DMX

Dosing pumps

MECHANICAL DOSING

Table of contents

1. Features and benefits

Reliable diaphragm dosing

from 4 to 2 x 4000 l/h.

TM04 1554 1310

Fig. 1 DMX series 221, 226 and 227

Versatility through choice

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

Tried. Tested. Truly reliable

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

Accurate dosing. All the time

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

Smoothness comes standard

The DMX series employs sophisticated drive technology and gear kinematics to ensure smooth, lowpulsation dosing.

Motors to match application needs

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

Choose the materials and size that suit you

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

Large models remain compact

The DMX range comprises 12 different dosing head sizes, but careful design work has kept them compact, making it easy for you to connect several pumps right next to each other if necessary.

Double-head versions saves you money

The two dosing heads fitted in the double-head versions of the DMX range offers you a very cost-efficient way of dosing two different chemicals to suit your application. Of course, the extra capacity offered by double-head versions can also be used to gain higher flow rates for a single chemical. Only DMX models 226 and 227 are available with two dosing heads.

Accessories ensure perfect system integration

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

Servomotor

To facilitate automatic control of the flow rate, the DMX 221 and DMX 226 pumps can be equipped with an electric servomotor in a metal housing IP65. The servomotor primarily consists of an overload-proof synchronous motor, reduction gear, feedback potentiometer 1000 Ω and min/max limit switches. The servomotor is connected to the stroke-adjusting spindle of the dosing pump and adjusts the stroke length from 0 to 100 % with a rotation angle of 27 °. Apart from the standard version the following variants are also available:

- Servomotors with different operating voltages
- With integrated electronics for 4-20 mA analog signals input/output with manual/automatic switches

TM04 1555 1310

Fig. 2 DMX 221 with servomotor

AR microprocessor electronics Etron Profi

Convenient electronics in a plastic housing IP65 for DMX 221 and DMX 226 pumps with AC motor.

Variants

- Etron Profi for mounting on the terminal box, 115/230 V, 50/60 Hz
- Etron Profi for wall mounting, 115/230 V, 50/60 Hz, 5 m of cable to the pump

Control modes

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

Inputs

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

Outputs

- Analog signal
- Error signal (fault)
- Stroke signal
- Pre-alert signal

TM04 1556 1310

Fig. 3 DMX 226 M with AR electronics Etron Profi

2. Performance range

DMX 221, 226 (50 Hz)

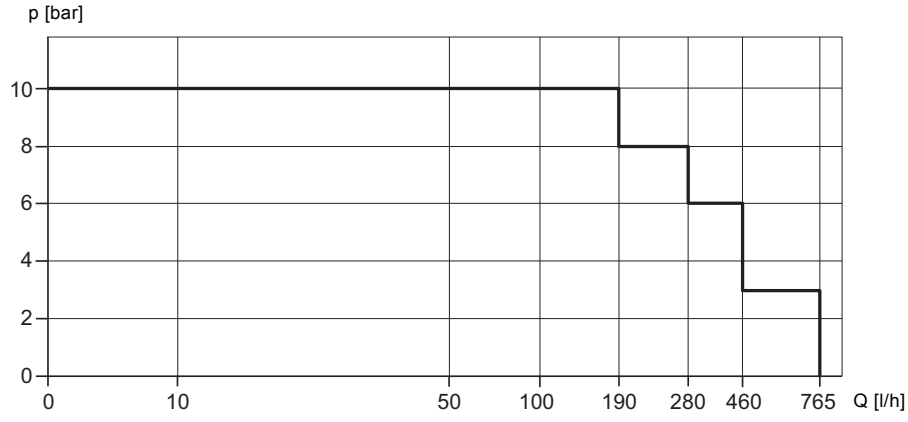


Fig. 4 DMX 221, 226 50 Hz, 4-765 l/h

DMX 227 (50 Hz)

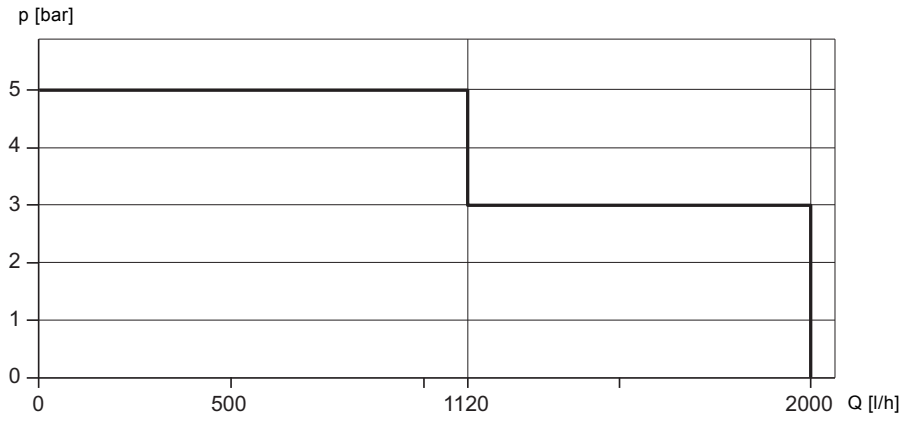


Fig. 5 DMX 227 50 Hz, 0-2000 l/h

DMX 227 (100 Hz)

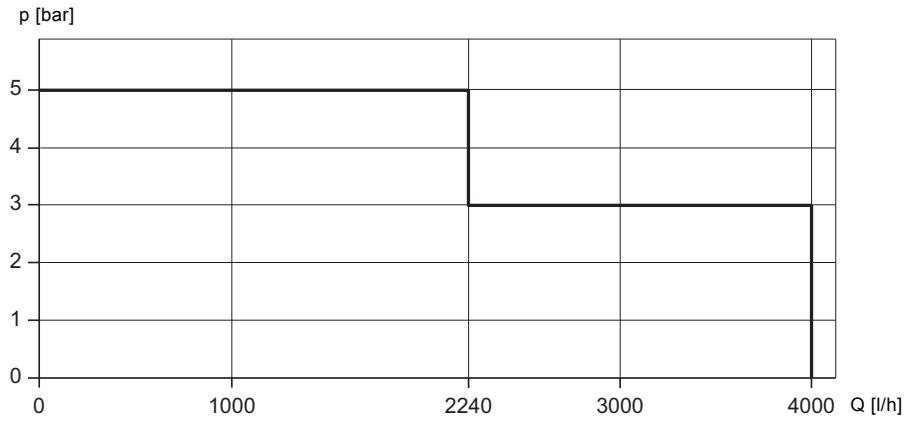


Fig. 6 DMX 227 100 Hz, 0-4000 l/h

3. Identification

Type key DMX 221

Example:	DMX	115-	3	B	PP	/E	/T	-X	-E	1	QQ	X	E0

Type range

Maximum flow [l/h]

Maximum pressure [bar]

Control variant

B	Standard - manual control
AR**	Analog/pulse control (Etron Profi)
AT3	Servomotor, 1 x 230 V, 50/60 Hz supply, 4-20 mA control
AT5	Servomotor, 1 x 115 V, 50/60 Hz supply, 4-20 mA control
AT8	Servomotor, 1 x 230 V, 50/60 Hz supply, 1 kΩ potentiometer control
AT9	Servomotor, 1 x 115 V, 50/60 Hz supply, 1 kΩ potentiometer control

Dosing head variant

PP	Polypropylene
PV	PVDF (polyvinylidene fluoride)
PVC	Polyvinyl chloride
SS	Stainless steel 1.4571* (SS316Ti)
PV-R	PVDF + integrated relief valve
PVC-R	PVC + integrated relief valve
PP-L	PP + integrated diaphragm leakage detection
PV-L	PVDF + integrated diaphragm leakage detection
PVC-L	PVC + integrated diaphragm leakage detection
SS-L	SS + integrated diaphragm leakage detection
PV-RL	PVDF + integrated relief valve and diaphragm leakage detection
PVC-RL	PVC + integrated relief valve and diaphragm leakage detection

Gasket material

E	EPDM
V	FKM
T	PTFE

Valve ball material

G	Glass
T	PTFE
SS	Stainless steel 1.4401* (SS316)

Control panel position

F	Front-mounted (opposite to the dosing head)
S	Side-mounted (same side as the stroke-length adjustment knob)
Sx	Side-mounted (side opposite to the stroke-length adjustment knob)
W	Wall-mounted
X	No control panel

Motor variant

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

Mains plug

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

Connection, suction/discharge

4	Tube 6/9 mm
B1	Tube 6/12 mm/ cementing d. 12 mm
6	Tube 9/12 mm
B2	Tube 13/20 mm/ cementing d. 25 mm
Q	Tube 19/27 mm and 25/34 mm
R	Tube 1/4"/3/8"
S	Tube 3/8"/1/2"
C5	Hose clamp 1/2"
A	Threaded Rp 1/4
A1	Threaded Rp 3/4
V	Threaded 1/4" NPT, female
A9	Threaded 1/2" NPT, male
A3	Threaded 3/4" NPT, female
A7	Threaded 3/4" NPT, male
B3	Welding, diameter 16 mm
B4	Welding, diameter 25 mm

