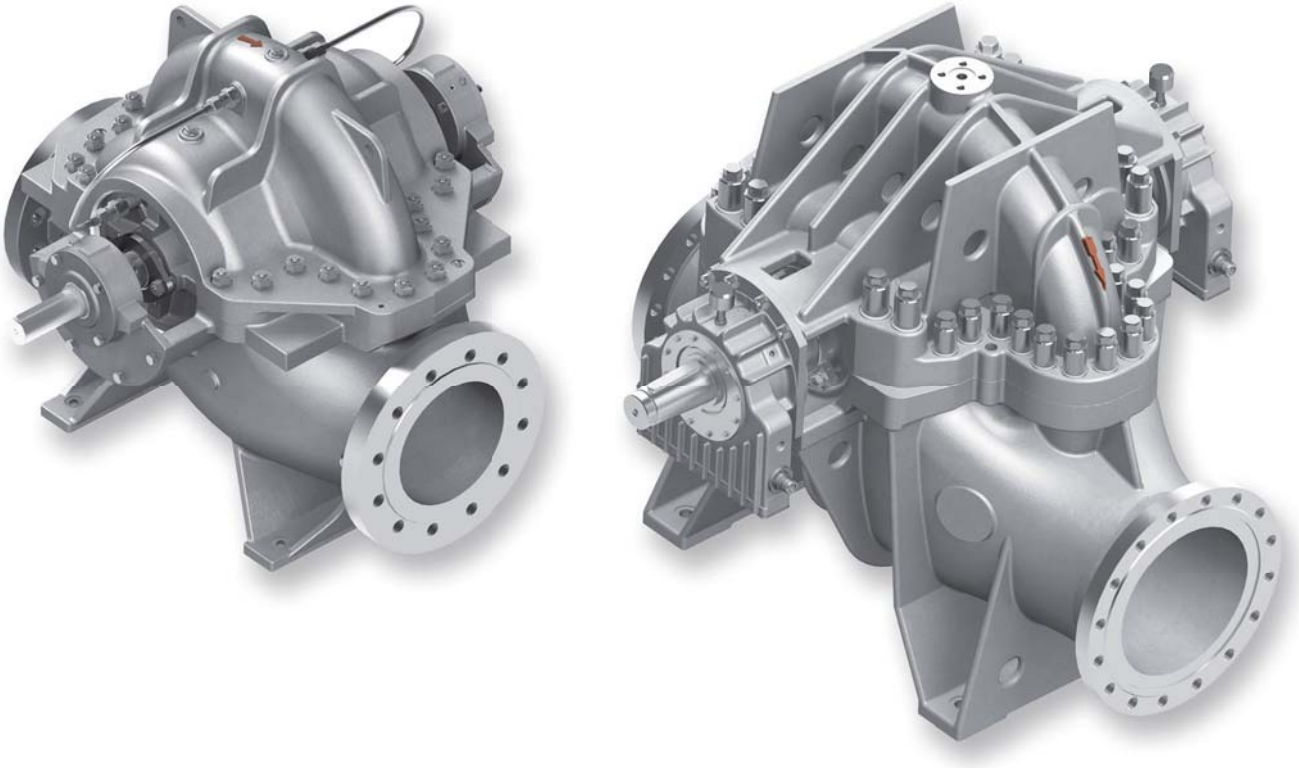
Engineering Flow Solutions

HMS DeLium

DOUBLE SUCTION PUMPS



HMS DELIUM
DOUBLE SUCTION PUMPS

DESCRIPTION

The pumps of the HMS DeLium series are intended for handling potable and process water, brines, chemically active liquids, and other fluids similar by physical properties (specific gravity, viscosity, density) and corrosion impact on the pumps construction materials.

The pumps and pumping units design correspond to requirements of ISO 9905:1994 / ISO 5199:2002 applied to centrifugal axially split between-bearings pumps with double-suction impeller.

The standard pumps versions are available for horizontal or vertical installation being also capable to operate in parallel and with variable speed drives.

The HMS DeLium pumps are produced by one of the leading pump manufacturing companies of HMS Group in Russia and CIS – HMS Livgidromash (Livny, Russia).

