







732.469.4540

www.psiprocess.com



be think innovate GRUNDFOSX

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of our existence – to successfully develop, produce, and sell high quality pumps and pumping systems worldwide, contributing to a better quality of life and a healthier environment.

## A GLOBAL BUSINESS

With almost 18,000 employees worldwide, and annual production of 16 million pump units per year, Grundfos is one of the world's leading pump manufacturers. The 80 Grundfos Companies around the globe help bring pumps to every corner of the world, supplying drinking water to Antarctic expeditions, irrigating Dutch tulips, monitoring groundwater beneath waste heaps in Germany, and air conditioning Egyptian hotels.

#### Efficient, sustainable products

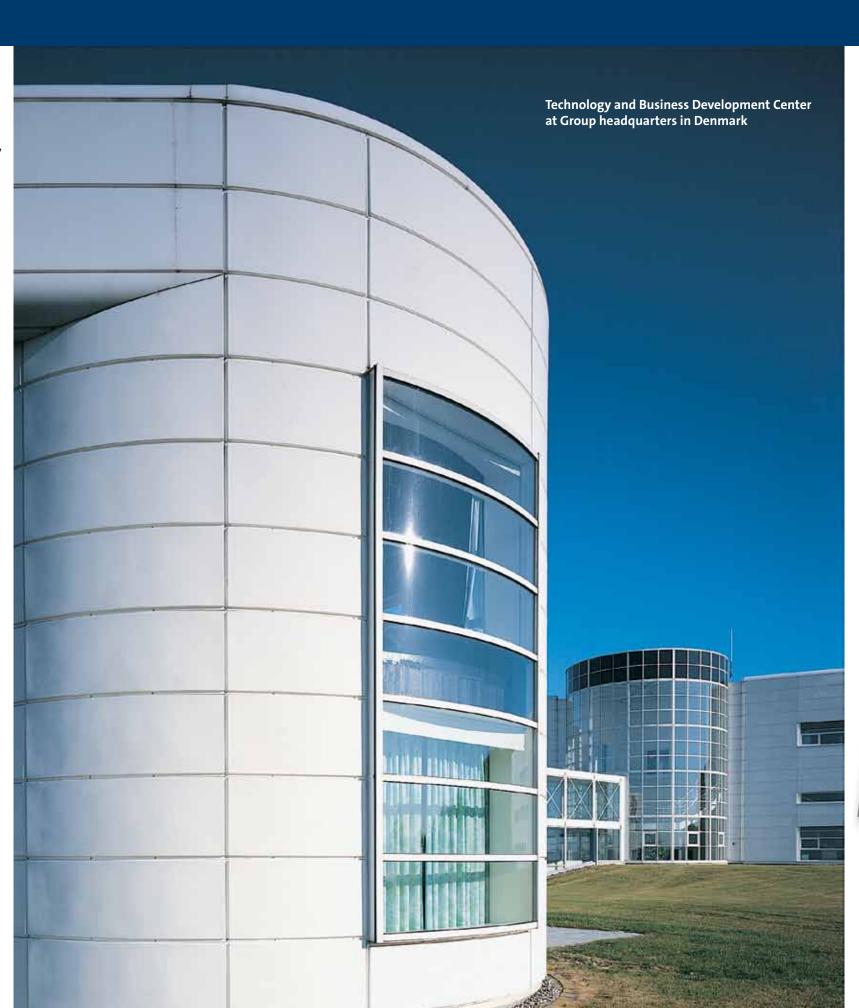
Grundfos is constantly striving to make its products more user-friendly and reliable as well as energy-saving and efficient. Our pumps are equipped with ultra-modern electronics allowing output to be regulated according to current needs. This ensures convenience for the end-user, saves a great deal of energy and, in turn, benefits the environment.

### Research and development

In order to maintain its market position, Grundfos takes customer research to heart when improving or developing new products. Our Research and Development department makes use of the latest technology within the pump industry in search of new and better solutions for the design and function of our pump solutions.

#### **Corporate values**

The Grundfos Group is based on values such as sustainability, openness, trustworthiness, responsibility, and also on partnership with clients, suppliers and the whole of society around us, with a focus on humanity that concerns our own employees as well as the many millions who benefit from water that is procured, utilized and removed as wastewater with the help of Grundfos pumps.



# **GRUNDFOS NORTH AMERICA**

- > North American headquarters in Olathe, Kansas
- > Manufacturing in Fresno, California
- > Service, distribution and light assembly in Allentown, Pennsylvania
- > Sales and assembly located in Canada and Mexico
- > Grundfos CBS in Brookshire, Texas



4 • PUMP FEATURES FLOW CAPACITY RANGES BY MODEL • 5

# **Dosing Products Overview**

		Mechanically actuated diaphragm	Hydraulically actuated diaphragm	Manual knob for stroke length control	Stroke speed control	Stroke frequency control	Digital control interface (key pad)	* Analog 4-20 mA control	Pulse control	' Anti-cavitation/high viscosity mode	* Plus 3 system for auto-degassing option	* Flow monitoring option	* Available with duplex head	' Auto-degassing	* Autocal	* Flow Measurement		
PR	ODUCT FAMILY	<		<	\ \	S		*	*	*	*	*	*	*	*	*	PAGES	
	<b>DDA</b> 0.0007 to 8 gph Up to 232 psi	•			•		•	•	•	•		•		•	•	•	8-9	
E	<b>DDC</b> 0.0015 to 4.0 gph Up to 150 psi	•			٠		٠	•	•	•							10-11	
	<b>DDE</b> 0.0015 to 4.0 gph Up to 150 psi	•			•				•								12-13	
1	<b>DME</b> 0.02 to 248 gph Up to 145 psi	•			•		٠	•	•	•		•					14-17	
-	<b>DDI</b> 0.10 up to 39.6 gph Up to 232 psi	•			•		٠	•	٠	•		•			٠		18-19	100
	Plus 3	•			•		•	•	•	•	•	•					20-21	
	<b>DMX</b> 1.3 to 166.3 gph Up to 232 psi	٠		٠		٠	٠	٠	٠				٠				22-23	97.00
	<b>DMH</b> 0.50 to 278 gph Up to 2900 psi		•	•		•	•	•	•				٠				24-25	

