

Submersible Propeller Pump Type ABS VUPX PE7

The submersible propeller pump type ABS VUPX is designed for use where larger water volumes without fibrous materials must be pumped up to relatively low heads (up to approx. 10 m/33 ft). Equipped with a Premium Efficiency IE3 motor, it is suitable for:

- Hazardous locations - approval for ATEX II 2G Ex h db IIB T4 Gb FM, CSA see table "Motor power and speed overview".
- Return sludge or return activated sludge (RAS).
- Combined sewage and surface water.
- Storm water protection, irrigation and aquaculture.
- Industrial raw water and process water.

Construction

- Premium Efficiency IE3 motors in accordance with NEMA and EC 60034-30. Testing in accordance with IEC 60034-2-1.
- 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.
- Optimum motor cooling by directing the medium being pumped over the motor.
- Water pressure sealed connection chamber, with two-stage cable entry, protected against excessive cable tension and bending.
- Bimetallic thermal sensors in the stator which open at 140 °C (284 °F).
- Rotor and rotor shaft dynamically balanced.
- Upper and lower bearings lubricated-for-life, maintenance-free.
- Insulated upper bearing for VFD operation.
- Triple shaft sealing.
- Upper and lower mechanical seals in SiC/SiC, independent of the direction of rotation.
- Inspection chamber with sensor for moisture protection to indicate water leakage through mechanical seal.
- Hydraulic parts with axial propeller with 3 or 4 adjustable propeller blades.
- Gearbox available from 400 kW (536 hp) for VUPX 1001 to VUPX 1202.

Motor

Water pressure sealed Premium Efficiency motors, (3-phase, squirrel cage induction motors), from 185 to 750 kW (248 to 1006 hp) and depending on hydraulic requirements as 4-, 10- or 12-pole versions.

Voltage: 460 V, 3~, 60 Hz (other voltages on request)

Temperature rise: According to NEMA class A up to 125 kW and class B above.

Insulation components: Class H (winding protection by 140 °C (284 °F) sensor)



60 Hz



Protection type: IP68

Start-up: DOL (direct on line), VFD or soft starter.

Motor power and pole overview

Pole	Motor Power P2 in kW (50 Hz)						
4	468*	500*	560*	640	700	750	650
10	220*						
12	230	290	350				

*available in FM

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 for the nominal pipe diameter 1200 or 1400 mm (47 or 55 in).

For power demand beyond the available PE7 range please refer to the technical data sheet VUPX PE4 to PE6.

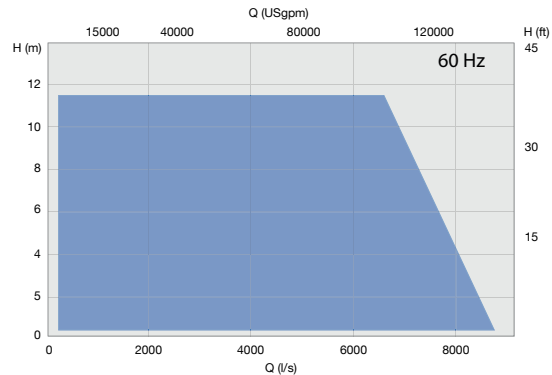
Installation

Suitable for installation in steel or concrete riser pipes for economical operation and simple installation. The centering of the pump and sealing between pump and pipeline is achieved automatically by means of a conical coupling ring. No additional installation work is required.

Hydraulics / Propeller type

Hydraulics	Propeller type
VUPX 801 / 802	3-blade / 4-blade; adjustable
VUPX 1001 / 1002	3-blade / 4-blade; adjustable
VUPX 1201 / 1202	3-blade / 4-blade; adjustable

Performance field



Standard and options

Description	Standard	Option
Max. ambient temperature	40 °C (104 °F)	60 °C (140 °F)
Max. submergence depth	20 m (65 ft)	-
Mains voltage	460 V/60 Hz	Other voltage on request
Voltage tolerance	± 10 %	-
Insulation components	Class H (140 °C / 284 °F)	Class H (160 °C / 320 °F) (not for explosion-proof)
Start-up	DOL (direct on line), VFD or soft starter	Star-delta
Approval	Non-Ex	NEC Class I, Division 1, Groups C and D, FM; CSA
Cables	H07RN8-F	EMC shielded cables
Cable length	10 m (33 ft)	15 m (49 ft), 20 m (65 ft). Other lengths 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	Lifting hoop in stainless steel
Protective coating	Two-component coating epoxy resin	Special coatings on request
Cathodic protection	-	Zinc anodes on request
Installation	Wet well in steel pipe or concrete sump	-
Motor cooling	By surrounding medium	-
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		Standard	Ex / ATEX
Winding	Bi-metallic switch	●	●*
	Thermistor (PTC)	○	○*
	PT 100	○	○
Seal protection	Inspection chamber	●	●
	Motor housing	●	●
	Connection box	●	●
Temperature bearing upper/lower	Bi-metallic switch	●	●
	Thermistor (PTC)	○	○
	PT 100	○	○
Vibration sensor	0 - 20 mm/s	○	○

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

Materials

Motor	Standard	Option
Connection chamber	EN-GJL-250	-
Cooling/oil chamber	EN-GJL-250	-
Motor housing	EN-GJL-250	-
Motor shaft	1.4021	1.4462
Fasteners (medium contact)	1.4401	-

Hydraulics	Standard	Option
Diffuser	EN-GJL-250	-
Bellmouth	EN-GJL-250	1.4470
Wear ring	1.4008	1.4470
Propeller hub	EN-GJS-400-18	1.4581
Propeller blades	1.4340	1.4581
Propeller cap	PUR	-
Fasteners (medium contact)	1.4401	-

Lifting device	Standard	Option
Lifting hoop	1.0060	1.4462

Connection system	Standard	Option
Coupling ring	1.0446	1.4408

Material comparison	
Europe	USA
EN 1561; EN-GJL-250	ASTM A48; Class 35 B
EN 1563; EN-GJS-400-18	ASTM A536; 60-40-18
1.4021; 1.4401	ASTM / AISI 420; 316
EN 1.0060	ASTM / AISI A572 (65)
1.4462, 1.4581	BS 318 S 13 / C 17
1.4008	ASTM A217 CA-15
1.4408	ASTM A351 CF8M
1.4340, 1.0446, PUR	

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Please contact your Sulzer representative for proposal for an effective suction chamber design!