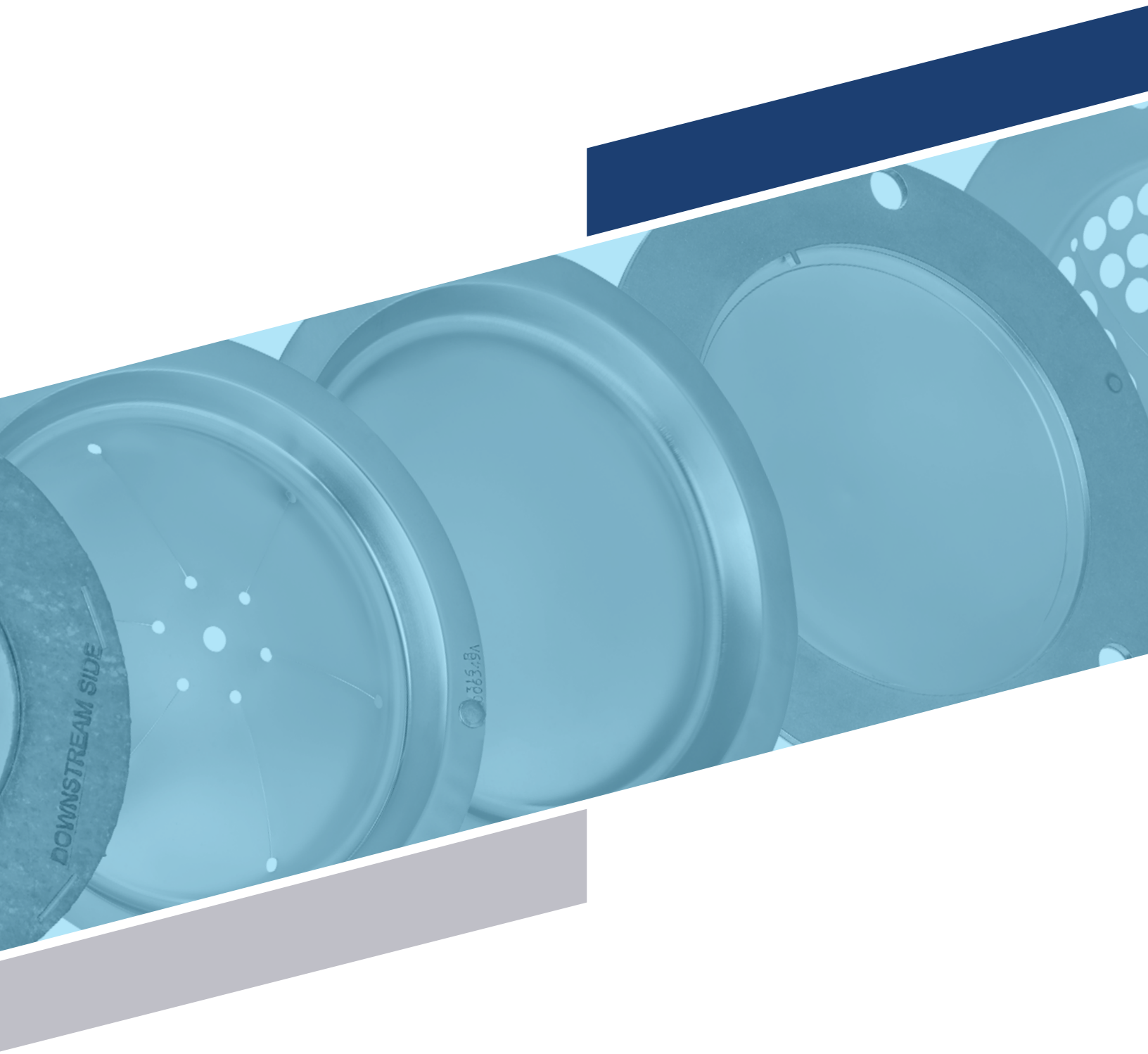
Continental Disc® Corporation

PRODUCT SELECTION GUIDE



PRODUCT SELECTION GUIDE

Continental Disc Corporation

Continental Disc Corporation manufactures rupture discs to our customers' specifications which protect vessels, equipment and systems against damaging overpressure conditions. This guide provides a brief overview of the various tension and reverse acting design rupture discs, holders, accessories and options offered by Continental Disc Corporation. For detailed information regarding a specific design, refer to specific product literature, speak with your local representative or contact the factory directly.

Quality

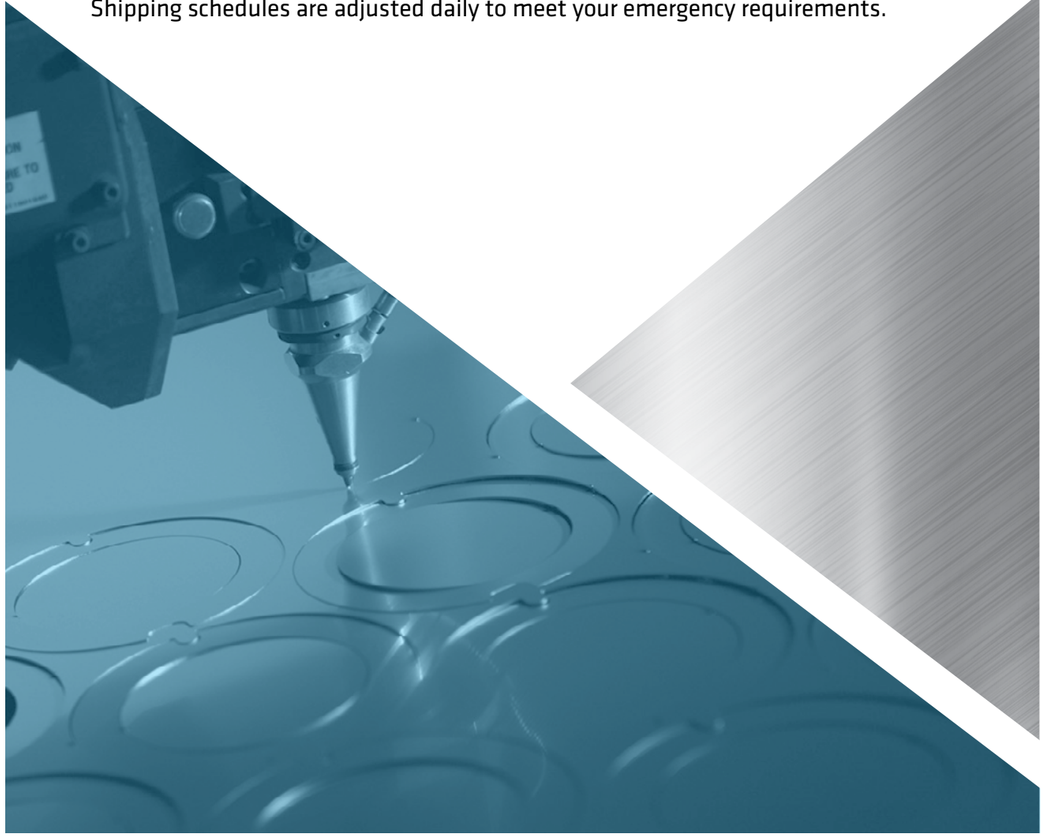
Quality begins during our first contact with you. That quality is an integral part of every step we take to provide you with what you expect to receive. All manufacturing is performed under an approved ISO 9001 Quality Assurance System. Continental Disc Corporation can supply rupture discs certified to the standards of ASME, the European Pressure Equipment Directive, 3A Sanitary Standards Council and many others.

