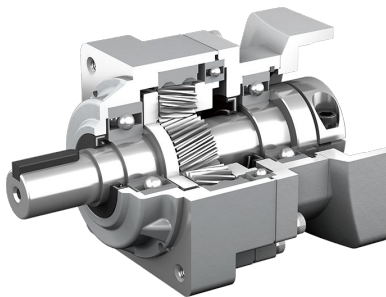
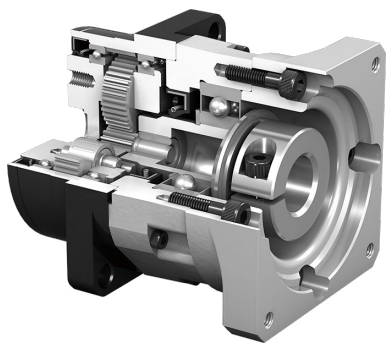
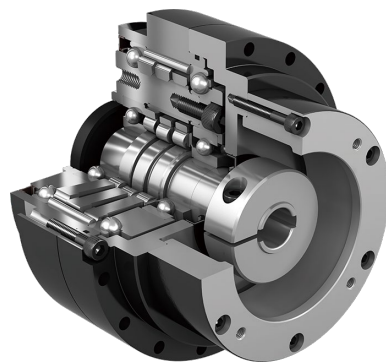
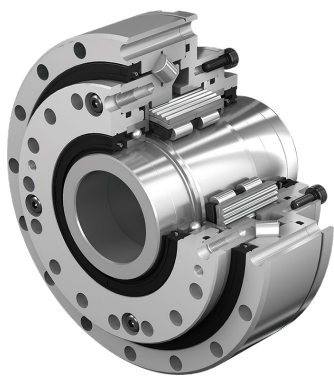


Motion Control Drives

Gear Reducers for Servo Motors

Product Guide



Product Lineup

Motion Control Drives (MCD)

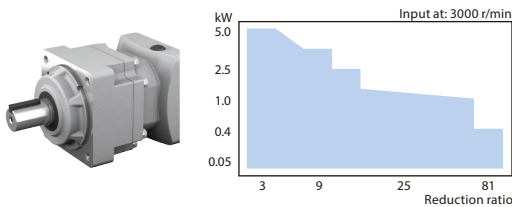
Gear Reducers for Servo Motors Gearhead Type

Servo motor adapter included

Sealed structure (filled with lubricating grease) make assembly easy and no requirement for grease preparation.

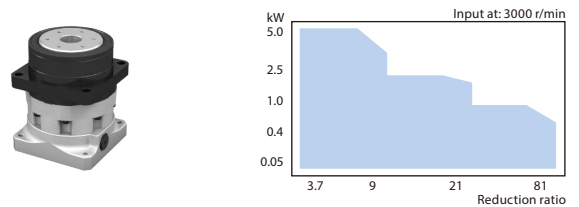
● Planetary Gear Reducer for Servo Motors IB Series Designed for low backlash and optimal for positioning

PE Type Low price, short delivery



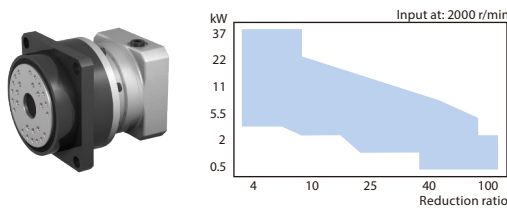
For use in loader, packaging machine, woodworking machine, inspection machine, various automated machines, conveying system, etc.

P1 Type High rigidity, compact size



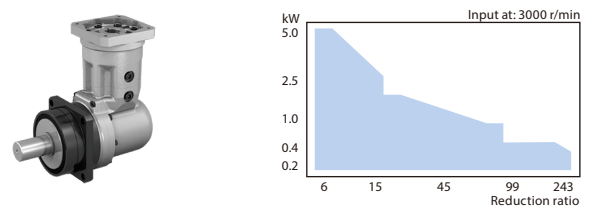
For use in machine tool, loader, packaging machine, scara robot, etc.

P2 Type Large capacity, helical gear



For use in logistics handling system, pipe bending machine, printing machine, etc.

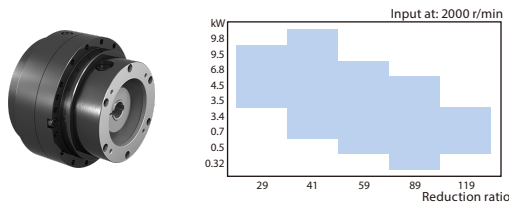
PK1 Type Right angle shaft



For use in conveying system, packaging machine, printing machine, etc.

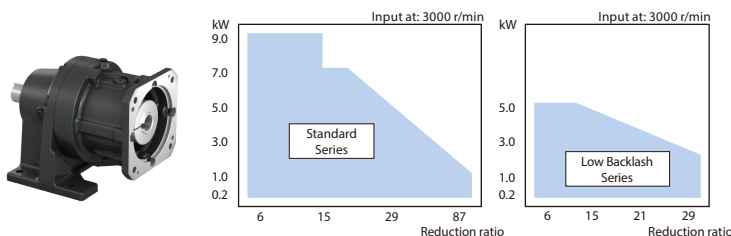
● FINE CYCLO® High Precision Gearboxes

DA Series Gearhead for Servo Motors Zero backlash gearhead for servo motors



For use in machine tool, woodworking machine, semiconductor manufacturing equipment, printing machine, logistics handling system, pipe bending machine, various automated machines, etc.

● CYCLO® Drive for Servo Motors



For use in logistics handling system, machine tool, woodworking machine, semiconductor manufacturing equipment, etc.

Servo Drive

● High Performance AC Servo Drive

GS-300 Series Equipped with positioning and motion control functions. Ideal for single-axis control or as an alternative to inverters



Driver and motor capacity: 0.1 kW to 7.5 kW

For use in logistics handling system, machine tool, loader, packaging machine, etc.

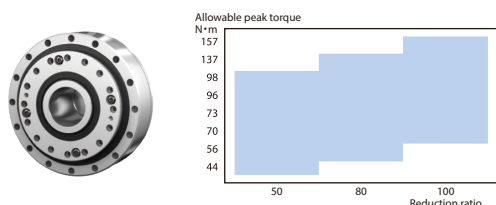
Gear Reducers for Servo Motors Component Type

This unit is designed for integration into machinery.

Select the appropriate model according to the intended application.

