

Flanged Diaphragm Seals

| Process Connection size | BF | BRF | EXT | BC | BRC | US-F | USL-F | FSO-BF | FSO-EXT | FSO-BRF | ILS-F |
|-------------------------|-----------------|-----|-----|----|-----|------|-------|--------|---------|---------|-------|
| ASME B16.5 | EN1092-1 | | | | | | | | | | |
| ½" | | | | | | ● | ● | | | | |
| ¾" | | | | | | ○ | ○ | | | | |
| 1" | ● | ● | | ○ | ○ | ● | ● | ● | | ● | ● |
| 1,25" | ○ | ○ | | | | ○ | ○ | ○ | | ○ | |
| 1,5" | ● | ● | | ○ | ○ | ● | ● | ● | | ● | ● |
| 2" | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 2,5" | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3" | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 4" | ● | ● | ● | ● | ● | | | ○ | ● | ● | ● |
| 5" | | | | | | | | | | | ● |
| 6" | | | | | | | | | | | ● |
| JIS B2220 | ● | ● | ● | ● | ○ | ○ | ○ | ○ | ○ | ○ | |
| API 6A ISO 10423 | ● | | | ○ | | | | ○ | | | |

| Process Connection Rating | BF | BRF | EXT | BC | BRC | US-F | USL-F | FSO-BF | FSO-EXT | FSO-BRF | ILS-F |
|---------------------------|----|-----|-----|----|-----|------|-------|--------|---------|---------|-------|
| ASME B16.5 | | | | | | | | | | | |
| <i>cl. 150-2500</i> | | | | ● | ● | | | | | | ● |
| <i>cl. 150</i> | ● | ● | ● | ○ | ○ | ● | ● | ● | ● | ● | |
| <i>cl. 300</i> | ● | ● | ● | ○ | ○ | ● | ● | ● | ● | ● | |
| <i>cl. 400</i> | ● | ● | ● | ○ | ○ | ● | ● | ● | ● | ● | |
| <i>cl. 600</i> | ● | ● | ● | ○ | ○ | ● | ● | ● | ● | ● | |
| <i>cl. 900</i> | ● | ○ | ● | ○ | ○ | ● | ○ | ● | ● | ○ | |
| <i>cl. 1500</i> | ● | ○ | ● | ○ | ○ | ● | ○ | ● | ● | ○ | |
| <i>cl. 2500</i> | ● | ○ | ● | ○ | ○ | | | ● | ● | ○ | |
| EN 1092-1 | | | | | | | | | | | |
| <i>PN10-400</i> | | | | ● | ● | | | | | | ● |
| <i>PN2,5</i> | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>PN6</i> | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>PN10</i> | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>PN16</i> | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>PN25</i> | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>PN40</i> | ● | ● | ● | ○ | ○ | ● | ● | ○ | ○ | ○ | |
| <i>PN63</i> | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>PN100</i> | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>PN160</i> | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>PN250</i> | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>PN400</i> | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | ○ | |
| JIS B2220 | ● | ● | ● | ● | ○ | ○ | ○ | ○ | ○ | ○ | |
| API 6A ISO 10423 | ● | | | ○ | | | | ○ | | | |

| Flange Facings | BF | BRF | EXT | BC | BRC | US-F | USL-F | FSO-BF | FSO-EXT | FSO-BRF | ILS-F |
|--------------------------------|----|-----|-----|----|-----|------|-------|--------|---------|---------|-------|
| ASME B16.5 | | | | | | | | | | | |
| <i>Raised Face (RF)</i> | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| <i>Ring Joint Face (RJF)</i> | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| <i>Large Male Face (LMF)</i> | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>Small Male Face (SMF)</i> | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| <i>Flat Face (FF)</i> | ○ | ○ | ○ | | | ○ | ○ | | | | |
| <i>Large Tongue Face (LTF)</i> | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| <i>Small Tongue Face (STF)</i> | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| <i>Large Groove Face (LGF)</i> | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| <i>Small Groove Face (SGF)</i> | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| <i>Large Female Face (LFF)</i> | ○ | | | | | ○ | ○ | ○ | | | |
| <i>Small Female Face (SFF)</i> | ○ | | | | | ○ | ○ | ○ | | | |
| 1092-1 | | | | | | | | | | | |
| <i>Type A</i> | ○ | ○ | ○ | | | ○ | ○ | | | | ○ |
| <i>Type B1</i> | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |
| <i>Type B2</i> | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| <i>Type C</i> | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| <i>Type D</i> | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| <i>Type E</i> | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| <i>Type F</i> | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| <i>Type G</i> | ○ | | | | | ○ | ○ | ○ | | | ○ |

