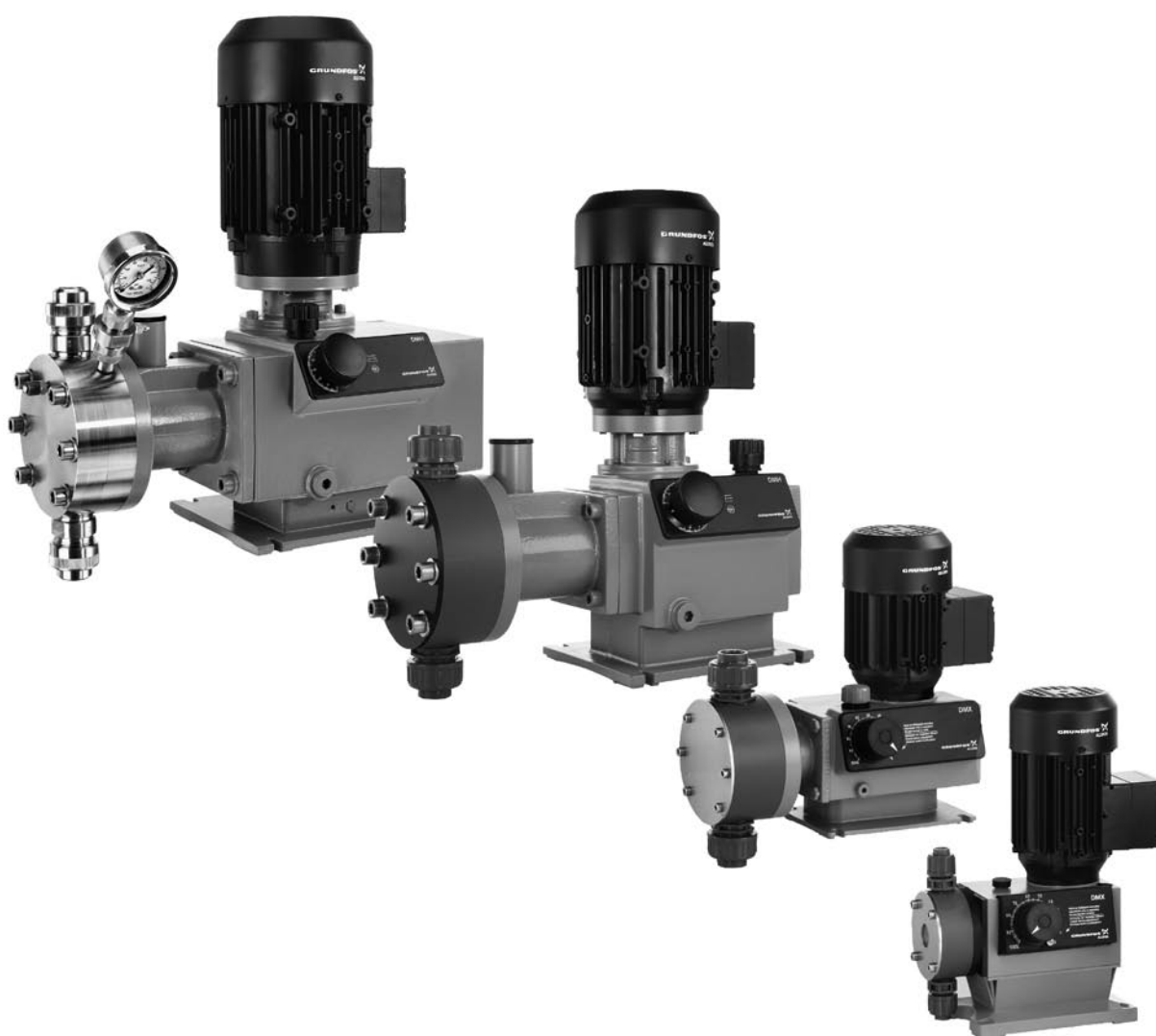
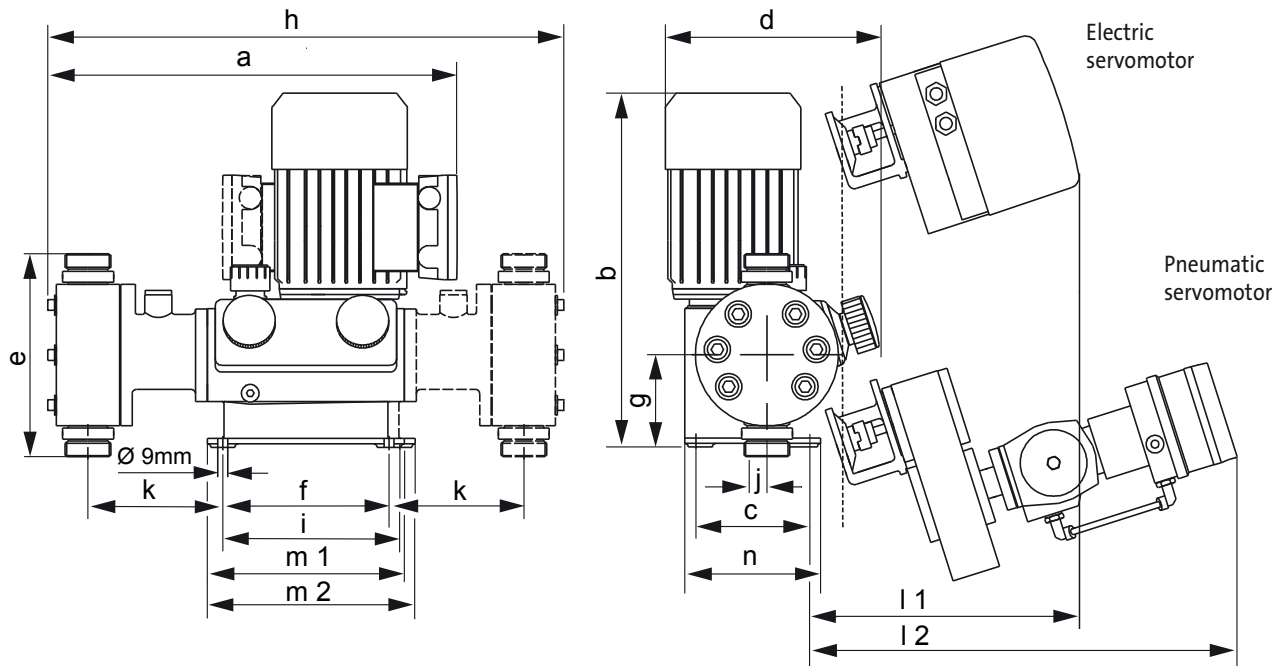


