


Hermetic, chemically inert pump series 

Micro annular gear pump mzm[®]-7259 Ex

Ex-pump for application in chemical and process technology



- **Ex-certification ATEX**
conform with EU directive 94/9/EEC
- **Compact, chemically inert**
length 280 mm, alloy C22, SSiC, Al₂O₃ and 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 mzm-7259 Ex 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 alloy C22, this pump will take up any challenge in the chemical industry applications.

Technical data

	mzm-7259 Ex
Flow rate	0.048 – 225 ml/min
Smallest dosage volume	30 µl
Displacement volume	48 µl
Max. system pressure	80 bar (1160 psi) (inlet pressure + differential pressure)
Differential pressure range	0 – 20 bar (290 psi)
Viscosity range	0.3 – 100 mPas
Precision (Coefficient of Variation CV)	< 1 %
Pulsation	6 %
Ambient temperature range	0 ... +40 °C
Liquid temperature range	-5 ... +60 °C
Fluid connection	1/8" NPT internal thread, lateral
Ex-certification	CE II 2 G IIC c T4 X
Place of installation	Ex-area zone 1, 2
Wetted parts	Pump case alloy C22 (DIN 2.4602), optional: stainless steel 316L; seals FPM (Kalrez [®] Spectrum™ 6375), optional: FPM, EPDM; shaft/bearing sintered silicon carbide (SSiC); bearing and wetted functional parts Al ₂ O ₃ ceramics; rotors partially stabilized ZrO ₂ optional: tungsten carbide Ni-based
Drive	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
Weight	approx. 4900 g

Customized solutions on request.

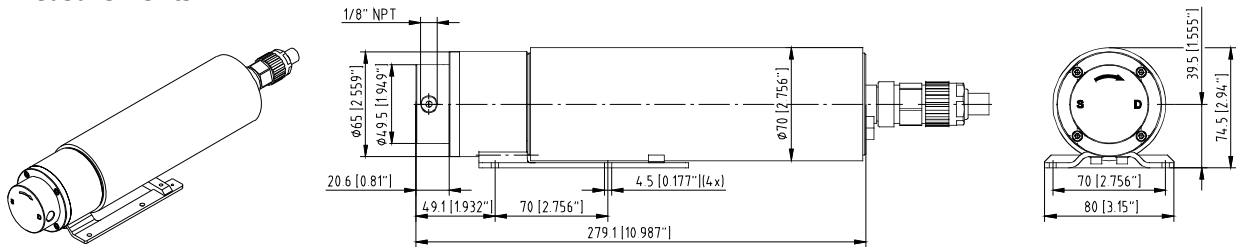
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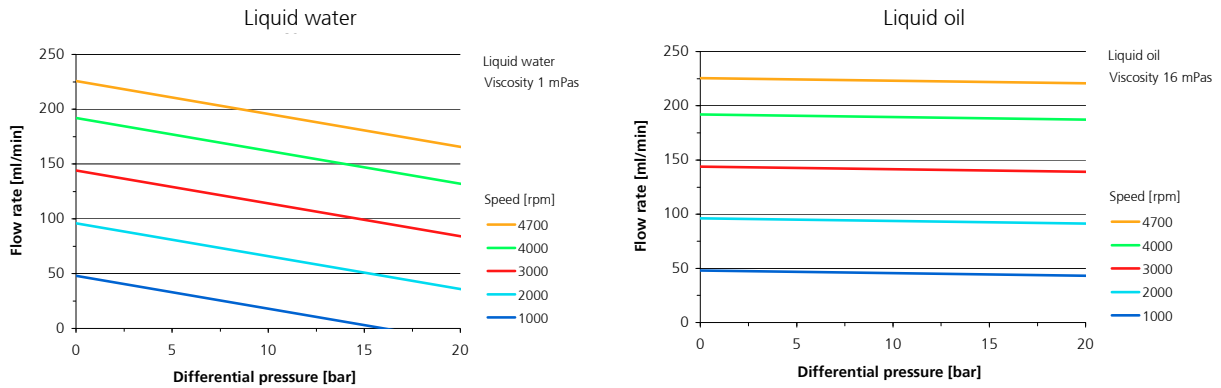
e-mail info@hnp-mikrosysteme.de
<http://www.hnp-mikrosysteme.de>

Measurements

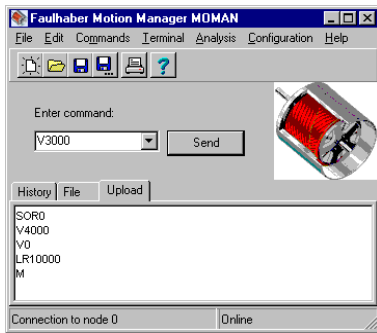


Subject to technical changes.

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 03 03

pump mZr-7259-cy S Ex with lateral fluid connectors 1/8" NPT, pump case alloy C22 (2.4602), bearing and functional parts Al_2O_3 , rotors partially stabilized ZrO_2 ; DC-motor 24 VDC, IP 54; Ex-classification CE Ex II 2 G T4 X

13 03 01 03

pump mZr-7259-hs S Ex with lateral fluid connectors 1/8" NPT, pump case stainless steel 316L, bearing, functional parts and rotors tungsten carbide Ni-based; DC-motor 24 VDC, IP 54; Ex-classification CE Ex II 2 G T4 X

Accessories

Liquid supply accessories

threaded fluid connectors, tubes, filters etc.

Control

S-HD-KL: 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, EP 1354135, US 7,698,818 B2. Patents pending: EP 1807546, DE 10 2009 020 942.5-24, DE 10 2011 001 041.6. In the US, Europe and Japan additional patents are pending. mZr®, MoDoS®, μ -Clamp® are registered German trademarks of HNP Mikrosysteme GmbH. Kalrez® Spectrum™ is a registered trademark of DuPont.