

# Submersible Recirculation Pump Type ABS XRCP 400

# SULZER

## 50 Hz

Compact, submersible, stainless steel 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 stainless steel (CR).

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

#### Motor:

Premium Efficiency, IE3 equivalent, sensorless permanent-magnet motor with high overload capacity; 50 Hz; 10-pole; 400 V\* using variable frequency drive (VFD) control. Protection type IP 68, with stator insulation Class F.

#### Start-up:

variable frequency drive (VFD) Max. submergence 20 m.

\* other voltages available.

#### Propeller:

Technically optimized, axially operating 3-blade propeller, designed to achieve high thrust and therefore a high flow capacity in an axial direction. The propeller is self-cleaning and so ensures vibration-free operation.

#### Solids deflection ring:

Enhanced solids deflection ring design. 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 100,000 h.

#### Shaft sealing:

Sic-Sic, covered mechanical seal at medium side. NBR O-rings and lip seals.

#### Seal monitoring:

DI-system with sensors in the oil\*\*, motor, and cable connection chambers. Only one single control wire.

\*\* not in Ex version.

#### Temperature monitoring:

PTC thermistor in the stator which opens at 140 °C.

#### Cable:

10 m sewage-resistant EMV-FC S1BC4N8-F ..G.. 0,6/1 kV.

#### Optional lengths (m):

15, 20, 30, 40, 50.

#### Options:

Explosion-proof version, additional seal (C-Cr) at motor side, seals in viton.

#### Weight (kg):

XRCP = 145 kg. VFD 4,0 kW = 13,5 kg, VFD 5,5 kW = 14,5 kg



### Materials

| Part               | Material                  |
|--------------------|---------------------------|
| Motor housing      | 1.4404 (AISI 316L)        |
| Connection chamber | 1.4470 (AISI 329) (CF-8M) |
| Motor shaft        | 1.4401 (AISI 316)         |
| Propeller          | 1.4571 (AISI 316Ti)       |
| Fasteners / Motor  | 1.4401 (AISI 316)         |
| Bracket            | 1.4571 (AISI 316Ti)       |

### System data

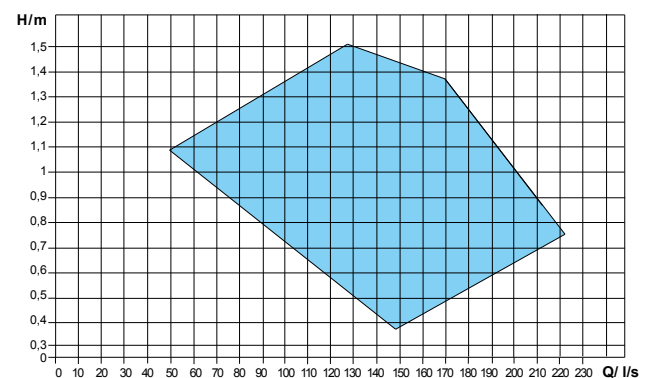
| Motor                          | PM 30/10 | PM 50/10 |
|--------------------------------|----------|----------|
| Rated power (kW)               | 3.0      | 5.0      |
| Motor efficiency (%)           | 90.7     | 88.9     |
| Variable Frequency Drive (VFD) | A        | B        |
| Rated power (kW)               | 4.0      | 5.5      |
| Rated current (A) at 400 V     | 9.9      | 12.9     |

**Total system efficiency (%)**

**88.0**

**86.5**

### Performance curve



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