The selection is detailed on page 4

# H22

# Flat Diaphragm Sanitary Clamp

## Product application

Hygienic application

Gas, compressed air, water vapor; Liquid, paste, powder and crystal media

Ultra-pure steam system

Install to pipes and containers

Pressure/vacuum monitoring, such as: vacuum conveyor belt, pump monitoring

## Functional characteristics

Easy to clean, no residue

Clamp connection, easy to clean and seal replacement

Suitable for SIP and CIP applications

Comply with ASME BPE standard

## Product description

Diaphragm seals protect measuring instruments from corrosive, viscous, crystalline, corrosive, environmentally harmful or toxic media. A diaphragm made of the appropriate material separates the measuring instrument from the measured medium. As a result, the measuring instrument can be used for the most difficult measurements as long as it is equipped with a proper diaphragm seal. The filling liquid inside the system (the most suitable liquid can be selected for the specific application) hydraulically conducts the pressure to the measuring instrument.

Diaphragm seals are available in different designs and materials to meet all application requirements. When selecting diaphragm seals, users need to pay attention to two important criteria: one is the type of process connector (flange, thread and sterile connector); The second is the basic manufacturing method

The Type H22 diaphragm seal with clamp joint is designed for aseptic processing applications and can be integrated into the process through the clamp and ensures excellent cleanability. The diaphragm seal system can withstand the high temperature of the clean steam during the SIP process and achieve a sterile connection between the tested medium and the diaphragm seal.

The diaphragm seal and measuring instrument can be assembled directly or via cooling elements or flexible capillaries.

In terms of material selection, Rodeweig offers a variety of solutions, the upper chamber of the diaphragm seal and the liquid part can be made of the same or different materials. As an alternative, the liquid part can be electropolished.

## Technical parameter

| Model H18 | Standard | selectable |
|---|---|---|
| Allowable pressure | 0... 0.1 MPa to 0... 4 MPa [0... 14.5 psi to 0... 580 psi] or all other negative or positive pressure ranges | |
| Cleanliness level of liquid connected components | No oil, no fat, in accordance with ASTM G93-03 standard F(<1,000 mg/m²) | No oil, no fat, in accordance with ASTM G93-03 standard C and ISO 15001 standard (<66mg/m²) |
| | | No oil, no fat, in accordance with ASTM G93-03 standard C and ISO 15001 standard (<220mg/m2) |
| Origin of raw materials for liquid parts | Internation | European Union, Switzerland, United States |
| Surface roughness of liquid connecting parts | Ra≤0.76 μm, Comply with ASME BPE SF3 (except welds) | Ra≤0.38 μm, In accordance with ASME BPE SF4, only applicable to electropolished surfaces (except welds) |
| Materials | Stainless Steel 1.4435 (316L) | - |
| How the instrument is connected | Axial adapter | Through G1/2, G1/4, 1/2NPT or 1/4NPT (internal thread) axial adapters |
| Installation mode | Direct connection | capillaries |
| | | Cooling element |
| Vacuum service | Basic vacuum treatment | Advanced high temperature and high vacuum treatment |
| | | High temperature and high vacuum treatment |
| Diaphragm seal marks | - | Meets valid 3-A standards |
| Meter mounting bracket (Capillary option only) | - | Model H, DIN 16281, 100mm, aluminum, black |
| | | Type H, DIN 16281, 100mm, stainless steel |
| | | Pipe bracket mounting for Ø20... 80 mm pipe, steel |

