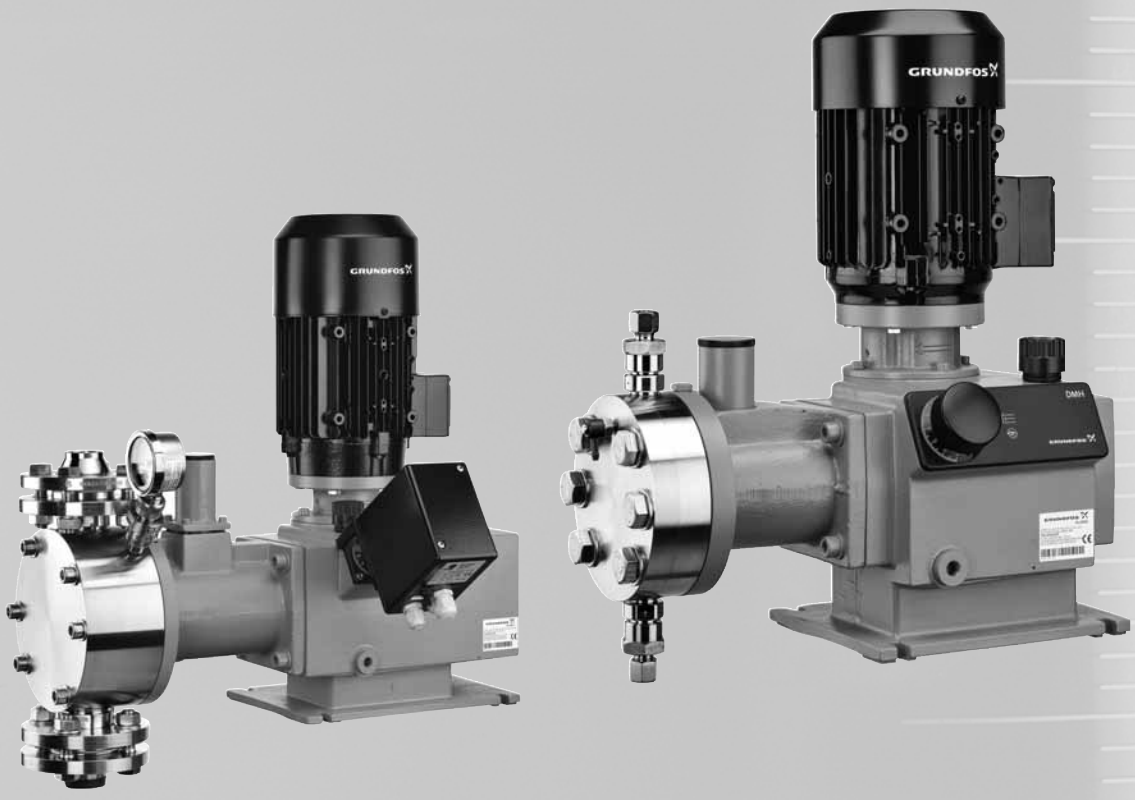
DMH

Hydraulically actuated piston diaphragm dosing pumps and accessories
60 Hz



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1. Product Introduction

DMH performance range

DMH 251

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
251-2.2	2.2-25	0.69	363	17	DN 8
251-2.3	2.3-16	0.74	232	17	
251-2.4	2.4-10	0.77	145	17	
251-4.5	4.5-25	1.43	363	35	
251-4.9	4.9-16	1.55	232	35	DN 8
251-5	5.0-10	1.58	145	35	
251-11	11-25	3.43	363	75	
251-12	12-16	3.70	232	75	
251-13	13-10	4.22	145	75	DN 8
251-17	17-25	5.28	363	115	
251-18	18-16	5.81	232	115	
251-19	19-10	6.07	145	115	

DMH 252

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
252-10	10-16	3.17	232	35	DN 8
252-11	11-10	3.45	145	35	
252-23	23-16	7.13	232	75	
252-24	24-10	7.66	145	75	DN 8
252-36	36-16	11.35	232	115	
252-37	37-10	11.62	145	115	

DMH 253

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
253-21	21-10	6.60	145	35	DN 20
253-43	43-10	13.70	145	75	
253-67	67-10	20.60	145	115	
253-83	83-10	26.10	145	144	

DMH 254

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
254-50	50-10	15.80	145	32	DN 20
254-97	97-16	30.60	232	65	
254-102	102-10	32.20	145	65	
254-136	136-16	43.00	232	90	
254-143	143-10	45.40	145	90	
254-166	166-16	52.80	232	110	DN 20
254-175	175-10	55.40	145	110	
254-202	202-16	63.90	232	134	
254-213	213-10	67.30	145	134	

DMH 255

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
255-194	194-10	61.50	145	65	DN 20
255-270	270-10	85.50	145	90	
255-332	332-10	105.00	145	110	
255-403	403-10	128.00	145	134	DN 32/20

DMH 257

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
257-220	220-10	69.70	145	33	DN 32
257-440	440-10	139.40	145	65	
257-575	575-10	182.20	145	90	
257-770	770-10	244.00	145	110	
257-880	880-10	278.00	145	134	

DMH 280

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
280-1.3	1.3-200	0.50	2900	76	DN 4
280-2.2	2.2-200	0.70	2900	115	
280-2.5	2.5-200	0.90	2900	144	

DMH 281

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
281-2	2-100	0.60	1450	35	DN 8
281-4.2	4.2-100	1.30	1450	76	
281-6.4	6.4-100	2.00	1450	115	
281-8	8-100	2.50	1450	144	

DMH 283

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
283-19	19-100	6,10	1450	65	DN 20
283-27	27-100	8.40	1450	90	
283-33	33-100	10.60	1450	110	
283-40	40-100	12.70	1450	134	

DMH 285

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
285-20	20-100	6,30	1450	33	DN 20
285-52	52-100	16.60	1450	88	
285-70	70-100	22.20	1450	118	
285-80	80-100	25.30	1450	134	

DMH 286

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
286-85	85-50	26,90	725	67	DN 20
286-111	111-50	35.10	725	88	
286-170	170-50	53.90	725	134	

DMH 287

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
287-18	18-200	5.80	2900	67	DN 8
287-23	23-200	7.40	2900	88	
287-31	31-200	9.80	2900	118	
287-36	36-200	11.40	2900	134	

DMH 288

Alldos	DMH Size	GPH	PSI	str.-min.	Std. Conn.
288-7.5	7.5-200	2.40	2900	67	DN 8
288-10	10-200	3.30	2900	88	
288-13	13-200	4.10	2900	118	
288-15	15-200	4.90	2900	134	

Note: Double capacity (GPH) with Duplex versions.

Features and benefits

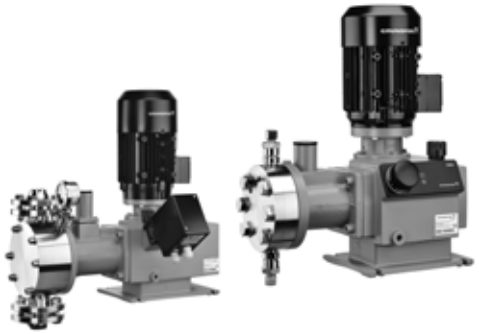

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Fig. 1 DMH model 257 and 288

The preferred choice for demanding applications

The Grundfos DMH range is a series of extremely strong, robust hydraulic pumps for applications requiring reliable dosing and high pressure capabilities. The DMH 28x models have been especially designed for high pressure applications from 725 up to 2900 psi (50 up to 200 bar). The range is highly versatile: it covers a wide flow range and offers a variety of dosing head sizes, materials and accessories. Customers worldwide have enjoyed years of trouble-free operation from their DMH pumps.

Accurate dosing all the time

DMH pumps have a very high dosing accuracy. Control the capacity by adjusting the stroke length from 0 to 100 % with a ± 1 % repeatable accuracy.

Smooth and low-pulsation dosing

The DMH range combines sophisticated drive technology and gear kinematics to ensure smooth and low-pulsation dosing. This means less stress on system components, such as tubes and valves, and leads to longer service intervals for the entire system.

Prepared for performance and safety in extreme situations

The DMH 250 series of pumps is available with PVC, PVDF, polypropylene, stainless steel and Hastelloy C wetted components. For high pressure requirements, select from the series of stainless steel or Hastelloy C DMH 280 pumps, rated up to 2900 psi (200 bar). Other wetted materials include Viton, EPDM, PTFE and glass. All models are fitted with a PTFE diaphragm, with the AMS diaphragm protection system and internal relief valve for pump protection.

Flexibility in pump configuration and applications

A number of different product configurations are available to match requirements. The DMH offers: manual or automatic stroke-length adjustment with electric servomotor. Pumps fitted with double diaphragm with failure indication, or special dosing heads with electrical heating. Wetted parts are available in material combinations that suit virtually all dosing applications. Choose the best configuration for your specific dosing task.

Ready for tough application areas

Power plants

- Dosing of various chemicals for the treatment of boiler feed water, cooling water and process water (raw water purification, chemicals for ion exchangers, supplementary water treatment, effluent water neutralization).
- dosing of ammonia, hydrazine, phosphates in high pressure areas (e.g. boiler feed water).

Petrochemical industry, oil and gas industry, refineries

- Dosing of chemicals for treatment of cleaning water and process water
- dosing of wax as lubricant in oil pipelines
- dosing of inhibitors and anticorrosion chemicals to protect oil pipelines
- dosing of additives and catalysts
- odorization of gas for safety in case of leakages.

Treatment of process water and drinking water

- Rough environments (hot climate, desert, outdoor installations)
- higher flow and pressure ratings.

Dosing of flammable liquids

- Dosing of alcohol or methanol in wastewater treatment
- cleaning of kerosene and gasoline in mechanical engineering and airport areas
- dosing of ethanol and methanol
- dosing of food-grade alcohol for disinfection in meat and bread packaging.

Motors

DMH pumps use high torque electric motors.

Explosion proof motors complying with Class I, Group D and Class II, Groups F&G or ATEX motors are available on request.

For voltages and more details, please see the type key on page 6. Motors for higher ambient temperature, higher humidity, motors with forced ventilation and anti-condensation heaters as well as VIK motors are available on request.

Pumps without motor are standard.

API 675 certificates

DMH pumps can be certified according to API 675. This is commonly used in petroleum, chemical refineries, and transmission pipeline applications. Contact Grundfos for available models. Deviations include for example:

- The steady-state flow accuracy is within ± 1 % of the rated capacity.
- Several DMH pump models have cap screws.
- Several DMH pump models have internal socket-type bolting.
- DMH pumps are available with threaded DIN/EN or NPT connections (DN 4 up to DN 20). DN 32 slip-on flanges are used.
- Double diaphragm is filled with paraffin oil.
- DIN/EN code is applied for metal parts of DMH.
- Enclosure is made of grey cast iron.
- Dosing head is made of PVC, PP, PVDF, or stainless steel.
- For shipment, threaded openings are covered with plastic caps.

2. Identification

Type key

Example: DMH 13- 10 AR- PVC V/ G/ S- H 1 A9A9 B E3

Pump type

DMH

Max. flow (l/hr at 50 Hz)

Max. pressure (bar)

Control variant

B	Basic
AR	External control (AR control unit)
AT5	4-20 mA stroke length control 1 x 115 V, 50/60 Hz servomotor/actuator

Pump head material

PP	Polypropylene
PVC	Polyvinyl chloride
PV	PVDF (Polyvinylidene flouride)
SS	316 Stainless steel
Y	Hastelloy C

Heads with leak detection:

PP-L	Polypropylene
PVC-L	Polyvinyl chloride
PV-L	PVDF (Polyvinylidene flouride)
SS-L	316 Stainless steel

Gasket material

E	EPDM (ethylene propylene diene monomer)
V	FKM (fluorocarbon)
T	PTFE (polytetrafluoroethylene, eg. Teflon®)

Valve ball material

C	Ceramic
G	Glass
SS	Stainless steel, 316
T	PTFE (polytetrafluoroethylene eg. Teflon®)
Y	Hastelloy C

Specialty code

E3	API675

Mains plug

B	North America
	No plug

Connection, discharge/inlet

A3	3/4" FNPT (SS)
A7	3/4" MNPT (non-SS)
A9	1/2" MNPT
B6	4/6 mm pipe
C2	8/10 mm pipe
P	1 1/4" ANSI flange
S	3/8" ID x 1/2" OD tubing (DDI 60)
V	1/4" FNPT (SS)
X	No connector

Check valve type

1	Standard valves
2	Spring-loaded - 0.7 psi (0.05 bar) inlet and discharge opening pressure
3	Spring-loaded - 0.7 inlet(0.05 bar), 11.6 psi (0.8 bar) discharge opening pressure
4	Spring-loaded discharge
5	SS valves for abrasive fluids
7	Not spring-loaded; larger suction valve: suction side DN 32; discharge side DN 20

Supply voltage

F	Without motor, NEMA flange Only AR pumps include motors
H	1 x 110-120 V, 50/60 Hz

Control position

F	Front, 180 ° from pump head
S	Side 90 ° from pump head
W	Wall mounted
X	No control panel

Other variants on request.

