



Cyclo® 6000

High Torque Density, High Reliability Cycloidal Speed Reducers and Gearmotors. The Sumitomo Cyclo drive is unsurpassed by any other inline drive available in the market today. Cyclo's unique epicycloidal design has advantages superior to speed reducers using common involute tooth gears. Cyclo components operate in compression, not in shear.



Astero

Modular Parallel Shaft Gearheads and Gearmotors for Light Industrial and Commercial Applications. The Astero family of fractional powered Gearmotors and Controllers are built on Sumitomo's legacy of high quality, precision gearing and world-class designs. Engineered for light duty applications, the Astero is remarkably rugged in construction and incorporates parallel-shaft involute gearing for maximum efficiency and quiet operation.



Neo Hyponic®

All-Steel Hypoid Technology: Fractional Geared Hypoid Gearmotors, Optional IP65 Housing. Sumitomo's Neo Hyponic fractional powered gearmotors incorporate a patented design that provides high reduction ratios delivering greater efficiency in all models. The patented Hypoid gear set, built on Sumitomo's legacy of premier gearing designs, are the most reliable, longest-life gearing solutions available in the market.



Cyclo® BBB

All Steel Hypoid Gear Technology, Compact Design with Multiple Mounting Configurations. Sumitomo's Cyclo Bevel Buddybox (Cyclo BBB) combines the long-proven Cyclo gear reducer and a single stage right angle spiral bevel gearbox in a rugged integral, shaft-mounted design. The BBB incorporates the strength and flexibility of the Cyclo reducer with the adaptability of a shaft-mounted, right angle reducer.



Cyclo® HBB

Integrated Parallel Shaft, Single Stage, Helical Gearbox with Cyclo® Speed Reducer. Sumitomo's Cyclo Helical Buddybox (Cyclo HBB) combines the long-proven Cyclo reducer and a single stage offset parallel helical gearbox in a rugged integral, shaft-mounted design. The HBB incorporates the strength and flexibility of the Cyclo reducer with the adaptability of a shaft-mounted, reducer.



IB Precision Gearhead

Precision Planetary Gearheads for Servomotor Applications. Sumitomo's IB Precision Planetary Gearheads are designed for maximum mounting flexibility and easy installation in demanding servomotor applications. Like all Sumitomo speed reducers, the expertly engineered internal planetary gearing design maintains optimum power distribution and even gear contact, thus minimizing wear and ensuring long, quiet, trouble-free operation.



Servo 100

Low Backlash Servomotor Reducer for Precision Machinery. The Servo 100 Series Speed Reducers are based on the Cyclo concept. They offer an excellent combination of high strength, low inertia, low noise and high reduction ratios in a small, lightweight package. Precision machined components maintain standard backlash ratings of 3 arc minutes, and as low as 1.5 arc minutes on special request.



Servo 6000

Cyclo® 6000 Low Backlash, High Torque Servomotor Reducer. The Servo 6000 Series Speed Reducers are low backlash versions of the standard Cyclo drive. They are available in both foot mounted and flange mounted designs. Its precision machined components maintain standard backlash ratings of 6 arc minutes, except for the 6:1 ratio, which is 12 arc minutes.



Paramax® 9000

High Performance, Industrial Gearbox in Universal Housing. Paramax® parallel shaft and right angle drives are built on almost six decades of Sumitomo excellence in power transmission engineering. Some of the largest, and most durable power transmission systems operating in the world were designed and manufactured by Sumitomo.

