

High performance series

Micro annular gear pump mzr[®]-11508

Pump for applications in production and process technology



- **high dosage precision**
precision CV better 1%
- **high service life and wear resistance**
wear resistant tungsten carbide
- **broad viscosity range**
methanol, water, solvents, adhesives, grease, gel
- **dynamic precision motor**
brushless DC-servomotor with encoder
- **compact measurements**
length 309 mm
- **high differential pressures**
achievable even with low viscous liquids
- **pulseless delivery – low shear stress**
rotary micro annular gear technology

The micro annular gear pump mzr-11508 is equipped with tungsten carbide gears and bearings. Hard material and precision manufacturing guarantee the unique features of dosing precision, high service life and wear resistance for

low volume dosage of non-lubricating liquids. With a high-power DC-servomotor (optional three-phase A.C. motor) the pump has a compact design and covers the flow range 0.19-1152 ml/min. The pump is suitable for the

continuous and discrete dosage of low and high viscous liquids. It also provides high differential pressure and a pulseless flow. With its robustness and accessories the pump can be used in demanding applications.

Applications

- Chemical processing
- Industrial and plant engineering
- Packaging technology
- Medical and pharmaceutical
- Miniplant technology
- Spray technology
- Dispensing of adhesives
- Inks and paints dosage
- Vacuum applications

Technical data

Preliminary data – subject to change

Flow rate	0.19 – 1152 ml/min
Smallest dosage volume	30 µl
Displacement volume	192 µl
Operating pressure range	0 – 80 bar (1160 psi), 150 bar * (2175 psi *)
Max. inlet pressure	10 bar (145 psi)
Operating temperature range	-5 ... +60 °C (-20 ... +150 °C *)
Viscosity range	0.5 – 150 000 mPas
Precision	< 1 % Coefficient of Variation CV
Pulsation	< 6 %
Speed range	1 – 6000 rpm
Fluid connections	3/8" NPT internal thread, lateral
Wetted parts	stainless steel 316L (1.4404, 1.4435), tungsten carbide Ni-based; shaft seal: graphite reinforced Teflon [®] , 316L; static seals: FPM (Viton [®]), optional: EPDM, FFPM
Motor	brushless DC-servomotor, IP 54, 42 V DC, max. 368 W
Encoder	500 counts per turn, type HEDL 5640
Interface	motor cable length 3 m, 6-pole plug for motor winding, 12-pole plug for encoder and hall sensors
Measurements (L x W x H)	309 x 108 x 124 mm
Weight	approx. 8 kg

Customized solutions on request. * with accessories

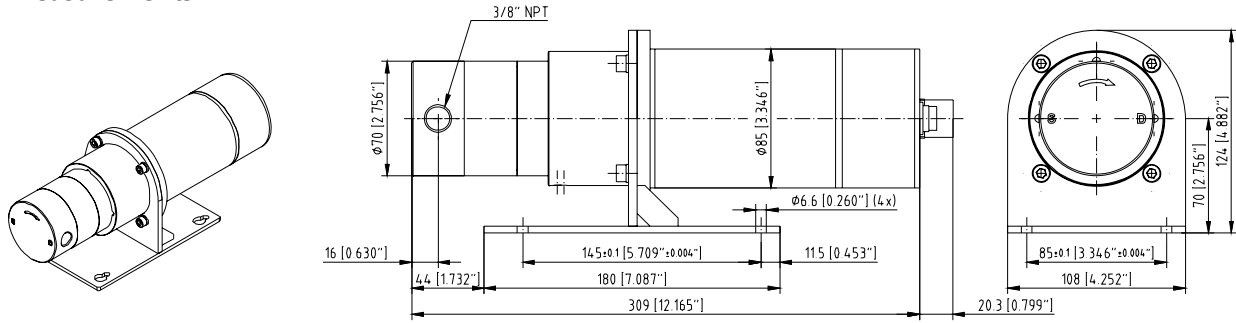
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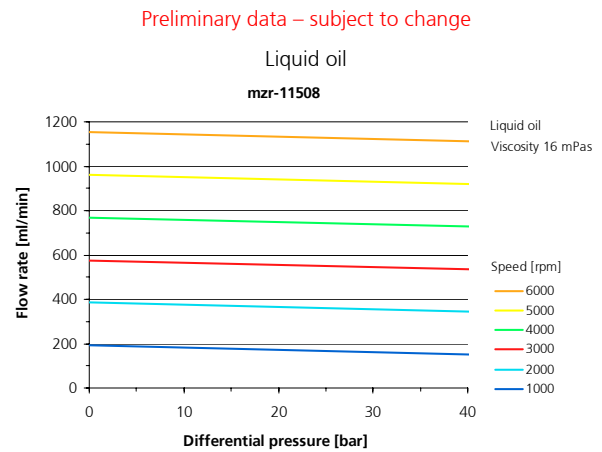
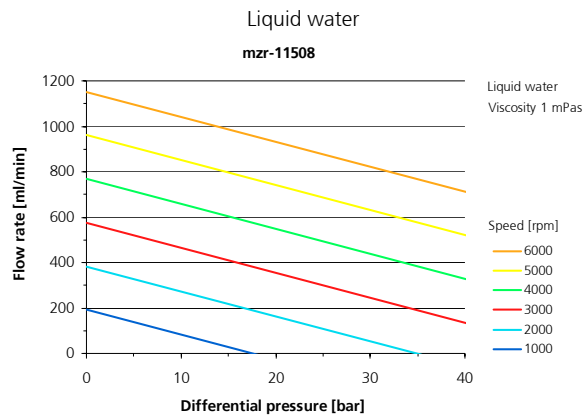
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Measurements



Subject to technical changes.

Flow charts



Preliminary data – subject to change

Control and software



- speed control S-HV for continuous dispensing tasks
- servo-amplifier in a rugged aluminum case
- power supply voltage 11–70 V DC, nominal current up to 10 A (optional max. current 20 A)

- speed range 1 – 6000 rpm
- internal potentiometer for speed control (optional external potentiometer)
- item no. 66 03 01 01



- speed and position control S-HP for continuous and discrete dispensing tasks
- servo-amplifier in a rugged aluminum case
- power supply voltage 11–70 V DC, nominal current up to 10 A (optional max. current 20 A)

- speed range 1 – 6000 rpm
- standard interface: RS-232, CAN
- operating system EPOS
- 4 digital inputs 24 V DC
- 4 digital outputs 24 V DC
- item no. 66 04 01 03

Item number

10 03 01 06

mzs-11508 pump with lateral fluid connections 3/8" NPT

Accessories

Fluidic accessories
Fluidic seal module
*Heat isolation module **
*Heating module **
*Reduction gear **
*Motor types **

threaded fluid connectors, tubes, filters etc.
use of air- and water-sensitive fluids or for vacuum applications
use for increased fluid temperature up to 150 °C
active heating of the pump head up to 150 °C operating temperature
gear 4:1 reduces speed for the metering of high viscous fluid
three-phase A.C. motor, flange and stand, size 34 (IEC), frequency max. 110 Hz
explosion-proof or high power motor, frequency converter

* under preparation

Micro annular gear pumps (and housings) are protected by assigned patents: EP 852 674 B1, US 6,179,596, US 6,520,757 B1, DE 198 43 161. In the US, Europe and Japan are additional patents pending. mzs® is a registered German trademark of HNP Mikrosysteme GmbH. Teflon® is a registered trademark of DuPont. Viton® is a registered trademark of DuPont Dow Elastomers.