

PRODUCT SELECTION GUIDE

REVERSE ACTING RUPTURE DISCS FORWARD ACTING RUPTURE DISCS LOW PRESSURE RUPTURE DISCS RUPTURE DISC HOLDERS VENT PANELS ALARM SYSTEMS SPECIAL ASSEMBLIES

#1 QUALITY PROVIDER OF ENGINEERED PRESSURE SAFETY PRODUCTS



PRODUCT SELECTION GUIDE



PERFORMANCE UNDER PERFORMANCE PRESSURE

Continental Disc Corporation manufactures rupture discs to our customers' specifications to help protect vessels, equipment and systems against damaging overpressure conditions.

QUALITY

F L O

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 DISCS

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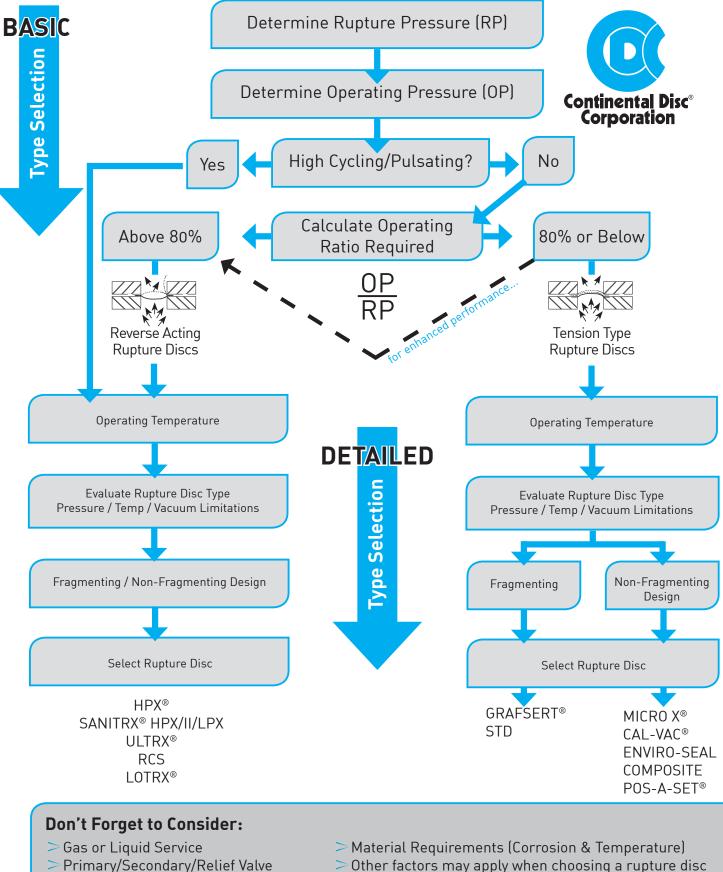
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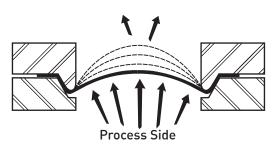
RUPTURE DISC SELECTION TREE

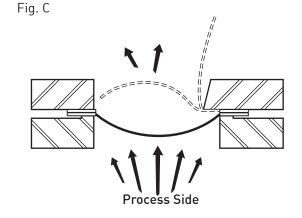


TENSION TYPE RUPTURE DISCS

REVERSE ACTING RUPTURE DISCS

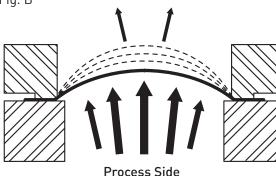
Fig. A





TYPE OF DISC





Tension Type Rupture Discs are oriented in a system with the process media pressure against the concave side of the rupture disc (Figure A, 30° Seat; Figure 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.

> 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. **Reverse Acting Rupture Discs** are oriented in a system with the process media pressure against the convex side of the disc (Figure 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 some 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

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, or contact the factory directly.



