

## Product Information Solenoid-Driven Diaphragm Dosing Pumps MAGDOS DE/DX

### Reliable dosing of chemicals

Solenoid-driven diaphragm dosing pumps play an important role in the reliable and accurate dosing of liquids in the process cycles. They are appropriate for low-pressure applications and small dosing quantities.

Dosing pumps are used in many branches of industry that work with liquid chemicals - not excluding toxic and aggressive media.

### The classic

The MAGDOS DE and DX unite modern micro-processing technology with high quality mechanics. Because of their versatility they offer the maximum amount of flexibility in their external control and are still simple to handle and easy to operate. Double ball valves ensure the highest accuracy even with the smallest of flow rates.

The MAGDOS DE and DX are available for many applications as they are equipped with high capacity lifting solenoids and the flow rate can be directly adjusted per stroke. It is possible to control any contacts of commercial water meters for proportional dosing.

Their drive is available in two output classes 01...12 and. 20...100 l/h. The smaller drive is housed in a fibreglass reinforced plastic casing, the larger in a metal casing.

### Modular design

Due to their functional principle, solenoid-driven dosing pumps are particularly suited for proportional control subject to impulses or 0/4...20 mA inputs. They work without delay time and react to each control impulse with a precisely defined dosing quantity.

Its modular subdivision in the control unit, drive and dosing head makes it possible with the combination of different options to have a custom-made solution depending on the type of application.

### In short

- Suitable for toxic and aggressive media
- Usable at ambient temperatures of up to 40 °C
- Stroke length adjustable 0...100%
- Stroke frequency adjustable  
DE/DX 01...12: 0...100 /min.  
DE/DX 20...100: 0...70 /min.
- Switchable to external control (e.g. water meter)  
DE/DX 01...12: up to 100 pulse/min.  
DE/DX 20...100: up to 70 pulse/min.
- DX only: Pulse multiplication/division 1,2,4,8,16,32,64, switchable to external control with 0/4...20 mA input
- Pulse and level control input electrically isolated
- Warning alarm relays and/or digital display (optional)
- Connection for level control (pre- and main alarm)
- Double-ball valves for highest accuracy
- All types are available for german standard DVGW-DIN 19635
- 115 V AC model CSA proofed available



### Model variants

MAGDOS	Material	Connections	Order no..	
			DE	DX
DE/DX 01*	PVC	4/6 - 4/6	10206013	10206033
	PMMA	4/6 - 4/6	10206014	10206034
DE/DX 03*	PVC	4/6 - 4/6	10206015	10206035
	PVDF	4/6 - 4/6	10206016	10206036
DE/DX 07*	PVC	4/6 - 6/12	10206018	10206038
	PVDF	4/6 - 6/12	10206019	10206039
DE/DX 2*	PVC	4/6 - 6/12	10206021	10206041
	PVDF	4/6 - 6/12	10206022	10206042
DE/DX 4*	PVC	4/6 - 6/12	10206003	10206001
	PVDF	4/6 - 6/12	10206025	10206045
DE/DX 8*	PVC	4/6 - 6/12	10206027	10206047
	PVDF	4/6 - 6/12	10206028	10206048
DE/DX 12*	PVC	4/6 - 6/12	10206030	10206050
	PP	4/6 - 6/12	10206031	10206051
DE/DX 20	PVC	6/12 - 6/12	10206218	10206230
	Stainless st.	G 1/4 - G 1/4	10206266	10206278
DE/DX 40	PP	d16 - d16	10206219	10206231
	Stainless st.	G 1/2 - G 1/2	10206267	10206279
DE/DX 100	PP	d 20 - d 20	10206220	10206232
	Stainless st.	G 1/2 - G 1/2	10206268	10206280