3. Functions and options

Capacity control

Depending on the application, DMH pumps can be equipped with different functions for setting and controlling the capacity:

- DMH B: Manual stroke length control.
- All DMH pumps can be fitted with a servomotor for remote stroke-length control.
- Motor speed control with external variable frequency drive (VFD).
- DMH AR: Electronic unit for automatic stroke frequency control, pulse control, analog signals, alarm relay (available for DMH models 251, 252, 253, 280, 281).

Capacity control by stroke-length adjustment

The capacity is controlled manually by means of the stroke length adjustment knob or electrically by a servomotor.

The stroke frequency remains constant.

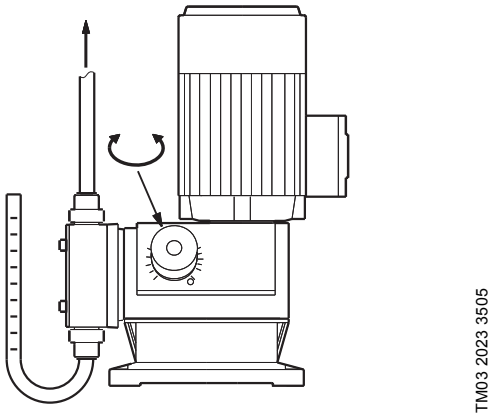

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Fig. 2 Capacity control by stroke length adjustment knob

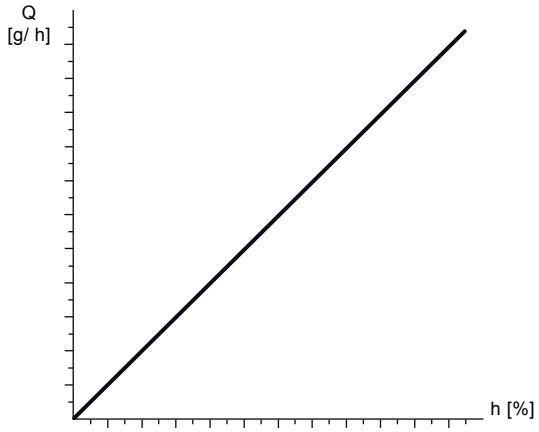

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Fig. 3 Relation of stroke length and capacity

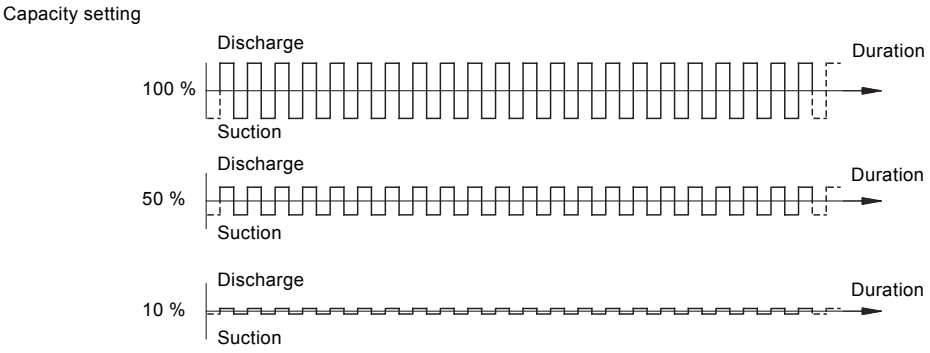

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Fig. 4 Relation of stroke length adjustment - capacity

Capacity control with external variable frequency drive (VFD)

The capacity of DMH pumps with motors with PTC-resistor can be adjusted via a variable frequency drive by changing the motor speed.

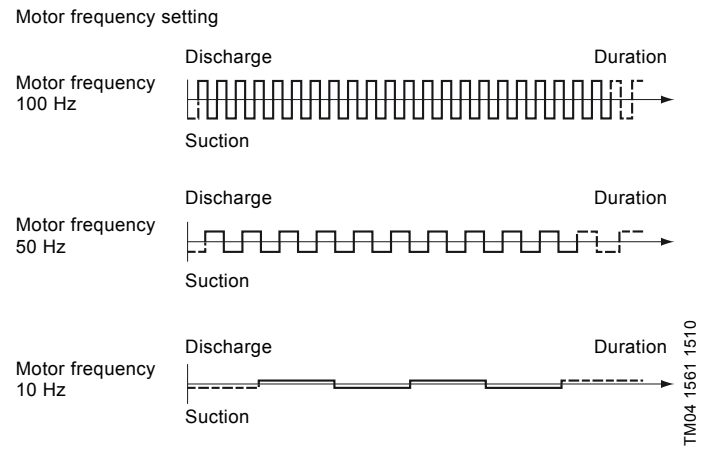

Fig. 5 Relation of motor frequency setting - capacity

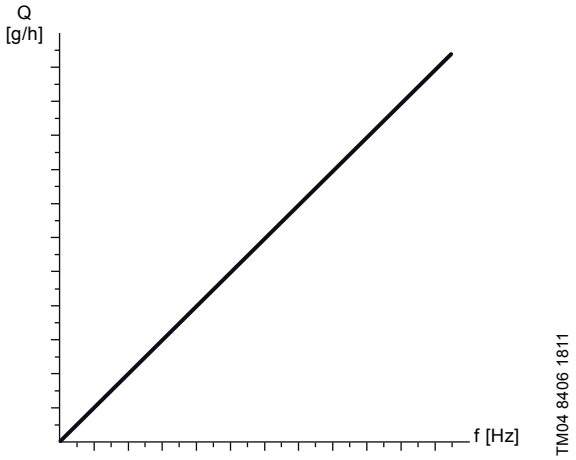

Fig. 6 Relation of motor frequency - capacity

Capacity control with AR electronics

The capacity of the DMH models 251, 252, 253, 280 and 281 with single-phase motor and AR electronics can be controlled by regulation of the pause time between strokes. This is carried out by analog or pulse signals or via manual stroke frequency adjustment.

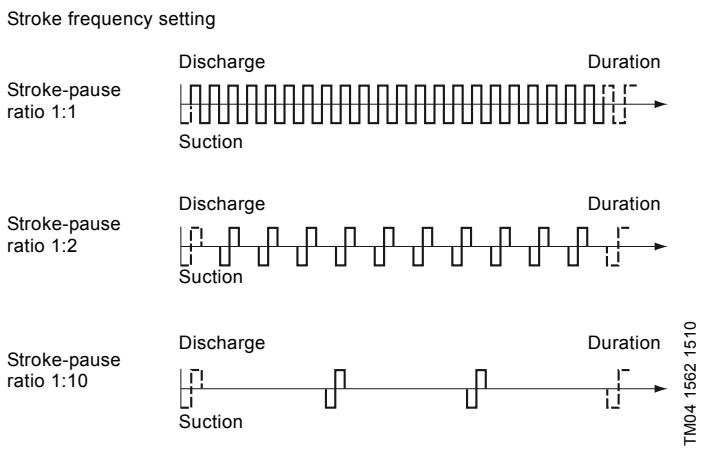

Fig. 7 Relation of stroke frequency setting - capacity

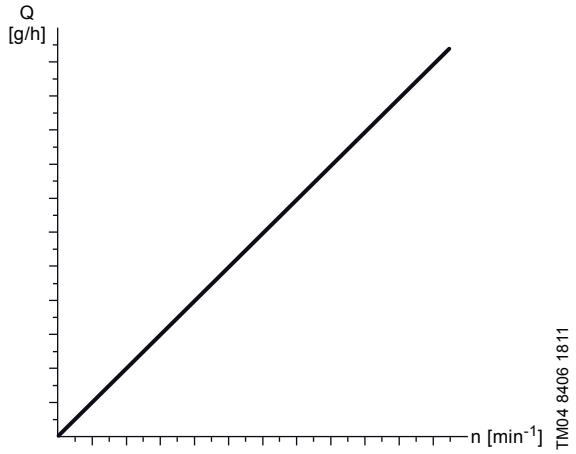

Fig. 8 Relation of stroke frequency - capacity

Electric servomotor

To facilitate automatic control of the flow rate, the DMH pumps can be equipped with an electric servomotor in a metal housing (IP65). The electric servomotor primarily consists of an overload-proof motor, reduction gear and min/max limit switches.

The electric servomotor is connected to the control slide of the dosing pump. This adjusts the active stroke length and the corresponding dosing flow.

The electric servomotor is available as ATEX version, EX II2G Ex db IIB T4 for potentially explosive zones.

Variants

- Electric servomotors with different operating voltages.
- Electric servomotors with 4-20 mA control and output signal and manual/automatic switch.
- Electric servomotors with 1000 Ω feedback potentiometer.

TM05 9715 4413

Fig. 9 Servomotor

TM04 8402 1711

Fig. 10 DMH with servomotor

AR control unit

A convenient electronic unit in a plastic housing (IP65) for DMH models 251, 252, 253, 280 and 281 with single-phase motors, the AR control unit is mounted on the terminal box of the motor.

Control modes

- Manual control: Stroke frequency is manually adjustable from 1 up to the maximum strokes per minute.
- Pulse signal control: multiplier 1:n (n strokes per incoming pulse) and divisor n:1 (1 stroke per n incoming pulses), memory function (stores a maximum of 65,000 pulses).
- 0/4-20 mA analog signal control: adjustment of stroke frequency in proportion to the current signal, weighting of current input is possible.

Inputs

- Pulse signal
- analog signal
- remote on/off
- tank-empty sensor
- dosing controller and diaphragm leakage sensor.

Outputs

- Analog signal
- error signal (fault)
- stroke signal
- low-level signal.

TM04 8603 3912

Fig. 11 AR control unit on DMH

Stroke sensor

DMH pumps with stroke sensor are especially designed for batch dosing and other mixing or filling tasks.

An optional stroke sensor can be mounted in the gear cover of a DMH pump.

The stroke sensor is inductive and has a NAMUR output and 6.5 ft (2 m) of PVC cable.

AMS diaphragm protection system

The unique diaphragm protection system AMS has a tactile surface (5) which touches the dosing diaphragm (4). If the suction or discharge line is blocked due to a fault in the system, the tactile surface closes the hydraulic chamber (6). Although the piston (7) continues moving, the diaphragm cannot be overstretched.

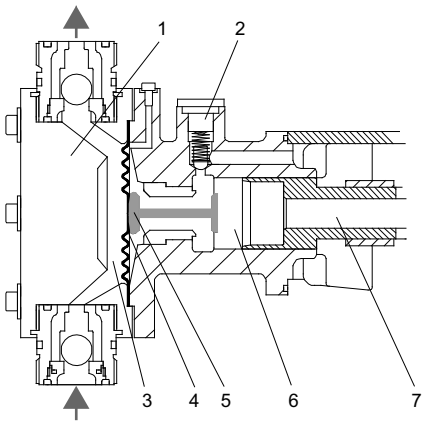

Fig. 12 AMS diaphragm protection system

Legend

Pos.	Description
1	Dosing head
2	Pressure relief valve
3	Dosing chamber
4	Dosing diaphragm
5	AMS diaphragm protection system
6	Hydraulic chamber
7	Piston

Diaphragm leakage detection

DMH piston diaphragm dosing pumps with diaphragm leakage detection are equipped with

- Dosing head with double-diaphragm system
- contact pressure gauge with check valve.