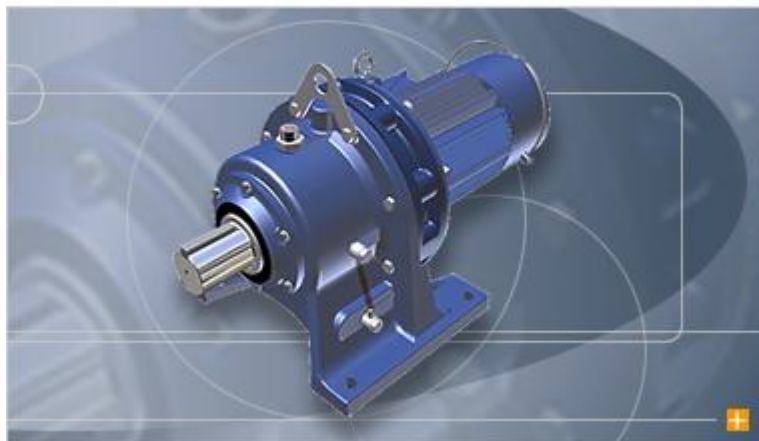


Fine Cyclo®

Zero Backlash Design, Component Level Precision Cyclo® Reducers. Precision gears with 0 mechanical backlash for highest requirements: Fine Cyclo precision gears emphasise zero backlash, extremely small lost motion and very high torsional stiffness to insure the ultimate in positioning accuracy. Because Fine Cyclo is based on the Cyclo speed reduction principals and technology, it withstands high shock loads, and boasts high reduction ratios in a small package.

Cyclo® 6000

High Torque Density, High Reliability Cycloidal Speed Reducers and Gearmotors



Specifications

Sizes:	34 models
Torque Rating:	3 to 68,200 Nm
Power Rating:	0.12 to 55 kW
Ratio Range:	3 to 119 (single), 121 to 7569 (double), 216 to 658,503 (triple)
Mounting:	Foot, Flange, Face Mount
Motor Standards:	NEMA, IEC, JIS, UL, CSA, CE

Product Description

The Sūmitomo Cyclo drive is unsurpassed by any other inline drive available in the market today. Cyclo's unique epicycliodal design has advantages superior to speed reducers using common involute tooth gears. Cyclo components operate in compression, not in shear. Unlike gear teeth with limited contact points, a Cyclo has two thirds of its reduction components in contact at all times. This design enables Cyclo speed reducers and gearmotors to withstand shock loads exceeding 500% of their ratings, and provide exceptional performance, reliability and long life in the most severe applications.

Features & Benefits

- Highest overload capacity, up to 500%
- Exceptional life with a 24 month unlimited warranty
- High efficiency, even at high reduction ratios
- Unlike involute gearing, no thermal limits
- Available as inline speed reducer or gearmotor
- Ideal for severe, high shock applications
- Grease lubricated for no maintenance

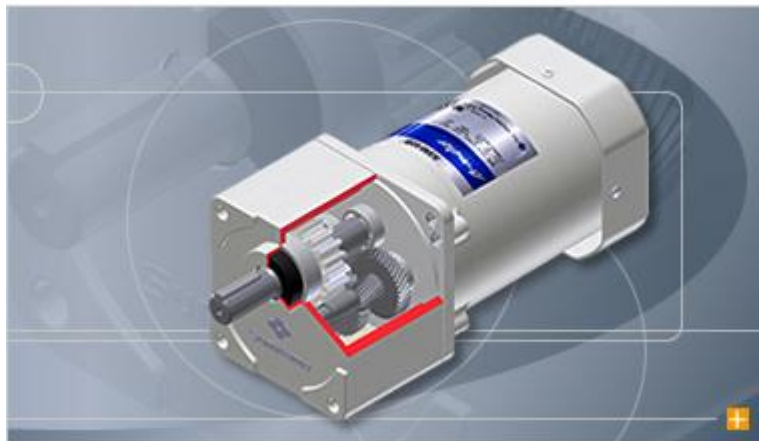
Applications

- Conveyors
- Food Machinery
- Mixers
- Automotive Plants
- Wastewater Treatment
- Recycling Equipment
- Poultry Processing Equipment
- Sawmills and Woodyard Equipment
- Runout Tables
- Construction Machinery

- Paper Handling Equipment

Astero

Modular Parallel Shaft Gearheads and Gearmotors for Light Industrial and Commercial Applications



Specifications

Ratios:	24 Ratios, from 3:1 to 200:1
Torque:	0.13 to 20 Nm
Electrical:	115 Volts Single-Phase, 50/60 Hz, 220 Volts Single- and 3-Phase, 50/60 Hz
Motor:	6, 15, 25, 40, 60 and 90 Watt AC Induction Motors
Shaft:	Inch, metric
Housing:	Aluminum housing, clear silver metallic color
Mounting:	Face and foot
Approvals:	UL and CUL (115V, Single Phase), CE (with thermal protection)
Lubrication:	Grease, no maintenance