DMH 25x

The solution for complex dosing tasks



Measurements

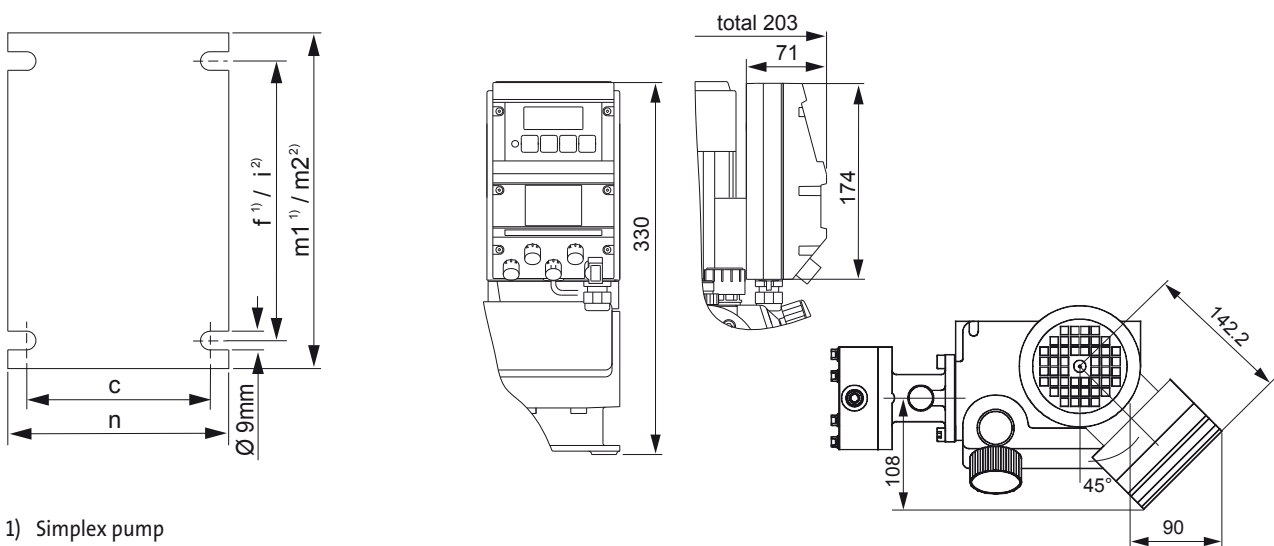


DMH model	Measurements in mm															
	a	b	c	d	e	f	g	h	i	j	k	l1	l2	n	m1	m2
251-252	345	336	97.5	192	160	152	85.5	432	152	16	116	250	432	117.5	180	180
253	368	336	97.5	192	179	152	85.5	472	152	13	124	250	432	117.5	180	180
254	436	492	156	252	207	185	126	718	260	10	185	235	413	180	225	300
255	510	492	156	254	228 *)	185	126	869	260	10	253	235	413	180	225	300
257	589	553	170	274	280	241	128.5	980	333	25	262	245	420	194.5	290	382

*) DMH model 255-550: 279 mm because of the suction valve 32/40

Drilling scheme

Etron Profi for DMH models 251 to 253



- 1) Simplex pump
- 2) Duplex pump

Measurements in mm

DMH 25x

- Simplex or duplex pumps (one or two dosing heads), capacity spectrum 2.4 up to 2 x 1500 l/h
- Various combinations of dosing heads and materials suitable for applications in chemical engineering
- DMH models 251 to 253 optionally with Etron Profi electronics

Pump types

50 Hz		60 Hz		100 Hz ²⁾		V _{stroke} [cm ³]	Connections PVC	Motor capacity [kW]		Weight [kg] *)		DMH model	
[l/h] ¹⁾	[n/min]	[l/h] ¹⁾	[n/min]	[l/h] ¹⁾	[n/min]			standard	PTC resistor ²⁾	simplex pump	duplex pump	simplex pump	duplex pump

p_{max} 4 bars

For this pump version, the use of a suction side and pressure side pulsation damper is imperative!

1500	146	-	-	-	-	171	32/40	1.1	2.2	58.5-67	87-95	257-1500	257-1500/2
-	-	-	-	1500	73	171	32/40	1.1	2.2	58.5-67	87-95	257-750	257-750/2

p_{max} 10 bars

2.4	14	2.9	17	5	29	3.5	10/12	0.09	0.09	7.4-12.4	10.4-15.7	251-2.4	251-2.4/2
5	29	6	35	10	58	3.5	10/12	0.09	0.09	7.4-12.4	10.4-15.7	251-5	251-5/2
