

# Pumps Equipment Sales program





**SULZER**

# Creating tomorrow's solutions

Sulzer is at the cutting-edge of design and technology. As an innovative manufacturer, Sulzer is a principal provider of solutions for pumps, agitators, mixers, and turbocompressors.

## Your partner

Supported by a global network of manufacturing sites and service centers, customers can receive local support anywhere in the world.

With a very strong heritage in pump design, decades of experience and continuous investment in its employees and facilities, Sulzer enables its customers to stay ahead of the competition.

## Technology

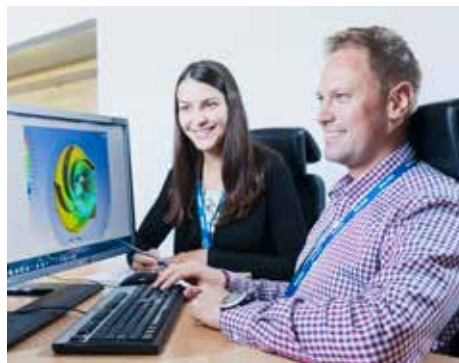
Efficiency and sustainability are at the core of the Sulzer ethos. Using the latest design and manufacturing technology to optimize energy consumption, enables the environmental impact of every product to be minimized.

By tailoring every solution to the individual application, it is possible to deliver the most cost-effective and energy-efficient product.

## Digitalization

Delivering performance and efficiency to every application, Sulzer is leading the way in digitalization. We offer state-of-the-art technology, such as BLUE BOX™ providing expert analysis of pump performance to improve reliability and reduce operational costs.

The in-depth knowledge and expertise of our design engineers in all major industrial processes enable them to create the most effective designs for each application.



# Dedicated solutions for modern industrial applications

## > Oil, gas and chemicals

As specialists in the complex processes involved in producing oil and gas as well as petrochemicals, Sulzer delivers high performance pumps through its unique expertise. Using cutting-edge technology, Sulzer offers a comprehensive solution for reliable and efficient production processes.



## > Power generation

Pumps are at the heart of power generation processes and Sulzer understands the need to deliver sustainable systems for the future. By creating robust and efficient pumps, Sulzer can help to reduce operating costs.



## Water and wastewater >

With such a large volume of pumping assets, the water industry demands efficiency and reliability to minimize operational costs. Sulzer provides innovative designs that optimize performance and class-leading support across the world.



## Pulp, paper and board >

Sulzer's expertly crafted pumps are ideally suited to the harsh operating conditions and competitive marketplace that characterize the pulp and paper industry. Combined with extensive industry knowledge and worldwide support network, Sulzer is the ideal partner.

> **Food and beverages**

Challenging applications involving sugars and starches require specialist pumping systems for the most effective and efficient process. Sulzer's design expertise and industry knowledge deliver the best solutions.



> **Mining and metals**

Sulzer offers decades of experience in designing and manufacturing pumps for mining, mine water management and metal processing applications. Our comprehensive range of equipment provides robust performance with reliability built in.



> **Fertilizers**

Sulzer's pumps, mixers and agitators provide durability and reliability for fertilizers production as well as for corrosive and abrasive liquids and high gas content. Advanced materials, a wide range of shaft seals and sealing systems, and the overall operating efficiency ensure a reliable process with minimized life-cycle costs.



# Sustainability is key

Reducing the environmental impact of an industry is increasingly important and Sulzer prides itself on the contribution that its products make.



Sulzer designs its pumps, agitators, mixers, grinders, aerators, and turbocompressors to deliver reliability and efficiency. With the potential for decades of service, the aim is to minimize operating costs by reducing energy consumption and the associated emissions. Using innovative designs to optimize both, mechanical and electrical efficiency, Sulzer supports its customers in their efforts to promote sustainability.

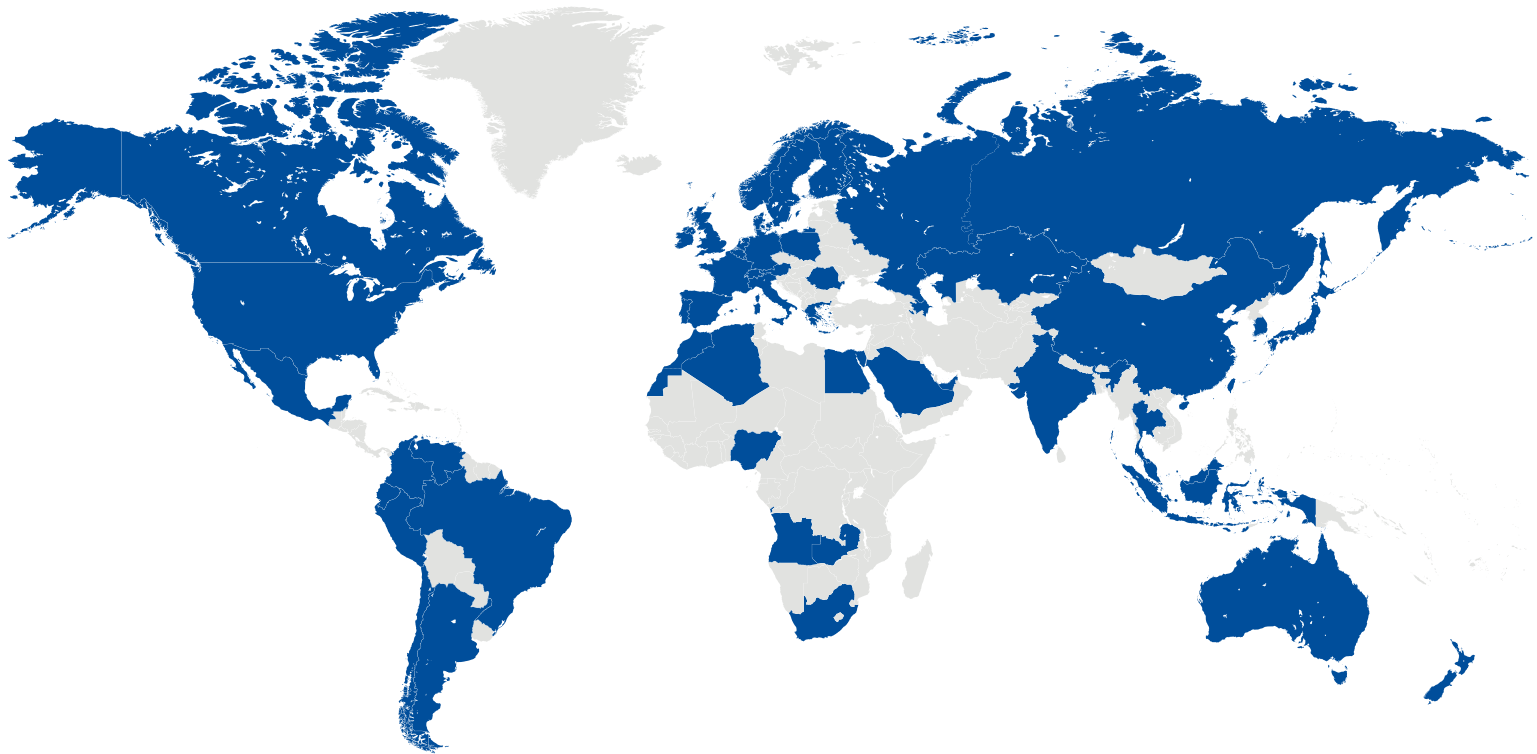
At the same time, manufacturing high-quality products ensures a longer operational life, especially when supported by an extensive range of services that can deliver upgrades and retrofits. This minimizes any material waste and promotes continued operation even when application specifications change.

Sulzer also has very high standards for its own facilities; constantly working to reduce waste, water consumption and greenhouse gas emissions. Every business evaluates its ecological footprint and sets the goals for improvement. Working collectively, the combined contributions in reducing the company's environmental impact are better appreciated.

# Sulzer's global footprint

With more than 180 production sites, sales offices and service centers in more than 50 countries, Sulzer has a global footprint. Wherever you are, Sulzer is close by.

Thanks to our global network of modern manufacturing facilities and innovative processes we ensure the highest quality. All manufacturing plants have testing facilities capable of demonstrating product performance.



# Production sites

## Bruchsal, Germany

The German facility in Bruchsal comprises a state-of-the-art engineering department where experts provide enhanced rotor dynamic efficiency, vibrate and noise emissions and analyze the performance of the products. Pump types such as OH, HZB, GSG are being assembled in tact production in order to increase efficiency. All areas like machining, tool room, assembly, painting, and testing follow a station concept with constant material flow. The packaging hall with its rolling platforms allows enhanced processes of large aggregates up to 32 tons. The test bed allows up to 15'000 m<sup>3</sup>/h – 4.0 MW, up to 66 Hz testing of bare pumps or complex units.



## Burgos, Spain

The facility in Burgos provides expert know-how in the design and manufacturing of vertical pumps. Typical applications include seawater intake pumps for desalination plants, all kinds of cooling water and condensate extraction services in power plants, and pumps for pumping stations and irrigation plants. Burgos also produces and packages axially-split horizontal pumps. With its 1.2 MW LV/MV test bed facility, this factory is flexible enough to test horizontal and vertical pumps. A double loop with a suction tank for horizontals and verticals and a 6.5 m pump pit depth for verticals allow testing units at nominal running speeds for flows up to 11'000 m<sup>3</sup>/h and pressure ratings of 40 kg/cm<sup>2</sup>.



## Cuautitlán Izcalli, Mexico

This modern facility produces complete semi-engineered pumps for the downstream market for the Americas and the rest of the globe and acts as packaging center for the Americas for power plant equipment including cooling water, boiler feed and condensate extraction applications. The testing facility includes testing with power ratings up to 7.0 MW over a range of frequencies. The quality control systems are registered and independently audited to the ISO 9001:2008 and ISO 14001:2004 standards, and actually migrated into ISO 9001:2015 as well as 18001:2007 OHSAS Management System certification.





## Dalian, China

Sulzer Dalian was founded in 1999. With extensive experience in engineering and manufacturing the company produces standard and configured pumps for the general industry and water markets. It offers a high capacity, optimized production line, including a 1'500 m<sup>3</sup> volume test pool with up to DN900 pipework and 3.1 MW motor starting power. End-suction, double-suction, multistage, axial flow and vertical pumps can be tested. The Sulzer global supply center in Dalian is an important sourcing hub, providing short lead and quick response times.



## Easley, USA

Sulzer's Easley, South Carolina plant assembles, tests and packages standard and configurable pumping products intended for industrial, clean water and municipal applications. Products produced in Easley include horizontal end suction pumps, vertical turbine pumps and submersible pumps. Additionally, Easley manages a separate warehouse which is designed to house products from other Sulzer facilities for distribution to the North American market. The Easley plant currently has three test rigs including a 5'600 m<sup>3</sup>/h and 650 kW test pit for vertical and submersible pump testing as well as two test rigs for horizontal end suction pump testing.



## Jundiaí, Brazil

The Brazilian site in Jundiaí has become one of Sulzer's primary development, manufacturing, and distribution centers. Sulzer's test bed in Brazil is the largest pump test facility in the Southern hemisphere. With 13'800 V electrical supply installed, a sump depth of 11 m and a motor capacity of up to 15.0 MW, this facility is able to test any centrifugal pump type from vertical to horizontal and submersible, single or multistage.



## Karhula, Finland

The manufacturing site in Finland comprises a full-scale testing facility and several test beds. A medium-consistency pulp pump loop, with power up to 1.5 MW as well as a general test station for vertical, process, multistage and axially-split pumps with power up to 500 kW and a test bed for multistage pumps at 2.7 MW power make the factory in Finland well equipped to test all equipment prior to leaving the site. Karhula factory manufactures also high-speed compressors, compressor accessories, mechanical aerators and agitators for municipal and industrial customers around the world.



## Kunshan, China

Kunshan specializes in submersible products, mainly for wastewater applications. The company manufactures submersible pumps, mixers and grinders in a large variety of sizes and configurations both for domestic and global markets. Pumps up to DN600 and a flow up to 9'000 m<sup>3</sup>/h can be produced. The workshop, with a total area of 8'000 m<sup>2</sup>, is utilized for assembly, test, painting and packaging. The test facility consists of five different test stations and is highly automated. The factory is certified according to ISO 9001, ISO 14001 and OHSAS 18001 and is also certified to meet FM/CSA/ATEX requirements.



## Leeds, UK

Sulzer Leeds has the world's only dedicated pump test bed for string testing gas turbine driven pump packages with an installed drive power of up to 30 MW. To be able to test subsea processing equipment under realistic submerged conditions, Leeds also has a dedicated multiphase subsea test bed. The factory specializes in custom-engineered pumps for the oil and gas industry, packaged to meet customers' exact specifications and requirements. Both the world's largest and highest pressure injection pumps were manufactured, packaged and string tested at full power here.



## Navi Mumbai, India

The facility in India supplies complex packaged pumps all over the world. Test bed capacity is 3.5 MW (50Hz/60 Hz) and it can handle up to eight pumps for performance testing. NDT such as liquid penetrant/magnetic particle/radiographic testing is also possible. All products comply with the latest internationally recognized standards, and the facility is certified according to ISO 9001, ISO 14001 and OHSAS 18001.



## Portland, USA

The Portland, OR facility is a modern, state-of-the-art manufacturing facility for engineered pumps, producing horizontal and vertical pumps designed to the stringent requirements of API 610, ISO and HI standards used in the oil and gas and power generation markets. The facility includes full CNC machining technology with extensive packaging and testing capabilities. Testing is performed through its multiple test bed stations including 115 kVA power supply, up to 15 MW (20'000 hp), flows to 45'000 m<sup>3</sup>/h (200'000 gpm) along with VFD availability. The quality control systems are registered and independently audited to ISO 9001, ISO 14001, OHSAS 18001 standards.



## Riyadh, Saudi Arabia

The Sulzer manufacturing site in Saudi Arabia is fully equipped to machine, assemble, test and package high-quality pump packages. The site specializes in the manufacture of engineered horizontal and vertical centrifugal pumps to API 610 and ASME B73.1 standard, relying upon proven technology for the oil and gas and power industries. Sulzer's pump testing facility is among the largest in the Middle East, with 460 V, 3.3, 4.16, 6.6 and 11 kV electrical supply installed, motor capacity up to 4 MW and a sump depth of 11 meters to allow for vertical pump testing.



## Santa Ana, USA

JWC Environmental, a Sulzer brand, designs, builds and services the world's most dependable waste shredders and screening systems to help solve challenging waste reduction and recycling applications. JWCE assists customers in the energy, wastewater, recycling, marine, and facility management sectors.



## St. Quentin, France

Sulzer manufactures in this site axial flow, slurry and a wide range of vertically mounted pumps for various industries. The factory is optimized to produce medium-sized pumps and has a workshop area of 10'000 m<sup>2</sup>; fully equipped to machine, assemble, package, paint, and blast the products. Four dedicated test beds are available for axial-flow pumps (flow rates up to 7'000 m<sup>3</sup>/h), horizontal pumps (flow rates up to 3'500 m<sup>3</sup>/h) and vertical pumps (8 m depth, flow rates up to 2'000 m<sup>3</sup>/h) with pressures up to 30 bars.



## Suzhou, China

The Suzhou factory is a state-of-the-art pump manufacturing facility. It produces a wide range of custom-engineered pumping solutions for the oil and gas and power industries. This modern factory has a workshop area of 23'000 m<sup>2</sup> and crane capacity of up to 52 tons. With 10 MW power supply and variable frequency drive ability, the test bed allows flow testing up to 65'000 m<sup>3</sup>/h of bare shaft pumps or packaged units.



## Thimister-Clermont, Belgium

Sulzer provides from Thimister a wide range of equipment for severe pumping conditions, including horizontal, vertical, axial flow and liquid ring vacuum pumps suitable for industrial applications with capacities up to 40'000 m<sup>3</sup>/h and temperature from -150°C to 900°C. Based on deep technical know-how, we offer specialty pumps for solar power, petrochemicals and fertilizer slurries. The facility features all capabilities for design, production and testing of all pumps including a 2.5 MW test bed with three horizontal loops, one large flow loop for axial flow pumps and one pool with 14 m pit depth for vertical pumps.



## Vadstena, Sweden

The Vadstena factory has complete pump manufacturing capabilities, from component making to assembly, as well as performance testing, painting and final packaging. The factory has a long history and proven experience in providing engineered and pre-engineered pumps for the pulp and paper industry, general industry and water and wastewater markets. It also designs and manufactures horizontally and vertically-mounted agitators for water treatment, industrial and chemical applications. Vadstena has a test bed capacity up to 5'000 l/s and 1.4 MW and has obtained ISO 9001, ISO 14001 and OSHAS 18001 certifications.



## Wexford, Ireland

Wexford has a wide range of manufacturing capabilities including machining, assembly, packaging and shipping of submersible pumps, mixers and aerators for domestic and commercial wastewater, municipal wastewater and dewatering. Product research and development is located on site and the plant in Wexford is home to a state-of-the-art product testing facility with CSA accreditation. Wexford has obtained ISO 9001, ISO 14001 and OHSAS 18001 certifications.





Sulzer has been headquartered in Winterthur, Switzerland, since 1834 and operates in more than 50 countries with 15'500 employees.

**SULZER**

# Turning data into dollars with digital solutions

Sulzer's cloud-based solution BLUE BOX™ combines the Internet of Things and Sulzer's Advanced Analytics Engine. It provides remote monitoring of pump assets to deliver predictive maintenance actions, minimizing downtime while maximizing both performance and availability.

The BLUE BOX by Sulzer is a set of advanced analytics services to help customers optimize pumps' reliability and efficiency. It consists of the following three modules:

## Data acquisition

to evaluate the actual efficiency and reliability

## Data analytics

to identify bad performer and actor pumps

## Actionable insights

to optimize customers' pumping solution

All data analytics components including data modeling, real-time predictive analytics and machine learning are performed in the Sulzer secure cloud platform. Further, this cloud-based solution simplifies regulatory compliance with a minimal IT footprint and was designed to be easily scalable.