## Installation example

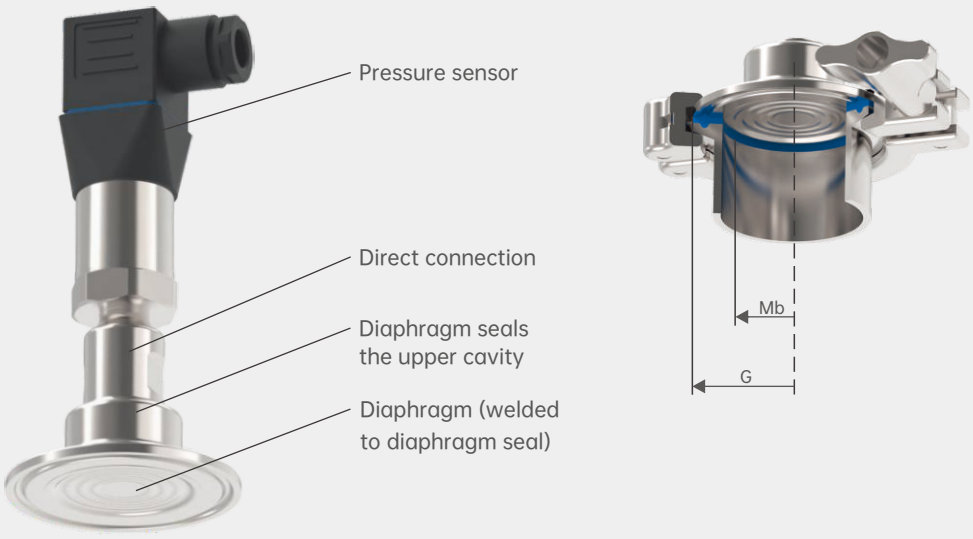
### Pressure sensor with type H22 diaphragm seal installed

legend

Mb Effective diaphragm diameter

G Screw thread

D Diaphragm seal outer diameter/retainer flange

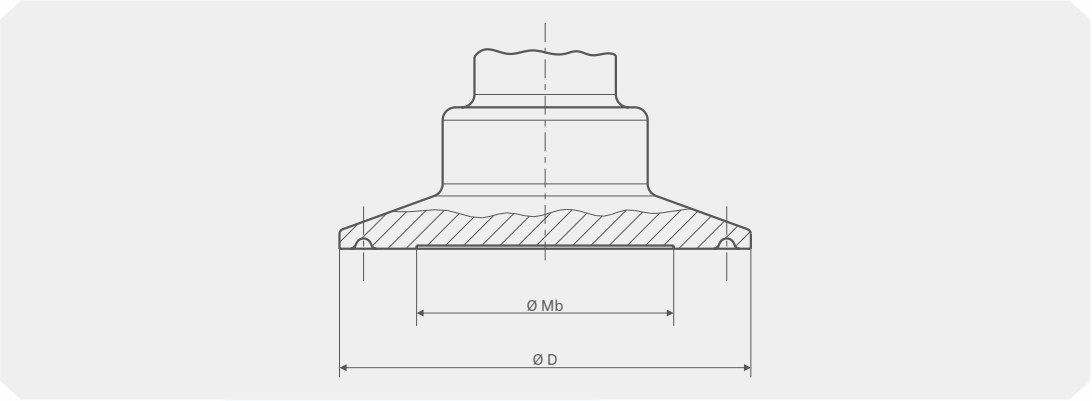



## Combination of materials

| Diaphragm seals the upper part | Liquid connection unit | Maximum permissible process temperature (°C/°F)[1] |
|---|---|---|
| Stainless steel 1.4435 (316L) | Stainless steel 1.4435 (316L) | 400/752 |
| hastelloy C22 (2.4602) | hastelloy C22 (2.4602) | |
| hastelloy C276 (2.4819) | hastelloy C276 (2.4819) | |

1) Process temperature limits for diaphragm sealing systems depend on the connection type, system filling fluid, and measuring instrument

