DMH

Hydraulically actuated piston diaphragm dosing pumps and accessories, 50 Hz

be
think
innovate

GRUNDFOS

Table of contents

1. Product introduction 4
Features and benefits 4
Performance range 6

2. Identification. 10
Type key 10

3. Functions and options. 13
Dosing flow control 13
Electric servomotor 16
AR control unit 16
AMS diaphragm protection system 17
Diaphragm leakage detection 17
Variable frequency drive (VFD) 18

4. Construction. 19
Functional principle 19
Sectional drawings 19

5. Technical data 24
Dimensions DMH 25X 24
Dimensions DMH 28X 31
Weights DMH 25X 32
Weights DMH 28X 33
Motor power 33
Flange sizes for DMH pumps without motor 33
Protection rating 34
Sound pressure 34
Accuracy 34
Temperature of dosing medium 35

6. DMH pump selection 36
DMH performance data 36
DMH standard range 41
DMH non-standard range 45

7. Pump connection sizes by pump types 53

8. Hydraulic accessories for pump connection size G 5/8 54
Overview of accessories for pump connection size G 5/8 54
Installation kits for pump connection size G 5/8 55
Hoses for pump connection size G 5/8 56
Foot valves FV 58
Rigid suction lances RSL 60
Accessories for rigid suction lances RSL and foot valves FV 63
Injection units 64
Multi-function valves, pressure relief valves, pressure loading valves 68
Pulsation dampers and calibration columns 71
Accessories for hydraulic connection 76

9. Hydraulic accessories for pump connection size G 5/4 81
Overview of accessories for pump connection size G 5/4 81
Hoses for pump connection size G 5/4 82
Foot valves FV 82
Rigid suction lances RSL 84
Injection units 88

Pressure relief valves and pressure loading valves . . . 89
Pulsation dampers and calibration columns . . . 92
Accessories for hydraulic connection . . . 98

10. Hydraulic accessories for pump connection size G 2 . . . 101
Overview of accessories for pump connection size G 2 . . . 101
Hoses for dosing pump connection size G 2 . . . 102
Foot valves FV with connection size G 2 . . . 102
Rigid suction lances RSL with connection size G 2 . . . 103
Injection units for pump connection size G 2 . . . 104
Pressure loading valves PLV . . . 105
Pulsation dampers . . . 106
Accessories for hydraulic connection . . . 110

11. Hydraulic accessories for DMH 28x high-pressure pumps . . . 113
Guide to find suitable suction-side accessories for DMH 28x dosing pumps . . . 113
Injection units for DMH 28x high-pressure dosing pumps . . . 114
Pressure relief valves PRV for DMH 28x high-pressure dosing pumps . . . 115
Pulsation dampers for DMH 28x high-pressure dosing pumps . . . 116
Pump connection kits for DMH 28x high-pressure dosing pumps . . . 118
Dosing tanks . . . 118
Tank accessories . . . 123
Pump mounting accessories . . . 131
Accessories for pulsation dampers and calibration columns . . . 131
Cables and plugs for dosing pumps . . . 135
Water meters . . . 136

12. Pumped liquids . . . 138

13. Grundfos Product Center . . . 140

1. Product introduction

Features and benefits

The preferred choice for complex tasks

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

TM074624

DMH models 251, 254 and 257

TM074625

DMH model 280 single-head and double-head pump

Accurate dosing - all the time

The diaphragm design makes sure that the dosing flow fluctuation and the linearity deviation are very low. This allows very precise dosing of chemicals - as much as necessary, as little as possible.

Smooth and low-pulsation dosing

Sophisticated drive technology and gear kinematics ensure smooth and low-pulsation dosing. This means less stress to all system components, such as tubes and valves, and leads to longer service intervals for the entire system.

Motors to match application needs

For applications with specific motor requirements, the versatile mechanical dosing pump range offers the following options:

- Ex-classified or ATEX-certified high-quality motors
- Motors with integrated variable frequency drive (VFD) are available on request.

  Mechanical dosing pumps equipped with a motor with factory-mounted integrated VFD provide extended capacity range and functionality. They include analog inputs and outputs, an integrated potentiometer for precise and easy setting of speed, control and self-monitoring functions as well as an interface for field bus communication (Profibus, Profinet).

  This option is only available for pumps that are able to run at 100 Hz. See performance data tables.
- Motors with PTC, prepared for operation with external variable frequency drive (VFD).

  Mechanical dosing pumps equipped with a motor with PTC, planned to be operated by a VFD, the VFD is not supplied with the pump. The PTC protects the motor against locked-rotor conditions, continuous overload and high ambient temperature.

  - Use a VFD that can operate at constant torque. The VFD should have a 150 % overload capacity for 60 seconds.
  - Respect the limitations on minimum and maximum operating frequency to prevent gear breakdown or motor overheating. See performance data tables.

  This option is not available for pumps selected for ATEX.

  For more detailed information, please contact Grundfos.

Perfect material selection for housing and wetted parts

The DMH models have a robust cast-aluminium housing with epoxy coating to meet all application needs (grey cast iron if API 675 is required). Investment costs and running costs for spare parts are kept low over the years: A wide choice of materials for dosing head, valves and accessories allow selecting exactly the degree of chemical resistance required. All wetted parts must be resistant to the chemicals used. The diaphragm is entirely made of PTFE.

Safe and trouble-free operation

The serially integrated pressure-relief valve and the AMS diaphragm protection system keep the pump and entire system protected against overpressure if the outlet line is blocked. In addition, the degassing valve at the pump guarantees high functional safety of the pump, the installation and the whole process. Due to their aluminium enclosure and the piston diaphragm technology, DMH pumps have a very long operating life and long service intervals.

Approvals and certificates

For potentially explosive areas, we offer EX classified and ATEX approved motors and pumps. For applications in the petrochemistry, we provide special versions of our DMH dosing pumps with API 675 certificates.

Flexibility in pump configuration and applications

A number of different DMH pump configurations are available to match requirements:

- Flexible dosing-flow control concept: manual or automatic stroke-length adjustment with an electric servomotor
- Pumps fitted with a double diaphragm with failure indication
- Special dosing heads with electrical heating

Universal fields of application are possible due to the PTFE dosing diaphragm. Wetted parts are available in material combinations that suit virtually all dosing tasks. Choose the best configuration for your specific dosing task.

Ready for tough application areas

Power plants

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

Petrochemical industry, oil and gas industry, refineries

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

Treatment of process water and drinking water

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

ATEX approved pumps

EX classified and ATEX approved motors and pumps for potentially explosive areas are available on request.

ATEX approved pumps

We offer ATEX approved DMH pumps in a variety of configurations. Some can be used for dosing combustible liquids. For more detailed information, please contact Grundfos.

EX zones

ATEX approved DMH pumps can be used in the following EX zones:

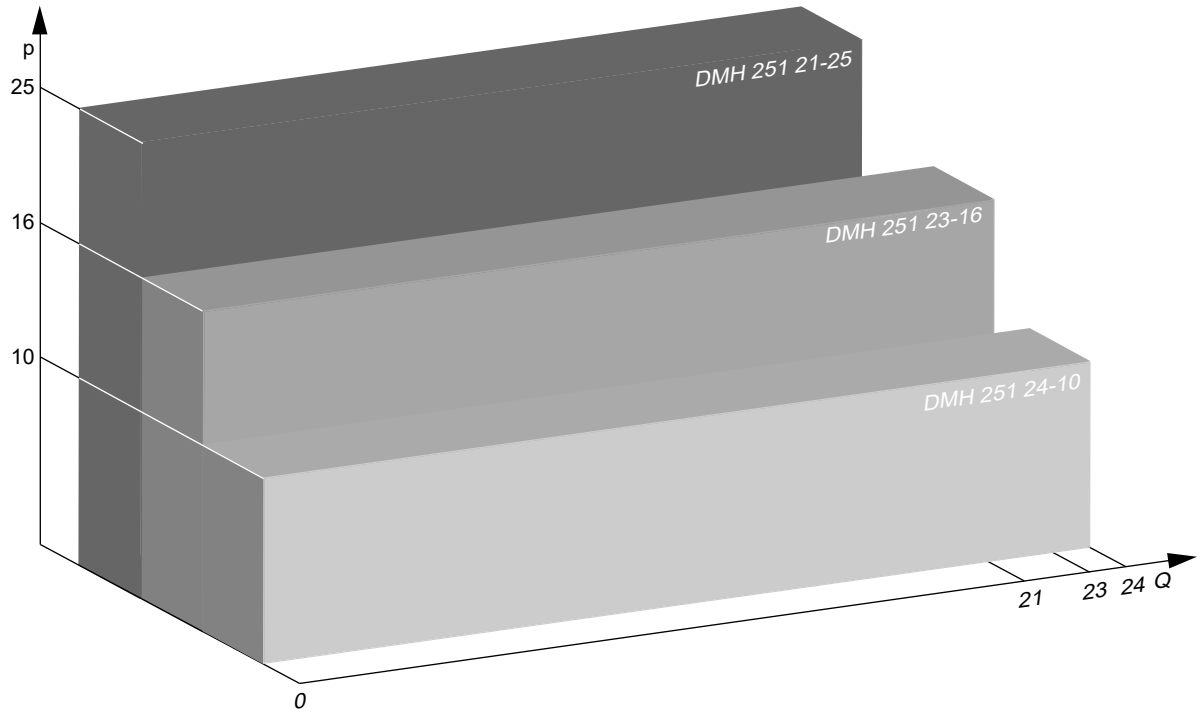
- ATEX Directive, Group II, category 2 (zone 1/21)
- ATEX Directive, Group II, category 3 (zone 2/22)

API 675 certificates

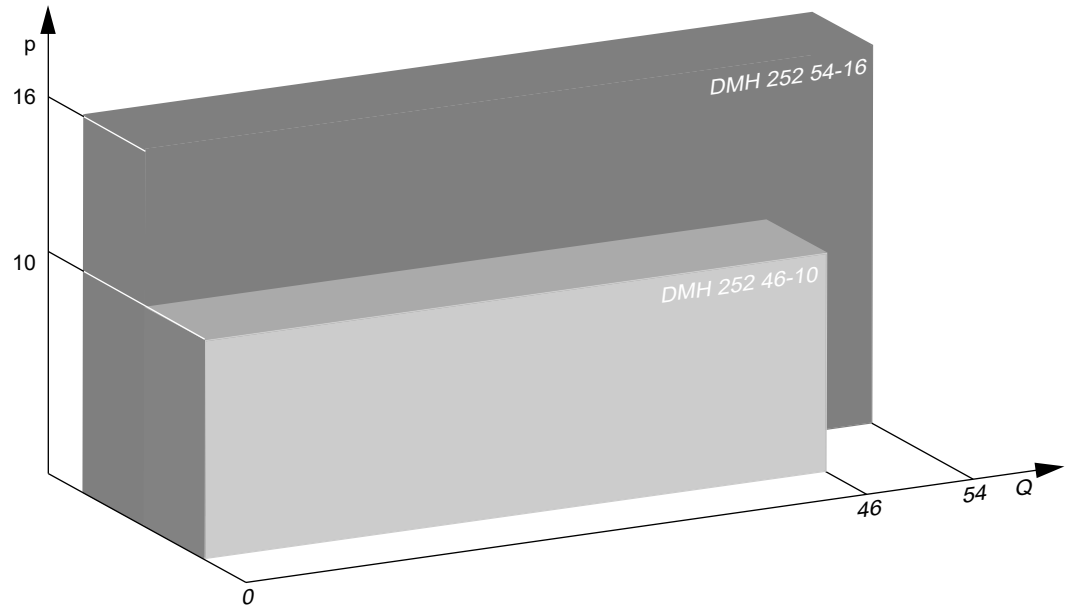
Certain DMH pumps can be certified according to API 675. For more detailed information, please contact Grundfos.

Performance range

Performance range DMH 25X

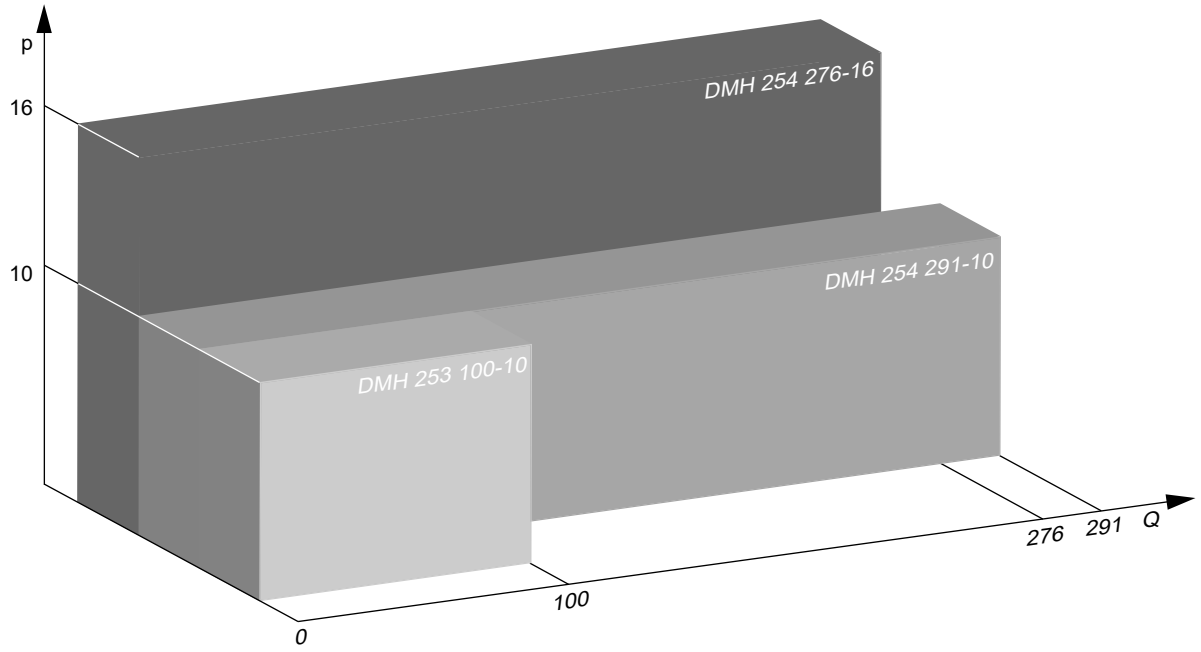


Performance overview DMH model 251



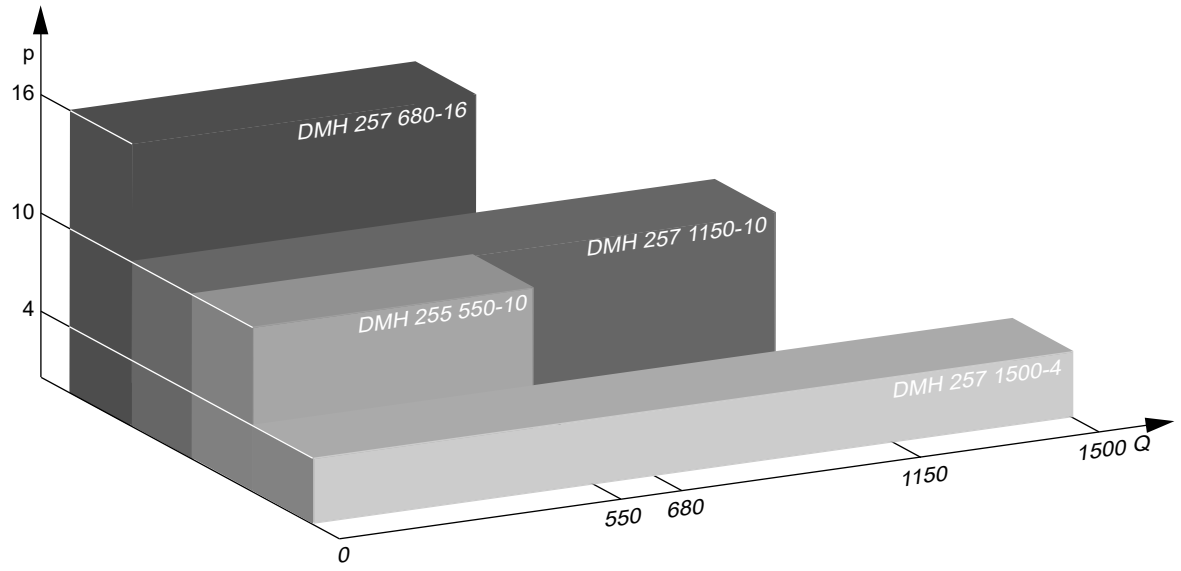
TM074629

Performance overview DMH model 252



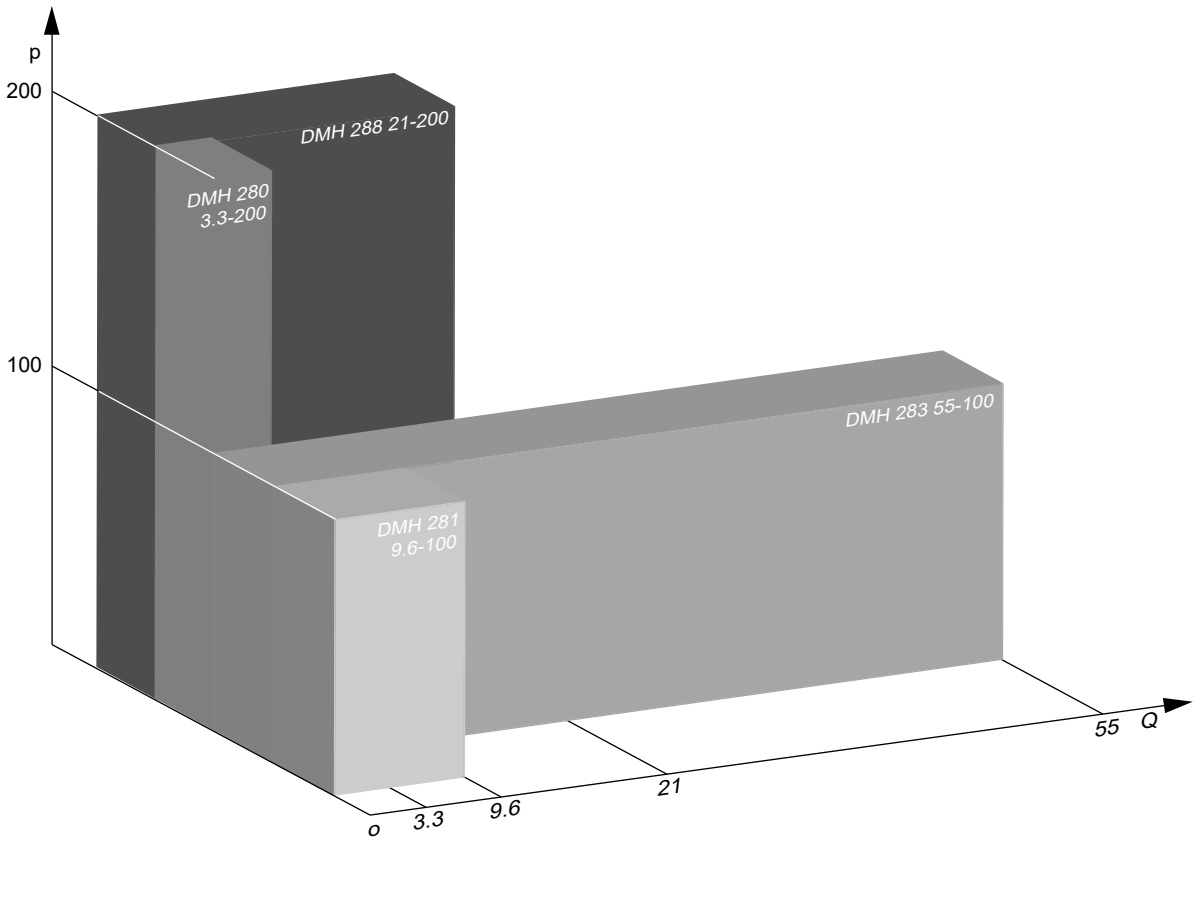
TM074630

Performance overview DMH models 253 and 254

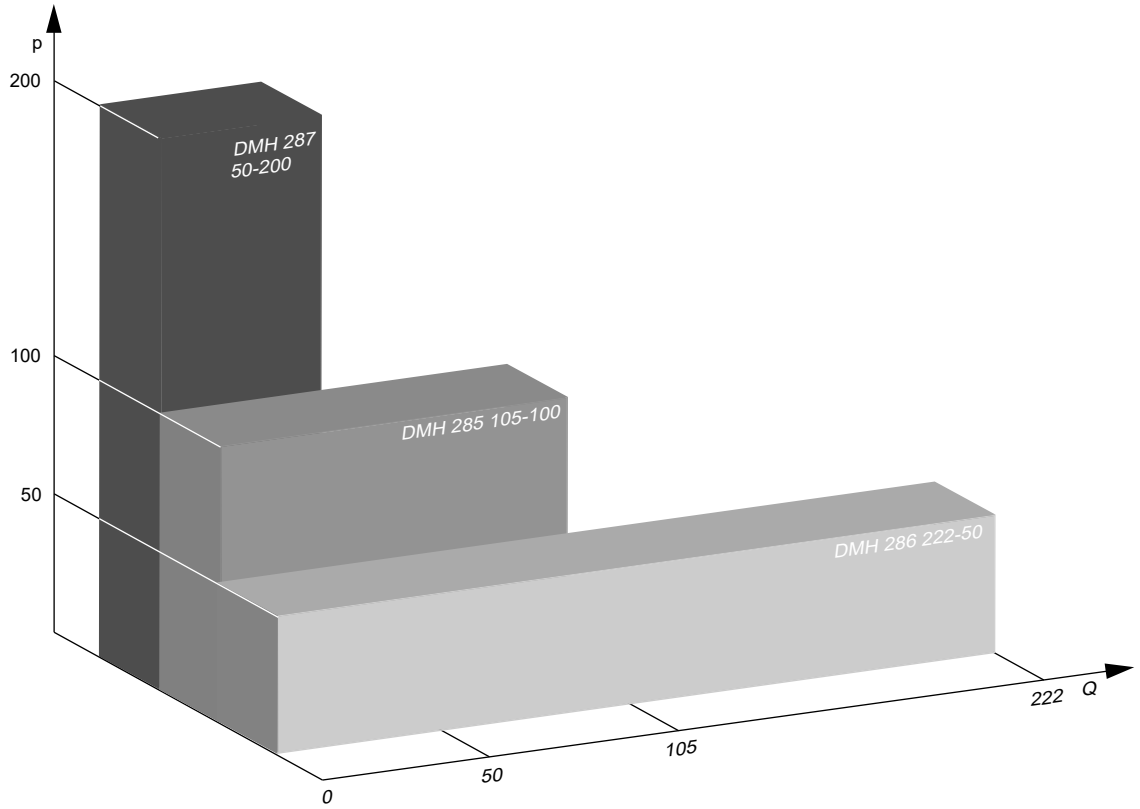


Performance overview DMH models 255 and 257

Performance range DMH 28X



Performance overview DMH models 280, 281, 283 and 288



TM074633

Performance overview DMH models 285, 286 and 287

2. Identification

Type key

The type key is used to identify the precise pump and is not used for configuration purposes.

Type	
DMH 1150-10D B-PVC/V/G-X-E1B8B8XEMAG	

Nominal dosing capacity [l/h]	
DMH **1150**-10D B-PVC/V/G-X-E1B8B8XEMAG	

Max. pressure [bar]	
DMH 1150-**10D** B-PVC/V/G-X-E1B8B8XEMAG	
10D	Pumps marked with a "D" after the pressure value are double-head pumps.

Control variant	
DMH 1150-10D **B**-PVC/V/G-X-E1B8B8XEMAG	
B	Standard (manual control)
AR *	AR control unit, pump-mounted
D3	Servomotor, 1AC 115-230 V, 50/60 Hz, 4-20 mA control (without manual operation)
D6	EX servomotor, 1AC 115-230 V, 50/60 Hz, 4-20 mA control, type EX II 2G Ex db IIB T4

* Only for model 251, 252, 253, 280, 281

Dosing head variant	
DMH 1150-10D B-**PVC**/V/G-X-E1B8B8XEMAG	
PP	Polypropylene
PV	Polyvinylidene fluoride (PVDF)
SS	Stainless steel, 1.4571 (EN 10027-2), 316Ti (AISI)
PVC	Polyvinyl chloride
Y	Alloy C-4, 2.4610 (EN 10027-2)
PPL	PP with Diaphragm Leakage Detection (DLD)
PVL	PV with Diaphragm Leakage Detection (DLD)
SSL	SS with Diaphragm Leakage Detection (DLD)
PVCL	PVC with Diaphragm Leakage Detection (DLD)
YL	Y with Diaphragm Leakage Detection (DLD)

Gasket material	
DMH 1150-10D B-PVC/**V**/G-X-E1B8B8XEMAG	
E	EPDM
V	FKM
T	PTFE

Valve ball material	
DMH 1150-10D B-PVC/V/**G**-X-E1B8B8XEMAG	
G	Glass (from DN 32)
T	PTFE
SS	Stainless steel, 1.4401 (EN 10027-2), 316 (AISI)
C	Ceramic (up to DN 20)
Y	Alloy C-4, 2.4610 (EN 10027-2)

Terminal box position (also AR control position)	
DMH 1150-10D B-PVC/V/G-**X**-E1B8B8XEMAG	
X	Opposite side of dosing head (3 o'clock)
D	Towards dosing head (9 o'clock)
S	Towards adjusting knob (6 o'clock)
R	Opposite side of adjusting knob (12 o'clock)

Supply voltage	
DMH 1150-10D B-PVC/V/G-X-**E**1B8B8XEMAG	
E	3AC 230/400 V, 50/60 Hz, 440-480 V, 60 Hz (motors < 0.75 kW) 3AC 230/400 V, 50 Hz, 460 V, 60 Hz (IE3, motors ≥ 0.75 kW)
G	1AC 230 V, 50/60 Hz (motors ≤ 0.09 kW) 1AC 230 V, 50 Hz (motors 0.18 - 0.37 kW)
H	1AC 115 V, 50/60 Hz (motors ≤ 0.09 kW) 1AC 115 V, 60 Hz (motors 0.18 - 0.37 kW)
F	Without motor, NEMA flange
0	Without motor, IEC flange
4	3AC 230/400 V, 50 Hz (EX motors)
M	3AC 400/690 V, 50 Hz (standard in power plants)

Valve type (inlet/outlet)	
DMH 1150-10D B-PVC/V/G-X-E**1**B8B8XEMAG	
1	Standard valves, not spring-loaded
2	Spring-loaded inlet and outlet valve (0.05 bar)

Hydraulic connections (first = outlet, second = inlet)	
DMH 1150-10D B-PVC/V/G-X-E1**B8B8**XEMAG	
U2	G 5/8, for hoses 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm (PVC, PP, PVDF)
A	G 5/8, for pipes with internal thread Rp 1/4 (SS, Y)
U3	G 5/4, for hoses with internal diameter 19 or 20 mm and for pipes with external diameter 25 mm
U7	G 5/8, for hoses 0.17" x 1/4", 1/4" x 3/8", 3/8" x 1/2" (PVC, PP, PVDF)
A1 *	G 5/4, for pipes with internal thread Rp 3/4 (SS, Y)
A8	Flange DN 32, for pipes with internal thread 1 1/4 NPT (PVC, PP, PVDF)
B8	Flange DN 32, for pipes with external diameter 40 mm (PVC)
B5	Flange DN 32, for pipes with external diameter 40 mm (PP, PVDF)
C1	Flange DN 32, for welding 1 1/4" pipes, EN 1092-1 (SS)
B6	G 3/8, for pipes 4/6 mm (cutting-ring connection) (SS)
V	G 5/8, for pipes with internal thread 1/4 NPT (SS)
A9	G 5/8, for pipes with external thread 1/2 NPT (PVC, PVDF)
A3	G 5/4, for pipes with internal thread 3/4 NPT (SS)
A7	G 5/4, for pipes with external thread 3/4 NPT (PVC, PVDF)
C2	G 5/8, for pipes 8/10 mm (cutting-ring connection) (SS)
P	Prepared for ANSI Flange 1 1/4"

* Not for inlet side of DMH 550-10 and DMH 270-10 with PTC. They have a flange DN 32 on inlet side.

Mains plug (only 1AC motors)	
DMH 1150-10D B-PVC/V/G-X-E1B8B8**X**EMAG	
X	No plug
F	EU (Schuko)
B	USA, Canada

Motor variant and certification	
DMH 1150-10D B-PVC/V/G-X-E1B8B8X**EM**AG	
EM	Standard motor (without certificates)
E0	Motor with PTC for thermal protection (without certificates)
E1	EX motor, type EX II 2G EEx e II T3 (without certificates)
E2	EX motor, type EX II 2GD EEx de IIC T4, without PTC (without certificates)
E5	EX motor, type EX II 2GD EEx de IIC T4, with PTC (without certificates)
MP	Standard motor (with certificates)
K0	Motor with PTC for thermal protection (with certificates)
K1	EX motor, type EX II 2G EEx e II T3 (with certificates)
K2	EX motor, type EX II 2GD EEx de IIC T4, without PTC (with certificates)
K5	EX motor, type EX II 2GD EEx de IIC T4, with PTC (with certificates)

Pump housing material	
DMH 1150-10D B-PVC/V/G-X-E1B8B8XEM**A**G	
A	Aluminium

Pump design	
DMH 1150-10D B-PVC/V/G-X-E1B8B8XEMA**G**	
G	Grundfos

3. Functions and options

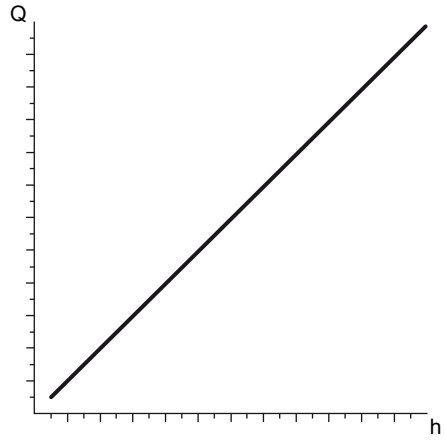
Dosing flow control

Depending on the application, DMH pumps can have different functions and options for setting and controlling the dosing flow:

- Standard DMH pumps have a stroke-length adjusting knob for manual dosing flow control.
- All DMH pumps can be fitted with a servomotor for remote stroke-length control.
- On request, DMH pumps can be fitted with a variable frequency drive (VFD) for motor-speed control.
- DMH AR variants with special single-phase motor can be equipped with AR control unit for automatic stroke-frequency control, pulse control, analog signals, alarm relay (available for DMH models 251, 252, 253, 280, 281).

Dosing flow control by stroke-length adjustment

The dosing flow can be controlled either by turning the stroke-length adjusting knob manually or by means of an optional servomotor. The volume of each stroke is increased or decreased, the stroke rate remains constant.

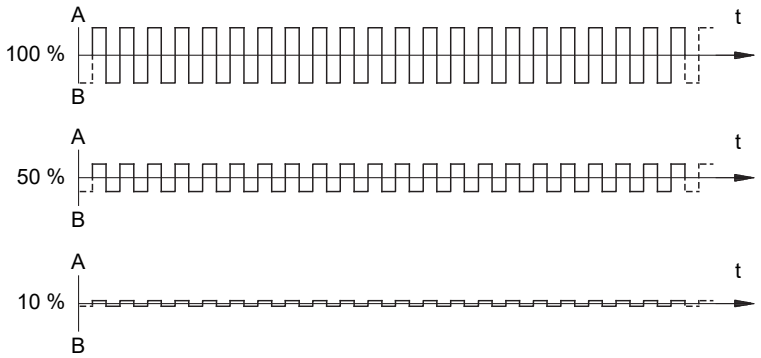


TM074243

Relation of stroke length and dosing flow

Q: Dosing flow [l/h]
h: Stroke length [%]

Dosing flow setting



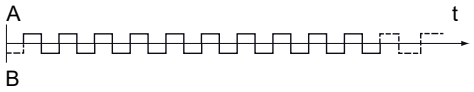
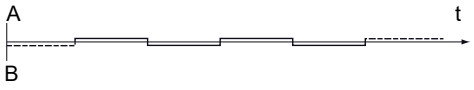
TM073949

Relation of stroke-length adjustment and dosing flow

A: Discharge
B: Suction
t: Duration

Dosing flow control via variable frequency drive

The dosing flow can be controlled via an integrated or external variable frequency drive. The volume of each stroke remains constant, the stroke rate is increased or decreased. Pumps with special motors for operation with external variable frequency drive are also available.

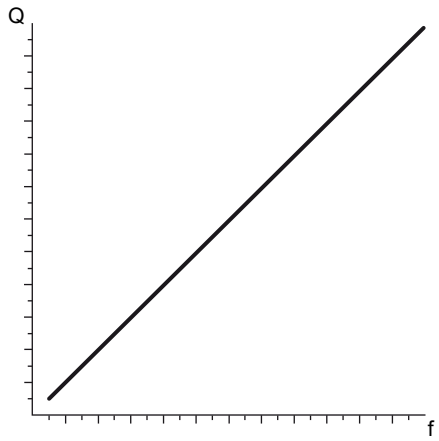
Motor frequency setting		
Motor frequency 100 Hz		TM074134
Motor frequency 50 Hz		TM074239
Motor frequency 10 Hz		TM074135

A: Discharge

B: Suction

t: Duration

Motor frequency setting



TM048406

Relation of motor frequency and dosing flow

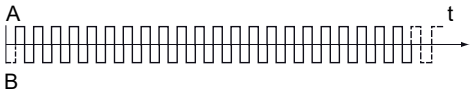
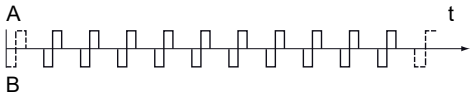
Q: Dosing flow [l/h]

f: Motor frequency [Hz]

Dosing flow control by AR control unit

The dosing flow can be controlled by adjusting the interval between strokes. This is done via analog or pulse signals or by manually adjusting the stroke frequency.

Stroke frequency setting

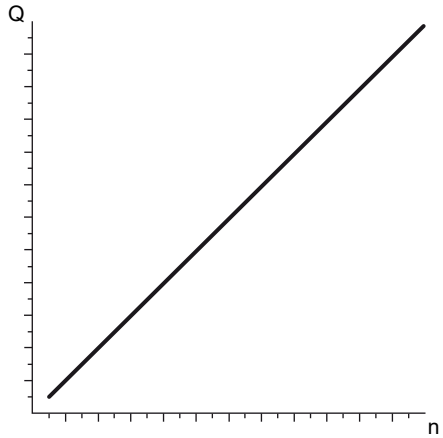
Stroke-pause ratio 1:1		TM074136
Stroke-pause ratio 1:2		TM074137
Stroke-pause ratio 1:10		TM074138

A: Discharge

B: Suction

t: Duration

Stroke frequency setting



TM074242

Relation of stroke frequency and dosing flow

Q: Dosing flow [l/h]

n: Stroke frequency [min^{-1}]

Electric servomotor

To facilitate automatic control of the flow rate, mechanical dosing pumps can be equipped with an electric servomotor in IP65 housing. The electric servomotor primarily consists of a digitally controlled stepper motor, reduction gear and min/max limit switches. The electric servomotor is connected to the control slide of the dosing pump. This adjusts the active stroke length and the corresponding dosing flow. The electric servomotor is available as ATEX version, EX II2G Ex db IIB T4 for potentially explosive zones.

Variants

- Electric servomotors with different operating voltages
- Electric servomotors with 4-20 mA control and output signal and manual/automatic switch

TM074765

Electric servomotor

AR control unit

The AR control unit contains convenient electronics in an IP65 housing, and is suitable for the following pump models:

- DMH 251, 252, 253 with special single-phase motor
- DMH 280, DMH 281 with special single-phase motor

Control modes

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

Inputs

- Pulse signal
- Analog signal
- Remote on/off
- Tank-empty sensor
- Dosing controller and diaphragm leakage sensor

Outputs

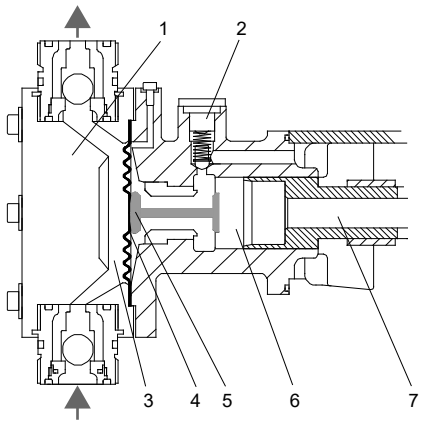
- Analog signal
- Error signal (fault)
- Stroke signal
- Low-level signal

TM048603

AR control unit on a pump motor

AMS diaphragm protection system

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



TM048604

AMS diaphragm protection system

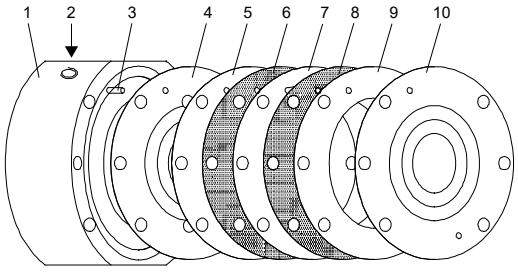
Position	Description
1	Dosing head
2	Pressure relief valve
3	Dosing chamber
4	Dosing diaphragm
5	AMS diaphragm protection system
6	Hydraulic chamber
7	Piston

Diaphragm leakage detection

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

- Dosing head with double-diaphragm system
- Contact pressure gauge with non-return valve.

Double-diaphragm system



TM048635

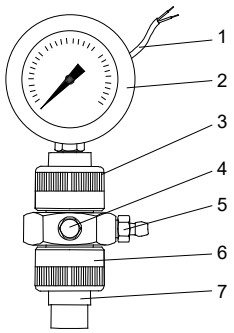
Double-diaphragm system

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

Contact pressure gauge with non-return valve

TM059714

Contact pressure gauge on a DMH dosing head



TM048612

Contact pressure gauge

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

Functional principle

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

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

Variable frequency drive (VFD)

Mechanical dosing pumps with integrated variable frequency drive provide extended capacity range and functionality. They include analog and digital inputs and outputs and an integrated potentiometer for precise and easy setting of speed and flow as well as control and self-monitoring functions. Mechanical dosing pumps can be prepared for variable-frequency-drive operation and include a variable frequency drive (VFD).

For more detailed information, please contact Grundfos.

4. Construction

Functional principle

DMH pumps are positive displacement pumps with hydraulic diaphragm control.