RUPTURE DISC SELECTION TABLE

				· ⊢	NGE	TAND	STANDARD MATERIALS**								
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	ALUMINUM	MONEL	INCONEL	NICKEL	316 SS or 316L SS	HASTELLOY® C	TANTALUM	GRAPHITE	
HPX®	Gas or Liquid (static, cyclic or pulsating)	1" - 8" 25 - 200 mm	10 - 1000 psig 0,689 - 68,9 barg	90% or 95%	ZERO -5% -10%	NO		+	+	+	+	+	+		
ULTRX®	Gas or Liquid (static, cyclic or pulsating)	10" - 12" 250 - 300 mm	15 - 325 psig 1,03 - 22,4 barg	90%	ZERO -5% -10%	NO		+	+	+	+	+	+		
	Gas or Liquid (static, cyclic or pulsating)	1" - 8" 25 - 200 mm	1.5 - 40 psig 0,103 - 2,76 barg	90%	ZERO -5% -10%	NO*		+	+	+	+	+	+		
RCS	Gas or Liquid (static, cyclic or pulsating)	14" - 32" 350 - 800 mm	20 - 180 psig 1,38 - 12,4 barg	90%	ZERO -5% -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 (static, cyclic or pulsating)	1½" - 3" 40 - 80 mm	5.8 - 10 psig 0,40 - 0,689 barg	90%	ZERO -5% -10%	NO					+				
MICRO X®	Gas or Liquid (static)	1" - 36" 25 - 900 mm	15 - 3600 psig 1,03 - 248 barg	80%	ZERO -5% -10%	N0*		+	+	+	+	+	+		
	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 - 30 INWC	Within 1 INWC of min setting	6 INWC min/ max	NOT Applicable		+	+	+	+	+	+		
POS-A-SET®	Gas or Liquid (static, cyclic or pulsating)	3" - 12" 80 - 300 mm	1 - 30 INWC	Within 1 INWC of min setting	6 INWC min/ max	NOT Applicable		+	+	+	+	+	+		
	Gas or Liquid (static, cyclic or pulsating)	2" - 36" 50 - 900 mm	1 - 59 psig 0,069 - 4,07 barg	50%	Min./ Max	N0*		+	+	+	+	+	+		
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

		COMPATIBLE HOLDERS											
CONTINENTAL DISC CORPORATION RUPTURE DISC TYPE	FLOW DIRECTION	NOINN	INSERT	FULL BOLTED	CLEAN-SWEEP	TITE-SEAL	SCREW TYPE	PRETORQUED	SANITARY	HE RECOMMENDED C FOR ISOLATION OF SAFETY RELIEF VALVE		AVAILABLE BURST DISC INDICATOR (B.D.I. [®]) (1 INCH AND ABOVE)	AVAILABLE ASME UD CERTIFICATION
HPX®			+					+		+		+	+
ULTRX®			+					+		+		+	+
			+					+		+		+	+
RCS			+					+		+		+	+
SANITRX HPX®		No holder Installs be	required. etween sta	ndard ferr	ules.				+	+		+	+
SANITRX HPX® II			No holder required. Installs between standard ferrules.							+		+	+
SANITRX® LPX		No holder Installs be	required. etween sta	ndard ferr	ules.				+	+		+	+
			+		+			+		+		+	+
			+		+	+	+	+		+		+	+
STANDARD 30° SEAT		+	+	+	+	+	+				+	+	+
COMPOSITE 30° SEAT	\sim	+	+	+						+		+	+
CAL-VAC®			+						+		+	+	
POS-A-SET®			+						+		+	+	
ENVIRO-SEAL		No holder required. Installs between standard bore companion flanges.								Downstream Only		+	+
GRAFSERT®	GRAFSERT® No holder required. Installs between standard bore companion flanges.									+	+	+	

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

HPX® RUPTURE DISC

REVERSE ACTING



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 is design tested for 250,000 cycles* from full vacuum to 95% of burst rating.

ULTRX® Rupture Disc



The **ULTRX® 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.



FEATURES/SPECIFICATIONS

Sizes: 1" - 8" (25mm - 200mm) **Burst Pressure:** 10 - 1000 psig (0,689 - 68,9 barg) Manufacturing Range: ZERO, -5%, -10% **Maximum Recommended Operating Ratio:** Choice of 95% or 90% Available Maximum Temperature Limit: 1000° F (538° C) Service: Gas or Liquid Nonfragmenting Design: Yes Withstand Full Vacuum: Yes **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL®, INCONEL® and Tantalum** Seat Configuration: Flat seat Holders: HPX[®] Insert Holder, HPX-PT[®] Pre-Torqued Insert Holder, HPX[®] Double Disc Insert Holder Compatible with the Following B.D.I. Alarm System: Universal **Tagging:** Three dimensional stainless steel flow direction tag attached to all sizes For Additional Information Refer To: HPX[®] Rupture Disc Product Family Literature