Options

- Motorbrake
- Rightangle Gear
- Frequency Inverter
- Mounting Plate

Product Description

The Astero family of fractional powered Gearmotors and Controllers are built on Sumitomo's legacy of high quality, precision gearing and world-class designs. Engineered for light duty applications, the Astero is remarkably rugged in construction and incorporates parallel-shaft involute gearing for maximum efficiency and quiet operation. Astero is a cost-effective solution for OEMs who require optimum performance, quality construction and long service life, all backed by the stability and support of a world-leader in gearing solutions.

Features & Benefits

- A long-life solution for OEM applications with no plastic or bronze gears
- Light duty gearmotor for maintenance-free applications
- High quality construction with sealed ball bearings, all steel gears, and rugged aluminum housing
- Parallel shaft-type involute gears offer maximum efficiency
- Universal mounting configurations for easy adaptability to a wide range of applications in space-constrained environments
- Sealed, grease-lubricated construction requires no maintenance
- Optional reversible and induction motors, brake and speed controller options

Applications

- Food Processing Machines: Ice Cream, Ice, Popcorn, Beverage
 - Institutional Food Equipment
 - Roller, Belt and Ramp Conveyors
 - Sealers and Packaging Equipment
 - Medical Instruments and Healthcare Products
 - Stirrers, Agitators and Churns
 - Automated Bank Machines, Turnstiles and Money Sorters
 - Grinders, Presses, Woodworking Machinery
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- Amusement Machines and Automated Sports Equipment

Neo Hyponic®

All-Steel Hypoid Technology: Fractional Geared Hypoid Gearmotors, Optional IP65 Housing



Specifications

Ratios:	25 ratios, ranging from 5:1 to 1440:1
Torque:	0.30 to 1480 Nm
Motor:	15 W - 5,5 W
Power	15 to 90 Watts
Speed:	350 to 1.22 rpm
Electrical:	230 V - 400 V 3-phase; option Single-phase
Housing:	Aluminium housing with dual-coat epoxy paint, stainless steel bore and bolts, optional IP65
Mounting:	Flange and Foot
Output:	Hollow shaft and solid shaft
Lubrication:	Grease, no maintenance

Product Description

Sumitomo's Neo Hyponic fractional powered gearmotors incorporate a patented design that provides high reduction ratios delivering greater efficiency in all models. The patented Hypoid gear set, built on Sumitomo's legacy of premier gearing designs, are the most reliable, longest-life gearing solutions available in the market. The right angle shaft design of Neo Hyponic makes it space efficient, and allows for a greater variety of mounting configurations. With the optional IP65 dust-proof and waterproof feature, the Hyponic Neo is perfect for demanding applications such as food and beverage processing, packaging, agricultural processing, and chemical and pharmaceutical industries.

Features & Benefits

- Compact, integral hypoid gear design fits into limitless application environments
- Maintenance-free, grease-lubricated, sealed housing, with no lubricant leakage
- < 87% Efficiency
- High performance hypoid gears run cooler and quieter [<2dB(A)] than worm gears or bevel gears

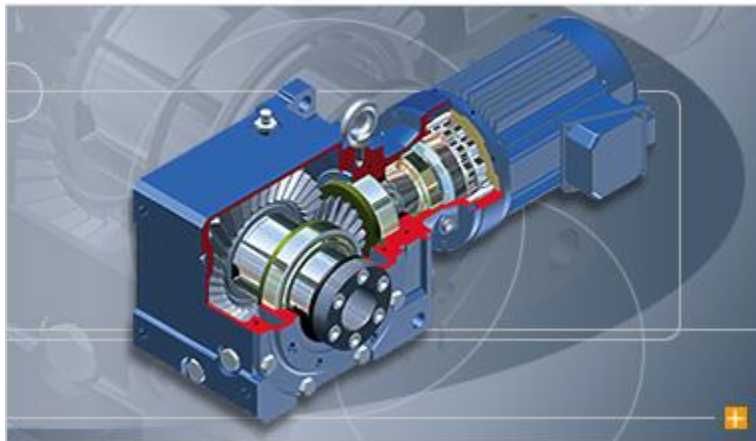
- Optional IP65 wash-down and dust-proof housing for maximum durability and cleanliness in demanding applications
- Hollow bore for quick and easy mounting
- "Hygiene +" option for Food Industry

