GRUNDFOS **PRODUCT GUIDE**

DMH

Dosing pumps

BE > THINK > INNOVATE >

GRUNDFOS

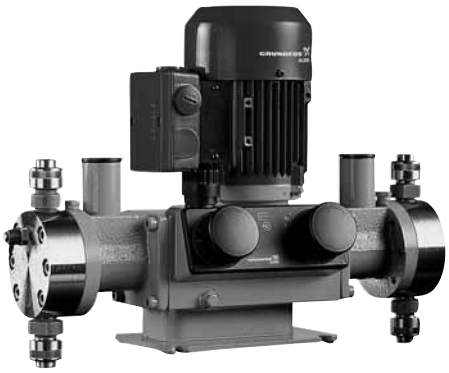
Contents

DMH

Hydraulic diaphragm dosing
from 0.50 to 2 x 278 GPH.

TM03 2133 3705

Fig. 1 DMH



TM03 8940 2807

Fig. 2 DMH 283 duplex version

TM03 8941 2807

Fig. 3 DMH 251 with stroke frequency controller, leak detector, and remote stroke length control

The preferred choice for demanding applications
The Grundfos DMH range is a series of hydraulic pumps for applications demanding a high-quality pump. With its high accuracy and modern interface possibilities, the DMH is ideal for many applications in water treatment and industrial processing.

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. All models are fitted with a PTFE diaphragm, with the AMS diaphragm protection system and internal relief valve for pump protection.

Get the pump configuration you need
Control the capacity manually by adjusting the stroke length from 0 to 100 %, with a +/- 1 % repeatable accuracy.

Additional options:

- Duplex version offers twice the capacity of a simplex pump. It is also used for blending applications.
- Electric 4-20 mA servomotor (electric actuator) or pneumatic stroke length control
- Variable speed drive controller
- Integrated stroke sensor and electronic counter
- Leak detection with double diaphragm.

Typical applications:
- Municipal and industrial water treatment
- Wastewater treatment
- Chemical industry
- Boiler feed
- Petroleum industry
- Filtration systems
- pH control
- Demineralizers
- Pulp & paper
- Textile
- Food & beverage.

API 675 models
DMH 250 and 280 series pumps are available in API 675 compatible versions. This is commonly used in petroleum, chemical refineries, and transmission pipeline applications. Contact Grundfos for available models.

Performance range

DMH

0.50 to 278 GPH

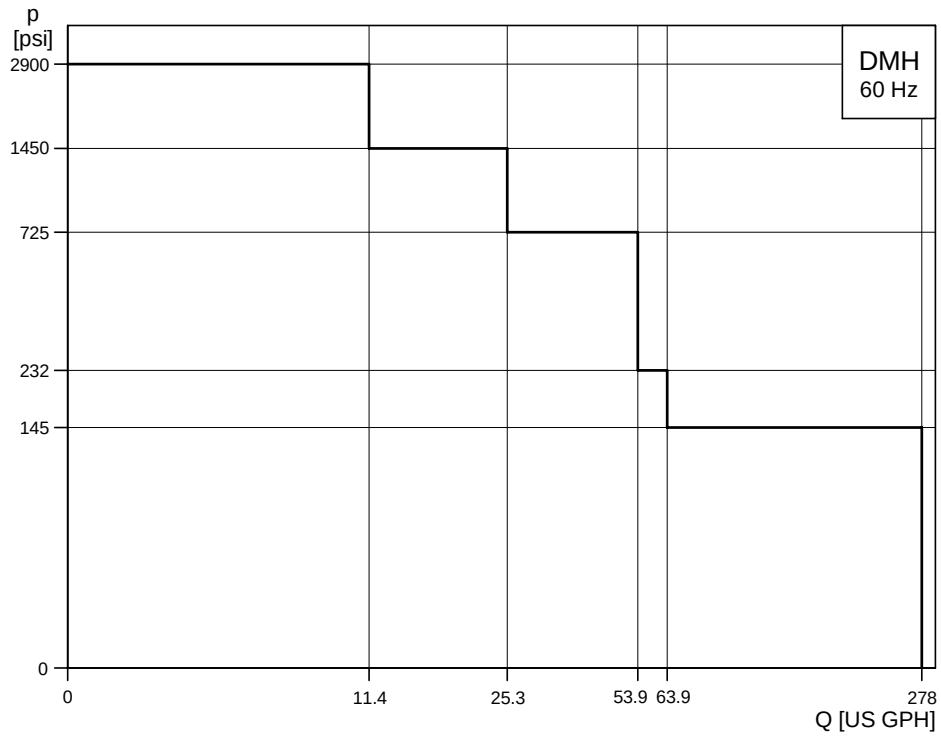


Fig. 4 Performance range, DMH, 0.50 to 278 GPH

Performance range

Performance range by max. pressure

DMH 250

Model	Size	Max. capacity [GPH]	Max. pressure [PSI]	stokes/min.
251	2.4-10	0.77	145	17
251	5-10	1.58	145	35
251	13-10	4.22	145	75
251	19-10	6.07	145	115
252	11-10	3.45	145	35
252	24-10	7.66	145	75
252	37-10	11.62	145	115
253	21-10	6.60	145	35
253	43-10	13.70	145	75
253	67-10	20.60	145	115
253	83-10	26.10	145	144
254	50-10	15.80	145	32
254	102-10	32.20	145	65
254	143-10	45.40	145	90
254	175-10	55.40	145	110
254	213-10	67.30	145	134
255	194-10	61.50	145	65
255	270-10	85.50	145	90
255	332-10	105.00	145	110
255	403-10	128.00	145	134
257	220-10	69.70	145	33
257	440-10	139.40	145	65
257	575-10	182.20	145	90
257	770-10	244.00	145	110
257	880-10	278.00	145	134
251	2.3-16	0.74	232	17
251	4.9-16	1.55	232	35
251	12-16	3.70	232	75
251	18-16	5.81	232	115
252	10-16	3.17	232	35
252	23-16	7.13	232	75
252	36-16	11.35	232	115
254	97-16	30.60	232	65
254	136-16	43.00	232	90
254	166-16	52.80	232	110
254	202-16	63.90	232	134
251	2.2-25	0.69	363	17
251	4.5-25	1.43	363	35
251	11-25	3.43	363	75
251	17-25	5.28	363	115

DMH 280

Model	Size	Max. capacity [GPH]	Max. pressure [PSI]	stokes/min.
286	85-50	26.90	725	67
286	111-50	35.10	725	88
286	170-50	53.90	725	134
281	2-100	0.60	1450	35
281	4.2-100	1.30	1450	76
281	6.4-100	2.00	1450	115
281	8-100	2.50	1450	144
283	19-100	6.10	1450	65
283	27-100	8.40	1450	90
283	33-100	10.60	1450	110
283	40-100	12.70	1450	134
285	20-100	6.30	1450	33
285	40-100	12.70	1450	67
285	52-100	16.60	1450	88
285	70-100	22.20	1450	118
285	80-100	25.30	1450	134
280	1.3-200	0.50	2900	76
280	2.2-200	0.70	2900	115
280	2.5-200	0.90	2900	144
287	18-200	5.80	2900	67
287	23-200	7.40	2900	88
287	31-200	9.80	2900	118
287	36-200	11.40	2900	134
288	7.5-200	2.40	2900	67
288	10-200	3.30	2900	88
288	13-200	4.10	2900	118
288	15-200	4.90	2900	134

Note: Double GPH with duplex versions.

Performance range by model

DMH 251

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
2.2-25	0.69	363	17
2.3-16	0.74	232	17
2.4-10	0.77	145	17
4.5-25	1.43	363	35
4.9-16	1.55	232	35
5-10	1.58	145	35
11-25	3.43	363	75
12-16	3.70	232	75
13-10	4.22	145	75
17-25	5.28	363	115
18-16	5.81	232	115
19-10	6.07	145	115

Performance range

DMH 252

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
10-16	3.17	232	35
11-10	3.45	145	35
23-16	7.13	232	75
24-10	7.66	145	75
36-16	11.35	232	115
37-10	11.62	145	115

DMH 253

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
21-10	6.60	145	35
43-10	13.70	145	75
67-10	20.60	145	115
83-10	26.10	145	144

DMH 254

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
50-10	15.80	145	32
97-16	30.60	232	65
102-10	32.20	145	65
136-16	43.00	232	90
143-10	45.40	145	90
166-16	52.80	232	110
175-10	55.40	145	110
202-16	63.90	232	134
213-10	67.30	145	134

DMH 255

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
194-10	61.50	145	65
270-10	85.50	145	90
332-10	105.00	145	110
403-10	128.00	145	134

DMH 257

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
220-10	69.70	145	33
440-10	139.40	145	65
575-10	182.20	145	90
770-10	244.00	145	110
880-10	278.00	145	134

DMH 280

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
1.3-200	0.50	2900	76
2.2-200	0.70	2900	115
2.5-200	0.90	2900	144

DMH 281

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
2-100	0.60	1450	35
4.2-100	1.30	1450	76
6.4-100	2.00	1450	115
8-100	2.50	1450	144

DMH 283

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
19-100	6.10	1450	65
27-100	8.40	1450	90
33-100	10.60	1450	110
40-100	12.70	1450	134

DMH 285

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
20-100	6.30	1450	33
40-100	12.70	1450	67
52-100	16.60	1450	88
70-100	22.20	1450	118
80-100	25.30	1450	134

DMH 286

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
85-50	26.90	725	67
111-50	35.10	725	88
170-50	53.90	725	134

DMH 287

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
18-200	5.80	2900	67
23-200	7.40	2900	88
31-200	9.80	2900	118
36-200	11.40	2900	134

DMH 288

Size	Max. capacity [GPH]	Max. pressure [PSI]	str./min.
7.5-200	2.40	2900	67
10-200	3.30	2900	88
13-200	4.10	2900	118
15-200	4.90	2900	134

Note: Double GPH with duplex versions.

Identification

Type key

Example: DMH 143 -10 B PVC /V /G -X -F 1 A7A7 X E3

Type range

DMH

Pump size

Control variant

B	Standard
AR*	Analog/pulse control
AT4	Servomotor, 24 V, 50/60 Hz supply, 4-20 mA control
AT5	Servomotor, 1 x 115 V, 50/60 Hz supply, 4-20 mA control
AT7	Servomotor, 1 x 115 V, 50/60 Hz supply, 4-20 mA control, EEx d II BT 4

Dosing head variant

PP	Polypropylene
PV	PVDF (polyvinylidene fluoride)
PVC	Polyvinyl chloride
SS	Stainless steel, 316
Y	Hastelloy C
PP-L	PP + integrated diaphragm leakage detection
PV-L	PVDF + integrated diaphragm leakage detection
PVC-L	PVC + integrated diaphragm leakage detection
SS-L	SS + integrated diaphragm leakage detection
Y-L	Y + integrated diaphragm leakage detection

Gasket material

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

Valve ball material

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

Control panel position

X	No control panel (Version B only)

Positions of controller (AR version)

S	Side, 90 ° from pump housing, towards adjustment knob
W	Wall mounted
F	Front, 180 ° from pump housing
Sx	Side back, 90 ° from pump housing, opposite adjustment knob

Pump variant

E0	PTC motor for frequency control
E3	API approval

Mains plug

X	No plug
B	USA, Canada
F	Schuko
I	Australia, New Zealand, Taiwan
E	Switzerland

Connection, suction/discharge

B6	Pipe 4/6 mm
C2	Pipe 8/10 mm
C4	Pipe 20/25 mm
4	Tube 6/9 mm
6	Tube 9/12 mm
B9	Tube 19/27 mm, PVC
Q	Tube 19/27 mm and 25/34 mm
S	Tube 0.375"/0.5”
A	Threaded Rp 1/4
A1	Threaded Rp 3/4
V	Threaded 1/4" NPT
A9	Threaded 1/2" NPT, male
A3	Threaded 3/4” NPT
A7	Threaded 3/4” NPT, male
A4	Threaded 1 1/4" NPT
A8	Threaded 1 1/4" NPT, male
K	Cementing d. 40 mm
B8	Cementing d. 40 mm and flange DN 32
B1	Tube 6/12 mm/cementing d. 12 mm
B2	Tube 13/20 mm/cementing d. 25 mm
B3	Welding d. 16 mm
B4	Welding d. 25 mm
B7	Welding d. 40 mm and flange DN 32
C1	Welding flange DN 32, SS
P	Flange 1 1/4"
C3	Threaded Rp 1 1/4 and flange DN 32

Valve type

1	Standard
2	Spring-loaded
3	Spring-loaded, 0.7 psi suction, 11.6 psi discharge
4	Spring-loaded, 11.6 psi discharge side only
5	For abrasive media

Supply voltage

F	Without motor, NEMA flange
H	1x120V, 50/60Hz
5	3x230/460V, 60Hz
0	Without motor, IEC flange
G	1x230V, 50/60Hz
E	230/400V, 50/60Hz; 440/480V, 60Hz
K	3x500V, 50Hz

*Only pumps of 0.50 HP and below.

Functional overview

	DMH B	DMH AR
Capacity control		
Stroke-frequency control		●
Stroke-length adjustment	●	●
Control panel		
Red light for stopped pump and error signals		●
Green light when pump is running		●
Control-panel lock		●
[Start/Stop] button		●
Front-mounted interface		●
Wall-mounted interface		●
Operating modes		
Manual control	●	●
Pulse control		●
Analog 0/4-20 mA control		●
Pulse-based batch control		●
Functions/options		
Alarm outputs		●
Dosing controller output		●
Leak detection (optional diaphragm breakage indication)	●	●
Dual-level control (requires level controller, available on selected sizes)		●
Pulse memory (saves up to 65,000 pulses)		●
Operating-hours counter		●
Remote on/off		●
0/4-20 mA output		●
Available in duplex versions (Check sizing chart for availability)	●	●

TM03 2133 3705

Fig. 5 DMH B

TM03 6124 4306

Fig. 6 DMH AR

Capacity control

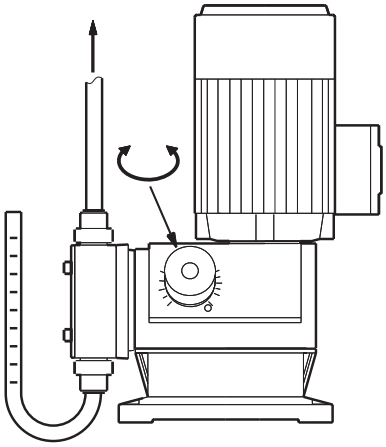


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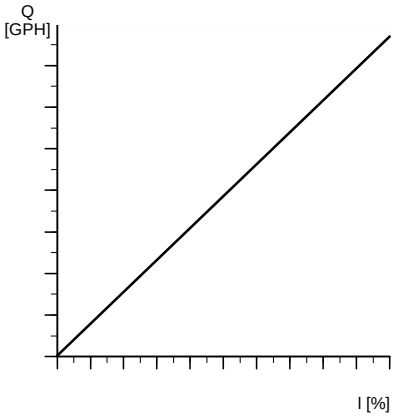
Fig. 7 The capacity is controlled by adjusting the stroke length



TM03 8854 2707

Fig. 8 Relation between stroke length and capacity

DMH B

On the DMH B, the capacity is set by means of the stroke-length adjustment knob. The stroke frequency remains constant.

