

## Product information

### mzr-11557 Ex · Ex-versions



#### Description

The mzr-11557 Ex micro annular gear pump of the hermetic and chemically inert series is, considering its almost universal suitability for aggressive and corrosive media, a revolution in the pump technology. Driven by a explosion-proof three-phase AC motor the pump covers the flow range from 58 ml/min to 1152 ml/min. Its rotors and functional elements being made of ceramics, the pump shows the highest chemical resistance and an outstanding resistance to wear. Thanks to the use of ceramics as bearing and shaft material, a magnetic coupling, and case components made out of alloy C22 (DIN 2.4602), this pump will take up any challenge in the chemical industry applications.

#### Advantages

- Ex-certification ATEX conform with EU directive 94/9/EEC
- High dosage precision precision CV < 1 % at low volumes
- Long service life wear-resistant tungsten carbide
- Broad viscosity range water, solvents, adhesives, grease, gel
- Compact dimensions length 358 mm
- High differential pressures achievable also for low viscosity liquids
- Low pulsation delivery, low shear stress rotary micro annular gear technology

#### 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

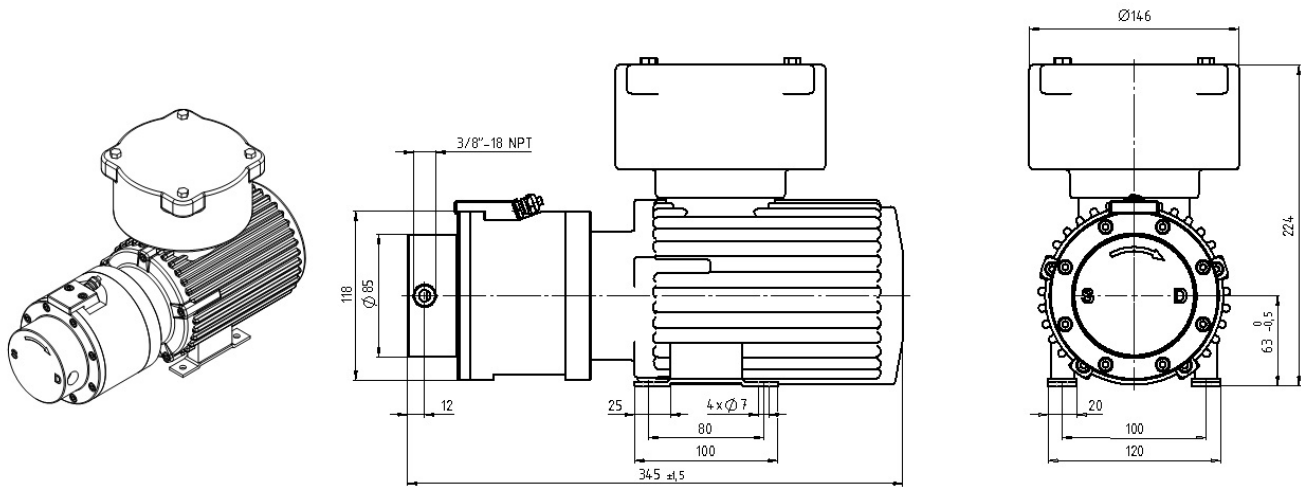
## Technical data

Flow rate	58 - 1152 (29 - 576*) ml/min
Displacement volume	192 µl
Maximum system pressure	60 bar (870 psi) 200 bar * (2900 psi *) (inlet pressure + differential pressure)
Differential pressure range	0 – 40 bar (580 psi)
Ambient temperature range	-20 ... +40 °C (-4 ... +104 °F), -55 ... +60 °C * (-67 ... +140 °F) * °C
Liquid temperature range	-5 ... +40 °C (+23 ... +104 °F)
Viscosity range	0.3 - 1,000 mPas
Ex-certification	CE Ex II 2G c IIB T3
Place of installation	Ex-area zone 1, 2
Precision CV	< 1 % (Coefficient of variation CV)
Velocity range	300 - 6000 (150 - 3000*) rpm
Fluid connection	3/8" NPT internal thread, lateral
Wetted parts	Pump case alloy C22 (2.4602), optional: stainless steel 316L; seals FFPM (Kalrez® Spectrum™ 6375), optional: FPM, EPDM; shaft sintered silicon carbide (SSiC); bearing and wetted functional parts Al2O3 ceramics; rotors partially stabilized ZrO2, optional: tungsten carbide Ni-based
Motor	three-phase AC motor, IEC-Size 063, 2 poles, IP 55, rated voltage 240/400 V, frequency 50 Hz, 250 W
Temperature protection	PTC-resistor, 6 pieces
Dimensions (L x W x H)	344 x 120 x 227 mm
Weight	approx. 25,000 g
Remarks	* depending on accessories, Customized solutions on request.

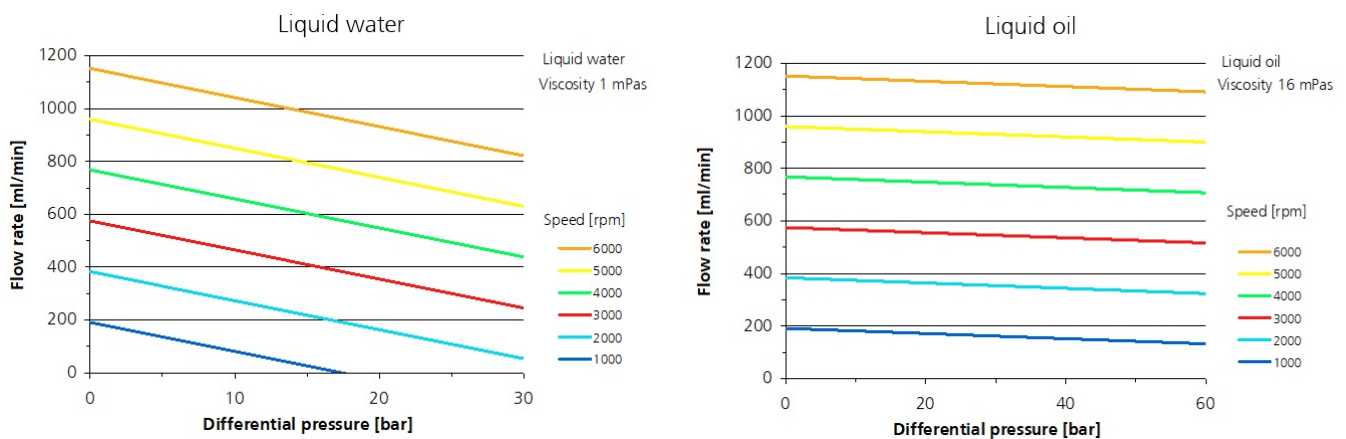
### Notice

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. This document is subject to change without notice.

## Dimensions



## Flow charts



## Patents and trademarks

Micro annular gear pumps (and housings) are protected by assigned patents: EP 1 354 135 B1; US 7,698,818 B2; DE 10 2011 001 041 B4; CN 103 348 141 B; US 10,012,220 B2; CN 103 732 921 B; US 9,404,492 B2; US 6,520,757 B1.

HNP M®, mzi®, MoDoS®, µ-Clamp®, µDispense®, Centifluidic Technologies®, LiquiDoS®, smartDoS®, colorDoS® are registered German trademarks of HNP Mikrosysteme GmbH.

## Contact

HNP Mikrosysteme GmbH  
Bleicherufer 25  
19053 Schwerin  
Germany

T +49 385 52190-300  
F +49 385 52190-333  
sales@hnp-mikrosysteme.de

Last update 2022/08