



**Continental Disc®
Corporation**

Preparation and Installation of the ½” Standard Type Rupture Disc/Screw Type Holder Assembly

WARNING

USER SHOULD READ AND THOROUGHLY UNDERSTAND THESE INSTRUCTIONS BEFORE INSTALLING RUPTURE DISC. THESE INSTRUCTIONS DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY FACTORS ASSOCIATED WITH THE RUPTURE DISC'S USE IN SERVICE. IT IS THE RESPONSIBILITY OF THE USER TO ESTABLISH APPROPRIATE SAFETY, HEALTH, AND TRAINING MEASURES FOR THEIR PERSONNEL INSTALLING, SERVICING, OR WORKING IN AN AREA WHERE RUPTURE DISC ASSEMBLIES ARE IN USE. SERVICE AND/OR MAINTENANCE ON OR AROUND THE RUPTURE DISC DEVICE MUST NOT BE PERFORMED WHILE THE DEVICE IS SUBJECTED TO OPERATING PRESSURES AND/OR TEMPERATURES.

IT IS THE USER'S SOLE RESPONSIBILITY FOR DESIGN AND PLACEMENT OF RUPTURE DISCS WITHIN THEIR FACILITY AND UPON THE EQUIPMENT UPON WHICH THE RUPTURE DISC OF USER'S SELECTION IS TO BE LOCATED. IT IS USER'S SOLE RESPONSIBILITY FOR THE DESIGN OF ADEQUATE VENTING AND INSTALLATION OF ADEQUATE VENT PIPING OR DIRECTIONAL FLOW AFTER RUPTURE OCCURS WITH THE RUPTURE DISC AS INTENDED. WHEN SIZE IS SPECIFIED, CONTINENTAL DISC CORPORATION ASSUMES THAT ADEQUATE PROVISIONS HAVE BEEN MADE BY PURCHASER FOR PROPER VENTING OF A SYSTEM TO RELIEVE THE SPECIFIC PRESSURE. LOCATE RUPTURE DISC WHERE PEOPLE OR PROPERTY WILL NOT BE EXPOSED TO THE SYSTEM DISCHARGE IN CASE OF RUPTURE. VENT TOXIC OR FLAMMABLE FUMES OR LIQUIDS TO A SAFE LOCATION TO PREVENT PERSONAL INJURY OR PROPERTY DAMAGE.

IT IS THE USER'S SOLE RESPONSIBILITY TO SPECIFY THE BURST PRESSURE RATING OF A RUPTURE DISC AT A COINCIDENT TEMPERATURE AT WHICH THE RUPTURE DISC IS TO BE USED. A RUPTURE DISC IS A TEMPERATURE SENSITIVE DEVICE. THE BURST PRESSURE OF THE RUPTURE DISC IS DIRECTLY AFFECTED BY ITS EXPOSURE TO THE COINCIDENT TEMPERATURE. GENERALLY, AS THE TEMPERATURE AT THE RUPTURE DISC INCREASES, THE BURST PRESSURE DECREASES; INVERSELY, AS THE TEMPERATURE AT THE RUPTURE DISC DECREASES, THE BURST PRESSURE MAY INCREASE. FAILURE TO PROPERLY UTILIZE A RUPTURE DISC AT THE SPECIFIED COINCIDENT TEMPERATURE COULD CAUSE PREMATURE FAILURE OR OVERPRESSURIZATION OF A SYSTEM.

THE INSTANTANEOUS RELEASE OF PRESSURE FROM THE RUPTURE DISC CAN CREATE VIOLENT NOISES DUE TO THE DISCHARGE AT SONIC VELOCITY. IT IS THE USER'S SOLE RESPONSIBILITY TO PROTECT AGAINST HEARING DAMAGE TO ANY BYSTANDERS.