Applications

- Canning, Bottling, Brewing and Sterilizing Machines
- Meat, Dairy, Baking and Food Processing Equipment
- Conveyors
- Food and Pharmaceutical Testing Equipment
- Medical and Healthcare Apparatus
- Water and Sewage Treatment Facilities
- Packaging and Container Filling Machines
- Machine Tools
- Measurement Instrumentation

Cyclo® BBB

All Steel Hypoid Gear Technology, Compact Design with Multiple Mounting Configurations



Specifications

Ratios:	11:1 up to 4,365:1 and greater
Torque Capacity:	Up to 13,400 Nm
Power:	0.12 to 30 kW
Mounting:	Hollow Shaft, Solid Shaft, Outputflange with TaperGrip
Options:	Integral Motor, IEC Adapter
Motor Standards:	NEMA, IEC, JIS, UL, CSA, CE

Product Description

Sumitomo's Cyclo Bevel Buddybox (Cyclo BBB) combines the long-proven Cyclo gear reducer and a single stage right angle spiral bevel gearbox in a rugged integral, shaft-mounted design. The BBB incorporates the strength

and flexibility of the Cyclo reducer with the adaptability of a shaft-mounted, right angle reducer. With a 24-month warranty, regardless of hours of operation, the Cyclo BBB is an excellent choice for applications in material handling, asphalt mixers, specialty machine industries, conveyors, and other applications requiring right angle orientation of speed reducers.

Features & Benefits

- Cycloidal input and oversized bevel gearing provides high overload capability and exceptional reliability for long life
- High performance steel gearing components provide 85-90% efficiency across all ratios
- Steel Taper-Grip® keyless shaft bushing allows for easy, cost-effective mounting of hollow shaft units
- Double output seals prevent leaks, maintain optimum lubrication and prevent harmful infiltration of contaminants
- Compact, space-saving design with no thermal limitations

Applications

- Material Handling
 - Casting Conveyors
 - Capstan Drive
 - Rolling Mill Table
 - Wire Drawing Machines
 - Food Processing
 - Asphalt Mixers
 - Printing Plant
 - Belt Filter Press
 - Shredders/Compactors
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- Chip Conveyors

Cyclo® HBB

Integrated Parallel Shaft, Single Stage, Helical Gearbox with Cyclo® Speed Reducer



Specifications

Ratios:	11:1 up to 4365:1 and greater
Torque Capacity:	8,570 Nm
Power:	0.12 to 30 kW
Mounting:	Hollow Shaft, Solid Shaft, Outputflange with TaperGrip
Options:	Integral Motor and IEC Adapter
Motor Standards:	NEMA, IEC, JIS, UL, CSA, CE

Product Description

Sumitomo's Cyclo Helical Buddybox (Cyclo HBB) combines the long-proven Cyclo reducer and a single stage offset parallel helical gearbox in a rugged integral, shaft-mounted design. The HBB incorporates the strength and flexibility of the Cyclo reducer with the adaptability of a shaft-mounted, reducer. With a 24-month warranty, regardless of hours of operation, the Cyclo HBB is an excellent choice for applications in material handling, shredders, specialty machine industries, conveyors, and other applications requiring a simple, convenient shaft mount reducer.