As shown in fig. 10, the stroke frequency is constant while only the stroke length is adjusted.

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Fig. 9 DMH B

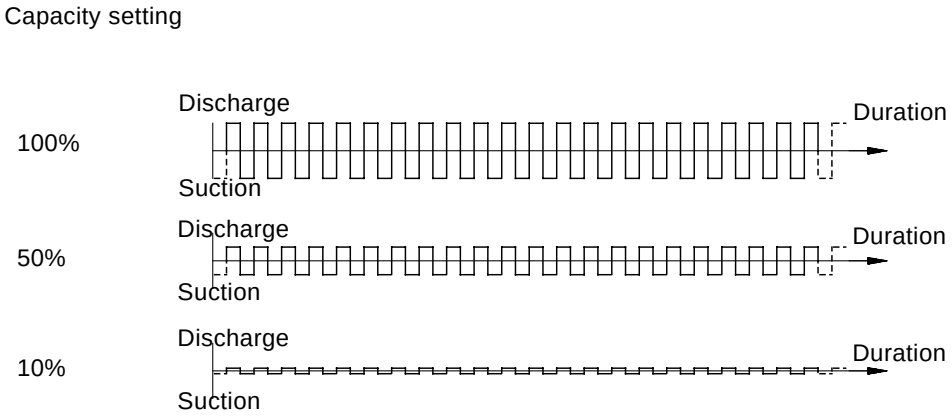

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Fig. 10 Relation between stroke-length adjustment and capacity on the DMH B

DMH AR

On the DMH AR, the capacity is set both by setting the stroke length on the gearbox knob and the stroke frequency on the control unit. The control unit controls the stroke frequency by starting and stopping the motor according to the set stroke frequency. Figure 12 shows two examples:

- The pump is running at 100 % capacity at maximum stroke length and stroke frequency.
- The pump is running at 25 % capacity at 50 % stroke length and 50 % stroke frequency.

TM03 6124 4306

Fig. 11 DMH AR

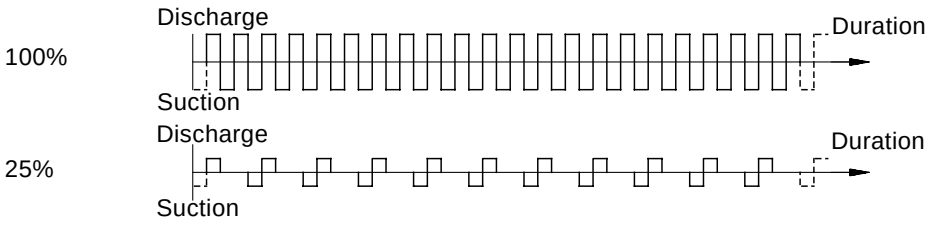

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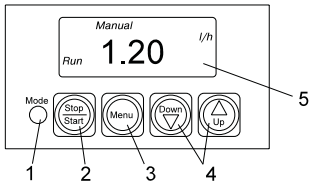
Fig. 12 Capacity setting on the DMH AR

Control panel



TM03 4455 2106

Fig. 13 Control panel, DMH AR

Legend

Pos.	Component
1	**Mode** (light-emitting diode): • Red light indicates that the pump has stopped. • Green light indicates that the pump has started; the light is briefly off during a suction stroke. • Yellow light indicates that the pump is switched off remotely. • Red light is flashing in case of an error signal. • Light is off when the pump is in menu mode.
2	**Start/Stop** (button): • For starting and stopping the pump.
3	**Menu** (button): • For switching between operating modes.
4	**Up/Down** (buttons): • For changing the values in the display.
5	LCD display.

Connectors

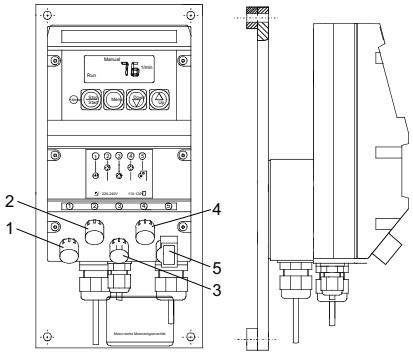


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Fig. 14 Connectors, DMH AR (the illustrated AR control unit is wall mounted)

Legend

Socket	Description
1	Leakage detection / dosing controller
2	Current output (indicates the current dosing flow) / remote on/off
3	Output for stroke/pulse signal or empty-tank pre-alert signal and error signal
4	Remote on/off Contact input Current input
5	Empty-tank signal Empty-tank pre-alert and empty-tank signal

Start/stop of pump

Start and stop the pump by means of the [Start/Stop] button. When the pump is stopped, the display shows "stop". If the pump is stopped via an external start/stop signal, the indicator light is permanently yellow.

Operating modes

To select the operating mode, press the [Menu] button. The display will indicate the operating mode. To change the mode, use the [Up/Down] buttons, see fig. 13, pos. 4.

Manual control

The stroke length can be set manually by means of the stroke length adjustment knob. Thanks to its control panel, DMH AR also offers setting of the stroke frequency.

Pulse control

Pulse control applies to DMH AR.

The pump is dosing according to an external pulse signal such as a water meter.

The number of pump strokes per pulse (multiplication) can be set between 1:1 and 1:999 and the number of pulses per stroke (division) between 999:1 and 1:1.

Analog control

Control the pump via an external 4-20mA (or 0-20mA) current. 4mA = no flow, 20mA = max flow.

Tank-level control

The tank-level control function applies to DMH AR.

The pump can be fitted with a level-control unit for monitoring the chemical level in the tank. The pump can react to two level signals. The following table shows the pump reactions to the sensor signals.

Level sensors	Pump reaction
Pre-empty sensor activated	• Red indicator light is on. • Empty signature in display is flashing. • Pump running. • Alarm relay activated.
Empty sensor activated	• Red indicator light is on. • Empty signature in display is on. • Pump stopped. • Alarm relay activated.

General description

The Grundfos DMH pumps are hydraulic diaphragm dosing pumps.

The DMH pumps are designed for capacities between 0.50 and 2 x 278 GPH and a maximum pressure up to 2900 PSI.

DMH 251

Reciprocating positive-displacement pumps with hydraulic diaphragm

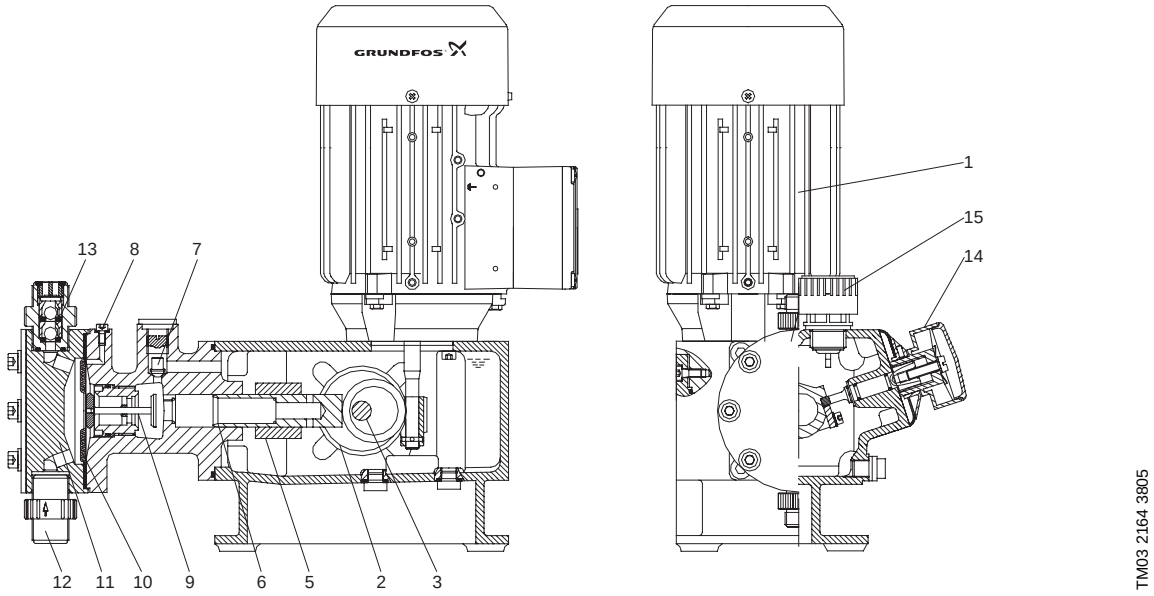

Fig. 15 Sectional drawing, DMH 251

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
5	Sliding collar
6	Piston
7	Combined pressure-relief and deaeration valve
8	Oil deaeration valve
9	Diaphragm protection valve (AMS)
10	PTFE diaphragm
11	Pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge

DMH 252

Reciprocating positive-displacement pumps with hydraulic diaphragm

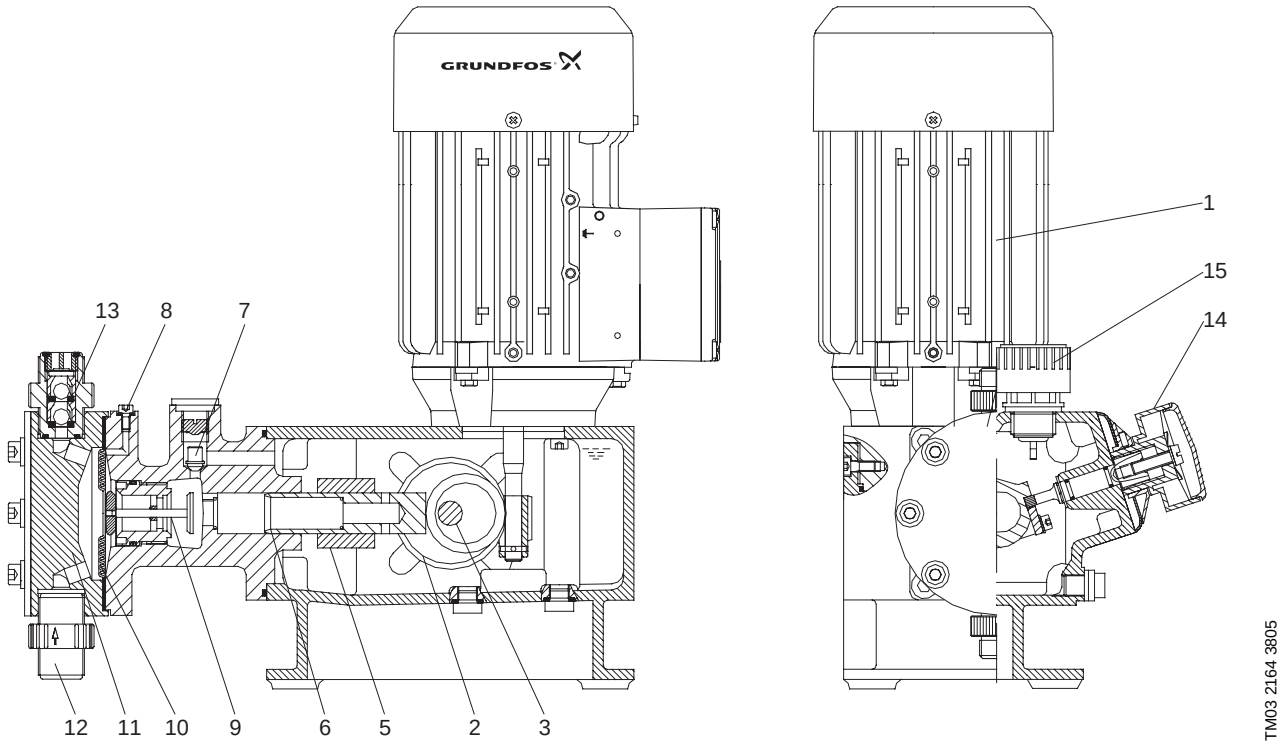

Fig. 16 Sectional drawing, DMH 252

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
5	Sliding collar
6	Piston
7	Combined pressure-relief and deaeration valve
8	Oil deaeration valve
9	Diaphragm protection valve (AMS)
10	PTFE diaphragm
11	Pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge

DMH 253

Reciprocating positive-displacement pumps with hydraulic diaphragm

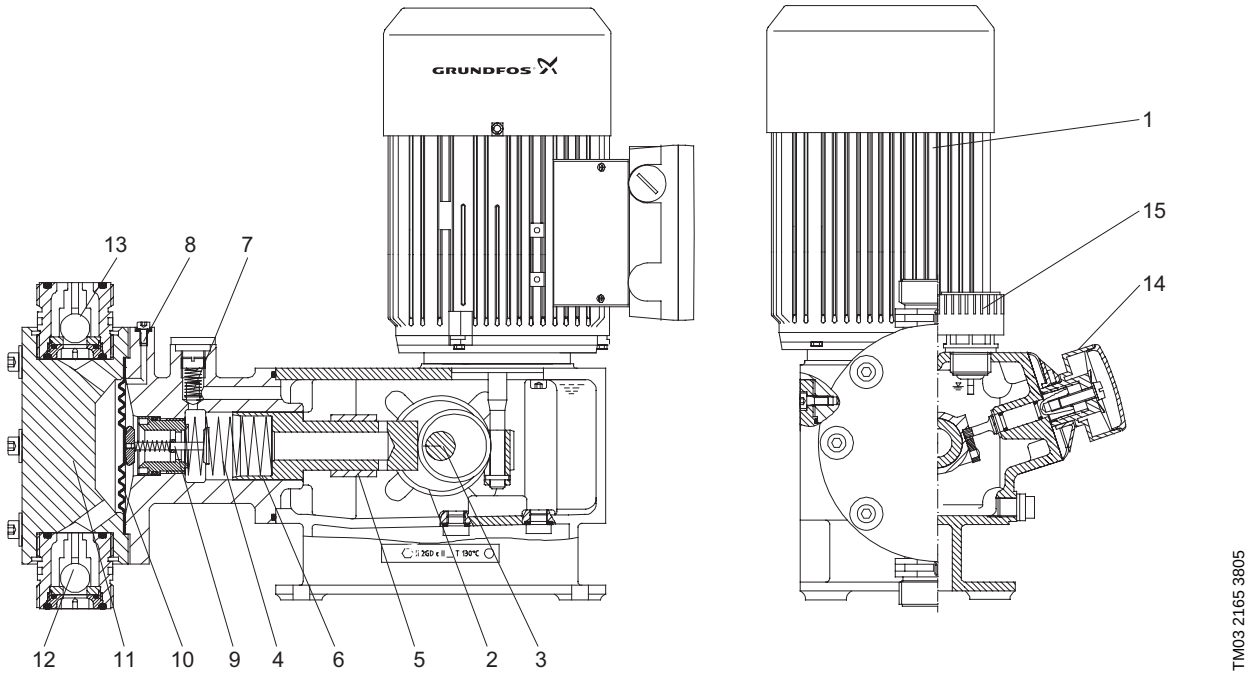

Fig. 17 Sectional drawing, DMH 253

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
4	Return spring (some models excluded)
5	Sliding collar
6	Piston
7	Combined pressure-relief and deaeration valve
8	Oil deaeration valve
9	Diaphragm protection valve (AMS)
10	PTFE diaphragm
11	Pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge

