GRUNDFOS **DATA BOOKLET**

DMX and DMH

Dosing pumps

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GRUNDFOS

Contents

Features and benefits

DMX

Reliable diaphragm dosing
from 4 to 2* x 765 l/h.

Fig. 1 DMX

Versatility through choice
The Grundfos DMX is a series of high-quality diaphragm pumps suitable for many uses, e.g. drinking water treatment, wastewater treatment (settlement/sludge treatment), and the pulp/paper and textile industries. The range is designed to be highly versatile, a fact which is reflected in the wide flow range covered and the choice of dosing head sizes, materials and accessories available. If in doubt, ask us – we will help you configure the DMX that is best for you.

Tried. Tested. Truly reliable
The Grundfos DMX series has proven its worth in dosing applications worldwide, demonstrating how its sturdy diaphragm-based design and high-quality motors combine versatile dosing with minimum maintenance requirements. Now updated as an integrated part of the Grundfos dosing range, the Grundfos DMX series is as trustworthy as ever.

Accurate dosing. All the time
The diaphragm design ensures that the dosing flow never varies by more than ±1.5 per cent. And the linearity is kept below 4 per cent at all times.

Smoothness comes standard
The Grundfos DMX series employs sophisticated drive technology and gear kinematics to ensure smooth, low-pulsation dosing.

Motors to match application needs
If your application involves specific motor requirements, the versatile DMX range can match that, too: Grundfos DMX dosing pumps can be configured with servomotors or Atex-class motors as required. As ever, your Grundfos consultant is happy to help you choose the right DMX for you.

Choose the materials – and size – that suit you
The smaller models in the Grundfos DMX series are enclosed in plastic which is resistant to chemicals and offers all the protection necessary for most applications. The larger models have a robust cast-aluminium gearbox with an epoxy coating to meet all application needs. You also get a choice of materials for parts that come into contact with the chemicals you wish to dose, so it is easy to get a Grundfos DMX with exactly the degree of chemical resistance you want.

Large models remain compact
The DMX range comprises ten different dosing head sizes, but careful design work has kept them compact, making it easy for you to connect several pumps right next to each other if necessary.

Twin-head versions saves you money
The two dosing heads fitted in the twin-head versions of the DMX range offers you a very cost-efficient way of dosing two different chemicals to suit your application. Of course, the extra capacity offered by twin-head versions can also be used to gain higher flow rates for a single chemical.

Accessories ensure perfect system integration
A wide range of accessories specially designed for the Grundfos DMX series help optimise performance. This makes commissioning fast and easy. Other accessories are also available to make sure that your Grundfos DMX fits your system exactly – e.g. pressure loading valves for dosing systems with no or varying back pressure.

* Only DMX model 226 is available with two dosing heads.

Features and benefits

DMH

Strong piston/diaphragm dosing
from 2.2 to 2* x 1150 l/h.

Fig. 2 DMH

The preferred choice for complex tasks
The Grundfos DMH range is a series of extremely strong, robust pumps for situations where you need a substantial dosing range and high-pressure capability. The pumps are accurate to within ±1 per cent of the rated flow, making the DMH series the preferred choice for complex tasks and automatic process integration. And their strength is a matter of public record: Customers worldwide have enjoyed years of trouble-free operation from their DMH pumps.

Get the pump configuration you need
A number of different product configurations are available to match your requirements. For example, you can choose between electric or pneumatic servomotors, opt for an AC inverter-controlled motor, pick special dosing heads with electrical heating, or have your pumps fitted with double diaphragms with failure indication. If in doubt, ask your Grundfos consultant to help you choose the best configuration for the task.

Prepared for extreme situations
AMS diaphragm protection keeps both the pump and overall application protected against extensive high pressures in the event of blockages in the discharge line. Similarly, pressure-relief valves guard the pump against excessive pressure in the system.

Stroke-length adjustment ensures precise dosing
Very precise and accurate stroke-length adjustment, with setting carried out using a Vernier scale, brings you optimum dosing with a repeatability of only ±1%.

Enjoy the Teflon® effect
The DMH pumps can shrug off almost anything. They are fitted with Teflon® (PTFE) diaphragms, and the parts that come into contact with the liquids dosed are available in material combinations to suit virtually all dosing scenarios.

Ready for tough applications
The tough application areas within the oil refinery industry can also benefit from the Grundfos DMH range: several models have been designed and approved in accordance with API 675.

*All DMH pumps are available with two dosing heads.

Performance range

DMX, 4 to 765 l/h

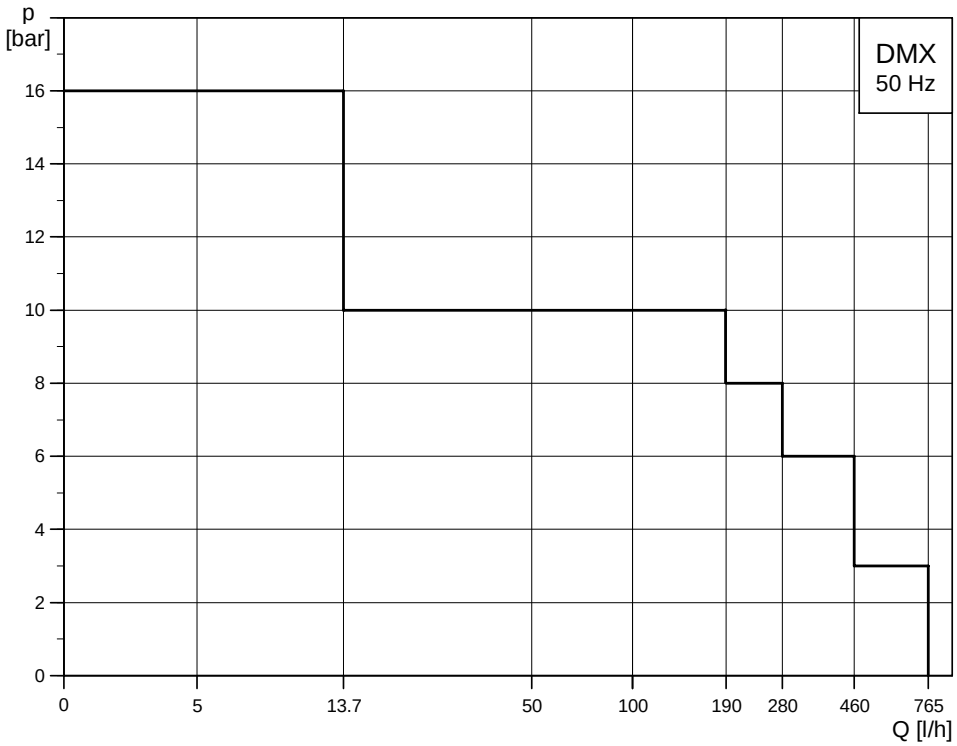

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Fig. 3 Performance range, DMX, 4 to 765 l/h

DMH, 2.2 to 1150 l/h

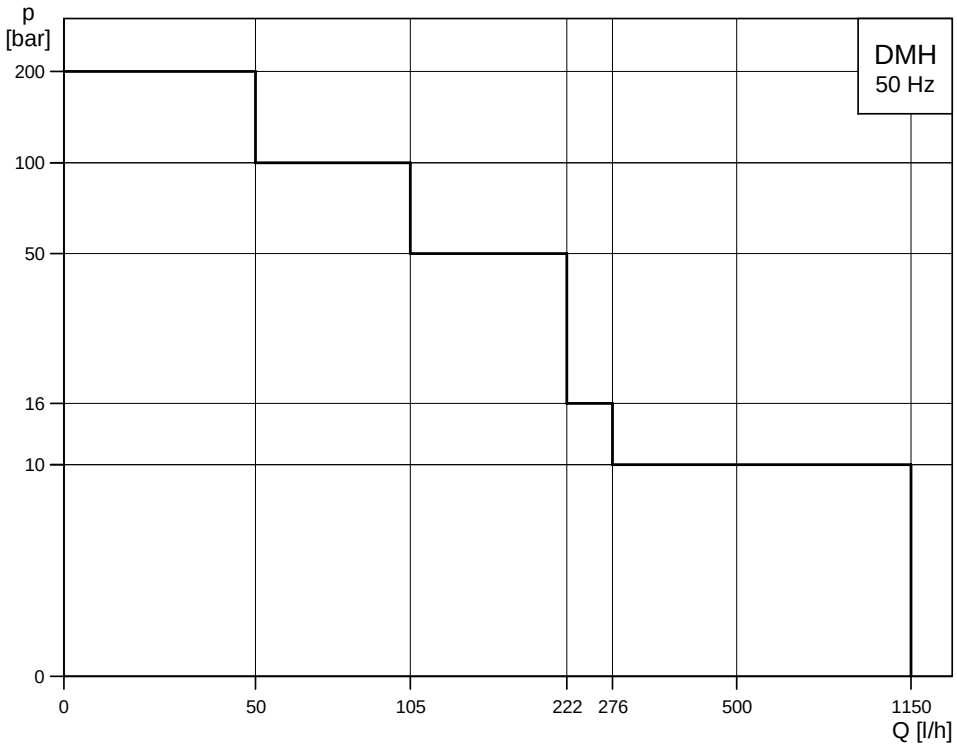

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Fig. 4 Performance range, DMH, 2.2 to 1150 l/h

Identification

Type key

Example:	DMX	160	- 5	B	PP	/E	/T	-X	-E	1	QQ	X	E0

Type range

DMX
DMH

Maximum flow [l/h]

Maximum pressure [bar]

Control variant

B	Standard
AR*	Etron E26 (analog/pulse control)
AT3	Servomotor, 1 x 230 V, 50/60 Hz supply, 4-20 mA 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
AT6	Servomotor, 1 x 230 V, 50/60 Hz supply, 4-20 mA control, EEx d II BT 4
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, DIN 1.4401	
Y	Hastelloy C	
PV-R	PVDF	+ integrated relief valve
PVC-R	PVC	+ integrated relief valve
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
PV-RL	PVDF	+ integrated relief valve and diaphragm leakage detection
PVC-RL	PVC	+ integrated relief valve and diaphragm leakage detection
SS-H	SS	+ heating flange in dosing head (electric)

Gasket material

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

Valve ball material

C	Ceramic
G	Glass
T	PTFE (polytetrafluoroethylene (Teflon®))
SS	Stainless steel, DIN 1.4401
Y	Hastelloy

Control panel position

X	No control panel
F	Front-mounted
W	Wall-mounted

Motor variant

E0	PTC motor for frequency control
E1	Motor type EEx de C T3, 3 x 400 V, 50 Hz (only DMX-B or DMX-AT)
E2	Motor type EEx de C T4, 3 x 400 V, 50 Hz (only DMX-B or DMX-AT)
E3	API approval

Mains plug

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

Connection, suction/discharge

B6	Pipe 4/6 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 ¼"
A1	Threaded Rp ¾"
A2	Threaded Rp 1 ¼"
V	Threaded NPT ¼"
A9	Threaded NPT ½", male
A3	Threaded NPT ¾"
A7	Threaded NPT ¾", male
A4	Threaded NPT 1 ¼"
A8	Threaded NPT 1 ¼", 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
B5	Welding d. 40 mm
B7	Welding d. 40 mm and flange DN 32
C1	Welding flange DN 32, SS
P	Flange 1 ¼"

Valve type

1	Standard
2	Spring-loaded
3	Spring-loaded, 0.05 bar suction, 0.8 bar discharge
4	Spring-loaded, discharge side only

Supply voltage

0	Without motor, IEC flange
G	1 x 230 V, 50/60 Hz
H	1 x 120 V, 50/60 Hz
E	230/400 V, 50/60 Hz or 440/480 V, 60 Hz
F	Without motor, NEMA flange (US)

* Only pumps of 0.37 kW and below.

Overview of functions

	DMX	DMH
Capacity control		
Stroke-length adjustment	●	●
Operating modes		
Manual control	●	●

Pump types available with electronic control (ver. AR):

- DMX model 221
- DMX model 226, up to and including a capacity (Q) of 525 l/h.
- DMH models 251, 252, 253, 280 and 281.

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Fig. 5 DMX and DMH

Capacity control

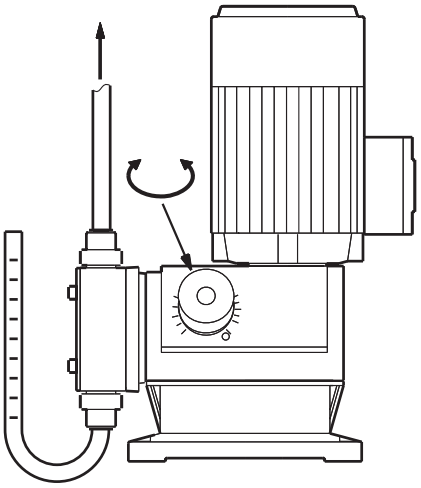

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Fig. 6 The capacity is controlled by adjusting the stroke length

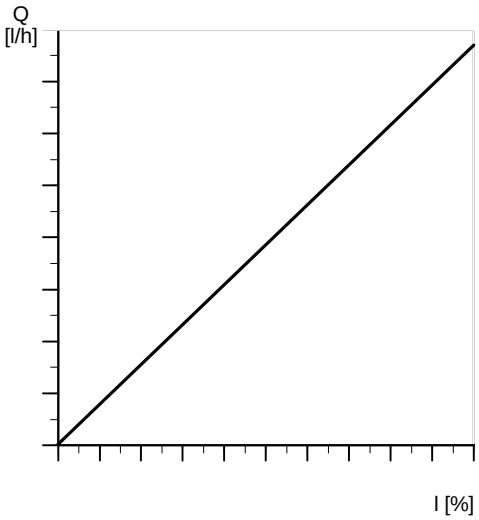

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Fig. 7 Relation between stroke length and capacity

Functional description

The capacity is controlled by means of the stroke-length adjusting knob. The stroke frequency remains constant.

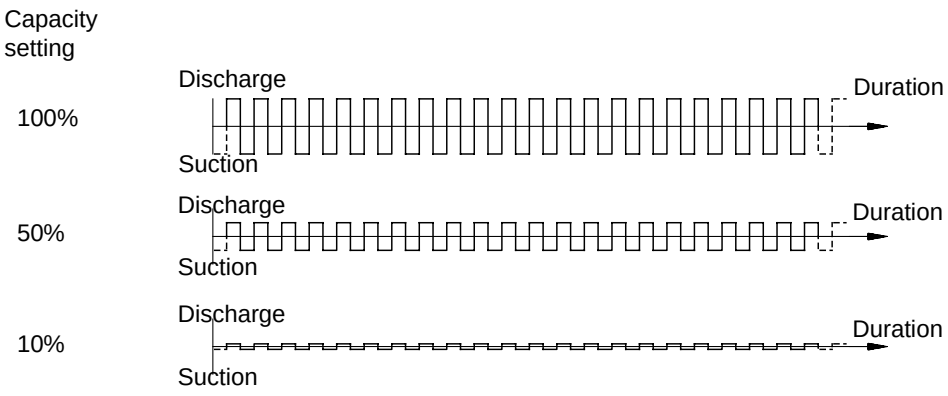

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Fig. 8 Relation between stroke-length adjustment and capacity

Performance curves

Curve conditions

These guidelines apply to the curves shown below:

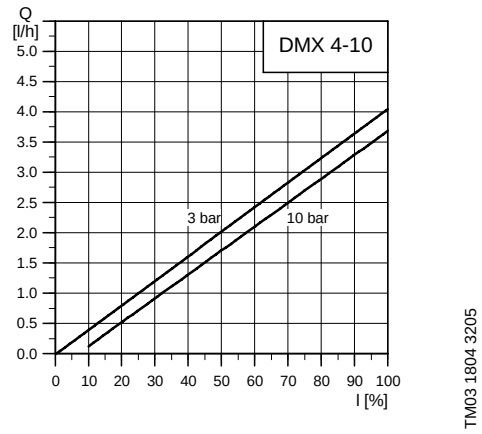
- The measurements are based on single-head pumps (twin-head pumps have double the flow rate of single-head versions).
- Measurements have been made with water; suction line with foot valve and 0.5 m flooded suction.
- Zero point of the dosing pump at a counter pressure of 3 bar.
- The measurements have been made with a standard pump version.
- Mains frequency = 50 Hz.

Q = flow rate [l/h].

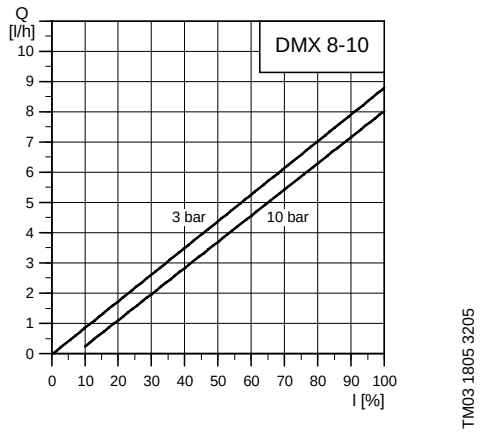
I = stroke length [%].

DMX

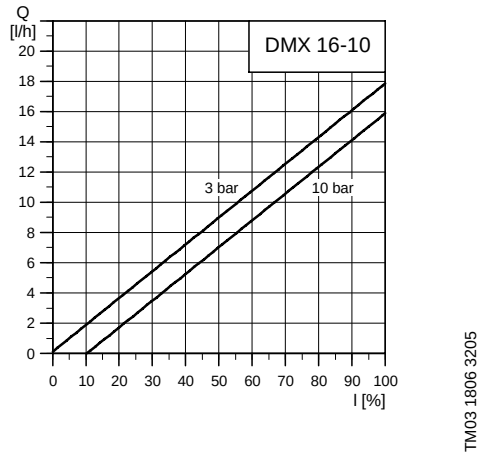
DMX 4-10



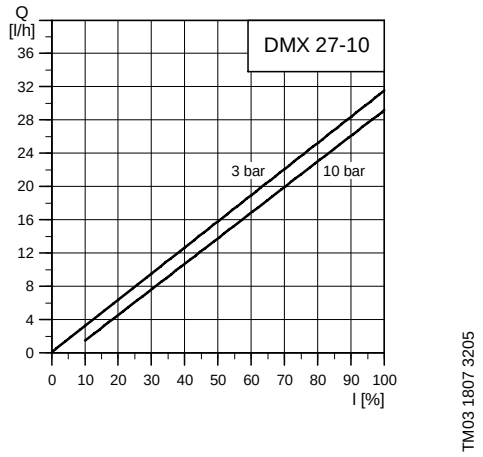
DMX 8-10



DMX 16-10

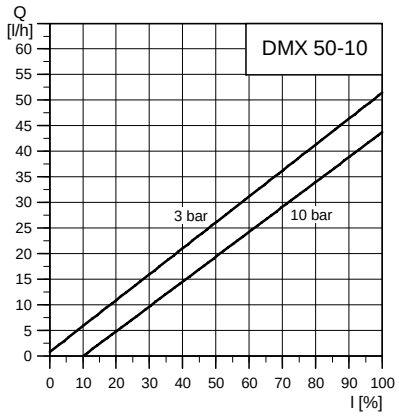


DMX 27-10



Performance curves

DMX 50-10



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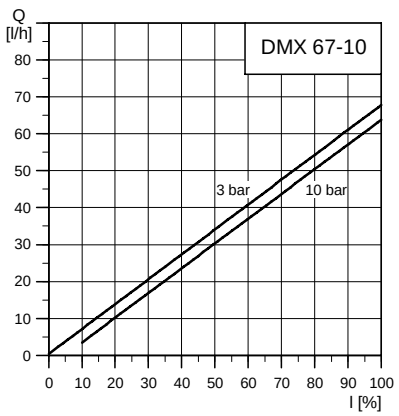
DMX 67-10



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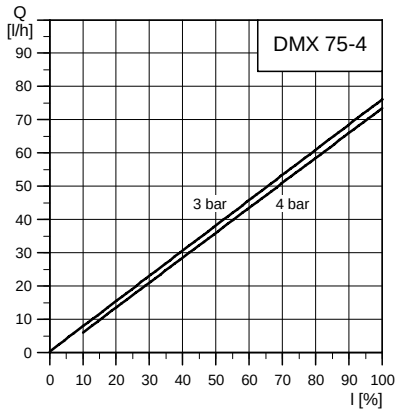
DMX 75-4



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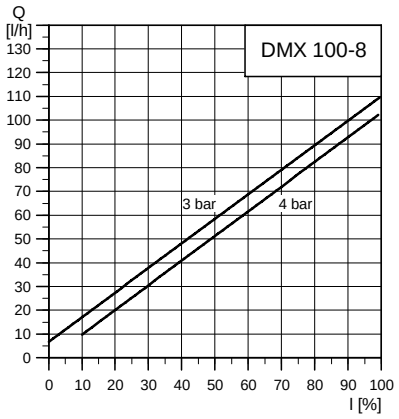
DMX 100-8



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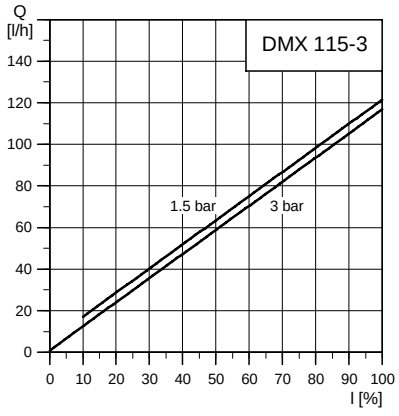
DMX 115 3



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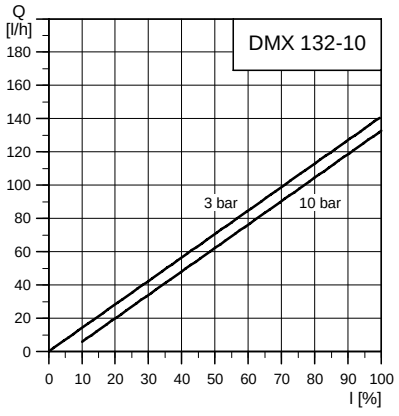
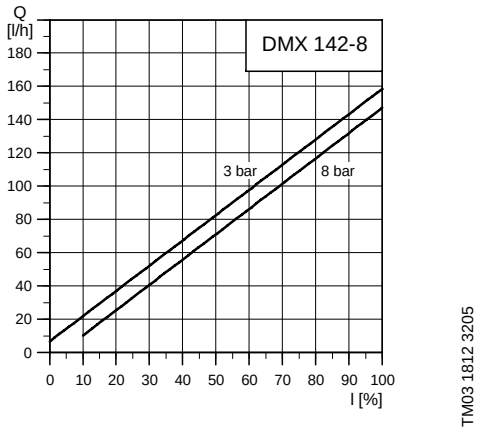
DMX 132-10



TM03 1995 3505

Performance curves

DMX 142-8



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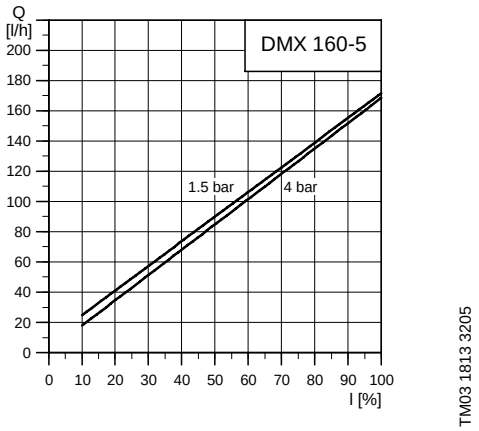
DMX 160-5



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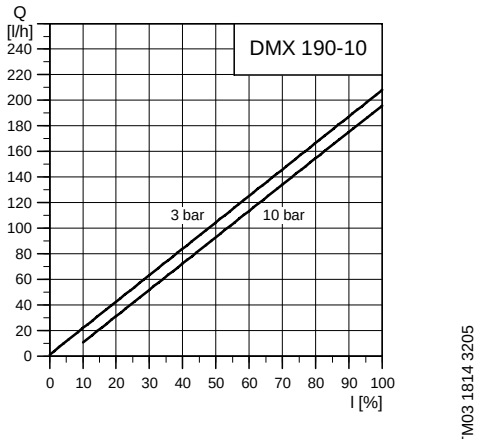
DMX 190-10



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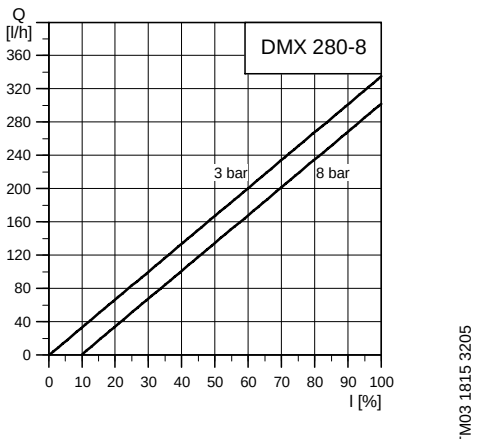
DMX 280-8



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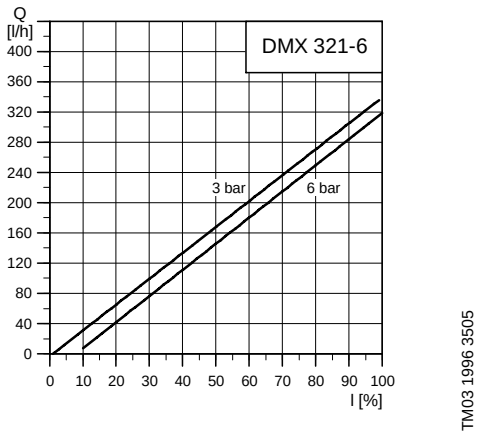
DMX 321-6



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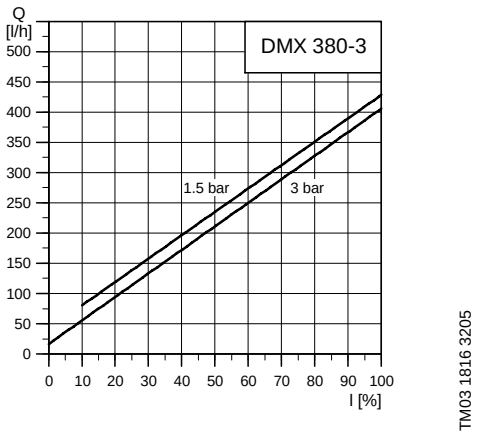
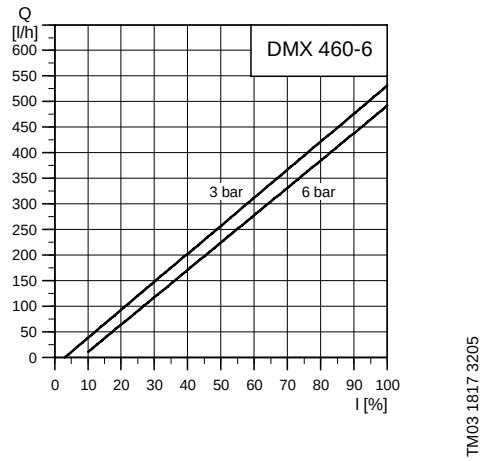
DMX 380-3



TM03 1816 3205

Performance curves

DMX 460-6



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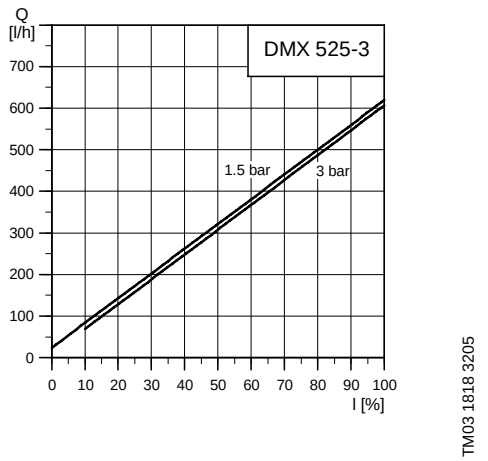
DMX 525-3



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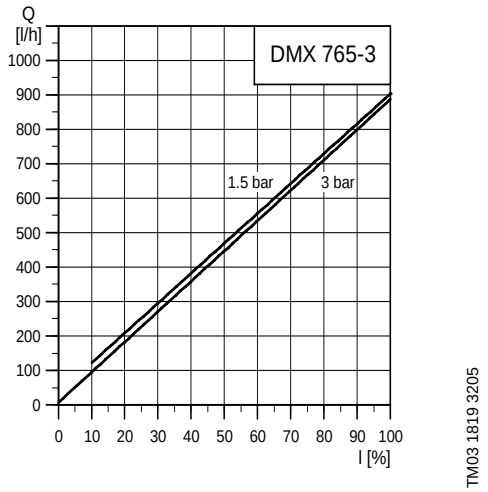