Valve type

1	Standard valve
3	Spring-loaded 0.05 bar suction opening pressure 0.8 bar discharge opening pressure
4	Spring-loaded, discharge side only 0.8 bar opening pressure
5	Valve for abrasive media

Supply voltage

G	1 x 230 V, 50/60 Hz
H	1 x 120 V, 50/60 Hz
E	3 x 230/400 V, 50/60 Hz 3 x 440/480 V, 60 Hz
F	Without motor, NEMA flange (US)
0	Without motor, IEC flange

* according to EN 10027-2

** Only pumps up to and including 0.37 kW and only single-phase pumps

Type key DMX 226

Example:	DMX	765-	3	B	PP	/E	/T	-X	-E	1	QQ	X	E0

Type range

DMX

Maximum flow [l/h]

Maximum pressure [bar]

Control variant

B	Standard
AR**	Analog/pulse control (Etron Profi)
AT3	Servomotor, 1 x 230 V, 50/60 Hz supply, 4-20 mA control
AT5	Servomotor, 1 x 115 V, 50/60 Hz supply, 4-20 mA control
AT8	Servomotor, 1 x 230 V, 50/60 Hz supply, 1 kΩ potentiometer control
AT9	Servomotor, 1 x 115 V, 50/60 Hz supply, 1 kΩ potentiometer control

Dosing head variant

PP	Polypropylene
PV	PVDF (polyvinylidene fluoride)
PVC	Polyvinyl chloride
SS	Stainless steel 1.4571* (SS316Ti)
PV-R	PVDF + integrated relief valve
PVC-R	PVC + integrated relief valve
PP-L	PP + integrated diaphragm leakage detection
PV-L	PVDF + integrated diaphragm leakage detection
PVC-L	PVC + integrated diaphragm leakage detection
SS-L	SS + integrated diaphragm leakage detection
PV-RL	PVDF + integrated relief valve and diaphragm leakage detection
PVC-RL	PVC + integrated relief valve and diaphragm leakage detection

Gasket material

E	EPDM
V	FKM
T	PTFE

Valve ball material

G	Glass
T	PTFE
SS	Stainless steel 1.4401* (SS316)

Motor variant

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

Mains plug (only 1AC motor)

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

Connection, suction/discharge

B9	Tube 19/27 mm, PVC
Q	Tube 19/27 mm and 25/34 mm
A1	Threaded Rp 3/4
A2	Threaded Rp 1 1/4
A3	Threaded 3/4" NPT
A7	Threaded 3/4" NPT, male
A4	Threaded 1 1/4" NPT
A8	Threaded 1 1/4" NPT, male
K	Cementing d. 40 mm
B2	Tube 13/20 mm/ cementing d. 25 mm
B4	Welding d. 25 mm
B5	Welding d. 40 mm

Valve type

1	Standard
4	Spring-loaded, discharge side only
5	Valves for abrasive media

Supply voltage

0	Without motor, IEC flange
G	1 x 230 V, 50 Hz
H	1 x 115 V, 60 Hz
E	230/400 V, 50/60 Hz or 440/480 V, 60 Hz
F	Without motor, NEMA flange (US)

Control panel position

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

* according to EN 10027-2

** Only pumps up to and including 525 l/h and only pumps with single-phase motors

Type key DMX 227

Example:	DMX	2000-	3	D	PP	/E	/PP	-X	-E	2	TT	X	E0

Type range

DMX

Maximum flow [l/h]

Maximum pressure [bar]

Control variant

D	No control unit

Dosing head variant

PP	Polypropylene
PVC	Polyvinyl chloride
SS	Stainless steel 1.4571* (SS316Ti)
PP-L	PP + integrated diaphragm leakage detection
PVC-L	PVC + integrated diaphragm leakage detection
SS-L	SS + integrated diaphragm leakage detection

Gasket material

E	EPDM
V	FKM

Valve ball material

PP	Polypropylene
PVC	Polyvinyl chloride
SS	Stainless steel 1.4571* (SS316Ti)

Motor variant

E0	PTC motor for frequency control, 3 x 400 V
E6	PTC motor with frequency control, 3 x 400 V

Mains plug

X	No plug

Connection, suction/discharge

R	Flange, DN 65, with connector for PVC pipe, 65/75 mm
T	Flange, DN 65, with connector for PP pipe, 65/75 mm
U	Flange, DN 65, with connector for SS pipe, 65/75 mm
Y	Flange, DN 65
Z	Flange, ANSI, 2 1/2"

Valve type

2	Spring-loaded 0.1 bar suction opening pressure 0.1 bar discharge opening pressure

Supply voltage

0	Without motor, flange for single-head pump: IEC BG90 B14 double-head pump: IEC BG100 B14
F	Without motor, NEMA flange 145C (US)
E	230/400 V, 50 Hz, 460 V, 60 Hz

Control panel position

X	No control panel

* according to EN 10027-2

4. Functions

Overview of possible capacity control functions

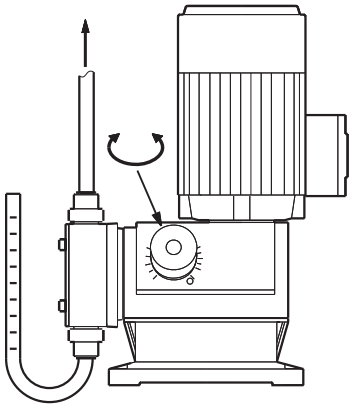
Feature	DMX 221	DMX 226	DMX 227
Manual control (stroke-length adjustment)	•	•	
Servomotor control (electric stroke-length adjustment)	•	•	
Motor for frequency control (external frequency converter)	•	•	•
Motor speed control with integrated frequency converter			•
AR electronics control (stroke frequency, pulse and analogue signal)	•	• [1)]	

[1)] AR version only up to capacity (Q) of 525 l/h

Capacity control by stroke-length adjustment

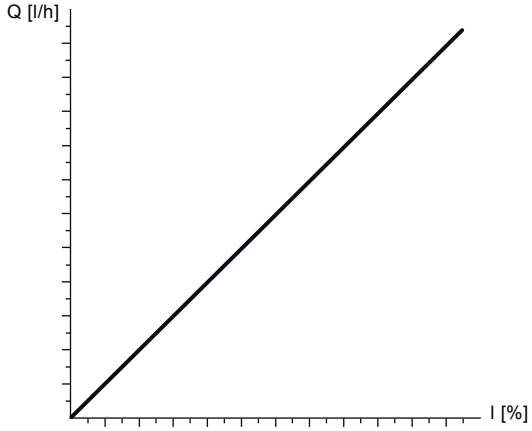
Functional description

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



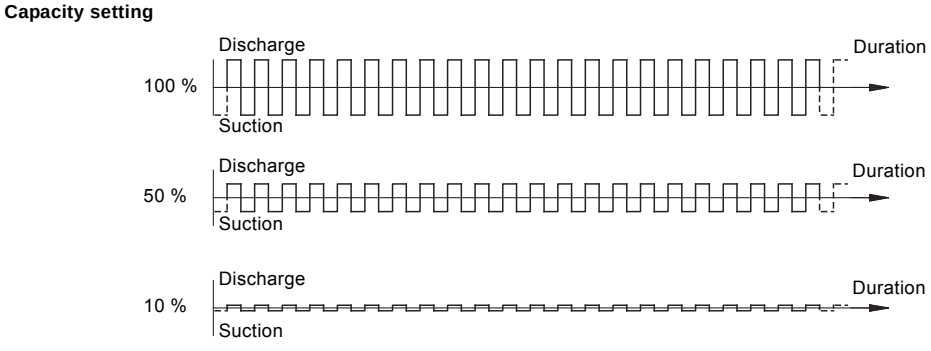
TM03 2023 3505

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



TM04 8406 1811

Fig. 8 Relation between stroke length and capacity



TM03 2074 3505

Fig. 9 Relation between stroke-length adjustment and capacity

Capacity control by motor frequency converter

The capacity of DMX pumps with motor with PTC resistor can be adjusted with a frequency converter by varying the motor speed.