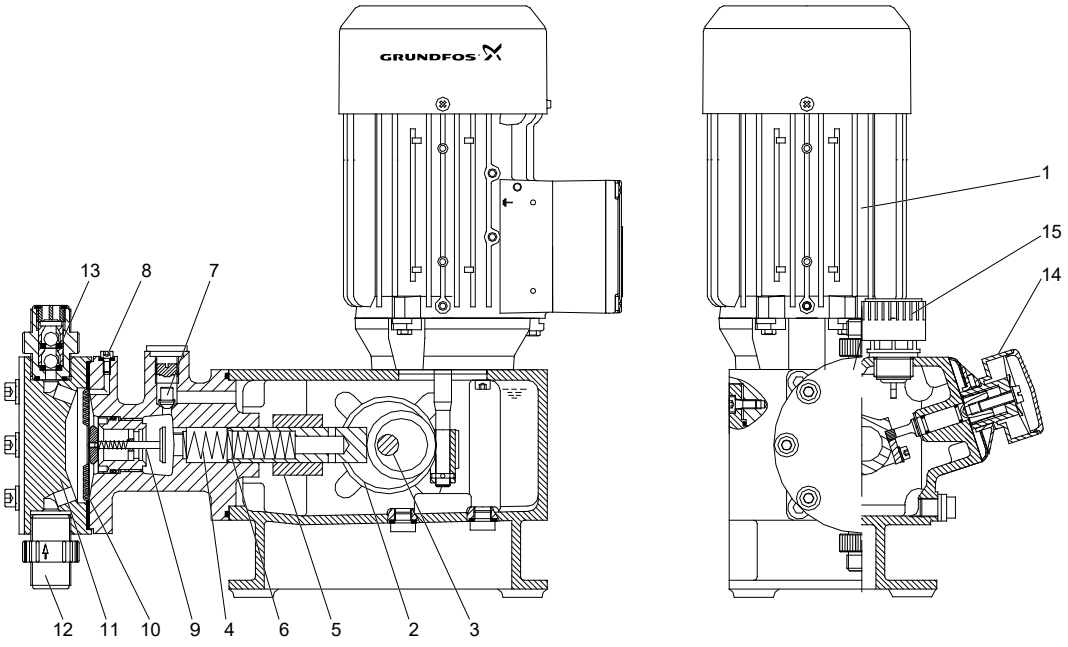
- The rotational movement of the motor (1) is converted via the worm gear (2) and eccentric (3) into the reciprocating movement of the piston (6).
- The piston has a hollow bore and a row of radial control holes, which provide a hydraulic connection between the drive area and the piston stroke area. The sliding sleeve (5) covers the control holes during the stroke and seals the stroke area from the drive area. The hydraulic-driven movement of the dosing diaphragm (10) displaces an equivalent volume of dosing medium from the dosing head (11) into the dosing line. With the suction stroke, the piston creates a low pressure, which is established in the dosing head. The ball valve (13) on the outlet side closes and the dosing medium flows through the inlet valve (12) into the dosing head.
- The stroke volume is determined by the position of the sliding sleeve. The active stroke length and corresponding average dosing flow can be changed continuously and linearly from 10 to 100 % using the stroke-length adjusting knob and Vernier scale (14).
- The combined pressure-relief and degassing valve opens if the counterpressure in the dosing system is impermissibly high. This protects the pump from overloading and ensures a constant, high dosing accuracy.
- The unique diaphragm protection system AMS (9) has a tactile surface which touches the dosing diaphragm (10). If the inlet or outlet line is blocked due to a fault in the system, the tactile surface closes the hydraulic chamber. The integrated pressure relief valve closes, and the diaphragm oscillates freely in the dosing head.

The DMH range contains:

- Low-pressure DMH models 25X up to 25 bar
- High-pressure DMH models 28X up to 200 bar
- Drive assemblies in three housing sizes
- Single-head and double-head pumps

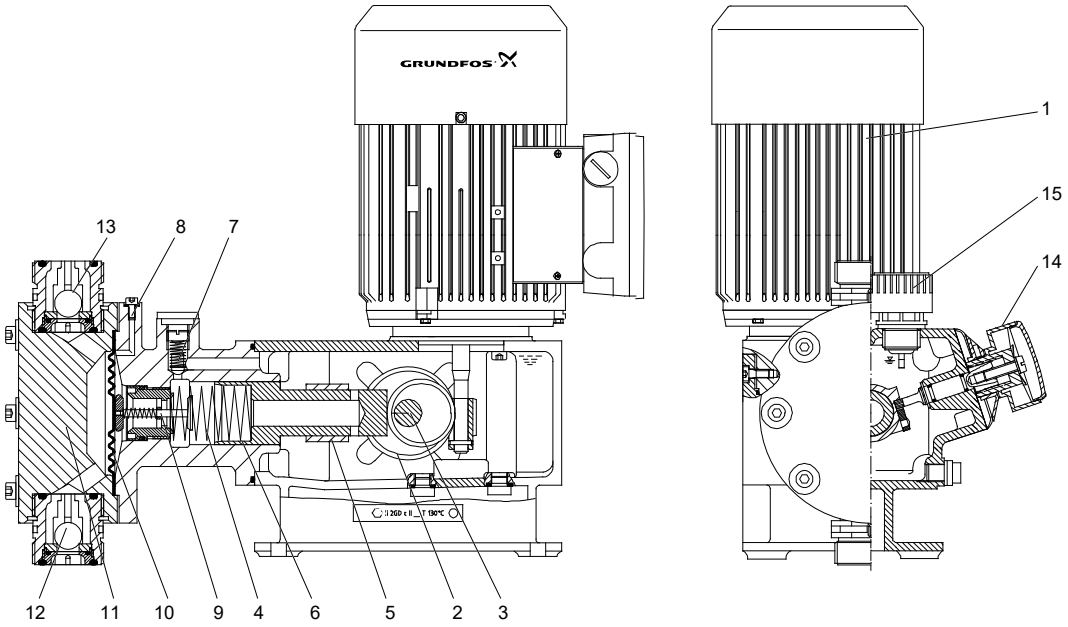
Sectional drawings

DMH models 251, 252



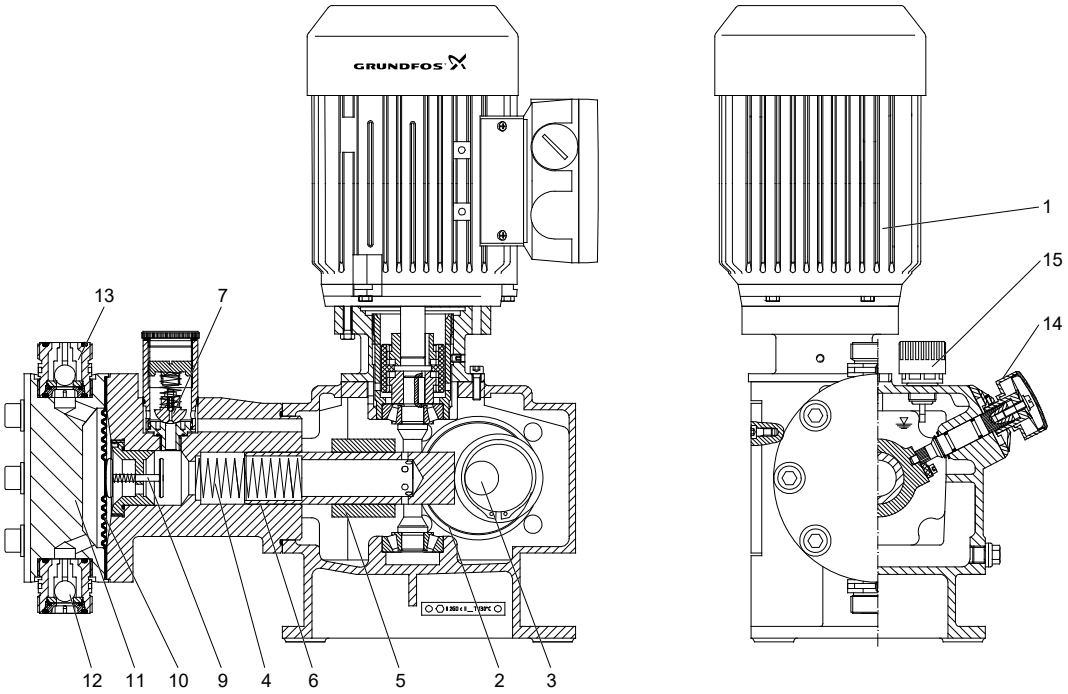
Sectional drawing, DMH models 251, 252

DMH model 253



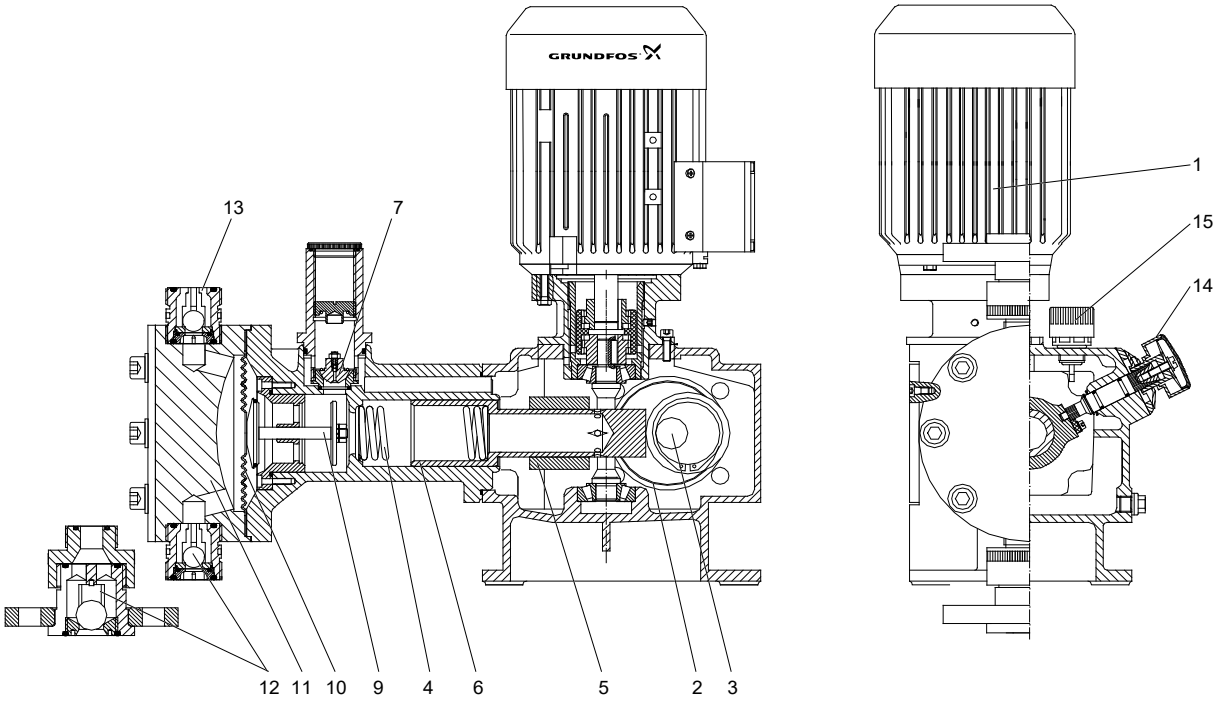
Sectional drawing, DMH model 253

DMH model 254



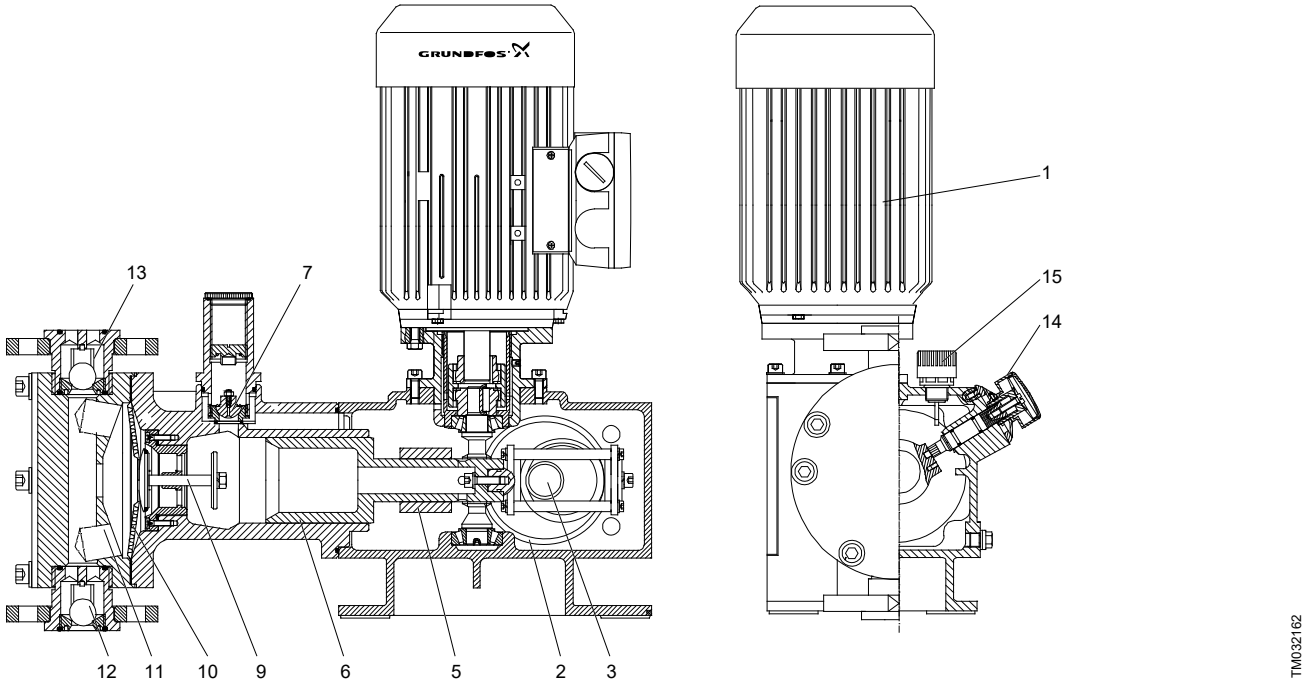
Sectional drawing, DMH model 254

DMH model 255



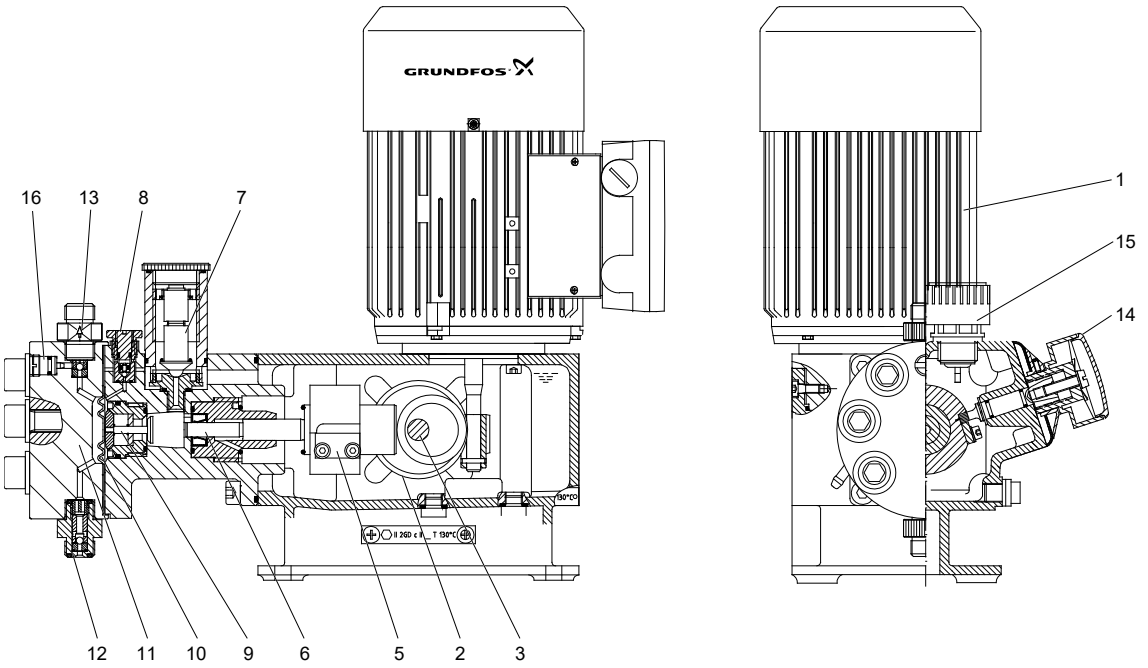
Sectional drawing, DMH model 255

DMH model 257



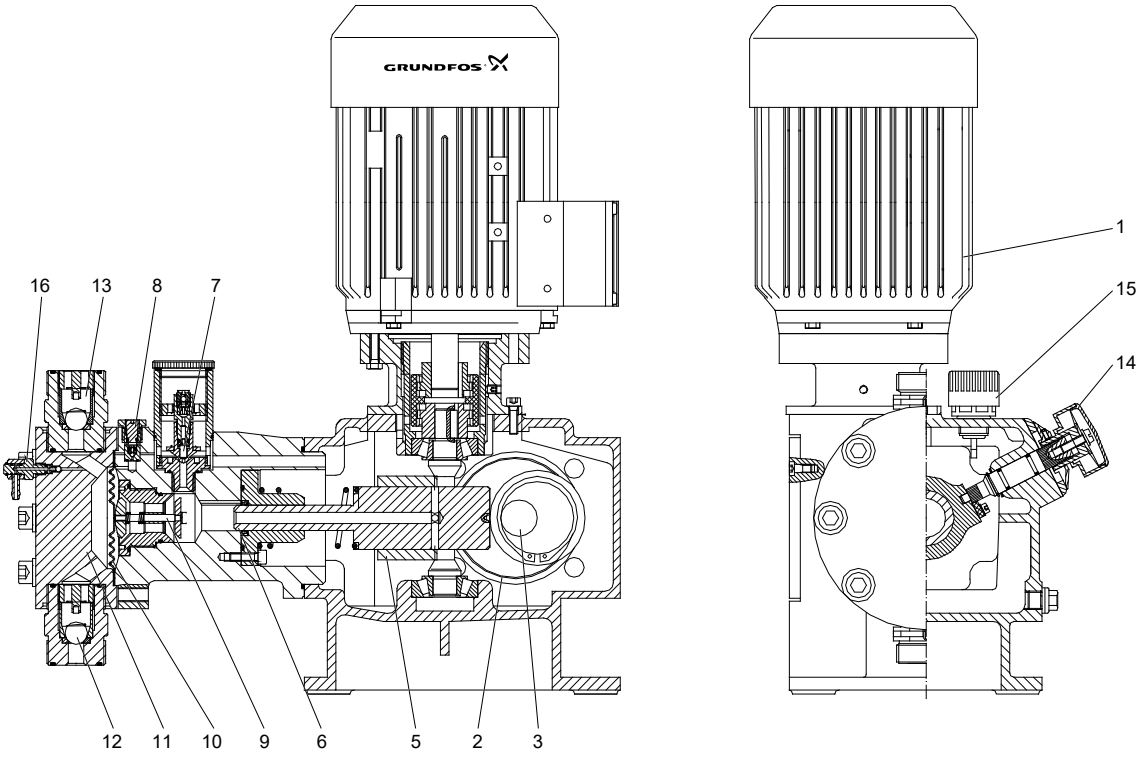
Sectional drawing, DMH model 257

DMH model 280, 281



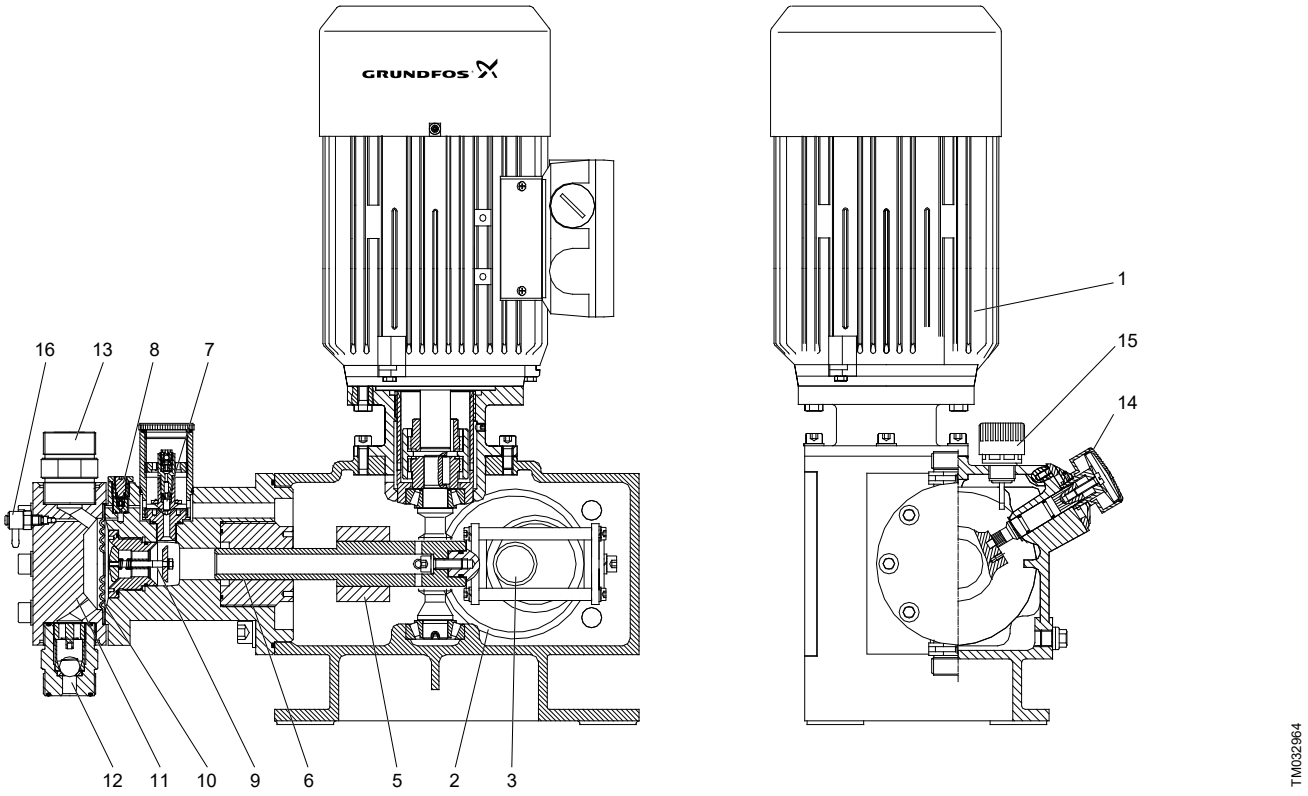
Sectional drawing, DMH model 280, 281

DMH model 283, 288



Sectional drawing, DMH model 283, 288

DMH model 285, 286, 287



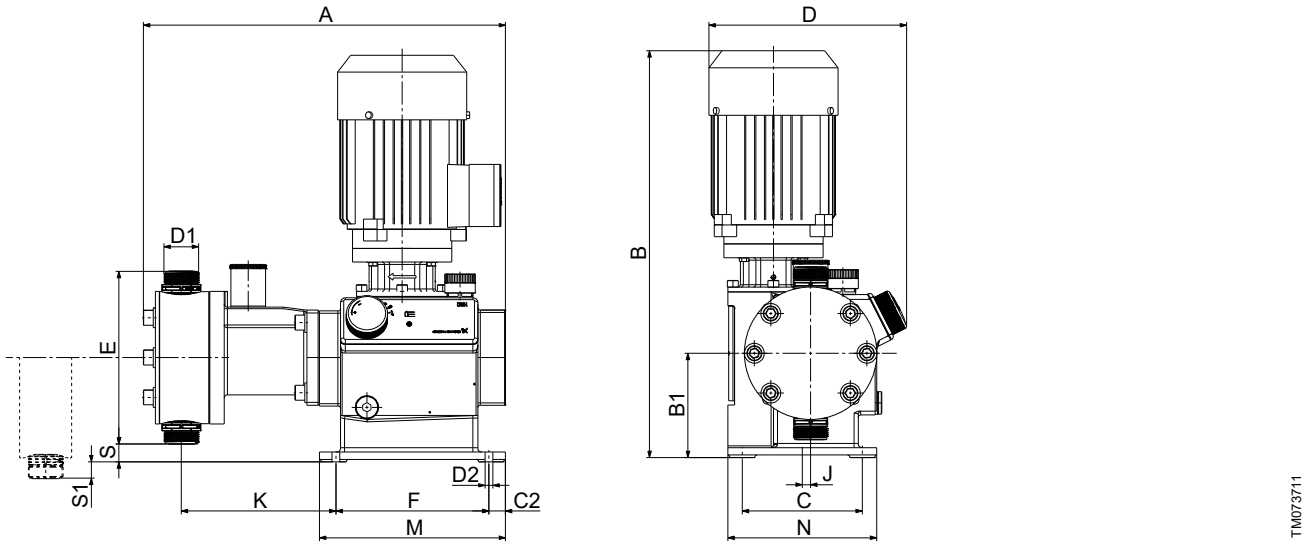
Sectional drawing, DMH model 285, 286, 287

Pos.	Component
1	Motor
2	Worm gear
3	Eccentric
4	Return spring (not for all models)
5	Sliding sleeve
6	Piston
7	Combined pressure-relief and degassing valve
8	Degassing valve
9	Diaphragm protection system (AMS)
10	Dosing diaphragm
11	Dosing head
12	Inlet valve
13	Outlet valve
14	Stroke-length adjusting knob
15	Oil-filling screw with dipstick
16	Dosing head venting valve (priming)

5. Technical data

Dimensions DMH 25X

Dimensions of DMH 251, 252, 253 and 254 single-head pumps

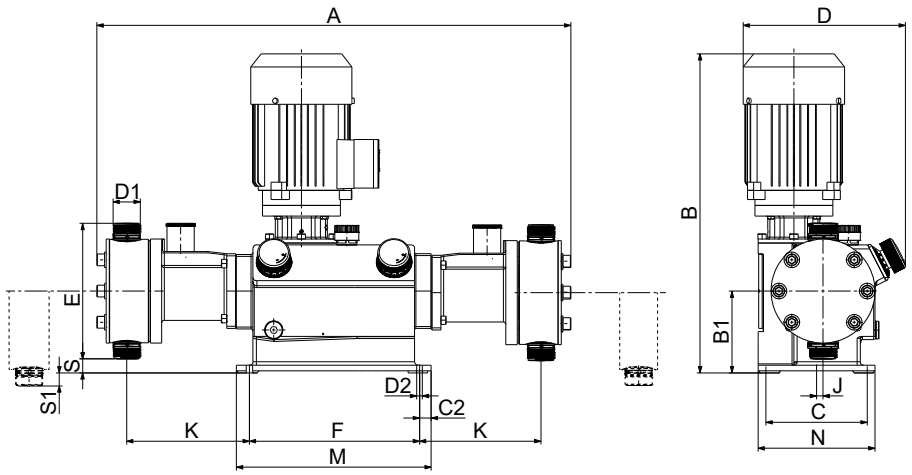


All dimensions are in mm, except for the thread designations.

Pump model	A	B	B1	C	C2	D	D1	D2
DMH 251	345	336	85.5	97.5	14	192	G 5/8	9
DMH 252	345	336	85.5	97.5	14	192	G 5/8	9
DMH 253	368	335	84	97.5	14	192	G 1 1/4	9
DMH 254	436	492	126	156	20	252	G 1 1/4	9

Pump model	E	F	J	K	M	N	S	S1
DMH 251	160	152	16	116	180	117.5	5.9	-
DMH 252	160	152	16	116	180	117.5	5.9	-
DMH 253	179	152	16	124	180	117.5	-	5.4
DMH 254	207	185	10	187	225	180	22	-

Dimensions of DMH 251, 252, 253 and 254 double-head pumps



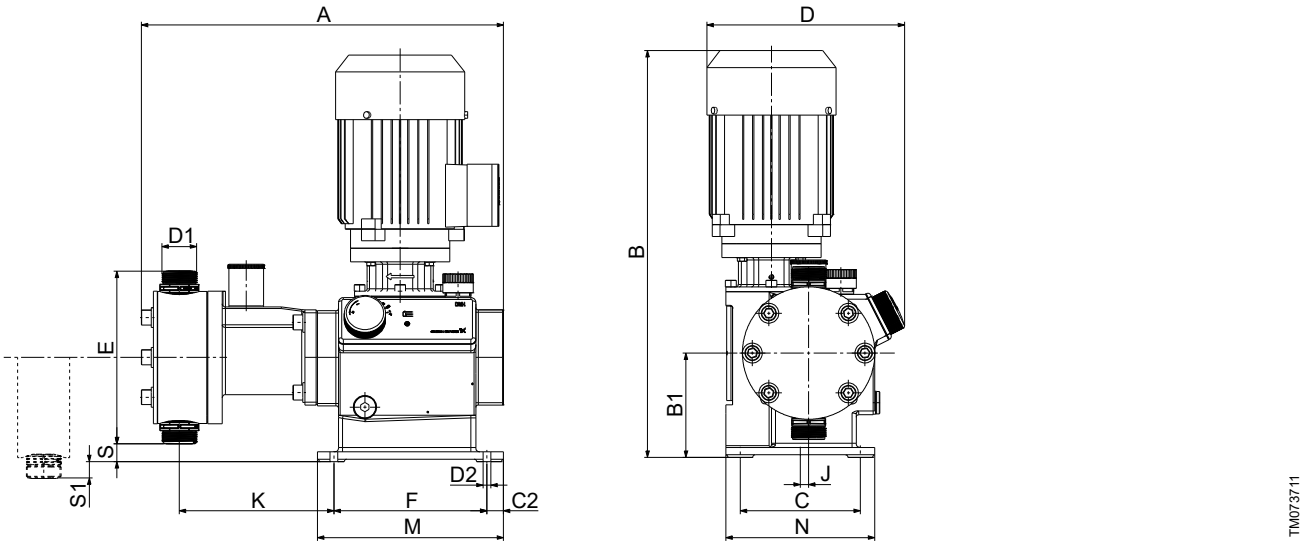
TM073718

All dimensions are in mm, except for the thread designations.

Pump model	A	B	B1	C	C2	D	D1	D2
DMH 251	432	336	85.5	97.5	14	192	G 5/8	9
DMH 252	432	336	85.5	97.5	14	192	G 5/8	9
DMH 253	472	335	84	97.5	14	192	G 1 1/4	9
DMH 254	718	492	126	156	20	252	G 1 1/4	9

Pump model	E	F	J	K	M	N	S	S1
DMH 251	160	152	16	116	180	117.5	5.9	-
DMH 252	160	152	16	116	180	117.5	5.9	-
DMH 253	179	152	16	124	180	117.5	-	5.4
DMH 254	207	260	10	187	300	180	22	-

Dimensions of DMH 255 single-head pumps with G 1 1/4 inlet connection

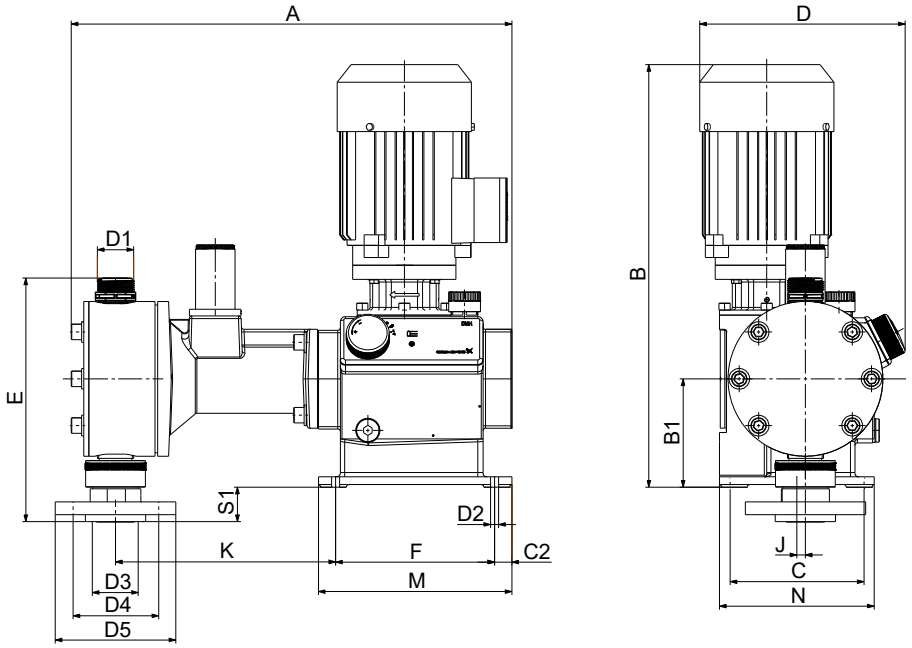


All dimensions are in mm, except for the thread designations.

Pump model	A	B	B1	C	C2	D	D1	D2
DMH 255	510	492	126	156	20	254	G 1 1/4	9

Pump model	E	F	J	K	M	N	S	S1
DMH 255	234	185	10	253	225	180	10.5	-

Dimensions of DMH 255 single-head pumps with flange on inlet side

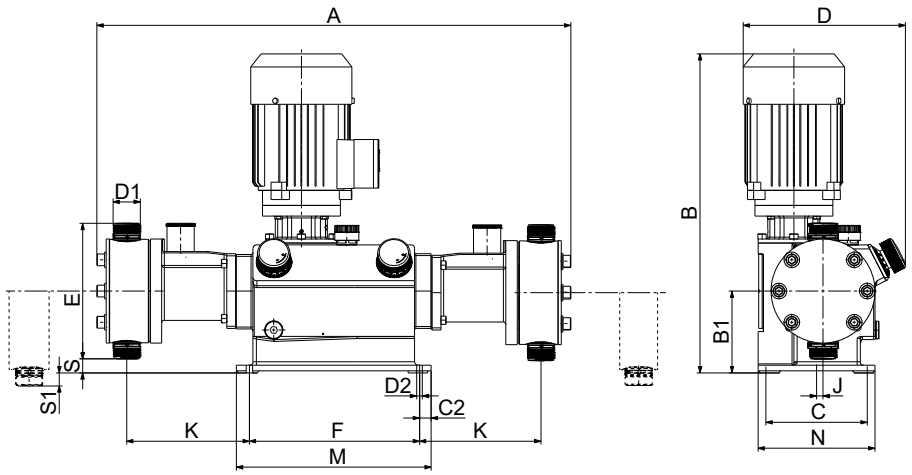


All dimensions are in mm, except for the thread designations.

Pump model	Inlet flange D3	A	B	B1	C	C2	D	D1	D2
DMH 255	DN 32	510	492	126	156	20	254	G 1 1/4	9
DMH 255	ANSI 1 1/4	510	492	126	156	20	254	G 1 1/4	9

Pump model	Inlet flange D3	D4	D5	E	F	J	K	M	N	S1
DMH 255	DN 32	100	140	283	185	10	253	225	180	41
DMH 255	ANSI 1 1/4	88.9	117	283	185	10	253	225	180	41

Dimensions of DMH 255 double-head pumps with G 1 1/4 inlet connection



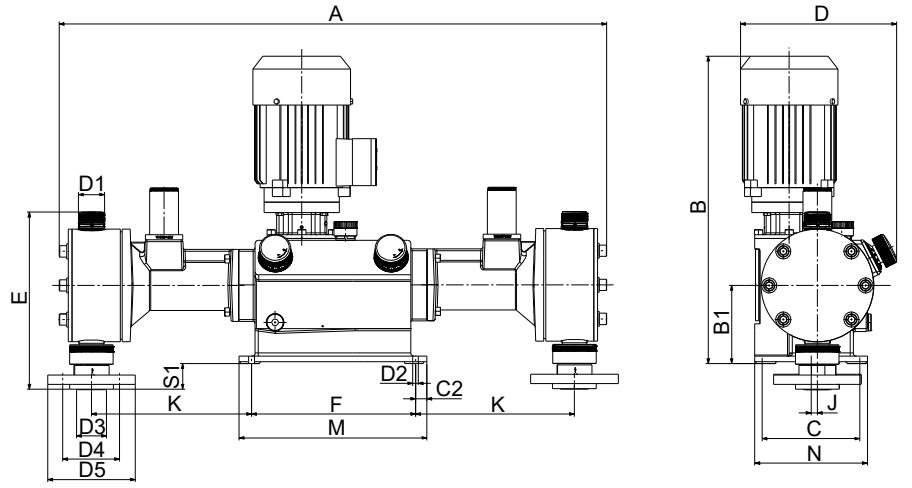
TM073718

All dimensions are in mm, except for the thread designations.

Pump model	A	B	B1	C	C2	D	D1	D2
DMH 255	869	492	126	156	20	254	G 1 1/4	9

Pump model	E	F	J	K	M	N	S	S1
DMH 255	234	185	10	253	225	180	10.5	-

Dimensions of DMH 255 double-head pumps with flange on inlet side



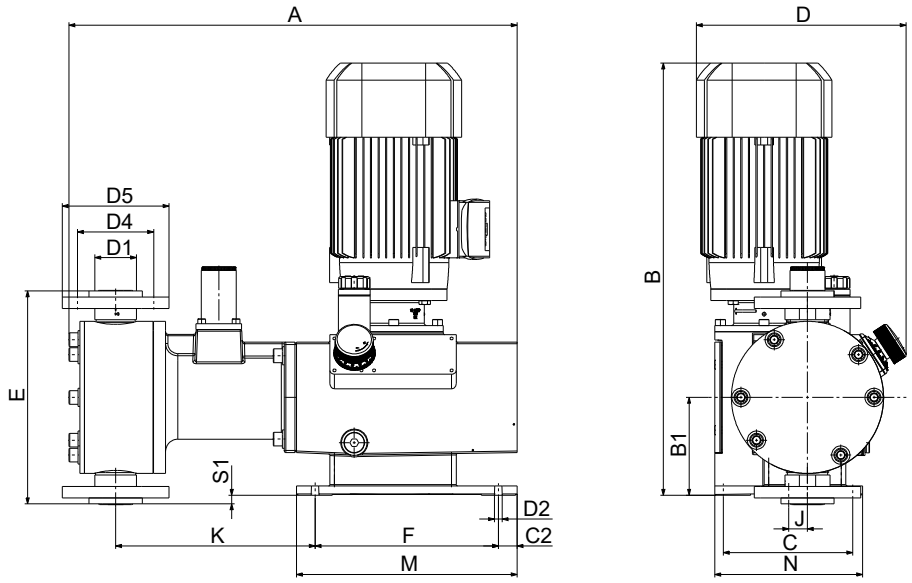
TM073719

All dimensions are in mm, except for the thread designations.

