

Sumitomo Drive Technologies



**INNOVATIVE DRIVE TECHNOLOGY FOR
WATER AND WASTEWATER TREATMENT**



Water is the foundation of all life

Groundwater provides both drinking water and a habitat. We use water for our nutrition, daily hygiene and leisure activities. Water is also an important economic resource as an energy source, transport medium and raw material. Streams, rivers, lakes, wetlands and oceans are habitats for a multitude of plants and animals and form an important part of the natural environment. The effective protection and responsible stewardship of water resources is essential for biological diversity and sustainable use. Sewage and wastewater that is fed into the sewerage system or natural waters must be free from pollutants.

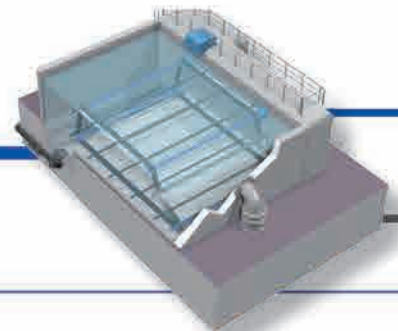
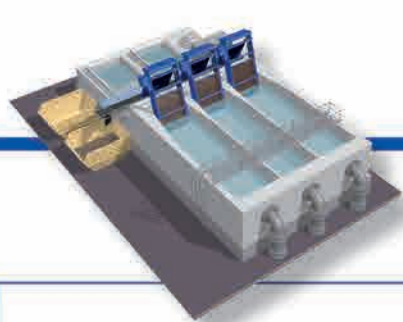
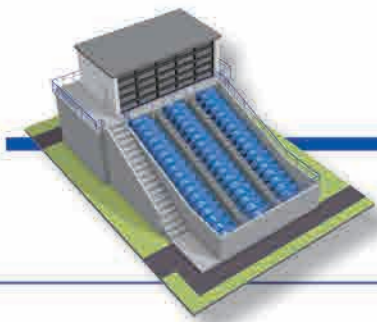
In water and sewage treatment plants, biological and mechanical treatment methods are used to achieve this. Mechanical methods, such as aeration, thickening, extraction or separation place high demands on the drive technology used, such as gearboxes and geared motors. These must have a high load capacity and a long lifetime, while being easy to maintain as well as energy-efficient — even under the toughest conditions. Sumitomo Drive Technologies delivers the solution to these demands with drive technology that has already proven its value worldwide, including a wide range of industrial gearboxes in the Hansen P4 and Paramax series, special centrifuge drives and robust standard drives according to the Cyclo principle and other drive solutions. Plant operators in commercial public sector enterprises and industry have placed their confidence in this expertise for many decades.

Sumitomo Drive Technologies understands the requirements of different applications and creates the best solution for the plant and the individual stages of water treatment.





Innovative drive technology in sewage treatment plants



Preliminary stage: Wastewater pumping station

Plant section: Wastewater pumping station

Application: Screw pumps

Screw pumps are a very efficient method of transporting large quantities of water or wastewater at low discharge heads. In wastewater treatment plants, the natural slope of the overall system is used to run through the whole process.

Sumitomo gearboxes are known for their high efficiency and reliability, and they enable extremely high availability at low maintenance and operating costs.

Products: Cyclo Drive 6000, HBB, Paramax 9000, Hansen P4

Pre-treatment: Screening plant

Plant section: Screening plant

Application: Bar screens

In the screening plant, all the coarse contaminants in the wastewater are caught and automatically fed into a separate container.

Sumitomo gearboxes are outstandingly well-suited to slow-running applications with high ratios, and offer high security and system availability thanks to their exceptional overload capacity. Our environmentally friendly grease-lubricated models minimise the risk of the water becoming contaminated.

Products: Cyclo Drive 6000, Neo Hyponic, HBB, BBB, Paramax 9000, Hansen P4

Further treatment: Grit chamber, clarifier, aeration tank

Plant sections: Sedimentation tank, grit chamber, primary clarifier, secondary clarifier

Application: Scrapers

In the sedimentation tank, the flow velocity is reduced so that any solids that are heavier than water are deposited there. The sludge is removed using mechanical scrapers or drag conveyors.

Sumitomo gearboxes are outstandingly well-suited to slow-running applications with high ratios, and offer high security and system availability thanks to their exceptional overload capacity.

