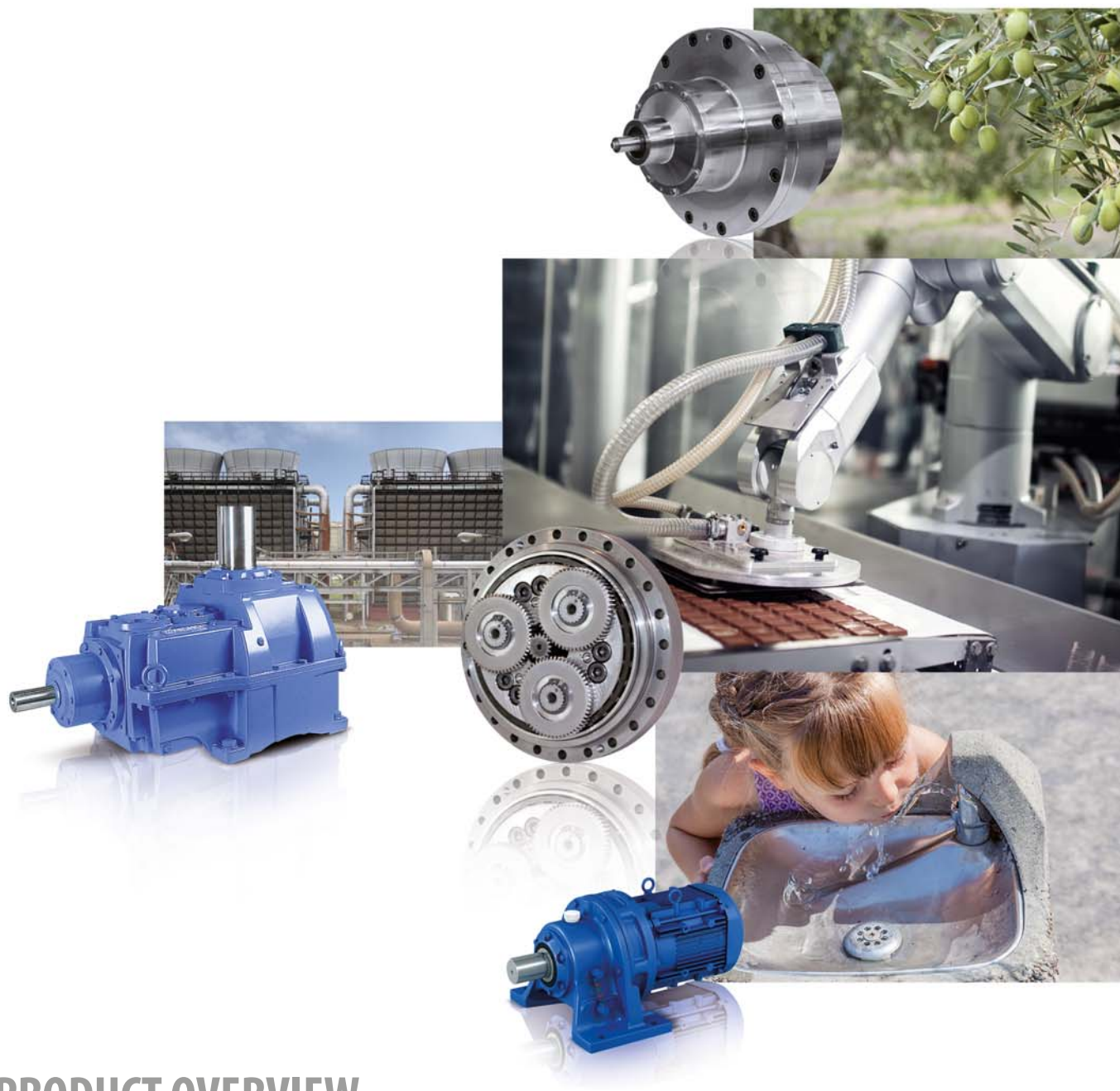


Sumitomo Drive Technologies



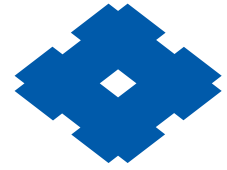
PRODUCT OVERVIEW

Sumitomo Drive Technologies

History

Some 400 ago, Masatomo Sumitomo opened a bookstore and pharmacy in the Japanese city of Kyoto. The Sumitomo family earned themselves a leading position in copper refining and opened a copper mine.

