

## Modular pump series

### Micro annular gear pump mzs<sup>®</sup>-7241

Fluid-dependent customizable dosing pump



- **Fluid-dependent customizable**  
pump components in stainless steel/tungsten carbide, aluminium/tungsten carbide or alloy C22/ceramics
- **High dosage precision**  
precision CV 1 % at low volumes
- **Long service life**  
wear- and corrosion-resistant materials
- **Compact dimensions**  
length 128 mm
- **Dynamic smart drive and control**  
DC-servomotor
- **Pulseless delivery, low shear stress**  
rotary micro annular gear technology, no valves

The micro annular gear pump mzs-7241 of the modular pump series is suitable for dosing and metering in low to medium pressure and viscosity ranges. To the

main assets of this series belong pulseless, high precision low volume dosage of non-lubricating liquids, compact design with smallest dimensions and low price.

These pumps are suitable for dosing and dispensing deionized water, aqueous solutions, solvents as well as low to highly viscous oils, lubricants or dyes.

#### Application fields

- Chemical processing
- Industrial and plant engineering
- Packaging
- Dispensing of adhesives

#### Technical data

Flow rate	9.6 – 288 ml/min
Smallest dosage volume	30 µl
Displacement volume	48 µl
Differential pressure range	0 – 5 bar (73 psi); max. 40 bar * (580 psi *)
Max. inlet pressure	1 bar (15 psi); 5 bar * (73 psi *)
Max. applied inlet pressure	1 bar (15 psi); 5 bar * (73 psi *)
Pulsation	6 %
Operating temperature range	-10 ... +60 °C (+14 ... +140 °F)
Viscosity range	0.3 ... 10,000 mPas
Dosage precision	1 % Coefficient of variation CV
Speed	500 – 6000 rpm
Fluid connection	1/8" NPT internal thread, lateral optional: flanged connection with pipe socket, frontal
Wetted parts	Pump case: stainless steel 316L, optional: aluminium anodized, alloy C22; rotors: tungsten carbide Ni-based, optional: ceramics; bearing: ceramics; epoxy resin; shaft seal: graphite-reinforced PTFE, stainless steel 316L; static seals: FPM, optional: EPDM, FFPM
Motor	Brushless DC-motor, 17 V DC, 40 W
Measurements (L x B x H)	approx. 128 x 42 x 60 mm
Weight	approx. 980 g (aluminium version approx. 600 g)

Customized version on request.

