

SULZER

Water and wastewater solutions

Take full control of your wastewater collection

Today's wastewater contains less water but more solids and fibrous materials, which places tough new demands on collection networks. Sulzer has the solutions for maximum reliability – and energy efficiency. [sulzer.com/collection](https://www.sulzer.com/collection)



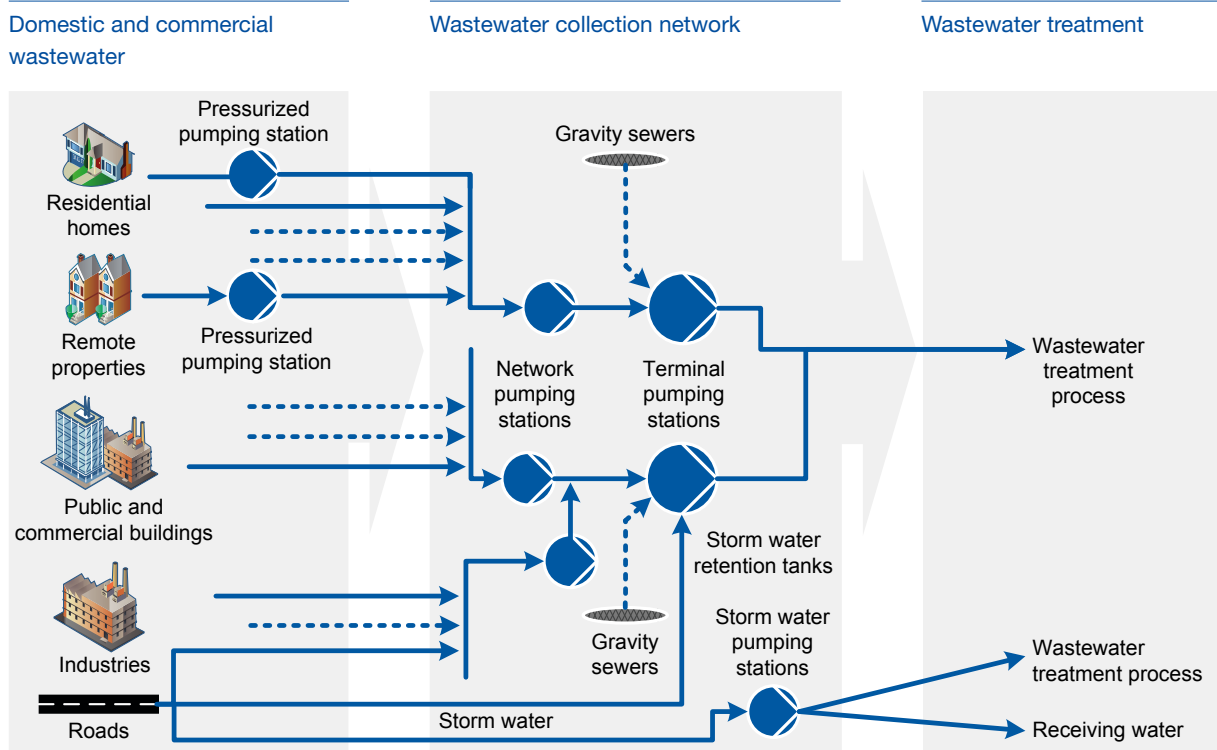
Driving innovation in wastewater collection

Wastewater has changed dramatically in recent years. It contains less water but more solids and fibrous materials, which places tough new demands on collection networks. Sulzer's innovative pumps, impellers and controllers ensure the highest reliability – and energy efficiency.

We continuously strive to design, develop and manufacture the most innovative, reliable and resource-conserving solutions on the market. The result is future-proof solutions that reduce your operating costs.

On the one hand, our solutions maximize uptime and minimize blockage-related maintenance. This is done through advanced hydraulics, including impellers with large free solids passage and superior rag handling. On the other hand, our solutions reduce energy consumption. Premium Efficiency IE3 motors are standard, and further savings are achieved through our intelligent monitoring and control.