FEATURES/SPECIFICATIONS

Sizes: 10" - 12" (250mm - 300mm) **Burst Pressure:** 15 - 325 psig (1,03 - 22,4 barg) Manufacturing Range: ZERO, -5%, -10% **Maximum Recommended Operating Ratio:** 90% Available Maximum Temperature Limit: 1000° F (538° C) Service: Gas or Liquid Nonfragmenting Design: Yes Withstand Full Vacuum: Yes **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL®, INCONEL® and Tantalum Seat Configuration: Flat seat Holders: ULTRX® Insert, ULTRX® Double Disc Insert Holder Compatible with the Following B.D.I. Alarm System: Universal Tagging: Three dimensional stainless steel flow direction tag attached to all sizes For Additional Information Refer To: Reverse Acting Rupture Discs and Holders Datasheet

* Tests performed on 316 SS and HASTELLOY® C ** See HPX®-TA Datasheet for additional details

LOTRX[®] Rupture Disc

RCS Rupture Disc Assembly



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 **RCS Rupture Disc** is a reverse acting, crossscored, solid metal rupture disc, providing reliable pressure relief protection, easy installation, and retrofit to your pre-existing piping arrangement.

REVERSE ACTING



FEATURES/SPECIFICATIONS

Sizes: 1" - 8" (25mm - 200mm) **Burst Pressure:** 1.5 - 40 psig (0,103 - 2,76 barg) Manufacturing Range: ZERO, -5%, -10% **Maximum Recommended Operating Ratio:** 90% **Available Maximum Temperature Limit:** 1000° F (538° C) Service: Gas or Liquid Nonfragmenting Design: Yes Withstand Full Vacuum: Yes* **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL®, INCONEL[®] and Tantalum Seat Configuration: Flat seat Holders: LOTRX Insert Holder Compatible with the Following B.D.I. Alarm System: Universal Tagging: Three dimensional stainless steel flow direction tag attached to all sizes For Additional Information Refer To: **Reverse Acting Rupture Discs and Holders** Datasheet

FEATURES/SPECIFICATIONS

Sizes: 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 Temperature Limit:** 1000° F (538° C) Service: Gas Only Nonfragmenting Design: Yes Withstand Full Vacuum: Yes **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL®, INCONEL[®] and Tantalum Seat Configuration: Flat seat Holders: **RCS** Insert Holder Compatible with the Following B.D.I. Alarm System: Universal Tagging: Three dimensional stainless steel flow direction tag attached to all sizes For Additional Information Refer To: **RCS** Rupture Disc Assembly Datasheet

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

SANITRX HPX® RUPTURE DISC

SANITRX HPX® II RUPTURE DISC

REVERSE ACTING



The **SANITRX HPX® Rupture Disc** is a semicircular scored reverse acting rupture disc designed specifically 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, each rupture disc is packaged in sanitary, environmentally friendly, non-toxic packaging.



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.



FEATURES/SPECIFICATIONS Sizes: 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 Temperature Limit: 450° F (232° C) Service: Gas or Liquid Nonfragmenting Design: Yes Withstand Full Vacuum: Yes **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL® and INCONEL® Seat Configuration: IS, SF, NA Holders: Designed to install directly between sanitary tube O.D. connections using a sanitary clamping device Compatible with the Following B.D.I. Alarm System: Integral Tagging: Three dimensional stainless steel vertical flow direction tag attached to all sizes For Additional Information Refer To: HPX[®] Rupture Disc Product Family Brochure

FEATURES/SPECIFICATIONS Sizes: 1-1/2" - 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 Temperature Limit:** 450° F (232° C) Service: Gas or Liquid Nonfragmenting Design: Yes Withstand Full Vacuum: Yes **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL® and INCONEL® Seat Configuration: IS, SF, NA Holders: Designed to install directly between sanitary tube O.D. connections using a sanitary clamping device Compatible with the Following B.D.I. Alarm System: Integral Tagging: Three dimensional stainless steel vertical flow direction tag attached to all sizes For Additional Information Refer To: SANITRX HPX® II Rupture Disc Datasheet

