# D418

Diaphragm seal with compact process flange

## Main Features

- High pressure version
- Pressure range from 4 bar to 400 bar
- Temperature -60 °C … 400 °C
- Class 150 to 2500
- NPS 1/2" to 1"
- DN15 to DN25

## Applications

- Oil & Gas / Chemical
- Water / Waste water
- Energy
- Process technic

## Technical Data

The diaphragm seals are used to protect the measuring instrument from high temperature, aggressive, crystalizing or corrosive media.

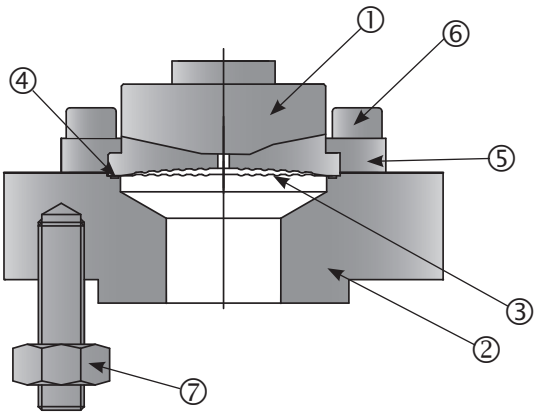
The design of the process flange allows direct mounting on standardized flange connections of pipes or tanks.

The series D418 should be used especially for the measurement of medium and high pressure on process flanges with small diameters and high pressure ratings. These products can also be used in processes with fluid temperatures > 200 °C. For applications with lower temperatures and pressure ratings, it is recommended to check, if the series D415 or D425 can be used.

The filling fluid of the measuring system has to be choosen compatible to the application.

| | |
|---|---|
| Pressure ranges | 0 ... 4 bar to 0 ... 400 bar<br>(min. -1 ... 5 bar for compound pressure) |
| Temperature | -60 °C ... +400 °C |
| Filling liquids | LRS1: -15 °C ... +150 °C<br>LRS9: -40 °C ... +400 °C high temperature oil<br>Other liquids on request |
| Mounting | Direct |
| Process flange | Stainless steel 1.4404 (AISI 316L) [1] |
| Flange types | **ASME B16.5 / EN1759-1 :**<br>class 150 to 2500, NPS 1/2" to 1" (DN15 to DN25)<br>Available flange faces see table on page 2.<br>Other flange types on request. |
| Diaphragm | Stainless steel 1.4435 (AISI 316L)<br>Option: Hastelloy |
| Maximum pressure | According to the class of the flange and its standardized pressure temperature relation |

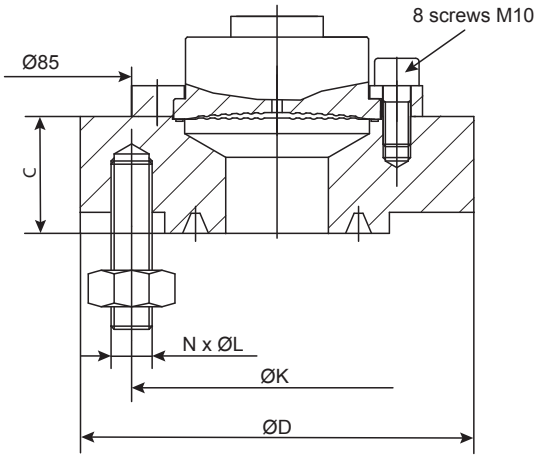
## Materials




| | N° | D418 |
|---|---|---|
| **Upper part** | ① | Stainless steel 1.4404 |
| **Process flange** | ② | Stainless steel 1.4404 [1] |
| **Diaphragm** | ③ | Stainless steel 1.4435 [1] |
| **Gasket** | ④ | Graphite |
| **Fixing flange** | ⑤ | Stainless steel 1.4404 |
| **Screws** | ⑥ | Stainless steel A4-70 |
| **Screws / nuts** | ⑦ | ASTM A 193 B7M / A 194 2HM |

[1] Others materials see ordering details on page 3.

