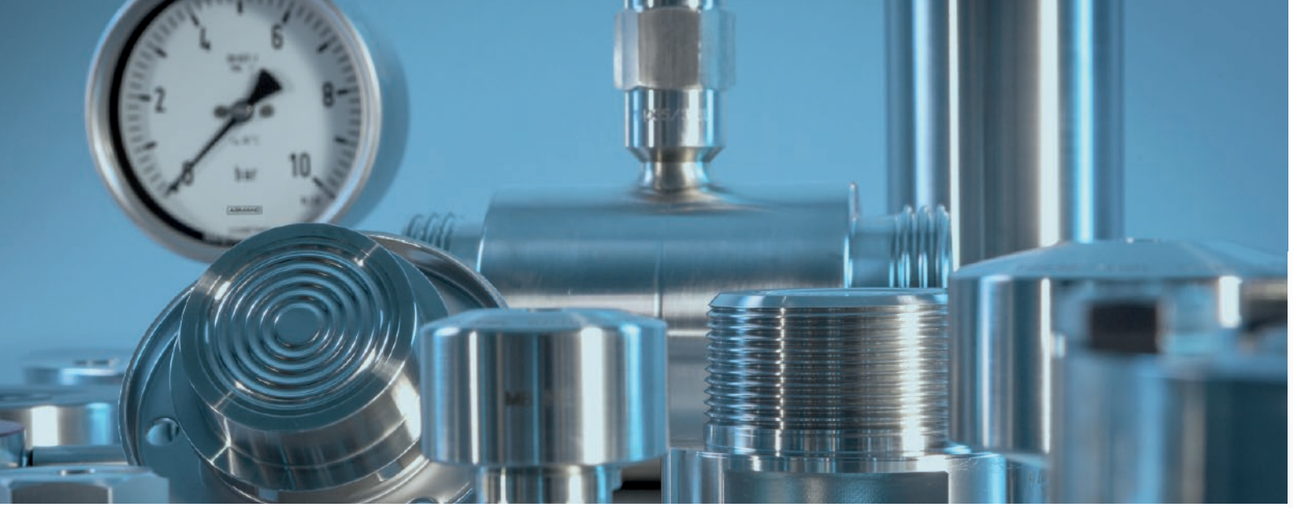
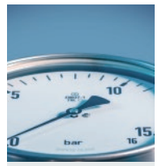


Your Partner for Pressure and Temperature Measurement

Customer-specific solutions for demanding measuring tasks

The ARMANO Messtechnik GmbH represents tradition and innovation in the production and distribution of precision pressure and temperature measuring instruments, which have an excellent reputation worldwide – for more than 120 years.
We are continually developing customer-specific solutions for a variety of applications requiring pressure and temperature measuring technology. Their use is manifold and there are always new applications.

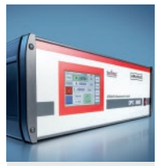
Our products at a glance



Mechanical pressure measurement

Electronic pressure measurement

Chemical seal mounting



Calibration technology

Mechanical temperature measurement

Electrical temperature measurement

Thermowells & Accessories

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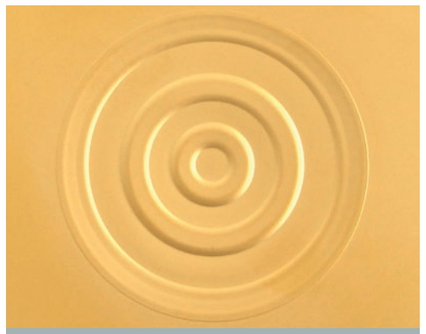
Chemical Seals

