

Submersible Propeller Pump Type ABS VUPX PE3 to PE6

SULZER

50 Hz



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). Equipped with a Premium Efficiency IE3 motor, it is suitable for:

- Hazardous locations- Approval for ATEX (Ex II 2G Ex h db IIB T4 Gb), FM and CSA available as an option
- 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 motors in accordance with IEC 60034-30 level IE3 with 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.
- Rotor and rotor shaft dynamically balanced.
- Upper and lower bearings lubricated-for-life, maintenance-free.
- Insulated upper bearing for VFD operation standard for PE6 and optional for PE5.
- Triple shaft sealing; double mechanical seals and a lipseal.
- Upper and lower sealing by means of a silicon carbide/silicon carbide mechanical seal, 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 or 3-blade propeller in the new Skew design for VUPX 0403/0503 and inlet diffuser on discharge side.
- Gearbox available from 132 kW for VUPX 1001 to VUPX 1202.
- Option: Available in ATEX explosion-proof version in accordance with international standards e.g. Ex II 2G Ex h db IIB T4 Gb, FM or CSA.

Motor

Water pressure sealed Premium Efficiency motors, (3-phase, squirrel cage induction motors), from 7,5 to 250 kW and depending on hydraulic requirements as 4- to 12-pole versions.

Voltage: 380...420 V, 3~, 50 Hz (other voltages on request)

Temperature rise: According to NEMA class A up to 110 kW and class B above.

Insulation components: Class H (winding protection by 140 °C sensor) **Protection type:** IP68

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

Pump selection

To access more detailed information like pump performance curves, dimensional drawings, product description and motor performance curves, please use our ABSEL program:

<http://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 600 to 1400 mm. For power demand beyond available range PE3 to PE6 please refer to technical data sheet VUPX PE7.

Installation

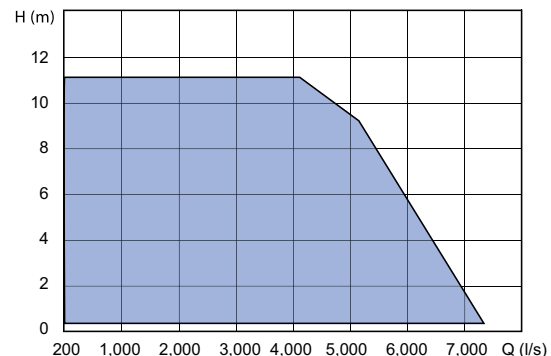
Suitable for installation in steel or concrete riser pipes for economical operation and simple installation. The centering of the pump and sealing between pump and pipeline is achieved automatically by means of conical coupling ring. No additional installation work required.

Hydraulics / Propeller type

Hydraulics / Propeller type			
VUPX 0401*	3-blades, adj.	VUPX 0602	4-blades, adj.
VUPX 0402	4-blades, adj.	VUPX 0801	3-blades, adj.
VUPX 0403	3-blades, fix.	VUPX 0802	4-blades, adj.
VUPX 0501	3-blades, adj.	VUPX 1001	3-blades, adj.
VUPX 0502	4-blades, adj.	VUPX 1002	4-blades, adj.
VUPX 0503	3-blades, fix.	VUPX 1201	3-blades, adj.
VUPX 0601	3-blades, adj.	VUPX 1202	4-blades, adj.

adj. = adjustable; fix. = fixed (Skew design), *on request

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	400 V ± 10 %; multi-voltage ± 5 %	
Insulation components	Class H (140 °C)	Class H (160 °C) (not for explosion-proof)
Start-up	DOL, star-delta, VFD or soft starter	
Approval	non Ex	Ex/ATEX
Cables	H07RN8-F	EMC shielded cables
Cable length	10 m	15 m, 20 m, 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; PE3 in stainless steel, PE4 and PE5 in cast iron, PE6 in steel.	Lifting hoop in stainless steel for PE4 and PE5
Protective coating	Two component coating epoxy resin	Special coatings on request
Cathodic protection		Zinc anodes on request
Installation	Wet-well in steel pipe / concrete riser pipe	
Motor cooling	Cooling by surrounding medium	

Monitoring options

PE3 to PE6		Non Ex				Ex / ATEX			
		PE3	PE4	PE5	PE6	PE3	PE4	PE5	PE6
Stator temperature	Bi-metallic switch	●	●	●	●	●*	●*	●*	●*
	PTC (thermistor)	○	○	○	○	○*	○*	○*	○*
	PT 100		○	○	○		○	○	○
Leakage sensor	Inspection chamber		●	●	●		○	○	○
	Motor housing	●	○	○	●	●	●	●	●
	Connection chamber		○	○	●		○	○	●
Upper and lower bearing temperature	Bi-metallic switch		○	○	●		○	○	●
	PTC (thermistor)		○	○	○		○	○	○
	PT 100		○	○	○		○	○	○
Vibration sensor	4 - 20 mA / 0 - 20 mm/s ²		○	○	○		○	○	○

● = 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	

Lifting device	Standard	Option
Lifting hoop (PE3)	1.4401	
Lifting hoop (PE4 & PE5)	EN-GJS-400-18	1.4470
Lifting hoop (PE6)	1.0060	1.4462

Connection system	Standard	Option
Coupling ring	1.0446	1.4408

Hydraulics	Standard	Option
Diffuser	EN-GJL-250	
Bellmouth	EN-GJL-250	
Wear ring	1.4408	
Propeller hub	EN-GJS-400-18	1.4581
Propeller blades	1.4340	1.4581
Propeller cap	PUR	
Propeller (VUPX 0403 / 0503)	1.4340	1.4581
Fasteners (medium contact)	1.4401	

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

www.sulzer.com

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