- **E CYCLO® High Precision Gearboxes** The zero backlash compact precision control gear reducer that integrates the strain wave gear system with the Cyclo Drive gear

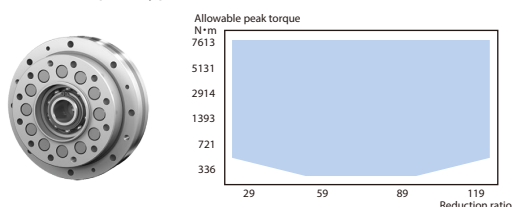
ECY Series



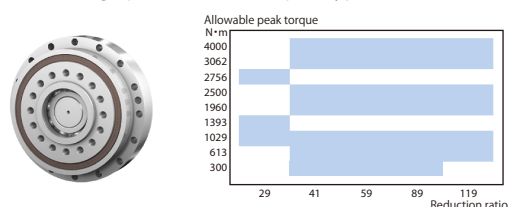
For use in machine tool, woodworking machine, semiconductor manufacturing equipment, scara robot, etc.

- **FINE CYCLO® High Precision Gearboxes** Characterized in zero backlash, compact size, low vibration, high rigidity, high efficiency, and long life

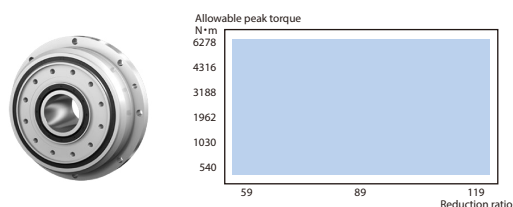
A Series Compact type



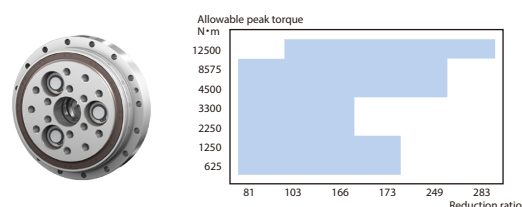
DA Series High performance, compact type



C Series High speed shaft type with a large hollow bore



UA Series High reduction ratio, compact type



For use in industrial robot, machine tool, positioner, assembly machine, etc.

Application Examples



Machine Tool
Machining Center
(ATC, APC)



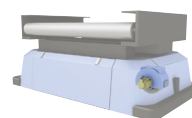
Machine Tool
CNC Lathe (Turret)



Machine Tool
Loader, Unloader



Machine Tool
Automated Pallet Pool



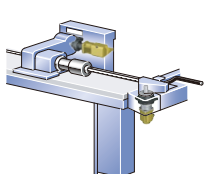
Logistics Handling System
AGV/AMR



Printing Machine



Packaging Machine
Pillow Packaging Machine



Pipe Bending Machine



Press Machine
Crimping Machine



Industrial Robot



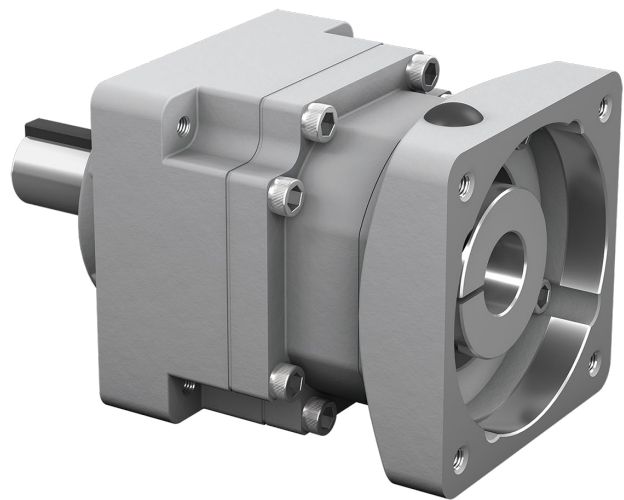
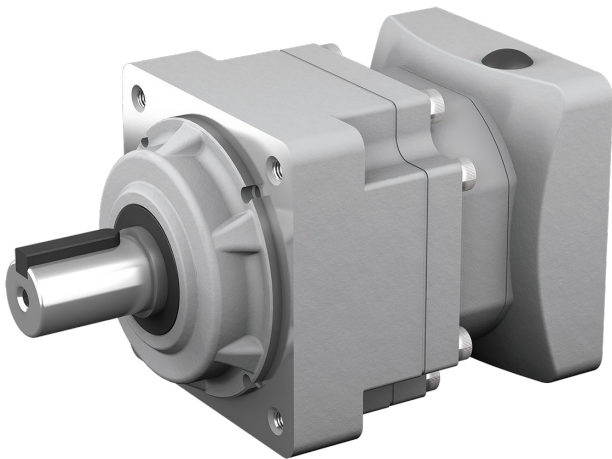
Scara Robot



Positioner

Planetary Gear Reducer for Servo Motors IB Series PE Type

Planetary gear reducer for servo motors with excellent cost performance



Low price, short delivery

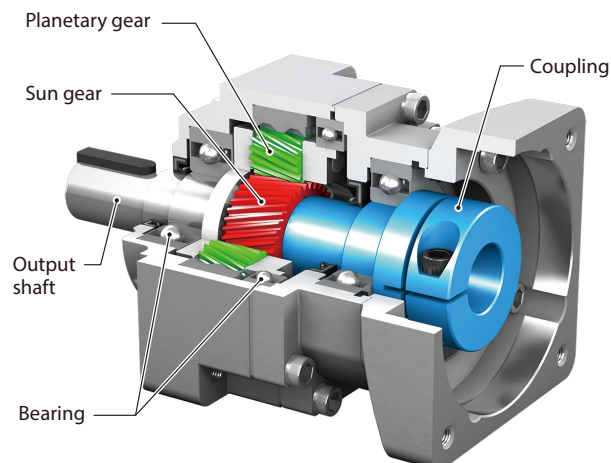
PE Type

Economical type

Economical type with excellent cost performance (compared with our conventional products).

Expansion of reduction ratio range

Reduction ratio 3 is added (compared with our conventional products).



Short delivery

Shipped in 3 days after receiving order at the shortest, meeting customer's request for short delivery.

High speed input

Input speed of 6000 r/min is available.

