Product information

mzr-2521 · Low pressure pump series

Description

The compact micro annular gear pump mzr-2521 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 13 mm, length 75 mm
- Small dosage volumes, high flow rates
  smallest volume 0.25 µl, flow up to 9 ml/min
- High dosage precision
  precision CV 1 % at low volumes
- Long service life
  wear-resistant tungsten carbide or ceramics
- Low pulsation delivery, low shear stress
  rotary micro annular gear technology

Applications

- Analytical instrumentation
- Fuel cells
- Laboratory automation
- In vitro diagnostics

Technical data

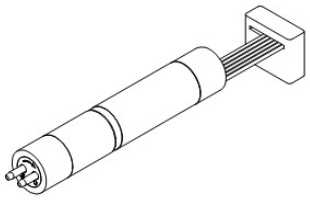
Flow rate	0.15 – 9 (min. 0.0015 *) ml/min
Smallest dosage volume	0.25 µl
Displacement volume	1.5 µl
Differential pressure range	0 - 1.5 bar (22 psi)
Maximum inlet pressure	1 bar (15 psi)
Liquid temperature range	-20 ... +60 °C (-4 ... +140 °F)
Viscosity range	0.3 – 100 (max. 1,000 *) mPas
Precision CV	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 M2.1
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 316L, optional: alloy C276 (2.4819) instead of stainless steel; static seals: FPM, optional: EPDM, FFPM
Motor	DC-motor with graphite brushes, assigned power rating 3 W, nominal voltage 18 V, digital magnet encoder 16 counts per turn
Electrical connection	10-pole connector
Dimensions (L x W x H)	Ø 13 mm, length 75 mm
Weight	approx. 50 g (manifold assembly approx. 65 g)
Remarks	* depending on accessories, Customized solutions on request

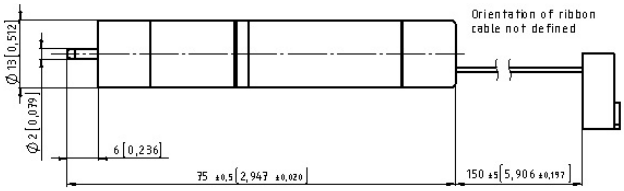
Notice
Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme. Actual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

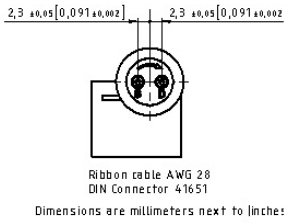
Accessories

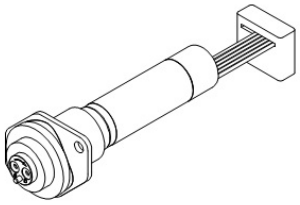
- Reduction gear
- S-KG
- S-ND
- mzr-Touch Control

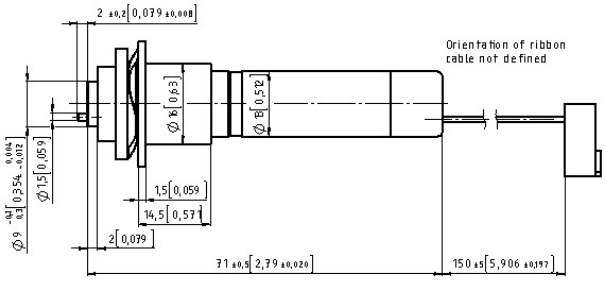
Dimensions

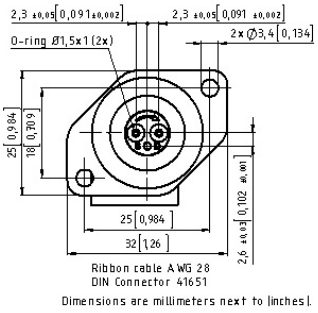




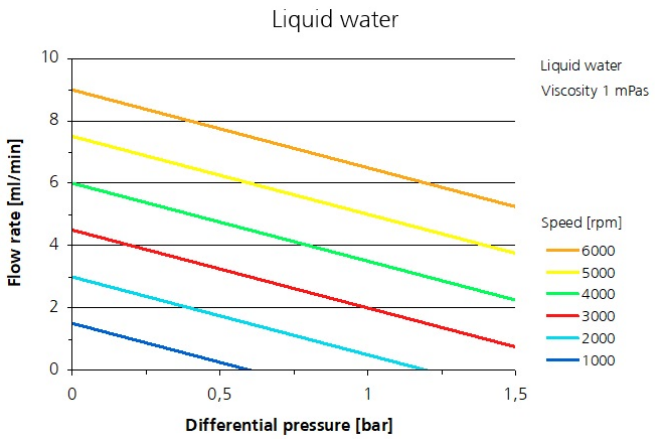


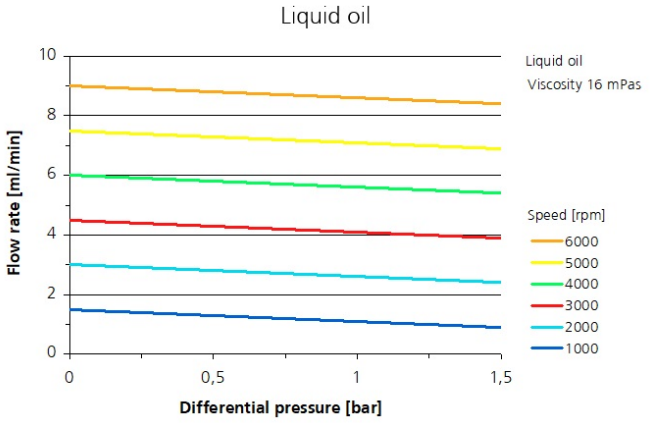






Flow charts





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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