

# Diaphragm seals threaded types

## Model DS21

ASME B40.100

### Features

- Removable diaphragm seal capsule
- Interchangeable components
- Removable top and bottom housing
- Variety of wetted parts materials

### Ranges

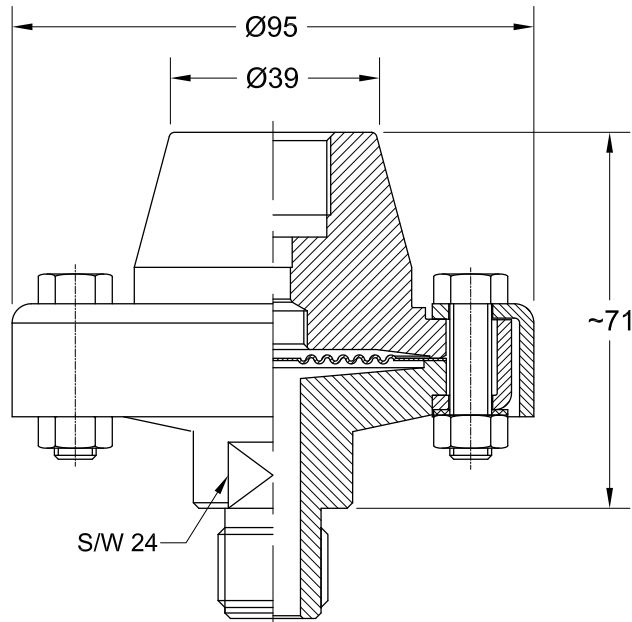
15 psi up to 1000 psi  
 1 kg/cm<sup>2</sup> up to 100 bar & kg/cm<sup>2</sup>  
 100 kPa up to 10000 kPa

### Applications

Chemical and petrochemical industry  
 Machine and apparatus construction  
 Offshore installations  
 Pulp and paper industry  
 Waste water treatment



| Technical specification  | DS21   |
|--|--|
| Process connection size (ISO 228-1 / ASME B1.20.1)                                       | 1/4" 3/8" 1/2" BSP / NPT, M20x1.5, others on request   |
| Construction<br>Fill port<br>Flushing connection<br>Flushing connection size             | Bolted top and bottom housing, removable for easy maintenance and changeable capsules<br>At the side with stainless steel ball and set screw<br>Optional flushing<br>1/4" NPT female   |
| Maximum pressure<br>Metal bottom housing [psi / bar]<br>Other bottom housing [psi / bar] | 1500 / 100<br>150 / 10   |
| Measuring principle  | Screwed capsule  |
| Instrument connections [female]  | 3/8" BSP, 1/2" NPT, others on request  |
| Material (wetted parts)<br>Bottom housing<br>Diaphragm (metal type)                      | Stainless steel 316, Polypropylene, PVC, Monel, Hasteloy-C 276, SS 316 with teflon protection,<br>Stainless steel 316L (1.4404), stainless steel 304L (1.4306), K-Monel, Hasteloy-C 276, Hasteloy B, Nickel, Carpenter 20, Tantalum  |
| Material (non-wetted parts)<br>Top housing<br>Clamp rings<br>Bolts and nuts              | Stainless steel 304, optional 316<br>Steel painted black, optional stainless<br>Stainless steel 300 series   |
| Accuracy   | Additional 0,5 % to the specified tolerance of the mounted instrument  |
| Filling liquids (temperature range)  | Glycerin (0/400 °F, -18/204 °C),<br>Silicone (-40/600 °F, -40/315 °C),<br>Halocarbon (-70/300 °F, -56/149 °C),<br>Syltherm 800 (-40/750 °F, -40/400 °C),<br>Vegetable oil (32/248 °F, 0/120 °C),<br>Food grade silicone (-13/400 °F, -25/200 °C),<br>Others on request, also depending on selected material and configuration. |
| Mounting   | Direct or with capillary   |
| Weight in kg   | 1.32   |
| Accessories, options   | NACE, pressure gauges, pressure switches, transducer, capillaries  |

