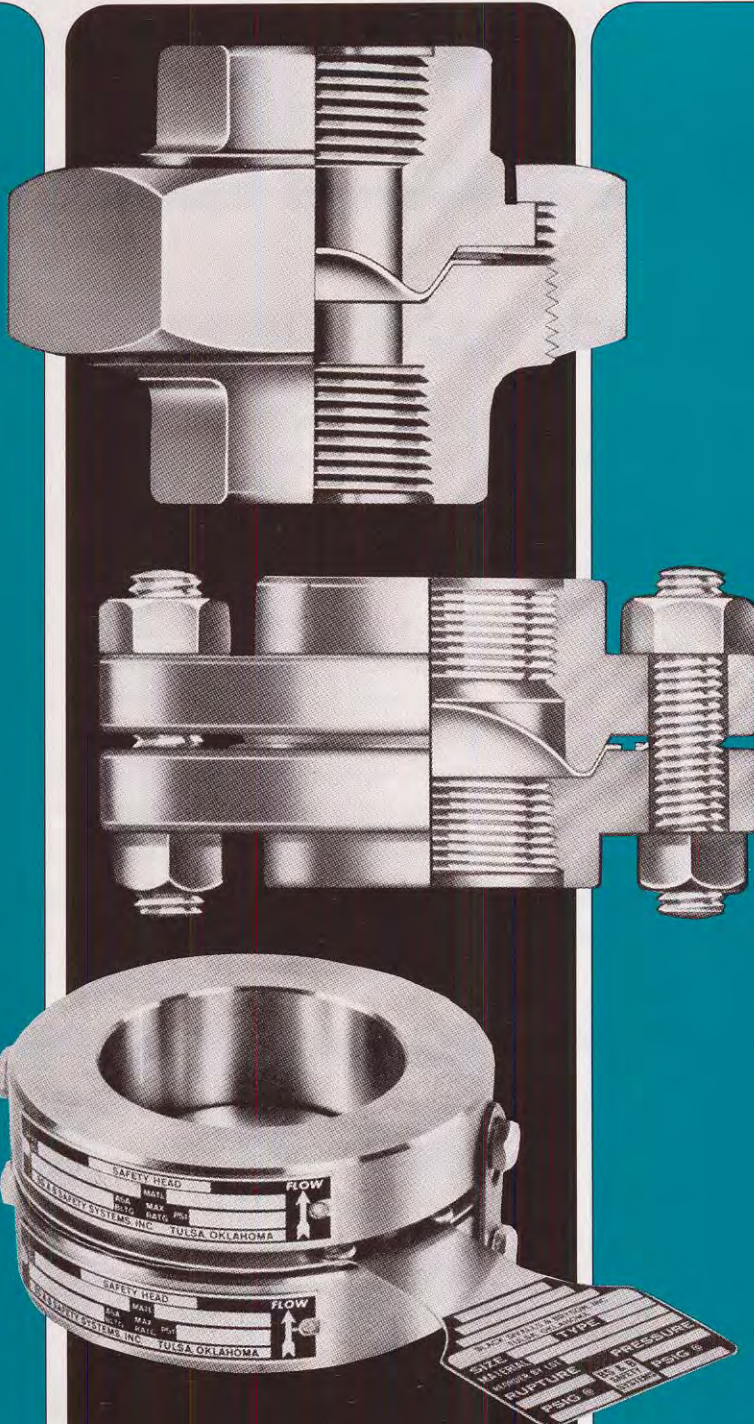


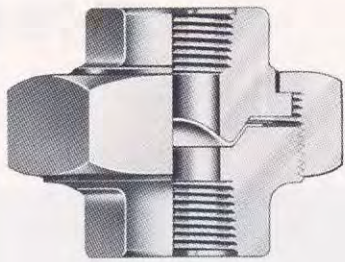


UNION, BOLTED, QUICK-SERT SAFETY HEADS

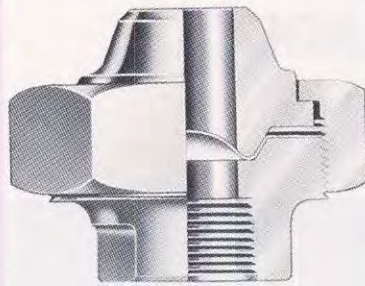
CATALOG 77-7001

BS&B SAFETY SYSTEMS, L.L.C.
BS&B SAFETY SYSTEMS, LTD.