● = standard / ○ = optional

| Flange Facings | BF | BRF | EXT | BC | BRC | US-F | USL-F | FSO-BF | FSO-EXT | FSO-BRF | ILS-F |
|----------------|----|-----|-----|----|-----|------|-------|--------|---------|---------|-------|
| Type H | ○ | | | | | ○ | ○ | ○ | | | ○ |
| JIS | | | | | | | | | | | |
| FF | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| RF | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |
| MFM | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| MFF | ○ | | ○ | ○ | | ○ | ○ | ○ | ○ | | ○ |
| TGT | ○ | | ○ | ○ | | ○ | ○ | ○ | ○ | | ○ |
| TGG | ○ | | ○ | ○ | | ○ | ○ | ○ | ○ | | ○ |
| API | | | | | | | | | | | |
| 6BX - RJF | ● | | | ○ | | | | | | | |
| 6B - RJF | ● | | | ○ | | | | | | | |

| Diaphragm Material | BF | BRF | EXT | BC | BRC | US-F | USL-F | FSO-BF | FSO-EXT | FSO-BRF | ILS-F |
|-----------------------------|----------------|-----|----------------|----------------|-----|----------------|----------------|----------------|----------------|---------|-------|
| AISI 316(L) UNS S 31603 | ● | | ● | ● | | ● | ● | ● | ● | | ● |
| Monel 400 UNS N 04400 | ○ ¹ | ○ | ○ ¹ | ○ ¹ | ○ | ○ | ○ | ○ ¹ | ○ ¹ | ○ | |
| Hastelloy C-276 UNS N 10276 | ○ | ● | ○ | ○ | ● | ○ | ○ | ○ | ○ | ● | ○ |
| Hastelloy B2 UNS N 10665 | ○ ¹ | ○ | ○ ¹ | ○ ¹ | ○ | ○ | ○ | ○ ¹ | ○ ¹ | ○ | |
| Tantalum UNS R 05200 | | ○ | | | ○ | ○ | ○ | | | ○ | |
| Nickel 201 UNS N 00201 | | ○ | | ○ ¹ | ○ | | | ○ ¹ | ○ ¹ | ○ | |
| Niobium UNS R 04200 | | ○ | | | ○ | | | | | ○ | |
| AISI 321 UNS S 32100 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Duplex 2205 UNS S 31803 | ○ ¹ | ○ | ○ ¹ | ○ ¹ | ○ | ○ | ○ | ○ ¹ | ○ ¹ | ○ | |
| Titanium Gr. 1 UNS R 50250 | | | | ○ ¹ | | ○ ¹ | ○ ¹ | ○ ¹ | ○ ¹ | | |
| Inconel 600 UNS N 06600 | ○ ¹ | ○ | ○ ¹ | ○ ¹ | ○ | ○ | ○ | ○ ¹ | ○ ¹ | ○ | |
| AISI 304(L) UNS S 30403 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| AISI 316 UG UNS S 31603 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |

¹) complete body material

| Body Material | BF | BRF | EXT | BC | BRC | US-F | USL-F | FSO-BF | FSO-EXT | FSO-BRF | ILS-F |
|------------------------------|----|-----|-----|----|-----|------|-------|--------|---------|---------|-------|
| AISI 316(L) UNS S 31603 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Monel 400 UNS N 04400 | ○ | | ○ | ○ | | ○ | ○ | ○ | ○ | | |
| Hastelloy C-276 UNS N 10276 | ○ | | ○ | ○ | | ○ | ○ | ○ | ○ | | |
| Duplex F51 UNS S 31803 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| Super Duplex F53 UNS S 32750 | ○ | | ○ | ○ | | ○ | ○ | ○ | ○ | | |
| Inconel 600 UNS N 06600 | ○ | | ○ | ○ | | ○ | ○ | ○ | ○ | | |
| Titanium Gr. 2 UNS R 50400 | | | | ○ | | ○ | ○ | ○ | ○ | | |
| Nickel 201 UNS N 00201 | | | | ○ | | | | ○ | ○ | | |