Our equipment is supported by a comprehensive range of services, including our 4-Step Process™ for identifying and realizing potential reliability and energy improvements. With Sulzer, you can achieve true lifecycle economy, both in individual equipment and in the collection network as a whole.



The task of a wastewater collection system is to route wastewater and storm water to a treatment plant or receiving waters. The collection system may handle both foul and storm water, or it may be designed with one line for wastewater and another for storm water and land drainage.

Facing the challenges of the changing world

Global

A changing world and changing legal requirements place pressure on your business.

- Legislation
- CO₂ limits
- Overflow concerns
- Climate change
- Urban development



Business

You face financial challenges and the service demands of your customers.

- Reducing energy costs
- Lowering operating costs
- Improving service levels
- Municipal vs. private structures
- Replacements and upgrades



Social

Your business is a part of meeting larger goals in a broad human perspective.

- Water consumption
- Personal hygiene
- Environmental protection
- Sustainability



You set the challenge, we provide the solution

Pressurized systems

Pressurized sewage systems are used where there is no direct access to gravity-based systems, or as an economical alternative to gravity sewers due to their smaller pipeline diameters and reduced excavation needs. We can determine the optimum pressurized system setup and the necessary sizes for pumps, pipelines and collection tanks.



Network pumping stations

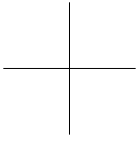
Network pumping stations collect municipal wastewater and deliver the effluent to a terminal pumping station. Since most stations are not equipped with screens, the pumps must cope with difficult solids and fibrous materials. Sulzer pumps improve station operation by ensuring blockage-free pumping with the lowest lifecycle cost.



Terminal pumping stations

Terminal pumping stations receive municipal wastewater from network pumping stations and forward it to a treatment plant. Due to the lack of screens at most of them, solids and fibrous materials are a constant threat to uptime. Sulzer pumps improve station operation by ensuring blockage-free pumping with the lowest lifecycle cost.





Flood control pumping stations

During heavy rainfall, storm water pumping stations deliver large volumes of water at low head to receiving surface waters or sewers. Skilled engineering is required in the design of the stations and their inflow chambers. Sulzer's Station Design Software assists in creating efficient and compact designs with optimum hydraulic performance.



Storm water retention tanks

Storm water retention tanks act as a buffer during heavy rainfall, taking in the rainwater that cannot be absorbed. Gravity or pumps can then provide a reduced continuous flow into the sewer system. With Sulzer expertise, peak hydraulic loads and stresses on existing sewer systems can be limited.



Our comprehensive product portfolio

Product technology	Product name	Application	High-efficiency (IE3)
Lifting stations	Type ABS Synconta with Piranha/S	Pressurized systems	
Submersible grinder pumps	Type ABS Piranha/S	Pressurized systems	
	Type ABS Piranha/PE	Pressurized systems	●
Submersible sewage pumps	Type ABS XFP 1.3-35 kW	Network pumping station Storm water pumping station Storm water retention tanks	●
	Type ABS XFP 15-620 kW	Terminal pumping station Storm water pumping station Storm water retention tanks	●
	Type ABS AFP	Terminal pumping station Storm water pumping station Storm water retention tanks	
Submersible mixed flow column pumps	Type ABS AFLX	Storm water pumping station	●
Submersible propeller pumps	Type ABS VUPX	Storm water pumping station	●
Dry installed pumps	Type ABS FR	Network pumping station Terminal pumping station Storm water pumping station Storm water retention tanks	●
Submersible mixers	Type ABS RW 200 & RW 280	Terminal pumping station	
Aerators	Type ABS Venturi Jet	Storm water retention tanks	●
Sewage grinders	Inline Muffin Monster™	Network pumping station Terminal pumping station	
	Open channel Muffin Monster™	Network pumping station Terminal pumping station Storm water pumping station	
	Channel Monster™	Network pumping station Terminal pumping station Storm water pumping station	
Pump selection software tool	ABSEL	Network pumping station Terminal pumping station Storm water pumping station Storm water retention tanks	

