

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 quickconnection 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.

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• 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

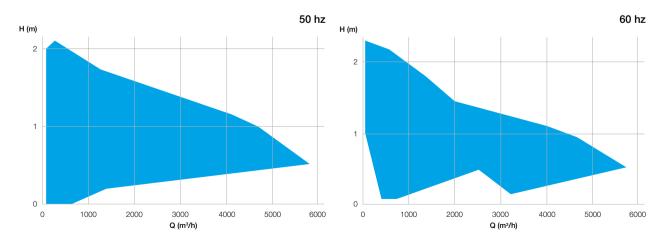
Materials

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

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 m³/s / 25'680 USgpm
Max. head	up to 1.63 m	up to 1.44 m / 4.7 ft.





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