Service

A commitment to supply the services you expect

- Technical assistance, training and support
- Fast, technical, easily understood quotations
- Providing product to your specifications
- Shipping schedules that are unmatched in the industry

Continental Disc Corporation offers an emergency service program to meet your needs. Shipping schedules are adjusted daily to meet your emergency requirements.



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RUPTURE DISC SELECTION TREE

BASIC TYPE SELECTION

Determine Rupture Pressure (RP)

Determine Operating Pressure (OP)

High Cycling/Pulsating?

Yes

No

Calculated Operating Ratio Required $\frac{OP}{RP}$

Above 80%

80% or Below

Reverse Acting Rupture Discs

Tension Type Rupture Discs

Operating Temperature

Operating Temperature

Evaluate Rupture Disc Type
Pressure / Temp / Vacuum Limits

Evaluate Rupture Disc Type
Pressure / Temp / Vacuum Limits

DETAILED TYPE SELECTION

Non-Fragmenting Design

Fragmenting Design

Non-Fragmenting Design

Select Rupture Disc

Select Rupture Disc

Select Rupture Disc

- HPX® / HPX®-Ta
- SANITRX® HPX / II
- SANITRX® LPX
- LOTRX®
- RCS
- SRA

STANDARD GRAFSERT®

- MICRO X®
- COMPOSITE ENVIRO-SEAL
- CAL-VAC®
- POS-A-SET®

Additional Considerations:

- Gas or Liquid Service
- Primary/Secondary/Relief Valve
- Material Requirements (Corrosion & Temperature)
- Other factors may apply when choosing a rupture disc

TYPES OF DISCS

Tension Type Rupture Discs

Tension Type Rupture Discs are oriented in a system with the process media pressure against the concave side of the rupture disc (Fig. A, 30° Seat; Fig. B, Flat Seat). As the process pressure increases beyond the allowable operating pressure, the rupture disc starts to grow. This growth will continue as the pressure increases, until the tensile strength of the material is reached and rupture occurs.

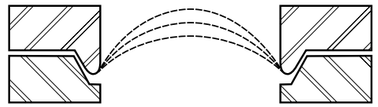


Fig. A

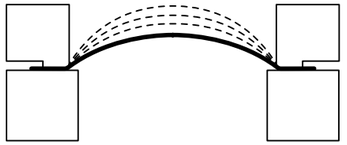


Fig. B

Reverse Acting Rupture Discs

Reverse Acting Rupture Discs are oriented in a system with the process media pressure against the convex side of the disc (Fig. C), placing the rupture disc in compression. As the burst pressure rating of the disc is reached, the compression loading on the rupture disc causes it to reverse, snapping through the neutral position and causing it to open by a predetermined scoring pattern.

A reverse acting rupture disc provides advantages, as compared to tension type rupture discs, which may warrant consideration when selecting a rupture disc.

These advantages include:

- Available with maximum recommended operating pressure ratios up to 95% of the stamped burst pressure
- Up to full vacuum capabilities without the need of an additional support member
- Longer service life under cyclic or pulsating conditions
- Constructed using thicker materials providing greater resistance to corrosion

Additional Considerations:

- No single type of rupture disc will meet all the numerous applications of an industry
- Each type of rupture disc, tension or reverse acting, has its own characteristics and capabilities

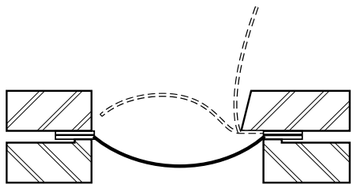


Fig. C

RUPTURE DISC SELECTION TABLE

CONTINENTAL DISC CORPORATION RUPTURE DISC TYPE	PROCESS ENVIRONMENT	SIZE	BURST PRESSURE RANGE	RECOMMENDED MAX. OPERATING TO BURST PRESSURE RATIO	MANUFACTURING RANGE	VACUUM SUPPORT REQUIRED TO WITHSTAND FULL VACUUM	STANDARD MATERIALS**								
							ALUMINUM	ALLOY 400	ALLOY 600	NICKEL	316 SS/316L SS	ALLOY C276	TANTALUM	GRAPHITE	ALLOY C22
HPX®	Gas or Liquid (static, cyclic or pulsating)	1" - 12" 25 - 300 mm	10 - 2000 psig 0,689 - 138 barg	90% or 95%	ZERO -5% -10%	NO		■	■	■	■	■			■
HPX-Ta™	Gas or Liquid (static, cyclic or pulsating)	1" - 12" 25 - 300 mm	10 - 800 psig 0,689 - 55,2 barg	90%	ZERO -5% -10%	NO							■		
LOTRX®	Gas or Liquid (static, cyclic or pulsating)	1" - 8" 25 - 200 mm	1.5 - 30 psig 0,103 - 2,07 barg	90%	ZERO -5% -10%	NO*		■	■	■	■	■	■		■
RCS	Gas Only (static, cyclic or pulsating)	14" - 32" 350 - 800 mm	20 - 180 psig 1,38 - 12,4 barg	90%	ZERO -5% -10%	NO		■	■	■	■	■			
SRA	Gas or Liquid (static, cyclic or pulsating)	½" - 1" 13 - 25 mm	27 - 2000 psig 1,86 - 138 barg	90%	-10%	NO		■	■	■	■	■			
SANITRX HPX®	Gas or Liquid (static, cyclic or pulsating)	1" - 3" 25 - 80 mm	10 - 250 psig 0,689 - 17,2 barg	90% or 95%	ZERO -5% -10%	NO		■	■	■	■	■			■
SANITRX HPX® II	Gas or Liquid (static, cyclic or pulsating)	1½" - 4" 40 - 100 mm	10 - 500 psig 0,689 - 34,5 barg	90% or 95%	ZERO -5% -10%	NO		■	■	■	■	■			■
SANITRX® LPX	Gas Only (static, cyclic or pulsating)	1½" - 3" 40 - 80 mm	5.8 - 10 psig 0,40 - 0,689 barg	90%	ZERO	NO					■				
MICRO X®	Gas or Liquid (static)	1" - 36" 25 - 900 mm	15 - 3600 psig 1,03 - 248 barg	80%	ZERO -5% -10%	NO*		■	■	■	■	■	■		
COMPOSITE FS	Gas or Liquid (static, cyclic or pulsating)	11/16" - 36" 17,5 - 900 mm	2 - 1440 psig 0,138 - 99,3 barg	80%	Standard, ¾, ½, ¼, ZERO	YES	■	■	■	■	■	■	■		■
STANDARD 30° SEAT	Gas or Liquid (static, cyclic or pulsating)	¼" - 30" 6 - 750 mm	3 - 75,000 psig 0,207 - 5171 barg	70%	Standard ¾, ½	YES	■	■	■	■	■	■	■		
COMPOSITE 30° SEAT	Gas or Liquid (static, cyclic or pulsating)	1" - 30" 25 - 750 mm	2 - 1440 psig 0,138 - 99,3 barg	80%	Standard, ¾, ½, ¼, ZERO	YES	■	■	■	■	■	■	■		■
CAL-VAC®	Gas or Liquid (static, cyclic or pulsating)	3" - 12" 80 - 300 mm	1 - 115 INWC	Within 1 INWC of min setting	6 INWC min/max	N/A		■	■	■	■	■	■		
POS-A-SET®	Gas or Liquid (static, cyclic or pulsating)	3" - 12" 80 - 300 mm	1 - 115 INWC	Within 1 INWC of min setting	6 INWC min/max	N/A		■	■	■	■	■	■		
ENVIRO-SEAL	Gas or Liquid (static, cyclic or pulsating)	1" - 36" 25 - 900 mm	1 - 59 psig 0,069 - 4,07 barg	50%	Min./Max	NO*		■	■	■	■	■	■		
GRAFSERT®	Gas or Liquid (static, cyclic or pulsating)	½" - 24" 13 - 600 mm	0.25 - 720 psig 0,017 - 49,6 barg	80%	ZERO	NO*								■	

*Dependent upon burst pressure. **Materials not indicated or shown may be available by special design. Contact the factory.