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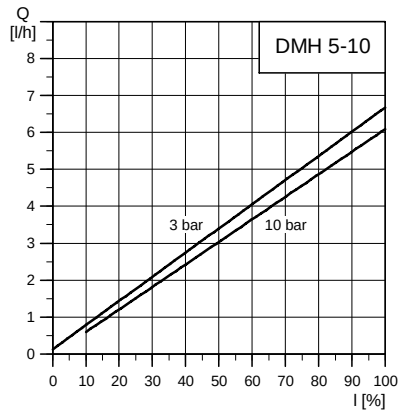
Performance curves

DMH

DMH 5-10



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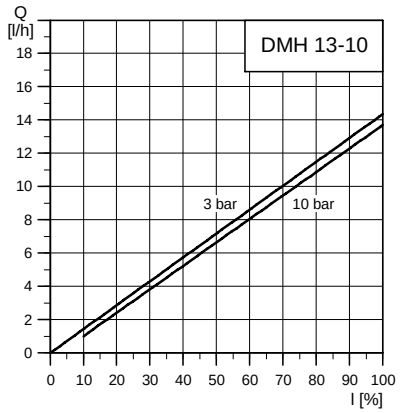

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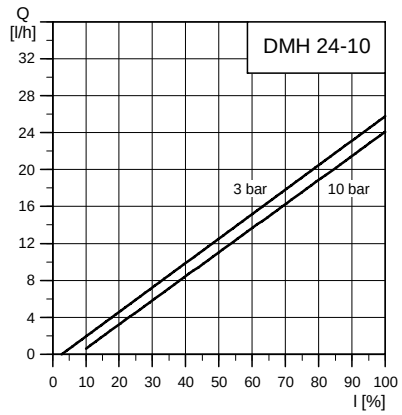

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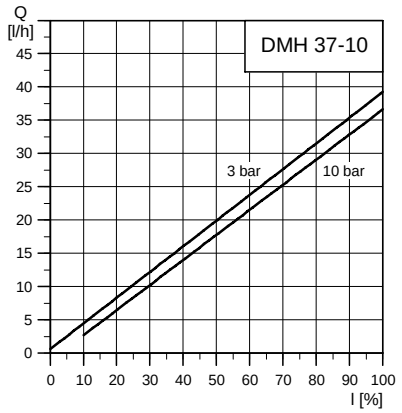

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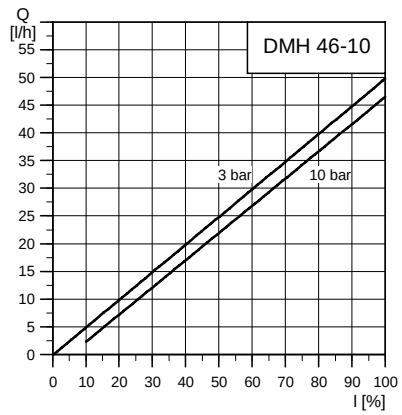

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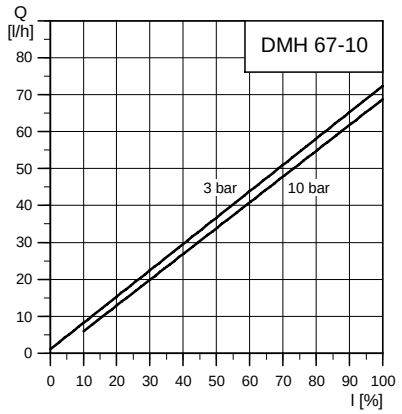

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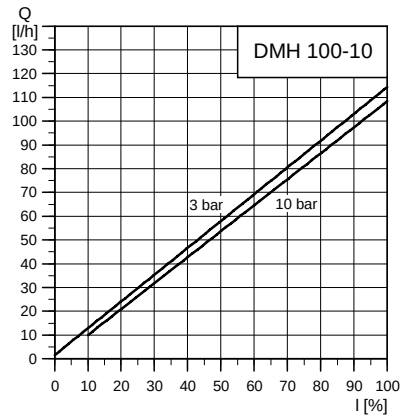
Performance curves

DMH 100-10



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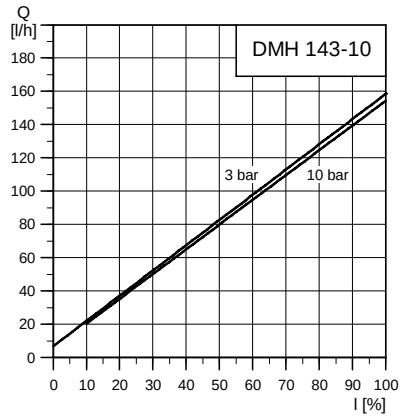
DMH 143-10



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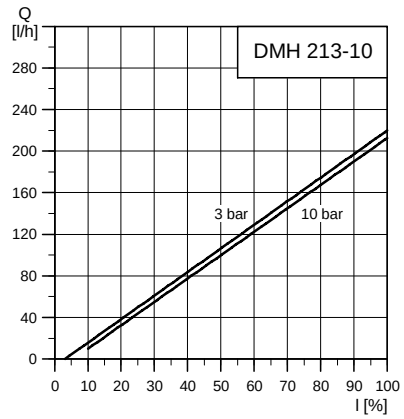

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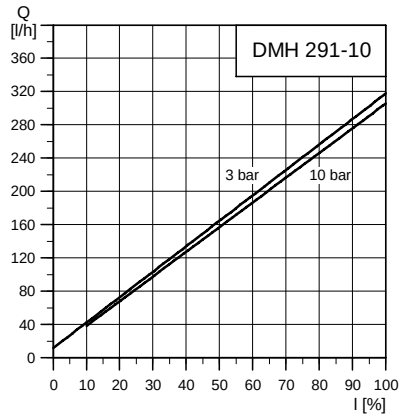

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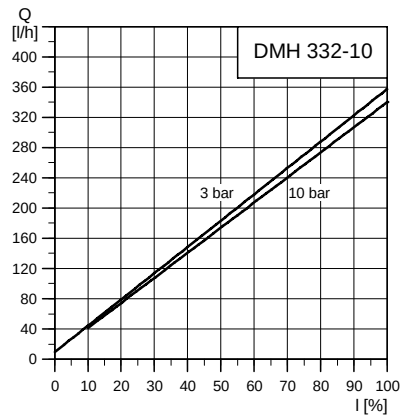

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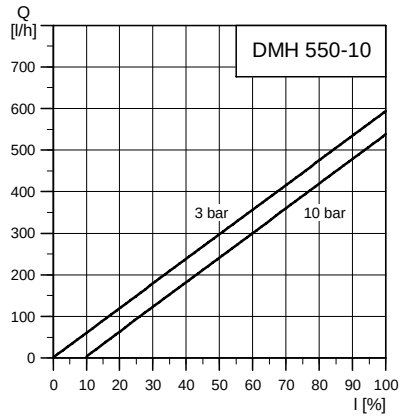

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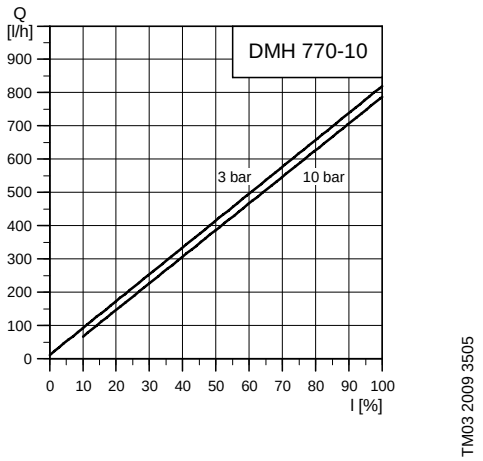
Performance curves

DMH 770-10



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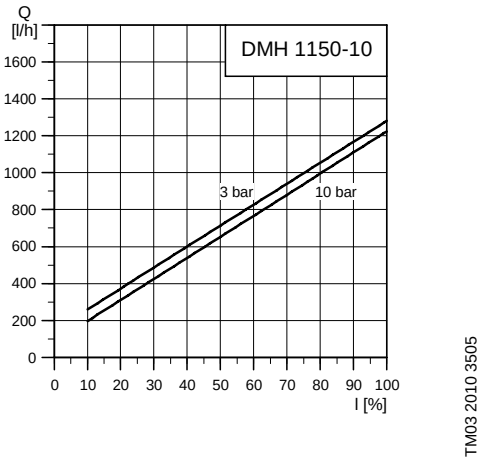


TM03 2010 3505

General description

The Grundfos DMX and DMH pumps are mechanical diaphragm dosing pumps. The strokes are generated by an eccentric which moves the diaphragm by means of a spring-loaded plunger. The discharge stroke is activated by the eccentric and the suction stroke by the spring return.

The DMX and DMH pumps are designed for capacities between 4 and 2 x 1150 l/h and a maximum pressure up to 200 bar. The DMX pumps are fitted with a separation chamber. In the event of a diaphragm failure, the separation chamber prevents the pumped liquid from flooding the pump unit or other system components.

DMX model 221

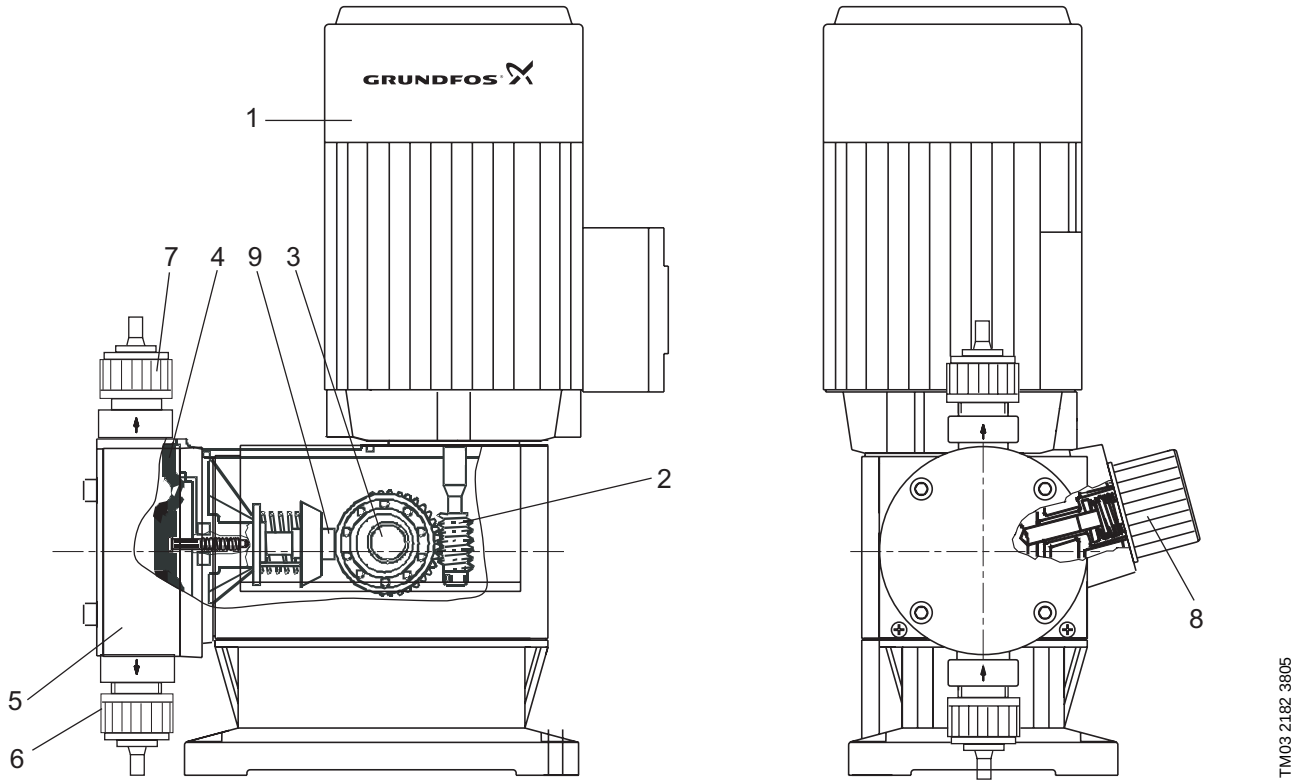


Fig. 9 Sectional drawing, DMX model 221

Functional principle

- Reciprocating displacement pump with electric motor and mechanical diaphragm control.
- The rotation of the motor is transformed into the reciprocating movement of the dosing diaphragm by the operation of the eccentric and tappet.
- Adjustment of the dosing flow is possible by adjusting the stroke length.

Legend

Pos.	Component
1	Motor
2	Gears
3	Eccentric
4	Dosing diaphragm
5	Dosing head
6	Suction valve
7	Discharge valve
8	Stroke-length adjusting knob
9	Tappet

DMX model 226

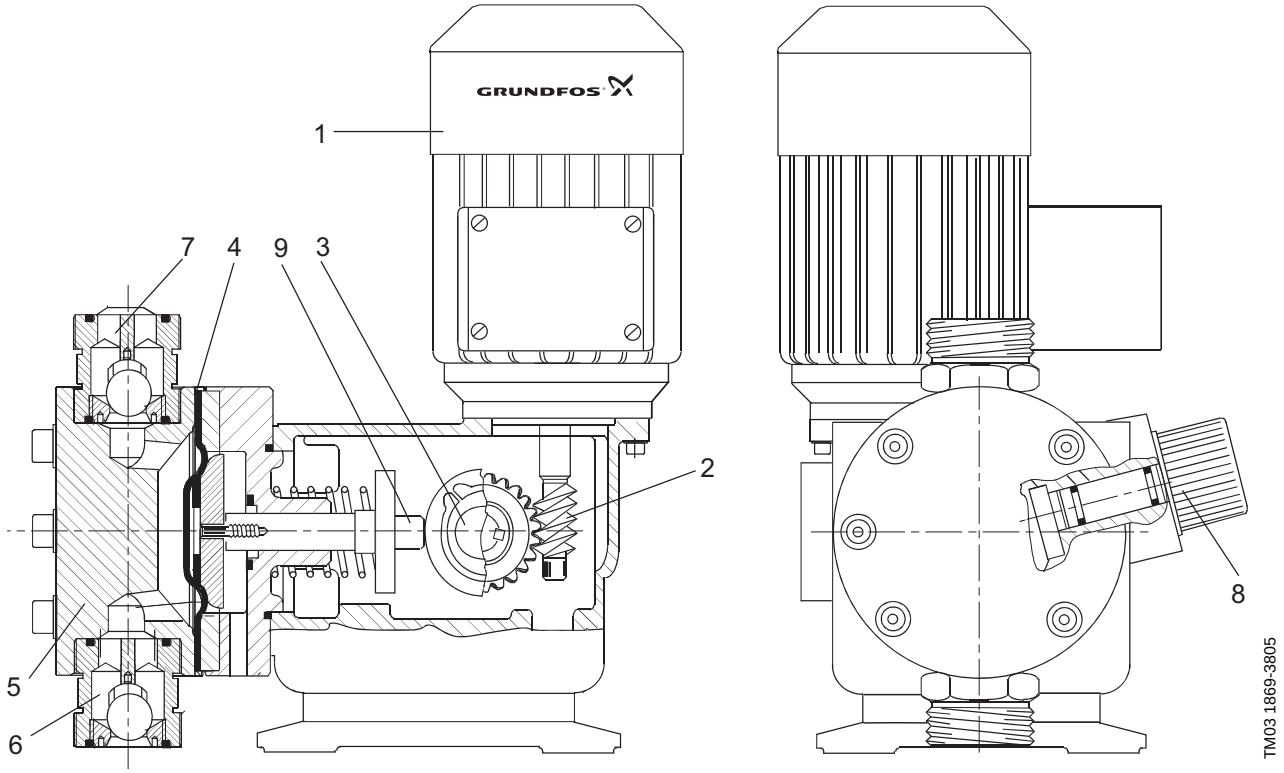


Fig. 10 Sectional drawing, DMX model 226

Functional principle

- Reciprocating displacement pump with electric motor and mechanical diaphragm control.
- The rotation of the motor is transformed into the reciprocating movement of the dosing diaphragm by the operation of the eccentric and tappet.
- Adjustment of the dosing flow is possible by adjusting the stroke length.

Legend

Pos.	Component
1	Motor
2	Gears
3	Eccentric
4	Dosing diaphragm
5	Dosing head
6	Suction valve
7	Discharge valve
8	Stroke-length adjusting knob
9	Tappet

DMH model 251

Oscillating positive displacement pumps with hydraulic diaphragm control.

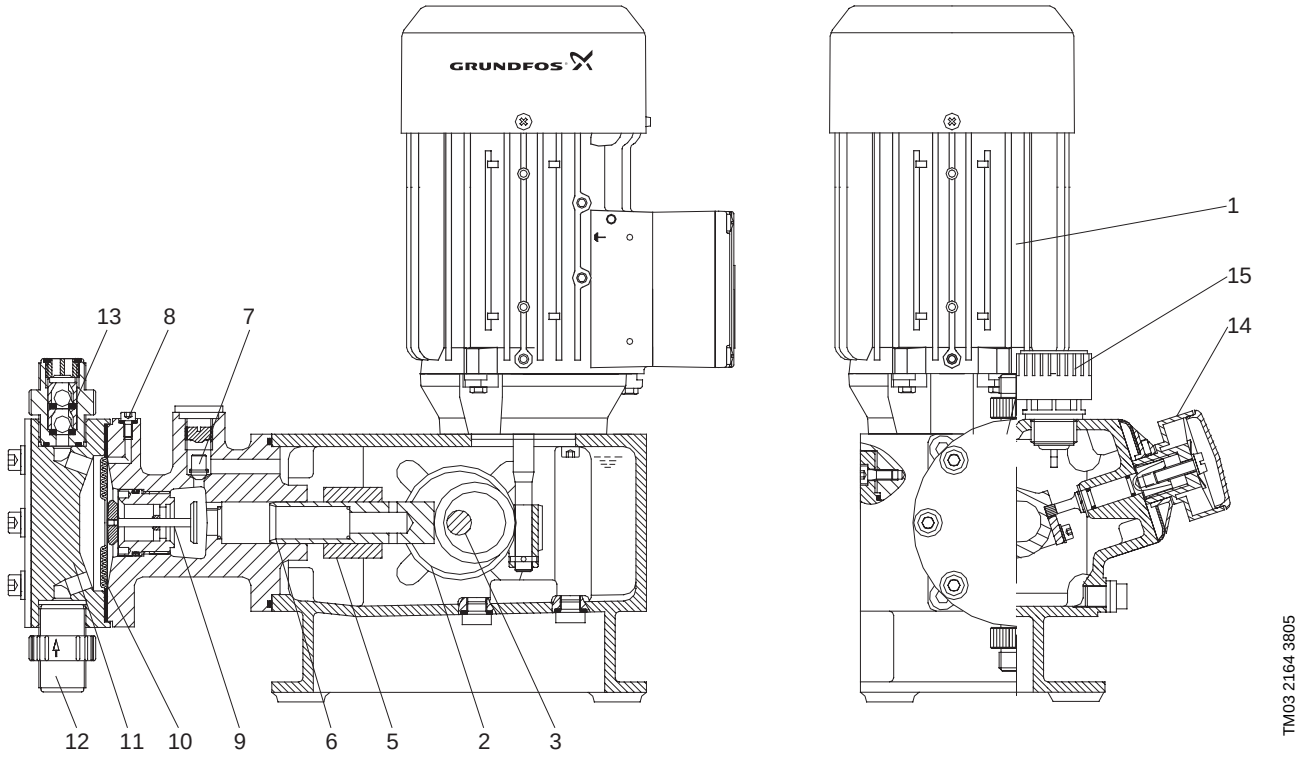


Fig. 11 Sectional drawing, DMH model 251

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The sliding plug (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 sliding plug. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

Pos.	Component
1	Motor
2	Worm gearing
3	Eccentric
5	Sliding plug
6	Piston
7	Combined pressure-relief and degassing valve
8	Oil degassing valve
9	Diaphragm protection valve (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjusting knob
15	Aeration screw with oil-level gauge

DMH model 252

Oscillating positive displacement pumps with hydraulic diaphragm control.

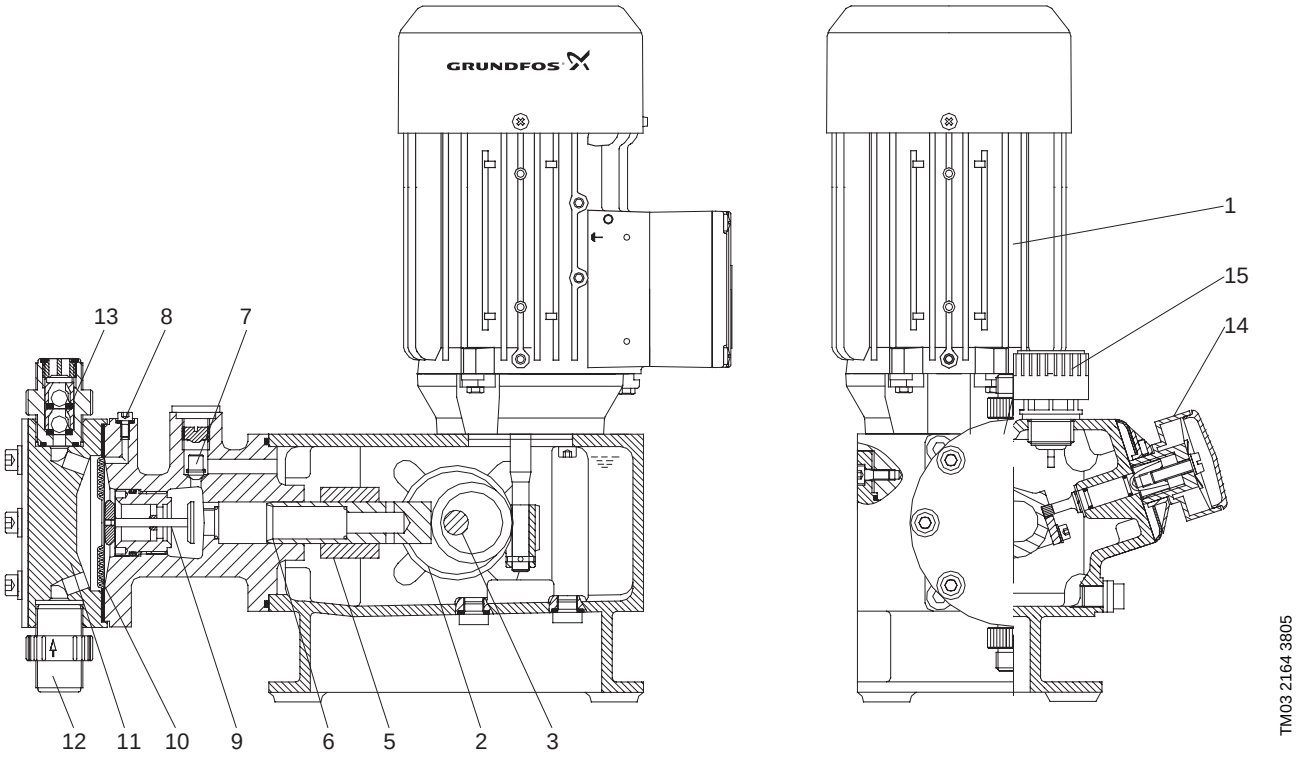


Fig. 12 Sectional drawing, DMH model 252

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The sliding plug (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 sliding plug. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

Pos.	Component
1	Motor
2	Worm gearing
3	Eccentric
5	Sliding plug
6	Piston
7	Combined pressure-relief and degassing valve
8	Oil degassing valve
9	Diaphragm protection valve (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjusting knob
15	Aeration screw with oil-level gauge

DMH model 253

Oscillating positive displacement pumps with hydraulic diaphragm control.

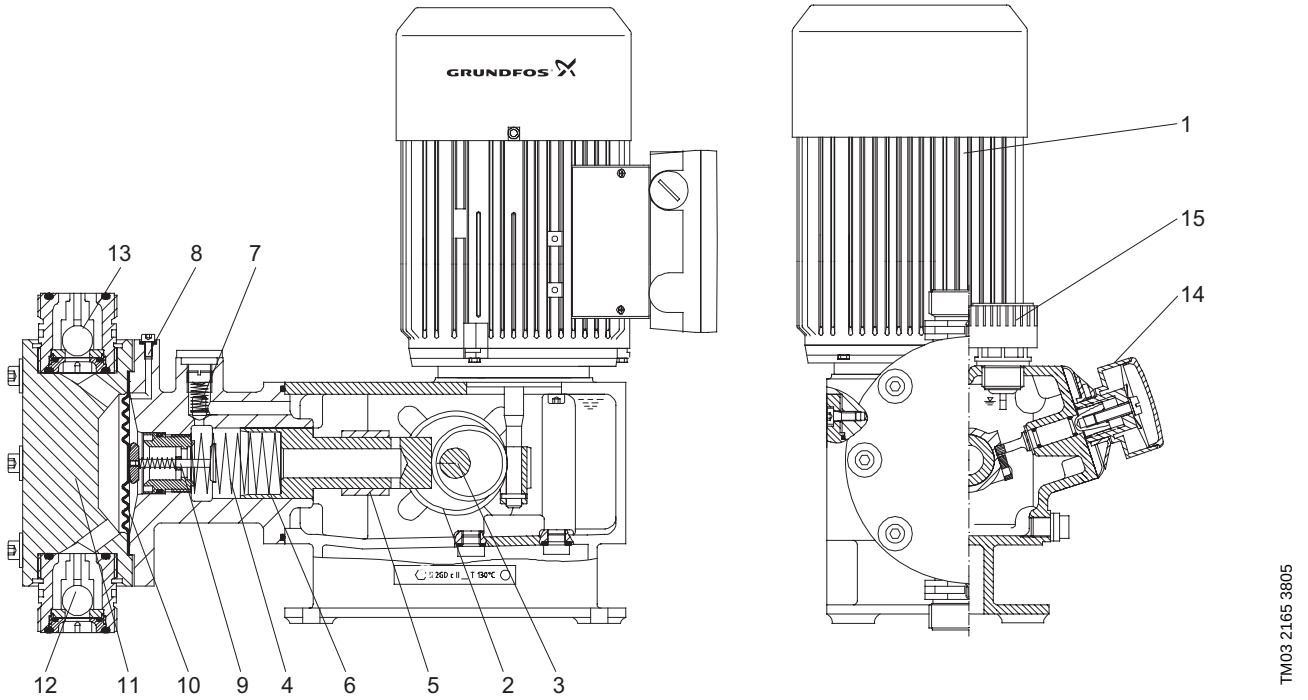


Fig. 13 Sectional drawing, DMH model 253

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The sliding plug (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 sliding plug. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

Pos.	Component
1	Motor
2	Worm gearing
3	Eccentric
4	Return spring (some models excluded)
5	Sliding plug
6	Piston
7	Combined pressure-relief and degassing valve
8	Oil degassing valve
9	Diaphragm protection valve (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjusting knob
15	Aeration screw with oil-level gauge

DMH model 254

Oscillating positive-displacement pumps with hydraulic diaphragm control.