RUPTURE DISCS AND TAGS ARE MADE OF METAL FOILS OF VARYING THICKNESS. THE METAL EDGES MAY BE SHARP. PERSONNEL INSTALLING OR EXAMINING THE RUPTURE DISCS SHOULD PROTECT AGAINST CUTS OR INJURY WHEN HANDLING THE RUPTURE DISC. DO NOT LIFT A RUPTURE DISC BY ITS ATTACHED TAG.

PARTICLES MAY BE DISCHARGED WHEN THE RUPTURE DISC RUPTURES. THESE PARTICLES MAY BE PART OF THE RUPTURE DISC ITSELF, OR OTHER ENVIRONMENTAL MATTER IN THE SYSTEM. IT IS THE USER'S SOLE RESPONSIBILITY TO ASSURE THAT THESE PARTICLES ARE DIRECTED TO A SAFE AREA TO PREVENT PERSONAL INJURY OR PROPERTY DAMAGE.

THERE IS NO GUARANTEE OF RUPTURE DISC LIFE. SUCH LIFE SPAN IS AFFECTED BY CORROSION, CREEP AND FATIGUE, AND PHYSICAL DAMAGE. THESE CONDITIONS WILL DERATE THE RUPTURE DISC TO A LOWER SET PRESSURE. THE CUSTOMER AND/OR USER SHOULD BE PREPARED TO HANDLE PREMATURE FAILURE OF THE RUPTURE DISC. THE MEDIA OR OTHER ENVIRONMENTAL CONDITIONS SHOULD NOT ALLOW ANY BUILDUP OR SOLIDIFICATION OF MEDIA TO OCCUR ON A RUPTURE DISC. THIS MAY INCREASE THE PRESSURE SETTING OF THE RUPTURE DISC.

CUSTOMER AND/OR ITS INSTALLER SHALL BE SOLELY RESPONSIBLE FOR THE PROPER INSTALLATION OF SELLER'S HOLDERS AND RUPTURE DISCS INTO A SYSTEM. CUSTOMER AND/OR ITS INSTALLER SHALL BE SOLELY RESPONSIBLE FOR IMPROPER INSTALLATION AND PHYSICAL DAMAGE RESULTING THEREFROM, INCLUDING BUT NOT LIMITED TO, DAMAGE RESULTING FROM LEAKAGE, IMPROPER TORQUING OR SEATING OF A RUPTURE DISC OR FAILURE TO FOLLOW INSTALLATION INSTRUCTIONS WHERE PROVIDED.

RUPTURE DISCS ARE PRECISION SAFETY DEVICES AND MUST BE INSTALLED PROPERLY. RUPTURE DISCS MUST BE INSTALLED BY TRAINED, KNOWLEDGEABLE INSTALLERS AND ONLY WITHIN ENVIRONMENTS SUITABLE AND APPROPRIATE FOR A RUPTURE DISC. CARE MUST BE USED IN A FACILITY'S DESIGN TO PROTECT BOTH THE RUPTURE DISC FROM INADVERTENT DAMAGE WHICH COULD CAUSE ITS PREMATURE RELEASE AND TO PROTECT INDIVIDUALS EXPOSED TO HAZARDS CREATED BY SUCH SUDDEN RELEASE.

PROPER INSTALLATION OF A RUPTURE DISC IS CRITICAL TO PERFORMANCE AND TO SAFETY. FAILURE TO PROVIDE PROPER SEATING OF A RUPTURE DISC MAY AFFECT RUPTURE DISC PERFORMANCE, BURST PRESSURE ACCURACY AND MAY RESULT IN ITS PREMATURE FAILURE.

I. Safety Precautions Before Installation

1. The ½" STANDARD rupture disc is a precision instrument and must be handled with extreme care. Rupture discs should be installed only by qualified personnel familiar with rupture discs and proper piping practices.
2. Do not install rupture disc if there is any damage in the dome area. A damaged rupture disc is any rupture disc with visible nicks or dents in the dome.
3. Continental Disc Corporation does not recommend reinstalling a rupture disc that has been removed from the holder as reinstallation may adversely affect the joint sealing capabilities and/or performance of the rupture disc.
4. The angular seat rupture disc design is for ratings up to 3,000 psig. For assemblies rated at higher pressures (above 3,000 psig) the flat seat rupture disc design is required.
5. See rupture disc tag for set pressure at operating temperature.