RUPTURE DISC SELECTION TABLE

CONTINENTAL DISC CORPORATION RUPTURE DISC TYPE	FLOW DIRECTION	COMPATIBLE HOLDERS									RECOMMENDED FOR ISOLATION OF SAFETY RELIEF VALVE		AVAILABLE B.D.I.® OR BDI-FLX® (1 INCH AND ABOVE)	AVAILABLE ASME (U) CERTIFICATION
		UNION	INSERT	FULL BOLTED	CLEAN-SWEEP	TITE-SEAL	SCREW TYPE	PRE-TORQUED	DOUBLE DISC	SANITARY	YES	NO		
HPX®			■					■	■		■		■	■
HPX-Ta™			■					■	■		■		■	■
LOTRX®			■					■	■		■		■	■
RCS			■					■	■		■		■	■
SRA		■				■	■				■			■
SANITRX HPX®		No holder required. Installs between standard sanitary ferrules.								■	■		■	■
SANITRX HPX® II		No holder required. Installs between standard sanitary ferrules.								■	■		■	■
SANITRX® LPX		No holder required. Installs between standard sanitary ferrules.								■	■		■	■
MICRO X®			■		■			■	■		■		■	■
COMPOSITE FS			■		■	■	■	■	■		Non-Metallic Seal		■	■
STANDARD 30° SEAT		■	■	■	■	■	■		■			■	■	■
COMPOSITE 30° SEAT		■	■	■					■		Non-Metallic Seal		■	■
CAL-VAC®			■							■		■	■	
POS-A-SET®			■							■		■	■	
ENVIRO-SEAL		No holder required. Installs between standard bore companion flanges.									Downstream Only		■	■
GRAFSERT®		No holder required. Installs between standard bore companion flanges.										■	■	■

ULTRX®, SANITRX®, SANITRX® LP, MINTRX®, STAR X®, ZAP, VRD and KBA Rupture Discs available for maintenance replacement only.

REVERSE ACTING RUPTURE DISCS

HPX® RUPTURE DISC

The HPX® Rupture Disc provides an industry leading selection of sizes, materials and burst ratings, as well as the versatility to optimize the operating ratio, manufacturing range and media type to the demands of your application. A high precision scored reverse acting rupture disc, the HPX® Rupture Disc is available with 90% or 95% operating ratios and was design tested in excess of *five million cycles** from full vacuum to 95% of burst rating.

Size	1" - 12" (25mm - 300mm)
Burst Pressure	10 - 2000 psig (0,689 - 138 barg)
Manufacturing Range	ZERO, -5%, -10%
Maximum Recommended Operating Ratio	Choice of 95% or 90%
Available Maximum Temp Limit	1000° F (538° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600 and Alloy C22
Seat Configuration	Flat seat
Holders	• HPX® Insert Holder • HPX®-RH (Reduced Height) Insert Holder • HPX-PT Pre-Torqued Insert Holder • HPX-PT-RH Pre-Torqued Insert Holder • HPX® Double Disc Insert Holder
Compatible with Alarm System	BDI-FLX® or B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to all sizes
Additional Information	HPX® Rupture Disc Product Family Literature

HPX-TA™ RUPTURE DISC

The HPX-Ta™ Rupture Disc is a Tantalum semicircular scored reverse acting rupture disc designed specifically for use in highly corrosive media, such as bromine, chlorine, HCL, nitric acid or sulphuric acid. In certain concentrations, temperatures and moisture conditions, Tantalum is frequently the only suitable rupture disc material for the application.

Size	1" - 12" (25mm - 300mm)
Burst Pressure	10 - 800 psig (0,689 - 55,2 barg)
Manufacturing Range	ZERO, -5%, -10%
Maximum Recommended Operating Ratio	90%
Available Maximum Temp Limit	500° F (260° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes
Operating Conditions	Static, Cyclic or Pulsating
Materials	Tantalum
Seat Configuration	Flat seat
Holders	• HPX® Insert Holder • HPX®-RH (Reduced Height) Insert Holder • HPX-PT Pre-Torqued Insert Holder • HPX-PT-RH Pre-Torqued Insert Holder • HPX® Double Disc Insert Holder
Compatible with Alarm System	BDI-FLX® or B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to all sizes
Additional Information	HPX® Rupture Disc Product Family Literature and/or HPX-Ta™ Rupture Disc Datasheet

*Tests performed on 316 S // HPX® Rupture Discs were tested under laboratory conditions which may not reflect the end user's actual operating conditions. The cycle test validates that the rupture disc can operate in a pressure/vacuum operating condition. However, there are many other factors which can affect the rupture disc's performance, such as temperature variation, corrosion attack, etc. CDC recommends that a risk assessment be performed by customer/end user to consider their system operating conditions to determine the optimal service life for their rupture disc.

REVERSE ACTING RUPTURE DISCS

LOTRX® RUPTURE DISC

The LOTRX® Rupture Disc is a scored reverse acting rupture disc that utilizes failure initiating indents, a highly accurate manufacturing method to achieve and control a burst pressure at close tolerances, plus a precision semicircular score to provide a clean, consistent opening pattern. The LOTRX® Rupture Disc is designed for extremely low pressure applications below the range of the HPX® Rupture Disc product family.

Size	1" - 8" (25mm - 200mm)
Burst Pressure	1.5 - 30 psig (0,103 - 2,07 barg)
Manufacturing Range	ZERO, -5%, -10%
Maximum Recommended Operating Ratio	90%
Available Maximum Temp Limit	1000° F (538° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes*
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600, Tantalum and Alloy C22
Seat Configuration	Flat seat
Holders	LOTRX Insert Holder
Compatible with Alarm System	BDI-FLX®** or B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to all sizes
Additional Information	Reverse Acting Rupture Discs and Holders Datasheet

RCS RUPTURE DISC

The RCS Rupture Disc is a reverse acting, cross-scored, solid metal rupture disc, providing reliable pressure relief protection, easy installation, and retrofit to your pre-existing piping arrangement. Available in sizes outside the range of the HPX® Rupture Disc product family.