Pump model	Inlet flange D3	A	B	B1	C	C2	D	D1	D2
DMH 255	DN 32	869	492	126	156	20	254	G 1 1/4	9
DMH 255	ANSI 1 1/4	869	492	126	156	20	254	G 1 1/4	9

Pump model	Inlet flange D3	D4	D5	E	F	J	K	M	N	S1
DMH 255	DN 32	100	140	283	260	10	253	300	180	41
DMH 255	ANSI 1 1/4	88.9	117	283	260	10	253	300	180	41

Dimensions of DMH 257 single-head pumps

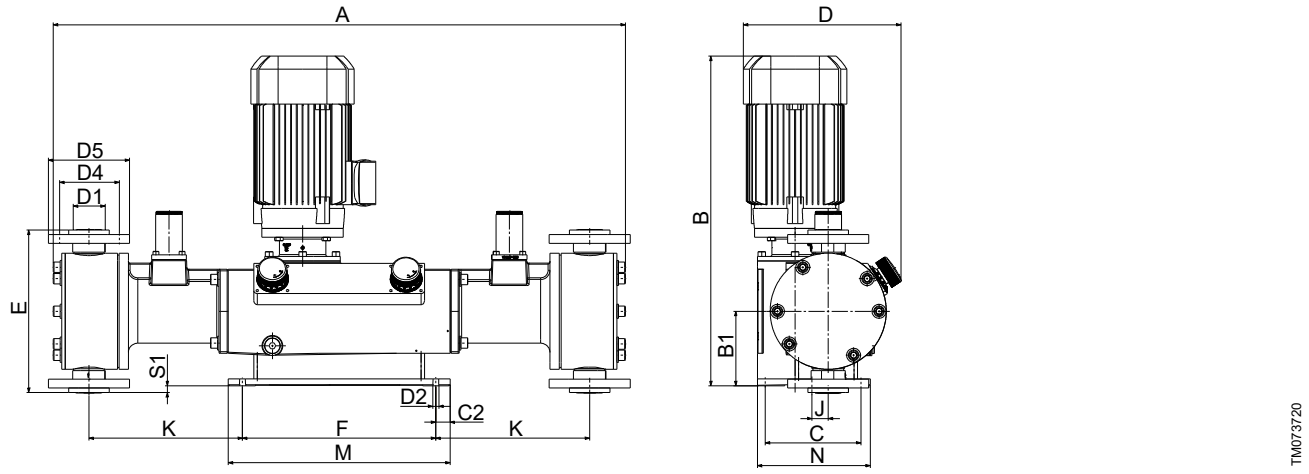


All dimensions are in mm, except for the thread designations.

Pump model	Pump connection size D1	A	B	B1	C	C2	D	D2	D4
DMH 257	DN 32	589	572	128.5	170	24.5	278	9	100
DMH 257	ANSI 1 1/4	589	572	128.5	170	24.5	278	9	89

Pump model	Pump connection size D1	D5	E	F	J	K	M	N	S1
DMH 257	DN 32	140	280	241	25	262	290	194.5	12
DMH 257	ANSI 1 1/4	140	280	241	25	262	290	194.5	-

Dimensions of DMH 257 double-head pumps



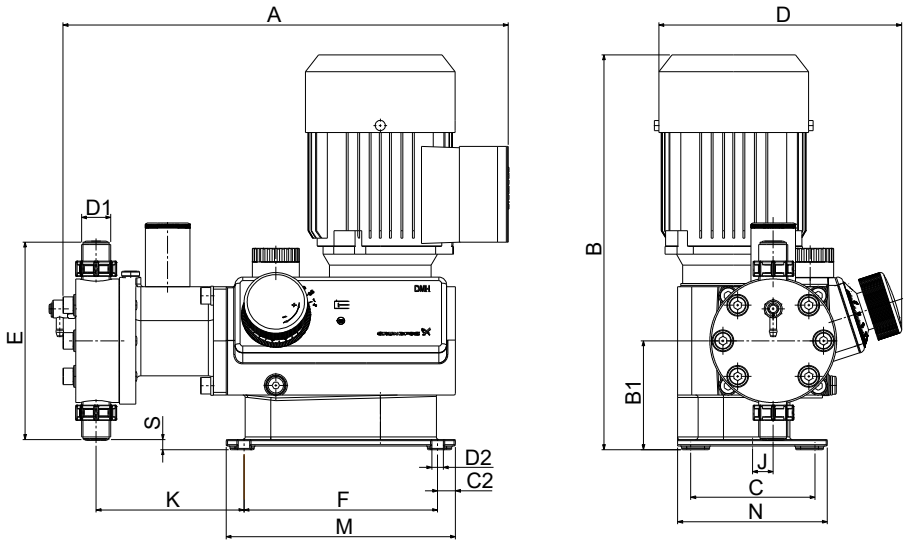
All dimensions are in mm, except for the thread designations.

Pump model	Pump connection size D1	A	B	B1	C	C2	D	D2	D4
DMH 257	DN 32	980	572	128.5	170	24.5	278	9	100
DMH 257	ANSI 1 1/4	980	572	128.5	170	24.5	278	9	89

Pump model	Pump connection size D1	D5	E	F	J	K	M	N	S1
DMH 257	DN 32	140	280	333	25	262	382	194.5	12
DMH 257	ANSI 1 1/4	140	280	333	25	262	382	194.5	-

Dimensions DMH 28X

Dimensions of DMH 28X single-head pumps

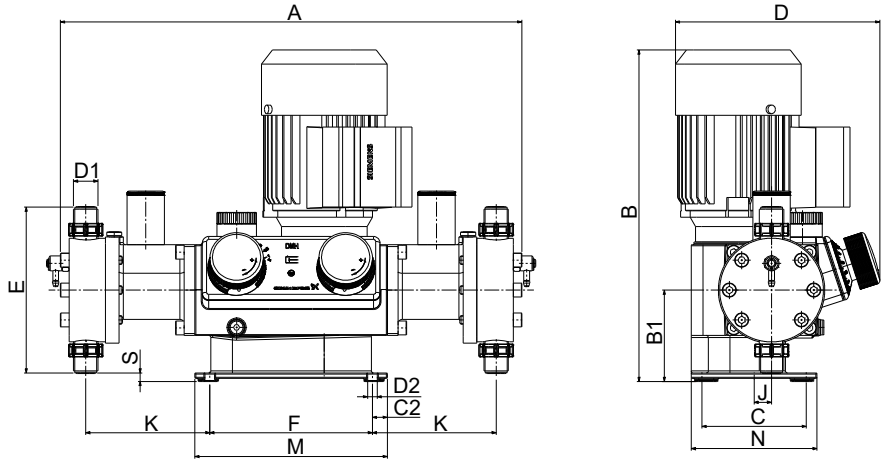


All dimensions are in mm, except for the thread designations.

Pump model	A	B	B1	C	C2	D	D1	D2
DMH 280	365	336	85.5	97.5	14	192	G 3/8	9
DMH 281	348	336	85.5	97.5	14	192	G 5/8	9
DMH 283	437	493	126	156	20	254	G 1 1/4	9
DMH 285	510	553	129	145.5	24.5	274	G 1 1/4	9
DMH 286	510	553	129	145.5	24.5	274	G 1 1/4	9
DMH 287	490	553	129	170	24.5	274	G 5/8	9
DMH 288	425	492	126	156	20	155.5	G 5/8	9

Pump model	E	F	J	K	M	N	S
DMH 280	142	152	16	114	180	117.5	14.5
DMH 281	155	152	16	114	180	117.5	8
DMH 283	211	185	10	182	225	180	20.5
DMH 285	179	240	25	187	290	194.5	39
DMH 286	234	240	25	191	290	194.5	11.5
DMH 287	208	240	25	176	290	194.5	24.5
DMH 288	208	185	10	173	225	180	22

Dimensions of DMH 28X double-head pumps



All dimensions are in mm, except for the thread designations.

Pump model	A	B	B1	C	C2	D	D1	D2
DMH 280	465	336	85.5	97.5	14	192	G 3/8	9
DMH 281	432	336	85.5	97.5	14	192	G 5/8	9
DMH 283	706	493	126	156	20	254	G 1 1/4	9
DMH 285	820	553	129	145.5	24.5	274	G 1 1/4	9
DMH 286	820	553	129	145.5	24.5	274	G 1 1/4	9
DMH 287	814	553	129	170	24.5	274	G 5/8	9
DMH 288	700	492	126	156	20	155.5	G 5/8	9

Pump model	E	F	J	K	M	N	S
DMH 280	142	152	16	114	180	117.5	14.5
DMH 281	155	152	16	114	180	117.5	8
DMH 283	211	260	10	182	300	180	20.5
DMH 285	179	333	25	187	382	194.5	39
DMH 286	234	333	25	191	382	194.5	11.5
DMH 287	208	333	25	176	382	194.5	24.5
DMH 288	208	260	10	173	300	180	22

Weights DMH 25X

Pump model	Dosing head material	Weight [kg]	
		Single-head pump	Double-head pump
DMH 251	PVC, PP, PVDF	11	13
	Stainless steel 1.4571 Alloy C-4, 2.4610	13	17
DMH 252	PVC, PP, PVDF	11	13
	Stainless steel 1.4571 Alloy C-4, 2.4610	13	17
DMH 253	PVC, PP, PVDF	12	17
	Stainless steel 1.4571 Alloy C-4, 2.4610	14	21
DMH 254	PVC, PP, PVDF	27	32
	Stainless steel 1.4571 Alloy C-4, 2.4610	32	42

Pump model	Dosing head material	Weight [kg]	
		Single-head pump	Double-head pump
DMH 255	PVC, PP, PVDF	55	63
	Stainless steel 1.4571 Alloy C-4, 2.4610	65	83
DMH 257	PVC, PP, PVDF	56	88
	Stainless steel 1.4571 Alloy C-4, 2.4610	68	112

Weights DMH 28X

Pump model	Weight [kg]	
	Single-head pump	Double-head pump
DMH 280	13.7	20.4
DMH 281	13	19
DMH 283	36	54
DMH 285	43	64
DMH 286	45	71
DMH 287	45	71
DMH 288	36	54

Motor power

Pump model	Nominal dosing flow [l/h]	Max. counterpressure [bar]	Motor power [kW]	
			50 Hz	100 Hz (VFD)
251	All	10	0.09	0.09
251	All	16, 25	0.09	0.18
252	All	10	0.09	0.18
252	All	16	0.18	0.18
253	All	All	0.18	0.18
254	All	10	0.55	0.55
254	All	16	0.55	0.75
255	332, 403, 550	All	0.55	-
255	270	All	0.55	0.75
257	All	All	1.1 *	1.5 **
280	All	All	0.18	0.18
281	All	All	0.18	0.18
283	All	All	0.55	0.55
285	All	All	1.1	1.5
286	All	All	1.1	1.5
287	All	All	1.1	1.5
288	All	All	0.55	0.55

* Double-head pump: 1.5 kW

** Double-head pump: 2.2 kW

Flange sizes for DMH pumps without motor

DMH Model	IEC	NEMA	Pump housing size
251	BG 63 B5 BG 71 B5	56C	1 (small)
252			
253			
280			

DMH Model	IEC	NEMA	Pump housing size
281	BG 80 B14	56C	2 (medium)
254			
255			
283			
288			
257	BG 90 B14 BG 100 B14	145 TC	3 (large)
285			
286			
287			

Protection rating

The motor protection rating defines the pump protection rating.

Motor power	Motor protection rating
up to 0.18 kW (1 AC and 3 AC)	IP65
0.55 - 2.2 kW (3 AC)	IP55 or IP65 (depending on the motor version)

Sound pressure

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

* Tested according to DIN 45635-01-KL3.

Accuracy

DMH Model	Dosing flow fluctuation	Linearity deviation
251 to 257	± 1.5 %	± 2 %
280 to 288	± 1 %	± 1 %

The values in the table are in % of the full-scale value (max. dosing flow), based on the following conditions:

- Dosing flow within 10 to 100 % of the max. value
- Dosing medium: water
- Fully vented dosing head
- Standard version of the pump

Temperature of dosing medium

Dosing head material	Minimum temperature [°C]	Maximum temperature [°C]			
		p < 10 bar	p < 16 bar	p < 25 bar	p < 200 bar
PVC	0	40	20	-	-
Stainless steel, 1.4571 (EN 10027-2), 316Ti (AISI) *	-10	90	90	90	90
Stainless steel, 2.4610 (EN 10027-2) *	-10	90	90	90	90
PP	0	40	20	-	-
PVDF **	-10	60	20	-	-

* For SIP/CIP applications, a temperature of 145 °C at a counterpressure of max. 2 bar is permissible for a short period (15 minutes).
(SIP = Sterilisation-In-Place)
(CIP = Clean-In-Place)

** At 70 °C, the maximum counterpressure is 9 bar.

6. DMH pump selection

1. Select a DMH model from the DMH performance data tables. The DMH models 25x and 28x are also available as double head versions. Double-head versions have twice the capacity listed in the tables.
2. Look into the DMH standard range tables to find the suitable product number.
3. If you cannot find the DMH dosing pump there, select a suitable variant from the DMH non-standard range tables.

DMH performance data

The values in the tables are based on the following conditions:

- 50 Hz, 400 V, 3-phase motor
- Fully vented dosing head
- Viscosity similar to water
- Variable frequency drive (VFD): double max. capacity

The maximum permissible viscosity at operating temperature values are approximate and apply to:

- Flooded suction
- Newtonian fluids
- Non-degassing media
- Media without suspended matter
- Media with a density similar to water.

Note: If the max. suction lift is 0 m, the pump must be installed with flooded suction.

Note: Atex approval is only possible for DMH models with min. frequency / capacity 10 Hz and max. frequency / capacity 100 Hz.

Note: The viscosity increases with decreasing temperature. We recommend testing the performance with the respective medium.

Max. counterpressure: 4 bar

Pump model	Pump type	Nominal dosing flow	Stroke frequency at 50 Hz	Max. stroke volume	Max. inlet pressure	Max. suction lift	Max. viscosity	VFD in combination with motor with PTC [1]	
								Min. frequency/ capacity	Max. frequency/ capacity
		[l/h]	[n/min]	[ml]	[bar]	[m]	[mPas]	[Hz] / [l/h]	[Hz] / [l/h]
257	DMH 750-4	750	73	171	0.8	0	50	10 / 150	100 / 1500
257	DMH 1500-4	1500	146	171	0.8	0	5	20 / 600	50 / 1500

[1] VFD not included. Use a VFD for constant torque load. Do not run the pump below the min. or above the max. permissible frequency. Risk of damaging the pump and overheating the motor

Max. counterpressure: 10 bar

Pump model	Pump type	Nominal dosing flow	Stroke frequency at 50 Hz	Max. stroke volume	Max. inlet pressure	Max. suction lift	Max. viscosity	VFD in combination with motor with PTC [1]	
								Min. frequency/ capacity	Max. frequency/ capacity
		[l/h]	[n/min]	[ml]	[bar]	[m]	[mPas]	[Hz] / [l/h]	[Hz] / [l/h]
251	DMH 5-10	5	29	3.3	8	1	300	10 / 1.0	100 / 10
251	DMH 13-10	13	63	3.3	8	1	300	10 / 2.5	100 / 25
251	DMH 19-10	19	96	3.3	8	1	100	15 / 5.7	60 / 23
251	DMH 24-10	24	120	3.3	8	1	50	20 / 9.6	50 / 24
252	DMH 37-10	37	96	6.4	8	1	100	15 / 11.1	60 / 44

Pump model	Pump type	Nominal dosing flow	Stroke frequency at 50 Hz	Max. stroke volume	Max. inlet pressure	Max. suction lift	Max. viscosity	VFD in combination with motor with PTC [1]	
								Min. frequency/ capacity	Max. frequency/ capacity
		[l/h]	[n/min]	[ml]	[bar]	[m]	[mPas]	[Hz] / [l/h]	[Hz] / [l/h]
253	DMH 43-10	43	63	11.3	5	1	300	10 / 8.6	100 / 86
252	DMH 46-10	46	120	6.4	8	1	50	20 / 18.4	50 / 46
253	DMH 67-10	67	96	11.3	5	1	100	15 / 20.1	60 / 83
253	DMH 83-10	83	120	11.3	5	1	10	20 / 33.2	60 / 100
253	DMH 100-10	100	144	11.3	5	0	10	25 / 50.0	50 / 100
254	DMH 102-10	102	54	32	5	1	300	10 / 20.4	100 / 203
254	DMH 143-10	143	75	32	5	1	100	10 / 35.0	100 / 286
254	DMH 175-10	175	92	32	5	1	100	15 / 52.5	60 / 210
254	DMH 213-10	213	112	32	5	1	100	20 / 85.2	60 / 255
255	DMH 270-10	270	75	60	0.8	0	100	10 / 54.0	100 / 540
254	DMH 291-10	291	153	32	5	0	5	20 / 116.4	50 / 291
255	DMH 332-10	332	92	60	0.8	0	100	15 / 99.6	60 / 398
255	DMH 403-10	403	112	60	0.8	0	100	20 / 161.2	60 / 484
255	DMH 550-10	550	153	60	0.8	0	5	20 / 220	50 / 550
257	DMH 575-10	575	73	131	0.8	1	50	10 / 115	100 / 1150
257	DMH 770-10	770	98	131	0.8	1	50	15 / 231	60 / 924
257	DMH 880-10	880	112	131	0.8	0	50	20 / 352	60 / 1056
257	DMH 1150-10	1150	146	131	0.8	0	5	20 / 460	50 / 1150

[1] VFD not included. Use a VFD for constant torque load. Do not run the pump below the min. or above the max. permissible frequency. Risk of damaging the pump and overheating the motor

Max. counterpressure: 16 bar

Pump model	Pump type	Nominal dosing flow	Stroke frequency at 50 Hz	Max. stroke volume	Max. inlet pressure	Max. suction lift	Max. viscosity	VFD in combination with motor with PTC [1]	
								Min. frequency/ capacity	Max. frequency/ capacity
		[l/h]	[n/min]	[ml]	[bar]	[m]	[mPas]	[Hz] / [l/h]	[Hz] / [l/h]
251	DMH 4,9-16	4.9	29	3.1	8	1	300	10 / 0.98	100 / 9.9
251	DMH 12-16	12	63	3.1	8	1	300	10 / 2.4	100 / 24
251	DMH 18-16	18	96	3.1	8	1	100	15 / 5.4	60 / 22
251	DMH 23-16	23	120	3.1	8	1	50	20 / 9.2	50 / 23
252	DMH 36-16	36	96	6.3	8	1	100	15 / 10.8	60 / 43.2
252	DMH 45-16	45	120	6.3	8	1	50	20 / 18.0	50 / 45
252	DMH 54-16	54	144	6.3	8	1	50	25 / 27.0	50 / 54
254	DMH 97-16	97	54	30	5	1	300	10 / 19.4	100 / 193
254	DMH 136-16	136	75	30	5	1	100	10 / 27.2	100 / 271
254	DMH 166-16	166	92	30	5	1	100	15 / 49.8	60 / 200
254	DMH 202-16	202	112	30	5	1	100	20 / 80.8	60 / 242

Pump model	Pump type	Nominal dosing flow	Stroke frequency at 50 Hz	Max. stroke volume	Max. inlet pressure	Max. suction lift	Max. viscosity	VFD in combination with motor with PTC [1]	
								Min. frequency/ capacity	Max. frequency/ capacity
		[l/h]	[n/min]	[ml]	[bar]	[m]	[mPas]	[Hz] / [l/h]	[Hz] / [l/h]
254	DMH 276-16	276	153	30	5	0	5	20 / 110.4	50 / 276
257	DMH 340-16	340	73	78.2	0.8	0	100	10 / 68	100 / 680
257	DMH 450-16	450	98	78.2	0.8	1	50	15 / 135	60 / 540
257	DMH 520-16	520	112	78.2	0.8	0	50	20 / 208	60 / 624
257	DMH 680-16	680	146	78.2	0.8	0	5	20 / 272	60 / 816

[1] VFD not included. Use a VFD for constant torque load. Do not run the pump below the min. or above the max. permissible frequency. Risk of damaging the pump and overheating the motor

Max. counterpressure: 25 bar

Pump model	Pump type	Nominal dosing flow	Stroke frequency at 50 Hz	Max. stroke volume	Max. inlet pressure	Max. suction lift	Max. viscosity	VFD in combination with motor with PTC [1]	
								Min. frequency/ capacity	Max. frequency/ capacity
		[l/h]	[n/min]	[ml]	[bar]	[m]	[mPas]	[Hz] / [l/h]	[Hz] / [l/h]
251	DMH 4,5-25	4.5	29	2.9	8	1	300	10 / 0.9	100 / 9.0
251	DMH 11-25	11	63	2.9	8	1	300	10 / 2.2	100 / 22
251	DMH 17-25	17	96	2.9	8	1	100	15 / 5.1	60 / 20
251	DMH 21-25	21	120	2.9	8	1	50	20 / 8.4	50 / 21

[1] VFD not included. Use a VFD for constant torque load. Do not run the pump below the min. or above the max. permissible frequency. Risk of damaging the pump and overheating the motor

Max. counterpressure: 50 bar

Pump model	Pump type	Nominal dosing flow	Stroke frequency at 50 Hz	Max. stroke volume	Max. inlet pressure	Max. suction lift	Max. viscosity	VFD in combination with motor with PTC [1]	
								Min. frequency/ capacity	Max. frequency/ capacity
		[l/h]	[n/min]	[ml]	[bar]	[m]	[mPas]	[Hz] / [l/h]	[Hz] / [l/h]
286	DMH 85-50	85	56	25.3	5	1	100	10 / 17	100 / 170
286	DMH 111-50	111	73	25.3	5	1	50	10 / 22.2	100 / 222
286	DMH 170-50	170	112	25.3	5	0	50	20 / 68.0	60 / 204
286	DMH 222-50	222	146	25.3	5	0	5	20 / 88.8	50 / 222

[1] VFD not included. Use a VFD for constant torque load. Do not run the pump below the min. or above the max. permissible frequency. Risk of damaging the pump and overheating the motor

Max. counterpressure: 100 bar

Pump model	Pump type	Nominal dosing flow	Stroke frequency at 50 Hz	Max. stroke volume	Max. inlet pressure	Max. suction lift	Max. viscosity	VFD in combination with motor with PTC [1]	
								Min. frequency/ capacity	Max. frequency/ capacity
		[l/h]	[n/min]	[ml]	[bar]	[m]	[mPas]	[Hz] / [l/h]	[Hz] / [l/h]
281	DMH 2-100	2	29	1.1	1	0	5	10 / 0.4	100 / 3.86
281	DMH 4,2-100	4.2	63	1.1	10	1	100	10 / 0.84	100 / 8.4
281	DMH 6,4-100	6.4	96	1.1	10	1	50	15 / 1.92	60 / 7.7
281	DMH 8-100	8	120	1.1	10	1	5	20 / 3.2	60 / 9.6
281	DMH 9,6-100	9.6	144	1.1	10	1	5	25 / 4.8	50 / 9.6
283	DMH 19-100	19	54	6	5	1	100	10 / 3.8	100 / 38
283	DMH 27-100	27	75	6	5	1	50	10 / 5.4	100 / 54
283	DMH 33-100	33	92	6	5	1	50	15 / 9.9	60 / 40
283	DMH 40-100	40	112	6	5	1	50	20 / 12.0	60 / 48
285	DMH 52-100	52	73	12	5	1	50	10 / 10.4	100 / 104
283	DMH 55-100	55	153	6	5	1	5	25 / 27.5	50 / 55
285	DMH 70-100	70	98	12	5	1	50	15 / 21.0	60 / 84
285	DMH 80-100	80	112	12	5	1	50	20 / 32.0	60 / 96
285	DMH 105-100	105	146	12	5	1	5	20 / 42.0	50 / 105

[1] VFD not included. Use a VFD for constant torque load. Do not run the pump below the min. or above the max. permissible frequency. Risk of damaging the pump and overheating the motor

Max. counterpressure: 200 bar

Pump model	Pump type	Nominal dosing flow	Stroke frequency at 50 Hz	Max. stroke volume	Max. inlet pressure	Max. suction lift	Max. viscosity	VFD in combination with motor with PTC [1]	
								Min. frequency/ capacity	Max. frequency/ capacity
		[l/h]	[n/min]	[ml]	[bar]	[m]	[mPas]	[Hz] / [l/h]	[Hz] / [l/h]
280	DMH 1,45-200	1.45	63	0.36	1	0	5	10 / 0.29	100 / 2.9
280	DMH 2,81-200	2.81	120	0.36	1	0	5	20 / 1.12	60 / 3.37
280	DMH 3,42-200	3.42	144	0.36	5	0	5	25 / 1.36	50 / 3.42
288	DMH 7,5-200	7.5	54	2.33	5	1	100	10 / 1.5	100 / 15
288	DMH 10,4-200	10.4	75	2.33	5	1	50	10 / 2.1	100 / 20.8
288	DMH 12,8-200	12.8	92	2.33	5	1	50	15 / 3.8	60 / 15
288	DMH 15,5-200	15.5	112	2.33	5	1	50	20 / 6.2	60 / 19
287	DMH 18-200	18	56	5.3	5	1	100	10 / 3.6	100 / 36
288	DMH 21-200	21	153	2.33	5	1	5	25 / 10.5	50 / 21

Pump model	Pump type	Nominal dosing flow	Stroke frequency at 50 Hz	Max. stroke volume	Max. inlet pressure	Max. suction lift	Max. viscosity	VFD in combination with motor with PTC [1]	
								Min. frequency/ capacity	Max. frequency/ capacity
		[l/h]	[n/min]	[ml]	[bar]	[m]	[mPas]	[Hz] / [l/h]	[Hz] / [l/h]
287	DMH 23-200	23	73	5.3	5	1	50	10 / 4,6	100 / 46
287	DMH 31-200	31	98	5.3	5	1	50	15 / 9.3	60 / 37
287	DMH 36-200	36	112	5.3	5	1	50	20 / 14.4	60 / 43
287	DMH 50-200	50	146	5.3	5	1	5	20 / 20.0	50 / 50

[1] VFD not included. Use a VFD for constant torque load. Do not run the pump below the min. or above the max. permissible frequency. Risk of damaging the pump and overheating the motor

DMH standard range

The following tables show a selection of DMH pumps for typical applications. The listed DMH pumps are fitted with:

- Manual control variant (B)
- Standard three-phase motor (EM)
- Aluminium housing (A)

For other configurations, please see the DMH non-standard range tables.

Max. counterpressure: 4 bar

Pump model	Pump type	Nominal dosing flow [l/h]	Material			Type designation	Product number
			Dosing head	Gaskets	Valve balls		
257	DMH 750-4	750	PVC	FKM	Glass	DMH 750-4 B-PVC/V/G-X-E1B8B8XEMAG	99587774
257	DMH 750-4	750	PVDF	PTFE	PTFE	DMH 750-4 B-PV/T/T-X-E1B5B5XEMAG	99587775
257	DMH 750-4	750	Stainless steel	FKM	Stainless steel	DMH 750-4 B-SS/V/SS-X-E1C1C1XEMAG	99587776
257	DMH 1500-4	1500	PVC	FKM	Glass	DMH 1500-4 B-PVC/V/G-X-E1B8B8XEMAG	99587777
257	DMH 1500-4	1500	PVDF	PTFE	PTFE	DMH 1500-4 B-PV/T/T-X-E1B5B5XEMAG	99587778
257	DMH 1500-4	1500	Stainless steel	FKM	Stainless steel	DMH 1500-4 B-SS/V/SS-X-E1C1C1XEMAG	99587779

Max. counterpressure: 10 bar

Pump model	Pump type	Nominal dosing flow [l/h]	Material			Type designation	Product number
			Dosing head	Gaskets	Valve balls		
251	DMH 5-10	5	PVC	FKM	Ceramic	DMH 5-10 B-PVC/V/C-X-E1U2U2XEMAG	99587780
251	DMH 5-10	5	PVDF	PTFE	Ceramic	DMH 5-10 B-PV/T/C-X-E1U2U2XEMAG	99587781
251	DMH 5-10	5	Stainless steel	FKM	Stainless steel	DMH 5-10 B-SS/V/SS-X-E1AAXEMAG	99587782
251	DMH 13-10	13	PVC	FKM	Ceramic	DMH 13-10 B-PVC/V/C-X-E1U2U2XEMAG	99587783
251	DMH 13-10	13	PVDF	PTFE	Ceramic	DMH 13-10 B-PV/T/C-X-E1U2U2XEMAG	99587784
251	DMH 13-10	13	Stainless steel	FKM	Stainless steel	DMH 13-10 B-SS/V/SS-X-E1AAXEMAG	99587785
251	DMH 19-10	19	PVC	FKM	Ceramic	DMH 19-10 B-PVC/V/C-X-E1U2U2XEMAG	99587786
251	DMH 19-10	19	PVDF	PTFE	Ceramic	DMH 19-10 B-PV/T/C-X-E1U2U2XEMAG	99587787
251	DMH 19-10	19	Stainless steel	FKM	Stainless steel	DMH 19-10 B-SS/V/SS-X-E1AAXEMAG	99587788
251	DMH 24-10	24	PVC	FKM	Ceramic	DMH 24-10 B-PVC/V/C-X-E1U2U2XEMAG	99587789
251	DMH 24-10	24	PVDF	PTFE	Ceramic	DMH 24-10 B-PV/T/C-X-E1U2U2XEMAG	99587790
251	DMH 24-10	24	Stainless steel	FKM	Stainless steel	DMH 24-10 B-SS/V/SS-X-E1AAXEMAG	99587791
252	DMH 37-10	37	PVC	FKM	Ceramic	DMH 37-10 B-PVC/V/C-X-E1U2U2XEMAG	99587792
252	DMH 37-10	37	PVDF	PTFE	Ceramic	DMH 37-10 B-PV/T/C-X-E1U2U2XEMAG	99587793
252	DMH 37-10	37	Stainless steel	FKM	Stainless steel	DMH 37-10 B-SS/V/SS-X-E1AAXEMAG	99587794
253	DMH 43-10	43	PVC	FKM	Ceramic	DMH 43-10 B-PVC/V/C-X-E1U3U3XEMAG	99587798
253	DMH 43-10	43	PVDF	PTFE	Ceramic	DMH 43-10 B-PV/T/C-X-E1U3U3XEMAG	99587799
253	DMH 43-10	43	Stainless steel	FKM	Stainless steel	DMH 43-10 B-SS/V/SS-X-E1A1A1XEMAG	99587800
252	DMH 46-10	46	PVC	FKM	Ceramic	DMH 46-10 B-PVC/V/C-X-E1U2U2XEMAG	99587795
252	DMH 46-10	46	PVDF	PTFE	Ceramic	DMH 46-10 B-PV/T/C-X-E1U2U2XEMAG	99587796
252	DMH 46-10	46	Stainless steel	FKM	Stainless steel	DMH 46-10 B-SS/V/SS-X-E1AAXEMAG	99587797
253	DMH 67-10	67	PVC	FKM	Ceramic	DMH 67-10 B-PVC/V/C-X-E1U3U3XEMAG	99587801
253	DMH 67-10	67	PVDF	PTFE	Ceramic	DMH 67-10 B-PV/T/C-X-E1U3U3XEMAG	99587802
253	DMH 67-10	67	Stainless steel	FKM	Stainless steel	DMH 67-10 B-SS/V/SS-X-E1A1A1XEMAG	99587803
253	DMH 83-10	83	PVC	FKM	Ceramic	DMH 83-10 B-PVC/V/C-X-E1U3U3XEMAG	99587804
253	DMH 83-10	83	PVDF	PTFE	Ceramic	DMH 83-10 B-PV/T/C-X-E1U3U3XEMAG	99587805
253	DMH 83-10	83	Stainless steel	FKM	Stainless steel	DMH 83-10 B-SS/V/SS-X-E1A1A1XEMAG	99587806
253	DMH 100-10	100	PVC	FKM	Ceramic	DMH 100-10 B-PVC/V/C-X-E1U3U3XEMAG	99587807
253	DMH 100-10	100	PVDF	PTFE	Ceramic	DMH 100-10 B-PV/T/C-X-E1U3U3XEMAG	99587808
253	DMH 100-10	100	Stainless steel	FKM	Stainless steel	DMH 100-10 B-SS/V/SS-X-E1A1A1XEMAG	99587809

Pump model	Pump type	Nominal dosing flow [l/h]	Material			Type designation	Product number
			Dosing head	Gaskets	Valve balls		
254	DMH 102-10	102	PVC	FKM	Ceramic	DMH 102-10 B-PVC/V/C-X-E1U3U3XEMAG	99587810
254	DMH 102-10	102	PVDF	PTFE	Ceramic	DMH 102-10 B-PV/T/C-X-E1U3U3XEMAG	99587811
254	DMH 102-10	102	Stainless steel	FKM	Stainless steel	DMH 102-10 B-SS/V/SS-X-E1A1A1XEMAG	99587812
254	DMH 143-10	143	PVC	FKM	Ceramic	DMH 143-10 B-PVC/V/C-X-E1U3U3XEMAG	99587813
254	DMH 143-10	143	PVDF	PTFE	Ceramic	DMH 143-10 B-PV/T/C-X-E1U3U3XEMAG	99587814
254	DMH 143-10	143	Stainless steel	FKM	Stainless steel	DMH 143-10 B-SS/V/SS-X-E1A1A1XEMAG	99587815
254	DMH 175-10	175	PVC	FKM	Ceramic	DMH 175-10 B-PVC/V/C-X-E1U3U3XEMAG	99587816
254	DMH 175-10	175	PVDF	PTFE	Ceramic	DMH 175-10 B-PV/T/C-X-E1U3U3XEMAG	99587817
254	DMH 175-10	175	Stainless steel	FKM	Stainless steel	DMH 175-10 B-SS/V/SS-X-E1A1A1XEMAG	99587818
254	DMH 213-10	213	PVC	FKM	Ceramic	DMH 213-10 B-PVC/V/C-X-E1U3U3XEMAG	99587819
254	DMH 213-10	213	PVDF	PTFE	Ceramic	DMH 213-10 B-PV/T/C-X-E1U3U3XEMAG	99587820
254	DMH 213-10	213	Stainless steel	FKM	Stainless steel	DMH 213-10 B-SS/V/SS-X-E1A1A1XEMAG	99587821
255	DMH 270-10	270	PVC	FKM	Ceramic	DMH 270-10 B-PVC/V/C-X-E1U3U3XEMAG	99587825
255	DMH 270-10	270	PVDF	PTFE	Ceramic	DMH 270-10 B-PV/T/C-X-E1U3U3XEMAG	99587826
255	DMH 270-10	270	Stainless steel	FKM	Stainless steel	DMH 270-10 B-SS/V/SS-X-E1A1A1XEMAG	99587827
254	DMH 291-10	291	PVC	FKM	Ceramic	DMH 291-10 B-PVC/V/C-X-E1U3U3XEMAG	99587822
254	DMH 291-10	291	PVDF	PTFE	Ceramic	DMH 291-10 B-PV/T/C-X-E1U3U3XEMAG	99587823
254	DMH 291-10	291	Stainless steel	FKM	Stainless steel	DMH 291-10 B-SS/V/SS-X-E1A1A1XEMAG	99587824
255	DMH 332-10	332	PVC	FKM	Ceramic	DMH 332-10 B-PVC/V/C-X-E1U3U3XEMAG	99587828
255	DMH 332-10	332	PVDF	PTFE	Ceramic	DMH 332-10 B-PV/T/C-X-E1U3U3XEMAG	99587829
255	DMH 332-10	332	Stainless steel	FKM	Stainless steel	DMH 332-10 B-SS/V/SS-X-E1A1A1XEMAG	99587830
255	DMH 403-10	403	PVC	FKM	Ceramic	DMH 403-10 B-PVC/V/C-X-E1U3U3XEMAG	99587831
255	DMH 403-10	403	PVDF	PTFE	Ceramic	DMH 403-10 B-PV/T/C-X-E1U3U3XEMAG	99587832
255	DMH 403-10	403	Stainless steel	FKM	Stainless steel	DMH 403-10 B-SS/V/SS-X-E1A1A1XEMAG	99587833
255	DMH 550-10	550	PVC	FKM	Ceramic	DMH 550-10 B-PVC/V/C-X-E7U3B8XEMAG	99587834
255	DMH 550-10	550	PVDF	PTFE	PTFE	DMH 550-10 B-PV/T/T-X-E7U3B5XEMAG	99587835
255	DMH 550-10	550	Stainless steel	FKM	Stainless steel	DMH 550-10 B-SS/V/SS-X-E7A1C1XEMAG	99587836
257	DMH 575-10	575	PVC	FKM	Glass	DMH 575-10 B-PVC/V/G-X-E1B8B8XEMAG	99587838
257	DMH 575-10	575	PVDF	PTFE	PTFE	DMH 575-10 B-PV/T/T-X-E1B5B5XEMAG	99587839
257	DMH 575-10	575	Stainless steel	FKM	Stainless steel	DMH 575-10 B-SS/V/SS-X-E1C1C1XEMAG	99587840
257	DMH 770-10	770	PVC	FKM	Glass	DMH 770-10 B-PVC/V/G-X-E1B8B8XEMAG	99587841
257	DMH 770-10	770	PVDF	PTFE	PTFE	DMH 770-10 B-PV/T/T-X-E1B5B5XEMAG	99587842
257	DMH 770-10	770	Stainless steel	FKM	Stainless steel	DMH 770-10 B-SS/V/SS-X-E1C1C1XEMAG	99587843
257	DMH 880-10	880	PVC	FKM	Glass	DMH 880-10 B-PVC/V/G-X-E1B8B8XEMAG	99587844
257	DMH 880-10	880	PVDF	PTFE	PTFE	DMH 880-10 B-PV/T/T-X-E1B5B5XEMAG	99587845
257	DMH 880-10	880	Stainless steel	FKM	Stainless steel	DMH 880-10 B-SS/V/SS-X-E1C1C1XEMAG	99587846
257	DMH 1150-10	1150	PVC	FKM	Glass	DMH 1150-10 B-PVC/V/G-X-E1B8B8XEMAG	99587847
257	DMH 1150-10	1150	PVDF	PTFE	PTFE	DMH 1150-10 B-PV/T/T-X-E1B5B5XEMAG	99587848
257	DMH 1150-10	1150	Stainless steel	FKM	Stainless steel	DMH 1150-10 B-SS/V/SS-X-E1C1C1XEMAG	99587849

Max. counterpressure: 16 bar

Pump model	Pump type	Nominal dosing flow [l/h]	Material			Type designation	Product number
			Dosing head	Gaskets	Valve balls		
251	DMH 4,9-16	4.9	PVC	FKM	Ceramic	DMH 4,9-16 B-PVC/V/C-X-E1U2U2XEMAG	99587850
251	DMH 4,9-16	4.9	PVDF	PTFE	Ceramic	DMH 4,9-16 B-PV/T/C-X-E1U2U2XEMAG	99587852
251	DMH 4,9-16	4.9	Stainless steel	FKM	Stainless steel	DMH 4,9-16 B-SS/V/SS-X-E1AAXEMAG	99587853
251	DMH 12-16	12	PVC	FKM	Ceramic	DMH 12-16 B-PVC/V/C-X-E1U2U2XEMAG	99587854

