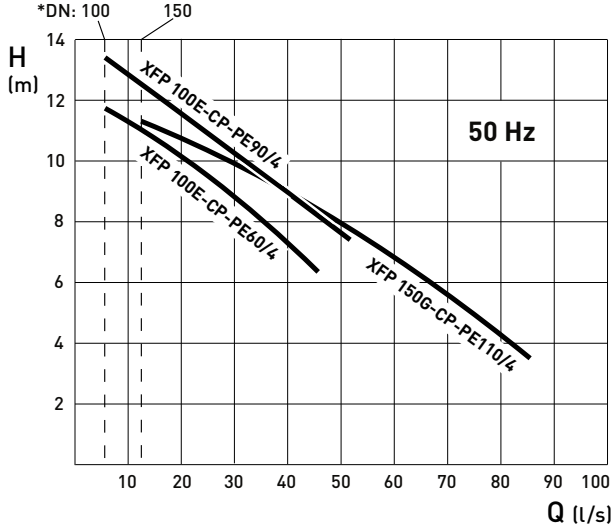
Submersible Chopper Pump Type ABS XFP 100E and 150G

Robust, reliable, submersible chopper pumps, with Premium Efficiency motors from 6.0 to 11.0 kW. For the pumping of heavily contaminated commercial, industrial, municipal and agricultural wastewater, sewage and sludge, in wet well installations.

Features

- The water-pressure-tight, encapsulated, flood-proof motor and the pump section form a compact, robust, modular construction.
- NEMA Class A temperature rise.
- Premium Efficiency motors in accordance with IEC 60034-30 level IE3 with testing in accordance with IEC60034-2-1.
- Continuously rated motor.
- Double mechanical seals. SiC-SiC at the medium side; SiC-C (100E) and SiC-SiC (150G) at the motor. XFP 150G has an additional inner lipseal at the motor side. All seals are independent of rotation direction and resistant to temperature shock.
- Anti-wicking cable plug solution (100E), or water-pressure-sealed connection chamber (150G).
- Hardened chopper impeller and cutter plate efficiently reduces large solids or fibrous materials to ensure optimum blockage-free pumping.
- Lubricated-for-life bearings with a calculated lifetime of minimum 50 000 hrs. (100E), and 100 000 hrs. (150G).
- Stainless steel shaft. Designed with high safety factor to prevent fatigue fracture.
- Temperature monitoring by thermal sensors (140 °C) in the stator windings.
- Seal monitoring by a moisture probe (DI) in the motor and seal chambers (100E), or motor chamber (150G), which signals an inspection alert if there is leakage at the shaft seals.
- Smooth outer design to reduce rag build-up.
- Stainless steel lifting hoop.
- DN 100 and DN 150 radial slot DIN flange discharge.
- Maximum allowable temperature of the medium for continuous operation is 40 °C.
- Maximum submergence depth of 20 m.
- Explosion-proof as standard, in accordance with international standard ATEX 2014/34/EU [II 2G Ex db IIB T4 Gb].

Performance Curves



* Minimum flow rate Q.

Please use the ABSEL program as the only valid selection tool.

Motor

Premium Efficiency IE3, three-phase, squirrel-cage motor, 400 V, 50 Hz, 4-pole [1 450 r/min].

Voltage tolerance: ± 10%
Protection type: IP 68
Stator insulation: Class H
Start-up: star-delta [YΔ].
Cooling: 100E self-cooling, 150G by the medium.
Service factor: 1.3

Motors with other operating voltages and frequencies are also available.

