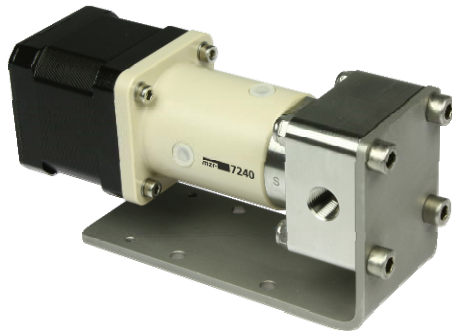


## Modular pump series

### Micro annular gear pump mzs<sup>®</sup>-7243

Fluid-dependent customizable dosing pump



- **Customized material selection**  
pump components in stainless steel/tungsten carbide, aluminium/tungsten carbide or alloy C22/ceramics
- **High dosage precision**  
precision CV 1 % at low volumes
- **Dynamic powerful small drive**  
stepper motor, high torque
- **Long service life**  
wear- and corrosion-resistant materials
- **Low pulsation delivery, low shear stress**  
rotary micro annular gear technology

The micro annular gear pump mzs-7243 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 low pulsation, 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

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.

#### Technical data

Flow rate	0.048 – 28.8 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 *)
Liquid temperature range	-20 ... +60 °C (-4 ... +140 °F)
Viscosity range	0.3 ... 10,000 mPas (max. 50,000 mPas *)
Dosage precision	1 % Coefficient of Variation CV
Velocity range	1 – 600 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	stepper motor NEMA 17 standard
Dimensions (L x W x H)	approx. 128 x 42 x 60 mm
Weight	approx. 815 g (aluminium version approx. 560 g)

Customized version on request.

\* with optional additional axial bearing support

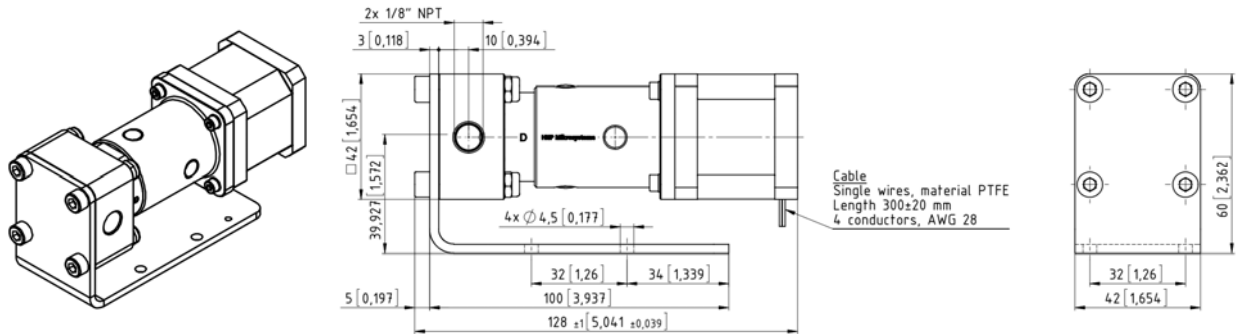
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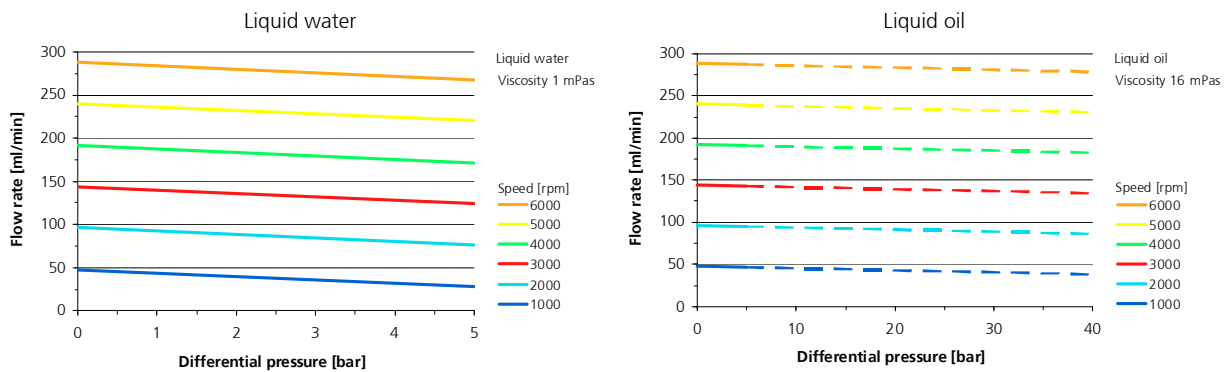
## Dimensions



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

Subject to technical changes.

## Flow charts



## Item number

12 04 00 34	pump mzr-7243-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 35	pump mzr-7243-hs-v S+A: fluid connection 1/8" NPT, lateral; mounting: holding angle; additional axial bearing support; wetted parts: stainless steel 316L, tungsten carbide Ni-based, ceramics, static seals: FPM
12 04 00 19	pump mzr-7243-hs-v S+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 30	pump mzr-7243-ha-v M4: flanged fluid connection with pipe socket, frontal, ID 4.5 mm; wetted parts: aluminium anodized; tungsten carbide Ni-based; ceramics; static seals: FPM
12 04 00 32	pump mzr-7243-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
12 04 00 33	pump mzr-7243-ha-v M4 +S: flanged fluid connection with pipe socket, frontal, ID 4.5 mm; additional fluidic seal module; wetted parts: aluminium anodized; tungsten carbide Ni-based; ceramics; static seals: FPM
12 06 00 16	pump mzr-7243X1: Upgrade integrated programmable motion controller
12 06 00 17	pump mzr-7243X2: Upgrade high torque motor
12 06 00 10	pump mzr-7243X3: Upgrade stepper motor with encoder 500 counts per turn, protective class IP54

## Optional equipment

<i>Fluidic seal module</i>	use of liquids sensitive to air or water or for vacuum applications
<i>Axial bearing support</i>	increase of differential pressure range from 5 bar (73 psi) to 40 bar (580 psi)
<i>Static seals</i>	EPDM or FFPM
<i>Liquid supply accessories</i>	threaded fluid connectors, tubes, filters etc.

Micro annular gear pumps (and housings) are protected by assigned patents: 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 DE 10 2011 001 041.6, PCT/IB2011/055108, EP 11 81 3388.3, US 13/884,088, CN 2011 8006 5051.7, HK 13 11 2934.9, DE 10 2011 051 486.4, PCT/EP2012/061514, EP 12 728264.8, US 9,404,492 B2, CN 2012 8003 8326.2. In the US, Europe and China additional patents are pending. mzr®, MoDoS®, µ-Clamp®, HNPM® are registered German trademarks of HNP Mikrosysteme GmbH.