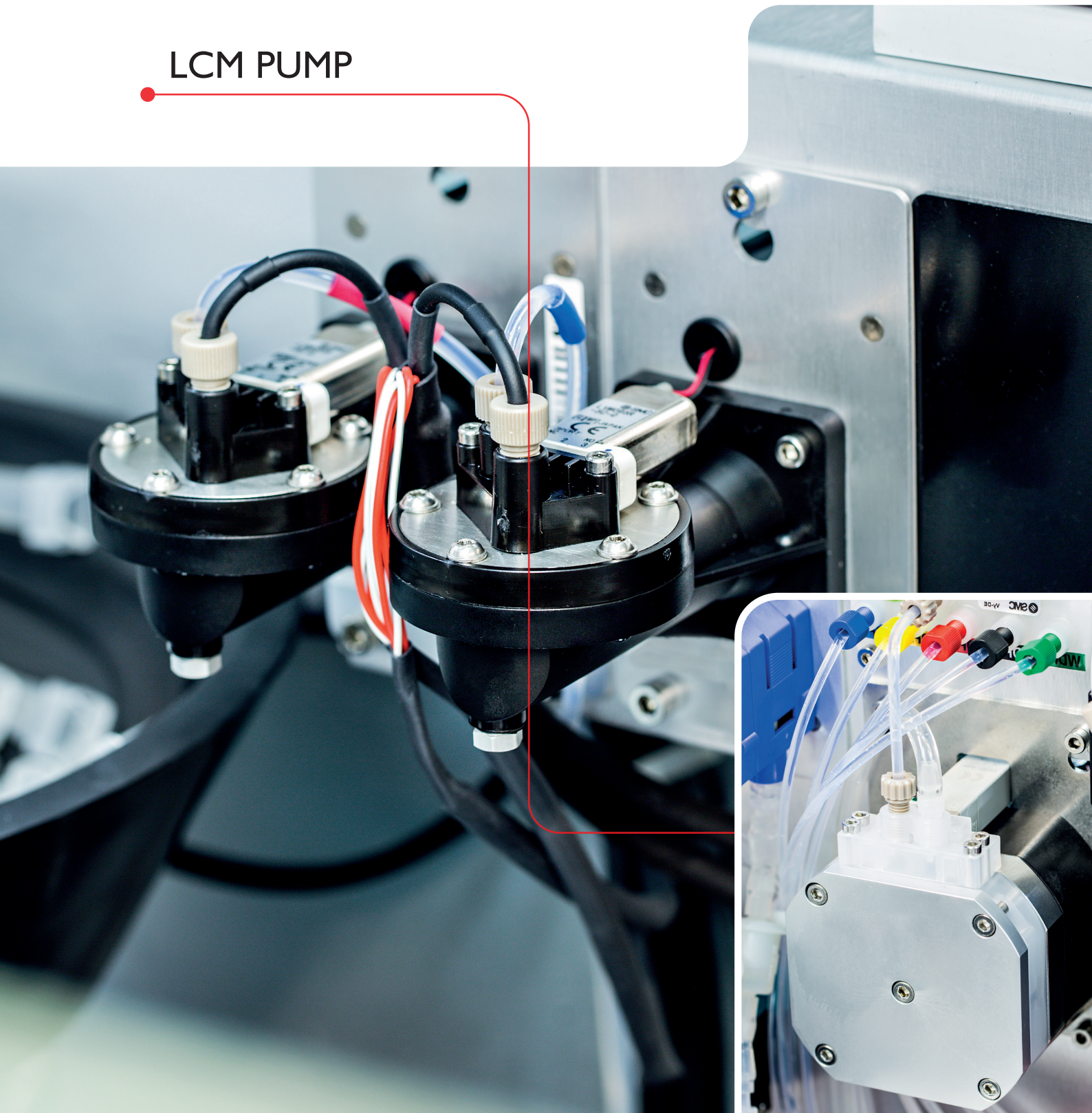


LCM PUMP



LCM PUMP

The LCM Pump combines highest precision and chemical resistance, ideal for handling aggressive liquids. A hermetically sealed chamber prevents crystallization, that occurs in piston pumps. Therefore, frequently flushing the system (which is in some cases not even possible due to the aggressiveness of the liquids) is not required in order to prevent crystallization. Due to the implemented LCM principle, this pump is virtually maintenance free.

Air-free filling of the coupling liquid between the membrane and the bellows, ensures a proper transmission of the displacements.

The main application for the LCM Pump is the precise dispensing of starter and trigger reagents. Alternatively, it can be used as an oil pump to seal arrays in a fluidic chip.