ION	ΓF: Onti	ons vary d	lepending	on mod	el num	her

ľ	MODEL	SIZE	GPH	PSI	Max SPM	18
ľ	DMH 280	1.3 - 200	0.50	2900	76	-88
ł	DMH 281	2 - 100	0.60	1450	35	-
ľ	DMH 251	2,2 - 25	0.69	363	17	
Ì	DMH 280	2,2 - 200	0.70	2900	115	
ł	DMH 251	2,3 - 16	0.74	232	17	Ħ
ł	DMH 251	2,4 - 10	0.77	145	17	-
ľ	DMH 280	2,5 - 200	0.90	2900	144	16
ľ	DMX 221	4 - 10	1.3	145	35	П
ľ	DMH 281	4,2 - 100	1.30	1450	76	П
Ì	DMH 251	4,5 - 25	1.43	363	35	п
Ì	DMH 251	4,9 - 16	1.55	232	35	п
Ì	DDE	6-10	1.5	150	140	
Ì	DDC	6-10	1.5	150	140	п
Ì	DMH 281	6,4 - 100	2.00	1450	115	ш
Ì	DMX 221	7 - 10	2.1	145	35	
Ī	DMX 221	7,2 - 16	2.3	232	75	8
Ī	DDA	7.5-16	1.98	232	190	
Ī	DMH 288	7,5 - 200	2.40	2900	67	R
I	DMH 281	8 - 100	2.50	1450	144	B.
	DMX 221	8 - 10	2.6	145	75	
	DDC	9-7	2.4	100	200	
I	DMX 221	9 - 10	2.9	145	35	
	DDA	12-10	3.17	150	155	
Į	DMH 252	10 - 16	3.17	232	35	
ļ	DMH 288	10 - 200	3.30	2900	88	- 86
ļ	DMH 251	11 - 25	3.43	363	75	-
ļ	DMH 252	11 -10	3.45	145	35	
ļ	DMX 221	12 - 10	3.7	145	35	
ı	DMH 251	12 - 16	3.70	232	75	-8
ŀ	DMX 221	13,7 - 16	4.0	232	144	- 1
J	DMH 288	13 - 200	4.10	2900	118	-8
ŀ	DMH 251 DMX 221	13 - 10 14 - 10	4.22 4.5	145 145	75 75	- 10
ł	DDE DINK 221	15-4	4.0	60	180	-
ł	DDC	15-4	4.0	60	180	-
ł	DMH 288	15 - 200	4.90	2900	134	
ı	DMX 221	16 -10	5.0	145	144	•
ł	DDA	17 - 7	4.5	101.5	205	П
ł	DMH 251	17 - 25	5.28	363	115	
1	DMX 221	17 - 4	5.3	58	35	
á	DMX 221	18 - 10	5.8	145	75	П
9	DMH 287	18 - 200	5.80	2900	67	
ķ	DMH 251	18 - 16	5.81	232	115	
ď	DMH 251	19 - 10	6.07	145	115	in.
1	DMH 283	19 - 100	6.10	1450	65	
ı	DMH 285	20 - 100	6.30	1450	33	
1	DMH 253	21 - 10	6.60	145	35	
Ī	DMH 252	23 - 16	7.13	232	75	П
-	DMH 287	23 - 200	7.40	2900	88	
g	DMH 252	24 - 10	7.66	145	75	
	DMX 221	25 - 3	7.9	43.5	35	
	DMX 221	26 - 10	8.2	145	75	
	DMX 221	27 - 10	8.4	145	144	
	DMH 283	27 - 100	8.40	1450	90	
	DDA	30-4	8	60	180	
	DMH 287	31 - 200	9.80	2900	118	
	DMH 283	33 - 100	10.60	1450	110	

7	Contract Bu	- 01/14/3	1000		
ų	MODEL	SIZE	GPH	PSI	Max SPM
Ø	DMX 221	35 - 10	11	145	144
d	DMH 252	36 - 16	11.35	232	115
ĕ	DMH 287	36 - 200	11.40	2900	134
ı	DMH 252	37 - 10	11.62	145	115
0	DMX 221	39 - 4	12	58	75
ì	DMH 283	40 - 100	12.70	1450	134
D	DMH 285	40 - 100	12.70	1450	67
٦	DMH 253	43 - 10	13.70	145	75
	DDI 222	60 - 10	15.8	145	180
í	DMH 254	50 - 10	15.80	145	32
ľ	DME	60 - 10	15.85	145	160
ě	DMX 221	50 - 10	16	116	144
E	DMX 226	52 - 8	16.4	116	75.6
ı	DMH 285	52 - 100	16.60	1450	88
۷	DMX 221	60 - 3	19	43.5	75
۱	DMH 253	67 - 10	20.60	145	115
ğ	DMX 226	67 - 10	20.60	145	68.4
N	DMH 285	70 - 100	22.20	1450	118
	DMH 285 DMX 221		22.20	50.8	144
S		75 - 3,5			
	DMH 285	80 -100 82 - 5	25.30 25.9	1450 72	134
8	DMX 226				75.6
N	DMH 253	83 - 10	26.10	145	144
e	DMH 286	85 - 50	26.90	725	67
ij	DMX 226	95 - 8	30	116	68.4
R	DMH 254	97 - 16	30.60	232	65
ä	DMX 226	100 - 8	31.7	116	144
8	DMH 254	102 - 10	32.20	145	65
3	DMH 286	111 - 50	35.10	725	88
ø	DMX 221	115 - 3	36	36.3	144
V	DDI 222	150 - 4	39.6	58	180
l	DME	150 - 4	39.6	58	160
9	DMX 226	130 - 3	41.2	43.5	75.6
Ŋ,	DMX 226	132 - 10	41.7	116	144
u	DMH 254	136 - 16	43.00	232	90
S	DMH 254	143 - 10	45.40	145	90
9	DMX 226	152 - 6	48	87	68.4
d	DMX 226	160 - 5	50.7	72	144
	DMH 254	166 - 16	52.80	232	110
ĕ	DMH 286	170 - 50	53.90	725	134
	DMH 254	175 - 10	55.40	145	110
J	DMH 255	194 - 10	61.50	145	65
	DMX 226	199 - 8	63.1	116	144
	DMH 254	202 - 16	63.90	232	134
	DMH 254	213 - 10	67.30	145	134
y	DMH 257	220 - 10	69.70	145	33
	DMX 226	249 - 3	78.9	43.5	68.4
	DMX 226	255 - 3	80.8	43.5	144
	DMH 255	270 - 10	85.50	145	90
	DME	375 - 10	99	145	160
	DMX 226	321 - 6	102	58	144
	DMH 255	332 - 10	105.00	145	110
J	DMH 255	403 - 10	128.00	145	134
١	DMH 257	440 - 10	139.40	145	65
	DMX 226	525 - 3	166.3	43.5	144
	DMH 257	575 - 10	182.20	145	90
	DMH 257	770 - 10	244.00	145	110
	DME	940 - 4	248	58	160
	DMH 257	880 - 10	278.00	145	134

\* Optional

DMX 226 and DMH available in Duplex configuration for double capacity

6 • CONTROL FEATURES BY MODEL CONTROL FEATURES BY MODEL • 7

110				2	50		76446	HIMMIN	10		$\widetilde{\alpha}$	10			$\sim$
		4	DDA FC AR	-	DDC A	DDE B	THOMS	1	DDI 222	DME 60 to 940 AR	DME 60 to 940 B	DMX B	DMX AR	DMH B	DMH AR
	CAPACITY CONTROL					· .		CAPACITY CONTROL					'		
H O 15 H	Stroke speed control	•	• •	•	•	• •		Stroke frequency control					•		٠
	CONTROL PANEL				, ,			Stroke speed control	•	•	•				
	Capacity setting in I/hr, mI/hr, or GPH	٠	<b>6</b> 6	•	•		T T 4. 7 / / / 4 / 1 / 1	Stroke length adjustments				•	•	•	•
	Display with soft touch buttons and background light	٠	<b>6 6</b>	•	•			CONTROL PANEL							
II a Na II	Circular menu	٠	• •	•	•		1000000	Capacity setting in I/hr, mI/hr, or GPH	•	•	•	•			
"A Y A" "A	Multi-language options	٠	<b>6 6</b>	•	•		The life IV a No. 11. IV a	Red light for stopped pump and error signals	•	•	•	•	•		٠
	Multi position control panel	٠	• •	•	•		무 무 및 기가 된 된 및 기기	Green light when pump is running	•	•	•	•	•		•
	Maximum capacity (priming) button	٠	• •	•	•	•		Yellow light to indicate pump remotely paused	•	٠	•	•	•		٠
	Green for operating indication screen	٠	• •	•	•			Control panel lock	•	•	•	•	•		٠
	Red for fault indication screen	•	• •	•	•			Start/Stop button	•	•	•	•	•		٠
	OPERATION MODES						'	Front-mounted interface	•	•	•	•	•		٠
	Manual speed control	٠	• •	•	•	• •		Side-mounted interface	•	•	•	•	•		٠
	Pulse control in ml/pulse	٠	• •	•	•			Top-mounted interface		•	٠	•			
	Pulse control (1:n)	٠	• •	•	•	•	1/20 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Wall-mounted interface		٠	٠	•	•		٠
	Analog control 0/4-20 mA input	٠	• •	•				OPERATING MODES							
	Capacity adjustment knob (0.1 - 100%)					• •		Manual control	•	•	•	6	•	•	•
	Start / Stop key	٠		•	•	•		Pulse control	•	•			•		٠
	100% key (deaearation)	٠		•	•	•		Analog 0/4-20 mA control	•	•			•		٠
	Operation mode switch (manual / pulse)					•		Pulse-based batch control	•	•			•		٠
	FUNCTIONS/OPTIONS							Internal timer-based batch control	•	•					
-	Dosing monitoring	٠	•					FUNCTIONS/OPTIONS							
	Dual level control	٠		•	•			Alarm outputs (variant AR)	•	•	•		•		•
	Calibration function	٠	• •	٠	•		No III A The III II II II II II I	Dosing controller output					•		•
	Anti-cavitation (reduced suction speed)	٠		٠	•			Flow monitor (variant AF)	•	•					
	Capacity limitation	٠	6 6	٠	6			Leak detection (optional diaphragm breakage indication)	•	•	•		•	•	•
	Counter for strokes, operating hours, and power On/Off	٠		•	•			Dual level control (requires level controller, available on select sizes)	•	-	-		•	-	•
	Fieldbus communication Profibus (variant AP)	•	6 6	•	6		I A To the WAYA To W	Auto degassing pump head (optional Plus3 system)					-		_
	Overload protection	٠	<b>6</b> 6	•	•			Anti-cavitation/slow mode (reduced suction speed)	•	•	•	•			
	Error message in display	٠	<b>6</b> 6	•	•			Pulse memory (saves up to 65,000 pulses)	•	•	•		•		•
00	Leak detection	٠			+ +			Calibration function	•	•	•	•	<u> </u>		
ALIL	Dosing signal output	•			+ +		I VALLE IL IL VA	Resettable dosing quantity counter	•	•	•				
	Analog 4-20 output	•	• •		+			Hours of operation counter	•	•	•		•		•
	Relay output	•	4 4	•	+ +			Remote On/Off					•		•
	· 2						A A A A A A A A		<b>•</b>	•	•				
	TO THE OWNER OF THE PERSON NAMED IN		600		-	-		0/4-20 mA output	<b>•</b>		<u> </u>		•		•
			1 0					Fieldbus communication (variant AP - Profibus)	•	•	•			,	
	- NO. V AND NO. V AND			_	_			Available in Duplex versions (check size chart for availability)		•	•		•	•	•