\* with optional additional axial bearing support

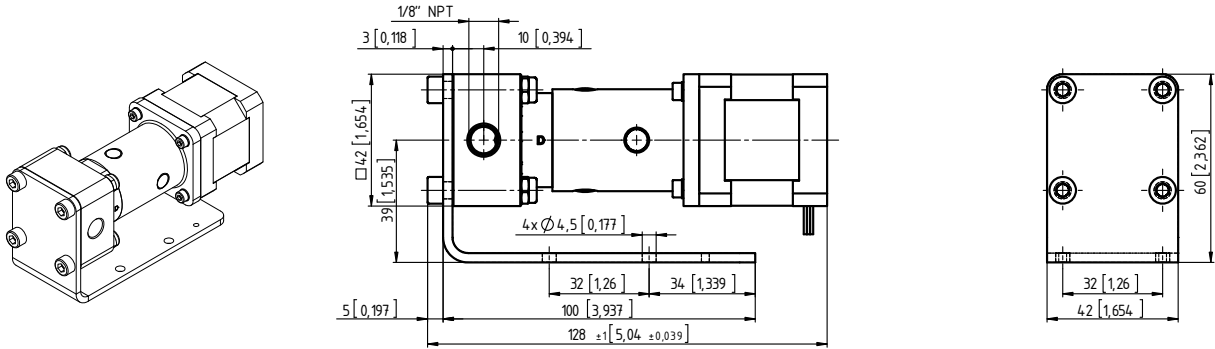
#### Contact

HNP Mikrosysteme GmbH  
Juri-Gagarin-Ring 4 · D-19370 Parchim

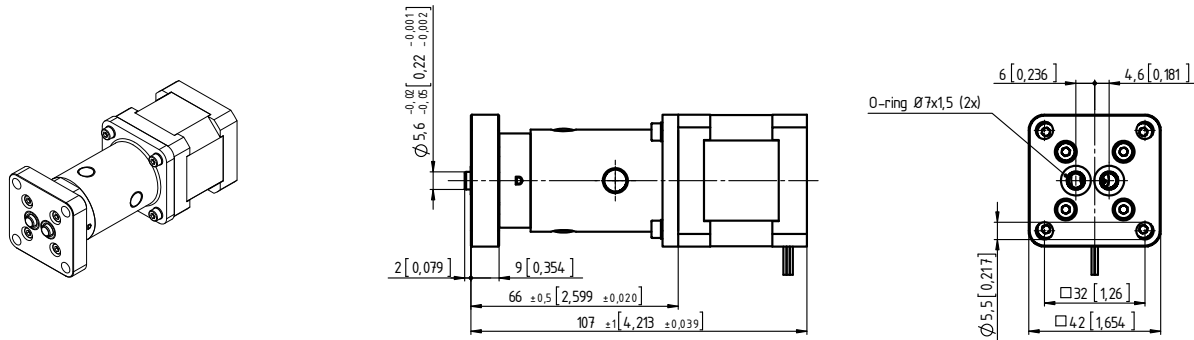
phone +49| 3871| 451-301  
fax +49| 3871| 451-333

e-mail [info@hnp-mikrosysteme.de](mailto:info@hnp-mikrosysteme.de)  
<http://www.hnp-mikrosysteme.de>

## Measurements



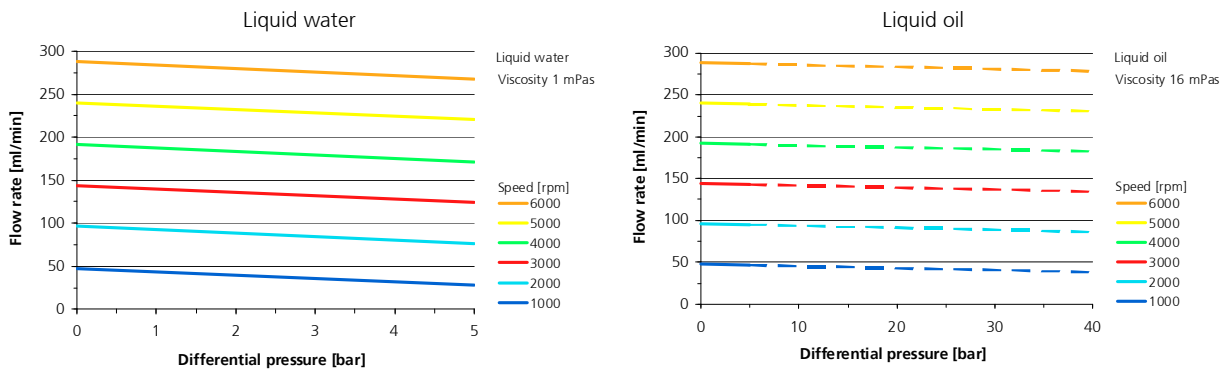
Fluid connection »S« with lateral 1/8" NPT internal threads



Fluid connection »M4« with frontal pipe socket and additional axial bearing support

Subject to technical changes.

## Flow charts



## Item number

12 04 00 02	pump mZR-7241-hs-v S: fluid connection 1/8" NPT, lateral; mounting: holding angle; wetted parts: stainless steel 316L, tungsten carbide Ni-based, ceramics, static seals: FPM
12 04 00 01	pump mZR-7241-ha-v M4 +A: flanged fluid connection with pipe socket, frontal, ID 4.5 mm; additional axial bearing support ; wetted parts: aluminium anodized; tungsten carbide Ni-based; ceramics; static seals: FPM
66 04 01 26	controller S-KB-4 for micro annular gear pump mZR-7241 for continuous delivery

## Optional equipment

Fluidic seal module	use of liquids sensitive to air or water or for vacuum applications
Axial bearing support	increase of differential pressure range from 5 bar (73 psi) to 40 bar (580 psi)
Static seals	EPDM or FPM
Motor types	Brushless DC-motor with encoder; stepper motor Brushless DC-motor with integrated microcontroller

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.