

Flange Mounted Composite Forward-Acting Metal Bursting Disc

FD Series Discs mount directly between flanges (no holder required), with the concave surface facing the process media. The laser cut determines the burst rating of the disc. When the FD Series Disc bursts, it opens along the predetermined pattern and folds back against the flange.



Options

Vacuum Support

Vacuum Supports are required for vacuum service. Vacuum supports are attached to the process side of the disc and allow the disc to withstand full vacuum. Consult ZOOK Europe Ltd if back pressures are in excess of 1 barg (15 psig) or cycling is present.

Protective Ring

Protective Rings can be used with FD Series Discs to protect delicate materials and/or to provide stability

Seal / Liners

The design of the FD Series allows the use of highly corrosive-resistant seal materials. A wide variety of metal and TFE seal materials are available

Ordering Information

When ordering, please provide:

- Flange type (e.g. Weld-neck, slip-on, threaded, etc).
- Flange standard (e.g. ANSI B16.5).
- Flange I.D.
- An installation gap is required between flanges to fit domed disc.

| | |
|------|---|
| FD-R | Slotted metal top section and a TFE or metal seal with a protective bottom ring |
| FD-V | FD Disc with a bottom vacuum support |

Features

- Forward-acting, tension-loaded design, with laser slotted top section and metal or TFE seal.
- Fragment resistant design with Teflon® seal.
- Disc can handle a system operating pressure of up to 85% of the disc's minimum rated burst pressure.
- Seat Configuration: Flange mounted - no holder required.
- Sizes: 50 mm to 300 mm. For other sizes consult ZOOK.
- Burst ratings from 0.21 barg to 25 barg, depending on disc size.
- Temperature ratings to 482°C (900°F), depending on seal material.
- Suitable for liquid, gas or 2-phase flow.
- 3-Dimensional stainless steel tag permanently engraved with complete disc specifications.
- Standard top and bottom gasket KLINGER®sil C-4401*, other materials available on request.

**Synthetic fibre gasket with Nitrile binder.
149°C gas or steam service or 244°C liquid service.*



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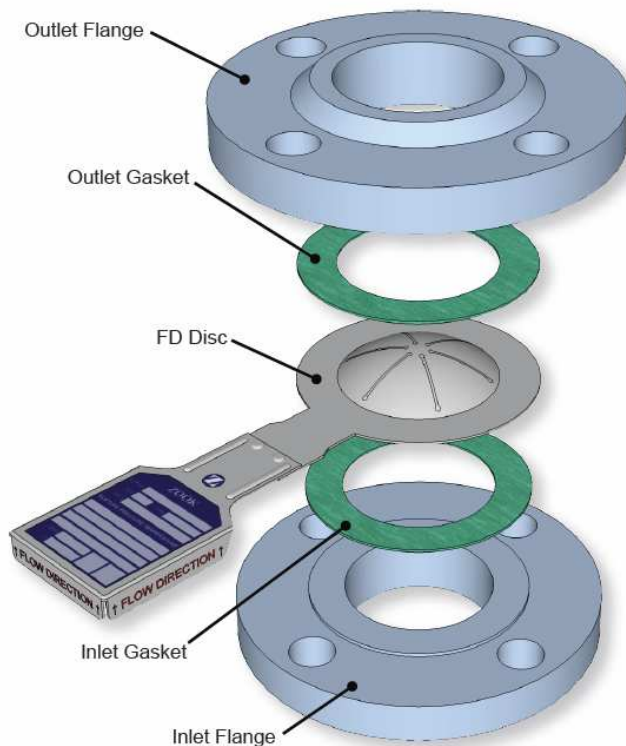
Flange Mounted FD Series Composite Metal Bursting Discs