Products: Cyclo Drive 6000, HBB, BBB



Cyclo Drive 6000



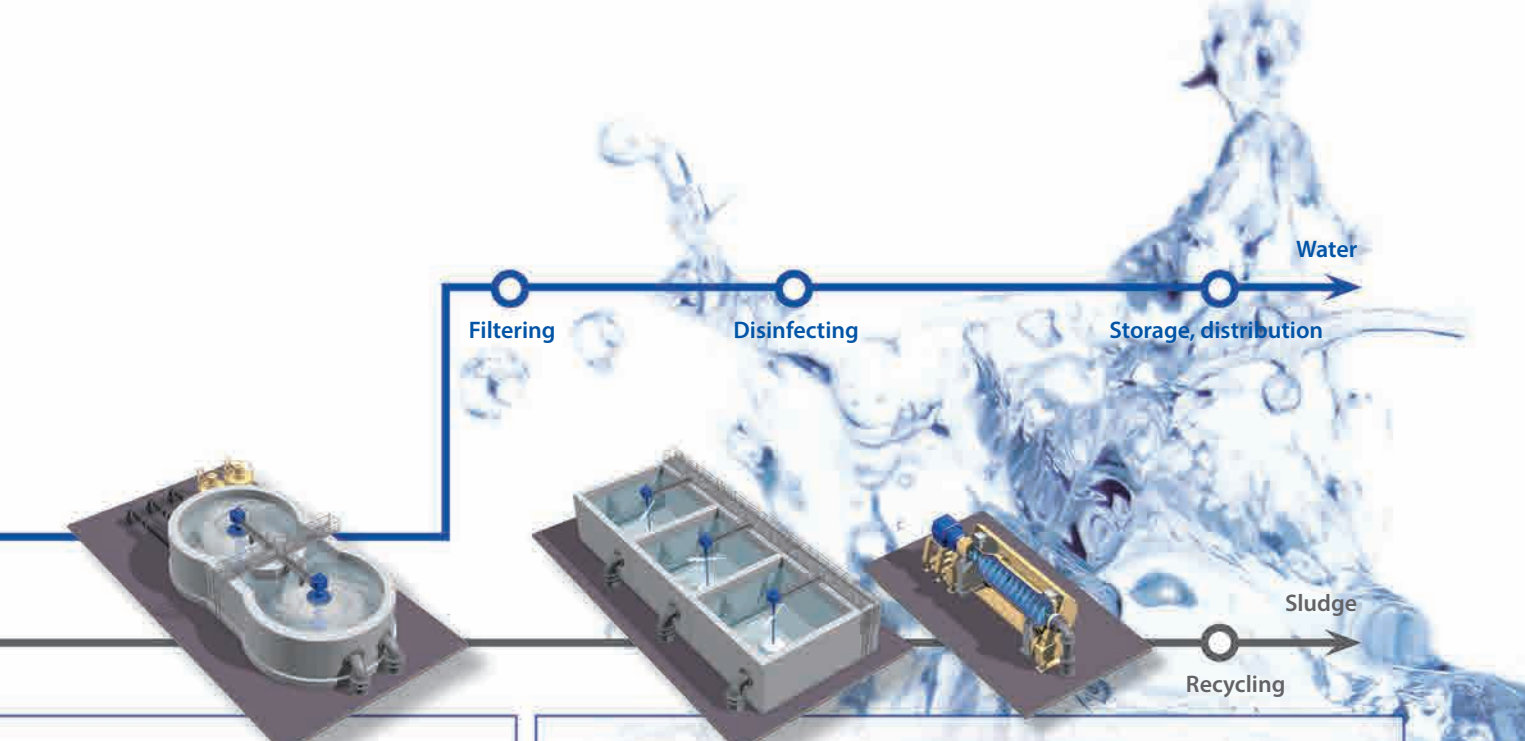
HBB



BBB



Neo Hyponic



Plant section: Aeration tank

Application: Surface aerators, brush aerators

Surface aerators add oxygen to the water through mechanical means. The oxygen is used to supply the bacteria and microorganisms in the activated sludge. Mechanical surface aerators and brush aerators are often used in the addition of compressed air.

In addition to our many years of experience, Sumitomo products are characterised by their high quality and reliability.

Products: Cyclo Drive 6000, Paramax 9000, Hansen P4

**Sludge treatment:
Dewatering, thickening**

Plant section: Sludge treatment, flocculation plant, digestion tower, centrifuge

Application: Agitators for flocculation plants and digestion towers, screw presses, belt filter presses and centrifuges for thickening and dewatering

Mechanical sludge dewatering helps to reduce the volume of the sludge by separating the water from it. Before dewatering, the liquid sludge is enriched with a flocculant. The wastewater sludge is dewatered in centrifuges and then incinerated, or broken down in digestion towers before being dewatered in centrifuges.