ARMANO

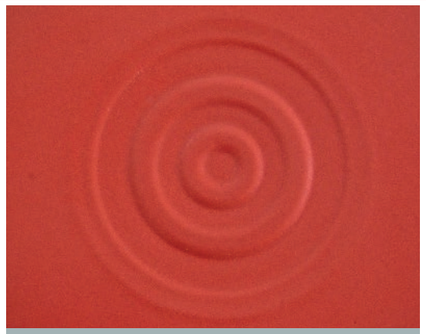
Materials, Foils and Coatings

For chemical seals

ARMANO Messtechnik GmbH

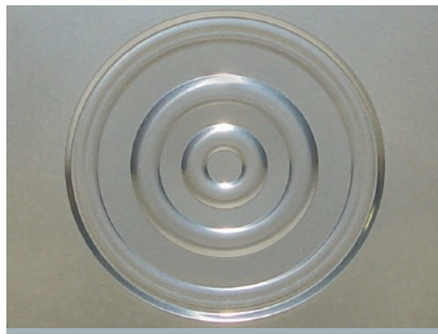

Tantalum

Gold


PFA (red)


PFA


PTFE (black)


Hastelloy (C4, C276)

Materials

Chemical seals are fitted if the medium must not come into contact with the measuring instrument. Depending on the medium, different materials are applied. If there are no special requirements, our standard material stainless steel 316L is used. If the requirements concerning the necessary resistance are increasing, we have several further materials that can be applied.

Stainless Steel

Steel

- is produced by alloying iron, chromium and nickel
- good resistance and medium compatibility

standard: 316L (1.4435, 1.4404)
options: 1.4571, 1.4529, 1.4539 (Uranus B6)

Duplex Steel

Steel

- features a two-phase austenitic-ferritic structure
- rust-proof and acid-proof
- high resistance to stress corrosion cracking

standard: 1.4462

Tantalum

Metallic material

- high corrosion resistance
- very wide range of applications
- resistant to numerous media

Monel

Nickel-based alloy

- very corrosion-resistant
- resistant to a large number of acids, alcaline solutions, seawater and the aggressive hydrofluoric acid (HF)

standard: 2.4360

Inconel

Nickel-based alloy

- corrosion-resistant
- especially used for high temperatures

standard: 2.4856

Hastelloy

Nickel-based alloy

- high corrosion resistance
- resistant to various aggressive media
- chemical and pharmaceutical industries

standard: C22, C276
upon request: C4

Titanium

Metallic material

- good corrosion resistance
- especially for highly oxidising and chloride-rich solutions

standard: 3.7035

Nickel

Metallic material

- particularly corrosion-resistant
- suitable for oxidising materials
- chemical industries

standard: 2.4068

The following factors may change the process suitability of the materials incl. membrane, wetted parts and coatings:

- temperature
- pressure
- oxidising environments
- applied sealing materials or seals
- position of installation
- medium composition
- chemical / mechanical medium properties (abrasion)

FDA U. S. Food and Drug Administration
NACE MR 0175 and MR 0103
food compatible
antistatic

Material including membrane
Wetted parts
Coating

Coatings and Foils

Coatings and foils on the membrane or other wetted parts further enhance the resistance for the application of critical media. Especially regarding media that must be locked against diffusion (permeation*), chemical seals offer special protection with the application of additional corresponding coatings.

PTFE (grey)

Synthetic material

- high chemical resistance, even with aggressive acids such as aqua regia

PTFE (black)

Synthetic material

- provides sufficient protection against permeation
- antistatic effect

PTC

Synthetic material

- in case of problems with wear and adherence, e.g. liquid concrete
- difficult shapes can be coated

PFA

Synthetic material

- outstanding non-adhesive properties
- resistant to almost all organic and inorganic chemicals

PFA (red)

(Ruby Red®)

- better protection against permeation than PFA without extenders e.g. against chemicals that attack synthetic materials as well as metals

Gold

Metal electroplating

- prevents the permeation of hydrogen

ECTFE (Halar®)

Synthetic material

- highly corrosion-resistant
- chemically, thermally as well as mechanically stable and resistant to most acids
- non-porous coating

Rubber Coating

Synthetic material

- protects from sharp-edged objects, e.g. in cement and concrete

*** Permeation**

Permeation is the superordinate term for diffusion. At permeation, the medium (e.g. chemicals) permeates the protective coating of the chemical seal and may damage it. In order to avoid this process, materials offering sufficient protection have to be applied.