

Product Information Motor-driven Diaphragm Dosing Pumps MEMDOS E/DX

Reliable dosing of chemicals

Motor-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 high dosing quantities.

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

Riding on the crest of the waves

Two models of the MEMDOS are available, each with or without micro-processor control. The smaller version can be used for capacities from 0...4 to 0...160 l/h and the larger version for capacities from 0...170 to 0...380 l/h. Pressures are admissible between 4 and 10 bar, depending on the size.

Thanks to the sturdy tappet drive with manual or automatic capacity adjustment, the conveyed media such as acids, lyes, precipitating agents and flocculents are dosed reliably and precisely.

On request, the MEMDOS pumps can also be supplied with a double-diaphragm system. Then uncontrolled leakage of media is avoided even if the dosing diaphragm wears out.

Versatile and flexible

MEMDOS E pumps can be integrated in controls or automatic control systems.

For constant dosing without control, the motor of MEMDOS E is directly connected to the terminal box. A great variety of three-phase and single-phase motors is available for this purpose.

To change the metering capacity, either the stroke length can be adjusted mechanically or the speed of the three-phase motor can be controlled by means of a separate frequency converter.

The intelligence of the MEMDOS DX is derived from the well-proved series of MAGDOS DE/DX solenoid metering pumps.

The MEMDOS DX controller allows the adaption to a large number of different control signals and system monitoring equipment. For the chemical supply, for example, two controls are available: tank level control with alarm signal and low level indication. The signals required for external activation of the pump can be simple voltage-free closing contacts from water meters or controllers or analog 0/4...20 mA signals. Depending on the version, the MEMDOS DX can be adjusted continuously between 0 and 142 strokes/min. for internal control. A single stroke follows each contact.



In short

- Suitable for accurate mixing tasks
- Capacity range 4 to 393 l/h, at up to 10 bar
- Minor dependence of the back pressure
- Linear development of the dosing quantity according to the stroke length
- Tappet drive with manual and automatic capacity adjustment
- Also suitable for frequency converter operation
- Wide range of dosing head materials
- Double-diaphragm system optional
- Small stand, requires little space
- Batch dosing optional

Technical data

MEMDOS E/DX	Size	4	8	15	25	26	50	75	76	110	150	156	160	200	260	300	380	
Capacity at max. pressure**	l/h	4	7.5	15	23	23	48	72	72	107	160	160	170	208	263	292	393	
Stroke volume	ml / pulse	2.6			8.5			19			36.5			51.2	54.5			
Max. pressure	bar	10								5	4	10			8	6		
Stroke frequency**	1/min	26	48	95	142	142	95	142	142	95	142	142	71	95	120	95	120	
Diaphragm-ø	mm	52				64				90			120		150			
Stroke length	mm	6				9				10								
Suction lift	mbar	900				800				700			600		450			
Max. ambient temperature*	°C	40																
Capacity E (3~)	W	50					250					370						
Power DX (1~)	W	50					120					250						
Insulation class		F																
Protective class		IP 55																
Voltage at pulse input		5 V DC (must be voltage-free for contact making)																
Voltage at level connection		5 V DC (level probe with break contact for alarm/empty)																
Alarm relay, voltage-free changeover contact		250 V AC, 2.5 A or 30 V DC, 2.5 A																
Weight plastic	E	kg			7.4			7.6			10.2			18.0		19.0		
	DX	kg			8.0			9.2			12.0			22.0		26.0		
Weight stainless steel	E	kg			8.1			9.5			18.0			26.4		32.0		
	DX	kg			8.7			11.1			20.0			30.4		39.0		

*) Ambient temperature for PVC metering head 40 °C and for PP or stainless steel metering heads 60 °C (for a short time 80 °C).

