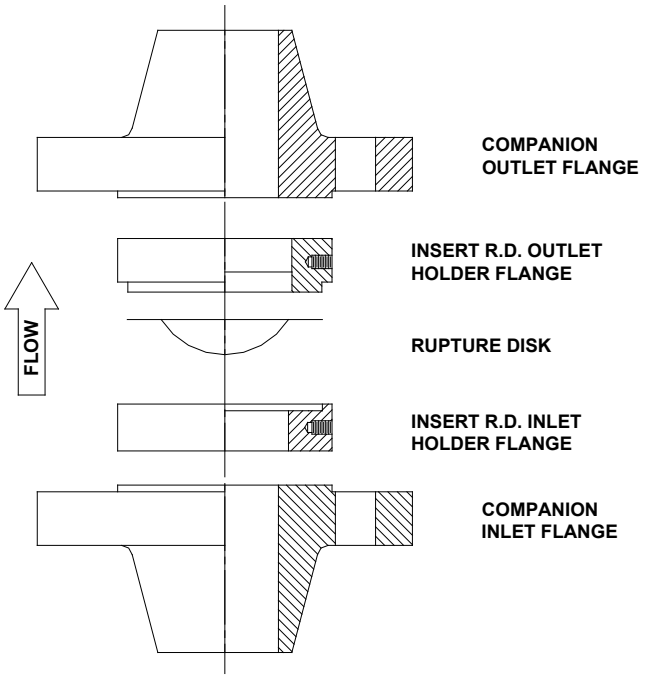
# Installation Instructions for PRO+ Rupture Disks in Flanged, Insert Assemblies

### TYPICAL PRDI INSTALLATION SHOWN




### CAUTION

All new installations should be located to allow full-unrestricted discharge when disk rupture occurs. Never locate a rupture disk installation where the discharge from a burst disk is directly impacting people or equipment. Handle burst rupture disks carefully! Avoid their sharp, jagged edges when removing same from a holder.

### IMPORTANT

A Precision Reverse Operating + (PRO+) rupture disk is a precision piece of equipment. Handle it with extreme care avoiding 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 PRO+ disk/holder by the rupture disk nametag alone as damage to the disk could occur.**

### RUPTURE DISK HOLDER PREPARATION

**PRDH & PRDI 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.

**PRDH 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 piping 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 to “cut or groove” these sealing surfaces.

**PRDI 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 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 to “cut or groove” these sealing surfaces.

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## INSTALLING THE RUPTURE DISK

### PRDH 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 convex (dome) side of the rupture disk. The "FLOW" arrow on the disk's nametag should point in the same direction as the "FLOW" arrow on the holder. Be sure that the disk aligns properly with the locating pin.

**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 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 cap screws are utilized, install these items at this point.

**4)** Reinstall studs, nuts and suitable gaskets. 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. 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.

### PRDI 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 convex (dome) side of the rupture disk. The "FLOW" arrow on the disk's nametag should point in the same direction as the "FLOW" arrow on the holder. Be sure that the disk aligns properly with the locating pin.

**2)** Carefully position the outlet flange 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 sidebars; however, capscrews should only be snug, **not** wrench tight.

**4)** Position PRDI/disk assembly within the bolt circle of companion piping flanges then 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. 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.

| COMPANION FLANGE TORQUE (FT-LBS.) REQUIREMENTS FOR PRO+ RUPTURE DISKS | | | | | |
|---|---|---|---|---|---|
| **SIZE** | **ANSI CLASS** | | | | |
| **INCHES** | **150** | **300** | **300/600** | **600** | **900** |
| 1 | 20 | - - | 25 | - - | 35 |
| 1.5 | 32 | - - | 47 | - - | 71 |
| 2 | 49 | - - | 25 | - - | 42 |
| 3 | **77** | - - | 46 | - - | 61 |
| 4 | 52 | 62 | - - | 81 | 104 |
| 6 | 98 | 65 | - - | 97 | 109 |
| 8 | 131 | 102 | - - | 145 | 166 |

Torque values are based on nuts and studs being lightly lubricated and maintained in a "free running" condition. Torque values in excess of those listed and may deform the holder and/or pinch the seal, creating a leak path.

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