Double-diaphragm system

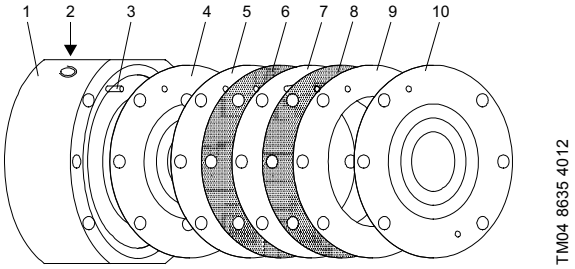

Fig. 13 Double-diaphragm system

Pos.	Description
1	Dosing head
2	Contact pressure gauge (installation position)
3	Clamping sleeves
4	Diaphragm on the dosing head side
5	Covering ring
6	Sealing ring
7	Intermediate disk
8	Sealing ring
9	Covering ring
10	Diaphragm on the pump side

Contact pressure gauge with check valve

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Fig. 14 Contact pressure gauge on a DMH dosing head

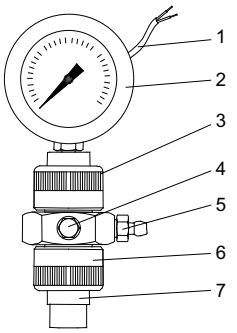

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Fig. 15 Contact pressure gauge

Pos.	Description
1	Contact output
2	Contact pressure gauge
3	Union nut
4	Connection for ground cable
5	Deaeration screw
6	Union nut
7	Check valve with ball

Functional principle

The check valve and the gap between the diaphragms are filled with paraffin oil (separating agent) at the factory. If one of the diaphragms breaks, dosing medium or hydraulic oil flows into the gap between the diaphragms, and then into the valve.

The system pressure is applied to the valve, and the contact pressure gauge is activated. A potential-free reed contact can trigger an alarm or switch off the pump.

TM04 8613 3912

Fig. 16 DMH with contact pressure gauge for diaphragm leakage detection

4. Construction

General information

DMH pumps are positive displacement pumps with hydraulic diaphragm motion. The DMH range contains the low pressure DMH models 250 up to 362 psi (25 bar) and the high pressure DMH models 280 up to 2900 psi (200 bar). The pump range includes drive assemblies in three housing sizes as well as single-head and double-head pumps.

Sectional drawings

DMH models 251, 252

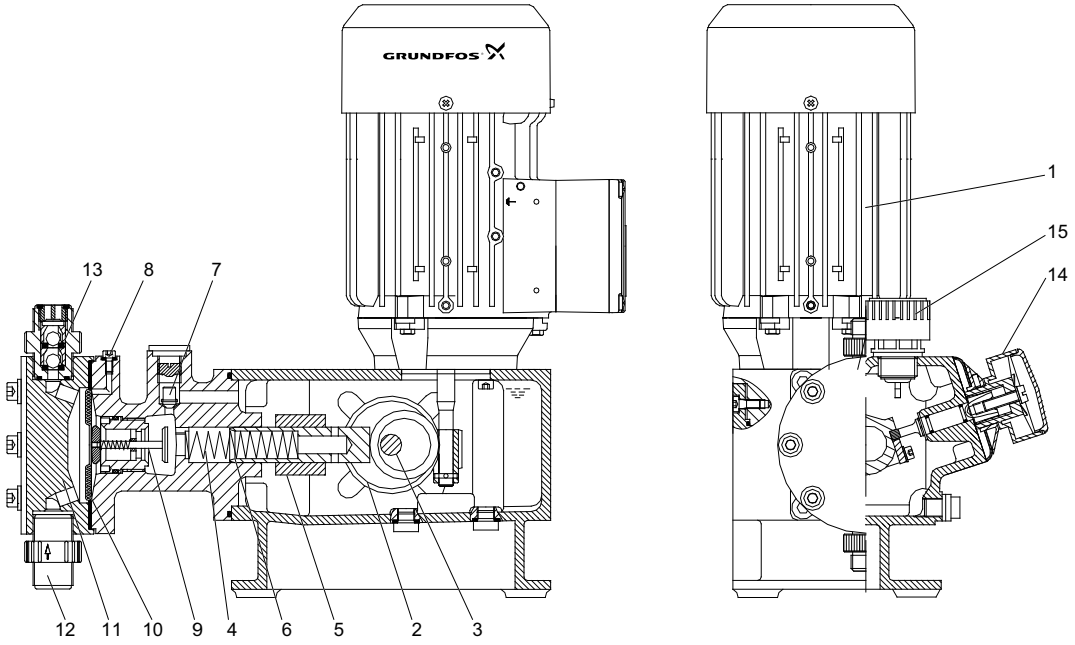

Fig. 17 Sectional drawing, DMH models 251, 252

Legend

Pos.	Description
1	Motor
2	Worm gearing
3	Eccentric
4	Return spring (not for all models)
5	Control slide
6	Piston
7	Combined pressure relief and degassing valve
8	Oil degassing valve
9	Diaphragm protection system (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Venting screw with oil-level gauge

DMH model 253

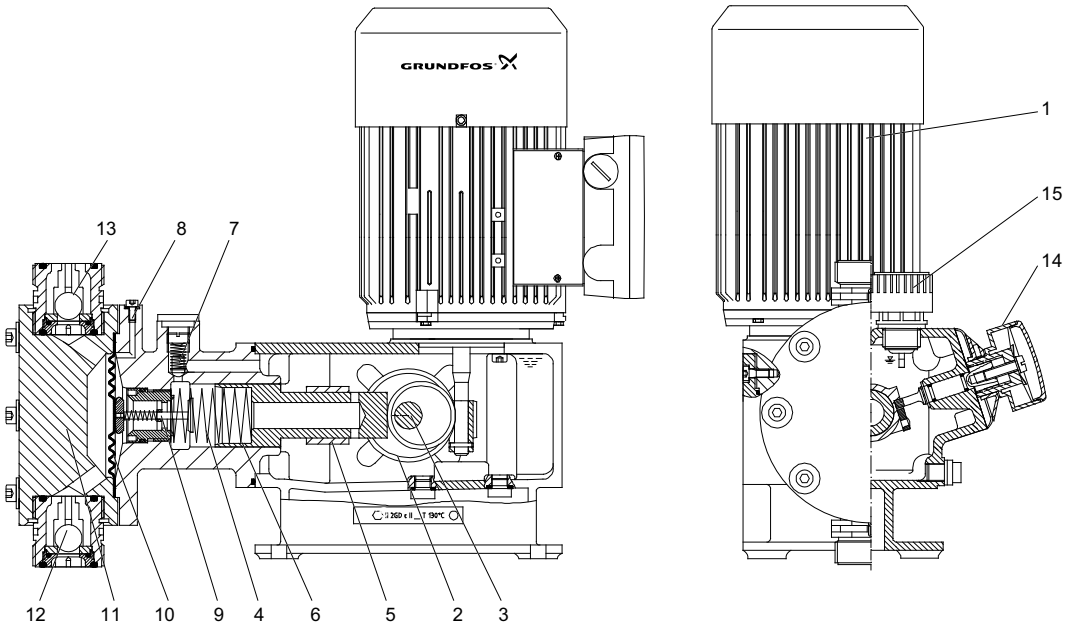

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Fig. 18 Sectional drawing, DMH model 253

Legend

Pos.	Description
1	Motor
2	Worm gearing
3	Eccentric
4	Return spring (not for all models)
5	Control slide
6	Piston
7	Combined pressure relief and degassing valve
8	Oil degassing valve
9	Diaphragm protection system (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Venting screw with oil-level gauge

DMH model 254

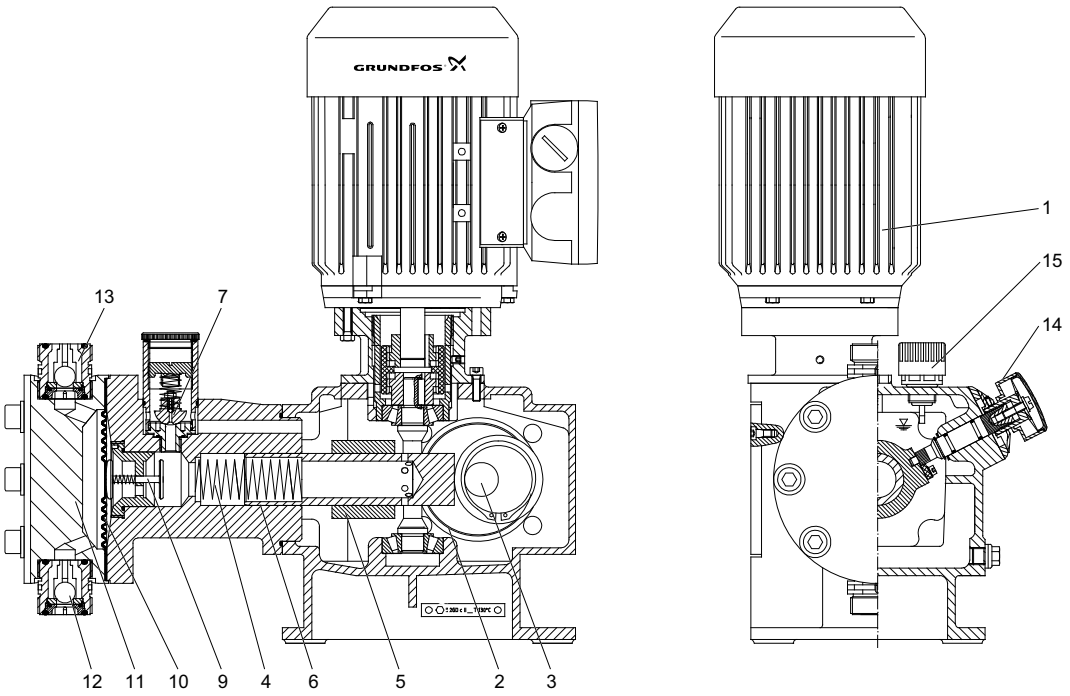


Fig. 19 Sectional drawing, DMH model 254

Legend

Pos.	Description
1	Motor
2	Worm gearing
3	Eccentric
4	Return spring (not for all models)
5	Control slide
6	Piston
7	Combined pressure relief and degassing valve
9	Diaphragm protection system (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Venting screw with oil-level gauge

DMH model 255

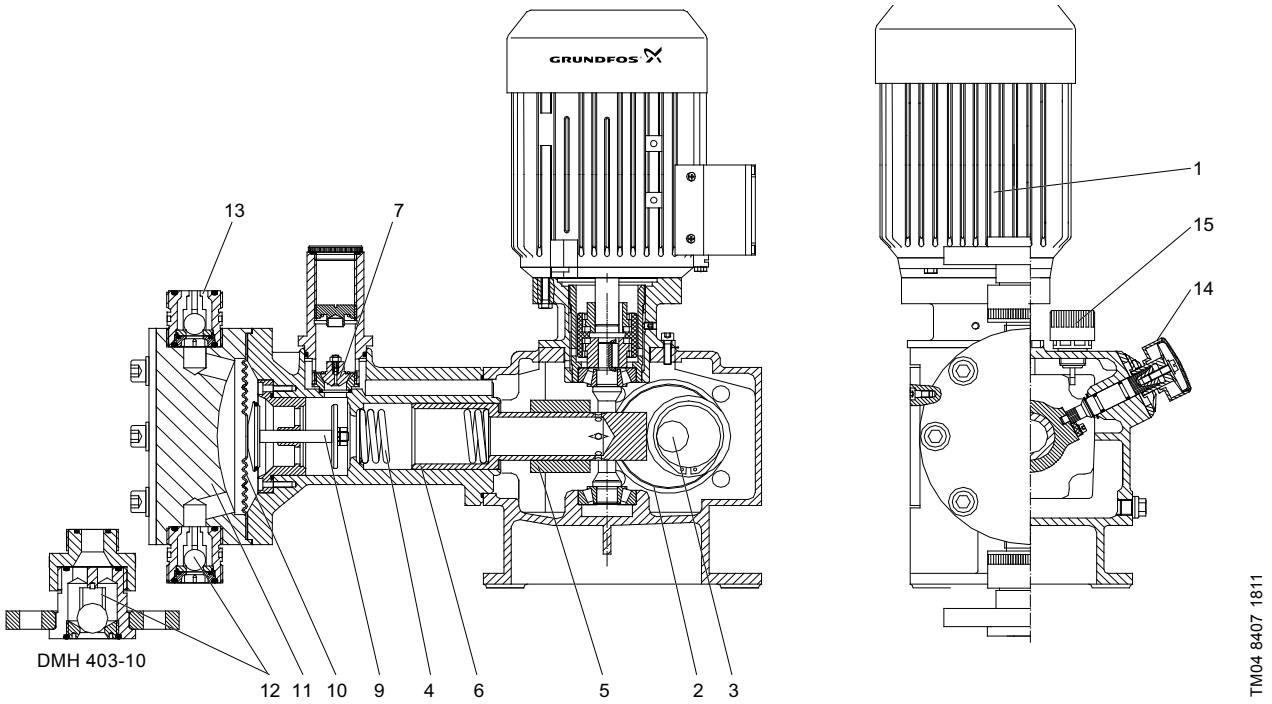


Fig. 20 Sectional drawing, DMH model 255

Legend

Pos.	Description
1	Motor
2	Worm gearing
3	Eccentric
4	Return spring (not for all models)
5	Control slide
6	Piston
7	Combined pressure relief and degassing valve
9	Diaphragm protection system (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Venting screw with oil-level gauge