DMH 254

Reciprocating positive-displacement pumps with hydraulic diaphragm

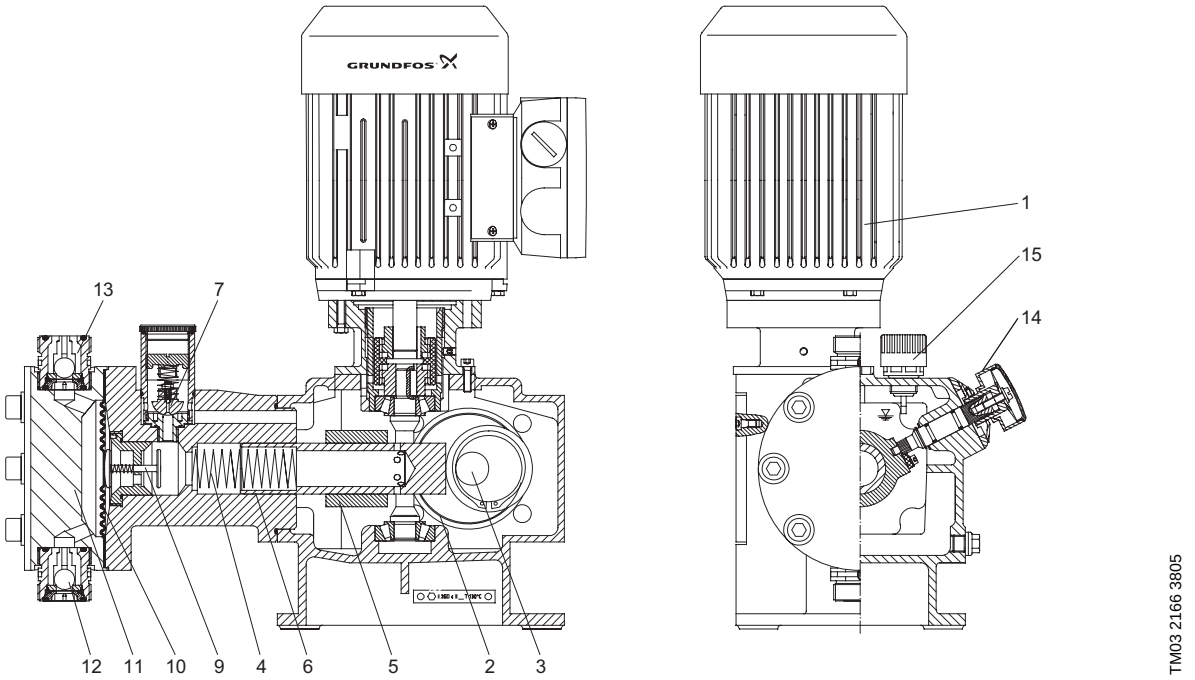

Fig. 18 Sectional drawing, DMH 254

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
4	Return spring (some models excluded)
5	Sliding collar
6	Piston
7	Combined pressure-relief and deaeration valve
9	Diaphragm protection valve (AMS)
10	PTFE diaphragm
11	Pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge

DMH 255

Reciprocating positive-displacement pumps with hydraulic diaphragm

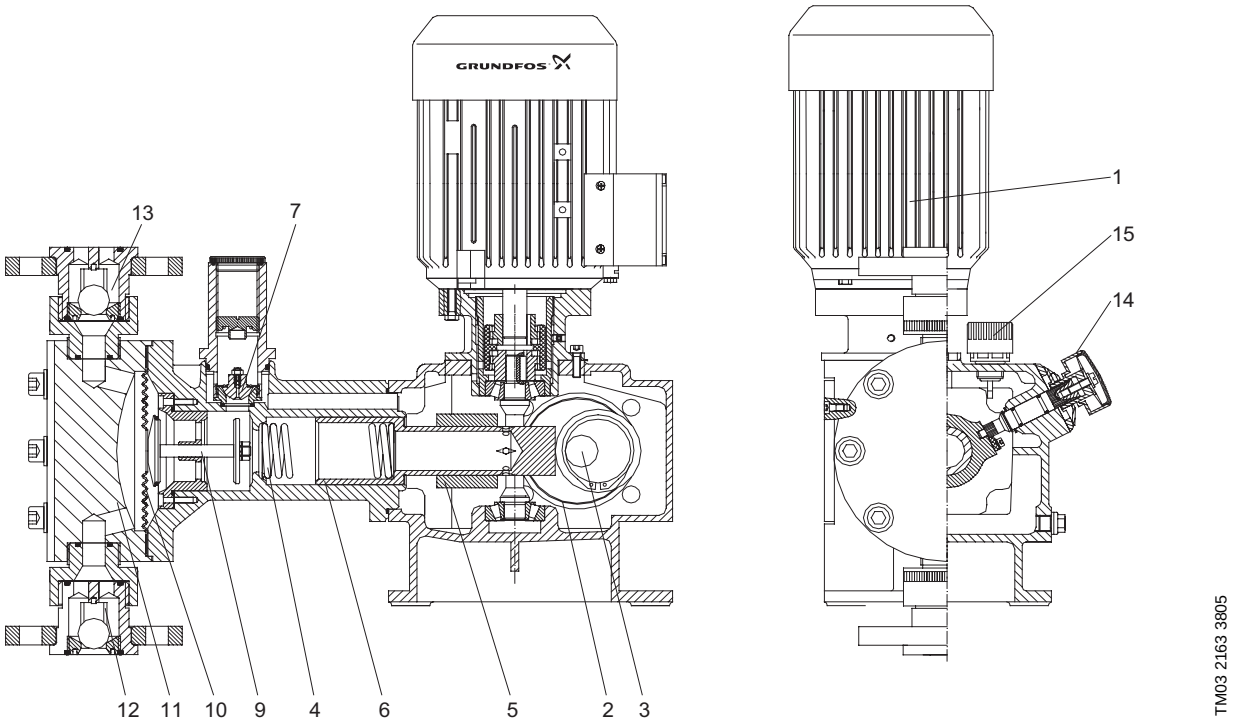

Fig. 19 Sectional drawing, DMH 255

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
4	Return spring (some models excluded)
5	Sliding collar
6	Piston
7	Combined pressure-relief and deaeration valve
9	Diaphragm protection valve (AMS)
10	PTFE diaphragm
11	Pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge

DMH 257

Reciprocating positive-displacement pumps with hydraulic diaphragm

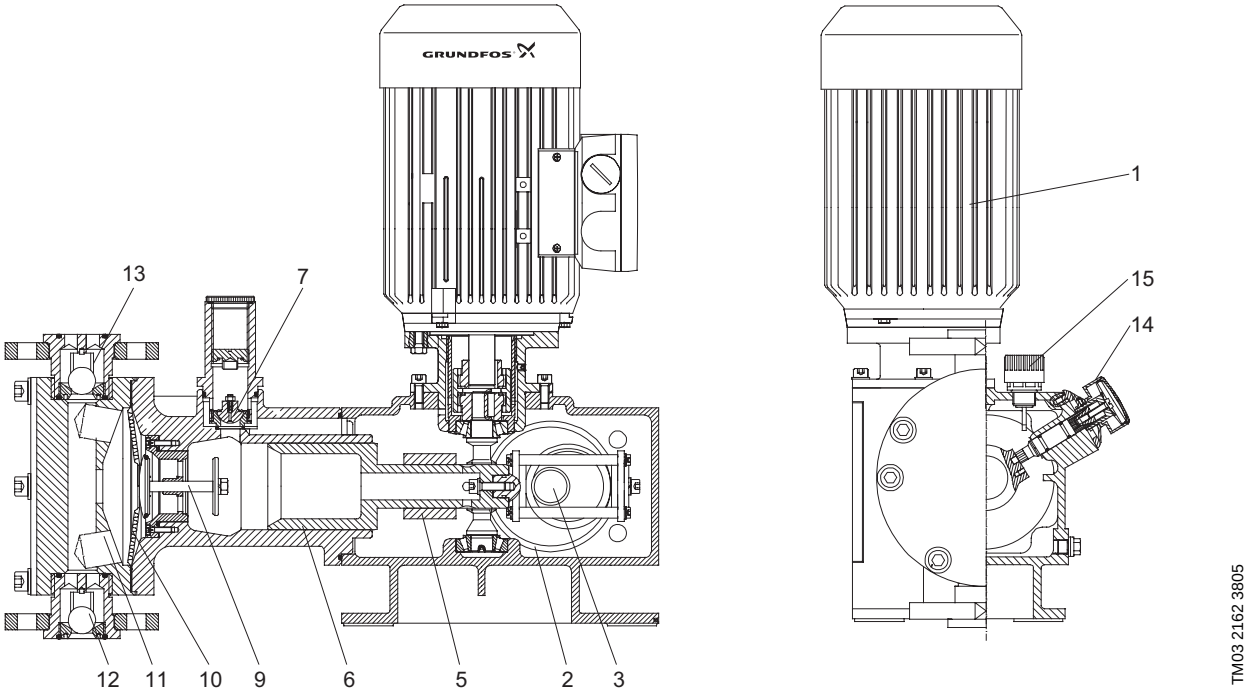

Fig. 20 Sectional drawing, DMH 257

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
5	Sliding collar
6	Piston
7	Combined pressure-relief and deaeration valve
9	Diaphragm protection valve (AMS)
10	PTFE diaphragm
11	Pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge

DMH 280

Reciprocating positive-displacement pumps with hydraulic diaphragm

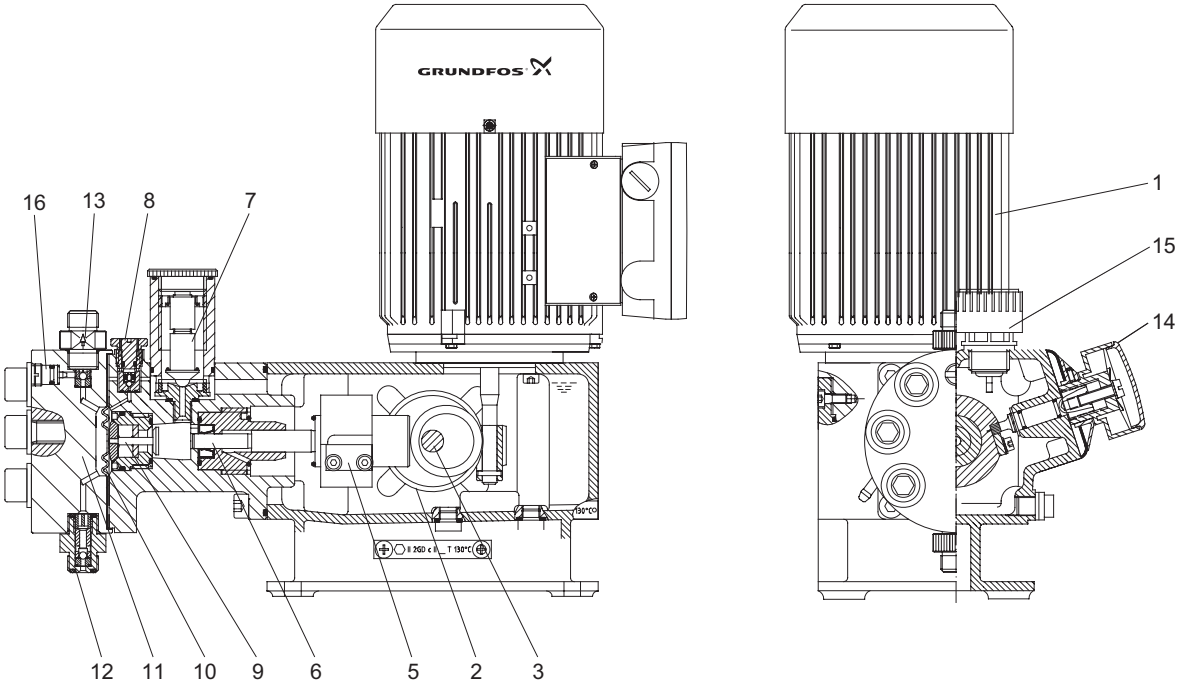

Fig. 21 Sectional drawing, DMH 280

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
5	Slide valve
6	Piston
7	Combined pressure-relief and deaeration valve
8	Oil deaeration valve
9	Diaphragm-protection valve (AMS)
10	PTFE diaphragm
11	Pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge
16	Dosing head air vent valve (priming)

DMH 281

Reciprocating positive-displacement pumps with hydraulic diaphragm

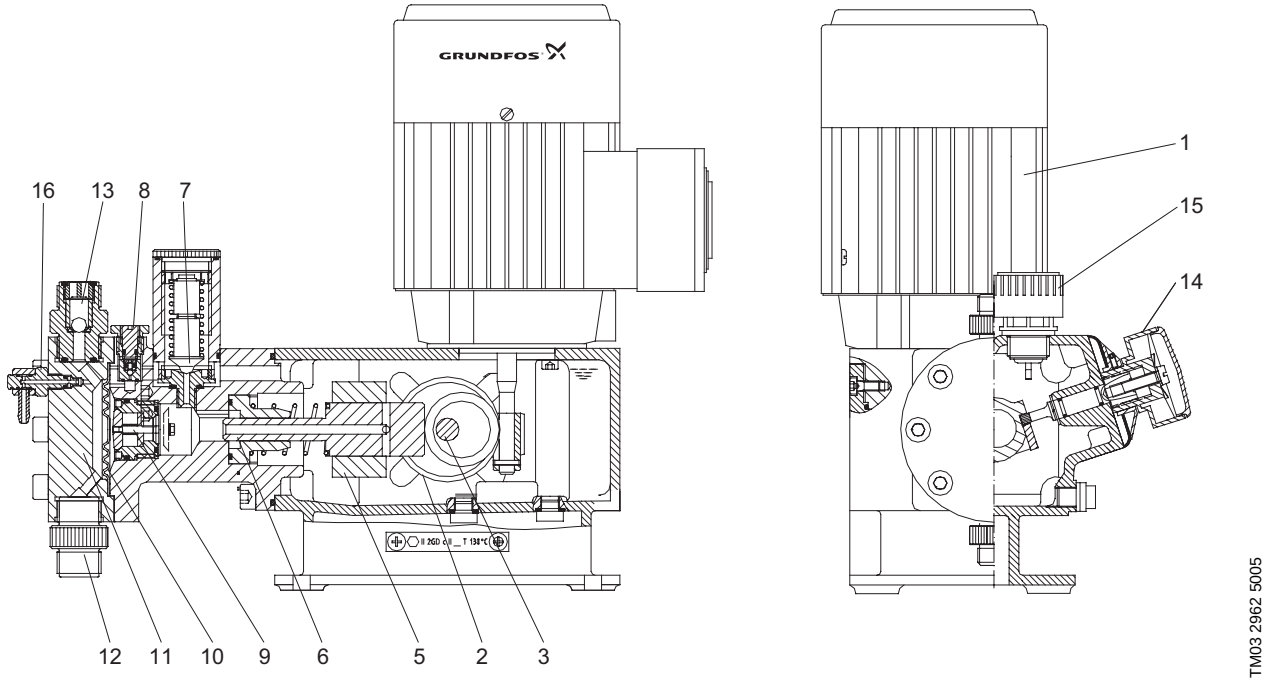

Fig. 22 Sectional drawing, DMH 281

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates a low pressure, in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
5	Slide valve
6	Piston
7	Combined pressure-relief and deaeration valve
8	Oil deaeration valve
9	Diaphragm-protection valve (AMS)
10	PTFE diaphragm
11	pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge
16	Dosing head air vent valve (priming)