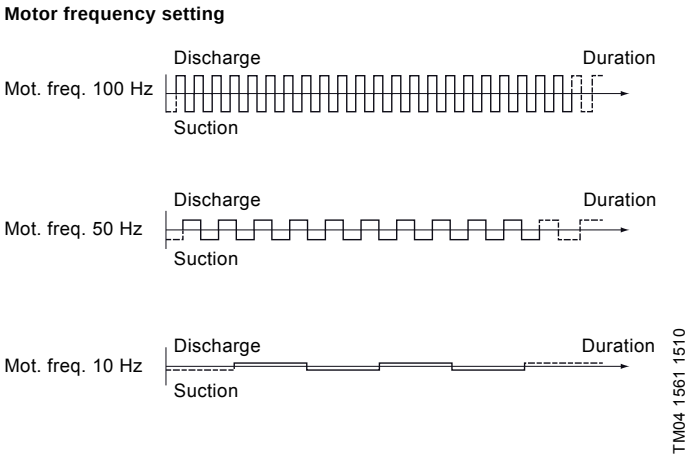


Fig. 10 Relation between motor frequency setting and capacity

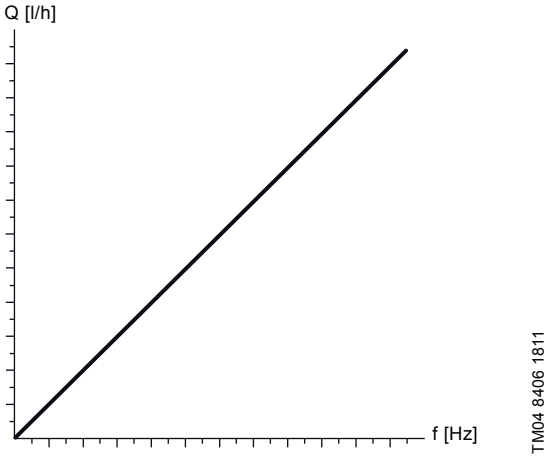


Fig. 11 Relation between motor frequency and capacity

Capacity control by AR electronics (Etron Profi)

The capacity of DMX pumps with single-phase motor and AR electronics can be controlled by regulation of the pause time between strokes. This is carried out by analog or pulse signals or via manual stroke frequency adjustment.

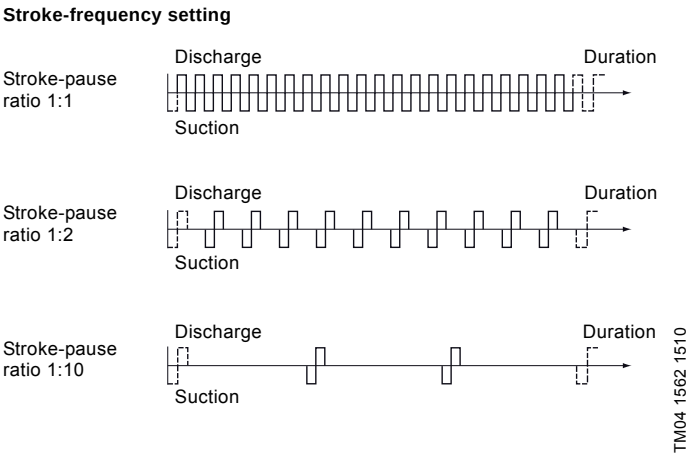


Fig. 12 Relation between stroke frequency setting and capacity

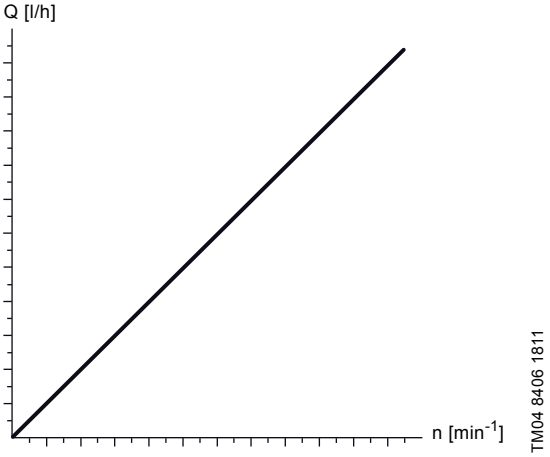


Fig. 13 Relation between stroke frequency and capacity

5. Construction

General description

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

The DMX pumps are designed for capacities between 4 and 2 x 4000 l/h and a maximum pressure up to 10 bar. The DMX pumps are fitted with a separation chamber. In the event of a diaphragm failure, the separation chamber prevents the pumped liquid from flooding the pump unit or other system components.