II. Preparation of Holders for Installation

New Installation and Replacement Installation

1. If oxygen or LOX cleaning has been requested, do not remove SCREW TYPE assembly from sealed bag until ready for installation.
2. Clean the rupture disc sealing area of both the holder inlet and the outlet ring. These surfaces must be completely clean and free of all rust, corrosion, and foreign material to ensure a proper seal. Use of solvents, steel wool, or fine emery cloth is permissible. Do not re-machine. Do not use scraper or abrasives.
3. Inspect the rupture disc sealing area for nicks, scratches, or pitting. If any of these conditions are present, consult the factory for repair.
4. The radius side of the holddown ring must be installed so it is facing the dome side of the rupture disc (See Figure A).
NOTE: On high pressure design rings (above 3,000 psig) the radius is on both sides of the holddown ring.
5. Care should be taken during assembly and installation to ensure that nothing sharp protrudes down into the inlet or outlet cavities. A rupture disc that has been scratched, dented, or damaged in any way may result in premature failure.

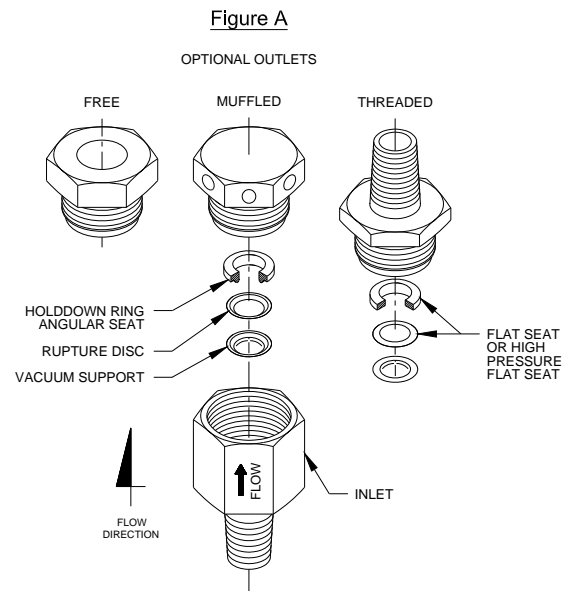
III. Assembly of the Rupture Disc and Holder (See Figure A)

Component parts of the SCREW TYPE assembly are illustrated in the proper installation sequence.

1. Place the holder inlet on a flat surface.
2. Place the vacuum support (if applicable) and the ½" STANDARD disc, dome side up in the holder inlet opening as illustrated. Handle with care.
3. Carefully lower the holddown ring onto the rupture disc with the radius side facing the dome side of the rupture disc.
4. Fasten the assembly together by threading the holder outlet into the holder inlet, applying the following torque requirements:
Ft•Lbs/(N•m):

SEAT TYPE	Disc Pressure (psig)				
	0-1000	1001-3000	3001-10000	10001-15000	15001-20000
(LL)	40/(54)	50/(68)	---	---	---
(FS)	80/(108)	100/(136)	200/(271)	---	---
(HF)	80/(108)	100/(136)	200/(271)	200/(271)	250/(339)

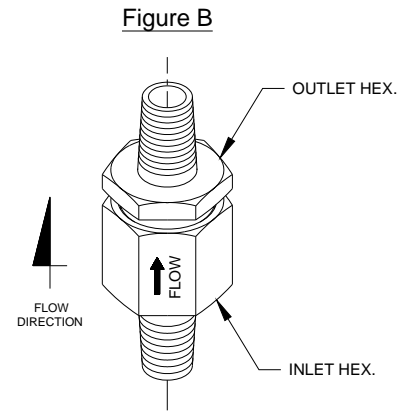
(LL) = Light Lip Angular Seat
(FS) = Flat Seat
(HF) = High Pressure Flat Seat