DMH 283

Reciprocating positive-displacement pumps with hydraulic diaphragm

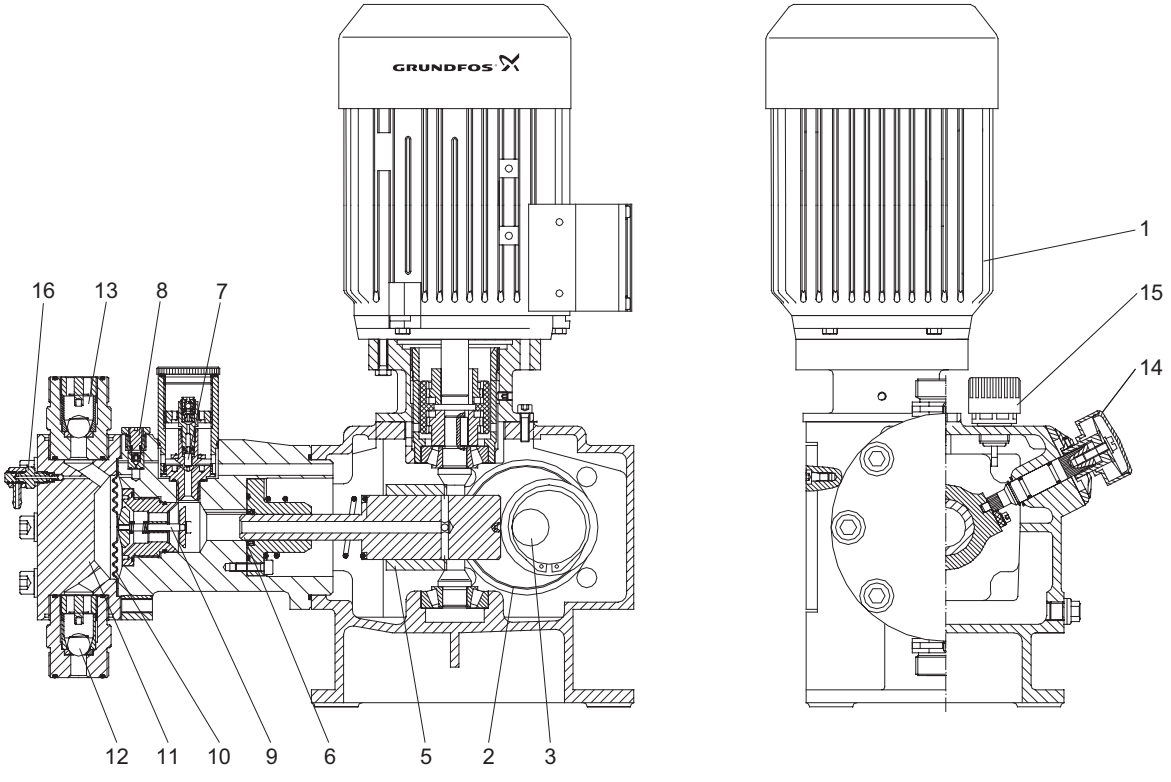

Fig. 23 Sectional drawing, DMH 283

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
5	Slide valve
6	Piston
7	Combined pressure-relief and deaeration valve
8	Oil deaeration valve
9	Diaphragm-protection valve (AMS)
10	PTFE diaphragm
11	pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge
16	Dosing head air vent valve (priming)

DMH 285

Reciprocating positive-displacement pumps with hydraulic diaphragm

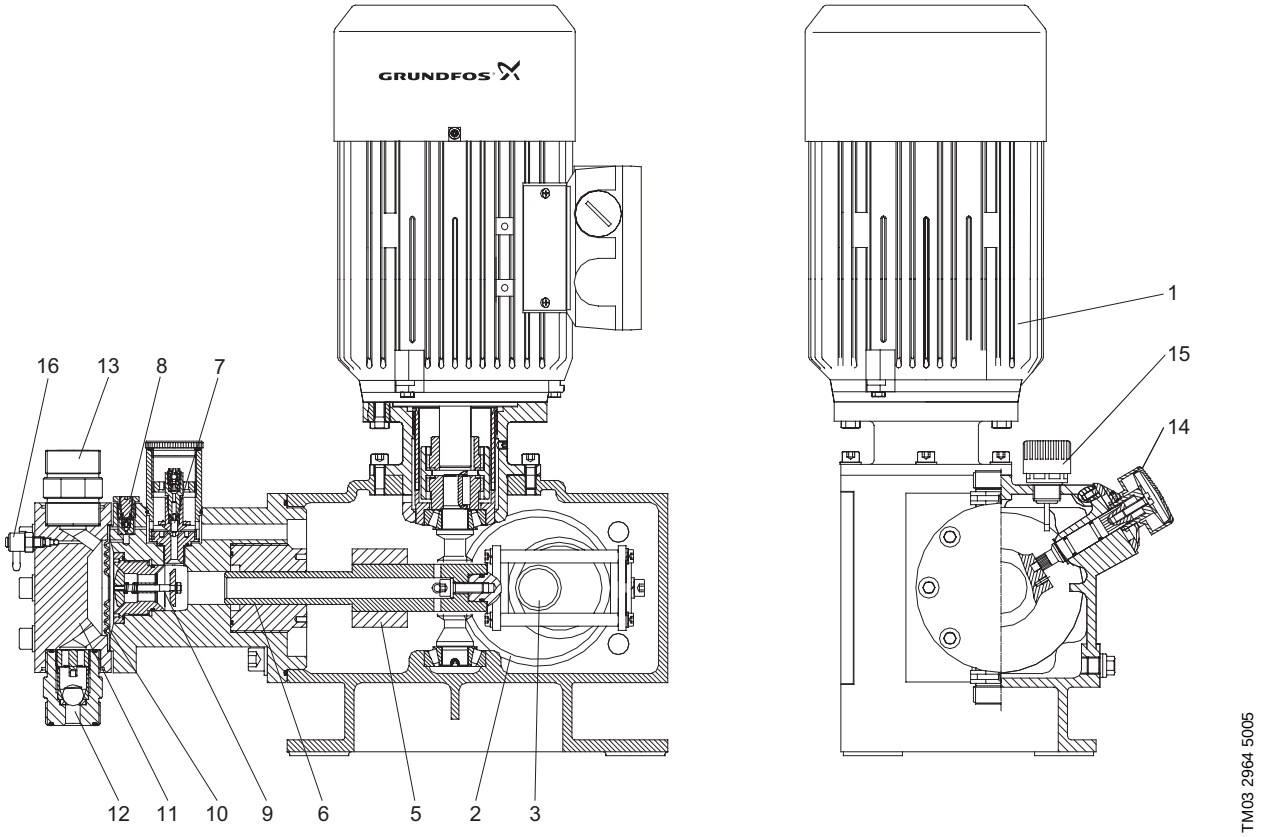

Fig. 24 Sectional drawing, DMH 285

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
5	Slide valve
6	Piston
7	Combined pressure-relief and deaeration valve
8	Oil deaeration valve
9	Diaphragm-protection valve (AMS)
10	PTFE diaphragm
11	pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge
16	Dosing head air vent valve (priming)

DMH 286

Reciprocating positive-displacement pumps with hydraulic diaphragm

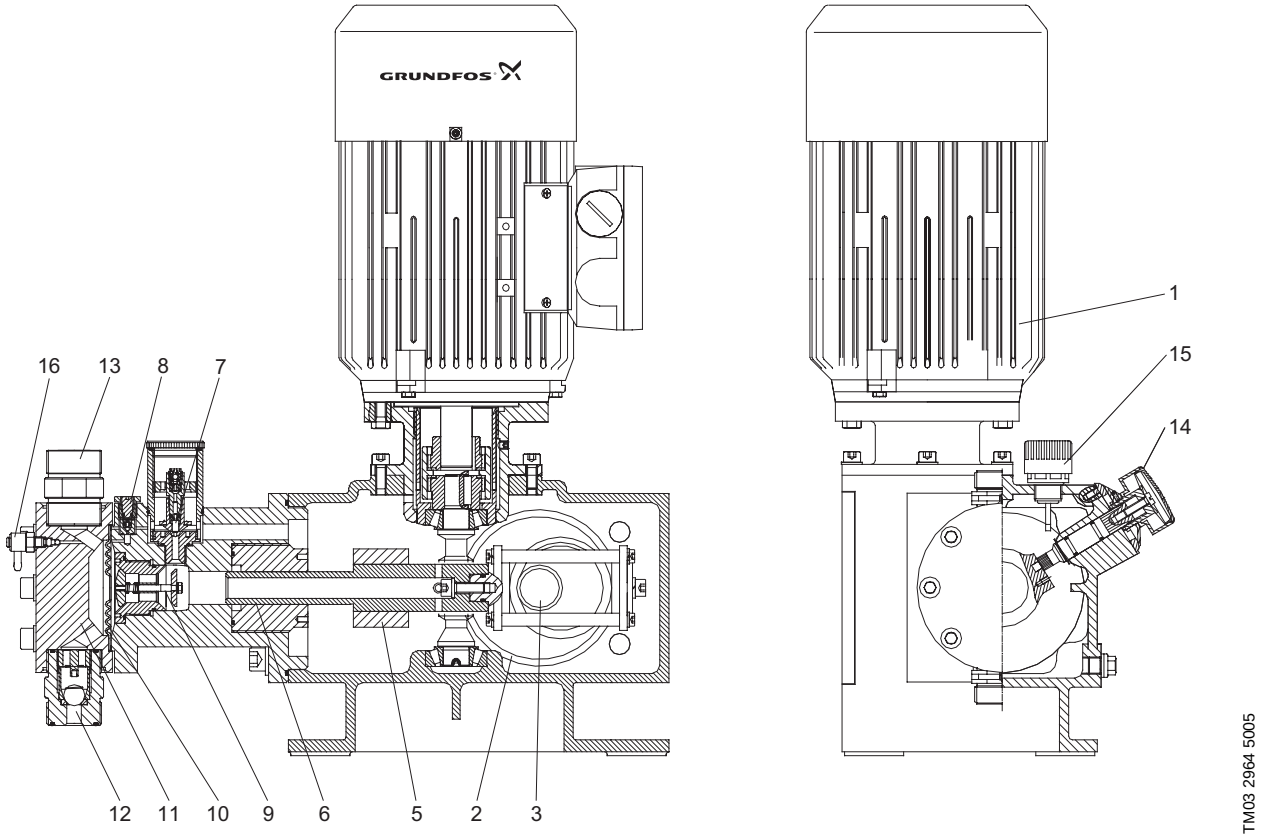

Fig. 25 Sectional drawing, DMH 286

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
5	Slide valve
6	Piston
7	Combined pressure-relief and deaeration valve
8	Oil deaeration valve
9	Diaphragm-protection valve (AMS)
10	PTFE diaphragm
11	pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge
16	Dosing head air vent valve (priming)

DMH 287

Reciprocating positive-displacement pumps with hydraulic diaphragm

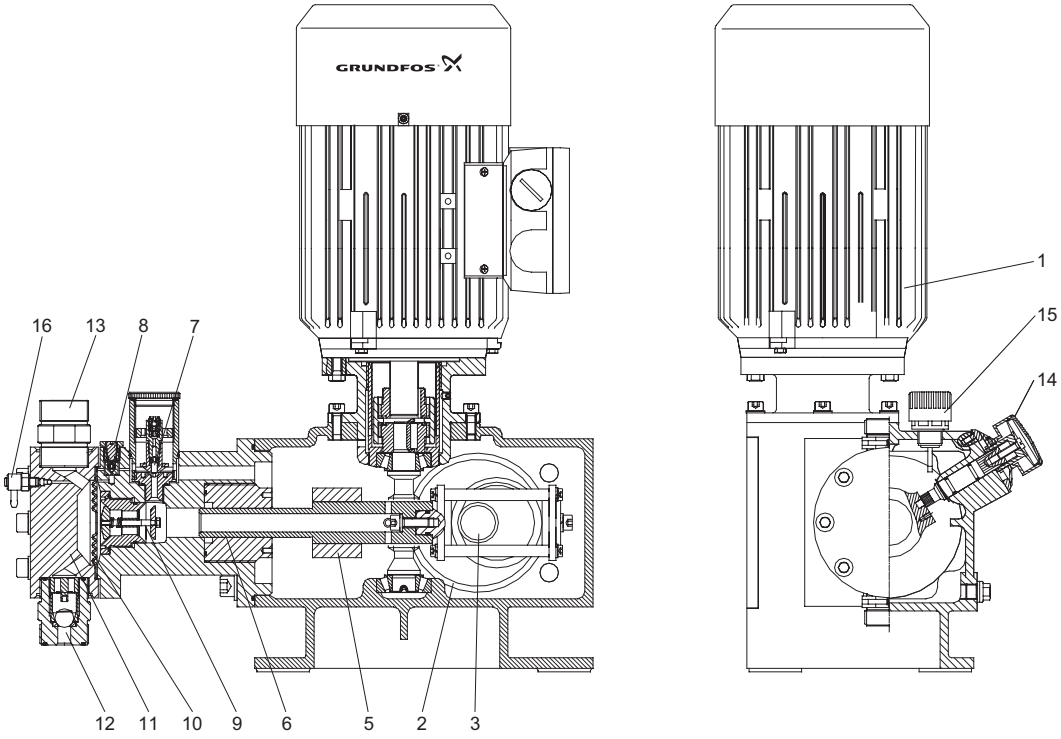

Fig. 26 Sectional drawing, DMH 287

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
5	Slide valve
6	Piston
7	Combined pressure-relief and deaeration valve
8	Oil deaeration valve
9	Diaphragm-protection valve (AMS)
10	PTFE diaphragm
11	pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge
16	Dosing head air vent valve (priming)