## Size mm [in]




### Process connections comply with DIN 32676 clamp connections
### Compliance with DIN 11866 Line B and ISO 1127 Line 1 piping standards

| DN | PN | Size mm [in] | | | |
|---|---|---|---|---|---|
| | | Pipe diameter x wall thickness | In the region | D | Mb |
| 26.9 | 40 | 26.9 x 1.6 [1.059 x 0.063] | 23.7 [0.933] | 50.5 [1.988] | 22 [0.866] |
| 33.7 | 40 | 33.7 x 2 [1.327 x 0.079] | 29.7 [1.169] | 50.5 [1.988] | 25 [0.984] |
| 42.4 | 40 | 42.4 x 2 [1.669 x 0.079] | 38.4 [1.512] | 64 [2.52] | 32 [1.26] |
| 48.3 | 40 | 48.3 x 2 [1.902 x 0.079] | 44.3 [1.744] | 64 [2.52] | 40 [1.575] |
| 60.3 | 40 | 60.3 x 2 [2.374 x 0.079] | 56.3 [2.217] | 77.5 [3.051] | 52 [2.047] |
| 76.1 | 25 | 76.1 x 2 [2.996 x 0.079] | 72.1 [2.839] | 91 [3.583] | 72 [2.835] |

### Process connection: Clamp connection according to DIN 32676
### Conforming to DIN 11866 C line or ASME BPE piping standards

| DN | PN | Size mm [in] | | | |
|---|---|---|---|---|---|
| | | Pipe diameter x wall thickness | In the region | D | Mb |
| 1" | 40 | 25.4 x 1.65 [1 x 0.065] | 22.1 [0.87] | 50.5 [1.988] | 22 [0.866] |
| 1 ½" | 40 | 38.1 x 1.65 [1.5 x 0.065] | 34.8 [1.37] | 50.5 [1.988] | 32 [1.26] |
| 2" | 40 | 50.8 x 1.65 [2 x 0.065] | 47.5 [1.87] | 64 [2.52] | 40 [1.575] |
| 2 ½" | 40 | 63.5 x 1.65 [2.5 x 0.065] | 60.2 [2.37] | 77.5 [3.051] | 52 [2.047] |
| 3" | 25 | 76.2 x 1.65 [3 x 0.065] | 72.9 [2.87] | 91 [3.583] | 72 [2.835] |

### Process connection: Clamp connection according to BS4825 Part 3
### Piping standard according to BS4825 Part 3 and outer diameter

| DN | PN | Size mm [in] | | | |
|---|---|---|---|---|---|
| | | Pipe diameter x wall thickness | In the region | D | Mb |
| 25,4 | 40 | 25.4 x 1.6 [1 x 0.063] | 22.2 [0.874] | 50.5 [1.988] | 22 [0.866] |
| 38,1 | 40 | 38.1 x 1.6 [1.5 x 0.063] | 34.9 [1.374] | 50.5 [1.988] | 32 [1.26] |
| 50,8 | 40 | 50.8 x 1.6 [2 x 0.063] | 47.6 [1.874] | 64 [2.52] | 40 [1.575] |
| 63,5 | 40 | 63.5 x 1.6 [2.5 x 0.063] | 60.3 [2.374] | 77.5 [3.051] | 52 [2.047] |
| 76,2 | 25 | 76.2 x 1.6 [3 x 0.063] | 73 [2.874] | 91 [3.583] | 72 [2.835] |

## H22-Selection composition

Selection example H22 A P Y (1 2 3)

| | | |
|---|---|---|
| 1.Meter connection specification | A | 1 NPT |
| | B | 1/2NPT |
| | C | 1/4NPT |
| | D | M14*1.5 |
| | E | M20*1.5 |
| | F | M27*2 |
| | G | G 1 |
| | H | G1/2 |
| | I | G1/4 |
| | T( ) | Other connection specifications |
| 2.Chuck diameter (mm) | N | 50.5 |
| | O | 64 |
| | P | 77.5 |
| | Q | 91 |
| | T( ) | Other chuck diameters |
| 3.Material | X | Carbon steel |
| | Y | 304SS |
| | Z | 316L |
| | T( ) | Other materials |

### Instructions:

Indicates that the H22 diaphragm seal is connected to the instrument with the specification of G1/2, and the chuck diameter is 50.5mm, and the material is 304 stainless steel.

## Product Certification

Compliance and approval; Rodeweig pressure gauges meet key standards and certifications for process measurement technology; Thus guaranteeing the highest reliability in such Settings;