Features & Benefits

- Cycloidal input and oversized helical gearing provides high overload capability and exceptional reliability for long life
- Available as IEC adapter, or gearmotor input
- No belts, sheaves, guards, or keyways
- New CEMA flange option for screw conveyors
- High performance steel gearing components provide 85-90% efficiency across all ratios
- Steel Taper-Grip™ keyless shaft bushing allows for easy, cost-effective mounting and removal of hollow shaft units
- Double output seals prevent leaks, maintain optimum lubrication and prevent harmful infiltration of contaminants

Applications

- Material Handling
- Conveyors
- Shredders
- Belt Filter Press
- Mixer/Blender Food Processing
- Rolling Mill Table
- Screw Conveyors
- Elevators

- Hoist Drives
- Climber Screens

IB Precision Gearhead

Precision Planetary Gearheads for Servomotor Applications



Specifications

Frame Sizes:	60 mm, 90 mm and 120 mm
Continuous Torque Ratings:	15 to 126 Nm
Efficiency:	Greater than 90%
Noise:	70 dB/0.5 m
Backlash	10 arc minutes (3 arc minutes optional)

Continuous Torque						
(N-m at 3000 RPM Input)						
Model	P15	P20	P25	P30	P35	
Frame Size	60 mm	90 mm	90 mm	120 mm	120 mm	
Ratio	5:1	15	30	63	83	127
	9:1	13	30	55	83	110
	15:1	15	30	63	83	127
	21:1	15	30	63	83	127
	33:1	15	30	63	83	127
	45:1	15	30	63	83	127
Peak Torque (N-m)	45	100	190	250	380*	

*9:1 has lower Peak Torque Rating. See technical catalogue for details.

Product Description

Sumitomo's IB Precision Planetary Gearheads are designed for maximum mounting flexibility and easy installation in demanding servomotor applications. Like all Sumitomo speed reducers, the expertly engineered internal planetary gearing design maintains optimum power distribution and even gear contact, thus minimizing wear and ensuring long, quiet, trouble-free operation.

Features & Benefits

- Low backlash for optimum positioning accuracy
- High peak torque capacity insures reliable performance in demanding applications
- High input speeds of up to 5000 RPM for a wide range of applications
- Low inertia maximises dynamic response
- High efficiencies in excess of 90% insure maximum power is delivered to the load
- High precision heat treated gears and lifetime lubrication eliminate maintenance and downtime

Applications

- Packaging Machinery
 - Bottling Lines
 - Automatic Tool Changers
 - Semiconductor Processes
 - Lathes, Milling and Machine Tools
 - Conveyors
 - Medical and Surgical Devices
 - Paper Converting
 - Palletizers and De-Palletizers
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- Automotive Industries

Servo 100

Low Backlash Servomotor Reducer for Precision Machinery



Specifications

	Size	106	108	110	111*
Ratio	Rated Output Torque (N-m) at 1500 RPM Input Speed				
11	25	62	132	302	
17	25	75	200	470	
29	25	75	200	470	
43	25	75	200	470	
59	-	75	200	470	
87	-	-	200	470	
Max. Accel/Decel Torque**	38	110	300	700	
Max. Emergency Stop Torque for 1000 Occurrences	50	150	400	1000	

*Ratings shown are based on a 40% duty cycle.

** Ratings for 11:1 ratio may be lower. Consult complete catalogue.

Product Description

The Servo 100 Series Speed Reducers are based on the Cyclo concept. They offer an excellent combination of high strength, low inertia, low noise and high reduction ratios in a small, lightweight package. Precision machined components maintain standard backlash ratings of 3 arc minutes, and as low as 1.5 arc minutes on special request. Servo 100 reducers are available in ratios of 11: 1 to 87:1, and output torque ratings of 15 to 450 Nm, depending on input speed and ratio.

Features & Benefits

- High Shock Load Capacity

- Compact Size and Low Noise
- Maintenance-Free, Long Life
- High Efficiencies and Input Speeds up to 4000 RPM
- Low Moment of Inertia for Highly Dynamic Applications