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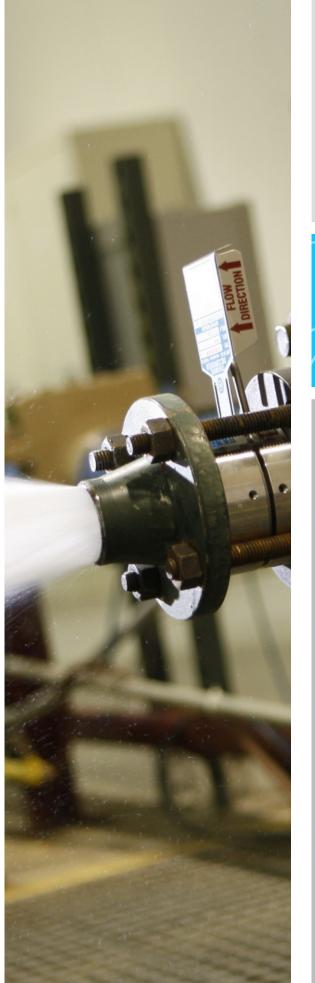
SANITRX® LPX RUPTURE DISC



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.

FEATURES/SPECIFICATIONS

Sizes: 1-1/2" - 3" (40mm - 80mm) **Burst Pressure:** 5.8 - 10 psig (0,40 - 0,689 barg) Manufacturing Range: ZERO, -5%, -10% Maximum Recommended Operating Ratio: 90% **Available Maximum Temperature Limit:** 450° F (232° C) Service: Gas Nonfragmenting Design: Yes Withstand Full Vacuum: Yes **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS Seat Configuration: IS, SF, NA **Holders:** Designed to install directly between sanitary tube O.D. connections using a sanitary clamping device Compatible with the Following B.D.I. Alarm System: Sanitary **Tagging:** Three dimensional stainless steel vertical flow direction tag attached to all sizes For Additional Information Refer To: SANITRX[®] LPX Rupture Disc Datasheet



REVERSE ACTING





MICRO X[®] Cross Scored Rupture Disc

Composite Flat Seat Rupture Disc

TENSION/ FORWARD ACTING







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.

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 TEFLON[®] seal.

FEATURES/SPECIFICATIONS

Sizes: 11/16" - 36" (17,5mm - 900mm) **Burst Pressure:** 2 - 1400 psig (0,138 - 99,3 barg) Manufacturing Range: Standard, 3/4, 1/2, 1/4, ZERO Maximum Recommended Operating Ratio: 80% Available Maximum Temperature Limit: 500° F (260° F) Service: Gas or Liquid Nonfragmenting Design: Yes Withstand Full Vacuum: with Vacuum Support **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELOY® C, Nickel, MONEL®, INCONEL®, Tantalum, Aluminum, Silver and **TEFLON**[®] Seat Configuration: Flat seat Holders: UNISERT[®] Insert Holder, Screw Type Holder, CLEAN-SWEEP® Holder Compatible with the Following B.D.I. Alarm System: Universal Tagging: Three dimensional stainless steel flow direction tag attached to 1" (25mm) and above For Additional Information Refer To: **UNISERT®** Assembly Datasheet Tite-Seal and Screw-Type Assembly Datasheet

1" - 36" (25mm - 900mm) Burst Pressure: 15 - 3600 psig (1,03 - 248 barg) Manufacturing Range: ZERO, -5%, -10% Maximum Recommended Operating Ratio: 80%

Sizes:

Available Maximum Temperature Limit: 1000° F (538° C) Service: Gas or Liquid Nonfragmenting Design: Yes

FEATURES/SPECIFICATIONS

Withstand Full Vacuum: Yes*

Operating Conditions:

Static Material(s):

316 SS, 316L SS, HASTELLOY[®] C, Nickel, MONEL[®], INCONEL[®] and Tantalum

Seat Configuration:

Flat seat

Holders:

UNISERT[®] Insert Holder, CLEAN-SWEEP Holder Compatible with the Following B.D.I. Alarm System: Universal Tagging: Three dimensional stainless steel flow direction tag

attached to all sizes For Additional Information Refer To:

UNISERT[®] Assembly Datasheet

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

Standard 30° Seat Rupture Discs

Composite 30° Seat Rupture Discs





TENSION/ FORWARD ACTING

A **Standard Rupture Disc** is a solid metal, differential pressure relief device with an instantaneous, fullopening, non-reclosing design. The **Composite Rupture Disc** is designed for systems requiring a lower burst pressure than offered in Standard discs. Continental Disc Corporation's sevenhole center pattern is designed for non-fragmentation when used with a TEFLON[®] seal.