## Dimensions (mm)

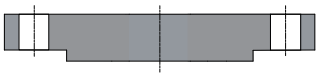
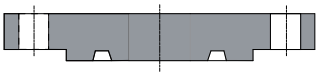



## Flange dimensions (mm) ANSI B16-5 / EN 1759-1

| DN | Class | Ø D | Ø K | C | Ø L | | N | Weight (kg) |
|---|---|---|---|---|---|---|---|---|
| | | | | | ISO [1] | ASME [1] | | |
| 1/2" (DN15) | 150 | 89 | 60.3 | 35 | M14 | 1/2 UNC | 4 | 2.3 |
| | 300 | 95 | 66.7 | 37 | M14 | 1/2 UNC | 4 | 2.6 |
| | 600 | 95 | 66.7 | 37 | M14 | 1/2 UNC | 4 | 2.8 |
| | 900 | 121 | 82.6 | 38 | M20 | 3/4 UNC | 4 | 3.8 |
| | 1500 | 121 | 82.6 | 38 | M20 | 3/4 UNC | 4 | 3.8 |
| | 2500 | 133 | 88.9 | 38 | M20 | 3/4 UNC | 4 | 4.4 |
| 3/4" (DN20) | 150 | 99 | 69.8 | 38 | M14 | 1/2 UNC | 4 | 2.7 |
| | 300 | 117 | 82.6 | 38 | M16 | 5/8 UNC | 4 | 3.6 |
| | 600 | 117 | 82.6 | 38 | M16 | 5/8 UNC | 4 | 3.6 |
| | 900 | 121 | 82.6 | 38 | M20 | 3/4 UNC | 4 | 4.3 |
| | 1500 | 121 | 82.6 | 38 | M20 | 3/4 UNC | 4 | 4.3 |
| | 2500 | 133 | 88.9 | 38 | M20 | 3/4 UNC | 4 | 5 |
| 1" (DN25) | 150 | 108 | 79.4 | 38 | M14 | 1/2 UNC | 4 | 3.1 |
| | 300 | 124 | 88.9 | 38 | M16 | 5/8 UNC | 4 | 3.9 |
| | 600 | 124 | 88.9 | 38 | M16 | 5/8 UNC | 4 | 3.9 |
| | 900 | 121 | 82.6 | 40 | M24 | 7/8 UNC | 4 | 5.4 |
| | 1500 | 121 | 82.6 | 40 | M24 | 7/8 UNC | 4 | 5.4 |
| | 2500 | 133 | 88.9 | 40 | M24 | 7/8 UNC | 4 | 6.1 |

[1] see codification on page 3.

## Ordering codes for flange faces

| Face Type | Drawing | ANSI B16-5 | Codes | EN 1759-1 | Codes |
|---|---|---|---|---|---|
| Raised face |  | Raised face (2) [1]<br>Raised face (7) [2]<br>Ra = 3.2...6.3 µm | G<br>R | Type B (1.6) [1]<br>Type B (6.4) [2]<br>Ra = 3.2...6.3 µm | G<br>R |
| Ring joint face |  | Ring joint face<br>Ra = 0.4...1.6 µm | Q | Type J<br>Ra = 0.4...1.6 µm | Q |

[1] Class 150 and 300
[2] Class 600, 900, 1500 and 2500

# D418

## Diaphragm seal with compact process flange

## Ordering details D418

D418 – . . . . . .

**Model**
Flange diaphragm seal D418

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**Upper part material**
Stainless steel 1.4404 (316L) 2

**Mounting**
Direct 1

**Outlet position**
Axial outlet 0

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**Capillary length**
Without capillary 0

**Instrument connection**
G1/2 female L
1/2NPT female N

**Diaphragm material**
Stainless steel 316L (1.4435) 2
Hastelloy C276 (2.4819) 6

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**Diaphragm coating**
No coating 0
Gold coating 15 µm 7

**Flange standard**
ANSI B16-5 2
EN 1759-1 6

**PN/Class**
**ANSI B16-5 / EN 1759-1**
Class 150 1
Class 300 2
Class 600 3
Class 900 4
Class 1500 5
Class 2500 6

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**DN/NPS**
**ANSI B16-5 / EN 1759-1**
NPS 1/2" (DN15) 2
NPS 3/4" (DN20) 3
NPS 1" (DN25) 4

**Flange face type**
See table page 2 (codes) x

**Flange face finish**
Standard finish 0

**Vent valve**
0 Without
1 SW1/4 OD 10 valve [1]
9 SW1/4 OD 3/8 valve [1]

**Drain valve (bottom hole)**
0 Without
1 SW1/4 OD 10 valve [1]
9 SW1/4 OD 3/8 valve [1]

**Heat tracing circuit**
0 Without

.

**Bolts**
M ISO (metric) [2]
A ASME (UNC)

**Process flange coating**
0 Without

**Flange material**
L Hot-rolled NACE compliant 1.4404 [3] EN 10083-3
M Forged NACE compliant 1.4404

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[1] Except class 2500
[2] Except flange ANSI B16-5
[3] Only for class 150, 300, 600 and 900