Sumitomo products are the ideal solution for slow-rotating agitator applications. Thanks to the unique Cyclo principle, our gearboxes achieve outstanding efficiency, even at very high reduction ratios. Robust bearing and gearing components made from reinforced high-performance steels give our products unmatched strength and durability. The Cyclo system can withstand extreme impact loads of up to 500%. These properties have always been highly valued by our customers in presses and other high-stress applications.

Products: Cyclo Drive 6000, HBB, BBB, Paramax 9000, Hansen P4, ZS-centrifuge drives



Paramax



ZS – Centrifuge drives



Hansen P4 Vertical

Our product programme



The original Cyclo gearbox

Compact design, high overload reserves, long lifetime.

Variants: H foot housing, F and V flange housing.

- Reduction ratios 6 to 119 (single-stage, 34 sizes)
- Reduction ratios 104 to 7 569 and greater (double-stage, 56 sizes)
- Nominal output torques from 7.5 to 68 200 Nm
- Power (geared motors) 0.12 to 55 kW
- Lifetime grease lubrication with universal mounting, sizes 6060 to 6125, oil lubrication from size 6130
- Hollow shaft for IEC standard motor fitting
- Motor fitting with adapter (lantern) and free high speed shaft via coupling
- Horizontal or vertical mounting position (output facing upwards or downwards)



Advantages of the Cyclo principle:

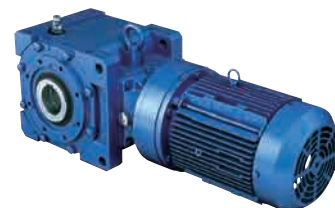
- High impact load capacity, efficiency and reliability
- Lifetime grease lubrication, robust housing, various sizes and mounting positions



HBB

HBB Helical Buddybox series: Combination of Cyclo and helical gearboxes. Parallel flat gearbox and geared motors, in hollow and solid shaft versions.

- Reduction ratios 21 to 2 559
- Nominal output torques 47 to 11 568 Nm
- Power (geared motors) 0.12 to 30 kW
- With Taper Grip bush — shaft connection without key or hollow shaft version
- Free shaft or IEC adapter on the input side



BBB

BBB Bevel Buddybox series: Combination of Cyclo and bevel gearboxes. Right-angled gearbox and geared motors, in hollow and solid shaft versions.

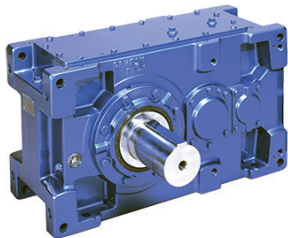
- Reduction ratios 11 to 26 492
- Nominal output torques from 226 to 18 000 Nm
- Power (geared motors) 0.12 to 55 kW
- With Taper Grip bush — shrink disk — shaft connection without key or hollow shaft version
- Free high speed shaft or IEC adapter on the input side



Neo Hyponic

Right-angled hypoid gearbox and geared motors, in hollow and solid shaft versions.

- Reduction ratios 5 to 1.440
- Nominal output torques from 5 to 1480 Nm
- Power 15W to 5.5 kW
- Geared motor or gearbox with free high speed shaft or IEC adapter
- Foot and flange housing with solid shaft on the output side
- Flange housing with hollow shaft
- Lifetime grease lubrication
- Universal mounting
- High efficiency
- Low noise level
- Low vibration level



Paramax 9000

Robust gearbox series for industrial use with fine torque gradation, universal.

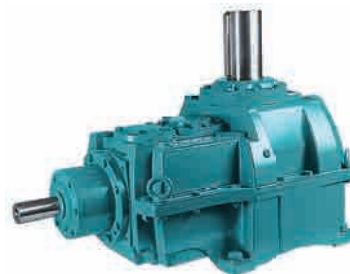
- Reduction ratios 6.3:1 to 500:1
- Nominal output torques from 2.6 to 552 kNm
- Input speed up to 1 800 rpm
- Rated power up to 3 900 kW
- Bevel-helical and helical gearbox designs: 2, 3 and 4-stage
- 26 sizes



ZS – Centrifuge drives

Double-stage centrifuge gearbox with Cyclo Drive stage and planetary stage.

- ZSP – Cyclo/Planet Line
Double-stage reduction ratio range; from 45:1 to 348:1
Torque from 630 Nm to 46 000 Nm



Hansen P4 Vertical

Robust gearbox series, adapted for vertical applications, with a wide torque and power range .

- Reduction ratios 6.3:1 to 630:1
- Nominal output torques from 6 to 1 000 kNm
- Input speed up to 1 800 rpm
- Rated power up to 4 400 kW
- Bevel-helical and helical gearbox designs: 2, 3 and 4-stage
- Horizontally split housing above the oil level for easy inspection and maintenance
- 19 sizes

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