

VM vertically suspended sump pump



Main industries and applications

The VM pump range has been designed for pumping all kinds of clean and contaminated liquids. Due to its great adaptability through a wide range of designs and hydraulics, the VM pump is perfectly suitable for all industrial sump pump applications such as:

- Industrial water
- Effluents
- Corrosive and abrasive mixtures
- Hazardous fluids
- Abrasive liquids and/or liquids containing large solids
- Abrasive fibrous slurries and/or fibrous slurries containing large solids
- Abrasive non-fibrous slurries and/or non-fibrous slurries containing large solids



Features and benefits

Sulzer's VM pumps offer high performance and durability. The advanced design combined with a wide range of materials make the pumps more reliable while increasing operational efficiency.

Key benefits include:

High hydraulic selection versatility

- Modular construction with a wide range of available hydraulic designs allows optimized selection matching all application-specific requirements
- High interchangeability allows optimized pump and parts inventory

Extensive material availability

- Wide range of materials including highly abrasion-resistant/corrosion-resistant options ensures exceptional resistance against wear in corrosive or abrasive pumping applications and guarantees high durability of the pump

High reliability and durability

- Line shaft assembly with optimized intermediate bearing ensuring longer service life
- Flushing of highly reliable support bearing allows safe operation in extreme conditions
- Superior operational performance proven with longer maintenance-free operation

Ease of assembly and maintenance

- Simple and robust construction allows easy dismantling/reassembly and facilitates maintenance of the pump

Modular line shaft design

1 Heavy-duty cantilever bearing

- Two high-capacity grease-lubricated single row tapered roller bearings for axial and radial load to guarantee long bearing lifetime
- Axial adjustment to optimize clearances between casing and impeller

2 Shaft

- Heavy-duty shaft, single piece or coupled shaft for extended length
- Strong and rigid intermediate support bearing with shaft sleeve for longer lifetime and ease of maintenance

3 Column support pipe

- Robust assembly with sturdy support pipes to ensure perfect alignment between bearing frame and pump casing
- Upper side opening to prevent contact between liquid column and roller bearings

4 Hydraulics

- Modular construction with various Sulzer designs allows optimized hydraulic selection

5 Impeller options

- Various impeller designs to accommodate a wide range of applications (see hydraulic selection)

6 Suction options

- Standard suction bell design to improve suction conditions
- Strainer and extended length suction pipe available as options (see construction variants)

