

High Performance Series

Model mzs-2905/4605

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



The micro annular gear pumps mzs-2905 and mzs-4605 cover the flow ranges 0.3-18 and 1.2-72 ml/min. The highly precise, pulseless low volume dosage even with non-lubricating fluids or at high pressure, the compact design of the pump, the integrated microcontroller, the broad viscosity range and the small measurements are the unique features of this pump series. The pump is applied in the field of production and process technology. The pump is suitable for the continuous and discrete dosage of water, watery solutions, solvents, methanol, oil, lubricants, adhesives, ink and paints as well as other high viscous fluids.

- **high dosage precision**
repeatability better 1 %
- **high differential pressures**
achievable even with low viscous fluids
- **compact measurements**
length < 143 mm, controller inclusive
- **broad viscosity range**
methanol, water, solvents, adhesives, grease, gel
- **pulseless delivery**
rotary micro annular gear technology
- **high service life**
wear resistant tungsten carbide
- **precision motor and sophisticated control**
DC-servomotor with integrated micro controller

Technical data

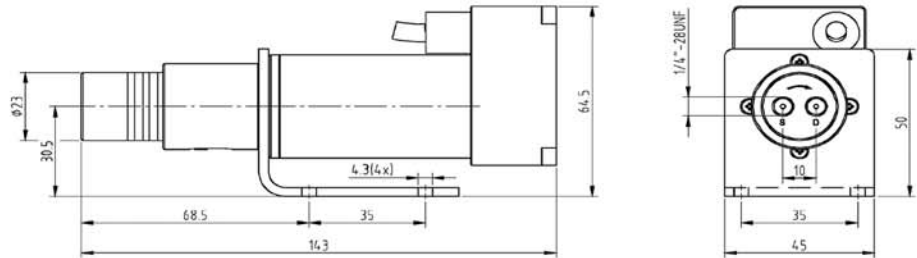
	mzs-2905	mzs-4605
Flow rate	0.3 – 18 ml/min	1.2 – 72 ml/min
Smallest dosage volume	0.5 µl	2 µl
Displacement volume	3 µl	12 µl
Operating pressure range	0 – 10 bar (0 – 145 psi) *	0 – 30 bar (0 – 435 psi) *
Operating temperature range	-5 ... +60 °C (-20 ... +120 °C **)	
Viscosity range	0.5 – 20 000 mPas (50 000 mPas **)	
Repeatability	< 1 %	
Pulsation	< 6 %	
Speed range	100 – 6000 rpm (min. 1 rpm **)	
Fluidic connections	1/4"–28 UNF	
Wetted parts	case: stainless steel 1.4404 (316 L) rotors, shaft, bearings: WC Ni-based shaft seal: graphite reinforced Teflon®, spring 316 L static seals: Viton®, optional Aflas®	
Motor	EC-servomotor, 24 V DC, 44 W	
Controller	integrated 16-bit microcontroller	
Interface	0–10 V, RS-232, 1 digital input/output	
Measurements (L x W x H)	140 x 45 x 65 mm	143 x 45 x 65 mm
Weight	approx. 780 g	approx. 800 g

Customized solutions on request. * values for oil, visc. 16 mPas ** with accessories

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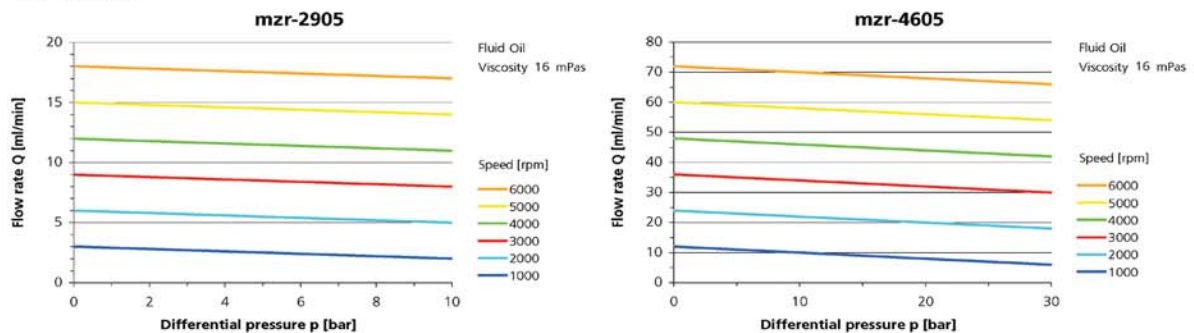
Model mzr-2905/4605

Measurements



Subject to technical changes.

Flow chart



Control and software



- speed and position control for continuous and discrete dispensing tasks
- connection board with potentiometer for speed control
- RS-232 9-pole SUB-D connector to connect directly to a PC or a SPC
- analog input with terminal screw
- power supply with DIN 45323 socket, pin plug or terminal screw
- EEPROM program memory
- simple ASCII command language for the parameter setting (velocity profiles) and programming of the motor
- programming with Windows® software »Motion Manager«
- temperature and current limiting
- online dynamic drive analysis
- simultaneous operation of up to 255 pumps with additional multiplexer modules

Accessories

Fluidic accessories
Fluidic seal module
Heat isolation module
Heating module
Reduction gear
Console drive module
Multiplexer module

threaded fluidic connectors, tubes, filters etc.
 use of air- and water-sensitive fluids or for vacuum applications
 use for increased fluid temperature up to 120 °C
 active heating of the pump head up to 120 °C operating temperature
 reduces speed for the metering of high viscous fluid
 diecast aluminum chassis mzr-S05 with control elements and display
 operation of up to 255 pumps with a single RS-232 interface