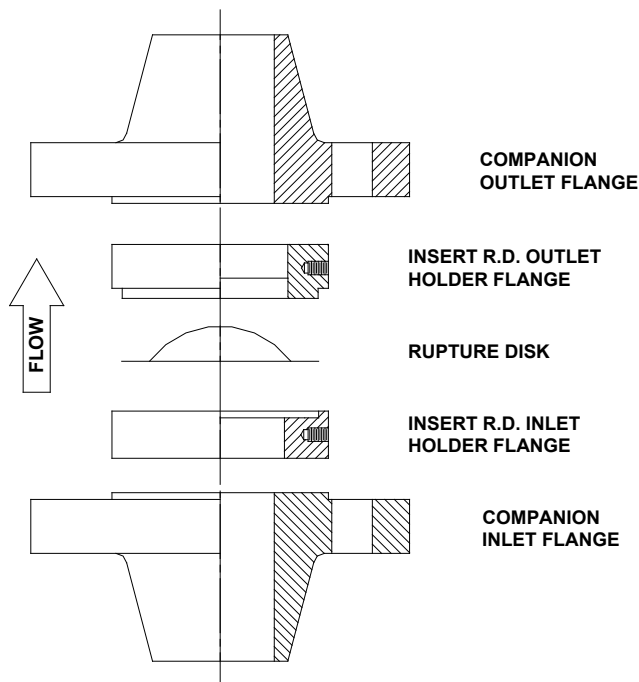


# Installation Instructions for Flat Seat Composite Rupture Disks in Flanged, Insert Assemblies

## TYPICAL FRDI INSTALLATION SHOWN



### CAUTION

All rupture disk installations should be located to allow full unrestricted discharge of a burst disk when overpressure of the system 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) Composite 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 seating surfaces and avoid the domed area as much as possible. Never carry a disk/holder assembly 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 cap screws are utilized, loosen and remove same, being careful not to allow any part of the disk 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 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 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 the 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 of the disk 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.



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

## 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 holder flange 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 capscrews 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” condition. The torque values listed in the table are suitable for many of the gasket and flange bolting materials currently in use. 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” type 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 of the rupture disk. This allows the convex side (dome) of the rupture disk to extend away from the inlet half of the rupture disk 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 same until seated on the flat surface of the rupture disk.

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

4) Position FRDI/disk assembly within the bolt circle of companion piping flanges then reinstall studs, nuts and suitable gasketing. Tighten nuts uniformly to maintain companion flange surfaces parallel to one another. Always keep studs and nuts lightly lubricated to maintain a “free running” condition. The torque values listed in the table are suitable for many of the gasket and flange bolting materials currently in use. Please consult the factory when gasket sealing or 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” type seal in the holder as well as the rupture disk itself.

### COMPANION FLANGE TORQUE REQUIREMENTS FOR FLAT SEAT COMPOSITE RUPTURE DISKS

Size (inches)	Companion Flange Torque (ft-lbs)		
	150 ANSI	300 ANSI	600 ANSI
1	20		25
1.5	32		50
2	49		25
3	77		50
4	52	65	
6	98	70	
8	131	105	
10	124	110	
12	200	155	
14		135	
16	350	195	
18	375		
20	375		
24	425		

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