

Magnetic hermetic series

Overview



The micro annular gear pumps (mzr®-pumps) of the magnetic hermetic series are characterized by their unique compact design combined with a wide range of powerful specifications at the same time. The mzr-pumps are used in applications where low weight, small dimensions and a long service life are required. The price-performance ratio of this pump is very good due to the new pump construction and the economical manufacturing of the canned motor.

The mzr-pumps are suitable for OEM applications with high numbers as well. The long service life of the mzr-pump is ensured by the maintenance-free and leak-free magnetic coupling with a separating cup and the magnetic drive.

Liquids

- **Non-lubricating liquids**
DI-water, ultrapure water, aqueous solutions
- **Low viscous alcohols**
Methanol, ethanol, isopropanol, toluene
- **Crystallizing liquids**
Urea solution, buffer solutions, Ad Blue
- **Fuels**
Gasoline, diesel, kerosene, additives
- **Low viscous oils**
Mineral oil, silicone oil, white oil
- **Highly volatile liquids**
Refrigerants, anesthetic liquids
- **Liquefied gases**
Carbon-dioxide, ammoniac, pentane

The hermetic construction also allows the delivery of crystallizing, highly volatile and hazardous liquids. High system pressures can be realized by constructive adaption of the wall thickness of the separating cup. This also makes the delivery of liquefied gases possible. The outer design of the mzr-pump can be chosen between slip fittings or manifold assembly, for easy installation in manifolds with additional sensors. Precision pump parts and an integrated motor controller for variable motor speeds make a low-pulsating delivery of liquids possible. For discrete dosing applications a motor with position control can be alternatively selected. Due to the good efficiency, the power consumption of the pump is very low.

Applications

- **Energy**
Fuel cell, auxiliary power unit (APU)
- **Automotive engineering**
Particle measurement, selective catalytic reaction (SCR)
- **Engineering and construction**
Minimum quantity cooling / lubrication
- **Analytics**
Water and seawater analytics or treatment
- **Semiconductor industry**
Surface coating
- **Aerospace**
Air humidification
- **Vacuum- and refrigeration engineering**
Cooling units, cooling circuits

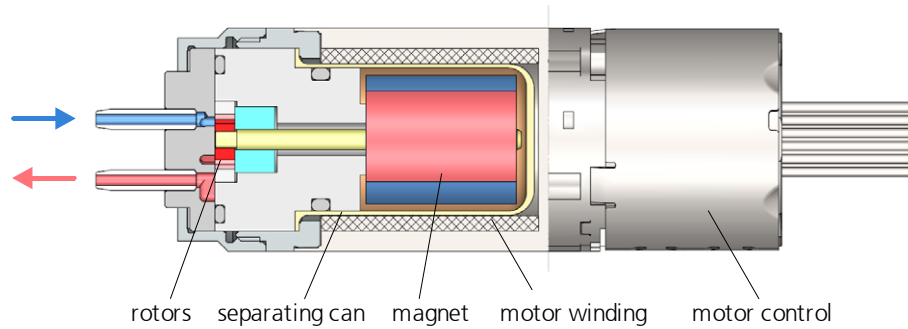
Contact

HNP Mikrosysteme GmbH
Bleicherufer 25 · D-19053 Schwerin

phone +49 385 52190-301
fax +49 385 52190-333

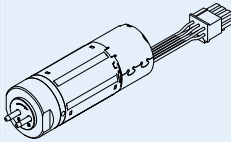
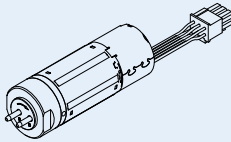
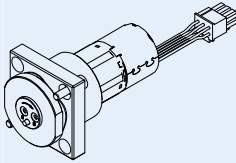
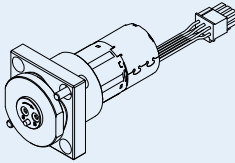
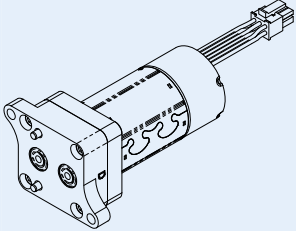
e-mail info@hnp-mikrosysteme.de
<http://www.hnp-mikrosysteme.de>

Functional design canned motor pump



Schematic drawing

Technical Data

	mzr-2961	mzr-4661	mzr-7261
Configuration slip fittings Ø 2 mm			—
Dimensions	Ø 22 mm, length 69 mm	Ø 22 mm, length 69 mm	
Configuration manifold assembly M2.1, M4			
Dimensions	L x W x H: 35 x 35 x 62 mm	L x W x H: 35 x 35 x 62 mm	L x W x H: 36 x 52 x 80 mm
Displacement volume	3 µl	12 µl	48 µl
Flow rate	1,2 – 18 ml/min	4,8 – 72 ml/min	24 – 288 ml/min
Speed range	400 – 6000 rpm	400 – 6000 rpm	500 – 6000 rpm
Max. system pressure (inlet pressure + differential pressure)	0 – 6 bar (87 psi)	0 – 6 bar (87 psi)	15 bar (218 psi)
Differential pressure range (preliminary data)	0 – 3 bar (44 psi)	0 – 3 bar (73 psi)	0 – 5 bar (73 psi)
Weight	approx. 115 / 145 g	approx. 115 / 145 g	approx. 390 g
Viscosity range (preliminary data)	0,3 – 10 mPas		
Operating temperature range	-15 ... +60 °C		
Wetted parts	stainless steel 316L (1.4404), 318LN (1.4462), ceramics, tungsten carbide Ni-based, epoxy resin; static seals: FPM, optional: EPDM, FPM		
Motor: canned BLDC-motor	24 V DC; 8.9 W	24 V DC; 8.9 W	24 V DC; 21 W
Control	integrated speed control with interface 0 – 10 V		
Electrical connection	6-pole connector, Micro-Fit		
Protection degree	IP20 (optional: IP65; pump enclosed)		

Subject to technical changes

Remarks: Maximum and minimum technical data can not be achieved in any combination simultaneously. Under favorable conditions single technical data may exceed or remain under the characteristic value.