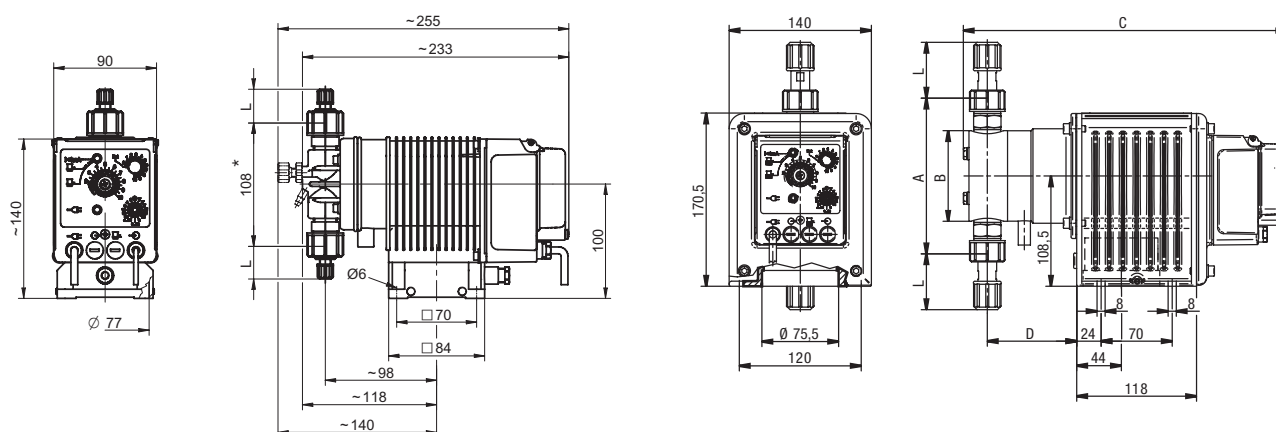
Additional materials on request.

\*) Material also available as stainless steel.

## Technical data

MAGDOS DX	01	03	07	2	4	8	12	20	40	100	
Max. pressure	10 bar	6 bar	10 bar	10 bar	10 bar	10 bar	4 bar	10 bar	4 bar	1,5 bar	
Flow rate at max. pressure	0.1 l/hr	0.46 l/hr	0.72 l/hr	1.86 l/hr	3.9 l/hr	6 l/hr	12 l/hr	20.2 l/hr	50.4 l/hr	115 l/hr	
Max. stroke frequency	100 min <sup>-1</sup>							70 min <sup>-1</sup>			
Suction lift [m H <sub>2</sub> O] for non-effervescent media	3 mWs					2 mWs	1.2 mWs	1.2 mWs			
Power supply	115 V AC oder 230 V AC, ± 10 %, 50/60 Hz										
Power consumption	230 V AC: 30 W, 115 V AC: 33 W							230 V AC: 70 W, 115 V AC: 66 W			
Max. power consumption during dosing stroke	230 V AC: 2.3 A 115 V AC: 3.6 A							230 V AC: 4.1 A 115 V AC: 7.4 A			
Protection class	IP 65										
Isolation class	F										
Input pulse duration	> 30 ms										
Solenoid excitation time per pulse	230 V AC: 60 ms, 115 V AC: 80 ms							230 V AC: 160 ms, 115 V AC: 190 ms			
Warning alarm relay with changeover contact (optional)	250 V AC 2.5 A, 30 V DC 2.5 A										
Voltage at level connection / pulse input	5 V DC, for potential-free switching outputs										
Impedance to 0/4...20 mA input	150 Ohm										
Max. ambient temperature	40 °C							40 °C			
Max. process fluid temperature	50 °C (with PVC pieces 35 °C)										
Weight (plastic)	ca. 2.9 kg							10.5 kg	12.5 kg		
Weight (stainless steel)	ca. 3.5 kg							12 kg	20 kg		

## Dimensional figure



Type	Material	A	B	C	D
DE/DX 20	PVC	155	89	310	87
	1.4571	135	89	310	87
DE/DX 40/100	PP	280	152	345	105
	1.4571	280	148	310	105