**) At 60 Hz operation the values increase by factor 1.2

Model variants

MEMDOS E/DX	Plastic				Stainless steel			
	Material	Connection	Order no.		Material	Connection	Order no.	
			E	DX			E	DX
4	PVC/FPM	6/12	10402001	10402019	1.4571/PTFE	G 1/4	10402010	10402028
8		6/12	10402004	10402022		G 1/4	10402013	10404586
15		6/12	10402002	10402020		G 1/4	10402011	10402029
25*		6/12	10402003	10402021		G 1/4	10402012	10402030
26**		6/12	10402436	10402857		G 1/4	10402437	10404098
50	PVC/CSM	6/12	10402005	10402023	1.4571/AF	G 1/4	10402014	10402032
75*		d 16	10402353	10402140		G 1/4	10402015	10402033
76**		d 16	10402451	10404711		G 1/4	10402438	10404100
110	d 16	10402008	10402026	G 1/2		10402017	10402035	
150*	d 20	10402009	10402027	G 1/2		10402018	10402036	
156**	d 20	10402439	10404080	G 1/2		10402440	10404102	
160	PP/CSM	d 20	10402053	10402055		G 1/2	10402054	10402056
200		d 20	10402037	10402045		G 1/2	10402041	10402049
260*		d 20	10402038	10402046		G 1/2	10402042	10402050
300		d 20	10402039	10402047		G 1/2	10402043	10402051
380*		d 20	10402040	10402048		G 1/2	10402044	10402052