DMX 221

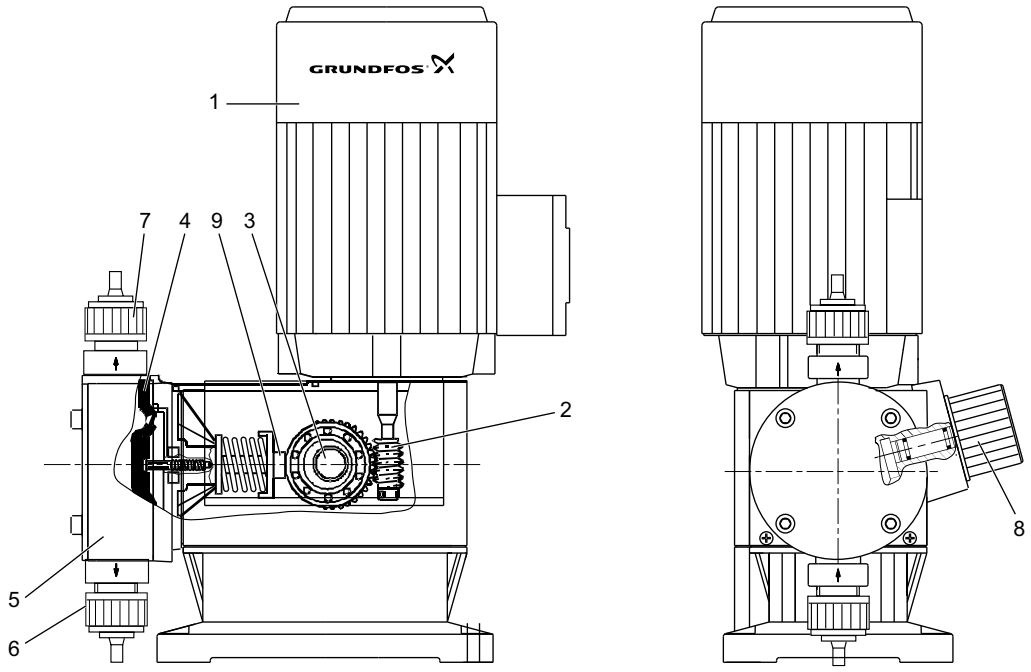


Fig. 14 Sectional drawing DMX 221

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

Functional principle

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

DMX 226

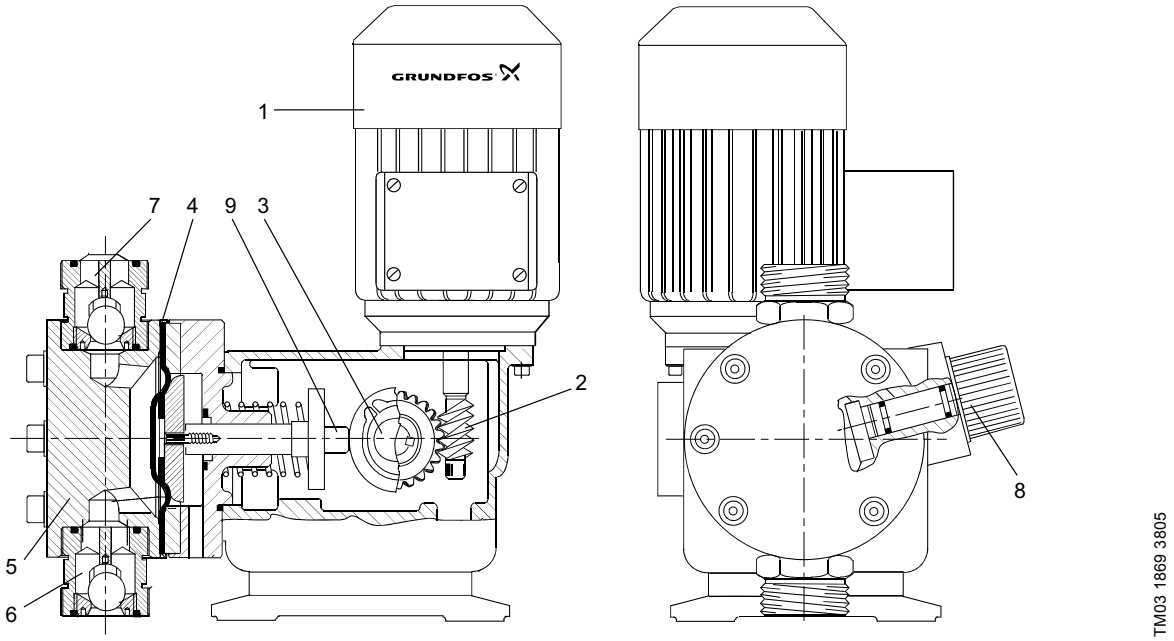


Fig. 15 Sectional drawing DMX 226

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

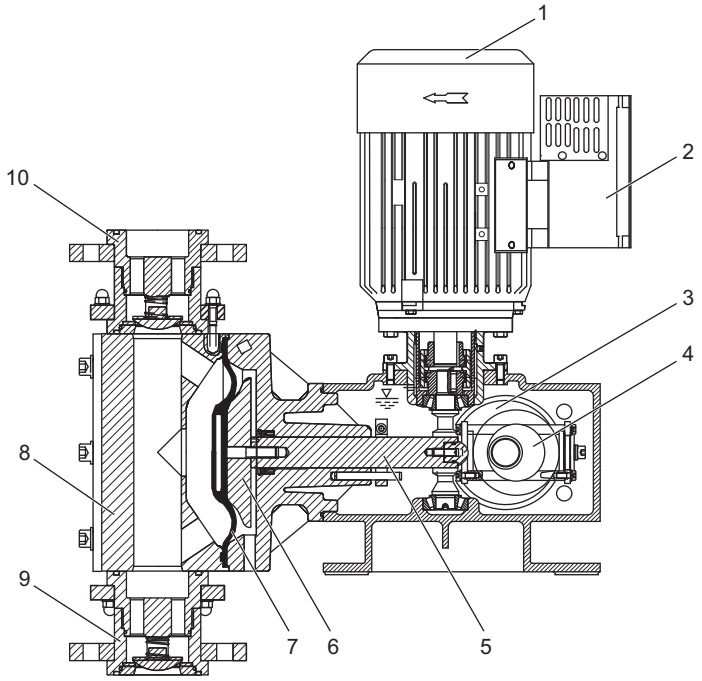
Functional principle

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

DMX 226 is available in 2 versions:

- DMX 226 M
- DMX 226 L

DMX 227



TM04 1560 1510

Fig. 16 Sectional drawing DMX 227

Pos.	Description
1	Motor
2	Frequency converter
3	Gears
4	Eccentric
5	Tappet
6	Support disk
7	Dosing diaphragm
8	Dosing head
9	Suction valve
10	Discharge valve

Functional principle

- Reciprocating displacement pump with electric motor and mechanical diaphragm control.
- The rotation of the motor is transformed into the reciprocating movement of the dosing diaphragm by the operation of the eccentric and tappet.
- The dosing flow can be adjusted in the range of 1 to 10 by means of a frequency converter which is optionally mounted directly onto the clamp box of the motor.