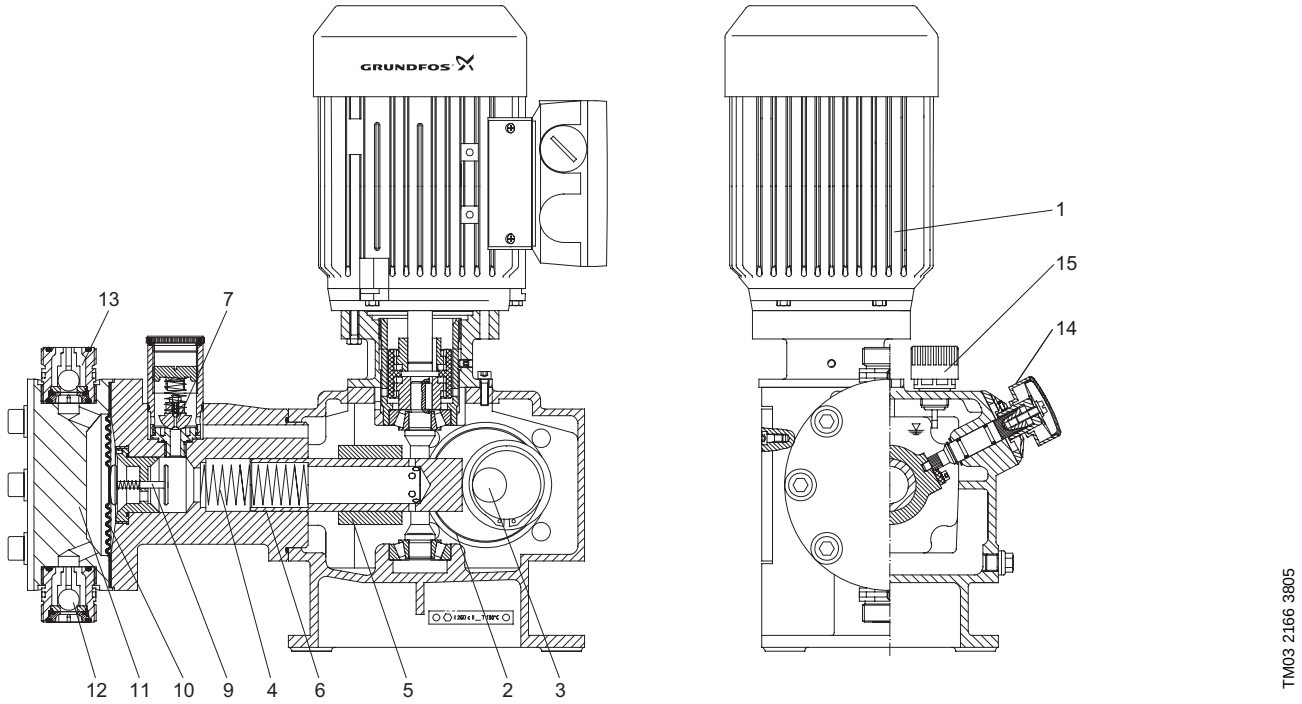


Fig. 14 Sectional drawing, DMH model 254

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The sliding plug (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 sliding plug. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

Pos.	Component
1	Motor
2	Worm gearing
3	Eccentric
4	Return spring (some models excluded)
5	Sliding plug
6	Piston
7	Combined pressure-relief and degassing valve
9	Diaphragm protection valve (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjusting knob
15	Aeration screw with oil-level gauge

DMH model 255

Oscillating positive-displacement pumps with hydraulic diaphragm control.

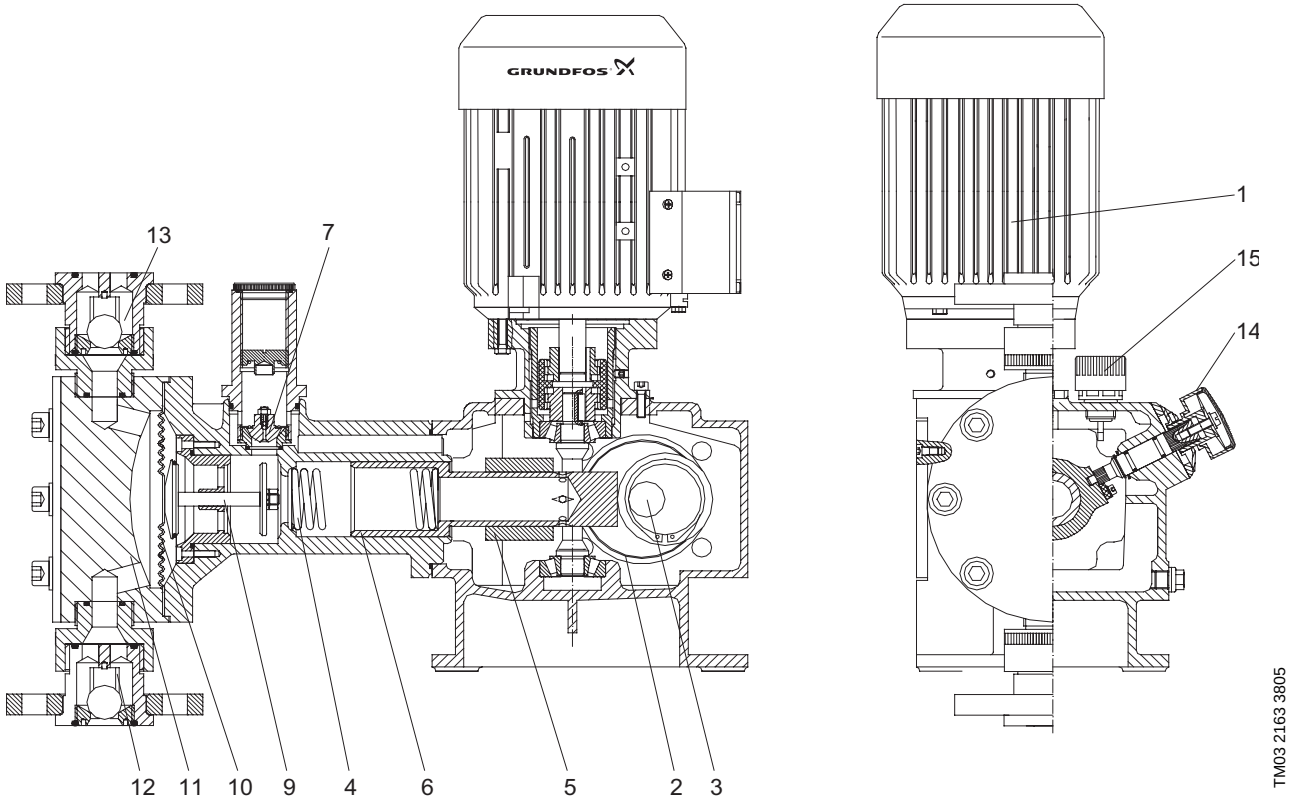


Fig. 15 Sectional drawing, DMH model 255

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The sliding plug (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 sliding plug. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

Pos.	Component
1	Motor
2	Worm gearing
3	Eccentric
4	Return spring (some models excluded)
5	Sliding plug
6	Piston
7	Combined pressure-relief and degassing valve
9	Diaphragm protection valve (AMS)
10	Dosing diaphragm
11	Dosing head
12	Suction valve
13	Discharge valve
14	Stroke-length adjusting knob
15	Aeration screw with oil-level gauge

DMH model 257

Oscillating positive-displacement pumps with hydraulic diaphragm control.

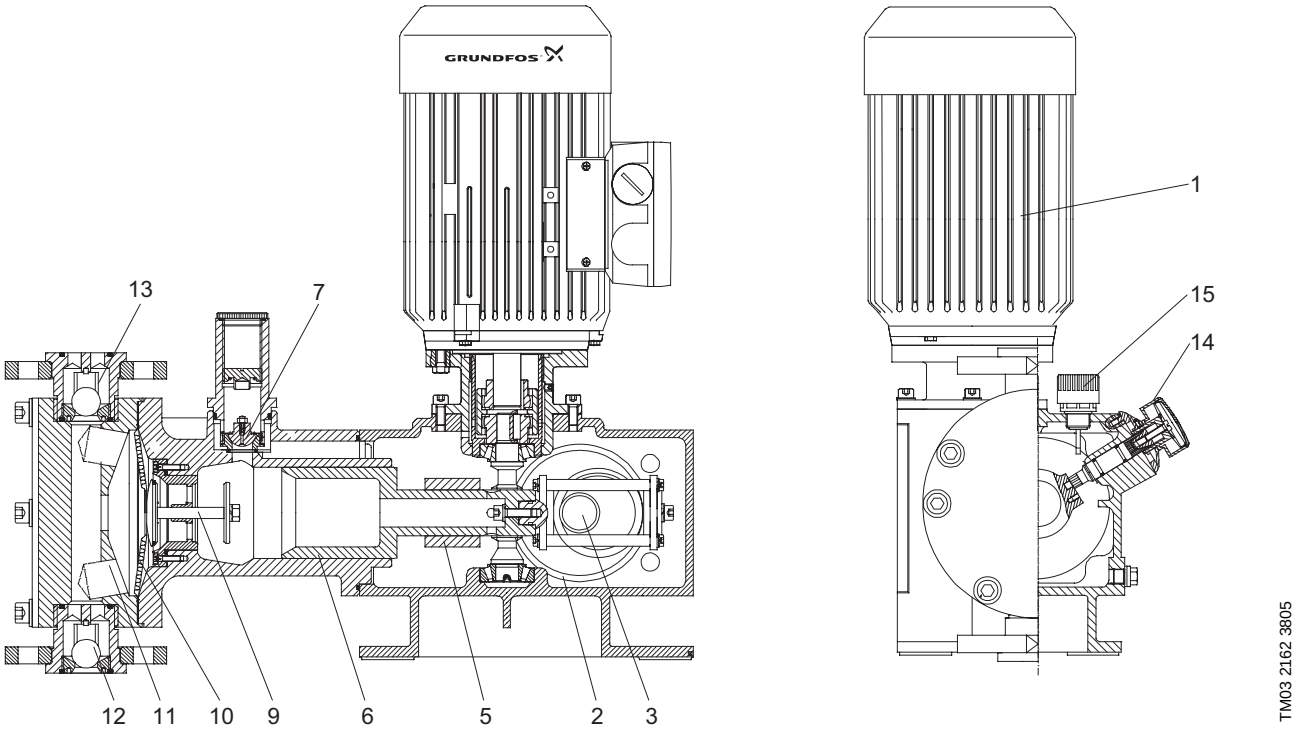


Fig. 16 Sectional drawing, DMH model 257

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The sliding plug (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 sliding plug. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

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

DMH model 280

Oscillating positive-displacement pumps with hydraulic diaphragm control.

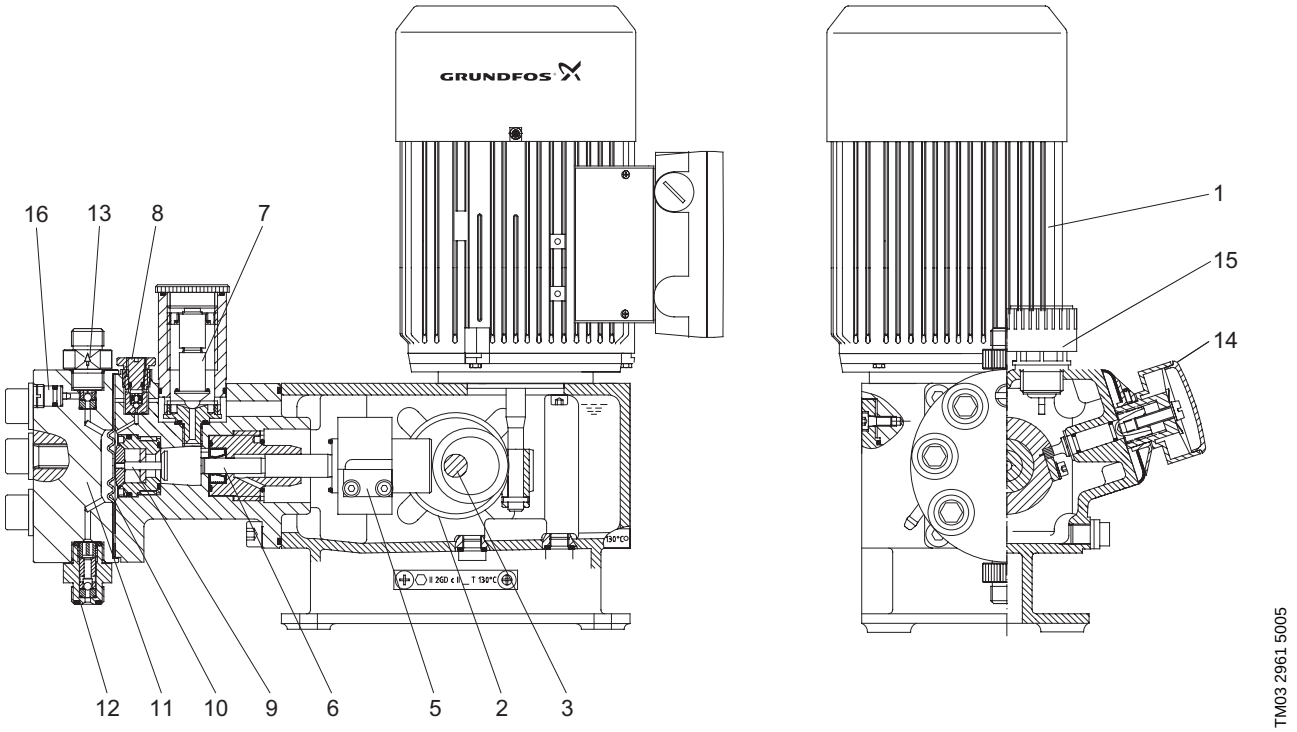


Fig. 17 Sectional drawing, DMH model 280

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The slide valve (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 slide valve. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

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

DMH model 281

Oscillating positive-displacement pumps with hydraulic diaphragm control.

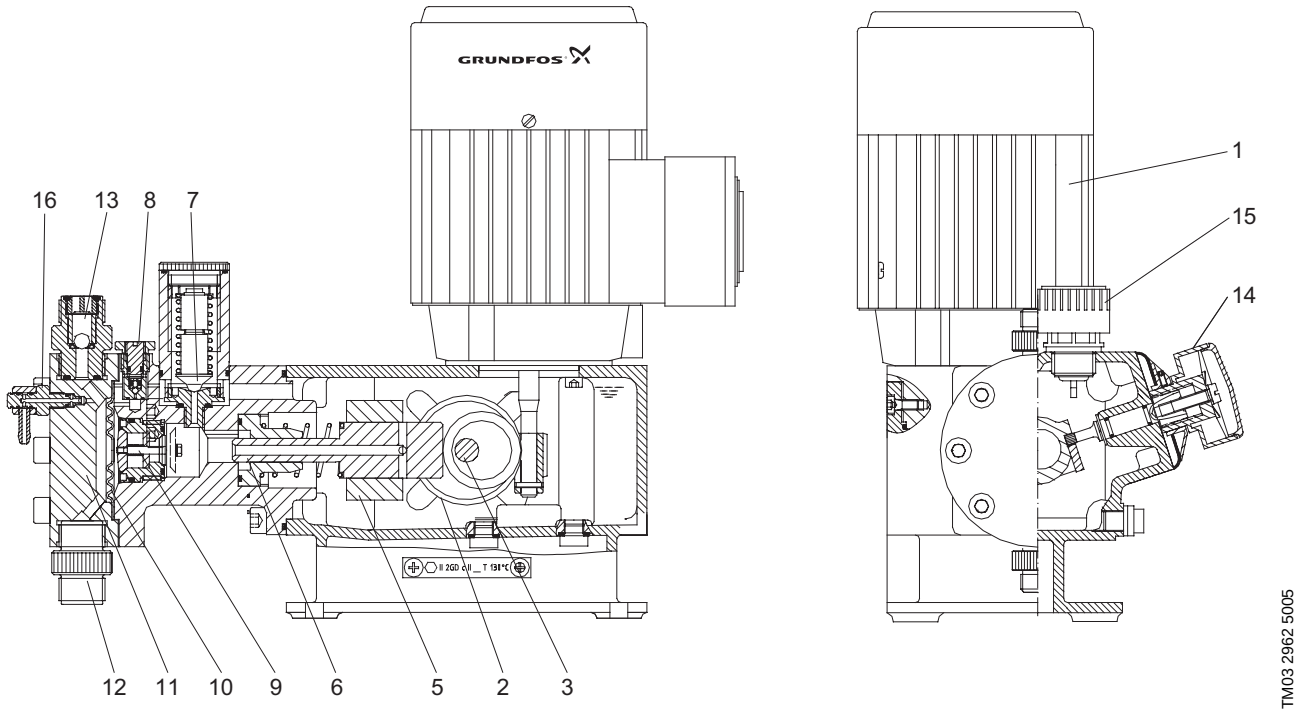


Fig. 18 Sectional drawing, DMH model 281

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The slide valve (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 slide valve. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

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

DMH model 283

Oscillating positive-displacement pumps with hydraulic diaphragm control.

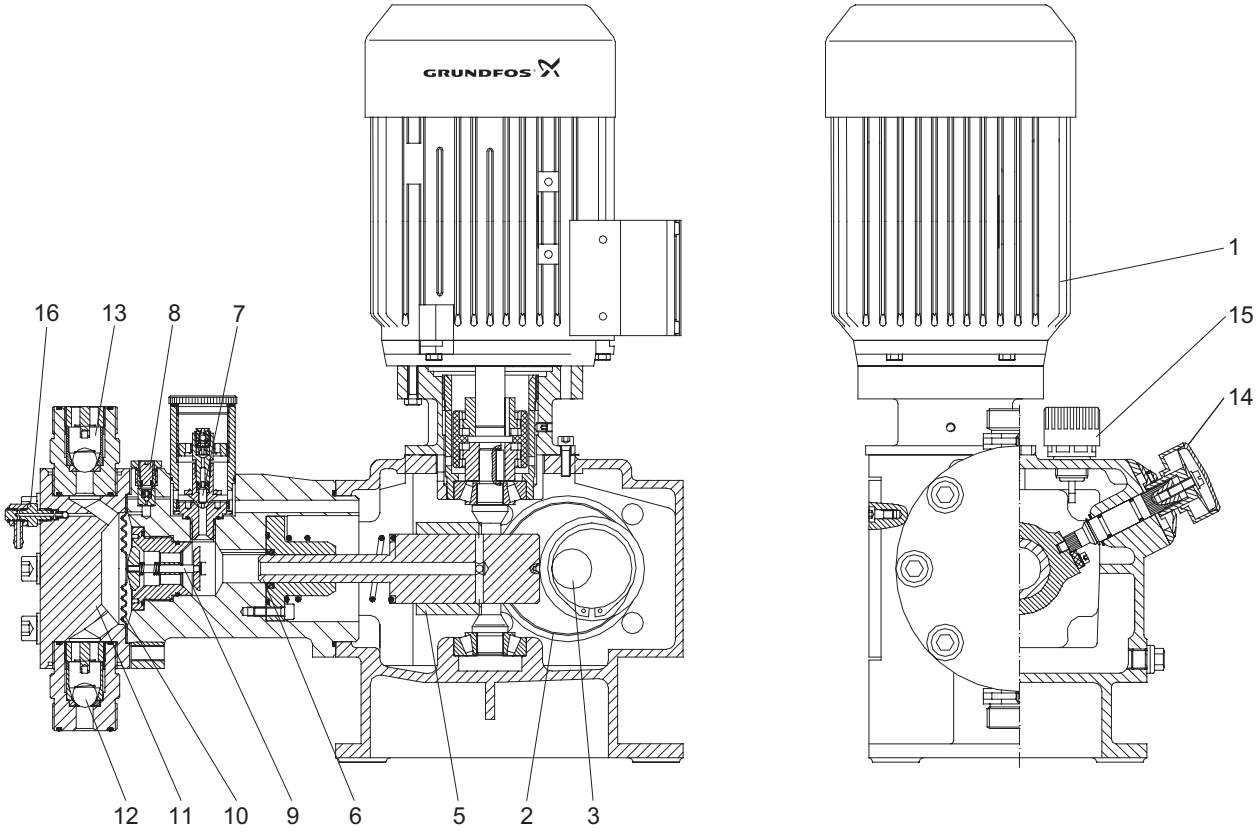


Fig. 19 Sectional drawing, DMH model 283

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The slide valve (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 slide valve. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

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

DMH model 285

Oscillating positive-displacement pumps with hydraulic diaphragm control.

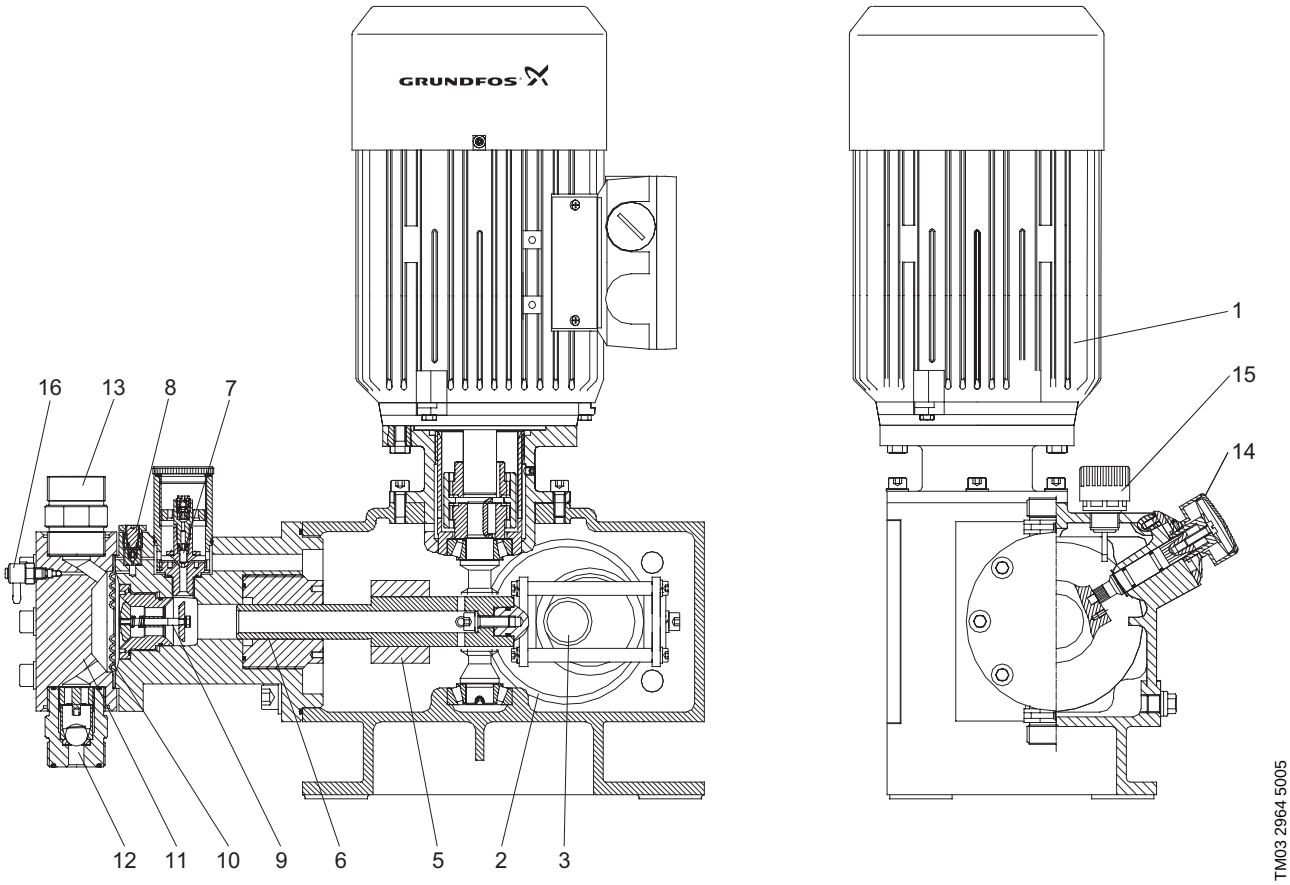


Fig. 20 Sectional drawing, DMH model 285

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The slide valve (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 slide valve. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

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

DMH model 286

Oscillating positive-displacement pumps with hydraulic diaphragm control.

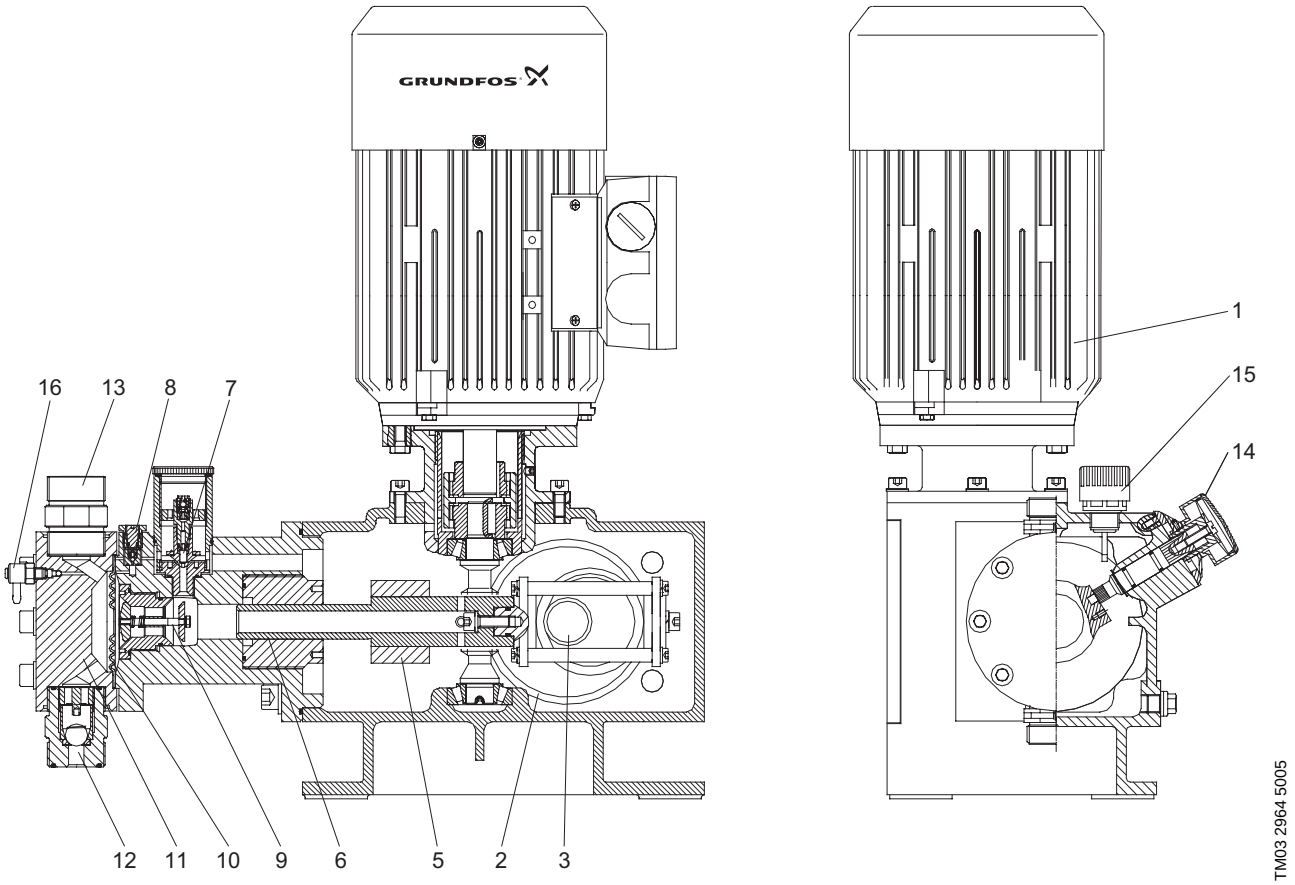


Fig. 21 Sectional drawing, DMH model 286

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The slide valve (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 slide valve. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

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

DMH model 287

Oscillating positive-displacement pumps with hydraulic diaphragm control.