Motor-related								Product facts on page
Class H insulation	Nema class A	Nema class B	Long bearing life (>50'000 hours)	Sealed cable connection chamber	Full condition monitoring	Explosion proof	Axial flow	
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Our comprehensive product portfolio

Product	Pressurized system	Network pumping station	Terminal pumping station	Storm water pumping station	
Controllers	Pump controllers type ABS PC 111 and PC 211	●	●		
	Equipment controller EC 531	●	●	●	
	Pump controller type ABS PC 441		●	●	●
Measuring devices	Float switch type ABS KS	●	●	●	●
	Pressure sensor type ABS MD 124	●	●		
	Submersible pressure sensors type ABS MD 126 and MD 127	●	●	●	●
	Conductive level switch type ABS MD 131	●	●	●	●
Control panels	Control panels type ABS CP 112 and CP 212	●	●		
	Control panels type ABS CP 116 and CP 216	●	●		
Monitoring	Leakage control type ABS CA 461	●	●	●	●
	Temperature and leakage relay type ABS CA 462		●	●	●
	Graphical operator interface type ABS CA 511*		●	●	●
	Moisture monitoring module type ABS CA 441*		●	●	●
	Temperature monitoring module type ABS CA 442*		●	●	●
	Motor and supply power monitoring module type ABS CA 443*		●	●	●
	RS 485 communication module type ABS CA 622*		●	●	●
	Output expansion module type ABS CA 781*		●	●	●
	4G/LTE modem type CA 524	●	●	●	●

● Standard

* can only be used in combination with the PC 441 monitoring/controller unit
 A selection of products is available on page 13. For more information about the full range, visit www.sulzer.com.

Product overview

Lifting stations

Lifting station type ABS Synconta 700-902

Features and benefits

The Synconta 700-902 (with Piranha/S) is a single or double pumping station for automatic pumping of wastewater and sewage from locations and areas below the backwash level in accordance with EN 12050-1. The Synconta is ideal for applications where wastewater must be removed from buildings and areas below sewer level and where gravity discharge into the sewer is not possible.

Key characteristics

Synconta inflow ports	3 x DN 150, 1 x DN 200
Synconta 902 capacity	977 litres



Submersible pumps

Submersible grinder pump type ABS Piranha

Features and benefits

Piranha sewage pumps with shredding action provide reliable and economical discharge of effluent under pressure in private municipal and communal schemes. They offer an economical alternative to gravity sewers, and improve environmental protection for pressurized sewer systems.

Key characteristics

Discharge sizes	G 1 ¼" / DN 32-DN 50
Head 50 Hz	up to 71 m
Head 60 Hz	up to 81 m
Capacity 50 Hz	up to 21 m ³ /h
Capacity 60 Hz	up to 28 m ³ /h



Submersible sewage pump type ABS XFP (1.3-35 kW)

Features and benefits

Submersible sewage pump type ABS XFP models PE1 to PE3 are designed for wet or dry installation in standard and network pumping stations. The XFP pumps use Premium Efficiency IE3 motors to offer significant energy savings, along with excellent rag handling, long-term reliability and a future-proof design.

Key characteristics

Discharge sizes	DN 80-DN 200
Motor range 50 Hz	1.3-30 kW
Motor range 60 Hz	2.0-35 kW
Bearing life	up to 100'000 h



Submersible sewage pump type ABS XFP (15-620 kW)

Features and benefits

Submersible sewage pump type ABS XFP models PE4 to PE7 are designed for wet or dry installation in terminal pumping stations. The XFP pumps use Premium Efficiency IE3 motors to offer significant energy savings, along with excellent rag handling, long-term reliability and a future-proof design.