Compatible with various servo motors

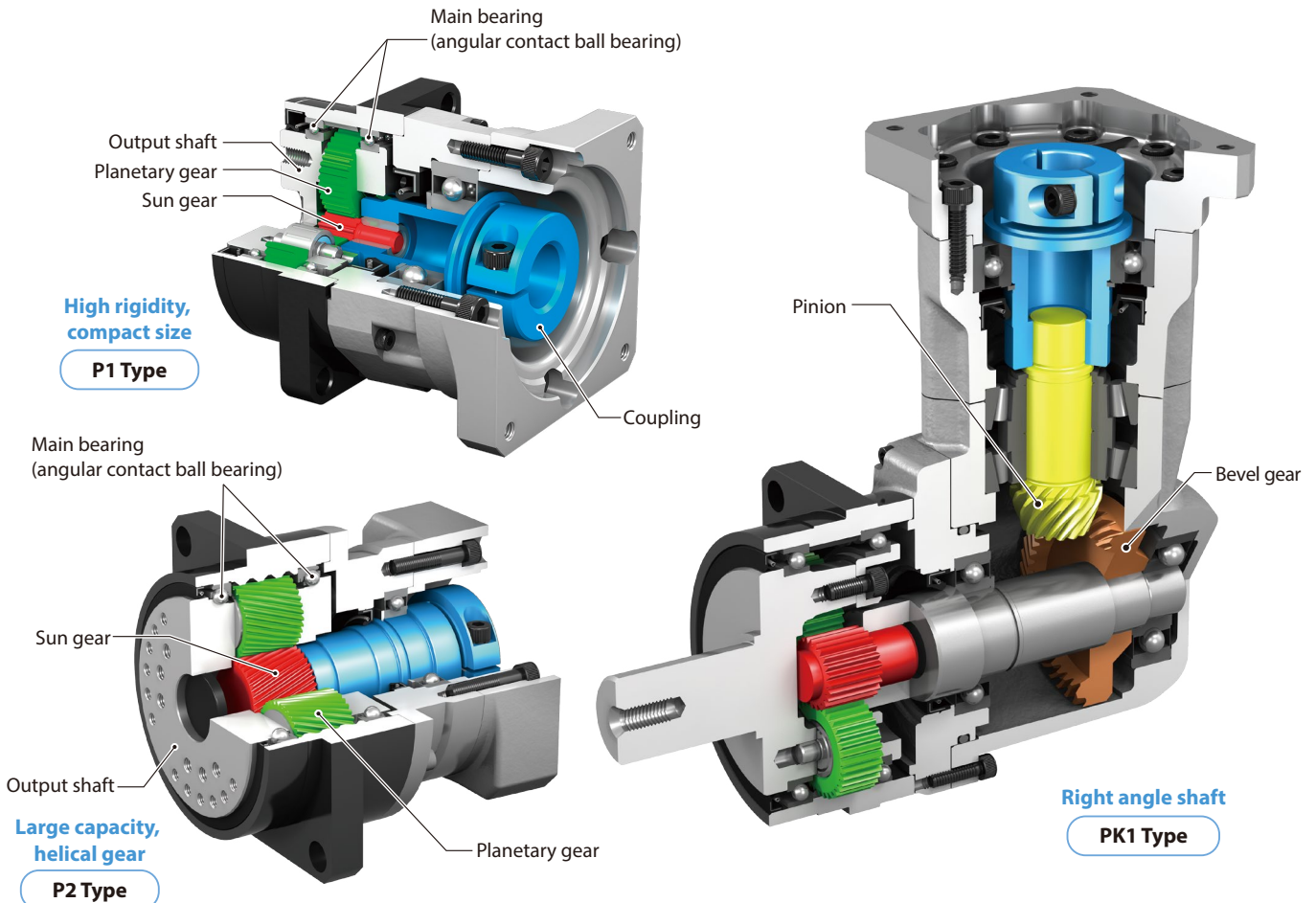
Motor adapter can accommodate the major motors produced by servo motor manufacturers.

◆ Backlash:	15 min
◆ Allowable peak torque:	7.2 to 270 N·m
◆ Motor capacity:	50 W to 5.0 kW
◆ Reduction ratio:	3 to 81

Planetary Gear Reducer for Servo Motors **IB Series**

P1 Type
P2 Type
PK1 Type

Compact, high rigidity, low backlash and optimal for positioning



Industry-leading compact size

Compact size and high rigidity due to the case with internal gear. The right angle shaft PK1 type uses spiral bevel gears on the input side, and it shortens the dimension in the output shaft direction.

High accuracy and high rigidity

As high precision angular contract barings with large diameter are adopted for supporting the output shaft, the products can bear large radial load with compact casings.

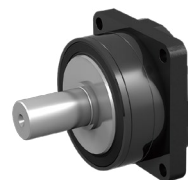
Compatible with various servo motors

Motor adapters are compatible with major motors produced by servo motor manufacturers.

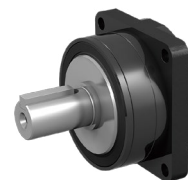
Selectable shaft type

P1 and P2 types of concentric shaft and PK1 type of right angle shaft are available.

The customer can choose the solid shaft (keyless and with key) or flange shaft for both types.



Solid shaft
(keyless)



Solid shaft
(With key)

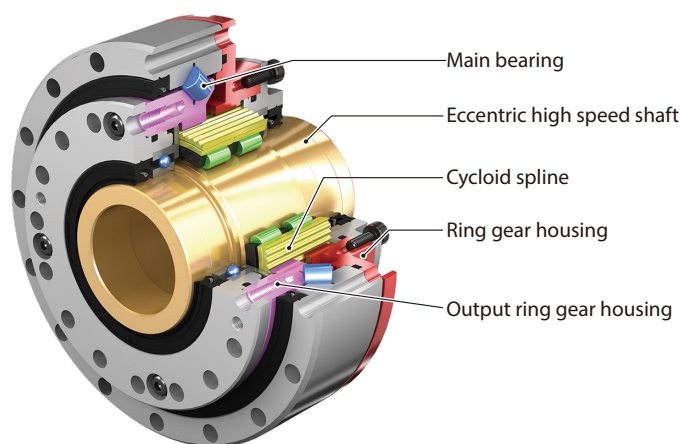


Flange shaft

	P1 Type	P2 Type	PK1 Type
◆ Backlash	3 min/15 min	3 min	6 min/15 min
◆ Allowable peak torque	35 to 380 N·m	650 to 3000 N·m	35 to 380 N·m
◆ Motor capacity	50 W to 5.0 kW	0.5 kW to 37 kW	0.2 kW to 5.0 kW
◆ Reduction ratio	3.7 to 81	4 to 100	6 to 243

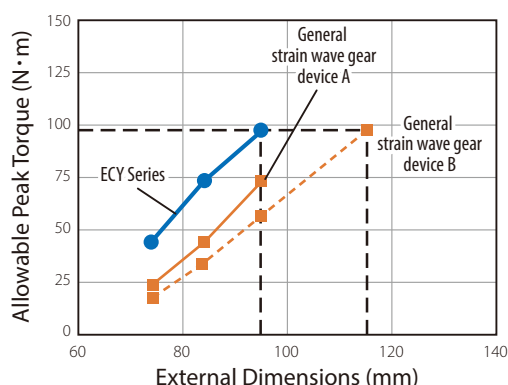
E CYCLO[®] High Precision Gearboxes ECY Series

Compact high precision gearboxes, integrating the strain wave gear system with the Cyclo Drive gear



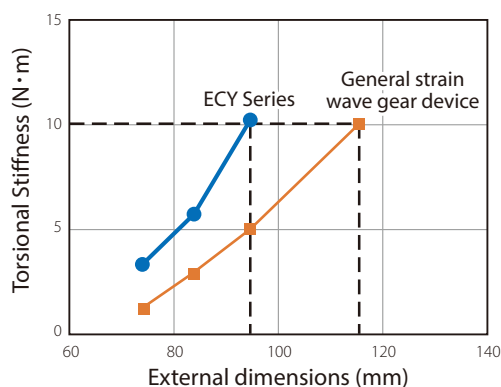
Compact and high torque

It has high torque compared to that of a general wave gear device (equivalent size), contributing to make the unit more compact.