**General dimensions in mm**

**Order information**

| Process connection | Type | Diaphragm           | Bottom housing material                       | Instrument connection | Filling fluid  | Options  |
|--------------------|------|---------------------|---|-----------------------|--|--|
| (06) 1" NPT(M)     | DS21 | (S) 316L            | (S) 316                                       | (14T) 3/8 BSP (F)     | (CG) Glycerin<br>(direct mounted,<br>-18/204 °C)                                 | (NH) Tagging wired   |
| (05) 3/4" NPT(M)   |      | (C) 304L            | (L) 316L                                      | (04T) 1/2" NPT (F)    | (CK) Silicone<br>(direct mounted or with<br>capillary, -40/315 °C)               | (OF) Oil free (only filled with<br>halocarbon)                               |
| (04) 1/2" NPT(M)   |      | (D) Carpenter<br>20 | (SP) 316 with teflon<br>lined <sup>1)3)</sup> |                       | (CF) Halocarbon<br>(direct mounted or with<br>capillary, -56/149 °C)             | (YT) Stainless steel 316 top<br>housing                                      |
| (03) 3/8" NPT(M)   |      | (G) Hastelloy B     | (PP) Polypropylene <sup>2)</sup>              |                       | (HA) Syltherm 800<br>(direct mounted or with<br>capillary, -40/400 °C)           | (SE) Stainless steel clamp<br>rings  |
| (02) 1/4" NPT(M)   |      | (H) Hastelloy C     | (V) PVC <sup>2)</sup>                         |                       | (GZ) Vegetable oil<br>(direct mounted or with<br>capillary, 0/120 °C)            | (PU) Flushing connection<br>1/4" NPT (F) <sup>5)</sup>                       |
| (18) 1" BSP(M)     |      | (N) Nickel          | (H) Hastelloy C                               |                       | (CZ) Food grade<br>silicone<br>(direct mounted or with<br>capillary, -25/200 °C) | (CA) Stainless steel armored<br>capillary <sup>4)</sup>                      |
| (17) 3/4" BSP(M)   |      | (P) K-Monel         | (M) Monel 400                                 |                       |  | (CP) Stainless steel armored<br>capillary with PVC<br>sleeving <sup>4)</sup> |
| (15) 1/2" BSP(M)   |      | (U) Tantalum        |   |                       |  |  |
| (14) 3/8" BSP(M)   |      |                     |   |                       |  |  |
| (13) 1/4" BSP(M)   |      |                     |   |                       |  |  |
| (16) M20x1.5(M)    |      |                     |   |                       |  |  |
| (06T) 1" NPT(F)    |      |                     |   |                       |  |  |
| (05T) 3/4" NPT(F)  |      |                     |   |                       |  |  |
| (04T) 1/2" NPT(F)  |      |                     |   |                       |  |  |
| (02T) 1/4" NPT(F)  |      |                     |   |                       |  |  |
|                    |      |                     |   |                       | others on request  |  |

1) Restricted to maximum temperature 200 °C, pressure 40 bar

2) Max. Rating / temperature limit: 200 psi / 14 bar at 74 °F / 23 °C; 125 psi / 8.6 bar at 125 °F / 52 °C; 80 psi / 5.5 bar at 150 °F / 65 °C

3) Not for process connection (02), (13), (06T), (05T), (04T), (02T), not available with option PU

5) Not for (SP), (PP) & (V)

**How to order**

|                    |      |           |                         |                       |               |        |
|--------------------|------|-----------|-------------------------|-----------------------|---------------|--------|
| Process connection | Type | Diaphragm | Bottom housing material | Instrument connection | Filling fluid | Option |
| 04                 | DS21 | S         | S                       | 14T                   | CK            | CA1.0  |