

SULZER

Water and wastewater solutions

Submersible recirculation pumps type **ABS XRCP**





Main industries and applications

The submersible recirculation pump type ABS XRCP is a compact and easy-to-handle pump with a wide range of applications. Its design makes it particularly suitable for pumping and recirculation of:

- Activated sludge in sewage treatment plants for mixed liquor recirculation during nitrification and denitrification process
- Pumping of surface and river water
- Hazardous locations: Certification for ATEX (Ex II 2G Ex h db IIB T4 Gb), FM and CSA available as an option

Features and benefits

Premium Efficiency motors

- Guarantee the lowest possible energy consumption
- Reduce the operating temperature, extending the product life

Maintenance-free bearings

- Lubricated for life
- Operating lifetime that exceeds 100'000 hours

Robust integrated gearbox

- Secure efficient pumping
- Standard on the XRCP 800PA
- Fully integrated cartridge box available also in stainless steel executions

Pre-loaded upper bearing for XRCP 250 to XRCP 500

- Prevents spinning even in massive rag loaded applications with high turbulence
- Eliminates backlash by design, the attached spring always ensures a smooth operation
- Extends bearing life

Large rotor shaft

- Minimize deflection due to "increased" shaft diameter and stronger bearing set up

Sealed connection chamber with quick-connection block

- Simplifies maintenance by reducing the number of nuts, washers, ferrules etc.
- Safeguards the motor
- Ensures reliability because of separated chambers between motor and connection chamber

Seal systems

- Include a dependable, triple-seal system
- Feature dual oil chambers, to safeguard the motor
- Offer enhanced protection to keep the mechanical seal clog-free and extend its life

Enhanced mechanical seal protection system

- Keeps the mechanical seal clog-free
- Greatly extends the life of the seal

Optimized stainless steel propeller

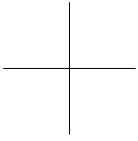
- Ensures the highest possible performance
- Reduces maintenance through self-cleaning

Multiple moisture sensor (DI) seal monitoring

- Secures full protection of motor and gearbox

TCS (Thermo Control System)

- Provides a warning and switches off the motor, if necessary, to prevent overheating