Size	14" - 32" (350mm - 800mm)
Burst Pressure	20 - 180 psig (1,38 - 12,4 barg)
Manufacturing Range	ZERO, -5%, -10%
Maximum Recommended Operating Ratio	90%
Available Maximum Temp Limit	1000° F (538° C)
Service	Gas Only
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400 and Alloy 600
Seat Configuration	Flat seat
Holders	• RCS Insert Holder • RCS Double Disc Insert Holder
Compatible with Alarm System	Universal B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to all sizes
Additional Information	Reverse Acting Rupture Discs and Holders Datasheet

* Limitations apply and product specific literature should be reviewed. See "For Additional Information" section above.
** BDI-FLX® Burst Disc Sensor System should not be used for pressure ratings below the minimum rating listed in the BDI-FLX® Burst Disc Sensor System Datasheet.

SRA RUPTURE DISC

The SRA Rupture Disc is a scored reverse acting rupture disc that utilizes failure initiating indents, a highly accurate manufacturing method to achieve and control a burst pressure at close tolerances, plus a precision semicircular score to provide a clean, consistent opening pattern. The SRA Rupture Disc is designed for high performance in small size applications.

Size	1/2" - 1" (13mm - 25mm)
Burst Pressure	27 - 2000 psig (1,86 - 138 barg)
Manufacturing Range	-10%
Maximum Recommended Operating Ratio	90%
Available Maximum Temp Limit	500° F (260° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Ally 400 and Alloy 600
Seat Configuration	Flat seat
Holders	• SRA Screw Type Holder • SRA Union Holder • RVI Screw Type Holder
Compatible with Alarm System	N/A
Tagging	Three dimensional stainless steel flow direction tag attached to SRA Rupture Disc for SRA Union Holder. All other SRA Rupture Disc Unattached stainless steel tag provided
Additional Information	Tite-Seal and Screw Type Assemblies Datasheet

SANITRX HPX® RUPTURE DISC

The Sanitrx® HPX® Rupture Disc is a semicircular scored reverse acting rupture disc designed for the pharmaceutical, biotech, food and beverage industries. This rupture disc is a high precision rupture disc available in your choice of 90 or 95% maximum recommended operating ratio and is a high performance rupture disc proven to withstand cycles from full vacuum to 95% of the stamped rating. Sanitrx® HPX® Rupture Discs comply with essential criteria of ASME BPE and USP Class VI.

Size	1" - 3" (25mm - 80mm)
Burst Pressure	10 - 250 psig (0,689 - 17,2 barg)
Manufacturing Range	ZERO, -5%, -10%
Maximum Recommended Operating Ratio	Choice of 95% or 90%
Available Maximum Temp Limit	450° F (232° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Ally 400, Alloy 600 and Alloy C22
Seat Configuration	IS, SF, NA
Holders	Designed to install directly between standard sanitary ferrules
Compatible with Alarm System	BDI-FLX® or B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to all sizes
Additional Information	HPX® Rupture Disc Product Family Brochure

REVERSE ACTING RUPTURE DISCS

SANITRX HPX® II RUPTURE DISC

The Sanitrx® HPX® II Rupture Disc is designed to expand the Sanitrx® HPX® product line into higher burst pressure ratings. The geometrically strengthened arcuate on the Sanitrx® HPX® II provides a radiused hinge point to prevent fragmentation of the rupture disc petal upon rupture. Sanitrx® HPX® II also adds the 4" size rupture disc to the Sanitrx®HPX® Rupture Disc product family.

Size	11/2" - 4" (40mm - 100mm)
Burst Pressure	10 - 500 psig (0,689 - 34,5 barg)
Manufacturing Range	ZERO, -5%, -10%
Maximum Recommended Operating Ratio	Choice of 95% or 90%
Available Maximum Temp Limit	450° F (232° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes*
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600 and Alloy C22
Seat Configuration	IS, SF, NA
Holders	Designed to install directly between standard sanitary ferrules
Compatible with Alarm System	BDI-FLX® or B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to all sizes
Additional Information	HPX® Rupture Disc Product Family Brochure

SANITRX® LPX RUPTURE DISC

The Sanitrx® LPX Rupture Disc is a stainless steel, reverse acting rupture disc designed specifically for the pharmaceutical, food & beverage, and biotech industries. The Sanitrx® LPX Rupture Disc provides low pressure solutions for equipment operating in vacuum or very low pressure conditions.

Size	11/2" - 3" (40mm - 80mm)
Burst Pressure	5.8 - 10 psig (0,40 - 0,689 barg)
Manufacturing Range	ZERO
Maximum Recommended Operating Ratio	90%
Available Maximum Temp Limit	450° F (232° C)
Service	Gas Only
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS
Seat Configuration	IS, SF, NA
Holders	Designed to install directly between standard sanitary ferrules
Compatible with Alarm System	BDI-FLX®* (2"-3" only) or B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to all sizes
Additional Information	Sanitrx® LPX Rupture Disc Datasheet

* BDI-FLX® Burst Disc Sensor System should not be used for pressure ratings below the minimum rating listed in the BDI-FLX® Burst Disc Sensor System Datasheet.

TENSION/FORWARD ACTING RUPTURE DISCS

MICRO X® RUPTURE DISC

The Micro X® Rupture Disc is a cross-scored flat seat tension type rupture disc. It is designed for non-fragmentation with a four-petal opening.

Size	1" - 36" (25mm - 900mm)
Burst Pressure	15 - 3600 psig (1,03 - 248 barg)
Manufacturing Range	ZERO, -5%, -10%
Maximum Recommended Operating Ratio	80%
Available Maximum Temp Limit	1000° F (538° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes*
Operating Conditions	Static
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600 and Tantalum
Seat Configuration	Flat seat
Holders	• UNISERT® Insert Holder • CLEAN-SWEEP Holder
Compatible with Alarm System	BDI-FLX® or B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to all sizes
Additional Information	UNISERT® Assembly Datasheet

COMPOSITE FLAT SEAT RUPTURE DISC

The Composite Flat Seat Rupture Disc is designed for systems requiring a lower burst pressure than offered in a MICRO X® Rupture Disc. Continental Disc Corporation's seven-hole center pattern provides a non-fragmenting design when used with a fluoropolymer seal.

Size	11/16" - 36" (17,5mm - 900mm)
Burst Pressure	2 - 1440 psig (0,138 - 99,3 barg)
Manufacturing Range	Standard, 3/4, 1/2, 1/4, ZERO
Maximum Recommended Operating Ratio	80%
Available Maximum Temp Limit	500° F (260° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes (With Fluoropolymer Seal)
Withstand Full Vacuum	Yes (with Vacuum Support)
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600, Tantalum, Aluminum, Silver, Fluoropolymer and Alloy C22
Seat Configuration	Flat seat
Holders	• UNISERT® Insert Holder • Screw Type Holder • CLEAN-SWEEP® Holder
Compatible with Alarm System	BDI-FLX® or B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to 1" (25mm) and above
Additional Information	UNISERT® Assembly Datasheet Tite-Seal and Screw Type Assembly Datasheet

* Limitations apply and product specific literature should be reviewed. See "For Additional Information" section above.

TENSION/FORWARD ACTING RUPTURE DISCS

STANDARD 30° SEAT RUPTURE DISC

A Standard Rupture Disc is a solid metal, differential pressure relief device with an instantaneous, full-opening, non-reclosing design.

