# Submersible Sewage Pump Type ABS XFP PE7

SULZER

50 Hz

Submersible sewage pump type ABS XFP PE7 is designed for municipal and industrial wastewater equipped with Premium Efficiency IE3-level motor. Suitable for clean water and wastewater, sewage with fibrous material and high contain of rags, solids and sludge.


IE3

## Construction

- Premium Efficiency IE3 motors in accordance with IEC 60034-30. Tested in accordance with IEC60034-2-1.
- Premium Efficiency motors designed for VFD operation in accordance with IEC/TS 60034-25 A ($U_{peak}$< 1300 V).
- The water-tight fully flood-proof motor and the pump section form a compact and robust unit, easy to clean and easy to service.
- Water pressure sealed connection chamber, with two stage cable entry, protected against excessive cable tension and bending.
- Insulation system: Class H.
- Thermal protection sensors in the stator which open at 140 °C.
- Rotor and shaft dynamically balanced.
- Upper and lower bearings lubricated-for-life, maintenance-free.
- Insulated upper bearing for VFD operation.
- Triple shaft sealing.
- Upper mechanical seal from SiC/SiC and lower mechanical seal from SiC/SiC, independent of the direction of rotation.
- Inspection chamber with sensor for moisture protection to indicate water leakage through mechanical seal.
- Blockage-free open cooling system. Cooled by the medium.
- Impeller types: 2-or 3-channel closed, skew- or mixed flow impeller.
- Option: Available in ATEX explosion-proof* version in accordance with international standards e.g. ATEX II 2G Ex h db IIB T4 Gb, FM see table “Motor power and pole overview”.

## Motor

Water pressure sealed Premium Efficiency motors, (3-phase, squirrel cage induction motors), from 160 to 550 kW and depending on hydraulic requirements as 6- to 12-pole versions.
**Voltage**: 380...420 V, 3~, 50 Hz (other voltages on request).
**Insulation system**: Class H
**Temperature rise**: According to NEMA class B.
**Protection type**: IP68
**Start-up**: DOL (direct on line), VFD, soft starter or star-delta.

## Motor power and pole overview

| pole | Motor Power $P_2$ in kW (50 Hz) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | 250* | 300* | 350* | 400 | 450 | 500 | 550 | |
| 8 | 160* | 200* | 250* | 300* | 350 | 400 | 450 | |
| 10 | 160* | 200* | 250 | 300 | 350 | | | |
| 12 | 160 | 200 | 250 | 300 | | | | |

*available in ATEX

## Pump selection

To access more detailed information like pump performance curves, dimensional drawings, product description and motor performance curves, please use our ABSEL program:
https://absel.sulzer.com/
Hydraulic selection
-> Enter: Duty point -> Select: Hydraulics -> Select: Motor

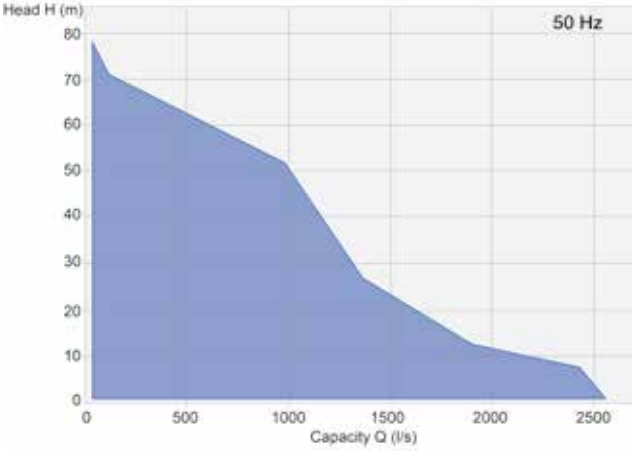
## Hydraulics

You have the choice of the following hydraulics in the range of DN 350 to DN 800 discharge:
For power demand beyond available range, please refer to technical data sheet XFP CB-Plus or XFP 105J-600X.

## Hydraulics / Impeller type

| Hydraulics / Impeller type | | | |
|---|---|---|---|
| XFP 400T | CH3 | XFP 600X | SK3 |
| XFP 500U | CH3 | XFP 800X | MX5 |
| XFP 600V | CH3 | XFP 801X | CH5 |

## Performance field



## Standard and options

| Description | Standard | Option |
|---|---|---|
| Max. ambient temperature | 40 °C | 60 °C |
| Max. submergence depth | 20 m | |
| Mains voltage | 380...420 V/50 Hz | other voltage on request |
| Voltage tolerance | multi-voltage ± 5 %; 400 V ± 10 % | |
| Insulation system | Class H | Class H (160 °C) non ATEX |
| Start-up | DOL (direct on line), VFD or soft starter | star-delta |
| Approval | non Ex | Ex/ATEX according to table “Motor power and pole overview” |
| Cables | H07RN8-F | EMC shielded cables |
| Cable length | 10 m | 15 m, 20 m other lenght on request |
| Mechanical seal (medium side) | SiC-SiC (NBR) | SiC-SiC (Viton execution) |
| Mechanical seal (motor side) | SiC-SiC (NBR) | |
| O-rings | NBR | Viton |
| Preparation for lifting hoist | Lifting hoop | |
| Protective coating | Two component coating epoxy resin | Special coatings on request |
| Cathodic protection | | Zinc anodes on request |
| Installation | Wet-well | Dry-well vertical/horizontal |
| Motor cooling | Blockage-free open cooling system | |
| Moisture sensor motor housing | DI (sensor for moisture detection) | |
| Moisture sensor connection chamber | DI (sensor for moisture detection) | |
| Moisture sensor inspection chamber | DI (sensor for moisture detection) | |
| Vibration sensor | | on request |

## Motor protection

| PE7 | | Non-Ex | Ex/ATEX |
|---|---|---|---|
| Winding | Bi-metallic switch | ● | ●* |
| | Thermistor (PTC) | O | O* |
| | PT 100 | O | O |
| Seal protection | Inspection chamber | ● | ● |
| | Motor housing | ● | ● |
| | Connection box | ● | ● |
| Temperature bearing upper/lower | Bi-metallic switch | ● | ● |
| | Thermistor (PTC) | O | O |
| | PT 100 | O | O |
| Vibration sensor | 0 - 20 mm/s | O | O |

● = Standard; O = Option; * PTC to be used when operated via VFD.

## Materials

| Motor | Standard | Option |
|---|---|---|
| Connection chamber | EN-GJL-250 | |
| Cooling chamber | EN-GJL-250 | |
| Cooling jacket | 1.0036 | Stainless steel |
| Motor housing | EN-GJL-250 | |
| Motor shaft | 1.4021 | 1.4462 |
| Fasteners (medium contact) | 1.4401 | |
| Lifting hoop | 1.0553 | 1.4462 |
| **Hydraulics** | | |
| Volute | EN-GJL-250 | 1.4470 |
| Impeller | EN-GJL-250 | 1.4470 |
| Bottom plate | EN-GJL-250 | 1.4470 |
| **Connection sys.(wet)** | | |
| Pedestal | EN-GJL-250 | Non sparking |
| Fastening elements | Stainless steel | |
| Guide rail | Galv.steel | Stainless steel |
| Pipe retainer | EN-GJS-400-18 | 1.4470 |
| Protection coating | Epoxy resin based | |
| **Connection sys.(dry)** | | |
| Support frame | 1.0036 | Galv.steel |