DMH model 257

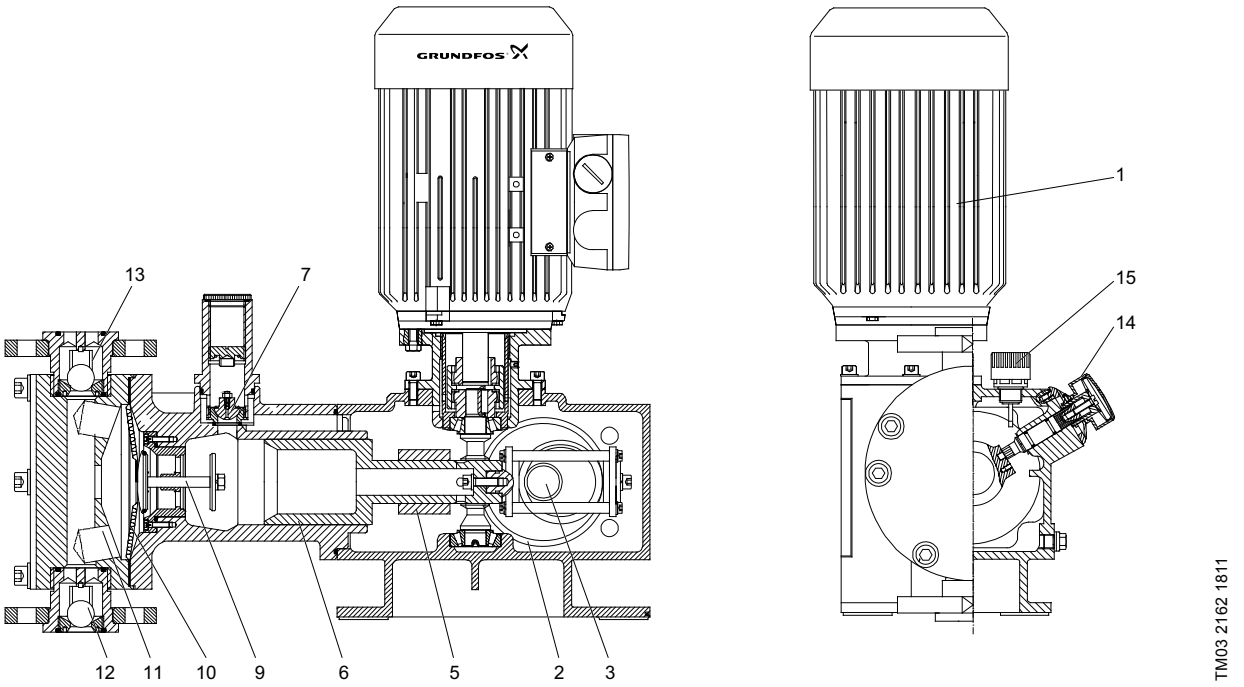


Fig. 21 Sectional drawing, DMH model 257

Legend

Pos.	Description
1	Motor
2	Worm gearing
3	Eccentric
5	Control slide
6	Piston
7	Combined pressure relief and degassing valve
9	Diaphragm protection system (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Venting screw with oil-level gauge

DMH model 280

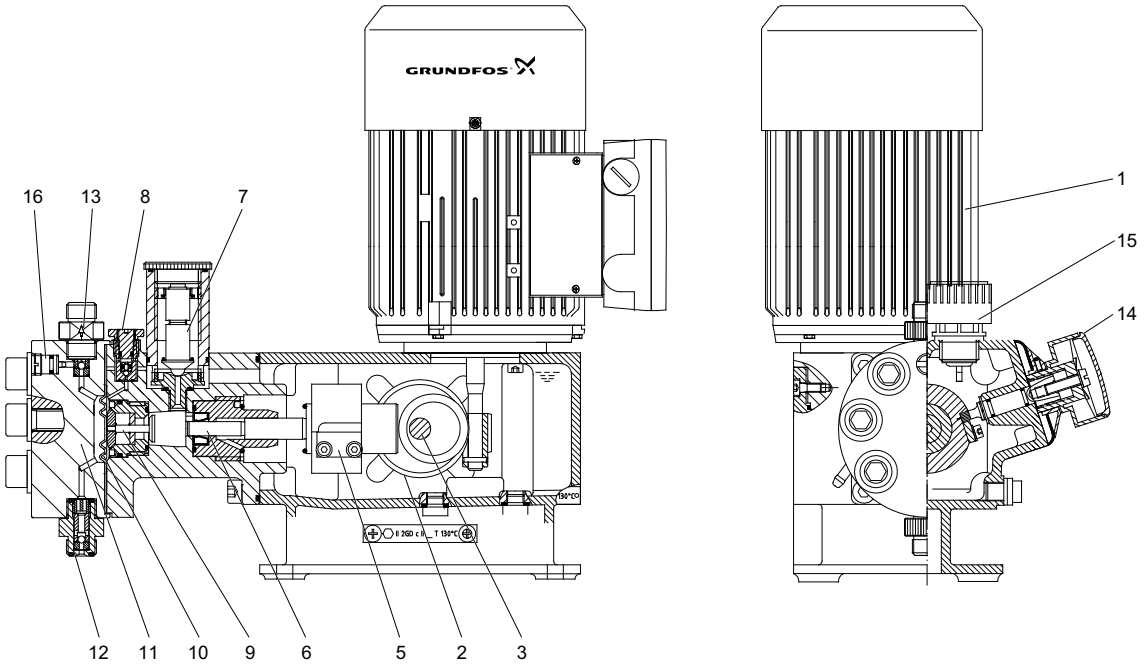


Fig. 22 Sectional drawing, DMH model 280

Legend

Pos.	Description
1	Motor
2	Worm gearing
3	Eccentric
5	Control slide
6	Piston
7	Combined pressure relief and degassing valve
8	Oil degassing valve
9	Diaphragm protection system (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Venting screw with oil-level gauge
16	Dosing head venting valve (priming)

DMH models 283, 288

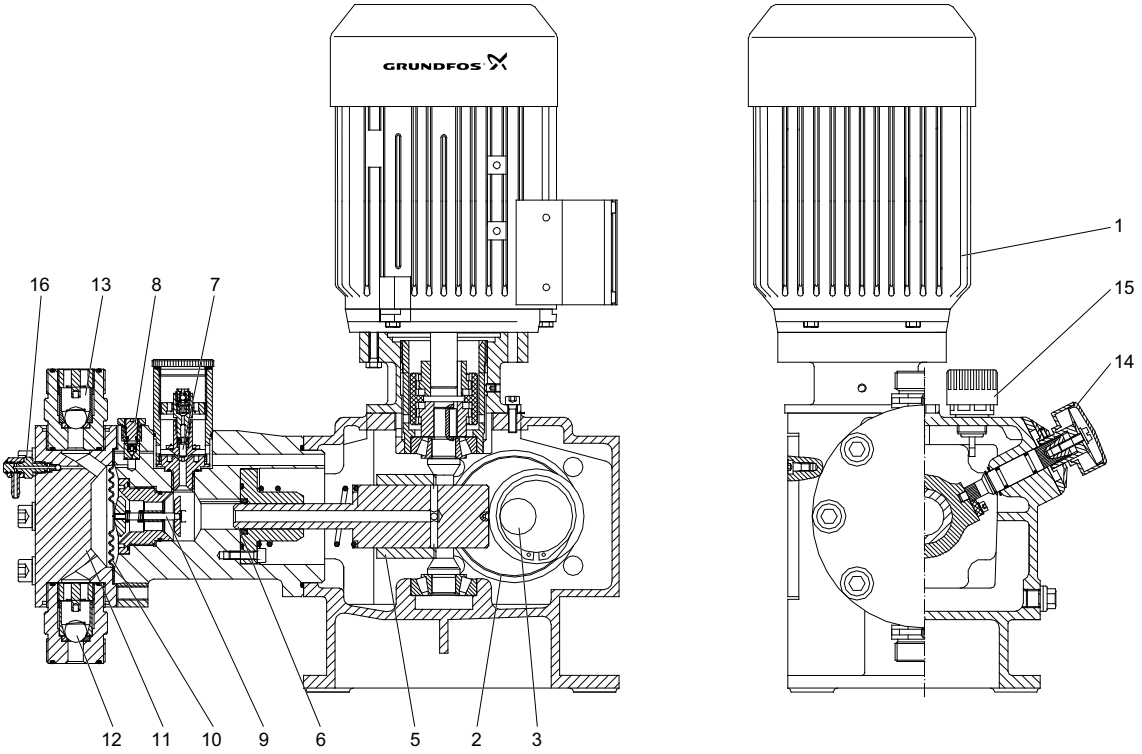


Fig. 23 Sectional drawing, DMH models 283, 288

Legend

Pos.	Description
1	Motor
2	Worm gearing
3	Eccentric
5	Control slide
6	Piston
7	Combined pressure relief and degassing valve
8	Oil degassing valve
9	Diaphragm protection system (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Venting screw with oil-level gauge
16	Dosing head venting valve (priming)

DMH models 285, 286, 287

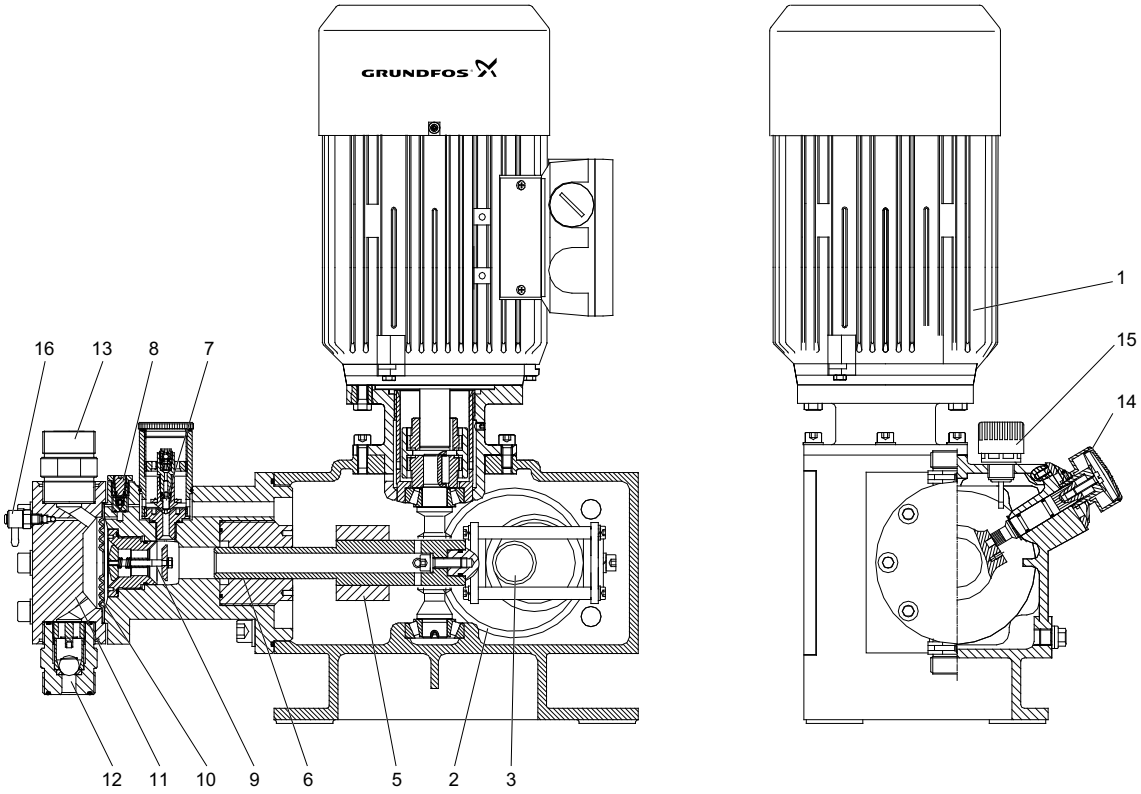


Fig. 24 Sectional drawing, DMH models 285, 286, 287

Legend

Pos.	Description
1	Motor
2	Worm gearing
3	Eccentric
5	Control slide
6	Piston
7	Combined pressure relief and degassing valve
8	Oil degassing valve
9	Diaphragm protection system (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Venting screw with oil-level gauge
16	Dosing head venting valve (priming)