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DDA • 9

# DDA – SMART Digital Series Pumps (0.0007 to 8 gph)



The DDA SMART Digital dosing series represents the latest generation in Digital Dosing pumps from Grundfos. Its impressive intelligence and decision making capabilities go beyond any existing metering pump technology in the market.

The DDA can not only inject chemicals and verify injection; it can also measure valuable data such as flow or pressure. The pump can then diagnose the operation status based on the relationship between the diaphragm displacement and the pressure inside the head. The pump is so smart it can tell you if there are air bubbles inside the head. This technology goes even further. Thanks to its impressive logic capabilities, the DDA can make decisions to display and/or correct failures such as overpressure, valve leaks or air bubbles.

### **Smooth and Continuous Dosing**

Ensures an optimum mixing ratio at the injection point without the need for additional accessories, such as static mixers. It also provides significant reduction of pressure peaks, preventing mechanical stress on wearing parts such as diaphragm, tubing, and connections, resulting in less maintenance required.

#### **Full Stroke Length at All Times**

The pump always operates at full stroke length, irrespective of the capacity set; this ensures maximum volume displacement per stroke, optimum accuracy, easy priming and improved suction.

#### Up to 3000:1 Turndown Ratio

The Digital Dosing range is designed to give you superior flexibility and accuracy even when dosing very small volumes.

#### **Maximum Capacity Setting**

With the DDA series you decide what the maximum capacity should be. You can select any value within the performance range of each model and the pump will redefine the injection speed and adjust the operation scale within that range. So you only need a few models to cover multiple applications.

### Anti-Cavitation / SlowMode

The variable speed of DDA pumps facilitates a unique anti-cavitation function for high viscosity liquids. This function provides slower suction speed (50 or 25% of the maximum speed), ensuring optimal priming and pumping of even the most difficult liquids.

#### Flow Monitoring

The DDA FCM pump can precisely measure and display the actual dosing flow. Via the analog 0/4-20 mA output, the actual flow signal can easily be integrated in any process control system, without needing additional measurement equipment.

#### **Pressure Monitoring**

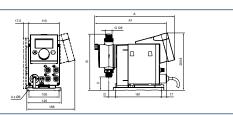
The integrated pressure sensor measures the actual pressure of the system, which is shown in the display. In case of an overpressure situation, the pump will stop injecting, generate an alarm on the display, and trigger a relay. The pressure can also be monitored via the 4-20mA signal output.

#### **AutoFlowAdapt**

The DDA FCM pump can recognize pressure fluctuations on the discharge line and adapt the speed to compensate the injection, maintaining a constant feeding set point.

### **Dimensions [inches (mm)]**

	DDA 7.5	DDA 12	DDA 17	DDA 30	
Α	11 (280)	11 (2	11.61 (295)		
В	7.72 (196)	7.89 (2	8.05 (204.5)		
С	1.83 (46.5)	1.55 (	1.39 (35.5)		
D	0.94 (24)	0.94	(24)	1.51 (38.5)	



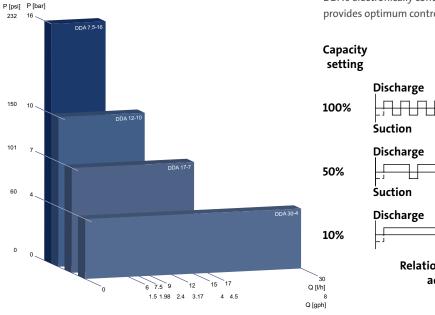
### **Product Range and Performance Data**

Pump type	Capacity	DDA 7.5-16	DDA 12-10	DDA 17-7	DDA 30-4
Capacity at max. pressure	g/h (I/h)	1.98 (7.5)	3.17 (12)	4.5 (17)	8 (30)
Max. pressure	psi (bar)	232 (16)	150 (10)	101.5 (7)	60 (4)
Setting range		3000:1	1000:1	1000:1	1000:1

Stroke frequency	spm	190	155	205	180
Suction lift: primed/dry	ft (m)	19.6 (6)/6.5 (2)	19.6 (6)/9.8 (3)	19.6 (6)/9.8 (3)	19.6 (6)/6.5 (2)
Viscosity (slow mode)*	cps	2500/50	2500/300	2000/300	1500/150
Power supply	V, Hz	100-240 V 50/60 Hz	100-240 V 50/60 Hz	100-240 V 50/60 Hz	100-240 V 50/60 Hz
Accuracy	%	+/-1	+/-1	+ / -1	+/-1

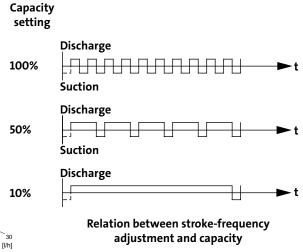
<sup>\*</sup>With Spring-Loaded valves

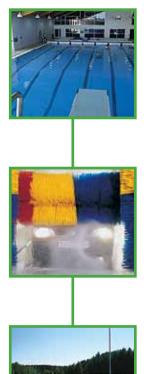
### **Performance Range**



### **Functional Description**

DDA's electronically controlled variable-speed (stepper) motor provides optimum control of the stroke speed.





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DDC • 11

# DDC – SMART Digital Series Pumps (0.0015 to 4.00 gph)



The DDC SMART Digital dosing series represents the latest generation in Digital Dosing pumps from Grundfos. Available in three sizes and two control options, the DDC range brings continuity for the well known DME and DDI digital dosing lines.

With its 1000:1 turn down ratio, removable mounting bracket and flexible control panel installation, the DDC product range brings simplicity and flexibility to adapt your pump and cover a great variety of metering applications.