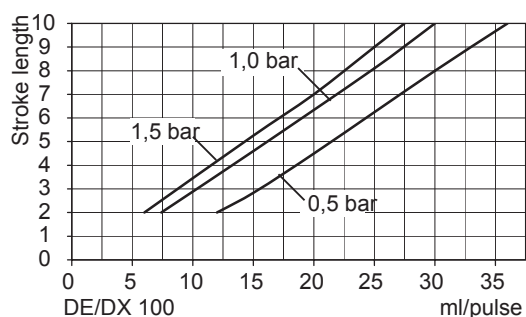
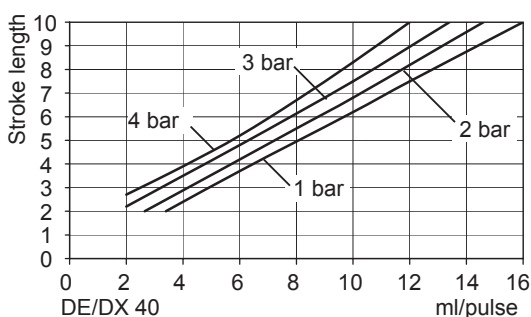
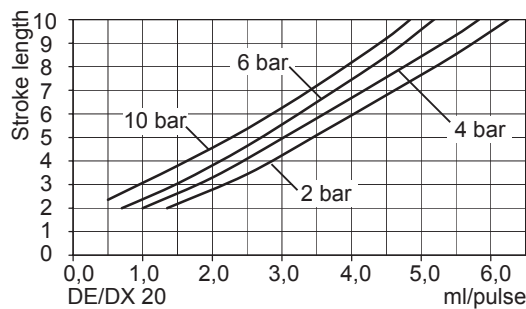
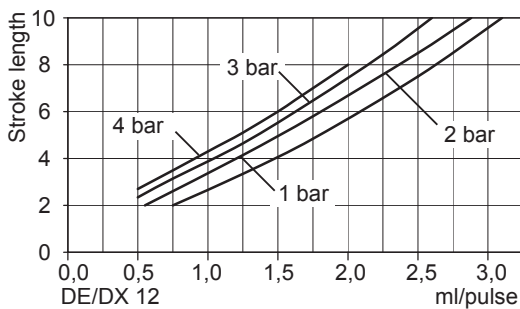
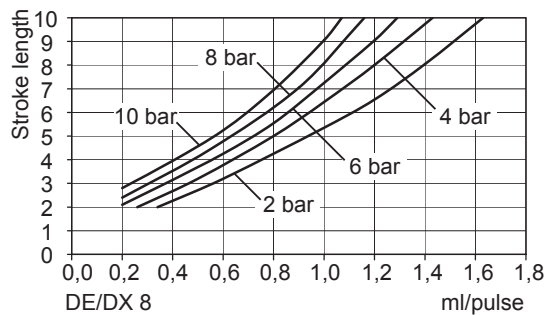
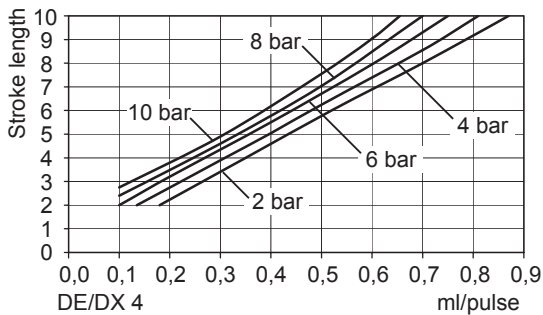
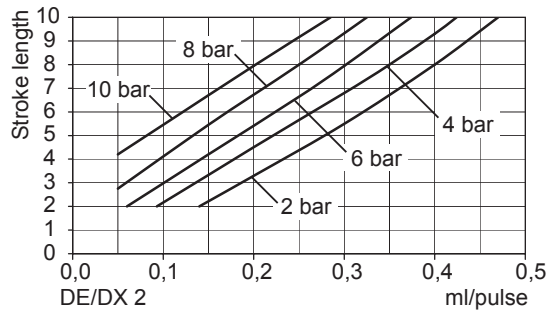
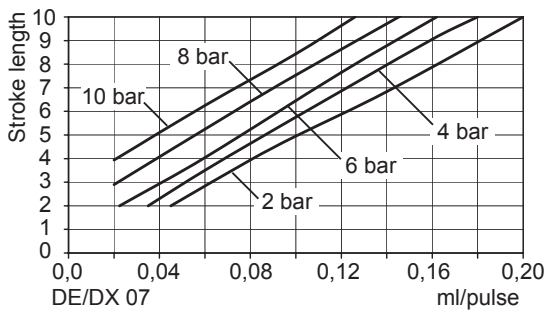
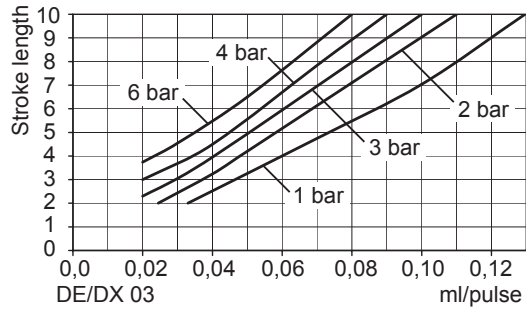
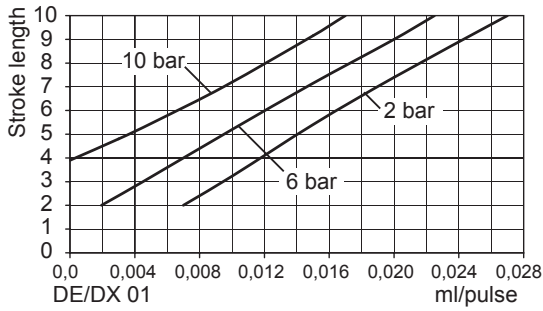
Dimension L: 15...55 mm, depends on type of connection.

