

## Modular pump series

### Micro annular gear pump mZR®-7242

Dosing pump for analytical instrumentation



- **Compact dimensions**  
length 132 mm
- **High dosage precision**  
precision CV 1 % at low volumes
- **Small dosage volumes, high flow rates**  
smallest volume 30 µl, flow up to 288 ml/min
- **Long service life**  
wear-resistant tungsten carbide
- **Low pulsation delivery, low shear stress**  
rotary micro annular gear technology

The micro annular gear pump mZR-7242 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

- Analytical instrumentation
- Fuel cells
- Biotechnology
- Laboratory automation
- In vitro diagnostics

#### Technical data

Flow rate	4.8 – 288 ml/min
Smallest dosage volume	30 µl
Displacement volume	48 µl
Differential pressure range	0 – 5 bar (73 psi)
Max. inlet pressure	1 bar (15 psi)
Liquid temperature range	-20 ... +60 °C (+4 ... +140 °F)
Viscosity range	0.3 ... 100 mPas
Dosage precision	1 % Coefficient of Variation CV
Speed	100 – 6000 rpm
Fluid connection	1/8" NPT internal thread, lateral
Wetted parts	pump case: stainless steel 316L, rotors: tungsten carbide Ni-based; bearing: ceramics; epoxy resin; shaft seal: graphite-reinforced PTFE, stainless steel 316L; static seals: FPM, optional: EPDM, FFBM
Motor	DC-motor with graphite brushes, assigned power rating 21 W, nominal voltage 12 V, digital optical encoder 256 counts per turn, Line Driver
Dimensions (L x W x H)	approx. 132 x 42 x 60 mm
Weight	approx. 800 g

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.

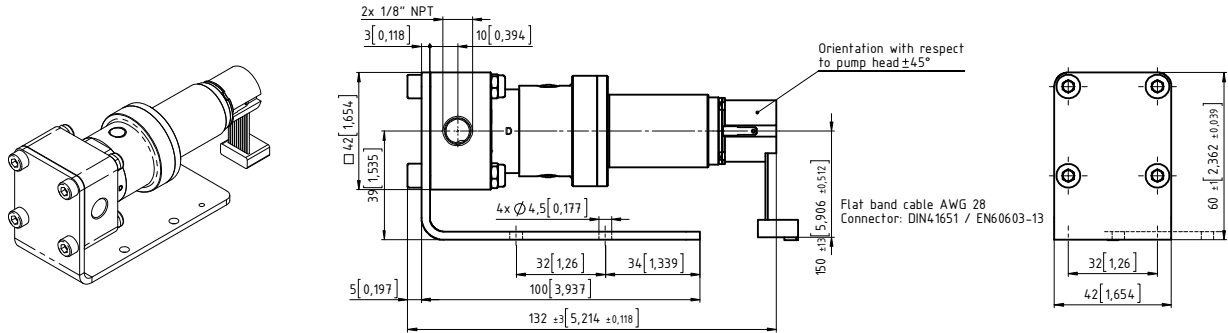
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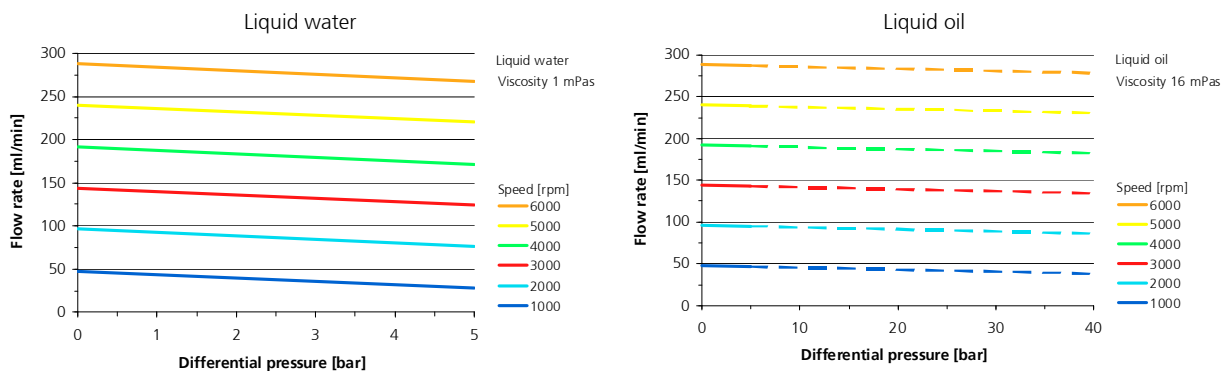
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## Dimensions



Subject to technical changes.

## Flow charts



## Item number

12 04 00 29	pump mzr-7242-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; DC-motor, encoder 256 counts per turn
66 02 01 03	S-HD: programmable microcontroller-based control for continuous delivery and discrete dosage
66 02 02 02	S-KD-23: control for continuous delivery

## Optional equipment

Static seals	EPDM or FPM
Liquid supply accessories	tubes, filters etc.
Console drive module	diecast aluminum chassis mzr-S06 E for laboratory and testing
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: 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.