VMS Vertical Multi-Stage Pumps

SULZER

Vertical, single or multi-stage centrifugal pump series, for the stand-alone pumping of clean domestic, commercial and process water, or in pressure boosting systems for building technology and industry.

Applications

A VMS pump is designed for reliable operation in a wide range of applications e.g.:

- Domestic and municipal drinking water supply.
- Food, chemical, and process industries.
- Transportation in cool or hot water applications.
- Fire-extinguishing systems.
- Cleaning and washing facilities.

Allowable temperature range of the medium is -20 - +140 °C (VMS 125 @ PN16 max. +80 °C, VMS 125 @ PN25 max. +120 °C, VMS H 6: -15 - +80 °C) .

Drinking Water Certificates

Constructed from 1.4301 or 1.4401 stainless steel, and with WRAS, ACS and NSF certification, makes the VMS suitable for the pumping of drinking water.

Motor

T.E.F.C. (totally enclosed fan cooled) squirrel cage, three-phase and single-phase, 50 Hz, 2-pole and 4-pole AC induction motors.
Motor efficiency (≥ 0.75 kW)**:** IE2 or IE3
Insulation class: F
Protection type: IP 55
Temperature rise class: B
Duty class: S1 (maximum 20 starts per hour)
Noise levels: conform to IEC 60034-9

Optional as explosion proof class Ex e II T3 and Ex e II T4.

Bearing

Medium-lubricated stage bearing, tungsten carbide against ceramic.

Temperature monitoring

> 2.2 kW standard with 3 x PTC.

Connections

Options of external thread with built-in non-return valve, counter flange, victaulic, triclamp, or round flange, in stainless steel 1.4301 or 1.4401, to pressure class PN 10, 25 or 40.

Shaft sealing

Fixed, easy access, or cartridge configurations to suit specific pump duty and application.

Seal part	Materials and options
Construction material	CrNiMo steel (1.4571)
Spring material	CrNiMo steel (1.4571)
Face material	Carbon graphite antimony impregnated. Carbon graphite resin impregnated. SiC, silicon carbide, sintered. Tungsten carbide, NiCrMo-binder.
Elastomer	Ethylene propylene rubber (EPDM). Fluorcarbon rubber (FKM). Hydrogenated Nitrile-rubber (HNBR).

Features

- Modular construction offers a wide number of variations in materials, seals, connectors, motors, etc.
- Easily accessible for servicing, often without the need to disassemble the pump or motor, or need for special tools.
- Wide variety of pump bases, connections and seals.
- Stainless steel base and hydraulic parts ensure the conservation of water quality during transport.
- Efficient fluid flow-through specially designed pump base and head piece for high energy efficiency and long life.
- Provision of plugs for draining, venting, and measuring of suction and discharge pressure.
- In-line suction and discharge connections for ease of installation.