Size	1/4" - 30" (6mm - 750mm)
Burst Pressure	3 - 75,000 psig (0,207 - 5171 barg)
Manufacturing Range	Standard, 3/4, 1/2
Maximum Recommended Operating Ratio	70%
Available Maximum Temp Limit	1000° F (538° C)
Service	Gas or Liquid
Non-Fragmenting Design	No
Withstand Full Vacuum	Yes (with Vacuum Support)
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600, Tantalum, Aluminum and Silver
Seat Configuration	30°
Holders	Insert Holder, Full Bolted Holder, Union Holder, Screw Type Holder
Compatible with Alarm System	BDI-FLX®** or B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to 1" (25mm) sizes and above except when used in a Union Holder or if the disc thickness is too thin. If tag cannot be attached to rupture disc, an unattached tag will be provided.
Additional Information	Standard Rupture Disc Datasheet Tite-Seal and Screw Type Assembly Datasheet

COMPOSITE 30° RUPTURE DISC

The Composite Rupture Disc is designed for systems requiring a lower burst pressure than offered in Standard discs. Continental Disc Corporation's seven-hole center pattern is designed for non-fragmentation when used with a fluoropolymer seal.

Size	1" - 30" (25mm - 750mm)
Burst Pressure	2 - 1440 psig (0,138 - 99,3 barg)
Manufacturing Range	Standard, 3/4, 1/2, 1/4, ZERO
Maximum Recommended Operating Ratio	80%
Available Maximum Temp Limit	500° F (260° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes (With Fluoropolymer Seal)
Withstand Full Vacuum	Yes (with Vacuum Support)
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600, Tantalum, Aluminum, Silver, Fluoropolymer and Alloy C22
Seat Configuration	30°
Holders	• Insert Holder • Full Bolted Holder • Union Holder
Compatible with Alarm System	BDI-FLX® or B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached except for use in a Union Holder
Additional Information	Composite Type Rupture Disc Datasheet

TENSION/FORWARD ACTING RUPTURE DISCS

ENVIRO-SEAL RUPTURE DISC

The Enviro-Seal Rupture Disc is a flat composite rupture disc, designed to provide economical isolation for low pressure atmospheric storage vessels or to isolate the downstream side of a pressure relief valve. Enviro-Seal Rupture Discs are available in three designs:

- Type I: Burst in one direction only
- Type II & III: Burst in either direction, positive or vacuum, at the same burst pressure

Size	1" - 36" (25mm - 900mm)
Burst Pressure	1 - 59 psig (0,069 - 4,07 barg)
Manufacturing Range	See Composite Type Rupture Disc Datasheet for available MIN/MAX ratings
Maximum Recommended Operating Ratio	50%
Available Maximum Temp Limit	400° F (204° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	N/A
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600 and Fluoropolymer
Seat Configuration	Flat seat
Holders	Designed to mount directly between standard bore ASME, DIN or JIS companion flanges
Compatible with Alarm System	B.D.I.®
Tagging	Three dimensional stainless steel flow direction tag attached to all sizes
Additional Information	Composite Type Rupture Disc Datasheet

GRAFSERT® RUPTURE DISC

Grafsert® Rupture Discs are machined from a monolithic piece of graphite and impregnated with phenolic. Graphite discs are corrosive resistant to many chemicals.

Size	1/2" - 24" (13mm - 600mm)
Burst Pressure	0.25 - 720 psig (0,017 - 49,6 barg)
Manufacturing Range	ZERO
Maximum Recommended Operating Ratio	80%
Available Maximum Temp Limit	700° F (371° C)
Service	Gas or Liquid
Non-Fragmenting Design	No
Withstand Full Vacuum	Yes (with Vacuum Support)
Operating Conditions	Static, Cyclic or Pulsating
Materials	Graphite
Seat Configuration	Flat seat
Holders	Designed to mount directly between standard bore ASME, DIN or JIS companion flanges
Compatible with Alarm System	Integral B.D.I.®
Tagging	Stainless steel tag attached
Additional Information	Sales Representative

TENSION/FORWARD ACTING RUPTURE DISCS

ICON/ICON-TL RUPTURE DISC

The ICON/ ICON-TL Rupture Disc is a cross-scored, non-fragmenting design solid metal rupture disc specifically designed to protect transportation vessels like intermodal tank containers (common in Europe and Asia), railroad tank cars, tank trucks, and other vessels that transport liquids or gas products.

Size	2 1/2" and 3" (65mm and 80mm)
Burst Pressure	• 53.2 psig (3,67 barg) • 59.5 psig (4,10 barg) • 70.2 psig (4,84 barg)
Manufacturing Range	ZERO
Maximum Recommended Operating Ratio	85% of the minimum performance tolerance
Available Maximum Temp Limit	400° F (204° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes
Operating Conditions	Static, Cyclic or Pulsating
Materials	Nickel, 316 SS an Fluoropolymer
Seat Configuration	Flat seat
Holders	Designed to mount directly to tank flanges
Compatible with Alarm System	N/A
Tagging	Stainless steel tag attached
Additional Information	Ground Transportation Protection Datasheet

PC-SERT RUPTURE DISC

The PC-SERT Rupture Disc is a composite type rupture disc designed to protect transportation vessels such as intermodal tank containers, railroad portable containers, tank cars, over-the-road tank trucks and other vessels that transport liquids or gas products, from potentially damaging overpressure conditions.

Size	2 1/2" and 3" (65mm and 80mm)
Burst Pressure	20 - 200 psig (1,38 - 13,8 barg)
Manufacturing Range	ZERO
Maximum Recommended Operating Ratio	85% of the minimum performance tolerance
Available Maximum Temp Limit	400° F (204° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes (with Vacuum Support)
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy 400, Alloy 600, Alloy C276, Nickel and Fluoropolymer
Seat Configuration	Flat seat
Holders	Designed to mount directly to tank flanges
Compatible with Alarm System	N/A
Tagging	Stainless steel tag attached
Additional Information	Ground Transportation Protection Datasheet

TANKSERT RUPTURE DISC

The Tanksert Rupture Disc is designed for use on railroad tank cars, over the road tank trucks and other transportable vessels. It is designed to fit both threaded and bolted type Safety Vent Assemblies. Available with optional bee screen.

Size	2" (50mm)
Burst Pressure	25-165 psig (1,72-11,4 barg)
Manufacturing Range	Standard Pressure Ranges
Maximum Recommended Operating Ratio	80% of the minimum burst pressure
Available Maximum Temp Limit	400° F (204° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	Yes
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS and Fluropolymer
Seat Configuration	Flat seat
Holders	Designed to fit both threaded and bolted type customer supplied safety vent assemblies
Compatible with Alarm System	N/A
Tagging	Marked on rupture disc
Additional Information	Ground Transportation Protection Datasheet

TENSION/FORWARD ACTING RUPTURE DISCS

TITE-SEAL RUPTURE DISC ASSEMBLY

The Tite-Seal Rupture Disc Assembly is an economical "throwaway" sealed unit available with 1/4", 3/8", 1/2", 3/4" or 1" MNPT inlet connections and outlet configurations with an MNPT connection, muffled or free vent. Also offered with BSPT, BSPP and SAE industry standard threaded connections.