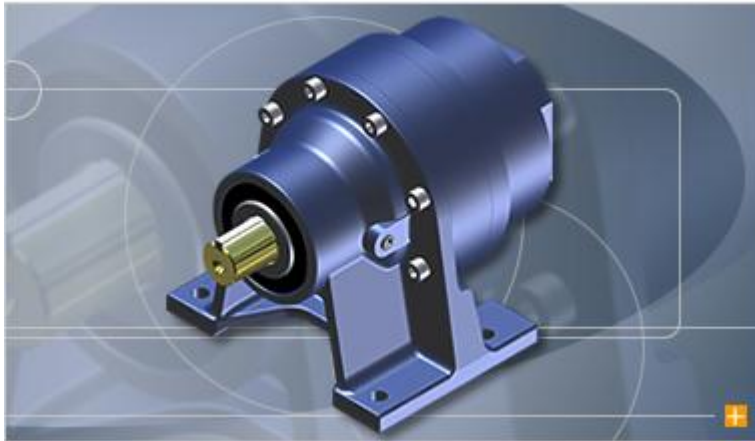
Applications

- Packaging Machinery
- Conveyors
- Palletizers and Depalletizers
- Material Handling

- Automotive

Servo 6000

Cyclo® 6000 Low Backlash, High Torque Servomotor Reducer



Specifications

Size	6065	6075	6095	6105	6125
Ratio	Rated Output Torque (N-m) at 1500 RPM Input Speed				
6	-	14	36	77	143
11	13	26	63	142	261
15	18	35	78	193	349
21	25	49	92	184	454
29	19	34	92	170	393
43	29	50	101	189	388
59	-	35	90	169	387
87	-	-	102	204	382

Max. Accel/Decel Torque (see notes below)				
25	50	120 ^{1,2}	250 ^{1,2}	500

¹The 6:1 ratio has a lower value. See the full catalogue.

²The 11:1 ratio has a lower value. Consult complete catalogue.

Product Description

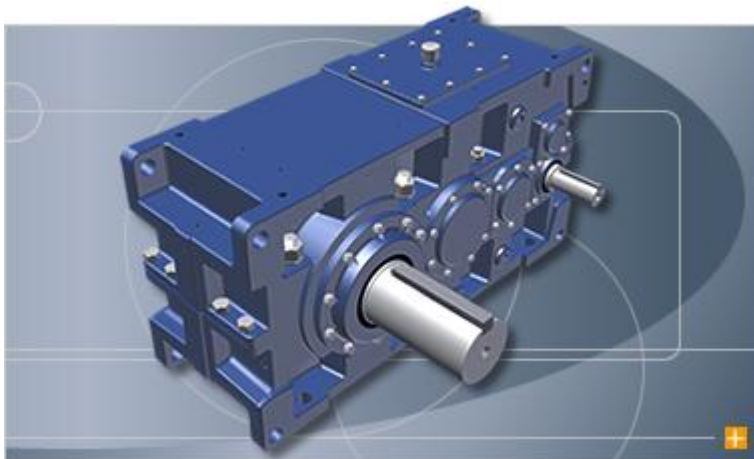
The Servo 6000 Series Speed Reducers are low backlash versions of the standard Cyclo drive. They are available in both foot mounted and flange mounted designs. Its precision machined components maintain standard backlash ratings of 6 arc minutes, except for the 6:1 ratio, which is 12 arc minutes. Servo 6000 reducers are available in ratios of 6: 1 to 87:1 and output torque ratings of 13 Nm to over 450 Nm, depending on input speed and ratio.

Features & Benefits

- High Shock Load Capacity
 - Compact Size
 - High Efficiency
 - Low Noise
 - Maintenance-Free, Long Life
 - Unlimited Mounting Flexibility
- 4000 RPM Max. Input Speed (50% duty cycle)

Paramax® 9000

High Performance, Industrial Gearbox in Universal Housing



Specifications

Torque Range:	2600 to 552,000 Nm
Ratios:	6.3:1 to 500:1 standard

Unlimited ratios available with combination Cyclo and Paramax®

Housing:	Cast Iron (standard), Ductile & Fabricated Steel (optional)
Universal Housing:	Horizontal, Vertical and Upright Mounting
Direct Motor Mount:	Standard (for Right Angle Models), No Coupling Alignment, Compact Design
Low Speed Shaft:	Solid, Hollow Bore with Shrink Disc or Keyed
Auxiliary Cooling:	Fan, Cooling Coil, Cooling Systems

Product Description

Paramax® parallel shaft and right angle drives are built on almost six decades of Sumitomo excellence in power transmission engineering. Some of the largest, and most durable power transmission systems operating in the world were designed and manufactured by Sumitomo. The Paramax® product line includes the Standardised Series 9000, and the Special Application Series: SFC Cooling Tower and Condenser Drives, and SEC Extruder Drives.