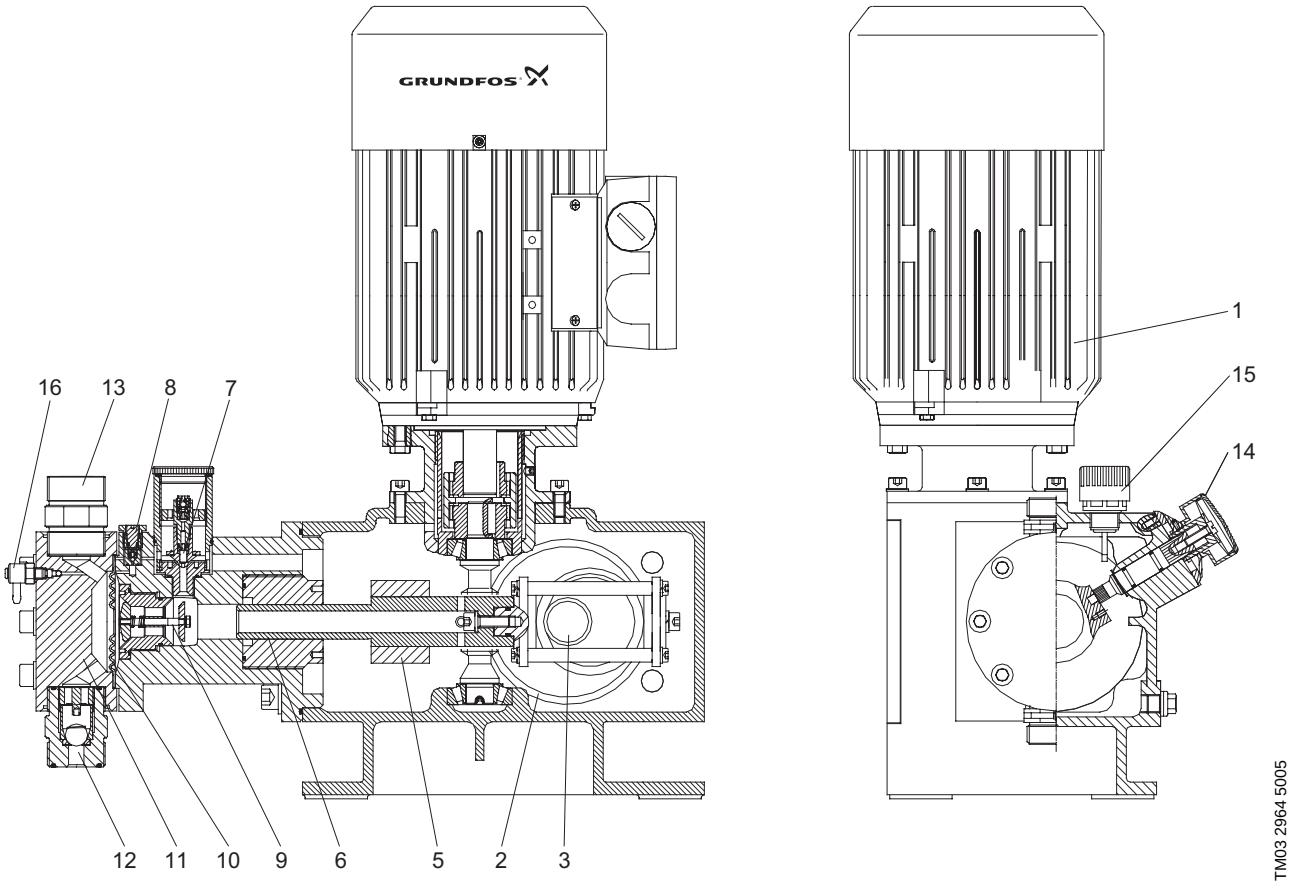


Fig. 22 Sectional drawing, DMH model 287

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The slide valve (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 slide valve. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

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

DMH model 288

Oscillating positive displacement pumps with hydraulic diaphragm control.

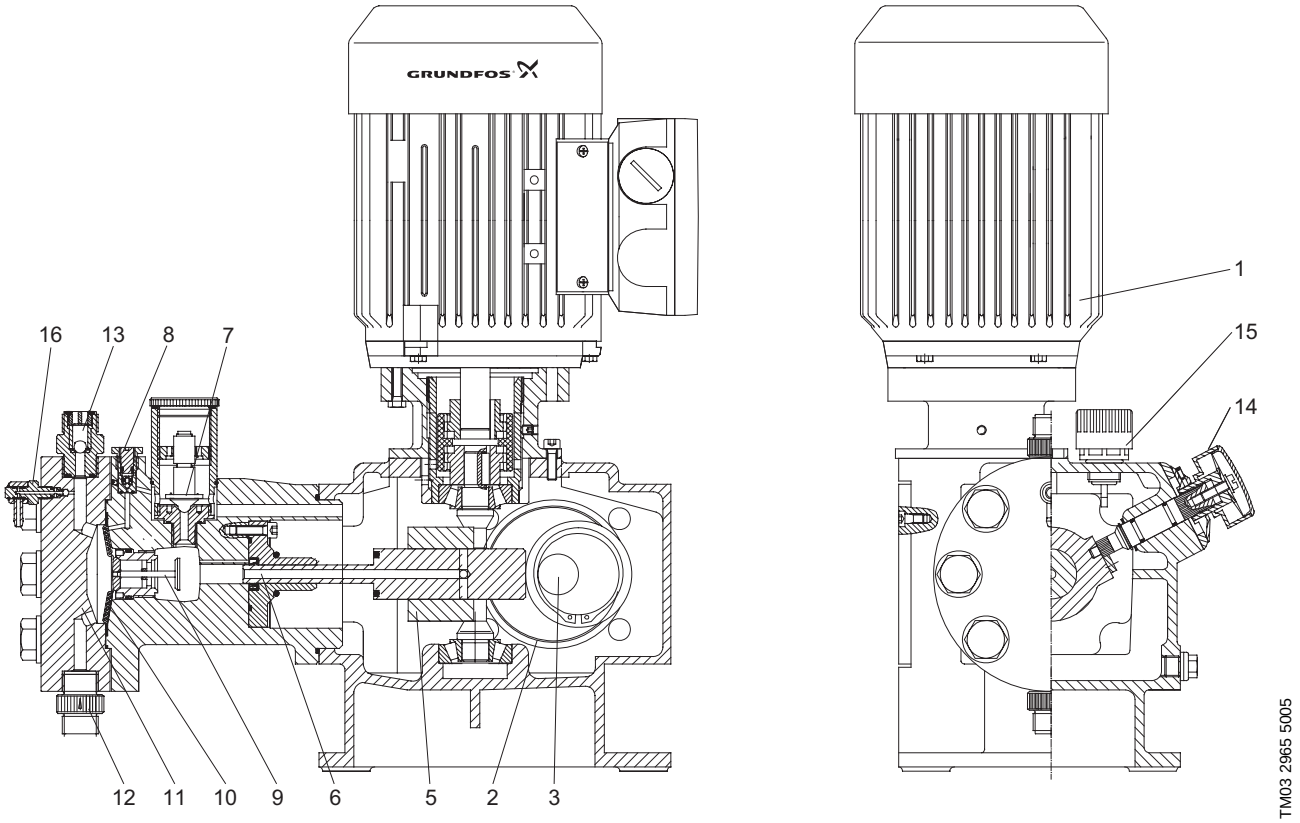


Fig. 23 Sectional drawing, DMH model 288

Functional principle

- The rotational movement of the drive motor (1) is converted via the worm gearing (2) and eccentric (3) into the oscillating suction and stroke movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The slide valve (5) envelops the holes during the stroke and seals the stroke area from the drive area. The hydraulic excursion of the solid PTFE diaphragm (10) displaces an equivalent volume of dosing liquid from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which propagates in the dosing head; the ball valve (13) on the dosing side closes 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 slide valve. The active stroke length and corresponding average dosing flow can therefore be changed continuously and linearly from 10 to 100% using the stroke-length adjusting knob and Nonius scale (14).

Legend

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

Dimensions, DMX model 221

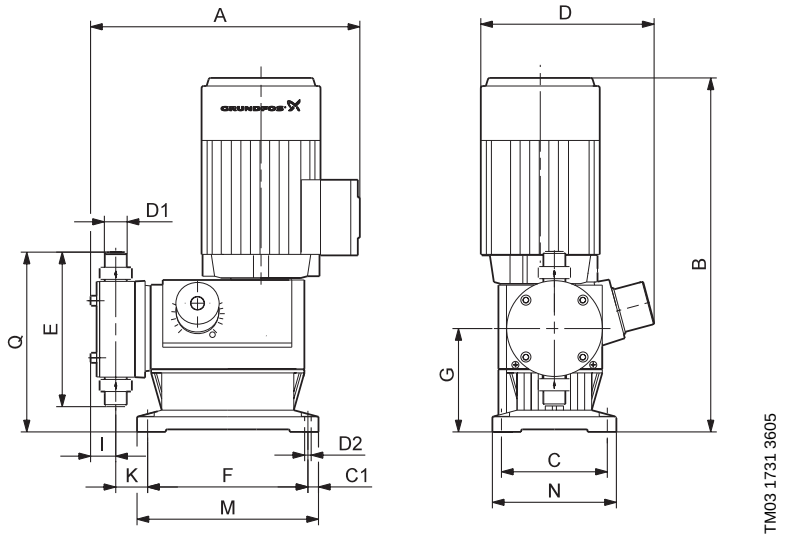


Fig. 24 Dimensions, DMX model 221

Pump	Model	A [mm]	B [mm]	C [mm]	C1 [mm]	D [mm]	D1	D2 [mm]	E [mm]	F [mm]	G [mm]	I [mm]	K [mm]	M [mm]	N [mm]	Q [mm]
DMX 4-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 7-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 7.2-16	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 8-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 9-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 12-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 13.7-16	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 14-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 16-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 17-4	221	323	319	105	10.5	175	R 1 1/4	6.5	177	159	102.5	38	64	180	123	192
DMX 18-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 25-3	221	330	319	105	10.5	175	R 1 1/4	6.5	188	159	102.5	40	80	180	123	197
DMX 26-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 27-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 35-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 39-4	221	323	319	105	10.5	175	R 1 1/4	6.5	177	159	102.5	38	64	180	123	192
DMX 50-10	221	275	319	105	10.5	175	R 5/8	6.5	153	159	102.5	25	32	180	123	179
DMX 60-3	221	330	319	105	10.5	175	R 1 1/4	6.5	188	159	102.5	40	80	180	123	197
DMX 75-4	221	323	319	105	10.5	175	R 1 1/4	6.5	177	159	102.5	38	64	180	123	192
DMX 115-3	221	330	319	105	10.5	175	R 1 1/4	6.5	188	159	102.5	40	80	180	123	197

Dimensions, DMX model 226

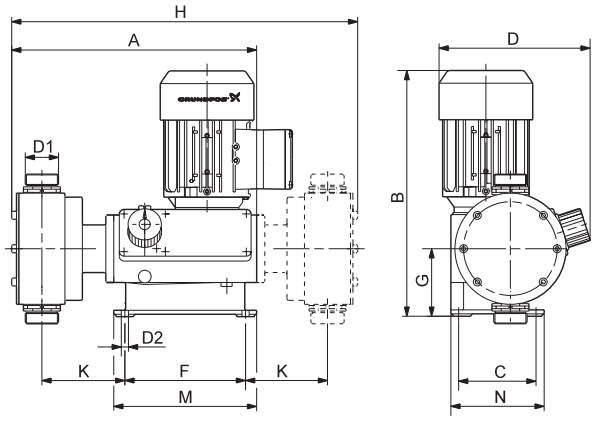


Fig. 25 Dimensions, DMX model 226, version M

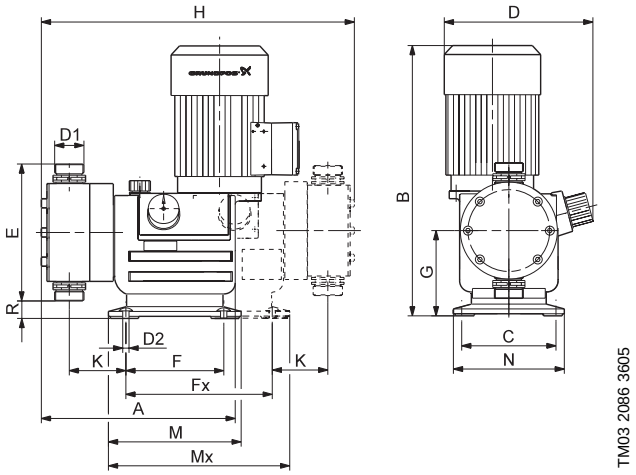


Fig. 26 Dimensions, DMX model 226, version L

Pump	Model	Version	A [mm]	B [mm]	C [mm]	D [mm]	D1	D2 [mm]	E [mm]	F [mm]	Fx [mm]	G [mm]	H [mm]	K [mm]	M [mm]	Mx [mm]	N [mm]	R [mm]
DMX 24-8	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 37-5	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 52-8	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 60-3	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 67-10	226	L	366	372	136	222	G 1 1/4	9	178	140	208	123	440	80	190	258	160	34
DMX 82-5	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 95-8	226	L	366	372	136	222	G 1 1/4	9	188	140	208	123	444	80	190	258	160	29
DMX 100-8	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 130-3	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 132-10	226	L	366	372	136	222	G 1 1/4	9	178	140	208	123	440	80	190	258	160	34
DMX 142-8	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 152-6	226	L	-	372	136	222	G 1 1/4	9	208	140	208	123	453	83	190	258	160	19
DMX 160-5	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 190-8/10	226	L	366	372	136	222	G 1 1/4	9	178	140	208	123	440	80	190	258	160	34
DMX 199-8	226	L	366	372	136	222	G 1 1/4	9	188	140	208	123	444	80	190	258	160	29
DMX 230-5	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 249-3	226	L	-	390	136	222	G 2	9	240	140	208	123	498	92	190	258	160	3
DMX 255-3	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 280-6/8	226	L	366	372	136	222	G 1 1/4	9	188	140	208	123	444	80	190	258	160	29
DMX 315-3	226	L	-	390	136	222	G 2	9	240	140	208	123	498	92	190	258	160	3
DMX 321-4/6	226	L	-	372	136	222	G 1 1/4	9	208	140	208	123	453	83	190	258	160	19
DMX 380-3	226	M	302	310	97.5	190	G 1 1/4	9	178	152	-	85.5	425	104.5	180	180	118	4
DMX 460-3.5/6	226	L	-	372	136	222	G 1 1/4	9	208	140	208	123	453	83	190	258	160	19
DMX 525-3	226	L	-	390	136	222	G 2	9	240	140	208	123	498	92	190	258	160	3
DMX 765-3	226	L	-	390	136	222	G 2	9	240	140	208	123	498	92	190	258	160	3

Dimensions, DMH models 251-257

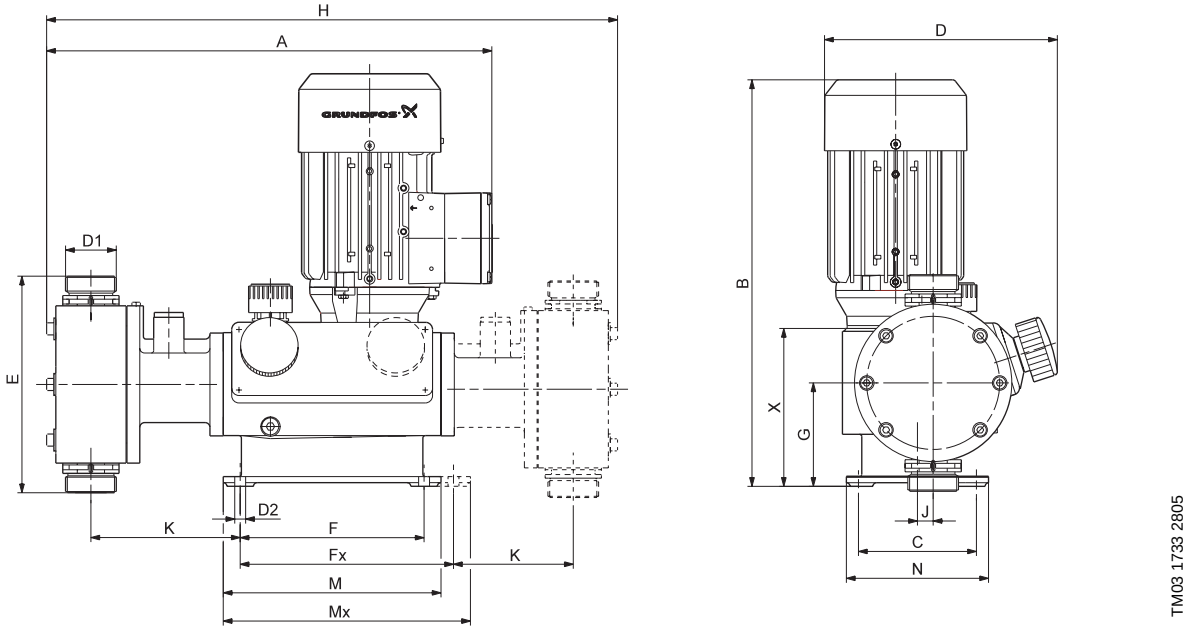


Fig. 27 DImensions, DMH models 251-257

Pump	Model	A [mm]	B [mm]	C [mm]	D [mm]	D1	D2 [mm]	E [mm]	F [mm]	Fx [mm]	G [mm]	H [mm]	J [mm]	K [mm]	M [mm]	Mx [mm]	N [mm]	X [mm]
DMH 2.2-25	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 2.3-16	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 2.4-10	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 4.5-25	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 4.9-16	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 5-10	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 10-16	252	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 11-10	252	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 11-25	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 12-16	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 13-10	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 17-25	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 18-16	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 19-10	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 21-10	253	368	336	97.5	192	R 1 1/4	9	179	152	152	85.5	472	13	124	180	180	117.5	130.5
DMH 21-25	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 23-16	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 23-16	252	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 24-10	251	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 24-10	252	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 36-16	252	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 37-10	252	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 43-10	253	368	336	97.5	192	R 1 1/4	9	179	152	152	85.5	472	13	124	180	180	117.5	130.5
DMH 45-16	252	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 46-10	252	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 50-10	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258
DMH 54-16	252	345	336	97.5	192	R 5/8	9	160	152	152	85.5	432	16	116	180	180	117.5	130.5
DMH 67-10	253	368	336	97.5	192	R 1 1/4	9	179	152	152	85.5	472	13	124	180	180	117.5	130.5
DMH 83-10	253	368	336	97.5	192	R 1 1/4	9	179	152	152	85.5	472	13	124	180	180	117.5	130.5
DMH 97-16	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258
DMH 100-10	253	368	336	97.5	192	R 1 1/4	9	179	152	152	85.5	472	13	124	180	180	117.5	130.5
DMH 102-10	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258
DMH 136-16	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258
DMH 143-10	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258
DMH 166-16	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258
DMH 175-10	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258
DMH 194-10	255	510	492	156	254	R 1 1/4	9	228	185	260	126	869	10	253	225	300	180	258
DMH 202-16	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258

Pump	Model	A [mm]	B [mm]	C [mm]	D [mm]	D1	D2 [mm]	E [mm]	F [mm]	Fx [mm]	G [mm]	H [mm]	J [mm]	K [mm]	M [mm]	Mx [mm]	N [mm]	X [mm]
DMH 213-10	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258
DMH 220-10	257	589	553	170	274	DN 32	9	280	241	333	128.5	980	25	262	290	382	194.5	271
DMH 270-10	255	510	492	156	254	R 1 1/4	9	228	185	260	126	869	10	253	225	300	180	258
DMH 276-16	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258
DMH 291-10	254	436	492	156	252	R 1 1/4	9	207	185	260	126	718	10	185	225	300	180	258
DMH 332-10	255	510	492	156	254	R 1 1/4	9	228	185	260	126	869	10	253	225	300	180	258
DMH 403-10	255	510	492	156	254	R 1 1/4	9	228	185	260	126	869	10	253	225	300	180	258
DMH 440-10	257	589	553	170	274	DN 32	9	280	241	333	128.5	980	25	262	290	382	194.5	271
DMH 550-10	255	510	492	156	254	R 1 1/4	9	228	185	260	126	869	10	253	225	300	180	258
DMH 575-10	257	589	553	170	274	DN 32	9	280	241	333	128.5	980	25	262	290	382	194.5	271
DMH 750-4	257	589	553	170	274	DN 32	9	280	241	333	128.5	980	25	262	290	382	194.5	271
DMH 770-10	257	589	553	170	274	DN 32	9	280	241	333	128.5	980	25	262	290	382	194.5	271
DMH 880-10	257	589	553	170	274	DN 32	9	280	241	333	128.5	980	25	262	290	382	194.5	271
DMH 1150-10	257	589	553	170	274	DN 32	9	280	241	333	128.5	980	25	262	290	382	194.5	271
DMH 1500-4	257	589	553	170	274	DN 32	9	280	241	333	128.5	980	25	262	290	382	194.5	271

Dimensions, DMH models 280-288

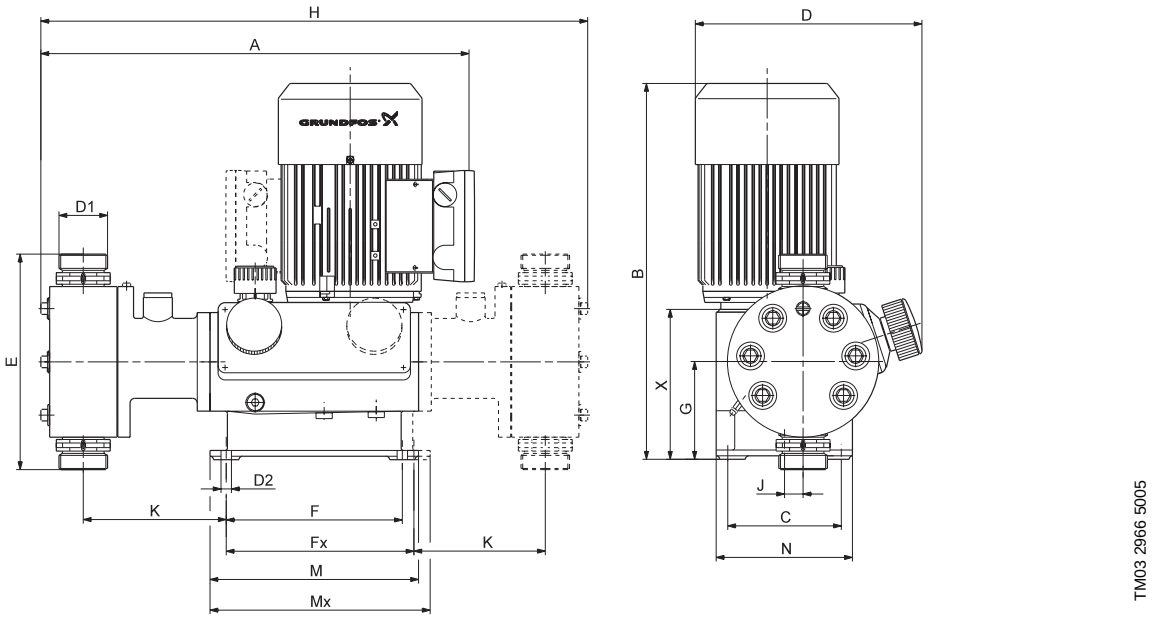


Fig. 28 DImensions, DMH models 280-288

Pump	Model	A [mm]	B [mm]	C [mm]	D [mm]	D1	D2 [mm]	E [mm]	F [mm]	Fx [mm]	G [mm]	H [mm]	J [mm]	K [mm]	M [mm]	Mx [mm]	N [mm]	X [mm]
DMH 0.6-200	280	365	336	97.5	192	R 3/8	9	142	152	152	85.5	465	16	114	180	180	117.5	130.5
DMH 1.3-200	280	365	336	97.5	192	R 3/8	9	142	152	152	85.5	465	16	114	180	180	117.5	130.5
DMH 2.2-200	280	365	336	97.5	192	R 3/8	9	142	152	152	85.5	465	16	114	180	180	117.5	130.5
DMH 2.5-200	280	365	336	97.5	192	R 3/8	9	142	152	152	85.5	465	16	114	180	180	117.5	130.5
DMH 3-200	288	425	492	156	155.5	R 5/8	9	208	185	260	126	700	10	173	225	300	180	258
DMH 3.3-200	280	365	336	97.5	192	R 3/8	9	142	152	152	85.5	465	16	114	180	180	117.5	130.5
DMH 4.2-100	281	348	336	97.5	192	R 5/8	9	155	152	152	85.5	432	16	114	180	180	117.5	130.5
DMH 6.4-100	281	348	336	97.5	192	R 5/8	9	155	152	152	85.5	432	16	114	180	180	117.5	130.5
DMH 7.5-200	288	425	492	156	155.5	R 5/8	9	208	185	260	126	700	10	173	225	300	180	258
DMH 8-100	281	348	336	97.5	192	R 5/8	9	155	152	152	85.5	432	16	114	180	180	117.5	130.5
DMH 9-200	287	490	553	170	274	R 5/8	9	208	240	333	129	814	25	176	290	382	194.5	271
DMH 9.6-100	281	348	336	97.5	192	R 5/8	9	155	152	152	85.5	432	16	114	180	180	117.5	130.5
DMH 10-200	288	425	492	156	155.5	R 5/8	9	208	185	260	126	700	10	173	225	300	180	258
DMH 13-200	288	425	492	156	155.5	R 5/8	9	208	185	260	126	700	10	173	225	300	180	258
DMH 15-200	288	425	492	156	155.5	R 5/8	9	208	185	260	126	700	10	173	225	300	180	258
DMH 18-200	287	490	553	170	274	R 5/8	9	208	240	333	129	814	25	176	290	382	194.5	271
DMH 19-100	283	437	493	156	254	R 1 1/4	9	211	185	260	126	706	10	182	225	300	180	258
DMH 21-200	288	425	492	156	155.5	R 5/8	9	208	185	260	126	700	10	173	225	300	180	258
DMH 23-200	287	490	553	170	274	R 5/8	9	208	240	333	129	814	25	176	290	382	194.5	271
DMH 27-100	283	437	493	156	254	R 1 1/4	9	211	185	260	126	706	10	182	225	300	180	258
DMH 31-200	287	490	553	170	274	R 5/8	9	208	240	333	129	814	25	176	290	382	194.5	271
DMH 33-100	283	437	493	156	254	R 1 1/4	9	211	185	260	126	706	10	182	225	300	180	258
DMH 36-200	287	490	553	170	274	R 5/8	9	208	240	333	129	814	25	176	290	382	194.5	271
DMH 40-100	283	437	493	156	254	R 1 1/4	9	211	185	260	126	706	10	182	225	300	180	258
DMH 40-100	285	510	553	145.5	274	R 1 1/4	9	179	240	333	129	820	25	187	290	382	194.5	271
DMH 50-200	287	490	553	170	274	R 5/8	9	208	240	333	129	814	25	176	290	382	194.5	271
DMH 52-100	285	510	553	145.5	274	R 1 1/4	9	179	240	333	129	820	25	187	290	382	194.5	271
DMH 55-100	283	437	493	156	254	R 1 1/4	9	211	185	260	126	706	10	182	225	300	180	258
DMH 70-100	285	510	553	145.5	274	R 1 1/4	9	179	240	333	129	820	25	187	290	382	194.5	271
DMH 80-100	285	510	553	145.5	274	R 1 1/4	9	179	240	333	129	820	25	187	290	382	194.5	271
DMH 85-50	286	510	553	145.5	274	R 1 1/4	9	234	240	333	129	820	25	191	290	382	194.5	271
DMH 105-100	285	510	553	145.5	274	R 1 1/4	9	179	240	333	129	820	25	187	290	382	194.5	271
DMH 111-50	286	510	553	145.5	274	R 1 1/4	9	234	240	333	129	820	25	191	290	382	194.5	271
DMH 170-50	286	510	553	145.5	274	R 1 1/4	9	234	240	333	129	820	25	191	290	382	194.5	271
DMH 222-50	286	510	553	145.5	274	R 1 1/4	9	234	240	333	129	820	25	191	290	382	194.5	271

Performance data, DMX model 221

Pump	Model	Vstroke [cm³]	50 Hz			Motor power	
			Capacity 1) [l/h]	Max. pressure 2) [bar]	Stroke rate [n/min]	Standard [kW]	PTC 3) [kW]
DMX 4-10	221	2.2	4	10	29	0.09	0.09
DMX 7-10	221	3.8	7	10	29	0.09	0.09
DMX 7.2-16*	221	1.9	7.2	16	63	0.09	0.18
DMX 8-10	221	2.2	8	10	63	0.09	0.09
DMX 9-10	221	4.9	9	10	29	0.09	0.09
DMX 12-10	221	6.9	12	10	29	0.09	0.18
DMX 13.7-16*	221	1.9	13.7	16	120	0.09	0.18
DMX 14-10	221	3.8	14	10	63	0.09	0.09
DMX 16-10	221	2.2	16	10	120	0.09	-
DMX 17-4	221	10.4	17	4	29	0.09	0.18
DMX 18-10	221	4.9	18	10	63	0.09	0.09
DMX 25-3	221	16	27	3	29	0.09	0.18
DMX 26-10	221	6.9	26	10	63	0.09	0.18
DMX 27-10	221	3.8	27	10	120	0.09	-
DMX 35-10	221	4.9	35	10	120	0.09	-
DMX 39-4	221	10.4	39	4	63	0.09	0.18
DMX 50-10	221	6.9	50	10	120	0.09	-
DMX 60-3	221	16	60	3	63	0.09	0.18
DMX 75-4	221	10.4	75	4	120	0.09	-
DMX 115-3	221	16	115	3	120	0.09	-

1) The maximum flow is measured at maximum counter pressure.

2) Maximum counter pressure.

3) PTC available for frequency control.

*) Operation at a counter pressure of 16 bar reduces diaphragm life.

