

WARNING

- Read these instructions carefully and completely before attempting to unpack, install or service the rupture disc and holder.
- Do not vent a rupture disc assembly to an area where it would endanger personnel.
- Install the rupture disc assembly in such a way that equipment in the area will not prevent rupture disc from opening or be damaged by system discharge.
- A baffle plate on the outlet end of vent piping does NOT necessarily prevent potentially dangerous discharge.
- Piping should be braced to absorb shock when the rupture disc ruptures.
- Install the enclosed DANGER sign in a conspicuous location near the zone of potential danger.

INSPECTION/PREPARATION

A. NEW RUPTURE DISCS

WARNING: Always handle the rupture disc by its edges only. Damage to the dome or seat area of the rupture disc may adversely affect the performance of the rupture disc. Read the rupture disc tag completely before installing to confirm that the size, burst information, and type are correct for your system.

1. Carefully remove the rupture disc from its packaging container.
2. Remove and discard the shipping support (if provided). Shipping supports have ORANGE STICKERS on them – they are NOT a part of the rupture disc (See Figure 1).

**SHIPPING SUPPORT ONLY.
DO NOT USE
FOR RUPTURE DISC.**

Figure 1 - Shipping Support Sticker

3. Inspect the rupture disc for damage. Look for dents, scratches or dings in the seat area or dents in the dome of the rupture disc (See Figure 2).

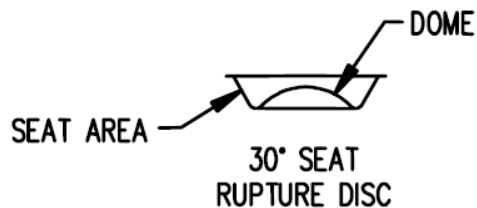


Figure 2 – Check for Damage

4. If foreign material is present, carefully clean the rupture disc with a solvent that is compatible with your media.
5. Verify the metal tag shipped loose has the same lot number marked on it as the rupture disc.

B. NEW HOLDER

WARNING: Handle rupture disc holders with care. Damage to the rupture disc holder could affect the performance of the rupture disc.

1. After removing the rupture disc holder from its packaging, unscrew the nut and dis-assemble.
2. Discard the white shipping protector which is between the base and holddown.
3. Inspect the seat area for scratches, dents, nicks or dirt. Flaws may adversely affect sealing and disc burst pressure.