### **Smooth and Continuous Dosing**

The DDC stepper motor technology ensures an optimum mixing ratio at the injection point without the need for additional accessories such as static mixers. It also provides a significant reduction of pressure peaks, preventing mechanical stress on wearing parts such as diaphragm, tubing, and connections, resulting in less maintenance required.

#### **Full Stroke Length at All Times**

The pump always operates at full stroke length, irrespective of the capacity set; this ensures maximum volume displacement per stroke, optimum accuracy, easy priming and improved suction.

#### 1000:1 Turndown Ratio

The Digital Dosing range is designed to give you superior flexibility and accuracy even when dosing very small volumes.

### **Maximum Capacity Setting**

With the DDC series you decide what the maximum capacity should be. You can select any value within the performance range of each model and the pump will redefine the injection speed and adjust the operation scale within that range. So you only need a few models to cover multiple applications.

#### **Anti-Cavitation / SlowMode**

The variable speed of DDC pumps facilitates a unique anti-cavitation function for high viscosity liquids. This function gives you slower suction speed (50 or 25% of the maximum speed), ensuring optimal priming and pumping of even the most difficult liquids.

### Calibration

With Digital Dosing, calibration is easier and faster than ever. Simply place a graduated glass under the pump and activate the calibration program. The pump will perform 100 strokes and indicate how much it thinks it has pumped. Adjust the figure by entering the correct numbers if necessary. After this, the dosage can be adjusted without recalibrating the pump.

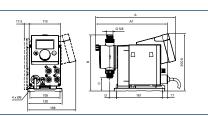
### **Different Control Options and Materials**

Available in two different control options: A /AR. The DDC series has the right pump for each application.



### **Dimensions** [inches (mm)]

	DDC 6	DDC 9	DDC 15
Α	11 (2	!80)	11 (280)
В	7.72 (	196)	7.89 (200.5)
С	1.83 (	46.5)	1.55 (39.5)
D	0.94	(24)	0.94 (24)



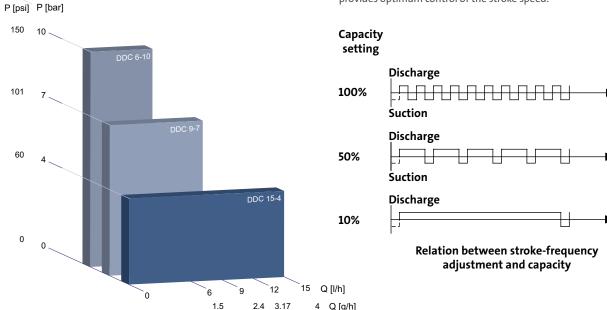
### **Product Range and Performance Data**

Pump type	Capacity	DDC 6-10	DDC 9-7	DDC 15-4
Capacity at max. pressure	g/h (I/h)	1.5 (6)	2.4 (9)	4.0 (15)
Max. pressure	psi (bar)	150 (10)	100 (7)	60 (4)
Setting range		1000:1	1000:1	1000:1

Stroke frequency	spm	140	200	180
Suction lift: primed/dry	ft (m)	19.6 (6)/6.5 (2)	19.6 (6)/6.5 (2)	19.6 (6)/9.8 (3)
Viscosity*	cps	2500/50	2000/50	2000/300
Power supply	V, Hz	100-240 V 50/60 Hz	100-240 V 50/60 Hz	100-240 V 50/60 Hz
Accuracy	%	+/-1	+ / -1	+ / -1

<sup>\*</sup> With Spring-Loaded valves

## **Performance Range**









**Functional Description** 

DDA's electronically controlled variable-speed (stepper) motor provides optimum control of the stroke speed.

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DDE • 13

# DDE – SMART Digital Series Pumps (0.0015 to 4.00 gph)



The DDE SMART Digital dosing series represents the latest generation on the Digital Dosing pumps from Grundfos. Available in two sizes and two control options, the DDE range represents an economic and simple alternative for basic dosing applications.

Although it appears to be a solenoid pump, the DDE is actually STEPPER MOTOR DRIVEN. Whichever model you choose, you get a sturdy, cost-efficient pump based on a well-proven stepper motor design.

With its 1000:1 turn down ratio, removable mounting bracket and easy to use control knob, the DDE product range brings simplicity and a budget-friendly solution for chemical injection.

#### **Smooth and Continuous Dosing**

The DDE stepper motor technology ensures optimum mixing ratio at the injection point without the need for additional accessories, such as static mixers. It also provides a significant reduction of pressure peaks, preventing mechanical stress on wearing parts such as diaphragm, tubing, and connections, resulting in less maintenance required.

#### **Full Stroke Length at All Times**

The pump always operates at full stroke length, irrespective of the capacity set; this ensures maximum volume displacement per stroke, optimum accuracy, easy priming and improved suction.

#### 1000:1 Turndown Ratio

The Digital Dosing range is designed to give you superior flexibility even when dosing very small volumes.

### Easy Priming (P Model only)

The convenient and efficient priming button makes tedious priming processes a thing of the past. Simply push the button and set the number of seconds you want the pump to prime for, and the pump will do it for you.

#### **Silent Operation**

Regardless of model, the DDE pump is among the most quiet of its type available on the market today. It keeps its noise emission down to just 60 dB(A).

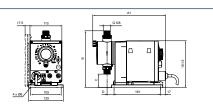
#### **Different Control Options and Materials**

Available in two different control options: B / P (Basic / Pulse). The DDE series is an economic alternative for many applications—stainless steel, PVC, PVDF, and polypropylene for an environmentally-friendly and cost-efficient alternative.



### **Dimensions** [inches (mm)]

	DDE 6	DDE 15
Α	11 (280)	11 (280)
В	7.72 (196)	7.89 (200.5)
С	1.83 (46.5)	1.55 (39.5)
D	0.94 (24)	0.94 (24)



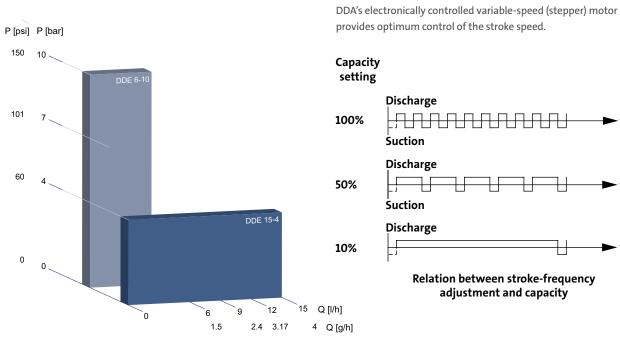
### **Product Range and Performance Data**

Pump type	Capacity	DDE 6-10	DDE 15-4
Capacity at max. pressure	g/h (I/h)	1.5 (6)	4.0 (15)
Max. pressure	psi (bar)	150 (10)	60 (4)
Setting range		1000:1	1000:1

Stroke frequency	spm	140	180
Suction lift: primed/dry	ft (m)	19.6 (6)/6.5 (2)	19.6 (6)/9.8 (3)
Viscosity*	cps	600/50	500/50
Power supply	V, Hz	100-240 V 50/60 Hz	100-240 V 50/60 Hz
Accuracy	%	+/-5	+ / -5

<sup>\*</sup> With Spring-Loaded valves

## **Performance Range**



**Functional Description** 

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DME • 15

# DME 60/150 - Larger Pumps from 0.02 to 39.7 gph (150 l/h)



Grundfos has applied innovative technology to expand the Digital Dosing pump range, allowing it to handle liquids in much larger quantities. Perfect for large water and wastewater treatment plants, textile industries, pulp and paper industries, and many other demanding applications, the new, large DME pumps bring the benefits of Digital Dosing to a new circle of users worldwide.

#### **Familiar Digital Dosing Benefits**

The large DME pumps have all the benefits of the highly acclaimed smaller Digital Dosing range, making exact dosing easier than ever.