## Features and benefits

- Possibility to build on your own data acquisition system by adding variables if needed
- Module easily integrated in your process
- Secure data handling and client access
- User-friendly panel providing a complete overview of all relevant data
- Real-time bad performers and actors identification
- Efficiency and reliability visibility to further optimize current operation and maintenance
- The pumps being analyzed can be Sulzer as well as third party equipment

## Applications

- Liquid pipelines
- Refinery, petrochemical and chemical process applications
- Power plants
- Desalination and water transport
- Mining



# Let Sense take care of your pump 24/7

Sulzer Sense condition monitoring is a unique solution that, in combination with Sulzer PumpsOnline cloud service, allows you to remotely view the operating status of all the pumps and other rotating equipment at your facility. Wireless sensors attached to the pump measure temperature and vibration in three axis and allow to optimize preventive maintenance and enable troubleshooting.

## Save time and money

- Accurate online measurement – no manual measurement needed
- Enables troubleshooting of pumping and process problems
- Helps and enables optimized preventive maintenance
- Minimized risk for unplanned shutdowns
- Easy to install and use
- Wireless, no cabling work

## Easy, safe and convenient

- Results, trends and analysis available anywhere and anytime in Sulzer's online service via laptop, mobile phone or tablet
- Easy and safe thanks to an alert in the cloud service when adjusted temperature or vibration limits are exceeded
- Secure cloud-based solution, no software installation required

## Wide range of applications

Sulzer Sense condition monitoring is suitable for all rotating equipment, such as pumps, agitators, mixers and motors, regardless of type or brand. Since nearly every production site has this kind of equipment, the applications are numerous.



Would you like to find out more?

Contact us today for more information or learn more on [www.sulzer.com](http://www.sulzer.com).





SULZER



# Product segment matrix

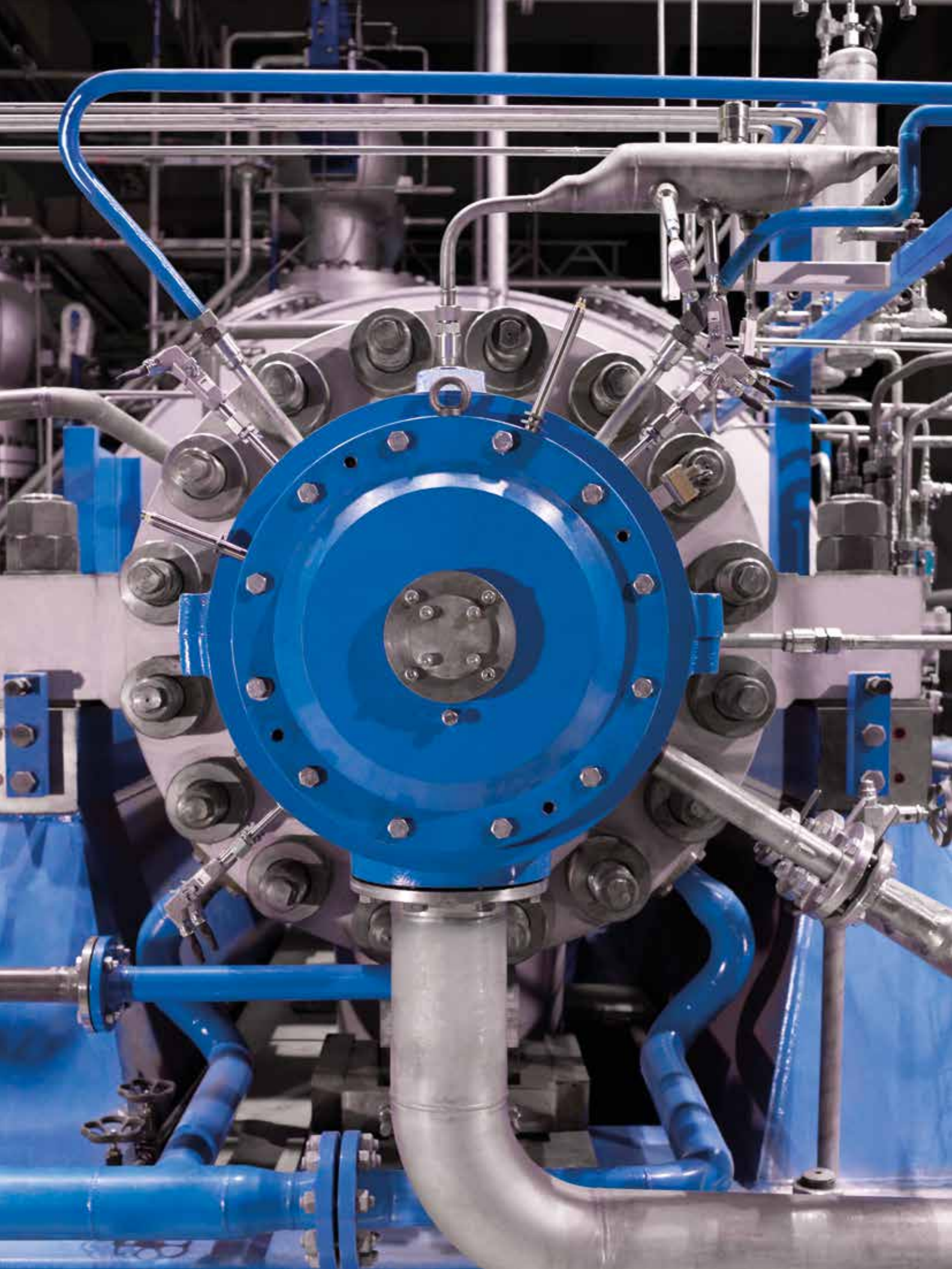
Product types		Oil and gas up- and midstream	Oil and gas downstream	Power generation	Municipal wastewater	Municipal clean water and desalination	Construction and mining dewatering	Pulp and paper and board	General industry	Fertilizers and chemical process industry
IoT and advanced analytics	BLUE BOX™	✓		✓						
	DOC BOX™	✓		✓						
	Sulzer Sense	✓	✓	✓	✓	✓	✓	✓	✓	✓
Axial flow pumps	AH		✓							
	CAHR, CAHR-V	✓	✓		✓	✓		✓	✓	✓
Axially-split pumps	HPDM	✓		✓		✓				
	HSA	✓	✓	✓						
	HSB	✓	✓	✓		✓				
	MSD	✓	✓	✓		✓				✓
	MSD-RO					✓				
	SMD			✓		✓	✓		✓	✓
	ZPP	✓	✓	✓	✓	✓		✓	✓	✓
Multiphase pumps	MPP/MPP-OHH	✓								
Radially-split, multistage, barrel pumps	CP	✓	✓	✓					✓	
	GSG	✓	✓	✓						
	GSG-BFP			✓						
	GVG			✓						
	HPT			✓						
	HPcp/HPcpV	✓		✓						
Radially-split, multistage, ring section pumps	MBN	✓		✓	✓	✓	✓	✓	✓	✓
	MBN-RO					✓				
	MC	✓		✓		✓	✓	✓	✓	✓
	MD	✓		✓			✓	✓	✓	✓
	ME	✓		✓						
	VMS					✓	✓			
Radially-split, one/two stage pumps	BBS/CD	✓	✓	✓						
	BBT/BBTD	✓	✓	✓						
	HPTd			✓					✓	
	HZB			✓						
	HZB-HTF			✓						
Single stage, end suction/ overhung pumps	AHLSTAR A, APP/T	✓	✓	✓	✓	✓	✓	✓	✓	✓
	AHLSTAR NPP/T, WPP/T, EPP/T	✓	✓	✓	✓		✓	✓	✓	✓
	AFC				✓					
	CPE	✓	✓	✓				✓	✓	✓
	EMTECH	✓	✓	✓	✓	✓		✓	✓	✓
	FR					✓			✓	
	NRN	✓	✓	✓		✓		✓	✓	✓
	OHH/OHHL	✓	✓	✓						✓
	OHV/OHVL	✓	✓	✓						✓
	PRE/PRELF	✓	✓	✓						
	PRER/PRETR	✓	✓	✓						
	PRF			✓		✓			✓	
	REL			✓						
	SIL	✓	✓		✓	✓	✓	✓	✓	✓
	SNS	✓	✓	✓	✓	✓	✓	✓	✓	✓
	ZA/ZE/ZF	✓	✓	✓		✓				
	ZFn			✓						

# Product segment matrix

Product types	Oil and gas up- and midstream	Oil and gas downstream	Power generation	Municipal wastewater	Municipal clean water and desalination	Construction and mining dewatering	Pulp and paper and board	General industry	Fertilizers and chemical process industry
Submersible pumps	XFP			✓	✓	✓	✓	✓	✓
	AFLX			✓	✓		✓	✓	✓
	VUPX						✓	✓	✓
	AFP				✓	✓	✓	✓	✓
	AS				✓				
	Coronada				✓				
	IP				✓		✓		
	MF				✓		✓		
	Piranha				✓				
	Robusta				✓		✓		
	XRCP/RCP				✓				
Lifting stations	Nirolift			✓					
	Piranhamat			✓					
	Sanimat			✓					
	Sanimax			✓					
	Sanisett			✓					
	Synconta			✓					
Progressing cavity pumps	PC transfer pump			✓	✓		✓	✓	✓
	PC transfer perform pump			✓	✓		✓	✓	✓
	PC cake pump			✓			✓	✓	✓
	PC dosing pump			✓			✓	✓	✓
Sewage grinders	Muffin Monster™ open channel			✓					
	Muffin Monster™ inline			✓					
	Channel Monster™			✓					
Submersible dewatering pumps	J/XJ					✓			
	JC/XJC					✓			
	JS/XJS					✓			
Vertical pumps	JTS	✓				✓			
	SJD (API)	✓	✓	✓					
	SJD (CEP)			✓					
	SJM	✓	✓	✓		✓		✓	✓
	SJP	✓	✓			✓			
	SJS	✓							
	SJT	✓	✓	✓		✓		✓	✓
	SJT (Geo)			✓					
	SJT/SJM CWP	✓	✓	✓		✓		✓	✓
	STR			✓		✓		✓	✓
	SVE		✓						
	VAS	✓	✓					✓	✓
	VEY/VNY	✓	✓	✓				✓	✓

# Product segment matrix

Product types	Oil and gas up- and midstream	Oil and gas downstream	Power generation	Municipal wastewater	Municipal clean water and desalination	Construction and mining dewatering	Pulp and paper and board	General industry	Fertilizers and chemical process industry
Vertical sump pumps	AHLSTAR NK/WK and NV						✓	✓	✓
	CVT		✓				✓	✓	✓
	OCV/OCVL	✓	✓						
	VA and VAP	✓	✓	✓	✓	✓	✓	✓	✓
	VM	✓	✓	✓	✓	✓	✓	✓	✓
	VSF	✓	✓						✓
Agitators and submersible mixers	SALOMIX™ side-mounted horizontal agitators			✓	✓		✓	✓	✓
	SALOMIX™ top-mounted vertical agitators			✓	✓		✓	✓	✓
	Scaba side-mounted agitator			✓	✓		✓	✓	✓
	Scaba top-mounted agitator			✓	✓	✓	✓	✓	✓
	XRW/RW				✓	✓	✓	✓	✓
	XSB/SB				✓				
Compressors and aeration	Disc diffuser system				✓			✓	✓
	HSR						✓	✓	✓
	HST™			✓	✓		✓	✓	✓
	OKI				✓		✓	✓	✓
	Venturi Jet				✓		✓	✓	✓
	XTA/XTAK				✓		✓	✓	✓
Medium consistency products	KCE, LCE, MCE pumping systems						✓	✓	
	MC discharge scraper						✓	✓	
	MC discharger						✓	✓	
	SX chemical mixer						✓	✓	
Tower management systems	SALOMIX™ TES, VULCA, GLI								
Slurry pumps	EMW-M, EMW-R			✓		✓	✓	✓	✓
	PLR and CR					✓	✓	✓	✓
Vacuum pumps	VRN								
Monitoring and controls	Control accessories				✓				
	Control and monitoring software solutions				✓				
	Control panels				✓				
	Measuring devices				✓				
	Pump controllers				✓				
	Pump monitoring				✓		✓		



# Product overview

## ➤ Axial flow pumps

### AH high pressure axial flow pump

#### Features and benefits

- High pressure design, casing designed to ASME section VIII division 1
- Double or triple mechanical seal for 5-year service life target
- Pump design and construction according to API 610 / ISO 13709 principles
- Hand polished internals for superior surface finish
- Suspended pump or sprung baseplate to allow for thermal expansion

#### Key characteristics

Capacities	up to 18'000 m <sup>3</sup> /h / 80'000 USgpm
Heads	up to 45 m / 150 ft.
Pressures	up to 100 bar / 1'500 psi
Temperatures	up to 200°C / 400°F

#### Applications

- Polymer slurries
- Reactor circulation in PE/PP plants



### CAHR axial flow pump

#### Features and benefits

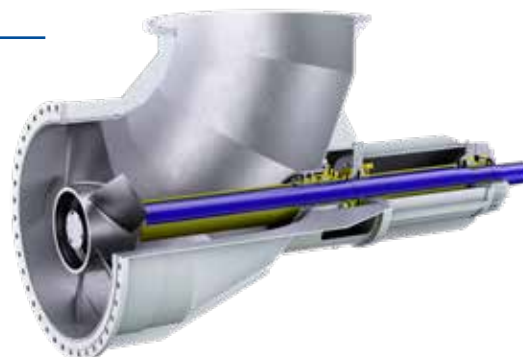
- High efficiency in high flow and low head applications
- High durability due to its heavy-duty construction
- Maximum reliability
- Low maintenance cost

#### Key characteristics

Capacities	up to 40'000 m <sup>3</sup> /h / 176'000 USgpm
Heads	up to 8 m / 26 ft.
Pressures	up to 10 bar / 145 psi
Temperatures	from -40°C to 180°C / -202°F to 356°F

#### Applications

- Corrosive and abrasive liquids
- Solid-contaminated liquids
- Chemicals
- Evaporation
- Crystallization
- Mining/minerals



### CAHR-V vertical axial flow pump

#### Features and benefits

- Tailor-made design as per project requirements
- High efficiency in high flow and low head applications
- High durability due to its heavy-duty construction
- Maximum reliability

#### Key characteristics

Capacities	up to 40'000 m <sup>3</sup> /h / 176'000 USgpm
Heads	up to 8 m / 26 ft.
Pressures	up to 10 bar / 145 psi
Temperatures	from -40°C to 180°C / -202°F to 356°F

#### Applications

- Mainly used as a forced-feed circulator or closed loop under a vacuum circulator
- Corrosive slurries in low-level flash cooler and phosacid slurry circulation



## ➤ Axially-split pumps

### HPDM axially-split, between bearing, single or multistage pump

---

#### Features and benefits

- Optimum technical solution due to a tailor-made design for each application
- Wide range of proven hydraulics allows high efficiency and suction performance
- Sturdy design with generous safety margins for long life of reliable service with minimum maintenance
- Proven experience backed by extensive list of references
- Technical support provided to customers from the early phases of the project design, allowing sound and cost-effective solutions for each application

#### Key characteristics

Capacities	up to 20'000 m <sup>3</sup> /h / 88'000 USgpm
Heads	up to 700 m / 2'300 ft.
Pressures	up to 175 bar / 2'500 psi
Temperatures	up to 70°C / 160°F

#### Applications

- Water transport
- Large crude oil pipelines
- Any other high flow, high head application



### HSA axially-split, single stage pump ISO 13709 / API 610 type BB1

---

#### Features and benefits

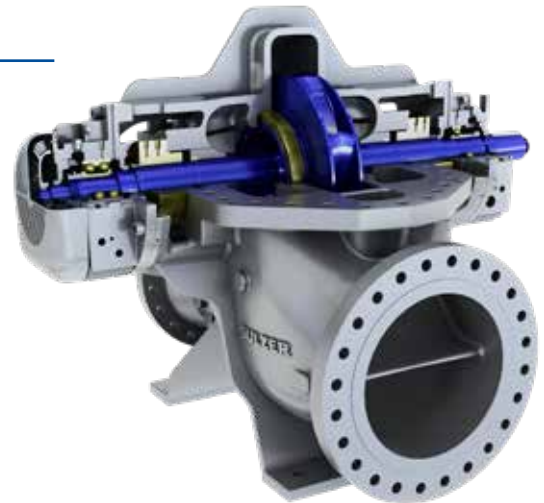
- Between bearing design for reliability at high flow rates
- Double suction impeller for low NPSH3
- First critical speed is well above operating speed range for smooth operation
- Shared bearing design and components with HSB pump

#### Key characteristics

Capacities	up to 18'000 m <sup>3</sup> /h / 80'000 USgpm
Heads	up to 260 m / 850 ft.
Pressures	up to 34 bar / 490 psi
Temperatures	up to 150°C / 300°F

#### Applications

- Cooling water
- Tank farm
- Booster applications
- Export/loading pumps



### HSB axially-split, between bearing, single stage pump ISO 13709 / API 610 type BB1

---

#### Features and benefits

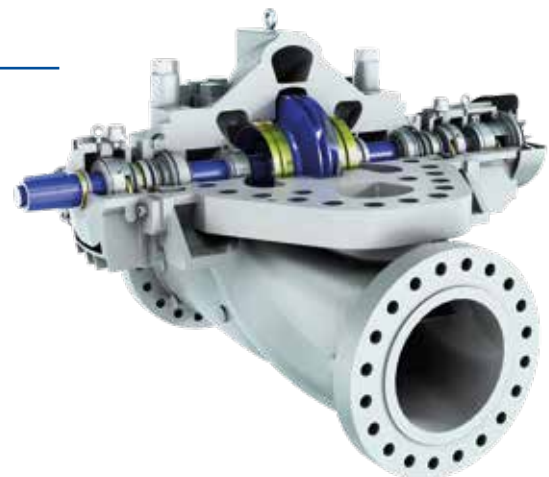
- Staggered vane, double suction impeller on larger sizes for reduced vibration
- Custom hydraulics to meet both current and future requirements with a simple rotor / volute changes
- Ball-ball, sleeve-ball and sleeve-pivot shoe bearings are available
- High-speed designs available for remote gas turbine-driven applications

