

Submersible Recirculation Pump Type ABS RCP 500

SULZER

50 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 DIN-flange. The RCP is available in EC and optional in stainless steel (CR).

Maximum allowable temperature of the medium for continuous operation is 40 °C.

Motor:

Squirrel cage, 3-phase, 12-pole 50 Hz. Protection type IP 68, with stator insulation Class F (155 °C), max.submergence 20 m.

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.

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 which open at 140 °C.

Cable:

10 m sewage resistant material.

Optional lengths (m):

15, 20, 30, 40, 50.

Options:

Explosion-proof version, seals in viton, cable protection sleeve, shielded cable, PTC or PT 100 in the stator.

Weight:

with motor A 50/12 - 215 kg.

with motor A 75/12 - 250 kg.

with motor A 100/12 - 255 kg.

* not in Ex version.



Materials

| Part | EC (cast iron) material | CR (stainless steel) material |
|--------------------|------------------------------------|-------------------------------|
| Motor housing | EN-GJL-250, painted | 1.4571 (AISI 316 Ti) |
| Connection chamber | EN-GJS-400-18 painted | 1.4408 (CF-8M) |
| Motor shaft | 1.4021 (AISI 420) | 1.4404 (AISI 316L) |
| Propeller | 1.4571 (AISI 316 Ti) | 1.4571 (AISI 316 Ti) |
| Fasteners / Motor | 1.4401 (AISI 316) | 1.4401 (AISI 316) |
| Bracket | galv.steel or 1.4571 (AISI 316 Ti) | 1.4571 (AISI 316 Ti) |

Motor data

| Motor | A 50/12 | A 75/12 | A 100/12 |
|----------------------------|---------|---------|----------|
| Rated power (kW) | 5.0 | 7.5 | 10.0 |
| Rated current at 400 V (A) | 18.2 | 24.6 | 31.9 |
| Speed (min ⁻¹) | 470 | 462 | 470 |
| Motor efficiency (%) | 70.4 | 72.2 | 75.1 |
| Power factor | 0.56 | 0.61 | 0.60 |

Performance field