11	29	13	35	22	58	6.4	10/12	0.09	0.18	7.4-12.4	10.4-15.7	252-11	252-11/2
13	63	16	75	25	126	3.5	10/12	0.09	0.09	7.4-12.4	10.4-15.7	251-13	251-13/2
19	96	23	115	-	-	3.5	10/12	0.09	-	7.4-12.4	10.4-15.7	251-19	251-19/2
21	29	25	35	46	58	11.3	20/25	0.18	0.18	13.3-18.5	16.5-26.8	253-21	253-21/2
24	120	-	-	-	-	3.5	10/12	0.09	-	7.4-12.4	10.4-15.7	251-24	251-24/2
24	63	29	75	48	126	6.4	10/12	0.09	0.09	7.4-12.4	10.4-15.7	252-24	252-24/2
37	96	44	115	-	-	6.4	10/12	0.09	-	7.4-12.4	10.4-15.7	252-37	252-37/2
43	63	52	75	87	126	11.3	20/25	0.18	0.18	13.3-18.5	16.5-26.8	253-43	253-43/2
46	120	-	-	-	-	6.4	10/12	0.09	-	7.4-12.4	10.4-15.7	252-46	252-46/2
50	26	60	31	101	52	31.6	20/25	0.55	0.55	35.5-41.4	50-64.5	254-50	254-50/2
67	96	78	115	-	-	11.3	20/25	0.18	-	13.3-18.5	16.5-26.8	253-67	253-67/2
83	120	99	144	-	-	11.3	20/25	0.18	-	13.3-18.5	16.5-26.8	253-83	253-83/2
100	144	-	-	-	-	11.3	20/25	0.18	-	13.3-18.5	16.5-26.8	253-100	253-100/2
102	54	122	65	203	108	31.6	20/25	0.55	0.55	35.5-41.4	50-64.5	254-102	254-102/2
143	75	172	90	286	150	31.6	20/25	0.55	0.55	35.5-41.4	50-64.5	254-143	254-143/2
175	92	210	110	-	-	31.6	20/25	0.55	-	35.5-41.4	50-64.5	254-175	254-175/2
194	54	233	65	387	108	60	20/25	0.55	0.55	35.5-41.4	50-64.5	255-194	255-194/2
213	112	255	134	-	-	31.6	20/25	0.55	-	35.5-41.4	50-64.5	254-213	254-213/2
220	28	264	34	440	56	131	32/40	1.1	1.5 ³⁾	35.5-41.4	50-64.5	257-220	257-220/2
270	75	324	90	540	150	60	20/25	0.55	0.75	35.5-41.4	50-64.5	255-270	255-270/2
291	153	-	-	-	-	31.6	20/25	0.55	-	35.5-41.4	50-64.5	254-291	254-291/2
332	92	398	110	-	-	60	20/25	0.55	-	35.5-41.4	50-64.5	255-332	255-332/2