Specifications - FD Series Minimum and Maximum Pressure Ratings (barg) @ 22°C

Burst Pressure Table for the F-D Series Flange Mounted Discs

| Disc Nominal Size | Minimum Burst Pressure Rating (Barg) for each available Seal material | | | | | | Maximum Burst Rating by size (Barg) | M.N.F.A. F-DR Disc (cm2) | M.N.F.A. F-DV Disc (cm2) |
|-------------------|---|--------------|--------------|--------------|--------------|--------------|---------------------------------------|----------------------------|----------------------------|
| | Teflon (Standard Seal Material) | Aluminium | Nickel | Monel | Inconel | 316ss | | | |
| 50 mm | 1.03 | 1.72 | 5.52 | 6.21 | 8.28 | 11.38 | 25.00 | 20.58 | 19.50 |
| 80 mm | 0.69 | 1.03 | 3.79 | 4.83 | 6.55 | 8.62 | 20.00 | 45.29 | 42.91 |
| 100 mm | 0.55 | 0.83 | 2.76 | 3.45 | 5.17 | 6.21 | 18.00 | 78.01 | 73.94 |
| 150 mm | 0.41 | 0.69 | 2.41 | 2.76 | 4.14 | 5.17 | 15.00 | 177.11 | 167.75 |
| 200 mm | 0.31 | 0.55 | 1.72 | 2.41 | 2.76 | 4.14 | 12.00 | 293.76 | 260.47 |
| 250 mm | 0.28 | 0.48 | 1.52 | 2.07 | 2.07 | 3.1 | 10.00 | 483.32 | 457.90 |
| 300 mm | 0.21 | 0.48 | 1.31 | 1.72 | 1.72 | 2.76 | 8.00 | 693.20 | 656.75 |
| Max Temp | 260°C | 316°C | 427°C | 482°C | 538°C | 482°C | | | |

Typical Installation



Note: An installation gap is required between the flanges to allow for the disc to be installed without damaging the dome of the disc.

Total Performance Tolerance (barg)

| Burst Pressure (barg) | | Available Performance Tolerance | | | |
|-----------------------|----------|---------------------------------|--------------|--------|--------------|
| Min. | Max. | Standard | Good | Better | Best |
| | | | (Cost Adder) | | |
| 0.025 | < 0.069 | ± 75% | ± 73% | ± 70% | ± 0.017 barg |
| 0.069 | < 0.172 | ± 65% | ± 45% | ± 35% | ± 0.023 barg |
| 0.172 | < 0.276 | ± 50% | ± 30% | ± 20% | ± 0.035 barg |
| 0.276 | < 0.483 | ± 50% | ± 30% | ± 20% | ± 0.035 barg |
| 0.483 | < 0.759 | ± 50% | ± 30% | ± 20% | ± 0.055 barg |
| 0.759 | < 1.034 | ± 25% | ± 20% | ± 15% | ± 0.090 barg |
| 1.034 | < 1.172 | ± 25% | ± 20% | ± 15% | ± 0.138 barg |
| 1.172 | < 1.793 | ± 25% | ± 20% | ± 15% | ± 0.138 barg |
| 1.793 | < 2.759 | ± 20% | ± 15% | ± 10% | ± 0.138 barg |
| 2.759 | < 4.552 | ± 15% | ± 10% | ± 7.5% | ± 5% |
| 4.552 | < 6.966 | ± 15% | ± 10% | ± 7.5% | ± 5% |
| 6.966 | < 10.414 | ± 10% | ± 7.5% | ± 6.5% | ± 5% |
| 10.414 | < 13.862 | ± 10% | ± 7.5% | ± 6.5% | ± 5% |
| 13.862 | < 24.207 | ± 10% | ± 7.5% | ± 6.5% | ± 5% |
| 24.207 | < 34.483 | ± 10% | ± 7.5% | ± 6.5% | ± 5% |
| 34.483 | Max | ± 10% | ± 7.5% | ± 6.5% | ± 5% |

Notes:

Disc will be marked with the specified burst pressure and will burst within applicable rupture tolerance based on the marked pressure.



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