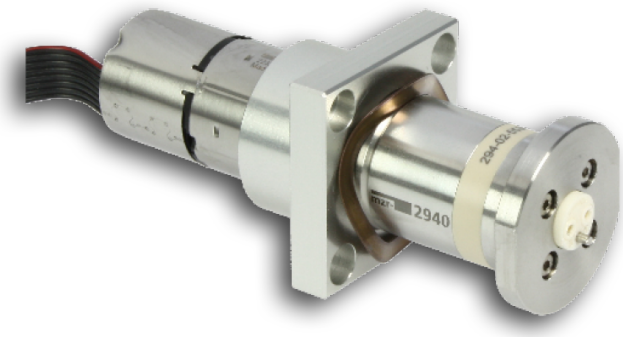
Product information

mzr-2942X1-cp · Modular pump series



Description

The micro annular gear pump mzr-2942X1-cp of the modular pump series is designed as a metal-free pump. To guarantee maximum chemical resistance, the rotors and all wetted components are made of state-of-the-art materials, such as the high-performance plastic PEEK or various ceramics. All wetted components, including the sealing components, are FDA-compliant. 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 are further characteristics of this pump variant. The pump is suitable for the life science and laboratory analysis sectors and for all other fields of application where low pressures and low viscosities are used for dosing or continuous flow of liquid media.

Advantages

- Small dosage volumes, high flow rates smallest volume 0.5 µl
- High dosage precision precision CV 1 % at low volumes
- Integrated motion controller programmable motor control for speed and position control with RS-232 interface
- Metal-free / chemical resistance high-performance plastics and ceramics
- Low pulsation delivery, low shear stress rotary micro annular gear technology

Applications

- Analytical instrumentation
- Laboratory automation
- Chemical and pharmaceutical industry
- Life-Science
- Food industry

Technical data

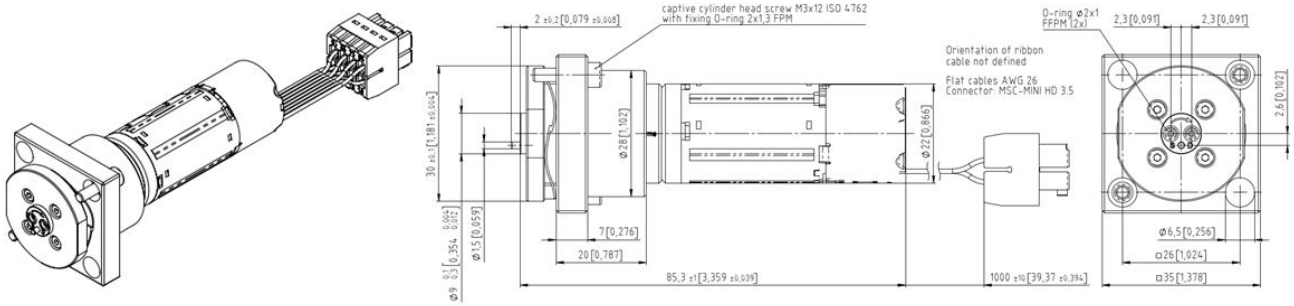
Flow rate	0.3 – 18 ml/min
Smallest dosage volume	0.5 µl
Displacement volume	3 µl
Differential pressure range	0 - 3 bar * (0 - 43.5 psi *)
Maximum inlet pressure	1 bar (15 psi)
Liquid temperature range	-20 ... +60 °C (-4 ... +140 °F)
Viscosity range	0.3 – 100 mPas **
Precision CV	1 % (Coefficient of variation CV)
Velocity range	10 – 6,000 rpm
Fluid connection	manifold assembly M2.1
Wetted parts	PEEK, ceramics shaft seal: FPM (FDA compliant) static seal: FFPM (FDA compliant)
Motor	brushless DC-Servomotor, 24 V; 6.4 W
Controller	integrated motion controller
Electrical connection	8-pole connector
Interface	RS-232, input 0-10 V, 1 digital 24 V; output 1 digital programmable
Dimensions (L x W x H)	approx. 85 x 35 x 35 mm (3.35 x 1.38 x 1.38 in)
Weight	approx. 130 g
Remarks	Customized solution on request * depending on media and viscosity ** depending on speed, media and pressure

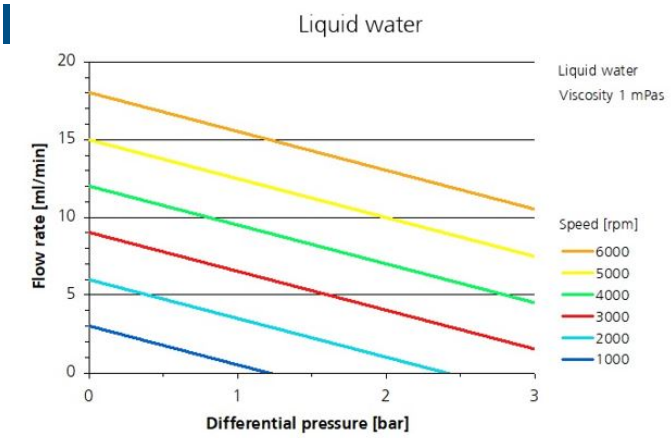
Notice
Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme. Actual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

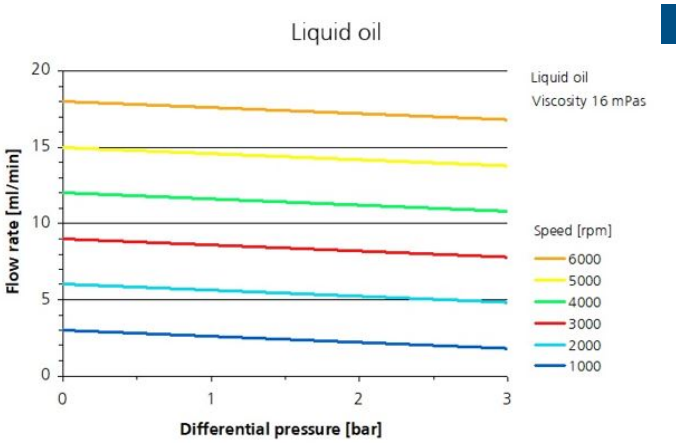
Accessories

- mzr-Touch Control
- Terminal box S-G05

Dimensions







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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