Pump model	Pump type	Nominal dosing flow [l/h]	Material			Type designation	Product number
			Dosing head	Gaskets	Valve balls		
251	DMH 12-16	12	PVDF	PTFE	Ceramic	DMH 12-16 B-PV/T/C-X-E1U2U2XEMAG	99587855
251	DMH 12-16	12	Stainless steel	FKM	Stainless steel	DMH 12-16 B-SS/V/SS-X-E1AAXEMAG	99587856
251	DMH 18-16	18	PVC	FKM	Ceramic	DMH 18-16 B-PVC/V/C-X-E1U2U2XEMAG	99587857
251	DMH 18-16	18	PVDF	PTFE	Ceramic	DMH 18-16 B-PV/T/C-X-E1U2U2XEMAG	99587858
251	DMH 18-16	18	Stainless steel	FKM	Stainless steel	DMH 18-16 B-SS/V/SS-X-E1AAXEMAG	99587859
251	DMH 23-16	23	PVC	FKM	Ceramic	DMH 23-16 B-PVC/V/C-X-E1U2U2XEMAG	99587860
251	DMH 23-16	23	PVDF	PTFE	Ceramic	DMH 23-16 B-PV/T/C-X-E1U2U2XEMAG	99587861
251	DMH 23-16	23	Stainless steel	FKM	Stainless steel	DMH 23-16 B-SS/V/SS-X-E1AAXEMAG	99587862
252	DMH 36-16	36	PVC	FKM	Ceramic	DMH 36-16 B-PVC/V/C-X-E1U2U2XEMAG	99587863
252	DMH 36-16	36	PVDF	PTFE	Ceramic	DMH 36-16 B-PV/T/C-X-E1U2U2XEMAG	99587864
252	DMH 36-16	36	Stainless steel	FKM	Stainless steel	DMH 36-16 B-SS/V/SS-X-E1AAXEMAG	99587865
252	DMH 45-16	45	PVC	FKM	Ceramic	DMH 45-16 B-PVC/V/C-X-E1U2U2XEMAG	99587866
252	DMH 45-16	45	PVDF	PTFE	Ceramic	DMH 45-16 B-PV/T/C-X-E1U2U2XEMAG	99587867
252	DMH 45-16	45	Stainless steel	FKM	Stainless steel	DMH 45-16 B-SS/V/SS-X-E1AAXEMAG	99587868
252	DMH 54-16	54	PVC	FKM	Ceramic	DMH 54-16 B-PVC/V/C-X-E1U2U2XEMAG	99587869
252	DMH 54-16	54	PVDF	PTFE	Ceramic	DMH 54-16 B-PV/T/C-X-E1U2U2XEMAG	99587870
252	DMH 54-16	54	Stainless steel	FKM	Stainless steel	DMH 54-16 B-SS/V/SS-X-E1AAXEMAG	99587871
254	DMH 97-16	97	Stainless steel	FKM	Stainless steel	DMH 97-16 B-SS/V/SS-X-E1A1A1XEMAG	99587872
254	DMH 97-16	97	Alloy C-4	PTFE	Alloy C-4	DMH 97-16 B-Y/T/Y-X-E1A1A1XEMAG	99587873
254	DMH 136-16	136	Stainless steel	FKM	Stainless steel	DMH 136-16 B-SS/V/SS-X-E1A1A1XEMAG	99587874
254	DMH 136-16	136	Alloy C-4	PTFE	Alloy C-4	DMH 136-16 B-Y/T/Y-X-E1A1A1XEMAG	99587875
254	DMH 166-16	166	Stainless steel	FKM	Stainless steel	DMH 166-16 B-SS/V/SS-X-E1A1A1XEMAG	99587876
254	DMH 166-16	166	Alloy C-4	PTFE	Alloy C-4	DMH 166-16 B-Y/T/Y-X-E1A1A1XEMAG	99587877
254	DMH 202-16	202	Stainless steel	FKM	Stainless steel	DMH 202-16 B-SS/V/SS-X-E1A1A1XEMAG	99587878
254	DMH 202-16	202	Alloy C-4	PTFE	Alloy C-4	DMH 202-16 B-Y/T/Y-X-E1A1A1XEMAG	99587879
254	DMH 276-16	276	Stainless steel	FKM	Stainless steel	DMH 276-16 B-SS/V/SS-X-E1A1A1XEMAG	99587880
254	DMH 276-16	276	Alloy C-4	PTFE	Alloy C-4	DMH 276-16 B-Y/T/Y-X-E1A1A1XEMAG	99587881
257	DMH 340-16	340	Stainless steel	FKM	Stainless steel	DMH 340-16 B-SS/V/SS-X-E1C1C1XEMAG	99587882
257	DMH 340-16	340	Alloy C-4	PTFE	Alloy C-4	DMH 340-16 B-Y/T/Y-X-E1XEMAG	99587883
257	DMH 450-16	450	Stainless steel	FKM	Stainless steel	DMH 450-16 B-SS/V/SS-X-E1C1C1XEMAG	99587884
257	DMH 450-16	450	Alloy C-4	PTFE	Alloy C-4	DMH 450-16 B-Y/T/Y-X-E1XEMAG	99587885
257	DMH 520-16	520	Stainless steel	FKM	Stainless steel	DMH 520-16 B-SS/V/SS-X-E1C1C1XEMAG	99587886
257	DMH 520-16	520	Alloy C-4	PTFE	Alloy C-4	DMH 520-16 B-Y/T/Y-X-E1XEMAG	99587887
257	DMH 680-16	680	Stainless steel	FKM	Stainless steel	DMH 680-16 B-SS/V/SS-X-E1C1C1XEMAG	99587888
257	DMH 680-16	680	Alloy C-4	PTFE	Alloy C-4	DMH 680-16 B-Y/T/Y-X-E1XEMAG	99587889

Max. counterpressure: 25 bar

Pump model	Pump type	Nominal dosing flow [l/h]	Material			Type designation	Product number
			Dosing head	Gaskets	Valve balls		
251	DMH 4,5-25	4.5	Stainless steel	FKM	Stainless steel	DMH 4,5-25 B-SS/V/SS-X-E1AAXEMAG	99587890
251	DMH 4,5-25	4.5	Alloy C-4	PTFE	Alloy C-4	DMH 4,5-25 B-Y/T/Y-X-E1AAXEMAG	99587891
251	DMH 11-25	11	Stainless steel	FKM	Stainless steel	DMH 11-25 B-SS/V/SS-X-E1AAXEMAG	99587892
251	DMH 11-25	11	Alloy C-4	PTFE	Alloy C-4	DMH 11-25 B-Y/T/Y-X-E1AAXEMAG	99587893
251	DMH 17-25	17	Stainless steel	FKM	Stainless steel	DMH 17-25 B-SS/V/SS-X-E1AAXEMAG	99587894
251	DMH 17-25	17	Alloy C-4	PTFE	Alloy C-4	DMH 17-25 B-Y/T/Y-X-E1AAXEMAG	99587895
251	DMH 21-25	21	Stainless steel	FKM	Stainless steel	DMH 21-25 B-SS/V/SS-X-E1AAXEMAG	99587896
251	DMH 21-25	21	Alloy C-4	PTFE	Alloy C-4	DMH 21-25 B-Y/T/Y-X-E1AAXEMAG	99587897

Max. counterpressure: 50 bar

Pump model	Pump type	Nominal dosing flow [l/h]	Material			Type designation	Product number
			Dosing head	Gaskets	Valve balls		
286	DMH 85-50	85	Stainless steel	FKM	Stainless steel	DMH 85-50 B-SS/V/SS-X-E1A1A1XEMAG	99591369
286	DMH 85-50	85	Alloy C-4	PTFE	Alloy C-4	DMH 85-50 B-Y/T/Y-X-E1A1A1XEMAG	99591389
286	DMH 111-50	111	Stainless steel	FKM	Stainless steel	DMH 111-50 B-SS/V/SS-X-E1A1A1XEMAG	99591391
286	DMH 111-50	111	Alloy C-4	PTFE	Alloy C-4	DMH 111-50 B-Y/T/Y-X-E1A1A1XEMAG	99591392
286	DMH 170-50	170	Stainless steel	FKM	Stainless steel	DMH 170-50 B-SS/V/SS-X-E1A1A1XEMAG	99591393
286	DMH 170-50	170	Alloy C-4	PTFE	Alloy C-4	DMH 170-50 B-Y/T/Y-X-E1A1A1XEMAG	99591394
286	DMH 222-50	222	Stainless steel	FKM	Stainless steel	DMH 222-50 B-SS/V/SS-X-E1A1A1XEMAG	99591395
286	DMH 222-50	222	Alloy C-4	PTFE	Alloy C-4	DMH 222-50 B-Y/T/Y-X-E1A1A1XEMAG	99591396

Max. counterpressure: 100 bar

Pump model	Pump type	Nominal dosing flow [l/h]	Material			Type designation	Product number
			Dosing head	Gaskets	Valve balls		
281	DMH 2-100	2	Stainless steel	FKM	Stainless steel	DMH 2-100 B-SS/V/SS-X-E2AAXEMAG	99591397
281	DMH 2-100	2	Alloy C-4	PTFE	Alloy C-4	DMH 2-100 B-Y/T/Y-X-E2AAXEMAG	99591398
281	DMH 4,2-100	4.2	Stainless steel	FKM	Stainless steel	DMH 4,2-100 B-SS/V/SS-X-E2AAXEMAG	99591400
281	DMH 4,2-100	4.2	Alloy C-4	PTFE	Alloy C-4	DMH 4,2-100 B-Y/T/Y-X-E2AAXEMAG	99591401
281	DMH 6,4-100	6.4	Stainless steel	FKM	Stainless steel	DMH 6,4-100 B-SS/V/SS-X-E2AAXEMAG	99591402
281	DMH 6,4-100	6.4	Alloy C-4	PTFE	Alloy C-4	DMH 6,4-100 B-Y/T/Y-X-E2AAXEMAG	99591403
281	DMH 8-100	8	Stainless steel	FKM	Stainless steel	DMH 8-100 B-SS/V/SS-X-E2AAXEMAG	99591404
281	DMH 8-100	8	Alloy C-4	PTFE	Alloy C-4	DMH 8-100 B-Y/T/Y-X-E2AAXEMAG	99591405
281	DMH 9,6-100	9.6	Stainless steel	FKM	Stainless steel	DMH 9,6-100 B-SS/V/SS-X-E2AAXEMAG	99591406
281	DMH 9,6-100	9.6	Alloy C-4	PTFE	Alloy C-4	DMH 9,6-100 B-Y/T/Y-X-E2AAXEMAG	99591407
283	DMH 19-100	19	Stainless steel	FKM	Stainless steel	DMH 19-100 B-SS/V/SS-X-E2A1A1XEMAG	99591408
283	DMH 19-100	19	Alloy C-4	PTFE	Alloy C-4	DMH 19-100 B-Y/T/Y-X-E2A1A1XEMAG	99591409
283	DMH 27-100	27	Stainless steel	FKM	Stainless steel	DMH 27-100 B-SS/V/SS-X-E2A1A1XEMAG	99591410
283	DMH 27-100	27	Alloy C-4	PTFE	Alloy C-4	DMH 27-100 B-Y/T/Y-X-E2A1A1XEMAG	99591411
283	DMH 33-100	33	Stainless steel	FKM	Stainless steel	DMH 33-100 B-SS/V/SS-X-E2A1A1XEMAG	99591412
283	DMH 33-100	33	Alloy C-4	PTFE	Alloy C-4	DMH 33-100 B-Y/T/Y-X-E2A1A1XEMAG	99591413
283	DMH 40-100	40	Stainless steel	FKM	Stainless steel	DMH 40-100 B-SS/V/SS-X-E2A1A1XEMAG	99591415
283	DMH 40-100	40	Alloy C-4	PTFE	Alloy C-4	DMH 40-100 B-Y/T/Y-X-E2A1A1XEMAG	99591416
285	DMH 52-100	52	Stainless steel	FKM	Stainless steel	DMH 52-100 B-SS/V/SS-X-E2A1A1XEMAG	99591422
285	DMH 52-100	52	Alloy C-4	PTFE	Alloy C-4	DMH 52-100 B-Y/T/Y-X-E2A1A1XEMAG	99591423
283	DMH 55-100	55	Stainless steel	FKM	Stainless steel	DMH 55-100 B-SS/V/SS-X-E2A1A1XEMAG	99591418
283	DMH 55-100	55	Alloy C-4	PTFE	Alloy C-4	DMH 55-100 B-Y/T/Y-X-E2A1A1XEMAG	99591420
285	DMH 70-100	70	Stainless steel	FKM	Stainless steel	DMH 70-100 B-SS/V/SS-X-E2A1A1XEMAG	99591425
285	DMH 70-100	70	Alloy C-4	PTFE	Alloy C-4	DMH 70-100 B-Y/T/Y-X-E2A1A1XEMAG	99591426
285	DMH 80-100	80	Stainless steel	FKM	Stainless steel	DMH 80-100 B-SS/V/SS-X-E2A1A1XEMAG	99591427
285	DMH 80-100	80	Alloy C-4	PTFE	Alloy C-4	DMH 80-100 B-Y/T/Y-X-E2A1A1XEMAG	99591429
285	DMH 105-100	105	Stainless steel	FKM	Stainless steel	DMH 105-100 B-SS/V/SS-X-E2A1A1XEMAG	99591430
285	DMH 105-100	105	Alloy C-4	PTFE	Alloy C-4	DMH 105-100 B-Y/T/Y-X-E2A1A1XEMAG	99591431

Max. counterpressure: 200 bar

Pump model	Pump type	Nominal dosing flow [l/h]	Material			Type designation	Product number
			Dosing head	Gaskets	Valve balls		
280	DMH 1,45-200	1.45	Stainless steel	FKM	Ceramic	DMH 1,45-200 B-SS/V/C-X-E2B6B6XEMAG	99591432
280	DMH 2,81-200	2.81	Stainless steel	FKM	Ceramic	DMH 2,81-200 B-SS/V/C-X-E2B6B6XEMAG	99591433
280	DMH 3,42-200	3.42	Stainless steel	FKM	Ceramic	DMH 3,42-200 B-SS/V/C-X-E2B6B6XEMAG	99591487
288	DMH 7,5-200	7.5	Stainless steel	FKM	Stainless steel	DMH 7,5-200 B-SS/V/SS-X-E2C2C2XEMAG	99591491
288	DMH 10,4-200	10.4	Stainless steel	FKM	Stainless steel	DMH 10,4-200 B-SS/V/SS-X-E2C2C2XEMAG	99591492
288	DMH 12,8-200	12.8	Stainless steel	FKM	Stainless steel	DMH 12,8-200 B-SS/V/SS-X-E2C2C2XEMAG	99591503
288	DMH 15,5-200	15.5	Stainless steel	FKM	Stainless steel	DMH 15,5-200 B-SS/V/SS-X-E2C2C2XEMAG	99591504
287	DMH 18-200	18	Stainless steel	FKM	Stainless steel	DMH 18-200 B-SS/V/SS-X-E2C2C2XEMAG	99591488
288	DMH 21-200	21	Stainless steel	FKM	Stainless steel	DMH 21-200 B-SS/V/SS-X-E2C2C2XEMAG	99591505
287	DMH 23-200	23	Stainless steel	FKM	Stainless steel	DMH 23-200 B-SS/V/SS-X-E2C2C2XEMAG	99591489
287	DMH 31-200	31	Stainless steel	FKM	Stainless steel	DMH 31-200 B-SS/V/SS-X-E2C2C2XEMAG	99591434
287	DMH 36-200	36	Stainless steel	FKM	Stainless steel	DMH 36-200 B-SS/V/SS-X-E2C2C2XEMAG	99591435
287	DMH 50-200	50	Stainless steel	FKM	Stainless steel	DMH 50-200 B-SS/V/SS-X-E2C2C2XEMAG	99591490

DMH non-standard range

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

- Control variants
- Dosing head materials
- Supply voltages
- Valve types
- Connections
- Mains plugs
- Motor variants
- Pumps with API certificate
- Pumps with ATEX certificate

DMH model 251 (DN 8)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 2,4-10 DMH 5,0-10 DMH 13-10 DMH 19-10 DMH 24-10	B D3 D6	PP PPL	E	C SS T	X R	E G H F 0 M	1 2	B3B3	X F B	EM E0 MP K0	A	G N
			V	C								
		PV PVL	T	C T			1 2	B3B3 A9A9				
		PVC PVCL	E	C SS T	X R	E G H F 0 M	1 2	U2U2 A9A9	X F B	EM E0 MP K0	A	G N
			T	C T								
			V	C SS								
		SS SSL	E T V	SS	X R		1 2	AA VV				
DMH 2,3-16 DMH 4,9-16 DMH 12-16 DMH 18-16 DMH 23-16	AR	PP PPL	E	C SS T	S R	G H	1 2	B3B3	F B	-	A	G N
			V	C								
		PV PVL	T	C T				B3B3 A9A9				
		PVC PVCL	E	C SS T	S R	G H	1 2	U2U2 A9A9	F B	-	A	G N
			T	C T								
			V	C SS								
		SS SSL	E T V	SS	S R	G H	1 2	AA VV	F B	-	A	G N
DMH 2,2-25 DMH 4,5-25 DMH 11-25	B D3 D6	SS SSL	E T V	SS	X R	E G H F 0 M	1 2	AA VV	X F B	EM E0 MP K0	A	G N
DMH 17-25 DMH 21-25	AR	SS SSL	E T V	SS	S R	G H	1 2	AA VV	F B	-	A	G N

DMH model 252 (DN 8)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 11-10 DMH 24-10 DMH 37-10 DMH 46-10 DMH 10-16 DMH 23-16 DMH 36-16 DMH 45-16 DMH 54-16	B D3 D6	PP PPL	E	C SS T	X R	E G H F 0 M	1 2	B3B3	X F B	EM E0 MP K0	A	G N
			V	C								
		PV PVL	T	C T			1	B3B3 A9A9				
		PVC PVCL	E	C SS T	X R	E G H F 0 M	1 2	U2U2 A9A9	X F B	EM E0 MP K0	A	G N
			T	C T								
			V	C SS								
		SS SSL	E T V	SS	X R		1 2	AA VV				
	AR	PP PPL	E	C SS T	S R	G H	1 2	B3B3	F B	-	A	G N
			V	C								
		PV PVL	T	C T				B3B3 A9A9				
		PVC PVCL	E	C SS T	S R	G H	1 2	U2U2 A9A9	F B	-	A	G N
			T	C T								
			V	C SS								
		SS SSL	E T V	SS	S R	G H	1 2	AA VV	F B	-	A	G N

DMH model 253 (DN 20)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 21-10 DMH 43-10 DMH 67-10 DMH 83-10 DMH 100-10	B D3 D6	PP PPL	E	C SS T	X R	E G H F 0 M	1	U3U3	X F B	EM E0 MP K0	A	G N
			V	C								
		PV PVL	T	C T				U3U3 A7A7				
		PVC PVCL	E	C SS T	X R		1	U3U3 A7A7				
			V	C SS								
		SS SSL	T V E	SS	X R		1	A1A1 A3A3				
	AR	PP PPL	E	C SS T	S R	G H	1	U3U3	F B	-	A	G N
			V	C								
		PV PVL	T	C T				U3U3 A7A7				
		PVC PVCL	E	C SS T	S R	G H	1	U3U3 A7A7	F B	-	A	G N
			V	C SS								
		SS SSL	T V E	SS	S R	G H	1	A1A1 A3A3	F B	-	A	G N

DMH model 254 (DN 20)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 50-10 DMH 102-10 DMH 143-10 DMH 175-10 DMH 213-10 DMH 291-10	B D3 D6	PP PPL	E	C SS T	X R	E G H F 0 M	1	U3U3	X	EM E0 MP K0	A	G N
			V	C								
		PV PVL	T	C T				U3U3 A7A7				
		PVC PVCL	E	C SS T	X R			U3U3 A7A7				
			V	C SS								
		SS SSL	T V E	SS	X R			A1A1 A3A3				
DMH 97-16 DMH 136-16 DMH 166-16	B D3 D6	SS SSL	T V E	SS	X R	E G H F 0 M	1	A1A1 A3A3	X	EM E0 MP K0	A	G N

DMH model 255 (DN 20)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 194-10 DMH 270-10 DMH 332-10 DMH 403-10	B D3 D6	PP PPL	E	C SS T	X R	E G H F 0 M	1	U3U3	X	EM E0 MP K0	A	G N
			T	T								
			V	C								
		PV PVL	T	T				U3U3 A7A7				
		PVC PVCL	E	SS T	X R		1	U3U3 A7A7	X	EM E0 MP K0	A	G N
			V	C SS								
		SS SSL	E T V	SS	X R		1	A1A1 A3A3	X		A	G N

DMH model 255 (DN 20/32)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 550-10	B D3 D6	PP PPL	E	C SS T	X R	E G H F 0 M	7	U3B5 A7P	X	EM E0 MP K0	A	G N
			T	T								
			V	C								
		PV PVL	T	T								
		PVC PVCL	E	SS T	X R	E G H F 0 M	7	U3B5 A7P	X	EM E0 MP K0	A	G N
			V	C SS								
		SS SSL	E T V	SS	X R		7	A1C1 A3P	X		A	G N

DMH model 257 (DN 32)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 750-4 DMH 1500-4 DMH 440-10 DMH 575-10 DMH 770-10 DMH 880-10 DMH 1150-10	B D3 D6	PP PPL	E	G T	X	E G H F 0 M	1	B5B5 PP	X	EM E0 MP K0	A	G N
			V	G								
		PV PVL	T	T								
		PVC PVCL	E	SS				B8B8 PP				
			V	G								
		SS SSL	E	SS	X		1	C1C1 PP	X		A	G N
			T	SS T								
			V	SS								
DMH 272-16 DMH 340-16 DMH 450-16 DMH 520-16 DMH 680-16	B D3 D6	SS SSL	E	SS	X	E G H F 0 M	1	C1C1 PP	X	EM E0 MP K0	A	G N
			T	SS T								
			V	SS								

DMH model 280 (DN 4)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 1,3-200 DMH 2,2-200 DMH 2,5-200	B D3 D6	SS SSL	E V T	C	X	E G H F 0 M	2	B6B6	X F B	EM E0 MP K0	A	G N
DMH 3,3-200	AR	SS SSL	E V T	C	F S	G H	2	B6B6	F B	-	A	G N

The deaeration valve has a stainless-steel ball.

DMH model 281 (DN 8)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 2-100 DMH 4,2-100 DMH 6,4-100 DMH 8-100	B D3 D6	SS SSL	E V T	SS	X R	E G H F 0 M	2	AA VV	X F B	EM E0 MP K0	A	G N
DMH 9,6-100	AR	SS SSL	E V T	SS	S R	G H	2	AA VV	F B	-	A	G N

DMH model 283 (DN 20)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 10-100 DMH 19-100 DMH 27-100 DMH 33-100 DMH 40-100 DMH 55-100	B D3 D6	SS SSL	E V T	SS	X	E G H F 0 M	2	A1A1 A3A3	X	EM E0 MP K0	A	G N

DMH model 285 (DN 20)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 40-100 DMH 52-100 DMH 70-100 DMH 80-100 DMH 105-100	B D3 D6	SS SSL	E V T	SS	X	E G H F 0 M	2	A1A1 A3A3	X	EM E0 MP K0	A	G N

DMH model 286 (DN 20)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 85-50 DMH 111-50 DMH 170-50 DMH 222-50	B D3 D6	SS SSL	E V T	SS	X	E G H F 0 M	1	A1A1 A3A3	X	EM E0 MP K0	A	G N

DMH model 287 (DN 8)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 18-200 DMH 23-200 DMH 31-200 DMH 36-200 DMH 50-200	B D3 D6	SS SSL	E V T	SS	X	E G H F 0 M	2	C2C2	X	EM E0 MP K0	A	G N

DMH model 288 (DN 8)

Nom. flow - Max. pressure [l/h]-[bar]	Control variant	Material			Control panel position	Supply voltage	Valve type	Connection outlet/ inlet	Mains plug	Motor variant	Pump housing	Pump design
		Dosing head	Gasket	Valve ball								
DMH 7,5-200 DMH 10-200 DMH 13-200 DMH 15-200 DMH 21-200	B D3 D6	SS SSL	E V T	SS	X	E G H F 0 M	2	C2C2	X	EM E0 MP K0	A	G N

7. Pump connection sizes by pump types

The following table gives an overview of the pump connection sizes for different pump types. The listed connection size reflects the connection size at the inlet and outlet valve of the dosing pump without any connection kits.

DMH 28x dosing pumps are high-pressure pumps. Use high-pressure accessories for the outlet side.

DMH

Product family	Model	Pump type	Connection size
DMH	251, 252	DMH x-x	G 5/8
DMH	253, 254	DMH x-x	G 5/4
DMH	255	DMH x-x	G 5/4 *
DMH	257	DMH x-x	Flange DN 32, accessories for G 2 are suitable.
DMH	280	DMH x-x	G 3/8 ** Use an adapter on the suction side to convert to G 5/8 and use G 5/8 accessories. *8.10.3 Threaded adapters G 3/8*
DMH	281	DMH x-x	G 5/8 **
DMH	283, 285, 286	DMH x-x	G 5/4 **
DMH	287, 288	DMH x-x	G 5/8 **

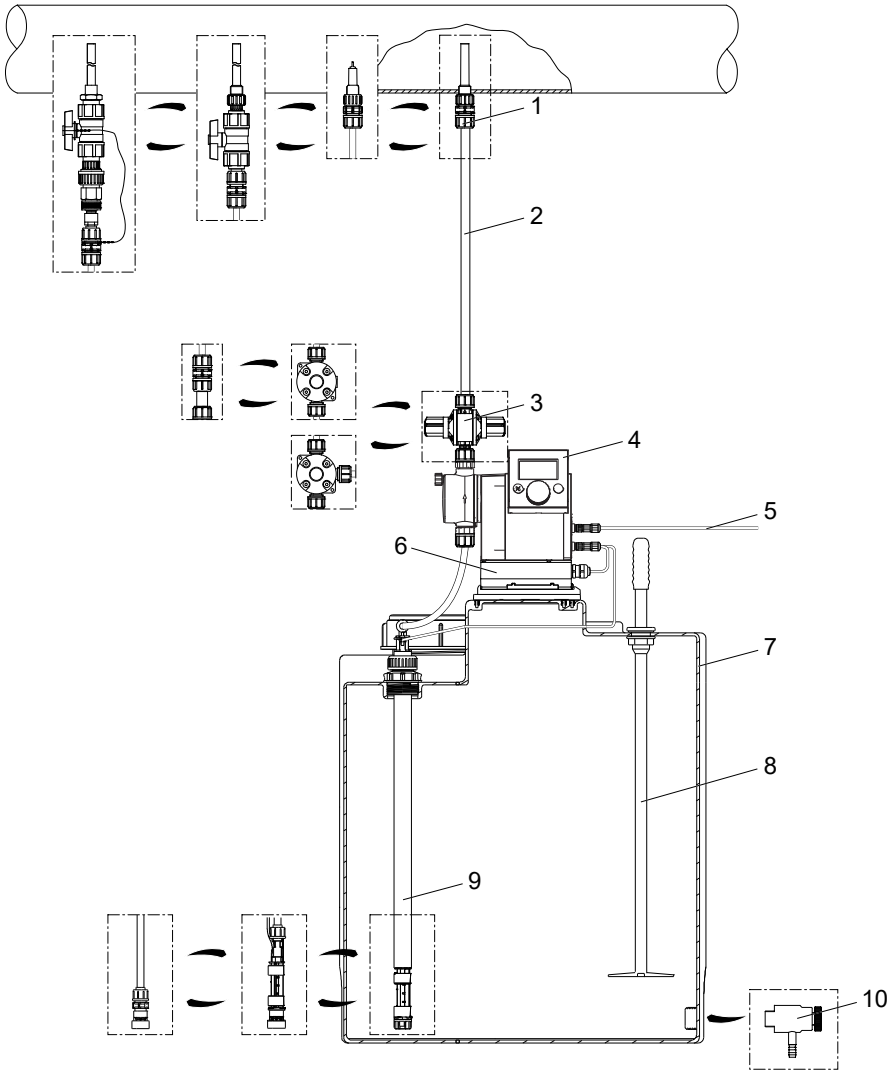
* Pump types DMH 270-10 and DMH 550-10 have a DN 32 flange on the inlet side

** Use high-pressure accessories for the outlet side

8. Hydraulic accessories for pump connection size G 5/8

Overview of accessories for pump connection size G 5/8

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



Pos.	Description	See section
1	Injection units	*Injection units*
2	Hoses	*Hoses for pump connection size G 5/8*
3	Multi-function valve, pressure loading valves, pressure relief valves, pressure valves	*Multi-function valves MFV* *Pressure relief valves PRV* *Pressure loading valves PLV* Pressure valves PVDescription of pressure valves
4	Example: SMART Digital S dosing pump	
5	Cables	Cables and plugs for pump connection size G 5/8Technical data and order numbers for cables and plugs for pump connection size G 5/8
6	E-Box	E-Box for SMART Digital S DDAGeneral description of the E-Box (Extension Box) for SMART Digital S DDA dosing pumps.
7	Dosing tanks	Square tankDrawings, dimensions, product numbers and technical data of square tank for dosing medium including optional pump mounting location *Cylindrical tanks*
8	Handheld mixer	*Tank accessories*

Pos.	Description	See section
9	Rigid suction lances and foot valves	*Order data for rigid suction lances RSL with connection size G 5/8* *Order data for foot valves FV with connection size G 5/8*
10	Drain valve	*Tank accessories*
-	Installation kits	*Installation kits for pump connection size G 5/8*
-	Accessories for hydraulic connection	*Pump connection kits and inlay kits for pump connection size G 5/8* *Threaded adapters G 5/8* *Threaded adapters G 3/8* *Adapters G 5/8* *T-piece adapters G 5/8*

Installation kits for pump connection size G 5/8

The delivery includes:

- Injection unit with spring-loaded non-return valve
- PE outlet hose, 6 m
- PVC inlet hose, 2 m
- PVC deaeration hose, 2 m
- PE foot valve with strainer and weight, without or with level indication

Installation kit with foot valve without level indication

TM041600

TM048469

Installation kit with foot valve with level indication

Order data

The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Max. pressure [bar]	Size		Material of injection unit			Product number	
		Inlet / oulet hose [mm]	Deaeration hose [mm]	Body	Gasket	Ball	Foot valve without level indication	Foot valve with level indication
7.5	13	4/6	4/6	PP	FKM	Ceramic	95730440	95730464
					EPDM	Ceramic	95730441	95730465
7.5	13	4/6	4/6	PVC	FKM	Ceramic	95730442	95730466
					EPDM	Ceramic	95730443	95730467
					PTFE	Ceramic	95730444	95730468
7.5	13	4/6	4/6	PVDF	FKM	Ceramic	95730445	95730469
					EPDM	Ceramic	95730446	95730470
					PTFE	Ceramic	95730447	95730471
30	12	6/9	4/6	PP	FKM	Ceramic	95730448	95730472
					EPDM	Ceramic	95730449	95730473
30	12	6/9	4/6	PVC	FKM	Ceramic	95730450	95730474
					EPDM	Ceramic	95730451	95730475
					PTFE	Ceramic	95730452	95730476
30	12	6/9	4/6	PVDF	FKM	Ceramic	95730453	95730477
					EPDM	Ceramic	95730454	95730478
					PTFE	Ceramic	95730455	95730479
60	9	9/12	4/6	PP	FKM	Ceramic	95730456	95730480
					EPDM	Ceramic	95730457	95730481
60	9	9/12	4/6	PVC	FKM	Ceramic	95730458	95730482
					EPDM	Ceramic	95730459	95730483
					PTFE	Ceramic	95730460	95730484
60	9	9/12	4/6	PVDF	FKM	Ceramic	95730461	95730485
					EPDM	Ceramic	95730462	95730486
					PTFE	Ceramic	95730463	95730487

Hoses for pump connection size G 5/8

Hoses in various materials, sizes and lengths for dosing pumps.
Pump connection size: G 5/8

TM018958

Hoses

Order data

The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Size (internal/external diameter) [mm]	Material	Max. pressure at 20 °C [bar]	Length [m]	Product number
7.5	4/6	PE	13	3	91835676
				10	91836504
				50	91835680
		PVC	0.5	3	96701733
				10	96702133
				50	96727418
		PTFE	20	3	95730337
				10	95730338
				50	95730339
17	5/8	PE	13	3	95730888
				10	96727393
				50	95730889
30	6/9	PE	12	3	96727409
				10	96727412
				50	96727415
		PVC	0.5	3	95730334
				10	95730335
				50	95730336
		ETFE	20	3	95730340
				10	95730341
				50	95730342
	6/12	PVC, textile-reinforced	23	3	96693751
				10	96653571
				50	91835686
60	9/12	PE	9	3	96727395
				10	96705657
				50	96727398
		PVC	0.5	3	96727434
				10	95730890
				50	95724702
		ETFE	13	3	95730343
				10	95730344
				50	95730345

Foot valves FV

Foot valves FV are installed at the lower end of the inlet hose.

Foot valves are suitable for the following applications:

- Extraction of chemicals from unpressurised containers.
- Monitoring of the liquid level in a chemical container (versions with two-step level indication).

TM048476

Foot valves, connection size G 5/8 without level indication (left), with level indication (right)

Order data for foot valves FV with connection size G 5/8

Foot valves are available either without level indication or with low-level and empty-tank indication.

The delivery includes:

- Weight
- Strainer (mesh size approx. 0.8 mm)
- Non-return valve
- Hose connection set: 4/6 mm, 6/9 mm, 6/12 mm and 9/12 mm
- Pipe connection set: threaded, Rp 1/4, internal thread (stainless steel).

Foot valves with low-level and empty-tank indication include additionally:

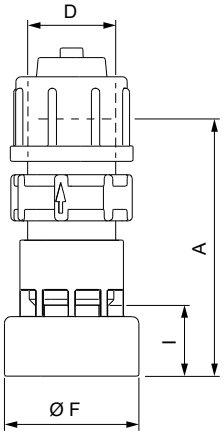
- Reed-switch unit with 2 floaters
- 5 metres of cable with PE jacket
- M 12 plug to connect a DDA, DDC, DDE or DDI dosing pump.
- PE cap, ⌀58 mm, for assembly in Grundfos cylindrical tanks, or for use with tank adapters.

The contact type of the low-level and empty-tank indication is factory-set to NO. The contact type can be set to NC by turning the floaters upside down.

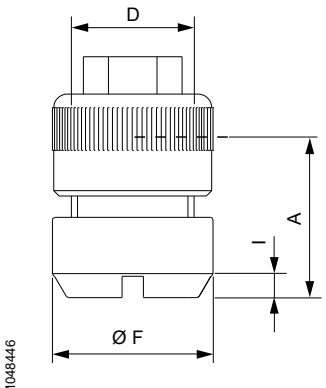
Electrical data of the level indication:

- Max. voltage: 48 V
- Max. current: 0.5 A
- Max. load: 10 VA

Dimensions

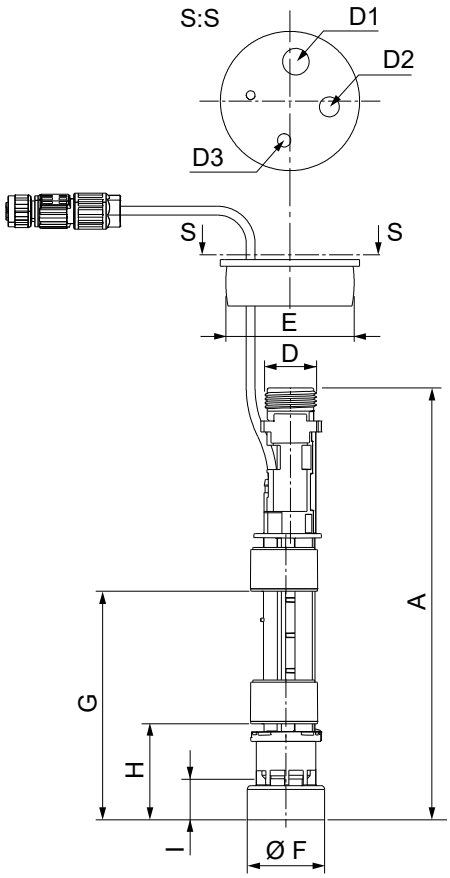


Foot valve without level indication, PE / PVDF



Foot valve without level indication (stainless-steel version)

Body material	A [mm]	D	øF [mm]	I [mm]
PE / PVDF	67.5	G 5/8	35	19
Stainless steel	30	G 5/8	30	4



Foot valve with level indication

A [mm]	D	D1 / D2 / D3 [mm]	E [mm]	øF [mm]	G [mm]	H [mm]	I [mm]
196	G 5/8	12 / 9 / 6	58	35	103.5	43.5	19

Order data

The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Material			Product number	
	Body	Gasket	Ball	FV without level indication	FV with level indication
60	PE	FKM, EPDM	Ceramic	98070951	98070966
		PTFE	Ceramic	98070952	98070967
	PVDF	FKM, EPDM	Ceramic	98070953	98070968
		PTFE	Ceramic	98070954	98070969
	Stainless steel	PTFE	Stainless steel	98070963	-

Rigid suction lances RSL

Grundfos offer a comprehensive range of rigid suction lances for a variety of chemical containers.

Rigid suction lances RSL are suitable for the following applications:

- Extraction of chemicals from unpressurised containers.
- Monitoring of liquid level in the chemical container (versions with two-step level indication).

Rigid suction lances are installed at the lower end of the inlet hose. They are available either without level indication or with low-level and empty-tank indication. Their immersion depth is adjustable.

TM048458

Rigid suction lance, connection size G 5/8

Order data for rigid suction lances RSL with connection size G 5/8

The delivery includes:

- Strainer (mesh size approx. 0.8 mm)
- Non-return valve
- Hose connection set: 4/6 mm, 6/9 mm, 6/12 mm and 9/12 mm
- Adjustable tank connection with holes for e.g. relief line.

Rigid suction lances RSL with low-level and empty-tank indication include additionally:

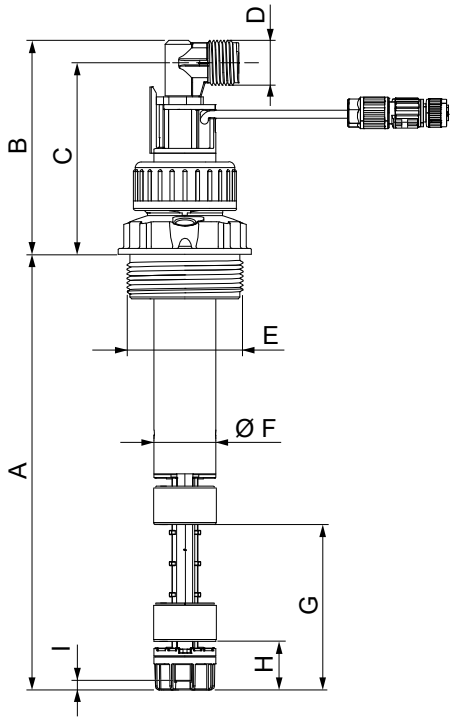
- Reed-switch unit with 2 floaters
- 5 metres of cable with PE jacket
- M 12 plug to connect DDA, DDC, DDE or DDI dosing pump.

The contact type of the low-level and empty-tank indication is factory-set to NO. The contact type can be set to NC by turning the floaters upside down.