LCM PUMP 500

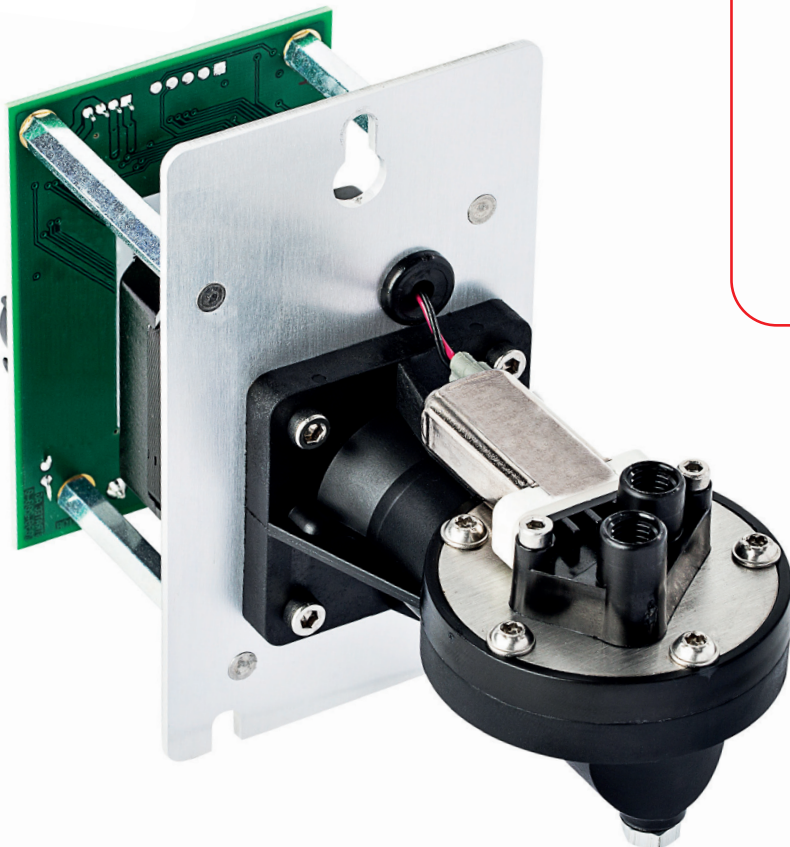
Handling of aggressive chemical liquids

Prevention of crystallization

High precision like a piston pump

Close to linear characteristics of the used bellows

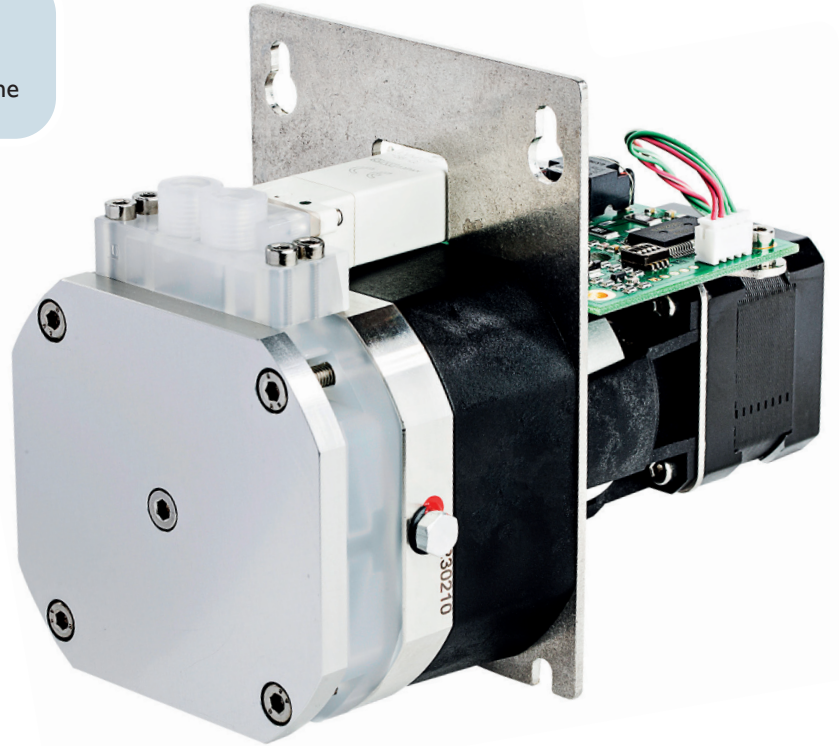
Hermetically sealed chamber prevents crystallization