Dimensions are given in mm.

\*) DE/DX 12: 118 mm

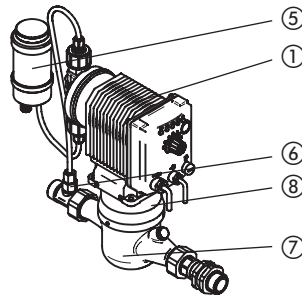
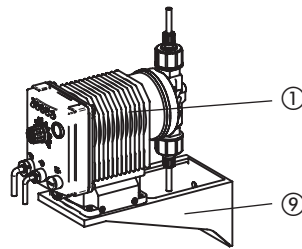
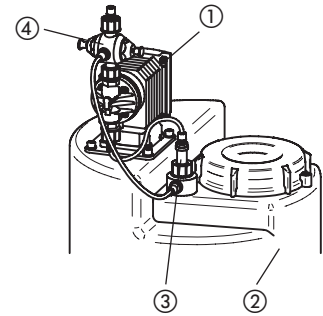
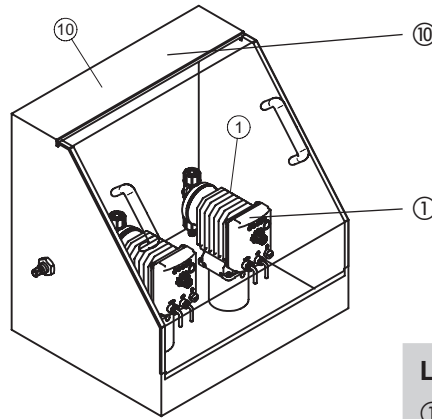
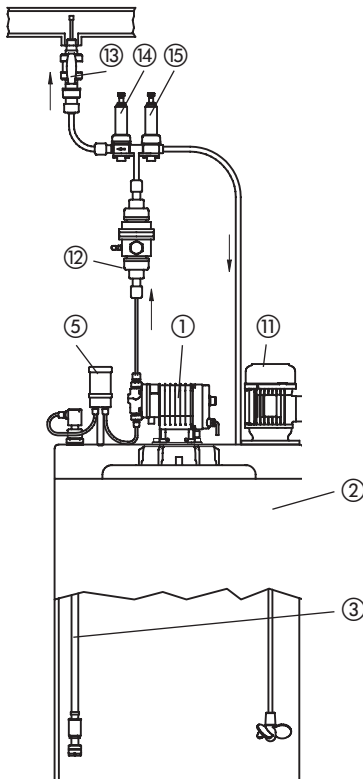
### Performance curves

The performance curves refer to water at 20 °C (68 °F). The performance of the dosing pump depends on the viscosity of the process fluid and hydraulic installation conditions. Dosing pumps must therefore be gauged in litres during application.



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## Installation examples



### Legend

- ① MAGDOS DE/DX
- ② Chemical tank
- ③ Suction line with integrated low level control
- ④ Multifunction valve PENTABLOC
- ⑤ Priming aid
- ⑥ Injection nozzle with non-return valve
- ⑦ Water meter with contact unit
- ⑧ Water meter spacer
- ⑨ Wall bracket
- ⑩ Pump bracket
- ⑪ Electric agitator
- ⑫ Pulsation dampener
- ⑬ Injection nozzle with non-return and shutoff valve
- ⑭ Back pressure regulating valve
- ⑮ Pressure relief valve (safety valve)

## Accessories

Even the best dosing pump can still be improved – namely by the right technical periphery, which, in fact, is the reason for the particularly extensive accessories program. It converts your dosing pump into an efficient dosing system.

Optionally we offer the PENTABLOC, it is a multifunction valve combines all five functions necessary to ensure accurate and safe operation of dosing pumps: back pressure, antisiphon, safety relief, pressure relief and dosing monitoring.

Further accessories you will find in our dosing pump brochure.

To optimize the dosing process we recommend back pressure regulating and safety valves. These valves are used

- to increase dosing accuracy at fluctuating system pressures.
- in case of long dosing pipes, to avoid overfeeding caused by acceleration effects, chemical moving still forwards, although the pump returned to suction already.
- to avoid siphoning, if the chemical pressure should be higher than the system pressure.
- to prevent an excessive pressure increase in the system downstream the dosing pump, which may occur for example if shutoff valves are closed although the pump is still running or the injection nozzle is choked.