Product information

mzr-2509X2 Ex · Ex-versions

Description

The micro annular gear pump mzr-2509X2 Ex cover the flow range 0.0015 - 6 ml/min. The highly precise, low pulsation small volume dosage even of non-lubricating liquids or at high pressure, the compact design of the Ex-pumps, the broad viscosity range and the small dimensions are unique features of this pump series. The pumps are applied in the field of chemical and process technology and are suitable for both continuous delivery and discrete dosage of watery solutions, solvents, oil and other viscous liquids. Accessories extending the operating parameters of the device are available.

Advantages

- Ex-certification ATEX conform with EU Directive 2014/34/EU
- Precision motor and sophisticated control ATEX DC-servomotor with integrated microcontroller
- High dosage precision precision CV < 1 % at low volumes
- Compact dimensions length < 356 mm, including Ex-motor
- Broad viscosity range methanol, solvents, adhesives, grease, gel
- Low pulsation delivery, low shear stress rotary micro annular gear technology

Technical data

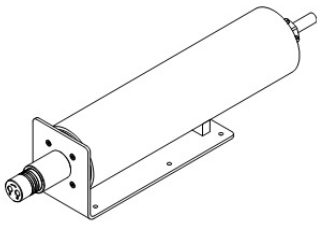
Flow rate	0.0015 - 6 ml/min
Smallest dosage volume	0.25 µl
Displacement volume	1.5 µl
Differential pressure range	0 – 5 bar (73 psi)
Maximum inlet pressure	0 - 5 bar (73 psi), max. 10 bar * (145 psi *)
Ambient temperature range	0 ... +40 (+32 ... +104 °F)°C
Liquid temperature range	-5 ... +40 °C (+23 ... +104 °F)
Viscosity range	0.3 - 5,000 mPas
Precision CV	< 1% (Coefficient of variation CV)
Ex-certification	CE Ex II 2G Ex h IIC T4 Gb
Place of installation	Ex-area zone 1, 2
Wetted parts	stainless steel 316L (1.4404, 1.4435), Ni-based tungsten carbide; shaft seal: graphite-reinforced PTFE, 316; static seals: FPM, optional: EPDM, FFPM
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. 3,200 g
Remarks	* with optional fluidic seal module, Customized solutions on request.

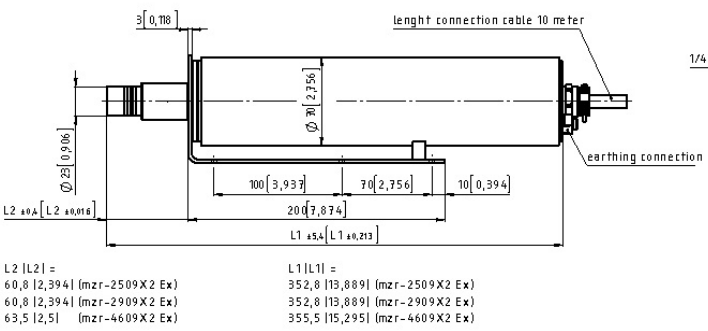
Notice
Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme. Actual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

Accessories

- Terminal box S-G05
- Reservoir Plastic
- mzr-Touch Control

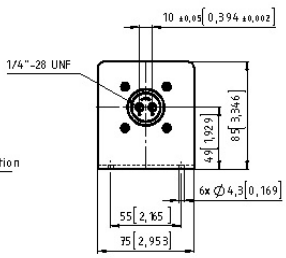
Dimensions mzr-2509X2 Ex





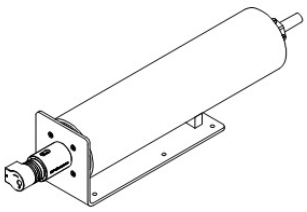
L2 |L2| =
60,8 |2,394| (mzr-2509X2 Ex)
60,8 |2,394| (mzr-2909X2 Ex)
63,5 |2,5| (mzr-4609X2 Ex)

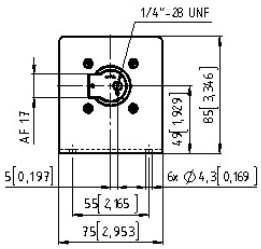
L1 |L1| =
352,8 |13,889| (mzr-2509X2 Ex)
352,8 |13,889| (mzr-2909X2 Ex)
355,5 |15,295| (mzr-4609X2 Ex)

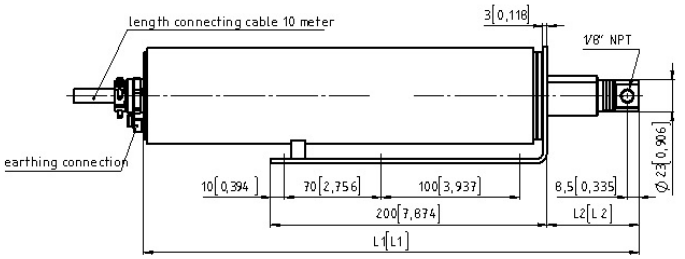


Dimensions are millimeters next to [inches].

Dimensions mzr-2509X2 S/F Ex







Dimensions are millimeters next to linches].

L1 [L1] =	L2 [L2] =
355,8 [14,008] (mzr-2509X2 S/F Ex)	63,8 [2,512] (mzr-2509X2 S/F Ex)
355,8 [14,008] (mzr-2909X2 S/F Ex)	63,8 [2,512] (mzr-2909X2 S/F Ex)
358,5 [14,114] (mzr-4609X2 S/F Ex)	66,5 [2,618] (mzr-4609X2 S/F Ex)

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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