

# performance data micro annular gear pumps · mzr®

## High performance pump series



The high performance pump series is well suited for **challenging dosing tasks** requiring high precision, a middle pressure range, high temperatures and viscosities ranging from 0.3 to 1,000,000 mPas. The pump has a double-sided bearing system and is driven by a powerful DC-servo motor with integrated control. With a large choice of additional modules such as the fluidic seal module, heating module, heat insulation module or gear modules, the high performance pumps are especially recommended for mechanical and plant engineering. Depending on the pump size, standardized connectors 1/4"-28 UNF, 1/8" NPT or 3/8" NPT are offered.

## Hermetic inert pump series



The hermetic and chemically inert series is almost **universally suitable for aggressive liquids** and therefore an innovation in pumping technology. Rotors and functional elements made from nickel-based tungsten carbide or ceramics like zirconia and alumina lend the pumps high chemical resistance and outstanding wear-resistance. With shaft and bearing material of hot isostatic pressed silicon carbide (SiC) and the housing components of alloy C22 (2.4602), the pumps can be used with demanding oxidizing and reducing liquids, acids, bases and solvents. The pumps are designed hermetically and driven by a torsion-proof NdFeB magnetic coupling.

## Ex-version



The high performance series pumps as well as the hermetic inert series pumps can be equipped with drives which have Ex-approval for **use in areas with potential explosion risk** or UL/CSA certification. The approval of the pumps is in compliance with ATEX according to the EU Directive 94/9/EC.

## Low pressure pump series



The pumps of the low pressure pump series are used in analytical instrumentation for precise dosage tasks **at low pressures and for low viscosities**. They are particularly suited for lowest volumes of non-lubricating liquids. Using DC mini motors, the pumps have small dimensions and low power consumption so that they can be easily integrated into OEM applications. The pumps are suitable for metering and dosing de-ionized water, watery solutions, solvents as well as low-viscosity oils and lubricants.

## Modular pump series



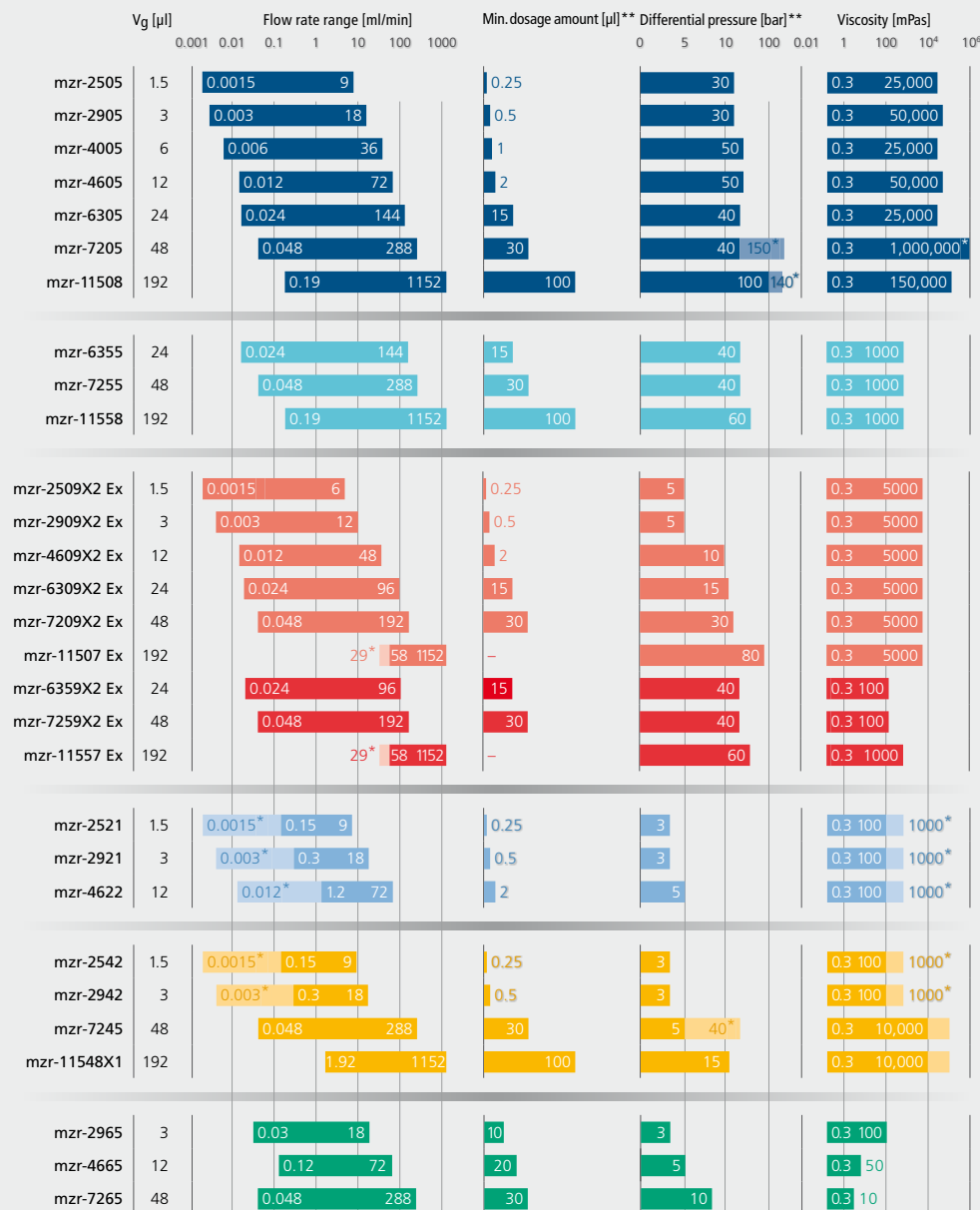
The modular micro annular gear pumps are suitable for use with **light corrosive liquids**. When equipped with oxide ceramic bearing components, the pump bodies as well as the rotors can be combined from different materials dependent on the liquid to be conveyed. The rotors are available in a zirconia based ceramic and, alternately in nickel-based tungsten carbide. Alloy C22, stainless steel 316 L, aluminium and PEEK™ form the different options for the wetted pump housing. The pump covers applications from analytical instrumentation to chemistry.

## Magnetic hermetic pump series



The pumps of the magnetic hermetic series are qualified to **handle crystallizing, air or moisture-sensitive liquids** because the pump has no shaft seal. This feature is made possible thanks to a liquid-separating cup surrounding the magnetic drive. The compact dimension of the pump is realized using a completely new product design and optimal coordination with an integrated speed controller. The pump can be used in all areas where leak-free operation and long service life as well as low energy consumption are important requirements.

## Technical Data



V<sub>g</sub> = Displacement volume  
 \* with additional equipment such as high-resolution encoder, gear box, special drive  
 \*\* depending on liquid and viscosity

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.