7 Discharge pipe

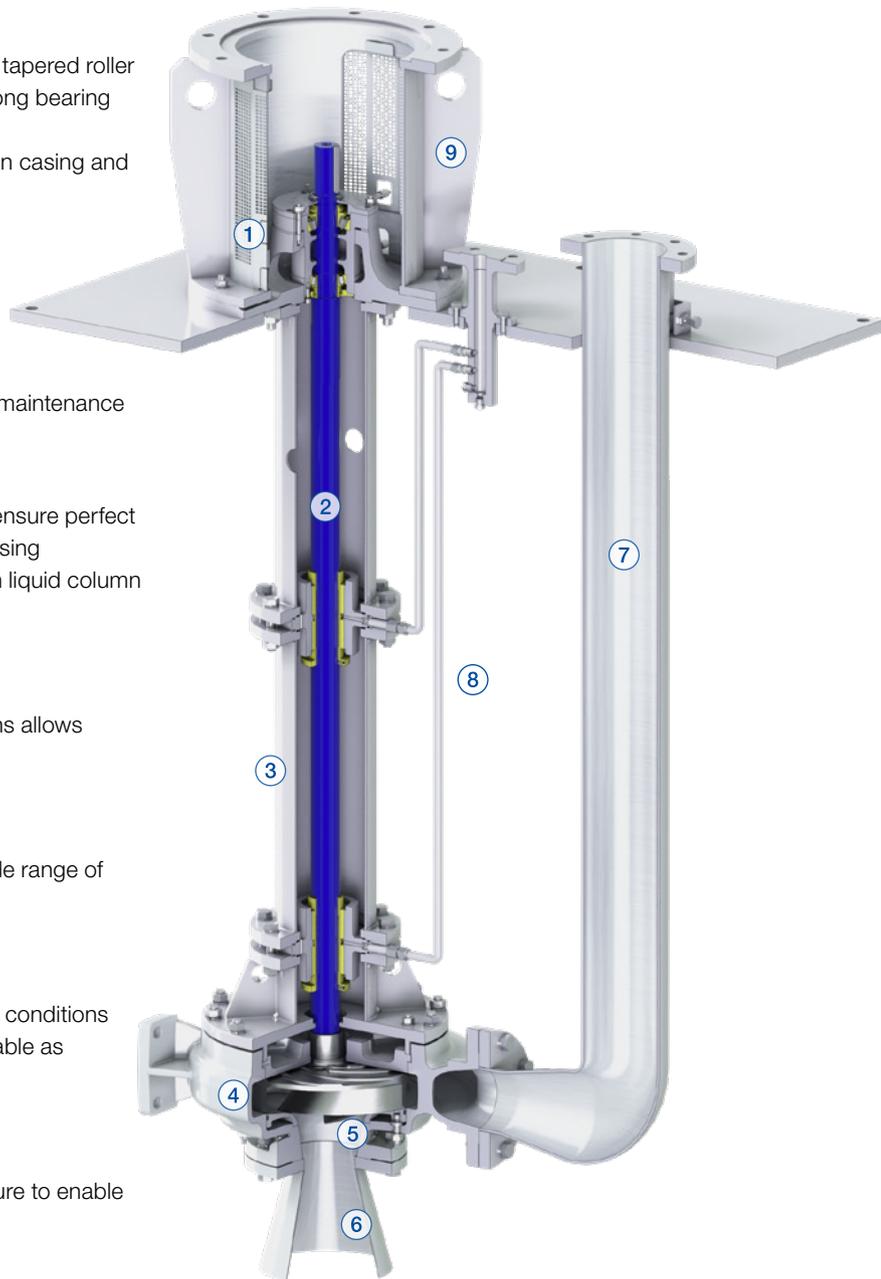
- Robust and simple design with adjustment feature to enable easy assembly
- EN PN 16 or ASME 150# discharge flange

8 Column bearing lubrication

- External flush for contaminated liquids
- Pumped liquid recirculation for clear liquids

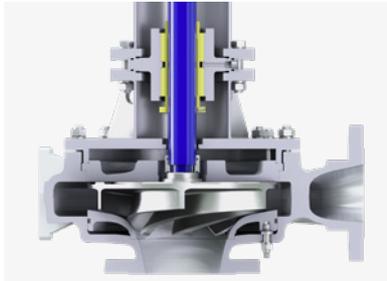
9 Drive options

- Transmission by direct drive with coupling or V-belts (see construction variants)
- Designed to accommodate IEC and NEMA motor

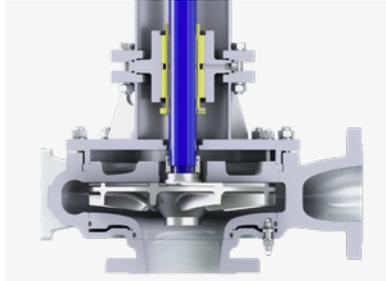


High reliability
Minimum life cycle costs
Easy maintenance

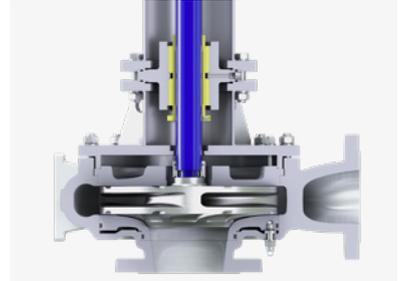
Hydraulic selection



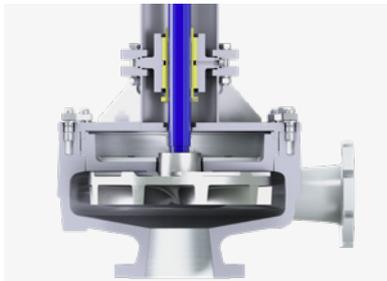
Open impeller for clear and slightly contaminated liquids