APPLICATION

- Water supply, treatment and heating systems
- District cooling plants
- Fertilizer plants
- Chemical industry facilities
- Nuclear and thermal energy
- Agriculture & Irrigation
- Firefighting
- Desalination
- General industry applications

TECHNICAL DATA

Capacity, m^3/h	40 – 10,000
Head, m	5 – 250
Operation pressure, bar	6 – 25
Fluid temperature, °C	+1 ... +150

MATERIALS

Pumped Fluid	Casing & Impeller Materials*	Sealing Type
Water, brines, and similar liquids temperature: + 1 ... + 120 °C, up to +150 °C optionally	Cast Iron Nodular Cast Iron Carbon Steel Stainless Steel Duplex Stainless Steel	Gland seal Single mechanical seal
Chemically active liquids pH: 1 ... 11 temperature: + 1 ... + 85 °C	Ni-resist Cast Iron Stainless Steel Duplex Stainless Steel	Single mechanical seal Double mechanical seal of a cartridge type

* Material certificate according to EN 10204 is available upon request

Fig. 1. Slide bearings with grease lubrication

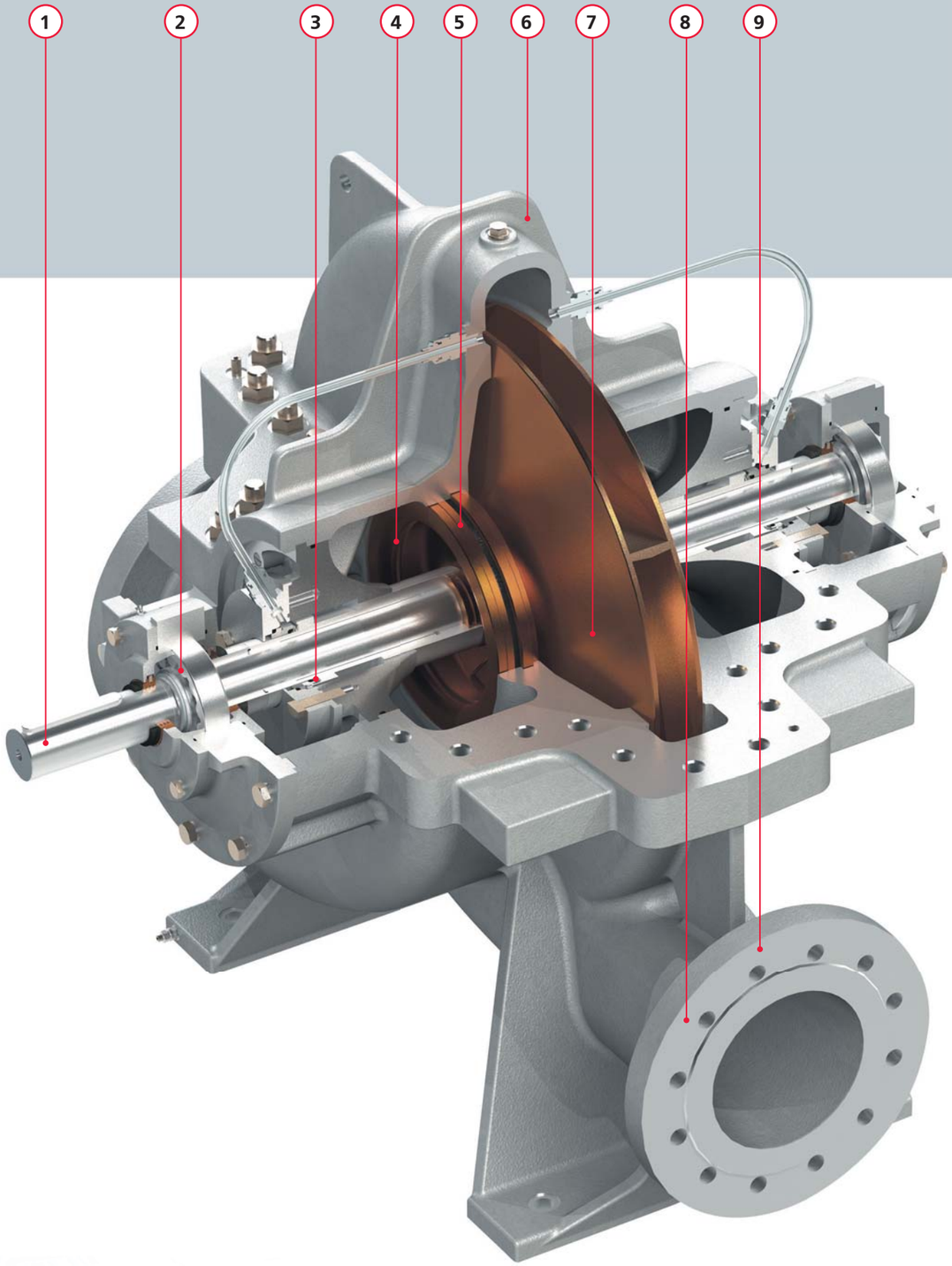


Fig.2. Single-acting, unbalanced mechanical seal

1. The shaft is completely isolated from the pumped fluid to prevent corrosion
2. The bearings come with grease or oil bath lubrication with an oil cooling system as an option. The bearings operational lifetime is over 100,000 hours (Fig. 1). The spots for vibration and temperature sensors are provided on the bearings' housings
3. The shaft sealing options include gland seal, single-acting unbalanced mechanical seal (pressure below 16 bar), balanced mechanical seal (pressure over 16 bar) or double-acting mechanical seal of a cartridge type (Fig. 2)