Electrical data of the level indication:

- Max. voltage: 48 V
- Max. current: 0.5 A
- Max. load: 10 VA

Dimensions



Rigid suction lance with / without level indication

A [mm]	B [mm]	C [mm]	D	E	øF [mm]	G [mm]	H [mm]	I [mm]
400-1200	110	99	G 5/8	G 2	32	85	25	4.5

Selection

For container type	Tank volume [l]	Recommended immersion depth (L) [mm]
Grundfos cylindrical tank	40	400
	60	500
	100	690
	200	690
	300	980
	500	1100
	1000	1200
Grundfos square tank	100	690
L-ring drum	120	820
	220	980
Steel drum	216	980
Standard jerricans according to EN 12712	12, 33 (large cap)	400
	25, 30, 33	500
	60	690
IBC	all sizes	1200

Order data

The flow rate values apply to liquids with a viscosity similar to water.
Minimum immersion depth for all sizes: approx. 140 mm

Max. flow rate [l/h]	Max. immersion depth [mm]	Material			Product number	
		Body	Gasket	Ball	RSL without level indication	RSL with level indication
60	400	PE	FKM, EPDM	Ceramic	98070978	98071074
			PTFE	Ceramic	98070979	98071075
		PVDF	FKM, EPDM	Ceramic	98070980	98071076
			PTFE	Ceramic	98070981	98071077
	500	PE	FKM, EPDM	Ceramic	98070990	98071086
			PTFE	Ceramic	98070991	98071087
		PVDF	FKM, EPDM	Ceramic	98070992	98071088
			PTFE	Ceramic	98070993	98071089
	570	PE	FKM, EPDM	Ceramic	98071002	98071098
			PTFE	Ceramic	98071003	98071099
		PVDF	FKM, EPDM	Ceramic	98071004	98071100
			PTFE	Ceramic	98071005	98071101
	690	PE	FKM, EPDM	Ceramic	98071014	98071110
			PTFE	Ceramic	98071015	98071111
		PVDF	FKM, EPDM	Ceramic	98071016	98071112
			PTFE	Ceramic	98071017	98071113
	820	PE	FKM, EPDM	Ceramic	98071026	98071122
			PTFE	Ceramic	98071027	98071123
		PVDF	FKM, EPDM	Ceramic	98071028	98071124
			PTFE	Ceramic	98071029	98071125
	980	PE	FKM, EPDM	Ceramic	98071038	98071134
			PTFE	Ceramic	98071039	98071135
		PVDF	FKM, EPDM	Ceramic	98071040	98071136
			PTFE	Ceramic	98071041	98071137
	1100	PE	FKM, EPDM	Ceramic	98071050	98071146
			PTFE	Ceramic	98071051	98071147
		PVDF	FKM, EPDM	Ceramic	98071052	98071148
			PTFE	Ceramic	98071053	98071149
	1200	PE	FKM, EPDM	Ceramic	98071062	98071158
			PTFE	Ceramic	98071063	98071159
		PVDF	FKM, EPDM	Ceramic	98071064	98071160
			PTFE	Ceramic	98071065	98071161

Accessories for rigid suction lances RSL and foot valves FV

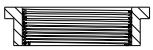
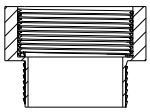
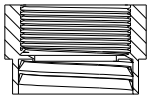
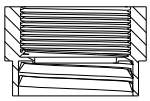
Adapters for container connection

These adapters allow the installation of standard rigid suction lances RSL (G 2 thread) and foot valves FV with level indication (PE cap) on different types of containers.

TM048506

Adapters for containers

Order data

Type		For container type	Material	Product number
	TM048470	Counter nut for tanks without threaded opening, e.g. 100-litre square tank or 1000-litre cylindrical tank	PVC, grey	98071170
	TM048471	Containers with 2 NPT threaded opening	PVC, grey	98156690
		Drums with S 70 x 6 coarse thread (MAUSER 2")	PE, blue	98071171
		Drums with S 56 x 4 coarse thread (TriSure®)	PE, orange	98071172
	TM048473	Jerricans with small opening (approx. ⌀36), according to EN 12713	PE, green	98071173
	TM048473	Jerricans with medium-sized opening (approx. ⌀45), according to EN 12713	PE, yellow	98071174
		Jerricans with large opening (approx. ⌀57), according to EN 12713	PE, brown	98071175
		US containers with bung hole of 63 mm (ASTM International)	PE, white	98071176
	TM048472	IBC (Intermediate Bulk Container) with opening of ⌀150 mm, S 160 x 7	PE, black	98071177

Emission protection kits for rigid suction lances RSL

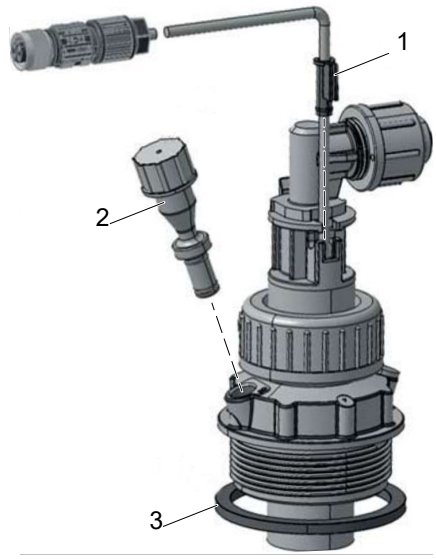
Gas emitted by liquid in a container can cause bad odour and corrosion. Emission protection kits help avoid such problems. Rigid suction lances can be retrofitted with emission protection kits.

Two variants are available:

- Emission protection kit with snifting valve: no gas can escape from the container, but air can be drawn in.
- Emission protection kit for use with filter: gas can escape from the container and air can be drawn in. The kit can be connected to a filter by means of a 4/6 mm hose.

The delivery includes:

- Gasket for the tank adapter
- Snifting valve or hose nipple 4/6 mm (hose is not included)
- Gasket for the cable outlet.



TM069068

Emission protection kit

Pos.	Description
1	Gasket for the cable outlet
2	Air valve
3	Gasket for the tank adapter

Order data

Variant	Product number
Emission protection kit with snifting valve	98071178
Emission protection kit for use with filter	98071179

Flat-plug adapter for DMX and DMH with AR control unit

The flat-plug adapter allows to connect rigid suction lances or foot valves with level indication to pumps with a level input designed for flat plugs (e.g. DMX and DMH with AR control unit).

TM070206

Flat-plug adapter for DMX and DMH with AR control unit

Order data

Description	Product number
Flat-plug adapter for DMX and DMH with AR control unit	96635010

Injection units

Standard injection units

Injection units connect the dosing line with the process line. They ensure a minimum counterpressure and avoid backflow of the dosing medium.

TM068428

Standard injection unit

Injection units with ball valve

Injection units with ball valve are used for applications where the injection point must be closable. The ball valve is placed between the injection pipe and the spring-loaded non-return valve.

- The dosing line can be completely disconnected from the process.
- The non-return valve can be disassembled and cleaned without stopping the process and emptying the process line.

TM068429

Injection unit with ball valve

Injection units with lip valve

Injection units with lip valve are typically used for adding sodium hypochlorite solution to water with a high carbonate content. The FKM lip prevents crystallisation and blocking caused by alkali carbonate reactions at the point of injection.

Injection units with removable injection pipe

Injection units with removable injection pipe are used where regular cleaning of the injection pipe is required.

- The injection pipe can be removed from the process line without stopping the process water flow.
- The injection point can be closed with the integrated ball valve.
- The immersion depth of the injection pipe can be adjusted.

Hot-injection units with ball valve

Hot-injection units with ball valve can be used for direct injection of the dosing medium into processes with a high process water temperature of up to 120 °C.

- Hot-injection units have a stainless-steel injection pipe and a bendable stainless-steel cooling pipe of 1 metre.
- The stainless-steel ball valve is installed between the injection pipe and the cooling pipe.
- The cooling pipe separates the hot parts from the non-return valve and the dosing line.

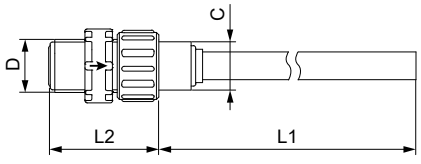
Order data for injection units for pump connection size G 5/8

Injection units for small dosing pumps with G 5/8 connections ensure a minimum counterpressure of 0.7 bar.

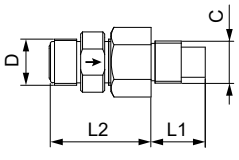
The delivery includes:

- Injection pipe
  - PP, PVC and PVDF versions can be shortened
- Spring-loaded non-return valve with Tantalum spring
- Hose connection set (PP, PVC, PVDF): 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm
- Pipe connection set (Stainless steel): threaded, Rp 1/4, internal thread

Dimensions of standard injection units



Body material: PP, PVC, PVDF



TM069845

TM069846

Body material: Stainless steel

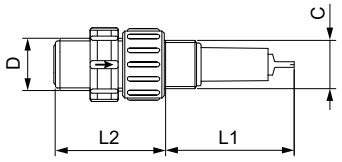
Material	A	L1 [mm]	L2 [mm]
PVC	G 1/2	100 / 300	47
PP, PVDF	G 1/2	100	47
Stainless steel	G 1/2	27	50

Order data for standard injection units

- Max. flow rate: 60 l/h
- The flow rate values apply to liquids with a viscosity similar to water.

Max. pressure [bar]	L1 [mm]	Material			Product number
		Body	Gasket	Ball	
16	100	PVC	FKM	Ceramic	95730912
			EPDM	Ceramic	95730916
			PTFE	Ceramic	95730920
		PP	FKM	Ceramic	95730904
			EPDM	Ceramic	95730908
		PVDF	FKM	Ceramic	95730924
			EPDM	Ceramic	95730928
			PTFE	Ceramic	95730932
16	300	PVC	FKM	Ceramic	95730940
			EPDM	Ceramic	95730944
			PTFE	Ceramic	95730948
100	27	Stainless steel	PTFE	Stainless steel	95730936

Dimensions of injection units with lip valve



TM069847

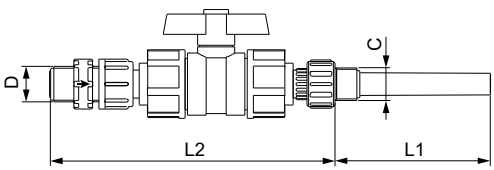
A	L1 [mm]	L2 [mm]
G 1/2	55	59

Order data for injection units with lip valve

- Max. flow rate: 60 l/h
- Max. pressure: 16 bar
- The flow rate values apply to liquids with a viscosity similar to water.

Material			Product number
Body	Gasket	Ball	
PVC	FKM	Ceramic	95730964

Dimensions of injection units with ball valve



TM069848

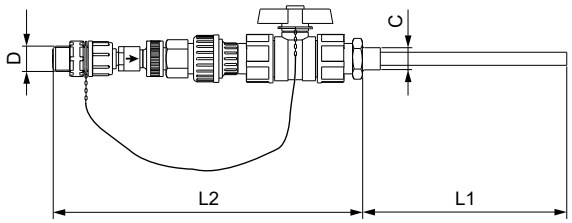
Material	A	L1 [mm]	L2 [mm]
PVC	G 1/2	100	183
Stainless steel	G 1/2	27	138

Order data for injection units with ball valve

- Max. flow rate: 60 l/h
- The flow rate values apply to liquids with a viscosity similar to water.

Max. pressure [bar]	Material			Product number
	Body	Gasket	Ball	
16	PVC	FKM	Ceramic	95730952
		EPDM	Ceramic	95730956
64	Stainless steel	PTFE	Stainless steel	95730960

Dimensions of injection units with removable injection pipe



TM069849

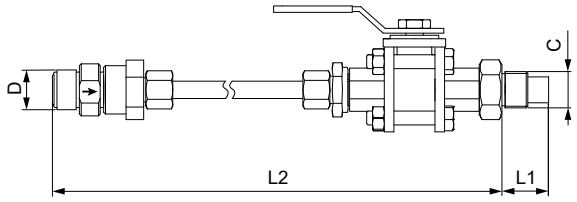
A	L1 [mm]	L2 [mm]
G 1/2	185	280

Order data for injection units with removable injection pipe

- Max. flow rate: 60 l/h
- Max. pressure: 10 bar
- The flow rate values apply to liquids with a viscosity similar to water.

Material			Product number
Body	Gasket	Ball	
PVC	FKM	Ceramic	95730968
	EPDM	Ceramic	95730972

Dimensions of hot-injection units with ball valve



TM069850

A	L1 [mm]	L2 [mm]
G 1/2	27	1158

Order data for hot-injection units with ball valve

- Max. flow rate: 60 l/h
- Maximum process water temperature: 120 °C
- The flow rate values apply to liquids with a viscosity similar to water.

Max. pressure [bar]	Material			Product number
	Body	Gasket	Ball	
16	PVDF	PTFE	Ceramic	95730976
64	Stainless steel	PTFE	Stainless steel	95730980

Multi-function valves, pressure relief valves, pressure loading valves

Multi-function valves MFV

Multi-function valves MFV combine the functions of pressure relief valves PRV and pressure loading valves PLV.

- Pressure relief valves PRV protect the pump and the outlet-side installations against excessive pressure.
- Pressure loading valves PLV maintain a certain counterpressure for the dosing pump.

In addition, multi-function valves allow deaeration of the pump and emptying of the outlet line for maintenance.

A multi-function valve is mounted directly on the pump outlet side. The top connection is for the outlet line, the side connection leads the relief liquid back into the tank.

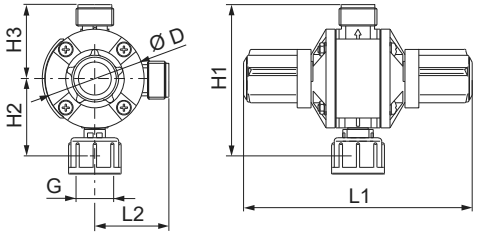
TM041224

Multi-function valve MFV

Order data for multi-function valves MFV

- Loading pressure:
  - factory-set to 3 bar approximately
  - adjustable from 1 to 4 bar
- Relief pressure:
  - factory-set to 10 bar or 16 bar approximately
  - adjustable from 7 to 16 bar
- Max. operating pressure: 16 bar
- Max. flow rate: 60 l/h
  - The flow rate values apply to liquids with a viscosity similar to water.
- Body material: PVDF
- Connection size: 5/8
- Hose connection set: 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm

Dimensions



TM069769

Multi-function valve MFV

L1 [mm]	L2 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	⌀ D [mm]	G
139	45	92	47	45	60	G 5/8

Order data

Material			Product number	
Connections	**Gaskets**	**Diaphragm**	**Relief pressure: 10 bar**	**Relief pressure: 16 bar**
PP	FKM	PTFE	95704585	95730821
	EPDM	PTFE	95704591	95730822
PVC	FKM	PTFE	95730807	95730823
	EPDM	PTFE	95730808	95730824
	PTFE	PTFE	95730809	95730825
PVDF	FKM	PTFE	95730810	95730826
	EPDM	PTFE	95730811	95730827
	PTFE	PTFE	95730812	95730828

Pressure relief valves PRV

Pressure relief valves PRV protect the pump and the outlet-side installations against excessive pressure. All pressurised dosing installations should include a pressure relief valve.

TM069784

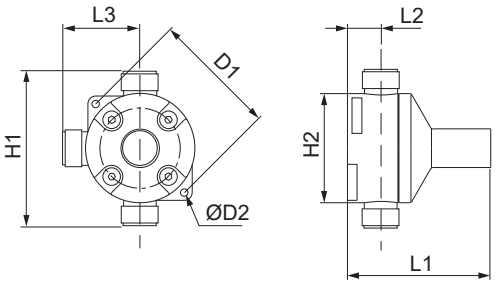
Pressure relief valve PRV, G 5/8

Order data for pressure relief valves PRV for pump connection size G 5/8

Pressure relief valves PRV for small dosing pumps with G 5/8 connections are installed in the outlet line near the pump using the 2 in-line connections. The side connection leads the relief liquid back into the tank.

- Relief pressure:
  - factory-set to 10 bar approximately, adjustable from 5 to 10 bar
  - factory-set to 16 bar approximately, adjustable from 7 to 16 bar
- Max. operating pressure: 16 bar
- Max. flow rate: 60 l/h
  - The flow rate values apply to liquids with a viscosity similar to water.
- Hose connection set: 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm
- Pipe connection set (Stainless steel): threaded, Rp 1/4, internal thread
- Diaphragm: PTFE-coated

Dimensions



TM069786

Pressure relief valve PRV

Material	L1 [mm]	L2 [mm]	L3 [mm]	H1 [mm]	H2 [mm]	D1 [mm]	ø D2 [mm]
PP / PVC / PVDF	82	21	48	96	68	78	4.5
Stainless steel	82	22	20	40	68	-	-

Order data

Material			Product number	
Diaphragm	Body / Connections	Gaskets	Relief pressure: 10 bar	Relief pressure: 16 bar
PTFE	PP	FKM / EPDM	95730757	95730773
	PVC	FKM / EPDM	95730758	95730774
		PTFE	95730759	95730775
	PVDF	FKM / EPDM	95730760	95730776
		PTFE	95730761	95730777
	Stainless steel	-	95730771	95730783

Pressure loading valves PLV

Pressure loading valves PLV maintain a constant counterpressure for the dosing pump. They are used in the following applications:

- Too low counterpressure or no counterpressure at all
- Fluctuating system pressure with outlet-side pulsation damper
- To prevent syphoning, when the inlet pressure is higher than the counterpressure

Pressure loading valves are installed in the outlet line.

Pressure loading valves should not be used as shut-off valves.

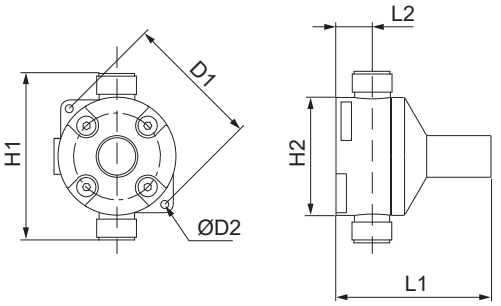
TM069785

Pressure loading valves PLV, G 5/8

Order data for pressure loading valves PLV for pump connection size G 5/8

- Loading pressure:
  - factory-set to 3 bar approximately
  - adjustable from 1 to 5 bar
- Max. operating pressure: 16 bar
- Max. flow rate: 60 l/h
  - The flow rate values apply to liquids with a viscosity similar to water.
- Hose connection set: 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm
- Pipe connection set (Stainless steel): threaded, Rp 1/4, internal thread
- Diaphragm: PTFE-coated

Dimensions



TM069787

Pressure loading valve PLV

Material	L1 [mm]	L2 [mm]	H1 [mm]	H2 [mm]	D1 [mm]	⌀ D2 [mm]
PP / PVC / PVDF	82	21	96	68	78	4.5
Stainless steel	82	22	40	68	-	-

Order data

Material			Product number
Diaphragm	Body and connections	Gaskets	
PTFE	PP	FKM / EPDM	95730741
	PVC	FKM / EPDM	95730742
		PTFE	95730743
	PVDF	FKM / EPDM	95730744
		PTFE	95730745
	Stainless steel	-	95730751

Pulsation dampers and calibration columns

Discharge-side pulsation dampers DB and DBG

Pulsation dampers are used to even out the pulsating flow and pressure produced by positive displacement pumps like diaphragm dosing pumps.

Pulsation dampers DB and DBG have a separating diaphragm and are intended for the outlet side of the dosing pump. They are especially designed for installations with long outlet lines with a small diameter, or with rigid pipes. The pulsation dampers optimise the dosing accuracy and protect the pump and the outlet line against pressure surges.

Pulsation dampers DB and DBG have an air or nitrogen cushion inside, which is separated from the dosing medium by a separating diaphragm. This keeps the preload pressure stable for a long time and avoids that air or nitrogen is dissolved in the dosing medium.

In PVC, PP, and stainless steel pulsation dampers, an FKM or EPDM bladder is used as separating diaphragm, in PVDF pulsation dampers a PTFE bellows is used as separating diaphragm.

Pulsation dampers DBG include a pressure gauge for easy setting of the correct pressure. Pulsation dampers DB have no pressure gauge.

If the counterpressure in the system is low or fluctuating, the installation of a pressure loading valve PLV after the pulsation damper may be required to optimise its function.

TM068424

Discharge-side pulsation damper DBG

Suction-side pulsation dampers CSD with calibration scale

Pulsation dampers are used to even out the pulsating flow and pressure produced by positive displacement pumps like diaphragm dosing pumps.

Pulsation dampers CSD are installed on the inlet side of the dosing pump. They can be used for multiple pumps that are supplied by the same inlet line.

Pulsation dampers CSD help to ensure the accuracy of dosing pumps, which is highly dependent on proper suction conditions. In installations with long inlet lines or inlet lines with a small diameter, the use of a CSD pulsation damper is recommended.

Pulsation dampers CSD have a transparent PVC cylinder with a fine volume scale. When combined with a shut-off valve in the inlet line, they can also be used for calibration or flow measurement. In installations without flooded suction, the optional manual vacuum pump kit simplifies startup of the dosing pump.

TM068450

Suction-side pulsation dampers CSD with calibration scale

Calibration columns

Calibration columns have a graduated glass cylinder with a fine scale. A shut-off valve on the lower end can disconnect them from the inlet-side installation during normal operation.

One calibration column can be used for multiple pumps that are supplied by the same inlet line.

Calibration columns must not be used as pulsation dampers.

Sizing guide for pulsation dampers and calibration columns, pump connection size G 5/8

Look up your pump type in the table. Find the required pulsation damper or calibration column volume in the respective table column.

Pump type	Pump stroke volume [ml]	Required volume [l]		
		DB / DBG	CSD	Calibration column
DMH 5-10	3.5	0.15 - 0.18	0.5	0.5
DMH 13-10				
DMH 24-10				
DMH 11-10				
DMH 24-10	6.4			
DMH 46-10				

Order data for pulsation dampers CSD, pump connection size G 5/8

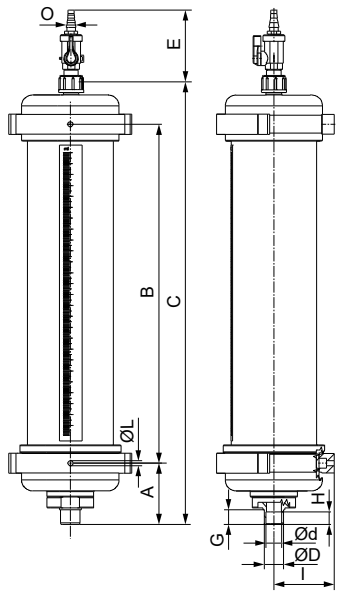
Features

- Prepared for pipe gluing connection with spigot (D) or socket (d).
- Calibration is possible by installing a T-piece and a shut-off valve.
- In installations without flooded suction, the optional manual vacuum pump kit simplifies the startup of the dosing pump.

The delivery includes:

- Sight glass with calibration scale
- Aeration valve
- Material for wall mounting

Dimensions



TM070431

Suction-side pulsation dampers CSD with calibration scale

Damper volume [l]	A [mm]	B [mm]	C [mm]	øD/ød [mm]	E [mm]	G [mm]	H [mm]	I [mm]	øL [mm]	O [mm]
0.25	50	270	360	16/12	92	14	12	40	6.5	8-13
0.5	50	340	431	16/12	92	14	12	47		

Order data

Max. operating pressure: 2 bar

Damper volume [l]	Max. pump stroke volume [ml]	Max. number of pumps with max. stroke volume	Scale division [ml]	Material			Product number
				Body	Sight glass	Gasket	
0.25	2	3	2	PVC	PVC	FKM / EPDM	99186948
						PTFE	99217401
0.5	7	3	5	PVC	PVC	FKM / EPDM	99187777
						PTFE	99217402

Order data for calibration columns, pump connection size G 5/8

Calibration columns are intended for flow measurement or calibration of dosing pumps. They must be isolated from the pipework during normal operation.

The volume in the calibration column can supply the largest suitable pump for approximately 30 seconds.

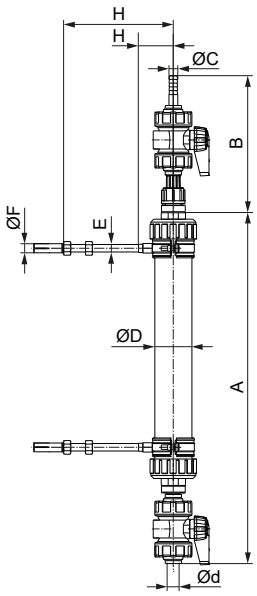
The delivery includes:

- Glass cylinder with acrylic outer shield
- Aeration valve on top
- Shut-off valve on the bottom

In installations without flooded suction, the optional manual vacuum pump kit simplifies the startup of the dosing pump.

Calibration columns must not be used as pulsation dampers.

Dimensions



TM068405

Calibration column

Volume [l]	Body	A [mm]	B [mm]	øC [mm]	øD [mm]	E	øF [mm]	H [mm]
0.25	PVDF	478	184	12	50.8	M 10	12	50-154
	SS	460	140					
0.5	PVDF	517	184	12	69.85	M 10	12	61-165
	SS	498	140					

Order data

Volume [l]	Max. pump stroke volume [ml]	Scale division [ml]	Connection ød		Material		Product number
			[mm]		Body	Gasket	
0.25	2	2	16	-	PVDF	FKM	99224280
			-	G 1/2	SS	FKM	99224303
					SS	EPDM	99224304
0.5	7	5	16	-	PVDF	FKM	99224305
			-	G 1/2	SS	FKM	99224307
					SS	EPDM	99224308

Order data for pulsation dampers DB and DBG, pump connection size G 5/8

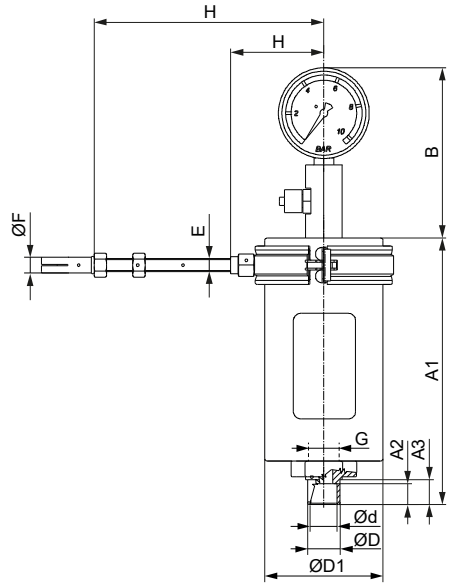
We recommend using one pulsation damper per dosing pump.

Preload pressure: 2.7 bar.

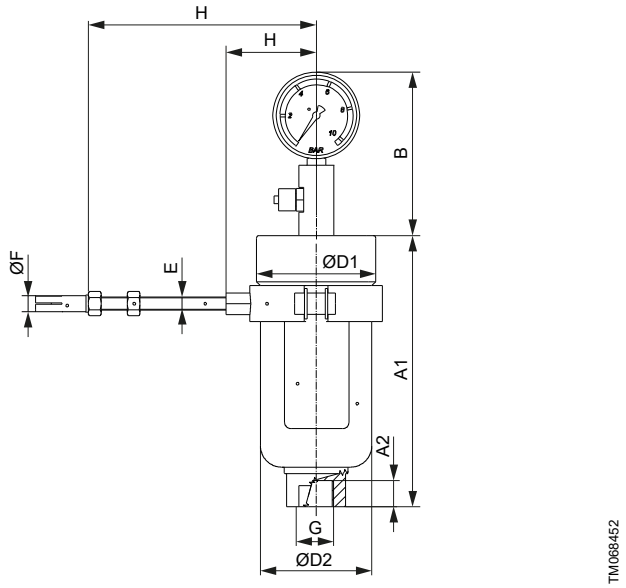
The delivery includes:

- Material for wall mounting
- PVC versions are prepared for pipe gluing connection with spigot (D) or socket (d).
- PVDF and PP versions are prepared for pipe welding connection with spigot (D) or socket (d).
- Pulsation dampers DBG include a pressure gauge.

Dimensions



Pulsation damper DBG, PVC version



Pulsation damper DBG, stainless steel version

B [mm]	øF [mm]	E
129	12	M 10

Damper volume [l]	Body material	Connections		A1 [mm]	A2 [mm]	A3 [mm]	øD1 [mm]	øD2 [mm]	H [mm]
		øD/ød [mm]	G Internal thread						
0.15	PVDF	16/12	G 1/2	205	12	14	70	53	53-127
0.18	PVC, PP	16/12	G 1/2	161	12	14	80	-	67-171
	SS*	-	G 1/2	118	14	-	70	-	64-168

* Stainless steel 1.4404

Order data

Damper volume [l]	Max. pump stroke volume [ml]	Connections		Material		Type DB		Type DBG	
		⌀D/⌀d [mm]	G Internal thread	Body	Gasket	Max. operating pressure [bar]	Product number	Max. operating pressure [bar]	Product number
0.15	7	16/12	G 1/2	PVDF	PTFE	20	99202658	20	99202683
0.18	7	16/12	G 1/2	PVC	FKM	10	99202642	10	99202679
					EPDM	10	99202653	10	99202680
				PP	FKM	10	99202654	10	99202681
					EPDM	10	99202657	10	99202682
		-	G 1/2	SS	FKM	180	99202660	25	99202684
					EPDM	180	99202661	25	99202685

Accessories for hydraulic connection

Pump connection kits and inlay kits for pump connection size G 5/8

Retrofit pump connection kits and inlay kits for the integration of Grundfos standard dosing pumps into installations with various sizes of hoses or pipes.

A pump connection kit includes one set of inlays and one union nut.

TM048294

Pump connection kit

The inlay kits are used to connect pumps and accessories to pipes or hoses that differ from Grundfos standard sizes.

An inlay kit includes two sets of inlays.

TM048295

Inlay kit

Order data

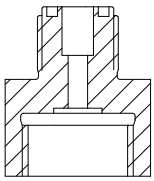
Connection type	Size	Material	Product number	
			Connection kit	Inlay kit
Hose (cone and ring)	4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm	PP	97691902	-
		PVC	97691903	-
		PVDF	97691904	-
	0.17" x 1/4", 1/4" x 3/8", 3/8" x 1/2"	PP	97691905	-
		PVC	97691906	-
		PVDF	97691907	-
Hose (cone and ring)Hose (cone and ring)	4/6 mm, or 0.17" x 1/4"	PP	97702474	95730984
		PVC	97702485	95730720
		PVDF	97702495	95730729
	4/9 mm	PP	98153922	98153977
		PVC	98153944	98154006
		PVDF	98153949	98154029

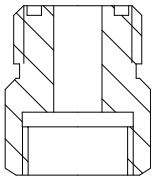
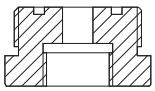
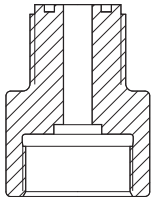
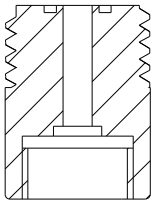
Connection type	Size	Material	Product number	
			Connection kit	Inlay kit
Hose (cone and ring)	5/8 mm	PP	97702475	95730711
		PVC	97702486	95730721
		PVDF	97702496	95730730
Hose (cone and ring)	6/8 mm	PP	97702476	95730712
		PVC	97702487	95730722
		PVDF	97702497	95730731
	6/9 mm	PP	97702477	95730713
		PVC	97702488	95730723
		PVDF	97702498	95730732
	6/12 mm	PP	97702478	95730714
		PVC	97702489	95730724
		PVDF	97702499	95730733
Hose (cone and ring)	9/12 mm	PP	97702479	95730715
		PVC	97702490	95730725
		PVDF	97702500	95730734
Hose (cone and ring)	1/4" x 3/8"	PP	97702482	95730718
		PVC	97702492	95730727
		PVDF	97702503	95730737
	3/8" x 1/2"	PP	97702483	95730719
		PVC	97702493	95730728
		PVDF	97702504	95730738
Hose (cutting ring type)	1/8" x 1/4"	PP	97702481	95730717
		PVDF	97702502	95730736
Pipe welding	External diameter 16 mm	PP	97702480	95730716
		PVDF	97702501	95730735
	DN 10, 3/8"	Stainless steel	99369683	-
Pipe cementing	Internal diameter 12 mm	PVC	97702491	95730726
Pipe, external thread	1/2 NPT	PP	97702484	-
		PVC	97702494	-
		PVDF	97702505	-
		Stainless steel	97702508	-
Pipe, internal thread	Rp 1/4	Stainless steel	97702472	95730739
	1/4 NPT	Stainless steel	97702473	95730740
Pipe (cutting ring type)	4/6 mm	Stainless steel	97702506	-
	8/10 mm	Stainless steel	97702507	-
	10/12 mm	Stainless steel	98807664	-

Threaded adapters G 5/8

With threaded adapters, different sizes of threaded connections can be connected. A threaded adapter includes a gasket.

Technical data

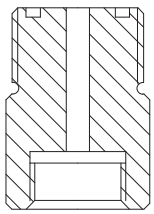
Type	Threaded connection size		Material		Product number
	Internal thread	External thread	Body	Gaskets	
 TM048297	G 5/8	G 3/8	PP	FKM / EPDM	95730412
			PVC	FKM / EPDM	95730413
				PTFE	95730414
			PVDF	FKM / EPDM	95730415
				PTFE	95730416

Type		Threaded connection size		Material		Product number
		Internal thread	External thread	Body	Gaskets	
	TM048298	G 5/8	G 3/4	PP	FKM / EPDM	95730417
				PVC	FKM / EPDM	95730418
					PTFE	95730419
				PVDF	FKM / EPDM	95730420
					PTFE	95730421
	TM048299	G 5/8	G 5/4	PP	FKM / EPDM	95730422
				PVC	FKM / EPDM	95730423
					PTFE	95730424
				PVDF	FKM / EPDM	95730425
					PTFE	95730426
	TM048300	G 5/8	M 20 x 1.5	PP	FKM / EPDM	95730427
				PVC	FKM / EPDM	95730428
					PTFE	95730429
				PVDF	FKM / EPDM	95730430
					PTFE	95730431
	TM048475	G 5/8	M 30 x 3.5	PVDF	FKM / EPDM	98154048
					PTFE	98154054

Threaded adapters G 3/8

With threaded adapters, different sizes of threaded connections can be connected. A threaded adapter includes a gasket.

Technical data

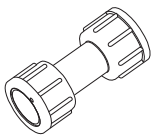
Type		Threaded connection size		Material		Product number
		Internal thread	External thread	Body	Gaskets	
	TM048296	G 3/8	G 5/8	PP	FKM / EPDM	95730407
				PVC	FKM / EPDM	95730408
					PTFE	95730409
				PVDF	FKM / EPDM	95730410
					PTFE	95730411

Adapters G 5/8

Union nut adapters

With a union nut adapter, a pressure loading valve PLV or a pressure relief valve PRV can be mounted directly on the pump outlet valve.

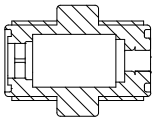
Union nut adapters consist of a rigid pipe with union nuts on both ends. They have neither gaskets nor glued or welded connections.

Type		Threaded connection size		Material	Product number
		Internal thread	Internal thread	Body	
	TM048306	G 5/8	G 5/8	PVC	95730437
				PP	95730438
				PVDF	95730439

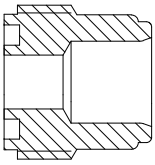
Hose-to-hose and hose-to-pipe adapters

With these adapters, hoses or pipes of different sizes can be connected. The threaded adapter side includes a gasket. Connections for different hose types can be included.

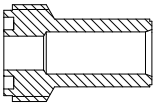
Adapters with two external threads G 5/8

Type	Connections		Material		Product number
	Side 1	Side 2	Body and connections	Gaskets	
 TM048302	External threads G 5/8, connections for hoses 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm		PP	FKM / EPDM	95730367
			PVC	FKM / EPDM	95730368
				PTFE	95730369
			PVDF	FKM / EPDM	95730370
				PTFE	95730371
	External threads G 5/8, without connections		PP	FKM / EPDM	95730356
			PVC	FKM / EPDM	95730357
				PTFE	95730358
			PVDF	FKM / EPDM	95730359
				PTFE	95730360
	External thread G 5/8, without connection	External thread G 5/8, with threaded Rp 1/4 connection	Stainless steel	PTFE	95730361

Adapters with pipe cementing end and external thread G 5/8

Type	Connections		Material		Product number
	Side 1	Side 2	Body and connections	Gaskets	
 TM048360	External threads G 5/8, connections for hoses 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm	Pipe cementing end with internal ⌀12 mm	PVC	FKM / EPDM	95730378
				PTFE	95730379
	External thread G 5/8, without connection	Pipe cementing end with internal ⌀12 mm	PVC	FKM / EPDM	95730365
				PTFE	95730366

Adapters with pipe welding end and external thread G 5/8

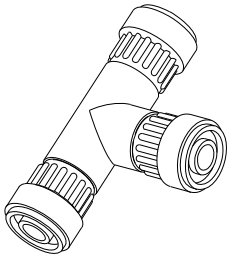
Type	Connections		Material		Product number
	Side 1	Side 2	Body and connections	Gaskets	
 TM048303	External threads G 5/8, connections for hoses 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm	Pipe welding end with external ⌀16 mm	PP	FKM / EPDM	95730377
			PVDF	FKM / EPDM	95730380
				PTFE	95730381
	External thread G 5/8, without connection	Pipe welding end with external ⌀16 mm	PP	FKM / EPDM	95730362
			PVDF	FKM / EPDM	95730363
				PTFE	95730364

T-piece adapters G 5/8

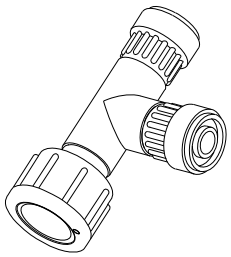
T-piece adapters can connect three lines. T-piece adapters include gaskets.

Connections for different hose types can be included.