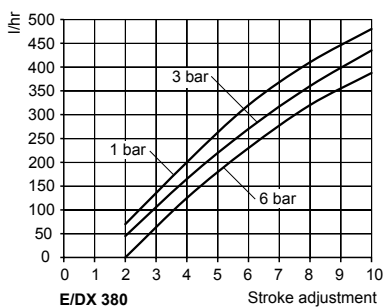
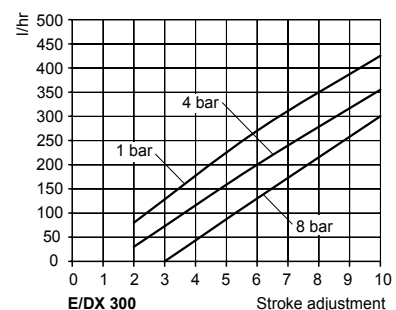
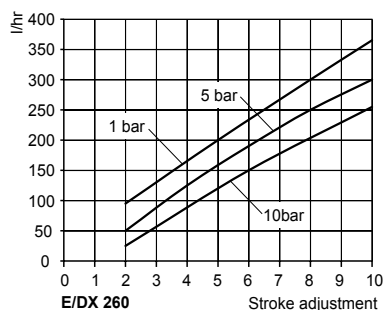
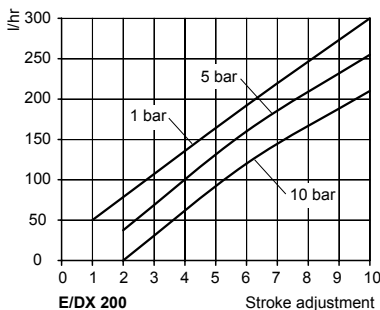
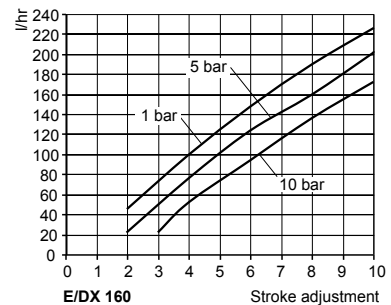
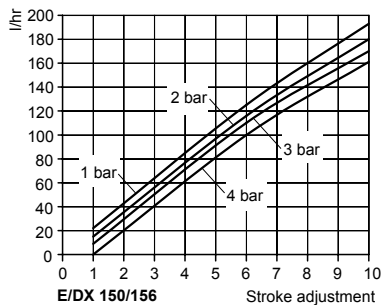
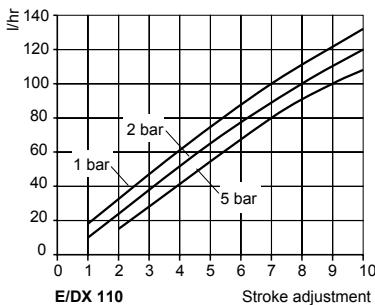
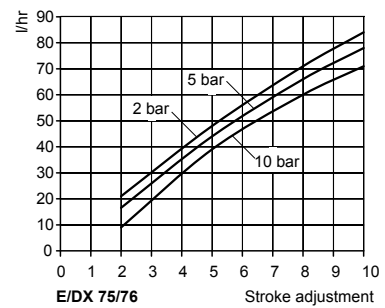
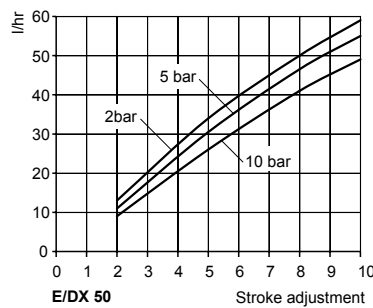
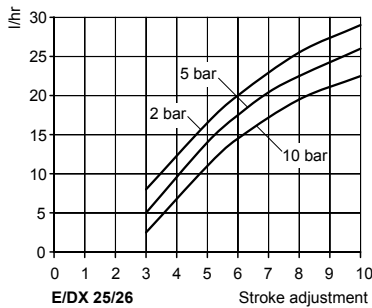
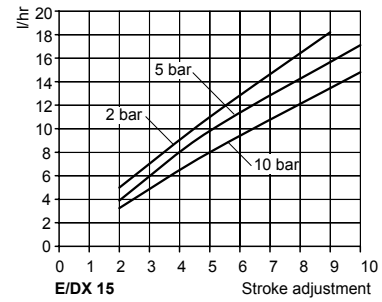
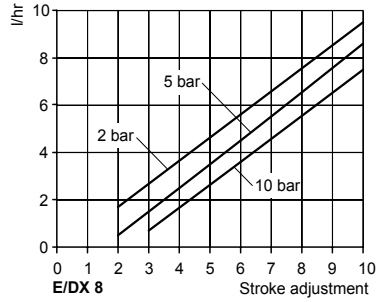
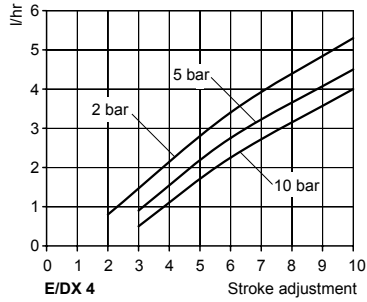
*) Pump not suitable for 60 Hz operation

