# Product information

mzr-7259X2 Ex · Ex-versions

## Description

The micro annular gear pump mzr-7259X2 Ex of the hermetic inert pump series in its explosion proof version is used for highly precise, low pulsation small volume dosage even of aggressive and corrosive liquids. The compact design combined with high achievable pressures are unique features. The pumps are applied in the field of chemical and process technology. Thanks to the use of rotors and functional elements being made of ceramics, a magnetic coupling, and case components made out of alloy C22, this pump will take up any challenge in the chemical industry applications.

## Advantages

- Ex-certification ATEX conform with EU Directive 2014/34/EU
- Precision motor and sophisticated control ATEX DC-servomotor with integrated microcontroller
- Compact, chemically inert length 354 mm, alloy C22, SSiC, Al2O3 and ZrO2 ceramics
- Hermetically sealed magnetic coupling (NdFeB)
- High dosage precision precision CV < 1 % at low volumes
- Low pulsation delivery, low shear stress rotary micro annular gear technology, no valves

## Technical data

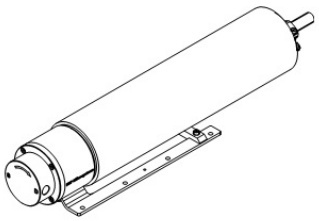
| | |
|---|---|
| Flow rate | 0.048 - 192 ml/min |
| Smallest dosage volume | 30 µl |
| Displacement volume | 48 µl |
| Differential pressure range | 0 bar (73 psi), (40 bar (580 psi) *) |
| Maximum inlet pressure | 80 bar (1160 psi) (inlet pressure + differential pressure) |
| Ambient temperature range | 0 ... +40 (+32 ... +104 °F) °C |
| Liquid temperature range | -5 ... +60 °C (+23 ... +140 °F), -20 ... +120 °C * (-290 ... +248 °F *) |
| Viscosity range | 0.3 - 100 mPas |
| Precision CV | < 1 % (Coefficient of variation CV) |
| Ex-certification | CE Ex II 2G IIC c T4 X |
| Place of installation | Ex-area zone 1, 2 |
| Fluid connection | 1/8" NPT internal thread, lateral |
| Wetted parts | Pump case alloy C22 (DIN 2.4602), optional: stainless steel 316L; seals FFPM (Kalrez® Spectrum™ 6375), optional: FPM, EPDM; shaft/bearing sintered silicon carbide (SSiC); bearing and wetted functional parts Al2O3 ceramics; rotors partially stabilized ZrO2, optional: tungsten carbide Ni-based |
| Motor | BLDC motor with integrated motion controller, 24 V DC, 2 A, 53 W, analog hall sensors (3000 pulses / revolution) |
| Velocity range | 1 - 4,000 rpm |
| Cable length | 10 m |
| Weight | approx. 4,900 g |
| Remarks | * with optional heat insulation module; Customized solutions on request. |

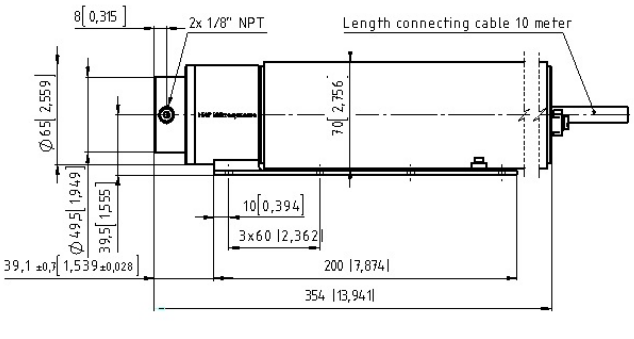
**Notice**
Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme.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

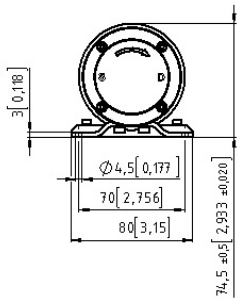
## Accessories

- Terminal box S-G05
- Heat insulation module
- mzr-Touch Control

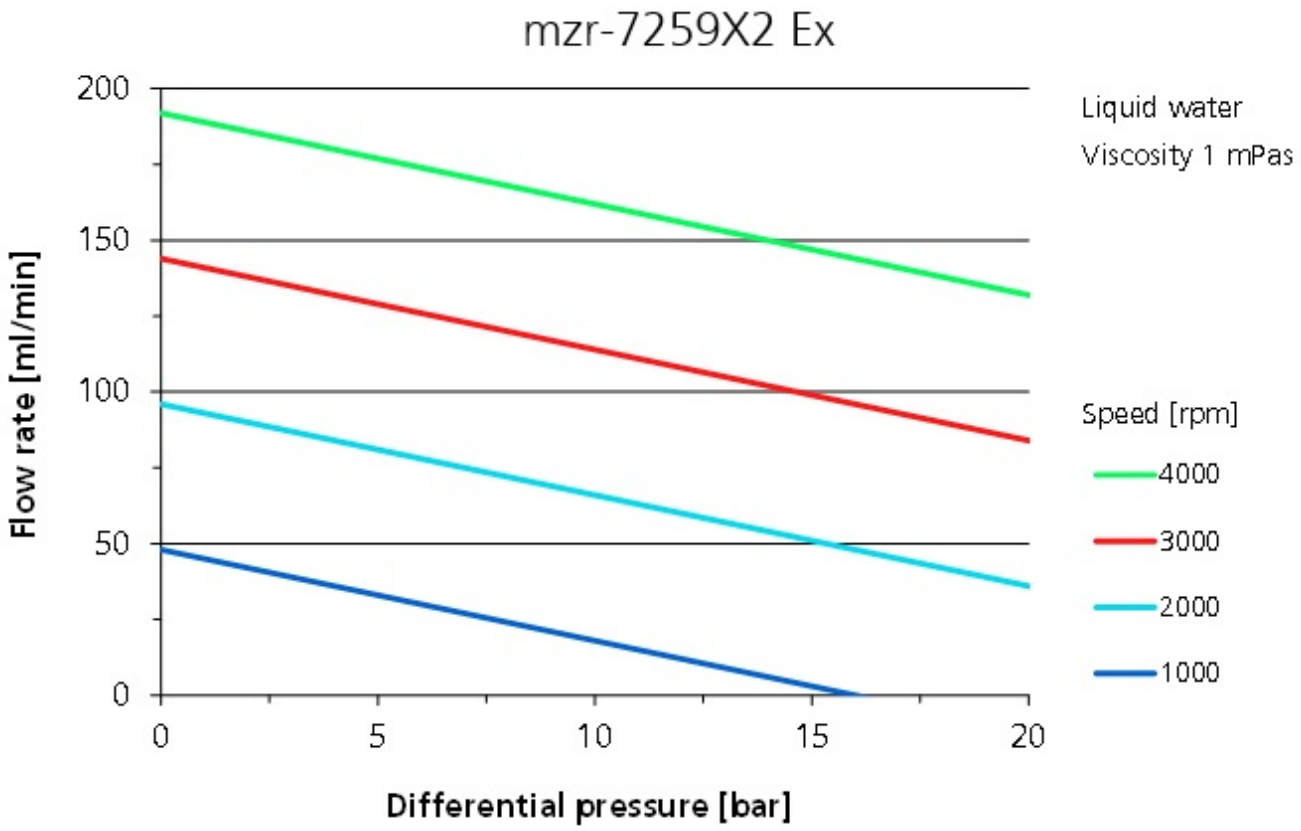
## Dimensions






## Flow charts



## 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.
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