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

- dosing liquid: water
- flooded suction: 0.5 m
- fully vented dosing head
- 400 V motor, 3-phase.

Minimum counter pressure: 1 bar.

The counter pressure refers to the pressure at the pump discharge valve. Pressure losses in the line to the injection point are not taken into account.

Performance data, DMX model 226

Pump	Model	Vstroke [cm³]	50 Hz				Motor power	
			Capacity [1) 2)] [l/h]	Max. pressure [3)] 3-phase [bar]	Max. pressure [3)] 1-phase [bar]	Stroke rate [n/min]	Standard [kW]	PTC [4)] [kW]
DMX 24-8	226	13.8	24	8	8	29	0.18	-
DMX 37-5	226	22	37	5	5	29	0.18	-
DMX 52-8	226	13.8	52	8	8	63	0.18	-
DMX 60-3	226	36	60	3	3	29	0.18	-
DMX 67-10	226	18.5	67	10	10	57	0.37	0.55
DMX 82-5	226	22	82	5	5	63	0.18	-
DMX 95-8	226	27.8	95	8	8	57	0.37	0.55
DMX 100-8	226	13.8	100	8	8	120	0.18	-
DMX 130-3	226	36	130	3	3	63	0.18	-
DMX 132-10	226	18.5	132	10	10	120	0.37	0.55
DMX 142-8	226	13.8	142	8	8	168	0.18	-
DMX 152-6	226	44.6	152	6	6	57	0.37	0.55
DMX 160-5	226	22	160	5	5	120	0.18	-
DMX 190-8/10	226	18.5	190	10	8	175	0.37	0.55
DMX 199-8	226	27.8	199	8	8	120	0.37	0.55
DMX 230-5	226	22	224	5	5	168	0.18	-
DMX 249-3	226	73	249	3	3	57	0.37	0.55
DMX 255-3	226	36	255	3	3	120	0.18	-
DMX 280-6/8	226	27.8	280	8	6	175	0.37	0.55
DMX 315-3	226	73	315	3	3	72	0.37	0.55
DMX 321-4/6	226	44.6	321	6	4	120	0.37	0.55
DMX 380-3	226	36	380	3	3	168	0.18	-
DMX 460-3.5/6	226	44.6	460	6	3.5	175	0.37	0.55
DMX 525-3	226	73	525	3	3	120	0.37	0.55
DMX 765-3	226	73	765	3	-	175	0.37	0.55

1) The maximum flow is measured at maximum counter pressure.

2) The capacity is per dosing head.
(Twin-head pumps have double the flow rate of single-head versions.)

3) Maximum counter pressure.

4) Motor for frequency control.

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

- maximum counter pressure
- dosing liquid: water
- flooded suction: 0.5 m
- fully vented dosing head
- 400 V, 3-phase motor.

Performance data, DMH models 251-257

Pump	Model	Vstroke [cm³]	Pmax [1] [bar]	50 Hz		60 Hz		100 Hz		Motor power	
				Capacity [2] [3] [l/h]	Stroke rate [n/min]	Capacity [2] [3] [l/h]	Stroke rate [n/min]	Capacity [2] [3] [l/h]	Stroke rate [n/min]	Standard [kW]	PTC [4] [kW]
DMH 2.2-25	251	3.5	25	2.2	14	2.6	17	4.4	29	0.09	0.18
DMH 2.3-16	251	3.5	16	2.3	14	2.8	17	4.5	29	0.06	0.09
DMH 2.4-10	251	3.5	10	2.4	14	2.9	17	5	29	0.06	0.09
DMH 4.5-25	251	3.5	25	4.5	29	5.4	35	9	58	0.09	0.18
DMH 4.9-16	251	3.5	16	4.9	29	5.9	35	9.8	58	0.06	0.09
DMH 5-10	251	3.5	10	5	29	6	35	10	58	0.06	0.09
DMH 10-16	252	6.4	16	10	29	12	35	20	58	0.09	0.18
DMH 11-10	252	6.4	10	11	29	13	35	22	58	0.09	0.18
DMH 11-25	251	3.5	25	11	63	13	75	22	126	0.09	0.18
DMH 12-16	251	3.5	16	12	63	14	75	24	126	0.06	0.09
DMH 13-10	251	3.5	10	13	63	16	75	25	126	0.06	0.09
DMH 17-25	251	3.5	25	17	96	20	115	-	-	0.09	-
DMH 18-16	251	3.5	16	18	96	22	115	-	-	0.06	-
DMH 19-10	251	3.5	10	19	96	23	115	-	-	0.06	-
DMH 21-10	253	11.3	10	21	29	25	35	46	58	0.18	0.18
DMH 21-25	251	3.5	25	21	120	-	-	-	-	0.09	-
DMH 23-16	251	3.5	16	23	120	-	-	-	-	0.06	-
DMH 23-16	252	6.4	16	23	63	27	75	46	126	0.09	0.18
DMH 24-10	251	3.5	10	24	120	-	-	-	-	0.06	-
DMH 24-10	252	6.4	10	24	63	29	75	48	126	0.09	0.18
DMH 36-16	252	6.4	16	36	96	43	115	-	-	0.09	-
DMH 37-10	252	6.4	10	37	96	44	115	-	-	0.09	-
DMH 43-10	253	11.3	10	43	63	52	75	87	126	0.18	0.18
DMH 45-16	252	6.4	16	45	120	-	-	-	-	0.09	-
DMH 46-10	252	6.4	10	46	120	-	-	-	-	0.09	-
DMH 50-10	254	31.6	10	50	26	60	31	101	52	0.55	0.55
DMH 54-16	252	6.4	16	54	144	-	-	-	-	0.09	-
DMH 67-10	253	11.3	10	67	96	78	115	-	-	0.18	-
DMH 83-10	253	11.3	10	83	120	99	144	-	-	0.18	-
DMH 97-16	254	31.6	16	97	54	116	65	193	108	0.55	0.55
DMH 100-10	253	11.3	10	100	144	-	-	-	-	0.18	-
DMH 102-10	254	31.6	10	102	54	122	65	203	108	0.55	0.55
DMH 136-16	254	31.6	16	136	75	163	90	271	150	0.55	0.55
DMH 143-10	254	31.6	10	143	75	172	90	286	150	0.55	0.55
DMH 166-16	254	31.6	16	166	92	200	110	-	-	0.55	-
DMH 175-10	254	31.6	10	175	92	210	110	-	-	0.55	-
DMH 194-10	255	60	10	194	54	233	65	387	108	0.55	0.55
DMH 202-16	254	31.6	16	202	112	242	134	-	-	0.55	-
DMH 213-10	254	31.6	10	213	112	255	134	-	-	0.55	-
DMH 220-10	257	131	10	220	28	264	34	440	56	1.1	1.5 (2.2*)
DMH 270-10	255	60	10	270	75	324	90	540	150	0.55	0.75
DMH 276-16	254	31.6	16	276	153	-	-	-	-	0.55	-
DMH 291-10	254	31.6	10	291	153	-	-	-	-	0.55	-
DMH 332-10	255	60	10	332	92	398	110	-	-	0.55	-
DMH 403-10	255	60	10	403	112	484	134	-	-	0.55	-
DMH 440-10	257	131	10	440	56	528	67	880	112	1.1	2.2
DMH 550-10	255	60	10	550	153	-	-	-	-	0.55	2.2
DMH 575-10	257	131	10	575	73	690	88	1150	146	1.1	2.2
DMH 750-4	257	171	4	750	73	900	88	1500	146	1.1	2.2
DMH 770-10	257	131	10	770	98	924	118	-	-	1.1	2.2
DMH 880-10	257	131	10	880	112	1056	134	-	-	1.1	2.2
DMH 1150-10	257	131	10	1150	146	-	-	-	-	1.1 (1.5*)	2.2
DMH 1500-4	257	171	4	1500	146	-	-	-	-	1.1	2.2

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

Performance data, DMH models 280-288

Pump	Model	Vstroke [cm³]	Pmax [1] [bar]	50 Hz		60 Hz		100 Hz		Motor power	
				Capacity [2] [3] [l/h]	Stroke rate [n/min]	Capacity [2] [3] [l/h]	Stroke rate [n/min]	Capacity [2] [3] [l/h]	Stroke rate [n/min]	Standard [kW]	PTC [4] [kW]
DMH 0.6-200	280	0.36	200	0.63	29	0.76	35	1.26	58	0.18	0.18
DMH 1.3-200	280	0.36	200	1.45	63	1.74	76	2.9	126	0.18	0.18
DMH 2.2-200	280	0.36	200	2.22	96	2.66	115	-	-	0.18	0.18
DMH 2.5-200	280	0.36	200	2.81	120	3.37	144	-	-	0.18	0.18
DMH 3-200	288	2.33	200	3.6	26	4.3	31	-	-	0.55	0.55
DMH 3.3-200	280	0.36	200	3.41	144	-	-	-	-	0.18	0.18
DMH 4.2-100	281	1.1	100	4.2	63	5	76	8.2	126	0.18	0.18
DMH 6.4-100	281	1.1	100	6.4	96	7.7	115	-	-	0.18	0.18
DMH 7.5-200	288	2.33	200	7.5	54	9	65	15	108	0.55	0.55
DMH 8-100	281	1.1	100	8	120	9.6	144	-	-	0.18	0.18
DMH 9-200	287	6	200	9	28	11	34	-	-	1.1	1.5
DMH 9.6-100	281	1.1	100	9.6	144	-	-	-	-	0.18	0.18
DMH 10-200	288	2.33	200	10.4	75	12.5	90	21	150	0.55	0.55
DMH 13-200	288	2.33	200	12.8	92	15.4	118	-	-	0.55	0.55
DMH 15-200	288	2.33	200	15.5	112	18.6	134	-	-	0.55	0.55
DMH 18-200	287	6	200	18	56	22	67	36	112	1.1	1.5
DMH 19-100	283	6	100	19	54	23	65	38	108	0.55	0.55
DMH 21-200	288	2.33	200	21	153	-	-	-	-	0.55	0.55
DMH 23-200	287	6	200	23	73	28	88	46	146	1.1	1.5
DMH 27-100	283	6	100	27	75	32	90	54	150	0.55	0.55
DMH 31-200	287	6	200	31	98	37	118	-	-	1.1	1.5
DMH 33-100	283	6	100	33	92	40	110	-	-	0.55	0.55
DMH 36-200	287	6	200	36	112	43	134	-	-	1.1	1.5
DMH 40-100	283	6	100	40	112	48	134	-	-	0.55	0.55
DMH 40-100	285	12	100	40	56	48	67	80	112	1.1	1.5
DMH 50-200	287	6	200	50	146	-	-	-	-	1.1	1.5
DMH 52-100	285	12	100	52	73	63	88	105	146	1.1	1.5
DMH 55-100	283	6	100	55	153	-	-	-	-	0.55	0.55
DMH 70-100	285	12	100	70	98	84	118	-	-	1.1	1.5
DMH 80-100	285	12	100	80	112	96	134	-	-	1.1	1.5
DMH 85-50	286	25.3	50	85	56	102	67.2	170	112	1.1	1.5
DMH 105-100	285	12	100	105	146	-	-	-	-	1.1	1.5
DMH 111-50	286	25.3	50	111	73	133	87.6	222	146	1.1	1.5
DMH 170-50	286	25.3	50	170	112	204	134	-	-	1.1	1.5
DMH 222-50	286	25.3	50	222	146	-	-	-	-	1.1	1.5

1) Maximum counter pressure.

2) The maximum capacity is measured at the maximum counter pressure.

3) The capacity is per dosing head.
(Twin-head pumps have double the flow rate of single-head versions.)

4) Motor for frequency control.

* For twin-head pumps.

Suction lift, DMX model 221

Pump	Model	Liquids with a viscosity similar to water			Liquids with max. permissible viscosity	
		Suctíon lift - 50 Hz				
		Continuous operation [1] [m]	Start-up [2] [m]	Max. length of suction line [m]	Max. permissible viscosity [mPa s]	Suction lift [m]
DMX 4-10	221	4	4	5	400	1
DMX 7-10	221	4	4	5	400	1
DMX 7.2-16*	221	4	4	5	400	1
DMX 8-10	221	4	4	5	400	1
DMX 9-10	221	3	4	4	200	1
DMX 12-10	221	3	4	4	200	1
DMX 13.7-16*	221	4	4	5	200	1
DMX 14-10	221	4	4	5	400	1
DMX 16-10	221	4	4	5	200	1
DMX 17-4	221	1	3	2	200	1 [3]
DMX 18-10	221	3	4	4	200	1
DMX 25-3	221	1	1	2	200	1 [3]
DMX 26-10	221	3	4	4	200	1 [3]
DMX 27-10	221	4	4	5	200	1
DMX 35-10	221	3	4	4	100	1
DMX 39-4	221	1	3	2	100	1
DMX 50-10	221	3	4	4	100	1
DMX 60-3	221	1	1	2	100	1
DMX 75-4	221	1	3	2	100	1 [3]
DMX 115-3	221	1	1	2	100	1 [3]

1) Suction line and dosing head filled (continuous operation).

2) Suction line and dosing head not filled, but dosing head and valves moistened (commissioning).

3) Flooded suction.

*) Operation at a counter pressure of 16 bar reduces diaphragm life.

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

Liquids with a viscosity similar to water:

- counter pressure: 1.5 to 3 bar
- non-degassing and non-abrasive liquids
- temperature: 20 °C
- stroke length: 100%.

Liquids with max. permissible viscosity:

- newtonian liquids
- non-degassing and non-abrasive liquids
- temperature: 20°C
- standard pump version.

Suction lift, DMX model 226

Pump	Model	Liquids with a viscosity similar to water			Liquids with max. permissible viscosity	
		Suctíon lift - 50 Hz				
		Continuous operation [1] [m]	Start-up [2] [m]	Max. length of suction line [m]	Max. permissible viscosity [mPa s]	Suction lift [m]
DMX 24-8	226	3	1	4	1000	1
DMX 37-5	226	3	1	3	600	1
DMX 52-8	226	3	1	4	700	1
DMX 60-3	226	2	1	3	500	1
DMX 67-10	226	3	1	4	700	1
DMX 82-5	226	3	1	3	500	1
DMX 95-8	226	3	1	3	500	1
DMX 100-8	226	3	1	4	400	1
DMX 130-3	226	2	1	3	400	0
DMX 132-10	226	3	1	4	400	1
DMX 142-8	226	3	1	4	200	0
DMX 152-6	226	2	1	3	400	0
DMX 160-5	226	3	1	3	200	0
DMX 190-8/10	226	3	1	4	200	0
DMX 199-8	226	3	1	3	200	0
DMX 230-5	226	3	1	3	150	0
DMX 249-3	226	1.5	1	2	100	0
DMX 255-3	226	2	1	3	100	0
DMX 280-6/8	226	3	1	3	150	0
DMX 315-3	226	1.5	1	2	100	0
DMX 321-4/6	226	2	1	3	100	0
DMX 380-3	226	2	1	3	50	0
DMX 460-3.5/6	226	2	1	3	50	0
DMX 525-3	226	1	0.5	2	50	0
DMX 765-3	226	0	0	2	10	0

1) Suction line and dosing head filled (continuous operation).

2) Suction line and dosing head not filled, but dosing head and valves moistened (commissioning).

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

Liquids with a viscosity similar to water:

- counter pressure: 1.5 to 3 bar
- non-degassing and non-abrasive liquids
- temperature: 20°C
- stroke length: 100%
- standard pump version.

Liquids with max. permissible viscosity:

- newtonian liquids
- non-degassing and non-abrasive liquids
- temperature: 20°C
- standard pump version.

Suction lift, DMH models 251-257

Pump	Model	Max. suction lift		Max. inlet pressure [bar]	Min. counter pressure at the pump pressure valve [bar]	Max. permissible viscosity at operating temperature [1] [mPa s]		
		Liquids with a viscosity similar to water [m]	Liquids with max. permissible viscosity [m]			0 to 63 strokes/min	64 to 120 strokes/min	120 and above strokes/min
DMH 2.2-25	251	1	0★	8	2	300	100	50
DMH 2.3-16	251	1	0★	8	2	300	100	50
DMH 2.4-10	251	1	0★	8	2	300	100	50
DMH 4.5-25	251	1	0★	8	2	300	100	50
DMH 4.9-16	251	1	0★	8	2	300	100	50
DMH 5-10	251	1	0★	8	2	300	100	50
DMH 10-16	252	1	0★	8	2	300	100	50
DMH 11-10	252	1	0★	8	2	300	100	50
DMH 11-25	251	1	0★	8	2	300	100	50
DMH 12-16	251	1	0★	8	2	300	100	50
DMH 13-10	251	1	0★	8	2	300	100	50
DMH 17-25	251	1	0★	8	2	300	100	50
DMH 18-16	251	1	0★	8	2	300	100	50
DMH 19-10	251	1	0★	8	2	300	100	50
DMH 21-10	253	1	0★	5	2	300	100	10
DMH 21-25	251	1	0★	8	2	300	100	50
DMH 23-16	251	1	0★	8	2	300	100	50
DMH 23-16	252	1	0★	8	2	300	100	50
DMH 24-10	251	1	0★	8	2	300	100	50
DMH 24-10	252	1	0★	8	2	300	100	50
DMH 36-16	252	1	0★	8	2	300	100	50
DMH 37-10	252	1	0★	8	2	300	100	50
DMH 43-10	253	1	0★	5	2	300	100	10
DMH 45-16	252	1	0★	8	2	300	100	50
DMH 46-10	252	1	0★	8	2	300	100	50
DMH 50-10	254	1	0★	5	2	300	100	5
DMH 54-16	252	1	0★	8	2	300	100	50
DMH 67-10	253	1	0★	5	2	300	100	10
DMH 83-10	253	1	0★	5	2	300	100	10
DMH 97-16	254	1	0★	5	2	300	100	5
DMH 100-10	253	0★	0★	5	2	300	100	10
DMH 102-10	254	1	0★	5	2	300	100	5
DMH 136-16	254	1	0★	5	2	300	100	5
DMH 143-10	254	1	0★	5	2	300	100	5
DMH 166-16	254	1	0★	5	2	300	100	5
DMH 175-10	254	1	0★	5	2	300	100	5
DMH 194-10	255	0★	0★	0.8	2	200	100	5
DMH 202-16	254	1	0★	5	2	300	100	5
DMH 213-10	254	1	0★	5	2	300	100	5
DMH 220-10	257	1	0★	0.8	2	200	50	5
DMH 270-10	255	0★	0★	0.8	2	200	100	5
DMH 276-16	254	0★	0★	5	2	300	100	5
DMH 291-10	254	0★	0★	5	2	300	100	5
DMH 332-10	255	0★	0★	0.8	2	200	100	5
DMH 403-10	255	0★	0★	0.8	2	200	100	5

Pump	Model	Max. suction lift		Max. inlet pressure [bar]	Min. counter pressure at the pump pressure valve [bar]	Max. permissible viscosity at operating temperature 1) [mPa s]		
		Liquids with a viscosity similar to water [m]	Liquids with max. permissible viscosity [m]			0 to 63 strokes/min	64 to 120 strokes/min	120 and above strokes/min
DMH 440-10	257	1	0*	0.8	2	200	50	5
DMH 550-10	255	0*	0*	0.8	2	200	100	5
DMH 575-10	257	1	0*	0.8	2	200	50	5
DMH 750-4	257	0*	0*	0.8	2	200	50	5
DMH 770-10	257	1	0*	0.8	2	200	50	5
DMH 880-10	257	0*	0*	0.8	2	200	50	5
DMH 1150-10	257	0*	0*	0.8	2	200	50	5
DMH 1500-4	257	0*	0*	0.8	2	200	50	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 models 280-288

Pump	Model	Max. suction lift		Max. inlet pressure [bar]	Min. counter pressure at the pump pressure valve [bar]	Max. permissible viscosity at operating temperature [1] [mPa s]		
		Liquids with a viscosity similar to water [m]	Liquids with max. permissible viscosity [m]			0 to 63 strokes/min	64 to 120 strokes/min	120 and above strokes/min
DMH 0.6-200	280	0*	0*	1	2	5	5	5
DMH 1.3-200	280	0*	0*	1	2	5	5	5
DMH 2.2-200	280	0*	0*	1	2	5	5	5
DMH 2.5-200	280	0*	0*	1	2	5	5	5
DMH 3-200	288	1	0*	5	2	100	50	5
DMH 3.3-200	280	0*	0*	1	2	5	5	5
DMH 4.2-100	281	1	0*	10	2	100	50	5
DMH 6.4-100	281	1	0*	10	2	100	50	5
DMH 7.5-200	288	1	0*	5	2	100	50	5
DMH 8-100	281	1	0*	10	2	100	50	5
DMH 9-200	287	1	0*	5	2	100	50	5
DMH 9.6-100	281	1	0*	10	2	100	50	5
DMH 10-200	288	1	0*	5	2	100	50	5
DMH 13-200	288	1	0*	5	2	100	50	5
DMH 15-200	288	1	0*	5	2	100	50	5
DMH 18-200	287	1	0*	5	2	100	50	5
DMH 19-100	283	1	0*	5	2	100	50	5
DMH 21-200	288	1	0*	5	2	100	50	5
DMH 23-200	287	1	0*	5	2	100	50	5
DMH 27-100	283	1	0*	5	2	100	50	5
DMH 31-200	287	1	0*	5	2	100	50	5
DMH 33-100	283	1	0*	5	2	100	50	5
DMH 36-200	287	1	0*	5	2	100	50	5
DMH 40-100	283	1	0*	5	2	100	50	5
DMH 40-100	285	1	0*	5	2	100	50	5
DMH 50-200	287	1	0*	5	2	100	50	5
DMH 52-100	285	1	0*	5	2	100	50	5
DMH 55-100	283	1	0*	5	2	100	50	5
DMH 70-100	285	1	0*	5	2	100	50	5
DMH 80-100	285	1	0*	5	2	100	50	5
DMH 85-50	286	1	0*	5	2	100	50	5
DMH 105-100	285	1	0*	5	2	100	50	5
DMH 111-50	286	1	0*	5	2	100	50	5
DMH 170-50	286	1	0*	5	2	100	50	5
DMH 222-50	286	1	0*	5	2	100	50	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, DMX model 221

Pump	Weights [kg]	
	Plastics	Stainless steel
DMX 4-10	5	7
DMX 7-10	5	7
DMX 7,2-16	5	7
DMX 8-10	5	7
DMX 9-10	5	7
DMX 12-10	5	7
DMX 13,7-16	5	7
DMX 14-10	5	7
DMX 16-10	5	7
DMX 17-4	7,5	12
DMX 18-10	5	7
DMX 25-3	8	13
DMX 26-10	5	7
DMX 27-10	5	7
DMX 35-10	5	7
DMX 39-4	7,5	12
DMX 50-10	5	7
DMX 60-3	8	13
DMX 75-4	7,5	12
DMX 115-3	8	13

The weights are approximate.

Weights, DMX model 226

Pump	Weights [kg]			
	Single-head pump		Twin-head pump	
	PVC	Stainless steel	PVC	Stainless steel
DMX 24-8	15	21	24	36
DMX 37-5	15	21	24	36
DMX 52-8	15	21	24	36
DMX 60-3	15	21	24	36
DMX 67-10	21	30	30	48
DMX 82-5	15	21	24	36
DMX 95-8	21	30	30	48
DMX 100-8	15	21	24	36
DMX 130-3	15	21	24	36
DMX 132-10	21	30	30	48
DMX 142-8	15	21	24	36
DMX 152-6	21	30	30	48
DMX 160-5	15	21	24	36
DMX 190-8/10	21	30	30	48
DMX 199-8	21	30	30	48
DMX 230-5	15	21	24	36
DMX 249-3	21	30	30	48
DMX 255-3	15	21	24	36
DMX 280-6/8	21	30	30	48
DMX 315-3	21	30	30	48
DMX 321-4/6	21	30	30	48
DMX 380-3	15	21	24	36
DMX 460-3.5/6	21	30	30	48
DMX 525-3	21	30	30	48
DMX 765-3	21	30	30	48

The weights are approximate.

Weights, DMH models 251-257

Pump	Model	Weights [kg]	
		Single-head pump	Twin-head pump
DMH 2.2-25	251	8-9.5	11-13
DMH 2.3-16	251	8-9.5	11-13
DMH 2.4-10	251	8-9.5	11-13
DMH 4.5-25	251	8-9.5	11-13
DMH 4.9-16	251	8-9.5	11-13
DMH 5-10	251	8-9.5	11-13
DMH 10-16	252	8-9.5	11-13
DMH 11-10	252	8-9.5	11-13
DMH 11-25	251	8-9.5	11-13
DMH 12-16	251	8-9.5	11-13
DMH 13-10	251	8-9.5	11-13
DMH 17-25	251	8-9.5	11-13
DMH 18-16	251	8-9.5	11-13
DMH 19-10	251	8-9.5	11-13
DMH 21-10	253	11.3-16	16-25
DMH 21-25	251	8-9.5	11-13
DMH 23-16	251	8-9.5	11-13
DMH 23-16	252	8-9.5	11-13
DMH 24-10	251	8-9.5	11-13
DMH 24-10	252	8-9.5	11-13
DMH 36-16	252	8-9.5	11-13
DMH 37-10	252	8-9.5	11-13
DMH 43-10	253	11.3-16	16-25
DMH 45-16	252	8-9.5	11-13
DMH 46-10	252	8-9.5	11-13
DMH 50-10	254	32-37	46-56
DMH 54-16	252	8-9.5	11-13
DMH 67-10	253	11.3-16	16-25
DMH 83-10	253	11.3-16	16-25
DMH 97-16	254	32-37	46-56
DMH 100-10	253	11.3-16	16-25
DMH 102-10	254	32-37	46-56
DMH 136-16	254	32-37	46-56
DMH 143-10	254	32-37	46-56
DMH 166-16	254	32-37	46-56
DMH 175-10	254	32-37	46-56
DMH 194-10	255	34-35	49-51
DMH 202-16	254	32-37	46-56
DMH 213-10	254	32-37	46-56
DMH 220-10	257	34-35	49-51
DMH 270-10	255	34-35	49-51
DMH 276-16	254	32-37	46-56
DMH 291-10	254	32-37	46-56
DMH 332-10	255	34-35	49-51
DMH 403-10	255	34-35	49-51
DMH 440-10	257	34-35	49-51
DMH 550-10	255	34-35	49-51
DMH 575-10	257	34-35	49-51
DMH 770-10	257	34-35	49-51
DMH 880-10	257	34-35	49-51
DMH 1150-10	257	34-35	49-51
DMH 1500-4	257	34-35	49-51

The weight varies according to dosing head version.

The weights are approximate.

Weights, DMH models 280-288

Pump	Model	Weights {kg}	
		Single-head pump	Twin-head pump
DMH 0.6-200	280	13.7	20.4
DMH 1.3-200	280	13.7	20.4
DMH 2.2-200	280	13.7	20.4
DMH 2.5-200	280	13.7	20.4
DMH 3-200	288	36	54
DMH 3.3-200	280	13.7	20.4
DMH 4.2-100	281	13	19
DMH 6.4-100	281	13	19
DMH 7.5-200	288	36	54
DMH 8-100	281	13	19
DMH 9-200	287	45	71
DMH 9.6-100	281	13	19
DMH 10-200	288	36	54
DMH 13-200	288	36	54
DMH 15-200	288	36	54
DMH 18-200	287	45	71
DMH 19-100	283	36	54
DMH 21-200	288	36	54
DMH 23-200	287	45	71
DMH 27-100	283	36	54
DMH 31-200	287	45	71
DMH 33-100	283	36	54
DMH 36-200	287	45	71
DMH 40-100	283	36	54
DMH 40-100	285	43	64
DMH 50-200	287	45	71
DMH 52-100	285	43	64
DMH 55-100	283	36	54
DMH 70-100	285	43	64
DMH 80-100	285	43	64
DMH 85-50	286	45	71
DMH 105-100	285	43	64
DMH 111-50	286	45	71
DMH 170-50	286	45	71
DMH 222-50	286	45	71

The weights apply to versions in stainless steel.

The weights are approximate.

Sound pressure

Pump range	Sound pressure level * [dB(A)]
DMX model 221	55
DMX model 226	55
DMH model 251	55 ±5
DMH model 252	55 ±5
DMH model 253	65 ±5
DMH model 254	65 ±5
DMH model 255	75 ±5
DMH model 257	75 ±5
DMH model 280	55 ±5
DMH model 281	55 ±5
DMH model 283	65 ±5
DMH model 285	75 ±5
DMH model 286	75 ±5
DMH model 287	75 ±5
DMH model 288	65 ±5

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

Accuracy

Pump	Dosing flow fluctuation	Linearity deviation
DMX	< ±1.5% within the 10 to 100% control range	• ±4% of full scale value within the 20 to 100% control range; • direction of adjustment from maximum to minimum stroke length.
DMH	< ±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.