Identification Code

e.g. XFP 100E CP.3 PE90/4-E-50

Hydraulics:
XFP ..... Product range
10.....Discharge outlet DN [cm]
0 . .....Hydraulic type
E .....Volute opening [dia. mm]
CP.....Chopper impeller
3 .....Impeller size

Motor:
PE ..... Premium Efficiency
90 ..... Motor power P_2 kW x 10
4 .....Number of poles
E .....Volute opening [dia. mm]
50 .....Frequency

Materials

Description	Material
Motor housing	Cast iron EN-GJL-250
Volute	Cast iron EN-GJL-250
Impeller	Cast iron EN-GJS-600-3
Bottom plate	Cast iron EN-GJL-300
Motor shaft	Stainless steel 1.4021 (AISI 420)
O-rings	NBR
Lifting hoop	Stainless steel 1.4401 (AISI 316)
Fasteners	Stainless steel 1.4401 (AISI 316)

Technical Data

XFP	Motor	Impeller size	Rated voltage (V)	Motor power * (kW) P_1	Motor power * (kW) P_2	Rated current (A)	Speed (r/min)	Cable size	Weight ** (kg)
100E-CP	PE 60/4	3	400 3~	6.7	6.0	13.6	1 450	10G1.5	170
	PE 90/4	1	400 3~	9.9	9.0	18.1	1 450	10G1.5	190
150G-CP	PE 110/4	2	400 3~	12.0	11.0	23.4	1 450	10G1.5	330

* P_1 = power at mains. P_2 = power at motor shaft. ** Includes 10 m cable. Data for alternative voltages available on request.

Standard and Options

Description	Standard	Option
Mains voltage	400 V 3~	230, 500, 695 V *
Cables	HO7RN8-F	EMC
Cable length [m]	10	20, 30, 40, 50
Mechanical seal (at medium side)	SiC-SiC-NBR	SiC-SiC-Viton
Mechanical seal (at motor side)	SiC-C-NBR (100E), SiC-SiC-NBR (150G)	
O-rings (external seals)	NBR	Viton (not available for cable entry seal)
Protective coating	2k Epoxy 120 µm	2k Epoxy 400 µm

* Selected motors only. Contact Sulzer for details.

Monitoring

Description		Standard	Option
Motor (temperature)	Bi-metallic switch in windings	●	-
	PTC thermistor in windings	-	●**
Seals (leakage)	Moisture sensor (DI) in motor and seal chambers (XFP 100E)	●	-
	Moisture sensor (DI) in motor chamber (XFP 150G)	●	-
	Moisture sensor (DI) in connection chamber (XFP 150G)	-	●

Temperature and leakage relays are required. See accessories table. ** Must be selected when pump is operated via VFD.

Accessories

	Description	Size	XFP	Part no.
Fixed installation - wet well with Sulzer Automatic Coupling System	**Pedestal*** (cast iron EN-GJL-250) 90° cast bend (single guide rail) - DIN flange connection	DN 100 DN 150	100E 150G	62320652 62320655
	90° cast bend (single guide rail) - plug/clamp connection	DN 100 (pipe Ø109 mm) DN 100 (pipe Ø115 mm) DN 150 (pipe Ø160 mm)	100E 100E 150G	62320653 62320654 62320656
	90° cast bend (twin guide rail) - DIN flange connection	DN 100 DN 150	100E 150G	62325026 62325027
	Pedestal bracket fasteners single guide rail version (galvanised steel)		100E 150G	62610633 62610635
	Pedestal bracket fasteners single guide rail version (stainless steel)		100E 150G	62610637 62610639
	Pedestal bracket fasteners twin guide rail version (galvanised steel)		100E 150G	62615054 62615055
	Pedestal base anchor bolts single and twin guide rail (galvanised steel)		100E 150G	62610775 62610784
	Chain kit (galvanized steel) including shackle	3 m 4 m 6 m 7 m	100E & 150G	61265065 61265093 61265069 61265096
	Chain kit (stainless steel) including shackle	3 m 4 m 6 m 7 m	100E & 150G	61265081 61265099 61265085 61265102
Transportable	**Ground support stand**		100E 150G	61355018 61355025
General	**Cathodic protection** (zinc anodes)		100E & 150G	13905000
	Leakage relay type ABS CA 461	110 - 230 VAC 18 - 36 VDC, SELV	100E & 150G	16907010 16907011
	Temperature and leakage relay type ABS CA 462	110 - 230 VAC 18 - 36 VDC, SELV	100E & 150G	16907006 16907007

*Guide rail not included

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