### Easy-To-Use Digital User Interface

The simple display allows everyone to be their own dosing specialist. With just a few buttons, you can navigate the straightforward menus to use the impressive range of standard control features – including pulse, analog, timer, batch, and anti-cavitation control – as well as simple calibration and much more.

#### **Turndown Ratio 800:1**

Digital Dosing pumps can be adjusted to 1/800 of their maximum capacity. Two new sizes provide even more flexibility, from 0.02 to 39.6 GPH (75 to 150 ml/h).

#### **Full Stroke Length at All Times**

Grundfos is the only pump manufacturer to use a full stroke length every time. The speed of each stroke is carefully timed, ensuring even concentration in the system and optimal priming throughout the entire operating range.

### **Smooth, Continuous Dosing**

A brushless DC motor eliminates the need for a servo motor/frequency converter. The result is smooth, continuous dosing, which greatly improves the performance of sensors and measuring devices that read the impact of your chemical feed program.

### **Anti-Cavitation**

For handling viscous polymers or other difficult liquids, slow down the speed of the suction stroke to 75%, 50%, or 25% of the maximum speed.

#### **Fieldbus Communication Available**

Available with Profibus interface.

#### **Overload Protection**

Built-in overload protection monitors pump counter pressure and protects against exceptionally high pressure loads.

#### **Switch-Mode Power Supply**

The switch-mode power supply ensures that Grundfos Digital Dosing pumps can be used worldwide within the 100-240V, 50/60Hz range.

#### **Several Material Variants**

The DME pump heads are available in stainless steel, PVDF, and environmentally friendly, cost-efficient polypropylene.







### **Dimensions** [inches (mm)]

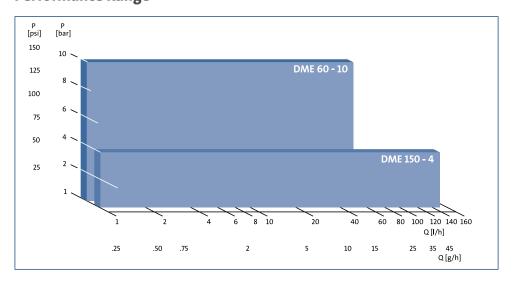
	DME 60-10	DME 150-4			
Α	6.93	(176)			
В	7.8 (198)				
С	13.03 (331)	13.58 (345)			
D	11.18	11.18 (284)			
Е	7.09	(180)			
F	17.48	(444)			
G	1.61 (41)	1.10 (28)			
Н	2.91 (74)				
- 1	7.36	(187)			

### **Product Range and Performance Data**

Pump type		DME 60-10	DME 150-4
Max. capacity at max. pressure	GPH (I/h)	15.85 (60)	39.6 (150)
Min. capacity	GPH (I/h)	0.0198 (0.075)	0.0497 (0.188)
Max. pressure	psi (bar)	145 (10)	58 (4)
Setting range			800:1
Stroke frequency	spm		160
Power supply	V, Hz	1×100-2	40V, 50-60 Hz
Accuracy	%	±1% re	epeatability
Pump head material		PP, PVDF,	stainless steel
Suction lift: primed/dry	ft [m]		[6/1.5]
Viscosity*	cps	3000 at	50% capacity

<sup>\*</sup> With Spring-Loaded valves

### **Performance Range**



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DME • 17

# DME 375/940 - Exact Dosing from 0.13 to 248 gph (940 l/h)



Grundfos has applied the innovative technology of Digital Dosing to expand the performance range of these precision metering pumps. The large DME is perfect for water and wastewater treatment plants, textile and pulp & paper industries, and many other demanding applications.

### **Familiar Digital Dosing Benefits**

The DME 375 and 940 have all the benefits of the highly acclaimed smaller models but offer precision performance at much higher capacities. Available materials include polypropylene, PVDF, and 316 stainless steel.

#### **Easy to Use Interface**

The intuitive menu structure is extremely easy to use. Use the keypad to set the desired flow in gph (or I/h). With just the touch of a button, navigate the menu to use the impressive range of standard automatic control features, including pulse, analog, batch or internal timer control. Confirm that "what you set is what you get" by running a quick and simple calibration.

#### **Smooth, Continuous Feed**

The 800:1 turndown ratio means the large DME will continuously deliver chemicals down to 1/800 of full speed. Precise speed control of the brushless DC motor eliminates the need for a servo-motor/frequency converter or additional variable speed drives.

### Accurate Through Its Entire Adjustable Range

DME pumps always perform at 100% stroke length. Motor speed is carefully timed to deliver the desired feed rate, even in pulse and analog control modes without pausing to rest in between strokes.

### **Additional Features**

- > Anti-cavitation: slows down the suction stroke speed 75%, 50%, or 25% to facilitate handling viscous fluids
- > Overload protection: will stop the pump if the maximum pressure load is exceeded
- > Fieldbus communication: available with Profi-bus interface
- > Switch-mode power supply: 100-240 VAC, 50/60 Hz to facilitate use around the globe.







### Dimensions [inches (mm)]

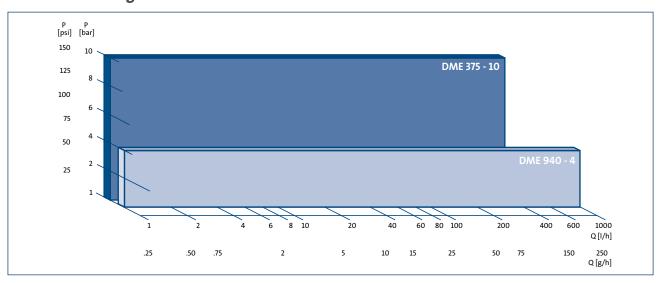
	DME 375-10	DME 940-4
А	9.37 (238)	9.37 (238)
В	8.58 (218)	8.58 (218)
С	18.54 (471)	19.53 (496)
D	14.33(364)	14.33(364)
Е	9.06 (230)	9.06 (230)
F	21.26 (540)	21.22 (539)
G	1.22 (31)	.24 (6)
Н	3.74 (95)	3.74 (95)
I	9.69 (246)	9.69 (246)

### **Product Range and Performance Data**

Pump type		DME 375-10	DME 940-4		
Max. capacity at max. pressure	gph (I/h)	99.1 (375)	248.3 (940)		
Min. capacity	gph (I/h)	0.124 (0.47)	0.31 (1.18)		
Max. pressure	psi (bar)	145 (10)	58 (4)		
Setting range		800:1			
Stroke frequency	[min <sup>-1</sup> ]	160			
Power supply	[V], [Hz]	1×100-240	V, 50-60 Hz		
Accuracy	%	±1% repe	eatability		
Pump head material		PP, PVD	F, 316 SS		
Suction lift: primed/dry	ft [m]	19/4.9 [6/1.5]			
Viscosity*	[cps]	3000 at 50	% capacity		

<sup>\*</sup> With Spring-loaded valves

### **Performance Range**



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# DDI 222 - Perfect Precision from 0.019 to 39.6 gph (0.6 to 150 l/h)



### The Difference is Digital

pact units combine perfect precision with a user interface that lets you set the dosing feed rate

#### The DDI AR: Taking Diaphragm Dosing Pumps to the Next Level

The DDI AR series is the backbone of the overall DDI range. Its innovative drive technology combines a powerful EC motor with integrated contact signal control to bring you smoother, nearly continuous, and more accurate dosing for the optimal mixing of liquids. The EC motor

Two Slow Mode steps and special valve combinations can be used for handling of more viscous

#### The DDI AF: Built-In Flow Monitor

The DDI AF models have all of the overall DDI benefits: it doses, measures, and detects gases from the pump head, cavitation, and pressure changes that result from line breaks or a blocked and continuous flow measurement in a single unit.

With a radical reduction in variants and spare parts, you only need one motor, one gearing, and two dosing head sizes to fit the complete pump series.

#### **Easy Input and User-Friendly Display**

sure allowed before the pump stops.