#### Key characteristics

Capacities	up to 10'000 m <sup>3</sup> /h / 45'000 USgpm
Heads	up to 550 m / 1'800 ft.
Pressures	up to 150 bar / 2'200 psi
Temperatures	up to 205°C / 400°F

#### Applications

- Crude oil pipelines
- Heavy duty auxiliary applications
- Medium pressure applications in desalination and water transport



## MSD axially-split, multistage pumps ISO 13709 / API 610 type BB3

### Features and benefits

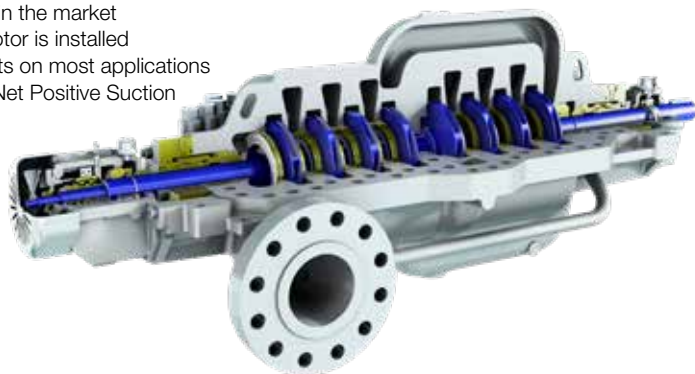
- Broadest hydraulic coverage of any BB3 type multistage pump in the market
- Axially split casing means rotor balance is not disturbed when rotor is installed
- Opposed impellers balance axial thrust, saving lube system costs on most applications
- Double suction, first-stage available on most sizes for reduced Net Positive Suction Head (NPSH)
- High speed option for gas turbine drive

### Key characteristics

Capacities	up to 3'200 m <sup>3</sup> /h / 14'000 USgpm
Heads	up to 2'900 m / 9'500 ft.
Pressures	up to 300 bar / 4'400 psi
Temperatures	up to 205°C / 400°F

### Applications

- Refined product pipelines
- Water injection
- CO<sub>2</sub> pipeline and injection
- Crude oil export
- Industrial boiler feedwater
- Lean amine circulation



## MSD-RO axially-split, multistage pump

### Features and benefits

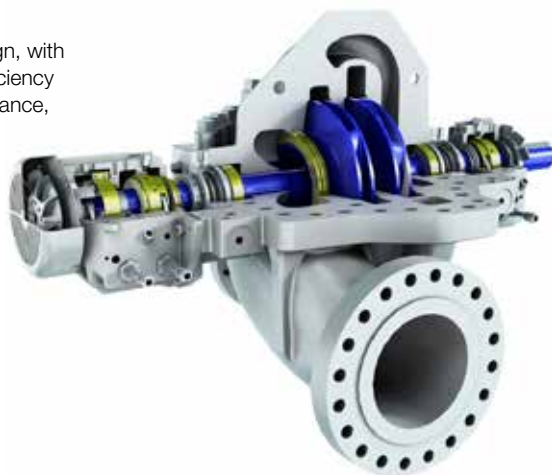
- Hydraulic configuration with two single suction impellers offers a compact design, with extremely low Net Positive Suction Head (NPSH) values and top of its class efficiency
- Special opposed, dynamically balanced impeller design for ideal axial thrust balance, increasing the overall pump efficiency by avoiding the use of balancing line
- Reduced wear parts clearances by using PEEK or honeycomb to increase pump efficiency

### Key characteristics

Capacities	up to 1'600 m <sup>3</sup> /h / 7'000 USgpm
Heads	up to 650 m / 2'150 ft.
Pressures	up to 110 bar / 1'305 psi
Temperatures	up to 60°C / 140°F

### Applications

- High pressure membrane feed pump in Seawater Reverse Osmosis (SWRO)
- Water transport



## SMD axially-split, double suction pump

### Features and benefits

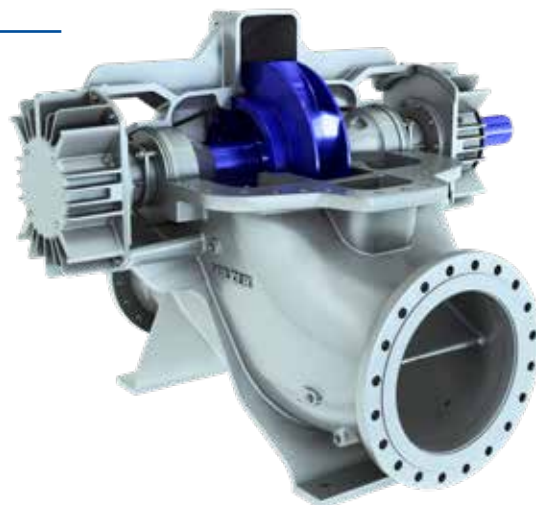
- Optimum hydraulic fit with high efficiency maintained over a wider flow range
- Exceptionally low Net Positive Suction Head Required (NPSHR) value not only at the best efficiency point but also on overload
- Maintenance-friendly features; excellent interchangeability of parts
- Horizontal and vertical constructions

### Key characteristics

Capacities	up to 24'000 m <sup>3</sup> /h / 106'000 USgpm
Heads	up to 260 m / 850 ft.
Pressures	up to 34 bar / 490 psi
Temperatures	up to 140°C / 280°F

### Applications

- Water intake, transport and supply
- Desalination
- Water treatment
- District heating and cooling
- Industrial water applications



## ZPP axially-split, double suction, single stage pump

---

### Features and benefits

- Long and trusted experience in all industrial segments
- Excellent performance
- Suitable for the most demanding industrial requirements
- Exceeds requirements of international ISO 5199 standard
- Unique and superior design features minimize life cycle costs
- Quick and easy installation, safe operation, easy maintenance and service

### Key characteristics

Capacities	up to 25'000 m <sup>3</sup> /h / 110'000 USgpm
Heads	up to 160 m / 525 ft.
Pressures	up to 20 bar / 290 psi
Temperatures	up to 120°C / 250°F

### Applications

- Clean and lightly contaminated liquids
- Viscous liquids
- Low-consistency fibrous slurries
- Low-pressure pulsation pumping applications





## > Multiphase pumps

### MPP high performance multiphase pump

---

#### Features and benefits

- Helico-axial impeller designed for any Gas Volume Fraction (GVF) from 0 to 100%
- Helico-axial stages axially compress the pumped product to avoid separation and gas binding
- Stage design changes to compensate for gas compression through the pump
- Horizontal or vertical configurations to fit the application
- Variety of sizes available from 1 to 6 MW to suit the field development, production and decline

#### Key characteristics

Capacities	up to 4'500 m <sup>3</sup> / 700'000 BPD
Heads	up to 180 bar dP / 2'600 psi dP
Pressures	up to 1'100 bar / 16'000 psi
Temperatures	1 to 250°C / 34 to 480°F



#### Applications

- Onshore multiphase or hybrid pressure boosting and transport
- Offshore topside multiphase or hybrid pressure boosting
- Subsea multiphase or hybrid pressure boosting, water injection and transport
- Revive dead wells or increase total recovery

### MPP-OHH single stage multiphase pump

---

#### Features and benefits

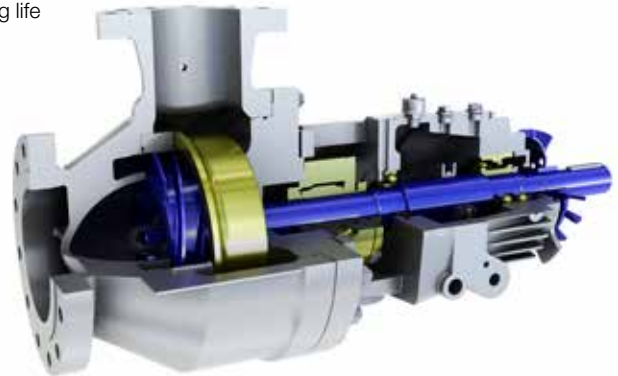
- Helico-axial impeller designed for any Gas Volume Fraction (GVF) from 0 to 100%
- Helico-axial easily handles robust to solid particles (specific coating can be applied depending on the process)
- Standard bearing frame the OHH bearing range designed for long bearing life
- API 682 cartridge seal type, single or dual mechanical seals

#### Key characteristics

Capacities	up to 1'000 m <sup>3</sup> / 4'400 US gpm
Heads	up to 7 bar dP / 100 psi dP
Pressures	up to 51 bar / 740 psi
Power	up to 400 kW
Maximum speed of rotation	up to 3600 rpm

#### Applications

- Shell Omega process (monoethylene glycol process plant)
- Petrochemical processes near liquid-vapor saturation line
- Circulation pumps in fermentation process
- DAF waste water applications



## ➤ Radially-split, multistage, barrel pumps

### CP radially-split, multistage barrel pump ISO 13709 / API 610 type BB5

---

#### Features and benefits

- Opposed impellers balance axial thrust, with no lube system needed on smaller pumps
- Axially split inner case means rotor balance is not disturbed when installed in the pump
- Dual volute inner case balances radial loads for longer service life
- Twistlock barrel closure reduces maintenance time on lower temperature services
- Cartridge design on larger pumps can speed up pump repair time
- Volute inner case with lower erosion wear on abrasive services

#### Key characteristics

Capacities	up to 1'000 m <sup>3</sup> /h / 4'400 USgpm
Heads	up to 7'000 m / 23'000 ft.
Pressures	up to 425 bar / 6'250 psi
Temperatures	up to 425°C / 800°F

#### Applications

- Water injection
- Offshore crude oil shipping
- Refinery charge
- Boiler feedwater
- Nuclear safety services



### GSG diffuser style barrel pump ISO 13709 / API 610 type BB5

---

#### Features and benefits

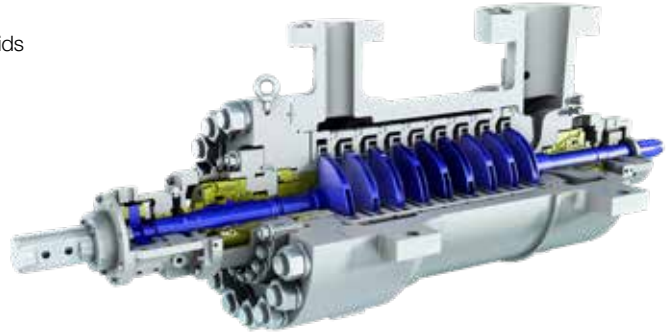
- Low-pressure, high-pressure, twistlock, and high-temperature designs suit many applications
- Direct drive options up to 6 MW
- Back-to-back rotor stack allows up to 16 stages on low-density fluids
- Multiple sizes cover a broad hydraulic range

#### Key characteristics

Capacities	up to 900 m <sup>3</sup> /h / 4'600 USgpm
Heads	up to 2'600 m / 10'000 ft.
Pressures	up to 300 bar / 4'500 psi
Temperatures	up to 425°C / 800°F

#### Applications

- Onshore or offshore water injection
- Offshore crude oil shipping
- Refinery charge
- Boiler feedwater



### GSG-BFP diffuser style barrel pump

---

#### Features and benefits

- Maximum safety due to double casing design, pipework connections remain undisturbed during disassembly
- High strength barrel material to accept occasional thermal shock
- Full cartridge pull out for rapid change over
- Design features to eliminate the need for pre-warming in most installations except on larger sizes
- Long operating life regardless of the operating mode

#### Key characteristics

Capacities	up to 700 m <sup>3</sup> /h / 3'080 USgpm
Heads	up to 2'500 m / 8'200 ft.
Pressures	up to 282 bar / 4'090 psi
Temperatures	up to 210°C / 410°F

#### Applications

- Feedwater pump
- Nuclear safety services



## GVG diffuser style barrel pump

### Features and benefits

- Low thrust bearing loads due to opposed impellers (even with worn clearances)
- Excellent rotordynamic behavior because of center bushing
- Forged barrel in chromium steel/austenitic stainless steel
- Full cartridge design to reduce downtime during maintenance
- Double suction impeller at first stage (optional)

### Key characteristics

Capacities	up to 65 m <sup>3</sup> /h / 285 USgpm
Heads	up to 1'900 m / 6'230 ft.
Pressures	up to 200 bar / 2'900 psi
Temperatures	up to 100°C / 212°F

### Applications

- Control rod drive pump
- High pressure charging pump
- Make up water pump
- Safety related services for NPP



## HPT high pressure barrel pump

### Features and benefits

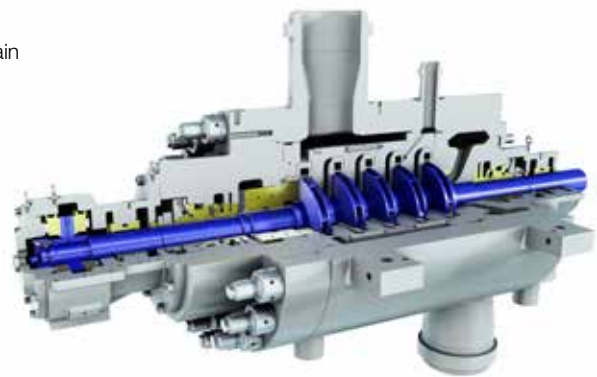
- Maximum safety due to double casing design; pipework connections remain undisturbed during disassembly
- High strength barrel material to accept thermal shock
- Full cartridge pull out for rapid changeover
- Design features to eliminate the need for pre-warming in most installations
- Long operating life regardless of the operating mode

### Key characteristics

Capacities	up to 4'000 m <sup>3</sup> /h / 17'600 USgpm
Heads	up to 4'200 m / 13'800 ft.
Pressures	up to 545 bar / 7'905 psi
Temperatures	up to 220°C / 430°F

### Applications

- Boiler feedwater



## HPcp high pressure, radially-split, multistage barrel pump ISO 13709 / API 610 type BB5

### Features and benefits

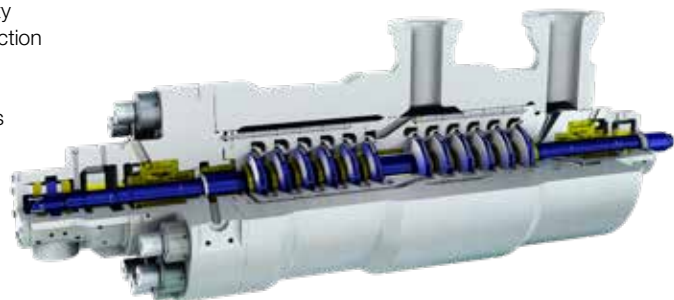
- Inline or back-to-back rotor stack designs for rotordynamic stability
- Forged carbon steel, duplex SS, HIP's and overlaid barrel construction
- Twistlock or bolted barrel closure with Superbolts™
- Sleeve, pocketed, or tilt pad bearings
- Grouted, ungrouted and offshore 3- or 4-point support baseplates

### Key characteristics

Capacities	up to 4'000 m <sup>3</sup> /h / 20'000 USgpm
Heads	up to 10'200 m / 33'500 ft.
Pressures	up to 1'100 bar / 16'000 psi
Temperatures	up to 200°C / 400°F

### Applications

- Ultra high pressure water injection
- Offshore crude oil shipping
- Remote pipeline services
- High pressure waterflood



## ➤ Radially-split, multistage, ring section pumps

### MBN medium pressure stage casing pump

---

#### Features and benefits

- Simple construction to minimize dimensions and reduce investment and maintenance costs
- High quality investment cast impellers and diffusers for better efficiency
- Fast and easy impeller mounting
- Bearing unit can be serviced without disassembling the pumps
- Wide range of materials including duplex stainless-steel grades

#### Key characteristics

Capacities	up to 700 m <sup>3</sup> /h / 3'080 USgpm
Heads	up to 900 m / 2'950 ft.
Pressures	up to 100 bar / 1'450 psi
Temperatures	up to 180°C / 355°F

#### Applications

- Feedwater pump
- Desalination
- Auxiliary services
- District heating



### MBN-RO multistage stage casing pump

---

#### Features and benefits

- Top of its class efficiency to ensure lowest specific power consumption per produced cubic meter of water in desalination applications
- Different hydraulics can be fitted in the same pump frame allowing flexibility, modularity, and future retrofitting
- All parts typically subject to maintenance (both drive end (DE) and non-drive end (NDE) bearings, balancing disk, mechanical seal) are accessible and can be replaced on site, without removal of suction and discharge piping

#### Key characteristics

Capacities	up to 1'100 m <sup>3</sup> /h / 4'800 USgpm
Heads	up to 900 m / 2'950 ft.
Pressures	up to 100 bar / 1'450 psi
Temperatures	up to 90°C / 194°F

#### Applications

- High pressure membrane feed in seawater reverse osmosis (SWRO)
- Clean water pumping stations
- Any other high pressure application with clean liquids and low temperature



### MC high pressure stage casing pump

---

#### Features and benefits

- Modular hydraulics for high efficiency in a wide range of operating conditions
- Large branch sizes for optimized inlet flow, low noise level and higher allowable forces and moments
- Unaffected by rapid temperature variations
- Easy access for cleaning to the seal cooling chambers
- Stiff shaft design for critical speeds above the maximum operating speed
- Low pressure version with dedicated large sizes for condensate extraction service

#### Key characteristics

Capacities	up to 1'700 m <sup>3</sup> /h / 8'500 USgpm
Heads	up to 1'750 m / 5'500 ft.
Pressures	up to 180 bar / 2'610 psi
Temperatures	up to 180°C / 355°F

#### Applications

- Feedwater pump
- Fuel injection and NOx abatement
- Condensate extraction



## MD high pressure stage casing pump

---

### Features and benefits

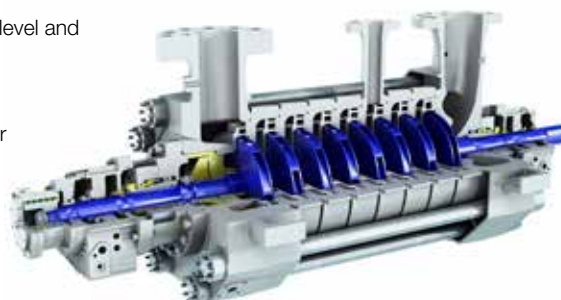
- Modular hydraulics for high efficiency in a wide range of operating conditions
- Centerline mounted with large branch sizes for optimized inlet flow, low noise level and higher allowable forces and moments
- Unaffected by rapid temperature variations
- Stiff shaft design for critical speeds above the maximum operating speed
- Multiple screws mechanical tensioners are used on large sizes to allow simpler tightening and loosening