High rigidity

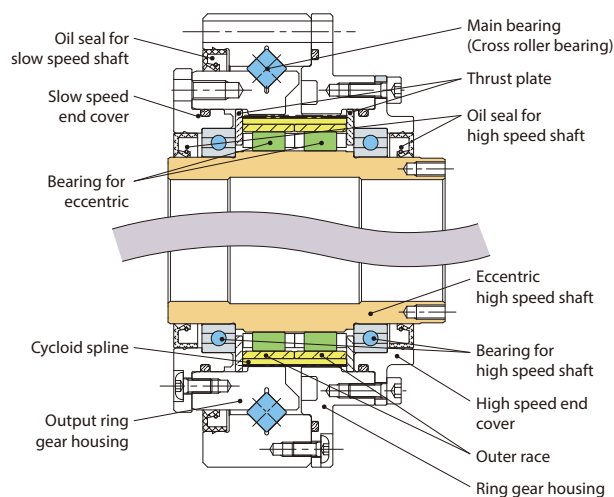
The torsional stiffness is larger than that of a general strain wave gear device (equivalent size). Thus it can increase the unit's strength and reduce vibration, etc.



Simple mounting, large diameter of the high speed hollow shaft

Because the high speed shaft is supported with bearings and grease is packed in the oil sealed structure, it is easy to mount on the devices or motors.

The diameter of the high speed hollow shaft is large, so it enables effective use of its space; for passing the cable, as the space for the shaft, etc.



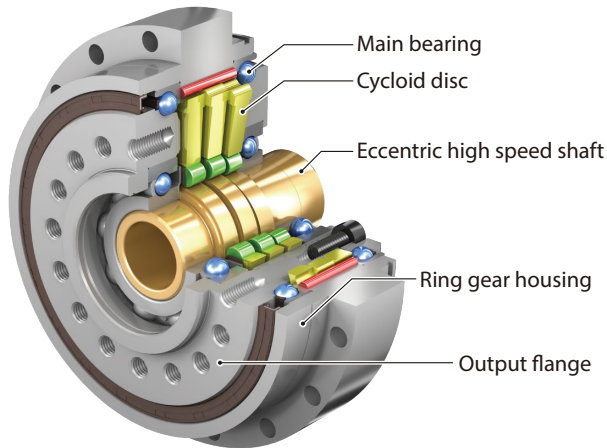
Ratcheting hardly occurs

The structure suppressing ratcheting (situation where teeth do not engage smoothly) realizes high safety under overload.

◆ Main bearing:	Cross roller bearing
◆ Lost motion:	1.0 arc min
◆ Allowable peak torque:	34 to 157 N·m
◆ Reduction ratio:	50 to 100

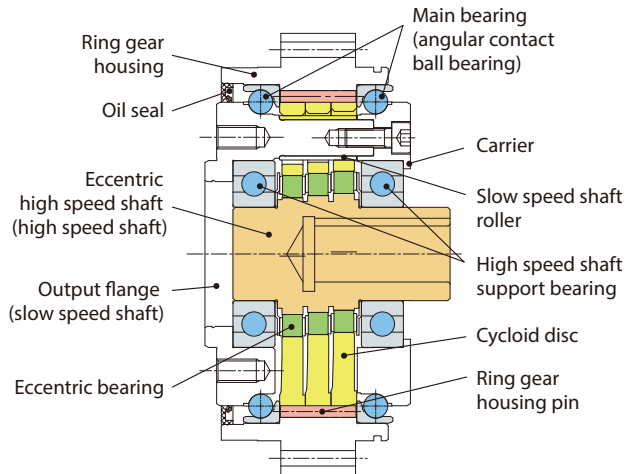
FINE CYCLO® High Precision Gearboxes DA Series

Basic type with low noise, simple structure, and easy to use



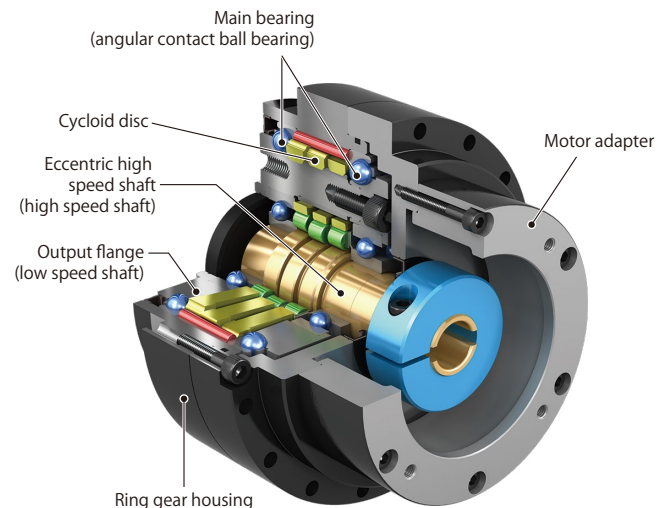
Simple mounting

Mounting is simple as the high speed shaft is supported with bearings.



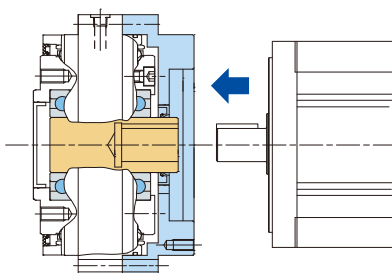
Gearhead for servo motors

The product with adapter compatible with major motors (for keyless shaft) produced by servo motor manufacturers is available. This product is easy to mount as the oil sealed structure (lubricating grease enclosed), so the customer doesn't need to prepare grease.



