Product Information Stepper Motor-driven Diaphragm Dosing Pump MEMDOS SMART LB

Reliable dosing of chemicals

Stepper motor driven diaphragm pumps are particularly suitable for highly accurate, reproducible industrial dosing thanks to their design. Many fluid media can be safely fed into the respective processes using these pumps.

Precision that inspires

The MEMDOS SMART LB series is available in four capacity ranges that deliver between 5 and 20 l/h against pressures of up to 16 bar.

The compact stepper-motor pump, coupled with its intelligent drive concept, combines the big advantages of a solenoid-driven diaphragm dosing pump with the precision of a motor-driven diaphragm dosing pump.

Several different materials and connections are available for suction and discharge side, depending on the specific applications. By using appropriate and recommended materials, the MEMDOS SMART LB can be used in most process applications.

A matching accessory set with hoses, injection points and suction lines from out comprehensive accessory range means that nothing stands in the way of a quick installation, and you get the best results.

Wide range of applications

The MEMDOS SMART LB's drive is fully adjustable. The stepper-motor with its wear-free tooth belt drive, ensures a particularly homogeneous and gentle dosing process. This produces an almost constant supply stream, which gives a low-pulsation dosing. To adapt the dosing performance, the stroke frequency can be manually adjusted across the range from 0 to 100%.

As a plug & play dosing pump with a large-range power supply unit, the pump is ready for immediate and world-wide use, without any restriction. MEMDOS SMART LB can be mounted on the wall in three different positions - upright, left-oriented or right-oriented - without further auxiliary equipment.

In Short

- Capacity range 5 to 20 l/h, up to 16 bar
- Broad-range power supply 110 … 240 V AC, -10% / +5%, 50/60 Hz, 25 W
- Suitable for aggressive media
- Materials available: PVC, PP, PVDF and stainless steel
- Material consistency for the pumps and accessories
- Dosing head ventilation (plastic version)
- Supplied with connection sets (except stainless steel)
- Wall and floor mounting
- Double-ball valves ensure accurate dosing
- Fully controllable stepper-motor drive
- Asynchronous mode for settings < 100%
- Infinitely adjustable stroke frequency from 0 to 100%
- Calibration function

Model variants

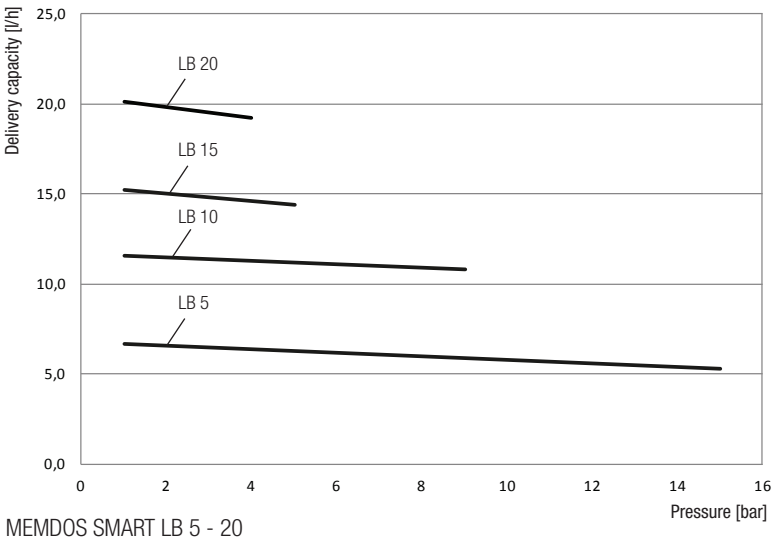
MEMDOS SMART	Material			
	PVC	PP	PVDF	Stainless steel
LB 5	10100004	10100000	10100008	10100012
LB 10	10100005	10100001	10100009	10100013
LB 15	10100006	10100002	10100010	10100014
LB 20	10100007	10100003	10100011	10100015

Technical data

MEMDOS SMART LB			5	10	15	20
Delivery capacity at max. pressure		l/h	5.3	10.8	14.2	19.2
Max. supply pressure		bar	15	9	5	4
Delivery capacity at medium pressure		l/h	6.0	11.3	14.7	19.7
Average back pressure		bar	8	5	3	2
Max. stroke frequency		RPM	150			
Suction head for non-gassing media		mWS	3			
Max. inlet pressure		mbar	800			
Nominal valve width			DN4			
Voltage supply			110 - 240 V AC, -10% / +5%, 50/60 Hz			
Power consumption		W	25			
Protection class			IP 65 (with covering caps on the connections)			
Insulation class			F			
Weight	PVC, PP, PVDF	kg	~ 2.2			
	1.4571		~ 3.3			
Max. ambient temperature		°C	5 - 45 (5 - 40 with PVC parts)			
Max. temperature of the medium		°C	80 (with PVC parts 35; with PP parts 60)			