Key characteristics

Discharge sizes	DN 100-DN 800
Motor range 50 Hz	15-550 kW
Motor range 60 Hz	17-620 kW
Bearing life	100'000 h



Submersible sewage pump type ABS AFP

Features and benefits

For reliable and economical pumping of heavily polluted sewage in commercial, industrial and municipal applications. The AFP pumps offer high sustainability and excellent rag handling.

Key characteristics

Discharge sizes	DN 400-DN 800
Motor range 50 Hz	160-550 kW
Motor range 60 Hz	160-620 kW
Bearing life	100'000 h



Submersible mixed flow column pump type ABS AFLX

Features and benefits

Save space and reduce installation costs with the AFLX range of submersible axial-flow pumps, designed for direct installation in compact rising mains. Available with Premium Efficiency IE3 motors. Featuring highly efficient three- to five-blade mixed flow impellers. The AFLX-pumps ensure high reliability and efficiency.

Key characteristics

Pipe diameter	600 to 1'200 mm and larger
Motor range 50 Hz	7.5-500 kW
Motor range 60 Hz	14-468 kW
Bearing life	100'000 h



Submersible propeller pump type ABS VUPX

Features and benefits

The VUPX series of submersible propeller pumps are ideal for applications where large volumes of storm or process water have to be pumped to heads up to a maximum of 10 m. Available with Premium Efficiency IE3 motors. These compact pumps feature highly efficient three- or four-blade propellers and a space-saving design for direct installation in compact mains.

Key characteristics

Pipe diameter	600 to 1'400 mm and larger
Motor range 50 Hz	9-650 kW
Motor range 60 Hz	14-750 kW
Bearing life	100'000 h



Dry-installed pumps

Dry-installed sewage pump type ABS FR

Features and benefits

The FR dry-installed clogless pump enables economical pumping of heavily-polluted sewage and wastewater in municipal and industrial applications. It is ideal for pumping clear water, polluted water, and heavily-polluted sewage in commercial, industrial, and municipal applications.

Key characteristics

Discharge sizes	DN 150-DN 800
Motor range	up to 700 kW
Bearing life	100'000 h



Submersible mixers

Submersible mixer type ABS RW 200 and RW 280

Features and benefits

This compact submersible mixer is ideal for a variety of mixing and stirring applications in sewage, including the prevention of deposits and floating crusts in pump sumps. One or more of the mixers, depending on the mixing intensity and flow formation, are suitable for cleaning sumps up to 5 m diameter or 24 m² of water surface area.

Key characteristics

Propeller diameter 50 Hz	max 200 mm
Propeller diameter 60 Hz	max 250 mm
Motor range 50 Hz	up to 2.5 kW
Motor range 60 Hz	up to 2.8 kW
Mixing flow 50 Hz	0.135 m ³ /s
Mixing flow 60 Hz	0.15 m ³ /s



Aerators

Aerator type ABS Venturi jet

Features and benefits

Based on the ejector principle, the Venturi Jet aerator is an ideal solution for water depths from 1.5 m to 5 m. It provides cost-effective mixing and aeration in municipal and industrial wastewater applications, storm water retention tanks, and balancing tanks.

Key characteristics

Oxygen transfer	1-16 kg O ₂ /h at 3 meter water depth
Motor range 50 Hz	1.3 to 18.5 kW
Motor range 60 Hz	2 to 20 kW



Sewage grinders

Muffin Monster™ – Inline

Features and benefits

Inline Muffin Monster grinders are used for protecting dry installed pumps within pumping stations as well as equipment within the sludge systems of treatment plants. The dual-shafted, slow-speed and high-torque grinder shreds debris that can damage centrifuges as well as clog pumps, valves, heat exchangers and other equipment.

