

## VA cantilever sump pump

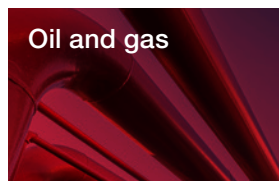
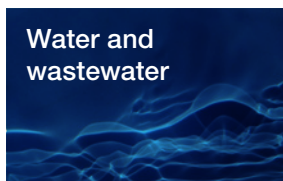
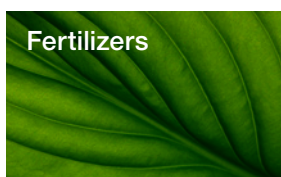
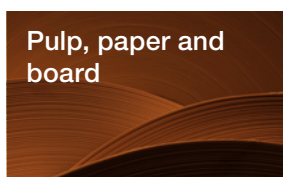


# Main industries and applications

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The VA 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 VA 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
- Heavy slurry



## Features and benefits

Sulzer's VA 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 part inventory

### Extensive material availability

- Wide range of materials including highly abrasion/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

- Simple design without shaft sealing and without intermediate bearing ensures longer service life
- Superior operational performance proven with longer maintenance-free operation
- Dry running allowed for selected hydraulics

### Ease of assembly and maintenance

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

# Heavy-duty cantilever design

## 1 Heavy-duty cantilever bearing

- High-capacity grease-lubricated angular contact ball bearings for axial load and cylindrical bearings for radial load to guarantee long bearing lifetime
- Axial adjustment to optimize clearances between casing and impeller

## 2 Shaft

- One-piece solid shaft design to reduce deflection and ensure safe operation
- No support bearing exposed to the process fluid resulting in more reliable operation

## 3 Column support pipe

- Robust assembly with a sturdy support pipe to ensure perfect alignment between bearing frame and pump casing
- Large lower and upper side opening to prevent contact between pumped liquid and bearing

## 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

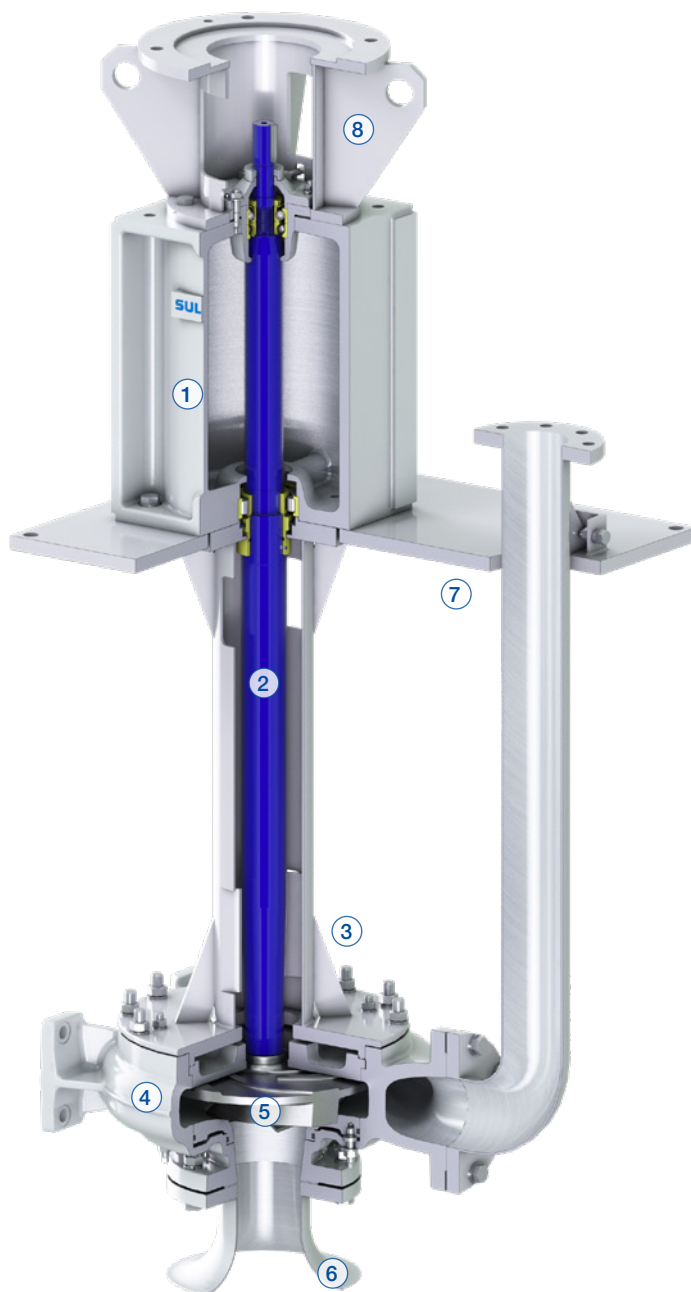
- Standard suction bell design to improve suction conditions
- Strainer and extended length suction pipe available as options (see construction variants)