Functional principle

- The rotational movement of the motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating movement of the piston (6) creating the suction and discharge stroke.
- The piston has a hollow bore and a series of radial hydraulic control holes, which provide the hydraulic connection between the drive and the piston stroke. The control sleeve (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic PTFE diaphragm (10) displaces a metered volume of dosing liquid from the dosing head (11) into the dosing piping. On the suction stroke, the piston creates a low pressure in the dosing head; the ball valve (13) on the discharge side is sealed by the line pressure and the dosing liquid flows through the suction valve (12) into the dosing head.
- The stroke volume size is solely determined by the position of the control slide. The active stroke length and corresponding average dosing flow can be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob and micrometer scale (14).
- The safety valve (7) acts as both a pressure relief valve and a hydraulic oil degassing valve. It opens if the pressure in the dosing system is over the set pressure and by-passes hydraulic fluid, thus protecting the pump from overpressure. The degassing valve ensures a constant, high dosing accuracy by removing air from the hydraulic oil.
- The unique diaphragm protection system AMS (9) touches and rides on the dosing diaphragm (10). If the suction or discharge line is blocked due to a fault in the system, the AMS valve seals the hydraulic chamber. Although the piston (6) continues moving, the diaphragm cannot be overstretched.

5. Technical data

Dimensions

DMH models 251-253, 280, 281

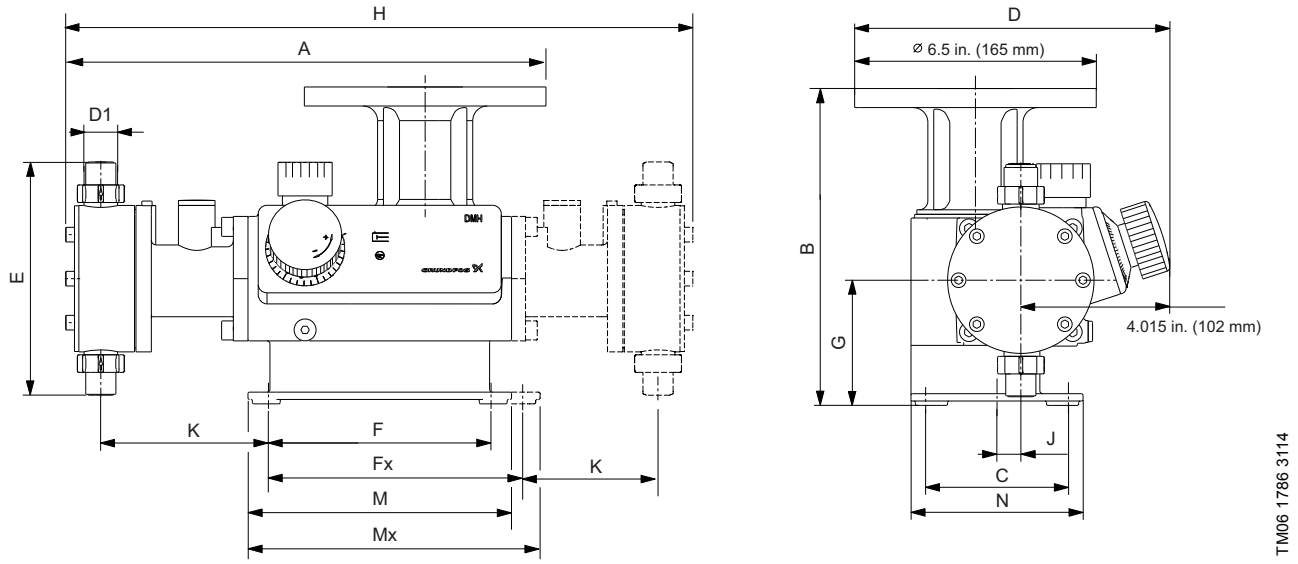


Fig. 25 Dimensions, DMH models 251 to 281

DMH model	A	B	C	D	D1	E	F	Fx	G	H	J	K	M	Mx	N
	[in. (mm)]					[in. (mm)]									
251	12.92 (328)	8.51 (216)	3.84 (97.5)	8.47 (215)	G 5/8	6.30 (160)	5.99 (152)	5.99 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)
252	12.92 (328)	8.51 (216)	3.84 (97.5)	8.47 (215)	G 5/8	6.30 (160)	5.99 (152)	5.99 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)
253	13.78 (350)	8.51 (216)	3.84 (97.5)	8.47 (215)	G 5/4 (1 1/4")	7.05 (179)	5.99 (152)	5.99 (152)	3.37 (85.5)	18.59 (472)	0.52 (13)	4.89 (124)	7.09 (180)	7.09 (180)	4.63 (117.5)
280	13.67 (347)	8.51 (216)	3.84 (97.5)	8.47 (215)	G 3/8	5.60 (142)	5.99 (152)	5.99 (152)	3.37 (85.5)	18.31 (465)	0.63 (16)	4.49 (114)	7.09 (180)	7.09 (180)	4.63 (117.5)
281	12.72 (323)	8.51 (216)	3.84 (97.5)	8.47 (215)	G 5/8	6.11 (155)	5.99 (152)	5.99 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.49 (114)	7.09 (180)	7.09 (180)	4.63 (117.5)

Note: Standard B variant DMH pumps do not include a motor. See motor data sheet specific to motor selected for motor dimensions.
Dual head pumps have two micrometers.

DMH models 254-257, 283-288

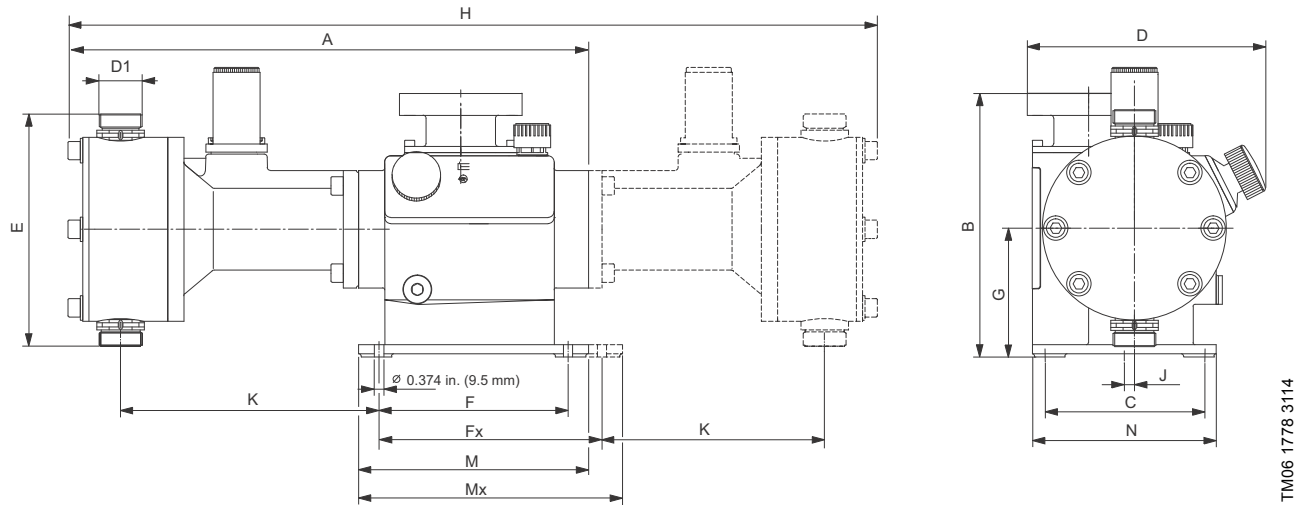
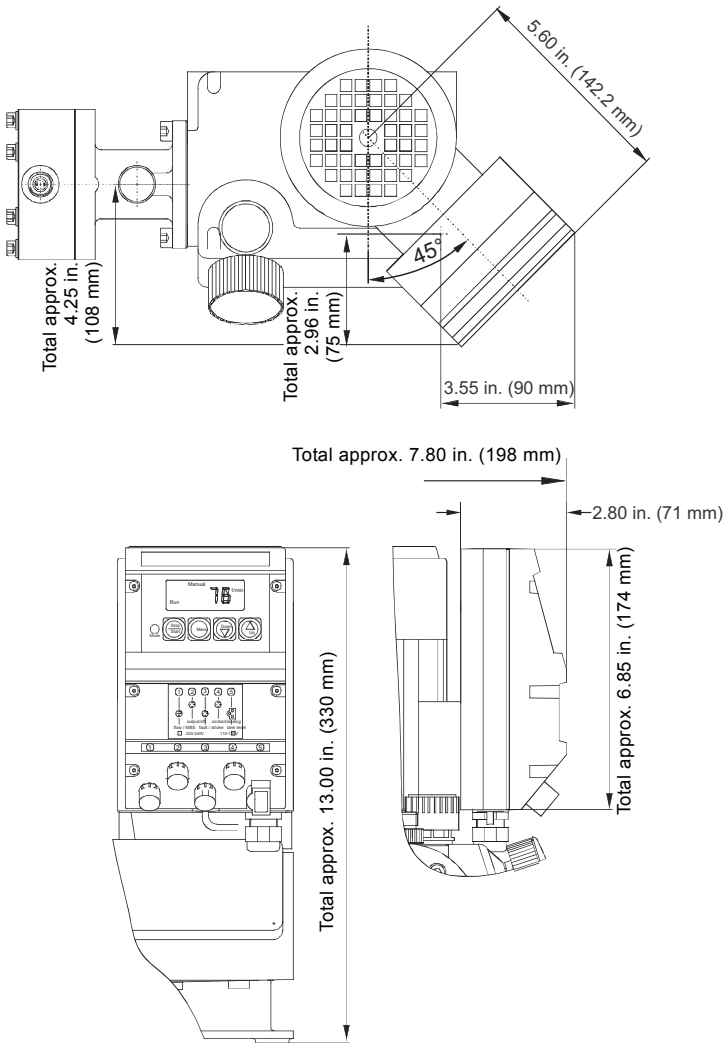


