The Smart series

MEMDOS SMART - Stepper motor-driven diaphragm dosing pumps 2 – 200 l/h up to 20 bar

Reliable dosing of chemicals

The new generation of the stepper motor-driven diaphragm dosing pump MEMDOS SMART provides a wide range of attractive solutions for demanding dosing tasks. The new stepper motor technology permits high-accuracy dosing of even the smallest volumes. Asynchronous running with various speeds of the suction and pressure stroke enables homogeneous and pulse-reduced dosing. The further development of the Slow mode permits the transport of highly-viscous media at even greater levels of reliability and reproducibility.

Available in seven versions, the new generation of the MEMDOS SMART provides a range of different functionalities. Two sizes of the MEMDOS SMART series are available. Possible performance ranges from 2.6 l/h at 20 bar to 40.2 l/h at 4 bar in the first size and 61.5 l/h at 12 bar to 201.4 l/h at 5 bar in the second size.

Several different materials and connections are available for suction and discharge side, depending on the specific applications. Accessory sets consisting of a hose, injection nozzle and suction line are available to enable optimal results and quick installation.

Wide range of applications

The MEMDOS SMART's drive is fully adjustable. The wear-free tooth-belt drive and the positively-driven diaphragm rod of the drive permit especially gentle and even dosing.

The range of inputs and outputs installed on the microprocessor-controlled MEMDOS SMART and the accessories from Lutz-Jesco available for it, means that the device is able to monitor and communicate with a complete system. The stroke frequency, number of strokes, runtime, batch and much more can be controlled via an optionally-available Ethernet interface.

The compact structure of the MEMDOS SMART means that it requires a small installation surface. This enables its problem-free integration in smaller compact dosing systems.

Overview of functions

MEMDOS SMART	LD	LP
Graphical LCD display with colour change for status display		
Graphical TOUCH display	•	•
Password protection	•	•
Supply amount displayed in various units		•
Slow mode for highly-viscous media		•
Diaphragm replacement programme		•
Calibration function		•

Operating modes	LD	LP
Manual control 0 – 100 %	•	•
External control with pulse increase and reduction	•	•
External control via standard signal 0/4 – 20 mA with scaling function	•	•
External control with pulse water meter, PPM u. PERC		•
Manual batch dosing, external, interval and timer*		•*

Inputs and outputs	LD	LP
Release input (external start/stop)	•	•
Level input with early warning and main alarm	•	•
Stroke feedback output	•	•
Alarm relay output 1 and 2*		•*
Diaphragm rupture detection, flow and pressure monitoring (optional)		•
BUS interface Modbus, Profibus, ProfiNET (optional)		•
Analogue output 0/4 – 20 mA (optional)	•	•