1) l/h per dosing head, double liter capacity for duplex pumps

2) with motor for frequency control

3) for duplex pumps 2.2 kW

*) Weight referring to standard pumps with PVC dosing head up to stainless-steel dosing head, without special equipment

Continuation of page 3, p_{max} 10 bars

50 Hz		60 Hz		100 Hz ²⁾		Vstroke [cm ³]	Connections PVC	Motor capacity [kW]		Weight [kg] *)		Order number	
[l/h] ¹⁾	[n/min]	[l/h] ¹⁾	[n/min]	[l/h] ¹⁾	[n/min]			Standard	PTC resistor ²⁾	simplex pump	duplex pump	simplex pump	duplex pump
403	112	484	134	-	-	60	20/25	0.55	-	35.5-41.4	50-64.5	255-403	255-403/2
440	56	528	67	880	112	131	32/40	1.1	2.2	57-65	85-93	257-440	257-440/2
550	153	-	-	-	-	60	20/25 ⁵⁾	0.55	-	40-52	55-78	255-550	255-550/2
575	73	690	88	1150	146	131	32/40	1.1	2.2	57-65	85-93	257-575	257-575/2
770	98	924	118	-	-	131	32/40	1.1	2.2	57-65	85-93	257-770	257-770/2
880	112	1056	134	-	-	131	32/40	1.1	2.2	57-67	85-95	257-880	257-880/2
1150	146	-	-	-	-	131	32/40	1.1 ⁴⁾	2.2	57-67	85-95	257-1150	257-1150/2

p_{max} 16 bars

2.3	14	2.8	17	4.5	29	3.1	10/12	0.09	0.09	10.4-15	12.8-19.5	251-2.3	251-2.3/2
4.9	29	5.9	35	9.8	58	3.1	10/12	0.09	0.09	10.4-15	12.8-19.5	251-4.9	251-4.9/2
10	29	12	35	20	58	6.3	10/12	0.09	0.18	10.4-15	12.8-19.5	252-10	252-10/2
12	63	14	75	24	126	3.1	10/12	0.09	0.09	10.4-15	12.8-19.5	251-12	251-12/2
18	96	22	115	-	-	3.1	10/12	0.09	-	10.4-15	12.8-19.5	251-18	251-18/2
23	120	-	-	-	-	3.1	10/12	0.09	-	10.4-15	12.8-19.5	251-23	251-23/2
23	63	27	75	46	126	6.3	10/12	0.09	0.18	10.4-15	12.8-19.5	252-23	252-23/2
36	96	43	115	-	-	6.3	10/12	0.09	-	10.4-15	12.8-19.5	252-36	252-36/2
45	120	-	-	-	-	6.3	10/12	0.09	-	10.4-15	12.8-19.5	252-45	252-45/2
46	26	55	31	92	52	31.6	20/25	0.55	0.55	10.4-15	12.8-19.5	254-46	254-46/2
54	144	-	-	-	-	6.3	10/12	0.09	-	10.4-15	12.8-19.5	252-54	252-54/2
97	54	116	65	193	108	31.6	20/15	0.55	0.55	35.5-41.4	50-64.5	254-97	254-97/2
136	75	163	90	271	150	31.6	20/25	0.55	0.55	35.5-41.4	50-64.5	254-136	254-136/2
166	92	200	110	-	-	31.6	20/25	0.55	-	35.5-41.4	50-64.5	254-166	254-166/2
202	112	242	134	-	-	31.6	20/25	0.55	-	35.5-41.4	50-64.5	254-202	254-202/2
276	153	-	-	-	-	31.6	20/25	0.55	-	35.5-41.4	50-64.5	254-276	254-276/2

