



KD
High-pressure pump

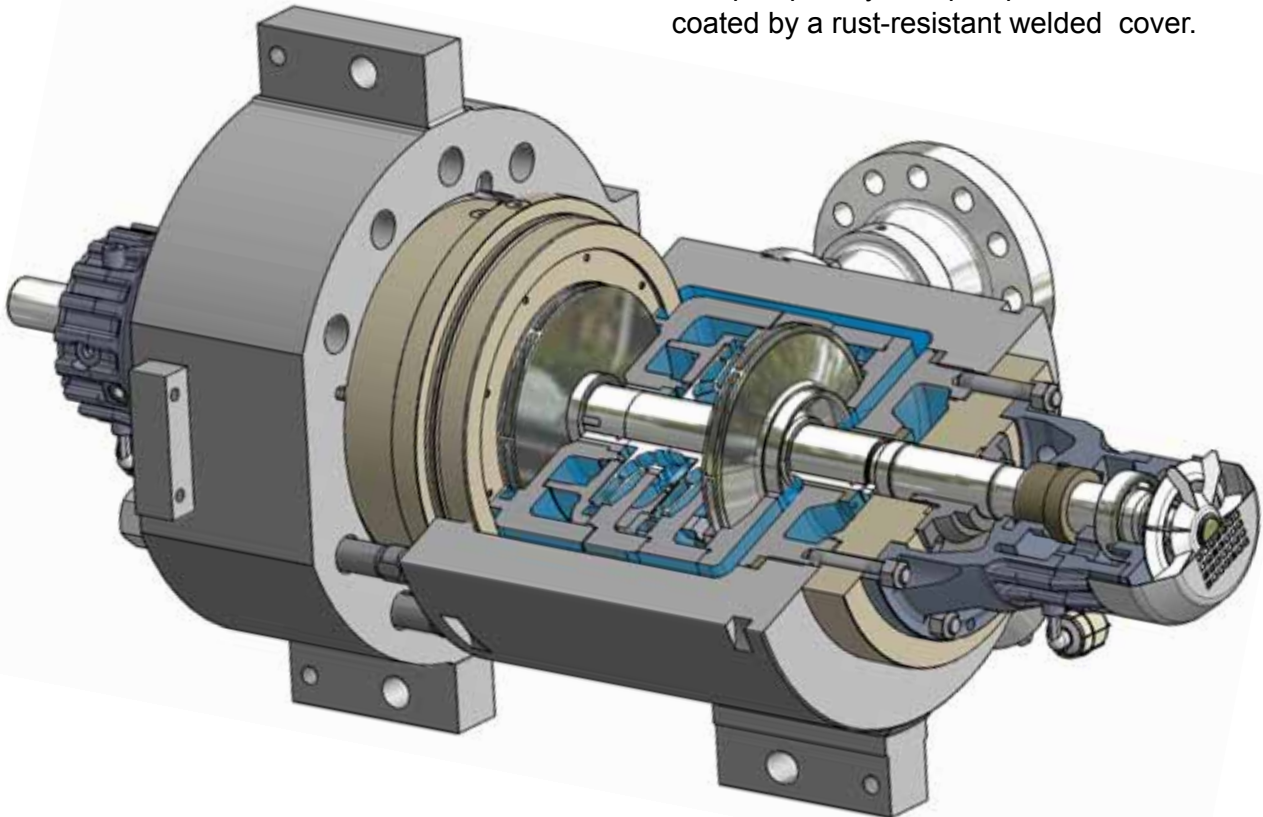
DESIGN

AXIAL THRUST BALANCE

In order to balance axial forces inside the pump the impellers in both pump halves are situated „back to back“.

MATERIAL EXECUTION

Pump hydraulic parts are made of material of a higher resistance against influence of the chlorides contained in the acid mine-water. The pump body and pump suction branch are coated by a rust-resistant welded cover.



PUMP EFFICIENCY

The pump design without application of a balance device together with a special gaps' arrangement secure high efficiency level even for the pump application for pumping of liquids containing grain solids of size up to 0,4 mm.0,4 mm.

PUMP RUN

Smooth pump run with minimum vibration level in the complete scale of the pump performance is secured by the pump rigid and solid design and the pump rotor seating.

COOLING

Pump bearings are of an air-cooled execution. In case of higher ambient temperature or a special application a liquid-cooled version can be applied.

EASY MAINTENANCE

The pump trouble-free operation with minimum requirements for maintenance and service works are guaranteed by the pump design simplicity and solidity.

DESCRIPTION

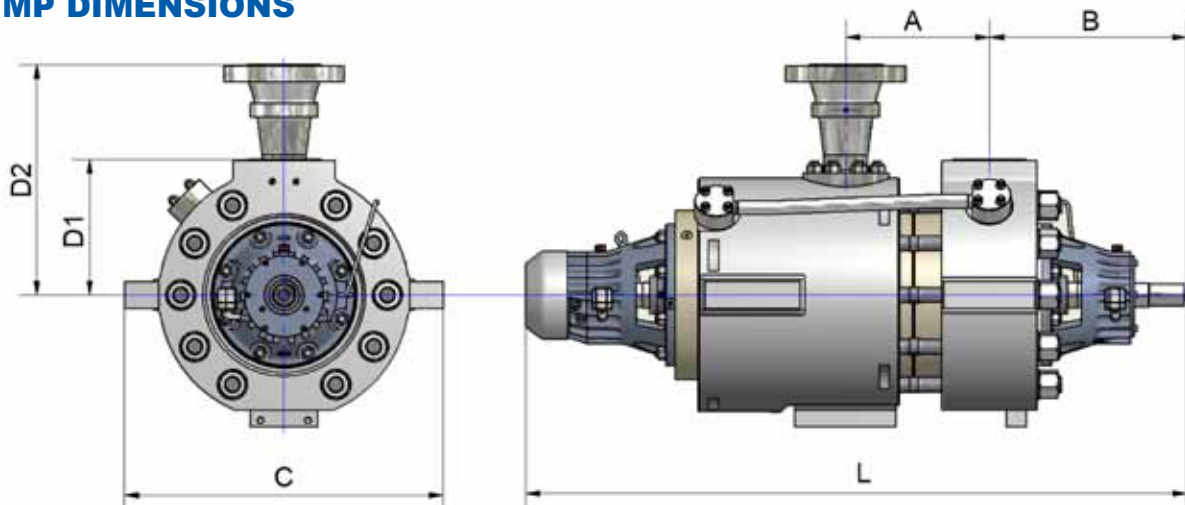
KD pumps are of centrifugal multistage design. As the basic feature of this pump can be considered the balance of the axial thrust by the means of impellers „back-to-back“ arrangement. Pump rotor is seated in radial slide bearings. Contingent or accidental axial forces are caught in both directions by an axial roller bearing. The pump rotor is sealed in the pump stator by two mechanical seals.

