

High performance series

## Micro annular gear pump m zr<sup>®</sup>-2505

For industrial production and process technology



- **High dosage precision**  
precision CV < 1 % at low volumes
- **High differential pressures**  
achievable also for low viscosity liquids
- **Compact dimensions**  
length 140 mm, including controller
- **Broad viscosity range**  
methanol, water, solvents, adhesives, grease, gel
- **Low pulsation delivery, low shear stress**  
rotary micro annular gear technology
- **Long service life**  
wear-resistant tungsten carbide
- **Precision motor and sophisticated control**  
DC-servomotor with integrated microcontroller

The micro annular gear pump m zr-2505 covers the flow rate range 0.0015 - 9 ml/min. To the main assets of the device belong high precision, low pulsation, low volume dosage even of non-lubricating liquids or at high

pressures, compact design and an integrated microcontroller. The pump allows dosage in a broad viscosity range and shows small, economic dimensions. The m zr-2505 targets applications in industrial production and process

technology. The pump has been designed for continuous delivery and discrete dosage of water, watery solutions, solvents, methanol, oil, lubricants, adhesives, inks and paints as well as other high viscosity liquids.

### Applications

- Chemical processing
- Industrial and plant engineering
- Packaging
- Medical and pharmaceutical industry
- Mini plant technology
- Spray technology
- Dispensing of adhesives
- Ink and paint dosage
- Vacuum applications

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	0.0015 – 9 ml/min (min. 10 µl/h *)
Smallest dosage volume	0.25 µl
Displacement volume	1.5 µl
Differential pressure range	0 – 2.5 bar (36 psi) for water, 0 – 15 bar (217 psi) for oil
Max. inlet pressure	5 bar (73 psi); 10 bar * (145 psi *)
Liquid temperature range	-5 ... +60 °C (-20 ... +150 °C *)
Viscosity range	0.3 – 25,000 mPas
Dosage precision	< 1 % Coefficient of Variation CV
Pulsation	< 1.5 %
Speed range	1 – 6000 rpm
Fluid connection	1/4"–28 UNF, frontal; optional: inlet 1/8" NPT internal thread, lateral
Wetted parts	stainless steel 316L (1.4404, 1.4435), tungsten carbide Ni-based; shaft seal: graphite-reinforced PTFE, 316L static seals: FPM, optional: EPDM, FFPM
Motor	DC-servomotor, 24 V DC, 44 W
Controller	integrated 16-bit microcontroller
Interface	0–10 V, RS-232, 1 digital input/output
Dimensions (L x W x H)	140 x 45 x 65 mm
Weight	approx. 780 g

Customized solutions on request.

\* with optional by-pass module, fluidic seal module, heat insulation module, heating module

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