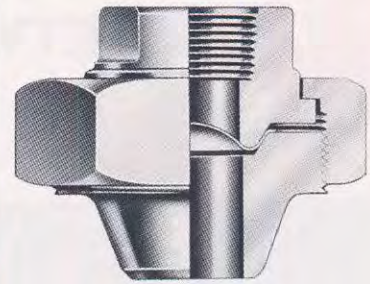




Assembly UA-2



Assembly UA-3



Assembly UA-5

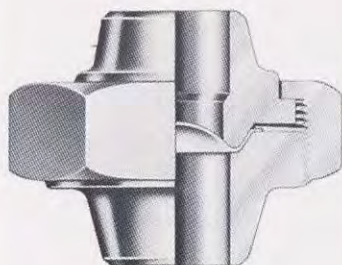
UNION TYPE SAFETY HEADS

BS&B Union Type Safety Heads are used in applications where space is limited and where quick or frequent changeout of rupture disk may be necessary. Standard sizes are 1/2", 1", 1 1/2" and 2" I.D. See Dimension Table for maximum pressure rating of standard fittings for each size and Pressure/Temperature Rating Table for pressures at service temperatures. Pressure rating for Safety Head union fitting should be equal to or higher than specified disk rating at corresponding temperature. BS&B Union Type Safety Head design features angular seating of rupture disk and will accept either Type B solid metal disks or Type D composite disks in pressure ratings

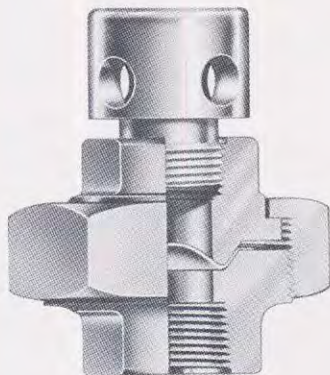
from 15 psi to 6000 psi, depending on size of unit. See Type B and Type D catalogs for full selection of standard disks. **Important! RB-90 reverse buckling disks cannot be used in the Union Type Safety Head.**

Standard materials for Union Type Safety Head fittings are carbon steel and 316 stainless steel in all sizes. Brass is standard for Assembly UA-2 in the 1" size, 1500# maximum. Special materials include nickel, Monel, Hastelloy B and C, aluminum, brass and other types of stainless steel.

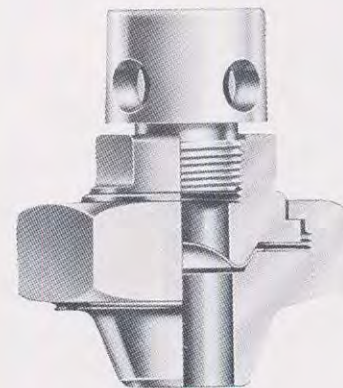
Union Type Safety Heads in higher pressures are available on request.



Assembly UA-6



Assembly UA-2M



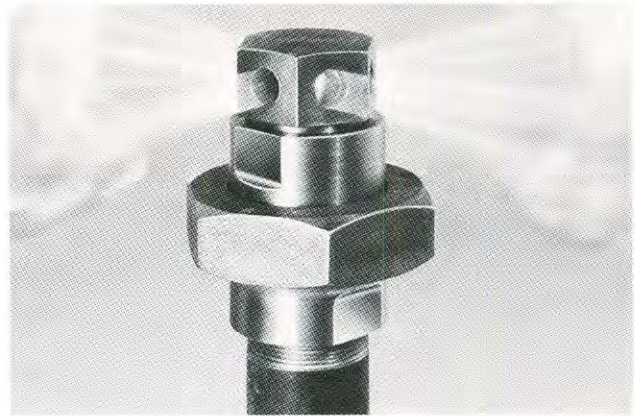
Assembly UA-5M

Pressure/ Temperature Ratings for Union Type Safety Head Fittings

Service Temperature °F. °C.	Maximum Rating, $\frac{\text{psig}}{\text{kg/cm}^2}$					
	1200# Max. Assy.		3000# Max. Assy.		6000# Max. Assy.	
	Material		Material		Material	
	Carbon Steel	316 S.S.	Carbon Steel	316 S.S.	Carbon Steel	316 S.S.
-20 to +100 -29 to +38	1200 84.4	1200 84.4	3000 210.9	3000 210.9	6000 421.8	6000 421.8
250 121	1150 80.9	1150 80.9	2880 202.5	2880 202.5	5760 405.0	5760 405.0
500 260	1040 73.1	1040 73.1	2605 183.1	2605 183.1	5210 366.3	5210 366.3
750 399	700 49.2	785 55.2	1740 122.3	1945 136.7	3485 245.0	3920 275.6
1000 538	140 9.8	595 41.8	355 25.0	1485 104.4	715 50.3	2975 209.2

Consider a muffled outlet (Assembly UA-2M or UA-5M) if downstream connection on Safety Head fitting is threaded and discharge line is not connected.

