

## Product information

### mzr-2965 · Magnetic hermetic pump series



#### Description

The micro annular gear pump mzr-2965 is suitable for handling crystallizing, oxygen or moisture sensitive liquids, because the pump has no shaft seal. This functionality is made possible thanks to a liquid-separating cup surrounding the magnetic drive. The compact dimension of this magnetic hermetic pump is achieved by a completely new product design and optimal matching with an integrated motion controller. This controller allows speed and position control for highly accurate dosage. With a diameter of 22 mm and 69 mm in length, the pump weighs 120 g. The pump handles flow rates from 0.03 to 18 ml/min with a high precision and low pulsation. The pump is suitable for applications where an avoidance of leakage and a long service life as well as low energy consumption are important requirements. The pump is supplied with a terminal box for speed control and LED status indicator.

#### Advantages

- Hermetic pump design pump without shaft seal
- Compact dimensions diameter 22 mm, length 69 mm
- Magnetic drive inner magnet system driven by rotating magnetic field
- Long service life wear-resistant, ultra-hard materials
- Integrated motion controller programmable motion controller for speed and position control with RS-232 interface

#### Applications

- Fuel cells
- Marine technology
- Dosing of AdBlue
- Metering of liquefied gases
- Mobile analytics
- Aerospace industry
- Biotechnology

## Technical data

Flow rate	0.03 - 18 ml/min
Smallest dosage volume	10 µl
Displacement volume	3 µl
Maximum system pressure	6 bar (87 psi) (60 bar (870 psi)*) (inlet pressure + differential pressure)
Differential pressure range	0 - 3 bar (44 psi)
Ambient temperature range	-20 ... +65 (-4 ... +149 °F) °C
Liquid temperature range	-15 ... +60 °C (+5 ... +140 °F)
Viscosity range	0.3 - 500 mPas
Velocity range	10 - 6,000 rpm
Fluid connection	slip fittings with outside diameter 2 mm optional: manifold assembly M2.1
Wetted parts	stainless steel 316L, 318LN, tungsten carbide Ni-based, ceramics, epoxy resin, optional: alloy C22 (2.4602), tungsten carbide Ni-based, ceramics, epoxy resin; seals: FPM, optional: EPDM, FFPM
Motor	canned BLDC-motor, 24 V DC, 6.4 W
Controller	integrated motion controller
Interface	1x analog input 0 – 10 V, 1x digital input 24 V, 1x digitally programmable output, RS-232, CANopen*
Electrical connection	8-pole connector, Wago, cable length 1 m
Dimensions (L x W x H)	Ø 22 mm, length 69 mm
Weight	approx. 120 g (manifold assembly approx. 145 g)
Remarks	* Customized solution on request.