Size	1/4" - 1" (6mm - 25mm)
Burst Pressure	13 - 3000 psig (0,90 - 207 barg)
Manufacturing Range	-10% or Standard*
Maximum Recommended Operating Ratio	Choice of 90%, 80% or 70%*
Available Maximum Temp Limit	400° F (204° C)
Service	Gas or Liquid
Non-Fragmenting Design	With SRA or CDCV rupture disc
Withstand Full Vacuum	Yes
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600, Aluminum, Silver, Fluoropolymer and Brass
Seat Configuration	Flat seat
Holders	Designed to mate with threaded connections
Compatible with Alarm System	N/A
Tagging	Marked on assembly
Additional Information	Tite-Seal and Screw Type Assemblies Datasheet

WMP™ RUPTURE DISC

The WMP™ (Welded Muffled Plug) Rupture Disc Assembly is a single use unit that is threaded into a pressure system. The rupture disc assembly is designed to relieve the pressure of the process media in an over pressure condition to protect equipment, personnel and the environment from catastrophic failure of the pressure equipment or system. It is designed for applications with discharge to atmosphere at the rupture disc location.

Size	1/8" - 1" (3mm - 25mm)
Burst Pressure	300 - 15000 psig (20,7 - 1034 barg)
Manufacturing Range	-10%
Maximum Recommended Operating Ratio	70%
Available Maximum Temp Limit	900° F (482° C)
Service	Gas or Liquid
Non-Fragmenting Design	No
Withstand Full Vacuum	Yes
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel and Alloy 600
Seat Configuration	Flat seat
Holders	Designed to mate with threaded connections
Compatible with Alarm System	N/A
Tagging	Marked on assembly
Additional Information	WMP Welded Muffled Plug Datasheet

* Dependent upon the type of rupture disc selected, limitations apply and product specific literature should be reviewed. See "For Additional Information" section above.

ULTRA LOW PRESSURE RUPTURE DISCS

CAL-VAC® SEAT RUPTURE DISC

The Cal-Vac® Rupture Disc is a highly accurate pressure relief device for protecting vessels and equipment against damaging vacuum conditions. Proven features include:

- Designed to open on vacuum within a 6 INWC spread
- Pressure setting starting at 1 INWC
- Can be operated to within 1 INWC or 90%, dependent upon rating
- Dual directional pressure protection (positive or negative)
- Designed for non-fragmentation

Size	3" - 12" (80mm - 300mm)
Burst Pressure	• Positive: 2 - 150 psig (0,138 - 10,3 barg) • Vacuum: 1 - 115 INWC
Manufacturing Range	• Positive: Standard, 3/4, 1/2, 1/4, ZERO • Vacuum: 6 INWC spread
Maximum Recommended Operating Ratio	• Positive: 80% • Vacuum: 90% of MIN or within 1 INWC, whichever is greater
Available Maximum Temp Limit	400° F (204° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	N/A
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600, Tantalum and Fluoropolymer
Seat Configuration	Flat seat
Holders	• CAL-VAC® Sanitary Holder • CAL-VAC® Insert Holder
Compatible with Alarm System	Integral B.D.I.®
Tagging	• Insert Style: Three dimensional stainless steel flow direction tag attached • Sanitary Style: Unattached stainless steel tag
Additional Information	CAL-VAC® / POS-A-SET® Datasheet

POS-A-SET® RUPTURE DISC

The POS-A-SET® Rupture Disc is a highly accurate pressure relief device for protecting vessels and equipment against damaging positive pressure conditions. Proven features include:

- Designed to open on positive pressure within a 6 INWC spread
- Positive pressure setting starting at 1 INWC
- Can be operated to within 1 INWC or 90%, dependent upon rating
- Dual directional pressure protection (positive or negative)
- Designed for non-fragmentation

Size	3" - 12" (80mm - 300mm)
Burst Pressure	• Positive: 6 INWC spread • Vacuum: 2 - 150 psig (0,138 - 10,3 barg)
Manufacturing Range	• Positive: Standard, 3/4, 1/2, 1/4, ZERO • Vacuum: Standard, 3/4, 1/2, 1/4, ZERO
Maximum Recommended Operating Ratio	• Positive: 90% of MIN or within 1 INWC, whichever is greater • Vacuum: 80%
Available Maximum Temp Limit	400° F (204° C)
Service	Gas or Liquid
Non-Fragmenting Design	Yes
Withstand Full Vacuum	N/A
Operating Conditions	Static, Cyclic or Pulsating
Materials	316 SS, 316L SS, Alloy C276, Nickel, Alloy 400, Alloy 600, Tantalum and Fluoropolymer
Seat Configuration	Flat seat
Holders	• POS-A-SET® Sanitary Holder • POS-A-SET® Insert Holder
Compatible with Alarm System	ntegral B.D.I.®
Tagging	• Insert Style: Three dimensional stainless steel flow direction tag attached • Sanitary Style: Unattached stainless steel tag
Additional Information	CAL-VAC® / POS-A-SET® Datasheet

VENT PANELS

Continental Disc Corporation Vent Panels are designed to allow full, instantaneous opening, thus minimizing structural or mechanical damage that may be caused by the deflagration of dust, gas or mist.

Our Vent Panels Feature:

- Full, instantaneous opening under dynamic or static pressure conditions
- Designed for non-fragmentation
- Available in square, rectangular or circular configurations
- Interchangeable with many existing applications
- B.D.I.® Alarm System compatible

VP SERIES:

The VP series vent panel is a flat, scored aluminum panel, fluoropolymer coated, for applications requiring protection to as low as 1 psig. This panel may be used for positive pressure or vacuum pulsating conditions.

CP SERIES:

The CP series flat composite vent panel is excellent for applications requiring cyclic conditions (positive to negative pressures), low opening pressures and the need for stainless steel construction.

SFC AND CFC SERIES:

The SFC and CFC series prebulged vent panels are excellent for applications operating up to full vacuum. The SFC series are prebulged, circular, solid aluminum vent panels with a handling or vacuum support. The CFC series are prebulged, circular composite vent panels with a handling or vacuum support, usually made of 316SS and fluoropolymer components.

Size	Rectangular or Square: 12" x 12" - 44" x 69" (30 cm x 30 cm - 112 cm x 175 cm) Circular: 10" - 44" diameter (25 cm - 112 cm)
Burst Pressure	1 to 10 psig @ 72° F (0,069 to 0,689 barg @ 22° C)
Temperature	To 450° F (232° C)
Service	Gas
Operating Conditions	Static, Cyclic or Pulsating Flat panels: Up to 50% of rated burst pressure for positive or vacuum conditions Preformed (prebulged): Up to 80% of rated burst pressure for positive pressure and up to full vacuum
Holders	Lightweight flange construction
Compatible with Alarm System	B.D.I.®
Options	Coatings, vaccum support, dent protector
Additional Information	Vent Panels Datasheet CFR & CFS Formed Vent Panels Datasheet

CFR and CFS Series Formed Vent Panels:
The CFR (rectangular) and CFS (square) series are prebulged 316SS vent panels with vacuum support and fluoropolymer seal. The CFR and CFS vent panels have an operating ratio of up to 80% of the minimum tagged rating.

