

## Magnetic Hermetic Series

### Micro annular gear pump mZR®-4661

Compact hermetic pump for continuous dosage



- **Hermetic pump design**  
pump without shaft seal
- **Magnetic drive**  
inner magnet system driven by rotating magnetic field
- **Integrated controller**  
supply voltage 24 V DC,  
speed control by analog input 0 – 10 V
- **Compact dimensions**  
diameter 22 mm, length 69 mm
- **Long service life**  
wear-resistant, ultra-hard materials

The micro annular gear pump mZR-4661 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 speed controller. With a diameter of 22 mm and 69 mm in length, the pump weighs 115 g. The pump handles flow rates from 4.8 to 72 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.

#### Applications

- Fuel cells
- Dosing of AdBlue
- Mobile analytics
- Biotechnology
- Marine technology
- Fuel analysis
- Isocyanat
- Separating agents
- Solvents
- Metering of liquefied gases
- Aerospace industry
- Decentralized heating and cooling systems
- Dispensing of additives
- Dispensing of adhesives
- Dosing of oil

#### Technical data

Flow rate	4.8 – 72 ml/min
Displacement volume	12 µl
Max. system pressure	6 bar (87psi) (inlet pressure + differential pressure)
Differential pressure range	0 – 5 bar (73 psi)
Operating temperature range	-15 ... +60 °C
Viscosity range	0.3 – 100 mPas
Velocity range	400 – 6000 rpm
Fluid connection	slip fittings with outside diameter 2 mm optional: manifold assembly M2.1
Wetted parts	stainless steel 316L, ceramics, tungsten carbide Ni-based, epoxy resin, gold; static seals: FPM, optional: EPDM, FFPM
Motor	canned BLDC-motor, 24 V DC, 8.9 W
Controller	integrated speed controller
Interface	0 – 10 V
Electrical connection	6-pole connector, Micro-Fit
Dimensions	diameter 22 mm, length 69 mm
Weight	approx. 115 g (manifold assembly approx. 145 g)

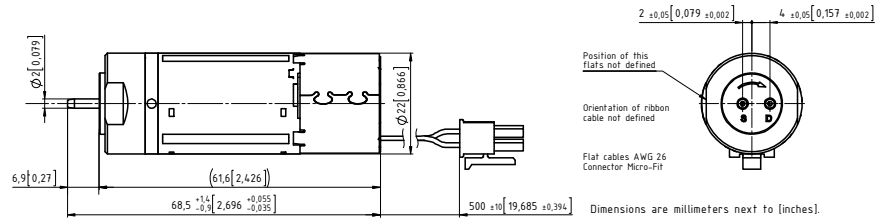
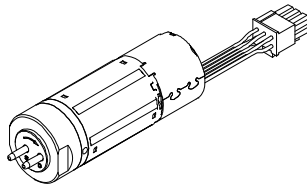
#### Contact

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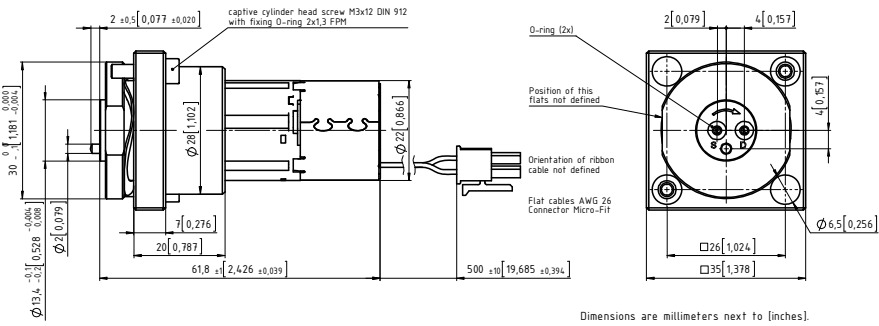
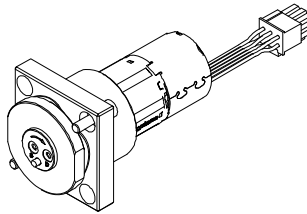
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## Dimensions



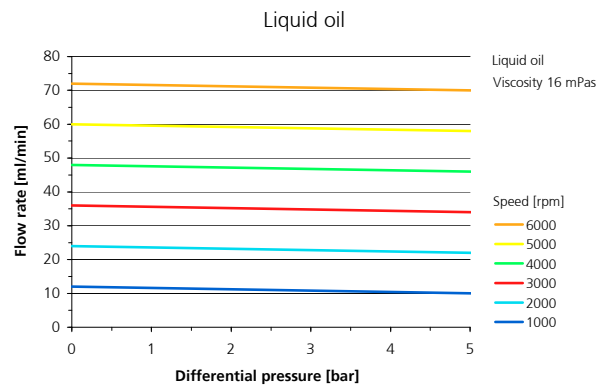
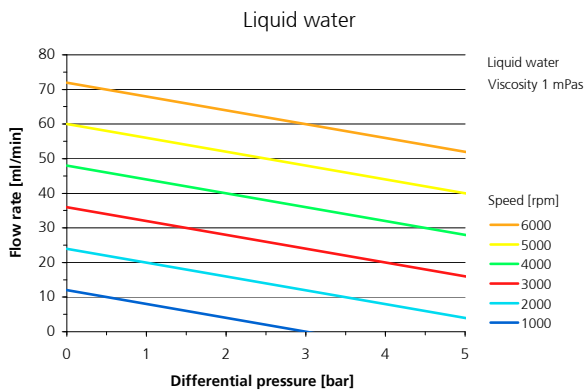
Configuration with slip fittings OD 2 mm



Configuration with manifold assembly M2.1

Subject to technical changes.

## Flow charts



## Control S-G61



- compact plastic case
- comes with the micro annular gear pump mzr-4661
- connector for supply voltage 24 V (12 – 28 V DC)
- integrated protective circuit
- potentiometer for speed setting
- analog input 0 – 10 V for speed setting
- direction input
- 1 speed-proportional frequency output with 2-color LED

## Item number

14 01 20 01

magnetic hermetic series pump mzr-4661 with canned BLDC-motor, fluid connection slip fittings OD 2 mm, terminal box S-G61

14 01 20 02

magnetic hermetic series pump mzr-4661 M2.1 with canned BLDC-motor, fluid connection manifold assembly M2.1, terminal box S-G61

## Accessories

Liquid supply accessories

tubes, filters etc.

Even if single parameters are within their indicated performance range, 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.

Micro annular gear pumps (and housings) are protected by assigned patents: DE 198 43 161 C2, EP 1115979 B1, US 6,520,757 B1, EP 852674 B1, US 6,179,596 B1, EP 1354135, US 7,698,818 B2. Patents pending: EP 1807546, DE 10 2009 020 942.5-24, DE 10 2011 001 041.6. In the US, Europe and China additional patents are pending. mZr®, MoDoS®, µ-Clamp® are registered German trademarks of HNP Mikrosysteme GmbH. Kalrez® Spectrum™ is a registered trademark of DuPont.



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