

TECHNICAL BRIEF

Continental Disc Corporation has developed special scored rupture discs compatible with face seal bead fittings for critical leak rate applications. Available in 1/2", 3/4" and 1" sizes, these nonreclosing differential pressure relief devices respond within milliseconds to overpressure and provide the user instantaneous full opening relief protection of equipment, vessels and systems from damaging overpressure conditions.

There are two designs to choose from:

- Special Welded Scored Reverse Acting Rupture Disc suitable for 90% operating-to-burst-pressure ratio
- Special Welded Cross-Scored Forward Acting Rupture Disc suitable for 80% operating-to-burst-pressure ratio

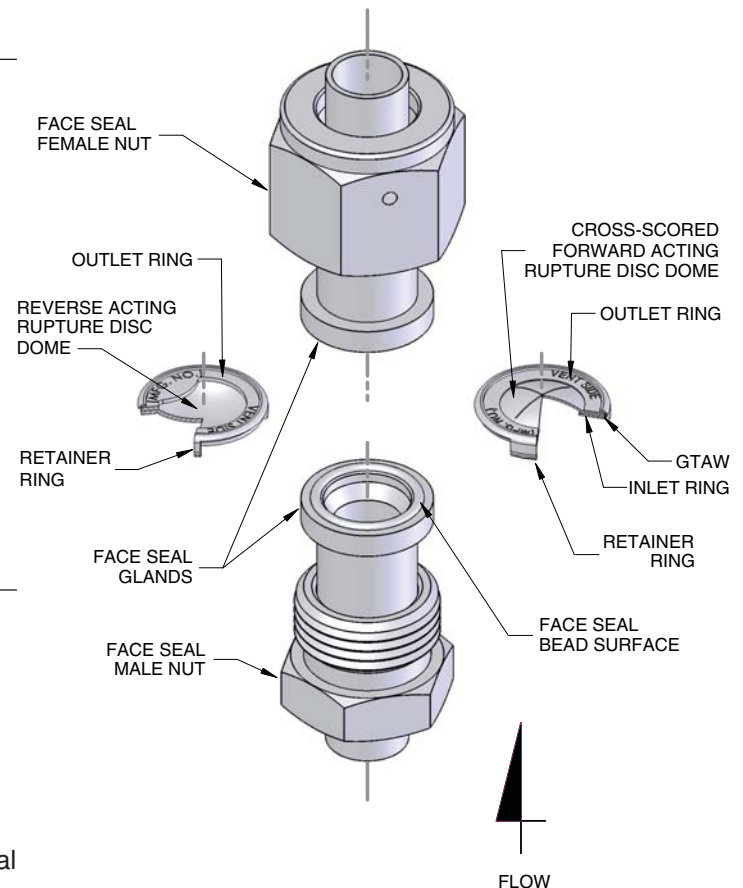
The special welded rupture discs are suitable for applications which must meet leak rate specifications beyond 1×10^{-4} atm. cc/sec. helium and up to 4×10^{-9} atm. cc/sec. helium.

Applications

- Ultra pure gas (including corrosives, toxics and reactive gases)
- High pressure to critical vacuum
- Micro processing (semi-conductor)
- Gas panels - gauges - instrumentation
- Pumps and compressors
- Valve connections
- Manifolds
- Purge and vent lines
- Sampling lines

Features

- Designed for non-fragmentation
- Scored design
- Standard materials of 316 stainless steel, nickel, Monel® or Inconel® are available. Contact the factory for availability of other materials.
- Excels in gaseous or partial gas/liquid service
- Unique rupture disc configuration mates to face seal bead fitting
- Manufacturing range: minus 10%
- Retainer ring provides proper indexing of the rupture disc flow direction on the inlet seal gland
- Zero clearance (for most configurations)
- May be supplied to ASME Section III or VIII, ISO, DIN, EN, BSI, JIS, or other codes as requested.



SPECIAL SCORED RUPTURE DISCS

Table I — Scored Reverse Acting Rupture Disc Minimum/Maximum Burst Pressure at 72° F / 22° C

White bars indicate psig; gray bars indicate barg.

| Nominal Size | Rupture Disc Material | | | | | |
|--------------|-----------------------|------|-------------------|------|-------------------|------|
| | Nickel - Monel®* | | 316SS - Inconel®* | | Hastelloy®* C-276 | |
| | Min. | Max. | Min. | Max. | Min. | Max. |
| 1/2" | 45 | 1000 | 120 | 1000 | 125 | 1000 |
| 13 mm | 3,2 | 68,9 | 8,28 | 68,9 | 8,62 | 68,9 |
| 3/4" | 35 | 1000 | 50 | 1000 | 85 | 1000 |
| 19 mm | 2,5 | 68,9 | 3,5 | 68,9 | 5,9 | 68,9 |
| 1" | 27 | 1000 | 50 | 1000 | 55 | 1000 |
| 25 mm | 1,9 | 68,9 | 3,5 | 68,9 | 3,8 | 68,9 |

*Inconel and Monel are trademarks of the Inco family of companies. Hastelloy is a trademark of Haynes International.

Table II — Cross-Scored Tension Type Rupture Disc Minimum/Maximum Burst Pressure at 72° F / 22° C

White bars indicate psig; gray bars indicate barg.

| Nominal Size | Rupture Disc Minimum* | | | | Rupture Disc Minimum To Withstand Full Vacuum | | | | Maximum Pressure | | | |
|--------------|-----------------------|-------|---------|-------|---|-------|---------|-------|------------------|-------|---------|-------|
| | Nickel | Monel | Inconel | 316SS | Nickel | Monel | Inconel | 316SS | Nickel | Monel | Inconel | 316SS |
| 1/2" | 250 | 250 | 350 | 450 | 300 | 325 | 450 | 530 | 2800 | 2800 | 2800 | 2800 |
| 13 mm | 17,3 | 17,3 | 24,2 | 31,1 | 20,7 | 22,5 | 31,1 | 36,6 | 193 | 193 | 193 | 193 |
| 3/4" | 200 | 200 | 300 | 400 | 250 | 275 | 375 | 465 | 2400 | 2400 | 2400 | 2400 |
| 19 mm | 13,8 | 13,8 | 20,7 | 27,6 | 17,3 | 19,0 | 25,9 | 32,1 | 165 | 165 | 165 | 165 |
| 1" | 150 | 150 | 250 | 350 | 200 | 225 | 300 | 400 | 2400 | 2400 | 2400 | 2400 |
| 25 mm | 10,4 | 10,4 | 17,3 | 24,2 | 13,8 | 15,6 | 20,7 | 27,6 | 165 | 165 | 165 | 165 |

* A vacuum support is not available for this product type.

Table III — Available Connections

Face Seal Bead Holder assemblies are available with the following connections. For other connections, consult the factory.

| Inlet Connections Available | Face Seal | Tube Butt Weld | NPT | Socket Weld | Automatic Tube Weld | S.A.E. Threaded | Tube Adapter | |
|------------------------------|-----------|----------------|-----|-------------|---------------------|-----------------|--------------|---------|
| Outlet Connections Available | Face Seal | Tube Butt Weld | NPT | Socket Weld | Automatic Tube Weld | Male Weld | Free | Muffled |



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