
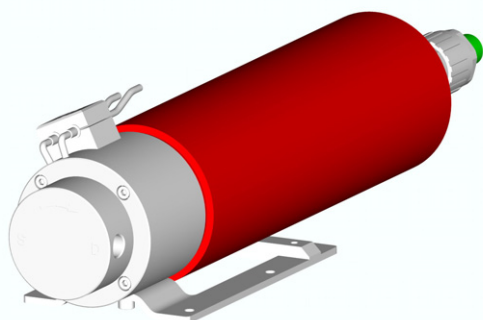


Hermetic, chemically inert pump series 

Micro annular gear pump m zr[®]-7259

Ex-pump for application in chemical and process technology




- **Ex-certification ATEX**
conform with EU directive 94/9/EEC
- **Compact, chemically inert pump head**
146 mm long, HASTELLOY[®] C-22, SiC, ZrO₂ ceramics
- **Long service life**
wear-resistant ceramic components
- **Hermetically sealed**
magnetic coupling (NdFeB)
- **High dosage precision**
precision CV < 1 % at low volumes
- **Pulseless delivery, low shear stress**
rotary micro annular gear technology, no valves

The highly precise, pulseless small volume dosage even of aggressive and corrosive liquids or at high pressure, the compact design of the m zr-7259 pumps are unique features of the hermetic,

chemically inert pump series in its explosion proof version. The pumps are applied in the field of chemical and process technology. Thanks to the use of rotors and functional elements being made

of ceramics, a magnetic coupling, and case components made out of HASTELLOY[®] C-22, this pump will take up any challenge in the chemical industry applications.

Technical data

	m zr-7259
Flow rate	0.048 – 225 ml/min
Smallest dosage volume	30 µl
Displacement volume	48 µl
Max. system pressure	100 bar (1450 psi) (inlet pressure + differential pressure)
Differential pressure range	0 – 40 bar (580 psi)
Viscosity range	0.3 – 100 mPas
Pulsation	< 6 %
Precision (Coefficient of Variation CV)	< 1 %
Fluid connection	1/8" NPT internal thread, lateral
Ex-certification	 II 2 G c T4 X
Place of installation	Ex-area zone 1, 2
Wetted parts	Pump case HASTELLOY [®] C-22, optional: stainless steel 316L; seals FFKM (Kalrez [®] Spectrum [™] 6375), optional: FPM, EPDM; shaft/bearing sintered silicon carbide (SiC); rotors and wetted functional parts partially stabilized ZrO ₂ , optional: tungsten carbide Ni-based
DC-motor	24 V DC, 2 A, 53 W, encoder: 500 counts per turn, type HEDL 5540
Speed range	1 – 4700 rpm
Cable length	10 m
Operating temperature range	0 ... +40 °C
Weight	approx. 4900 g

Customized solutions on request.

* with accessories

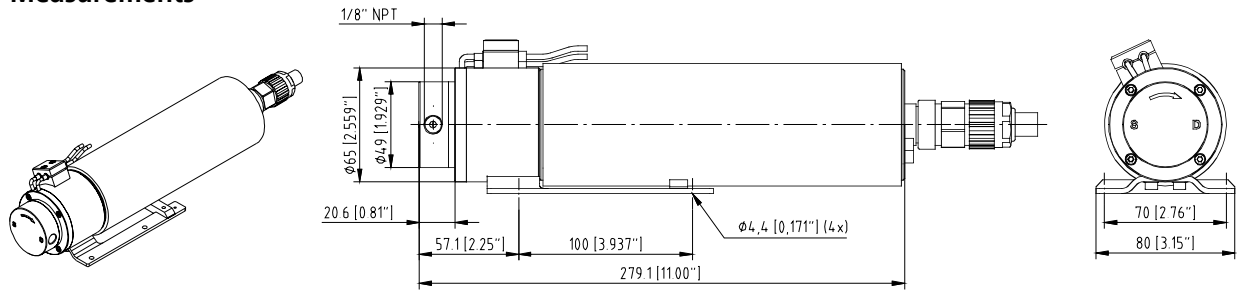
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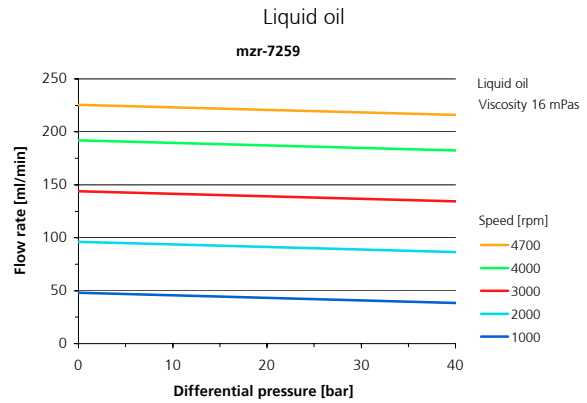
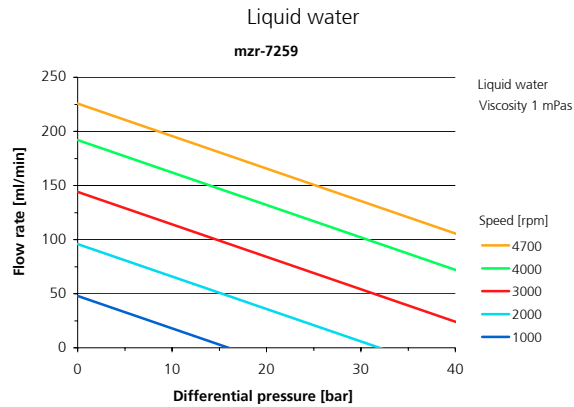
e-mail info@hnp-mikrosysteme.de
<http://www.hnp-mikrosysteme.de>