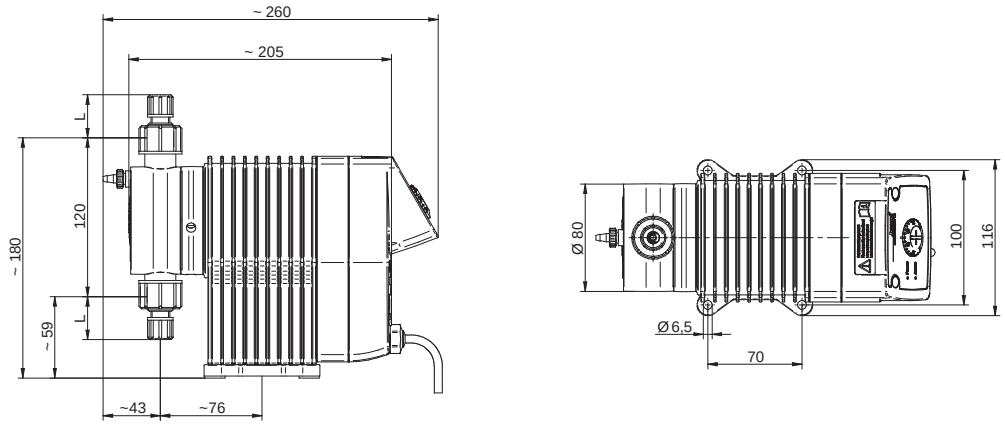
Delivery characteristic curves

The delivery characteristic curves are valid for 20 °C (68 °F) for water at 100% stroke frequency. The delivery capacity depends on the medium (density and viscosity) and temperature. Dosing pumps must therefore be gauged in litres during application.

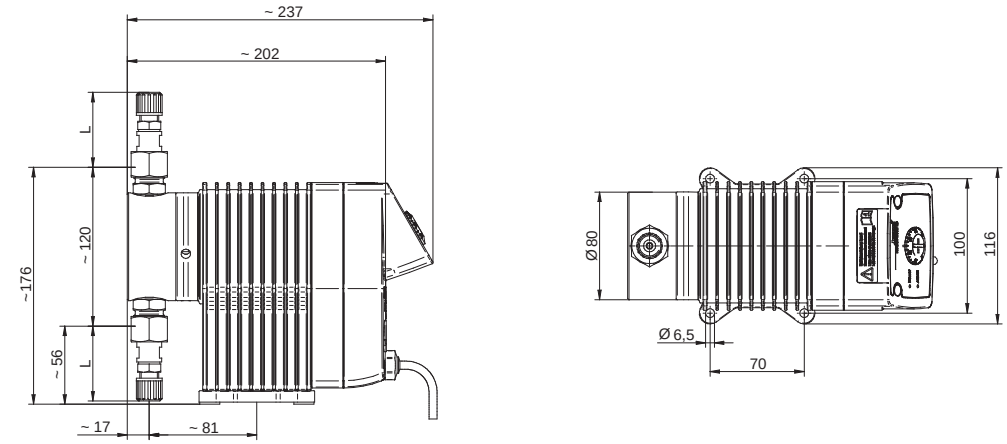


MEMDOS SMART LB 5 - 20

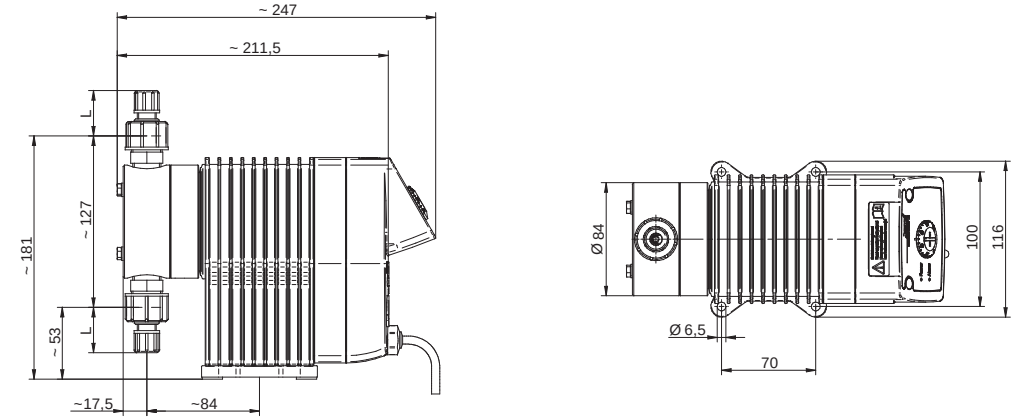
Dimensions



MEMDOS SMART LB 5 and 10 with dosing head made of PVC, PP or PVDF



MEMDOS SMART LB 5 and 10 with dosing head made of stainless steel



MEMDOS SMART LB 15 and 20 with dosing head made of PVC, PP, PVDF or stainless steel