   The pumps may be optionally equipped with the hydrocyclones for handling fluids with solid particles
4. A high-efficient flow path is designed using the advanced computational fluid dynamic (CFD) methods

   An option of additional hydrophobic coating application on the flow path surface is available to reduce its erosive wear and increase the pump efficiency
5. The wear rings are made of the special wear-resistant material. There is an option with impeller replaceable wear rings available to simplify the pump maintenance operations
6. The self-aligning cover of the pump casing utilizes a liquid sealant to provide easy and time-saving operations of the pump assembling/disassembling
7. There are at least two interchangeable impellers available for every pump size for easy selection of a pump with necessary parameters for a customer
8. The casing with double volute reduces radial load on the pump shaft and bearings that extends their operational lifetime
9. The suction and discharge nozzles are arranged IN-LINE for their simpler connection to the pipelines

   The flanges can be made in accordance with DIN/ANSI/ISO standards depending on the customer requirements

The HMS DeLium pumps have excellent suction capability (low value of the net positive suction head, NPSH)

A high degree of the main parts unification for different pumps sizes significantly reduces the cost of maintenance

The HMS DeLium pumps can be equally installed in horizontal or vertical position by default

As a prime mover the electric motor, internal combustion engine or a turbine drive can be applied

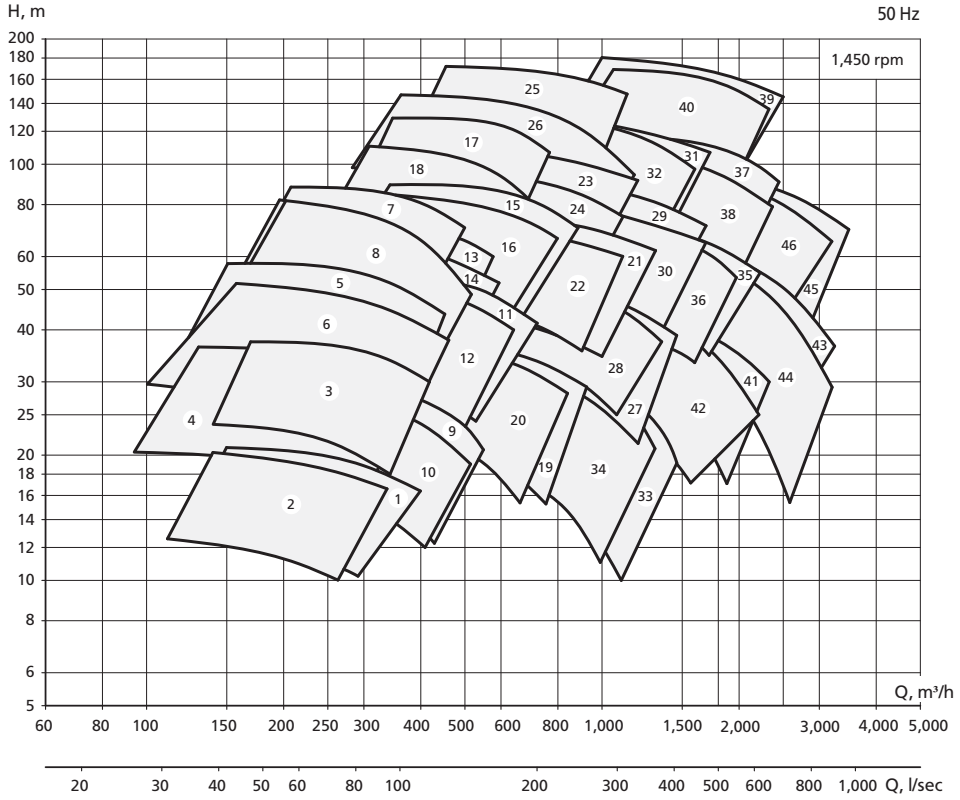
The pumps are supplied on a separate baseplate or on a common baseplate with an electric motor

Design of the pumps assumes reliable and smooth operation in high seismicity areas up to 9 on a MSK-64 scale

An extensive list of available materials allows manufacturing of the HMS DeLium series pumps for any industrial application

