

# PRODUCT OVERVIEW

## HYDRA® METAL BELLOWS



### HYDRA Corrugated Bellows

Corrugated bellows combine high pressure resistance at low adjusting forces and optimised expansion absorption on all sides. The main application areas are valve construction, measuring and control technology, aerospace industry, and mechanical and plant engineering. Corrugated bellows are available in single- and multi-ply versions with a large range of dimensions and materials. Available with inner diameters from DN 3 and for design pressures of up to 500 bar. Bellows may be welded to customer-specific connecting elements as appropriate in the individual case.

#### Details

- Media-, corrosion- and temperature resistant
- Pressure resistant and flexible
- Long service life



### HYDRA Diaphragm Bellows

Diaphragm bellows are characterised by their high elasticity, very low spring rates, low hysteresis as well as high reversed bending strength and long service life. Application areas: mechanical engineering, vacuum technology, aerospace industry, medical technology, special valve construction, sealing element engineering, as slip-ring seals in pumps and compressors, and as volume compensation body on oil-cooled high-voltage insulators.

#### Details

- Expansion absorption of up to 80% of the overall length
- Standard material: stainless steel (1.4571)
- Normal or narrow profile versions available
- For large motions at small overall space needs



### HYDRA Valve Bellows

For the strictest requirements concerning pressure resistance, tightness, and axial absorption of motions at high load cycle safety. Optimised valve series' with reduced design height and made of various stainless steel grades are available, including 1.4511, 1.4541, 1.4571, 1.4404, and 1.4306. Versions made of special materials such as Hastelloy, Inconel, Incoloy are available on stock. TÜV-qualified welders and welding procedures, individual qualifications in high-security engineering, and worldwide approvals ensure that even the strictest acceptance requirements can be met.

#### Details

- ANSI class up to 2,500
- Pressure resistance up to 600 bar
- Wall thickness up to 8 x 0.50 mm



### HYDRA Bellows Couplings

Metal bellows are well-suited for use as permanent flexible coupling elements for applications in mechanical engineering and precision engineering. They enable direct transmission of force without play of starting and operating torques and compensate for axial, lateral or angular axle offset.

#### Details

- Maintenance-free and flexible coupling element
- Torsionally-rigid and flexible to bending at the same time
- Symmetrical design for low vibration, high-speed operation
- Ideal transmission of torque
- Long service life



### HYDRA Precision Bellows

A multi-ply miniature bellows with an internal diameter of only 3 mm is used as a high-precision dynamic sealing element in piezo injection technology. The delicate component is sufficiently flexible to permit the small rapid motions of the piezo element while keeping it absolutely dry. Used as a pressure accumulator in vehicles with a hybrid motor system, gastight metal bellows enable high braking power even when the combustion motor is switched off. Diaphragm bellows are used in medical technology as implants for drug dosing.

#### Details

- Design specifically adapted to customer requirements
- Minimal dimensions feasible
- Very clean due to clean room production
- High-throughput mass production



### FLEXPORTE® – The Design Software

Special-designed for designers, "FLEXPORTE" is a PC software for dimensioning and presenting expansion joints, metal bellows, metal hoses, and pipe supports. The menu-based application aids in the calculation and dimensioning of these products.

For more details, please visit [www.flexperte.de](http://www.flexperte.de)

#### Details

- Design of bellows applications
- Preparation of material data sheets
- Preparation of enquiries

