# Product information

mzr-7241 · Modular pump series

## Description

The micro annular gear pump mzr-7241 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 low pulsation , 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.

### Advantages

- Customized material selection pump components in stainless steel/tungsten carbide, aluminium/tungsten carbide or alloy C22/ceramics
- Long service life wear- and corrosion-resistant materials
- Compact dimensions length 128 mm
- Dynamic smart drive and control brushless DC-motor
- Low pulsation delivery, low shear stress rotary micro annular gear technology, no valves

## Applications

- Chemical processing
- Industrial and plant engineering
- Packaging
- Dispensing of adhesives

## Technical data

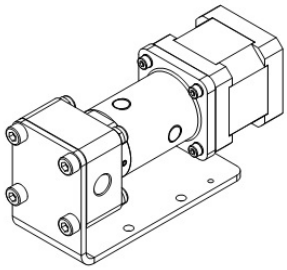
| | |
|---|---|
| Flow rate | 9.6 - 288 ml/min |
| Displacement volume | 48 µl |
| Differential pressure range | 0 - 0 - 5 bar (72.5 psi); max. 40 bar * (max. 580 psi *) |
| Maximum inlet pressure | 0 - 1 bar (15 psi); max. 5 bar * (max. 72.5 psi *) |
| Liquid temperature range | -10 ... +50 °C (+14 ... +122 °F) |
| Viscosity range | 0.3 - 10,000 (0.3 - 50,000*) mPas |
| Precision CV | 1 % Coefficient of Variation CV% (Coefficient of variation CV) |
| Velocity range | 200 - 6,000 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 316; static seals: FPM, optional: EPDM, FFPM |
| Motor | Brushless DC-motor, 17 V DC, 40 W |
| Dimensions (L x W x H) | approx. 128 x 42 x 60 mm |
| Weight | approx. 850 g (Aluminum version approx. 430 g) |
| Remarks | * with optional additional axial bearing support |

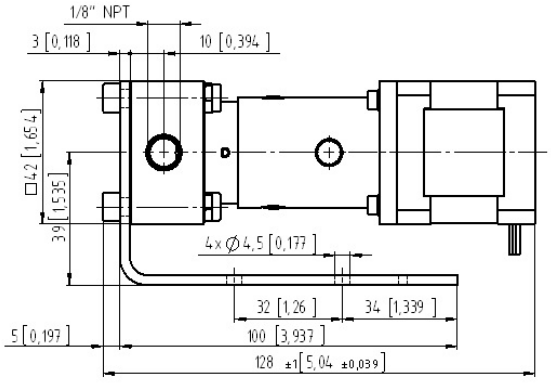
**Notice**
Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme. Actual performance may vary. Specifications are subject to change without notice. This document is subject to change without notice.

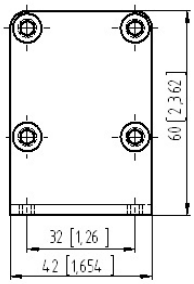
## Accessories

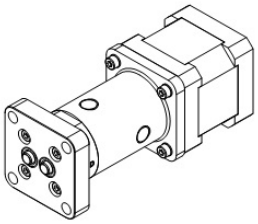
- Reservoir Plastic
- Additional axial bearing support
- S-KB-4