T-piece adapters with three external threads G 5/8

Type	Connections			Material		Product number
	Bottom	Top	Side	Body and connections	Gaskets	
 TM048304	External thread G 5/8, connections for hoses 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm			PP	FKM / EPDM	95730387
				PVC	FKM / EPDM	95730388
					PTFE	95730389
				PVDF	FKM / EPDM	95730390
					PTFE	95730391
	External thread G 5/8, without connection			PP	FKM / EPDM	95730346
				PVC	FKM / EPDM	95730347
					PTFE	95730348
				PVDF	FKM / EPDM	95730349
					PTFE	95730350

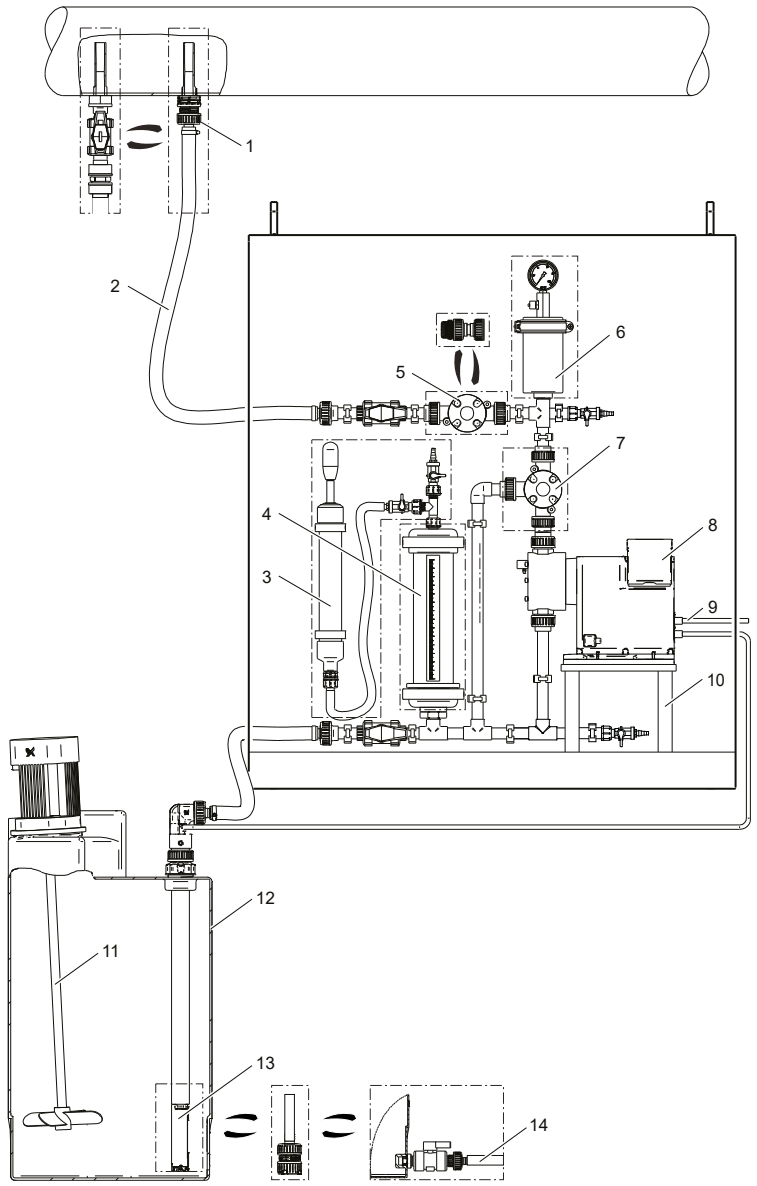
T-piece adapters with internal connection with union nut and two external threads G 5/8

Type	Connections			Material		Product number
	Bottom	Top	Side	Body and connections	Gaskets	
 TM048305	Internal connection, with union nut G 5/8	External thread G 5/8, without connection	External thread G 5/8, connections for hoses 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm	PP	FKM / EPDM	95730397
				PVC	FKM / EPDM	95730398
					PTFE	95730399
				PVDF	FKM / EPDM	95730400
					PTFE	95730401
			External thread G 5/8, without connection	PP	FKM / EPDM	95730351
				PVC	FKM / EPDM	95730352
					PTFE	95730353
				PVDF	FKM / EPDM	95730354
					PTFE	95730355

9. Hydraulic accessories for pump connection size G 5/4

Overview of accessories for pump connection size G 5/4

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



TM070285

Pos.	Description	See section
1	Injection units	*Order data for injection units for pump connection size G 5/4*
2	Hoses	*Hoses for pump connection size G 5/4*
3	Vacuum pump	*Order data for pulsation dampers CSD, pump connection size G 5/4*
4	Pulsation dampers CSD	
5	Pressure valves	Order data for pressure valves PV for pump connection size G 5/4Drawings, dimensions, technical data and order numbers of pressure valves up to 200 l/h for medium-sized dosing pumps with G 5/4 connections
6	Pulsation dampers DBG	*Order data for pulsation dampers DB and DBG, pump connection size G 5/4*
7	Pressure relief valves, pressure loading valves	*Order data for pressure relief valves PRV for pump connection size G 5/4* *Order data for pressure loading valves PLV for pump connection size G 5/4*
8	Example: SMART Digital XL dosing pump	
9	Cables and plugs	*Cables and plugs for pump connection size G 5/4*
10	Wall brackets	*Pump mounting accessories*

Pos.	Description	See section
11	Electrical stirrers	*Electric stirrers*
12	Dosing tanks	Square tankDrawings, dimensions, product numbers and technical data of square tank for dosing medium including optional pump mounting location *Cylindrical tanks*
13	Rigid suction lances and foot valves	*Order data for rigid suction lances RSL with connection size G 5/4* *Order data for foot valves FV with connection size G 5/4*
14	Withdrawal devices	*Tank accessories*
-	Accessories for hydraulic connection	*Pump connection kits and inlay kits for pump connection size G 5/4* *Threaded adapters G 5/4* *Adapters G 5/4* Preassembled accessories set for SMART Digital XLDrawings, dimensions, product numbers and technical data of the preassembled accessories set for SMART Digital XL DDA, DDE, with wall or tank mounting material and outlet-side assembly of PRV, PLV, pulsation damper

Hoses for pump connection size G 5/4

Hoses in various materials, sizes and lengths for dosing pumps.
Pump connection size: G 5/4

TM018958

Hoses

Order data

The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Size (internal/external diameter) [mm]	Material	Max. pressure at 20 °C [bar]	Length [m]	Product number
200	13/20	PVC, textile-reinforced	15	3	96727423
				10	96727420
				50	96692592
460	19/27	PVC, textile-reinforced	12	3	96727426
				10	96696200
				50	96695788
	19/24.6	PVC, reinforced with a plastic spiral	7	3	99168771

Foot valves FV

Foot valves FV are installed at the lower end of the inlet hose.
Foot valves are suitable for the following applications:

- Extraction of chemicals from unpressurised containers.

TM068427

Foot valve, connection size G 5/4

Order data for foot valves FV with connection size G 5/4

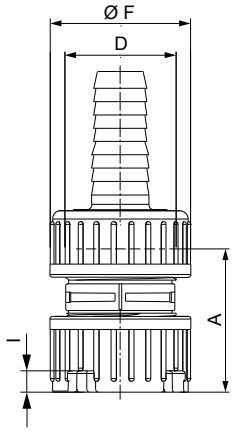
Foot vales G 5/4 have no level indication.

The delivery includes:

- Strainer (mesh size approx. 0.8 mm)
- Non-return valve
- Hose and pipe connection set:
  - for hoses with internal diameter 19 or 20 mm
  - for pipes with external diameter 25 mm (PE includes PVC inlay, PVDF includes PVDF inlay)
- Pipe connection set: threaded, Rp 3/4, internal thread (stainless steel).

Remark: When using the foot valves with hose installation, a rigid pipe should be slipped over the hose to keep the suction line straight and upright in the tank.

Dimensions



TM069058

Left: Foot valve FV (PE, PVDF). Right: Foot valve FV (stainless steel)

Material	d [mm]	L [mm]
PE, PVDF	53	57
SS	50	57

Order data

The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Material			Product number
	Body	Gasket	Ball	
460	PE	FKM / EPDM	Ceramic	99168633
		PTFE	Ceramic	99168635
	PVDF	FKM / EPDM	Ceramic	99168636
		PTFE	Ceramic	99168649
	SS [1)]	PTFE	SS [2)]	99170593

1) Stainless steel 1.4571, 1.4435, 1.4305

2) Stainless steel 1.4401

Rigid suction lances RSL

Grundfos offer a comprehensive range of rigid suction lances for a variety of chemical containers.

Rigid suction lances RSL are suitable for the following applications:

- Extraction of chemicals from unpressurised containers.
- Monitoring of liquid level in the chemical container (versions with two-step level indication).

Rigid suction lances are installed at the lower end of the inlet hose. They are available either without level indication or with low-level and empty-tank indication. Their immersion depth is adjustable.

TM068423

Rigid suction lance, connection size G 5/4

Order data for rigid suction lances RSL with connection size G 5/4

The delivery includes:

- Strainer (mesh size approx. 2.2 mm)
- Non-return valve
- Hose and pipe connection set:
  - for hoses with internal diameter 19 or 20 mm
  - for PVC pipes with external diameter 25 mm
- Adjustable tank connection with holes for a dearation line.

Rigid suction lances with low-level and empty-tank indication include additionally:

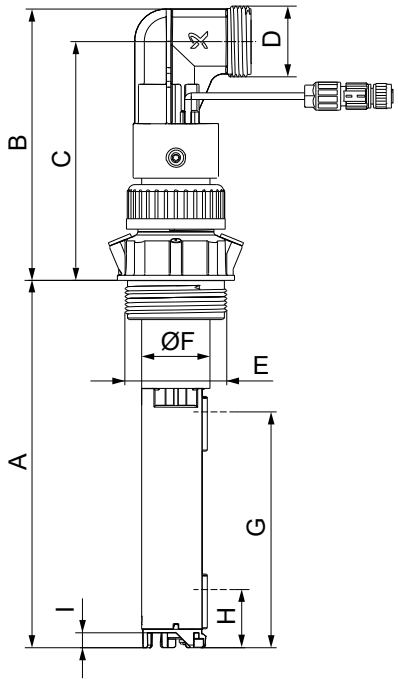
- Reed-switch unit with 2 floaters
- 5 metres of cable with PE jacket
- M 12 plug to connect DDA, DDE, DME or DDI dosing pump.

The contact type of the low-level and empty-tank indication is factory-set to NO. The contact type can be set to NC by turning the floaters upside down.

Electrical data of the level indication:

- Max. voltage: 48 V
- Max. current: 0.5 A
- Max. load: 10 VA

Dimensions



TM068130

Rigid suction lance

A [mm]	B [mm]	C [mm]	D	E	øF [mm]	G*[mm]	H*[mm]	I [mm]
500	159	140	G 5/4	G 2	40	138	34	8.7
690								
980								
1200								

* Switching level for water

Selection

Type	Tank volume [l]	Recommended immersion depth (A) [mm]
Grundfos cylindrical tank	60	500
	100	690
	200	690
	300	980
	500	1200
	1000	1200
Grundfos square tank	100	690
L-ring drum	120	980
	220	980
Steel drum	216	980
Standard jerricans according to EN 12712	33 (large cap)	500
	25, 30, 33	500
	60	690
IBC	all sizes	1200

Order data

The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Max. immersion depth [mm]	Material			Product number	
		Body	Gasket	Ball	RSL without level indication	RSL with level indication
460	500	PE	FKM, EPDM	Ceramic	99199363	99161410
			PTFE	Ceramic	99199364	99161411
	690	PE	FKM, EPDM	Ceramic	99199365	99161412
			PTFE	Ceramic	99199366	99161943
	980	PE	FKM, EPDM	Ceramic	99199367	99161944
			PTFE	Ceramic	99199368	99161945
	1200	PE	FKM, EPDM	Ceramic	99199369	99161946
			PTFE	Ceramic	99199370	99161947

Accessories for rigid suction lances RSL

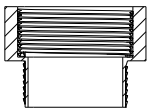
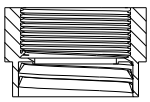
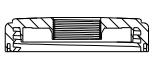
Adapters for container connection

These adapters allow the installation of standard rigid suction lances (G 2 thread) on different types of containers.

TM048506

Adapters for containers

Order data

Type		For container type	Material	Product number
	TM048470	Counter nut for tanks without threaded opening, e.g. 100-litre square tank or 1000-litre cylindrical tank	PVC, grey	98071170
	TM048471	Containers with 2 NPT threaded opening	PVC, grey	98156690
		Drums with S 70 x 6 coarse thread (MAUSER 2")	PE, blue	98071171
		Drums with S 56 x 4 coarse thread (TriSure®)	PE, orange	98071172
	TM048473	Jerricans with medium-sized opening (approx. ⌀45), according to EN 12713	PE, yellow	98071174
		Jerricans with large opening (approx. ⌀57), according to EN 12713	PE, brown	98071175
		US containers with bung hole of 63 mm (ASTM International)	PE, white	98071176
	TM048472	IBC (Intermediate Bulk Container) with opening of ⌀150 mm, S 160 x 7	PE, black	98071177

Emission protection kits for rigid suction lances RSL

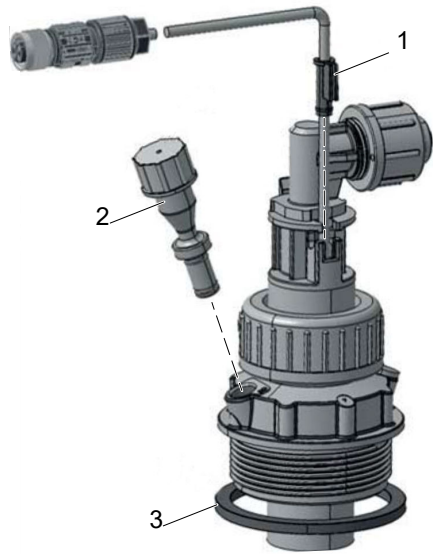
Gas emitted by liquid in a container can cause bad odour and corrosion. Emission protection kits help avoid such problems. Rigid suction lances can be retrofitted with emission protection kits.

Two variants are available:

- Emission protection kit with snifting valve: no gas can escape from the container, but air can be drawn in.
- Emission protection kit for use with filter: gas can escape from the container and air can be drawn in. The kit can be connected to a filter by means of a 4/6 mm hose.

The delivery includes:

- Gasket for the tank adapter
- Snifting valve or hose nipple 4/6 mm (hose is not included)
- Gasket for the cable outlet.



TM069068

Emission protection kit

Pos.	Description
1	Gasket for the cable outlet
2	Air valve
3	Gasket for the tank adapter

Order data

Variant	Product number
Emission protection kit with snifting valve	98071178
Emission protection kit for use with filter	98071179

Flat-plug adapter for DMX and DMH with AR control unit

The flat-plug adapter allows to connect rigid suction lances or foot valves with level indication to pumps with a level input designed for flat plugs (e.g. DMX and DMH with AR control unit).

TM070206

Flat-plug adapter for DMX and DMH with AR control unit

Order data

Description	Product number
Flat-plug adapter for DMX and DMH with AR control unit	96635010

Injection units

Standard injection units

Injection units connect the dosing line with the process line. They ensure a minimum counterpressure and avoid backflow of the dosing medium.

TM068428

Standard injection unit

Injection units with ball valve

Injection units with ball valve are used for applications where the injection point must be closable. The ball valve is placed between the injection pipe and the spring-loaded non-return valve.

- The dosing line can be completely disconnected from the process.
- The non-return valve can be disassembled and cleaned without stopping the process and emptying the process line.

TM068429

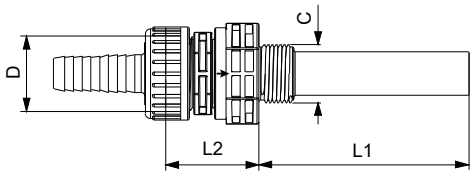
Injection unit with ball valve

Order data for injection units for pump connection size G 5/4

Injection units for medium-sized dosing pumps with G 5/4 connections ensure a minimum counterpressure of 0.7 bar.
The delivery includes:

- Injection pipe
  - immersion depth: 120 mm
  - PP, PVC and PVDF versions can be shortened
- Spring-loaded non-return valve with alloy C-4 spring
- Hose and pipe connection set (PVC, PP, PVDF):
  - for hoses with internal diameter 19 or 20 mm
  - for pipes with external diameter 25 mm
- Pipe connection set (Stainless steel): threaded, Rp 3/4, internal thread

Dimensions of standard injection units



TM069844

A	L1 [mm]	L2 [mm]
G 1	173	120

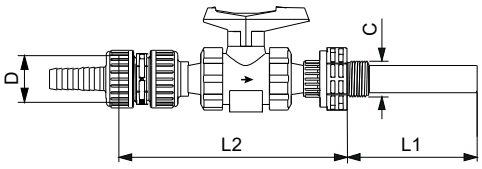
Order data of standard injection units

Max. flow rate: 460 l/h

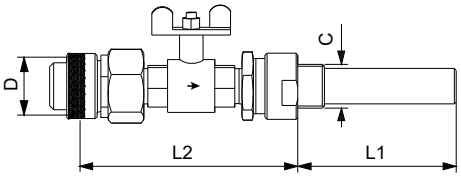
The flow rate values apply to liquids with a viscosity similar to water.

Max. pressure [bar]	Material			Product number
	Body	Gasket	Ball	
10	PVC	FKM	Ceramic	99168657
		EPDM	Ceramic	99168658
		PTFE	Ceramic	99169217
	PP	FKM	Ceramic	99169220
		EPDM	Ceramic	99169223
	PVDF	FKM	Ceramic	99169227
		EPDM	Ceramic	99169228
		PTFE	Ceramic	99169229
16	Stainless steel	PTFE	Stainless steel	99169230

Dimensions of injection units with ball valve



Body material: PVC



Body material: Stainless steel

Material	A	L1 [mm]	L2 [mm]
PVC	G 1	330	120
Stainless steel	G 1	285.5	120

Order data for injection units with ball valve

Max. flow rate: 460 l/h

Max. pressure: 10 bar

The flow rate values apply to liquids with a viscosity similar to water.

Material			Product number
Body	Gasket	Ball	
PVC	FKM	Ceramic	99206582
	EPDM	Ceramic	99206585
Stainless steel	PTFE	Stainless steel	99206586

Pressure relief valves and pressure loading valves

Pressure relief valves PRV

Pressure relief valves PRV protect the pump and the outlet-side installations against excessive pressure. All pressurised dosing installations should include a pressure relief valve.

TM068421

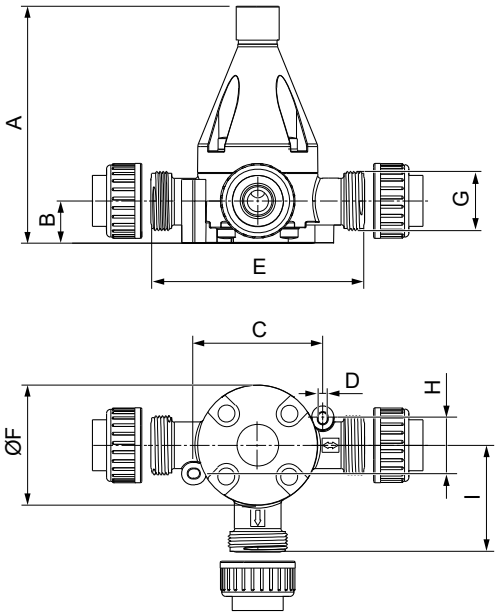
Pressure relief valve PRV, G 5/4

Order data for pressure relief valves PRV for pump connection size G 5/4

Pressure relief valves PRV for medium-sized dosing pumps with G 5/4 connections are installed in the outlet line near the pump using the 2 in-line connections. The side connection leads the relief liquid back into the tank.

- Relief pressure:
  - factory-set to 10 bar approximately
  - adjustable from 3 to 10 bar
- Max. operating pressure: 10 bar
- Max. flow rate: 460 l/h
  - The flow rate values apply to liquids with a viscosity similar to water.
- Hose and pipe connection set (PVC, PP, PVDF):
  - for hoses with internal diameter 19 or 20 mm
  - for pipes with external diameter 25 mm
- Pipe connection set (Stainless steel): threaded, Rp 3/4, internal thread

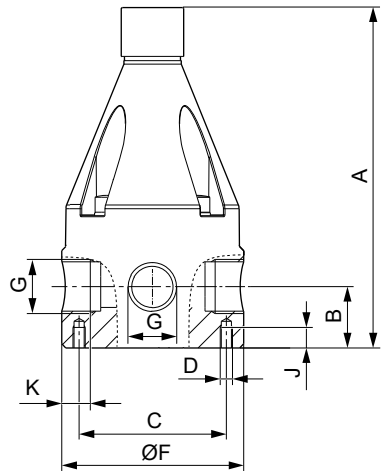
Dimensions of PP, PVC, PVDF pressure relief valves



TM068077

A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	øF [mm]	G	H [mm]	I [mm]
168	30	92	6.5	150	85	G 5/4	40	75

Dimensions of stainless-steel pressure relief valves



TM068247

A [mm]	B [mm]	C [mm]	D	øF [mm]	G	J [mm]	K [mm]
167	30	63	M 6	89	Rp 3/4	10	17.5

Order data for pressure relief valves

Material		Product number
Body	Gaskets	
PVC	FKM / EPDM	99131032
	PTFE	99141139
PP	FKM / EPDM	99141197
PVDF	FKM / EPDM	99141212
	PTFE	99141224
Stainless steel	-	99141228

Pressure loading valves PLV

Pressure loading valves PLV maintain a constant counterpressure for the dosing pump. They are used in the following applications:

- Too low counterpressure or no counterpressure at all
- Fluctuating system pressure with outlet-side pulsation damper
- To prevent syphoning, when the inlet pressure is higher than the counterpressure

Pressure loading valves are installed in the outlet line.

Pressure loading valves should not be used as shut-off valves.

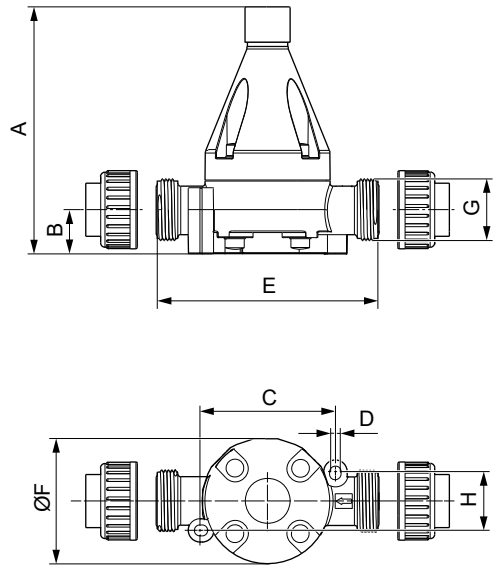
TM068422

Pressure loading valve PLV, G 5/4

Order data for pressure loading valves PLV for pump connection size G 5/4

- Loading pressure:
  - factory-set to 3 bar approximately
  - adjustable from 3 to 10 bar
- Max. operating pressure: 10 bar
- Max. flow rate: 460 l/h
  - The flow rate values apply to liquids with a viscosity similar to water.
- Hose and pipe connection set (PVC, PP, PVDF):
  - for hoses with internal diameter 19 or 20 mm
  - for pipes with external diameter 25 mm
- Pipe connection set (Stainless steel): threaded, Rp 3/4, internal thread

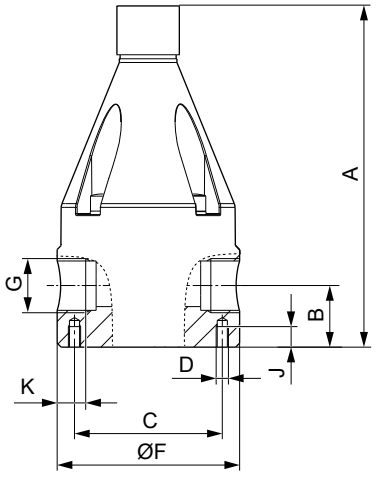
Dimensions of PP, PVC, PVDF pressure loading valves



TM068090

A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G	H [mm]
168	30	92	6.5	150	85	G 5/4	40

Dimensions of stainless-steel pressure loading valves



TM068246

A [mm]	B [mm]	C [mm]	D	F [mm]	G	J [mm]	K [mm]
167	30	63	M 6	89	Rp 3/4	10	17.5

Order data

Material		Product number
Body	Gaskets	
PVC	FKM / EPDM	99132186
	PTFE	99140593
PP	FKM / EPDM	99140610
PVDF	FKM / EPDM	99140646
	PTFE	99140651
Stainless steel	-	99135772

Pulsation dampers and calibration columns

Discharge-side pulsation dampers DB and DBG

Pulsation dampers are used to even out the pulsating flow and pressure produced by positive displacement pumps like diaphragm dosing pumps.

Pulsation dampers DB and DBG have a separating diaphragm and are intended for the outlet side of the dosing pump. They are especially designed for installations with long outlet lines with a small diameter, or with rigid pipes. The pulsation dampers optimise the dosing accuracy and protect the pump and the outlet line against pressure surges.

Pulsation dampers DB and DBG have an air or nitrogen cushion inside, which is separated from the dosing medium by a separating diaphragm. This keeps the preload pressure stable for a long time and avoids that air or nitrogen is dissolved in the dosing medium.

In PVC, PP, and stainless steel pulsation dampers, an FKM or EPDM bladder is used as separating diaphragm, in PVDF pulsation dampers a PTFE bellows is used as separating diaphragm.

Pulsation dampers DBG include a pressure gauge for easy setting of the correct pressure. Pulsation dampers DB have no pressure gauge.

If the counterpressure in the system is low or fluctuating, the installation of a pressure loading valve PLV after the pulsation damper may be required to optimise its function.

TM068424

Discharge-side pulsation damper DBG

Suction-side pulsation dampers CSD with calibration scale

Pulsation dampers are used to even out the pulsating flow and pressure produced by positive displacement pumps like diaphragm dosing pumps.

Pulsation dampers CSD are installed on the inlet side of the dosing pump. They can be used for multiple pumps that are supplied by the same inlet line.

Pulsation dampers CSD help to ensure the accuracy of dosing pumps, which is highly dependent on proper suction conditions. In installations with long inlet lines or inlet lines with a small diameter, the use of a CSD pulsation damper is recommended.

Pulsation dampers CSD have a transparent PVC cylinder with a fine volume scale. When combined with a shut-off valve in the inlet line, they can also be used for calibration or flow measurement. In installations without flooded suction, the optional manual vacuum pump kit simplifies startup of the dosing pump.

TM068450

Suction-side pulsation dampers CSD with calibration scale

Calibration columns

Calibration columns have a graduated glass cylinder with a fine scale. A shut-off valve on the lower end can disconnect them from the inlet-side installation during normal operation.

One calibration column can be used for multiple pumps that are supplied by the same inlet line.

Calibration columns must not be used as pulsation dampers.

Sizing guide for pulsation dampers and calibration columns, pump connection size G 5/4

Look up your pump type in the table. Find the required pulsation damper or calibration column volume in the respective table column.

Pump type	Pump stroke volume [ml]	Required volume [l]		
		DB / DBG	CSD	Calibration column
DMH 21-10	11.3	0.3 - 0.36	1.5	2.0
DMH 43-10				
DMH 67-10				
DMH 83-10				
DMH 100-10				
DMH 50-10	31.6	0.65 - 0.7	3.0	4.0
DMH 102-10				
DMH 143-10				
DMH 175-10				
DMH 213-10				
DMH 291-10				

Order data for pulsation dampers CSD, pump connection size G 5/4

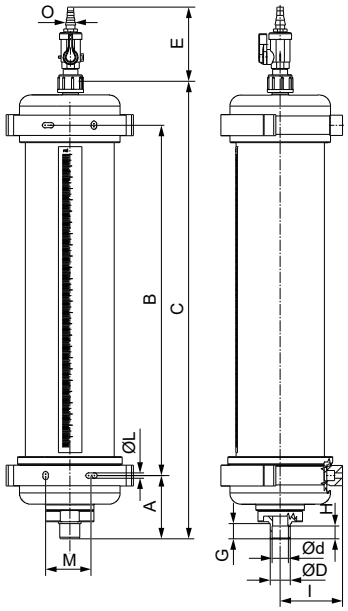
Features

- Prepared for pipe gluing connection with spigot (D) or socket (d).
- Calibration is possible by installing a T-piece and a shut-off valve.
- In installations without flooded suction, the optional manual vacuum pump kit simplifies the startup of the dosing pump.

The delivery includes:

- Sight glass with calibration scale
- Aeration valve
- Material for wall mounting

Dimensions



TM068373

Suction-side pulsation dampers CSD with calibration scale

Damper volume [l]	A [mm]	B [mm]	C [mm]	øD / ød [mm]	E [mm]	G [mm]	H [mm]	l [mm]	øL [mm]	M [mm]	O [mm]
1.5	75	343	465	25 / 20	92	19	16	70	6.5	40	8-13
3.0	79	435	568	25 / 20	92	19	16	78		60	

Order data

Max. operating pressure: 2 bar

Damper volume [l]	Max. pump stroke volume [ml]	Max. number of pumps with max. stroke volume	Scale division [ml]	Material			Product number
				Body	Sight glass	Gasket	
1.5	19	3	20	PVC	PVC	FKM / EPDM	99188854
						PTFE	99217403
3.0	45	2	25	PVC	PVC	FKM / EPDM	99190807
						PTFE	99217406

Order data for calibration columns, pump connection size G 5/4

Calibration columns are intended for flow measurement or calibration of dosing pumps. They must be isolated from the pipework during normal operation.

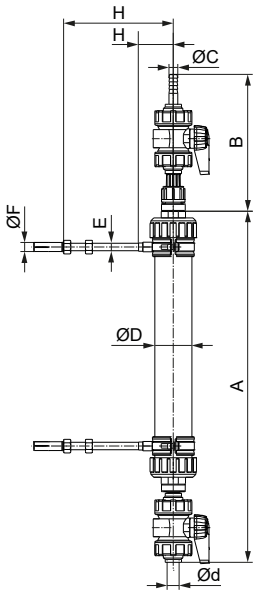
The volume in the calibration column can supply the largest suitable pump for approximately 30 seconds.

The delivery includes:

- Glass cylinder with acrylic outer shield
- Aeration valve on top
- Shut-off valve on the bottom

In installations without flooded suction, the optional manual vacuum pump kit simplifies the startup of the dosing pump. Calibration columns must not be used as pulsation dampers.

Dimensions



TM068405

Calibration column

Volume [l]	Body	A [mm]	B [mm]	øC [mm]	øD [mm]	E	øF [mm]	H [mm]
2.0	PVDF	675	188	12	101.6	M 10	12	78-182
	SS	657	148					
4.0	PVDF	795	188	12	132	M 10	12	92-196
	SS	777	148					

Order data

Volume [l]	Max. pump stroke volume [ml]	Scale division [ml]	Connection ød		Material		Product number
			[mm]		Body	Gasket	
2.0	19	20	25	-	PVDF	FKM	99224309
			-	G 1	SS	FKM	99224310
					SS	EPDM	99224311
4.0	45	25	25	-	PVDF	FKM	99224312
			-	G 1	SS	FKM	99224313
					SS	EPDM	99224314

Order data for pulsation dampers DB and DBG, pump connection size G 5/4

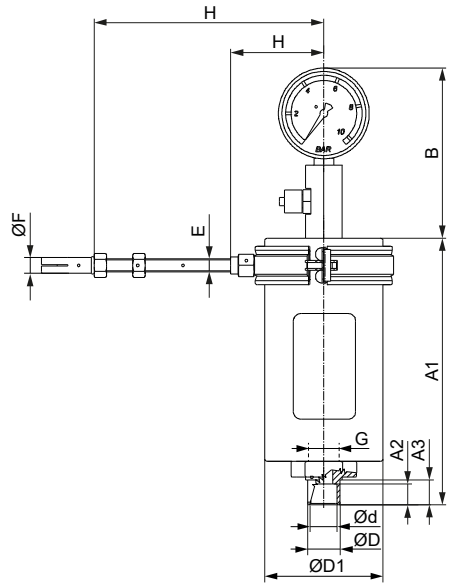
We recommend using one pulsation damper per dosing pump.

Preload pressure: 2.7 bar.

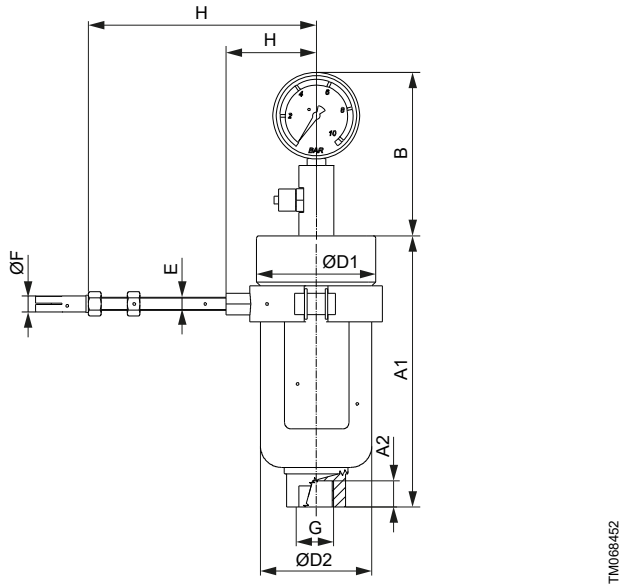
The delivery includes:

- Material for wall mounting
- PVC versions are prepared for pipe gluing connection with spigot (D) or socket (d).
- PVDF and PP versions are prepared for pipe welding connection with spigot (D) or socket (d).
- Pulsation dampers DBG include a pressure gauge.

Dimensions



Pulsation damper DBG, PVC version



Pulsation damper DBG, stainless steel version

B [mm]	øF [mm]	E
129	12	M 10

Damper volume [l]	Body material	Connections		A1 [mm]	A2 [mm]	A3 [mm]	øD1 [mm]	øD2 [mm]	H [mm]
		øD/ød [mm]	G Internal thread						
0.3	PVDF	25/20	G 3/4	267	20	25	84	63	58-175
0.36	PVC, PP	25/20	G 3/4	203	20	25	90	-	71-175
	SS*	-	G 1/2	161	16	-	85	-	67-171
0.65	PVC, PP	25/20	G 3/4	263	20	25	100	-	78-152
	SS*	-	G 3/4	205	20	-	90	84	67-171
0.7	PVDF	25/20	G 3/4	138	20	25	98	84	67-171

* Stainless steel 1.4404

Order data

Damper volume [l]	Max. pump stroke volume [ml]	Connections		Material		Type DB		Type DBG	
		øD/ød [mm]	G Internal thread	Body	Gasket	Max. operating pressure [bar]	Product number	Max. operating pressure [bar]	Product number
0.36	19	25/20	G 3/4	PVC	FKM	10	99202662	10	99202687
					EPDM	10	99202663	10	99202688
				PP	FKM	10	99202664	10	99202689
					EPDM	10	99202665	10	99202690
		-	G 1/2	SS	FKM	180	99202667	25	99202692
					EPDM	180	99202669	25	99202693
0.3	19	25/20	G 3/4	PVDF	PTFE	20	99202666	20	99202691
0.65	45	25/20	G 3/4	PVC	FKM	10	99202670	10	99202694
					EPDM	10	99202671	10	99202695
				PP	FKM	10	99202672	10	99202696
					EPDM	10	99202673	10	99202697
		-	G 3/4	SS	FKM	50	99202675	25	99202699
					EPDM	50	99202676	25	99202700
0.7	45	25/20	G 3/4	PVDF	PTFE	20	99202674	20	99202698

Accessories for hydraulic connection

Pump connection kits and inlay kits for pump connection size G 5/4

Retrofit pump connection kits and inlay kits for the integration of Grundfos standard dosing pumps into installations with various sizes of hoses or pipes.

A pump connection kit includes one set of inlays and one union nut.

TM068425

Pump connection kit

The inlay kits are used to connect pumps and accessories to pipes or hoses that differ from Grundfos standard sizes. An inlay kit includes two sets of inlays.

TM068430

Inlay kit

Order data

Application	Connection type	For hose/pipe size		Code	Material	Product number	
		Internal	External			Connection kit	Inlay kit
Hose connection	Nipple and clamp	19, 20 mm	-	U3	PP	99082037	-
Pipe connection	Gluing or welding inlay	-	25 mm		PVC	99082038	-
					PVDF	99082039	-
Hose connection	Cone and ring	13 mm	20 mm	A6	PVC	91835696	99170747
Hose connection	Nipple and clamp	19, 20 mm or 3/4"	-	Q	PP	99169576	99169735
					PVC	99169603	99169740
					PVDF	99169728	99169738
Pipe connection	Welding inlay	-	25 mm	B4	PP	91835697	99171119
					PVDF	91835698	99171146
			DN 20, 3/4"	C0	SS	99369686	-
Pipe connection	Gluing inlay	-	25 mm	B0	PVC	96701989	99171177
			3/4" pipe (US) or 26.6 mm (BS)	C7	PVC	99170858	99171222
Pipe connection	External thread	3/4 NPT		A7	PVC	99082040	99171707
					PP	99082041	99171776
					PVDF	99082042	99171793

Application	Connection type	For hose/pipe size		Code	Material	Product number	
		Internal	External			Connection kit	Inlay kit
Pipe connection	Internal thread	Rp 3/4		A1	PP	99082043	99182104
					PVDF	99082044	99182109
					SS *	99082045	99182114
					Alloy C-4 **	99082046	99182136
		3/4 NPT		A3	PP	99082047	99174974
					PVDF	99082048	99175004
					SS *	99082049	99175015
					Alloy C-4 **	99082050	99175031
Pipe connection	Cutting-ring type	19 mm	22 mm	C3	SS *	96727555	-

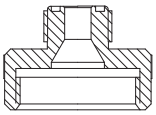
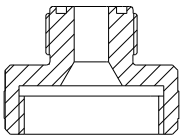
* Union nut: Stainless steel 1.4401, inlay: Stainless steel 1.4571

** 2.4610 (Alloy C-4)

Threaded adapters G 5/4

With threaded adapters, different sizes of threaded connections can be connected. A threaded adapter includes a gasket.

Order data

Type		Threaded connection size		Material		Product number
		Internal thread	External thread	Body	Gaskets	
	TM048301	G 5/4	G 5/8	PP	FKM / EPDM	95730432
				PVC	FKM / EPDM	95730433
					PTFE	95730434
				PVDF	FKM / EPDM	95730435
					PTFE	95730436
	TM068416	G 5/4	G 3/4	PP	FKM / EPDM	99227512
				PVC	FKM / EPDM	99227511
					PTFE	99228197
				PVDF	FKM / EPDM	99227829
					PTFE	99227533

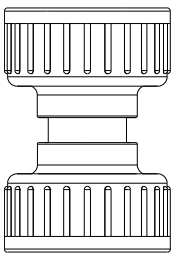
Adapters G 5/4

Union nut adapters

With a union nut adapter, a pressure loading valve PLV or a pressure relief valve PRV can be mounted directly on the pump outlet valve.

Union nut adapters consist of a rigid pipe with union nuts on both ends.

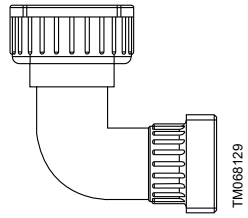
Technical data

Type		Threaded connection size		Body material	Product number
		Internal thread	Internal thread		
	TM068418	G 5/4	G 5/4	PP	99228667
				PVC	99228665
				PVDF	99228669

Elbow adapter

An elbow adapter can be installed, if the space on the inlet side of the pump is confined.