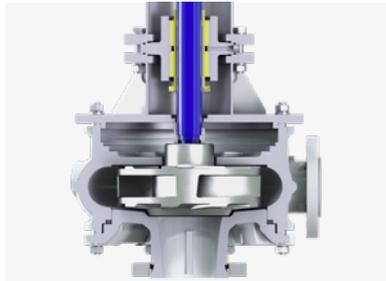
Non-clogging vortex impeller for liquids containing large particles



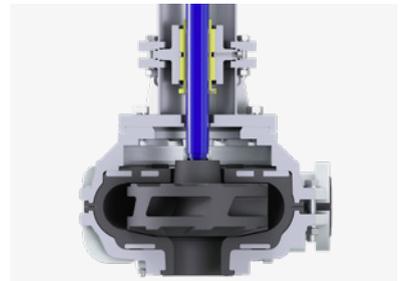
Wear-resistant impeller for abrasive liquids



Vortex impeller for slurries



Closed impeller for slurries



Closed (rubber-lined) impeller for slurries

Construction variants

Transmission options

- Direct drive with coupling
- Belt drive



Suction design options

- Extended length suction pipe allowing lower-level pumping
- Suction strainer for large solids shielding



Specifications

Materials

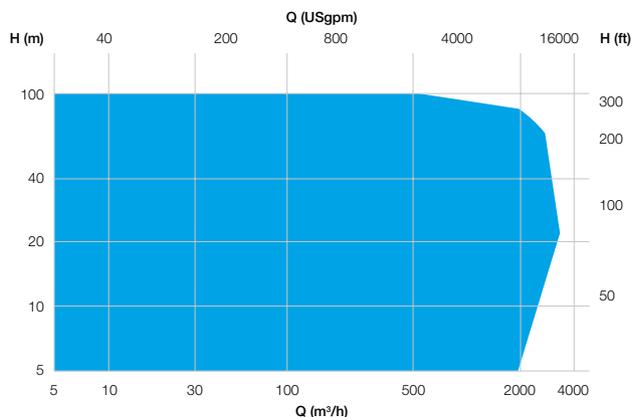
Material	Sulzer code	Specification	Hydraulics
Cast iron	53/F25	ASTM A48 Class 35 B	AHLSTAR NPP, EMTECH
Ductile cast iron	5H	ASTM A395 Grade 60-40-18	AHLSTAR A
Martensitic cast steel	4E/PH1	ASTM A747 type CB7Cu-2 (H900)	AHLSTAR A/WPP, EMTECH
Austenitic stainless steel	43 4U	ASTM A743 Grade CN-7M Avesta 654SMO (S32654)	EMTECH, PLR AHLSTAR A/NPP/WPP
Duplex stainless steel	41 4L/U55 4T/P5M	ASTM A890 Grade 3A ASTM A890 Grade 1B ASTM A890 Grade 5A	AHLSTAR A/NPP/WPP AHLSTAR A/NPP/WPP, EMTECH, PLR AHLSTAR A/NPP/WPP, EMTECH, PLR
Wear-resistant chromium iron	5B/EXR CRM FC1	ASTM A532 IIIA Gx100CrMo30-2 Gx160CrNiMo38-5-2	AHLSTAR WPP, PLR, EMW-M PLR, EMW-M PLR, EMW-M
Rubber-lined	NBR	Natural rubber	EMW-R

Operating data

Capacities	Heads	Pressures	Temperatures	Maximum speed of rotation	Length*
up to 3'500 m ³ /h	up to 100 m	up to 20 bar	up to 120°C	up to 3'000 rpm	up to 6 m
up to 15'500 USgpm	up to 330 ft.	up to 290 psi	up to 250°F	up to 3'000 rpm	up to 20 ft.

* From baseplate to volute suction flange (depends on operating parameters)

Performance range



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