IV. Installation of the Screw Type Assembly into the System (See Figure B)

1. Each SCREW TYPE assembly is permanently stamped with a maximum burst pressure rating. Assure that the unit being installed is compatible with current system operating conditions.
2. Before placing the SCREW TYPE assembly into the system, clean mating threads of all grit, dirt, or foreign material to ensure proper seal.
3. Muffled Outlet and Free Outlet Assemblies:

When installing the assembly, **DO NOT USE THE OUTLET HEX FOR TIGHTENING ASSEMBLY INTO THE SYSTEM. USE THE INLET HEX ONLY.** Do not tighten or loosen seal between inlet and outlet for this can cause damage to the rupture disc or cause premature failure.



Threaded Inlet and Outlet Assembly:

- a) When installing the assembly, assure that the flow arrow stamped on the inlet body points in the proper system flow direction.
- b) **DO NOT USE THE OUTLET HEX FOR TIGHTENING ASSEMBLY INTO THE SYSTEM. USE THE INLET HEX ONLY.** Place wrench on the outlet hex only to keep outlet from turning while installing system outlet piping.

V. Preventative Maintenance

1. Risk assessment and an annual rupture disc replacement are recommended. Rupture disc service life is determined by system operating conditions. The effects of severe pressure/vacuum cycles, corrosion, temperature variations, or other adverse conditions must be evaluated by the user through actual service experience to determine optimal service life.
2. **IF THE RUPTURE DISC IS NOT REPLACED PERIODICALLY WHEN EXPOSED TO THESE CONDITIONS, PREMATURE FAILURE OF THE RUPTURE DISC MAY OCCUR, THEREBY DISCHARGING THE PROCESS MEDIA.**
3. To avoid extended downtime, maintain three spare rupture discs in stock at all times for each holder in use. The number of spares required ultimately will be determined by service conditions.

VI. Customer Service

If you wish to discuss your application, installation, or maintenance, please contact the Customer Service Department at one of the addresses shown on the last page of these instructions.



**Continental Disc[®]
Corporation**

Performance Under Pressure[®]



First Certified in 1992



ASME Code Symbol Stamp
If stamped, this product is built in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1.

China Manufacture License
Products are in full compliance with the provisions of the Peoples Republic of China Import Regulations for Boiler and Pressure Vessel safety devices.



3A Sanitary Standards Stamp
If stamped, this product is in full compliance with the 3A standards, Serial #60-00, of the International Association of Milk, Food, and Environmental Sanitarians, Inc.



European Union CE Mark
If stamped, this product is certified to conform to the essential requirements of the Pressure Equipment Directive.

Continental Disc Corporation has representatives located throughout the world.
Contact the C.D.C. office nearest you for the authorized representative in your area.

CORPORATE HEADQUARTERS

Continental Disc Corporation

3160 W. Heartland Drive
Liberty, Missouri 64068-3385 USA
Phone: (816) 792-1500
FAX: (816) 792-2277 / 5447
E-mail: pressure@contdisc.com
Website: www.contdisc.com

THE NETHERLANDS

Continental Disc Corporation
Energieweg 20
2382 NJ Zoeterwoude-Rijndijk
The Netherlands
Phone: +(31) 71-5412221
FAX: +(31) 71-5414361
E-mail: cdcnl@contdisc.com

CHINA

Continental Disc Corporation
Room 910, Tower B, COFCO Plaza
No. 8 JianGuoMenNei Avenue
Beijing (100005)
P.R. China
Mobile: +(86) 137 0103 8871
E-mail: cdcchina@contdisc.com

DUBAI

Continental Disc Corporation
P. O. Box 2234
Dubai, U.A.E.
Phone: +(971) 43214490
Fax: +(971) 43438840
Mobile: +(971) 508129525
E-mail: cdcme@contdisc.com