Product information

mzr-4665 · Magnetic hermetic pump series

Description

The micro annular gear pump mzr-4665 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 allow 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 0.12 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.

Advantages

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

Applications

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

Technical data

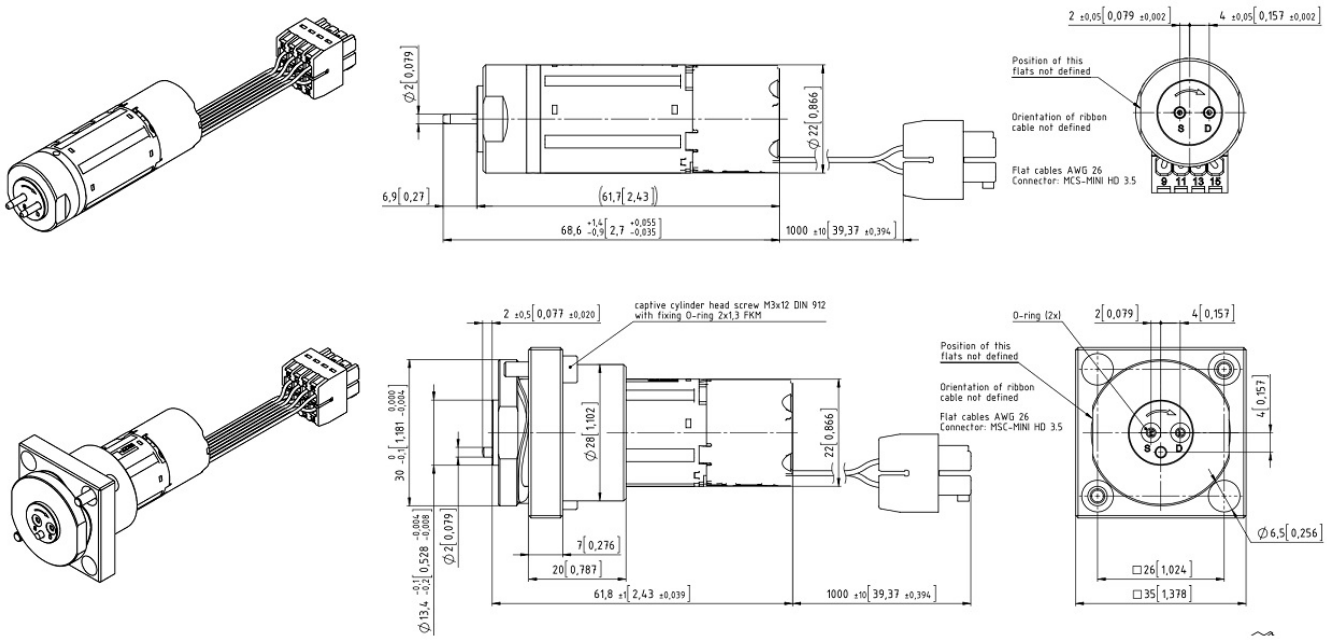
Flow rate	0.12 - 72 ml/min
Smallest dosage volume	20 µl
Displacement volume	12 µl
Maximum system pressure	6 bar (87 psi) (60 bar (870 psi) *) (inlet pressure + differential pressure)
Differential pressure range	0 - 5 bar (73 psi)
Ambient temperature range	-20 ... +65 (-4 ... +149 °F) °C
Liquid temperature 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, tungsten carbide Ni-based, ceramics, epoxy resin; titanium, tungsten carbide Ni-based, ceramics, epoxy resin; stainless steel 316L, 318LN, ceramics, epoxy resin; alloy C22, ceramics, epoxy resin; titanium, 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.

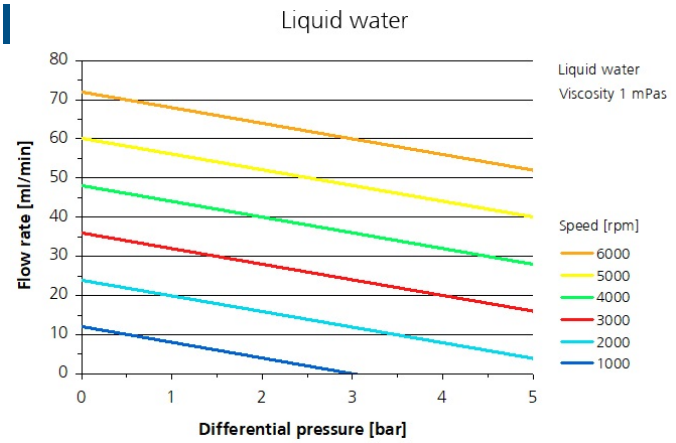
Notice
Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme. Actual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

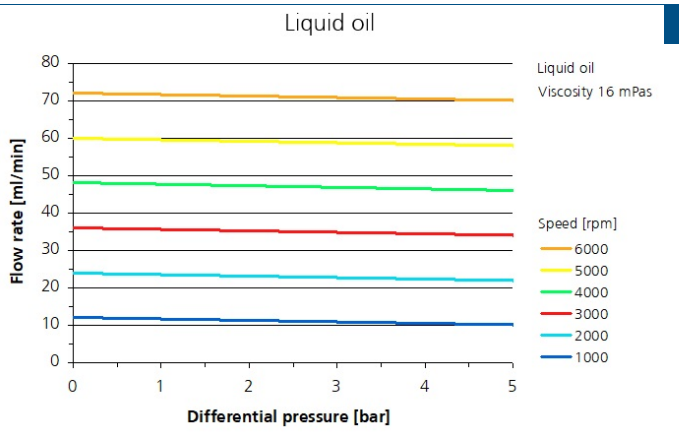
Accessories

- Terminal box S-G05
- mzr-Touch Control

Dimensions


Position of this flats not defined
Orientation of ribbon cable not defined
Flat cables AWG 26
Connector: MCS-MINI HD 3.5
captive cylinder head screw M3x12 DIN 912 with fixing O-ring 2x1,3 FKM
O-ring (2x)
Position of this flats not defined
Orientation of ribbon cable not defined
Flat cables AWG 26
Connector: MSC-MINI HD 3.5


Liquid water
Flow rate [ml/min]
Differential pressure [bar]
Liquid water
Viscosity 1 mPas
Speed [rpm]
6000
5000
4000
3000
2000
1000


Liquid oil
Flow rate [ml/min]
Differential pressure [bar]
Liquid oil
Viscosity 16 mPas
Speed [rpm]
6000
5000
4000
3000
2000
1000

Patents and trademarks

Our products are protected by the following national and international patents: DE 10 2018 129 631.2 B3; EP 3 884 162; CN 113 302 399 B; DE 10 2018 129 633.9 B3; EP 3 884 160; CN 113 272 553 B; DE 10 2018 129 634.7 B3; EP 3 884 527; DE 10 2018 129 635.5 B3; EP 3 762 165; DE 10146 793.1; EP 1 354 135 B1; US 7,698,818 B2; DE 10 2011 051 486 B4; EP 2 726 740 B1; US 9,404,492 B2; CN 103 732 921B; EP 2 640 977 B1; US 10,012,220 B2; CN 103 348 141 B; HK 1 185 648 B.
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Last update 2026/04