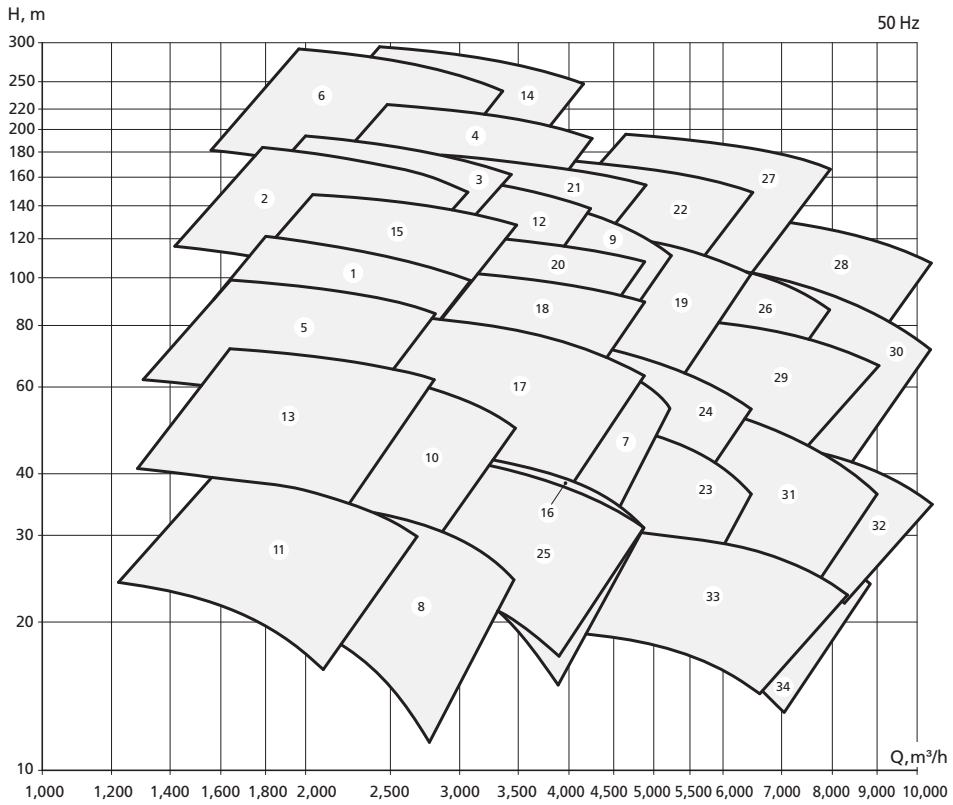
PERFORMANCE RANGE

Pumps with capacity up to 3,500 m³/h



1 - D125-250A
2 - D125-250B
3 - D125-320A
4 - D125-320B
5 - D125-400A
6 - D125-400B
7 - D125-480A
8 - D125-480B
9 - D150-290A
10 - D150-290B
11 - D150-380A
12 - D150-380B
13 - D150-450A
14 - D150-450B
15 - D200-500A
16 - D200-500B
17 - D150-560A
18 - D150-560B
19 - D200-340A
20 - D200-340B
21 - D200-450A
22 - D200-450B
23 - D200-560A
24 - D200-560B
25 - D200-660A
26 - D200-660B
27 - D250-400A
28 - D250-400B
29 - D250-510A
30 - D250-510B
31 - D250-630A
32 - D250-630B
33 - D300-340A
34 - D300-340B
35 - D300-460A
36 - D300-460B
37 - D300-580A
38 - D300-580B
39 - D300-720A
40 - D300-720B
41 - D350-390A
42 - D350-390B
43 - D350-450A
44 - D350-450B
45 - D350-530A
46 - D350-530B

Pumps with capacity over 3,500 m³/h



1 - D350-580 (1,485 rpm)
2 - D350-700 (1,485 rpm)
3 - D350-725 (1,485 rpm)
4 - D350-800 (1,485 rpm)
5 - D350-800 (985 rpm)
6 - D350-850 (1,485 rpm)
7 - D400-520 (1,485 rpm)
8 - D400-520 (985 rpm)
9 - D400-660 (1,485 rpm)
10 - D400-660 (985 rpm)
11 - D400-660 (745 rpm)
12 - D400-700 (1,485 rpm)
13 - D400-700 (985 rpm)
14 - D400-880 (1,485 rpm)
15 - D400-990 (985 rpm)
16 - D500-580 (985 rpm)
17 - D500-735 (985 rpm)
18 - D500-825 (985 rpm)
19 - D500-875A (985 rpm)
20 - D500-875B (985 rpm)
21 - D500-1050 (985 rpm)
22 - D500-1070 (985 rpm)
23 - D600-635 (985 rpm)
24 - D600-720 (985 rpm)
25 - D600-720 (745 rpm)
26 - D600-870 (985 rpm)
27 - D600-1135 (985 rpm)
28 - D700-1000A (985 rpm)
29 - D700-1000B (745 rpm)
30 - D700-850A (985 rpm)
31 - D700-850B (745 rpm)
32 - D700-780 (745 rpm)
33 - D700-780 (595 rpm)
34 - D700-700 (745 rpm)

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