Key characteristics

Capacities	up to 1'558 m ³ /h
Connections	100 to 500 mm
Pressures	10.3 bar max dry working



Muffin Monster™ – Open channel

Features and benefits

Dual-shafted, slow-speed and high-torque Muffin Monster grinders shred tough solids in wastewater to protect pumps and other critical equipment from clogs and damage. Open channel Muffin Monsters are utilized in network and inlet pump stations, installed ahead of the pump before damaging solids can reach the pump.

Key characteristics

Capacities	up to 1'277 m ³ /h
Cutting chamber	up to 1'500 mm



Channel Monster™

Features and benefits

High-flow Channel Monster grinders protect large wastewater pump stations and treatment plants from damaging solids. A rotating screening drum allows fluid to pass through while capturing solids and diverting them to the powerful dual-shafted grinder for shredding. Channel Monsters can protect headworks screens from damage or replace screens completely in pump stations.

Key characteristics

Capacities	up to 9'305 m ³ /h
Cutting chamber	up to 2'250 mm
Bearing life	100'000 h



Monitoring and control equipment

Leakage control type ABS CA 461

Features and benefits

CA 461 is designed to detect leakage in pumps and mixers. The amplifier is housed in a norm enclosure fitted for DIN-rail mounting. The unit is available in two executions, 24 VDC or 110-230 VAC supply.

Temperature and leakage relay type ABS CA 462

Features and benefits

CA 462 is designed to spy and detect temperature and leakage in pumps and mixers. The amplifier is housed in a norm enclosure fitted for DIN-rail mounting. The unit is available in two executions, 24 VDC or 110-230 VAC supply.

Pump controller type ABS PC 111 and 211

Features and benefits

The PC 111 and 211 are easy-to-use single (PC 111) and dual-pump (PC 211) controllers designed mainly for use in either gravitation or pressurized municipal wastewater pumping stations. Their numerous features improve pumping station functionality and reliability throughout its life-cycle.

Equipment controller EC 531

Features and benefits

The equipment controller EC 531 is an all-in-one unit for monitoring and control of one or two pumps. It is designated primarily for municipal pumping stations. The software included in the EC 531 is a further development of the PC 441 advanced surveillance systems.

Pump controller type ABS PC 441

Features and benefits

The PC 441 is a monitor and controller for one to four pumps, designed mainly for use in municipal wastewater pumping stations. The PC 441 has many advanced features to minimize operating costs and increase the availability of the pumping station throughout its life cycle. It has an 16-channel analog data logger (2 weeks capacity), and provides a one-week history on counters and accumulators (run time, start count and flow), as well as a time stamp on up to 4'000 pump and alarm events.

Control panel type ABS CP 112-212 / CP 116-216

Features and benefits

These compact control panels are used with either one pump (CP 112, CP 116) or two pumps (CP 212, CP 216) conforming to ATEX. The panels are connected directly to pumps up to 5.5 kW (10 A), 3-phase and single-phase versions, and provides LED indication of power, pump run and alarm. The choice of water level control includes float switches, an analog (4-20 mA) sensor and built-in pressure sensor for closed or open air systems. CP 116-216 have an 8-channel analog data logger (2 weeks capacity), and provides a one-week history on counters and accumulators (run time, start count and flow), as well as a time stamp on up to 4'000 pump and alarm events.

Submersible pressure sensor type ABS MD 126, 127, 131

Features and benefits

MD 126 and 127 are high-accuracy submersible hydrostatic level sensors. Encapsulated in stainless steel and resistant to sewage water, they are designed to measure levels in liquids such as storm water and wastewater in sump pumps.

MD 131 is a conductive level switch, primarily used as overflow switch in sewage pumping pits. The sensor head is made of PTFE to reduce the risk of clogging and therefore improving the overall availability.



ABSEL – Sulzer’s wastewater pump selection program

With ABSEL, you can select specific pumps by configuring the application area, pump series and duty point using the “Hydraulic selection” function. Alternatively, you can navigate through our pump offering by using the “Pump browser”.