6. Technical data

Dimensions DMX 221

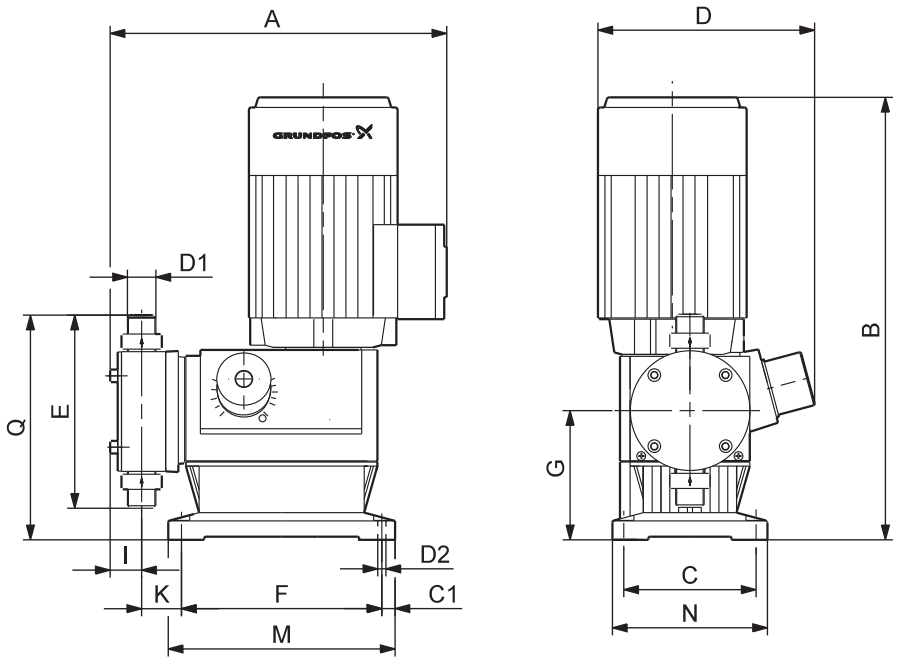


Fig. 17 Dimensions DMX 221

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

Dimensions DMX 226

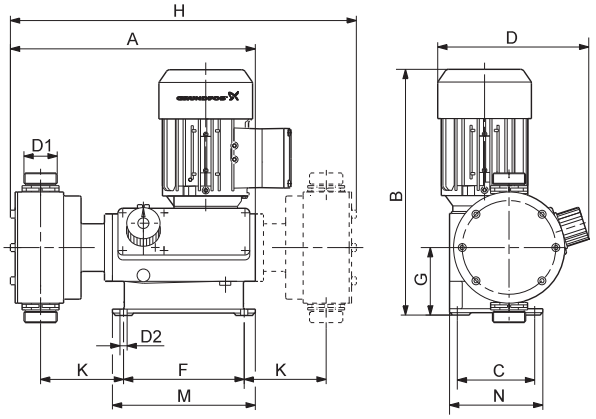


Fig. 18 Dimensions DMX 226, version M

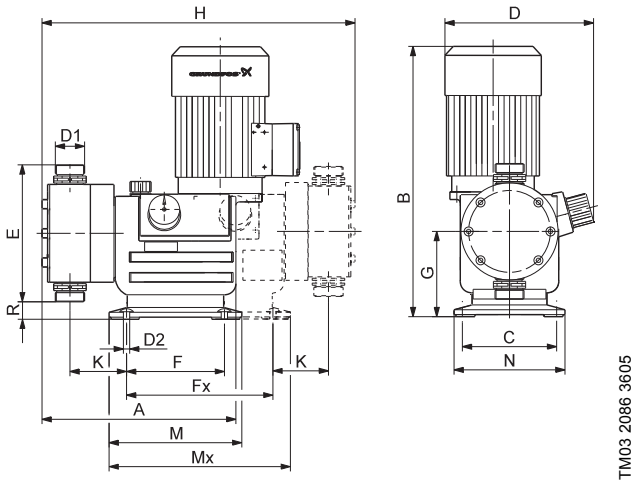


Fig. 19 Dimensions DMX 226, version L

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

Dimensions DMX 227

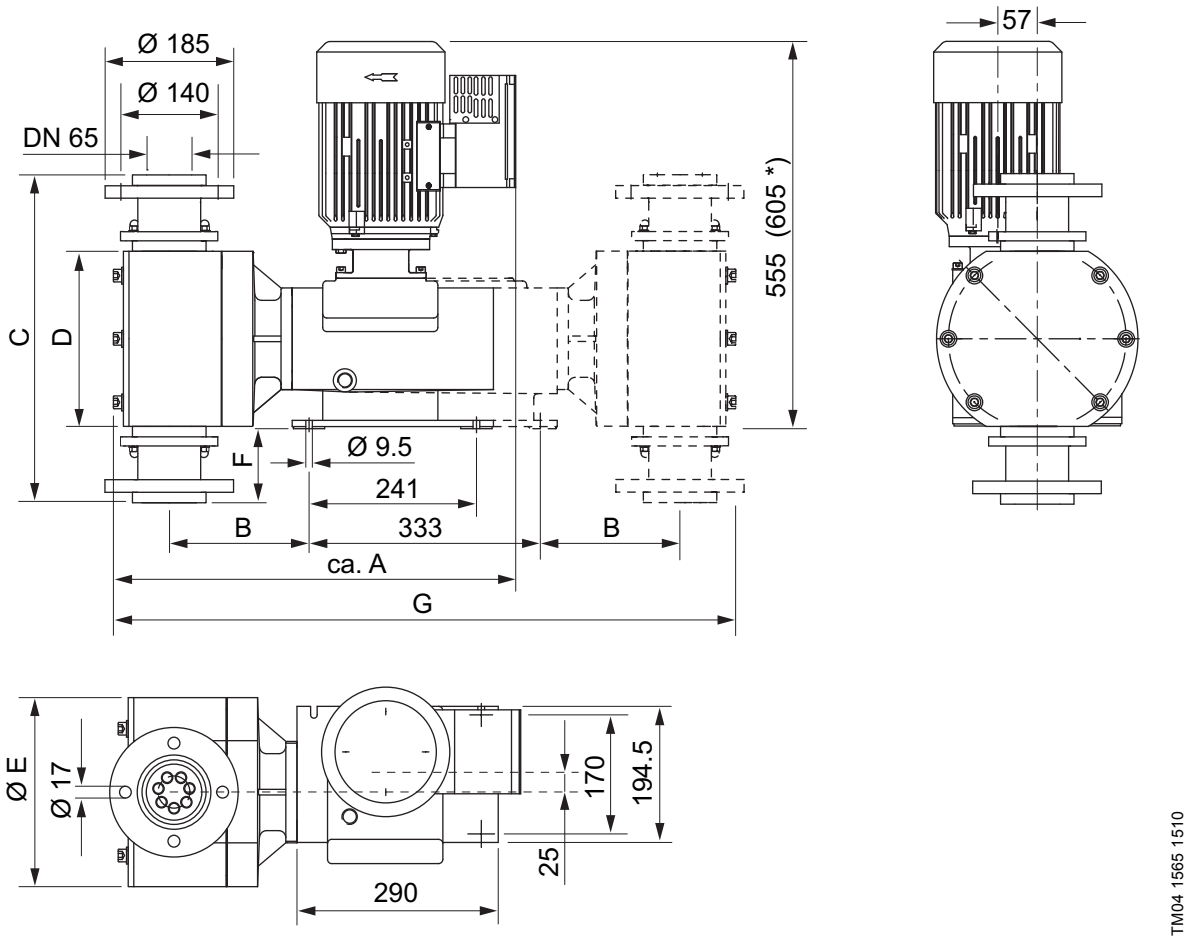


Fig. 20 Dimensions DMX 227

* dimension at double-head pump

Pump	A	B	C	D	ØE	F	G
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
227-430	567	185	446	228	270	95	880
227-770	580	201	468	250	290	106	910
227-860	567	185	446	228	270	95	880
227-1120	567	185	446	228	270	95	880
227-1520	580	201	468	250	290	106	910
227-2000	580	201	468	250	290	106	910

Performance data DMX 221

Pump	V_{stroke}	50 Hz			60 Hz			100 Hz			Motor power	
		Max. flow[1]	Stroke frequency	Max. press[2]	Max. flow[1]	Stroke frequency	Max. press[2]	Max. flow[1]	Stroke frequency	Max. press[2]	Standard	PTC[3]
	[cm^3]	[l/h]	[n/min]	[bar]	[l/h]	[n/min]	[bar]	[l/h]	[n/min]	[bar]	[kW]	[kW]
DMX 4-10	2.2	4	29	10	4.8	34.8	10	8	58	10	0.09	0.09
DMX 7-10	3.8	7	29	10	8.4	34.8	10	14	58	10	0.09	0.09
DMX 8-10	2.2	8	63	10	9.6	75.6	10	16	126	10	0.09	0.09
DMX 9-10	4.9	9	29	10	10.8	34.8	10	18	58	10	0.09	0.09
DMX 12-10	6.9	12	29	10	14.4	34.8	10	24	58	10	0.09	0.18
DMX 14-10	3.8	14	63	10	16.8	75.6	10	28	126	10	0.09	0.09
DMX 16-10	2.2	16	120	10	19.2	144	10	-	-	-	0.09	-
DMX 17-4	10.4	17	29	4	20.4	34.8	4	34	58	4	0.09	0.18
DMX 18-10	4.9	18	63	10	21.6	75.6	10	36	126	10	0.09	0.09
DMX 25-3	16	27	29	3	32.4	34.8	3	54	58	3	0.09	0.18
DMX 26-10	6.9	26	63	10	31.2	75.6	10	52	126	10	0.09	0.18
DMX 27-10	3.8	27	120	10	32.4	144	10	-	-	-	0.09	-
DMX 35-10	4.9	35	120	10	42	144	10	-	-	-	0.09	-
DMX 39-4	10.4	39	63	4	46.8	75.6	4	78	126	4	0.09	0.18
DMX 50-10	6.9	50	120	10	60	144	8	-	-	-	0.09	-
DMX 60-3	16	60	63	3	72	75.6	3	120	126	3	0.09	0.18
DMX 75-4	10.4	75	120	4	90	144	3.5	-	-	-	0.09	-
DMX 115-3	16	115	120	3	138	144	2.5	-	-	-	0.09	-

1) The maximum flow is measured at maximum counterpressure

2) Maximum counterpressure

3) PTC available for frequency control (100 Hz)

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

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

Minimum counterpressure: 1 bar.

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

Performance data DMX 226

Pump	V_{stroke}	50 Hz			60 Hz			100 Hz			Motor power	
		Max. flow[1]	Stroke frequency	Max. press[2]	Max. flow[1]	Stroke frequency	Max. press[2]	Max. flow[1]	Stroke frequency	Max. press[2]	Standard	PTC[3]
	[cm^3]	[l/h]	[n/min]	[bar]	[l/h]	[n/min]	[bar]	[l/h]	[n/min]	[bar]	[kW]	[kW]
DMX 24-8	13.8	24	29	8	28	34.8	8	48	58	8	0.18	0.18
DMX 37-5	22	37	29	5	45	34.8	5	75	58	5	0.18	0.18
DMX 52-8	13.8	52	63	8	62	75.6	8	104	126	8	0.18	0.18
DMX 60-3	36	60	29	3	72	34.8	3	120	58	3	0.18	0.18
DMX 67-10	18.5	67	57	10	80	68.4	10	134	114	10	0.37	0.55
DMX 82-5	22	82	63	5	98	75.6	5	164	126	5	0.18	0.18
DMX 95-8	27.8	95	57	8	114	68.4	8	190	114	8	0.37	0.55
DMX 100-8	13.8	100	120	8	120	144	8	-	-	-	0.18	-
DMX 130-3	36	130	63	3	156	75.6	3	260	126	5	0.18	0.18
DMX 132-10	18.5	132	120	10	158	144	10	-	-	-	0.37	-
DMX 142-8	13.8	142	168	8	-	-	-	-	-	-	0.18	-
DMX 152-6	44.6	152	57	6	182	68.4	6	304	114	6	0.37	0.55
DMX 160-5	22	160	120	5	192	144	5	-	-	-	0.18	-
DMX 190-8 [4]	18.5	190	175	8	-	-	-	-	-	-	0.37	-
DMX 190-10	18.5	190	175	10	-	-	-	-	-	-	0.37	-
DMX 199-8	27.8	199	120	8	239	144	8	-	-	-	0.37	-
DMX 230-5	22	224	168	5	-	-	-	-	-	-	0.18	-
DMX 249-3	73	249	57	3	299	68.4	3	498	114	3	0.37	0.55
DMX 255-3	36	255	120	3	306	144	3	-	-	-	0.18	-
DMX 280-6 [4]	27.8	280	175	6	-	-	-	-	-	-	0.37	-
DMX 280-8	27.8	280	175	8	-	-	-	-	-	-	0.37	-
DMX 315-3	73	315	72	3	378	86	3	630	144	3	0.37	0.55
DMX 321-4 [4]	44.6	321	120	4	385	144	4	-	-	-	0.37	-
DMX 321-6	44.6	321	120	6	385	144	6	-	-	-	0.37	-
DMX 380-3	36	380	168	3	-	-	-	-	-	-	0.18	-
DMX 460-3.5 [4]	44.6	460	175	3.5	-	-	-	-	-	-	0.37	-
DMX 460-6	44.6	460	175	6	-	-	-	-	-	-	0.37	-
DMX 525-3	73	525	120	3	630	144	3	-	-	-	0.37	-
DMX 765-3	73	765	175	3	-	-	-	-	-	-	0.37	-

1) Maximum flow is measured at maximum counterpressure. Max. flow is per dosing head (double-head pumps have double the flow rate)

2) Maximum counterpressure

3) Motor for frequency control (100 Hz)

4) Pump with single-phase motor

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

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

Minimum counterpressure: 1 bar.

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

Performance data DMX 227

Pump	V_{stroke}	50 Hz			60 Hz			100 Hz			Motor power[3]	
		Max. flow[1]	Stroke frequency	Max. press.[2]	Max. flow[1]	Stroke frequency	Max. press.[2]	Max. flow[1]	Stroke frequency	Max. press.[2]	Single head	Double head
	[cm^3]	[l/h]	[n/min]	[bar]	[l/h]	[n/min]	[bar]	[l/h]	[n/min]	[bar]	[kW]	[kW]
DMX 430-5	256	430	28	5	516	34	5	860	56	5	1.5	2.2
DMX 770-3	457	770	28	3	924	34	3	1540	56	3	1.5	2.2
DMX 860-5	256	860	56	5	1032	67	5	1720	112	5	1.5	2.2
DMX 1120-5	256	1120	73	5	1344	88	5	2240	146	5	1.5	2.2
DMX 1520-3	457	1520	56	3	1824	67	3	3040	112	3	1.5	2.2
DMX 2000-3	457	2000	73	3	2400	88	3	4000	146	3	1.5	2.2

1) Maximum flow is measured at maximum counterpressure. Max. flow is per dosing head (double-head pumps have double the flow rate)

2) Maximum counterpressure

3) Motor IE2 (high efficiency) acc. to IEC 60034-30 for induction motors

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

- flooded suction: 0.5 m
- fully vented dosing head
- 400 V motor, 3-phase, PTC resistor

Minimum counterpressure: 1 bar.