Pressure is dispersed through port openings when disk ruptures.



Dimensions for Union Type Safety Heads

Nominal Pipe & Disk Size in. mm	Max. Pressure Rating @ -20°F to +100°F -28.9°C to +37.8°C psig Kg/cm2	Assembly Nut Hex Size in. mm	Bore Schedule for Welded Hub	Overall Height inches millimeters					
				Assy UA-2	Assy UA-2M	Assy UA-3	Assy UA-5	Assy UA-5M	Assy UA-6
				1/2 12.7	3000 211.0 <i>Uses Light Lip Disk</i>	1 7/8 47.6	80 5.63	2 9/16 65.1	3 76.2
	6000 421.9 <i>Uses Heavy Lip Disk</i>	2 3/8 60.3	80 5.63	2 3/4 69.9	3 3/16 81.0	2 3/4 69.9	2 11/16 68.3	3 1/8 79.4	2 11/16 68.3
1 25.4	3000 211.0 <i>Uses Light Lip Disk</i>	2 1/2 63.5	80 5.63	2 11/16 68.3	4 101.6	2 11/16 68.3	2 11/16 68.3	4 101.6	2 11/16 68.3
	6000 421.9 <i>Uses Light Lip Disk</i>	3 1/4 82.5	80 5.63	3 3/8 85.7	4 11/16 119.1	3 3/8 85.7	3 3/8 85.7	4 11/16 119.1	3 3/8 85.7
1 1/2 38.1	3000 211.0 <i>Uses Light Lip Disk</i>	3 1/2 88.9	80 5.63	3 7/16 87.3	4 3/4 120.7	3 7/16 87.3	3 5/16 84.1	4 5/8 117.5	3 5/16 84.1
2 50.8	1200 84.4 <i>Uses Light Lip Disk</i>	4 1/2 114.3	40 2.81	4 101.6	5 5/8 142.9	4 101.6	4 101.6	5 5/8 142.9	4 101.6

BOLTED TYPE SAFETY HEADS WITH CONVENTIONAL PREBULGED RUPTURE DISKS

BS&B QUICKSERT Safety Head. Flanges are assembled with bolted side bars in sizes thru 8" I.D. . . . with recessed cap screws in 10" size and up.



BS&B Bolted Type Safety Heads are normally compatible with ANSI (ASA) pipe flanges and the flanged connections used on most pressure vessels. Safety Head inlets and outlets feature angular seating design to accommodate both Type B solid metal disks and Type D composite disks. **Important! RB-90 reverse buckling disks cannot be used with this Safety Head design.**

BS&B Bolted Type Safety Heads are available in standard sizes ranging from ½" through 24" I.D. Rupture disks are available in pressure ratings from 0.5 to 6000 psi @ 72° F. See "Composite Rupture Disks Type D" and "Solid Metal Rupture Disks Type B" catalogs for full selection of standard disks. Safety Heads and disks in larger sizes and higher pressure ratings are available.

If Safety Head will be exposed to an elevated temperature during normal operation, consult Temperature Conversion Table for Type B disks in the Type B catalog and Pressure/Temperature Rating table for safety heads on page 6. Pressure rating for safety heads should be equal to or higher than specified disk rating at corresponding temperatures.

Standard materials for Bolted Type Safety Heads are carbon steel, 304 and 316 stainless steel. Special materials include Monel nickel, Hastelloy B and C, aluminum, brass and other types of stainless steel. Glass-lined base and plastic-coated are also available.

Standard assemblies of BS&B Bolted Type Safety Heads using conventional prebulged rupture disks are shown on page 4.

BS&B QUICKSERT Safety Heads reduce downtime, assure proper seating of rupture disk

The BS&B QUICKSERT is a reduced diameter flatfaced flange assembly (FA-7R) that nests between the studs of two ANSI (ASA) flanges. Flanges and rupture disk are pre-assembled to assure proper installation of disk. The complete Safety Head can be removed without removing safety or relief valve, or discharging piping. This is accomplished by installing jack screws in mating pipe flang. See page 7.

