



PUMPS TYPE A-VP10 (VS4)

Pumps type A-VP10 (VS4) are vertical, immersed, single stage with a transmission shaft and a discharge pipe led out of the immersion zone. Depending on the fluid being pumped, the pump is equipped with a closed or half-opened impeller. A-VP10 type pump is produced according to the newest edition of API610 norm (ISO 13709) and ATEX directive. A-VP pump is an alternative „lighter” construction produced based on norms and pumps construction according to PN-EN ISO 2858 and PN-EN ISO 5199. These pumps are widely used in various industries.



Construction



Centrifugal, single stage, vertical, immersed pumps, separate discharge pipe and shaft guide pipe. Spiral pump casing is divided in a plane perpendicular to the shaft, the suction flange lies in the pump axis and is immersed in the pumped liquid, the discharge flange connected to the discharge pipe is directed radially upwards along the axis of the shaft. Depending on the application, construction can be equipped with closed or open impellers. Pump shaft (divided or not) placed in the guide pipe guided journal bearings, which, depending on the work of the pump, are lubricated with the pumped liquid or from an external source. Construction of pumps allows for different configurations of sealings, sealless version is also possible.

Parameters



Efficiency: $Q =$ up to 1100 m³/h
Height of lifting: $H =$ up to 230 m
Project pressure $p =$ up to 20 bar for $t = 20$ °C
Temperature: $t =$ from -40 °C to 200 °C
Discharge flanges: $D_n =$ from 40 mm to 200 mm



Standards



API 610 / ISO 13709 (latest editions)
PN-EN ISO 2858 i PN-EN ISO 5199 – version “non API”
ATEX Directive 2014/34/UE
ANSI / ASME (#150; #300) or DIN / EN - connection flanges
API682 (latest edition) - mechanical seal



API 610 / ISO 13709
latest editions



ANSI / ASME (#150; #300)
or DIN / EN
connection flanges



API682 (latest editions)
mechanical seal



ATEX Directive
2014/34/UE

Rigid shafts

Shaft support in accordance with the recommendations of the norm API610 – maintaining the first critical speed above the maximum permissible continuous speed

Construction of pipe guiding so-called „columns”

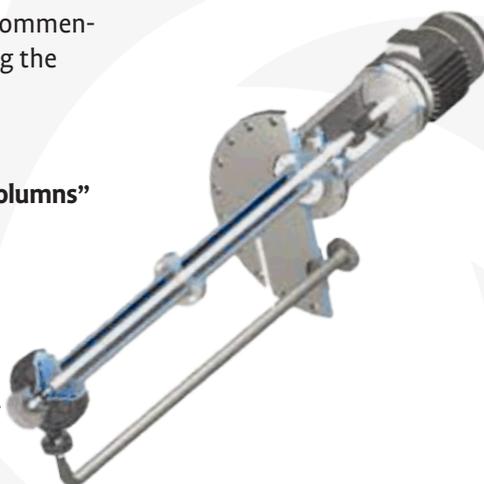
Fully welded with flange connections
- maximizing strength and coaxiality.

Gland chambers

Compatible with the cooperation of seals according to API682 latest edition.

Pump mounting plate

Compliant with connection dimensions of various flange standards ISO/ANSI.



API 610 / ISO 13709

Full compliance with the latest edition of norms

Spiral collective channels (singular, double)

Radial force minimization

Working slots

Protected with replaceable high hardness sealing rings

Impellers of different construction (half-open, closed)

Optimization of working conditions for different types of liquids.

Materials of construction (Compliant with API 610 – Table H.1)

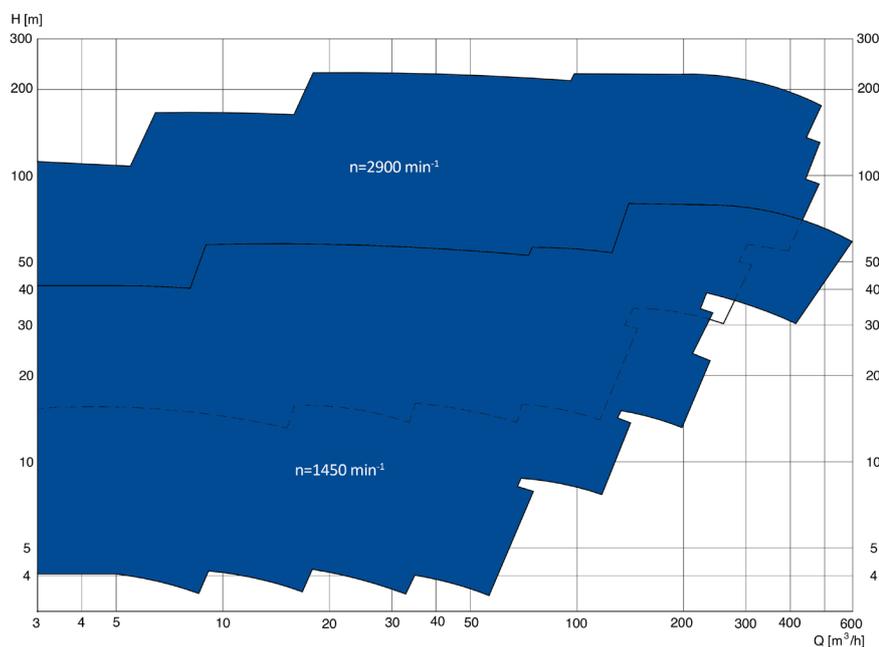
Part name	S-5	S-6	S-8	C-6	A-8	D-1 / D-2
Pump casing / cover	CS	CS	CS	12% CR	316L AUS	Duplex / Super Duplex
Impeller	CS	12% Cr	316 AUS	12% CR	316L AUS	Duplex / Super Duplex
Seal ring	12% CR+H	12% CR+H	316 AUS+HF	12% CR+H	316L AUS+HF	Duplex / Super Duplex + H
Shaft	AISI 4140	12% CR	316L AUS	12% CR	Duplex	Duplex / Super Duplex
Guide pipe	CS	CS	CS	CS	316L AUS	Duplex / Super Duplex
Bearing housing	CS	CS	CS	CS	CS	CS

CS-Cast iron/carbon steel; AISI4140-alloy steel; 12%CR-cast iron/chrome steel; 316AUS-Cast iron/austenitic steel >2% Mo; S.Duplex – Super Duplex; +H -hardened; +HF- hard faces.



Possibility of making other alloys, including materials compliant with NACE.

Range of operation



Application

- Refining, production and distribution of petroleum
- Petrochemical and chemical industry
- Services for gas industry
- Hydrocarbon processing
- Hot oil installations
- General industry
- Sewage

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