

Modular pump series

Micro annular gear pump mzr[®]-7245

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 160 mm, including controller
- **Dynamic smart drive and control**
DC-servomotor with integrated microcontroller
- **Pulseless delivery, low shear stress**
rotary micro annular gear technology, no valves

The micro annular gear pump mzr-7245 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	0.048 – 288 ml/min
Smallest dosage volume	30 µl
Displacement volume	48 µl
Max. inlet pressure	1 bar (15 psi); 5 bar * (73 psi *)
Differential pressure range	0 – 5 bar (73 psi); max. 40 bar * (580 psi *)
Operating temperature range	-5 ... +60 °C (+23 ... +140 °F)
Viscosity range	0.3 ... 10,000 mPas (max. 50,000 mPas *)
Dosage precision	1 % Coefficient of variation CV
Pulsation	6 %
Speed	1 – 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	DC-servomotor, 24 V DC, 44 W
Controller	integrated 16-bit microcontroller
Interface	0–10 V, RS-232, 1 digital input/output
Measurements (L x B x H)	approx. 160 x 42 x 60 mm
Weight	approx. 980 g (aluminium version ca. 600 g)

Customized version on request.

* with optional additional axial bearing support

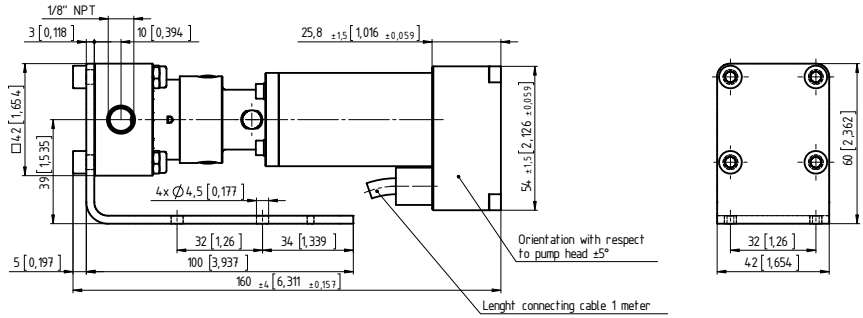
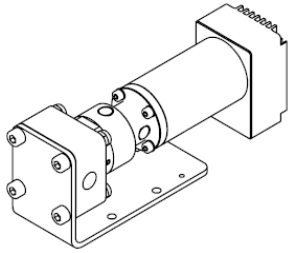
Contact

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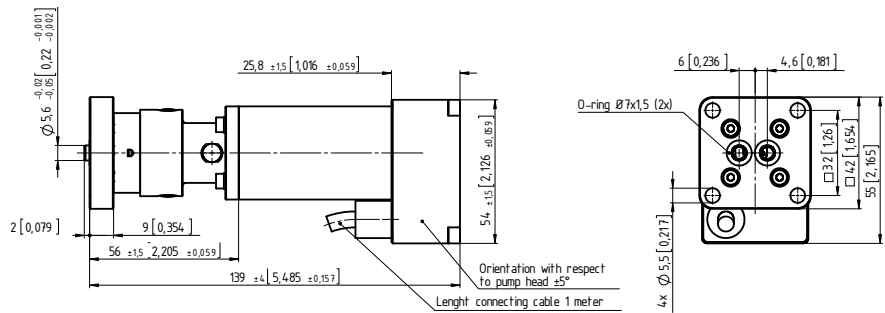
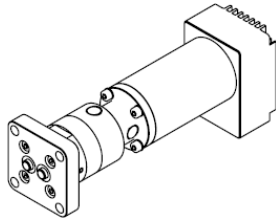
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Measurements



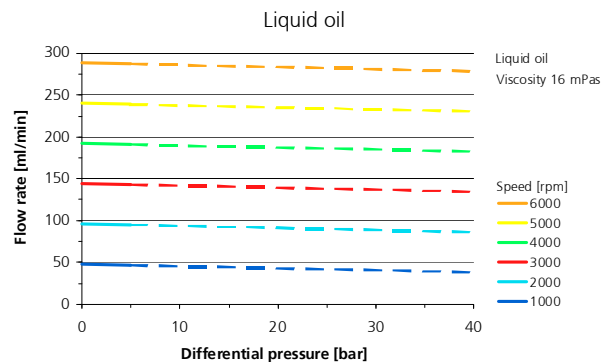
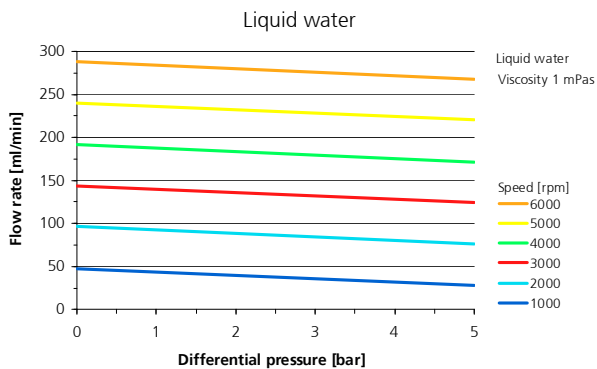
Fluid connection »S« with lateral 1/8" NPT internal threads



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

Subject to technical changes.

Flow charts



Item number

12 04 00 06

pump mZR-7245-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 07

pump mZR-7245-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

92 00 30 02

pump mZR-7245-ha-v M5 +A: flanged fluid connection with pipe socket, frontal, ID 4.5 mm; mounting: clamping plate; additional axial bearing support; wetted parts: aluminium anodized; tungsten carbide Ni-based; ceramics; static seals: FPM

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

Terminal box

terminal box S-G05 for easy connection of the micro annular gear pump

Motor types

brushless DC-motor without controller, stepper motor

Multiplexer module

simultaneous operation of up to 255 pumps with a common 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.