### **Turndown Ratio of 800:1**

The DDI range is designed to give you superior flexibility and accuracy with as few product varicapacity without any loss of accuracy.

The DDI series can dose additive in quantities down to 0.019 GPH (0.0029 I/h) with perfect precision. Evidence of this precision can be provided at any time while the pump is running — it runs with nearly continuous flow, with no pauses between strokes.

#### **Double Diaphragm System with Diaphragm Control for Pump Protection**

Double diaphragm technology comes as a standard option on DDI model 222. This option affords high process reliability. If there is a working diaphragm defect, the pump continues to dose

The diaphragm control is optional. For applications where the process must not be interrupted in the event of a diaphragm leakage, a differential pressure sensor is optionally available. In the event of a working diaphragm leakage, the sensor immediately sends out a signal, while the

The Grundfos DDI range was created because accurate dosing demands precision. These comyou want directly on the pump - without spending time on complicated calculations beforehand. Available materials include PVC, PVDF, polypropylene, and 316 stainless steel.

technology also lowers energy costs while still providing maximum efficiency.

liquids. The user interface gives you a full range of options for customizing the dosing process. Contact or analogue signal controls and batch or timer dosing are just some possibilities for specific applications.

discharge line. It eliminates the need for additional equipment by combining precision dosing

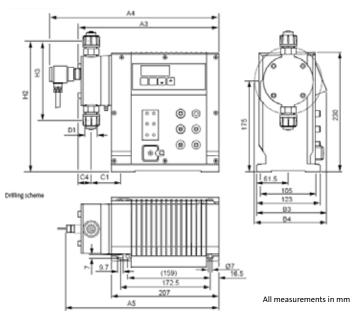
The DDI features easy input and display of the dosing rate in I/h or gal/h, with perfect calibration for optimum operating convenience and unparallelled levels of precision. There's also a hotkey for easy query of the dosed quantity, allowing optimal control of the consumption of chemicals. Control excess pressure of the pump by digitally inputting the maximum backpres-

ants as possible. That is why you can slow down the feed rate to 1/800 the pump's maximum

with the robust protective diaphragm.

pump continues to dose with the protective diaphragm. (See figure at right.)

#### **DDI 222 Dimensional Data**





								Versi	on for hig	gh-viscosi	ity liquid	s (HV)		
DDI Models	А3	A4	В3	В4	C1	C4	D1	H2	Н3	<b>C1</b>	C4	D1	H2	H3
222-60D	272	326	137	-	58	26	G%"	252	153	90	39	G1¼"	246	143
222-150D	315	372	137	139	90	39	G1¼"	265	179	90	39	G1¼"	265	179

### **DDI 222 Technical Data**

Input of the dosing capacity	Digital – by regulation of the dosing stroke speed Adjustment range: from 0.125% to 100% of the maximum dosing capacity							
Accuracy	Dosing flow < ± 1.5%, linearit	y < ± 1.5%						
Noise level	65 ± 5 dB (A), tested according	g to DIN 45635-01-KL3						
Max. suction height: primed/dry	19.7 primed (DDI 60) / 9.8 pr	19.7 primed (DDI 60) / 9.8 primed (DDI 150) / 3.3 ft Dry						
Max. viscosity (HV version) at operating temperature	<b>DDI model</b> 222-60D 222-150D	Normal operation 200 mPa s 500 mPa s	<b>Slow Mode 1</b> 1000 mPa s 800 mPa s	<b>Slow Mode 2</b> 2600 mPa s 2000 mPa s				
Max. admission pressure	2 bar on the suction side							
Min. backpressure	1 bar (pressure difference wit	th the suction side)						
Max. temperature	<ul><li>max. ambient and operat</li><li>storage temperature -10°</li></ul>	0 1						
Power supply	AC 110 - 240 V ±10%, 50/60 H	lz, power consumption 50 W (i	ncluding all sensors)					
Protection	IP 65							
Weight		PVC,PP,PVDF: 5 kg / stainless st PVC,PP,PVDF: 7.5 kg / stainless s						

### **DDI 222 Flow Capacities**

	NORMAL OPERATION SLOW MODE STEP 1				SLOW MODE STEP 2				Vstroke	221			
Q [l/h]	P <sub>max</sub> [bar]	Q [USg/h]	P <sub>max</sub> [psi]	Q [l/h]	P <sub>max</sub> [bar]	Q [USg/h]	P <sub>max</sub> [psi]	Q [l/h]	P <sub>max</sub> [bar]	Q [USg/h]	P <sub>max</sub> [psi]	[ml] (p=3 bar)	DDI MODEL
60	10	15.87	145	40	10	10.58	145	24.7	10	6.53	145	6.63	222-60D
150	4	39.68	58	100	4	26.46	58	62	4	16.40	58	13.9	222-150D



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Plus 3 • 21

# Plus 3 System for Automatic Deaeration and Calibration



#### **Degassing and Calibration Unit for Your DMI and DDI Pumps**

The Plus<sup>3</sup> system is a deaeration and calibration unit that enables your dosing pump to handle volatile liquids. Briefly put, it removes gas from the liquid being dosed and makes continuous calibration possible while the pump is in operation.

The Plus<sup>3</sup> system allows for reliable dosing of volatile media, accurate dosing of very small quantities, and precise dosing of concentrated, or neat, liquids. Designed as an option for use with the DMI and DDI models, the Plus<sup>3</sup> system lets you get the most out of your dosing pump.

#### **Reliable Dosing of Sodium Hypochlorite**

The Plus<sup>3</sup> system is based on a patented double-diaphragm design which removes air in the dosing media, thereby insuring completely accurate dosing. Fluids like sodium hypochlorite that can cause many pumps to gas lock and lose prime are handled with ease using the Plus<sup>3</sup> system.

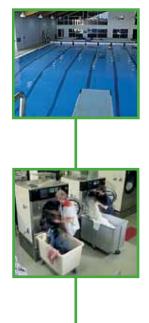
The usual problems associated with such high-precision dosing are avoided by having the Plus<sup>3</sup> unit lift a large quantity of liquid into the priming chamber. Here, it is deaerated so that all gas bubbles are removed before the exact dose required is added to your process. The unwanted air is vented into the atmosphere, while the surplus liquid is returned to the container for later use.

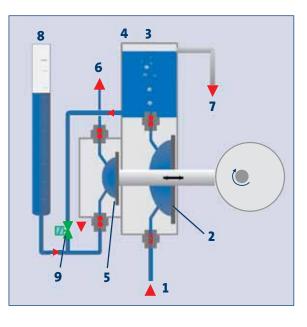
#### **Continuous Calibration**

The Plus³ system includes a compact integrated calibration system. This allows for accurate control and adjustment of the dosing rates at any time. You won't need to interrupt the process, no additional calibration devices are necessary, and no chemicals are wasted. The net result is simple: The calibration system saves you time and money.

#### **Change Tanks During Operation**

Because of the small reservoir built into the pump head, the Plus<sup>3</sup> system allows you to change the feed tank while the pump is running – a definite plus for disinfection processes.





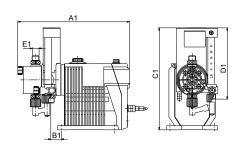
The Plus<sup>3</sup> system employs a patented double diaphragm design to optimize dosing accuracy.

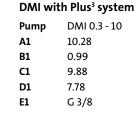
#### How it works:

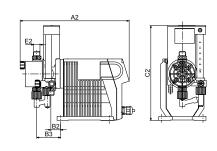
- > The first diaphragm (2) draws in a large amount of dosing media from the dosing tank (1) and transfers it into the priming chamber (3) for deaeration. This eliminates the problems associated with drawing-in of very small quantities.
- > (4) Any gas bubbles in the liquid are vented into the atmosphere.
- > The second diaphragm (5) doses the exact amount of liquid required into the dosing line (6).
- > Excess liquid is returned to the tank through the deaeration bypass (7).
- > The integrated calibration tube (8) and valve (9) allow for precise calibration of the dosing flow while the pump is running.

