

BARTELS

MP6-liq

Piezo Pump for Liquids and Gases

DESCRIPTION

The Bartels MP6-Liq micropump is a miniature double diaphragm pump which functions by using two piezo actuators in conjunction with passive check valves to push fluid in a set direction. This pump is designed for applications moving small volumes of liquid, and ideal for applications which require multiple pumps running in parallel. As a result of the principle of operations and materials of construction, this pump has high temperature and particle tolerance for its size.

Innovative design combined with automated assembly makes this high quality micropump cost effective and configurable for customer applications. Configurations of the MP6-Liq can be provided with a choice of inert and biocompatible wetted materials, appropriate electronic drivers, and can have flow curves catered toward the application. The flow curve can be customized by modifying the stroke of the pump, and through the use of control signal. Resources and engineering time are available upon request to configure and integrate the pump drivers with each OEMs unique electronics.

MP6-Liq micropump is well suited for a variety of applications in the medical, analytical, and process fields.

FEATURES

- **Compact:** just over ½” wide and ~1” long
- **0-70°C operating temperature range**
- **Inert and biocompatible wetted materials**
- **Self-priming**
- **Cost-effective in high quantities**
- **Low power consumption**

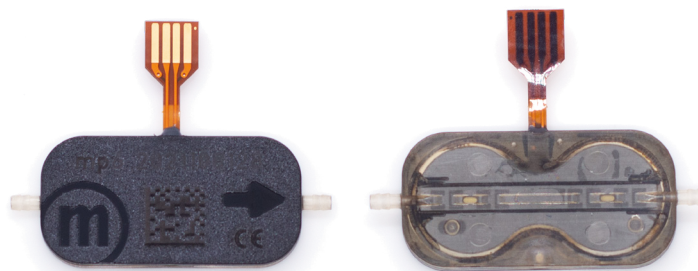
Typical Flow and Pressure Values

Typical values of flow and back pressure for selected media (values measured with mp-x: 100 Hz, 250 V, SRS):	
Liquids - water	
Controllable flow range ¹ Q	8 µl/min – 10000 µl/min
typ. flow rate Q (p=0)	8 ml/min ²
typ. back pressure p (Q=0)	500 mbar (7.25 psi) ²
Gases - air	
typ. volume flow Q (p=0)	25 ml/min ³
typ. back pressure p (Q=0)	80 mbar (1.16 psi) ³

1 Controllable with frequency, voltage, signal form and more. Please contact us for more information.

2 Conditions: DI Water 25°C, room temperature 23°C, settings mp-labtronix: 100Hz, 250V, SRS

3 Conditions: air, room temperature 23°C, settings mp-labtronix: 300Hz, 250V, SRS



Front View

Back View

SPECIFICATIONS¹

GENERAL

Pump Type	piezoelectric diaphragm pump
# of Actuators	2
Dimensions (w/o actuators)	30 x 15 x 3.8 mm
Weight	2 g
Fluidic connectors	barbed tube clip (outer dia. 1.9mm, length 3.5mm) ²
Electric connector	flex connector 1.25 mm pitch
Power consumption	~ 50 mW ³
Self-priming	yes ⁴
Pumping media	Liquids and gases
Operating Temperature	0-70°C
Life time	5000 h ³
IP Code	IP33 ⁵
Wetted Material	PPSU ⁶
Suitable pump drivers	mp-Labtronix, mp-Multiboard, mp-Highdriver, mp-Lowdriver

1 Typical values. Values can vary under application conditions. Content is subject to changes without notice.

2 Recommended tubing: Tygon tubing 1.3 mm inner diameter

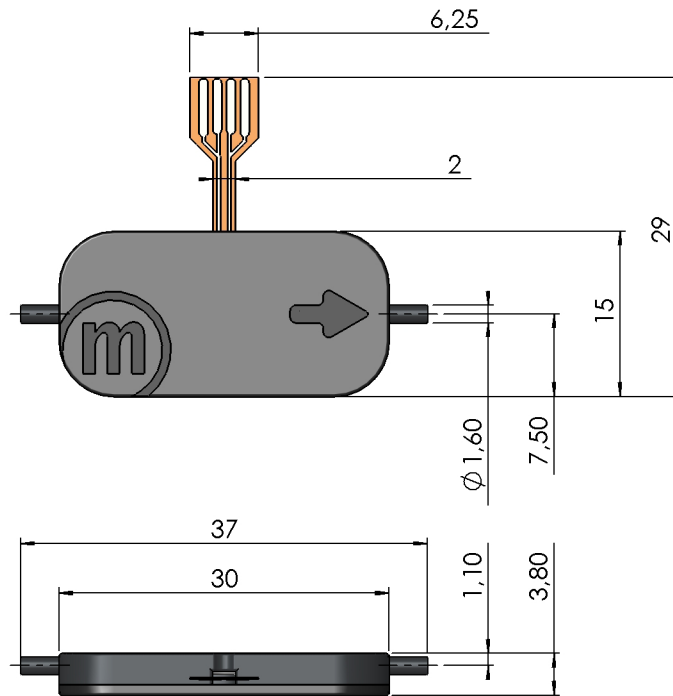
3 Conditions: settings mplabtronix: 100 Hz, 250V, SRS

4 Conditions: Suction pressure >10 mbar, DI water, settings mp-labtronix: 100 Hz, 250 V, SRS, the volume flow will be reached after a few minutes of operation time.

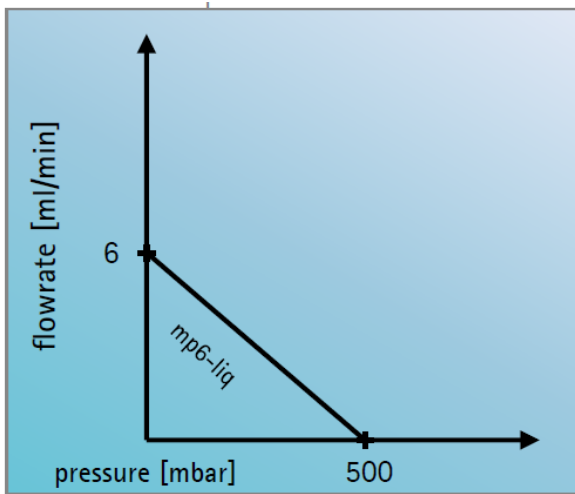
5 Can be changed to IP44

6 For media compatibility details, please contact us for more information.

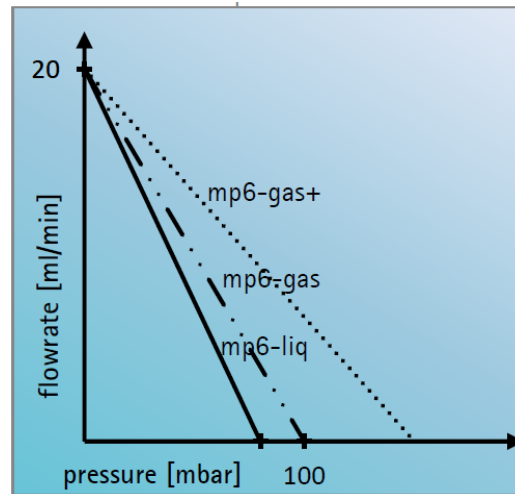
Dimensions (MM)



FLOW CURVE - Selected Media: Liquids - Water



FLOW CURVE - Selected Media: Gases - Air



ORDERING INFORMATION

Order Code
MP6-LIQ

Special materials and connections are available in OEM quantities. Please consult us.