Sumitomo grew continuously over the next centuries, developing and diversifying into numerous separate companies, which today form one of the largest company groups of the world. The Igeta symbol, which represents the lip of a well, now stands for the many values and ideals shared by the different Sumitomo companies.



In Japan, the Igeta symbol represents the lip of a well



Sumitomo's industrial sectors

Sumitomo's core business is now represented by 33 companies that operate in various areas such as mechanical engineering, shipbuilding, mining, glass, ceramics, nonferrous metals, electro-technical equipment, chemicals, financial services, insurance, warehousing, transport, logistics, trade.

Sumitomo Heavy Industries

Sumitomo Heavy Industries Ltd. has their headquarters in Tokyo and is part of the group's mechanical engineering sector. Established in 1888, Sumitomo Heavy Industries (SHI) today is a highly innovative company that designs, produces and distributes an extensive product range in this field.

A drive technology specialist

Sumitomo (SHI) Cyclo Drive Germany GmbH, a subsidiary of Sumitomo Heavy Industries (SHI), Japan, with European headquarters located in Markt Indersdorf, provides services, directly or via its subsidiaries, in Belgium, France, Great Britain, Italy, Spain, Turkey, Sweden, the EMEA market as well as in India. The manufacturing facility at Markt Indersdorf was built specifically for the production of high-precision gears for use in the fields of robotics and automation, to provide closer proximity and optimal delivery to European customers. At the production site of Hansen industrial transmissions in Edegem, Belgium, high-performance industrial gearboxes are produced for the mining industry, steel industry, power and process technology and cooling tower drives.

SUMITOMO DRIVE TECHNOLOGIES is a global brand that provides the security and precense of the Group that extends to over 50 countries as well as a broad product range and service programm.

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Hansen Industrial Transmissions
Edegem near Antwerp, Belgium



Sumitomo (SHI) Cyclo Drive Germany GmbH
European headquarters in Markt Indersdorf near Munich

Zero backlash speed reducers and reduction kits

The Fine Cyclo series

More and more applications require short cycle times and precision positioning in order to increase the efficiency of machines or to open up new application areas. For these types of applications, Sumitomo Drive Technologies has developed a range of finely graded, zero backlash precision drive series. Compared with conventional gear drives, their construction principle provides extremely high torsional rigidity and low moment of inertia – ideal for highly dynamic applications.

High gear ratios per reduction stage allow an extremely compact gear drive design along with long service lives; furthermore, a range of different variants makes for optimal integration with the machine environment. Whether point-to-point or path controlled motion – drive technology tailored to the drive requirements delivers the required performance.

Areas of application

- Factory automation
- Robots
- Machine tools
- Medical technology
- Swivel units
- Palette changers
- Tool magazines (disc, chain)
- Turntables
- Milling heads
- Positioners

Path controlled applications



Fine Cyclo Series UA

The new UA series offers further improved performance data compared with the FT series with regard to power density, high positioning and path accuracy, high efficiency, even at low speed and improved output bearings for increased moment ratings

Type F4CF-UA

With integrated angular ball bearings
Flange housing

Type F2CF-UA

With integrated tapered roller bearings
Flange housing

- Multi-stage reduction ratios 66 to 259
- Nominal output torque up to 16,685 Nm
- Acceleration torques up to 30,000 Nm
- Lost Motion < 1 arcmin
- Improved moment stiffness



Fine Cyclo Series T

Owing to optimised profile of the disc lobes, this exceptionally low-vibration gearbox reaches a very high transmission precision and provides a high degree of efficiency even in the low speed range