### **Performance Range**

Model	Size	Capacity
	0,4 - 10	0.10 gph/145 psi
DDI	2,2 - 16	0.50 gph/232 psi
וטט	2,5 - 10	0.58 gph/145 psi
	5.5 - 10	1.29 gph/145 psi
	0,3 - 10	0.08 gph/43.5 psi 0.05 gph/145 psi
	0,8 - 16	0.42 gph/145 psi 0.13 gph/232 psi
	1,0 - 10	0.42 gph/43.5 psi 0.21 gph/145 psi
	1,1 - 16	0.71 gph/145 psi 0.44 gph/232 psi
DMI	1,6 - 10	0.71 gph/43.5 psi 0.55 gph/145 psi
	3,0 - 10	0.98 gph/43.5 psi 0.87 gph/102 psi
	3,6 - 16	1.43 gph/145 psi 1.11 gph/232 psi
	4,0 - 8	1.43 gph/43.5 psi 1.27 gph/87 psi
	6,0 - 8	1.85 gph/43.5 psi 1.65 gph/87 psi







# DDI 209 AR with Plus<sup>3</sup> system

Pump	DDI 0,4 - 10
Model	209 AR
A2	10.87 (276)
B2	0.98 (25)
B3	2.4 (61)
C2	9.45 (240)
E2	G 3/8

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# DMX - Reliable Dosing from 0.13 to 2 x 166 gph (630 l/h)



### DMX 221 and 226 – Versatility Through Choice

The Grundfos DMX is a series of high-quality mechanically actuated diaphragm pumps suitable for many uses, such as drinking water treatment, wastewater treatment, and the pulp/paper and textile industries. This series is designed to be highly versatile, 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.

#### **Manual or Remote Reliable Control**

DMX B models feature a manual stroke length adjustments for a 10:1 turndown ratio. For additional control the DMX AR features a micro-processor controller with:

- > Precise and automatic proportional feed
- > Manual stroke frequency control
- > 0(4)-20 mA or pulse control
- > Menu driven display with user-friendly interface
- > Low-level and empty output
- > Remote on/off control

#### Choose the Materials – and Size – That Suit You

Both the DMX 221 and 226 liquid ends are available in PVC, PVDF, polypropylene, and stainless steel. For additional output and flexibility, the DMX 226 is available in a duplex version.

### **Accessories Insure Perfect System Integration**

A wide range of accessories specially designed for the Grundfos DMX series help optimize performance. This makes commissioning fast and easy. Other accessories are also available to make sure that your Grundfos DMX fits your system exactly, such as:

- > Back pressure valves for dosing systems with no or varying back pressure
- > Servomotor for remote stroke length control via 4-20 mA input
- > DMX AR dosing controller with output to indicate a loss
- > DMX AR with leak detection
- > DMX with integrated pressure relief valve in the pump head



### **Technical Specifications**

DMX 221	Max ca	apacity	SPM	Max Viscosity*	Max su	ction lift*	Motor	Accuracy	Linearity
Pump	GPH (I/hr)	psi (bar)	(at 60 Hz)	O Hz) cps Primed (ft) Dry (		Dry (ft)	voltage	flow	Linearity
4-10	1.3 (5)	145 (10.0)	35	400	13.1	13.1			
7-10	2.1 (8)	145 (10.0)	35	400	13.1	13.1			
7,2-16	2.3 (8.6)	232 (16.0)	75	400	13.1	13.1			
8-10	2.6 (10)	145 (10.0)	75	400	13.1	13.1			
9-10	2.9 (11)	145 (10.0)	35	200	9.8	9.8			
12-10	3.7 (14)	145 (10.0)	35	200	9.8	8.2			
13,7-16	4.0 (16)	232 (16.0)	144	200	11.5	8.2		+/- 1.5%	
14-10	4.5 (17)	145 (10.0)	75	400	13.1	13.1			
16-10	5.0 (19)	145 (10.0)	144	200	11.5	8.2	zH c		+/- 4%
17-4	5.3 (20)	58 (4.0)	35	200	3.3	3.3	1ø 115V, 50/60 Hz		
18-10	5.8 (22)	145 (10.0)	75	200	9.8	9.8			
25-3	7.9 (30)	44 (3.0)	35	200	3.3	3.3	1ø 11		
26-10	8.2 (31)	145 (10.0)	75	200	9.8	8.2			
27-10	8.4 (32)	145 (10.0)	144	200	11.5	8.2			
35-10	11.0 (42)	145 (10.0)	144	100	8.2	6.5			
39-4	12.0 (47)	58 (4.0)	75	100	3.3	3.3			
50-10	16.0 (60)	116 (8.0)	144	100	8.2	4.9			
60-3	19.0 (72)	44 (3.0)	75	100	3.3	3.3			
75-3,5	24.0 (90)	51 (3.5)	144	100	1.6	1.6			
115-3	36.0 (138)	36 (2.5)	144	100	1.6	1.6			

DMX 226 Pump	Max capacity (Duplex x 2)		SPM	Max Viscosity*	Max suction lift*		Motor	Accuracy	Linearity
	GPH (l/hr)	psi (bar)	(at 60 Hz)	cps	Primed (ft)	Dry (ft)	voltage	flow	
52-8	16.4 (62)	116 (8.0)	76	700	8.2	3.2			
67-10	21.1 (80)	145 (10.0)	68	700	8.2	3.2	1		
82-5	25.9 (98)	72 (5.0)	76	500	8.2	3.2			+/-4%
95-8	30.0 (114)	116 (8.0)	68	500	8.2	3.2	ange		
100-8	31.7 (120)	116 (8.0)	144	400	8.2	3.2	DMX-B: no motor, Nema 56 C flange DMX-AR: 1ø115V, 60 Hz	+/- 1.5%	
130-3	41.2 (156)	44 (3.0)	76	400	6.6	3.2			
132-10	41.7 (158)	116 (8.0)	144	400	8.2	3.2			
152-6	48.0 (182)	87 (6.0)	68	400	6.6	3.2			
160-5	50.7 (192)	72 (5.0)	144	200	8.2	3.2			
199-8	63.1 (239)	116 (8.0)	144	200	8.2	3.2			
249-3	78.9 (299)	44 (3.0)	68	100	3.2	1.6			
255-3	80.8 (306)	44 (3.0)	144	100	6.6	3.2			
321-6	102.0 (385)	58 (4.0)	144	100	6.6	3.2			
525-3	166.3 (630)	44 (3.0)	144	50	3.2	1.6			

\*Note: Suction lift data is for water-like fluids. Please see the pump manual for more details and dimensional data.

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# DMH - Performance-Ready from 0.07 to 2 x 278 gph (1052 l/h)



#### **Robust Design**

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

### **Prepared for Performance and Safety in Extreme Situations**

The DMH 250 series of pumps is available in PVC, PVDF, polypropylene, stainless steel and Hastelloy C wetted components. For higher pressure requirements, select from the series of stainless steel or Hastelloy C DMH 280 pumps, rated up to 2900 PSI. All models are fitted with a PTFE diaphragm, with the AMS diaphragm protection system and internal relief valve for pump protection.

