

## SPECIFICATIONS OF THE MICRO VALVES WITH VALVE COILS

Characteristic data	Micro valve SMLD 300	Micro valve SMLD 300G
Maximum pressure <sup>1)</sup>	Valve travel 0.03 (T1): 40 bar Valve travel 0.06 (T2): 35 bar	Valve travel 0.03 (T1): 70 bar Valve travel 0.06 (T2): 65 bar Valve travel 0.10 (T3): 50 bar Valve travel 0.15 (T4): 25-35 bar
Life-time <sup>1)</sup>	up to 500 million cycles	
Viscosity range	1 - 200 mPa.s	1 - 1000 mPa.s <sup>2)</sup>
Maximum flow rate <sup>1)</sup> (water, 1 bar)	Nozzle Ø 0.10 mm: 4 ml/min Nozzle Ø 0.15 mm: 10 ml/min Nozzle Ø 0.20 mm: 18 ml/min	Nozzle Ø 0.10 mm: 4 ml/min Nozzle Ø 0.15 mm: 10 ml/min Nozzle Ø 0.20 mm: 18 ml/min Nozzle Ø 0.30 mm: 42 ml/min Nozzle Ø 0.45 mm: 90 ml/min Nozzle Ø 0.60 mm: 100 ml/min
Minimal dispensing volume <sup>1)</sup>	under 10 nl possible	
Inner volume	25 µl	65 µl
Built-in filter	Filter 17 µm or without filter	Filter 40 µm or without filter
Materials in contact with medium	Stainless steels: 1.4404, 1.4301, 1.4310, 1.4105 IL / PEEK, sapphire, ruby	
Typical response time <sup>1)</sup>	200 - 320 µs	200 - 450 µs
Maximum dispensing frequency <sup>1)</sup>	up to 4000 Hz	
Coil resistance	11 Ohm	6 Ohm
Coil inductance (valve coil mounted on micro valve)	1.23 mH	0.8 mH
Maximum permissible coil temperature	100° C	
Electric connection	Soldering pins / 300 mm wire, tin-plated or with plug, 2-pin, Molex type 70066-176	
Recommended peak current <sup>1)</sup>	0.8 – 1.2 A (default 1A) during 150 – 400 µs	0.8 – 1.2 A (default 1A) during 150 – 1000 µs
Recommended holding current <sup>1)</sup>	80 - 220 mA (0.9 – 2.4 V DC) (default 200 mA) no time limit	160 - 330 mA (1.0 – 2.0 V DC) (default 200 mA) no time limit
Micro valve weight with valve coil	1.9 g	3.1 g
Repeat accuracy	< 5% CV <sup>1)</sup>	
Minimum pattern width	4 mm	6 mm
Dispensable media	Gases, aqueous media, reagents, cells, detergents, solvents (e.g. alcohols, DMSO, MEK), softening agents, inks, varnish, oils, liquid adhesives, greases, pastes, etc. <sup>1)</sup>	

<sup>1)</sup> Depending on: Configuration, surroundings and application

<sup>2)</sup> Heated, depending on the medium, up to 15000 mPa.s