### Key characteristics

Capacities	up to 1'200 m <sup>3</sup> /h / 5'300 USgpm
Heads	up to 2'800 m / 9'200 ft.
Pressures	up to 350 bar / 5'080 psi
Temperatures	up to 210°C / 410°F (higher temperatures upon request)

### Applications

- Feedwater pump



## ME high pressure stage casing pump

---

### Features and benefits

- Optimized labyrinth design for high efficiency and good rotordynamic behavior
- Shaft forged with low lift-to-drag (L/D) ratio for stable operation without critical speed problems and reduced vibration levels
- Radial grooves providing increased radial stiffness, reduced effect on rotor tilting and good rotordynamic behavior
- Swirl break at balancing piston to maintain rotor stability even when internal clearances are worn
- Optimized shaft sealing design with jacket cooling and mechanical seal: pre-warming not required

### Key characteristics

Capacities	up to 1'750 m <sup>3</sup> /h / 7'700 USgpm
Heads	up to 4'000 m / 13'120 ft.
Pressures	up to 430 bar / 6'240 psi
Temperatures	up to 220°C / 430°F

### Applications

- Boiler feedwater



## VMS vertical multistage pump

---

### Features and benefits

- Unique hydraulic design gives an efficiency of up to 80%
- Low NPSHr for vibration-free operation and extended life span
- Durable solution with high quality materials
- Suitable for drinking water with ACS, WRAS and NSF certification

### Key characteristics

Capacities	up to 162 m <sup>3</sup> /h / 850 USgpm
Heads	up to 400 m / 1'350 ft.
Pressures	up to 40 bar / 580 psi
Temperatures	from -20°C to 140°C / -4°F to 284°F

### Applications

- Municipal water supply and distribution
- Domestic water supply
- Cooling water transport
- Hot water applications
- Fire fighting



## Radially-split 1&2 stage pumps

### BBS and CD radially-split, single stage pumps ISO 13709 / API 610 type BB2

---

#### Features and benefits

- Centerline support for reduced, thermally induced misalignment
- Double suction impeller for low Net Positive Suction Head Required (NPSH3)
- Casing designed for two times API 610 nozzle loads for freedom from piping distortions
- Optional inline side/side or side suction/top discharge configuration
- Engineered CD design for special applications

#### Key characteristics

Capacities	up to 7'000 m <sup>3</sup> /h / 30'000 USgpm
Heads	up to 450 m / 1'500 ft.
Pressures	up to 51 bar / 740 psi
Temperatures	up to 425°C / 800°F

#### Applications

- Medium pressure pipeline
- Refinery pump around
- Refinery bottoms
- Petrochemical quench water



### BBT and BBTD radially-split, two stage pumps ISO 13709 / API 610 type BB2

---

#### Features and benefits

- Two stage configuration for higher heads
- Option of single or double suction first stage impeller to suit NPSHa
- First critical speed is well above operating speed range for smooth operation
- Casing designed for two times API 610 nozzle loads for freedom from piping distortions
- Special low flow high head hydraulics

#### Key characteristics

Capacities	up to 2'300 m <sup>3</sup> /h / 10'000 USgpm
Heads	up to 760 m / 2'500 ft.
Pressures	up to 100 bar / 1'450 psi
Temperatures	up to 425°C / 800°F

#### Applications

- Refinery vacuum bottoms
- Refinery coker heater charge
- Offshore WIP boosting



### HPTd double suction, single stage pump

---

#### Features and benefits

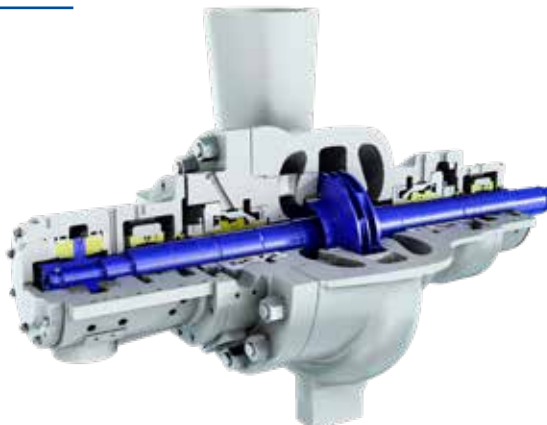
- Robust design to accept high piping loads
- Single cover design to reduce overhaul times
- Split bearing housings allow for bearing inspection without pump disassembly
- Single mechanical seal provides higher efficiency

#### Key characteristics

Capacities	up to 5'000 m <sup>3</sup> /h / 22'000 USgpm
Heads	up to 800 m / 2'625 ft.
Pressures	up to 150 bar / 2'175 psi
Temperatures	up to 220°C / 428°F

#### Applications

- Feedwater in nuclear power plants



## HZB double suction volute pump

---

### Features and benefits

- Centerline mounting to allow free thermal expansion and high nozzle loads
- Minimum bearing span to minimize shaft deflection
- Single cover casing design to reduce overhaul times
- Chrome steel casing with good corrosion resistance and excellent mechanical properties is standard
- Single mechanical seal provides higher efficiency

### Key characteristics

Capacities	up to 5'500 m <sup>3</sup> /h / 29'000 USgpm
Heads	up to 340 m / 1'115 ft.
Pressures	up to 48 bar / 700 psi
Temperatures	up to 220°C / 428°F

### Applications

- Feedwater booster
- Nuclear safety services
- District heating



## HZB-HTF double suction volute pump

---

### Features and benefits

- Centerline mounting to allow free thermal expansion and high nozzle loads
- Minimum bearing span to minimize shaft deflection
- Single cover casing design to reduce overhaul times
- Carbon steel or chrome steel casing with excellent mechanical properties
- Double mechanical seal provides safer operation

### Key characteristics

Capacities	up to 4'400 m <sup>3</sup> /h / 17'600 USgpm
Heads	up to 400 m / 1'310 ft.
Pressures	up to 48 bar / 700 psi
Temperatures	up to 425°C / 800°F

### Applications

- HTF oil pump for CSP



## Single stage, end suction/overhung pumps

### AHLSTAR pumps

---

#### Features and benefits

- AHLSTAR pumps save energy, sealing water and the environment
- Designed to meet the EN ISO 5199 standard, these pumps also comply to EN 22858 (ISO 2858) standard
- The modular interchangeability of parts and components enables low spare parts inventory
- The pump range offers the lowest total cost shaft seal concept, with dynamic seal, mechanical seals and packing
- Every AHLSTAR is designed for fast and easy installation, maintenance and service
- ACS drinking water certification

### AHLSTAR A, APP/T

---

#### Key characteristics

Capacities	up to 11'000 m <sup>3</sup> /h / 48'400 USgpm
Heads	up to 160 m / 525 ft.
Pressures	up to 16 / 25 bar, 230 / 360 psi, depending on material and size
Temperatures	up to 180°C / 356°F

#### Applications

- Clean and slightly contaminated liquids
- Viscous liquids
- Fibrous slurries
- Solids containing liquids
- Gas containing liquids and self-priming applications
- Various demanding applications



### AHLSTAR NPP/T

---

#### Key characteristics

Capacities	up to 2'000 m <sup>3</sup> /h / 8'800 USgpm
Heads	up to 90 m / 295 ft.
Pressures	up to 16 bar / 230 psi, depending on material and size
Temperatures	up to 180°C / 356°F

#### Applications

- Large solids containing liquids and fibrous slurries
- Large solids and gas containing liquids and slurries including self-priming applications



### AHLSTAR WPP/T

---

#### Key characteristics

Capacities	up to 7'000 m <sup>3</sup> /h / 31'000 USgpm
Heads	up to 110 m / 360 ft.
Pressures	up to 16 / 25 bar, 230 / 360 psi, depending on material and size
Temperatures	up to 180°C / 356°F

#### Applications

- Abrasive and viscous liquids, fibrous and non-fibrous slurries
- Abrasive solids and gas containing liquids and slurries including self-priming applications



### AHLSTAR EPP/T

---

#### Key characteristics

Capacities	up to 6'100 m <sup>3</sup> /h / 26'860 USgpm
Heads	up to 160 m / 525 ft.
Pressures	up to 25 bar / 360 psi, depending on material and size
Temperatures	up to 210°C / 410°F

#### Applications

- High temperature liquids
- Clean and slightly contaminated liquids
- Viscous liquids
- Fibrous slurries





## AHLSTAR close-coupled

### Features and benefits

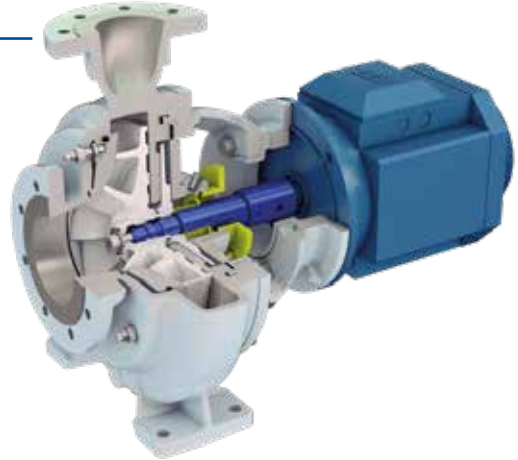
- Close-coupled design with flange or flange/feet type electric motors
- Needs less space
- Makes installation quick and easy, thus reducing the total installation cost

### Key characteristics

Capacities	up to 600 m <sup>3</sup> /h / 2'600 USgpm
Heads	up to 160 m / 525 ft.
Pressures	up to 16 / 25 bar, 230 / 360 psi, depending on material and size
Temperatures	up to 130°C / 266°F

### Applications

- Clean and slightly contaminated liquids
- Viscous liquids
- Fibrous slurries
- Solids containing liquids
- Gas containing liquids and self-priming applications



## Dry-installed sewage pump type ABS AFC

### Features and benefits

- Compliant with the EN 12050-1 standard
- No risk of contamination during operation
- No need for entry into dangerous pump sumps
- Pull-out design allows for easy removal of the motor without disconnecting the pump from the pipework
- Used with standard IEC air-cooled motors
- Based on the tried-and-tested Contrablock and vortex range of hydraulics

### Key characteristics

Discharge sizes	DN50 to DN200
Motor range	3 to 22 kW
Bearing life	100'000 h

### Applications

- Clear water
- Polluted water
- Heavily-polluted sewage containing solids, fecal slurry and sludge



## CPE ANSI process pumps range ANSI / ASME B73.1

### Features and benefits

- The highest available efficiency on the ANSI process pump market providing clear savings in energy consumption
- Exceeds the requirements of all environment (ECO) directives and the energy efficiency targets for pumps globally
- Maximized reliability thanks to shaft sealing conditions and heavy-duty bearing unit
- High standardization, easy installation and robust construction equate to reduced maintenance and operating costs
- The CPE pump uses NSF61 and NSF372 certified materials

### Key characteristics

Capacities	up to 1'650 m <sup>3</sup> /h / 7'000 USgpm
Heads	up to 275 m / 900 ft.
Pressures	up to 27.5 bar / 400 psi
Temperatures	up to 260°C / 500°F

### Applications

- Clean and slightly contaminated liquids
- Viscous liquids
- Fibrous slurries



## EMTECH process pump

---

### Features and benefits

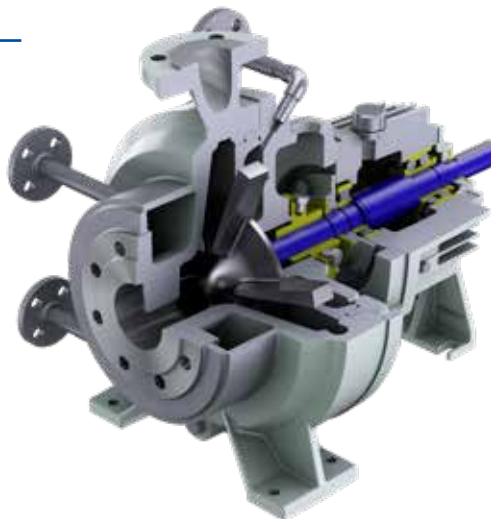
- Designed to meet the EN ISO 5199 standard, these pumps also comply with EN 22858 (ISO 2858) standard
- High efficiency
- Low net positive suction head (NPSH)
- Reliable and flexible design to ensure maximum installation availability
- Low energy consumption, high standardization, easy installation and unique design reduce maintenance and operating costs
- Jacketing

### Key characteristics

Capacities	up to 350 m <sup>3</sup> /h / 1'540 USgpm
Heads	up to 160 m / 525 ft.
Pressures	up to 20 bar / 290 psi
Temperatures	up to 180°C / 356°F

### Applications

- Clean and slightly contaminated liquids
- Viscous liquids
- Fibrous slurries
- Sticky liquids



## Dry-installed sewage pump type ABS FR

---

### Features and benefits

- Very service-friendly due to back pull-out design using standard electrical motors
- Ample space inside the impeller and volute, making them less prone to clogging
- Dry running capability possible with a double seal arrangement
- Can be supplied with optional equipment where self-priming is required

### Key characteristics

Discharge sizes	DN150-DN700 / 6-28"
Motor range	up to 700 kW / up to 950 hp
Bearing life	100'000 h

### Applications

- Clear water
- Polluted water
- Heavily-polluted sewage containing solids, fecal slurry, and sludge in commercial, industrial and municipal applications



## NRN high-pressure process pump

---

### Features and benefits

- Designed for heavy-duty applications in various industries
- Exceeds the requirements of ISO 5199 and ISO 13709 (API 610) 11th edition, type OH1
- Tailor-made for your process needs
- High reliability and maximum efficiency

### Key characteristics

Capacities	up to 4'500 m <sup>3</sup> /h / 19'800 USgpm
Heads	up to 320 m / 1'050 ft.
Pressures	up to 60 bar / 1'100 psi
Temperatures	from -90 to 180°C / from -130 to 356°F

### Applications

- Clean and slightly-contaminated liquids
- Corrosive and abrasive liquids
- Slurry applications



## OHH and OHHL overhung, single stage pumps ISO 13709 / API 610 type OH2

### Features and benefits

- Finned bearing housing and fan cooling for long bearing life
- Broadest range map in the industry for ISO 13709 (API 610) type OH2 pumps
- Heavy duty baseplates with 2x ISO 13709 (API 610) nozzle load option
- ISO 21049 (API 682) cartridge type mechanical seals for reduced emissions
- Electric motor, variable frequency drive (VFD), engine and steam turbine drivers

### Key characteristics

Capacities	up to 2'250 m <sup>3</sup> /h / 10'000 USgpm
Heads	up to 400 m / 1'500 ft.
Pressures	up to 75 bar / 1'110 psi
Temperatures	up to 425°C / 800°F

### Applications

- Offshore boosting
- Refinery and petrochemical process applications
- HTF oil circulation



## OHV and OHVL overhung, vertical inline pumps ISO 13709 / API 610 type OH3

### Features and benefits

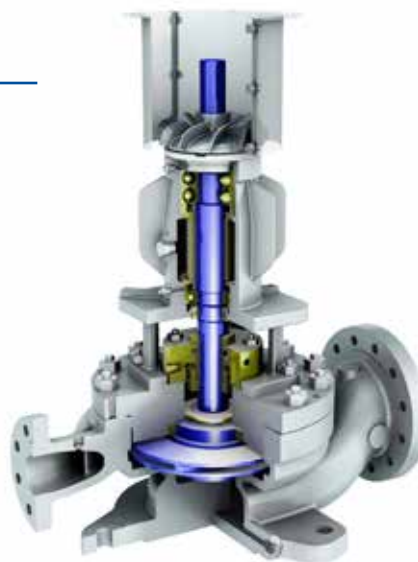
- Finned bearing housing and fan cooling for long bearing life
- Broad range map for hydraulic coverage
- Heavy-duty pump and driver stand for reduced vibration
- ISO 21049 (API 682) cartridge type mechanical seals for reduced emissions
- OHH/OHHL shaft and bearings for reduced deflection and long seal life

### Key characteristics

Capacities	up to 1'450 m <sup>3</sup> /h / 6'800 USgpm
Heads	up to 450 m / 1'500 ft.
Pressures	up to 51 bar / 740 psi
Temperatures	-160 to +340°C / -256 to +650°F

### Applications

- Seawater booster
- Light hydrocarbon boosting
- Low-pressure unit charge
- Pump around services
- Tank farm boosting



## PRE and PRELF end suction, single stage process pumps ISO 13709 / API 610 type OH2

### Features and benefits

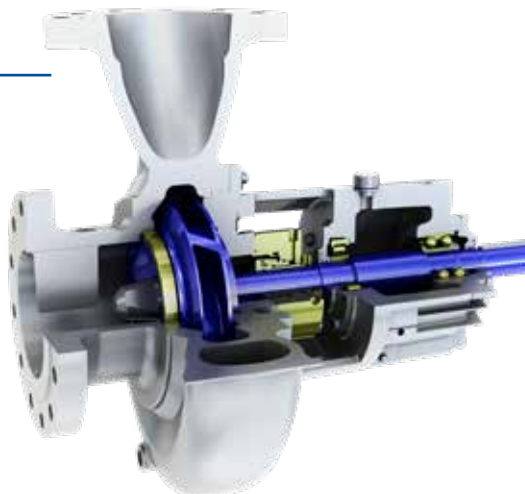
- Heavy duty shaft with short overhang dimensions for robust design
- Innovative hydraulic design with options to suit process fluid
- Finned bearing housing and fan cooling for long bearing life
- ISO 21049 (API 682) cartridge type mechanical seals for reduced emissions
- Inducer option for low NPSH applications

