

Submersible Recirculation Pump Type ABS RCP 800

SULZER
60 Hz

Compact, submersible recirculation pump type ABS RCP 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 RCP 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 a DIN-flange. The RCP is available in cast iron (EC) and optional in stainless steel (CR).

Maximum allowable temperature of the medium for continuous operation is 40 °C (104 °F).

Motor

Squirrel cage, 3-phase, 4-pole 60 Hz. Protection type IP68, with stator insulation Class F (155 °C / 311 °F), max.submergence 20 m (66 ft).

Propeller

Technically optimized, axially operating 3-blade propeller 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 solid or fibrous matter.

Bearings

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

Gearbox

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

Shaft sealing

Mechanical seal: Silicon carbide / Silicon carbide.

O-Rings / lip seals: NBR.

Seal monitoring

DI-system with sensors in the oil, motor, and cable connection chambers.

Temperature monitoring

TCS-Thermo-Control-System with thermal sensors in the stator that open 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, cable protection sleeve, shielded cable, PTC or PT 100 in the stator, insulation class H*.

Weight

With motor A 130/4 - 280 kg (617 lbs).

With motor A 170/4 - 285 kg (628 lbs).

With motor A 250/4 - 315 kg (695 lbs).

* not in FM version.



Materials

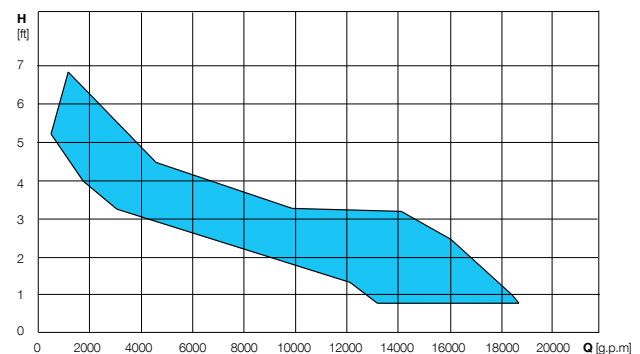
Part	EC (cast iron) material	CR (stainless steel) material
Motor housing	EN-GJL-250, painted (ASTM A48; Class 35B)	1.4571 (AISI 316 Ti)
Connection chamber	EN-GJS-400-18 painted (ASTM A536; 60-40-18)	1.4408 (CF-8M)
Motor shaft / propeller shaft	1.4021 / EN-GJS-700-3	1.4021 / EN-GJS-700-3
Propeller	1.4571 (AISI 316 Ti)	1.4571 (AISI 316 Ti)
Fasteners / Motor	1.4401 (AISI 316)	1.4401 (AISI 316)
Bracket	Galvanized steel or 1.4571 (AISI 316 Ti)	1.4571 (AISI 316 Ti)

Motor data

Motor	A 130/4	A 170/4	A 250/4
Rated power [kW / hp]	13 / 17.4	17 / 22.8	25 / 33.5
Rated current at 460 V [A]	21.9	29.4	41.7
Speed [min ⁻¹]	282 ²	238 ² / 285 ¹	285 ¹
Motor efficiency [%]	86.9	85.8	86.8
Power factor	0.86	0.84	0.87

¹ Gear ratio i = 6; ² Gear ratio i = 7

Performance field



H = Total Head; Q = Discharge Volume

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