p_{max} 25 bars

2.2	14	2.6	17	4.4	29	2.9	10/12	0.09	0.18	12.8	19.5	251-2.2	251-2.2/2
4.5	29	5.4	35	9	58	2.9	10/12	0.09	0.18	12.8	19.5	251-4.5	251-4.5/2
11	63	13	75	22	126	2.9	10/12	0.09	0.18	12.8	19.5	251-11	251-11/2
17	96	20	115	-	-	2.9	10/12	0.09	-	12.8	19.5	251-17	251-17/2
21	120	-	-	-	-	2.9	10/12	0.09	-	12.8	19.5	251-21	251-21/2

1) l/h per dosing head, double liter capacity for duplex pumps

2) with motor for frequency control

3) for duplex pumps 2.2 kW

4) for duplex pumps 1.5 kW

5) suction side: flange 32/40

*) Weight referring to standard pumps with PVC dosing head up to stainless-steel dosing head, without special equipment

Technical data

Accuracy	Dosing flow $< \pm 1.5\%$, linearity $< \pm 2\%$
Suction height	Max. 1 m water column, flooded suction for pumps with a stroke number (n/min) of > 75
Materials	Enclosure: aluminium, dosing diaphragm: PTFE for dosing head and valves please see the respective table
Motor	For motors please see the respective table
Connections	DMH models 251 to 252 PVC hose 6/12, PVC pipe 10/12, PP pipe 12/16 or PVDF pipe 14/16; steel pipe 1/4"
	DMH models 253 to 255 PVC hose 13/20 or PVC, PP or PVDF pipe 20/25; steel pipe 3/4"
	DMH model 257 Flange for PVC, PP or PVDF pipe 32/40; steel pipe 1 1/4"