Compact in axial direction

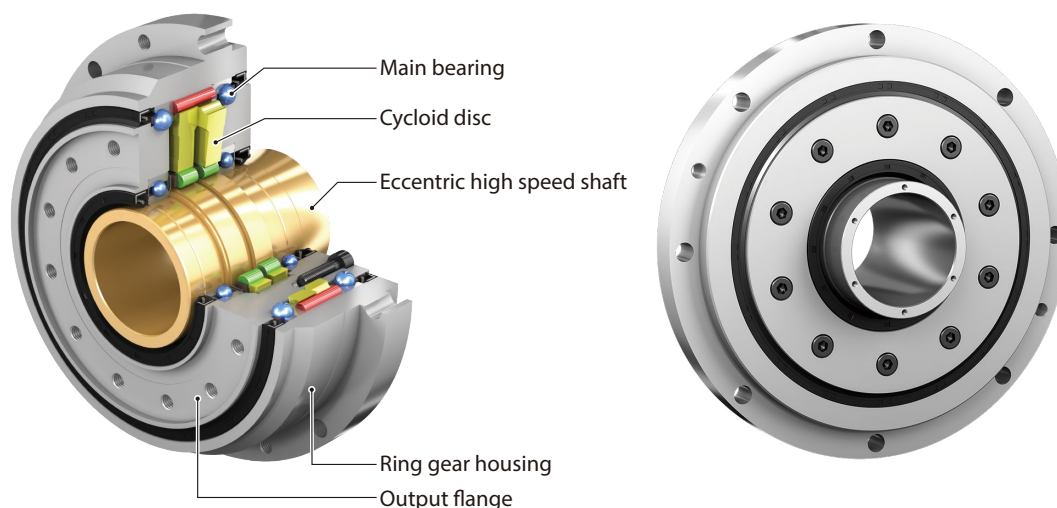
Shorter total length as the motor shaft is integrated inside the reducer.



◆ Main bearing:	Angular contact ball bearing
◆ Lost motion:	1.0 arc min
◆ Allowable peak torque:	300 to 4000 N·m
◆ Reduction ratio:	29 to 119

FINE CYCLO® High Precision Gearboxes C Series

Large hollow shaft type allowing cables to pass through, realizing smart mounting



Large hollow high speed shaft

A large hole diameter allows cables and shafts to be passed through.

Simple mounting

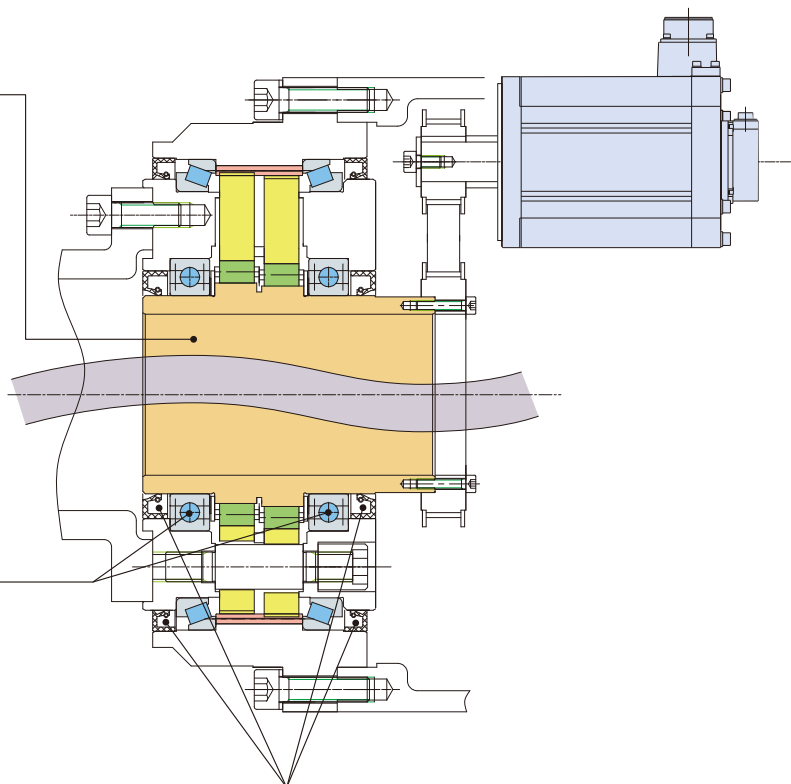
This product is easy to mount as the high speed shaft is supported with bearings, in addition to the oil sealed structure in the input and output sides.

Filled with lubricating grease

The product is shipped with lubricating grease enclosed, so the customer doesn't need to prepare it by himself.

Simple

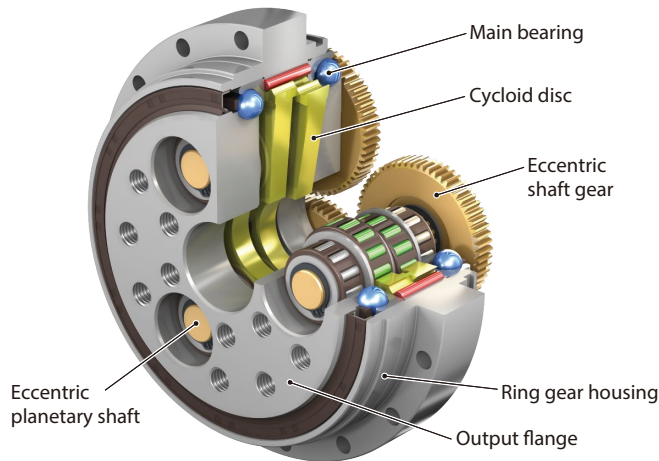
Simple and easy-to-use structure with the sealed single reduction mechanism.



◆ Main bearing	F4C-C: Angular contact ball bearing
	F2C-C: Tapered roller bearing
◆ Lost motion:	1.0 arc min
◆ Allowable peak torque:	540 to 6278 N·m
◆ Reduction ratio:	59 to 119