| Coatings | BF | BRF | EXT | BC | BRC | US-F | USL-F | FSO-BF | FSO-EXT | FSO-BRF | ILS-F |
|--------------------------------------|----|-----|-----|----|-----|----------------|----------------|--------|---------|---------|-------|
| Gold Coating 25 µm / 40 µm | | | | | | | | | | | |
| Hydrogen Permeation (H++) | ○ | | ○ | ○ | | ○ | ○ | ○ | ○ | | |
| H++ and Chemical Resistance | ○ | | | ○ | | | | ○ | ○ | | |
| PTFE / ECTFE 40-50 µm for anti-stick | ○ | | ○ | ○ | | ○ ² | ○ ² | ○ | ○ | | |
| Tantaline treatment lower part | | | | | | ○ | ○ | | | | |
| PFA / FEP | ○ | ○ | ○ | ○ | ○ | ○ ² | ○ ² | ○ | ○ | ○ | |
| Thermal spray (excl. diaphragm) | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |

²) upper part only

| Other options | BF | BRF | EXT | BC | BRC | US-F | USL-F | FSO-BF | FSO-EXT | FSO-BRF | ILS-F |
|---------------------------------------|----|-----|-----|----|-----|------|-------|--------|---------|---------|-------|
| Set of handles welded on side | ○ | ○ | ○ | | | | | | | | |
| Heavy duty capillary tube (IP54/IP68) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ |
| TR - Temperature reducer | ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | | ○ |
| TC - Temperature compensator | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Capillary side mounted (radial) | ○ | ○ | | ● | ● | | | | | | ● |
| Flushing rings or flanges | ○ | ○ | | ○ | ○ | | | ○ | | ○ | |
| LGP execution | ○ | ○ | | | | | ○ | | | | |
| PTFE sheet for anti-stick | | | | | | ○ | ○ | | | | |
| ¼" NPT-f flush ports in lower part | | | | | | ○ | ○ | | | | |
| Gasket Virgin PTFE | | | | | | ● | ● | | | | |
| Gasket Garfite N | | | | | | ○ | ○ | | | | |
| Gasket camprofile graphite | | | | | | ○ | ○ | | | | |
| Polished extension | | | ○ | | | | | | | | |
| Lining in lower part | | | | | | ○ | ○ | | | | |

● = standard / ○ = optional

Threaded, Sanitary, and Special Diaphragm Seals

| Process Connection size | | US-T | USL-T | ECx | PS | SA-F/M | SA-T | TS | SA-V | HOM | BHS |
|-------------------------|-----------------|------|-------|-----|----|--------|------|----|------|-----|-----|
| NPT-m / f | ¼ ½ ¾ 1" | ● | ● | ● | | | | | | | |
| BSP-m / f | ¼ ½ ¾ 1" | ● | ● | ● | | | | | | | |
| NPT-m | 1" 1,5" 2" | | | | ● | | | | | | |
| ISO228 m | 1" 1,5" 2" | | | | ● | | | | | | |
| ISO228 m / f | ¼ ½ 1" | ○ | ○ | ○ | | | | | | | |
| Metric m / f | M12x1,5 M20x1,5 | ○ | ○ | ○ | | | | | | | |
| DIN 11851 | DN25-DN80 M/F | | | | | ● | | | | | |
| SMS 1145/IDF 2853/RJF | 1,5"-3" M/F | | | | | ○ | | | | | |
| Tri clamp ISO2852 | 1,5 - 4" M/F | | | | | | ● | | | | |
| Sanitary Tank spud | 5" clamp | | | | | | | ● | | | |
| Homogeniser | clamping flange | | | | | | | | | ● | |
| Varivent | Type N | | | | | | | | ● | | |
| Hub connection | | | | | | | | | | | ● |