DMH 288

Reciprocating positive-displacement pumps with hydraulic diaphragm

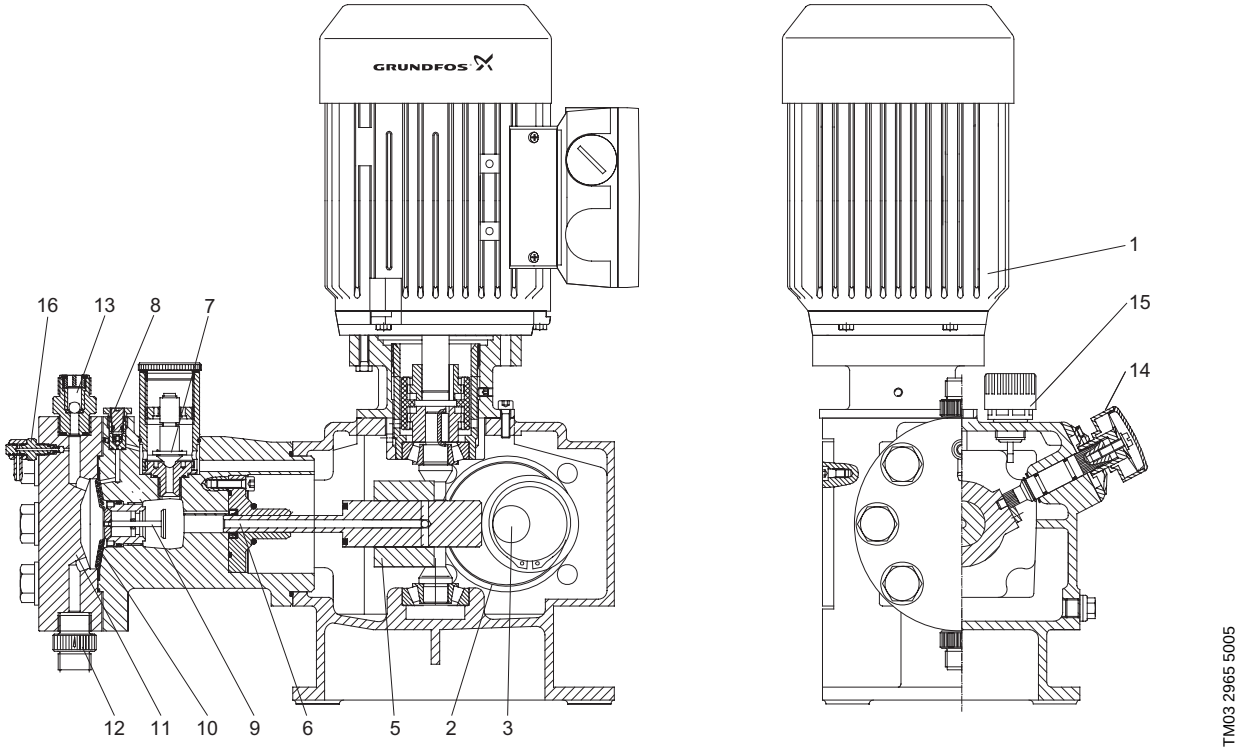

Fig. 27 Sectional drawing, DMH 288

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the reciprocating suction and discharge stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic by-pass between the drive area and the piston stroke area. The sliding collar (5) covers the holes during the stroke and seals the stroke area from the drive area. The hydraulic movement of the solid PTFE diaphragm (10) displaces an equivalent volume of pumped liquid through the pump head (11) into the discharge line. During the suction stroke, the piston creates low pressure in the pump head; the discharge ball valve (13) closes and the pumped liquid flows through the suction valve (12) into the pump head.
- The displaced volume per stroke is solely determined by the position of the sliding collar. The active stroke length and corresponding average flow rate can therefore be changed continuously and linearly from 10 to 100 % using the stroke-length adjustment knob (14).
- The stroke-length adjustment knob can be adjusted when the pump is operating or stopped.

Legend:

Pos.	Component
1	Motor
2	Gear
3	Eccentric
5	Slide valve
6	Piston
7	Combined pressure-relief and deaeration valve
8	Oil deaeration valve
9	Diaphragm-protection valve (AMS)
10	PTFE diaphragm
11	pump head
12	Suction valve
13	Discharge valve
14	Stroke-length adjustment knob
15	Oil fill with oil-level gauge
16	Dosing head air vent valve (priming)

Dimensions, DMH 251-257

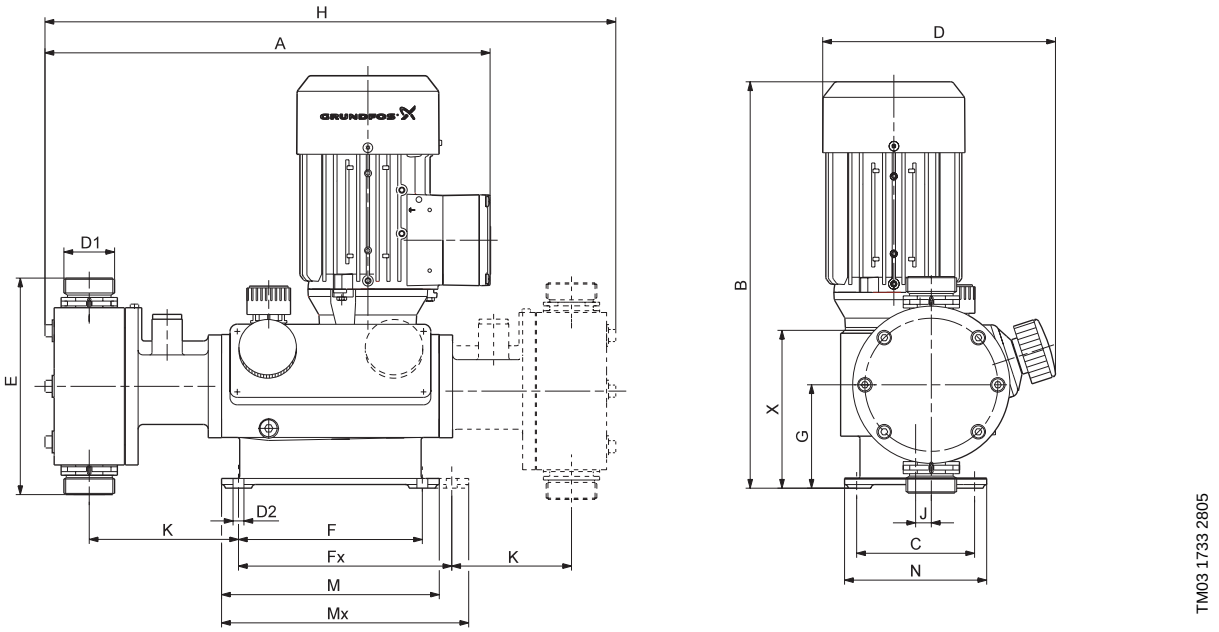

Fig. 28 DImensions, DMH 251-257

Dimensions in inches (mm)

Pump	Model	A	B	C	D	D1*	D2	E	F	Fx	G	H	J	K	M	Mx	N	X
DMH 2.2-25	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 2.3-16	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 2.4-10	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 4.5-25	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 4.9-16	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 5-10	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 10-16	252	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 11-10	252	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 11-25	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 12-16	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 13-10	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 17-25	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 18-16	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 19-10	251	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 21-10	253	14.49 (368)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 1 1/4	0.35 (9)	7.05 (179)	5.98 (152)	5.98 (152)	3.37 (85.5)	18.58 (472)	0.51 (13)	4.88 (124)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 23-16	252	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 24-10	252	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)

Pump	Model	A	B	C	D	D1*	D2	E	F	Fx	G	H	J	K	M	Mx	N	X
DMH 36-16	252	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 37-10	252	13.58 (345)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.30 (160)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.57 (116)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 43-10	253	14.49 (368)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 1 1/4	0.35 (9)	7.05 (179)	5.98 (152)	5.98 (152)	3.37 (85.5)	18.58 (472)	0.51 (13)	4.88 (124)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 50-10	254	17.17 (436)	19.37 (492)	6.14 (156)	9.92 (252)	R 1 1/4	0.35 (9)	8.15 (207)	7.28 (185)	10.24 (260)	4.96 (126)	28.27 (718)	0.39 (10)	7.28 (185)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 67-10	253	14.49 (368)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 1 1/4	0.35 (9)	7.05 (179)	5.98 (152)	5.98 (152)	3.37 (85.5)	18.58 (472)	0.51 (13)	4.88 (124)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 83-10	253	14.49 (368)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 1 1/4	0.35 (9)	7.05 (179)	5.98 (152)	5.98 (152)	3.37 (85.5)	18.58 (472)	0.51 (13)	4.88 (124)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 97-16	254	17.17 (436)	19.37 (492)	6.14 (156)	9.92 (252)	R 1 1/4	0.35 (9)	8.15 (207)	7.28 (185)	10.24 (260)	4.96 (126)	28.27 (718)	0.39 (10)	7.28 (185)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 102-10	254	17.17 (436)	19.37 (492)	6.14 (156)	9.92 (252)	R 1 1/4	0.35 (9)	8.15 (207)	7.28 (185)	10.24 (260)	4.96 (126)	28.27 (718)	0.39 (10)	7.28 (185)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 136-16	254	17.17 (436)	19.37 (492)	6.14 (156)	9.92 (252)	R 1 1/4	0.35 (9)	8.15 (207)	7.28 (185)	10.24 (260)	4.96 (126)	28.27 (718)	0.39 (10)	7.28 (185)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 143-10	254	17.17 (436)	19.37 (492)	6.14 (156)	9.92 (252)	R 1 1/4	0.35 (9)	8.15 (207)	7.28 (185)	10.24 (260)	4.96 (126)	28.27 (718)	0.39 (10)	7.28 (185)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 166-16	254	17.17 (436)	19.37 (492)	6.14 (156)	9.92 (252)	R 1 1/4	0.35 (9)	8.15 (207)	7.28 (185)	10.24 (260)	4.96 (126)	28.27 (718)	0.39 (10)	7.28 (185)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 175-10	254	17.17 (436)	19.37 (492)	6.14 (156)	9.92 (252)	R 1 1/4	0.35 (9)	8.15 (207)	7.28 (185)	10.24 (260)	4.96 (126)	28.27 (718)	0.39 (10)	7.28 (185)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 194-10	255	20.08 (510)	19.37 (492)	6.14 (156)	10.00 (254)	R 1 1/4	0.35 (9)	8.98 (228)	7.28 (185)	10.24 (260)	4.96 (126)	34.21 (869)	0.39 (10)	9.96 (253)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 202-16	254	17.17 (436)	19.37 (492)	6.14 (156)	9.92 (252)	R 1 1/4	0.35 (9)	8.15 (207)	7.28 (185)	10.24 (260)	4.96 (126)	28.27 (718)	0.39 (10)	7.28 (185)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 213-10	254	17.17 (436)	19.37 (492)	6.14 (156)	9.92 (252)	R 1 1/4	0.35 (9)	8.15 (207)	7.28 (185)	10.24 (260)	4.96 (126)	28.27 (718)	0.39 (10)	7.28 (185)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 220-10	257	23.19 (589)	21.77 (553)	6.69 (170)	10.79 (274)	DN 32	0.35 (9)	11.02 (280)	9.49 (241)	13.11 (333)	5.06 (128.5)	38.58 (980)	0.98 (25)	10.31 (262)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 270-10	255	20.08 (510)	19.37 (492)	6.14 (156)	10.00 (254)	R 1 1/4	0.35 (9)	8.98 (228)	7.28 (185)	10.24 (260)	4.96 (126)	34.21 (869)	0.39 (10)	9.96 (253)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 332-10	255	20.08 (510)	19.37 (492)	6.14 (156)	10.00 (254)	R 1 1/4	0.35 (9)	8.98 (228)	7.28 (185)	10.24 (260)	4.96 (126)	34.21 (869)	0.39 (10)	9.96 (253)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 403-10	255	20.08 (510)	19.37 (492)	6.14 (156)	10.00 (254)	R 1 1/4	0.35 (9)	8.98 (228)	7.28 (185)	10.24 (260)	4.96 (126)	34.21 (869)	0.39 (10)	9.96 (253)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 440-10	257	23.19 (589)	21.77 (553)	6.69 (170)	10.79 (274)	DN 32	0.35 (9)	11.02 (280)	9.49 (241)	13.11 (333)	5.06 (128.5)	38.58 (980)	0.98 (25)	10.31 (262)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 575-10	257	23.19 (589)	21.77 (553)	6.69 (170)	10.79 (274)	DN 32	0.35 (9)	11.02 (280)	9.49 (241)	13.11 (333)	5.06 (128.5)	38.58 (980)	0.98 (25)	10.31 (262)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 770-10	257	23.19 (589)	21.77 (553)	6.69 (170)	10.79 (274)	DN 32	0.35 (9)	11.02 (280)	9.49 (241)	13.11 (333)	5.06 (128.5)	38.58 (980)	0.98 (25)	10.31 (262)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 880-10	257	23.19 (589)	21.77 (553)	6.69 (170)	10.79 (274)	DN 32	0.35 (9)	11.02 (280)	9.49 (241)	13.11 (333)	5.06 (128.5)	38.58 (980)	0.98 (25)	10.31 (262)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)

* US connections are listed on page 27.