Fig. 26 Dimensions, DMH models 254 to 288

DMH model	A	B	C	D	D1	E	F	Fx	G	H	J	K	M	Mx	N
	[in. (mm)]					[in. (mm)]									
254	17.17 (436)	9.85 (250)	6.15 (156)	10.08 (256)	G 5/4 (1 1/4")	8.15 (207)	7.29 (185)	10.24 (260)	4.97 (126)	28.27 (718)	0.40 (10)	7.29 (185)	8.86 (225)	11.82 (300)	7.09 (180)
255	20.08 (510)	9.85 (250)	6.15 (156)	10.08 (256)	G 5/4 (1 1/4")	8.98 (228)	7.29 (185)	10.24 (260)	4.97 (126)	34.22 (869)	0.40 (10)	9.97 (253)	8.86 (225)	11.82 (300)	7.09 (180)
257	23.19 (589)	10.67 (271)	6.70 (170)	10.67 (271)	flange DN 32	11.03 (280)	9.49 (241)	13.12 (333)	5.08 (129)	38.59 (980)	0.99 (25)	10.32 (262)	11.42 (290)	15.04 (32)	7.66 (194.5)
283	17.21 (437)	9.85 (250)	6.15 (156)	10.08 (256)	G 5/4 (1 1/4")	8.31 (211)	7.29 (185)	10.24 (260)	4.97 (126)	27.80 (706)	0.40 (10)	7.17 (182)	8.86 (225)	11.82 (300)	7.09 (180)
285	20.08 (510)	10.67 (271)	6.70 (170)	10.67 (271)	G 5/4 (1 1/4")	7.05 (179)	9.49 (241)	13.12 (333)	5.08 (129)	32.29 (820)	0.99 (25)	7.37 (187)	11.42 (290)	15.04 (382)	7.66 (194.5)
286	20.08 (510)	10.67 (271)	6.70 (170)	10.67 (271)	G 5/4 (1 1/4")	9.22 (234)	9.49 (241)	13.12 (333)	5.08 (129)	32.29 (820)	0.99 (25)	7.52 (191)	11.42 (290)	15.04 (382)	7.66 (194.5)
287	19.30 (490)	10.67 (271)	6.70 (170)	10.67 (271)	G 5/8	8.19 (208)	9.49 (241)	13.12 (333)	5.08 (129)	32.05 (814)	0.99 (25)	6.93 (176)	11.42 (290)	15.04 (382)	7.66 (194.5)
288	16.74 (425)	9.85 (250)	6.15 (156)	10.08 (256)	G 5/8	8.19 (208)	7.29 (185)	10.24 (260)	4.97 (126)	27.56 (700)	0.40 (10)	6.82 (173)	8.86 (225)	11.82 (300)	7.09 (180)

Note: Standard B variant DMH pumps do not include a motor. See motor data sheet specific to motor selected for motor dimensions.
Dual head pumps have two micrometers.

AR control unit



TM06 2244 3814

Fig. 27 Dimensions, AR control unit (mounted on DMH)

Weights

DMH model	Single-head pump		Double-head pump	
	SS	PVC, PVDF, PP	SS	PVC, PVDF, PP
	Weight without motor [(lb (kg)]			
251	22.00 (10.0)	18.70 (8.5)	33.00 (15.0)	27.50 (12.5)
252	22.00 (10.0)	18.70 (8.5)	33.00 (15.0)	27.50 (12.5)
253	30.80 (14.0)	19.80 (9.0)	52.80 (24.0)	38.50 (17.5)
254	66.00 (30.0)	51.70 (23.5)	105.60 (48.0)	88.00 (40.0)
255	72.60 (33.0)	56.10 (25.5)	121.00 (55.0)	107.80 (49.0)
257	129.80 (59.0)	101.20 (46.0)	191.40 (87.0)	151.80 (69.0)
280	24.86 (11.3)	-	45.54 (20.7)	-
281	23.10 (10.5)	-	41.80 (19.0)	-
283	55.00 (25.0)	-	104.50 (47.5)	-
285	78.10 (35.5)	-	127.60 (58.0)	-
286	83.60 (38.0)	-	138.60 (63.0)	-
287	83.60 (38.0)	-	138.60 (63.0)	-
288	55.00 (25.0)	-	102.30 (46.5)	-

The weights are approximate, and vary according to pump variants.

Motor power

DMH Model	Capacity [gal./h (l/h)]	Counter pressure [psi (bar)]	Motor power [Hp (kW)]		
			50 Hz	60 Hz	100 Hz
251	All	145 (10)	0.12 (0.09)	0.12 (0.09)	0.12 (0.09)
251	All	235 (16.25)	0.12 (0.09)	0.12 (0.09)	0.24 (0.18)
252	All	145 (10)	0.12 (0.09)	0.12 (0.09)	0.24 (0.18)
252	All	232 (16)	0.24 (0.18)	0.24 (0.18)	0.24 (0.18)
253	All	All	0.24 (0.18)	0.24 (0.18)	0.24 (0.18)
254	All	145 (10)	0.74 (0.55)	0.74 (0.55)	0.74 (0.55)
254	All	232 (16)	0.74 (0.55)	0.74 (0.55)	1 (0.75)
255	All	All	0.74 (0.55)	0.74 (0.55)	0.74 (0.55) 1 (0.75)***
257	All	All	1.5 (1.1)*	1.5 (1.1)*	2 (1.5)**
280	All	All	0.24 (0.18)	0.24 (0.18)	0.24 (0.18)
281	All	All	0.24 (0.18)	0.24 (0.18)	0.24 (0.18)
283	All	All	0.74 (0.55)	0.74 (0.55)	0.74 (0.55)
285	All	All	1.5 (1.1)	1.5 (1.1)	2 (1.5)
286	All	All	1.5 (1.1)	1.5 (1.1)	2 (1.5)
287	All	All	1.5 (1.1)	1.5 (1.1)	2 (1.5)
288	All	All	0.74 (0.55)	0.74 (0.55)	0.74 (0.55)

* Double-head pump: 2 Hp (1.5 kW)
** Double-head pump: 3 Hp (2.2 kW)
*** DMH 270-10 at 100 Hz, 142 gal./h (540 l/h)

Flange sizes, pumps without motor

DMH model	IEC	NEMA	Pump housing size
251	BG 63 B5 BG 71 B5	56C	1 (small)
252			
253			
280			
281			
254	BG 80 B14	56C	2 (medium)
255			
283			
288			
257	BG 90 B14 BG 100 B14	145 TC	3 (large)
285			
286			
287			

Pump protection class

The motor protection defines the pump protection class.

Motor capacity	Protection rating
up to 0.24 Hp (up to 0.18 kW) (1 AC and 3 AC)	IP65
0.74 Hp - 3 Hp (0.55 - 2.2 kW) (3 AC)	IP55 or IP65 (depending on motor version)

Accuracy

DMH model	Dosing flow fluctuation	Linearity deviation
251 to 257	< ± 1.5 % within the 10 to 100 % control range	± 2 % of the full-scale value
280 to 288	< ± 1 % within the 10 to 100 % control range	± 1 % of the full-scale value

The values in the table above are based on the following conditions:

- dosing liquid: water
- fully vented dosing head
- standard version of pump.

Temperature of dosing liquid

Dosing head material	Permissible temp. of dosing liquid	
	p < 145 psi (10 bar) [°F (°C)]	p = 145-232 psi (10-16 bar) [°F (°C)]
PVC	32 to 104 (0 to 40)	32 to 68 (0 to 20)
Stainless steel, 1.4571 (EN 10027-2), 316Ti (AISI)*	14 to 212 (-10 to +100)	14 to 212 (-10 to +100)
Stainless steel, 2.4610 (Alloy C-4) (EN 10027-2)*	14 to 212 (-10 to +100)	14 to 212 (-10 to +100)
PP	32 to 104 (0 to 40)	32 to 68 (0 to 20)
PVDF	14 to 140 (-10 to +60) (158 °F (70 °C) at 130 psi (9 bar))	32 to 68 (0 to 20)

* For SIP/CIP applications, a temperature of 293 °F (145 °C) is permissible for a short time (approx. 15 min.) at p < 29 psi (2 bar).
(SIP = Steaming-In-Place/Sterilization)
(CIP = Cleaning-In-Place)

6. Pump selection

1. Select a DMH model from the "Performance data" tables.
2. Look into the "Catalog variants (limited selection)" tables.
3. If you cannot find a suitable DMH dosing pump there, select the suitable material combination from the "Catalog variants" tables.

Performance data

60 Hz, single head

1. Double head pumps have double capacity.
2. The values refer to dosing liquids with the following characteristics:

- Newtonian and non-degassing
- not containing suspended matter
- density similar to water.

Note: The viscosity increases with decreasing temperature!

We recommend to test the performance with the respective liquid.

Max. counterpressure: 58 psi (4 bar)

DMH model	Capacity	Stroke frequency	Pump type	Stroke volume	Max. suction lift (at viscosity similar to water)	Max. suction lift (at max. viscosity)	Max. inlet pressure	Max. viscosity at 60 Hz	VFD possible (100 Hz, PTC)
	[gal./h (l/h)]	[n/min]		[ml]	[ft (m)]	[ft (m)]	[psi (bar)]	[mPas]	
DMH 257	237.75 (900)	88	DMH 750-4	171	0*	0*	11.6 (0.8)	50	●

* Flooded suction

Max. counterpressure: 145 psi (10 bar)

DMH model	Capacity	Stroke frequency	Pump type	Stroke volume	Max. suction lift (at viscosity similar to water)	Max. suction lift (at max. viscosity)	Max. inlet pressure	Max. viscosity at 60 Hz	VFD possible (100 Hz, PTC)
	[gal./h (l/h)]	[n/min]		[ml]	[ft (m)]	[ft (m)]	[psi (bar)]	[mPas]	
DMH 251	0.77 (2.9)	17	DMH 2.4-10	3.3	3.28 (1)	0*	116 (8)	300	●
	1.59 (6)	35	DMH 5-10	3.3	3.28 (1)	0*	116 (8)	300	●
	4.23 (16)	75	DMH 13-10	3.3	3.28 (1)	0*	116 (8)	100	●
	6.08 (23)	115	DMH 19-10	3.3	3.28 (1)	0*	116 (8)	100	-
DMH 252	3.44 (13)	35	DMH 11-10	6.4	3.28 (1)	0*	116 (8)	300	●
	7.67 (29)	75	DMH 24-10	6.4	3.28 (1)	0*	116 (8)	100	●
	11.63 (44)	115	DMH 37-10	6.4	3.28 (1)	0*	116 (8)	100	-
DMH 253	6.61 (25)	35	DMH 21-10	11.3	3.28 (1)	0*	72.5 (5)	300	●
	13.74 (52)	76	DMH 43-10	11.3	3.28 (1)	0*	72.5 (5)	100	●
	21.14 (80)	115	DMH 67-10	11.3	3.28 (1)	0*	72.5 (5)	100	-
	26.42 (100)	144	DMH 83-10	11.3	3.28 (1)	0*	72.5 (5)	10	-
DMH 254	15.86 (60)	31	DMH 50-10	32	3.28 (1)	0*	72.5 (5)	300	●
	32.23 (122)	65	DMH 102-10	32	3.28 (1)	0*	72.5 (5)	100	●
	45.44 (172)	90	DMH 143-10	32	3.28 (1)	0*	72.5 (5)	100	●
	55.48 (210)	110	DMH 175-10	32	3.28 (1)	0*	72.5 (5)	100	-
	67.63 (256)	134	DMH 213-10	32	3.28 (1)	0*	72.5 (5)	5	-
DMH 255	29.59 (112)	29.6	DMH 96-10	60	0*	0*	116 (8)	100	●
	61.56 (233)	65	DMH 194-10	60	0*	0*	116 (8)	100	●
	85.6 (324)	90	DMH 270-10	60	0*	0*	116 (8)	100	●
	105.15 (398)	110	DMH 332-10	60	0*	0*	116 (8)	100	-
	127.86 (484)	134	DMH 403-10	60	0*	0*	116 (8)	5	-
DMH 257	69.75 (264)	34	DMH 220-10	131	3.28 (1)	0*	116 (8)	200	●
	139.49 (528)	67	DMH 440-10	131	3.28 (1)	0*	116 (8)	50	●
	182.28 (690)	88	DMH 575-10	131	3.28 (1)	0*	116 (8)	50	●
	244.1 (924)	118	DMH 770-10	131	3.28 (1)	0*	116 (8)	50	-
	278.97 (1056)	134	DMH 880-10	131	0*	0*	116 (8)	5	-

* Flooded suction

Max. counterpressure: 232 psi (16 bar)