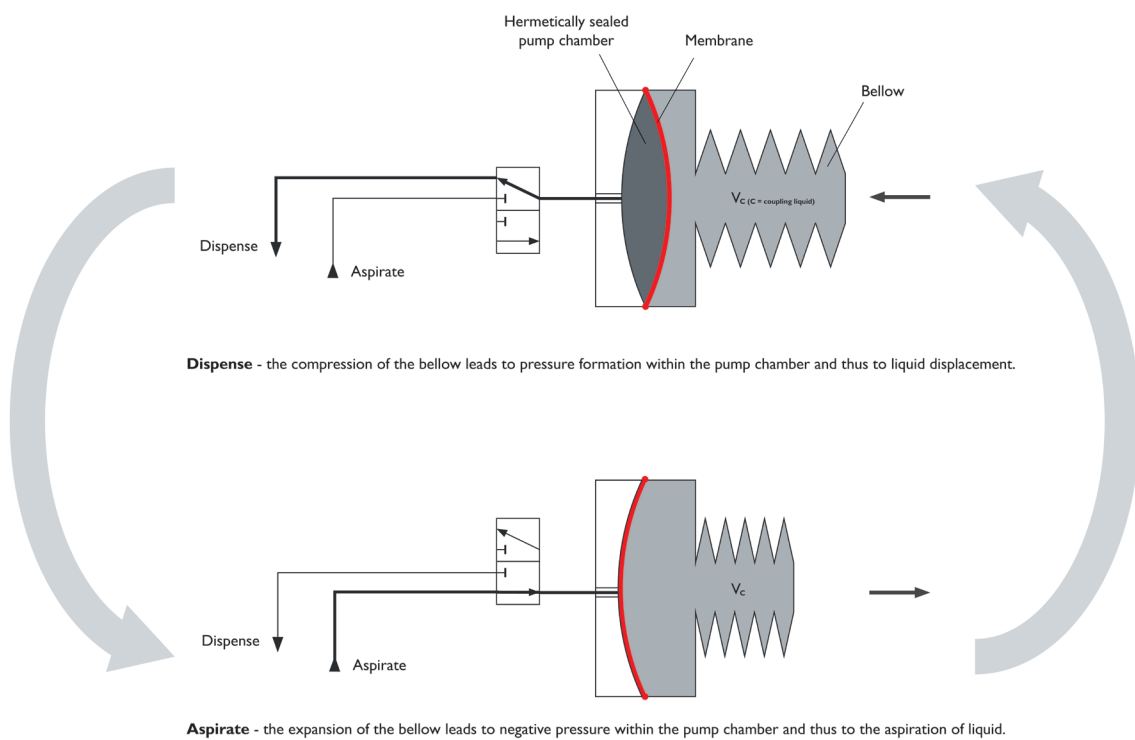
LCM PUMP 5000

Virtually empty chamber after each pump cycle – minimization of dead volume

Material selection of wetted components enables handling of highly aggressive liquids



OPERATING PRINCIPLE



SPECIFICATIONS

	LCM PUMP 500	LCM PUMP 5000				
Drive	Stepper motor with lead screw					
Nominal volume	500 µl	5000 µl				
Volume range	20 – 500 µl	100 – 5000 µl				
Aspirate flow rate	Up to 700 µl/sec	Up to 700 µl/sec				
Dispense flow rate	Up to 1000 µl/sec	Up to 1500 µl/sec				
Performance	Dispense vol.	Accuracy*	Precision CV*	Dispense vol.	Accuracy*	Precision CV*
	100 – 500 µl	≤ 2.0 %	≤ 1.5 %	1000 – 5000 µl	≤ 1.5 %	≤ 1.5 %
	20 – 99 µl	≤ 3.0 %	≤ 2.0 %	500 – 999 µl	≤ 3.0 %	≤ 2.0 %
				100 – 499 µl	≤ 5.0 %	≤ 3.0 %
Chemical resistance	Depending on liquid characteristics and impact on wetted components					
Wetted components	PP: pump head; FKM: membrane, solenoid valve, solenoid valve sealing O-ring; PEEK: solenoid valve body					
Liquid connection	¼-28 UNF, flat bottom type					
Expected lifetime	Several million dispenses / fluid transfers					
Dimensions	100 58 143 mm			100 80 146 mm		
[H W D]						
Weight	Approx. 450 g			Approx. 1140 g		
Power requirements	24V _{DC} ± 1.5V _{DC} , 600 mA					
Communication	RS232, TCP/IP					

*Pump performance depends on application conditions like tubing sizes, shore hardness, hydrostatic situation, injector size and is specified under optimized conditions

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