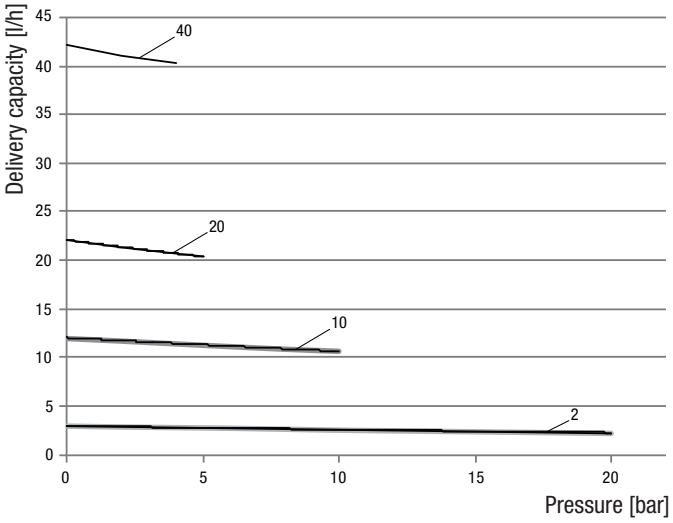
Technical data

MEMDOS SMART			2	10	20	40	60	120	200
Delivery capacity at max. backpressure		l/h	2.6	11.4	21.8	40.2	61.5	120.6	201.4
		ml/stroke	0.27	1.19	2.27	4.19	7.01	12.56	21.00
Maximum delivery pressure		bar	20	12	6	4	12	8	5
Nominal stroke frequency		rpm	160						
Suction lift for non-gassing media		mWS	3				5		
Maximum inflow pressure		mbar	800				500		
Diameter of diaphragm		mm	33	39	54		68	90	
Valve size			DN3	DN4			DN6	DN10	
Voltage supply			110 – 240 V, -10 % / +5 %, 50/60 Hz						
Power consumption		W	25				50	70	
Protection class			IP65 (with cover cap or connected signal lines)						
Materials			PVC, PP, PVDF, 1.4571						
Weight	PVC, PP, PVDF	kg	~2.8				~7.2		
	Stainless steel (1.4571)	kg	~3.9				~8.6		
Approved ambient temperature		°C	5 – 45 (with PVC components 5 – 40)						
Approved media temperature		°C	80 (with PVC parts, 35; with PP parts 60)						

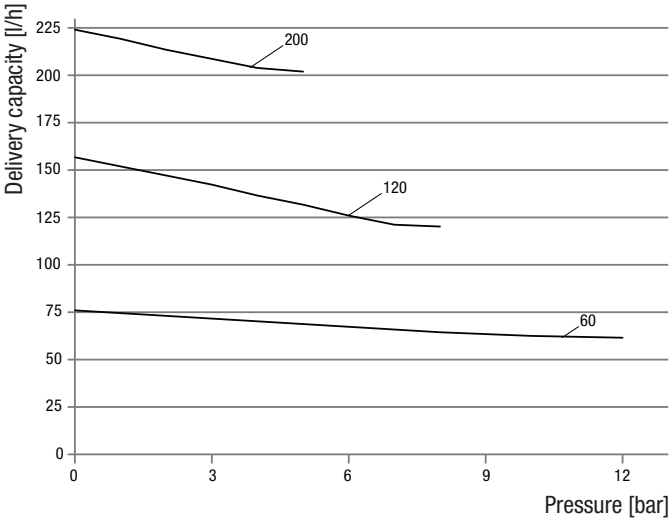
Delivery characteristic curves

These delivery capacities were determined on the manufacturer's test stands. They apply at 20 °C (68 °F) for water, at 100 % stroke frequency. The delivery capacity depends on the medium (density and viscosity) and temperature. Since these conditions vary at every installation location, you should calibrate the dosing pump.

MEMDOS SMART 2 – 40

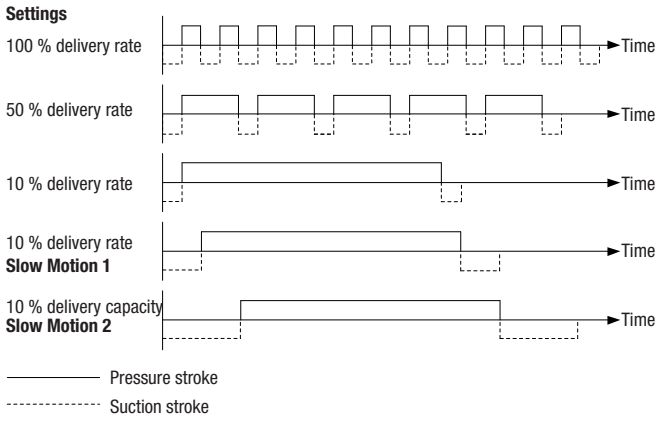


MEMDOS SMART 60 – 200



Conveying characteristics

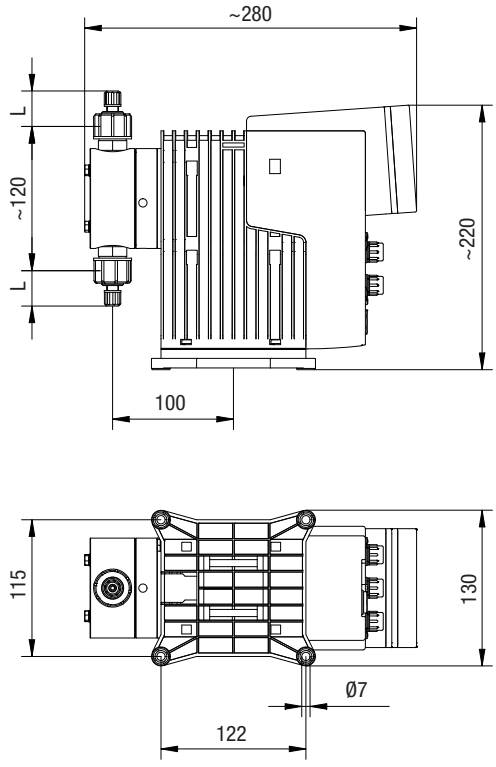
For low supply rates, for example, the dosing pump performs the suction stroke at the maximum speed and adjusts the speed of the pressure stroke to match the desired supply rate. This produces an almost constant supply stream, which enables low-pulsation, low stress dosing.