Permissible temperature of dosing liquid

Dosing head material	Permissible temperature of dosing liquid			
	DMX		DMH	
	p < 10 bar [°C]	p < 16 bar [°C]	p < 10 bar [°C]	p < 16 bar [°C]
PVC	0 to 40	0 to 20	0 to 40	0 to 20
Stainless steel, DIN 1.4571 *	–10 to 70	–10 to 70	–10 to 100	–10 to 100
Stainless steel, DIN 2.4610 *	–10 to 70	–10 to 70	–10 to 100	–10 to 100
PP	0 to 40	-	0 to 40	0 to 20
PVDF	–10 to 60 (70°C at 9 bar)	–10 to 20	–10 to 60 (70°C at 9 bar)	–10 to 20

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

Lubricants

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

DMX, standard range (4 to 765 l/h)

Max. capacity [l/h]	Max. pressure [bar]	Material			Connection [1]	Pump	Product number
		Pump head	Gasket	Valve ball			
4	10	PP	EPDM	PTFE	6/9 mm PE tube	DMX 4-10 B-B-PP/E/T-X-E144X	96293585
4	10	SS	FKM	SS	1/4"i	DMX 4-10 B-B-SS/V/X-X-E1AAX	96293586
8	10	PP	EPDM	PTFE	6/9 mm PE tube	DMX 8-10 B-PP/E/T-X-E144X	96293587
8	10	SS	FKM	SS	1/4"i	DMX 8-10 B-SS/V/SS-X-E1AAX	96293588
16	10	PP	EPDM	PTFE	6/9 mm PE tube	DMX 16-10 B-PP/E/T-X-E144XX	96293589
16	10	SS	FKM	SS	1/4"i	DMX 16-10 B-SS/V/SS-X-E1AAX	96293590
27	10	PP	EPDM	PTFE	6/9 mm PE tube	DMX 27-10 B-PP/E/T-X-E144X	96293591
27	10	SS	FKM	SS	1/4"i	DMX 27-10 B-SS/V/SS-X-E1AAX	96293592
50	10	PP	EPDM	PTFE	6/9 mm PE tube	DMX 50-10 B-PP/E/T-X-E144X	96293593
50	10	SS	FKM	SS	1/4"i	DMX 50-10 B-SS/V/SS-X-E1AAX	96293594
67	10	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 67-10 B-PP/E/T-X-E1QQX	96293599
67	10	SS	FKM	SS	3/4"i	DMX 67-10 B-SS/V/SS-X-E1A1A1X	96293600
75	4	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 75-4 B-PP/E/T-X-E1QQX	96293595
75	4	SS	FKM	SS	3/4"i	DMX 75-4 B-SS/V/SS-X-E1A1A1X	96293596
100	8	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 100-8 B-PP/E/T-X-E1QQX	96293601
100	8	SS	FKM	SS	3/4"i	DMX 100-8 B-SS/V/SS-X-E1A1A1X	96293602
115	3	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 115-3 B-PP/E/T-X-E1QQX	96293597
115	3	SS	FKM	SS	3/4"i	DMX 115-3 B-SS/V/SS-X-E1A1A1X	96293598
132	10	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 132-10 B-PP/E/T-X-E1QQX	96293603
132	10	SS	FKM	SS	3/4"i	DMX 132-10 B-SS/V/SS-X-E1A1A1X	96293604
142	8	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 142-8 B-PP/E/T-X-E1QQX	96293605
142	8	SS	FKM	SS	3/4"i	DMX 142-8 B-SS/V/SS-X-E1A1A1X	96293606
160	5	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 160-5 B-PP/E/T-X-E1QQX	96293607
160	5	SS	FKM	SS	3/4"i	DMX 160-5 B-SS/V/SS-X-E1A1A1X	96293608
190	8	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 190-10 B-PP/E/T-X-E1QQX	96293609
190	8	SS	FKM	PTFE	3/4"i	DMX 190-10 B-SS/V/SS-X-E1A1A1X	96293610
280	8	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 280-8 B-PP/E/T-X-E1QQX	96293611
280	8	SS	FKM	SS	3/4"i	DMX 280-8 B-SS/V/SS-X-E1A1A1X	96293612
321	6	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 321-6 B-PP/E/T-X-E1QQX	96293613
321	6	SS	FKM	SS	3/4"i	DMX 321-6 B-SS/V/SS-X-E1A1A1X	96293614
380	3	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 380-3 B-PP/E/T-X-E1QQX	96293615
380	3	SS	FKM	SS	3/4"i	DMX 380-3 B-SS/V/SS-X-E1A1A1X	96293616
460	6	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMX 460-6 B-PP/E/T-X-E1QQX	96293617
460	6	SS	FKM	SS	3/4"i	DMX 460-6 B-SS/V/SS-X-E1A1A1X	96293618
525	3	PP	EPDM	PTFE	DN 32 cementing (PP+PVC)	DMX 525-3 B-PP/E/T-X-E1A3A3X	96293619
525	3	SS	FKM	SS	1 1/4"i	DMX 525-3 B-SS/V/SS-X-E1A2A2X	96293620
765	3	PP	EPDM	PTFE	DN 32 cementing (PP+PVC)	DMX 765-3 B-PP/E/T-X-E1JJX	96293621
765	3	SS	FKM	SS	1 1/4"i	DMX 765-3 B-SS/V/SS-X-E1A2A2X	96293622

1) i = internal thread

DMX, non-standard range (4 to 2 x 765 l/h)

The example in bold is a: **DMX 4-10 B PP/V/G-X-E1B1B1X E0**

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	Motor variant
[l/h] - [bar]	B = No controls AR = Etron Profi (analog/ pulse control) AT3= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA AT5= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA AT6= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA, EEx d II BT 4 AT7= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA, EEx d II BT 4	**Dosing head version:** PP = Polypropylene PV = PVDF (polyvinylidene fluoride) PVC= Polyvinyl chloride SS = Stainless steel, DIN 1.4401 PV-R, PVC-R = Integrated relief valve PP-L, PV-L. PVC-L, SS-L = Integrated diaphragm leakage detection PV-RL, PVC-RL = Integrated relief valve and 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, DIN 1.4401	**Control panel position** X = No panel F = Front-mounted W = Wall-mounted **Motor voltage** 0 = Without motor, IEC flange G = 1 x 230 V, 50/60 Hz H = 1 x 120 V, 50/60 Hz E = 230/400V 50/60 Hz 440/480V 60 Hz F = Without motor, Nema flange (US) **Valve type** 1 = Standard 3 = Spring-loaded, 0.05 bar suction, 0.8 bar discharge 4 = Spring-loaded, discharge side only		4 = Tube 6/9 mm 6 = Tube 9/12 mm B9 = Tube, PVC, 19/27 mm Q = Tube 19/27 and 25/ 34 mm S = Tube 0.375" / 0.5” A = Threaded Rp ¼" A1 = Threaded Rp ¾" A2 = Threaded Rp 1 ¼" V = Threaded NPT ¼" A9 = Threaded NPT ½" male A3 = Threaded NPT ¾" A7 = Threaded NPT ¾" male A4 = Threaded NPT 1 ¼" A8 = Threaded NPT 1 ¼" male K = Cementing d. 40 mm 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 B5 = Welding d. 40 mm	**Mains plug** F = EU (Schuko) B = USA and CAN, 120 V I = AU E = CH X = No plug **Motor variant** E0 = PTC for frequency control E1 = EEx e II T3 E2 = EEx de CT 4

[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	Motor variant
DMX model 221, DN 8								
4-10 7-10 7.2-16 8-10 9-10 12-10 13.7-16 14-10 16-10 18-10 26-10 27-10 35-10 50-10	**B** AR AT3 AT5	PP/E/C PP/E/SS PP/E/T PP/V/C **PP/V/G** 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** F W	G H **E**	**1** 3 4	4 6 A9 **B1** B3 S	F B I E **X**	**E0** E1 (no ATEX) E2 (no ATEX)
		SS/T/SS SS/V/SS	X F W	G H E	1 3 4	A A9 V	F B I E X	E0 E1 (no ATEX) E2 (no ATEX)

Selection of pump

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	Motor variant
[l/h] - [bar]	B = No controls AR = Etron Profi (analog/ pulse control) AT3= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA AT5= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA AT6= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA, EEx d II BT 4 AT7= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA, EEx d II BT 4	**Dosing head version:** PP = Polypropylene PV = PVDF (polyvinylidene fluoride) PVC= Polyvinyl chloride SS = Stainless steel, DIN 1.4401 PV-R, PVC-R = Integrated relief valve PP-L, PV-L. PVC-L, SS-L = Integrated diaphragm leakage detection PV-RL, PVC-RL = Integrated relief valve and 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, DIN 1.4401	**Control panel position** X = No panel F = Front-mounted W = Wall-mounted **Motor voltage** 0 = Without motor, IEC flange G = 1 x 230 V, 50/60 Hz H = 1 x 120 V, 50/60 Hz E = 230/400V 50/60 Hz 440/480V 60 Hz F = Without motor, Nema flange (US) **Valve type** 1 = Standard 3 = Spring-loaded, 0.05 bar suction, 0.8 bar discharge 4 = Spring-loaded, discharge side only			4 = Tube 6/9 mm 6 = Tube 9/12 mm B9 = Tube, PVC, 19/27 mm Q = Tube 19/27 and 25/ 34 mm S = Tube 0.375" / 0.5” A = Threaded Rp ¼" A1 = Threaded Rp ¾" A2 = Threaded Rp 1 ¼" V = Threaded NPT ¼" A9 = Threaded NPT ½" male A3 = Threaded NPT ¾" A7 = Threaded NPT ¾" male A4 = Threaded NPT 1 ¼" A8 = Threaded NPT 1 ¼" male K = Cementing d. 40 mm 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 B5 = Welding d. 40 mm	**Mains plug** F = EU (Schuko) B = USA and CAN, 120 V I = AU E = CH X = No plug **Motor variant** E0 = PTC for frequency control E1 = EEx e II T3 E2 = EEx de CT 4

[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	Motor variant
DMX model 221, DN 20								
17-4 25-3 39-4 60-3 75-4 115-3	B AR AT3 AT5	PP/E/SS PP/E/T PP/T/T PP/V/G PTFE/T/C PV/T/T PVC/E/SS PVC/E/T PVC/T/C PVC/V/C PVC/V/G PVC/V/SS	X F W	G H E	1 3 4	A7 B2 B4 B9 Q	F B I E X	E0 E1 (no ATEX) E2 (no ATEX)
		SS/T/SS SS/V/SS	X F W	G H E	1 3 4	A1 A3	F B I E X	E0 E1 (no ATEX) E2 (no ATEX)
DMX model 226, DN 20								
24-8 37-5 52-8 60-3 67-10 82-5 95-8 100-8 130-3 132-10 142-8 152-6 160-5 190-10 199-8 230-5 255-3 280-8 315-3 321-6 380-3 460-6	B AR AT3 AT5 AT6 AT7	PP/E/SS PP/E/T PP/T/T PP/V/G PV/T/T PV/V/T PVC/E/SS PVC/E/T PVC/T/C PVC/V/C PVC/V/G PVC/V/SS	X F W	0 G H E F	1 3 4	A7 B2 B4 B9 Q	F B I E X	E0 E1 E2
		SS/T/SS SS/V/SS	X F W	0 G H E F	1 3 4	A1 A3	F B I E X	E0 E1 E2

Selection of pump

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	Motor variant
[l/h] - [bar]	B = No controls AR = Etron Profi (analog/ pulse control) AT3= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA AT5= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA AT6= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA, EEx d II BT 4 AT7= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA, EEx d II BT 4	**Dosing head version:** PP = Polypropylene PV = PVDF (polyvinylidene fluoride) PVC= Polyvinyl chloride SS = Stainless steel, DIN 1.4401 PV-R, PVC-R = Integrated relief valve PP-L, PV-L. PVC-L, SS-L = Integrated diaphragm leakage detection PV-RL, PVC-RL = Integrated relief valve and 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, DIN 1.4401	**Control panel position** X = No panel F = Front-mounted W = Wall-mounted **Motor voltage** 0 = Without motor, IEC flange G = 1 x 230 V, 50/60 Hz H = 1 x 120 V, 50/60 Hz E = 230/400V 50/60 Hz 440/480V 60 Hz F = Without motor, Nema flange (US) **Valve type** 1 = Standard 3 = Spring-loaded, 0.05 bar suction, 0.8 bar discharge 4 = Spring-loaded, discharge side only			4 = Tube 6/9 mm 6 = Tube 9/12 mm B9 = Tube, PVC, 19/27 mm Q = Tube 19/27 and 25/ 34 mm S = Tube 0.375" / 0.5” A = Threaded Rp ¼" A1 = Threaded Rp ¾" A2 = Threaded Rp 1 ¼" V = Threaded NPT ¼" A9 = Threaded NPT ½" male A3 = Threaded NPT ¾" A7 = Threaded NPT ¾" male A4 = Threaded NPT 1 ¼" A8 = Threaded NPT 1 ¼" male K = Cementing d. 40 mm 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 B5 = Welding d. 40 mm	**Mains plug** F = EU (Schuko) B = USA and CAN, 120 V I = AU E = CH X = No plug **Motor variant** E0 = PTC for frequency control E1 = EEx e II T3 E2 = EEx de CT 4

[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	Motor variant
DMX model 226, DN 32								
249-3 525-3 765-3*	B AR AT3 AT5 AT6 AT7	PP/E/T PP/V/G PV/T/T PVC/E/SS PVC/V/G	X F W	0 G H E F	1 3 4	A8 B5 K	B E F I X	E0 E1 E2
		SS/E/SS SS/T/SS SS/V/SS	X F W	0 G H E F	1 3 4	A2 A4	B E F I X	E0 E1 E2

* Not available with single phased motor and therefore not with control variant AR.

Note:

Mains plug only for single phase.

DMX model 226 is available with two dosing heads.

Type key example: DMX **67-10\67-10** AR-PP-L/V/G-F-G1VVF.

Not available with single phased motor.

DMH, standard range (5 to 1150 l/h)

Max. capacity [l/h]	Max. pressure [bar]	Material			Connection [1]	Pump	Product number
		Pump head	Gasket	Valve ball			
5	10	PP	EPDM	PTFE	6/9 mm PE tube	DMH 5-10 B-PP/E/T-X-E144X	96293623
5	10	SS	FKM	SS	1/4"i	DMH 5-10 B-SS/V/SS-X-E1AAX	96293624
13	10	PP	EPDM	PTFE	6/9 mm PE tube	DMH 13-10 B-PP/E/T-X-E144X	96293625
13	10	SS	FKM	SS	1/4"i	DMH 13-10 B-SS/V/SS-X-E1AAX	96293626
24	10	PP	EPDM	PTFE	6/9 mm PE tube	DMH 24-10 B-PP/E/T-X-E144X	96293627
24	10	SS	FKM	SS	1/4"i	DMH 24-10 B-SS/V/SS-X-E1AAX	96293628
37	10	PP	EPDM	PTFE	6/9 mm PE tube	DMH 37-10 B-PP/E/T-X-E144X	96293629
37	10	SS	FKM	SS	1/4"i	DMH 37-10 B-SS/V/SS-X-E1AAX	96293630
46	10	PP	EPDM	PTFE	6/9 mm PE tube	DMH 46-10 B-PP/E/T-X-E144X	96293631
46	10	SS	FKM	SS	1/4"i	DMH 46-10 B-SS/V/SS-X-E1AAX	96293632
67	10	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMH 67-10 B-PP/E/T-X-E1QQX	96293633
67	10	SS	FKM	SS	3/4"i	DMH 67-10 B-SS/V/SS-X-E1A1A1X	96293634
100	10	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMH 100-10 B-PP/E/T-X-E1QQX	96293635
100	10	SS	FKM	SS	3/4"i	DMH 100-10 B-SS/V/SS-X-E1A1A1X	96293636
143	10	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMH 143-10 B-PP/E/T-X-E1QQX	96293637
143	10	SS	FKM	SS	3/4"i	DMH 143-10 B-SS/V/SS-X-E1A1A1X	96293638
213	10	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMH 213-10 B-PP/E/T-X-E1QQX	96293639
213	10	SS	FKM	SS	3/4"i	DMH 213-10 B-SS/V/SS-X-E1A1A1X	96293640
291	10	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMH 291-10 B-PP/E/T-X-E1QQX	96293641
291	10	SS	FKM	SS	3/4"i	DMH 291-10 B-SS/V/SS-X-E1A1A1X	96293642
332	10	PP	EPDM	PTFE	19/27 mm, 25/34 mm	DMH 332-10 B-PP/E/T-X-E1QQX	96293643
332	10	SS	FKM	SS	3/4"i	DMH 332-10 B-SS/V/SS-X-E1A1A1X	96293644
550	10	PP	EPDM	PTFE	19/27 mm, 25/34 mm / DN 32 flange	DMH 550-10 B-PP/E/T-X-E1PQX	96293645
550	10	SS	FKM	SS	3/4"i / DN 32 flange	DMH 550-10 B-SS/V/SS-X-E1PA1X	96293646
770	10	PP	EPDM	Glass	DN 32 flange	DMH 770-10 B-PP/E/G-X-E1JJX	96293647
770	10	SS	FKM	SS	DN 32 flange	DMH 770-10 B-SS/V/SS-X-E1JJX	96293648
1150	10	PP	EPDM	Glass	DN 32 flange	DMH 1150-10 B-PP/E/G-X-E1JJX	96293649
1150	10	SS	FKM	SS	DN 32 flange	DMH 1150-10 B-SS/V/SS-X-E1JJX	96293650

1) i = internal thread

DMH, non-standard range (2.2 to 2 x 1150 l/h)

The example in bold is a: **DMH 13-10 B-SS/V/SS-X-E1AAX E0**

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	Motor variant
	B = No controls	**Dosing head version:**	**Control panel position**			B6 = Pipe 4/6 mm	**Mains plug**	
		PP = Polypropylene	X = No panel			4 = Tube 6/9 mm	F = EU (Schuko)	
	AR = Etron Profi (analog/ pulse control)	PV = PVDF (polyvinylidene fluoride)	F = Front-mounted			6 = Tube 9/12 mm	B = USA and CAN, 120 V	
		PVC = Polyvinyl chloride	W = Wall-mounted			B9 = Tube PVC, 19/27 mm	I = AU	
		SS = Stainless steel, DIN 1.4401	**Motor voltage**			Q = Tube 19/27 and 25/ 34 mm	E = CH	
	AT3= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA	Y = Hastelloy C	0 = Without motor, IEC flange			S = Tube 0.375" / 0.5"	X = No plug	
			G = 1 x 230 V, 50/60 Hz			A = Threaded Rp ¼"		
		PP-L, PV-L, PVC-L, SS-L, Y-L = Integrated diaphragm leakage detection	H = 1 x 120 V, 50/60 Hz			A1 = Threaded Rp ¾"	**Motor variant**	
			E = 230/400V 50/60 Hz 440/480V 60 Hz			A2 = Threaded Rp 1¼"	E0 = PTC for frequency control	
	AT5= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA	SS-H=Heating flange in dosing head (electric)	F = Without motor, Nema flange (US)			V = Threaded NPT ¼"		
						A9 = Threaded NPT ½", male	E1 = EEx e II T3	
		Gasket material:	**Valve type**			A3 = Threaded NPT ¾"	E2 = EEx de CT 4	
[l/h] - [bar]	AT6= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA, EEx d II BT 4	E = EPDM (ethylene propylene diene monomer)	1 = Standard			A7 = Threaded NPT ¾", male	E3 = API Approval	
			2 = Spring-loaded			K = Cementing d. 40 mm		
		V = FKM (fluorocarbon)	3 = Spring-loaded, 0.05 bar suction, 0.8 bar discharge			B8 = Cementing d. 40 mm, with flange DN 32		
		T = PTFE (polytetrafluoro ethylene (Teflon®))				B1 = Tube 6/12 mm/ cementing d. 12 mm		
			4 = Spring-loaded, discharge side only			B2 = Tube 13/20 mm/ cementing d. 25 mm		
	AT7= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA, EEx d II BT 4	**Valve ball material:**				B3 = Welding d. 16 mm		
		C = Ceramic				B4 = Welding d. 25 mm		
		G = Glass				B5 = Welding d. 40 mm		
		T = PTFE (polytetrafluoro ethylene (Teflon®))				B7 = Welding d. 40 mm with flange DN 32		
		SS = Stainless steel, DIN 1.4401				C1 = Welding flange, DN 32, SS		
		Y = Hastelloy C				C3 = Threaded 1¼", Rp flange		
						P = Flange 1 ¼" ANSI		

[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	Motor 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 21-25 23-16 24-10 36-16 37-10 45-16 46-10	**B** AR AT3 AT5 AT6 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 F W	0 G H E F	1 2 3 4	4 6 A9 B1 B3 S	B E F I X	E0 E1 E2 E3
		SS/T/SS **SS/V/SS** Y/T/Y Y/V/C	**X** F W	0 G H **E** F	**1** 2 3 4	**A** A9 V	B E F I **X**	**E0** E1 E2 E3

Selection of pump

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	Motor variant
	B = No controls AR = Etron Profi (analog/ pulse control) AT3= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA AT5= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA AT6= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA, EEx d II BT 4 AT7= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA, EEx d II BT 4	**Dosing head version:** PP = Polypropylene PV = PVDF (polyvinylidene fluoride) PVC = Polyvinyl chloride SS = Stainless steel, DIN 1.4401 Y = Hastelloy C PP-L, PV-L, PVC-L, SS-L, Y-L = Integrated diaphragm leakage detection SS-H= Heating flange in dosing head (electric) **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, DIN 1.4401 Y = Hastelloy C	**Control panel position** X = No panel F = Front-mounted W = Wall-mounted **Motor voltage** 0 = Without motor, IEC flange G = 1 x 230 V, 50/60 Hz H = 1 x 120 V, 50/60 Hz E = 230/400V 50/60 Hz 440/480V 60 Hz F = Without motor, Nema flange (US) **Valve type** 1 = Standard 2 = Spring-loaded 3 = Spring-loaded, 0.05 bar suction, 0.8 bar discharge 4 = Spring-loaded, discharge side only			B6 = Pipe 4/6 mm 4 = Tube 6/9 mm 6 = Tube 9/12 mm B9 = Tube PVC, 19/27 mm Q = Tube 19/27 and 25/ 34 mm S = Tube 0.375" / 0.5” A = Threaded Rp ¼" A1 = Threaded Rp ¾" A2 = Threaded Rp 1¼" V = Threaded NPT ¼" A9 = Threaded NPT ½", male A3 = Threaded NPT ¾" A7 = Threaded NPT ¾", male K = Cementing d. 40 mm B8 = Cementing d. 40 mm, with 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 B5 = Welding d. 40 mm B7 = Welding d. 40 mm with flange DN 32 C1 = Welding flange, DN 32, SS C3 = Threaded 1¼", Rp flange P = Flange 1 ¼" ANSI	**Mains plug** F = EU (Schuko) B = USA and CAN, 120 V I = AU E = CH X = No plug **Motor variant** E0 = PTC for frequency control E1 = EEx e II T3 E2 = EEx de CT 4 E3 = API Approval	
[l/h] - [bar]								

[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	Motor variant
DMH model 253, 254, 255, DN 20								
21-10 43-10 50-10* 67-10 83-10 97-16* 100-10 102-10* 136-16* 143-10* 166-16* 175-10* 194-10* 202-16* 213-10* 270-10* 276-16* 291-10* 332-10* 403-10* 550-10*	B AR AT3 AT5 AT6 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 F W	0 G H E F	1 2 3 4	A7 B2 B4 B9 Q	B E F I X	E0 E1 E2 E3
		SS/E/SS SS/T/SS SS/V/SS Y/T/Y Y/V/Y	X F W	0 G H E F	1 2 3 4	A1 A3	B E F I X	E0 E1 E2 E3
DMH model 257, DN 32								
220-10 440-10 575-10 770-10 880-10 1150-10	B AT3 AT5 AT6 AT7	PP/E/G PP/E/T PP/V/G PV/T/T PV/V/T PVC/E/SS PVC/V/G	X F W	0 G H E F	1 2 3 4	B5 B7 B8 K P	B E F I X	E0 E1 E2 E3
		SS/E/SS SS/T/SS SS/T/T SS/V/SS Y/T/Y	X F W	0 G H E F	1 2 3 4	A C1 C3	B E F I X	E0 E1 E2 E3

* Not available with single phased motor and therefore not with control variant AR.

Selection of pump

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	Motor variant
[l/h] - [bar]	B = No controls AR = Etron Profi (analog/ pulse control) AT3= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA AT5= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA AT6= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA, EEx d II BT 4 AT7= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA, EEx d II BT 4	**Dosing head version:** PP = Polypropylene PV = PVDF (polyvinylidene fluoride) PVC = Polyvinyl chloride SS = Stainless steel, DIN 1.4401 Y = Hastelloy C PP-L, PV-L, PVC-L, SS-L, Y-L = Integrated diaphragm leakage detection SS-H= Heating flange in dosing head (electric) **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, DIN 1.4401 Y = Hastelloy C	**Control panel position** X = No panel F = Front-mounted W = Wall-mounted **Motor voltage** 0 = Without motor, IEC flange G = 1 x 230 V, 50/60 Hz H = 1 x 120 V, 50/60 Hz E = 230/400V 50/60 Hz 440/480V 60 Hz F = Without motor, Nema flange (US) **Valve type** 1 = Standard 2 = Spring-loaded 3 = Spring-loaded, 0.05 bar suction, 0.8 bar discharge 4 = Spring-loaded, discharge side only			B6 = Pipe 4/6 mm 4 = Tube 6/9 mm 6 = Tube 9/12 mm B9 = Tube PVC, 19/27 mm Q = Tube 19/27 and 25/ 34 mm S = Tube 0.375" / 0.5" A = Threaded Rp ¼" A1 = Threaded Rp ¾" V = Threaded NPT ¼" A9 = Threaded NPT ½", male A3 = Threaded NPT ¾" A7 = Threaded NPT ¾", male K = Cementing d. 40 mm B8 = Cementing d. 40 mm, with 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 B5 = Welding d. 40 mm B7 = Welding d. 40 mm with flange DN 32 C1 = Welding flange, DN 32, SS C3 = Threaded 1¼", Rp flange P = Flange 1 ¼" ANSI	**Mains plug** F = EU (Schuko) B = USA and CAN, 120 V I = AU E = CH X = No plug **Motor variant** E0 = PTC for frequency control E1 = EEx e II T3 E2 = EEx de CT 4 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	Motor variant
DMH, model 280, DN 4								
0.6-200 1.3-200 2.2-200 2.5-200 3.3-200	B AR AT3 AT5 AT6 AT7	SS/E/SS SS/V/SS	X F W	0 G H E F	1 2	B6	B E F I X	E0 E1 E2 E3
DMH, model 281, 287, 288, DN 8								
2-100 3-200* 4.2-100 6.4-100 7.5-200* 8-100 9-200* 9.6-100 10-200* 13-200* 16-200* 18-200* 21-200* 23-200* 31-200* 36-200* 50-200*	B AR AT3 AT5 AT6 AT7	SS/E/SS SS/V/SS Y/V/Y	X F W	0 G H E F	1 2	V A	B E F I X	E0 E1 E2 E3

Selection of pump

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	Motor variant
[l/h] - [bar]	B = No controls AR = Etron Profi (analog/ pulse control) AT3= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA AT5= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA AT6= Servomotor 1 x 230 V, 50/60 Hz, 4-20 mA, EEx d II BT 4 AT7= Servomotor 1 x 115 V, 50/60 Hz, 4-20 mA, EEx d II BT 4	**Dosing head version:** PP = Polypropylene PV = PVDF (polyvinylidene fluoride) PVC = Polyvinyl chloride SS = Stainless steel, DIN 1.4401 Y = Hastelloy C PP-L, PV-L, PVC-L, SS-L, Y-L = Integrated diaphragm leakage detection SS-H= Heating flange in dosing head (electric) **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, DIN 1.4401 Y = Hastelloy C	**Control panel position** X = No panel F = Front-mounted W = Wall-mounted **Motor voltage** 0 = Without motor, IEC flange G = 1 x 230 V, 50/60 Hz H = 1 x 120 V, 50/60 Hz E = 230/400V 50/60 Hz 440/480V 60 Hz F = Without motor, Nema flange (US) **Valve type** 1 = Standard 2 = Spring-loaded 3 = Spring-loaded, 0.05 bar suction, 0.8 bar discharge 4 = Spring-loaded, discharge side only			B6 = Pipe 4/6 mm 4 = Tube 6/9 mm 6 = Tube 9/12 mm B9 = Tube PVC, 19/27 mm Q = Tube 19/27 and 25/ 34 mm S = Tube 0.375" / 0.5” A = Threaded Rp ¼" A1 = Threaded Rp ¾" V = Threaded NPT ¼" A9 = Threaded NPT ½", male A3 = Threaded NPT ¾" A7 = Threaded NPT ¾", male K = Cementing d. 40 mm B8 = Cementing d. 40 mm, with 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 B5 = Welding d. 40 mm B7 = Welding d. 40 mm with flange DN 32 C1 = Welding flange, DN 32, SS C3 = Threaded 1¼", Rp flange P = Flange 1 ¼" ANSI	**Mains plug** F = EU (Schuko) B = USA and CAN, 120 V I = AU E = CH X = No plug **Motor variant** E0 = PTC for frequency control E1 = EEx e II T3 E2 = EEx de CT 4 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	Motor variant
DMH, model 283, 285, 286, DN 20								
19-100 20-100 27-100 33-100 40-100 52-100 55-100 70-100 80-100 85-50 105-100 111-50 170-50 222-50	B AT3 AT5 AT6 AT7	SS/E/SS SS/V/C SS/V/SS Y/V/Y	X	0 E F	1 2	A1 A3	X	E0 E1 E2 E3

* Not available with single phased motor and therefore not with control variant AR.