C. EXISTING HOLDER

1. For ease of installation, carefully remove the rupture disc assembly from piping (See Figures 3 and 4).

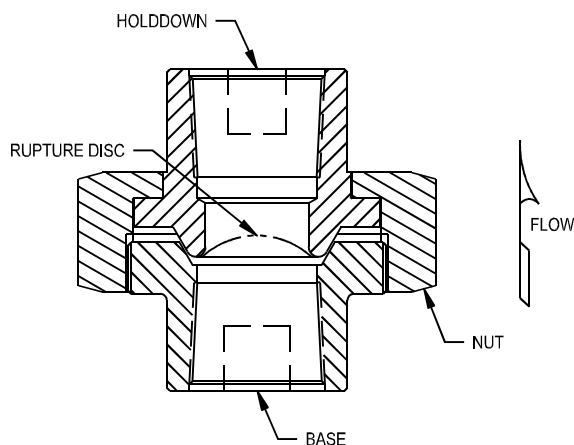


Figure 3 - Union Type

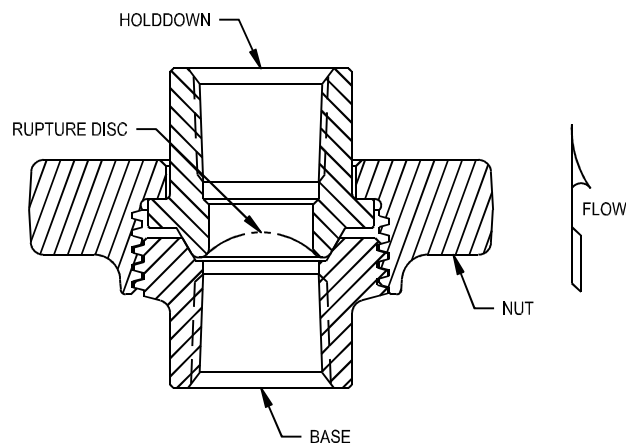


Figure 4 – Hammer Union Type

2. Separate rupture disc holder components (this process should also consist of removing the loose tag attached to the holder and discarding that loose tag).
3. Remove the rupture disc from its holder.
4. Inspect the seat area of the rupture disc holder. Look for scratches, nicks, corrosion or deposits left from the media.
5. If necessary, clean the seat area with a solvent that is compatible with your media. If this does not remove dirt, hand polish the seat area with ScotchBrite™, fine emery cloth or #0000 steel wool. **DO NOT MACHINE THE RUPTURE DISC HOLDER!** If scratches, nicks, corrosion or deposits from the media cannot be removed by hand, contact the factory

D. ASSEMBLY

WARNING: Before attempting to assemble the rupture disc and rupture disc holder, confirm that the seat area of the rupture disc is designed to fit the rupture disc holder.

1. Place rupture disc in base of the rupture disc holder with the dome pointing in the direction of flow.
2. Lubricate the assembly threads with a light oil such as SAE 20 oil. Commercial thread lubricants are recommended whenever conditions warrant. These conditions may include corrosive, marine and outdoor environments, service temperatures greater than 212°F (100°C), or stainless steel on stainless steel threads.

WARNING: The assembly should not be used if the threads show evidence of galling.

3. Carefully place the holddown on the rupture disc.
4. Screw the union nut into place.
5. For standard UT assemblies, check holder rating and type located on the side of the holder. Refer to Table 1 for torque values. Locate the table with the corresponding type and rating. Locate burst pressure. The column to the right contains the required torque in ft-lbs.
6. Torque nut to required torque.
7. Hammer Union assemblies are not subject to the Table 1 torque values. Rather, it is generally recommended that no greater than a 4-lb. hand sledge is used to apply torque. For burst pressures less than 1,000 psig, two or three deliberate hits will seal the assembly. For higher burst pressures, more force may be required.

E. INSTALLATION

1. If necessary, clean NPT threads on the holder. Wire brushing is usually sufficient. Oil threads with a light oil such as SAE grade 20.
2. Experience has shown that, in some installation conditions, it may be necessary to re-torque the assembly after the system has operated through normal pressure and temperature cycles. Under normal operating conditions, the rupture disc should be replaced yearly. Severe operating conditions may require that the rupture disc be replaced more frequently.
3. The metal tag shall be attached to the UT assembly in a manner that will prevent changing the rupture disc without breaking the seal. Reference Figure 5 showing the tag attached using a lead shunt and 0.02" SST wire as recommended practice.

WARNING: Care must be taken during the installation of UT rupture discs to prevent the base and holddown from spinning or twisting as torque is applied to the nut. Failure to do so can damage the disc and affect its performance.

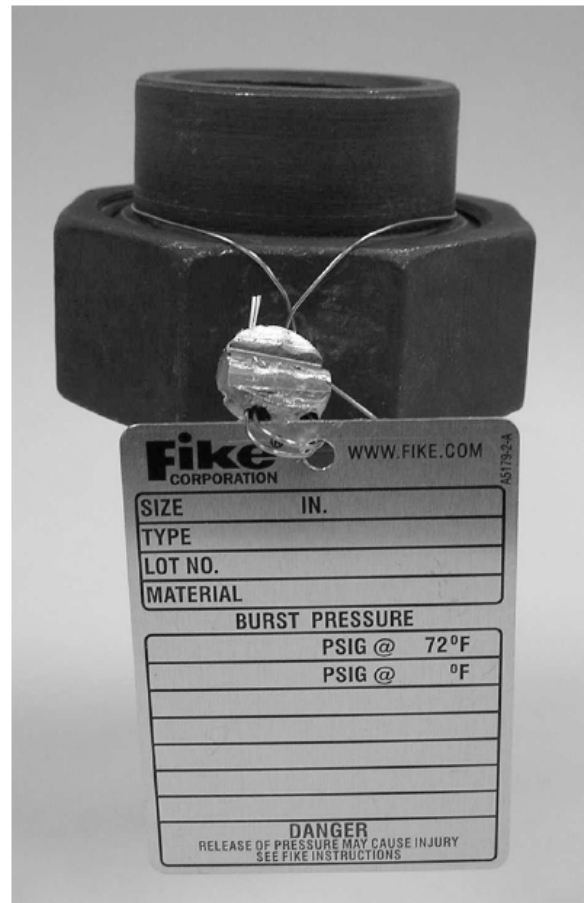


Figure 5 - Union Type Tagging

Table 1 - Torque Values

1/2" 3,000 Union Type LL (3,000 PSI)				
Burst Pressure psig @ 72°F	Solid Disc		Soft Disc	
	ft-lb	N-m	ft-lb	N-m
Min to 750	120	163	60	81
>750 to 1,800	160	217	80	108
>1,800 to 3,000	190	258	95	129