### Key characteristics

Capacities	up to 4'500 m <sup>3</sup> /h / 19'800 USgpm
Heads	up to 320 m / 1'050 ft.
Pressures	up to 51 bar / 740 psi, special high pressure 250 bar upon request
Temperatures	up to 400°C / 750°F

### Applications

- Boosting
- Refinery, petrochemical and chemical process applications
- Desalination
- Boiler feedwater booster
- Condensate extraction
- HTF oil circulation



## PRER and PRETR high pressure pumps

---

### Features and benefits

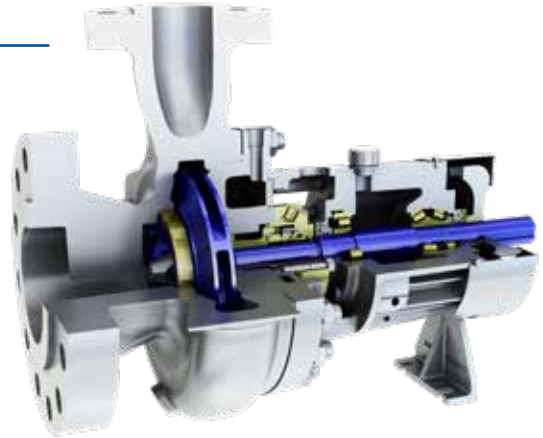
- High pressure casing design with special reinforcement to suite challenging high-pressure services
- Closed impeller for clean liquids
- Extra heavy duty, large diameter shaft
- Taper roller bearing for very high suction pressures
- Robust bearing housing with low noise fan for high temperatures

### Key characteristics

Capacities	up to 2'200 m <sup>3</sup> /h / 8'800 USgpm
Heads	up to 320 m / 1'050 ft.
Pressures	up to 200 bar / 2'900 psi
Temperatures	up to 400°C / 752°F

### Applications

- Boiler circulation pump
- Hot water circulation pump



## PRF high-pressure booster pump

---

### Features and benefits

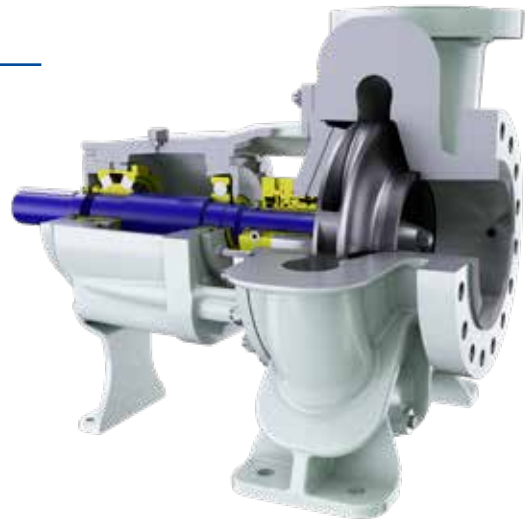
- Specifically designed to manage clear liquids with high suction pressure
- Optimized design ensures maximum pressure resistance and extended lifetime
- Cost effective and highly reliable
- Efficient solution as ERS booster pumps in SWRO desalination applications

### Key characteristics

Capacities	up to 1'350 m <sup>3</sup> /h / 7'250 USgpm
Heads	up to 95 m / 445 ft.
Pressures	up to 75 bar / 1'090 psi
Temperatures	up to 200°C / 392°F

### Applications

- Reverse osmosis process
- Boiler circulation
- Any high-pressure process application



## REL horizontal diffuser style single stage pump

---

### Features and benefits

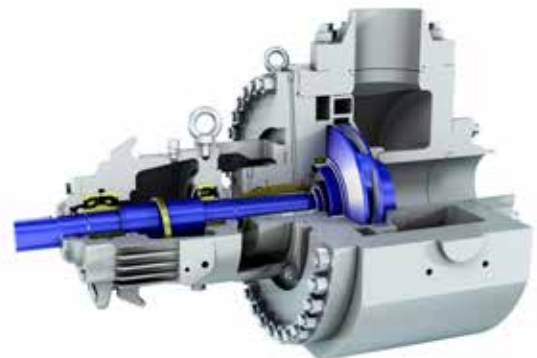
- Casing designed for higher nozzle loads to comply with nuclear requirements
- Proven hydraulic design from our API 610 pump range ZE/ZF
- Enlarged shaft diameter compared to API 610 to match nuclear requirements
- Low rotor bending
- High dry running critical speed
- Designs according to RCC-M available

### Key characteristics

Capacities	up to 2'600 m <sup>3</sup> /h / 11'440 USgpm
Heads	up to 300 m / 1'000 ft.
Pressures	up to 100 bar / 1'450 psi
Temperatures	up to 425°C / 800°F

### Applications

- Safety related services



## SIL inline pump range

---

### Features and benefits

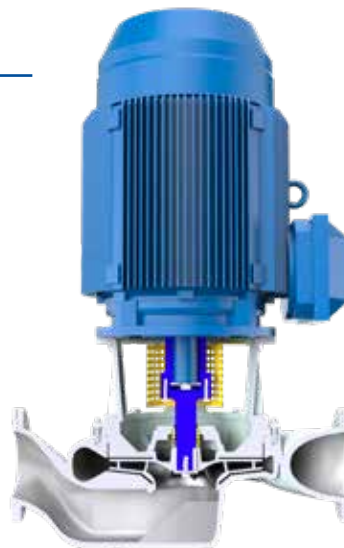
- High efficiency over a wide operation range
- Exceeds ErP (energy-related products) minimum efficiency index (MEI 0.4)
- Low installation and maintenance costs due to easy installation and unique design
- Low spare parts costs due to high standardization

### Key characteristics

Capacities	up to 720 m <sup>3</sup> /h / 3'200 USgpm
Heads	up to 100 m / 328 ft.
Pressures	up to 16 bar / 230 psi
Temperatures	up to 180°C / 356°F

### Applications

- Clean and slightly contaminated liquids
- Clean viscous liquids
- Clean fibrous slurries



## SNS range

---

### Features and benefits

- Designed to meet the design requirements of EN 5199 international standard
- Exceeding EU's (European Union) requirements for energy-related products (ErP)
- Highest efficiency across the whole pump range, exceeding the benchmark efficiency index MEI 0.7 (minimum efficiency index)
- New, state-of-the-art hydraulics ensure optimum capacity with low net positive suction head required (NPSHr)
- Low energy consumption, high standardization, easy installation and unique construction also equate to lower maintenance and operating costs
- ACS drinking water certification

### Key characteristics

Capacities	up to 1'400 m <sup>3</sup> /h / 6'000 USgpm
Heads	up to 160 m / 525 ft.
Pressures	up to 16 bar / 230 psi,
Temperatures	up to 120°C / 250°F

### Applications

- Clean and slightly contaminated liquids
- Viscous liquids
- Fibrous slurries



## ZA / ZE and ZF end suction pumps ISO 13709 / API 610 type OH2

---

### Features and benefits

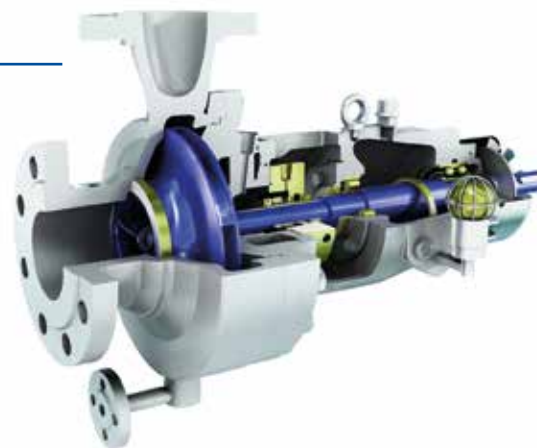
- Designed for hot and cold process applications
- Modular construction to provide maximum interchangeability

### Key characteristics

Capacities	up to 2'600 m <sup>3</sup> /h / 11'440 USgpm
Heads	up to 300 m / 1'000 ft.
Pressures	up to 100 bar / 1'450 psi
Temperatures	up to 425°C / 800°F

### Applications

- Refinery, petrochemical and chemical process applications
- Desalination
- Boiler feedwater booster
- Condensate extraction
- HTF oil circulation
- Auxiliary services
- District heating



## ZFn horizontal volute type process pump

### Features and benefits

- Basic design according API 610 latest edition
- Casing designed for higher nozzle loads to comply with nuclear requirements
- Proven hydraulic design from our API 610 pump range ZE/ZF
- Enlarged shaft diameter compared to API 610 to match nuclear requirements
- Low rotor bending
- High dry running critical speed
- Designs according to RCC-M available

### Key characteristics

Capacities	up to 2'600 m <sup>3</sup> /h / 11'440 USgpm
Heads	up to 300 m / 1'000 ft.
Pressures	up to 100 bar / 1'450 psi
Temperatures	up to 425°C / 800°F

### Applications

- Safety related services



## Submersible pumps

### Submersible sewage pumps type ABS XFP

#### Features and benefits

- Premium Efficiency IE3 motor in accordance with IEC 60034-30
- Excellent rag handling
- Specially designed impellers for reliable delivery of wastewater containing solids and fibrous material
- Hazardous locations: Approval for ATEX ATEX (Ex II 2G Ex h db IIB T4 Gb), FM and CSA available
- Quick and easy installation, safe operation, easy maintenance and service

#### Key characteristics

Capacities	up to 2'700 l/s (50 Hz) / 3'000 l/s / 47'560 USgpm (60 Hz)
Heads	up to 80 m (50 Hz) / 95 m / 310 ft. (60 Hz)
Temperatures	up to 40°C / 104°F
Motor power	up to 550 kW (50 Hz) / up to 620 kW / 830 hp (60 Hz)

#### Applications

- Clean water and wastewater
- Sewage with sludge and rag content
- Sewage containing solids and fibrous material
- Industrial raw water
- Municipal combined sewage and storm water systems



### Submersible mixed flow column pump type ABS AFLX

#### Features and benefits

- Premium Efficiency IE3 motor in accordance with IEC 60034-30
- Highly efficient three-to five-blade open-type mixed flow impellers
- Low-vibration design and low-NPSH design
- Automatic self-centering of the pump and column pipe with a conical coupling ring
- Hazardous locations: Certification for ATEX (Ex II 2G Ex h db IIB T4 Gb), FM and CSA available as an option

#### Key characteristics

Capacities	up to 3'100 l/s / 49'000 USgpm
Heads	up to 35 m (50 Hz) / 33 m / 108 ft. (60 Hz)
Temperatures	up to 40°C / 104°F
Motor power	up to 500 kW (50 Hz) / up to 468 kW / 628 hp (60 Hz)

#### Applications

- Storm water protection, irrigation and aquaculture
- Industrial raw water and process water
- Combined sewage and surface water
- Recirculation sludge or return activated sludge (RAS)
- Hazardous locations



## Submersible propeller pump type ABS VUPX

### Features and benefits

- Premium Efficiency IE3 motor in accordance with IEC 60034-30
- Versatile range of axial-flow propellers
- Low-vibration design and Low-NPSH design
- Automatic self-centering of the pump and column pipe with a conical coupling ring
- Hazardous locations: certification for ATEX (Ex II 2G Ex h db IIB T4 Gb), FM and CSA available as an option

### Key characteristics

Capacities	up to 7'000 l/s (50 Hz) / 8'500 l/s / 134'700 USgpm (60 Hz)
Heads	up to 10 m / 33 ft.
Temperatures	up to 40°C / 104°F
Motor power	up to 650 kW (50 Hz) / up to 750 kW / 1'005 hp (60 Hz)

### Applications

- Storm water protection, irrigation and aquaculture
- Industrial raw water and process water
- Combined sewage and surface water
- Recirculation sludge or return activated sludge (RAS)
- Hazardous locations



## Submersible sewage pump type ABS AFP

### Features and benefits

- Excellent rag handling
- Specially designed impellers for reliable delivery of wastewater containing solids and fibrous material
- Hazardous locations: approval for ATEX (Ex II 2G Ex h db IIB T4 Gb), FM and CSA available
- Quick and easy installation, safe operation, easy maintenance and service

### Key characteristics

Capacities	up to 2'470 l/s (50 Hz) / 2'800 l/s / 44'400 USgpm (60 Hz)
Heads	up to 67 m (50 Hz) / 94 m / 308 ft. (60 Hz)
Temperatures	up to 40°C / 104°F
Motor power	550 kW (50 Hz) / 600 kW / 805 hp (60 Hz)

### Applications

- Clean water and wastewater
- Sewage with sludge and rag content
- Sewage containing solids and fibrous material
- Industrial raw water
- Municipal combined sewage and storm water systems



## Submersible wastewater pump type ABS AS

### Features and benefits

- Hydraulic design with Contrablock system or vortex impellers
- Two- and four-pole design
- Passage of solids from 40 to 80 mm
- Automatic coupling system

### Key characteristics

Capacities	up to 110 m <sup>3</sup> /h / 520 USgpm
Heads	up to 28 m / 115 ft.
Temperatures	40°C up to 60°C (max. 5 minutes) / 104°F up to 140°F (max. 5 minutes)
Motor power	1.2–3.0 kW / 1.8–3.5 kW / 1.61–4.02 hp / 2.41–4.69 hp

### Applications

- Sewage and wastewater with toilet waste
- Two-inch version especially suitable for pumping wastewater from underground garages
- Vortex hydraulics
- Particularly suitable for fluids containing fibrous or abrasive matter
- Contrablock hydraulic system for larger proportions of solid or fibrous matter



## Light drainage pump type ABS Coronada

---

### Features and benefits

- Fitted with automatic level control
- Supplied with built-in check valve
- Coronada SX available with a high-grade, stainless steel shaft, Viton seals, and PVC cable

### Key characteristics

Capacities	up to 9 m <sup>3</sup> /h
Heads	up to 7 m
Temperatures	40°C up to 60°C (max. 5 minutes)
Motor power	0.3 kW

### Applications

- Wastewater without toilet waste
- Drainage of pits, swimming pools, and flooded cellars
- Removal of nuisance water from gullies or pedestrian underpasses
- Coronada SX for aggressive wastewater



## Light drainage pump type ABS IP

---

### Features and benefits

- Fitted with automatic level control
- Stainless steel pump for corrosive media with vortex hydraulics
- Passage of solids 30 mm
- Standard version with high grade stainless steel, Viton seals and PVC cable

### Key characteristics

Capacities	up to 18 m <sup>3</sup> /h
Heads	up to 11 m
Temperatures	40°C up to 60°C (max. 5 minutes)
Motor power	1.1 kW

### Applications

- Pumping of aggressive media, as well as clear and rain water
- Blockage-free pumping of liquids containing a high proportion of solid or fibrous matter
- Dewatering of buildings and sites
- Emptying or filling of containers
- Suitable for use in septic tanks, for emptying flooded cellars, and for drainage



## Light wastewater pump type ABS MF 154-804

---

### Features and benefits

- With or without automatic level control
- Compact shape, fittings for easy mounting, and small sump requirements enable a quick and cost-effective installation

### Key characteristics

Capacities	up to 56 m <sup>3</sup> /h
Heads	up to 16 m
Temperatures	40°C up to 60°C (max. 5 minutes)
Motor power	0.42–1.8 kW

### Applications

- Removal of wastewater without toilet waste and rainwater
- Pumping of flooded cellars
- Removal of nuisance water from gullies or pedestrian underpasses
- Pumping of fluids containing gaseous or abrasive particles, thanks to vortex hydraulics





## Light wastewater pump type ABS MF 154 HW

---

### Features and benefits

- Compact shape, fittings for easy mounting, and small sump requirements enable a quick and cost-effective installation
- Designed to cover a wide range of internal and external dewatering applications

### Key characteristics

Capacities	9 m <sup>3</sup> /h
Heads	7.8 m
Temperatures	80°C
Motor power	0.42–1.8 kW

### Applications

- Pumping of high temperature discharge water from laundries, commercial washing machines etc.
- Filling and emptying of containers, drainage of flooded cellars and removal of rainwater
- Suitable for pumping of fluids containing gaseous or abrasive particles



## Submersible grinder pumps type ABS Piranha

---

### Features and benefits

- Unique Piranha shredding system
- Automatic coupling system
- Piranha PE with Premium Efficiency IE3 motor
- Two and four-pole design
- Multi-stage high head 60 Hz version with shredding system available

### Key characteristics

Capacities	up to 21 m <sup>3</sup> /h / 122 USgpm
Heads	up to 71 m / 265 ft.
Temperatures	40°C up to 60°C (max. 5 minutes) / 104°F up to 140°F (max. 5 minutes)
Motor power	1.0–11.0 kW / 1.34–16.8 kW / 1.34–14.74 hp / 1.80–22.52 hp

### Applications

Sewage removal from living units and houses in remote settlements where:

- The laying of a conventional sewer would be too expensive
- Large ground undulations are present
- It is only possible to lay small-diameter pipe lines



## Light drainage pump type ABS Robusta

---

### Features and benefits

- Fitted with automatic level control
- Supplied with built-in check valve
- 10 m / 33 ft. cable with plug
- Suitable for small sumps from 300 x 300 mm / 11.8 x 11.8 in.
- Detachable suction ring. When fitted into the screen, enables pumping down to 3 mm / 0.12 in

### Key characteristics

Capacities	up to 14 m <sup>3</sup> /h / 58 USgpm
Heads	up to 8.8 m / 30 ft.
Temperatures	40°C up to 60°C (max. 5 minutes) / 104°F up to 140°F (max. 5 minutes)
Motor power	0.36–0.50 kW / 1/4–1/3–1/2 hp

### Applications

- Pumping clear and wastewater from house, garden or yard



## Submersible recirculation pump type ABS XRCP

---

### Features and benefits

- Strongly designed for high reliability
- Premium Efficiency motor ensures lowest possible energy consumption
- No maintenance – lubricated for life
- Hydraulic-optimized stainless steel propeller ensures highest possible mixing performance

### Key characteristics

Capacities	up to 1.68 m <sup>3</sup> /s (50 Hz) / 1.68 m <sup>3</sup> /s / 25'680 USgpm (60 Hz)
Heads	up to 1.63 m / 4.7 ft.
Temperatures	up to 40°C / 104°F
Motor power	25 kW (50 Hz) / 25 kW / 33.5 hp (60 Hz)