FEATURES/SPECIFICATIONS Sizes:

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 Temperature Limit:** 1000° F (538° C) Service: Gas or Liquid Nonfragmenting Design: No Withstand Full Vacuum: with Vacuum Support **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL®, INCONEL®, Tantalum, Aluminum and Silver Seat Configuration: 30° Holders: Insert Holder, Full Bolted Holder, Union Holder, Screw Type Holder Compatible with the Following B.D.I. Alarm System: Universal Tagging: Three dimensional stainless steel flow direction tag attached to 1" (25mm) sizes and above except when used in a Union Holder For Additional Information Refer To: Standard Rupture Disc Datasheet

Sizes: 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 Temperature Limit:** 500° F (260° F) Service: Gas or Liquid Nonfragmenting Design: Yes Withstand Full Vacuum: with Vacuum Support **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL®, INCONEL®, Tantalum, Aluminum, Silver and **TEFLON®** Seat Configuration: 30° **Holders:** Insert Holder, Full Bolted Holder, Union Holder Compatible with the Following B.D.I. Alarm System: Universal Tagging: Three dimensional stainless steel flow direction tag attached except for use in a Union Holder For Additional Information Refer To: Composite Type Rupture Disc Datasheet



CAL-VAC® Rupture Disc Assembly

ULTRA LOW PRESSURE





Insert Style

Sanitary Style

The **CAL-VAC® Rupture Disc Assembly** 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

FEATURES/SPECIFICATIONS Sizes:

3" - 12" (80mm - 300mm) **Burst Pressure:** Positive: 2 - 150 psig (0,138 - 10,3 barg) Vacuum: 1 - 30 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 Temperature Limit: 400° F (204° C) Service: Gas or Liquid Nonfragmenting Design: Yes Withstand Full Vacuum: Not Applicable **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL®, INCONEL®, Tantalum and TEFLON®. Seat Configuration: Flat seat Holders: CAL-VAC[®] Sanitary Holder, CAL-VAC[®] Insert Holder Compatible with the Following B.D.I. Alarm System: Integral Tagging: Three dimensional stainless steel Insert Style: flow direction tag attached Sanitary Style: Unattached stainless steel tag provided For Additional Information Refer To: CAL-VAC® / POS-A-SET® Datasheet

POS-A-SET® Rupture Disc Assembly



The **POS-A-SET® Rupture Disc Assembly** 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

FEATURES/SPECIFICATIONS

Sizes: 3" - 12" (80mm - 300mm) **Burst Pressure:** Positive: 1 - 30 INWC* Vacuum: 2 - 150 psig (0,138 - 10,3 barg) Manufacturing Range: Positive: 6 INWC spread 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 Temperature Limit:** 400° F (204° C) Service: Gas or Liquid **Nonfragmenting Design:** Yes Withstand Full Vacuum: Not Applicable **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL®, INCONEL®, Tantalum and TEFLON® Seat Configuration: Flat seat Holders: POS-A-SET[®] Sanitary Holder, POS-A-SET[®] Insert Holder Compatible with the Following B.D.I. Alarm System: Integral **Tagging:** Insert Style: Three dimensional stainless steel flow direction tag attached Sanitary Style: Unattached stainless steel tag provided For Additional Information Refer To: CAL-VAC[®] / POS-A-SET[®] Datasheet

* Contact your Sales Representative for higher pressure ratings

* Contact your Sales Representative for higher pressure ratings

ENVIRO-SEAL Rupture Disc

GRAFSERT® Rupture Disc

Graphite Rupture Disc with armored ring



Vent Side View

Process Side View

FORWARD ACTING

TENSION/

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 II & III: Burst in either direction, positive or vacuum, at the same burst pressure

Type I: Burst in one direction only

Sizes:

50%

Service:

Yes

Holders:

Tagging:

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

FEATURES/SPECIFICATIONS Sizes: 2" - 36" (50mm - 900mm) **Burst Pressure: Burst Pressure:** 1 - 59 psig (0,069 - 4,07 barg) Manufacturing Range: See Composite Type Rupture Disc Datasheet for ZERO available MIN/MAX ratings **Maximum Recommended Operating Ratio:** 80% **Available Maximum Temperature Limit:** 400° F (204° C) Service: Gas or Liquid Gas or Liquid Nonfragmenting Design: No Withstand Full Vacuum: Not Applicable **Operating Conditions:** Material(s): Static, Cyclic or Pulsating Graphite Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL®, INCONEL®, TEFLON® Flat seat Seat Configuration: Holders: Flat seat Designed to mount directly between standard bore ASME, DIN or JIS companion flanges Integral Compatible with the Following B.D.I. Alarm System: Tagging: Integral Three dimensional stainless steel flow direction tag attached to all sizes For Additional Information Refer To: Composite Type Rupture Disc Datasheet