**) Special size for 60 Hz operation

Performance curves

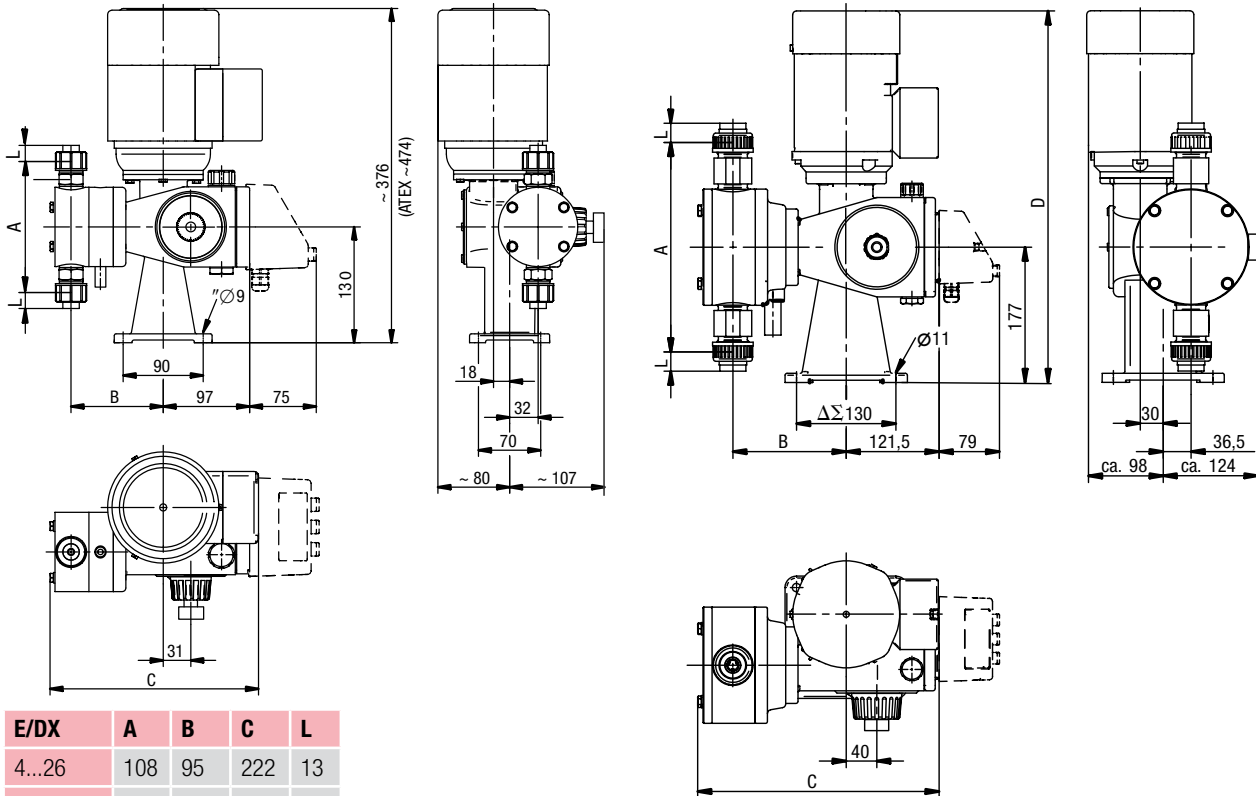
The performance curves refer to water at 20 °C (68 °F) and a suction lift of 0.5 m. The performance of the dosing pump depends on the viscosity of the process fluid and hydraulic installation conditions.

Dosing pumps must therefore be gauged in litres during application.



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Dimensions



E/DX	A	B	C	L
4...26	108	95	222	13
50	153	104	234	13
75, 76	153	104	234	17
110...156	246	117	259	22

Type	A	B	C	D	L	D with ATEX motor
E 160...260	278	148	317	approx. 469	22	632
DX 160...260	278	148	317	approx. 486	22	-
E 300...380	318	153,5	320	approx. 469	22	632
DX 300...380	318	153,5	320	approx. 486	22	-

Accessories

Even the best dosing pump is capable of improvement - by means of appropriate technical surroundings. That is why a particularly comprehensive accessories programme is available which turns your dosing pump into an efficient dosing system.

As an option, the multifunctional valve PENTABLOC is available, which offers the functionalities of a back-pressure valve as well as those of a safety blowdown valve. Such functions as anti-siphon, pressure relief and flow indication and monitoring are also integrated.

For further accessories for your dosing pump, please refer to our dosing pump brochure.

To optimise the dosing process, we recommend back-pressure and pressure-relief valves. They are used

- to increase the dosing accuracy in the presence of fluctuating back pressures.
- for long dosing lines in order to prevent excess delivery. (The accelerated medium continues moving on account of its own inertia even when the delivery stroke has already ended.)
- to prevent siphoning through the dosing pump if the suction pressure is higher than the system pressure.
- to prevent the system pressure from rising to an impermissibly high level on the discharge side of the dosing pump; this may for example be caused by the accidental closing of valves while the pump is in operation or a clogged injector.