All dimensions in mm

Connection	Material	Size	Nominal diameter	L
Hose clamp connection	PVC, PP, PVDF	4/6 mm	DN4	31 mm
		1/4x3/8"	1/4"	34 mm
		6/9 mm	DN6	34 mm
		6/12 mm	DN6	15 mm
	1.4571 / PVDF	4/6 mm	DN4	50 mm
		6/9 mm	DN6	54 mm

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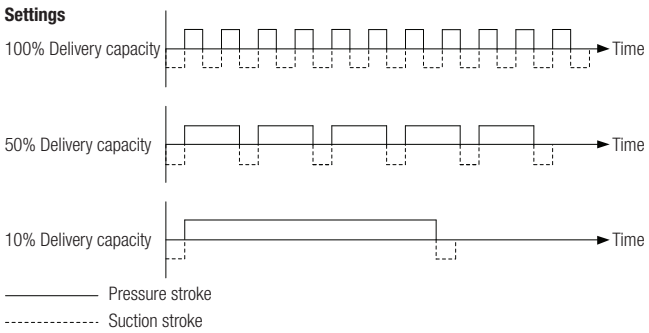
Conveying characteristics

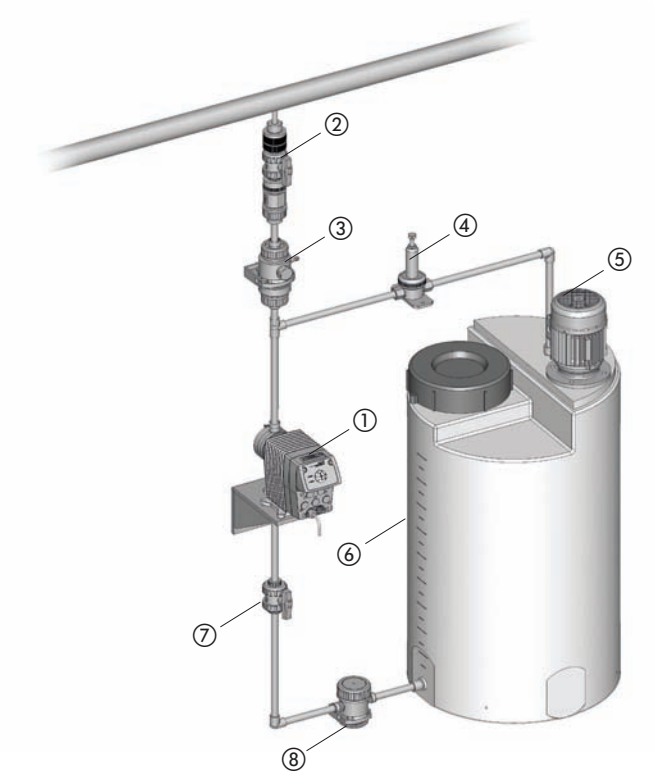
For low supply rates, for example, the dosing pump performs the suction stroke at the maximum speed and adjusts the speed of the pressure stroke to match the desired supply rate. This produces an almost constant supply stream, which gives a low-pulsation dosing.



Accessories

Suitable sets of accessories, which consists of a suction line, a pressure line and an injection nozzle, are available for the dosing pumps.

Even the best pump can still be improved - namely by the right technical periphery.



To make your dosing pump into an efficient dosing system, we recommend using the following accessories:

- Injection nozzles – to dose the medium in the main line and to prevent it flowing back into the pressure line
- Pressure loading and relief valves – to increase dosing accuracy or to protect the system against too high a pressure
- Pulsation dampener – to damp supply currents as well as to reduce the flow resistance in long pipelines.
- Priming aids – to significantly ease priming of dosing pumps with low supply volumes per stroke, for large suction heights, for highly-viscous dosing media or for initial priming or when priming after the system has been laying idle
- Suction pressure regulator – to prevent medium flow when the dosing pump is not running or to prevent a vacuum being formed in the event of a pipe burst

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

Legend

① MEMDOS SMART LB
② Injection nozzle with shut-off valve
③ Pulsation dampener
④ Pressure relief valve
⑤ Electrical agitator
⑥ Dosing tank
⑦ Shut-off valve
⑧ Suction pressure regulator

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