FINE CYCLO® High Precision Gearboxes UA Series

High performance type with superb rotational accuracy



High accuracy and high performance

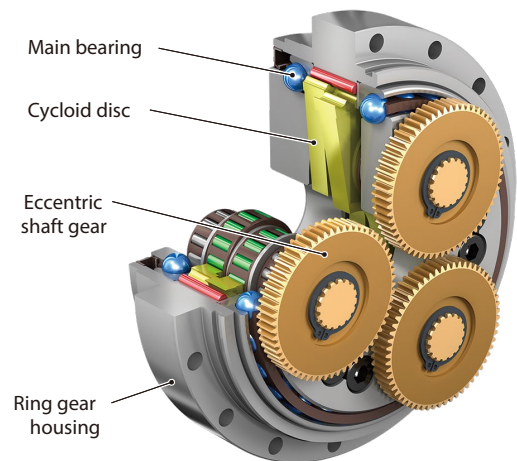
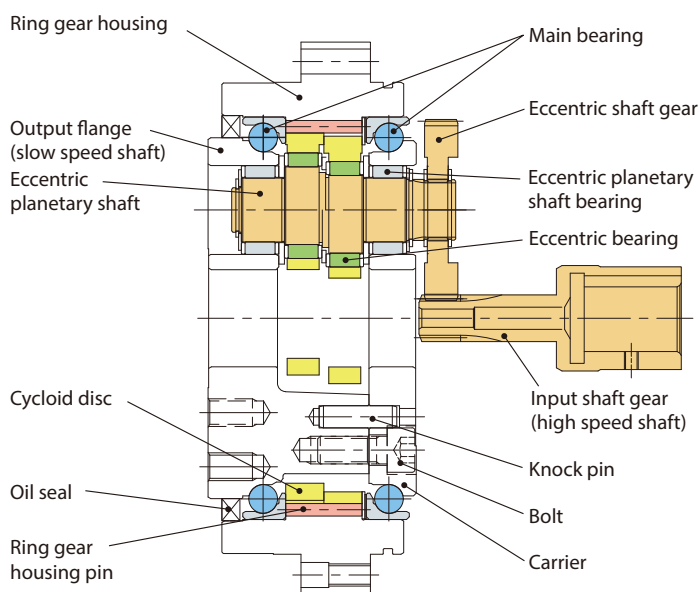
Because of our unique new two-teeth form, this product is superior in rigidity, vibration performance, and efficiency when low speed rotating. Ideal for applications requiring trajectory accuracy.

Minimal lost motion

Achieves an industry-leading lost motion of 0.5 arc min.

Lightweight, compact size, and high reduction ratio

The double reduction mechanism achieves both compact size and high reduction ratio.



◆ Main bearing	F4C-UA: Angular contact ball bearing
	F2C-UA: Tapered roller bearing
◆ Lost motion:	0.5 arc min (UA25 to UA80)
	0.75 arc min (UA15)
◆ Allowable peak torque:	625 to 12500 N·m
◆ Reduction ratio:	81 to 283

FINE CYCLO® High Precision Gearboxes A Series

"No-main bearing" component type that can be directly mounted on the driving parts of machines



"No-main bearing" type

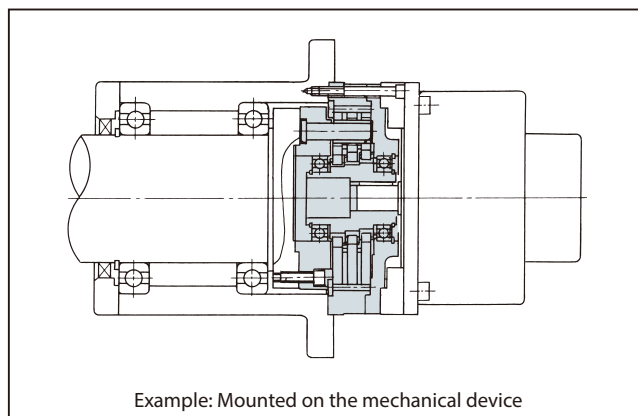
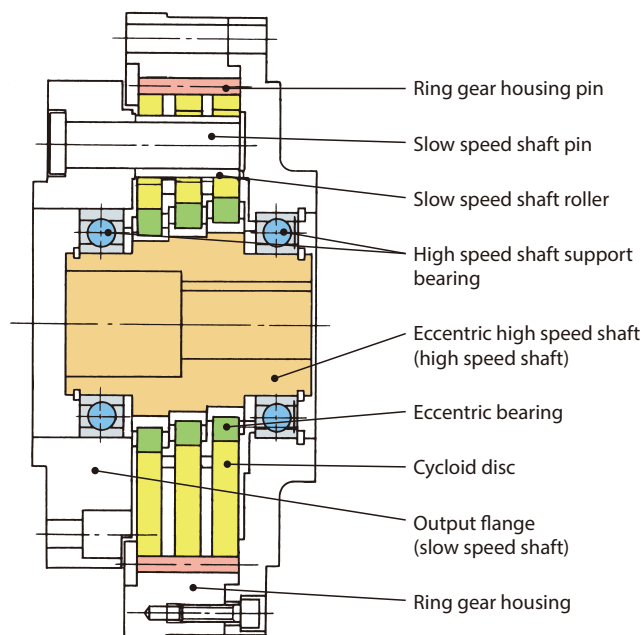
FC Type

Compact and simple mounting

FC type without main bearing is compact and can be directly mounted on the driving parts of the unit.

Mounting is simple as the high speed shaft is supported with bearings.

In addition, the motor shaft is integrated inside the reducer to shorten the total length.



Filled with lubricating grease.

The product is shipped with lubricating grease enclosed, so the customer doesn't need to prepare it by himself.

◆ Main bearing:	No use
◆ Lost motion:	1.0 arc min
◆ Allowable peak torque:	336 to 7613 N·m
◆ Reduction ratio:	29 to 119

CYCLO® Drive for Servo Motors

Servo motor gear head type of Cyclo® Drive which have been sold more than 80 years



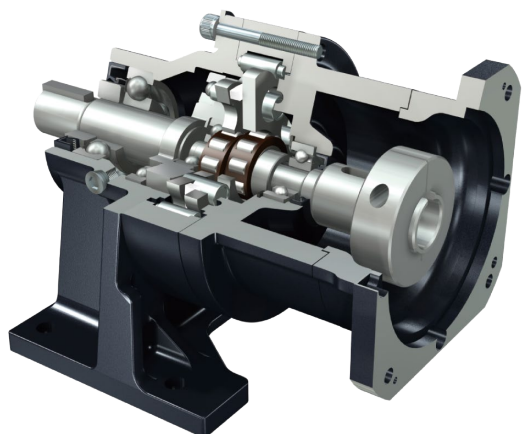
For Motor Shaft with Key Type



For Keyless Motor Shaft Type

High rigidity and long life

Tough and long life Cyclo Drive® can be mounted on major servo motors produced by servo motor manufacturers. This product can accommodate keyless motor shaft and motor shaft with key.



Selectable mount type

Foot mount, V-flange mount, and flange mount are available.