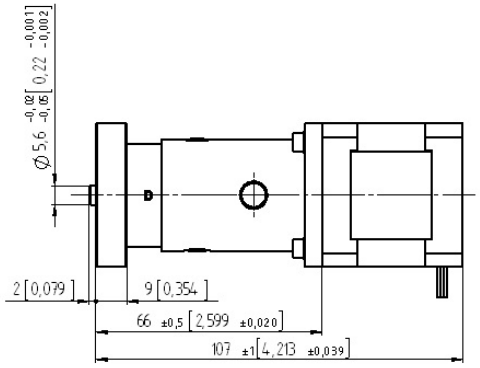
## Dimensions

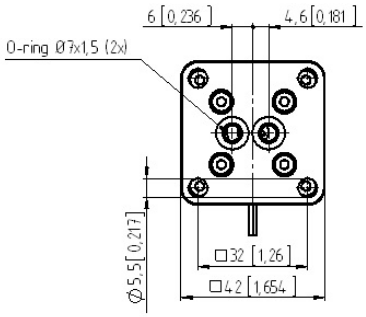


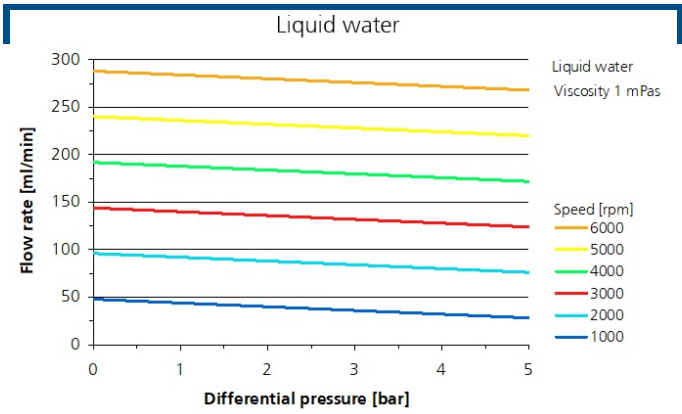

1/8" NPT
3 [0,118]
10 [0,394]
□42 [1,654]
39 [1,535]
4x Ø4,5 [0,177]
32 [1,26]
34 [1,339]
5 [0,197]
100 [3,937]
128 ±1 [5,04 ±0,039]

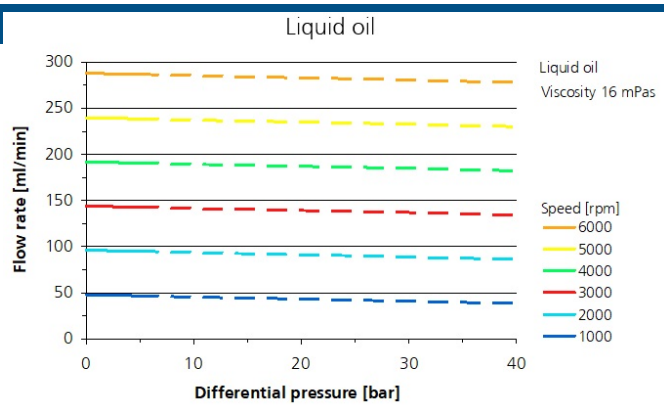

60 [2,362]
32 [1,26]
42 [1,654]




Ø5,6 -0,02 -0,06 [0,22 -0,001 -0,002]
2 [0,079]
9 [0,354]
66 ±0,5 [2,599 ±0,020]
107 ±1 [4,213 ±0,039]


6 [0,236]
4,6 [0,181]
O-ring Ø7x1,5 (2x)
Ø5,5 [0,217]
□32 [1,26]
□42 [1,654]


Liquid water
Flow rate [ml/min]
Differential pressure [bar]
Liquid water
Viscosity 1 mPas
Speed [rpm]
6000
5000
4000
3000
2000
1000


Liquid oil
Flow rate [ml/min]
Differential pressure [bar]
Liquid oil
Viscosity 16 mPas
Speed [rpm]
6000
5000
4000
3000
2000
1000

## Patents and trademarks

Our products are protected by the following national and international patents: DE 10 2018 129 631.2 B3; EP 3 884 162; CN 113 302 399 B; DE 10 2018 129 633.9 B3; EP 3 884 160; CN 113 272 553 B; DE 10 2018 129 634.7 B3; EP 3 884 527; DE 10 2018 129 635.5 B3; EP 3 762 165; DE 10146 793.1; EP 1 354 135 B1; US 7,698,818 B2; DE 10 2011 051 486 B4; EP 2 726 740 B1; US 9,404,492 B2; CN 103 732 921B; EP 2 640 977 B1; US 10,012,220 B2; CN 103 348 141 B; HK 1 185 648 B.
HNPM®, mzr®, MoDoS®, µ-Clamp®, µDispense®, LiquiDoS®, smartDoS®, colorDoS®, MSM®, are registered German trademarks of HNP Mikrosysteme GmbH.

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