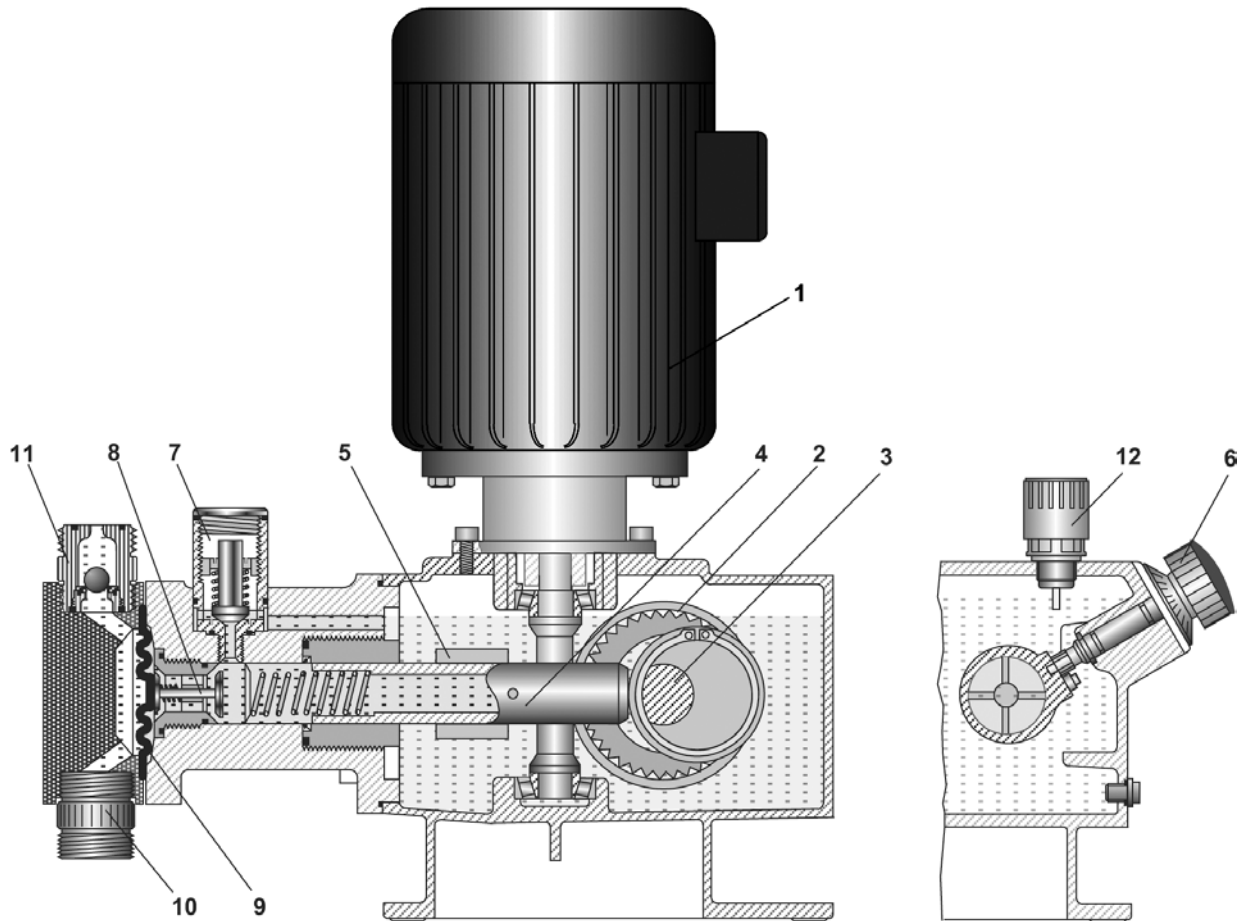
DMH 252 with PVDF dosing head



DMH 252 with PVC dosing head



Sectional drawing DMH models 254 and 255



All DMH model 25x pumps are equipped with the special Bitrac® drive with the active diaphragm protection system (AMS). The rotational energy is converted into a hydraulic energy (traction) via two hydrostatic systems, the **piston (4)** with stroke control and the **pressure relief valve (7)**.

- The high-torque **electric motor (1)** drives the **piston (4)** via the **worm gear (2)** and the **eccentric (3)**. The **piston (4)** carries out a constant stroke, which is transformed into an adjustable dosing stroke by means of the easily adjustable control slide (5).
- The position of the control slide is adjusted using the **adjustment knob (6)** with vernier, and thus the dosing stroke is determined. The average dosing flow can therefore be adjusted linear and continuously from 0 to 100%. The **pressure relief valve (7)** operates as both a pressure limiting valve and a permanent venting valve.
- The surface of the patented **diaphragm protection system (8)** rests on the **dosing diaphragm (9)**. The diaphragm oscillates freely in the dosing head.
- **Suction valve (10)**
- **Pressure valve (11)**
- **Measuring stick for hydraulic oil (12)**

API 675 standard

For application in the petrochemistry we provide special versions of our DMH model 25x dosing pumps with API certificates.

Motors

Motor	3 AC, 220-240/380-440 V, 50/60 Hz, 440-480 V, 60 Hz, IP 65/F	
Motor with PTC resistor	3 AC, 220-240/380-440 V, 50/60 Hz, 440-480 V, 60 Hz, IP 65/F, PTC resistor	
Flameproof motors for simplex and duplex pumps, with ATEX 94/9/EC* certificate	230/400 V, 50 Hz, IP 65/F, II 2G EEx e II T3 230/400 V, 50 Hz, IP 65/F, II 2GD EEx de IIC T4	
Motors for Etron Profi, single-phase (1 AC)	230 V, 50 Hz, IP 65/F	
	110 V, 60 Hz, IP 65/F	
Motor kits	for DMH model 251 to 253:	NEMA 56 C and IEC BG, size 63 B5
	for DMH model 254 to 255:	NEMA 56 C and IEC BG, size 80 B14
	for DMH model 257:	NEMA 145 TC and IEC BG, size 90 B14

*) The European guideline 94/9/EC ATEX applies to all facilities and security systems which are used in a potentially explosive areas. Our DMH model 25x dosing pumps are examined and certified according to this guideline for non-electrical operating supplies. The motor versions EEX are certified by the manufacturer according to the ATEX guidelines for electrical operating supplies.