Dimensions, DMH 280-288

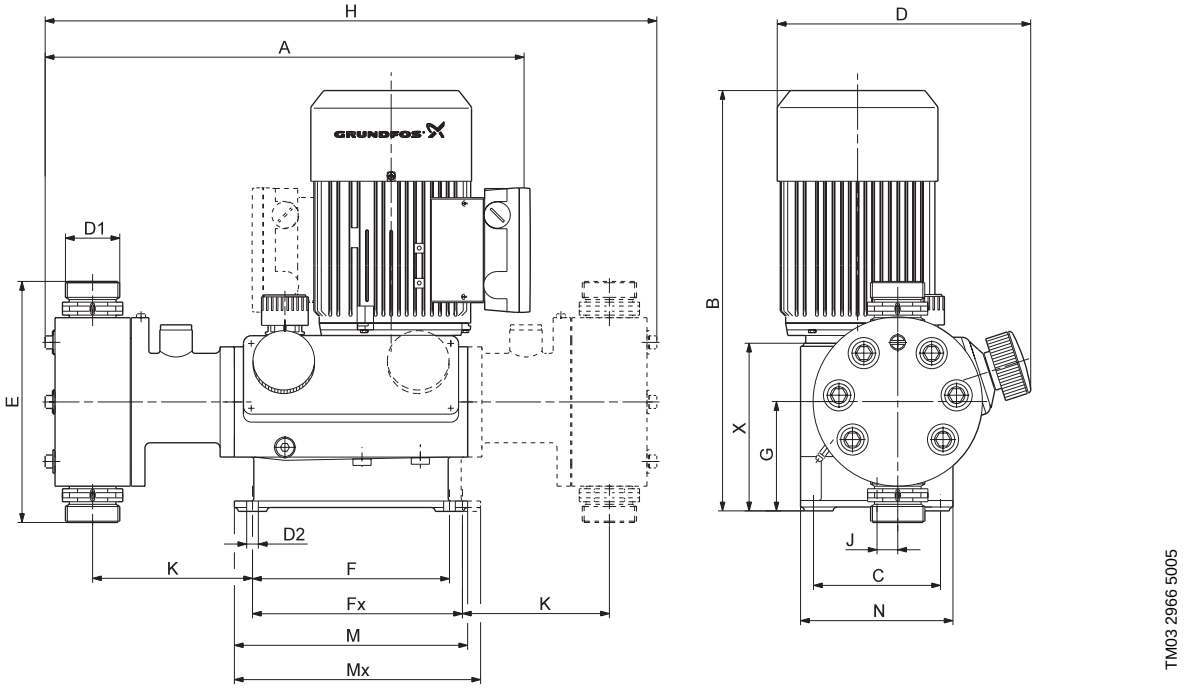

Fig. 29 Dimensions, DMH 280-288

Dimensions in inches (mm)

Pump	Model	A	B	C	D	D1*	D2	E	F	Fx	G	H	J	K	M	Mx	N	X
DMH 1.3-200	280	14.37 (365)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 3/8	0.35 (9)	5.59 (142)	5.98 (152)	5.98 (152)	3.37 (85.5)	18.31 (465)	0.63 (16)	4.49 (114)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 2-100	281	13.70 (348)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.10 (155)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.49 (114)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 2.2-200	280	14.37 (365)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 3/8	0.35 (9)	5.59 (142)	5.98 (152)	5.98 (152)	3.37 (85.5)	18.31 (465)	0.63 (16)	4.49 (114)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 2.5-200	280	14.37 (365)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 3/8	0.35 (9)	5.59 (142)	5.98 (152)	5.98 (152)	3.37 (85.5)	18.31 (465)	0.63 (16)	4.49 (114)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 4.2-100	281	13.70 (348)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.10 (155)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.49 (114)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 6.4-100	281	13.70 (348)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.10 (155)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.49 (114)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 7.5-200	288	16.73 (425)	19.37 (492)	6.14 (156)	6.12 (155.5)	R 5/8	0.35 (9)	8.19 (208)	7.28 (185)	10.24 (260)	4.96 (126)	27.56 (700)	0.39 (10)	6.81 (173)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 8-100	281	13.70 (348)	13.23 (336)	3.84 (97.5)	7.56 (192)	R 5/8	0.35 (9)	6.10 (155)	5.98 (152)	5.98 (152)	3.37 (85.5)	17.01 (432)	0.63 (16)	4.49 (114)	7.09 (180)	7.09 (180)	4.63 (117.5)	5.14 (130.5)
DMH 10-200	288	16.73 (425)	19.37 (492)	6.14 (156)	6.12 (155.5)	R 5/8	0.35 (9)	8.19 (208)	7.28 (185)	10.24 (260)	4.96 (126)	27.56 (700)	0.39 (10)	6.81 (173)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 13-200	288	16.73 (425)	19.37 (492)	6.14 (156)	6.12 (155.5)	R 5/8	0.35 (9)	8.19 (208)	7.28 (185)	10.24 (260)	4.96 (126)	27.56 (700)	0.39 (10)	6.81 (173)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 15-200	288	16.73 (425)	19.37 (492)	6.14 (156)	6.12 (155.5)	R 5/8	0.35 (9)	8.19 (208)	7.28 (185)	10.24 (260)	4.96 (126)	27.56 (700)	0.39 (10)	6.81 (173)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 18-200	287	19.29 (490)	21.77 (553)	6.69 (170)	10.79 (274)	R 5/8	0.35 (9)	8.19 (208)	9.45 (240)	13.11 (333)	5.08 (129)	32.05 (814)	0.98 (25)	6.93 (176)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 19-100	283	17.20 (437)	19.41 (493)	6.14 (156)	10.00 (254)	R 1 1/4	0.35 (9)	8.31 (211)	7.28 (185)	10.24 (260)	4.96 (126)	27.80 (706)	0.39 (10)	7.17 (182)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 20-100	285	20.08 (510)	21.77 (553)	5.73 (145.5)	10.79 (274)	R 1 1/4	0.35 (9)	7.05 (179)	9.45 (240)	13.11 (333)	5.08 (129)	32.28 (820)	0.98 (25)	7.36 (187)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 23-200	287	19.29 (490)	21.77 (553)	6.69 (170)	10.79 (274)	R 5/8	0.35 (9)	8.19 (208)	9.45 (240)	13.11 (333)	5.08 (129)	32.05 (814)	0.98 (25)	6.93 (176)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 27-100	283	17.20 (437)	19.41 (493)	6.14 (156)	10.00 (254)	R 1 1/4	0.35 (9)	8.31 (211)	7.28 (185)	10.24 (260)	4.96 (126)	27.80 (706)	0.39 (10)	7.17 (182)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)

Pump	Model	A	B	C	D	D1*	D2	E	F	Fx	G	H	J	K	M	Mx	N	X
DMH 31-200	287	19.29 (490)	21.77 (553)	6.69 (170)	10.79 (274)	R 5/8	0.35 (9)	8.19 (208)	9.45 (240)	13.11 (333)	5.08 (129)	32.05 (814)	0.98 (25)	6.93 (176)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 33-100	283	17.20 (437)	19.41 (493)	6.14 (156)	10.00 (254)	R 1 1/4	0.35 (9)	8.31 (211)	7.28 (185)	10.24 (260)	4.96 (126)	27.80 (706)	0.39 (10)	7.17 (182)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 36-200	287	19.29 (490)	21.77 (553)	6.69 (170)	10.79 (274)	R 5/8	0.35 (9)	8.19 (208)	9.45 (240)	13.11 (333)	5.08 (129)	32.05 (814)	0.98 (25)	6.93 (176)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 40-100	283	17.20 (437)	19.41 (493)	6.14 (156)	10.00 (254)	R 1 1/4	0.35 (9)	8.31 (211)	7.28 (185)	10.24 (260)	4.96 (126)	27.80 (706)	0.39 (10)	7.17 (182)	8.86 (225)	11.81 (300)	7.09 (180)	10.16 (258)
DMH 40-100	285	20.08 (510)	21.77 (553)	5.73 (145.5)	10.79 (274)	R 1 1/4	0.35 (9)	7.05 (179)	9.45 (240)	13.11 (333)	5.08 (129)	32.28 (820)	0.98 (25)	7.36 (187)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 52-100	285	20.08 (510)	21.77 (553)	5.73 (145.5)	10.79 (274)	R 1 1/4	0.35 (9)	7.05 (179)	9.45 (240)	13.11 (333)	5.08 (129)	32.28 (820)	0.98 (25)	7.36 (187)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 70-100	285	20.08 (510)	21.77 (553)	5.73 (145.5)	10.79 (274)	R 1 1/4	0.35 (9)	7.05 (179)	9.45 (240)	13.11 (333)	5.08 (129)	32.28 (820)	0.98 (25)	7.36 (187)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 80-100	285	20.08 (510)	21.77 (553)	5.73 (145.5)	10.79 (274)	R 1 1/4	0.35 (9)	7.05 (179)	9.45 (240)	13.11 (333)	5.08 (129)	32.28 (820)	0.98 (25)	7.36 (187)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 85-50	286	20.08 (510)	21.77 (553)	5.73 (145.5)	10.79 (274)	R 1 1/4	0.35 (9)	9.21 (234)	9.45 (240)	13.11 (333)	5.08 (129)	32.28 (820)	0.98 (25)	7.52 (191)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 111-50	286	20.08 (510)	21.77 (553)	5.73 (145.5)	10.79 (274)	R 1 1/4	0.35 (9)	9.21 (234)	9.45 (240)	13.11 (333)	5.08 (129)	32.28 (820)	0.98 (25)	7.52 (191)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)
DMH 170-50	286	20.08 (510)	21.77 (553)	5.73 (145.5)	10.79 (274)	R 1 1/4	0.35 (9)	9.21 (234)	9.45 (240)	13.11 (333)	5.08 (129)	32.28 (820)	0.98 (25)	7.52 (191)	11.42 (290)	15.04 (382)	7.66 (194.5)	10.67 (271)

* US connections are listed see table below.

US Connections for suction and discharge

Model	Metal heads	Plastic heads
251	1/4" FNPT or 1/2" MNPT	1/2" MNPT or 1/2" tubing
252	1/4" FNPT or 1/2" MNPT	1/2" MNPT or 1/2" tubing
253	3/4" FNPT	3/4" MNPT
254	3/4" FNPT	3/4" MNPT
255	3/4" FNPT	3/4" MNPT
257	1 1/4" ANSI Flange on inlet of 403-10	

Model	Metal heads
280	1/4" FNPT
281	1/4" FNPT
283	3/4" FNPT
285	3/4" FNPT
286	3/4" FNPT
287	3/4" FNPT
288	1/4" FNPT

DMH pumps supplied from the USA

DMH B pumps are supplied without motors. The motors listed below for B version pumps are sold separately and can be easily mounted in the field. DMH AR pumps, with the Etron-Profi controller for pulse frequency control, or 4-20mA control are only available in selected sizes as indicated below. AR pumps are supplied with motors.

Motors TEFC AC 1725 RPM

DMH B (manual control)	Type	Control variants	Motor flange	HP	Phase	Voltage	Comment	Grundfos material number
DMH 251, 252, 253 DMH 280,281	Simplex or duplex	B, AT5	NEMA 56 C	1/4	1	115-230		91836042
				1/4	3	208-230/460		91836043
				1/3	1	115-230	X-proof, class I, Grp D	91836036
		AR	-	1/3	1	115	IP 55 Motor inlcuded with pump	
DMH 254	Simplex or duplex	B, AT5	NEMA 56 C	1/2	1	115-230		91836048
				1/2	3	208-230/460		91836037
				1/2	1	208-230/460	X-proof, class I, Grp D	91836051
DMH 255 DMH 283, 288	Simplex or duplex	B, AT5	NEMA 56 C	3/4	1	115-230		91836049
				3/4	3	208-230/460		91836053
				3/4	3	208-230/460	X-proof, class I, Grp D	91836052
DMH 257 DMH 285, 286, 287	Simplex	B, AT5	NEMA 145 TC	1 1/2	1	115-230		91836050
				1 1/2	3	208-230/460		91836038
				1 1/2	3	208-230/460	X-proof, class I, Grp D	91836055
	Duplex	B, AT5	NEMA 145 TC	2	1	115-230		91836047
				2	3	208-230/460		91836054
				2	3	208-230/460	X-proof, class I, Grp D	91836056

Servo motors

Remote stroke-length control via a 4-20 mA servo-motor is available on control variant AT5 pumps. One or two servo-motors can be used on DMH duplex pumps, and used on an AR version to remotely control both stroke length and stroke frequency.

Enclosure class, standard version	IP 55
Enclosure class, Ex-proofed servo motor version	IP 67
Voltage	115V, 50/60 Hz, single phase

Gra3466

Fig. 30 DMH 257 with servo motor for stroke length control

Performance data, DMH 251-257

Pump	Model	V/stroke [cm³]	Pmax [1] [psi]	60 Hz		50 Hz		Motor power	
				Capacity [2] [3] [GPH] ([l/h])	Stroke rate [spm]	Capacity [2] [3] [GPH] ([l/h])	Stroke rate [spm]	Standard [HP]	PTC [4] [HP]
DMH 2.2-25	251	2.9	363	0.69 (2.6)	17	0.58 (2.2)	14	1/4	1/4
DMH 2.3-16	251	3.1	232	0.74 (2.8)	17	0.61 (2.3)	14	1/4	1/4
DMH 2.4-10	251	3.5	145	0.77 (2.9)	17	0.63 (2.4)	14	1/4	1/4
DMH 4.5-25	251	2.9	363	1.43 (5.4)	35	1.19 (4.5)	29	1/4	1/4
DMH 4.9-16	251	3.1	232	1.56 (5.9)	35	1.29 (4.9)	29	1/4	1/4
DMH 5-10	251	3.5	145	1.59 (6)	35	1.32 (5)	29	1/4	1/4
DMH 10-16	252	6.3	232	3.17 (12)	35	2.64 (10)	29	1/4	1/4
DMH 11-10	252	6.4	145	3.43 (13)	35	2.91 (11)	29	1/4	1/4
DMH 11-25	251	2.9	363	3.43 (13)	75	2.91 (11)	63	1/4	1/4
DMH 12-16	251	3.1	232	3.7 (14)	75	3.17 (12)	63	1/4	1/4
DMH 13-10	251	3.5	145	4.23 (16)	75	3.43 (13)	63	1/4	1/4
DMH 17-25	251	2.9	363	5.28 (20)	115	4.49 (17)	96	1/4	-
DMH 18-16	251	3.1	232	5.81 (22)	115	4.76 (18)	96	1/4	-
DMH 19-10	251	3.5	145	6.08 (23)	115	5.02 (19)	96	1/4	-
DMH 21-10	253	11.3	145	6.6 (25)	35	5.55 (21)	29	1/4	1/4
DMH 23-16	252	6.3	232	7.13 (27)	75	6.08 (23)	63	1/4	1/4
DMH 24-10	252	6.4	145	7.66 (29)	75	6.34 (24)	63	1/4	1/4
DMH 36-16	252	6.3	232	11.36 (43)	115	9.51 (36)	96	1/4	-
DMH 37-10	252	6.4	145	11.62 (44)	115	9.77 (37)	96	1/4	-
DMH 43-10	253	11.3	145	13.74 (52)	75	11.36 (43)	63	1/4	1/4
DMH 50-10	254	31.6	145	15.85 (60)	31	13.21 (50)	26	3/4	3/4
DMH 67-10	253	11.3	145	20.61 (78)	115	17.7 (67)	96	1/4	-
DMH 83-10	253	11.3	145	26.15 (99)	144	21.93 (83)	120	1/4	-
DMH 97-16	254	30	232	30.64 (116)	65	25.62 (97)	54	3/4	3/4
DMH 102-10	254	31.6	145	32.23 (122)	65	26.95 (102)	54	3/4	3/4
DMH 136-16	254	30	232	43.06 (163)	90	35.93 (136)	75	3/4	3/4
DMH 143-10	254	31.6	145	45.44 (172)	90	37.78 (143)	75	3/4	3/4
DMH 166-16	254	30	232	52.83 (200)	110	43.85 (166)	92	3/4	-
DMH 175-10	254	31.6	145	55.48 (210)	110	46.23 (175)	92	3/4	-
DMH 194-10	255	60	145	61.55 (233)	65	51.25 (194)	54	3/4	3/4
DMH 202-16	254	30	232	63.93 (242)	134	53.36 (202)	112	3/4	-
DMH 213-10	254	31.6	145	67.36 (255)	134	56.27 (213)	112	3/4	-
DMH 220-10	257	131	145	69.74 (264)	34	58.12 (220)	28	1 1/2	2 (3*)
DMH 270-10	255	60	145	85.59 (324)	90	71.33 (270)	75	3/4	1
DMH 332-10	255	60	145	105.14 (398)	110	87.71 (332)	92	3/4	-
DMH 403-10	255	60	145	127.86 (484)	134	106.46 (403)	112	3/4	-
DMH 440-10	257	131	145	139.48 (528)	67	116.24 (440)	56	1 1/2	3
DMH 575-10	257	131	145	182.28 (690)	88	151.9 (575)	73	1 1/2	3
DMH 770-10	257	131	145	244.09 (924)	118	203.41 (770)	98	1 1/2	3
DMH 880-10	257	131	145	278.97 (1056)	134	232.47 (880)	112	1 1/2	3

1) Maximum back pressure.
2) The maximum capacity is measured at the maximum back pressure.
3) The capacity is per dosing head.
(Duplex pumps have double flow rate of single-head versions.)
4) Motor for frequency control.
✶ For duplex pumps.

