

# Installation Instructions for Flat Seat STD Rupture Disks in Flanged, Insert Assemblies

## TYPICAL FRDI INSTALLATION SHOWN

full unrestricted discharge when over pressure occurs. Never locate a rupture disk installation where the discharge from a burst disk is directly impacting personnel or equipment. Venting of a burst disk discharge must always be routed to a safe disposal area. Handle burst rupture disks carefully! Avoid their sharp, jagged edges when removing same from a holder.

### IMPORTANT

A (Flat Seat) Standard rupture disk is a precision piece of equipment. Handle it with extreme care!! Avoid scratching, bending, denting or otherwise damaging the dome and/or flat seat areas of the disk. Handle the disk alone by grasping both the name tag and the flat outer sealing surfaces and avoid the domed area as much as possible. **Never carry a disk/holder by the rupture disk name tag alone as damage to the disk could**



occur.

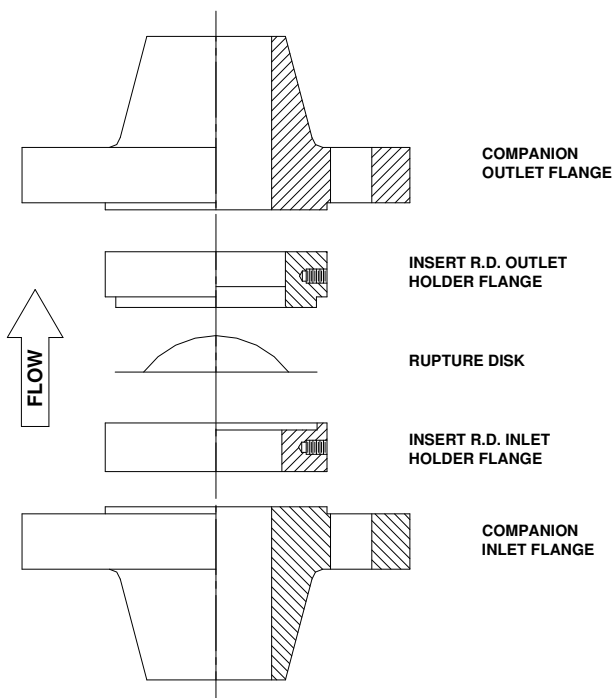
## RUPTURE DISK HOLDER PREPARATION

### FRDH & FRDI ASSEMBLIES:

- 1) Loosen and remove flange bolting **only** after verifying that the system is **depressurized**. Always purge toxic and/or dangerous materials from any system that is to be opened to a safe disposal area.
- 2) If pre-assembly side bars and /or pre-torque capscrews are utilized, loosen and remove same, being careful not to allow any part of the holder to slip or fall.

### FRDH ASSEMBLIES ONLY:

- 1) If jack screws have been installed with this disk holder, it will be necessary to utilize the same to separate disk holder flanges to allow disk removal.
- 2) Once all holder restraints have been removed, carefully separate flanges and remove existing rupture disk.
- 3) Thoroughly inspect and clean all seating surfaces within the holder. Do **not** scrape or scratch any seating surface including the raised nubbin area! If wiping these surfaces with a "shop rag" moistened with a suitable



### CAUTION

All rupture disk installations should be located to allow

# Installation Instructions for Flat Seat STD Rupture Disks in Flanged, Insert Assemblies

solvent, does not remove surface residues, fine emery cloth or steel wool may be utilized. Care should be exercised **not** to exert sufficient pressure on the emery cloth or steel wool to “cut or groove” these sealing surfaces.

## FRDI Assemblies Only:

- 1) Slip the disk holder insert from between companion piping flanges and verify that all holder restraints have been removed. Separate the holder inlet from the outlet and remove existing rupture disk.
- 2) Thoroughly inspect and clean all seating surfaces within the holder. Do **not** scrape or scratch any seating surface including the raised nubbin area! If wiping these surfaces with a “shop rag” moistened with a suitable solvent, does not remove surface residues, fine emery cloth or steel wool may be utilized. Care should be exercised **not** to exert sufficient pressure on the emery

cloth or steel wool to “cut or groove” these sealing surfaces.

## RUPTURE DISK INSTALLATION

### FRDH Assemblies Only:

- 1) Place the rupture disk on the inlet flange of the rupture disk holder in a position that will allow system pressure to be exerted on the concave side of the rupture disk. This will allow the convex side (dome) of the rupture disk to extend away from the inlet flange and into the outlet flange of the rupture disk holder.
- 2) Carefully position the outlet flange of the rupture disk holder over the dome of the rupture disk and lower same until seated on the flat surface of the rupture disk. If jack screws are being utilized, these must be “backed off” until the rupture disk holder flanges seat against the rupture disk. During this step, **do not** allow the rupture disk to slip from its position on the inlet flange. Damage will occur to the rupture disk if the outlet half of the

holder is seated on anything other than the flat surfaces (seating area) of the rupture disk.

- 3) If pre-assembly side bars and/or pre-torque cap-screws are utilized, install these items at this point.
- 4) Reinstall studs, nuts and suitable gasketing. Tighten nuts uniformly to maintain flange surfaces parallel to one another. Always keep studs and nuts lightly lubricated to maintain a “free-running” torque values listed in the table are suitable for many of the gasket and flange bolting materials currently in use. If the torque values listed below do not achieve a leak free seal, the listed values may be increased in ten (10) percent increments until a seal is achieved. Please consult the factory when gasket sealing or a leak free rupture disk holder installation cannot be achieved or maintained. Do not use excessive torque on flange bolting as this may cause damage to the “bite” seal in the holder as well as the rupture disk itself.

### FRDI Assemblies Only:

- 1) Place the rupture disk on the inlet half of the rupture disk holder in a position that will allow system pressure to be exerted on the concave side (dome) of the rupture disk to extend away from the inlet half of the rupture disk

## Installation Instructions for Flat Seat STD Rupture Disks in Flanged, Insert Assemblies

holder and into the outlet half.

2) Carefully position the outlet half of the rupture disk holder over the dome of the rupture disk and lower it until seated on the flat surface of the rupture disk.

3) Install side-bars; however, cap-screws should only be snug, **not wrench tight**.

4) Position FRDI/disk assembly within the bolt circle of companion piping flanges then re-install studs, nuts and suitable gasketing. Tighten nuts uniformly to maintain flange surfaces parallel to one another. Always keep studs and nuts lightly lubricated to maintain a “free-running” torque values listed in the table are suitable for many of the gasket and flange bolting materials currently in use. If the torque values listed below do not achieve a leak free seal, the listed values may be increased in ten (10) percent increments until a seal is achieved. Please consult the factory when gasket sealing or a leak free rupture disk holder installation cannot be achieved or

Please note that the torque values listed are based on carbon steel companion piping flanges, using B7 studs and Flexatallic gaskets. For other flange materials, bolting, or gaskets, adequate engineering judgement must be utilized to determine suitable torque values based on the loads required to seal the system to be leak free.

maintained. Do not use excessive torque on flange bolting as this may cause damage to the “bite” seal in the holder as well as the rupture disk itself.

COMPANION FLANGE TORQUE REQUIREMENTS FOR FLAT SEAT STANDARD RUPTURE DISKS (FT-LBS)			
Size (Inches)	ANSI Class		
	150	300	300/600
1	20	--	25
1.5	35	--	50
2	50	--	25
3	80	--	50
4	55	65	--
6	100	70	--
8	135	105	--
10	125	110	--
12	160	155	--
14	200	135	--
16	--	--	--
18	350	195	--