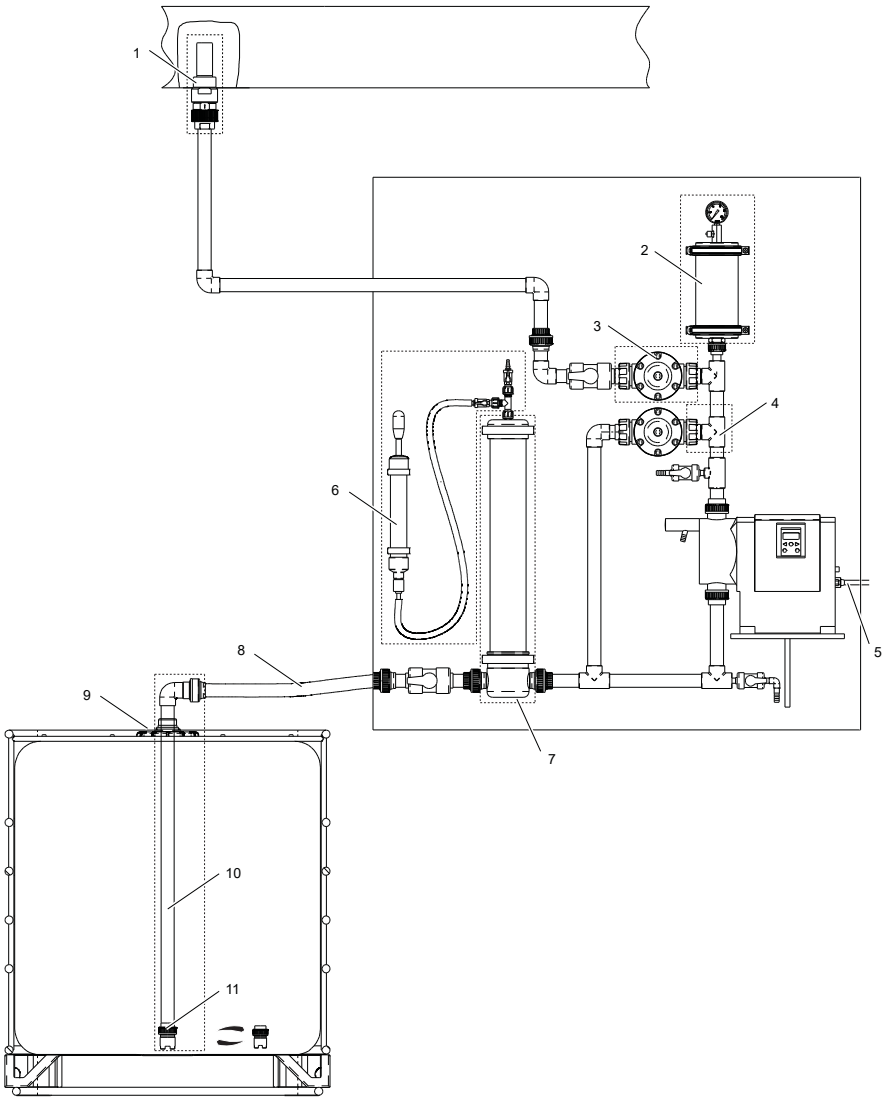
Technical data

Type	Threaded connection size		Body material	Product number
	Internal thread	External thread		
 TM068129	G 5/4	G 5/4	PVC	99168768

10. Hydraulic accessories for pump connection size G 2

Overview of accessories for pump connection size G 2

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



TM070519

Pos.	Description	See section
1	Injection units	*Injection units for pump connection size G 2*
2	Pulsation dampers DBG	*Order data for pulsation dampers DB and DBG, pump connection size G 2*
3	Pressure loading valves PLV	*Order data for pressure loading valves PLV for pump connection size G 2*
4	Pressure relief assembly	*Relief assembly for pressure loading valves PLV with G 2 connection*
5	Cables and plugs	Cables and plugs for DME pumpsTechnical data and order numbers for cables and plugs
6	Manual vacuum pump kits	*Order data for pulsation dampers CSD, pump connection size G 2*
7	Pulsation dampers CSD	
8	Hoses	*Hoses for dosing pump connection size G 2*
9	Adapter for rigid suction lances RSL	*Rigid suction lances RSL with connection size G 2*
10	Rigid suction lances RSL	
11	Foot valves FV	*Foot valves FV with connection size G 2*
-	Pump connection inlay kits and union nut kits	*Pump connection inlay kits and union nut kits for pump connection size G 2*

Hoses for dosing pump connection size G 2

Hoses in various materials, sizes and lengths for dosing pumps.

Pump connection size: G 2

TM018958

Hoses

Order data

The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Size (internal/external diameter) [mm]	Material	Max. pressure [bar]	Length [m]	Product number
940	32/41	PVC, textile-reinforced	9	5	96535077
				10	96535079

Foot valves FV with connection size G 2

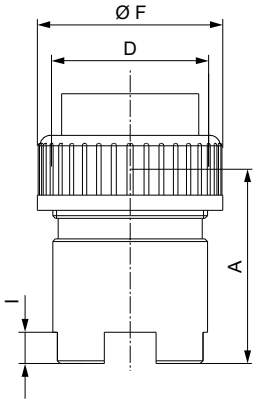
Foot vales G 2 have no level indication.

The delivery includes:

- Strainer (mesh size approx. 1 mm)
- Non-return valve
- Pipe connection set (PVC, PP, PVDF): for pipes with external diameter 40 mm
- Pipe connection set (stainless steel): threaded, Rp 1 1/4, internal thread

Level switches are available as accessories for foot valves. A level switch can be retrofitted, if the foot valve is installed with a pipe with 40 mm external diameter.

Dimensions



TM069925

Foot valve FV

Material	d [mm]	L [mm]
PVC, PP, PVDF	71.5	75
Stainless steel (SS)	70	75

Order data

The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Material			Product number
	Body	Gasket	Ball	
1150	PVC	FKM	Glass	99352896
		EPDM	PTFE	99352897
		PTFE	PTFE	99352898
	PP	FKM	Glass	99352899
		EPDM	PTFE	99352900
	PVDF	FKM	PTFE	99352902
		PTFE	PTFE	99352903
	SS	PTFE	SS	99352904

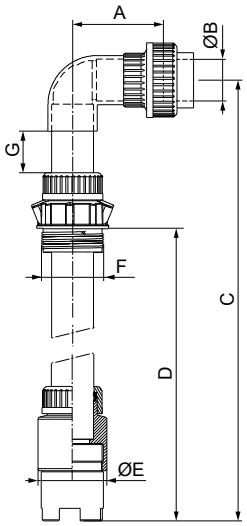
Rigid suction lances RSL with connection size G 2

These rigid suction lances are designed for the use with stationary tanks (e.g. Grundfos tanks). Rigid suction lances for stationary tanks have a foot valve with strainer. Level switches are available as accessories and can be retrofitted. The length of the rigid pipe can be adapted to the customer's requirements. The pipe can be cut and assembled without gluing.

The delivery includes:

- Strainer (mesh size approx. 0.8 mm)
- Non-return valve
- Pipe connection set (PVC): for pipes with external diameter 40 mm
- Adjustable tank connection

Dimensions



TM069952

Rigid suction lance RSL

A [mm]	øB [mm]	C [mm]	D [mm]	øE [mm]	F	G [mm]
87	40	1342	1200	66	G 2	40

Order data

The flow rate values apply to liquids with a viscosity similar to water.

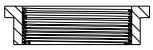
Max. flow rate [l/h]	Max. immersion depth [mm]	Material			Product number
		Body	Gasket	Ball	
1150	1200	PVC / PVDF	FKM	Glass	99328221
			EPDM	Glass	99328227

Accessories for rigid suction lances RSL

Adapters for container connection

These adapters allow the installation of standard rigid suction lances (G 2 thread) on different types of containers.

Order data

Type		For container type	Material	Product number
	TM048470	Counter nut for tanks without threaded opening, e.g. 100-litre square tank or 1000-litre cylindrical tank	PVC, grey	98071170
	TM048472	IBC (Intermediate Bulk Container) with opening of ⌀150 mm, S 160 x 7	PE, black	98071177

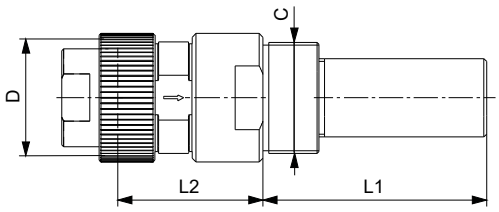
Injection units for pump connection size G 2

Injection units connect the dosing line with the process line. Injection units for large dosing pumps with G 2 connections ensure a minimum counterpressure of 0.6 bar.

The delivery includes:

- Injection pipe
  - immersion depth: 120 mm
  - PP, PVC and PVDF versions can be shortened
- Spring-loaded non-return valve with alloy C-4 spring
- Pipe connection set (PVC, PP, PVDF): for pipes with external diameter 40 mm
- Pipe connection set (Stainless steel): threaded, Rp 1 1/4, internal thread

Dimensions



TM069992

Injection unit

A	B [mm]	C [mm]
G 2	78	120

Order data

- Max. flow rate: 1500 l/h
- The flow rate values apply to liquids with a viscosity similar to water.

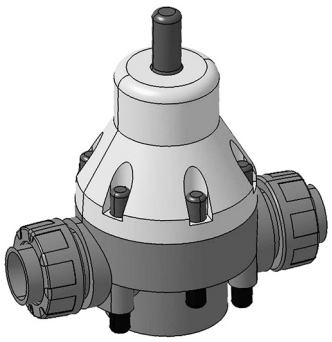
Max. pressure [bar]	Material			Product number
	Body	Gasket	Ball	
10	PVC	FKM	Glass	99332974
		EPDM	PTFE	99333838
		PTFE	PTFE	99333839
	PP	FKM	Glass	99333903
		EPDM	PTFE	99333904
	PVDF	FKM	PTFE	99333905
		EPDM	PTFE	99333907
		PTFE	PTFE	99333909
	Stainless steel	PTFE	Stainless steel	99333910

Pressure loading valves PLV

Pressure loading valves PLV maintain a constant counterpressure for the dosing pump. They are used in the following applications:

- Too low counterpressure or no counterpressure at all
- Fluctuating system pressure with outlet-side pulsation damper
- To prevent syphoning, when the inlet pressure is higher than the counterpressure

Pressure loading valves are installed in the outlet line.
Pressure loading valves should not be used as shut-off valves.



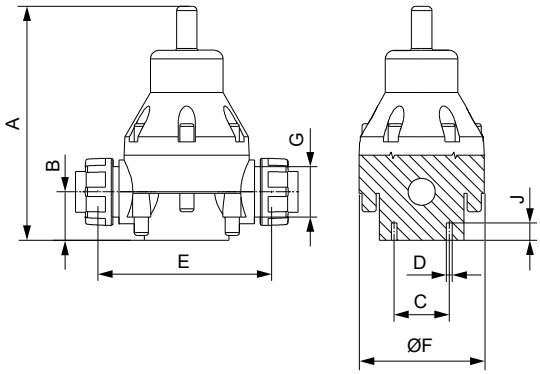
TM070220

Pressure loading valve PLV, G 2

Order data for pressure loading valves PLV for pump connection size G 2

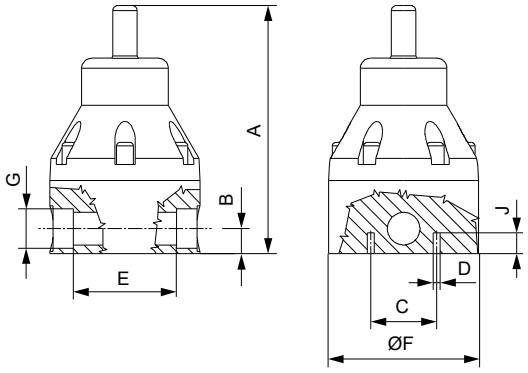
- Loading pressure: adjustable from 0.5 to 10 bar
- Max. operating pressure: 10 bar
- Max. flow rate: 1500 l/h
  - The flow rate values apply to liquids with a viscosity similar to water.
- Pipe connection set (PVC, PP, PVDF): for pipes with external diameter 40 mm
- Pipe connection set (Stainless steel): threaded, Rp 1 1/4, internal thread

Dimensions



TM070289

Body material: PVC, PP, PVDF



TM070296

Body material: Stainless steel

Body material	A [mm]	B [mm]	C [mm]	D	E [mm]	øF [mm]	G	J [mm]
PVC, PP	276	57	65	M 8	205	148	G 2	20.4
PVDF	318	56	65	M 8	200	147		
Stainless steel	245	24.5	65	M 8	102	148	Rp 1 1/4	20.5

Order data

Material		Product number
Body	**Gaskets**	
PVC	FKM / EPDM	99367198
	PTFE	99367199
PP	FKM / EPDM	99367200
PVDF	FKM / EPDM	99367201
	PTFE	99367203
Stainless steel	-	99367204

Relief assembly for pressure loading valves PLV with G 2 connection

Pressure relief valves protect the pump and the outlet-side installations against excessive pressure. All pressurised dosing installations should include a pressure relief valve.

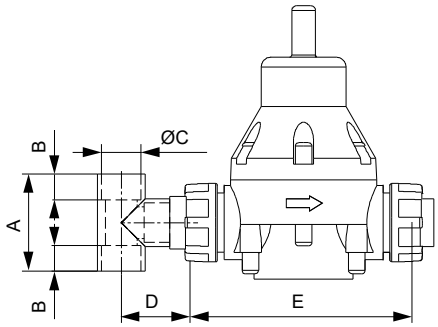
Pressure relief valves are installed in the outlet line near the pump. A pressure relief valve for a large dosing pump can be created by combining a T-piece and a PLV to a relief assembly. The relief line is connected to the outlet of the PLV.

The delivery includes:

- T-piece with union nut for connection of the PLV
- Pipe connection for pipes with external diameter of 40 mm

The pressure loading valve PLV is not included and must be ordered separately.

Dimensions



TM070283

Relief assembly for pressure loading valves

A [mm]	B [mm]	⌀C [mm]	D [mm]	E [mm]
98	26	40	78	205

Order data

The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Material	Product number
1500	PVC	99370957
	PP	99370958
	PVDF	99370960

Pulsation dampers

Discharge-side pulsation dampers DB and DBG

Pulsation dampers are used to even out the pulsating flow and pressure produced by positive displacement pumps like diaphragm dosing pumps.

Pulsation dampers DB and DBG have a separating diaphragm and are intended for the outlet side of the dosing pump. They are especially designed for installations with long outlet lines with a small diameter, or with rigid pipes. The pulsation dampers optimise the dosing accuracy and protect the pump and the outlet line against pressure surges.

Pulsation dampers DB and DBG have an air or nitrogen cushion inside, which is separated from the dosing medium by a separating diaphragm. This keeps the preload pressure stable for a long time and avoids that air or nitrogen is dissolved in the dosing medium.

In PVC, PP, and stainless steel pulsation dampers, an FKM or EPDM bladder is used as separating diaphragm, in PVDF pulsation dampers a PTFE bellows is used as separating diaphragm.

Pulsation dampers DBG include a pressure gauge for easy setting of the correct pressure. Pulsation dampers DB have no pressure gauge.

If the counterpressure in the system is low or fluctuating, the installation of a pressure loading valve PLV after the pulsation damper may be required to optimise its function.

TM068424

Discharge-side pulsation damper DBG

Suction-side pulsation dampers CSD with calibration scale

Pulsation dampers are used to even out the pulsating flow and pressure produced by positive displacement pumps like diaphragm dosing pumps.

Pulsation dampers CSD are installed on the inlet side of the dosing pump. They can be used for multiple pumps that are supplied by the same inlet line.

Pulsation dampers CSD help to ensure the accuracy of dosing pumps, which is highly dependent on proper suction conditions. In installations with long inlet lines or inlet lines with a small diameter, the use of a CSD pulsation damper is recommended.

Pulsation dampers CSD have a transparent PVC cylinder with a fine volume scale. When combined with a shut-off valve in the inlet line, they can also be used for calibration or flow measurement. In installations without flooded suction, the optional manual vacuum pump kit simplifies startup of the dosing pump.

TM068450

Suction-side pulsation dampers CSD with calibration scale

Sizing guide for pulsation dampers, pump connection size G 2

Look up your pump type in the table. Find the required pulsation damper volume in the respective table column.

Pump type	Pump stroke volume [ml]	Required volume [l]	
		DB / DBG	CSD
DMH 194-10	60	1.4-1.5	5
DMH 270-10			
DMH 332-10			
DMH 403-10			
DMH 550-10			
DMH 220-10	131	2.6	10
DMH 440-10			
DMH 575-10			
DMH 770-10			
DMH 880-10			
DMH 1150-10			
DMH 750-4	171		
DMH 1500-4			

Order data for pulsation dampers CSD, pump connection size G 2

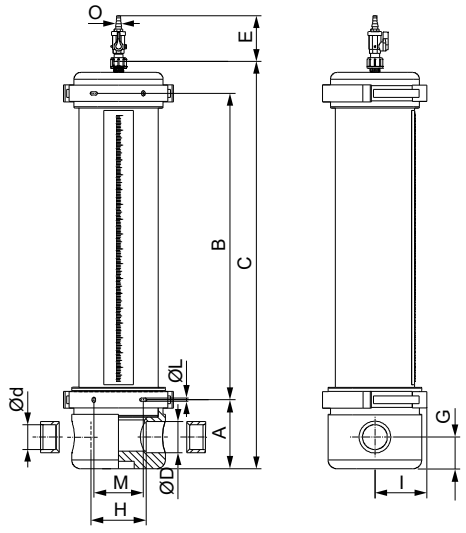
Features

- Prepared for pipe gluing connection with socket (d).
- Calibration is possible by installing a shut-off valve.
- In installations without flooded suction, the optional manual vacuum pump kit simplifies the startup of the dosing pump.

The delivery includes:

- Sight glass with calibration scale
- Aeration valve
- Material for wall mounting

Dimensions



TM070034

Suction-side pulsation dampers CSD with calibration scale

Damper volume [l]	A [mm]	B [mm]	C [mm]	ød [mm]	øD [mm]	E [mm]	G [mm]	H [mm]	I [mm]	øL [mm]	M [mm]	O [mm]
5	118.5	700	871	40	50	92	51	71.5	77.5	6.5	60	8-13
10	139.5	600	824	50 40	63	92	64	111.5	95	6.5	90	8-13

Order data

Max. operating pressure: 2 bar

Damper volume [l]	Max. pump stroke volume [ml]	Max. number of pumps with max. stroke volume	Scale division [ml]	Material		Product number
				Body	Sight glass	
5	75	3	10	PVC	PVC	99192488
10	171	3	50	PVC	PVC	99194326

Order data for pulsation dampers DB and DBG, pump connection size G 2

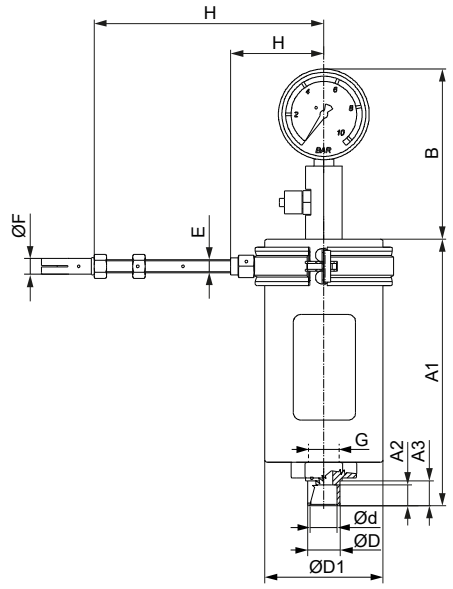
We recommend using one pulsation damper per dosing pump.

Preload pressure: 2.7 bar.

The delivery includes:

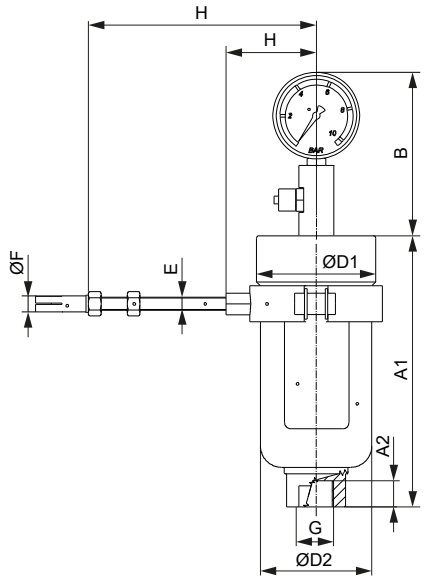
- Material for wall mounting
- PVC versions are prepared for pipe gluing connection with spigot (D) or socket (d).
- PVDF and PP versions are prepared for pipe welding connection with spigot (D) or socket (d).
- Pulsation dampers DBG include a pressure gauge.

Dimensions



TM068284

Pulsation damper DBG, PVC version



TM068452

Pulsation damper DBG, stainless steel version

B [mm]	øF [mm]	E
129	12	M 10

Damper volume [l]	Body material	Connections		A1 [mm]	A2 [mm]	A3 [mm]	øD1 [mm]	øD2 [mm]	H [mm]
		øD/ød [mm]	G Internal thread						
1.5	PVC, PP	40/32	G 1	335	22	28	130	-	90-190
1.4	PVDF	40/32	G 3/4	294	22	28	125	104	77-177
1.5	SS*	-	G 3/4	245	25	-	110	104	77-177
2.6	PVC, PP	40/32	G 1	365	22	28	160	-	105-205
	PVDF	40/32	G 3/4	360	22	28	170	156	103-203
	SS*	-	G 1	295	27	-	140	129	89.5 - 189.5

* Stainless steel 1.4404

Order data

Damper volume [l]	Max. pump stroke volume [ml]	Connections		Material		Type DB		Type DBG	
		øD/ød [mm]	G Internal thread	Body	Gasket	Max. operating pressure [bar]	Product number	Max. operating pressure [bar]	Product number
1.5	75	40/32	G 1	PVC	FKM	10	99331670	10	99332053
					EPDM	10	99331671	10	99332054
				PP	FKM	10	99331672	10	99332055
					EPDM	10	99331693	10	99332056
1.4	75	40/32	G 3/4	PVDF	PTFE	20	99331694	20	99332057
1.5	75	-	G 3/4	SS	FKM	40	99331695	25	99332058
					EPDM	40	99331696	25	99332059
2.6	171	40/32	G 1	PVC	FKM	10	99333783	10	99333827
					EPDM	10	99333784	10	99333828
				PP	FKM	10	99333785	10	99333829
					EPDM	10	99333786	10	99333830
			G 3/4	PVDF	PTFE	20	99333787	20	99333831
		-	G 1	SS	FKM	30	99333788	25	99333832
					EPDM	30	99333789	25	99333843

Accessories for hydraulic connection

Pump connection inlay kits and union nut kits for pump connection size G 2

Retrofit pump connection kits and inlay kits for the integration of Grundfos standard pumps into installations with various sizes of hoses or pipes.

The inlay kits are used to connect pumps to pipes and hoses that differ from Grundfos standard size.

TM068430

Inlay kit

Order data for inlay kits

An inlay kit includes 2 sets of inlays.

Application	Connection type	For hose/pipe size		Connector type key code	Material	Product number
		Internal	External			
Hose connection	Nipple and clamp	32 mm, 41 mm 1 1/4", 1 1/2"	-	C5	PP	96535111
					PVC	99338732
					PVDF	96535112
Pipe connection	Welding inlay	-	40 mm	B5	PP	99305837
					PVDF	99305838
		-	DN 32, 1 1/4"	C1	SS	99369687
Pipe connection	Gluing inlay	-	40 mm	K	PVC	99305839
		-	52.5 mm, 1 1/4"	C8	PVC	99338595
Pipe connection	External thread	-	1 1/4 NPT	A8	PVC	99305732
					PP	99305743
					PVDF	99305745

Application	Connection type	For hose/pipe size		Connector type key code	Material	Product number
		Internal	External			
Pipe connection	Internal thread	Rp 1 1/4	-	A2	PP	96608418
				A2	PVDF	96608419
				A2	SS	96575258
		1 1/4 NPT	-	A4	SS	96537895

Order data for union nut kits

A union nut kit includes 2 union nuts.

Application	Material	Product number
Accessories for dosing pumps	PVC	99307539
	PP	99307540
	PVDF	99307541
Accessories for dosing pumps	SS	96731914

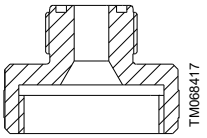
Counter flange sets for DMH 255/257

Suitable for DMH 257 and suction side of DMH 255. A kit includes one counter flange.

Application	Connection type	Pipe size external	Material	Product number
Pipe connection	Gluing	40 mm	PVC	91835728
	Welding	40 mm	PP	96727589
			PVDF	96727588
		42.4 mm, DN 32	SS	91835727
			Alloy C-4	96727609

Threaded adapters G 2

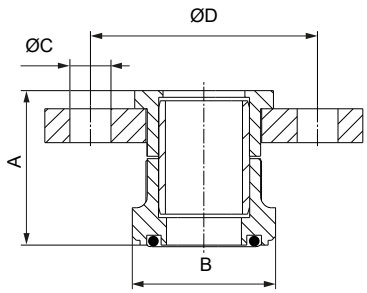
With threaded adapters, different sizes of threaded connections can be connected. A threaded adapter includes a gasket.

Type	Threaded connection size		Material		Product number
	Internal thread	External thread	Body	Gaskets	
 TM068417	G 2	G 5/4	PP	FKM / EPDM	99227945
			PVC	FKM / EPDM	99227943
				PTFE	99227960
			PVDF	FKM / EPDM	99227953
				PTFE	99227948

Flange adapters DN 32

With flange adapters, accessories with G 2 connections can be connected to a dosing pump with DN 32 flanges. A flange adapter includes a gasket for the threaded connection side.

Dimensions



TM070343

A [mm]	B	øC [mm]	øD [mm]
68	G 2	18	100

Order data

Flange	Threaded connection size	Material		Product number
	External thread	Body	Gaskets	
DN 32	G 2	PP	FKM / EPDM	99307979
		PVC	FKM / EPDM	99307977
			PTFE	99307978
		PVDF	FKM / EPDM	99307980
			PTFE	99307981

11. Hydraulic accessories for DMH 28x high-pressure pumps

Accessories for the discharge side of high-pressure dosing pumps of the DMH 28x range are especially designed for high-pressure applications. Check the admissible pressure of all accessories, the one with the lowest permissible pressure defines the maximum pressure of the complete discharge-side installation. Possibly the setting of the pressure relief valve included in the pump must be adjusted accordingly.

Guide to find suitable suction-side accessories for DMH 28x dosing pumps

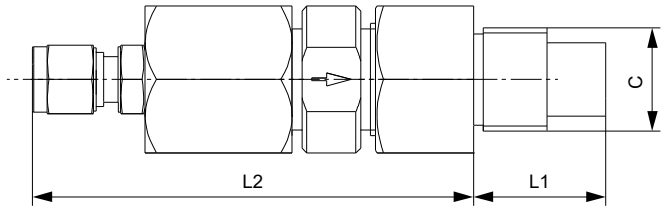
For the low-pressure suction-side installation of DMH 28x dosing pumps use the standard accessories with the appropriate connection size shown in the table.

Pump type		Pump stroke volume [ml]	Connection size (accessories range)
DMH 280	1.3-200 2.2-200 2.5-200 3.3-200	0.36	G 3/8 Use an adapter on the suction side to convert to G 5/8 and use G 5/8 accessories: *Threaded adapters G 3/8*
DMH 281	2-100 4.2-100 6.4-100 8-100 9.6-100	1.11	G 5/8
DMH 287	9-200 18-200 23-200 31-200 36-200 50-200	5.3	G 5/8
DMH 288	3.3-200 7.5-200 10-200 13-200 15-200 21-200	2.33	G 5/8
DMH 283	10-100 19-100 27-100 33-100 40-100 55-100	6	G 5/4
DMH 285	20-100 40-100 52-100 70-100 80-100 105-100	12	G 5/4
DMH 286	85-50 110-50 170-50 222-50	25.3	G 5/4

Injection units for DMH 28x high-pressure dosing pumps

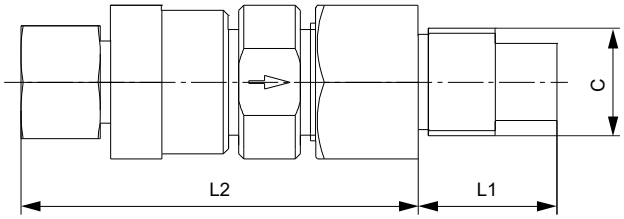
Injection units connect the dosing line with the process line. They ensure a minimum counterpressure of 0.7 bar and avoid backflow of the dosing liquid.

Dimensions



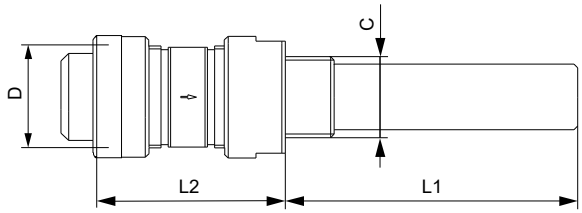
TM070227

High-pressure injection unit, flow rate 3.3 l/h



TM070259

High-pressure injection unit, flow rate 55 l/h



TM070236

High-pressure injection unit, flow rate 220 l/h

Max. flow rate [l/h]	A	B [mm]	C [mm]
3.3	G 1/2	90.0	27
55	G 1/2	77.5	27
220	G 1	75	120

Order data

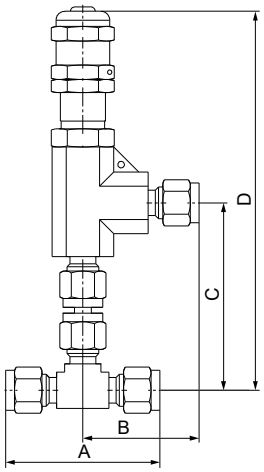
The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Max. operating pressure [bar]	Dosing line connection size	Material		Product number
			Body, Ball	Gasket	
3.3	200	4/6 mm	Stainless steel	PTFE	99354318
55	200	8/10 mm	Stainless steel	PTFE	99367393
55	200	10/12 mm	Stainless steel	PTFE	99354320
220	100	G 3/4	Stainless steel	PTFE	99354315

Pressure relief valves PRV for DMH 28x high-pressure dosing pumps

Pressure relief valves are installed in the outlet line near the pump using the 2 in-line connections. The side connection leads the relief liquid back into the tank.

Dimensions



TM070299

Pressure relief valve, max. flow rate 3.3 l/h

Max. flow rate [l/h]	A [mm]	B [mm]	C [mm]	D [mm]
3.3	54	41	66	133
50	72	41	75	142
55	72	46	84	187

Order data

The flow rate values apply to liquids with a viscosity similar to water.

Max. flow rate [l/h]	Max. opening pressure range [bar]	Dosing line connection size [mm]	Material		Product number
			Body	Gasket	
3.3	51 103 206	4/6	Stainless steel	FKM	99362083
50	103 206	10/12	Stainless steel	FKM	99362085
55	24 103	10/12	Stainless steel	FKM	99362086

Pulsation dampers for DMH 28x high-pressure dosing pumps

Sizing guide for pulsation dampers for DMH 28x high-pressure dosing pumps

This sizing guide applies to suction-side and discharge-side pulsation dampers. Look up your pump type in the table below.

Pump type		Pump stroke volume [ml]	Required volume [l]	
			DB / DBG-H	CSD
DMH 280	1.3-200	0.36	0.09	0.25
	2.2-200			
	2.5-200			
	3.3-200			
DMH 288	3.3-200	2.33	0.09	0.5
	7.5-200			
	10-200			
	13-200			
	15-200			
	21-200			
DMH 287	9-200	5.3	0.09	0.5
	18-200			
	23-200			
	31-200			
	36-200			
	50-200			
DMH 281	2-100	1.11	0.18	0.5
	4.2-100			
	6.4-100			
	8-100			
	9.6-100			
DMH 283	10-100	6	0.36	1.5
	19-100			
	27-100			
	33-100			
	40-100			
	55-100			
DMH 285	20-100	12	0.36	1.5
	40-100			
	52-100			
	70-100			
	80-100			
	105-100			
DMH 286	85-50	25.3	0.36	3
	110-50			
	170-50			
	222-50			

Discharge-side pulsation dampers DB and DBG-H

Pulsation dampers are used to even out the pulsating flow and pressure produced by positive displacement pumps like diaphragm dosing pumps.

Pulsation dampers DB and DBG-H are especially designed for installations with long outlet lines with a small diameter, or with rigid pipes. The pulsation dampers optimise the dosing accuracy and protect the pump and the outlet line against pressure surges.

Pulsation dampers DB and DBG-H have a nitrogen cushion inside, which is separated from the dosing medium by a separating diaphragm. This keeps the preload pressure stable for a long time and avoids that nitrogen is dissolved in the dosing medium. A FKM or EPDM bladder is used as separating diaphragm.

Pulsation dampers DBG-H include a pressure gauge for easy setting of the correct pressure. Pulsation dampers DB have no pressure gauge.

Order data for pulsation dampers DB and DBG-H for DMH 28x high-pressure dosing pumps

We recommend using one pulsation damper per dosing pump.

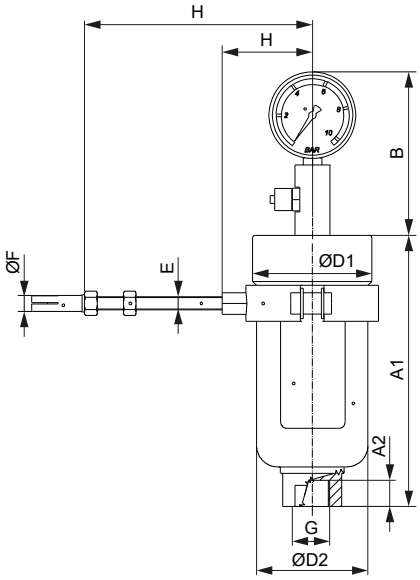
Preload pressure: 2.7 bar.

The pulsation dampers are filled with air in the factory. For use in high-pressure dosing systems (> 10 bar), the air must be replaced with nitrogen.

The delivery includes:

- Material for wall mounting
- Pulsation dampers DBG-H include a pressure gauge.

Dimensions



TM068452

Pulsation damper DBG-H

Damper volume [l]	A1 [mm]	B [mm]	A2 [mm]	øD1 [mm]	øD2 [mm]	E	øF [mm]	G Internal thread	H [mm]
0.09	100	129	14	55	-	M 10	12	G 3/8	52.5 - 152.5
0.36	161	129	16	85	-	M 10	12	G 1/2	67-171
0.65	205	129	20	90	84	M 10	12	G 3/4	67-171

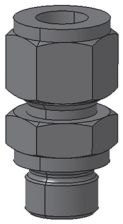
Order data

Damper volume [l]	Max. pump stroke volume [ml]	G Internal thread	Max. operating pressure [bar]	Material		Product number	
				Body	Gasket	Type DB	Type DBG-H
0.09	2	G 3/8	250	SS*Sizing guide for pulsation dampers, pump connection size G 2*	FKM	99336460	99336462
					EPDM	99336461	99336473
0.36	19	G 1/2	160	SS*Sizing guide for pulsation dampers, pump connection size G 2*	FKM	99202667	99336626
					EPDM	99202669	99336625
0.65	45	G 3/4	50	SS*Sizing guide for pulsation dampers, pump connection size G 2*	FKM	99202675	99336634
					EPDM	99202676	99336633

* Stainless steel 1.4404

Order data for connection kits for pulsation dampers DB and DBG-H

Retrofit pulsation damper connection kits for installation with various sizes of pipes.



TM070347

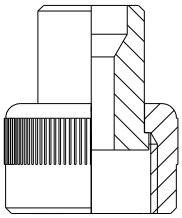
Pulsation damper connection kit

Body material	For damper volume [l]	Pulsation damper connection	Pipe connection [mm]	Product number
Stainless steel 1.4404	0.09	G 3/8	4/6	99369675
			10/12	99369680
	0.36	G 1/2	10/12	99369681

Pump connection kits for DMH 28x high-pressure dosing pumps

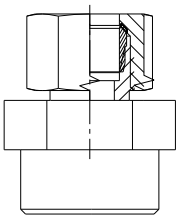
Retrofit pump connection kits for the integration of Grundfos standard dosing pumps into installations with various sizes of pipes.

Material: Stainless steel

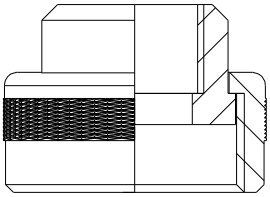


TM070334

Pipe connection DN 10, 3/8"



Pipe connection 10/12 mm



TM070333

TM070335

Pipe connection Rp 3/4

Pump connection size	Connection type	Pipe connection	Code	Min. operating pressure [bar]	Product number
G 3/8	Cutting ring	4/6 mm	B6	200	96727565
G 5/8	Internal thread	Rp 1/4	A	100	97702472
	Cutting ring	4/6 mm	B6	200	97702506
		8/10 mm	C2	200	97702507
		10/12 mm	C9	200	98807664
	Welding nipple	DN 10, 3/8"	A0	40	99369683
G 5/4	Internal thread	Rp 3/4	A1	100	99082045
	Cutting ring	19/22 mm	C3	200	96727555
	Welding nipple	DN 20, 3/4"	C0	40	99369686

Dosing tanks

Cylindrical tanks

Dosing tanks are intended for storing and dosing liquids. Different tank accessories can be mounted directly to the tank. Depending on the tank size and type of dosing pump, the pump can be mounted on the tank directly or with an adapter plate.

Cylindrical tanks are available transparent or black. They have a litre scale and a black screw cap.

- Tank volume: 40-1000 l
- Tank material: LLDPE, UV-stabilised
- Liquid temperature: -20 °C to +45 °C

All cylindrical tanks are prepared for a G 3/4 opening for a drain valve, and have a screw plug (PE / EPDM).

The cylindrical tanks with volumes of 60, 100, 200, 300 and 500 litres include additionally:

- Threaded M 6 inserts for the direct assembly of a dosing pump.
- A G 2 opening for a rigid suction lance or a foot valve, closed with a screw plug
- Threaded M 6 inserts at the bottom part for floor mounting with a set of floor-mounting brackets.
- A flange for an electric stirrer with threaded inserts

The cylindrical tanks with volumes of 60, 100, 200, 300, 500 and 1000 litres can optionally be prepared for direct assembly of an electric stirrer:

- With opening for electric stirrer (60-500 l).
- With opening and reinforced beam for holding an electric stirrer (1000 l).