## 7 Discharge pipe

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

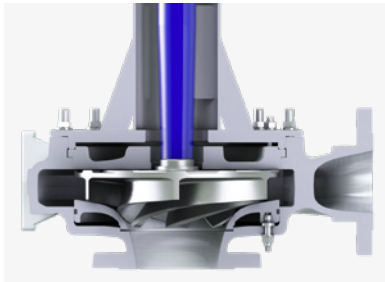
## 8 Drive options

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

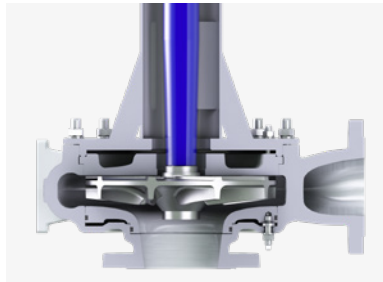


> High reliability  
Minimum life cycle costs  
Easy maintenance

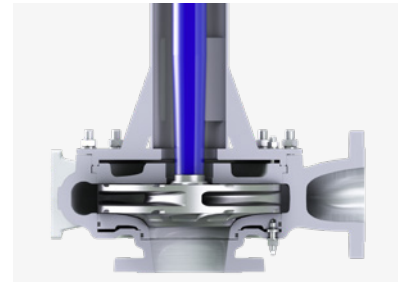
# Hydraulic selection



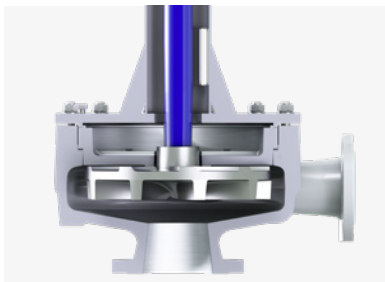
Open impeller for clear and slightly contaminated liquids



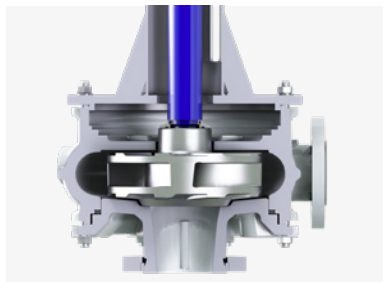
Non-clogging vortex impeller for liquids containing large particles



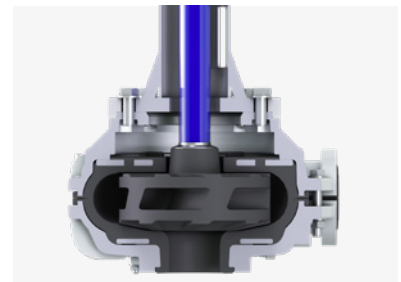
Wear-resistant impeller for abrasive liquids



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



# Materials

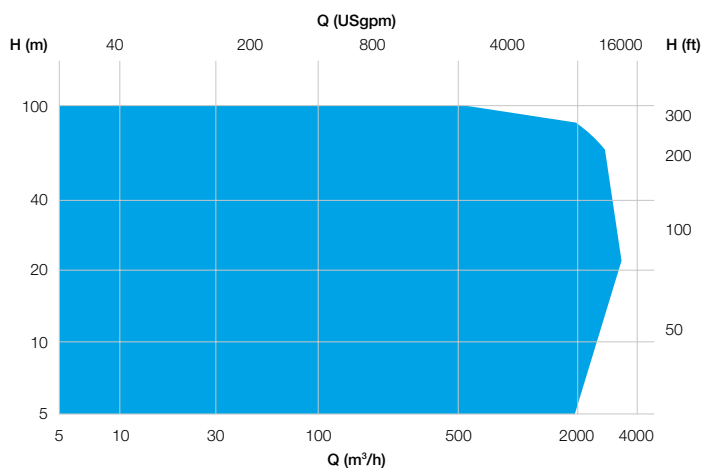
Material	Sulzer code	Specification	Hydraulics
Cast iron	53/F25	ASTM A48 Class 35 B	AHLSTAR NPP, EMTECH
Ductile cast iron	5H	ASTM A395 Grade 60-40-18	AHLSTAR A
Martensitic cast steel	4E/PH1	ASTM A747 type CB7Cu-2 (H900)	AHLSTAR A/WPP, EMTECH
Austenitic stainless steel	43 4U	ASTM A743 Grade CN-7M Avesta 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 <sup>3</sup> /h	up to 100 m	up to 20 bar	up to 120°C	up to 3'000 rpm	up to 2 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 6.5 ft.

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

# Performance range



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