Dimensions

MEMDOS SMART 2 – 40

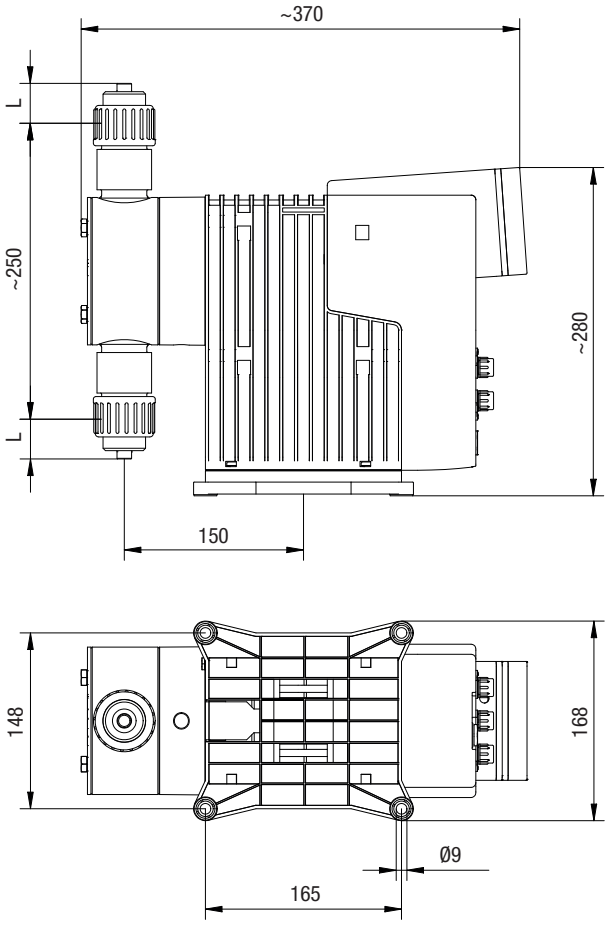
All dimensions in mm



The dimension L depends on the type and size of the connection.

MEMDOS SMART 60 – 200

All dimensions in mm



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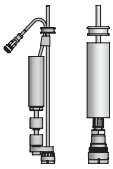
MEMDOS SMART standard accessories



Suction lines

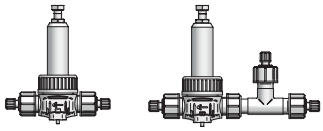
Type SL-2 with ceramic reinforcement piece, cable length 3,000 mm, tube length 2,500 mm. Level monitoring and pre-alarm with 2 switching points, switching distance approx. 50 mm. Switching function: Closer on rising level, electrical connection to dosing pump via plug connector M12x1.
Flexible suction line, SA model with foot valve and load part made from ceramic and 2500 mm tube length.

Injection nozzles

To connect the dosing line to the dosing point.
Injection nozzle type R , spring loaded, opening pressure 0.1 bar.

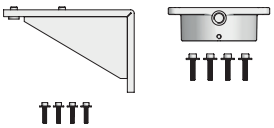
Suction and pressure tube

Permissible operating pressure at 20 °C in accordance with DIN EN ISO 7751, chemical resistance and correct connection are assumed.



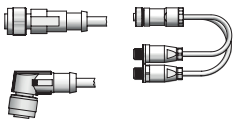
Back-pressure and pressure relief valves

Back-pressure valves to be mounted in the dosing line.
Adjustable pressure 1 – 16 bar.
Pressure-relief valves to be mounted in the dosing line.
Settable pressure: plastic 1 – 16 bar, stainless steel 1 – 25 bar



Wall bracket and spacer

Wall console including mounting material for mounting pumps. Material: PP
Spacer and mounting hardware required to fit the pump to a water meter. Material: Cast aluminium, coated



Various cables, plugs and adapters

Cable for: external release pulse output A coded, 0/4 – 20 mA and pulse input A coded, fault message B coded, level control A coded, Ethernet network connection D coded.
Terminal connection: for retrofitting existing suction lines or level monitors.
Adapter: when using older suction lines with a 3.5 mm jack plug; when using a suction line with M12x1 plug connector.

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