, 1P		3R, 1P		3R, 1P		3R, 1P		6R, 1P	Large plunger pump
6225			1R, 2P		1R, 2P		2R, 2P		3R, 1P		3R, 1P		6R, 1P		6R, 1P	Large plunger pump
6235			2R, 2P		2R, 2P		3R, 2P		5R, 1P		6R, 1P		6R, 1P		8R, 1P	Large plunger pump
6245			2R, 2P		2R, 2P		3R, 2P		5R, 1P		6R, 1P		8R, 1P		8R, 1P	Large plunger pump
6255			2R, 1P		2R, 1P		3R, 1P		5R, 1P		6R, 1P		7R, 1P		9R, 1P	Large plunger pump
6265			2R, 1P		2R, 1P		3R, 1P		5R, 1P		7R, 1P		7R, 1P		10R, 1P	Large plunger pump
6275							TOP216HB 0.75kWx4P		TOP216HB 0.75kWx4P		TOP216HB 0.75kWx4P		TOP216HB 0.75kWx4P		TOP216HB 0.75kWx4P	Trochoid pump
Input speed	Low-speed shaft speed (r/p)															Remarks
1450	242	181	132	112	96.7	85.3	69.0	58.0	50.0	41.4	33.7	28.4	24.6	20.4	16.7	
1750	292	219	159	135	117	103	83.3	70.0	60.3	50.0	40.7	34.3	29.7	24.6	20.1	
980	-	-	89.1	-	65.3	-	46.7	-	33.8	-	22.8	-	16.6	-	11.3	
1165	-	-	106	-	77.7	-	55.5	-	40.2	-	27.1	-	19.7	-	13.4	
Note: 1. Eccentricity of the cam with a *mark is different from other reduction 2. R: Number of cam ridges. 3. P: Number of plunger pumps																

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Table 3 (6000#)		Lubrication for Standard Vertical Double Reduction Type																				Remarks						
Reduction Ratio	Frame Size	104	121	143	165	195	231	273	319	377	473	559	649	731	841	1003	1247	1479	1849	2065	2537		3045	3481	4437	5133	6177	7569
6160DC							6R, 1P																					
6170DC	6R 1P						11R, 1P							14R, 1P														
6180DB	6R 1P						11R, 1P							18R, 1P														
6190DA	6R 1P						11R, 1P							17R, 1P						17R, 2P								
6190DB	6R 1P						11R, 1P							17R, 1P						17R, 2P								
6205DA	1R 1P		2R, 1P				3R, 1P						6R, 1P							9R, 1P								
6205DB	2R 1P		2R, 1P				3R, 1P						6R, 1P							9R, 1P								
6215DA	2R 1P		2R, 1P				3R, 1P							6R, 1P						10R, 1P								
6215DB	2R 1P		2R, 1P				3R, 1P							6R, 1P						10R, 1P								
6225DA	2R 1P		2R, 1P				3R, 1P							6R, 1P						10R, 1P								
6225DB	2R 1P		2R, 1P				3R, 1P							6R, 1P						10R, 1P								
6235DA	2R 1P		2R, 1P				3R, 1P							5R, 1P	6R, 1P	8R, 1P				11R, 1P								
6235DB	3R 1P		3R, 1P				3R, 1P	5R, 1P	6R, 1P	8R, 1P										11R, 1P								
6245DA	2R 1P		2R, 1P				3R, 1P							5R, 1P	6R, 1P	8R, 1P				11R, 1P								
6245DB	3R 1P		3R, 1P				3R, 1P	5R, 1P	6R, 1P	8R, 1P										11R, 1P								
6255DA	3R 1P		3R, 1P				3R, 1P	5R, 1P	6R, 1P	7R, 1P										12R, 1P								
6255DB	6R 1P		6R, 1P				7R, 1P													12R, 1P								
6265DA	7R 1P		7R, 1P				7R, 1P	10R, 1P												13R, 1P								
6275DA																				TOP204HB (0.4kW x 4P)								
Input Speed		Low-Speed Shaft Speed (r/p)																										
1450		13.9	12.0	10.1	8.79	7.44	6.28	5.31	4.55	3.85	3.07	2.59	2.23	1.98	1.72	1.45	1.16	0.980	0.784	0.702	0.572	0.476	0.417	0.327	0.282	0.235	0.192	
1750		16.8	14.5	12.2	10.6	8.97	7.58	6.41	5.49	4.64	3.70	3.13	2.70	2.39	2.08	1.74	1.40	1.18	0.946	0.847	0.690	0.575	0.503	0.394	0.341	0.283	0.231	
Note: Refer to other data for the combination of frame size and reduction ratio.																												

SHELL ALVANIA GREASE 2 or COSMO GREASE DYNAMAX SH No.2 is applicable to frame sizes other than those shown in left.