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

Suction lift DMX 221

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

1) Suction line and dosing head filled (continuous operation)
2) Suction line and dosing head not filled, but dosing head and valves moistened (commissioning)
3) Flooded suction

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

Liquids with a viscosity similar to water:

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

Liquids with max. permissible viscosity:

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

Suction lift DMX 226

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

1) Suction line and dosing head filled (continuous operation)
2) Suction line and dosing head not filled, but dosing head and valves moistened (commissioning)

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

Liquids with a viscosity similar to water:

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

Liquids with max. permissible viscosity:

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

Suction lift DMX 227

Pump	Liquids with a viscosity similar to water			Liquids with max. permissible viscosity	
	Suction lift - 50 Hz		Max. length of suction line	Max. permissible viscosity	Suction lift
	Continuous operation[1]	Start-up[2]			
	[m]	[m]	[m]	[mPas]	[m]
DMX 430-5	3	1	3	1000	0
DMX 770-3	3	1	2	800	0
DMX 860-5	3	1	3	800	0
DMX 1120-5	3	1	3	400	0
DMX 1520-3	3	1	2	400	0
DMX 2000-3	3	1	2	200	0

1) Suction line and dosing head filled (continuous operation)
2) Suction line and dosing head not filled, but dosing head and valves moistened (commissioning)

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

Liquids with a viscosity similar to water:

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

Liquids with max. permissible viscosity:

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

Weights DMX 221

Pump	Weights [kg]	
	Plastics	Stainless steel
DMX 4-10	5	7
DMX 7-10	5	7
DMX 8-10	5	7
DMX 9-10	5	7
DMX 12-10	5	7
DMX 14-10	5	7
DMX 16-10	5	7
DMX 17-4	7.5	12
DMX 18-10	5	7
DMX 25-3	8	13
DMX 26-10	5	7
DMX 27-10	5	7
DMX 35-10	5	7
DMX 39-4	7.5	12
DMX 50-10	5	7
DMX 60-3	8	13
DMX 75-4	7.5	12
DMX 115-3	8	13

The weights are approximate.

Weights DMX 226

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

The weights are approximate.

Weights DMX 227

Pump	Weights [kg]			
	Single-head pump		Double-head pump	
	Plastics	Stainless steel	Plastics	Stainless steel
DMX 430-5	69	93	122	175
DMX 770-3	69	93	122	175
DMX 860-5	69	93	122	175
DMX 1120-5	69	93	122	175
DMX 1520-3	69	93	122	175
DMX 2000-3	69	93	122	175

The weights are approximate.

Sound pressure

Pump range	Sound pressure level* [dB(A)]
DMX 221	55
DMX 226	55
DMX 227	70

* Tested according to DIN 45635-01-KL3.

Accuracy

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

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

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

Permissible temperature of dosing liquid

Dosing head material	Permissible temperature of dosing liquid
	p < 10 bar [°C]
PVC	0 to 40
Stainless steel 1.4571 to EN 10027-2 (SS316Ti)*	- 10 to 70
PP	0 to 40
PVDF	- 10 to 60 (70 °C at 9 bar)

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

7. Selection of pump

DMX 221 standard range (4 to 115 l/h)

Max. flow [l/h]	Max. pressure [bar]	Material			Connection	Type designation	Product number
		Pump head	Gasket	Valve ball			
4	10	PVC	FKM	Glass	PVC 6/12 mm hose, 10/12 mm pipe	DMX 4-10 B-PVC/V/G-X-E1B1B1	96684148
		SS	PTFE	SS	1/4" female	DMX 4-10 B-SS/T/SS-X-E1AA	96716307
7	10	PVC	FKM	Glass	PVC 6/12 mm hose, 10/12 mm pipe	DMX 7-10 B-PVC/V/G-X-E1B1B1	96730998
		SS	PTFE	SS	1/4" female	DMX 7-10 B-SS/T/SS-X-E1AA	96684430
14	10	PVC	FKM	Glass	PVC 6/12 mm hose, 10/12 mm pipe	DMX 14-10 B-PVC/V/G-X-E1B1B1	96693593
		SS	PTFE	SS	1/4" female	DMX 14-10 B-SS/T/SS-X-E1AA	96683666
27	10	PVC	FKM	Glass	PVC 6/12 mm hose, 10/12 mm pipe	DMX 27-10 B-PVC/V/G-X-E1B1B1	96648142
		SS	PTFE	SS	1/4" female	DMX 27-10 B-SS/T/SS-X-E1AA	96715842
35	10	PVC	FKM	Glass	PVC 6/12 mm hose, 10/12 mm pipe	DMX 35-10 B-PVC/V/G-X-E1B1B1	96650928
		SS	PTFE	SS	1/4" female	DMX 35-10 B-SS/T/SS-X-E1AA	96684076
50	10	PVC	FKM	Glass	PVC 6/12 mm hose, 10/12 mm pipe	DMX 50-10 B-PVC/V/G-X-E1B1B1	96611961
		SS	PTFE	SS	1/4" female	DMX 50-10 B-SS/T/SS-X-E1AA	96684272
75	4	PVC	FKM	Glass	PVC 13/20 mm hose, 20/25 mm pipe	DMX 75-4 B-PVC/V/G-X-E1B2B2	96652050
		SS	PTFE	SS	3/4" female	DMX 75-4 B-SS/T/SS-X-E1A1A1	96684507
115	3	PVC	FKM	Glass	PVC 13/20 mm hose, 20/25 mm pipe	DMX 115-3 B-PVC/V/G-X-E1B2B2	96611663
		SS	PTFE	SS	3/4" female	DMX 115-3 B-SS/T/SS-X-E1A1A1	96683528

DMX 226 M standard range (24 to 380 l/h)

Max. flow [l/h]	Max. pressure [bar]	Material			Connection	Type designation	Product number
		Pump head	Gasket	Valve ball			
24	8	PVC	FKM	Glass	PVC 13/20 mm hose, 20/25 mm pipe	DMX 24-8 B-PVC/V/G-X-E1B2B2	96685432
		SS	PTFE	SS	3/4" female	DMX 24-8 B-SS/T/SS-X-E1A1A1	96718926
100	8	PVC	FKM	Glass	PVC 13/20 mm hose, 20/25 mm pipe	DMX 100-8 B-PVC/V/G-X-E1B2B2	96717563
		SS	PTFE	SS	3/4" female	DMX 100-8 B-SS/T/SS-X-E1A1A1	96684911
142	8	PVC	FKM	Glass	PVC 13/20 mm hose, 20/25 mm pipe	DMX 142-8 B-PVC/V/G-X-E1B2B2	96685051
		SS	PTFE	SS	3/4" female	DMX 142-8 B-SS/T/SS-X-E1A1A1	96718050
224	5	PVC	FKM	Glass	PVC 13/20 mm hose, 20/25 mm pipe	DMX 230-5 B-PVC/V/G-X-E1B2B2	96634523
		SS	PTFE	SS	3/4" female	DMX 230-5 B-SS/T/SS-X-E1A1A1	96691542
380	3	PVC	FKM	Glass	PVC hose 19/27 mm	DMX 380-3 B-PVC/V/G-X-E1B9B9	96653406
		SS	PTFE	SS	3/4" female	DMX 380-3 B-SS/T/SS-X-E1A1A1	96615372

DMX 226 L standard range (67 to 765 l/h)

