

Low pressure series

## Micro annular gear pumps mZR®-7223

Pump for dosage in analytical instrumentation



- **compact measurements**  
diameter 25 mm, length 130 mm
- **small dosage volumes – high flow rates**  
smallest volume 5 µl – flow up to 288 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 mZR-7223 out of the low pressure series is an attractive and innovative pump option in analytical instrumentation. The mZR-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	0,048 – 288 ml/min
Smallest dosage volume	5 µl
Displacement volume	48 µl
Differential pressure range	0 – 8 bar (116 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	1/4"–28 UNF optional: slip fittings with outside diameter 5 mm
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, FFPM
Motor	DC-motor with graphite brushes, assigned power rating 20 W, nominal voltage 24 V, digital optical encoder 100 counts per turn
Electrical connection	10-pole connector
Measurements	diameter 25 mm, length 130 mm
Weight	approx. 370 g

Customized solutions on request. \* with accessories

### Contact

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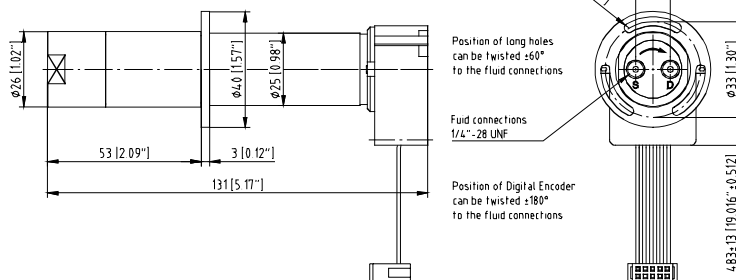
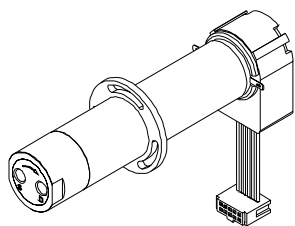
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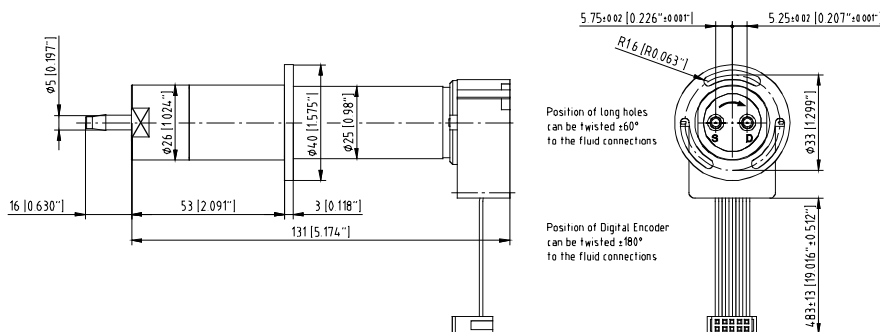
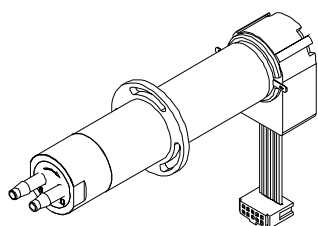
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## Measurements



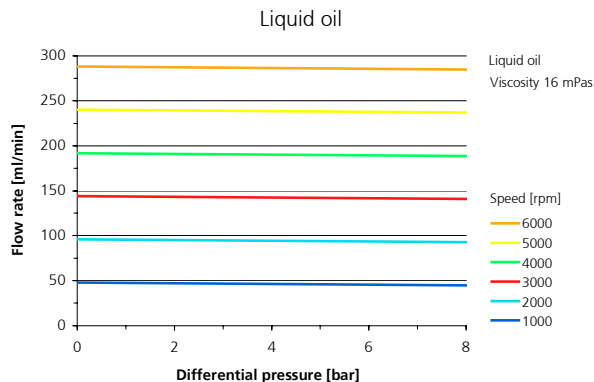
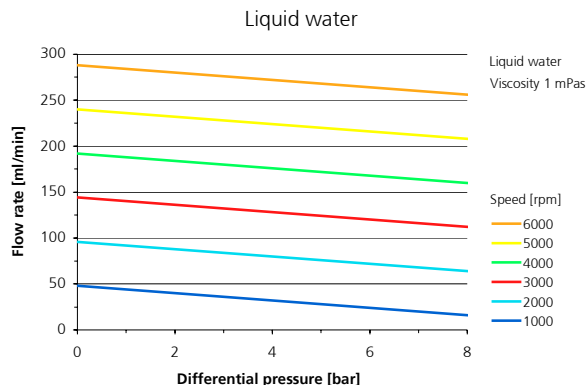
Configuration fittings 1/4"–28 UNF



Configuration slip fittings OD 5 mm

Subject to technical changes.

## Flow charts



## Item number

11 06 01 01

low pressure series pump m zr-7223, with DC-motor, encoder 100 counts per turn, fluid connections 1/4"–28 UNF

11 06 03 01

low pressure series pump m zr-7223, with DC-motor, encoder 100 counts per turn, fluid connections slip fittings OD 5 mm

## Accessories

*Fluid accessories*

tubes, filters etc.

*Control*

S-KD-23: control for continuous dosage

*Console drive module*

diecast aluminum chassis m zr-S06 E for laboratory and testing

*Multiplexer module*

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. m zr® 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.