Performance data, DMH 280-288

Pump	Model	Vstroke [cm^3]	Pmax [1] [psi]	60 Hz		50 Hz		Motor power	
				Capacity [2] [3] [GPH] ([l/h])	Stroke rate [spm]	Capacity [2] [3] [GPH] ([l/h])	Stroke rate [spm]	Standard [HP]	PTC [4] [HP]
DMH 1.3-200	280	0.36	2900	0.46 (1.74)	76	0.38 (1.45)	63	1/4	1/4
DMH 2-100	281	1.1	1450	0.63 (2.4)	35	0.53 (2)	29	1/4	1/4
DMH 2.2-200	280	0.36	2900	0.7 (2.66)	115	0.59 (2.22)	96	1/4	1/4
DMH 2.5-200	280	0.36	2900	0.89 (3.37)	144	0.74 (2.81)	120	1/4	1/4
DMH 4.2-100	281	1.1	1450	1.32 (5)	76	1.11 (4.2)	63	1/4	1(4
DMH 6.4-100	281	1.1	1450	2.03 (7.7)	115	1.69 (6.4)	96	1/4	1/4
DMH 7.5-200	288	2.33	2900	2.38 (9)	65	1.98 (7.5)	54	3/4	3/4
DMH 8-100	281	1.1	1450	2.54 (9.6)	144	2.11 (8)	120	1/4	1/4
DMH 10-200	288	2.33	2900	3.3 (12.5)	90	2.75 (10.4)	75	3/4	3/4
DMH 13-200	288	2.33	2900	4.07 (15.4)	118	3.38 (12.8)	92	3/4	3/4
DMH 15-200	288	2.33	2900	4.91 (18.6)	134	4.09 (15.5)	112	3/4	3/4
DMH 18-200	287	6	2900	5.81 (22)	67	4.76 (18)	56	1 1/2	2
DMH 19-100	283	6	1450	6.08 (23)	65	5.02 (19)	54	3/4	3/4
DMH 20-100	285	12	1450	6.34 (24)	34	5.28 (20)	28	1 1/2	2
DMH 23-200	287	6	2900	7.4 (28)	88	6.08 (23)	73	1 1/2	2
DMH 27-100	283	6	1450	8.45 (32)	90	7.13 (27)	75	3/4	3/4
DMH 31-200	287	6	2900	9.77 (37)	118	8.19 (31)	98	1 1/2	2
DMH 33-100	283	6	1450	10.57 (40)	110	8.72 (33)	92	3/4	3/4
DMH 36-200	287	6	2900	11.36 (43)	134	9.51 (36)	112	1 1/2	2
DMH 40-100	283	6	1450	12.68 (48)	134	10.57 (40)	112	3/4	3/4
DMH 40-100	285	12	1450	12.68 (48)	67	10.57 (40)	56	1 1/2	2
DMH 52-100	285	12	1450	16.64 (63)	88	13.74 (52)	73	1 1/2	2
DMH 70-100	285	12	1450	22.19 (84)	118	18.49 (70)	98	1 1/2	2
DMH 80-100	285	12	1450	25.36 (96)	134	21.13 (80)	112	1 1/2	2
DMH 85-50	286	25.3	725	26.95 (102)	67.2	22.45 (85)	56	1 1/2	2
DMH 111-50	286	25.3	725	35.13 (133)	87.6	29.32 (111)	73	1 1/2	2
DMH 170-50	286	25.3	725	53.89 (204)	134	44.91 (170)	112	1 1/2	2

1) Maximum back pressure.
2) The maximum capacity is measured at the maximum back pressure.
3) The capacity is per dosing head.
(Duplex pumps have double flow rate of single-head versions.)
4) Motor for frequency control.
✶ For duplex pumps.

Suction lift, DMH 251-257

Pump	Model	Max. suction lift		Max. inlet pressure [psi] ([bar])	Min. differential pressure [psi] ([bar])	Max. permissible viscosity at operating temperature [1] [cps] ([mPa s])		
		Liquids with a viscosity similar to water [ft] ([m])	Liquids with max. permissible viscosity [ft] ([m])			0 to 63 strokes/min	64 to 120 strokes/min	120 and above strokes/min
DMH 2.2-25	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 2.3-16	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 2.4-10	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 4.5-25	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 4.9-16	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 5-10	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 10-16	252	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 11-10	252	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 11-25	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 12-16	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 13-10	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 17-25	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 18-16	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 19-10	251	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 21-10	253	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	10 (10)
DMH 23-16	252	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 24-10	252	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 36-16	252	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 37-10	252	3.3 (1)	0✶	116 (8)	29 (2)	300 (300)	100 (100)	50 (50)
DMH 43-10	253	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	10 (10)
DMH 50-10	254	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	5 (5)
DMH 67-10	253	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	10 (10)
DMH 83-10	253	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	10 (10)
DMH 97-16	254	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	5 (5)
DMH 102-10	254	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	5 (5)
DMH 136-16	254	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	5 (5)
DMH 143-10	254	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	5 (5)
DMH 166-16	254	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	5 (5)
DMH 175-10	254	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	5 (5)
DMH 194-10	255	0✶	0✶	11.6 (0.8)	29 (2)	200 (200)	100 (100)	5 (5)
DMH 202-16	254	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	5 (5)
DMH 213-10	254	3.3 (1)	0✶	72.5 (5)	29 (2)	300 (300)	100 (100)	5 (5)
DMH 220-10	257	3.3 (1)	0✶	11.6 (0.8)	29 (2)	200 (200)	50 (50)	5 (5)
DMH 270-10	255	0✶	0✶	11.6 (0.8)	29 (2)	200 (200)	100 (100)	5 (5)
DMH 332-10	255	0✶	0✶	11.6 (0.8)	29 (2)	200 (200)	100 (100)	5 (5)
DMH 403-10	255	0✶	0✶	11.6 (0.8)	29 (2)	200 (200)	100 (100)	5 (5)
DMH 440-10	257	3.3 (1)	0✶	11.6 (0.8)	29 (2)	200 (200)	50 (50)	5 (5)
DMH 575-10	257	3.3 (1)	0✶	11.6 (0.8)	29 (2)	200 (200)	50 (50)	5 (5)
DMH 770-10	257	3.3 (1)	0✶	11.6 (0.8)	29 (2)	200 (200)	50 (50)	5 (5)
DMH 880-10	257	0✶	0✶	11.6 (0.8)	29 (2)	200 (200)	50 (50)	5 (5)

1) Approximate values applying to the standard version of pumps.

The values refer to dosing liquids with the following characteristics:
- newtonian
- non-degassing
- not containing suspended matter
- density similar to water.

✶) Flooded suction

Note: The viscosity increases when the temperature decreases.

Suction lift, DMH 280-288

Pump	Model	Max. suction lift		Max. inlet pressure [psi] ([bar])	Min. differential pressure [psi] ([bar])	Max. permissible viscosity at operating temperature 1) [cps] ([mPa s])		
		Liquids with a viscosity similar to water [ft] ([m])	Liquids with max. permissible viscosity [ft] ([m])			0 to 63 strokes/min	64 to 120 strokes/min	120 and above strokes/min
DMH 1.3-200	280	0✶	0✶	14.5 (1)	29 (2)	5 (5)	5 (5)	5 (5)
DMH 2-100	281	3.3 (1)	0✶	145 (10)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 2.2-200	280	0✶	0✶	14.5 (1)	29 (2)	5 (5)	5 (5)	5 (5)
DMH 2.5-200	280	0✶	0✶	14.5 (1)	29 (2)	5 (5)	5 (5)	5 (5)
DMH 4.2-100	281	3.3 (1)	0✶	145 (10)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 6.4-100	281	3.3 (1)	0✶	145 (10)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 7.5-200	288	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 8-100	281	3.3 (1)	0✶	145 (10)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 10-200	288	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 13-200	288	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 15-200	288	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 18-200	287	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 19-100	283	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 20-100	285	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 23-200	287	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 27-100	283	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 31-200	287	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 33-100	283	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 36-200	287	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 40-100	283	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 40-100	285	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 52-100	285	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 70-100	285	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 80-100	285	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 85-50	286	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 111-50	286	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)
DMH 170-50	286	3.3 (1)	0✶	72.5 (5)	29 (2)	100 (100)	50 (50)	5 (5)

1) Approximate values applying to the standard version of pumps.

The values refer to dosing liquids with the following characteristics:
- newtonian
- non-degassing
- not containing suspended matter
- density similar to water.

✶) Flooded suction

Note: The viscosity increases when the temperature decreases.

Weights, DMH 251-257

Pump	Model	Weights [lbs]			
		Simplex pump		Duplex pump	
		Plastic dosing head	Stainless steel dosing head	Plastic dosing head	Stainless steel dosing head
DMH 2.2-25	251	18	21	24	29
DMH 2.3-16	251	18	21	24	29
DMH 2.4-10	251	18	21	24	29
DMH 4.5-25	251	18	21	24	29
DMH 4.9-16	251	18	21	24	29
DMH 5-10	251	18	21	24	29
DMH 10-16	252	18	21	24	29
DMH 11-10	252	18	21	24	29
DMH 11-25	251	18	21	24	29
DMH 12-16	251	18	21	24	29
DMH 13-10	251	18	21	24	29
DMH 17-25	251	18	21	24	29
DMH 18-16	251	18	21	24	29
DMH 19-10	251	18	21	24	29
DMH 21-10	253	25	35	35	55
DMH 23-16	252	18	21	24	29
DMH 24-10	252	18	21	24	29
DMH 36-16	252	18	21	24	29
DMH 37-10	252	18	21	24	29
DMH 43-10	253	25	35	35	55
DMH 50-10	254	70	82	101	124
DMH 67-10	253	25	35	35	55
DMH 83-10	253	25	35	35	55
DMH 97-16	254	70	82	101	124
DMH 102-10	254	70	82	101	124
DMH 136-16	254	70	82	101	124
DMH 143-10	254	70	82	101	124
DMH 166-16	254	70	82	101	124
DMH 175-10	254	70	82	101	124
DMH 194-10	255	75	77	108	112
DMH 202-16	254	70	82	101	124
DMH 213-10	254	70	82	101	124
DMH 220-10	257	75	77	108	112
DMH 270-10	255	75	77	108	112
DMH 332-10	255	75	77	108	112
DMH 403-10	255	75	77	108	112
DMH 440-10	257	75	77	108	112
DMH 575-10	257	75	77	108	112
DMH 770-10	257	75	77	108	112
DMH 880-10	257	75	77	108	112

The weight varies according to dosing head version.
The weights are approximate.

Weights, DMH 280-288

Pump	Model	Weights [lbs]	
		Simplex pump	Duplex pump
		Stainless steel dosing head	Stainless steel dosing head
DMH 1.3-200	280	30	45
DMH 2-100	281	29	42
DMH 2.2-200	280	30	45
DMH 2.5-200	280	30	45
DMH 4.2-100	281	29	42
DMH 6.4-100	281	29	42
DMH 7.5-200	288	79	119
DMH 8-100	281	29	42
DMH 10-200	288	79	119
DMH 13-200	288	79	119
DMH 15-200	288	79	119
DMH 18-200	287	99	157
DMH 19-100	283	79	119
DMH 20-100	285	95	141
DMH 23-200	287	99	157
DMH 27-100	283	79	119
DMH 31-200	287	99	157
DMH 33-100	283	79	119
DMH 36-200	287	99	157
DMH 40-100	283	79	119
DMH 40-100	285	95	141
DMH 52-100	285	95	141
DMH 70-100	285	95	141
DMH 80-100	285	95	141
DMH 85-50	286	99	157
DMH 111-50	286	99	157
DMH 170-50	286	99	157

The weight varies according to dosing head version.
The weights are approximate.

Sound pressure

Pump range	Sound pressure level ✶ [dB(A)]
DMH 251	55 ±5
DMH 252	55 ±5
DMH 253	65 ±5
DMH 254	65 ±5
DMH 255	75 ±5
DMH 257	75 ±5
DMH 280	55 ±5
DMH 281	55 ±5
DMH 283	65 ±5
DMH 285	75 ±5
DMH 286	75 ±5
DMH 287	75 ±5
DMH 288	65 ±5

✶) Tested according to DIN 45635-01-KL3.

Accuracy

Pump	Dosing flow fluctuation	Linearity deviation
DMH	< ± 1.5% within the 10 to 100% turn-down range	± 2% of the full-scale value

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

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

Permissible temperature of dosing liquid

Dosing head material	Permissible temperature of dosing liquid			
	p < 145 psi [°F]	p < 232 psi [°F]	p < 10 bar [°C]	p < 16 bar [°C]
PVC	32 to104	32 to 68	0 to 40	0 to 20
Stainless steel, 316Ti ✶	14 to 212	14 to 212	-10 to 100	-10 to 100
Hastelloy C-4✶	14 to 212	14 to 212	-10 to 100	-10 to 100
PP	32 to 104	32 to 68	0 to 40	0 to 20
PVDF	14 to 140 (158 at 130 psi)	14 to 68	-10 to 60 (70 at 9 bar)	-10 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).
(CIP = Cleaning-In-Place).
(SIP = Sterilisation/Steam-In-Place).