### Applications

- Pumping and recirculation of activated sludge in sewage treatment plants
- Pumping of storm water
- Pumping of surface and river water
- Hazard locations: Certification for ATEX (Ex II 2G k Ex d IIB T4), FM and CSA as option



## Submersible recirculation pump type ABS RCP

---

### Features and benefits

- Compact design
- Maintenance friendly
- High hydraulic efficiencies
- High operation reliability
- Simple installation

### Key characteristics

Capacities	1.25 m <sup>3</sup> /s (50 Hz) / 1.25 m <sup>3</sup> /s / 19'800 USgpm (60 Hz)
Heads	up to 1.8 m / 6 ft.
Temperatures	up to 40°C / 104°F
Motor power	22 kW (50 Hz) / 25 kW / 33.5 hp (60 Hz)

### Applications

- Pumping and recirculation of activated sludge in sewage treatment plants
- Pumping of storm water
- Pumping of surface and river water
- Hazardous locations: certification for ATEX (Ex II 2G k Ex d IIB T4), FM and CSA as option



## Lifting stations

### Lifting station type ABS Nirolift

---

#### Features and benefits

- Globular shape for extra strength
- Easily transported and fitted. Compact dimensions allow passage through a standard door opening
- Kit available as an accessory for sealing the top of the tank to a damp-proof course
- Universally adjustable in height and can be swiveled: easy to align with floor levels and tiling patterns

#### Key characteristics

Capacities	up to 16 m <sup>3</sup> /h
Heads	up to 11 m
Temperatures	40°C up to 60°C (max. 5 minutes)
Motor power	0.16–0.56 kW

#### Applications

- Pumping wastewater without toilet waste
- Washing machines, sinks, dishwashers, showers, and bathtubs



### Lifting station type ABS Piranhamat

---

#### Features and benefits

- Ready for installation; robust, compact tank for buildings
- Easily transported and installed
- Fitted with Piranha submersible grinder pumps for problem-free pumping of sewage containing toilet waste

#### Key characteristics

Capacities	up to 9.8 m <sup>3</sup> /h / 43 USgpm
Heads	up to 30 m / 110 ft.
Temperatures	40°C up to 60°C (max. 5 minutes) / 104°F up to 140°F (max. 5 minutes)
Motor power	0.40–1.7 kW / 0.9–2.4 hp

#### Applications

- Sewage and wastewater containing toilet waste
- Locations where the diameter of the discharge line is restricted



### Lifting station type ABS Sanimat

---

#### Features and benefits

- Ready for installation
- Robust, compact tank
- Easily transported and fitted, compact dimensions allow passage through a standard door opening
- Problem-free pumping of sewage and wastewater
- Dynamic pressure level sensor on the tank, with separate sensors for inflow level and high water alarm

#### Key characteristics

Capacities	up to 165 m <sup>3</sup> /h
Heads	up to 18 m
Temperatures	40°C up to 60°C (max. 5 minutes)
Motor power	1.3–6.0 kW

#### Applications

- Sewage and wastewater containing toilet waste
- Apartment blocks, hospitals, hotels, and large commercial developments



## Lifting station type ABS Sanimax

### Features and benefits

- Supplied as standard with pump, automatic level control and non-return valve
- Compact lifting station suitable for installation at floor level near the wastewater source below the sewer backwash level
- Flood-proof, with and odor preventing vent system
- Alarm float switch available as accessory

### Key characteristics

Capacities	up to 16 m <sup>3</sup> /h
Heads	up to 11 m
Temperatures	40°C up to 60°C (max. 5 minutes)
Motor power	0.16–0.56 kW

### Applications

- Pumping of wastewater without toilet waste
- Sinks
- Showers and bathtubs
- Domestic washing machines
- Domestic dishwashers, showers, and bathtubs



## Lifting station type ABS Sanisett

### Features and benefits

- Synthetic, single or twin pumping station for wastewater without toilet waste
- Easily transported and fitted. Compact dimensions allow passage through a standard door opening
- Kit available as an accessory for sealing top of tank to damp proof course
- Universally adjustable in height and can be swiveled: easy to align with floor levels and tiling patterns

### Key characteristics

Capacities	up to 22 m <sup>3</sup> /h
Heads	up to 21 m
Temperatures	40°C up to 60°C (max. 5 minutes)
Motor power	0.16–2.0 kW

### Applications

- Pumping of wastewater without toilet waste
- Washing machines, sinks, dish- washers, showers, and bathtubs
- For pumping of sewage with toilet waste outside of areas covered by EN when using Piranha pump



## Lifting station type ABS Synconta

### Features and benefits

- Simple pump installation and maintenance – no need to enter the sump
- Pump seals automatically onto the discharge line when lowered into the high level coupling, irrespective of the inflow or direction of the discharge lines
- For fitting with pumps from the Piranha and AS ranges

### Key characteristics

Capacities	up to 38 m <sup>3</sup> /h
Heads	up to 37 m
Temperatures	40°C up to 60°C (max. 5 minutes)
Motor power	1.3–2.6 kW

### Applications

- Sewage and wastewater containing toilet waste



## Progressing cavity pumps

### PC transfer pump

---

#### Features and benefits

- Designed to deliver constant capacity with viscous fluids and shear thinning non-Newtonian fluids
- Selected drives and gearboxes with many low speed options are available to reduce pump wear
- Compact for space saving, can be installed vertically or horizontally and run in either direction
- Competitively-priced process pump with integral direct drive and gearbox, baseplate optional

#### Key characteristics

Capacities	up to 440 m <sup>3</sup> /h / 1'900 USgpm
Pressures	up to 24 bar / 350 psi
Temperatures	-10 up to 100°C / 14 up to 212°F

#### Applications

- Sludge handling and transfer
- Municipal and industrial effluent
- Shear sensitive processes
- Shear thinning slurries



### PC transfer perform pump

---

#### Features and benefits

- Saves time with maintain in place features, easy to de-rag and no need to disconnect the pipework
- Designed for use in sludge plants, where high reliability is essential and downtime is kept to a minimum
- An extension of the PC transfer pump with material variants for a wide range of process applications
- Robust drives and gearboxes with low running speeds form an integral part of the unit design

#### Key characteristics

Capacities	up to 225 m <sup>3</sup> /h / 990 USgpm
Pressures	up to 12 bar / 170 psi
Temperatures	-10 up to 100°C / 14 up to 212°F

#### Applications

- Sludge handling and transfer
- Municipal and industrial effluent
- Shear sensitive processes
- Shear thinning slurries



## PC cake pump

---

### Features and benefits

- A large auger inlet and screw conveyor to deliver consistent pumping and push the cake to pump
- Saves time with maintain in place features, easy to disassemble, no need to disconnect the pipework
- Feed chamber easily disconnects allowing access for removal of the rotor and screw conveyor assembly
- Designed for use in sludge plants, where high reliability is essential and downtime is kept to a minimum

### Key characteristics

Capacities	up to 49 m <sup>3</sup> /h / 216 USgpm
Pressures	up to 24 bar / 350 psi
Temperatures	-10 up to 100°C / 14 up to 212°F

### Applications

- Thickened sludge cake (>30% DS)
- Dewatered sludge transfer
- Sludge blending
- Industrial process sludges with high % DS



## PC dosing pump

---

### Features and benefits

- For low flow, metering and dosing applications, with continuous and accurate capacity demands
- Gentle pumping action, minimizes shear and crush damage to the pumped product
- Dosing pump parts are interchangeable with the PC transfer range, with stock standardization benefits
- An enhanced coupling rod design, gives higher pressure capabilities, up to 72 bar

### Key characteristics

Capacities	5 to 1'250 l/h / 0.02 to 5.50 USgpm
Pressures	up to 72 bar / 1'044 psi
Temperatures	up to 120°C / 248°F

### Applications

- Sludge dewatering
- Controlled flocculent pumping
- General industry and chemical processing





## Sewage grinders



### Muffin Monster™, open channel

---

#### Features and benefits

- Dual-shafted, slow speed, high-torque design grinds tough solids
- Protects pumps and other critical equipment from clogs and damage caused by large debris
- Grinding separates organic from inorganic materials for more efficient wastewater treatment processes
- Cutter stack heights up to 1'500 mm

#### Key characteristics

Capacities up to 1'277 m<sup>3</sup>/h / 5'620 USgpm

#### Applications

- Pump station protection
- Wastewater treatment headworks protection
- Private facility discharge to municipal sewer system compliance
- Industrial wet waste grinding



### Muffin Monster™, inline

---

#### Features and benefits

- Dual-shafted, slow speed, high-torque design grinds tough solids
- Protects pumps, centrifuges and other sensitive downstream equipment from large debris
- Easy to remove cutter cartridge in 30K Muffin Monster
- Pipe flange diameters from 100 to 500 mm

#### Key characteristics

Capacities up to 1'558 m<sup>3</sup>/h / 6'860 USgpm

Pressures up to 6 bar / 90 psi

#### Applications

- Sludge line protection
- Pump station protection
- Wastewater treatment headworks protection
- Private facility discharge to municipal sewer system compliance



### Channel Monster™

---

#### Features and benefits

- High flow screening drum
- Dual-shafted, slow speed, high-torque design grinds tough solids
- Protects pumps and other critical equipment from clogs and damage caused by large debris
- Grinding separates organic from inorganic materials for more efficient wastewater treatment processes
- Cutter stack heights up to 1'500 mm

#### Key characteristics

Capacities up to 2'775 m<sup>3</sup>/h / 17.6 mgd

#### Applications

- Pump station protection
- Wastewater treatment headworks protection



## Submersible dewatering pumps

### Submersible drainage pump J and XJ

#### Features and benefits

- Easy and fail-safe starting with optional AquaTronic
- Impeller in white cast iron and diffusers coated in oil-resistant nitrile rubber, provide high abrasion resistance
- Double outer casing and good heat convection enable the pump to operate continuously at low levels – or even run dry without damaging the motor
- External inspection ports for the oil and motor chambers enable quick and easy evaluation of the shaft seal during service
- Conversion between high-volume and high head hydraulics is managed with only a few parts, ensuring the right performance for the application

#### Key characteristics

Capacities	up to 330 l/s / 5'440 USgpm
Heads	up to 90 m / 331 ft.
Motor power	up to 56 kW / 94 hp

#### Applications

- Water and dirty water mixed with light abrasives



### Submersible drainage center-line pump JC and XJC

#### Features and benefits

- Easy and fail-safe starting with optional AquaTronic
- An impeller and wear ring in white cast iron, as well as diffusers coated in oil-resistant nitrile rubber, provide high abrasion resistance
- Double outer casing and good heat convection enable the pump to operate continuously at low levels – or even run dry without damaging the motor
- Due to the modular design, the same parts can be used for different pumps, which lowers the overall service costs
- The high-efficiency motor and new hydraulics combine with low-friction bearings to reduce power losses
- Conversion between high-volume and high-head hydraulics is managed with only a few parts, ensuring the right performance for the application
- A slim design allows the pumps to fit in boreholes or other applications with limited installation space

#### Key characteristics

Capacities	up to 54 l/s / 865 USgpm
Heads	up to 76 m / 308 ft.
Motor power	up to 11.8 kW / 18 hp

#### Applications

- Water and dirty water mixed with light abrasives



### Submersible sludge pump JS and XJS

#### Features and benefits

- Easy and fail-safe starting with optional AquaTronic
- A free-flow vortex impeller and pump volute make the pump ideal for pumping water mixed with solids up to 48x60 mm
- Both the impeller and volute are made from heavy-duty ductile iron for maximum durability
- The top cover and motor housing are made of lightweight aluminum, which creates a pump that is very easy to handle and install
- The high-efficiency motor and hydraulics combine with low-friction bearings to reduce power losses

#### Key characteristics

Capacities	up to 31 l/s / 475 USgpm
Heads	up to 36 m / 131 ft.
Motor power	up to 11.8 kW / 18 hp

#### Applications

- Dirty water and water mixed with solids





## Vertical pumps

### JTS standard vertical turbine pump

---

#### Features and benefits

- Reliable pump with standard configurations for short lead time
- Packed stuffing box for reliable sealing and simple maintenance, mechanical seal is optional
- Rubber-lined product-lubricated bearing in bowls and columns for long maintenance-free periods, other bearing materials are also available
- Suction bell provided with anti-vortex ribs, tail bearing, and replaceable wear rings or bowl liner
- Axial thrust bearing in pump or in motor

#### Key characteristics

Capacities	up to 1'500 m <sup>3</sup> /h / 8'000 USgpm
Heads	up to 300 m / 1'000 ft.
Pressures	up to 36 bar / 525 psi
Temperatures	up to 85°C / 185°F

#### Applications

- Municipal water and irrigation supply
- Water intake



### SJD (API) vertically-suspended process pump ISO 13709 / API 610 type VS1 and VS6

---

#### Features and benefits

- Reduced number of stages results in shorter and more reliable pumps
- Double suction or high suction specific speed (N<sub>ss</sub>) single suction 1st stage impeller designs available to reduce overall pump length
- High efficiency with reduced power consumption
- Modular construction to fit project nozzle location requirements
- High head per stage diffuser hydraulics for low flow applications

#### Key characteristics

Capacities	up to 3'800 m <sup>3</sup> /h / 20'000 USgpm
Heads	up to 900 m / 3'000 ft.
Pressures	up to 75 bar / 1'100 psi
Temperatures	up to 205°C / 400°F

#### Applications

- LPG and LNG with J-unit for cryogenic services
- Low Net Positive Suction Head Available (NPSHA) applications
- Pipeline / tank farm boosting



### SJD (CEP) vertical, can-mounted, turbine type pump

---

#### Features and benefits

- Carbon graphite product lubricated bearing in bowls and columns for long maintenance-free periods
- Removable seal housing allows servicing throttle bushing without removing the head
- Separate fabricated driver stand allows using one suction and discharge head per pump size
- Spacer coupling allows servicing the mechanical seal and thrust bearing as needed
- Can is provided with lateral and anti-rotational ribs uniform inlet velocity along the can length
- Various options available for the first stage impeller hydraulics, including double suction impeller allowing optimum sizing of pump

#### Key characteristics

Capacities	up to 4'900 m <sup>3</sup> /h / 21'560 USgpm
Heads	up to 470 m / 1'540 ft.
Pressures	up to 47 bar / 680 psi
Temperatures	up to 100°C / 212°F

#### Applications

- Condensate extraction
- Heater drain



## SJM vertical mixed flow pump

---

### Features and benefits

- Optimized hydraulics for high efficiency
- Packed stuffing box for reliable sealing and simple maintenance; mechanical seal is optional
- Rubber lined product lubricated bearing in bowls and columns for long maintenance-free periods; other bearing materials are also possible
- Optional spacer coupling allows servicing the seal and thrust bearing as needed

### Key characteristics

Capacities	up to 58'000 m <sup>3</sup> /h / 250'000 USgpm
Heads	up to 30 m per stage / 100 ft.
Pressures	up to 18 bar / 260 psi
Temperatures	up to 50°C / 122°F

### Applications

- Cooling water
- Nuclear safety services
- Auxiliary services
- Water intake and irrigation



## SJP vertical propeller pump

---

### Features and benefits

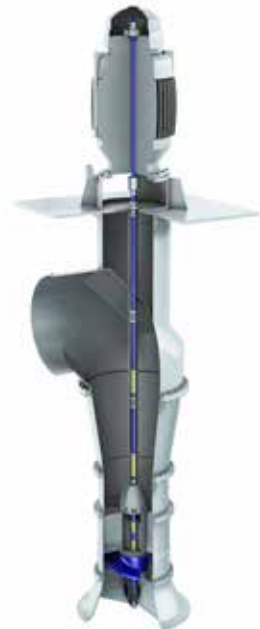
- Wide flow coverage
- Propeller pitch positions for maximum capacity handling
- Easily modified for changing hydraulic conditions
- Versatile and adaptable
- Wide choice of materials available depending on the pumped water quality

### Key characteristics

Capacities	up to 54'500 m <sup>3</sup> /h / 240'000 USgpm
Heads	up to 12 m / 40 ft.
Pressures	up to 2 bar / 30 psi
Temperatures	up to 50°C / 122°F

### Applications

- Municipal water supply
- Irrigation
- Drainage and flood control
- Power plant services
- Wherever large flows over low heads are required



## SJS submersible pump

---

### Features and benefits

- No line-shaft couplings or bearings to maintain
- Low, medium and high voltage submersible motors available to 2 MW (2'700 hp)
- Water/glycol filled environmentally friendly motor for improved efficiency
- Variety of materials available from stainless steel to super duplex steel
- Two configurations available: standard (motor below pump) and inverted for low Net Positive Suction Head Required (NPSHR) applications (pump below motor)

### Key characteristics

Capacities	up to 10'000 m <sup>3</sup> /h / 44'000 USgpm
Heads	up to 230 m / 750 ft.
Pressures	up to 40 bar / 600 psi
Temperatures	up to 80°C / 180°F

### Applications

- Offshore seawater lift
- Offshore diesel genset firewater
- Offshore ballast water
- Onshore municipal pressure boosting



## SJT vertical turbine pump

---

### Features and benefits

- Optimized hydraulics for high efficiency
- Packed stuffing box for reliable sealing and simple maintenance; mechanical seal is optional
- Rubber-lined product-lubricated bearing in bowls and columns for long maintenance-free periods; other bearing materials are also available
- Optional spacer coupling allows servicing of seal and thrust bearing as required

### Key characteristics

Capacities	up to 62'000 m <sup>3</sup> /h / 270'000 USgpm
Heads	up to 110 m per stage / 350 ft. per stage
Pressures	up to 64 bar / 930 psi
Temperatures	up to 50°C / 122°F

### Applications

- Cooling water
- Nuclear safety services
- Auxiliary services
- Water intake and irrigation



## SJT (Geo) production hot water pump

---

### Features and benefits

- Increased flow for higher geothermal hot water production capacity of 13 3/8" wells
- Increased power transmission capacity
- Increased temperature for high enthalpy geothermal resources
- Product lubricated bearings
- Up to 5.5" end-play axial float for shaft adaptation to shallow geothermal wells