DMH model	Capacity	Stroke frequency	Pump type	Stroke volume	Max. suction lift (at viscosity similar to water)	Max. suction lift (at max. viscosity)	Max. inlet pressure	Max. viscosity at 60 Hz	VFD possible (100 Hz, PTC)
	[gal./h (l/h)]	[n/min]		[ml]	[ft (m)]	[ft (m)]	[psi (bar)]	[mPas]	
DMH 251	0.74 (2.8)	17	DMH 2.3-16	3.1	3.28 (1)	0*	116 (8)	300	●
	1.56 (5.9)	35	DMH 4.9-16	3.1	3.28 (1)	0*	116 (8)	300	●
	3.7 (14)	75	DMH 12-16	3.1	3.28 (1)	0*	116 (8)	100	●
	5.82 (22)	115	DMH 18-16	3.1	3.28 (1)	0*	116 (8)	100	-
DMH 252	3.18 (12)	35	DMH 10-16	6,3	3.28 (1)	0*	116 (8)	300	●
	7.14 (27)	75	DMH 23-16	6.3	3.28 (1)	0*	116 (8)	100	●
	11.36 (43)	115	DMH 36-16	6.3	3.28 (1)	0*	116 (8)	100	-
DMH 254	14.53 (55)	31	DMH 46-16	30	3.28 (1)	0*	72.5 (5)	300	●
	30.65 (116)	65	DMH 97-16	30	3.28 (1)	0*	72.5 (5)	100	●
	43.07 (163)	90	DMH 136-16	30	3.28 (1)	0*	72.5 (5)	100	●
	52.31 (198)	110	DMH 166-16	30	3.28 (1)	0*	72.5 (5)	100	-
	63.93 (242)	134	DMH 202-16	30	3.28 (1)	0*	72.5 (5)	5	-
DMH 257	86.13 (326)	67	DMH 272-16	78.2	3.28 (1)	0*	11.6 (0.8)	100	●
	107.79 (408)	88	DMH 340-16	78.2	0*	0*	11.6 (0.8)	100	●
	142.66 (540)	118	DMH 450-16	78.2	3.28 (1)	0*	11.6 (0.8)	50	-
	164.85 (624)	134	DMH 520-16	78.2	0*	0*	11.6 (0.8)	5	-
	215.57 (816)	175	DMH 680-16	78.2	0*	0*	11.6 (0.8)	5	-

* Flooded suction

Max. counterpressure: 362 psi (25 bar)

DMH model	Capacity	Stroke frequency	Pump type	Stroke volume	Max. suction lift (at viscosity similar to water)	Max. suction lift (at max. viscosity)	Max. inlet pressure	Max. viscosity at 60 Hz	VFD possible (100 Hz, PTC)
	[gal./h (l/h)]	[n/min]		[ml]	[ft (m)]	[ft (m)]	[psi (bar)]	[mPas]	
DMH 251	0.69 (2.6)	17	DMH 2.2-25	2.9	3.28 (1)	0*	116 (8)	300	●
	1.43 (5.4)	35	DMH 4.5-25	2.9	3.28 (1)	0*	116 (8)	300	●
	3.44 (13)	75	DMH 11-25	2.9	3.28 (1)	0*	116 (8)	100	●
	5.29 (20)	115	DMH 17-25	2.9	3.28 (1)	0*	116 (8)	100	-

* Flooded suction

Max. counterpressure: 725 psi (50 bar)

DMH model	Capacity	Stroke frequency	Pump type	Stroke volume	Max. suction lift (at viscosity similar to water)	Max. suction lift (at max. viscosity)	Max. inlet pressure	Max. viscosity at 60 Hz	VFD possible (100 Hz, PTC)
	[gal./h (l/h)]	[n/min]		[ml]	[ft (m)]	[ft (m)]	[psi (bar)]	[mPas]	
DMH 286	26.95 (102)	67.2	DMH 85-50	25.3	3.28 (1)	0*	72.5 (5)	50	●
DMH 286	35.14 (133)	87.6	DMH 111-50	25.3	3.28 (1)	0*	72.5 (5)	50	●
DMH 286	53.9 (204)	134	DMH 170-50	25.3	3.28 (1)	0*	72.5 (5)	5	-

* Flooded suction

Max. counterpressure: 1450 psi (100 bar)

DMH model	Capacity	Stroke frequency	Pump type	Stroke volume	Max. suction lift (at viscosity similar to water)	Max. suction lift (at max. viscosity)	Max. inlet pressure	Max. viscosity at 60 Hz	VFD possible (100 Hz, PTC)
	[gal./h (l/h)]	[n/min]		[ml]	[ft (m)]	[ft (m)]	[psi (bar)]	[mPas]	
DMH 281	0.64 (2.4)	35	DMH 2-100	1.1	0*	0*	145 (10)	50	●
	1.33 (5)	76	DMH 4.2-100	1.1	3.28 (1)	0*	145 (10)	50	●
	2.04 (7.7)	115	DMH 6.4-100	1.1	3.28 (1)	0*	145 (10)	50	-
	2.54 (9.6)	144	DMH 8-100	1.1	3.28 (1)	0*	145 (10)	5	-
DMH 283	3.18 (12)	32	DMH 10-100	6	3.28 (1)	0*	72.5 (5)	100	●
	6.08 (23)	65	DMH 19-100	6	3.28 (1)	0*	72.5 (5)	50	●
	8.46 (32)	90	DMH 27-100	6	3.28 (1)	0*	72.5 (5)	50	●
	10.57 (40)	110	DMH 33-100	6	3.28 (1)	0*	72.5 (5)	50	-
	12.69 (48)	134	DMH 40-100	6	3.28 (1)	0*	72.5 (5)	5	-
DMH 285	6.35 (24)	34	DMH 20-100	12	3.28 (1)	0*	72.5 (5)	100	●
	12.69 (48)	67	DMH 40-100	12	3.28 (1)	0*	72.5 (5)	50	●
	16.38 (62)	88	DMH 52-100	12	3.28 (1)	0*	72.5 (5)	50	●
	22.2 (84)	118	DMH 70-100	12	3.28 (1)	0*	72.5 (5)	50	-
	25.37 (96)	134	DMH 80-100	12	3.28 (1)	0*	72.5 (5)	5	-

* Flooded suction

Max. counterpressure: 2900 psi (200 bar)

DMH model	Capacity	Stroke frequency	Pump type	Stroke volume	Max. suction lift (at viscosity similar to water)	Max. suction lift (at max. viscosity)	Max. inlet pressure	Max. viscosity at 60 Hz	VFD possible (100 Hz, PTC)
	[gal./h (l/h)]	[n/min]		[ml]	[ft (m)]	[ft (m)]	[psi (bar)]	[mPas]	
DMH 280	0.46 (1.74)	76	DMH 1.3-200	0.36	0*	0*	14.5 (1)	5	●
	0.71 (2.66)	115	DMH 2.2-200	0.36	0*	0*	14.5 (1)	5	-
	0.9 (3.37)	144	DMH 2.5-200	0.36	0*	0*	14.5 (1)	5	-
DMH 287	2.91 (11)	34	DMH 9-200	5.3	3.28 (1)	0*	72.5 (5)	100	●
	5.82 (22)	67	DMH 18-200	5.3	3.28 (1)	0*	72.5 (5)	50	●
	7.4 (28)	88	DMH 23-200	5.3	3.28 (1)	0*	72.5 (5)	50	●
	9.78 (27)	118	DMH 31-200	5.3	3.28 (1)	0*	72.5 (5)	50	-
	11.36 (43)	134	DMH 36-200	5.3	3.28 (1)	0*	72.5 (5)	5	-
DMH 288	1.14 (4.3)	31	DMH 3.3-200	2.33	3.28 (1)	0*	72.5 (5)	100	●
	2.38 (9)	65	DMH 7.5-200	2.33	3.28 (1)	0*	72.5 (5)	50	●
	3.31 (12.5)	90	DMH 10-200	2.33	3.28 (1)	0*	72.5 (5)	50	●
	4.07 (15.4)	118	DMH 13-200	2.33	3.28 (1)	0*	72.5 (5)	50	-
	4.92 (18.6)	134	DMH 15-200	2.33	3.28 (1)	0*	72.5 (5)	5	-

* Flooded suction

Catalog variants

The tables below show the catalog variants of single-head and double-head DMH pumps. Other DMH versions are available on request:

- control variants
- dosing head materials (e.g. alloy C-4)
- supply voltages
- valve types
- connections
- mains plugs
- motor variants
- pumps with API certificate
- pumps with ATEX certificate.

DMH model 251 (DN 8)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 2.4-10 DMH 5.0-10 DMH 13-10 DMH 19-10 DMH 2.3-16 DMH 4.9-16 DMH 12-16 DMH 18-16	B AT5	PP PP-L	E	C	X	F	1 4	A9A9	X	E3
				SS						
				T						
			V	C		F	1 4	A9A9	X	E3
				G						
		PV PV-L	T	C						
				T						
		PVC PVC-L	E	C	X	F	1 4	A9A9	X	E3
				SS						
				T						
			T	C		F	1 4	A9A9	X	E3
				T						
			V	C						
				G						
				SS						
		SS SS-L	T	SS	X	F	1 4	A9A9, VV	X	E3
			V							
			E			F	1 4	A9A9, VV	X	E3
	AR	PP PP-L	E	C	F S	H	1 4	A9A9	B	E3
				SS						
			V	C						
				G						
		PV PV-L	T	C						
				T						
		PVC PVC-L	E	C	F S	H	1 4	A9A9	B	E3
				SS						
				T						
			T	C						
				T						
			V	C						
				G						
				SS						
		SS SS-L	E	SS	F S	H	1 4	A9A9, VV	B	E3
			T							
			V							
DMH 2.2-25 DMH 4.5-25 DMH 11-25 DMH 17-25	B AT5	SS SS-L	E	SS	X	F	1 4	A9A9, VV	X	E3
			T							
			V			F	1 4	A9A9, VV	X	E3
	AR	SS SS-L	E	SS	F S	H	1 4	A9A9, VV	B	E3
			T							
			V							

DMH model 252 (DN 8)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 11-10 DMH 24-10 DMH 37-10 DMH 10-16 DMH 23-16 DMH 36-16	B AT5	PP PP-L	E	C	X	F	1 4	A9A9	X	E3
				SS						
				T						
			V	C		F	1 4	A9A9	X	E3
				G						
		PV PV-L	T	C						
				T						
		PVC PVC-L	E	C	X	F	1 4	A9A9	X	E3
				SS						
				T						
			T	C		F	1 4	A9A9	X	E3
				T						
			V	C						
				G						
				SS						
		SS SS-L	E	SS	X	F	1 4	A9A9	X	E3
			T			F	1 4	A9A9	X	E3
			V							
	AR	PP PP-L	E	C	F S	H	1 4	A9A9	B	E3
				SS						
				T						
			V	C						
				G						
		PV PV-L	T	C						
				T						
		PVC PVC-L	E	C	F S	H	1 4	A9A9	B	E3
				SS						
				T						
			T	C						
				T						
			V	C						
				G						
				SS						
		SS SS-L	E	SS	F S	H	1 4	A9A9	B	E3
			T							
			V							

DMH model 253 (DN 20)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 21-10 DMH 43-10 DMH 67-10 DMH 83-10	B AT5	PP PP-L	E	C	X	F	1 4	A9A9, A7A7	X	E3
				SS						
				T						
			T	T		F	1 4	A9A9, A7A7	X	E3
			V	G						
		PV PV-L	T	T						
		PVC PVC-L	E	SS	X	F	1 4	A9A9, A7A7	X	E3
				T						
			V	C		F	1 4	A9A9, A7A7	X	E3
				G						
				SS						
		SS SS-L	E	SS	X	F	1 4	A9A9, A3A3	X	E3
			T	SS						
			V	SS		F	1 4	A9A9, A3A3	X	E3
	AR	PP PP-L	E	C SS T	F S	H	1 4	A9A9, A7A7	B	E3
			T	T						
			V	G						
		PV PV-L	T	T						
		PVC PVC-L	E	SS	F S	H	1 4	A9A9, A7A7	B	E3
				T						
			V	C						
				G						
				SS						
		SS SS-L	E	SS	F S	H	1 4	A9A9, A3A3	B	E3
			T	SS						
			V	SS						

DMH model 254 (DN 20)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 50-10 DMH 102-10 DMH 143-10 DMH 175-10 DMH 213-10	B AT5	PP PP-L	E	C	X	F	1 4	A7A7	X	E3
				SS						
				T						
			T	T						
			V	G						
		PV PV-L	T	T						
		PVC PVC-L	E	SS	X	F	1 4	A7A7	X	E3
				T						
			V	C						
				G						
				SS						
		SS SS-L	E	SS	X	F	1 4	A3A3	X	E3
			T	SS						
			V	SS						
DMH 97-16 DMH 136-16 DMH 166-16 DMH 202-16	B AT5	SS SS-L	E	SS	X	F	1 4	A3A3	X	E3
			T	SS						
			V	SS						

DMH model 255 (DN 20)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 194-10 DMH 270-10 DMH 332-10 DMH 403-10*	B AT5	PP PP-L	E	C	X	F	1 4 7*	A7A7*	X	E3
				SS						
				T						
			T	T						
			V	G						
		PV PV-L	T	T						
		PVC PVC-L	E	SS	X	F	1 4 7*	A7A7*	X	E3
				T						
			V	C						
				G						
				SS						
		SS SS-L	E	SS	X	F	1 4 7*	A3A3*	X	E3
			T	SS						
			V	SS						

* For DMH 403-10 connection size for discharge/suction is DN20/DN32 (e.g. A7P), valve type 7.