With 24 standard frame sizes, application of a Paramax® 9000 unit can be optimised for the exact power, torque, speed and duty cycle, ensuring long life and cost-effective, efficient operation.

- 24 frame sizes for more precise unit selection and optimised applications
- High Torque ratings, up to 552,000 Nm
- Higher ratings with a 25° pressure angle and wider gear tooth face
- Universal Housings accommodate horizontal, vertical and upright installations
- Modular design concept allows direct motor mount for right angle designs
- New fan and shroud design delivers up to 87% increased thermal capacity, cooler operation and greater efficiency
- Optimised gear tooth profile for gearing accuracy, low wear, quiet and efficient operation
- Rugged cast iron FEM-designed housing minimises deflection under load
- Global Standardization, availability and support from Sumitomo worldwide

Applications

- Conveyors and Material Handling
- Cooling Towers and Condensers
- Extruders
- Agitators and Mixers
- Cement Kilns
- Cranes
- Wastewater Treatment
- Mining
- Forestry, Pulp and Paper
- Sugar Processing

	-	-	-	171	171	171	171
T2N Rated output torque /Nm) at n2m=5 1/min	232	573	1091	1770	2730	4360	6140
T2A Max. Accel/Decel Torque (Nm)	417	1030	1960	3190	4910	7850	11000
T2max Max. Emergency Stop Torque (N-m) for 1000 Occurrences	834	2060	3920	6380	9820	15700	22000

Product Description

Precision gears with 0 mechanical backlash for highest requirements: Fine Cyclo precision gears emphasise zero backlash, extremely small lost motion and very high torsional stiffness to insure the ultimate in positioning accuracy. Because Fine Cyclo is based on the Cyclo speed reduction principals and technology, it withstands high shock loads, and boasts high reduction ratios in a small package.

The advantages of the reduction assembly series FINE CYCLO are compactness, high shock load capacity and low moment of inertia. In addition, low hysteresis loss and high torsional stiffness makes them the ideal choice for positioning accuracy applications or for smooth traverse applications.

Easy mounting system and minimum maintenance are a significant factor for low cost reduction in production. Fine Cyclo is lubricated for life.

No mechanical backlash

The FA series new design is even more compact and offers now also integrated taper roller bearings.

Sizes:

- FC-A Standard reduction assembly in 6 sizes without supported output flange
- F1C-A with output shaft supported by cross roller bearing in 6 sizes
- New F2C-A with integrated taper roller bearings in flange version in 4 compact sizes mit high load capacity on the output bearing
- F3C-A Version complete package with output shaft 6 sizes

FT-Series for smooth traverse applications

For highest requirements of precision and transmission accuracy, the new FT Series offers higher capacity and integrated planet gear. Available in 7 sizes with ratios from 81:1, 119:1, 141:1 to 171:1.

Re-inforced rated torque rations from 110 Nm to 6,140 Nm, including acceleration torque's to 11,000 Nm meet the highest demands in positioning and transmission accuracy.

These new reduction assemblies with new Cyclo discs are even more compact, torsional stiffness could be increased and efficiency especially in case of low input torques could be improved, whilst hysteresis loss could be minimized. High torsional stiffness for accuracy in positioning is given by an excenter supported three times on each end. The output flange is supported by integrated taper roller bearings. The FT Series is designed to work with minimized vibration by an integrated planet gear, which reduces the input torque transmitted to the Cyclo gear.

Features & Benefits

- High Shock Load Capacity
- Compact Size and High Torsional Stiffness
- Small Hysteresis Loss
- High Efficiencies and Low Vibration
- Multiple Configurations for Application Flexibility

Applications:

- Machine tool industry
 - robotics
 - automation
 - traverse drives
 - table drives
 - multi axis machining heads
 - indexers
 - component manipulators
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- tool changer