

Low pressure series

Micro annular gear pumps m zr[®]-4622

Pump for dosage in analytical instrumentation



- **compact measurements**
diameter 16 mm, length 87 mm
- **small dosage volumes – high flow rates**
smallest volume 2 µl – flow up to 72 ml/min
- **high dosage precision**
precision CV 1 %
- **high service life**
wear resistant tungsten carbide
- **pulseless delivery – low shear stress**
rotary micro annular gear technology

The compact micro annular gear pumps m zr-4622 out of the low pressure series is an attractive and innovative pump option in analytical instrumentation. The m zr-pump generates a pulseless,

highly precise but also dynamic flow with low shear stress. It is capable of dispensing smallest volumes in the micro liter range at high precision. With its compact design smallest measurements can

be achieved. The pumps are suitable for dosage of low viscous fluids such as deionized water, watery solutions, methanol, solvents, oil and lubricants.

Applications

- Analysis technology
- Fuel cells
- Biotechnology
- Laboratory automation
- Micro reaction technology

Technical data

Flow rate	0,012 *– 72 ml/min
Smallest dosage volume	2 µl
Displacement volume	12 µl
Differential pressure range	0 – 5 bar (73 psi)
Max. inlet pressure	1 bar (15 psi)
Pulsation	6 %
Operating temperature range	-20 ... +60°C
Viscosity range	0.5 ... 100 mPas (max. 1000 mPas *)
Precision	1 % Coefficient of Variation CV
Speed range	1 *– 6000 rpm
Fluid connections	slip fittings with outside diameter 2 mm optional: manifold assembly
Wetted parts	nickel-silver/ stainless steel 316L, ceramics, tungsten carbide Ni-based, epoxy resin shaft seal: graphite reinforced Teflon [®] , 316L static seals: FPM Viton [®] , optional: EPDM, FFKM
Motor	DC-motor with graphite brushes, assigned power rating 4,5 W, nominal voltage 18 V, digital magnet encoder 32 counts per turn
Electrical connection	10-pole connector
Measurements	diameter 16 mm, length 85 mm
Weight	approx. 100 g

Customized solutions on request. * with accessories

Contact

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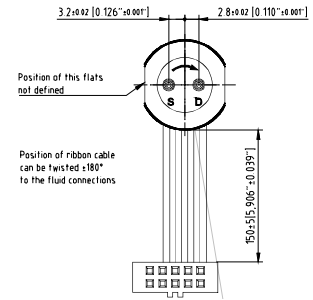
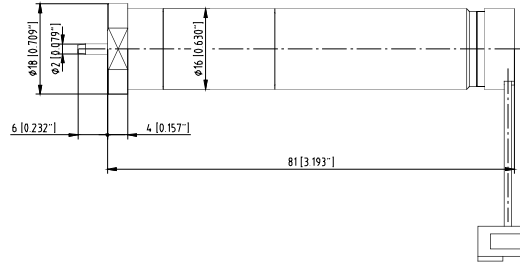
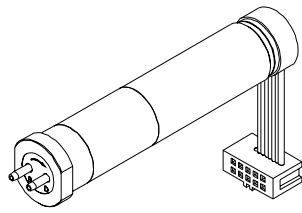
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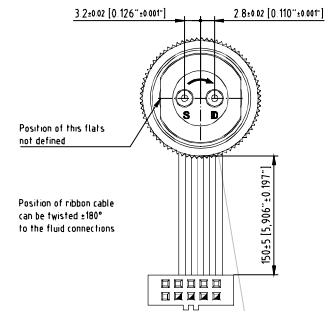
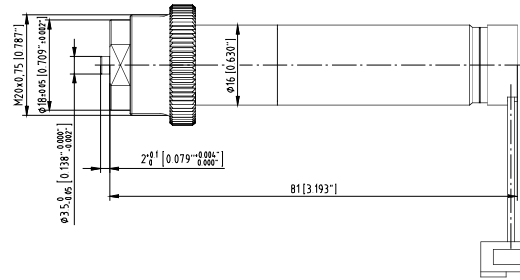
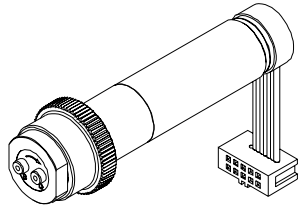
e-mail: mailto@sanwatsusho.com

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Measurements



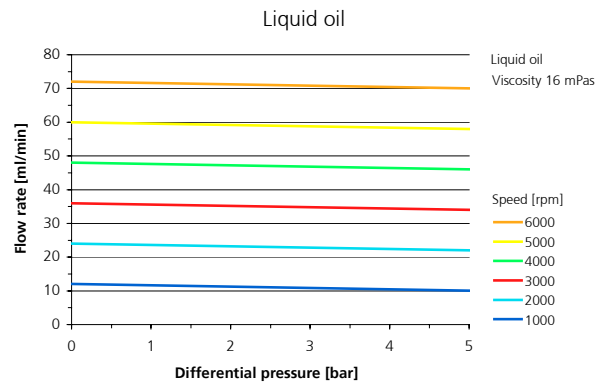
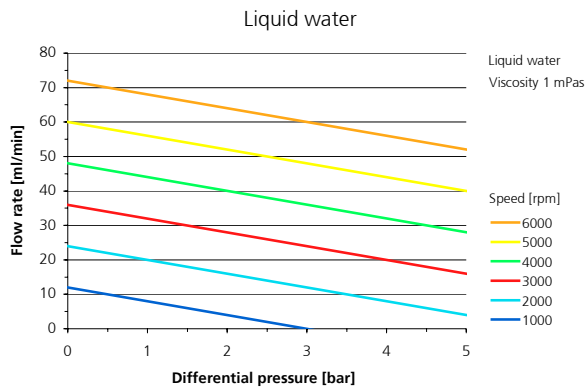
Configuration slip fittings OD 2 mm



Configuration manifold assembly

Subject to technical changes.

Flow charts



Item number

11 04 01 01	low pressure series pump mzr-4622, with DC-motor, encoder 32 counts per turn, fluid connections slip fittings OD 2 mm
11 04 02 01	low pressure series pump mzr-4622, with DC-motor, encoder 32 counts per turn, fluid connections manifold assembly

Accessories

<i>Fluid accessories</i>	tubes, filters etc.
<i>Control</i>	S-KD-22: control for continuous dosage S-ND: programmable microcontroller based control for continuous and discrete dosage
<i>Console drive module</i>	diecast aluminum chassis mzr-S06 for laboratory and testing
<i>Multiplexer module</i>	operation of up to 255 pumps with a single RS-232 interface

Micro annular gear pumps (and housings) are protected by assigned patents: EP 852 674 B1, US 6,179,596, US 6,520,757 B1, DE 198 43 161. In the US, Europe and Japan are additional patents pending. mzr® is a registered German trademark of HNP Mikrosysteme GmbH. Teflon® is a registered trademark of DuPont. Viton® is a registered trademark of DuPont Dow Elastomers.