BURST DISC INDICATOR ALARM SYSTEMS

B.D.I.® ALARM SYSTEM

The B.D.I. Burst Disc Indicator Alarm System provides many benefits, which include:

- Expanded availability in sizes up to 36" (900mm)
- Available as integral design to many rupture disc and vent panel products

FOR ADDITIONAL INFORMATION REFER TO:
B.D.I.® Burst Disc Indicator Datasheet

BDI-FLX® BURST DISC SENSOR SYSTEM

Continental Disc Corporation provides two systems for monitoring the burst of a rupture disc, the BDI-FLX® Sensor System and the B.D.I.® Alarm System. Common features include:

- Detects venting, provides instantaneous notification of the bursting of a rupture disc.
- Signals emergency equipment, control room and/or operating personnel to alter or stop a process.
- Can be combined with a CDC Alarm Monitor to protect equipment, lives and the environment.

MTB-700 ALARM MONITOR

The MTB-700 Alarm Monitor incorporates intrinsically safe galvanically isolated barriers, approved for use in many countries worldwide. An MTL5018AC barrier is utilized on the MTB-700 Alarm Monitor with a 120/240 VAC input power option. An MTL5018 barrier is utilized on the MTB-700 Alarm Monitor with the 24 VDC input power option. Upon disc rupture, these barriers activate signals and/or output relays to warn operators and actuate pumps, valves or other equipment connected to the system.

SPECIAL ASSEMBLIES

SOLUTIONS...FOR TOUGH PRESSURE RELIEF PROBLEMS

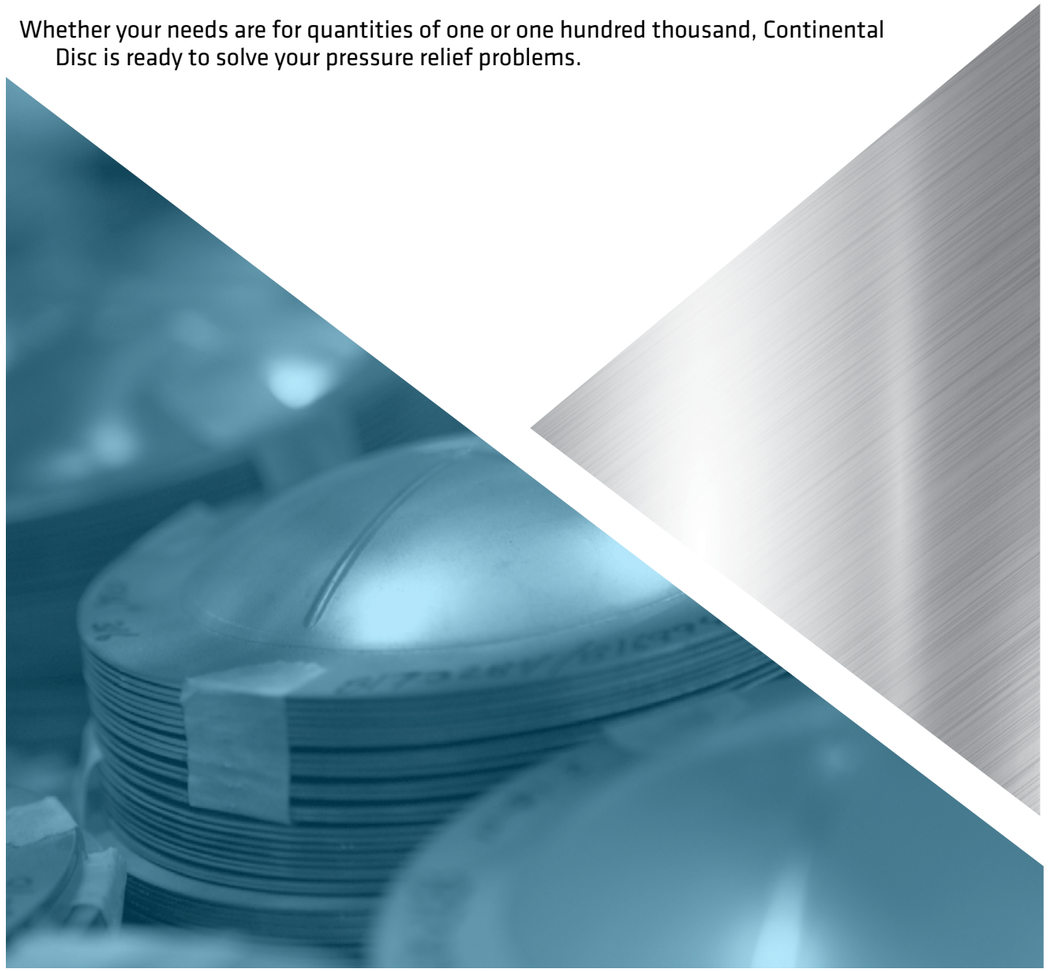
Whether it's from the standard product line, or a custom-manufactured rupture disc for a one-of-a-kind application, Continental Disc Corporation has built a reputation for solving the toughest pressure relief problems for OEM's... Defense...Space Exploration...Aircraft and Aerospace...Chemical and Petrochemical...Food Processing...Electronics.. and countless more.

The same engineering, testing and manufacturing talent that has solved one-of-a-kind problems for worldwide industries is now available to deliver innovative solutions for your specific pressure relief problems.

WORKING WITH SPECIALIZED TECHNOLOGIES...LIKE YOURS

Solving pressure relief problems for you is the special role played by Continental Disc Corporation's Product Development Group and the Special Products Group. This pool of product development expertise has been retrofitting Continental Disc Corporation products into clients' systems for nearly 50 years. They are engineers who are at home with special or exotic materials, ultrahigh or ultralow burst pressures, as well as state-of-the-art processing and testing requirements.

Whether your needs are for quantities of one or one hundred thousand, Continental Disc is ready to solve your pressure relief problems.



RUPTURE DISC HOLDERS

INSERT HOLDERS

Insert type rupture disc holders fit between two ASME, DIN or JIS companion flanges, as shown in the photograph to the right. Insert holders to fit other standards are available. These holders are designed for many different rupture disc styles, described in paragraphs 1 through 4 below. Common features of Continental Disc Corporation's Insert Holders include:

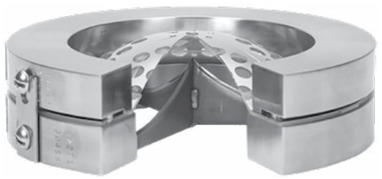
- Fit within companion flange bolts, allowing easy installation and removal
- Pre-assembly clips are standard and provide means to assemble the rupture disc and holder together before installation in piping system
- Stainless steel flow direction nameplates permanently attached to the holder
- Stainless steel customer identification tag permanently attached

7I INSERT HOLDERS are designed for Standard and Composite rupture discs, are available in 30° light or heavy lip configurations, dependent upon size and bolting class.

The UNISERT® Insert Holder has a flat seat configuration for use with either a MICRO X® or Composite Flat Seat Rupture Disc. Holder alignment pins and matching notches in the rupture disc provide correct rupture disc orientation in the holder. A J-Hook, along with flow direction arrows on the nameplate, aids in proper assembly installation between the companion flanges.

The HPX® , HPX-RH and LOTRX® Insert Holders are designed with either a tapered or flat raised seat on the holder inlet. This design allows a uniform seal load on the mating rupture disc. Each holder has three round pins and the mating rupture disc is identically notched, providing proper rupture disc orientation in the holder. A J-Hook and flow direction arrows on the nameplates aid in the correct assembly orientation between companion flanges.