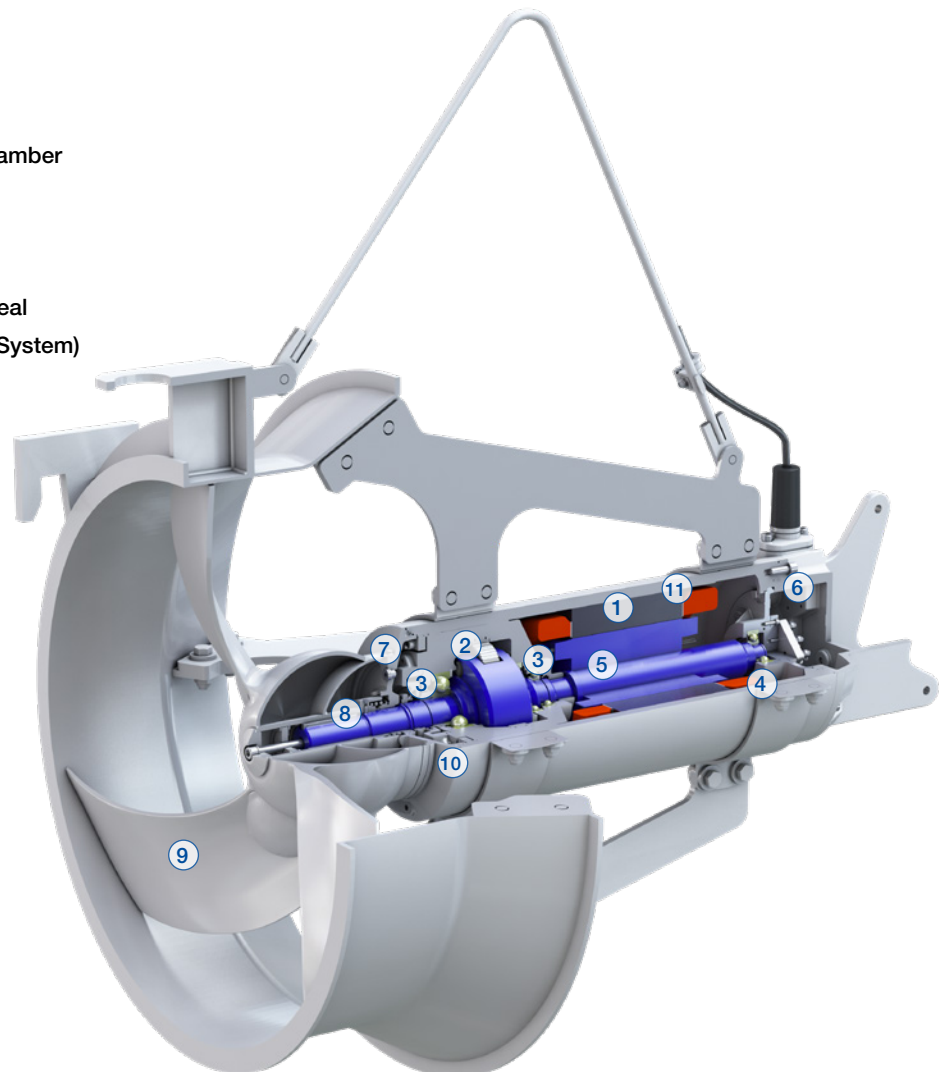


VFD for the XRCP 400-500 with permanent magnet motor

- The permanent magnet motors are supplied with a perfectly matched VFD - just plug and play
- Provides smart functionality such as de-ragging function, automatic and preventive propeller cleaning, product protection, moisture sensor etc.
- Adapts to changing liquid levels and/or changed process parameters
- Can be used with several communication interfaces such as PROFIBUS DP, Ethernet, Modbus TCP etc.
- IP55 / NEMA 4x or IP20 / NEMA 1



- ① Premium Efficiency motor
- ② Planetary gearbox
- ③ Bearings
- ④ Upper bearing
- ⑤ Rotor shaft
- ⑥ Sealed connection chamber
- ⑦ Dual oil chamber
- ⑧ Mechanical seal
- ⑨ Propeller
- ⑩ Moisture sensor (DI) seal
- ⑪ TCS (Thermo Control System)



Model and feature comparison

| Standard feature | XRCP 250 | XRCP 400, 500 | XRCP 800 PA |
|---|----------|---------------|-------------|
| Premium Efficiency IE3 motor | ● | | ● |
| Premium Efficiency IE3-equivalent motor | | ● | |
| Variable-frequency drive (VFD), IP55 / IP20 | | ● | |
| Planetary gearbox | | | ● |
| Sealed connection chamber | ● | ● | ● |
| Stainless steel fabricated propeller | | ● | ● |
| Investment-cast propeller | ● | | |
| Moisture sensor (DI) seal monitoring | ● | ● | ● |
| TCS (Thermo Control System) | ● | ● | ● |
| De-rag function | ● | ● | ● |



Specifications

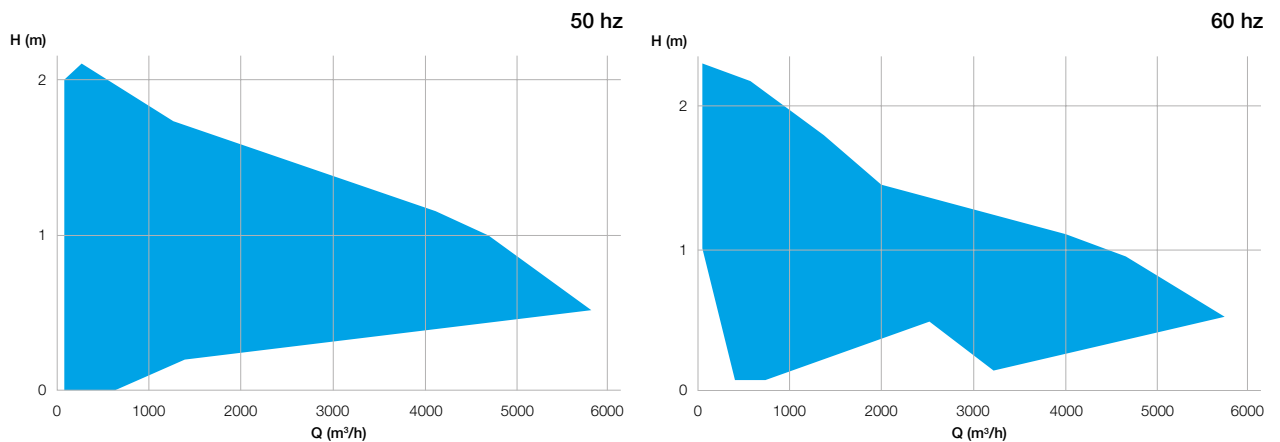
Materials

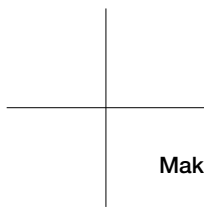
| | EC (cast iron) only 250/800 PA | CR (stainless steel) |
|-------------------------------|------------------------------------|---|
| Pump part | EN-GJL-250 painted | 1.4404 (AISI 316L) |
| Motor housing | 1.4021 (AISI 420) / EN GJS-700 | 1.4021 (AISI 420) / EN GJS-700 |
| Motor shaft / propeller shaft | 1.4460 (AISI 329) / 1.4571 (316Ti) | 1.4460 (AISI 329) / 1.4571 (AISI 316Ti) |
| Propeller | 1.4401 (AISI 316) | 1.4401 (AISI 316) |
| Fasteners | | |

Operating data

| | 50 Hz | 60 Hz |
|--------------------|------------------------------|---|
| Discharge diameter | 250 to 800 mm | 250 to 800 mm / 10 to 31 in. |
| Motor power | up to 25 kW | up to 25 kw / 33.5 hp |
| Motor efficiency | up to 93% | up to 94% |
| Max. flow | up to 1.68 m ³ /s | up to 1.62 m ³ /s / 25'680 USgpm |
| Max. head | up to 1.63 m | up to 1.44 m / 4.7 ft. |

Performance range





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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