### Key characteristics

Capacities	up to 680 m <sup>3</sup> /h / 3'000 USgpm
Heads	up to 700 m / 2'300 ft.
Pressures	up to 100 bar / 1'450 psi
Temperatures	up to 220°C / 428°F

### Applications

- Production hot water for geothermal power plants



## SJT and SJM CWP vertical pumps

---

### Features and benefits

- Modern fabricated suction bell and bowl casing incorporating swirl break for stable pump performance curve
- Semi-open or closed cast impeller design for best fitting and optimum efficiency
- Segmented elbow to reduce the internal losses
- Optional full pull-out construction to reduce lifting crane capacity and ease maintenance

### Key characteristics

Capacities	up to 90'000 m <sup>3</sup> /h / 396'000 USgpm
Heads	up to 60 m / 200 ft.
Pressures	up to 8.6 bar / 125 psi
Temperatures	up to 50°C / 122°F

### Applications

- Cooling water
- Water intake
- Water supply and irrigation
- Flood control and drainage



## STR vertical turbine pump

---

### Features and benefits

- Bowl and impeller removable wear rings ensure longer pump lifecycle
- Oversized integrally mounted bearing housing with axial and radial bearings for trouble free operation
- Shaft sleeves at all pump rotor wear parts for wear protection
- Line shaft connections with robust muff coupling

### Key characteristics

Capacities	up to 22'000 m <sup>3</sup> /h / up to 97'000 USgpm
Heads	up to 200 m / up to 420 ft.
Pressure	up to 25 bar / up to 362 psi
Temperatures	up to 65°C / 149°F

### Applications

- Water transport, intake and treatment
- Desalination (sea water intake, brine backwash, etc.)
- Circulation and cooling water services in power plants
- Irrigation



## SVE vertical ebullator pump ISO 13709 / API 610 / ISO 15783 / API 685

---

### Features and benefits

- API 685 complaint canned-motor drive with isolated stator chamber to prevent contact with process stream, no requirement for expensive dielectric oil
- No mechanical seal reducing risk leakage and maintenance
- Multiple layer hard coating on pump casing internal surface for maximum service life
- Reduced OPEX compared to competitor designs
- Proven hydraulic and mechanical construction

### Key characteristics

Capacities	up to 3'500 m <sup>3</sup> /h / 15'400 USgpm
Heads	up to 50 m / 160 ft.
Pressures	up to 272 bar / 3'945 psi
Temperatures	up to 430°C / 806°F

### Applications

- Axens H-Oil<sup>®</sup> process
- Vacuum residue upgrading
- Heavy oil upgrading
- Synfuels



## VAS vertical sulfuric acid pump

---

### Features and benefits

- High corrosion resistance due to compact and unique design
- Wide range of highly corrosive-resistant materials guarantees high durability
- Reliable design ensures longer maintenance-free operation
- Easy assembly and maintenance

### Key characteristics

Capacities	up to 4'000 m <sup>3</sup> /h / 17'500 USgpm
Heads	up to 45 m / 148 ft.
Pressures	up to 20 bar / 290 psi
Temperatures	up to 150°C / 291°F up to 250°C / 480°F (heat recovery)

### Applications

- Absorption tower
- Drying tower
- Heat recovery system



## VEY and VNY molten salt pump

### Features and benefits

- Engineered suction design for optimized submergence
- Engineered bearing bushings for better shaft alignment and adaptation to the thermal expansion
- Main shaft sealing by throttle bushing for permanent leak-off recirculation to the molten salt tank
- Auxiliary shaft sealing deflector preventing leakage of molten salt to the atmosphere
- Efficient thermal barrier between hot/cold sections
- Muff coupling to ease dismantling
- Special design to allow thermal expansions: extended wear ring zone and clearances calculated considering all the relative expansions

### Key characteristics

Capacities	up to 4'000 m <sup>3</sup> /h / 17'600 USgpm
Heads	up to 380 m / 1'250 ft.
Pressures	up to 100 bar / 1'450 psi
Temperatures	up to 600°C / 1'100°F

### Applications

- Molten salt pump



## > Vertical sump pumps

### AHLSTAR NK and WK ranges

#### Features and benefits

- Exceeds requirements of international ISO 5199 standard
- Unique, patented and superior design features minimize life cycle costs
- Suitable for the all types of severe applications in seal pits and floor channels
- Excellent performance
- Quick and easy installation, safe operation, easy maintenance and service

#### Key characteristics

Capacities	up to 430 m <sup>3</sup> /h / 1'900 USgpm
Heads	up to 60 m / 200 ft.
Pressures	up to 10 bar / 145 psi depending on material and size
Temperatures	up to 95°C / 205°F

#### Applications

- Abrasive and/or large solids containing liquids, fibrous and non-fibrous slurries



### AHLSTAR NV range

#### Features and benefits

- Exceeds requirements of international ISO 5199 standard
- Unique, patented and superior design features minimize life cycle costs
- Suitable for the all types of severe applications in seal pits and floor channels
- Excellent performance
- Quick and easy installation, safe operation, easy maintenance and service

#### Key characteristics

Capacities	up to 1'200 m <sup>3</sup> /h / 5'400 USgpm
Heads	up to 85 m / 280 ft.
Pressures	up to 10 bar / 145 psi depending on material and size
Temperatures	up to 95°C / 205°F

#### Applications

- Large solids containing liquids and fibrous slurries in deep sump pump applications



## CVT vertically suspended sump pump VS4

---

### Features and benefits

- Exceeds requirements of ANSI/ASME B73.1 standard and fulfills many API 610 features
- Suitable for demanding industrial sump pump applications
- Unique, patented and superior design features minimize life cycle costs
- Quick and easy installation, safe operation, easy maintenance and service

### Key characteristics

Capacities	up to 750 m <sup>3</sup> /h / 3'200 USgpm
Heads	up to 120 m / 550 ft.
Pressures	up to 26 bar / 375 psi
Temperatures	up to 205°C / 400°F

### Applications

- Drainage sumps
- Oily water sumps
- Lube oil supply
- Tank transfer



## OCV and OCVL sump pumps ISO 13709 / API 610 type VS4

---

### Features and benefits

- API 682 cartridge type mechanical including gas seal options
- Oil lubricated 7300 series BECBM thrust bearing
- Keyed impeller and API 610 Fig. 37 bearing spacing
- Buttwelded and hydrotested discharge pipe and elbow

### Key characteristics

Capacities	up to 750 m <sup>3</sup> /h / 2'200 USgpm
Heads	up to 280 m / 880 ft.
Pressures	up to 40 bar / 580 psi
Temperatures	up to 205°C / 400°F

### Applications

- All sump applications with moderate solid content
- Oily water transfer
- Lube oil



## VA cantilever sump pump

---

### Features and benefits

- Simple and robust design with ease of maintenance
- All types of hydraulics available: semi-open, open, closed or vortex impellers
- No sealing required
- No intermediate bearing
- Dry running allowed

### Key characteristics

Capacities	up to 1'500 m <sup>3</sup> /h / 6'600 USgpm
Heads	up to 100 m / 328 ft.
Pressures	up to 20 bar / 290 psi
Temperatures	up to 120°C / 248°F

### Applications

- Clear and contaminated sump
- Corrosive, encrusting liquids and slurries



## VAP heavy duty cantilever sump pump

---

### Features and benefits

- Heavy-duty construction
- All types of hydraulics available: semi-open, open, closed or vortex impellers
- No sealing required
- No intermediate bearing
- Dry running allowed

### Key characteristics

Capacities	up to 3'500 m <sup>3</sup> /h / 15'400 USgpm
Heads	up to 150 m / 500 ft.
Pressures	up to 20 bar / 290 psi
Temperatures	up to 900°C / 1'652°F

### Applications

- Highly corrosive, abrasive, encrusting liquids and slurries
- High-temperature pumping
- Molten metal pumping



## VM vertically suspended sump pump

---

### Features and benefits

- Simple and robust design with ease of maintenance
- All types of hydraulics available: semi-open, open, closed or vortex impellers
- No sealing required for clear liquids
- Single and dual seal design available for contaminated liquids

### Key characteristics

Capacities	up to 1'500 m <sup>3</sup> /h / 6'600 USgpm
Heads	up to 100 m / 330 ft.
Pressures	up to 20 bar / 290 psi
Temperatures	up to 120°C / 250°F

### Applications

- Clear and contaminated sump
- Corrosive, encrusting liquids and slurries



## VSF cantilever sump pump

---

### Features and benefits

- Specifically designed for molten sulfur applications
- High-quality materials, high reliable and efficient design ensure longer mean time between maintenance and minimized total cost of ownership

### Key characteristics

Capacities	up to 300 m <sup>3</sup> /h / 1'300 USgpm
Heads	up to 160 m / 500 ft.
Pressures	up to 20 bar / 290 psi
Temperatures	up to 180°C / 356°F

### Applications

- Clean or dirty molten sulfur
- Constant temperature applications in various industries



## > Agitators and submersible mixers

### SALOMIX™ side-mounted horizontal agitators

---

#### Features and benefits

- High efficiency results in energy savings and improved agitation
- Cast propeller blades with adjustable blade angle give accurate power and pumping control
- Conical body shape supports the propeller and ensures vibration free operation
- Wide hydraulic coverage enabling the use in all mixing applications
- Low total cost of ownership through smart design and energy efficient propeller
- Quick and easy installation, safe operation, easy maintenance and service

### SALOMIX™ SSF, SLF/STF gear drive

---

#### Key characteristics

Stock concentration	up to 6%
Propeller diameters	630 to 1'300 mm / 25 to 52 in.
Power	7.5 to 55 kW / 10 to 40 hp

#### Applications

- Mixing in tanks and storage towers
- Clean and slightly contaminated liquids
- Viscous liquids, solids containing liquids
- Fibrous slurries, slurries



### SALOMIX™ SLG/STG gear drive

---

#### Key characteristics

Stock concentration	up to 6%
Propeller diameters	500 to 1'650 mm / 20 to 65 in.
Power	4 to 90 kW / 5.5 to 125 hp

#### Applications

- Mixing in tanks and storage towers
- Clean and slightly contaminated liquids
- Viscous liquids, solids containing liquids
- Fibrous slurries, slurries



### SALOMIX™ SLB/SLH, STB belt drive

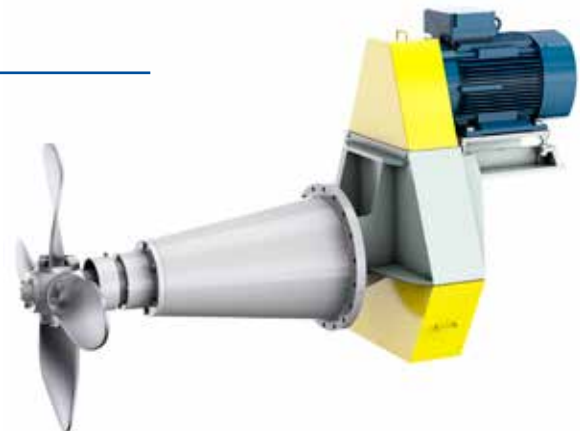
---

#### Key characteristics

Stock concentration	up to 6%
Propeller diameters	500 to 1'650 mm / 20 to 65 in.
Power	4 to 110 kW / 5.5 to 150 hp

#### Applications

- Mixing in tanks and storage towers
- Clean and slightly contaminated liquids
- Viscous liquids, solids containing liquids
- Fibrous slurries, slurries
- SLH for green liquor dissolving tanks





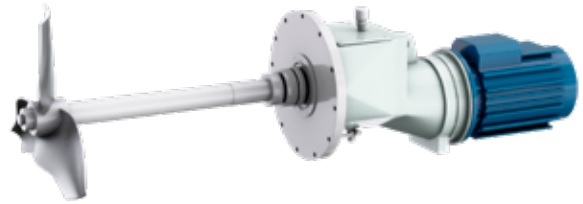
## SALOMIX™ SLR/STR gear drive

### Key characteristics

Stock concentration	up to 6%
Propeller diameters	315 to 800 mm / 12 to 30 in.
Power	2.2 to 11 kW / 3 to 15 hp

### Applications

- Mixing in tanks and storage towers
- Clean and slightly contaminated liquids
- Viscous liquids, solid-containing liquids
- Fibrous slurries, slurries



## SALOMIX™ SSA side-mounted agitators belt drive

### Features and benefits

- Excellent performance
- High-efficiency propeller with large axial thrust
- Suitable for most demanding industrial applications
- Heavy duty design with a bearing lifetime of minimum 200'000 hours
- Low total cost of ownership through smart design and energy efficient propeller
- Quick and easy installation, safe operation, easy maintenance and service
- Wide and comprehensive hydraulic coverage enabling the use in all mixing applications

### Key characteristics

Stock concentration	up to 6%
Propeller diameters	800 to 1'300 mm / 32 to 52 in.
Power	7.5 to 75 kW / 10 to 100 hp
Maximum speed of rotation	up to 300 rpm

### Applications

- Mixing in tanks and storage towers
- Clean and slightly contaminated liquids
- Viscous liquids
- Fibrous slurries, slurries



## SALOMIX™ L top-mounted vertical agitators

### Features and benefits

- The L series covers gear or belt-driven agitators mounted vertically on the tank top or bottom flange
- Versatile impeller options meet any process needs in compliance with the rheology of the mixed fluid
- Maximum modular component flexibility
- Applicable for tanks from 1 to 2'500 m<sup>3</sup> / 88'285 ft<sup>3</sup>
- The large hydraulic coverage satisfies the most demanding requirements of industrial agitation applications

### Key characteristics

Propeller diameter	up to 8'000 mm / 316 in.
Shaft length	up to 30 m / 100 ft.
Power	up to 450 kW / 600 hp
Maximum speed of rotation	up to 1'000 rpm
Temperatures	up to 180°C / 356°F

### Applications

- Mixing in tank
- Clean and slightly contaminated liquids
- Viscous liquids and liquids with high gas content
- Fibrous slurries, slurries
- Solids containing liquids



## Scaba side-mounted belt driven propeller agitators

### Features and benefits

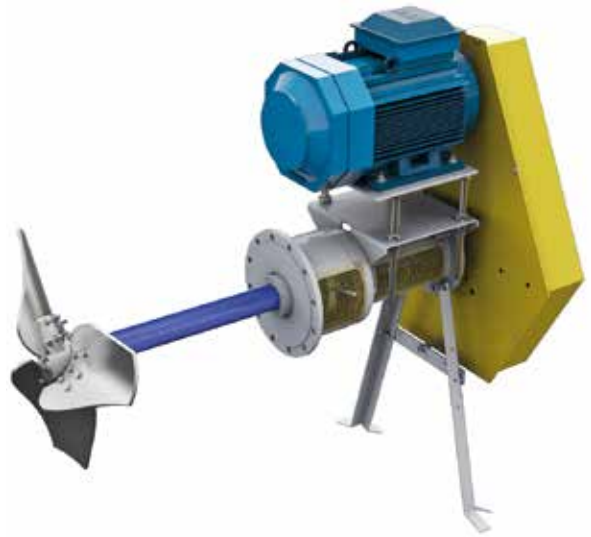
- Sturdy construction with rigid shaft and bearings
- High efficiency results in energy savings and improved agitation
- High flow SHP1 and SHP18 propellers are used to generate good axial flow
- Both mechanical seals and stuffing box alternatives
- Possibility to change seal without emptying the tank with stuffing box
- Wide hydraulic coverage enabling the use in all mixing applications

### Key characteristics

Stock concentration	up to 6%
Propeller diameter	500 to 1'500 mm / 20 to 60 in.
Power	0.12 to 250 kW / 0.16 to 335 hp

### Applications

- Mixing in tanks and storage towers
- Clean and slightly contaminated liquids
- Viscous liquids
- Fibrous slurries, slurries
- Solids containing liquids



## Scaba top-mounted agitators

### Features and benefits

- Scaba top-mounted series covers gear or belt-driven agitators mounted vertically on the tank top or bottom flange.
- Dry installed agitators rely on a deep process knowledge, which enable us to tailor-make the agitators to meet your specific need. This ensures the required process result with a minimum energy input
- Versatile impeller options
- High efficiency SHP propellers
- Good axial flow
- Scaba TreatX standardized agitators for water and wastewater treatment processes

### Key characteristics

Propeller diameter	100 mm to 6 m / 4 to 236 in.
Shaft length	up to 30 m / 100 ft.
Power	up to 450 kW / 600 hp
Temperatures	up to 180°C / 356°F

### Applications

- Mixing in tanks
- Clean and slightly contaminated liquids
- Viscous liquids and liquids with high gas content
- Fibrous slurries, slurries
- Solids-containing liquids





## Submersible mixer type ABS XRW

### Features and benefits

- Lowest energy consumption
- Easy upgrade of existing installations supported by a wide range of brackets and adapters
- Operational flexibility with variable speed to match the real mixing task and to manage changes throughout the year
- The robust design and the Premium Efficiency motor give superior reliability and long operating life

### Key characteristics

Capacities	up to 1.79 m <sup>3</sup> /s / 28'300 USgpm
Diameters	up to 900 mm / 35 in.
Temperatures	up to 40°C / 104°F

### Applications

- Mixing and stirring applications in sewage treatment plants and industrial areas
- Homogenization of highly-concentrated sewage sludge



## Submersible mixer type ABS RW

### Features and benefits

- Compact, water pressure-tight design
- Easy to replace existing installations using a wide range of brackets and adapters
- Shorter mixing times
- Reliable with a minimal risk of motor overloading

### Key characteristics

Capacities	up to 6'300 m <sup>3</sup> /h / 28'000 USgpm
Diameters	up to 900 mm / 35 in.
Temperatures	up to 40°C / 104°F
Motor powers	22 kW (50 Hz) / 25 kW / 33.5 hp (60 Hz)

### Applications

- Prevention of deposits and floating crusts in pump sumps
- Mixing and stirring applications in sewage treatment plants and industrial areas
- Homogenization of highly-concentrated sewage sludge