The RCS Insert Holder is designed for simplicity and safety of installation with superior sealing capabilities. A tapered seat configuration allows a uniform seal load on the rupture disc.

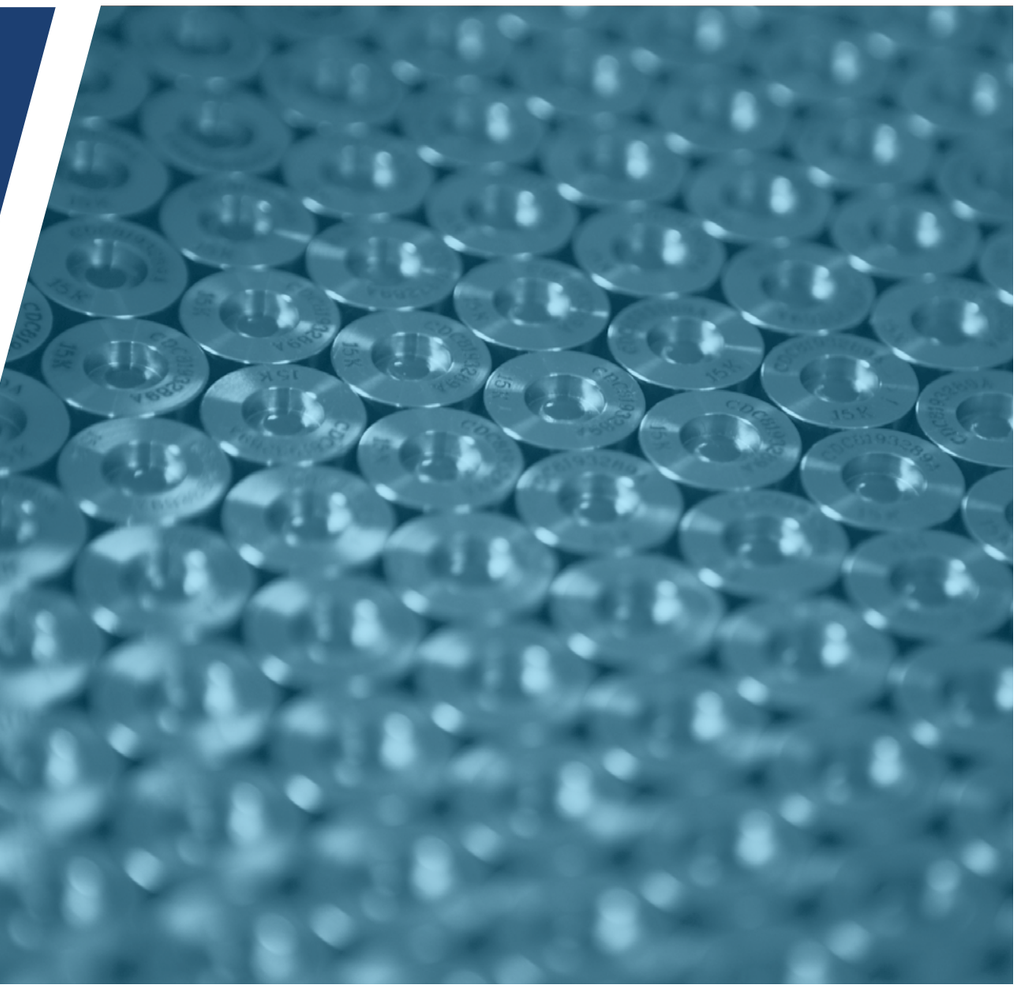


The CAL-VAC®/POS-A-SET® Insert Holders are designed with flat raised seat that allows for a uniform seal load on the mating rupture disc. Holder alignment pins and mating notches in the rupture disc provide correct rupture disc orientation in the holder. A Knifeblade Assembly with PRECISION-HONED EDGES is permanently affixed in the holder to provide maximum ultra low pressure relief. A J-Hook, along with flow direction arrows on the nameplate, aids in proper assembly installation between the companion flanges.

RUPTURE DISC HOLDERS

HPX-PT® PRE-TORQUED & HPX-PT-RH HOLDERS
HPX-PT (Pre-Torqued) and HPX-PT-RH (Pre-Torqued & Reduced Height) Holders incorporate high strength steel socket head cap screws to ensure accurate loading and sealing of the HPX® Rupture Disc. The HPX-PT Holder allows the disc to be correctly fitted in the workshop using precise recommended torque levels, prior to installation of the complete assembly between the flanges in the process system relief stream.

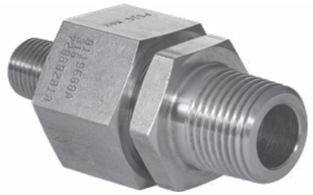
DOUBLE DISC HOLDER ASSEMBLY consists of three holder components: an inlet, a mid-flange and an outlet piece, along with two rupture discs. The first of the two rupture discs is located between the inlet and the mid-flange, and the second rupture disc is between the mid-flange and outlet. This assembly arrangement provides the solution to multiple applications without the need of a more complicated piping arrangement. Double disc holders are available for: HPX®, UNISERT, LOTRX®,7I, RCS



RUPTURE DISC HOLDERS

SRA Union and Union Type Holders are available for pressure ranges up to 6,000 psig, depending on disc size. All sizes are available with threaded or welded inlets in combination with threaded, welded or muffled outlets. SRA Union Holder is designed for SRA Rupture DIsc, and 30° light lip Union Holder is designed for Standard and Composite Rupture Discs.

FULL BOLTED HOLDERS do not need companion flanges. The proper seat configuration is machined directly into the flange. Full bolted holders are available in 30° light or heavy lip seat configurations, dependent upon size. Welded, threaded or flat faced inlets and outlets are available. Stainless steel flow directional nameplates are provided.



SRA Screw Type and Screw Type Holders are available for pressures ranging up to 15,000 psig. The Screw Type holder is supplied with MNPT inlet threads in combination with MNPT, free or muffled outlets. Also offered with BSPT, BSPP and SAE industry standard threaded connections. The SRA Rupture Discs are to be used in the SRA Screw Type holder. The Standard, and Composite Rupture Discs are used in the Screw Type holders. Special high pressure designs are available.

CAL-VAC®/POS-A-SET® SANITARY FITTING HOLDERS utilizes quick disconnect clamping that provides a secure, leak-tight joint, free of pockets or crevices and permits fast installation. A knifeblade assembly with precision honed edges is located in the holder and is designed to provide ultra low pressure relief. The CAL-VAC® and POS-A-SET® Sanitary Fitting Holder is ideally suited for a wide range of applications where contamination and corrosion are hazards. It is designed to comply with 3A Sanitary Standards.

CLEAN-SWEEP® RUPTURE DISC HOLDER is designed for systems handling viscous media processes, particularly where product build-up in a piping system may cause excessive overpressure conditions. This holder is an ideal replacement for rupture discs installed off the leg of a pipe tee where product build-up could affect the proper operation of the rupture disc. The CLEAN-SWEEP® Holder body is specifically designed for a rupture disc. The rupture disc is mounted directly on the holder body adjacent to the process flow. Compared to other designs, the CLEAN-SWEEP® greatly reduces the possibility of product build-up under the rupture disc and it is available for pressures up to 1440 psig (99,3 barg).

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