| Diaphragm Material | | US-T | USL-T | ECx | PS | SA-F/M | SA-T | TS | SA-V | HOM | BHS |
|--------------------|-------------|----------------|----------------|----------------|----------------|--------|------|----|------|-----|-----|
| AISI 316 (L) | UNS S 31603 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Monel 400 | UNS N 04400 | ○ | ○ | ○ ¹ | | | | | | | |
| Hastelloy C-276 | UNS N 10276 | ○ | ○ | ○ ¹ | ○ ¹ | | | | | | |
| Hastelloy B2 | UNS N 10665 | ○ | ○ | | | | | | | | |
| Tantalum | UNS R 05200 | ○ | ○ | | | | | | | | |
| Nickel 201 | UNS N 00201 | ○ | ○ | | | | | | | | |
| Niobium | UNS R 04200 | ○ | ○ | | | | | | | | |
| AISI 321 | UNS S 32100 | ○ | ○ | | | | | | | | |
| Duplex 2205 | UNS S 31803 | ○ | ○ | ○ ¹ | ○ ¹ | | | | | | |
| Titanium Gr. 1 | UNS R 50250 | ○ ¹ | ○ ¹ | | | | | | | | |
| Inconel 600 | UNS N 06600 | ○ | ○ | | | | | | | | |
| AISI 304 (L) | UNS S 30403 | ○ | ○ | | | | | | | | |
| AISI 316 UG | UNS S 31603 | ○ | ○ | | | | | | | | |

¹) complete body material

| Body Material | | US-T | USL-T | ECx | PS | SA-F/M | SA-T | TS | SA-V | HOM | BHS |
|------------------|-------------|------|-------|-----|----|--------|------|----|------|-----|-----|
| AISI 316 (L) | UNS S 31603 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Monel 400 | UNS N 04400 | ○ | ○ | ○ | | | | | | | |
| Hastelloy C-276 | UNS N 10276 | ○ | ○ | ○ | ○ | | | | | | ○ |
| Duplex F51 | UNS S 31803 | ○ | ○ | ○ | ○ | | | | | | ○ |
| Super Duplex F53 | UNS S 32750 | ○ | ○ | ○ | ○ | | | | | | |
| Inconel 600 | UNS N 06600 | ○ | ○ | | | | | | | | |
| Titanium Gr. 2 | UNS R 50400 | ○ | ○ | | | | | | | | |

| Coatings | | US-T | USL-T | ECx | PS | SA-F/M | SA-T | TS | SA-V | HOM | BHS |
|--------------------------------------|--|----------------|----------------|-----|----|--------|------|----|------|-----|-----|
| Gold Coating 25 µm / 40 µm | | ○ | ○ | | | | | | | | |
| Hydrogen Permeation (H++) | | ○ | ○ | | | | | | | | |
| H++ and Chemical Resistance | | | | | | | | | | | |
| PTFE / ECTFE 40-50 µm for anti-stick | | ○ ² | ○ ² | | | | | | | | |
| Tantaline treatment lower part | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| PFA / FEP | | ○ ² | ○ ² | | | | | | | | |

²) upper part only

| Other options | | US-T | USL-T | ECx | PS | SA-F/M | SA-T | TS | SA-V | HOM | BHS |
|---------------------------------------|--|------|-------|-----|----|--------|------|----|------|-----|-----|
| Heavy duty capillary tube (IP54/IP68) | | ○ | ○ | | | | | | | | |
| TR - Temperature reducer | | ○ | ○ | | | | | | | | |
| TC - Temperature compensator | | | ○ | | | | | | | | |
| LGP execution | | | ○ | | | | | | | | |
| PTFE sheet for anti-stick | | ○ | ○ | | | | | | | | |
| ¼" NPT-f flush ports in lower part | | ○ | ○ | | | | | | | | |
| Gasket Virgin PTFE | | ● | ● | | | | | | | | |
| Gasket Garfite N | | ○ | ○ | | | | | | | | |
| Gasket camprofile graphite | | ○ | ○ | | | | | | | | |
| Lining in lower part | | ○ | ○ | | | | | | | | |

● = standard / ○ = optional



Holland – United Kingdom – Romania – India – Thailand – Dubai – USA

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