AR control unit, technical data

Enclosure class	IP 65

Lubricants

Pump type	Model	One dosing head		Two dosing heads		Oil type
		Quantity [GAL] (l)	Product number	Quantity [GAL] (l)	Product number	
DMH	251	0.34 (1.3)	96607801	0.34 (1.3)	96607801	white oil
DMH	252, 145 psi (10 bar)	0.34 (1.3)	96607801	0.34 (1.3)	96607801	white oil
DMH	252, 232 psi (16 bar)	0.34 (1.3)	96607806	0.34 (1.3)	96607806	DHG 68
DMH	253	0.34 (1.3)	96607806	0.34 (1.3)	96607806	DHG 68
DMH	254	0.92 (3.5)	96607807	1.19 (4.5)	96607808	DHG 68
DMH	255	0.92 (3.5)	96607807	1.19 (4.5)	96607808	DHG 68
DMH	257	1.45 (5.5)	96607809	1.98 (7.5)	96607810	DHG 68
DMH	280	0.34 (1.3)	96607806	0.34 (1.3)	96607806	DHG 68
DMH	281	0.34 (1.3)	96607806	0.34 (1.3)	96607806	DHG 68
DMH	283	0.92 (3.5)	96607807	1.19 (4.5)	96607808	DHG 68
DMH	285	1.45 (5.5)	96607809	1.98 (7.5)	96607810	DHG 68
DMH	286	1.45 (5.5)	96607809	1.98 (7.5)	96607810	DHG 68
DMH	287	1.45 (5.5)	96607809	1.98 (7.5)	96607810	DHG 68
DMH	288	0.92 (3.5)	96607807	1.19 (4.5)	96607808	DHG 68

Special-oil alternatives to white oil (Parafin 55 DAB7)

Manufacturer	Designation
ARAL	Autin PL (DAB7)
BP	BP-Energol WM2
ESSO	Esso Marcol 82 (M82)
Fina	Fina Vestan A 70 B
Texaco	Texaco white oil pharmaceutical 70
Shell	Odina 15

Special-oil alternatives to DHG 68

Manufacturer	Designation
ARAL	Degol BMB 68
BP	BP-Energol GR-XP 68
Chevron	Chevron NL gear compound 68
ESSO	Spartan BP 68
Fina	Fina Giran 68
Mobil Oil	Mobilgear 626
Texaco	Texaco Meropa 68
Shell	Tellus 68
elf	Reductelf SP 68

DMH options

The example in bold is a **DMH 13-10 B-SS/V/SS-X-F1VVX E3**

Max. capacity and pressure	Control variant	Materials of dosing head, gaskets and valve balls	Control panel position	Motor voltage	Valve type	Connection suction/discharge	Mains plug	Pump variant
[l/h] - [bar]	B = No controls AR = Etron Profi (analog/ pulse control) AT4 = Servomotor, 24 V, 50/60 Hz supply, 4-20 mA control AT5 = Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA control AT7 = Servomotor, 1 x 115 V, 50/60 Hz supply, 4-20 mA control, EEx d II BT 4	**Dosing head version:** PP = Polypropylene PV = PVDF PVC = Polyvinyl chloride SS = Stainless steel, 316 Y = Hastelloy C PP-L, PV-L, PVC-L, SS-L, Y-L = Integrated diaphragm leakage detection **Gasket material:** E = EPDM V = FKM T = PTFE **Valve ball material:** C = Ceramic G = Glass T = PTFE SS = Stainless steel, 316 Y = Hastelloy C	**Control panel position** X = No panel S = Side mounted W = Wall-mounted **Motor voltage** H = 1 x 120 V, 50/60 Hz F = Without motor, Nema flange (US) **Valve type** 1 = Standard 2 = Spring-loaded 3 = Spring-loaded, 0.7 psi suction, 11.6 psi discharge 4 = Spring-loaded, 11.6 psi discharge side only 5 = Valves for abrasive media			S = Tube 0.375" / 0.5” V = Threaded NPT 1/4" A9 = Threaded NPT 1/2", male A3 = Threaded FNPT 3/4" A7 = Threaded MNPT 3/4", male P = Flange 1 1/4" ANSI	**Mains plug** B = USA and CAN, 120V X = No plug **Pump variant** E3 = API Approval

[l/h] - [bar]	Control variant	Materials of dosing head, gaskets and valve balls	Control panel position	Motor voltage	Valve type	Connection suction/discharge	Mains plug	Pump variant
DMH model 251, 252, DN 8								
2.2-25 2.3-16 2.4-10 4.5-25 4.9-16 5-10 10-16 11-10 11-25 12-16 **13-10** 17-25 18-16 19-10 23-16 36-16 37-10	**B** AR AT4 AT5 AT7	PP/E/C PP/E/SS PP/E/T PP/V/C PP/V/G PP/V/K PP/V/T PV/T/C PV/T/T PV/V/T PVC/E/C PVC/E/SS PVC/E/T PVC/T/C PVC/T/T PVC/V/C PVC/V/G PVC/V/SS	X S W	H F	1 2 3 4 5	S A9	B X	E3
		SS/T/SS **SS/V/SS** Y/T/Y Y/V/C	**X** S W	H **F**	**1** 2 3 4	A9 **V**	B **X**	**E3**

Pump selection

Max. capacity and pressure	Control variant	Materials of dosing head, gaskets and valve balls	Control panel position	Motor voltage	Valve type	Connection suction/discharge	Mains plug	Pump variant
	B = No controls	**Dosing head version:**	**Control panel position**			S = Tube 0.375" / 0.5"	**Mains plug**	
		PP = Polypropylene	X = No panel			V = Threaded NPT 1/4"	B = USA and CAN, 120V	
	AR = Etron Profi (analog/ pulse control)	PV = PVDF	S = Side mounted			A9 = Threaded NPT 1/2", male	X = No plug	
		PVC = Polyvinyl chloride	W = Wall-mounted			A3 = Threaded FNPT 3/4"		
		SS = Stainless steel, 316				A7 = Threaded MNPT 3/4", male	**Pump variant**	
		Y = Hastelloy C	**Motor voltage**				E3 = API Approval	
	AT4 = Servomotor, 24 V, 50/60 Hz supply, 4-20 mA control	PP-L, PV-L, PVC-L, SS-L, Y-L = Integrated diaphragm leakage detection	H = 1 x 120 V, 50/60 Hz			P = Flange 1 1/4" ANSI		
			F = Without motor, Nema flange (US)					
		Gasket material:	**Valve type**					
[l/h] - [bar]	AT5 = Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA control	E = EPDM	1 = Standard					
		V = FKM	2 = Spring-loaded					
		T = PTFE	3 = Spring-loaded, 0.7 psi suction, 11.6 psi discharge					
		Valve ball material:	4 = Spring-loaded, 11.6 psi discharge side only					
		C = Ceramic	5 = Valves for abrasive media					
		G = Glass						
		T = PTFE						
		SS = Stainless steel, 316						
	AT7 = Servomotor, 1 x 115 V, 50/60 Hz supply, 4-20 mA control, EEx d II BT 4	Y = Hastelloy C						

[l/h] - [bar]	Control variant	Materials of dosing head, gaskets and valve balls	Control panel position	Motor voltage	Valve type	Connection suction/discharge	Mains plug	Pump variant
DMH model 253, 254, 255, DN 20								
21-10 43-10 50-10* 67-10 83-10 97-16* 102-10* 136-16* 143-10* 166-16* 175-10* 194-10* 202-16* 213-10* 270-10* 332-10* 403-10*	B AR AT4 AT5 AT7	PP/E/SS PP/E/T PP/T/T PP/V/G PTFE/T/C PV/T/T PV/V/T PVC/E/SS PVC/E/T PVC/V/C PVC/V/G PVC/V/SS	X S W	H F	1 2 3 4 5	A7	B X	E3
		SS/E/SS SS/T/SS SS/V/SS Y/T/Y Y/V/Y	X S W	H F	1 2 3 4	A3	B X	E3
Note: 403-10 has DN 32 inlet, DN 20 discharge								
DMH model 257, DN 32								
220-10 440-10 575-10 750-4 770-10 880-10	B AT4 AT5 AT7	PP/E/G PP/E/T PP/V/G PV/T/T PV/V/T PVC/E/SS PVC/V/G	X	F	1 2 3 4 5	P	X	E3
		SS/E/SS SS/T/SS SS/T/T SS/V/SS Y/T/Y	X	F	1 2 3 4	A C1	X	E3

* Not available with AR

Pump selection

Max. capacity and pressure	Control variant	Materials of dosing head, gaskets and valve balls	Control panel positio	Motor voltage	Valve type	Connection suction/discharge	Mains plug	Pump variant
[l/h] - [bar]	B = No controls AR = Etron Profi (analog/ pulse control) AT4 = Servomotor, 24 V, 50/60 Hz supply, 4-20 mA control AT5 = Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA control AT7 = Servomotor, 1 x 115 V, 50/60 Hz supply, 4-20 mA control, EEx d II BT 4	**Dosing head version:** PP = Polypropylene PV = PVDF (polyvinylidene fluoride) PVC = Polyvinyl chloride SS = Stainless steel, AISI 316 Y = Hastelloy C PP-L, PV-L, PVC-L, SS-L, Y-L = Integrated diaphragm leakage detection **Gasket material:** E = EPDM (ethylene propylene diene monomer) V = FKM (fluorocarbon) T = PTFE (polytetrafluoro ethylene (Teflon®)) **Valve ball material:** C = Ceramic G = Glass T = PTFE (polytetrafluoro ethylene (Teflon®)) SS = Stainless steel, AISI 316 Y = Hastelloy C	**Control panel position** X = No panel S = Side mounted W = Wall-mounted **Motor voltage** H = 1 x 120 V, 50/60 Hz F = Without motor, Nema flange (US) **Valve type** 1 = Standard 2 = Spring-loaded 3 = Spring-loaded, 0.7 psi suction, 11.6 psidischarge 4 = Spring-loaded, 11.6 psi discharge side only			V = Threaded NPT 1/4" A9 = Threaded NPT 1/2", male A3 = Threaded NPT 3/4"	**Mains plug** B = USA and CAN, 120V X = No plug **Pump variant** E3 = API Approval	

[l/h] - [bar]	Control variant	Materials of dosing head, gaskets and valve balls	Control panel position	Motor voltage	Valve type	Connection suction/discharge	Mains plug	Pump variant
DMH, model 280, DN 4								
1.3-200 2.2-200 2.5-200	B AR AT4 AT5 AT7	SS/E/SS SS/V/SS Y/V/Y	X S W	H F	1 2	V A9	B X	E3
DMH, model 281, 287, 288, DN 8								
2-100 4.2-100 6.4-100 7.5-200* 8-100 10-200* 13-200* 16-200* 18-200* 21-200* 23-200* 31-200* 36-200*	B AR AT4 AT5 AT7	SS/E/SS SS/V/SS Y/V/Y	X S W	H F	1 2	V A9	B X	E3
DMH, model 283, 285, 286, DN 20								
19-100 20-100 27-100 33-100 40-100 52-100 70-100 80-100 85-100 111-50 170-100	B AT4 AT5 AT7	SS/E/SS SS/V/C SS/V/SS Y/V/Y	X	F	1 2	A3	X	E3

* Not available with AR

Note: All DMH pumps are available with two dosing heads or in duplex versions..

Type key example: DMH 13-10/13-10 B-SS/V/SS-X-F1VVX E3

Pumped liquids

List of pumped liquids

This resistance table is intended to serve as a general guide only for material resistance (at room temperature) and is not a substitute for actual testing of the chemicals and pump materials under specific working conditions.

The data shown are based on information from various sources available, but be aware that many factors, such as purity, temperature, abrasive particles, etc. can affect the chemical resistance of a given material.

Note: Some of the liquids in this table may be toxic, corrosive or hazardous.

Note: Be careful when handling these liquids.

Pumped liquid (68 °F)		Concentration %	Materials									
			Pump housing				Gasket				Ball	
Designation	Chemical formula		PP	PVDF	Stainless steel, AISI 316	PVC	FKM	EPDM	PTFE	Centellen C	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★[5]	$Ca(OH)_2$		●	●	●	●	●	●	●	●	●	●
Calcium hypochlorite	$Ca(OCl)_2$	20	❍	●	–	●	●	●	●	●	●	●
Chromic acid★[3]	H_2CrO_4	10	●	●	●	●	●	●	●	●	●	●
		30	–	●	–	●	●	❍	●	❍	●	●
		40	–	●	–	●	●	–	●	❍	●	●
		50	–	●	–	●	●	–	●	❍	●	●
Copper sulphate	$CuSO_4$	30	●	●	●	●	●	●	●	●	●	●
Ferric chloride★[1]	$FeCl_3$	100	●	●	–	●	●	●	●	●	●	●
Ferric sulphate★[1]	$Fe_2(SO_4)_3$	100	●	●	●	●	●	●	●	●	●	●
Ferrous chloride	$FeCl_2$	100	●	●	–	●	●	●	●	●	●	●
Ferrous sulphate	$FeSO_4$	50	●	●	●	●	●	●	●	●	●	●
Hydrochloric acid	HCl	<25	●	●	–	●	❍	●	●	●	●	●
		25 to 37	●	●	–	●	–	●	●	❍	●	●
Hydrogen peroxide	H_2O_2	30	●	●	●	●	●	●	●	●	●	●
Nitric acid	HNO_3	10	●	●	●	●	●	●	●	●	●	●
		30	●	●	●	●	●	●	●	–	●	●
		40	❍	●	●	●	●	●	●	–	●	●
		70	–	●	●	–	●	–	●	–	●	●
Peracetic acid	CH_3COOOH	5	●	●	–	●	–	●	●	●	●	●
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	20	❍	●	–	●	●	●	●	●	●	●
Sodium sulphide	Na_2S	30	●	●	●	●	●	●	●	●	●	–
Sodium sulphite★[4]	Na_2SO_3	20	●	●	●	●	●	●	●	●	●	–
Sulphurous acid	H_2SO_3	6	●	●	●	●	●	●	●	●	●	❍
Sulphuric acid★[2]	H_2SO_4	<80	●	●	–	❍	●	❍	●	❍	●	❍
		80 to 98	❍	●	–	–	●	–	●	●	●	–

● Resistant.
❍ Limited resistance.
– Not resistant.

★1 Risk of crystallisation.
★2 Reacts violently with water and generates much heat. (Pump should be absolutely dry before dosing sulphuric acid.)
★3 Must be fluoride-free when glass balls are used.
★4 In neutral solutions.
★5 Saturated solution 0.1%.

L-DMH-PG-01	US
Repl.	

Subject to alterations.

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