Max. flow [l/h]	Max. pressure [bar]	Material			Connection	Type designation	Product number
		Pump head	Gasket	Valve ball			
67	10	PVC	FKM	Glass	PVC 13/20 mm hose, 20/25 mm pipe	DMX 67-10 B-PVC/V/G-X-E1B2B2	96686029
		SS	PTFE	SS	3/4" female	DMX 67-10 B-SS/T/SS-X-E1A1A1	96720407
132	10	PVC	FKM	Glass	PVC 13/20 mm hose, 20/25 mm pipe	DMX 132-10 B-PVC/V/G-X-E1B2B2	96653457
		SS	PTFE	SS	3/4" female	DMX 132-10 B-SS/T/SS-X-E1A1A1	96690320
190	10	PVC	FKM	Glass	PVC 13/20 mm hose, 20/25 mm pipe	DMX 190-10 B-PVC/V/G-X-E1B2B2	96718466
		SS	PTFE	SS	3/4" female	DMX 190-10 B-SS/T/SS-X-E1A1A1	96685223
280	8	PVC	FKM	Glass	PVC 13/20 mm hose, 20/25 mm pipe	DMX 280-8 B-PVC/V/G-X-E1B2B2	96653084
		SS	PTFE	SS	3/4" female	DMX 280-8 B-SS/T/SS-X-E1A1A1	96685581
321	6	PVC	FKM	Glass	PVC hose 19/27 mm	DMX 321-6 B-PVC/V/G-X-E1B9B9	96607455
		SS	PTFE	SS	3/4" female	DMX 321-6 B-SS/T/SS-X-E1A1A1	96685646
460	6	PVC	FKM	Glass	PVC hose 19/27 mm	DMX 460-6 B-PVC/V/G-X-E1B9B9	96656708
		SS	PTFE	SS	3/4" female	DMX 460-6 B-SS/T/SS-X-E1A1A1	96690336
525	3	PVC	FKM	Glass	PVC pipe 32/40 mm	DMX 525-3 B-PVC/V/G-X-E1KK	96699830
		SS	PTFE	SS	11/4" female	DMX 525-3 B-SS/T/SS-X-E1A2A2	96685949
765	3	PVC	FKM	Glass	PVC pipe 32/40 mm	DMX 765-3 B-PVC/V/G-X-E1KK	96720540
		SS	PTFE	SS	11/4" female	DMX 765-3 B-SS/V/SS-X-E1A2A2	96293622

DMX 227 standard range (430 to 2000 l/h)

Max. flow [l/h]	Max. pressure [bar]	Material			Connection	Type designation	Product number
		Pump head	Gasket	Valve ball			
430	5	PVC	FKM	PVC	DN 65 flange	DMX 430-5 D-PVC/V/PVC-X-ERRE0	96686245
		SS	FKM	SS	DN 65 flange	DMX 430-5 D-SS/V/SS-X-EUUE0	95729539
770	3	PVC	FKM	PVC	DN 65 flange	DMX 770-3 D-PVC/V/PVC-X-ERRE0	96686252
		SS	FKM	SS	DN 65 flange	DMX 770-3 D-SS/V/SS-X-EUUE0	95703664
860	5	PVC	FKM	PVC	DN 65 flange	DMX 860-5 D-PVC/V/PVC-X-ERRE0	96693685
		SS	FKM	SS	DN 65 flange	DMX 860-5 D-SS/V/SS-X-EUUE0	96720992
1120	5	PVC	FKM	PVC	DN 65 flange	DMX 1120-5 D-PVC/V/PVC-X-ERRE0	96693688
		SS	FKM	SS	DN 65 flange	DMX 1120-5 D-SS/V/SS-X-EUUE0	96686199
1520	3	PVC	FKM	PVC	DN 65 flange	DMX 1520-3 D-PVC/V/PVC-X-ERRE0	96720884
		SS	FKM	SS	DN 65 flange	DMX 1520-3 D-SS/V/SS-X-EUUE0	96720885
2000	3	PVC	FKM	PVC	DN 65 flange	DMX 2000-3 D-PVC/V/PVC-X-ERRE0	96692242
		SS	FKM	SS	DN 65 flange	DMX 2000-3 D-SS/V/SS-X-EUUE0	96691750

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

For further information about type codes see type keys in chapter “Identification” on page 6.

Max. flow & press. [l/h]-[bar]	Control variant	Materials			Control panel position	Supply voltage	Valve type	Connection suction/discharge	Mains plug	Motor variant
		Head	Gaskets	Balls						
DMX 221, DN 8, possible variants										
4-10 7-10 8-10 9-10 12-10 14-10 16-10 18-10 26-10 27-10 35-10 50-10	B AR AT3 AT5 AT8 AT9	PP	E	C	S X F W	G H E	1 3 4	44 66 A9A9 B1B1 B3B3 SS	F B I E X	E0 E1 (no ATEX) E2 (no ATEX)
				SS						
				T						
			V	C						
				G						
				T						
		PV	T	C						
				T						
			V	T						
		PVC	E	C						
				SS						
				T						
			T	C						
				T						
			V	C						
				G						
				SS						
		SS	T	SS	S X F W	G H E	1 3 4	AA A9A9 VV	F B I E X	E0 E1 (no ATEX) E2 (no ATEX)
			V	SS						
DMX 221, DN 20, possible variants										
17-4 25-3 39-4 60-3 75-4 115-3	B AR AT3 AT5	PP	E	SS	X F W	G H E	1 3 4	A7A7 B2B2 B4B4 B9B9 QQ	F B I E X	E0 E1 (no ATEX) E2 (no ATEX)
				T						
			T	T						
			V	G						
		PTFE	T	C						
		PV	T	T						
		PVC	E	SS						
				T						
			T	C						
			V	C						
				G						
				SS						
		SS	T	SS	X F W	G H E	1 3 4	A1A1 A3A3	F B I E X	E0 E1 (no ATEX) E2 (no ATEX)
			V	SS						
DMX 226, DN 20, possible variants										
24-8 37-5 52-8 60-3 67-10 82-5 95-8 100-8 130-3 132-10 142-8 152-6 160-5 190-10 199-8 230-5 255-3 280-8 315-3 321-6 380-3 460-6	B AR AT3 AT5 AT8 AT9	PP	E	SS	S X F W	0 G H E F	1 3 4	A7A7 B2B2 B4B4 B9B9 QQ	F B I E X	E0 E1 (ATEX) E2 (ATEX)
				T						
			T	T						
			V	G						
		PV	T	T						
			V	T						
		PVC	E	SS						
				T						
			T	C						
			V	C						
				G						
				SS						
		SS	T	SS	S X F W	0 G H E F	1 3 4	A1A1 A3A3	F B I E X	E0 E1 (ATEX) E2 (ATEX)
			V	SS						

Max. flow & press. [l/h]-[bar]	Control variant	Materials			Control panel position	Supply voltage	Valve type	Connection suction/discharge	Mains plug	Motor variant
		Head	Gaskets	Balls						
DMX 226, DN 32, possible variants										
249-3 525-3 765-3**	B AR AT3 AT5 AT8 AT9	PP	E	T	S X F W	0 G H E F	1 3 4	A8A8 B5B5 KK	B E F I X	E0 E1 (ATEX) E2 (ATEX)
			V	G						
		PV	T	T						
		PVC	E	SS						
			V	G						
		SS	E	SS	S X F W	0 G H E F	1 3 4	A2A2 A4A4	B E F I X	E0 E1 (ATEX) E2 (ATEX)
			T	SS						
			V	SS						
DMX 227, possible variants										
430-5 770-3 860-5 1120-5 1520-3 2000-3	B	PP	V	PP		0 F	2	RR TT UU YY ZZ		E0 E6
		PVC	V	PVC						
			E	PVC						
		SS	V	SS						

* According to EN 10027-2
** Not available with single-phase motor and therefore not with control variant AR.

Note:

Mains plug only for single phase.

DMX model 226 and 227 are available with two dosing heads.

8. Accessories

Overview of a dosing system

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

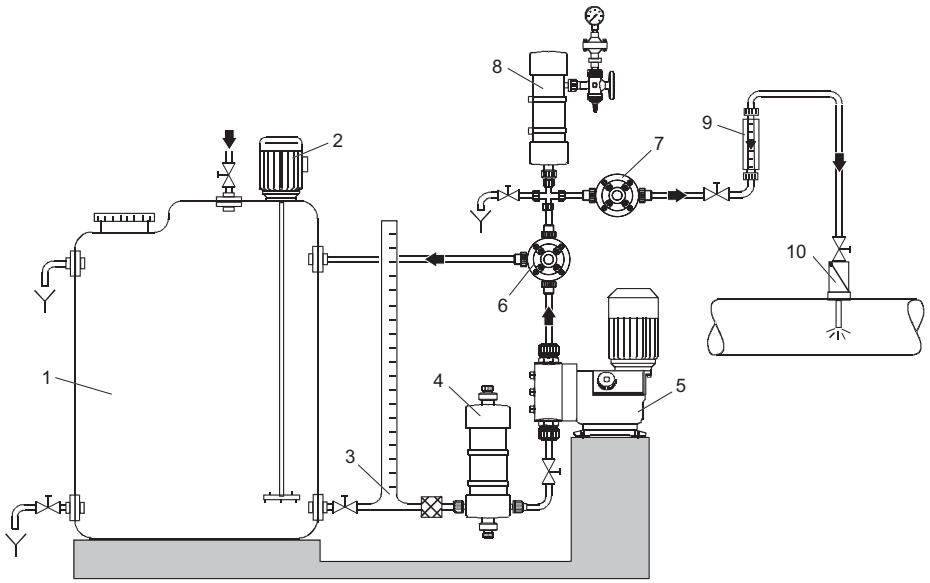


Fig. 21 Overview of dosing system

Pos.	Description
1	Dosing tank
2	Electric agitator
3	Extraction device
4	Pulsation damper, suction side
5	Dosing pump
6	Pressure relief valve
7	Pressure loading valve
8	Pulsation damper, discharge side
9	Flow meter
10	Injection unit

For more information about these and further accessories see separate Data Booklet Pump accessories.