## Flow booster type ABS XSB

---

### Features and benefits

- Premium Efficiency motor gives total efficiency improvement of up to 25% compared to other conventional mixer designs
- Compact, water pressure-tight design
- Provides high thrust and high flow capacity
- Self-cleaning propellers provides vibration-free operation
- Increased performance variations with an extended and wide duty range
- Superior reliability and long operating life

### Key characteristics

Capacities	up to 6.2 m <sup>3</sup> /s (50 Hz) / 6.0 m <sup>3</sup> /s / 95'200 USgpm (60 Hz)
Diameters	up to 2'750 mm /108 in.
Temperatures	up to 40°C / 104°F
Motor powers	up to 7.5 kW / 10.1 hp

### Applications

- Gentle circulation and mixing in sewage treatment plants and industrial areas
- Low-speed wastewater mixing and stirring applications, including:
  - Equalization of sewage
  - Biological processes
  - Selector (contact zone)
- Hazardous locations ATEX Ex II 2G k Ex d IIB T4



## Flow booster type ABS SB

---

### Features and benefits

- Robust and compact design
- Can be used in tanks of all shapes
- Hydrodynamic shape for optimum flow formation
- Drive unit optimized for mixing application
- Long operating life

### Key characteristics

Capacities	up to 3.9 m <sup>3</sup> /s (50 Hz) / 4.2 m <sup>3</sup> /s / 62'000 USgpm (60 Hz)
Diameters	up to 2'500 mm / 98 in.
Temperatures	up to 40°C / 104°F
Motor powers	up to 4.5 kW (50 Hz) / 4.6 kW / 6.2 hp (60 Hz)

### Applications

- Suspension of activated sludge
- Flow generation in oxidation ditches



## Compressors and aeration

### Disc diffuser system type ABS

#### Features and benefits

- Reliable and long-lasting
- Low pressure drop and high aeration efficiency
- Possibility of future increase in aeration capacity
- Quick and easy installation with flexible layout design
- High temperature endurance

#### Key characteristics

Air flow 0.5 to 15 m<sup>3</sup>/h per diffuser  
Max water depth 0.5 to 15 m

#### Applications

- Aeration of municipal wastewater
- Aeration of industrial wastewater



### HSR turbocompressor

#### Features and benefits

- 100% oil-free, environmentally friendly and safe
- Premium efficiency, low life cycle costs
- Wear-free, low maintenance costs
- Real-time monitoring secures the trouble-free operation
- Vibration-free, low machine noise
- Advanced liquid cooling system enables energy recovery

#### Key characteristics

Flow up to 56 m<sup>3</sup>/min / 1'980 CFM  
Pressure rise 2 to 9 bar (g) / 30 to 130 psig  
Motor power 115 to 325 kW / 154 to 436 hp

#### Applications

- Suitable for providing oil-free compressed air for all industries



### HST™ turbocompressor

#### Features and benefits

- High efficiency guaranteeing optimal life-cycle costs
- Low noise: no need for additional soundproofing
- Wear-free, requiring minimal maintenance
- Simple design with integrated components
- Accurate flow measurement
- Vibration-free, ensuring less stress for pipe work
- Fully certified
- Operates alongside all types of conventional blowers

#### Key characteristics

Flow up to 16'000 Nm<sup>3</sup>/h / 10'200 SCFM  
Pressure rise up to 130 kPa / 18.9 psi  
Motor power 75 to 400 kW / 100 to 500 hp

#### Applications

- Aeration for treatment of municipal and industrial wastewater
- Industrial applications



## Submersible aerator mixer OKI

### Features and benefits

- High aeration efficiency
- Can run as an aerator and/or mixer according to process requirements
- Designed for non-clogging operation
- Suitable for both, continuous and intermittent process operation
- Suitable for all usual tank depths, especially deep tanks

### Key characteristics

Oxygen transfer	up to 410 kg O <sub>2</sub> / h @ 12 m
Air flow	up to 3'600 m <sup>3</sup> /h / 2'100 CFM
Water depth	4 to 12 m / 13 to 39 ft.
Motor power	5 to 37 kW / 7 to 50 hp

### Applications

- Activated sludge basins and sequence batch reactors (SBR), membrane bio reactors (MBR), and moving bed bio reactors (MBBR)
- Sludge storage and stabilization
- Flotation of oil and grease
- Additional aeration



## Aerator type ABS Venturi Jet

### Features and benefits

- Easily installed, stand-alone or portable with optional fixed installation
- Reduces odors and septic conditions
- Cost-effective installation
- Self-aspirating; no need for compressed air
- Operates irrespective of water level variation
- Very low noise level, no aerosol formation, and no sedimentation on the bottom, thus minimizing environmental effects

### Key characteristics

Air flow	50 to 550 m <sup>3</sup> /h / 60 to 650 CFM
Max water depth	2 to 6 m / 6.6 to 19.7 ft.
Motor power	1.3 to 18.5 kW / 1.7 to 24.8 hp

### Applications

- Activated sludge basins and Sequencing Batch Reactors (SBR), providing aeration and mixing in one unit
- Mixing and equalization basins
- Sludge storage and stabilization
- Flotation of oil and grease
- Additional aeration



## Submersible aerator type ABS XTA and XTAK

### Features and benefits

- Easy to install and freestanding on the bottom of the basin; no need to empty the basin for installation
- Wear-resistant and long lifetime
- Very low noise level, no aerosol formation, and no sedimentation on the bottom, thereby minimizing environmental effects
- Self-cleaning, high aeration efficiency, excellent solids suspension capability

### Key characteristics

Oxygen transfer	up to 70 kg O <sub>2</sub> / h @ 6 m
Max water depth	2 to 6 m / 6.6 to 19.7 ft.
Motor power	3 to 75 kW / 4 to 100 hp

### Applications

- Activated sludge basins and Sequencing Batch Reactors (SBR)
- Sludge storage and stabilization
- Flotation of oil and grease, additional aeration
- Neutralization of alkaline wastewater with CO<sub>2</sub> or flue gas



## Medium consistency products

The Fluider™ technology includes proven patented stock pumping ranges:

- MCE™ pumping systems
- LCE™ pumping systems
- KCE™ pumping systems

### Features and benefits

- Highest efficiency, reducing power consumption and installation costs
- Correct fluidization prevents fiber over-treatment
- Degassing alternatives include a built-in degassing system, a separate external MDS degassing system, and degassing without a vacuum pump
- High-temperature pumping
- Low and high inlet level pumping
- One-drive unit system in most applications
- Proven long-life mechanical design

### Key characteristics

Capacities	20 to 9'000 ADMT/d
Heads	up to 240 m / 787 ft.
Consistencies	6 to 18%



### MCE™ pumping system

#### Applications

- Medium-consistency fibrous slurries up to 18%
- Medium-consistency fibrous slurries containing large solids
- Medium-consistency fibrous slurries with high gas content
- All pulp, paper and board medium consistency applications
- For related biomass and biofuel applications

### LCE™ pumping system

#### Applications

- Semi-medium consistency fibrous slurries up to 10%
- Semi-medium consistency fibrous slurries containing solids
- Semi-medium consistency fibrous slurries with high gas content
- All pulp, paper and board medium-consistency fibrous slurry applications, including especially recycled fiber and mechanical fiber applications



### KCE™ pumping system

#### Applications

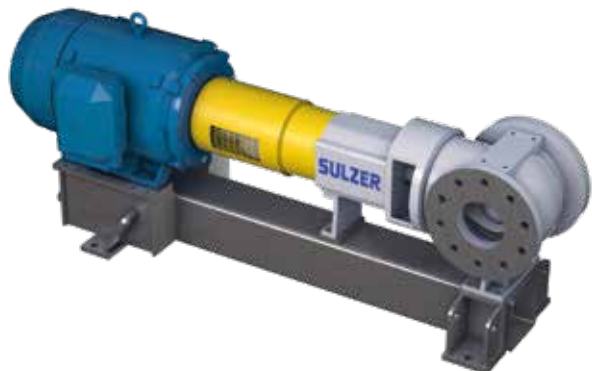
- Semi-medium consistency fibrous slurries up to 8%
- Semi-medium consistency fibrous slurries containing solids
- Semi-medium consistency fibrous slurries with high gas content
- All pulp, paper and board semi-consistency fibrous slurry applications and biomass and biofuels applications



## MC discharge scraper and the tower discharge pumping

### Applications

- Discharging high-consistency fibrous slurry towers up to 13%
- Up to 20 to 35 % consistency when using diluting scrapers
- Outlet consistency typically 8 to 13%



## SX chemical mixer

### Applications

Mixing gases, steam or chemicals in-line to

- Fibrous slurries
- Clean and slightly contaminated liquids
- Viscous liquids
- Non-fibrous slurries



## MC discharger

### Applications

- Dividing and controlling high-consistency fibrous slurry flows discharging high-consistency and fibrous slurry reactors
- Gas removal option
- Chemical mixing



## Tower management systems

### SALOMIX™ TES top entry spreader

#### Features and benefits

- Spreads stock evenly on the top surface to control the flow in the upper, high-consistency part of the tower, and the quality of the discharged stock remains good
- Creates a uniform continuous downflow, with no stagnant zones
- Variable rotating speed always spreads a fresh top layer of stock, regardless of the surface level
- Prevents channeling and air entrainment into the stock

#### Key characteristics

Capacities	up to 600 l/s / 9'500 USgpm
Pressures	up to 3 bar / 43 psi as standard, for higher pressures as special
Temperatures	up to 180°C / 356°F

#### Applications

- Medium and high consistency storage and bleaching towers
- Tanks and towers to reduce channeling and reduce air content



### SALOMIX™ GLI

#### Features and benefits

- GLI is a special center fillet located at the bottom of the storage tower
- Enables trouble-free operation of high-consistency storage and bleaching towers with a large bottom zone using several agitators
- Ensures effective mixing, and dilution is intensified by baffles
- Creates a well-controlled mixing/dilution zone to the tower bottom
- Separates effectively the storage zone and the active mixing and dilution zone of the tower, thus ensuring even discharge consistency and good operation of the tower

#### Key characteristics

Capacities	tower bottoms of up to 12 m / 40 ft. in diameter
------------	--

#### Applications

- Stable dilution and mixing process for high-consistency, fibrous slurry towers
- Large scale medium consistency storage and bleaching towers
- High-consistency bleaching towers
- Fiberline blow tanks



### SALOMIX™ VULCA

#### Features and benefits

- VULCA is a tower bottom center fillet pillar
- Filling and pumping stock through VULCA saves pumping energy, boosts bottom zone mixing, and prevents the mixing of air into the stock at low stock levels

#### Key characteristics

Capacities	tower bottoms of up to 12 m / 40 ft. in diameter
------------	--

#### Applications

- Pumping to pulp mill blow tanks
- Pumping to broke towers
- Pumping to towers, that operate on low pulp levels
- Pumping of fibrous slurry into the fibrous slurry towers



## > Slurry pumps

### EMW-M heavy-duty metal slurry pump

---

#### Features and benefits

- Extra high durability
- Minimized total cost of ownership
- Low energy consumption due to high efficiency
- Easy and quick installation and maintenance
- Low spare cost due to high standardization

#### Key characteristics

Capacities	up to 4'000 m <sup>3</sup> /h / 17'600 USgpm
Heads	up to 95 m / 312 ft.
Pressures	up to 16 bar / 232 psi
Temperatures	up to 110°C / 230°F

#### Applications

- Mining and mineral processing
- Aggregates (sand and gravel)
- Chemical slurries



### EMW-R heavy-duty rubber lined slurry pump

---

#### Features and benefits

- Extra high durability
- Minimized total cost of ownership
- Low energy consumption due to high efficiency
- Easy and quick installation and maintenance
- Low spare cost due to high standardization

#### Key characteristics

Capacities	up to 1'450 m <sup>3</sup> /h / 6'385 USgpm
Heads	up to 55 m / 180 ft.
Pressures	up to 14 bar / 203 psi
Temperatures	up to 110°C / 230°F

#### Applications

- Mining and mineral processing
- Aggregates (sand and gravel)
- Chemical slurries



### PLR and CR slurry pumps

---

#### Features and benefits

- Maximum abrasion and corrosion resistance
- Extended pump and spare parts lifetime
- High reliability and durability
- Low spare part costs due to high interchangeability between PLR and CR pumps
- Maximum adaptability for specific duties

#### Key characteristics

Capacities	up to 3'500 m <sup>3</sup> /h / 15'400 USgpm
Heads	up to 130 m / 430 ft.
Pressures	up to 50 bar / 735 psi
Temperatures	up to 150°C / 300°F

#### Applications

- Abrasive and corrosive slurries
- Ammonium nitrate
- Froth pumping and self-regulating application



## > Vacuum pumps

### VRN liquid ring vacuum pump

#### Features and benefits

- Heavy-duty design
- Suitable for contaminated/corrosive gas
- Low maintenance
- Silent running

#### Key characteristics

Capacities up to 23'000 m<sup>3</sup>/h / 101'265 USgpm  
Absolute suction pressure above 50 mmHg

#### Applications

- Filtration under vacuum
- Vacuum condensers
- Crystallization
- Concentration
- Evaporation



## > Controllers

### Pump controller type ABS PC 111 and 211

#### Features and benefits

- Easy-to-use single (PC 111) and dual-pump controllers (PC 211)
- Improves the functionality and reliability of the pumping station throughout its lifecycle
- Start/stop based on floats or level sensor
- Easy setting via turn-knob
- Built-in current transformer
- Built-in moisture and temperature monitoring
- Built-in battery charger and buzzer

#### Applications

- Gravitation or pressurized municipal wastewater pumping stations



### Pump controller type ABS PC 441

#### Features and benefits

- Monitor and controller for one to four pumps
- Advanced features to minimize costs in the pumping station throughout its lifecycle
- Lower energy costs
- Reduced risk of overflow and blockage
- Reduced maintenance need
- Supports data logging and communication

#### Applications

- Gravitation or pressurized municipal wastewater pumping stations



### Equipment controller EC 531

#### Features and benefits

- Operates as a standalone control and monitoring unit
- Minimizes operating costs and energy consumption
- Increases pumping station availability
- Easy to use and configure with built-in operator panel
- Supports all aspects of the LCC (life cycle cost) calculations

#### Applications

- Monitor and control of municipal wastewater pumping stations
- View alarms, pump status and trends
- Advanced monitoring including crash log functionality
- Manually control pumps and change settings



## Measuring devices

### Submersible pressure sensor type ABS MD 126 and 127

#### Features and benefits

- High-accuracy submersible hydrostatic level sensor
- Encapsulated in stainless steel and resistant to sewage water
- Designed to measure levels in liquids

#### Applications

- Measure levels of liquids such as storm water and wastewater in pump sumps



## Control panels

### Control panel type ABS CP 116 and 216

#### Features and benefits

- Easy-to-use, compact control panel used with either one (CP 116) or two pumps (CP 216) conforming to ATEX
- Complete surveillance of pumps and station with transfer of alarms to central system over telemetry
- Measures and records the performance of station and equipment for a more reliable operation

#### Applications

- Municipal wastewater pumping stations



## Monitoring

### Leakage relay type ABS CA 461

#### Features and benefits

- Designed to spy and detect leakage in pumps and mixers
- Minimizes the risk of false alarms

#### Applications

- Municipal wastewater pumping stations

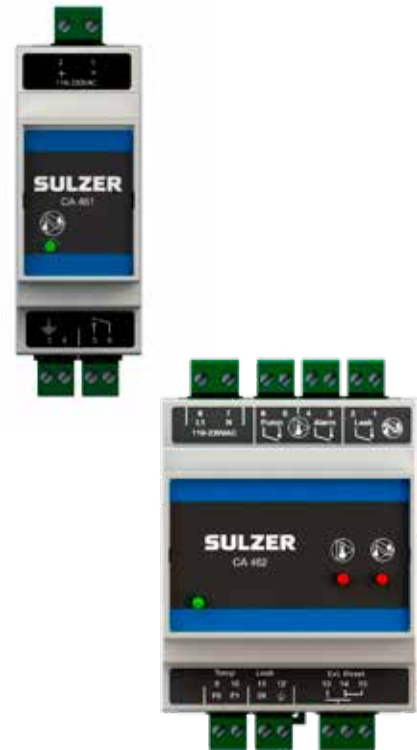
### Temperature and leakage relay type ABS CA 462

#### Features and benefits

- Designed to spy and detect temperature and leakage in pumps and mixers
- Minimizes the risk of false alarms

#### Applications

- Municipal wastewater pumping stations





# > Sulzer – your ideal service partner

Sulzer is a worldwide provider of high-quality, technology-based maintenance solutions for rotating equipment including pumps, turbines, compressors, motors, and generators. Sulzer is your local service partner maintaining the industry's most comprehensive service center network worldwide. Global expertise provided by our competence centers is offered through every service center, everywhere, any time.

## Diagnostic and consulting services



Consulting  
Monitoring  
Inspection

Take informed decisions  
and maintain control

## Maintenance and support services



On-site services  
Workshop services  
Spare parts

Maintain your equipment to  
industry best practices

## Technical and economic optimization



Technical improvement  
Reliability increase  
Economic optimization

Get the most  
out of your assets



## ➤ Original spare parts

Original spare parts are often more than a simple 'new for old' replacement and can substantially improve the performance of your equipment.

Sulzer original spare parts maintain equipment performance by

- Restoring high operational efficiency
- Optimizing energy consumption
- Minimizing unexpected failures

Sulzer has acquired many companies over the years but you can trust us to serve your installed base with our original spare parts for the following brands:

- ABS
- Ahlström
- API
- Deplechin
- Ensival Moret
- Enso
- Gothia
- JMW
- Johnston Pump Company
- JWC Environmental
- Kestner
- Nopon
- Pump Industry
- Pumpex
- Salomix
- Scaba
- Scanpump
- Serlachius
- Swedmeter
- Tartek
- Warren
- Virax



[www.sulzer.com](http://www.sulzer.com)

E00543 en 3.2021, Copyright © Sulzer Ltd 2021  
This brochure is a general presentation. It does not provide any warranty or guarantee of any kind. Please, contact us for a description of the warranties and guarantees offered with our products. Directions for use and safety will be given separately. All information herein is subject to change without notice.

