

Submersible Recirculation Pump Type ABS XRCP 800 PA

SULZER

60 Hz

Compact, submersible, recirculation pump type XRCP is designed for pumping activated sludge in treatment plants during the nitrification and denitrification process, as well as for pumping of storm, surface and river water.

Construction

The submersible recirculation pump type XRCP is designed as a compact, water-pressure-tight unit, including propeller and bracket with well proven automatic coupling system using a single guide rail. The single guide rail coupling system guarantees quick and economical installation to DIN-flange. The XRCP is available in two standard material versions; cast iron (EC), and stainless steel (CR). Maximum allowable temperature of the medium for continuous operation is 40 °C (104 °F).

Motor:

Premium Efficiency IE3, squirrel cage, 3-phase, 4-pole, 60 Hz, insulation class F (155 °C/311 °F), max. submergence 20 m (66ft).

Propeller:

Technically optimized, axially operating 3-blade propellers with very good self-cleaning effect for vibration-free operation. The propellers are designed to achieve high thrusts and therefore a high flow capacity in axial direction.

Solids deflection ring:

The patented solids deflection ring protects the mechanical seal from damage by ingress of solids or fibrous matter.

Bearings:

All bearings are lubricated-for-life and maintenance-free, with a calculated lifetime of more than 100,000 h.

Gearbox:

High-efficiency planetary gearbox, fatigue strength with a calculated life time more than 100,000 h.

Shaft sealing:

Mechanical seal: Silicon carbide / Silicon carbide. O-Rings / lip seals: NBR.

Seal monitoring:

DI-system with a sensor in the junction box, oil chamber and motor. Only one single control wire.

Temperature monitoring:

TCS-Thermo-Control-System with thermal sensors in the stator which opens at 140 °C (284 °F).

Cable:

10 m (33 ft), sewage-resistant material.

Optional lengths (m):

15 (49 ft), 20 (66 ft), 30 (98 ft), 40 (131 ft), 50 (164 ft).

Options:

Explosion-proof version, seals in viton, PTC or PT 100 in the stator, additional seal (Sic-C) at motor side, EMC cable, insulation class H*.

Weight (kg):

- XRCP 800-PA 110/4 = 395 kg (871 lbs);
- XRCP 800-PA 150/4 = 430 kg (948 lbs);
- XRCP 800-PA 220/4 = 455 kg (1003 lbs).

* not in FM version.



Materials

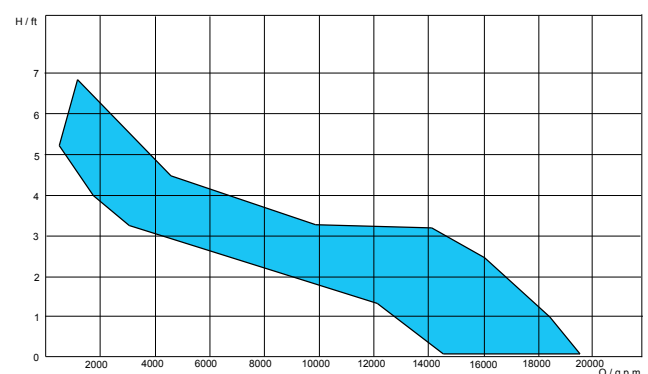
Part	EC material	CR material
Motor housing	EN-GJL-250 painted (ASTM A48; Class 35B)	1.4571 (AISI 316Ti)
Connection chamber	EN-GJL-250 painted (ASTM A48; Class 35B/CF-8M)	1.4470 (ASTM A 890 4A/CF-8M)
Motor shaft / Propeller shaft	1.4021 (AISI 420) / GJS-700-3	1.4021 (AISI 420) / GJS-700-3
Propeller	1.4571 (AISI 316 Ti)	1.4571 (AISI 316Ti)
Fasteners / Motor	1.4401 (AISI 316)	1.4401 (AISI 316)
Bracket	galv.steel or 1.4571 (AISI 316Ti)	1.4571 (AISI 316Ti)

Motor data

Motor	PA 130/4	PA 170/4	PA 250/4
Rated power (kW / hp)	13.0 / 17.4	17.0 / 22.8	25.0 / 33.5
Rated current (A) at 480 V	22.8	30.1	43.2
Speed (min ⁻¹)	294 ¹	293 ¹ / 351 ²	293 ¹ / 351 ²
Motor efficiency (%)	93.0	93.1	92.7
Power factor	0.77	0.76	0.75

¹ = gear ratio i = 6, ² = gear ratio i = 5

Performance curve



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