### **Get the Pump Configuration You Need**

Manually control capacity by adjusting the stroke length from 0 to 100% with +/- 1% repeatable accuracy. Additional options include:

- > Duplex version for doubled capacity or blending applications
- > Electric 4-20 mA servomotor or pneumatic stroke length control
- > Variable speed drive controller
- > Integrated stroke sensor and electronic counter
- > Leak detection

### **Typical Applications**

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

#### API 675 Models

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







## **DMH 250 Technical Specifications**

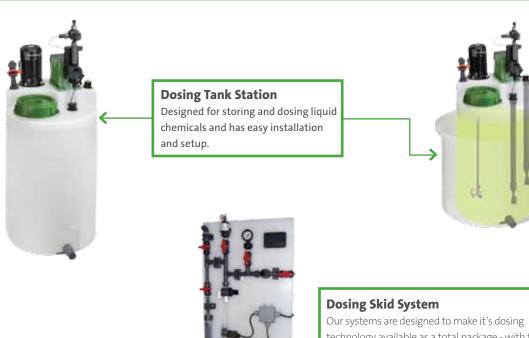
Max Max									
DMH 250 Series Pump		Max ca	apacity	SPM	Viscosity*	suction lift			
		GPH	PSI	(at 60 HZ)	cps	ft			
	2,2-25	0.69	363	17					
	2,3-16	0.74	232	17					
	2,4-10	0.77	145	17					
	4,5-25	1.43	363	35	300	3.3			
	4,9-16	1.55	232	35					
251	5,0-10	1.58	145	35					
7	11-25	3.43	363	75					
	12-16	3.7	232	75					
	13-10	4.22	145	75					
	17-25	5.28	363	115	100	_			
	18-16	5.81	232	115					
	19-10	6.07	145	115					
	10-16	3.17	232	35	300				
	11-10	3.45	145	35	300				
252	23-16	7.13	232	75		2.2			
2	24-10	7.66	145	75	100	3.3			
	36-16	11.35	232	115	100				
	37-10	11.62	145	115					
		1		T	ľ				
	21-10	6.6	145	35	300				
253	43-10	13.7	145	75	100	3.3			
	67-10	20.6	145	115		ر.ر			
	83-10	26.1	145	144	10				
	FO 10	15.0	145	22	200				
	50-10	15.8	145	32	300				
	97-16	30.6	232	65					
	102-10 136-16	32.2	145	65					
254	143-10	43 45.4	232 145	90 90					
2.	166-16	52.8	232	110	100	3.3			
	175-10	55.4	145	110					
	202-16	63.9	232	134					
	213-10	67.3	145	134	5				
	213 10	07.5	143	154					
	194-10	61.5	145	65					
15	270-10	85.5	145	90	200				
255	332-10	105	145	110	200	Flooded**			
	403-10	128	145	134	5				
	220-10	69.7	145	33					
	440-10	139.4	145	65					
257	575-10	182.2	145	90	200	3.3			
7	770-10	244	145	110					
	880-10	278	145	134	5	Flooded**			

## **DMH 280 Technical Specifications**

DMH 280 Series Pump		Max c	apacity	SPM	Max Viscosity*	Max suction lif	
		GPH	GPH PSI (at 60 HZ)		cps	ft	
	1,3-200	0.5	2900	76			
280	2,2-200	0.7	2900	115	5	Flooded*	
7	2,5-200	0.9	2900	144		Hooded	
	2-100	0.6	1450	35	100		
781	4,2-100	1.3	1450	76	50	2.2	
7	6,4-100	2	1450	115	50	3.3	
	8-100	2.5	1450	144	5		
	19-100	6.1	1450	65			
283	27-100	8.4	1450	90	50	3.3	
78	33-100	10.6	1450	110			
	40-100	12.7	1450	134	5		
			,				
	20-100	6.3	1450	33	100		
	40-100	12.7	1450	67		3.3	
285	52-100	16.6	1450	88	50		
	70-100	22.2	1450	118			
	80-100	25.3	1450	134	5		
		ı					
و	85-50	26.9	725	67	50	3.3	
286	111-50	35.1	725	88			
	170-50	53.9	725	134	5	Flooded*	
	18-200	5.8	2900	67			
	23-200	7.4	2900	88		3.3	
287	31-200	9.8	2900	118	50		
ŀ	36-200	11.4	2900	134	5		
	30 200	1111	2300	131			
	7.5-200	2.4	2900	67			
288	10-200	3.3	2900	88	50		
	13-200	4.1	2900	118	] "	3.3	
	15-200	4.9	2900	134	5		
/isco		4.9	2900		5	3.3	

Motor	DMH B- NEMA 56C: 251,252,253,254,255,280,281,283,288 NEMA 145TC: 257,285,286,287 DMH AR - 1ø115V, 60 HZ DMH AR - Models 251, 252, 253, 280, 281 only					
Accuracy	Flow +/1% Linearity +/- 2%					

# **Dosing Station and Skid Systems**



technology available as a total package - with the same level of quality and reliability you expect and have come to depend on from Grundfos. Systems are available for all Grundfos dosing pumps including the state-of-the-art digital dosing pump with 1000:1 turndown capability.

# **Accessories**



### **Rigid Suction Line**

Preassembled, adjustable-length rigid suction line consists of a foot valve with strainer, rigid suction pipe, threaded tank connection and suction tubing. Also available with dual-level control sensors.



### **External Dosing Monitor**

The dosing monitor is designed to monitor the dosing of liquids which may cause gas accumulation in the dosing head, thus stopping the dosing process even if the pump is still operating.



#### **Installation Kit**

A basic installation kit consists of a non-return foot valve equipped with a strainer and weight, a spring-loaded non-return injection valve and the requisite tubing.



### **Multifunction Valve**

This compact valve unit is mounted directly on the pump discharge connection. Its four functions are:

- > Constant back pressure
- > Protects pump against excessive pressure
- > Anti-siphoning
- > Manual pressure relief of pump and discharge line



#### **Back Pressure and Relief Valve**

Installed in-line, the valve works as a back pressure valve optimizing dosing accuracy into systems with fluctuating pressure, or as an anti-siphoning valve in non-pressurised systems. Installed in a T-connection, the valve works as a pressure relief valve or a safety valve, protecting the pump and discharge line against excessive pressure. The valve is adjustable between 0 and 145 psi (10 bar).

# **Disinfection and Instrumentation**

DISINFECTANT	CHLORINE GAS				CHLORINE DIOXIDE			
METHOD / COMPONENTS	chlorine gas dosing (HCIO)			Salt (NaCI)	HCI / NaCIO <sub>2</sub> diluted		concentrated	chlorine/ NaClO <sub>2</sub>
PRODUCTS	Vaccuperm VGA-111	Vaccuperm VGA-117	Vaccuperm VGS-140	Selcoperm SES	Oxiperm OCD-162	Oxiperm OCD-164	Oxiperm OCC-164	Oxiperm OCG-166
CAPACITY	up to 4 kg/h (8.8 lb/h)	up to 10 kg/h (22 lb/h)	up to 200 kg/h (440 lb/h)	up to 2000 g/h (4.5 lb/h)	up to 60 g/h (0.13 lb/h)	up to 2000 g/h (4.4 lb/h)	up to 2500 g/h (5.5 lb/h)	up to 10 kg/h (22 lb/h)
SPECIAL FEATURES	full vacuum systems	full vacuum systems	automated full vacuum systems	electrolytic Cl <sub>2</sub> generator	on site CIO <sub>2</sub> generator			
IMAGES		9.5				la da		4
					4			

## **Measurement and control**

Choose from a complete range of easy-to-use amplifiers for measurement and control in a wide range of disinfection applications. In addition we offer a full line of analyzers that can measure one or two different parameters; compensate for pH, temperature or flow variations and provide you with a PID-controlled analog output.

# DIA-1, DIA-2, DIA-2Q and DIP



The preassembled units from Grundfos are delivered with an amplifier and controller and your

## **Conex DIA-2Q**



choice of measuring cell and cleaning method

Dual measuring amplifier and multi-functional controller allows for compound loop control with flow compensation.

### Monitoring and control parameters:

Parameter 1:

Chlorine, chlorine dioxide, ozone, hydrogen

peroxide or peracetic acid

Parameter 2: pH, redox or fluoride

## **Conex DIA-1**



Universal measuring amplifier and controller

### Monitoring and control parameters:

Chlorine, chlorine dioxide, ozone, hydrogen peroxide, peracetic acid, pH, redox or fluoride





L-DOS-SL-02 Rev. 10-12

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