Dosing head and valve versions

- Dosing of non abrasive and non combustible liquids

Dosing head	Valve body	Material				
		Valve seat 251-252	Valve seat 253-255	Valve seat 257	Gasket	Valve ball
PP	PP	FKM	PTFE	PP	FKM	Glass
PVDF	PVDF	PTFE	PTFE	PVDF	PTFE	PTFE
PVC	PVC	FKM	PTFE	PE	FKM	Glass
PVC	PVC	EPDM	PTFE	PE	EPDM	St. steel
St. steel	St. steel	FKM	St. steel	St. steel	FKM	St. steel

Options:

- Dosing head with electrical heating, only for stainless steel version
- Heating/cooling flange, only for stainless steel version
T_{max} 80°C, p_{max} 1 bar, connection with 10 mm hose nozzle
- Special valves for abrasive liquids
- Integrated sensor for diaphragm leakage indication

Etron Profi microprocessor electronics

- Stroke frequency adjustment 0 to max., analog signal control 0/4-20 mA
- Contact input with multiplier and divisor, input for diaphragm leakage indication
- Two-step tank empty indication, remote On/Off

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



Etron Profi for wall mounting

Signal transmission

Description	Order number
-------------	--------------

Cable with plug, length 2 m

For contact input, analog signal input and remote On/Off	96609014 (321-205)
For output for pre-alert / error message and stroke signal	96609017 (321-206)

Cable with plug, length 5 m

For contact input, analog signal input and remote On/Off	96609016 (321-207)
For output for pre-alert / error message and stroke signal	96609019 (321-208)

Cable for diaphragm leakage indication

Combined plug, 5 poles	96609030 (321-210)
Cable, 5 poles, length 5 m	96609032 (321-223)



DMH 252 with Etron Profi for mounting on the terminal box

Options:

Stroke sensor

- The stroke sensor is an inductive proximity switch with NAMUR output to DIN 19234 and 7.7-10 V DC with 2 m of cable.

Stroke sensor	Order number
DMH models 251 to 253	335-031
DMH models 254 to 255	335-032
DMH model 257	335-033

Electronic stroke preselection counter

- The stroke preselection is an electronic measuring system in an IP 55 plastic enclosure for control panel mounting to DIN 43700.

Stroke preselection	Order number
220 V, 50/60 Hz, 5 W	96630271 (335-1211)
110 V, 50/60 Hz, 5 W	96725704 (335-1212)

Electric servomotor

- Block-proof synchronous motor with feedback potentiometer
- Special servomotors for the synchronous adjustment of both dosing units of duplex pumps
- Two limit switches

Simplex pump	Order number
DMH model 251-253	384-511
DMH model 254-255	384-512
DMH model 257	384-513
Duplex pump	Order number
DMH model 251-253	384-611
DMH model 254-255	384-612
DMH model 257	384-613

Versions:

- 230 V, 50/60 Hz, IP 55
- 115 V, 50/60 Hz, IP 55, 1-phase
- 24 V AC, 50/60 Hz, IP 55, 1-phase

Flameproof EEx d II BT 4

- 230 V, 50/60 Hz, IP 65
- 115 V, 50/60 Hz, IP 65

Simplex potentiometers

100 Ω , 200 Ω , 500 Ω , 1000 Ω , 5000 Ω

Optionally with current input 4-20 mA, manual adjustment ON/OFF

Pneumatic servomotor

- Pneumatic double piston part-turn valve actuator, pneumatic position control with setpoint diaphragm
- Operation air 5 bars, control air from 0.2 to 1 bar, connections 1/8" female thread

Simplex pump	Order number
DMH model 251-257	96736547 (383-34)
Duplex pump	Order number
DMH model 251-257 <i>Please order two servomotors!</i>	96736547 (383-34)



