Product information

mzr-2921X1 · Low pressure pump series

Description

The compact micro annular gear pump mzr-2921X1 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. The compact design with a brushless motor as well as an integrated motion controller for speed and position control small dimensions are the characteristics of this variant of the low pressure series. The pump is suitable for dosage of low viscosity liquids such as deionized water, watery solutions, methanol, solvents, oil and lubricants.

Advantages

- Small dosage volumes, high flow rates
  smallest volume 0.5 µl – flow up to 18 ml/min
- High dosage precision
  precision CV 1 % at low volumes
- Integrated motion controller
  Programmable motor control for speed and position control with RS-232 interface
- Long service life
  wear-resistant tungsten carbide or ceramics
- Low pulsation delivery, low shear stress
  rotary micro annular gear technology

Applications

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

Technical data

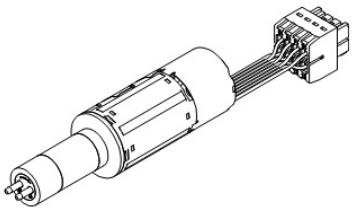
Flow rate	0.03 – 18 ml/min
Smallest dosage volume	0.5 µl
Displacement volume	3 µl
Differential pressure range	0 - 3 bar
Maximum inlet pressure	1 bar (15 psi)
Liquid temperature range	-20 ... +60 °C (-4 ...+140 °F)
Viscosity range	0.3 – 100 mPas
Precision CV	1 % (Coefficient of variation CV)
Velocity range	10 – 6.000 rpm
Fluid connection	slip fittings with outside diameter 2 mm optional: manifold assembly M2.1
Wetted parts	stainless steel 316L, ceramics, tungsten carbide Ni based, epoxy resin, optional: alloy C22 (2.4602), ceramics; shaft seal: graphite-reinforced PTFE, stainless steel 316L, optional: alloy C276 (2.4819); static seals: FPM, optional: EPDM, FFPM
Motor	brushless DC-Servomotor, 24 V; 6.4 W
Controller	integrated motion controller
Interface	0–10 V, RS-232, 1 digital input/output
Electrical connection	8-pole connector
Dimensions (L x W x H)	Ø 22 mm, length 89 mm
Weight	approx. 110 g (manifold assembly approx. 125 g)
Remarks	Customized solutions on request

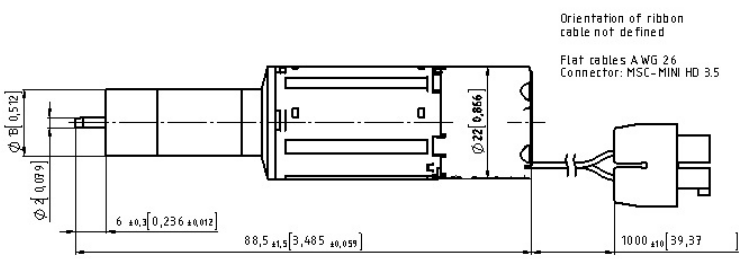
Notice
Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme. Actual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

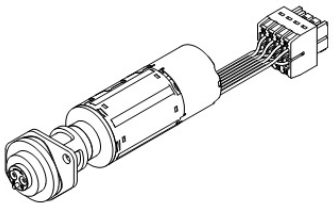
Accessories

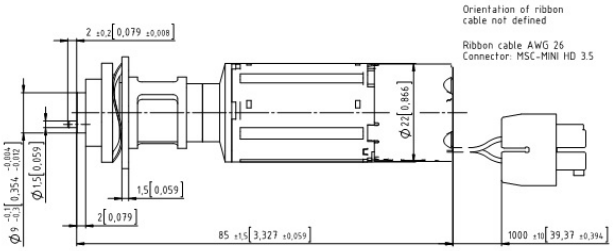
- Terminal box S-G05
- mzr-Touch Control

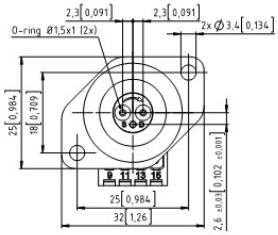
Dimensions



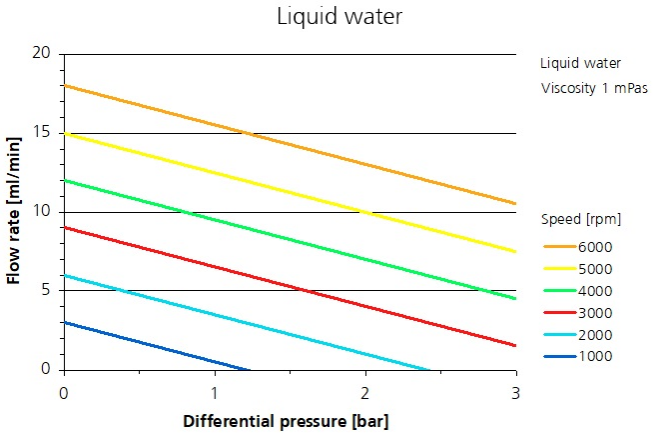


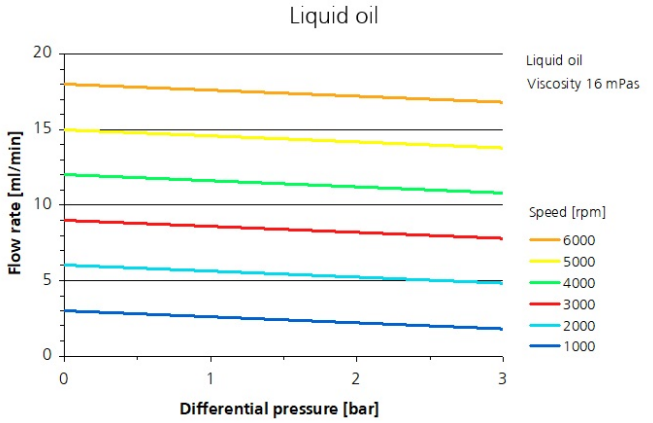






Flow charts





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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Contact

HNP Mikrosysteme GmbH
Bleicherufer 25
19053 Schwerin
Germany

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

Official UK Distributor:
Michael Smith Engineers Limited
Tel: 0800 316 7891
Web: www.michael-smith-engineers.co.uk

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