9. Pumped liquids

List of pumped liquids

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

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

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

Note: Be careful when handling these liquids.

Pumped liquid (20 °C)			Material								
			Dosing head				Gasket			Ball	
Description	Chemical formula	Concentration [%]	PP	PVDF	SS 1.4571* (SS316Ti)	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★5	$Ca(OH)_2$		■	■	■	■	■	■	■	■	■
Calcium hypochlorite	$Ca(OCl)_2$	20	❑	■	–	■	■	■	■	■	■
Chromic acid★3	H_2CrO_4	10	■	■	■	■	■	■	■	■	■
		30	–	■	–	■	■	❑	■	■	■
		50	–	■	–	■	■	–	■	■	■
Copper sulphate	$CuSO_4$	30	■	■	■	■	■	■	■	■	■
Ferric chloride★1	$FeCl_3$	100	■	■	–	■	■	■	■	■	■
Ferric sulphate★1	$Fe_2(SO_4)_3$	100	■	■	■	■	■	■	■	■	■
Ferrous chloride	$FeCl_2$	100	■	■	–	■	■	■	■	■	■
Ferrous sulphate	$FeSO_4$	50	■	■	■	■	■	■	■	■	■
Fluosilicic acid	H_2SiF_6	40	■	■	❑	■	–	❑	■	■	–
Hydrochloric acid	HCl	< 25	■	■	–	■	■	■	■	■	■
		25-37	■	■	–	■	■	❑	■	■	■
Hydrogen peroxide	H_2O_2	30	■	■	■	■	■	■	■	■	■
Nitric acid	HNO_3	10	■	■	■	■	■	■	■	■	■
		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	–	■	–	■	■	■	■	■	■
Sodium sulphide	Na_2S	30	■	■	■	■	■	■	■	■	–
Sodium sulphite	Na_2SO_3	20	■	■	■	■	■	■	■	■	–
Sodium thiosulfate	$Na_2S_2O_3$	10	■	■	■	■	■	■	■	■	■
Sulphurous acid	H_2SO_3	6	■	■	■	■	■	■	■	■	❑
Sulphuric acid★2	H_2SO_4	< 80	■	■	–	■	■	❑	■	■	❑
		80-96	❑	■	–	■	■	–	■	■	–
		98	–	■	■	–	❑	–	■	■	–

■ Resistant

❑ Limited resistance

– Not resistant

★1 Risk of crystallisation

★2 Reacts violently with water and generates much heat (pump should be absolutely dry before dosing sulphuric acid)

★3 Must be fluoride-free when glass balls are used

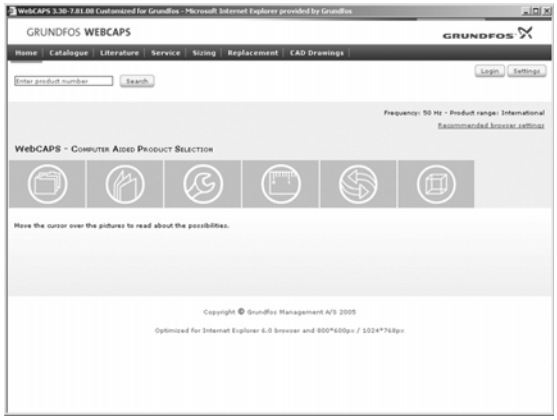
★5 Once the pump is stopped, calcium hydroxide will sediment rapidly

★6 Not resistant for sodium hypochlorite generated on site

* according to EN 10027-2

10. Further product documentation

WebCAPS

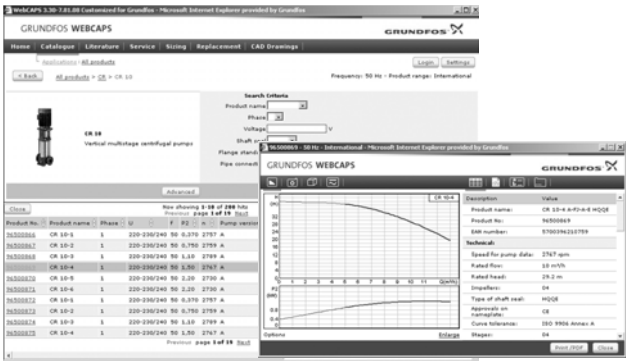


WebCAPS is a **Web**-based **C**omputer **A**ided **P**roduct **S**election program available on www.grundfos.com.

WebCAPS contains detailed information on more than 185 000 Grundfos products in more than 20 languages.

In WebCAPS, all information is divided into 6 sections:

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



Catalogue

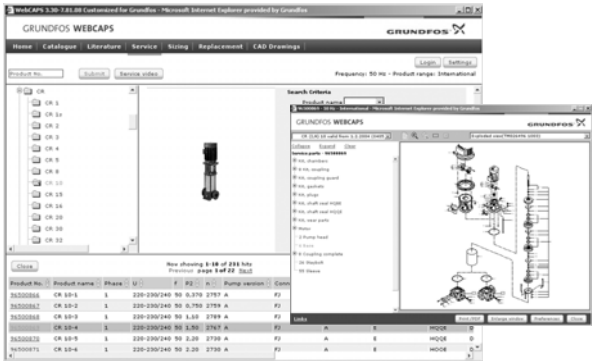
With a starting point in areas of applications and pump types, this section contains

- technical data
- curves (QH, Eta, P1, P2, etc) which can be adapted to the density and viscosity of the pumped liquid and show the number of pumps in operation
- product photos
- dimensional drawings
- wiring diagrams
- quotation texts, etc.

Literature

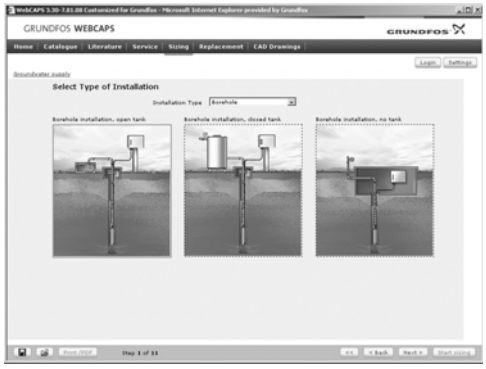
In this section you can access all the lastest documents of a given pump, such as

- data booklets
- Installation and operating instructions
- service documentation, such as Service kit catalogue and Service kit instructions
- quick guides
- product brochures, etc.



Service

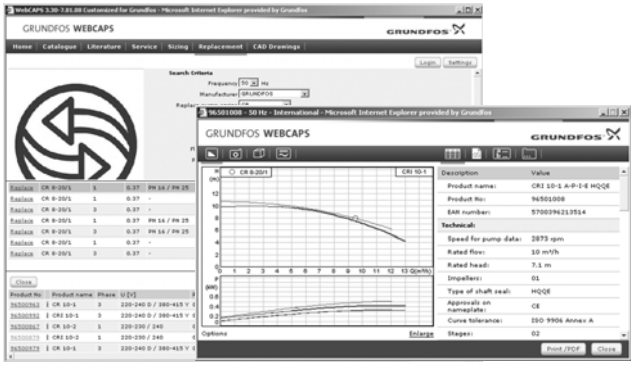
This section contains an easy-to-use interactive service catalogue. Here you can find and identify service parts of both existing and cancelled Grundfos pumps.
Furthermore, this section contains service videos showing you how to replace service parts.



Sizing

With a starting point in different application areas and installation examples, this section gives easy step-by-step instructions in how to

- select the most suitable and efficient pump for your installation
- carry out advanced calculations based on energy consumption, payback periods, load profiles, lifecycle costs, etc.
- analyse your selected pump via the built-in lifecycle cost tool
- determine the flow velocity in wastewater applications, etc.



Replacement

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

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

CAD drawings

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

The following formats are available in WebCAPS:

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

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

WinCAPS

Fig. 22 WinCAPS CD-ROM

WinCAPS is a **Win**dows-based **C**omputer **A**ided **P**roduct **S**election program containing detailed informtion on more than 185,000 Grundfos products in more than 22 languages.

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

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

Subject to alterations.

BE > THINK > INNOVATE >

Being responsible is our foundation
Thinking ahead makes it possible
Innovation is the essence

95724361 0811
Repl. 96609195 0806
96735225 0307

GB

ECM: 1070848

GRUNDFOS A/S . DK-8850 Bjerringbro . Denmark
Telephone: +45 87 50 14 00
www.grundfos.com

GRUNDFOS