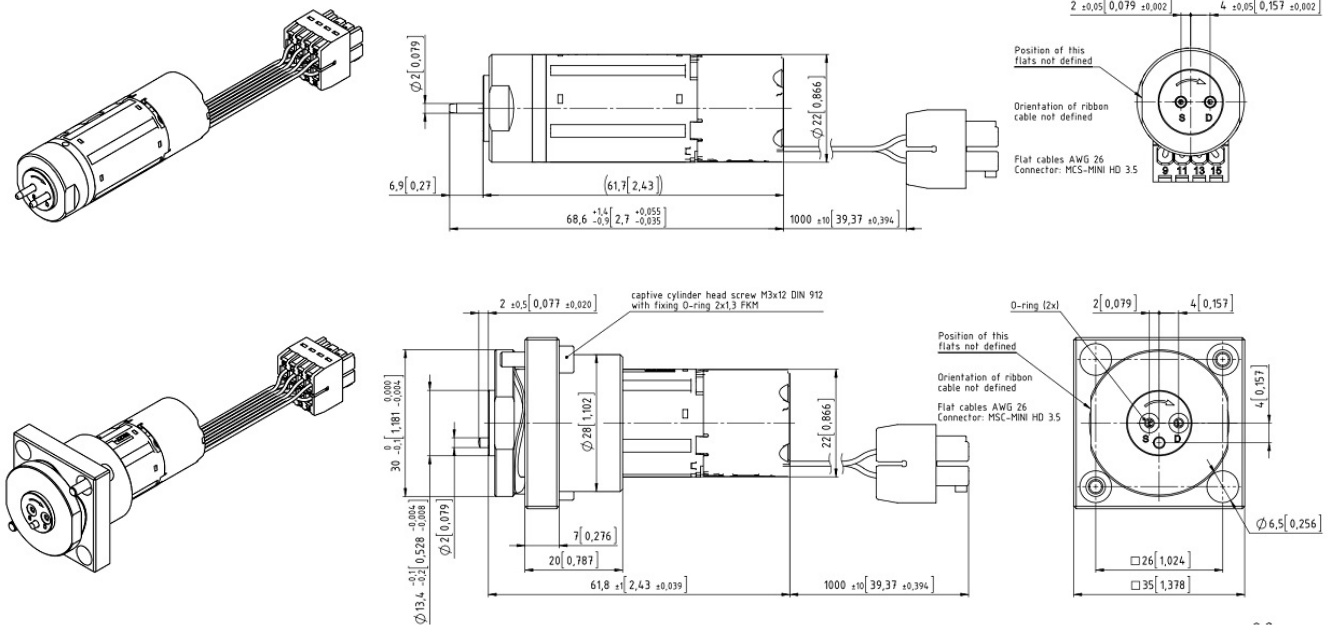
### Notice

Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme. Actual performance may vary. Specifications are subject to change without notice. This document is subject to change without notice.

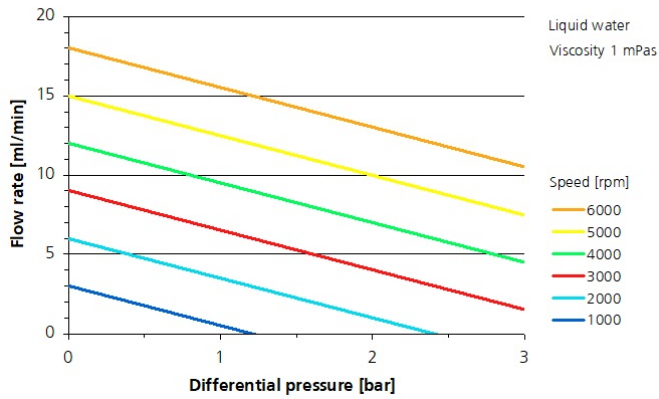
## Accessories

- Terminal box S-G05
- m zr-Touch Control

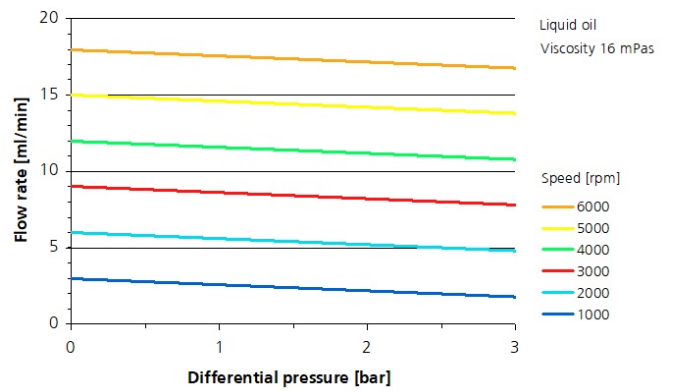
## Dimensions



Liquid water



Liquid oil



## Patents and trademarks

Micro annular gear pumps (and housings) are protected by assigned patents: EP 1 354 135 B1; US 7,698,818 B2; DE 10 2011 001 041 B4; CN 103 348 141 B; US 10,012,220 B2; CN 103 732 921 B; US 9,404,492 B2; US 6,520,757 B1.

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