FEATURES/SPECIFICATIONS 1/2" - 24" (13mm - 600mm) 0.25 - 720 psig (0,017 - 49,6 barg) **Manufacturing Range: Maximum Recommended Operating Ratio:** Available Maximum Temperature Limit: 700° F (371° C) Nonfragmenting Design: Withstand Full Vacuum: with Vacuum Support **Operating Conditions:** Static, Cyclic or Pulsating Seat Configuration: Designed to mount directly between standard bore ASME, DIN or JIS companion flanges Compatible with the Following B.D.I. Alarm System: Stainless steel tag attached For Additional Information Contact Your: Sales Representative



PRODUCT SELECTION GUIDE // PAGE 16

Tite-Seal Rupture Disc Assemblies

ICON Rupture Disc

Tanksert Rupture Disc

TENSION/ FORWARD ACTING







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.

FEATURES/ SPECIFICATIONS Sizes:

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 Temperature Limit:** 400° F (204° C) Service: Gas or Liquid Nonfragmenting Design: With SRA or CDCV rupture disc Withstand Full Vacuum: Yes **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, 316L SS, HASTELLOY® C, Nickel, MONEL®, INCONEL®, Aluminum, Silver, TEFLON® and Brass Seat Configuration: Flat seat Holders: Designed to mate with threaded connections Compatible with the Following **B.D.I. Alarm System:** Not available Tagging: Marked on assembly For Additional Information Refer To: Tite-Seal and Screw Type Assemblies Datasheet

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



The **ICON Rupture Disc** is a crossscored, 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.

FEATURES/ SPECIFICATIONS

Sizes: 65mm and 80mm **Burst Pressure:** 3.67 barg 4,10 barg 4,84 barg Manufacturing Range: ZERO Maximum Recommended **Operating Ratio:** 80% Available Maximum Temperature Limit: 400° F (204° C) Service: Gas or Liquid Nonfragmenting Design: Yes Withstand Full Vacuum: Yes **Operating Conditions:** Static, Cyclic or Pulsating Material(s): Nickel, 316 SS, TEFLON® Seat Configuration: Flat seat Holders: Designed to mount directly to tank flanges Compatible with the Following **B.D.I. Alarm System:** Not available Tagging: Stainless steel tag attached For Additional Information Refer To: **ICON** Rupture Disc Datasheet



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.

Two styles are available:

Tanksert Rupture Disc with Bee Screen is used for applications that require protection against bees, insects or other airborne particles from entering the tank after a rupture disc opening has occurred.

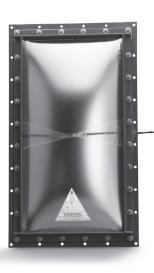
Tanksert Rupture Disc without bee screen.

FEATURES/ SPECIFICATIONS Sizes:

2" (50mm) **Burst Pressure:** 25 - 165 psig Manufacturing Range: **Standard Pressure Ranges** Maximum Recommended **Operating Ratio:** 80% Available Maximum **Temperature Limit:** 400° F (204° C) Service: Gas or Liquid Nonfragmenting Design: Yes Withstand Full Vacuum: Yes **Operating Conditions:** Static, Cyclic or Pulsating Material(s): 316 SS, TEFLON® Seat Configuration: Flat seat Holders: Designed to fit both threaded and bolted type customer supplied safety vent assemblies Compatible with the Following **B.D.I. Alarm System:** Not available Tagging: Marked on rupture disc For Additional Information Refer To: TANKSERT 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

Vent Panel Types

Continental Disc Corporation vent panels are offered in the following types of construction:

VP Series:

The VP series vent panel is a flat, scored aluminum panel, TEFLON® 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 Teflon components.

CFR and CFS Series Formed Vent Panels:

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



FEATURES/ SPECIFICATIONS

Sizes:

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)

Operating conditions:

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

Temperature:

To 450° F (232° C)

Burst pressure:

1 to 10 psig @ 72° F (0,069 to 0,689 barg @ 22° C)

Service:

Gaseous, static, pulsating or cyclic Holder:

Lightweight flange construction

Alarm system:

B.D.I.[®] Alarm System compatible

Options:

Coatings, vacuum support, dent protector

For Additional Information Refer To: VENT PANELS Datasheet CFR & CFS FORMED VENT PANELS Datasheet

VENT PANELS





B.D.I.® Alarm System

ALARM SYSTEMS







Universal B.D.I.