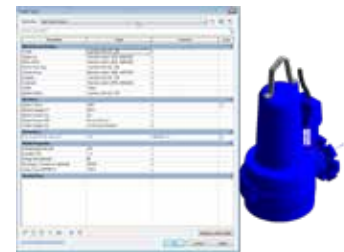
Once you have selected a pump, you have the option to download complete product information in PDF format with pump and motor performance curves, a product description, dimensional drawings, operational cost calculations and data sheets.

You can also run a friction loss calculation on dry or wet well applications using the “PipeCalc” function. The “PipeCalc” database contains a wide variety of predefined pipes and fittings such as elbows, valves, transition pieces, inlets and outlets. To provide a first calculation in seconds, the “PipeCalc” function offers you a predefined piping arrangement in a pumping station.



The easy way to navigate in building information modeling (BIM)

Building information modeling (BIM) is an intelligent process for improving collaboration between end users and suppliers in terms of OPEX costs. We have collected the BIM models you need for our lifting stations and submersible pumps in a single location, BIM search at www.sulzer.com/bim. Use the filter to find your product of interest or make a direct entry of the product name.





Services for equipment lifetime and economy

Sulzer is the expert not only when it comes to supplying your equipment, but also when it comes to supporting it throughout its life cycle. Our tailored service and maintenance offering extends from simple workshop repairs to complete operation and maintenance framework agreements for your wastewater collection network.

Equipment installation services

Installing wastewater handling equipment is a complex and even dangerous task, where poor quality work can increase running costs, lower reliability and shorten equipment life. Sulzer's engineers ensure a safe and problem-free installation, and they can support your own personnel with operating guidance and recommendations for the most cost-effective maintenance. Our services cover:

- Equipment installation
- On-site commissioning and testing

Routine maintenance contracts

Regular maintenance of pumps and other wastewater equipment reduces the risk of breakdowns and emergency call-outs. Whether regularly visiting your site to check equipment condition or performing planned overhauls to restore equipment operation, our engineers work with maximum efficiency and minimum disruption on site. We offer:

- On-site maintenance and repair
- Site and equipment surveys
- Energy management services

Spare parts and spares kits

A key element of effective maintenance is having essential spare parts on hand whenever your personnel need them. Sulzer has extensive central stocks and efficient logistics that guarantee quick delivery of commonly used parts, as well as software tools and technical expertise to assist in equipment identification and parts selection. For the greatest simplicity, we offer a range of kits with everything needed to service your equipment. We provide:

- Spare parts and spares kits
- Service and upgrade kits
- Strategic spares recommendations

Workshop services

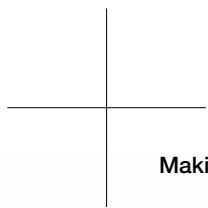
We have an extensive network of workshops that places us close to you for rapid response. Staffed by highly trained engineers and closely partnered with our manufacturing centers, our workshops are equipped to repair and refurbish all types of wastewater equipment. They restore high-value equipment to "as-new" condition, using only the manufacturer's original spare parts for the highest reliability and lowest energy consumption. Our workshops perform:

- Repairs of Sulzer or non-Sulzer equipment
- Repairs of explosion-proof equipment
- Installation and removal
- Commissioning and testing after repair

Replacement and upgrade services

As equipment ages, it costs more to run. Spare parts become expensive and lead times longer, while performance falls behind that of the latest products. Our technical support staff can help you identify and prioritize replacement or upgrade opportunities, so that you choose the most appropriate equipment at the most appropriate time. Besides recommending and supplying the equipment, we can take full responsibility for its installation and commissioning if desired. We can provide:

- Replacement equipment
- Adapter brackets and guide-rail replacement
- Selection assistance and technical support
- Full contract management



Making water go around. Water and wastewater solutions by Sulzer.

Sulzer offers a broad range of pumps and related equipment for water production and transportation as well as wastewater collection and treatment for municipalities and industries. Our expertise also includes separation technologies, and services on rotating equipment.

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