Foot Mount



V-Flange Mount

	Low Backlash Series	Standard Series
◆Backlash	6 min (Reduction ratio 6: 12 min)	
◆Allowable peak torque	29.7 to 630 N·m	29.7 to 1370 N·m
◆Motor capacity range	0.2 to 5.0 kW	0.2 to 9.0 kW
◆Reduction ratio	6 to 29	6 to 87

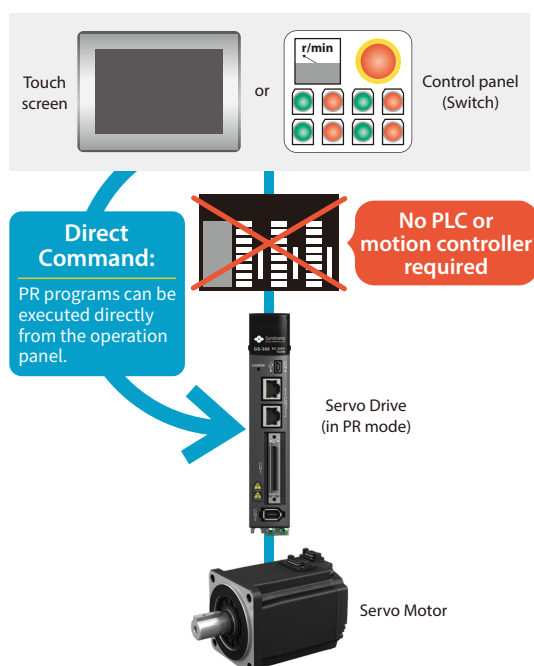
High Performance AC Servo Drive GS-300 Series

Equipped with positioning and motion control functions. Ideal for single-axis control or as an alternative to inverters



Integrated positioning and motion control functions

The built-in motion control function (PR mode) supports enables up to 99 programmable operations.
By program execution supporting RS-485 communication and digital input, reducing the reliance on PLCs/Motion Controllers (MC).
This makes it ideal as inverter replacement in single-axis applications where simple control and fast response are required, or for motor minimization.



Extensive lineup

Servo Drive: 0.1 kW to 7.5 kW, pulse input type and EtherCAT communication type
Servo Motor: 0.1 kW to 7.5 kW, with and without brakes
allowing product selection that best suits to your application.

Supplied in combination with our reducers for servo motors

Our reducers for servo motors are pre-assembled with GS-300, and delivered as servo motor units with reducers after thorough shipment inspection. This helps reduce assembly time and potential defects.



◆Driver and motor capacity: 0.1 kW to 7.5 kW

Product Lineup

Inverters

25 W	0.1 kW	0.2 kW	5.5 kW	7.5 kW	55 kW
Compact Inverter, CAI Series Compact and easy-to-use inverter. The power supply supports both single-phase 100 V and 200 V. • Applicable motor: 25 W to 100 W		Inverter for Gearmotor, HF-620 Series Easy operation, high torque and high functionality inverter with sensorless vector control. • Applicable motor: 0.2 kW to 7.5 kW • Compatible with flameproof (d2G4) motor		Sensorless Vector Control Inverter, HF-430 NEO Series Equipped with a color LCD operation screen that can show letters clearly. High-performance inverter with sensorless vector control. • Applicable motor: 5.5 kW to 55 kW • Compatible with flameproof (d2G4) motor	
					

Drive Solution for AGV/AMR

smartris®



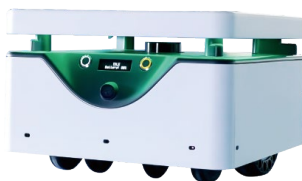
Gear + Servo Motor + Drive

Combination of three smart components.

- Specification Payload: up to approximately 3000 kg (AGV/AMR body + cargo)
Max AGV/AMRs speed: 2.0 m/s
Max AGV/AMRs acceleration: 1.0 m/s²

Autonomous Mobile Robot

KeiganALI



An autonomous mobile robot that is easy to set up and introduce. Highly customizable and can be used in a variety of situations.

- Width: 450 mm, Depth: 450 mm, Height: 300 mm
- Payload: 30 kg

 Keigan ×  Sumitomo Drive Technologies®

KeiganALI is a product of Keigan Co., Ltd., sold by Sumitomo Heavy Industries, Ltd.

Condition Monitoring System (CMS)

TYPE-P



Portable model, easily detecting abnormality in the selected area.
• On time measurement

S-CMS



Easy-to-install continuous monitoring system with limited functions.
• Continuous monitoring

CycloSMART



High-performance model capable of completing everything on-site from diagnostics to data storage.
• Continuous monitoring
• It can be connected with explosion proof vibration sensor.

TYPE-I-8/16



High-performance model, identifying abnormal parts and detect damage conditions.
• Continuous monitoring
• It can be connected with explosion proof vibration sensor.