The **B.D.I.®** Alarm System is designed specifically for use with Continental Disc Corporation rupture discs or vent panels.

The B.D.I.[®] Alarm System consists of an alarm strip, interfaced with a monitoring unit, computer, annunciator panel, control panel or other equipment. The alarm system is activated by the opening of a rupture disc or vent panel.

The B.D.I.[®] Alarm System is a normally closed, low-powered circuit. When a rupture disc opens, the alarm strip is severed, interrupting the circuit which activates a monitoring device. This device is used to signal that an overpressure condition has occurred and that media is venting.

Proven features include:

- Signals instantly when a rupture disc or vent panel has opened.
- >Positive signal of fugitive emissions and/or the occurrence of an overpressure relief condition.
- >Signals emergency equipment, control room and/or operating personnel to alter or stop a process.
- >Prevents an undetected open vent line once an overpressure condition occurs.

The B.D.I. Alarm Strip is manufactured as either an Integral B.D.I. or a Universal B.D.I. design, dependent upon the rupture disc product it is to mate with.

Both the Integral B.D.I. and Universal B.D.I. designs are available with the choice of a molded plug or bare leads connection. B.D.I. Lead Wire Assemblies of different lengths are available to connect the Integral B.D.I. or Universal B.D.I. with molded plug connection to the monitoring system.

For Additional Information Refer To: B.D.I.[®] BURST DISC INDICATOR Datasheet



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 Industries. Space exploration program. Aircraft and aerospace manufacturers. Chemical and petrochemical industries. Food processors. Electronics industry. Countless more.

Problem Solving

Continental Disc Corporation's custom manufacturing capabilities have been tapped for such wide-ranging projects as air conditioning units, oxygen supply systems, aircraft ejection seats, sonobouys and the space shuttle.

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-ofthe-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.

SPECIAL ASSEMBLIES





RUPTURE DISC HOLDERS

RUPTURE DISC HOLDERS





HOLDER OPTIONS

Continental Disc Corporation holders are available in a variety of types and styles to meet your needs. The rupture disc selection table, as shown on pages 6-7, shows which disc may be used in specific holders, and the holder options which are available.

Continental Disc Corporation offers an extensive line of holders including:

- ≻Insert Holders
- >HPX-PT[™] Pre-Torqued Holders
- ≻Double Disc Holders
- \succ Full Bolted Holders
- Screw Type Holders
- ≻Union Type Holders
- CLEAN-SWEEP® Holders

Consult your Continental Disc Corporation representative or the factory for those applications needing additional features or modification.

Sealing Capabilities

Continental's holder designs provide superior sealing capabilities to prevent product loss or contamination. The tapered seat configuration of Continental's HPX®, UNISERT®, ULTRX® and RCS holders outperforms other, similar designs, without the need for "pre-torque" arrangements. However, a pretorque-able holder is available for those customers who desire one, or whose specifications require it.

Insert Holders

Insert type rupture disc holders are flat faced assemblies that 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 eleven 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
- 71 Insert holders, designed for Standard and Composite rupture discs, are available in 30° light or heavy lip configurations, dependent upon size.
- 2. 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.
- 3. The HPX[®], ULTRX[®] 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 a number of round and/or oblong 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.
- 4. The RCS Insert holder is designed for simplicity and safety of installation with superior sealing capabilities. Three round pins located in the holder inlet and matching holes in the RCS Rupture Disc provide correct rupture disc and flow direction orientation. A tapered seat configuration allows a uniform seal load on the rupture disc.

HPX[®]-PT Pre-Torqued Holders

HPX-PT pre-torqued 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.



RUPTURE DISC HOLDERS

Double Disc Holders



consists of three holder compo- companion flanges. The proper seat designed for systems handling nents: an inlet, a mid-flange and configuration is machined directly viscous media processes, an outlet piece, along with two into the flange. Full bolted holders particularly where product buildrupture discs. The first of the two are available in 30° light or heavy up in a piping system may cause rupture discs is located between lip seat configurations, dependent excessive overpressure conditions. the inlet and the mid-flange, and upon size. the second rupture disc is between the mid-flange and outlet.

provides the solution to multiple are provided. applications without the need of a more complicated piping arrangement.