Note: All DMH pumps are available with two dosing heads.

Type key example: DMH 13-10\13-10 B-SS/V/SS-X-E1AAX E0.

Overview of dosing system

Grundfos offers a comprehensive range of accessories covering every need when dosing with Grundfos dosing pumps.

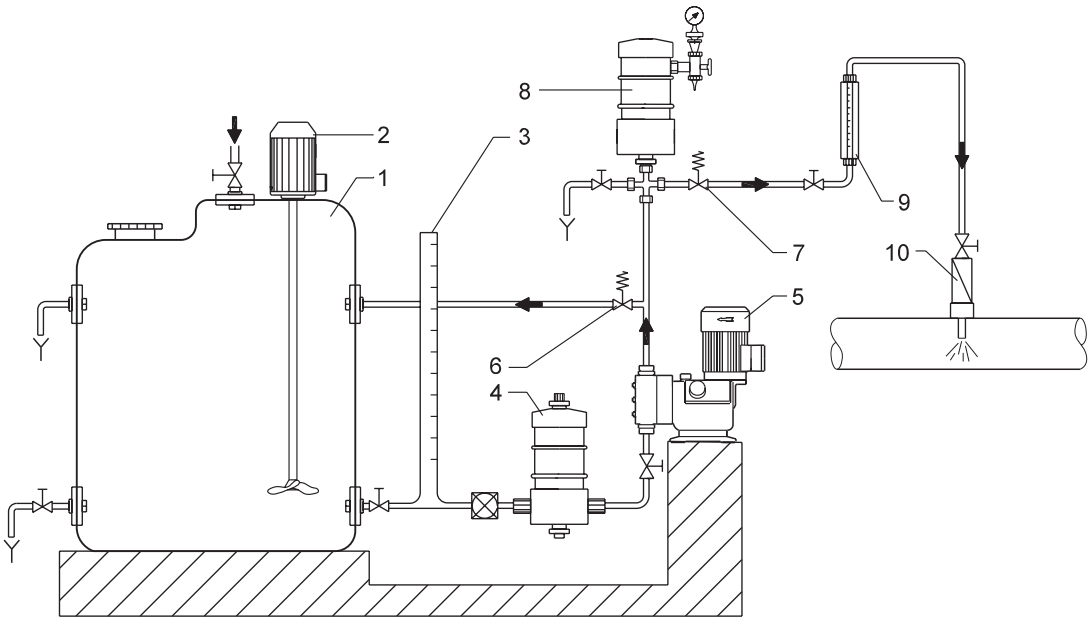


Fig. 29 Overview of dosing system

Legend

Pos.	Component	Page
1	Tank	72
2	Electric agitator	74
3	Extraction device	
4	Pulsation dampener, suction side	68
5	Dosing pump	
6	Relief valve	67
7	Counter-pressure valve	66
8	Pulsation dampener, discharge side	68
9	Measuring glass	
10	Injection valve	61

Accessories in addition to those displayed in fig. 29:

Accessory	Page
Installation kit	58
Tubing	59
Foot valve	60
Hot-injection valve	63
Rigid suction line	64
Level control unit	65
Priming aid	71
Hand mixer	73
Water meter	76

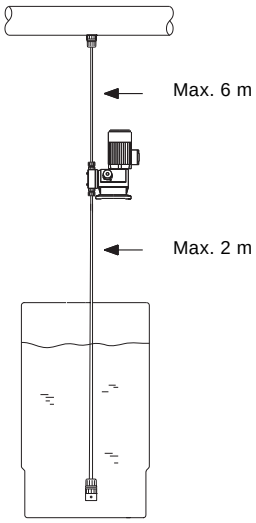
Installation kit

The installation kit includes:

- non-return valve with strainer and weight
- injection non-return valve, spring-loaded
- 6-metre PE discharge tube
- 2-metre PVC suction tube
- 2-metre PVC vent tube.

GrA1008

Fig. 31 Installation kit



TM03 2112 3705

Fig. 30

Suitable for pump types	Max. flow rate [l/h]	Size	Valve materials			Inner/outer tube diameters			Product number
			Housing	Gasket	Valve ball	Suction	Discharge	Vent	
DMX, 0-16 l/h	12	DN 4	PP	EPDM	Ceramic	4/6 mm	4/6 mm	4/6 mm	96457109
						6/9 mm	6/9 mm	4/6 mm	96434858
						1/8"/1/4"	1/8"/1/4"		96480670
						1/4"/3/8"	1/4"/3/8"		96479881
			PP	FKM	Ceramic	6/9 mm	6/9 mm	4/6 mm	96446723
						4/6 mm	4/6 mm	4/6 mm	96457110
						1/8"/1/4"	1/8"/1/4"		96480674
						1/4"/3/8"	1/4"/3/8"		96479898
			PVDF	FKM	Ceramic	6/9 mm	6/9 mm	4/6 mm	96434859
						4/6 mm	4/6 mm	4/6 mm	96457111
						1/8"/1/4"	1/8"/1/4"		96480675
						1/4"/3/8"	1/4"/3/8"		96479899
DMX, 0-50 l/h	70	DN 8	PP	EPDM	Ceramic	9/12 mm	9/12 mm	4/6 mm	96440445
						3/8"/1/2"	3/8"/1/2"		96479947
			PP	FKM	Ceramic	9/12 mm	9/12 mm	4/6 mm	96446724
						3/8"/1/2"	3/8"/1/2"		96479949
			PVDF	FKM	Ceramic	9/12 mm	9/12 mm	4/6 mm	96440446
						3/8"/1/2"	3/8"/1/2"		96479948

Note: The installation kit is suitable for pumps with a capacity above 50 l/h.

Tubing

Tubes in various materials, sizes and lengths.

TM01 8958 0900

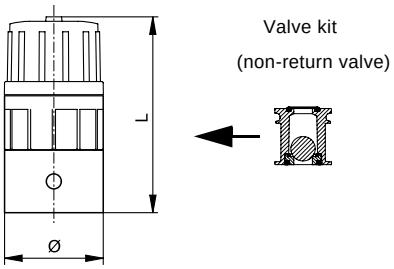
Fig. 32 Tubing

Tube diameters Inner/outer [mm]	Material	Max. pressure [bar]	Length [m]	Product number
4/6	PE	16	10	96441188
		16	50	96441190
	PVC	0.5	10	96441189
		0.5	50	96441191
	ETFE	20	10	96441351
		20	50	96441352
6/9	PE	13	10	96441192
		13	50	96441195
	PVC	0.5	10	96441193
		0.5	50	96441194
	ETFE	20	10	96441353
		20	50	96441354
9/12	PE	13	10	96441196
		13	50	96441198
	PVC	0.5	2	96535083
		0.5	10	96441197
		0,5	50	96441199
	ETFE	20	10	96441355
		20	50	96441356
12/19	PVC, textile-reinforced	15	10	96534489
15/20	PVC	0,5	2	96535081
16/24	PVC, textile-reinforced	14	10	96441200
25/34		10	10	96441201
25/34		10	5	96535070
32/41		9	5	96535077
32/41		9	10	96535079

Foot valve

Foot valve complete with non-return valve, strainer and tube or pipe connection.

TM03 2113 3705



TM01 9285 1600/GR8109

GR8109

Fig. 33 Foot valve, DN 4 and DN 8

Fig. 34 Foot valve and valve kit, DN 4 and DN 8

Fig. 35 Foot valve, DN 20/DN 25

Max. flow rate [l/h]	Size	Valve materials			Connection		Dimensions		Product numbers	
		Housing	Gasket	Ball	Type	Inner/outer diameters of tube, pipe or hose	ø [mm]	L [mm]	Foot valve	Valve kit
12	DN 4	PP	EPDM	Ceramic	Tube	4/6 mm	36	72	96440526	96499704
						6/9 mm	36	72	96440527	
						0.17"/1/4"	36	72	96480503	
						1/4"/3/8"	36	72	96479782	
		PP	FKM	Ceramic	Tube	4/6 mm	36	72	96446860	96499705
						6/9 mm	36	72	96446861	
						0.17"/1/4"	36	72	96480589	
						1/4"/3/8"	36	72	96479784	
		PV	FKM	Ceramic	Tube	4/6 mm	36	72	96440529	96499708
						6/9 mm	36	72	96440530	
						0.17"/1/4"	36	72	96480620	
						1/4"/3/8"	36	72	96479787	
50	DN 8	PP	EPDM	Ceramic	Tube	6/9 mm	36	72	96441841	96499706
						9/12 mm	36	72	96440528	
						1/4"/3/8"	36	72	96480621	
						3/8"/1/2"	36	72	96479798	
		PP	FKM	Ceramic	Tube	6/9 mm	36	72	96446865	96499707
						9/12 mm	36	72	96446864	
						1/4"/3/8"	36	72	96480622	
						3/8"/1/2"	36	72	96480623	
		PV	FKM	Ceramic	Tube	6/9 mm	36	72	96441842	96499709
						9/12 mm	36	72	96440531	
						1/4"/3/8"	36	72	96480624	
						3/8"/1/2"	36	72	96479801	
400	DN 10	PP	EPDM	Ceramic	Hose clamp	19/27 mm, 25/34 mm	39	115	96527112	
		PP	FKM				39	115	96527113	
		PVDF					39	115	96527114	
1150	DN 20	PP	EPDM	Glass	Hose clamp	32/41 mm, 38/48 mm	57	167	96527115	
		PP	FKM				57	167	96527116	
		PVDF	FKM				57	167	96527118	
		Stainless steel	FKM	Stainless steel	Pipe	Rp 1 1/4	57	167	96534454	

Injection valve

Injection valve complete with spring-loaded non-return valve, injection pipe and tube or pipe connection.

Spring material: Hastelloy.

Opening pressure:

DN 4, DN 8:	0.7 bar
DN 20:	1.1 bar

Maximum temperature:

PP, PVDF:	50°C
PVC:	40°C
Stainless steel	80°C

Dimensions

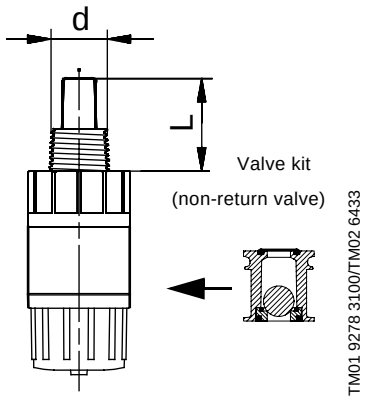


Fig. 36 Dimensions of injection valve, DN 4, DN 8, DN 20

Fig. 37 injection valve, DN 4, DN 8, DN 20

Fig. 38 Injection valve, DN 20, DN 25

Fig. 39 Injection lip valve

Max. flow rate [l/h]	Size	Valve material			Connection		Dimensions		Product numbers	
		Housing	Gasket	Ball	Type	Inner/outer diameters of tube, pipe or hose	d	L [mm]	Injection valve	Valve kit
12	DN 4	PP	EPDM	Ceramic	Tube	4/6 mm	G 1/2	33	96440576	96499608
						6/9 mm	G 1/2	33	96440577	
						0.17"/1/4"	1/2" NPT	33	96480641	
						1/4"/3/8"	1/2" NPT	33	96479805	
		PP	FKM	Ceramic	Tube	4/6 mm	G 1/2	33	96446739	96499609
						6/9 mm	G 1/2	33	96446740	
						0.17"/1/4"	1/2" NPT	33	96480642	
						1/4"/3/8"	1/2" NPT	33	96479806	
		PV	FKM	Ceramic	Tube	4/6 mm	G 1/2	33	96440581	96499600
						6/9 mm	G 1/2	33	96440582	
						0.17"/1/4"	1/2" NPT	33	96480643	
						1/4"/3/8"	1/2" NPT	33	96479807	

Max. flow rate [l/h]	Size	Valve material			Connection		Dimensions		Product numbers	
		Housing	Gasket	Ball	Type	Inner/outer diameters of tube, pipe or hose	d	L [mm]	Injection valve	Valve kit
50	DN 8	PP	EPDM	Ceramic	Tube	6/9 mm	G 1/2	33	96446736	96499601
						9/12 mm	G 1/2	33	96440578	
					Pipe cementing	-/10 mm	G 1/2	33	96440574	
						-/12 mm	G 1/2	33	96440575	
					Tube	1/4"/3/8"	1/2" NPT	33	96480644	
						3/8"/1/2"	1/2" NPT	33	96480645	
		PP	FKM	Ceramic	Tube	6/9 mm	G 1/2	33	96446741	96499602
						9/12 mm	G 1/2	33	96446880	
					Pipe cementing	-/10 mm	G 1/2	33	96446737	
						-/12 mm	G 1/2	33	96446738	
					Tube	1/4"/3/8"	1/2" NPT	33	96480646	
						3/8"/1/2"	1/2" NPT	33	96479808	
		PV	FKM	Ceramic	Tube	6/9 mm	G 1/2	33	96446742	96499603
						9/12 mm	G 1/2	33	96440583	
					Pipe cementing	-/10 mm	G 1/2	33	96440579	
						-/12 mm	G 1/2	33	96440580	
					Tube	1/4"/3/8"	1/2" NPT	33	96480647	
						3/8"/1/2"	1/2" NPT	33	96479809	
400	DN 10	PP	EPDM	Ceramic	Hose clamp	19/27 mm, 25/34 mm	G 3/4	105	96527119	
		PP	FKM				G 3/4	105	96527120	
		PVDF	FKM				G 3/4	105	96527121	
		Stainless steel	FKM	Stainless steel	Threaded	Rp 3/4	G 3/4	105	96534457	
1150	DN 20	PP	EPDM	Glass	Hose clamp	32/41 mm, 38/48 mm	G 1	98	96527122	
		PP	FKM				G 1	98	96527123	
		PVDF	FKM				G 1	98	96527124	
		PVC	FKM				G 1	60	96588700	
		Stainless steel	FKM	Stainless steel	Threaded	Rp 1 1/4	G 1	98	96534459	

Injection lip valve for hypochlorite dosing

Max. flow rate [l/h]	Size	Material			Connection		Dimensions		Product number
		Housing	Gasket	Ball	Type	Inner/outer diameters of tube or pipe [mm]	d	L [mm]	
12	DN 4/ DN 8	PVC	FKM	Glass	Tube	4/6, 6/9, 6/12 (cementing d. 12)	G 1/2	55	96588433
12	DN 4/ DN 8	PVC	FKM	Glass	Tube	4/6, 6/9, 6/12 (cementing d. 12)	1/2" NPT	55	96588701

Hot-injection valve

Complete hot-injection valve kit with isolating valve, pipe and tube connection fitting for chemical injection into steam and hot-water applications.

The hot-injection valve allows for direct dosing injection into systems with a temperature of maximum 150°C at the injection point.

The hot-injection valve kit is delivered non-assembled to facilitate adaptation to the actual application.

Materials and dimensions

Component	Material	Dimension
Isolating ball valve	Stainless steel, DIN 1.4401	1/2"
Pipe	Stainless steel, DIN 1.4401	6/10 mm
Pipe connection	Stainless steel, DIN 1.4401	1/2"
Tube connection	PVDF	6/9 mm

Fig. 40 Hot-injection valve

Max. flow rate [l/h]	Size	Material			Connection		Product number
		Connection	Gasket	Valve ball	Type	Tube diameter [mm]	
20	DN 4	PVDF	FKM	Ceramic	Tube	6/9	96534472

Rigid suction line

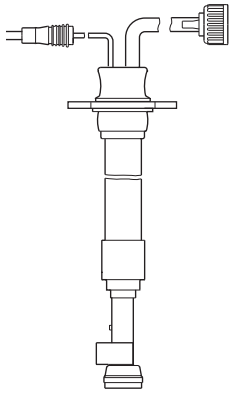
Preassembled rigid suction line with adjustable length for mounting in a tank. The suction line consists of foot valve with strainer, rigid suction pipe, tank connection thread and suction tube.

For control variants, the suction line is available with level sensors (NO-contacts) for warning and empty-tank signals, supplied complete with cable and plug for pump connection.

Material:	PVC
Material, wetted parts:	PVC, glass
Suction tube length:	3 metres
Level cable length:	5 metres
Level plug type:	M12, 4-pole
Max. flow rate:	50 l/h
Max. load of level contacts:	50 V, 0.5 A
Function of level contacts:	Low level/empty tank = closed contact

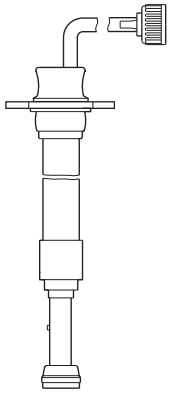
GrA1005

Fig. 41 Rigid suction line



TM03 2408 4105

Fig. 42 Rigid suction line with level sensors



TM03 2167 3805

Fig. 43 Rigid suction line without level sensors

Max. length [mm]	For Grundfos tank size [l]	Inner/outer suction tube diameters [mm]	Product number	
			With level sensors	Without level sensors
660	100	4/6	96295852	96295867
		6/9	96295857	96295872
		9/12	96295862	96295877
750	200	4/6	96295853	96295868
		6/9	96295858	96295873
		9/12	96295863	96295878
900	300	4/6	96295854	96295869
		6/9	96295859	96295874
		9/12	96295864	96295879
1030	500	4/6	96295855	96295870
		6/9	96295860	96295875
		9/12	96295865	96295880
1100	1000	4/6	96295856	96295871
		6/9	96295861	96295876
		9/12	96295866	96295881

Level control unit

For dosing pumps with level-control input, complete with level sensors (NO-contacts), ceramic weight, cable and plug for pump connection.

Level plug type:	M12, 4-pole
Max. load of level contacts:	50 V, 0.5 A
Function of level contacts:	Low level/empty tank = closed contact

GrA1012

Fig. 44 Level control unit

Component	Size	Material	Cable length [m]	Product number
Level control unit, 2-level, PVC, M12, 3 m		PVC	5	96295882
Clips for level control unit, DN 8 pipe	DN 8	PVC		96587907
Clips for level control unit, DN 25 pipe	DN 25	PVC		96587909
Clips for level control unit, DN 20 pipe	DN 20	PVC		96587930

Counter-pressure valve

Adjustable valve for installation in the discharge tube.

Installed in-line, the valve functions as a counter-pressure valve optimising dosing accuracy into systems with fluctuating pressure or as anti-siphoning valve when dosing into pressureless systems.

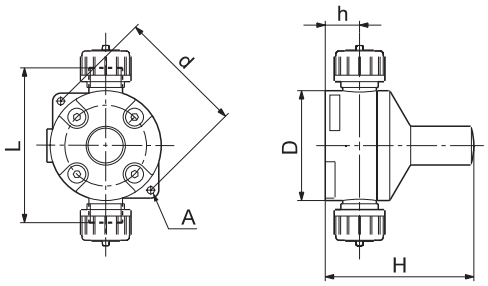
Pressure range:	0 to 10 bar
Diaphragm material:	PTFE

GrA1036

Fig. 45 Counter-pressure valve, DN 4/DN 8

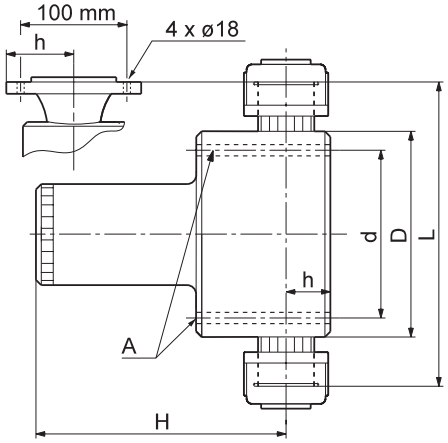
GrA1037

Fig. 46 Counter-pressure valve, DN 20/DN 32



TM03 2401 4105

Fig. 47 Dimensions, DN 4/DN 8



TM03 2409 4105

Fig. 48 Dimensions, DN 20/DN 32

Size	Max. flow rate [l/h]	Material	Supported connections	Dimensions						Product number
			Inner/outer tube or pipe diameters/thread [1]	L [mm]	H [mm]	D [mm]	h [mm]	d [mm]	A [mm]	
DN 4/DN 8	15/60	PP/EPDM	Tube 4/6 mm, 6/9 mm, 9/12 mm	96	90	68	21	78	4.5	96295898
		PP/FKM								96295899
DN 4/DN 8	15/60	PVC/EPDM	Tube 4/6 mm, 6/9 mm, 6/12 mm, pipe 10/12							96295900
		PVC/FKM								96295901
DN 8	60	SS	Pipe 1/4" i	108	82	68	11	78	4.5	96295902
DN 20	400	PP/EPDM	Tube 19/27 mm, 25/34 mm	153	144	90	28	72	6.6	96295903
		PP/FKM								96295904
		PVC/EPDM	Tube 19/27 mm, 25/34 mm	149	144	90	28	72	6.6	96295905
		PVC/FKM								96295906
		SS	Pipe 3/4" i		144	134	28	72	6.6	96295907
DN 32	1150	PP/EPDM	Pipe - cementing d. 40 mm	229	218	129	70	105	8.4	96295908
		PP/FKM								96295909
		PVC/EPDM	Pipe - cementing d. 40 mm	229	218	129	70	105	8.4	96295910
		PVC/FKM								96295911
		SS	Pipe 1 1/4" i		188	129	40	105	8.4	96295912

1) i = internal thread

Relief valve

Adjustable valve for installation in the discharge tube.

Installed in a T-connection with the valve outlet connected to the tank, the valve functions as a pressure relief valve or a safety valve, protecting the pump and the discharge tube against excessive pressures.

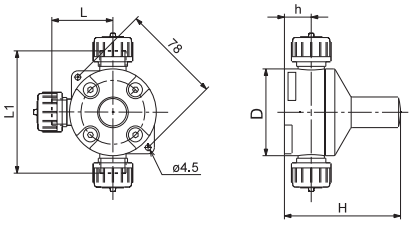
Pressure range:	0 to 10 bar
Diaphragm material:	PTFE

GrA1042

Fig. 49 Relief valve, DN 4/DN 8

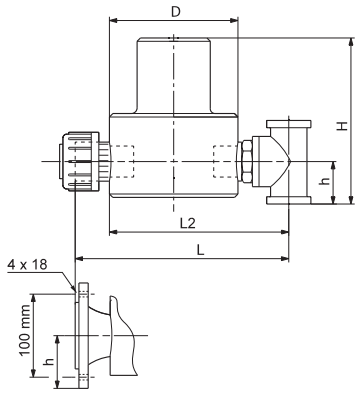
GrA1041

Fig. 50 Relief valve, DN 20/DN 32



TM 03 2407 4105

Fig. 51 Dimensions of relief valve, DN 4/DN 8



TM03 2405 4105

Fig. 52 Dimensions of relief valve, DN 20/DN 32

Size	Max. flow rate [l/h]	Material	Supported connections	Dimensions				Product number
			Inner/outer tube or pipe diameters/thread [1]	L [mm]	H [mm]	D [mm]	h [mm]	
DN 4/DN 8	15/60	PP/EPDM	Tube 4/6 mm, 6/9 mm, 9/12 mm	96	90	68	21	96295883
		PP/FKM						96295884
DN 4/DN 8	15/60	PVC/EPDM	Tube 4/6 mm, 6/9 mm, 6/12 mm, pipe 10/12					96295885
		PVC/FKM						96295886
DN 8	60	SS	Pipe 1/4" i	108	82	68	11	96295887
DN 20	400	PP/EPDM	Tube 19/27 mm, 25/34 mm	153	144	90	28	96295888
		PP/FKM						96295889
		PVC/EPDM	Tube 19/27 mm, 25/34 mm	149	144	90	28	96295890
		PVC/FKM						96295891
		SS	Pipe 3/4" i		144	134	28	96295892
DN 32	1150	PP/EPDM	Pipe - cementing d. 40 mm	229	218	129	70	96295893
		PP/FKM						96295894
		PVC/EPDM	Pipe - cementing d. 40 mm	229	218	129	70	96295895
		PVC/FKM						96295896
		SS	Pipe 1 1/4" i		188	129	40	96295897

1) i = internal thread

Pulsation dampener

The pulsation dampener can be installed in the suction as well as the discharge tube to reduce pressure surges end ensure a steady flow. The dampener is particularly suitable for long discharge tubes and/or small-diameter lines.

Installed in the discharge tube, the dampener optimises dosing accuracy and protects pump and discharge line against pressure surges.

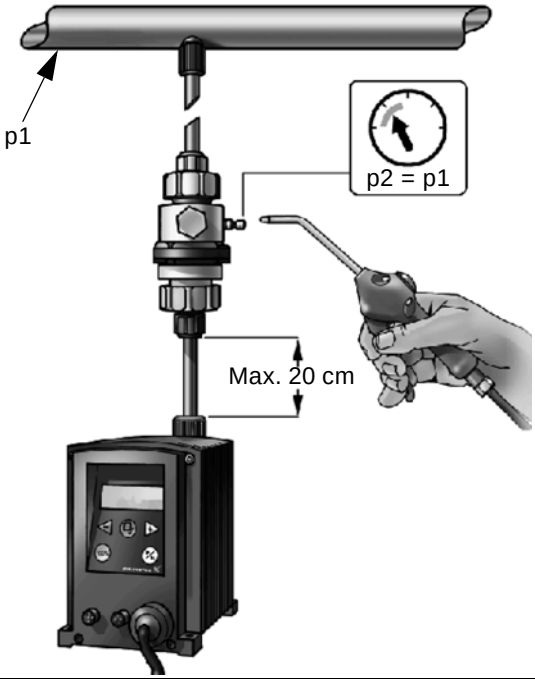
Depending on the system pressure, the installation of a counter-pressure valve after the dampener may be required to optimise its function.

Maximum pressure: 10 bar.

TM01 9593 2100

Fig. 53 Pulsation dampener

Setting the pressure

Pulsation dampener	Description
 TM02 0103	Set the pressure in the pulsation dampener by means of compressed air. The pressure must be the system pressure (p1) x 0.6. The pressure on the liquid side of the pulsation dampener should be 0 when the air side is filled with air. This applies both to the initial setting of the pressure as well as to later check-ups. To facilitate the reading of the pulsation dampener pressure, a pressure gauge can be fitted directly on the dampener, see *Accessories for pulsation dampeners*, page 70.