DMH model 257 (DN 32)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 220-10 DMH 440-10 DMH 575-10 DMH 770-10 DMH 880-10	B AT5	PP PP-L	E	G	X	F	1 4	PP	X	E3
				T						
			V	G						
		PV PV-L	T	T						
		PVC PVC-L	E	SS	X	F	1 4	PP	X	E3
			V	G						
		SS SS-L	E	SS	X	F	1 4	PP	X	E3
			T	SS						
				T						
			V	SS						

DMH model 280 (DN 4)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 1.3-200 DMH 2.2-200 DMH 2.5-200	B AT5	SS SS-L	E V T	C*	X	F	2	B6B6**	X	E3
						F	2	B6B6**	X	E3
	AR	SS SS-L	E V T	C*	F S	H	2	B6B6**	B	E3

* Stainless-steel (SS) ball in deaeration valve
** 95731559: 1/4" FNPT connector (use qty. 2 per pump head)

DMH model 281 (DN 8)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 2-100 DMH 4.2-100 DMH 6.4-100 DMH 8-100 DMH 9.6-100	B AT5	SS SS-L	E V T	SS	X	F	2	VV	X	E3
						F	2	VV	X	E3
	AR	SS SS-L	E V T	SS	F S	H	2	VV	B	E3

DMH model 283 (DN 20)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 10-100 DMH 19-100 DMH 27-100 DMH 33-100 DMH 40-100 DMH 55-100	B AT5	SS SS-L	E	SS	X	F	2	A3A3	X	E3
			V	C						
				SS						
			T	SS						

DMH model 285 (DN 20)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 20-100 DMH 40-100 DMH 52-100 DMH 70-100 DMH 80-100 DMH 105-100	B AT5	SS SS-L	E	SS	X	F	2	A3A3	X	E3
			V	C						
				SS						
			T	SS						

DMH model 286 (DN 20)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 85-50 DMH 111-50 DMH 170-50	B AT5	SS SS-L	E	SS	X	F	1 2	A3A3	X	E3
			V	C						
				SS						
			T	SS						

DMH model 287 (DN 8)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 18-200 DMH 23-200 DMH 31-200 DMH 36-200	B AT5	SS SS-L	E V T	SS	X	F	2	C2C2	X	E3

DMH model 288 (DN 8)

Max. flow - pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection discharge/ suction	Mains plug	Motor variant
		Dosing head	Gasket	Valve ball						
DMH 7.5-200 DMH 10-200 DMH 13-200 DMH 15-200	B AT5	SS SS-L	E V T	SS	X	F	2	C2C2	X	E3

7. Pumped liquids

The resistance table below is intended as a general guide for material resistance (at room temperature), and does not replace testing of the chemicals and pump materials under specific working conditions.

The data shown are based on information from various sources available, but many factors (purity, temperature, abrasive particles, etc.) may affect the chemical resistance of a given material.

Note: Some of the liquids in this table may be toxic, corrosive or hazardous. Please be careful when handling these liquids.

Pumped liquid, 68 °F (20 °C)			Material										
			Dosing head						Gasket			Ball	
Description	Chemical formula	Concentration [%]	PP	PVDF	SS 1.4571	SS 2.4610 (Alloy C-4)	SS PTFE-coated	PVC	FKM	EPDM	PTFE	Ceramic	Glass
Acetic acid	CH_3COOH	25	●	●	●	●	●	●	-	●	●	●	●
		60	●	●	●	●	●	●	-	●	●	●	●
		85	●	●	●	●	●	-	-	-	●	●	●
Aluminium chloride	$AlCl_3$	40	●	●	-	-	●	●	●	●	●	●	●
Aluminium sulphate	$Al_2(SO_4)_3$	60	●	●	●	●	●	●	●	●	●	●	-
Ammonia, aqueous	NH_4OH	28	●	-	●	●	●	●	-	●	●	●	-
Calcium hydroxide[4]	$Ca(OH)_2$		●	●	●	●	●	●	●	●	●	●	●
Calcium hypochlorite	$Ca(OCl)_2$	20	❍	●	-	●	●	●	●	●	●	●	●
Chromic acid[3]	H_2CrO_4	10	●	●	●	●	●	●	●	●	●	●	●
		30	-	●	-	-	●	●	●	❍	●	●	●
		50	-	●	-	-	●	●	●	-	●	●	●
Copper sulphate	$CuSO_4$	30	●	●	●	●	●	●	●	●	●	●	●
Ferric chloride[1]	$FeCl_3$	45	●	●	-	-	●	●	●	●	●	●	●
Ferric sulphate[1]	$Fe_2(SO_4)_3$	60	●	●	●	●	●	●	●	●	●	●	●
Ferrous chloride	FeCl2	37	●	●	-	-	●	●	●	●	●	●	●
Ferrous sulphate	$FeSO_4$	30	●	●	●	●	●	●	●	●	●	●	●
Fluosilicic acid	H_2SiF_6	40	●	●	❍	●	●	●	-	❍	●	●	-
Hydrochloric acid	HCl	< 25	●	●	-	●	●	●	●	●	●	●	●
		25-37	●	●	-	●	●	●	●	❍	●	●	●
Hydrogen peroxide	H_2O_2	30	●	●	●	●	●	●	●	●	●	●	●
Nitric acid	HNO_3	30	●	●	●	●	●	●	●	●	●	●	●
		40	❍	●	●	●	●	●	●	-	●	●	●
		70	-	●	●	●	●	-	●	-	●	●	●
Peracetic acid	CH_3COOOH	5-15	❍	●	●	●	●	❍	-	❍	●	●	●
Potassium hydroxide	KOH	50	●	-	●	●	●	●	-	●	●	●	-
Potassium permanganate	$KMnO_4$	10	●	●	●	●	●	●	❍	●	●	●	●
Sodium chlorate	$NaClO_3$	30	●	●	●	●	●	●	●	●	●	●	●
Sodium chloride	NaCl	30	●	●	-	●	●	●	●	●	●	●	●
Sodium chlorite	$NaClO_2$	20	●	●	-	●	●	❍	●	●	●	●	●
Sodium hydroxide	NaOH	20	●	-	●	●	●	●	●	●	●	●	-
		30	●	●	●	●	●	●	❍	●	●	●	-
		50	●	●	●	●	●	●	-	●	●	●	-
Sodium hypochlorite	NaOCl	12-15	-	●	-	❍[5]	●	●	●	●	●	●	●
Sodium sulphide	Na_2S	30	●	●	●	-	●	●	●	●	●	●	-
Sodium sulphite	Na_2SO_3	20	●	●	●	-	●	●	●	●	●	●	-
Sodium thiosulfate	Na_2S2O_3	10	●	●	●	●	●	●	●	●	●	●	●
Sulphurous acid	H_2SO_3	6	●	●	●	●	●	●	●	●	●	●	❍
Sulphuric acid[2]	H_2SO_4	< 80	●	●	-	●	●	●	●	❍	●	●	❍
		80-96	❍	●	-	●	●	●	●	-	●	●	-
		98	-	●	●	●	●	-	❍	-	●	●	-

● Resistant
❍ Limited resistance
- Not resistant

1 Risk of crystallization
2 Reacts violently with water and generates much heat (pump must be absolutely dry before dosing sulphuric acid)
3 Must be fluoride-free when glass balls are used
4 Once the pump is stopped, calcium hydroxide will sediment rapidly
5 Not resistant for sodium hypochlorite generated on site

For further information, see "Pumped liquid guide".

8. Grundfos Product Center

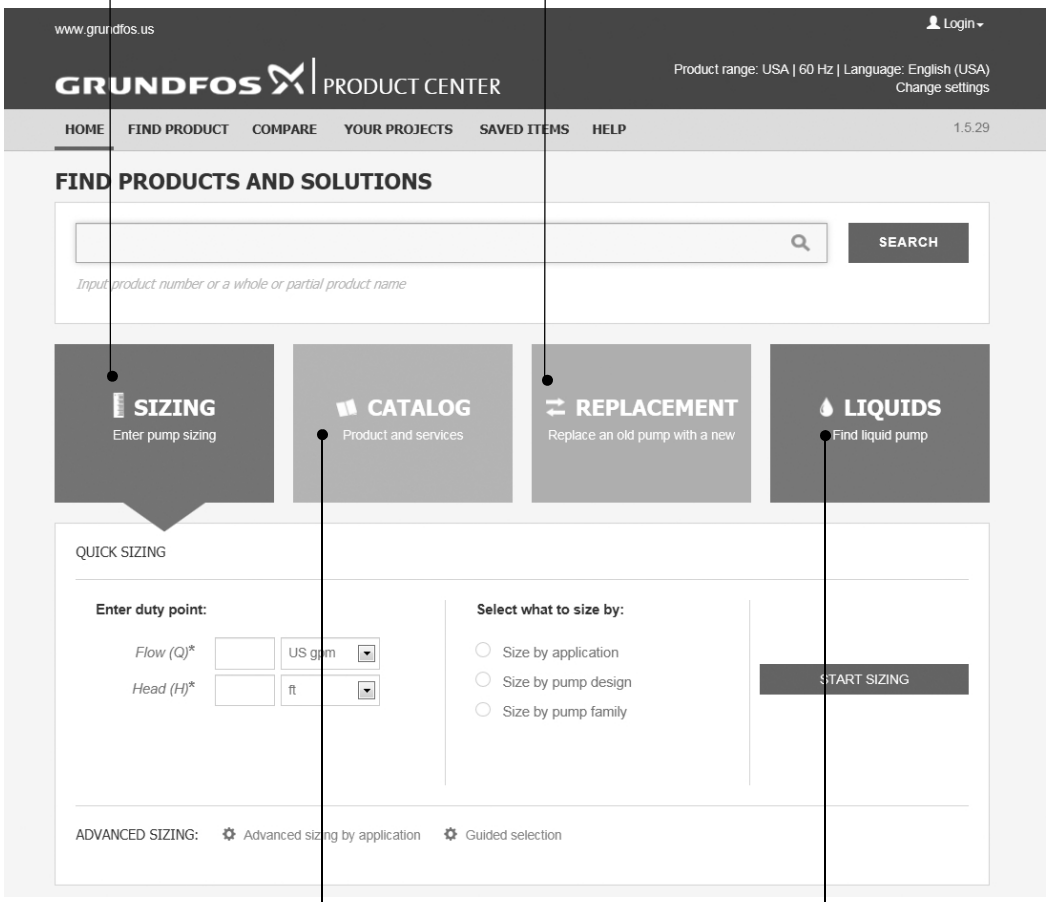
Online search and sizing tool to help you make the right choice.

http://product-selection.grundfos.com

"SIZING" enables you to size a pump based on entered data and selection choices.

"REPLACEMENT" enables you to find a replacement product.
Search results will include information on

- the lowest purchase price
- the lowest energy consumption
- the lowest total life cycle cost.



"CATALOG" gives you access to the Grundfos product catalog.

"LIQUIDS" enables you to find pumps designed for aggressive, flammable or other special liquids.

All the information you need in one place

Performance curves, technical specifications, pictures, dimensional drawings, motor curves, wiring diagrams, spare parts, service kits, 3D drawings, documents, system parts. The Product Center displays any recent and saved items - including complete projects - right on the main page.

Downloads

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