Double disc holders are available for: >HDV® JLTRX®

HPX [®]	∕~ULI RX®
≻lotrx®	≻UNISERT
> 7I	≻RCS

Union Type Holders



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. Special unions are available.

Full Bolted Holders



and outlets are available. Stainless This assembly arrangement steel flow directional nameplates

Screw Type Holders

Screw Type Holders are available for pressures ranging up to 15,000 psig. The Screw Type holder is supplied with 1/4" or 1/2" MNPT inlet threads in combination with MNPT free or muffled outlets. The 1/2" Standard and 11/16" Composite Rupture Disc are used in these holders. Special high pressure designs are available.

CLEAN-SWEEP® Rupture Disc Holder

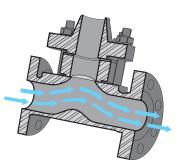


A Double Disc Holder Assembly Full Bolted Holders do not need The CLEAN-SWEEP® Holder is

This holder is an ideal replacement Welded, threaded or flat faced inlets 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).



RUPTURE DISC **HOI DFRS**







MARKETS & APPLICATIONS SERVED BY CONTINENTAL DISC CORPORATION PRODUCTS

From very tiny to very large, from extreme compression to barely a breath, Continental Disc Corporation has been manufacturing rupture discs (bursting discs) to operate in every application you can imagine. The list below shows just a few of the places where Continental rupture discs are doing the job. If you don't see your application listed, just contact us and let us show you how we have handled pressure problems just like yours.

CHEMICAL INDUSTRY

- Pressure Vessels for Primary Pressure Relief
 - •Reactors, Spheres, Towers, Cylinders
 - Safety Relief Valve Isolation
- Shell and Tube Heat Exchangers
 - •Low Pressure Side
 - High Pressure Side
- Pump Discharge to Prevent Blocked Discharge
- > Utilities
 - •Heating or Cooling Systems (Dowtherm®, Ammonia, Freon)
 - •Steam
 - •Cryogenic Gasses
 - •Headers, Knock Out Drums, Flares, Thermal Oxidizers

OIL & GAS INDUSTRY

- Land-Based & Offshore Well-Drilling & Servicing
- Offshore Platforms & Pumping Stations
 - Double Discs for FPSO Heat Exchangers
- Refinery Operations
- Pipeline Pumping Stations

PHARMACEUTICAL & COSMETICS INDUSTRY

- Specialty Chemical (API) Manufacturing
- > Hygienic Service for Human & Animal Health Products
 - •Chemical Processing Vessels
 - •Specialty Chemical Processing Equipment— Filters, Chromatographs, Autoclaves, Fermentation
 - •Clean Steam for Cleaning or Process System
 - •Storage Tanks for Chemicals & Finished Product
 - •Clean-In-Place & Sterilize-In-Place Systems
 - •Skid & Module Manufacturers

PULP & PAPER INDUSTRY

- Digester Pressure Protection
- Bleaching System
- Refiner Housing Pressure Protection
- Non-Condensable Gas Recovery & Discharge Header
- Chemical Processing Vessels

FOOD & BEVERAGE INDUSTRY

- Process Vessels for Aseptic Service
- Storage Vessels for Aseptic Service
- Stainless Steel Storage Vessels
- Clean Steam Systems for Processing & Cleaning Systems
- Fermentation Vessels
- Pump Discharge Lines
- Special Process Equipment

SPECIALTY GAS INDUSTRY

- Separation Towers (Oxygen, Nitrogen, Hydrogen, CO₂, Argon)
- Shell & Tube Heat Exchangers
- High & Low Pressure Storage Vessels
- Field Service Applications
- Transportation Tanks
- > 0EM's for Cylinders, Vessels, Trailers

ADDITIONAL SPECIALTY MARKETS

- ▶ Plastic Extrusion
- Chiller Systems (Ammonia or Freon)
- >Mining
- > Oilfield Service Industry
- Electrical Switchgear or Transformers
- Aircraft, Aerospace & Military Equipment
- >Ultra-Pure Semiconductor Gas Systems
- High Pressure Hydraulics
- ≻High Pressure Tanks
- Desalination
 - Municipal & Industrial Plants
 - Transition from Thermal to RO Technology
- ➤ Geothermal Energy
- LNG (Import And Export)
- ≻Solar Energy
- ➤Wind Energy
- >Syngas
 - Biodiesel
 - •Ethanol
 - Algae
 - •Coal to Gas



MARKETS **SERVED**









PERFORMANCE UNDER PRESSURE®



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