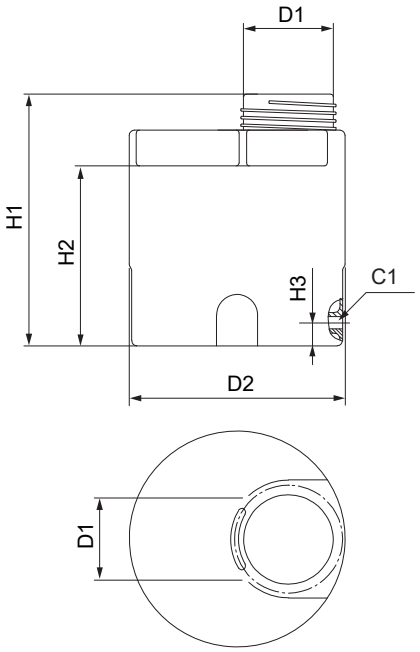
TM048468

Cylindrical tank, 60 litres

Requirements and restrictions for mounting pumps directly on cylindrical tanks

Pump type	Tank volume [l]	Requirement / restriction
DMH 251 / 252 / 253 DMH 280 / 281	40	Mounting is not possible due to the pump's dimensions or weight.
	60, 100	Pump fits with tank adaptor plate 99211241, but possibly exceeds the mounting area. Combination with electric mixer might not be possible. Observe the pump's maximum suction lift.
	200, 300, 500	Use tank adapter plate 99211241. Observe the pump's maximum suction lift.
	1000	Holes must be drilled on site. Plastic screws cannot be used due to the pump's weight. Observe the pump's maximum suction lift.
DMH 254 / 255 / 257 DMH 283 / 285 / 286 / 287 / 288	40, 60, 100, 200, 300, 500, 1000	Mounting is not possible due to the pump's dimensions or weight.

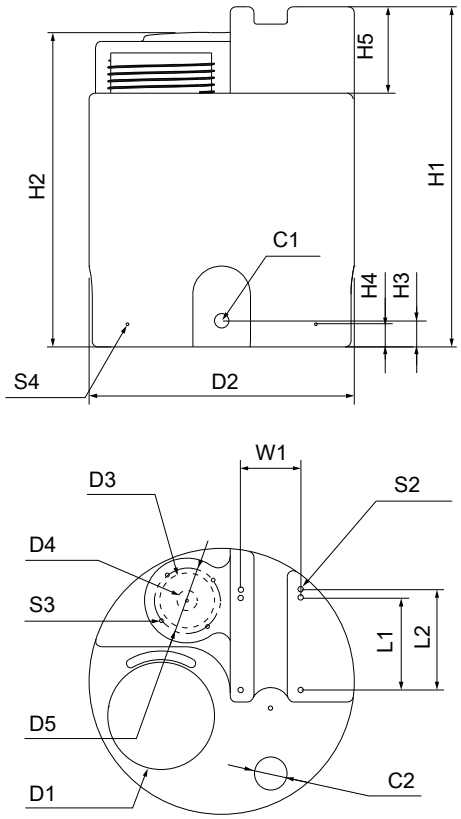
Dimensions of cylindrical tank, 40 litres



TM069773

H1 [mm]	H2 [mm]	H3 [mm]	D1 [mm]	D2 [mm]	C1
420	350	45	⌀160	⌀420	Rp 3/4

Dimensions of cylindrical tank, 60 and 100 litres



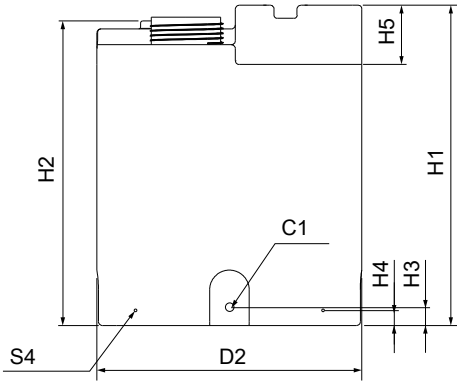
TM069774

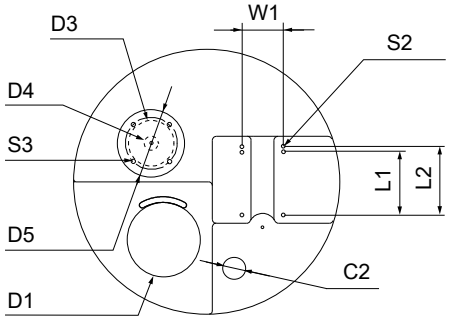
Tank volume: 60 l		Tank volume: 100 l	
H1 [mm]	H2 [mm]	H1 [mm]	H2 [mm]
590	545	840	795

H3 [mm]	H4 [mm]	H5 [mm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	D5 [mm]
50	40	150	⌀160	⌀460	⌀95	⌀35	⌀130

C1	C2	L1 [mm]	L2 [mm]	W1 [mm]	S2	S3	S4
G 3/4	G 2	159	174	105	M 6 x 9	M 8 x 12	M 6 x 9

Dimensions of cylindrical tank, 200 and 300 litres





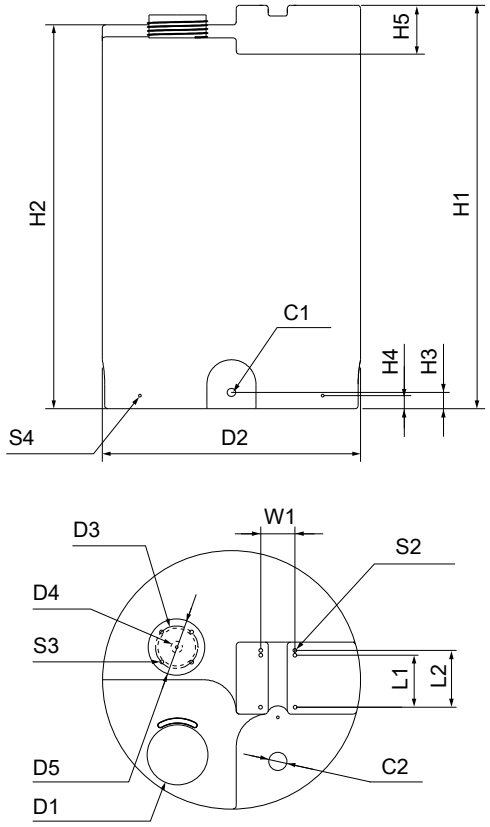
TM069775

Tank volume: 200 l		Tank volume: 300 l	
H1 [mm]	H2 [mm]	H1 [mm]	H2 [mm]
810	770	1080	1040

H3 [mm]	H4 [mm]	H5 [mm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	D5 [mm]
50	40	150	⌀160	⌀670	⌀115	⌀35	⌀130

C1 [mm]	C2	L1 [mm]	L2 [mm]	W1 [mm]	S2	S3	S4
G 3/4	G 2	159	174	105	M 6 x 9	M 8 x 12	M 6 x 9

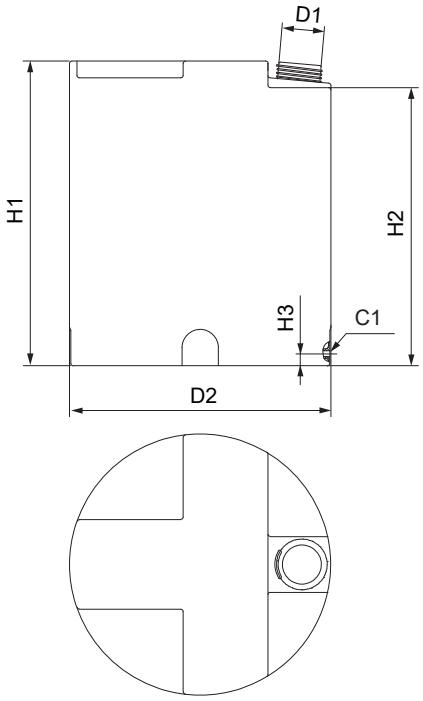
Dimensions of cylindrical tank, 500 litres



H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	H5 [mm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	D5 [mm]
1235	1175	50	40	150	⌀160	⌀790	⌀115	⌀35	⌀130

C1	C2	L1 [mm]	L2 [mm]	W1 [mm]	S2	S3	S4
G 3/4	G 2	159	174	105	M 6 x 9	M 8 x 12	M 6 x 9

Dimensions of cylindrical tank, 1000 litres



TM069777

H1 [mm]	H2 [mm]	H3 [mm]	D1 [mm]	D2 [mm]	C1
1260	1150	50	⌀160	⌀1080	G 3/4

Order data

Tank volume [l]	Prepared for direct assembly of an electric stirrer	Weight [kg]	Product number	
			Transparent	Black
40	-	3.4	96688081	95701166
60	-	5.5	98148805	98149053
	Yes	5.5	98150038	98150040
100	-	7.5	98149057	98149082
	Yes	7.5	98150051	98150052
200	-	11.5	98149215	98149224
	Yes	11.5	98150053	98150054
300	-	13	98149245	98149252
	Yes	13	98150055	98150056
500	-	28	98149266	98149269
	Yes	28	98150057	98150058
1000	-	40	96688086	95706305
	Yes	48	98173675	98173752

Tank accessories

Floor mounting brackets

The floor mounting brackets can be mounted to the floor and fixed with screws into the threaded M 6 inserts at the bottom part of a cylindrical tank.

Description	Product number
Set of 4 floor-mounting brackets with fixing screws	98149921

Collecting tray

A collecting tray collects chemicals that might leak out of the cylindrical tank, and protects the environment. Collecting trays are available in several sizes.

- Material: PE
- Colour: transparent

TM048316

Tank volume [l]	Volume [l]	Dimensions (diameter x height) [mm]	Product number
60	80	500 x 545	96726831
100	120	500 x 700	96726832
200	210	770 x 595	98150059
300	400	770 x 960	96726834
500	500	860 x 980	95701272
1000	1000	1150 x 1080	96726836

Dissolving hopper

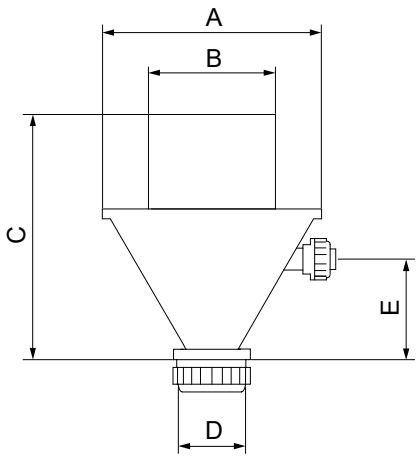
Dissolving hopper for washing powders into a dosing tank.

- Material: PVC
- Dosing tank connection: DN 40 through-bolt
- Water connection: G 5/4
- With union nut and inlay for PVC pipe (cementing diameter 25 mm)

Order data

Description	Product number
Dissolving hopper	96726979

Dimensions of dissolving hopper



TM069778

A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
⌀270	⌀140	283	⌀70	120

Handheld mixer

Handheld mixer for use in dosing tanks.

- Material: PE
- Shaft length 1200 mm, length can be adapted to the corresponding dosing tank
- With DN 15 through-bolt for connection in the dosing tank

TM048477

Description	Product number
Handheld mixer	98133793

Drain valve

Drain valve for installation in the threaded sleeve of the dosing tank.

- Material: PVC
- Dosing tank connection: G 3/4

Description	Product number
Drain valve	96689132

Ventilation valve

The spring-loaded ventilation valve can be installed either for aeration or deaeration of the dosing tank.

Opening pressure: 0.05 bar

Description	Material			Product number
	Body	Gasket	Ball	
Ventilation valve	PVC	FKM	Glass	96694401

Withdrawal device

The withdrawal device with ball valve is designed for installation in the drain opening of a Grundfos tank. Withdrawal devices have a through-bolt for connection to the dosing tank.

Hose or pipe connection sets are included.

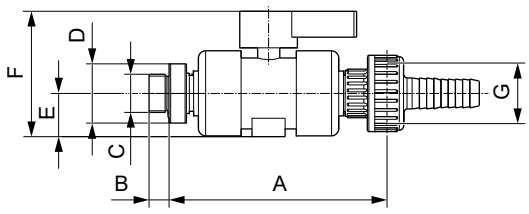
- Hose connection set G 5/8: 4/6 mm, 6/9 mm, 6/12 mm and 9/12 mm
- Hose and pipe connection set G 5/4:
  - for hoses with internal diameter 19 or 20 mm
  - for pipes with external diameter 25 mm

Order data of withdrawal device

The flow rate values apply to liquids with a viscosity similar to water.

Size	Max. flow rate [l/h]	Material		Product number
		Body	Gasket	
G 5/8	60	PVC	FKM	99226879
G 5/8	60	PVC	EPDM	99226880
G 5/4	460	PVC	FKM	99226881
G 5/4	460	PVC	EPDM	99226893

Dimensions of withdrawal device



TM068414

Size	A [mm]	B [mm]	C	D [mm]	E [mm]	F [mm]	G
G 5/8	143	14	G 3/4	41	27	75	G 5/8
G 5/4	151	14	G 3/4	41	30	87	G 5/4

Electric stirrers

Electric stirrers are intended for the mixing and dissolving of non-abrasive, non-inflammable and non-explosive liquids. They ensure that the liquid in the dosing tank is mixed constantly. With a frequency of 50 Hz they run at approximately 1500 rpm. Various types for tanks from 60 litres up to 1000 litres are available. Electric stirrers are suitable for liquids with low to medium viscosity.

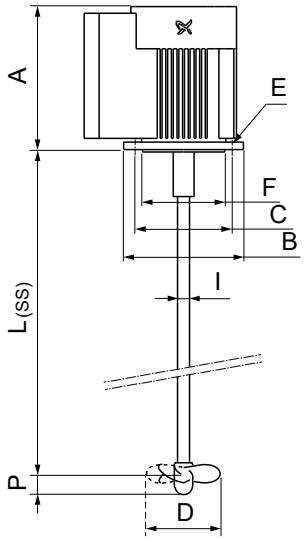
The following types of electric stirrers are available:

- Stainless steel version (SS)
- PP-coated stainless steel version (PP)
- PP-coated stainless steel version with sealing flange (PP-S)

Order data

Type			Product number	
Tank volume [l]	Nominal shaft length [mm]	Material	Single-phase motor	Three-phase motor
60	450	SS	98164569	98165309
		PP	98164573	98165310
		PP-S	98164575	98165318
100	690	SS	98164606	98165355
		PP	98164607	98165357
		PP-S	98164609	98165382
200	700	SS	98164987	98165385
		PP	98164990	98165386
		PP-S	98165152	98165391
300	950	SS	98165172	98165393
		PP	98165175	98165432
		PP-S	98165177	98165433
500	1100	SS	98165253	98165435
		PP	98165258	98165436
		PP-S	98165259	98165437
1000	1150	SS	98165287	98165439
		PP	98165290	98165440
		PP-S	98165304	98165451

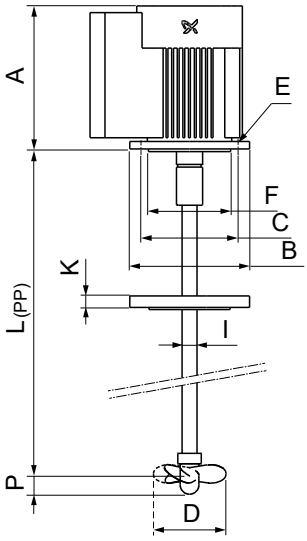
Dimensions



TM069780

Electric stirrer, stainless steel version

Tank volume [l]	$L_{(SS)}$ [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	P [mm]	I [mm]
60	450	210	140	115	88	9	95	25	16
100	691	210	140	115	88	9	95	25	16
200	698	191	160	130	100	9	110	25	16
300	950	191	160	130	100	9	110	25	16
500	1100	191	160	130	125	9	110	28	16
1000	1150	231	200	165	125	11	130	28	16



TM069781

Electric stirrer, PP version with sealing flange

Tank volume [l]	$L_{(PP)}$ [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	P [mm]	I [mm]	K [mm]
60	452	210	140	115	88	9	95	25	20	15
100	693	210	140	115	88	9	95	25	20	15
200	700	191	160	130	100	9	110	25	20	15
300	952	191	160	130	100	9	110	25	20	15
500	1102	191	160	130	125	9	110	28	20	15
1000	1152	231	200	165	125	11	130	28	20	15

Motor data of electric stirrers

Tank volume [l]	Power rating [kW]	Motor phases	Voltage [V]	Frequency [Hz]	Enclosure class	Insulation class
60, 100	0.09	1	220-240	50/60	IP65	F
		3	220-240 / 380-420 (440-480)	50/60 (60)		
200, 300, 500	0.25	1	220-230	50	IP55	
		3	220-240 / 380-415	50/60		
1000	0.55	1	220-230	50		
		3	220-240 / 380-415	50/60		

Level-control unit for electric stirrer protection

Grundfos level-control units are suitable for dosing pumps with input for level control. The contact type of the reed switch unit is factory-set to NO. The contact type can be set to NC by turning the floater(s).

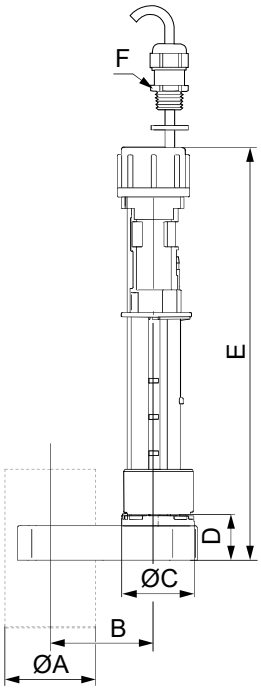
- Max. voltage: 48 V
- Max. current: 0.5 A
- Max. load: 10 VA

Level-control units for electric stirrer protection are used with rigid suction lances RSL. They are clipped to the rigid suction lances at the required switch-off height above the stirrer propeller. Level-control units can also be used for overfill protection or as an additional tank level indication.

The delivery includes:

- Reed switch unit with 1 floater
- 5 m cable with PE jacket and open wire ends
- Clip for diameter 32 mm or 40 mm
- Cable gland for mounting at the tank top

Dimensions



TM068304

Level-control unit for electric stirrer protection

⌀A [mm]	B [mm]	⌀C [mm]	D [mm]	E [mm]	F
40	47.5	32	20	182	M 12 x 1.5
32	43	32	28	190	M 12 x 1.5

Order data

Description	Material	For RSL with connection size	⌀A [mm]	Product number
Level-control unit for electric stirrer protection	PE	G 5/8	32	98306210
		G 5/4, G 2	40	99174140

Flexible level-control unit

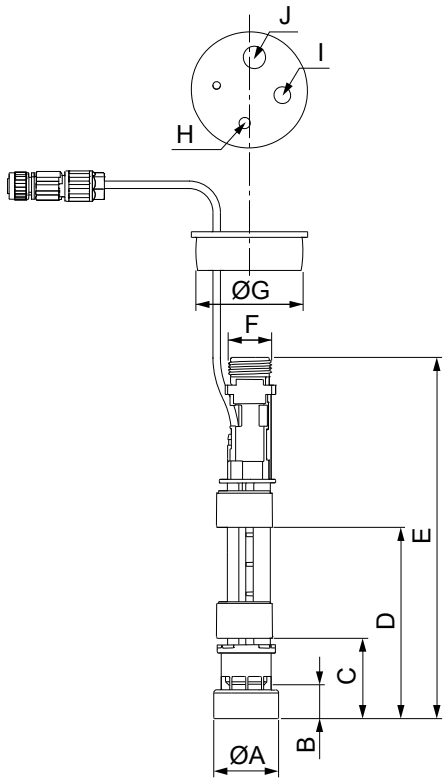
Grundfos level-control units are suitable for dosing pumps with input for level control. The contact type of the reed switch unit is factory-set to NO. The contact type can be set to NC by turning the floater(s).

- Max. voltage: 48 V
- Max. current: 0.5 A
- Max. load: 10 VA

The flexible level-control unit is suitable for dosing pumps with level-control input and provides 2 level switches.
The delivery includes:

- Reed switch unit with 2 floaters
- 5 m of cable with PE jacket and M 12 plug
- Weight that keeps the level-control unit in an upright position at the tank bottom
- PE cap, ⌀58 mm, for assembly in Grundfos cylindrical tanks, or for use with tank adapters

Dimensions



Flexible level control unit

⌀A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F	⌀G [mm]	H [mm]	I [mm]	J [mm]
35	19	43.5	103.5	196	G 5/8	58	6	9	12

Order data

Description	Material	Product number
Flexible level-control unit PE	PE	98375695

Level-control units for RSL and FV for pump connection size G 2

Grundfos level-control units are suitable for dosing pumps with input for level control. The contact type of the reed switch unit is factory-set to NO. The contact type can be set to NC by turning the floater(s).

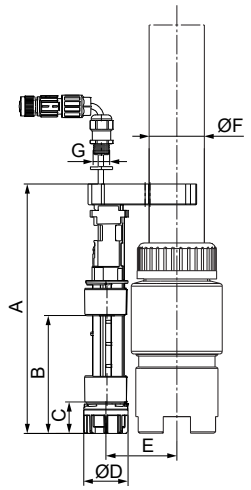
- Max. voltage: 48 V
- Max. current: 0.5 A
- Max. load: 10 VA

Level-control units for RSL G 2 and FV G 2 are used for rigid suction lances or foot valves in stationary tanks for pumps up to 1150 l/h. They are clipped to the rigid suction lances or foot valves at the required switch-off height.

The delivery includes:

- Reed switch unit with 2 floaters
- 5 m cable with PE jacket and M 12 plug
- Clip for diameter 40 mm
- Cable gland for mounting at the tank top

Dimensions



TM069986

Level-control unit

A [mm]	B [mm]	C [mm]	øD [mm]	E [mm]	øF	G
181	85	25	32	51.5	40	M 12 x 1.5

Order data

Description	Material	Product number
Level-control unit	PE	99339691

Pump mounting accessories

Wall brackets

Wall brackets with installation material for mounting a pump on a wall.

Description	Pump type	Material	Product number
Wall brackets with installation material	DMX 226, DMH 251 / 252 / 253, DME 60-10 / 150-4, SMART Digital XL DDA / DDE	PE	99211245

Adapter plate for 1 pump

For mounting one dosing pumps on a tank, comprising 1 adapter plate, 8 screws, 8 washers.

Material:

- Adapter plate: black HD-PE
- Screws and washers: Stainless steel

Description	Tank volume [l]	Pump type	Product number
Adapter plate for 1 pump on 1 tank	200, 300, 500	DMX 226, DMH 251 / 252 / 253	99211241

Accessories for pulsation dampers and calibration columns

Filling devices for pulsation dampers DB and DBG

Filling devices make the adjustment of the preload pressure of pulsation dampers easy. A filling device can be connected to the filling valve of a pulsation damper and to a local compressed-air source or a nitrogen bottle. When the pressure is adjusted, the filling device can be removed.

Order data for filling devices for pulsation dampers DB and DBG

Filling devices are available with different pressure gauges.

A set includes a filling device with pressure gauge and a hose with connections for a nitrogen bottle.

Hose connections:

- Nitrogen bottle: W24.3 x 1 1/4"
- Filling device: G 1/4

TM070019

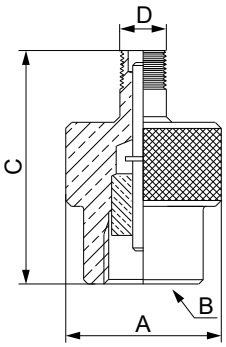
Filling device

Description	Height [mm]	Max. operating pressure [bar]	Product number
Filling device with hose	136	25	96727342
		60	96727343
		160	96727344
		250	96727345

Tyre-valve adapter for pulsation dampers DB and DBG

A tyre-valve adapter allows the use of a common air pump with tyre valve connector for filling pulsation dampers DB and DBG with air.

Dimensions



TM069619

Tyre-valve adapter

A [mm]	B	C [mm]	D [mm]
25	G 1/4	38	Vg 8

Order data

Description	Max. operating pressure [bar]	Product number
Tyre-valve adapter, for use in conjunction with compressed-air filling device or pressure gauge	8	96727332

Pressure gauges for discharge-side pulsation dampers with separating diaphragm

The following pressure gauges suit all sizes of discharge-side pulsation dampers with separating diaphragm. Select your suitable variant according to the maximum pressure of the pulsation damper.

Description	Max. pressure [bar]	Product number
Pressure gauge for discharge-side pulsation damper with separating diaphragm	10	95730263
	25	95730264
	60	98031543
	160	98031544
	250	98031545

Manual vacuum pump kit for pulsation damper CSD

In installations without flooded suction, the pulsation damper CSD can be filled by the manual vacuum pump kit. This makes startup of the dosing pump easier and prepares the pulsation damper CSD for calibration of the pump.

The delivery includes:

- Ball valve, connection G 5/8
- T-piece, connection G 5/8
- Hose
- Manual vacuum pump
- Holder for wall mounting

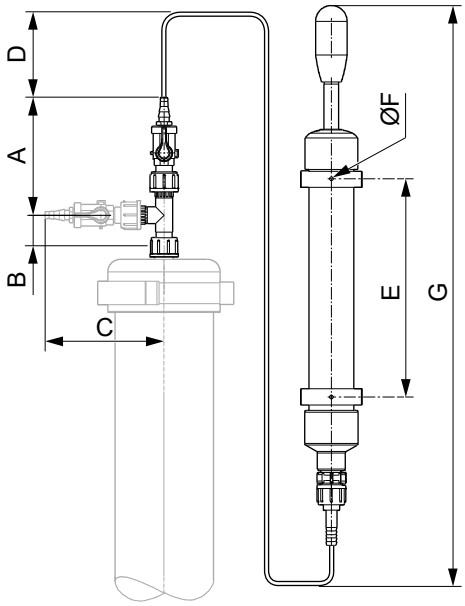
Materials:

- Vacuum pump: PVC
- Ball valve and T-piece: PVC
- Gasket: FKM

TM068426

Manual vacuum pump kit

Dimensions



TM069603

Manual vacuum pump kit

A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	øF [mm]	G [mm]
131	34	132.5	50	242	6.2	675-875

Order data

Description	Product number
Manual vacuum pump kit	99218131

Manual vacuum pump kit for calibration columns

In installations without flooded suction, the calibration column can be filled by the manual vacuum pump kit. This makes startup of the dosing pump easier and prepares the calibration column for pump calibration.

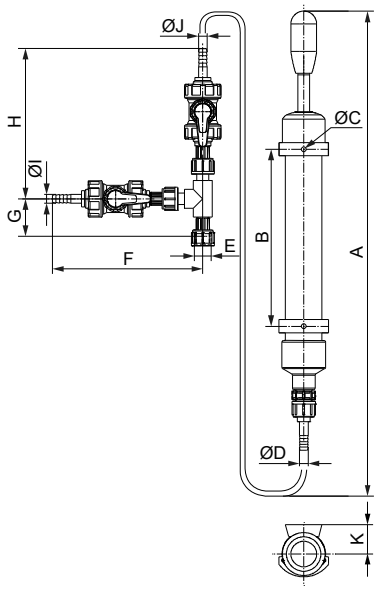
The delivery includes:

- Ball valve, connection G 5/8
- T-piece, connection G 5/8
- Hose
- Manual vacuum pump
- Holder for wall mounting

Material:

- Manual vacuum pump: PVC
- Ball valve and T-piece: PVDF
- Gasket: FKM

Dimensions



TM068412

Manual vacuum pump kit for calibration columns

A [mm]	B [mm]	⌀C [mm]	⌀D [mm]	E	F [mm]	G [mm]	H [mm]	⌀I / ⌀J [mm]	K [mm]
700-875	242	6.1	12	G 5/8	206	51	206	12	40

Order data

Description	Product number
Manual vacuum pump kit for calibration columns	99226934

Cables and plugs for dosing pumps

Cables and plugs for dosing pumps are suitable for the connection of a pump to external control devices, such as process controllers, flow meters, start/stop contacts and level sensors.

TM048267

Cable and plugs

Cables and plugs for pump connection size G 5/4

- Cable material: PVC, 0.34 mm^2
- Plug size: M 12

Socket (DDA, DDE)		Socket (DMX, DMH, DDI)		Application		Pins	Plug type	Cable length [m]	Product number
	TM041156	4		Input	Analog, Pulse, External stop	4	Straight	2	96609014
								5	96609016
								No cable	96698715
							Angled	2	96693246
	TM041118	3		Output	Relay	4	Straight	2	96609017
								5	96609019
								No cable	96696198
							Angled	2	96698716
	TM068403	2		Output	Analog	5	Straight	2	96632921
								5	96632922
								No cable	96609031
							Angled	2	96699697
	TM041119	5	DDI	Input	Low level, Empty tank	4	Straight	No cable	96698715
-		5	DMX / DMH AR	Input	Low level, Empty tank	3	Straight, with soldered cable	No cable	96630345
				Adapter, flat-round	Low level, Empty tank	4		No cable	96635010
-		6	DDI	Profibus	Y-connector			No cable	96693735
					Terminating resistor			No cable	96693737
	TM068453			Input, Output	GENIbus	5	Straight	3	98589048
 	TM041156 TM041119	4 / 5		Extension cable	Analog, Pulse, External stop, Low level, Empty tank	4	Straight	2	96483235
-				Mains connection for DDI, DDA, DDE	110-240 VAC	3	Angled	No cable	96698717

Flat-plug adapter for DMX and DMH with AR control unit

The flat-plug adapter allows to connect rigid suction lances or foot valves with level indication to pumps with a level input designed for flat plugs (e.g. DMX and DMH with AR control unit).

TM070206

Flat-plug adapter for DMX and DMH with AR control unit

Order data

Description	Product number
Flat-plug adapter for DMX and DMH with AR control unit	96635010

Water meters

The in-line water meter with potential-free pulse signal is suitable for use in flow-proportional dosing applications. If the water meter is connected directly to the pump pulse input, use a control plug (product number 96698715).

- Qn 1.5 and Qn 2.5 water 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 water meters and up are of the helical vane type, for cold water up to 30 °C or 50 °C, or hot water up to 90 °C or 120 °C.
- Qn 1.5 to Qn 15 water meters:
  - Threaded connections
  - Cable length: 3 m
  - Max. pressure: 16 bar
  - Maximum load, Reed contact: 30 VAC/VDC, 0.2 A
- Qn 40 to Qn 150 water meters:
  - Flange connections
  - Cable length: 3 m
  - Max. pressure: 10 bar
  - Maximum load, Namur contact: 8-12 VDC, 1 kOhm (requires external power supply)

TM048317

Water meter

Order data

Qn [m^3/h]	Pulse rate [l/pulse]	Product number			
		Max. liquid temperature [°C]			
		30	50	90	120
1.5	1	96446846	-	96446897	-
1.5	0.25	96482640	-	96482643	-
2.5	2.5	96446847	-	96446898	-
2.5	0.25	96482641	-	96482644	-
15	2.5	96482642	-	96482645	-
15	10	-	96446848	-	96446899
40	100	-	96446849	-	96446900
60	25	-	96446850	-	96446901
150	100	-	96446851	-	96446902

Capacity

Qn [m^3/h]	Pulse rate [l/pulse]	Maximum short-period capacity [m^3/h]	Transitional capacity with error ± 2 % [l/h]	Minimum capacity with error ± 5 % [l/h]
1.5	1	3	120	50
1.5	0.25	3	120	50
2.5	2.5	5	200	70
2.5	0.25	5	200	70
15	2.5	30	3000	450
15	10	30	3000	450
40	100	80	4000	700
60	25	120	6000	1200
150	100	300	12000	3000

Dimensions of water meters with threaded connections, Qn 1.5 to Qn 15

Qn [m^3/h]	Connections		Port to port length [mm]	
	Water meter	Installation kit	Excluding kit	Including kit
1.5	G 3/4	G 1/2	165	245
2.5	G 1	G 3/4	190	288
15	G 2.5	G 2	300	438

Dimensions of water meters with flanged connections, Qn 40 to Qn 150

Qn [m^3/h]	Connections	Port to port length [mm]
40	DN 80	225
60	DN 100	250
150	DN 150	300

12. Pumped liquids

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

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

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

Pumped liquid (20 °C)			Material										
			Dosing head					Gasket				Valve ball	
Description	Chemical formula	Concentration [%]	PP	PVDF	SS 1.4571	2.4610 (Alloy C-4)	SS PTFE-coated	PVC	FKM	EPDM	PTFE	Ceramic	Glass
Acetic acid	CH_3COOH	25	●	●	●	●	●	●	–	●	●	●	●
		60	●	●	●	●	●	●	–	●	●	●	●
		85	●	●	●	●	●	–	–	–	●	●	●
Aluminium chloride	$AlCl_3$	40	●	●	–	–	●	●	●	●	●	●	●
Aluminium sulphate	$Al_2(SO_4)_3$	60	●	●	●	●	●	●	●	●	●	●	–
Ammonia, aqueous	NH_4OH	28	●	–	●	●	●	●	–	●	●	●	–
Calcium hydroxide [1]	$Ca(OH)_2$		●	●	●	●	●	●	●	●	●	●	●
Calcium hypochlorite	$Ca(OCl)_2$	20	❍	●	–	●	●	●	●	●	●	●	●
Chromic acid [2]	H_2CrO_4	10	●	●	●	●	●	●	●	●	●	●	●
		30	–	●	–	–	●	●	●	❍	●	●	●
		50	–	●	–	–	●	●	●	–	●	●	●
Copper sulphate	$CuSO_4$	30	●	●	●	●	●	●	●	●	●	●	●
Ferric chloride [3]	$FeCl_3$	45	●	●	–	–	●	●	●	●	●	●	●
Ferric sulphate [3]	$Fe_2(SO_4)_3$	60	●	●	●	●	●	●	●	●	●	●	●
Ferrous chloride	$FeCl_2$	37	●	●	–	–	●	●	●	●	●	●	●
Ferrous sulphate	$FeSO_4$	30	●	●	●	●	●	●	●	●	●	●	●
Fluosilicic acid	H_2SiF_6	40	●	●	❍	●	●	●	–	❍	●	●	–
Hydrochloric acid	HCl	< 25	●	●	–	●	●	●	●	●	●	●	●
		25-37	●	●	–	●	●	●	●	❍	●	●	●
Hydrogen peroxide	H_2O_2	30	●	●	●	●	●	●	●	●	●	●	●
Nitric acid	HNO3	30	●	●	●	●	●	●	●	●	●	●	●
		40	❍	●	●	●	●	●	●	–	●	●	●
		70	–	●	●	●	●	–	●	–	●	●	●
Peracetic acid	CH_3COOOH	5-15	❍	●	●	●	●	❍	–	❍	●	●	●
Potassium hydroxide	KOH	50	●	–	●	●	●	●	–	●	●	●	–
Potassium permanganate	$KMnO_4$	10	●	●	●	●	●	●	❍	●	●	●	●
Sodium chlorate	$NaClO_3$	30	●	●	●	●	●	●	●	●	●	●	●
Sodium chloride	NaCl	30	●	●	–	●	●	●	●	●	●	●	●
Sodium chlorite	$NaClO_2$	20	●	●	–	●	●	❍	●	●	●	●	●
Sodium hydroxide	NaOH	20	●	–	●	●	●	●	●	●	●	●	–
		30	●	●	●	●	●	●	❍	●	●	●	–
		50	●	●	●	●	●	●	–	●	●	●	–
Sodium hypochlorite	NaOCl	12-15	–	●	–	❍ [4]	●	●	●	●	●	●	–

Pumped liquid (20 °C)			Material										
			Dosing head						Gasket				Valve ball
Description	Chemical formula	Concentration [%]	PP	PVDF	SS 1.4571	2.4610 (Alloy C-4)	SS PTFE-coated	PVC	FKM	EPDM	PTFE	Ceramic	Glass
Sodium sulphide	Na_2S	30	●	●	●	–	●	●	●	●	●	●	–
Sodium sulphite	Na_2SO_3	20	●	●	●	–	●	●	●	●	●	●	–
Sodium thiosulphate	$Na_2S_2O_3$	10	●	●	●	●	●	●	●	●	●	●	●
Sulphurous acid	H_2SO_3	6	●	●	●	●	●	●	●	●	●	●	❍
Sulphuric acid [5]	H2SO4	< 80	●	●	–	●	●	●	●	❍	●	●	❍
		80-96	❍	●	–	●	●	●	●	–	●	●	–
		98	–	●	●	●	●	–	❍	–	●	●	–

[1] Once the pump is stopped, calcium hydroxide will sediment rapidly

[2] Must be fluoride-free when glass balls are used

[3] Risk of crystallisation

[4] Not resistant for sodium hypochlorite generated on site

[5] Reacts violently with water and generates much heat (pump must be absolutely dry before dosing sulphuric acid)

Legend	
●	Resistant
❍	Limited resistance
–	Not resistant

13. Grundfos Product Center

Online search and sizing tool to help you make the right choice.
http://product-selection.grundfos.com

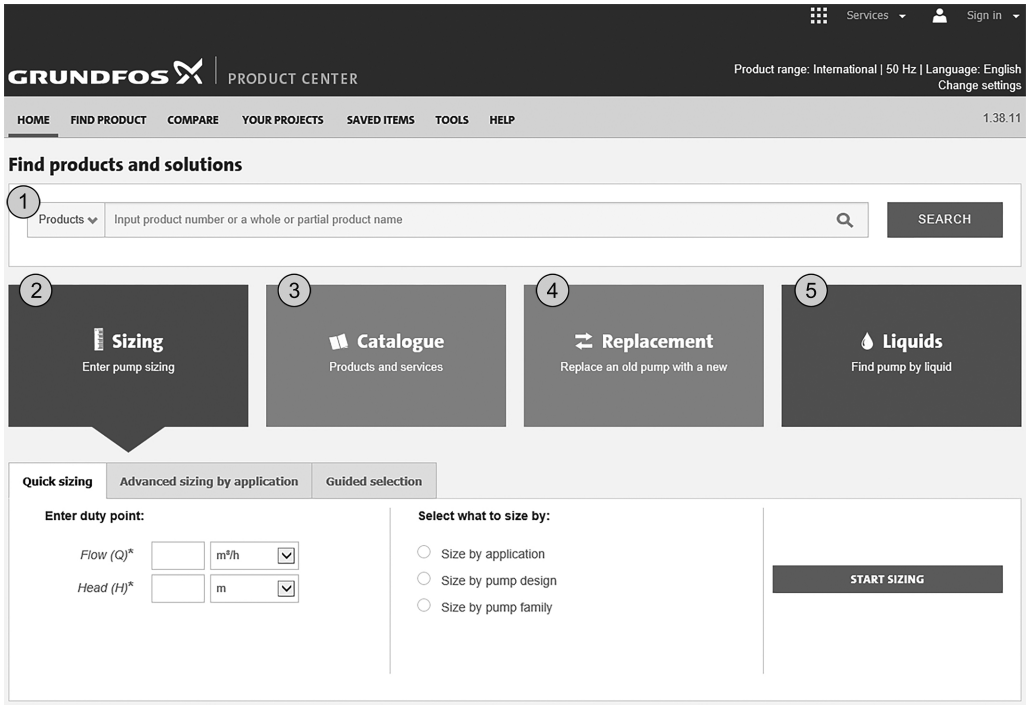
All the information you need in one place

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

Downloads

On the product pages, you can download installation and operating instructions, data booklets, service instructions, etc. in PDF format.

TM070461



TM070462-1

Pos.	Description
1	This drop-down menu enables you to set the search function to "Products" or "Literature".
2	**SIZING** enables you to size a pump based on entered data and selection choices.
3	**CATALOGUE** gives you access to the Grundfos product catalogue.
4	**REPLACEMENT** enables you to find a replacement product. Search results will include information on • the lowest purchase price • the lowest energy consumption • the lowest total life-cycle cost.
5	**LIQUIDS** enables you to find pumps designed for aggressive, flammable or other special liquids.

95724362 **09.2020**
ECM: 1285720

GRUNDFOS