APPLICATION

Pump is intended for application in mines for pumping and transport of mine water. Except

of the „main“ application as mine-dawatering and pressure pumps KD pumps can be applied also in further industrial branches especially for transportation of service water for extremely high delivery heads or for generation of a high water pressure for hydraulic systems, industrial processes etc. KD pumps are, from the point of view of the pumped liquid, intended for pumping of clean as well as slightly polluted water of the pH range of 2 – 9, content of impurities of max. 2% and the size of the grain solids up to 0,4 mm. Hydraulic parts of the pump are made of material of a higher resistance against influence of the chlorides contained in the acid mine-water. Maximum allowable temperature of the pumped liquid is 80°C, max. possible density of the pumped liquid is 1050 kg.m⁻³.

PUMP DIMENSIONS



Pump Type	KD3-5.3				KD3-8.2			
	6	8	10	12	6	8	10	12
Number of stages	6	8	10	12	6	8	10	12
A [mm]	390	471	552	633	424	521	618	715
B [mm]	572	572	572	572	577	577	577	577
C [mm]	840	840	840	840	940	940	940	940
D ₁ [mm]	350	350	350	350	400	400	400	400
D ₂ [mm]	450	450	450	450	680	680	680	680
L [mm]	1826	1988	2150	2312	1950	2144	2338	2532
m [kg]	2140	2360	2580	2800	2800	3100	3400	3700

PERFORMANCE DATA

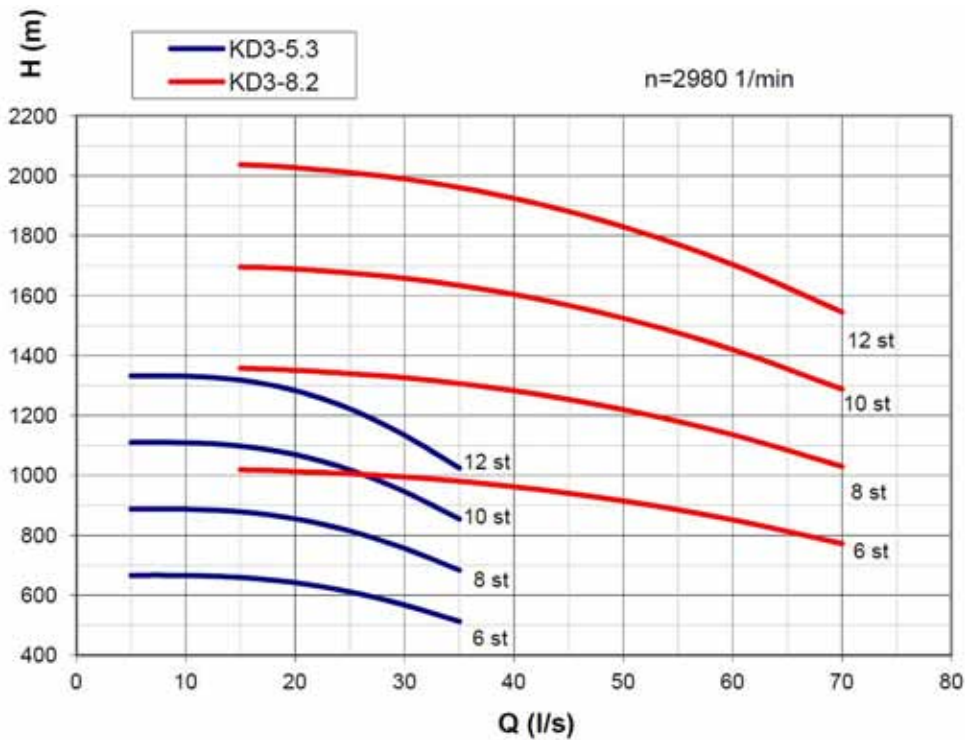
WORKING RANGE

Technical data of the KD pumps' range are described in the table. Performance curves of specific pumps are presented as a part of the pump quotation.

Working range of KD3-5.3, KD3-8.2 pumps is shown in the „WORKING RANGE DIAGRAM“.

Pump flow	Q	5÷125 l/s
Delivery head	H	≤2100 m
Pumped liquid temperature	t	≤ 80 °C
Discharge branch pressure	p_s	≤ 210 bar
Pump Speed	n	≤3000 1/min

WORKING RANGE DIAGRAM



SIGMA KDX3-5.3-80-12-000-FE

HIGH PRESSURE EMERGENCY BORATIC ACID REPLENISHING PUMP, NUCLEAR ISLAND OF NPP MOCHOVCE, UNIT 3+4 (SLOVAKIA)





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