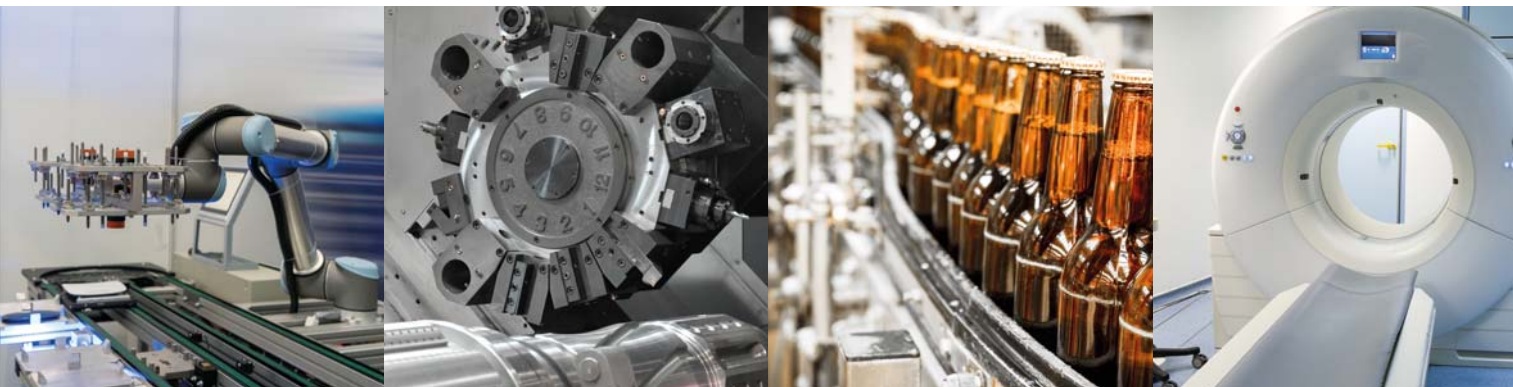
Type F2C-T

With integrated tapered roller bearings

Variants:

F2C-T cylindrical housing
F2CF-T flange housing

- Reduction ratios (double stage) 81/119/141/171
- Nominal output torque up to 6,140 Nm
- Acceleration torque up to 11,000 Nm
- Lost Motion < 0,5 arcmin



Sumitomo Fine Cyclo precision drives for robots, machine tools, and factory automation are robust, low in maintenance and highly efficient and so help reduce life cycle costs considerably.

Point-to-point motion applications



Fine Cyclo Series C

Precision gearbox with hollow shaft for feeding cables and media

Type F4C-C

Sealed gearbox with output flange and integrated angular ball bearings

Type F2C-C

Sealed gearbox with output flange and integrated tapered roller bearings

Variants:

F2C-C/F4C-C cylindrical housing F2CF-C/F4CF-C flange housing

- Reduction ratios (single stage) 59/89/119
- Nominal output torque up to 4,328 Nm
- Acceleration torque up to 6,278 Nm
- Lost Motion < 1 arcmin
- Hollow shaft diameter 49 to 99 mm



Fine Cyclo Series D

Precision gearbox with high moment stiffness and increased moment ratings

Type F4C-D

Gearbox with output flange and integrated angular ball bearings

Variants:

F4C-D cylindrical housing
F4CF-D flange housing

- Reduction ratios (single stage) 59/89/119
- Nominal output torque up to 1,756 Nm
- Acceleration torque up to 3,188 Nm
- Lost Motion < 1 arcmin



Fine Cyclo Series A

Precision gearbox with numerous variants

Type FC-A

Reduction kit without output bearings

Type F1C-A

Sealed gearbox with output flange and integrated cross-roller bearing

Type F2C-A

Sealed gearbox with output flange and integrated tapered roller bearings

Variants:

F2C-A cylindrical housing
F2CF-A flange housing

Type F3C-A

Sealed gearbox with output shaft and rigid tapered roller bearings on output side

- Reduction ratios (single stage) 29/59/89/119/179
- Nominal output torque up to 5,140 Nm
- Acceleration torque up to 7,610 Nm
- Lost Motion < 1 arcmin