Product information

mzr-4622 · Low pressure pump series

Description

The compact micro annular gear pump mzr-4622 of the low pressure series is an innovative pump concept for use in analytical instrumentation. The pump generates a low pulsation, highly precise flow featuring low shear stress. It dispenses at a high precision the lowest volumes in microliter range. Due to its compact design small dimensions have been achieved. The pump is suitable for dosage of low viscosity liquids such as deionized water, watery solutions, methanol, solvents, oil and lubricants.

Advantages

- Compact dimensions diameter 18 mm, length 88 mm
- Small dosage volumes, high flow rates smallest volume 2 µl – flow up to 72 ml/min
- High dosage precision precision CV 1 % at low volumes
- Long service life wear-resistant tungsten carbide
- Low pulsation delivery, low shear stress rotary micro annular gear technology

Applications

- Blood sample characterization in immunohematology
- High-throughput sample preparation for PCR and molecular diagnostics
- Extraction of nucleic acids for in-vitro diagnostics
- Analytical instrumentation
- Fuel cells
- Laboratory automation
- In vitro diagnostics

Technical data

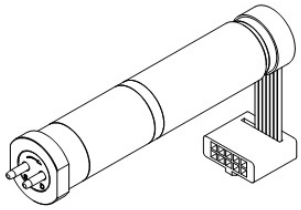
Flow rate	1.2 - 72 (min. 0.012*) ml/min
Smallest dosage volume	2 µl
Displacement volume	12 µl
Differential pressure range	0 - 5 bar (73 psi)
Maximum inlet pressure	1 bar (15 psi)
Liquid temperature range	-20 ... +60 °C (-4 ... +140 °F)
Viscosity range	0.3 – 100 (max. 1,000*) mPas
Precision CV	1 % (Coefficient of variation CV)
Velocity range	100 – 6,000 (min. 1*) rpm
Fluid connection	slip fittings with outside diameter 2 mm optional: manifold assembly
Wetted parts	stainless steel 316L, ceramics, tungsten carbide Ni based, epoxy resin, optional: alloy C22 (2.4602) instead of stainless steel, ceramics instead of tungsten carbide; shaft seal: graphite-reinforced PTFE, stainless steel 316, optional: alloy C276 (2.4819) instead of stainless steel; static seals: FPM, optional: EPDM, FFPM
Motor	DC-motor with graphite brushes, assigned power rating 4.5 W, nominal voltage 24 V, digital magnet encoder 32 counts per turn
Electrical connection	10-pole connector
Dimensions (L x W x H)	Ø 18 mm, length 88 mm
Weight	approx. 100 g
Remarks	* depending on accessories, Customized solutions on request

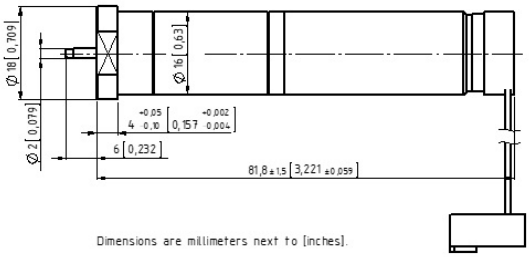
Notice
Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme. Actual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

Accessories

- Reduction gear
- mzr-Touch Control
- S-HD
- S-KG2
- S-ND
- S-BL
- S-KB-4

Dimensions

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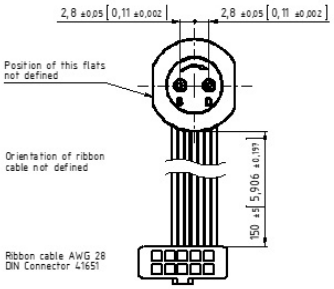
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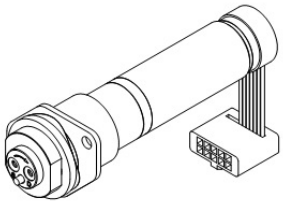
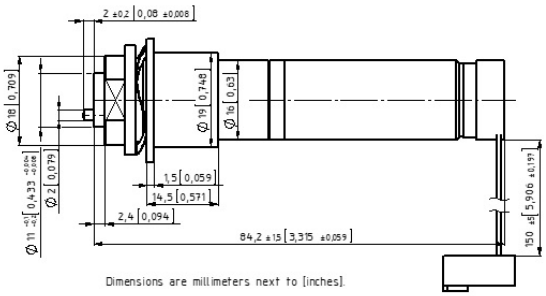
Orientation of ribbon cable not defined
Ribbon cable AWG 28
DIN Connector 41651

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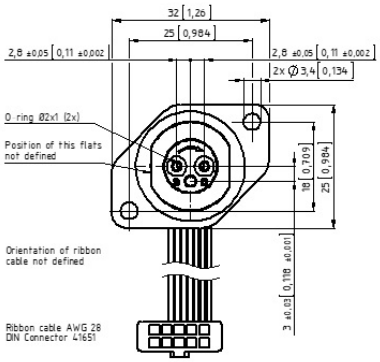
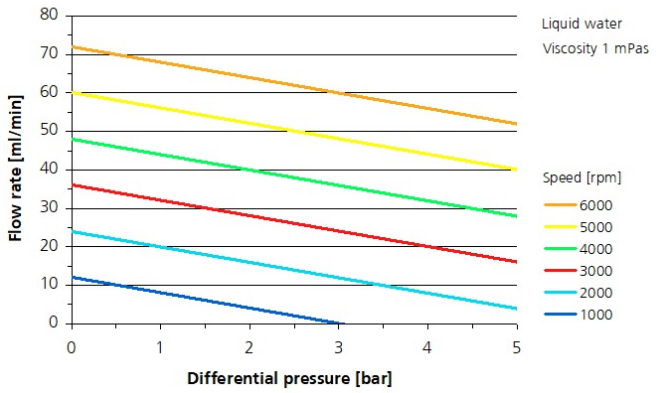
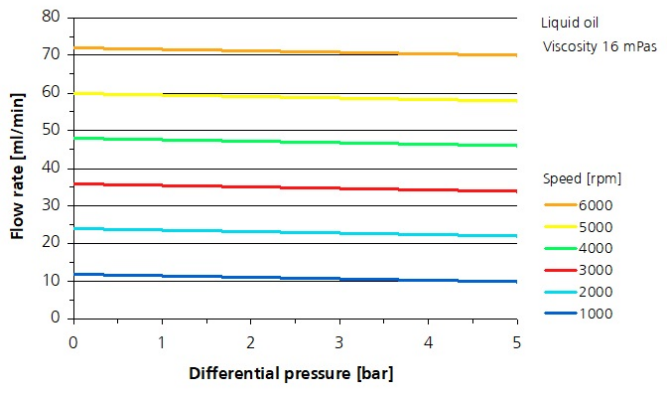

O ring Ø2x1 (2x)
Position of this flats not defined
Orientation of ribbon cable not defined
Ribbon cable AWG 28
DIN Connector 41651


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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Contact

HNP Mikrosysteme GmbH
Bleicherufer 25
19053 Schwerin
Germany

T +49 385 52190-300
F +49 385 52190-333
sales@hnp-mikrosysteme.de

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