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Lubrication Method

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Table 4 (4000#)

	Horizontal		Vertical	
Single Reduction	Grease lubrication for 4125 and below. (SHELL ALBANIA GREASE RA) Oil bath lubrication for 4130 and above. (Industrial extreme pressure gear oil)		Grease lubrication for 4125 and below. (SHELL ALBANIA GREASE RA) Oil bath system lubrication for 4130 ~ 4155. (Industrial extreme pressure gear oil) Forced oil lubrication for 4160 and above. (Industrial extreme pressure gear oil) (Refer to Table 5 for plunger pump system and trochoid pump system)	
Double phase	4070DA, 4085DA, 4095DA 4105DA, 4115DA, 4115DB	Grease lubrication (SHELL ALBANIA Grease RA)	4075DA, 4085DA, 4095DA 4105DA, 4115DA, 4115DB	Grease Lubrication (SHELL ALBANIA Grease RA)
	4130DA, 4130DB, 4130DC 4135DA, 4135DB, 4135DC 4145DA, 4145DB, 4145DC 4160DA, 4160DB, 4165DA 4165DB, 4170DA, 4170DB 4175DA, 4175DB, 4180DA 4185DA	Grease Lubrication (SHELL ALBANIA Grease 2 or Cosmo grease DYNAMAX SH No.2)	4130DA, 4130DB, 4130DC 4135DA, 4135DB, 4135DC 4145DA, 4145DB, 4145DC 4160DA, 4160DB, 4165DA 4165DB, 4170DA, 4170DB 4175DA, 4175DB, 4180DA 4185DA	Grease Lubrication (SHELL ALBANIA Grease 2 or Cosmo grease DYNAMAX SH No.2)
	4160DC, 4165DC, 4170DC 4175DC, 4180DB, 4185DB 4190DA, 4190DB, 4195DA 4195DB, 4205DA, 4205DB 4215DA, 4215DB, 4225DA 4225DB, 4235DA, 4235DB 4245DA, 4245DB, 4255DA 4255DB, 4265DA, 4270DA 4275DA	Oil bath lubrication (Industrial extreme pressure gear oil)	4160DC, 4165DC, 4170DC 4175DC, 4180DB, 4185DB 4190DA, 4190DB, 4195DA 4195DB, 4205DA, 4205DB 4215DA, 4215DB, 4225DA 4225DB, 4235DA, 4235DB 4245DA, 4245DB, 4255DA 4255DB, 4265DA, 4270DA 4275DA	Refer to Table 6.
Triple Reduction	Grease lubrication for types with 4105 and below for first reduction. (SHELL ALBANIA GREASE 2 or Cosmo Grease) DYNAMAX SH No.2 Oil bath for single phase above 4115. (Industrial extreme pressure gear oil)		Grease lubrication for 4075TA~4265TB. (SHELL ALBANIA GREASE 2 or Cosmo Grease) DYNAMAX SH No.2 Determined on case-by-case for 4270TA and above.	



Table of Lubrication Methods

Table 5 (4000#)		Standard Vertical Type Single Reduction															Remarks	
Reduction Ratio	Frame Size	6	8	11	13	15	17	21	25	29	35	43	51	59	71	87	Remarks	
4160	4165	1R, 1P*	1R, 1P*	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	Small plunger pump	
4170	4175	1R, 1P*		1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	1R, 1P	6R, 1P	6R, 1P	Small plunger pump
4180	4185			2R, 1P	2R, 1P	2R, 1P	2R, 1P	2R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	6R, 1P	6R, 1P	Small plunger pump
4190	4195			2R, 2P	2R, 2P	2R, 2P	2R, 2P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	3R, 1P	6R, 2P	6R, 2P	Small plunger pump
4205				1R, 1P		1R, 1P		2R, 1P		3R, 1P		3R, 1P		3R, 1P		6R, 1P		Large plunger pump
4215				1R, 1P		1R, 1P		2R, 1P		3R, 1P		3R, 1P		3R, 1P		6R, 1P		Large plunger pump
4225				1R, 2P		1R, 2P		2R, 2P		3R, 1P		3R, 1P		6R, 1P		6R, 1P		Large plunger pump
4235				2R, 2P		2R, 2P		3R, 2P		5R, 1P		6R, 1P		6R, 1P		8R, 1P		Large plunger pump
4245				2R, 2P		2R, 2P		3R, 2P		5R, 1P		6R, 1P		8R, 1P		8R, 1P		Large plunger pump
4255				2R, 1P		2R, 1P		3R, 1P		5R, 1P		6R, 1P		7R, 1P		9R, 1P		Large plunger pump
4265				2R, 1P		2R, 1P		3R, 1P		5R, 1P		7R, 1P		7R, 1P		10R, 1P		Large plunger pump
4270	4275						TOP216HB 0.75kWx4P			TOP216HB 0.75kWx4P		TOP216HB 0.75kWx4P		TOP216HB 0.75kWx4P		TOP216HB 0.75kWx4P		Trochoid pump
Input speed		Low-Speed Shaft Speed (r/p)															Remarks	
1500	250	188	136	115	100	88	71	60	52	43	35	29	25	21	17			
1800	300	225	164	138	120	106	86	72	62	51	42	35	31	25	21			
1000	-	-	91	-	67	-	48	-	34	-	23	-	17	-	11			
1200	-	-	109	-	80	-	57	-	41	-	28	-	20	-	14			
Note: 1. Eccentricity of the cam with a *mark is different from other reduction 2. R: Number of cam ridges 3. P: Number of plunger pumps																		

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