Working range

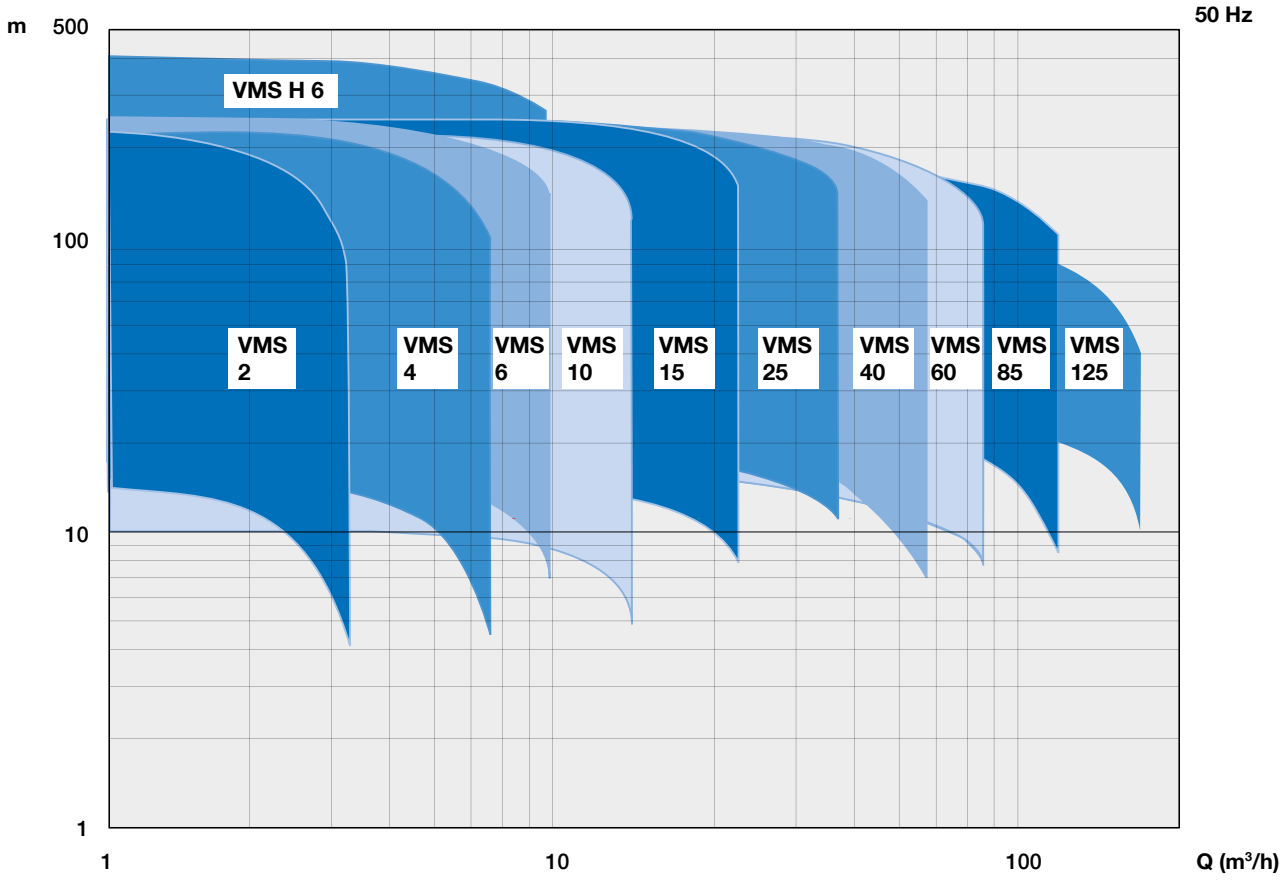
Description	Range
Ambient temperature [°C]	-20 up to +40
Minimum inlet pressure	$NPSH_{req.}$ + 1 m
Viscosity [cSt]	1-100
Density [kg/m³]	1000 - 2500
Cooling	Forced motor cooling
Minimum frequency [Hz]	30
Maximum frequency [Hz]	60
Allowable size of solids pumped	5 µm to 1 mm
Head [H]	3 - 254 mwc (VMS H 6 = 400 m)
Flow range [Q]	0.2 - 160 m³/h

Technical data (50 Hz)

	VMS 2	VMS 4	VMS 6	VMS H 6	VMS 10 2P	VMS 10 4P	VMS 15 2P	VMS 15 4P	VMS 25 2P
Capacity range [m³/h]	0.2 - 3.3	0.4 - 6.5	0.6 - 9	0.6 - 8.6	1.0 - 13.2	0.5 - 6.6	1.8 - 22.5	0.98 – 11.3	2.8 - 35
Nominal capacity at $Q_{opt.}$ [m³/h]	1.9	4	6.3	6.5	10	5	18	9.8	28
Norm pressure	PN 10 - 25 - 40								
Maximum pump pressure [m]	229	234	256	402	239	58	248	59	246
Maximum pressure at $Q_{opt.}$ [m]	187	193	200	325	179	43	193	44	185
NPSH at $Q_{opt.}$ [m]	2.2	1.2	1.2	2.0	1.2	0.9	1.2	0.6	3.0
Maximum efficiency	54 %	62 %	68 %	60 %	68 %	68 %	71 %	71 %	77 %

	VMS 25 4P	VMS 40 2P	VMS 40 4P	VMS 60 2P	VMS 60 4P	VMS 85	VMS 85 4P	VMS 125
Capacity range [m³/h]	1.4 - 17.5	4 - 54	2 - 27	6 - 76	3 - 38	8.5 - 112.8	4.3 - 54	13.1 - 162
Nominal capacity at $Q_{opt.}$ [m³/h]	14	40	19	54	26.5	85.7	40.0	125.0
Norm pressure	PN 10 - 25 - 40							
Maximum pump pressure [m]	59	239	59	251	71	176	42	128
Maximum pressure at $Q_{opt.}$ [m]	45	194	50	193	55	132	33	88
NPSH at $Q_{opt.}$ [m]	0.8	2.5	0.6	2.7	0.7	2.2	0.6	5.0
Maximum efficiency	77 %	76 %	76 %	78 %	78 %	79 %	79 %	80 %

Performance range



en (02.12.2016), Copyright © Sulzer Ltd 2016
This document does not provide a warranty or guarantee of any kind. Please contact us for a description of the warranties and guarantees offered with our products. Directions for use and safety will be given separately. All information herein is subject to change without notice.