Measurements

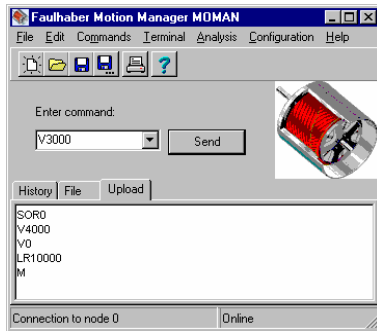


Subject to technical changes.

Flow charts



Control and software (Accessories)



- speed and position control for continuous and discrete dispensing tasks
- terminal box with potentiometer for speed control
- RS-232 9-pole SUB-D connector to connect directly to a PC or a SPC
- analog input with terminal screw
- power supply with DIN 45323 socket, pin plug or terminal screw
- EEPROM program memory
- simple ASCII command language for parameter setting (velocity profiles) and programming of the motor
- programming with Windows® software »Motion Manager«
- temperature and current limiting
- online dynamic drive analysis
- simultaneous operation of up to 255 pumps with additional multiplexer modules

Item number

13 03 01 03

pump mZR-7259-hs-Ex; case, separating cup: stainless steel 316L; rotors, valve plate, shaft and bearing: tungsten carbide Ni-based; fluid connection 1/8" NPT, lateral; double temperature control; DC-motor 24 VDC, IP 54; Ex-classification CE Ex II 2 G T4 X

13 03 0303

pump mZR-7259-cy-Ex; case, separating cup: Hastelloy C-22 (2.4602), rotors, valve plate and bearing: partially-stabilized zirconium oxide, shaft and bearing: silicon carbide (SSIC); fluid connection 1/8" NPT, lateral; double temperature control; DC-motor 24 VDC, IP 54; Ex-classification CE Ex II 2 G T4 X

Accessories

Liquid supply accessories
Control

threaded fluid connectors, tubes, filters etc.

S-HD: programmable microcontroller-based control for continuous delivery and discrete dosage, installed outside of the Ex-area

Console drive module

diecast aluminum chassis mZR-S05 ES with control elements and display, installed outside of the Ex-area

Multiplexer module

simultaneous operation of up to 255 pumps with a single RS-232 interface

Micro annular gear pumps (and housings) are protected by assigned patents: DE 198 43 161 C2, EP 1115979 B1, US 6,520,757 B1, EP 852674 B1, US 6,179,596 B1. Patents pending: DE 101 46 793, EP 1354135, US 10,466,792, DE 10 2004 052 866. In the US, Europe and Japan additional patents are pending. mZR® is a registered German trademark of HNP Mikrosysteme GmbH. Teflon® is a registered trademark of DuPont. Viton® is a registered trademark of DuPont Dow Elastomers. HASTELLOY® is a registered trademark of Haynes International, Inc. PEEK™ is a registered trademark of Victrex plc. Kalrez® Spectrum™ is a registered trademark of DuPont.