DMH 257
with electric servomotor



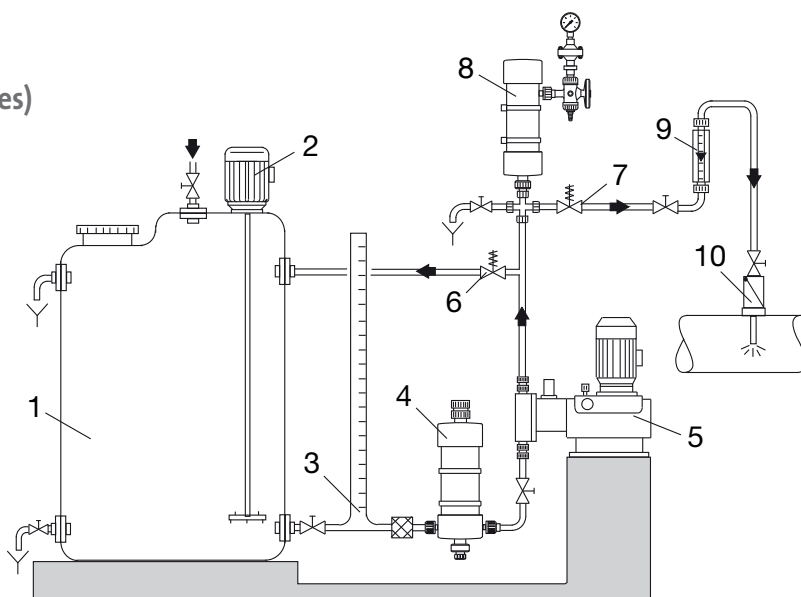
DMH model 254
with pneumatic servomotor

Fittings and accessories

(see separate Data Booklet Accessories)

Flow scheme of a complete dosing system

- 1 Dosing tank 502
- 2 Electric agitator 509
- 3 Extraction device 521
- 4 Suction pulsation damper 516
- 5 Dosing pump DMH
- 6 Pressure relief valve 525
- 7 Pressure loading valve 525
- 8 Pulsation damper 517
- 9 Measuring pipe
- 10 Injection unit 522



Wall console

- Only for simplex pumps DMH models 251 to 252

Description	Order number
PP	96623672 (539-033)

Spare parts sets

- Gaskets for the dosing head, 1 dosing diaphragm
- Complete valves for the plastic versions with the connection sizes 6/12, 10/12, 12/16 and 14/16
- Inner valve parts for the stainless steel versions and for the plastic versions with connection size 13/20 and bigger

Pump type	PVC/FKM/Glass	PVC/EPDM/ Stainless steel	PP/FKM/Glass	PVDF/PTFE/PTFE	Stainl. steel/FKM/ Stainl. steel
DMH models 251 + 252 up to 16 bars	96623820 (553-253)	91836525 (553-1318)	96658768 (553-256)	91835925 (553-257)	96375326 (553-254)
DMH models 251 + 252 up to 25 bars	-	-	-	-	96646945 (553-251)
DMH 253	91836421 (553-293)	91835851 (553-1319)	91836421 (553-293)	91835932 (553-294)	96375328 (553-295)
DMH 254	91835933 (553-297)	91835852 (553-1320)	91835934 (553-298)	91835935 (553-299)	96375330 (553-280)
DMH 255 up to 255-332/2 and for 255-403/2 (50 Hz)	91835940 (553-392)	96688802 (553-1321)	96689016 (553-393)	91835941 (553-394)	96375332 (553-395)
DMH 255 for 255-550/2 and for 255-403/2 (60 Hz)	553-387	96688803 (553-1322)	91836545 (553-388)	91835939 (553-389)	96375334 (553-390)
DMH 257	96623799 (553-276)	91835853 (553-1323)	96689002 (553-278)	96635186 (553-279)	96375336 (553-277)

Special oil

Description	Order number
1.5 l for simplex and duplex pumps DMH models 251 + 252	91835979 (555-300)
1.5 l for simplex and duplex pumps DMH 253	91835980 (555-301)
3.5 l for simplex and duplex pumps DMH models 254 + 255	91835981 (555-302)
4.5 l for duplex pumps DMH models 254 + 255	91835982 (555-303)
5.5 l for simplex and duplex pumps DMH 257	96607809 (555-305)
8.0 l for duplex pumps DMH 257	96729684 (555-306)

96681644 0208 Repl. 96681644 0107	EN
15.820037 V8.0 Repl. 15.820037 V7.0	

Subject to change.