Dimensions

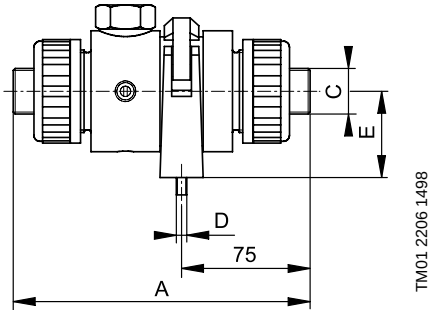


Fig. 54 Dimensions of pulsation dampener, size 80

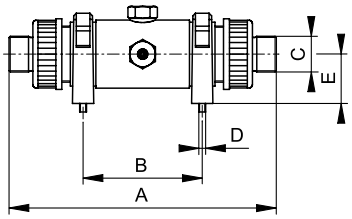


Fig. 55 Dimensions of pulsation dampener, size 250

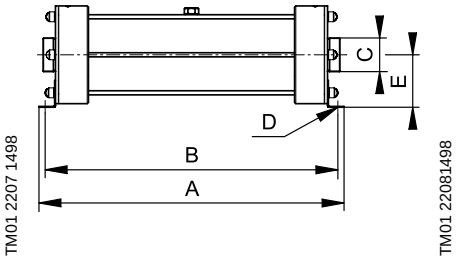


Fig. 56 Dimensions of pulsation dampener, sizes 750 and 2500

Size	Max. flow rate [l/h]	Materials		Connections		Dimensions [mm]					Product number
		Housing	Diaphragm	Type	Inner/outer tube or pipe diameters/thread	A	B	C	D	E	
80	72	PP	CSM	Tube	6/9 mm	172		G 3/4	M6	50	96441075
					9/12 mm						96488893
			FKM		6/9 mm						96441074
		PVC	CSM		6/9 mm						96441077
					1/4"/3/8"						96480706
			FKM		6/9 mm						96441076
					1/4"/3/8"						96479972
250	260	PP	CSM	Internal thread	-/Rp 1/2	314	140	G 1 1/4"	M8	58	96440850
					-/1/2" NPT						96480694
			FKM		-/Rp 1/2						96440849
					-/1/2" NPT						96480693
		PVC	CSM		-/Rp 1/2						96440854
					-/1/2" NPT						96480696
			FKM		-/Rp 1/2						96440852
					-/1/2" NPT						96480695
750	390	PP	CSM		-/Rp 1/2	363	347	G 1 1/4"	ø9	72	96441071
					-/1/2" NPT						96480700
			FKM		-/Rp 1/2						96441070
					-/1/2" NPT						96480698
		PVC	CSM		-/Rp 1/2						96441073
					-/1/2" NPT						96480704
			FKM		-/Rp 1/2						96441072
					-/1/2" NPT						96480703
2500	990	PP	CSM	Pipe cementing	-/40 mm	541	525	G 2	ø11	126	96440856
			FKM		-/40 mm						96440855
		PVC	CSM		-/40 mm						96440858
			FKM		-/40 mm						96440857

Accessories for pulsation dampeners

Connector

For direct fitting of pulsation dampener, size 80, to pump discharge connection.

Fig. 57 Connector

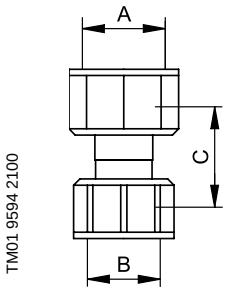


Fig. 58 Dimensions of connector

Size	A	B	C [mm]	Product number
DN 8	Rp 3/4	G 5/8	32	96441088

Dummy plug

For installation of pulsation dampener in T-piece connection.

Fig. 59 Dummy plug

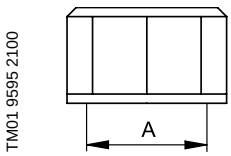


Fig. 60 Dimension of dummy plug

Pulsation dampener size [mm]	A	Product number
80	Rp 3/4	96441092
250, 750	Rp 1 1/4	96441091
2500	Rp 2	96441090

Pressure gauge

For measuring gas pressure in pulsation dampener.

Fig. 61 Pressure gauge

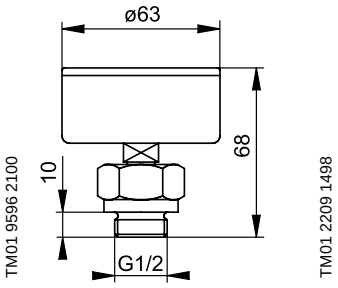


Fig. 62 Dimensions of pressure gauge

Pressure range [bar]	Product number
0-6	96441096
0-16	96441095

Priming aid

The priming aid consists of a transparent, air-tight collector with a screw cap on top. It is mounted between the tank and the pump. The inlet from the tank and the outlet to the pump are both positioned at the bottom of the collector.

The priming aid is supplied with a bracket for wall mounting and a rod for mounting on top of the tank.

The priming aid has the following functions:

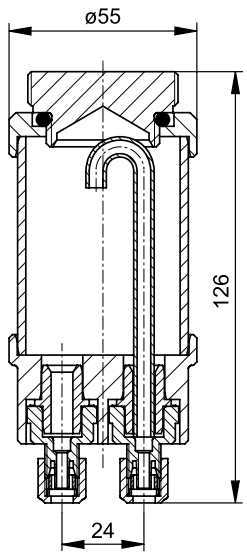
- **Priming**
  The priming aid facilitates priming in case of frequent stops and/or high suction lifts by eliminating or reducing the dry-suction phase.
- **Gas trap**
  Gas occurring in the suction tube is trapped in the top of the priming aid to prevent it from entering the dosing head.
- **Pulsation dampening**
  The dampening gas cushion at the top of the priming aid reduces pressure surges, resulting in optimum dosing accuracy and reduced risk of cavitation.

Material: PVC.

TM01 9597 2100

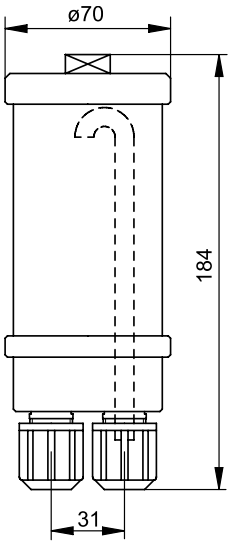
Fig. 63 Priming aid

Dimensions



TM01 2214 1498

Fig. 64 Collector, size 95



TM01 2216 1498

Fig. 65 Collector, size 250

Size/priming capacity [ml]	Connections		Product number
	Type	Internal/external diameters	
95	Tube	4/6 mm	96441079
		6/9 mm	96441080
		0.17" / 1/4"	96480692
		1/4" / 3/8"	96479970
250		6/9 mm	96441078
		9/12 mm	96483949
		1/4" / 3/8"	96480690

Tank

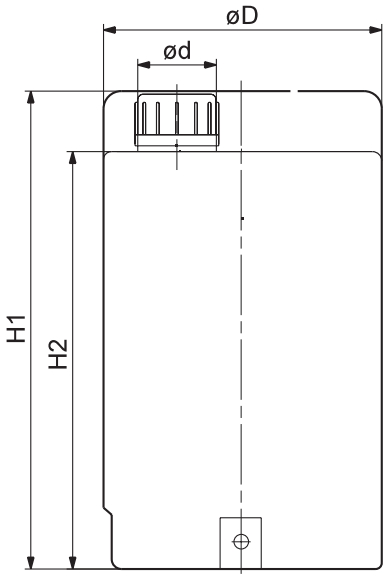
Closed, cylindrical tank with screw cap and threaded connection for rigid suction line.

Material:	PE
Liquid temperature:	Min.: –20°C Max.: +45°C

GrA1049

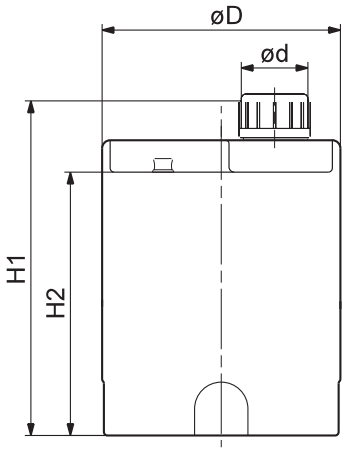
Fig. 66 Tank

Dimensions



TM03 2406 4105

Fig. 67 Dimensions of tank sizes 100 l, 200 l, 300 l and 500 l



TM03 2404 4105

Fig. 68 Dimensions of 1000-litre tank

Component	Size [l]	Prepared for mounting of		Dimensions				Product number
		DMX model 221	Standard agitator	øD [mm]	ød [mm]	H1 [mm]	H2 [mm]	
Tank, 100 l, PE, blue cap	100	with inserts	with inserts	460	160	790	690	96295840
Tank, 200 l, PE, blue cap	200	with inserts	with inserts	600	160	880	780	96295841
Tank, 300 l, PE, blue cap	300	-	-	670	160	1030	930	96295842
Tank, 500 l, PE, blue cap	500	-	-	790	160	1180	1080	96295843
Tank, 500 l, PE reinforced, blue cap	500	-	reinforced for agitator	790	160	1180	1080	96295844
Tank, 1000 l, PE, blue cap	1000	-	-	1080	160	1260	1150	96295845
Tank, 1000 l, PE reinforced, blue cap	1000	-	reinforced for agitator	1080	160	1260	1150	96295846

Hand mixer

Hand mixer with adjustable length for mixing of chemicals in a tank. The mixer is designed for Grundfos chemical tanks.

Material: PVC.

Dimensions

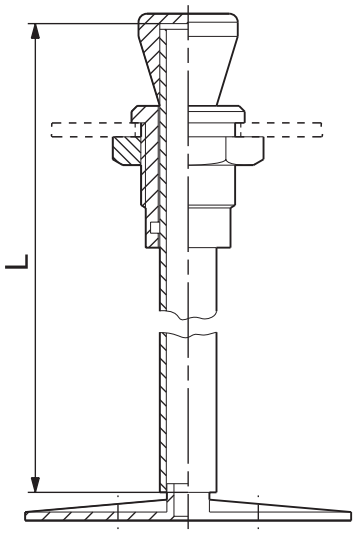


Fig. 69 Dimension of hand mixer

Shaft length, L [mm]	Product number
1000	96295947

Electric agitator

Electric agitators ensure homogeneous mixing of the chemical solution in the tank. It is necessary to ensure thorough mixing of powder additives and liquid additives that do not easily dissolve in liquids.

The agitator is fitted with a single- or three-phase motor, an agitator shaft connected directly to the motor shaft and a poly-propylene mixing turbine or stainless steel propeller.

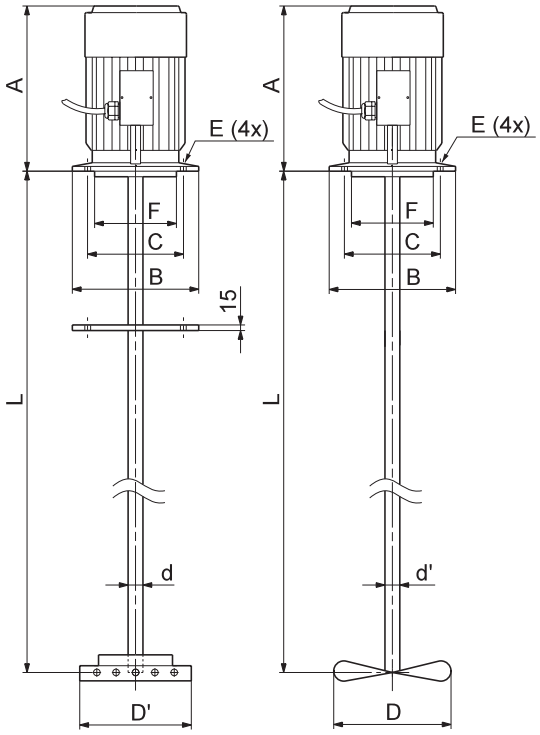
The selection of agitator size depends on the substance to be mixed. Choose an agitator with a higher power input for stabilising insoluble suspensions or emulsions that are not readily miscible.

Shaft and propeller must be submerged into the liquid during operation to prevent dry-running.

Agitator shaft version	Description
Plastic shaft	• PP-coated shaft, mixing turbine made of PP. • The ring-shaped turbine takes in the mixture axially, spreading it radially.
Plastic shaft for aggressive liquids	• Shaft equipped with a sealing flange fastened at the motor flange for use with aggressive liquids.
Stainless steel shaft	• Shaft and mixing propeller made of stainless steel.

GrA1004

Fig. 70 Electric agitator



TM03 2403 4105

Fig. 71 Dimensions of electric agitator

Agitator	Shaft length [mm]	For tank size [l]	Material	Sealing flange included	Voltage/frequency	Protection class/ insulation class	Motor power [kW]	Speed [rpm]	Product number
3 x 400V, 50/60Hz, 0.09kW, 500, SS	500	-	SS	-	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.09	1500	96295813
1 x 230V, 50/60Hz, 0.09kW, 500, SS	500	-	SS	-	220-240V 50/60Hz	IP 65/F	0.09	1500	96295814
3 x 400V, 50/60Hz, 0.09kW, 500, PP	500	-	PP	-	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.09	1500	96295822
1 x 230V, 50/60Hz, 0.09kW, 500, PP	500	-	PP	-	220-240V 50/60Hz	IP 65/F	0.09	1500	96295823
3 x 400V, 50/60Hz, 0.09kW, 500, PP-F	500	-	PP	X	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.09	1500	96295831
1 x 230V, 50/60Hz, 0.09kW, 500, PP-F	500	-	PP	X	220-240V 50/60Hz	IP 65/F	0.09	1500	96295832

Agitator	Shaft length [mm]	For tank size [l]	Material	Sealing flange included	Voltage/frequency	Protection class/ insulation class	Motor power [kW]	Speed [rpm]	Product number
3 x 400V, 50/60Hz, 0.09kW, 600, SS	650	100	SS	-	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.09	1500	96295815
1 x 230V, 50/60Hz, 0.09kW, 600, SS	650	100	SS	-	220-240V 50/60Hz	IP 65/F	0.09	1500	96295816
3 x 400V, 50/60Hz, 0.09kW, 600, PP	650	100	PP	-	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.09	1500	96295824
1 x 230V, 50/60Hz, 0.09kW, 600, PP	650	100	PP	-	220-240V 50/60Hz	IP 65/F	0.09	1500	96295825
3 x 400V, 50/60Hz, 0.09kW, 600, PP-F	650	100	PP	X	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.09	1500	96295833
1 x 230V, 50/60Hz, 0.09kW, 600, PP-F	650	100	PP	X	220-240V 50/60Hz	IP 65/F	0.09	1500	96295834
3 x 400V, 50/60Hz, 0.09kW, 750, SS	750	200	SS	-	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.09	1500	96295817
1 x 230V, 50/60Hz, 0.09kW, 750, SS	750	200	SS	-	220-240V 50/60Hz	IP 65/F	0.09	1500	96295818
3 x 400V, 50/60Hz, 0.09kW, 750, PP	750	200	PP	-	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.09	1500	96295826
1 x 230V, 50/60Hz, 0.09kW, 750, PP	750	200	PP	-	220-240V 50/60Hz	IP 65/F	0.09	1500	96295827
3 x 400V, 50/60Hz, 0.09kW, 750, PP-F	750	200	PP	X	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.09	1500	96295835
1 x 230V, 50/60Hz, 0.09kW, 750, PP-F	750	200	PP	X	220-240V 50/60Hz	IP 65/F	0.09	1500	96295836
3 x 400V, 50/60Hz, 0.09kW, 900, SS	900	300	SS	-	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.25	1500	96295819
3 x 400V, 50/60Hz, 0.09kW, 900, PP	900	300	PP	-	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.25	1500	96295828
3 x 400V, 50/60Hz, 0.09kW, 900, PP-F	900	300	PP	X	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.25	1500	96295837
3 x 400V, 50/60Hz, 0.09kW, 1050, SS	1050	500	SS	-	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.25	1500	96295820
3 x 400V, 50/60Hz, 0.09kW, 1050, PP	1050	500	PP	-	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.25	1500	96295829
3 x 400V, 50/60Hz, 0.09kW, 1050, PP-F	1050	500	PP	X	230/400V 50/60Hz 440/480V 60Hz	IP 65/F	0.25	1500	96295838
3 x 400V, 50/60Hz, 0.09kW, 800, SS	800	1000	SS	-	230/400V 50/60Hz 460V 60Hz	IP 55/F	0.55	1500	96295821
3 x 400V, 50/60Hz, 0.09kW, 800, PP	800	1000	PP	-	230/400V 50/60Hz 460V 60Hz	IP 55/F	0.55	1500	96295830
3 x 400V, 50/60Hz, 0.09kW, 800, PP-F	800	1000	PP	X	230/400V 50/60Hz 460V 60Hz	IP 55/F	0.55	1500	96295839

Note: The agitators come without supply cable.

Agitator	Dimensions										Product number
	L [mm]	A [mm]	B [mm]	C [mm]	[mm]	ø d [mm]	ø D' [mm]	ø d' [mm]	ø E [mm]	F [mm]	
3 x 400V, 50/60Hz, 0.09kW, 500, SS	500	210	140	115	80	12	80	16	9	95	96295813
1 x 230V, 50/60Hz, 0.09kW, 500, SS	500	210	140	115	80	12	80	16	9	95	96295814
3 x 400V, 50/60Hz, 0.09kW, 500, PP	500	210	140	115	80	12	80	16	9	95	96295822
1 x 230V, 50/60Hz, 0.09kW, 500, PP	500	210	140	115	80	12	80	16	9	95	96295823
3 x 400V, 50/60Hz, 0.09kW, 500, PP-F	500	210	140	115	80	12	80	16	9	95	96295831
1 x 230V, 50/60Hz, 0.09kW, 500, PP-F	500	210	140	115	80	12	80	16	9	95	96295832
3 x 400V, 50/60Hz, 0.09kW, 600, SS	650	210	140	115	80	12	80	16	9	95	96295815
1 x 230V, 50/60Hz, 0.09kW, 600, SS	650	210	140	115	80	12	80	16	9	95	96295816
3 x 400V, 50/60Hz, 0.09kW, 600, PP	650	210	140	115	80	12	80	16	9	95	96295824
1 x 230V, 50/60Hz, 0.09kW, 600, PP	650	210	140	115	80	12	80	16	9	95	96295825
3 x 400V, 50/60Hz, 0.09kW, 600, PP-F	650	210	140	115	80	12	80	16	9	95	96295833
1 x 230V, 50/60Hz, 0.09kW, 600, PP-F	650	210	140	115	80	12	80	16	9	95	96295834
3 x 400V, 50/60Hz, 0.09kW, 750, SS	750	210	140	115	90	12	80	16	9	95	96295817
1 x 230V, 50/60Hz, 0.09kW, 750, SS	750	210	140	115	90	12	80	16	9	95	96295818
3 x 400V, 50/60Hz, 0.09kW, 750, PP	750	210	140	115	90	12	80	16	9	95	96295826
1 x 230V, 50/60Hz, 0.09kW, 750, PP	750	210	140	115	90	12	80	16	9	95	96295827
3 x 400V, 50/60Hz, 0.09kW, 750, PP-F	750	210	140	115	90	12	80	16	9	95	96295835
1 x 230V, 50/60Hz, 0.09kW, 750, PP-F	750	210	140	115	90	12	80	16	9	95	96295836
3 x 400V, 50/60Hz, 0.25kW, 900, SS	900	237	160	130	110	18	100	25	9	110	96295819
3 x 400V, 50/60Hz, 0.25kW, 900, PP	900	237	160	130	110	18	100	25	9	110	96295828
3 x 400V, 50/60Hz, 0.25kW, 900, PP-F	900	237	160	130	110	18	100	25	9	110	96295837
3 x 400V, 50/60Hz, 0.25kW, 1050, SS	1050	237	160	130	110	18	100	25	9	110	96295820
3 x 400V, 50/60Hz, 0.25kW, 1050, PP	1050	237	160	130	110	18	100	25	9	110	96295829
3 x 400V, 50/60Hz, 0.25kW, 1050, PP-F	1050	237	160	130	110	18	100	25	9	110	96295838
3 x 400V, 50/60Hz, 0.55kW, 800, SS	800	234	160	130	130	26	100	32	9	110	96295821
3 x 400V, 50/60Hz, 0.55kW, 800, PP	800	234	160	130	130	26	100	32	9	110	96295830
3 x 400V, 50/60Hz, 0.55kW, 800, PP-F	800	234	160	130	130	26	100	32	9	110	96295839

Water meter

In-line water meter with potential-free pulse signal for use in flow-proportional dosing applications.

Qn 1.5 and Qn 2.5 meters are of the multi-jet, dry dial type for cold water up to 30°C or hot water up to 90°C.

Qn 15 meters and up are of the helical vane type for cold water up to 50°C or hot water up to 120°C.

Max. pressure: 16 bar.

If the water meter is to be connected directly to the pump pulse input, a control plug should be used.

Product number of control plug: 96440449.

Qn 1.5 to Qn 15 meters are threaded.

Qn 40 to Qn 150 meters are flanged.

Cable length: 3 metres.

Fig. 72 Water meter

Qn [m³/h]	Pulse rate [l/pulse]	Maximum short-period capacity [m³/h]	Maximum pressure [bar]	Transitional capacity with error ±2% [l/h]	Minimum capacity with error ±5% [l/h]	Product number			
						Maximum water temperature			
						30°C	50°C	90°C	120°C
1.5*	1	3	16	120	50	96446846	-	96446897	-
2.5*	2.5	5	16	200	70	96446847	-	96446898	-
15*	10	30	16	3000	450	-	96446848	-	96446899
1.5*	0.25	3	16	120	50	96482640	-	96482643	-
2.5*	0.25	5	16	200	70	96482641	-	96482644	-
15*	2.5	30	16	3000	450	96482642	-	96482645	-
40**	100	80	10	4000	700	-	96446849	-	96446900
60**	25	120	10	6000	1200	-	96446850	-	96446901
150**	100	300	10	12000	3000	-	96446851	-	96446902

*) Maximum load, reed contact: 30 VAC/VDC, 0.2 A.
**) Maximum load, namur contact: 8-12 VDC, 1 kohm (requires external power supply).

Dimensions

Size	Meter connections	Installation kit connection	Meter port-to-port length [mm]	Port-to-port length incl. kit [mm]
Threaded connection				
Qn 1.5	G 3/4	Rp 1/2	165	245
Qn 2.5	G 1	Rp 3/4	190	288
Qn 15	G 2.5	Rp 2	300	438
Flanged connection				
Qn 40	DN 80		225	-
Qn 60	DN 100		250	-
Qn 150	DN 150		300	-

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 is based upon 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.

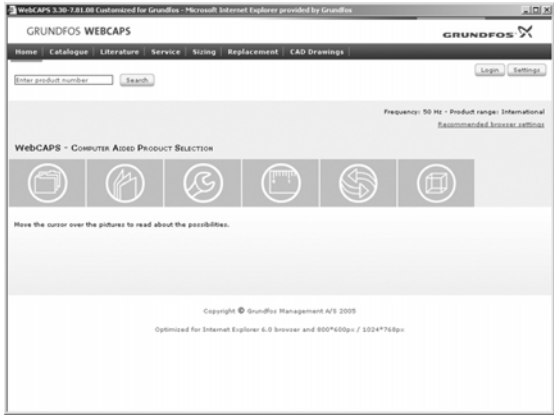
Pumped liquid (20°C)		Concentration %	Materials									
			Pump housing				Gasket				Ball	
Designation	Chemical formula		PP	PVDF	Stainless steel, DIN 1.4401	PVC	FKM	EPDM	PTFE	Centellen C	Ceramic	Glass
Acetic acid	CH_3COOH	25	●	●	●	●	–	●	●	●	●	●
		60	●	●	●	●	–	❍	●	❍	●	●
		85	●	●	●	–	–	–	●	❍	●	●
Aluminium 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%.

Further product documentation

WebCAPS



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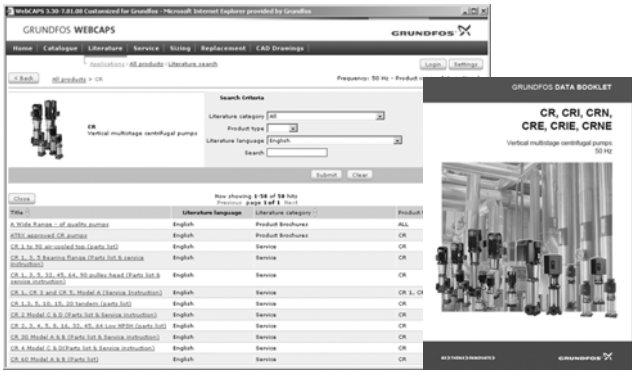
- Literature
- Service
- Sizing
- Replacement
- CAD drawings.

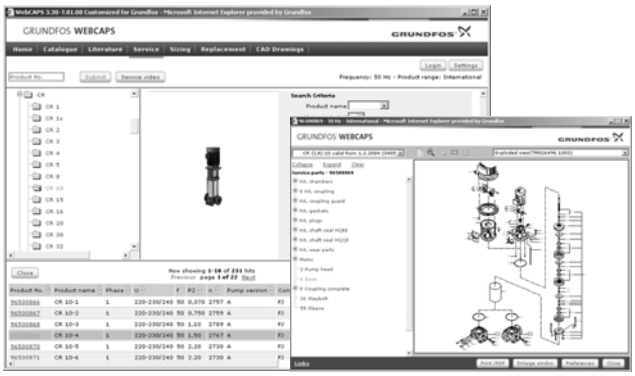
Catalogue

This section is based on fields of application and pump types, and contains
- technical data
- curves (QH, Eta, P1, P2, etc) which can be adapted to the density and viscosity of the pumped liquid and show the number of pumps in operation
- product photos
- dimensional drawings
- wiring diagrams
- quotation texts, etc.



Literature

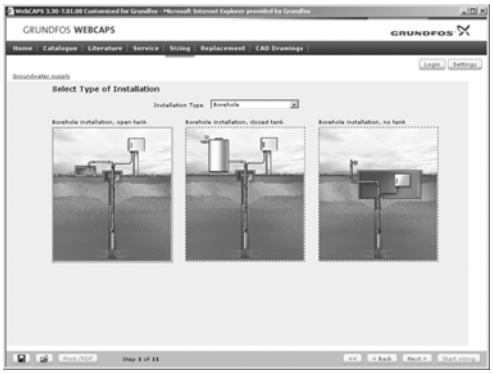
In this section you can access all the latest documents of a given pump, such as
- data booklets
- installation and operating instructions
- service documentation, such as Service kit catalogue and Service kit instructions
- quick guides
- product brochures, etc.



Service

This section contains an easy-to-use interactive service catalogue. Here you can find and identify service parts of both existing and discontinued Grundfos pumps.
Furthermore, this section contains service videos showing you how to replace service parts.

Further product documentation



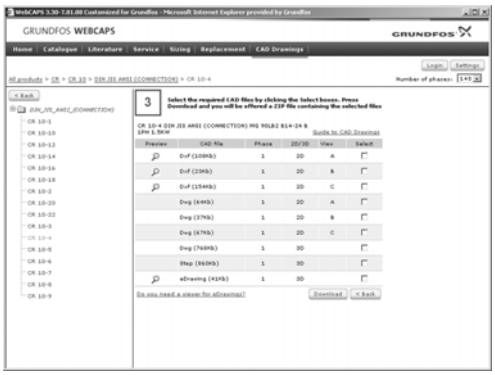
Sizing

This section is based on different fields of application and installation examples, and gives easy step-by-step instructions in how to
- select the most suitable and efficient pump for your installation
- carry out advanced calculations based on energy consumption, payback periods, load profiles, life cycle costs, etc.
- analyse your selected pump via the built-in life cycle cost tool
- determine the flow velocity in wastewater applications, etc.

Replacement

In this section you find a guide to selecting and comparing replacement data of an installed pump in order to replace the pump with a more efficient Grundfos pump.
The section contains replacement data of a wide range of pumps produced by other manufacturers than Grundfos.

Based on an easy step-by-step guide, you can compare Grundfos pumps with the one you have installed on your site. When you have specified the installed pump, the guide will suggest a number of Grundfos pumps which can improve both comfort and efficiency.



CAD drawings

In this section it is possible to download 2-dimensional (2D) and 3-dimensional (3D) CAD drawings of most Grundfos pumps.

These formats are available in WebCAPS:

2-dimensional drawings:
- .dxf, wireframe drawings
- .dwg, wireframe drawings.

3-dimensional drawings:
- .dwg, wireframe drawings (without surfaces)
- .stp, solid drawings (with surfaces)
- .eprt, E-drawings.

WinCAPS

Fig. 73 WinCAPS CD-ROM

WinCAPS is a **Win**dows-based **C**omputer **A**ided **P**roduct **S**election program containing detailed information on more than 185,000 Grundfos products in more than 20 languages.

The program contains the same features and functions as WebCAPS, but is an ideal solution if no Internet connection is available.

WinCAPS is available on CD-ROM and updated once a year.

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Repl. 96609195 0306	

Subject to alterations.

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