1/2" 6,000 Union Type HL (6,000 PSI)				
Burst Pressure psig @ 72°F	Solid Disc		Soft Disc	
	ft-lb	N-m	ft-lb	N-m
Min to 1,000	240	325	120	163
>1,000 to 1,350	380	515	190	258
>1,350 to 2,500	400	542	200	271
>2,500 to 6,000	450	610	225	305

3/4" 3000 Union Type LL (3,000 PSI)				
Burst Pressure psig @ 72°F	Solid Disc		Soft Disc	
	ft-lb	N-m	ft-lb	N-m
Min to 750	100	136	50	68
>750 to 1,800	175	237	88	119
>1,800 to 3,000	250	339	125	169

3/4" 6,000 Union Type HL (6,000 PSI)				
Burst Pressure psig @ 72°F	Solid Disc		Soft Disc	
	ft-lb	N-m	ft-lb	N-m
Min to 1,000	240	325	120	163
>1,000 to 1,350	380	515	190	258
>1,350 to 2,500	400	542	200	271
>2,500 to 6,000	450	610	225	305

1" 3,000 Union Type LL (3,000 PSI)				
Burst Pressure psig @ 72°F	Solid Disc		Soft Disc	
	ft-lb	N-m	ft-lb	N-m
Min to 750	200	271	100	136
>750 to 1,800	225	305	113	153
>1,800 to 3,000	400	542	200	271

1" 6,000 Union Type LL (6,000 PSI)				
Burst Pressure psig @ 72°F	Solid Disc		Soft Disc	
	ft-lb	N-m	ft-lb	N-m
Min to 1,000	380	515	150	204
>1,000 to 1,350	485	658	192	260
>1,350 to 2,500	590	800	233	316
>2,500 to 6,000	800	1,085	316	428

1 1/2" 3,000 Union Type LL (3,000 PSI)				
Burst Pressure psig @ 72°F	Solid Disc		Soft Disc	
	ft-lb	N-m	ft-lb	N-m
Min to 300	200	271	100	136
>300 to 750	380	515	190	258
>750 to 1,800	490	664	245	332
>1,800 to 3,000	600	813	300	407

2" 750 Union Type LL (750 PSI)				
Burst Pressure psig @ 72°F	Solid Disc		Soft Disc	
	ft-lb	N-m	ft-lb	N-m
Min to 100	350	475	200	270
>100 to 175	370	502	275	373
>175 to 450	440	597	310	420
>450 to 750	500	678	350	475

Solid Disc Types

Seals: Hastelloy (C-276), Titanium (Ti) Tantalum, 316 SST, Inconel, Monel, Nickel (Ni)
 Liners: Fluoropolymer (FEP and PFA), Lead (Pb)
 Coatings: Gold (Au), Teflon (FEP), Polyurethane

Soft Disc Types

Seals: Silver (Ag), Gold (Au), Aluminum (Al), Fluoropolymer (FEP and PFA)
 Liners: Fluoropolymer (FEP and PFA)
 Coatings: Teflon (FEP), Polyurethane

NOTE: Torque values in Table 1 are based on a coefficient of friction of $\mu=0.17$. Adjustment to the torque should be considered if the installation utilizes lubrication with a coefficient of friction other than $\mu=0.17$. The following expression may be used for correction:

Equation 1: $T_2 = (T_1/\mu_1)*\mu_2$ where T_1 and μ_1 are the Fike default torque and coefficient of friction values.

NOTE: In the event of a conflict between solid and soft discs, the soft disc torque shall be used.

NOTE: Rupture disc specifications and year of manufacture can be found on the rupture disc tag.

NOTE: Rupture disc used in a Hammer Union do not have a specified torque value.