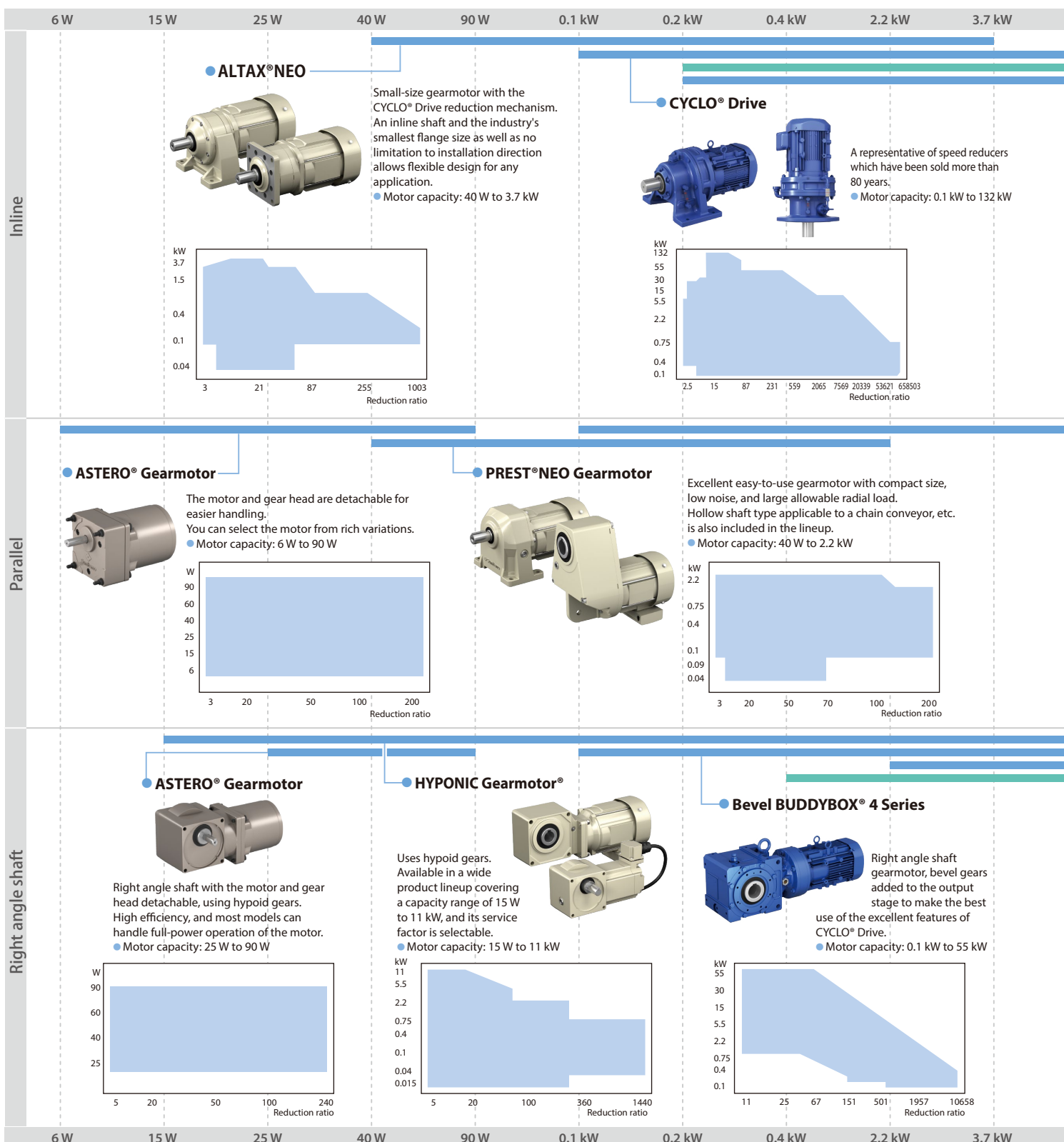
TYPE-I-G



Wireless model for high flexibility in installation with no wiring.
• Continuous monitoring

Product Lineup

Gearmotors and Speed Reducers



Speed Increases and Reducers for Special Applications

● High Speed Gearbox



Generator and compressor

● Reducer for Industrial Machinery



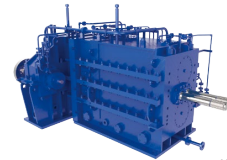
Cement mill



Sugar mill



River pump



Kneading machine

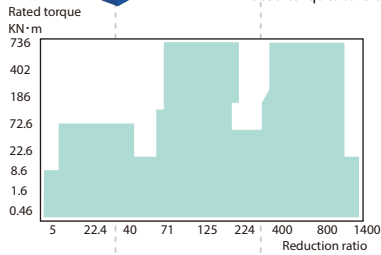
5.5 kW 11 kW 30 kW 55 kW 132 kW 150 kW 430 kW 1200 kW 3200 kW 3400 kW

COMPOWER® Planetary Gear Drive



High torque and also compact in the radial direction. Significantly shorter total length achieved with creative ideas and mechanisms.

Rated torque: 0.46 to 736 kN·m



Mechanical Speed Variators

BEIER® Variator



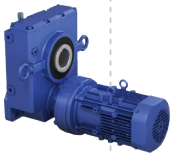
BEIER-CYCLO Variator®



Large capacity and long life mechanical non-step speed variator with tradition and reliable performance over 50 years.

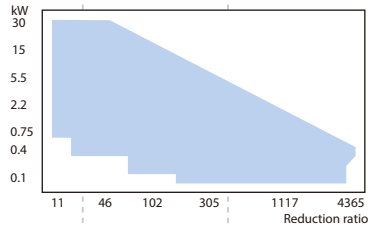
Motor capacity: 0.2 kW to 150 kW

Helical BUDDYBOX®

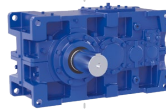


Parallel shaft gearmotor consisting of the combination of CYCLO® Drive and a hollow shaft helical gearbox.

Motor capacity: 0.1 kW to 30 kW



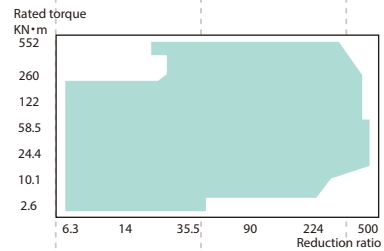
PARAMAX® 9000 Series



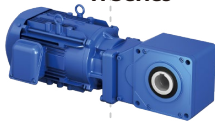
Compact size with the use of high strength gears.

High-functionality and high performance parallel shaft reducer.

Rated torque: 2.6 to 552 kN·m

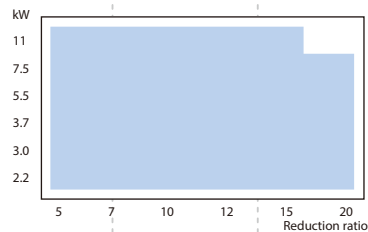


Bevel BUDDYBOX® H Series



Compact right angle shaft gearmotor with low reduction ratio and a hollow shaft.

Motor capacity: 2.2 kW to 11 kW

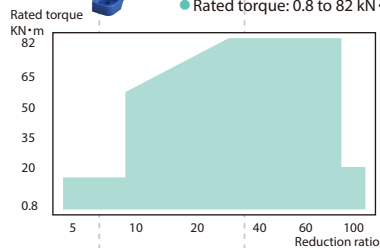


HEDCON® Worm Reducer



High performance worm reducer for high efficiency and high strength by the use of the unique double contact theory.

Rated torque: 0.8 to 82 kN·m

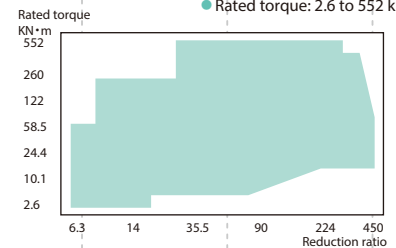


PARAMAX® 9000 Series



High-strength gear for compact size and the motor direct coupling structure. High-functionality and high performance right angle shaft reducer.

Rated torque: 2.6 to 552 kN·m



5.5 kW 11 kW 30 kW 55 kW 132 kW 150 kW 430 kW 1200 kW 3200 kW 3400 kW

Couplings

SEISA GC Coupling



Gear coupling

Reference torque:
421 N·m to 6460 kN·m

DC Coupling



Disc coupling

Reference torque:
35.3 N·m to 255.95 kN·m

SF Coupling



Tapered grid coupling

Reference torque:
52.0 N·m to 932.1 kN·m

Worldwide Locations

U.S.A Sumitomo Machinery Corporation of America (SMA) 1453 Cornwall Blvd. Chesapeake, VA 23323, U.S.A. TEL (1)757-485-3355 FAX (1)757-485-7490	Austria Sumitomo (SHI) Cyclo Drive Germany GmbH (SCG) Austria Branch Office Gruentalerstraße 30A, 4020 Linz, Austria TEL (43)664-2840490	Taiwan Tatung SM-Cyclo Co., Ltd. (TSC) 22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C. TEL (886)2-2595-7275 FAX (886)2-2595-5594
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Specifications, dimensions, and other items are subject to change without prior notice.