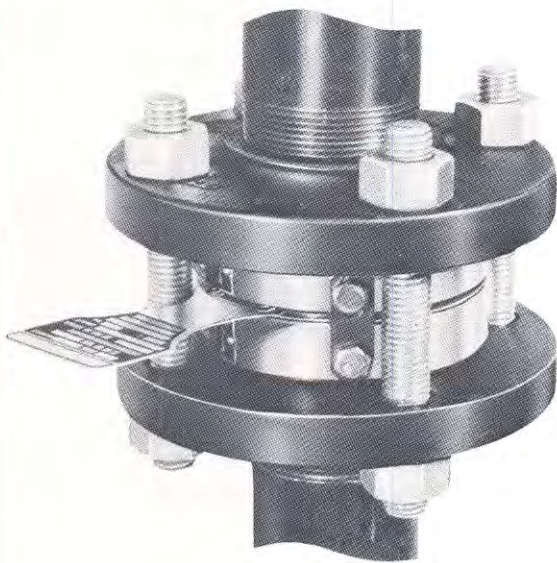
POPULAR QUICKSERT APPLICATIONS

1. Where vertical discharge piping is extended from Safety Head outlet
2. In a horizontal pipe run
3. At inlet to safety or relief valve
4. When Safety Head is installed between two ANSI (ASA) pipe flanges
5. When Safety Head is installed in relatively inaccessible location
6. When fragile low pressure disk are used

Suggested gasket materials: felted asbestos, compressed asbestos, and FEP-coated metal. **IMPORTANT:** If gasket is flexitallc or in the metal classification, bolting is critical and BS&B must be consulted.



Use of jack screws simplifies QUIKSERT installation



BS&B QUIKSERT installed between two ANSI (ASA) pipe flanges

BS&B QUIKSERT installed between two ANSI (ASA) pipe flanges

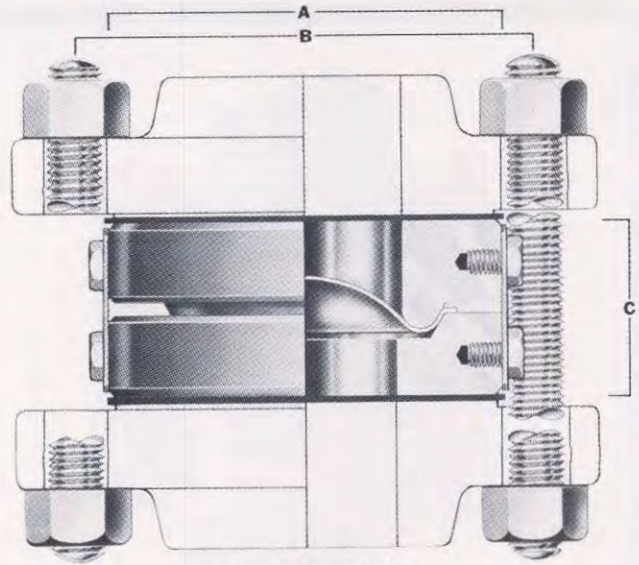
BS&B QUIKSERT Safety Head installed at inlet of relief valve.* Telltale indicator assembly detects and prohibits any pressure buildup between valve seat and rupture disk. Assembly includes tapped opening in outlet flange of Safety Head, 1/4" nipple & tee, pressure gauge and excess flow valve. Any leakage into chamber between disk and valve plug will discharge to atmosphere or through leadoff line to safe location.



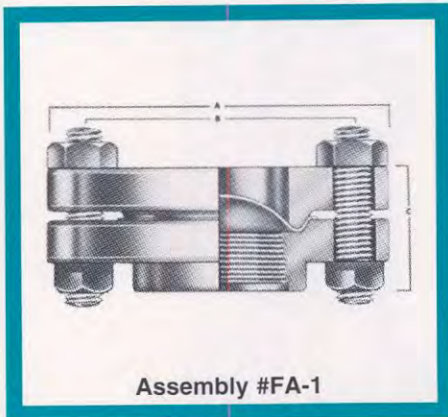
* ASME Boiler and Pressure Vessel Code, Par. UG-127 warns users that a rupture disk installed under a safety or relief valve will not burst at its designed pressure if back pressure builds up in the space between disk and valve.

STANDARD BOLTED TYPE SAFETY HEAD ASSEMBLIES WITH ANGULAR SEAT DESIGN

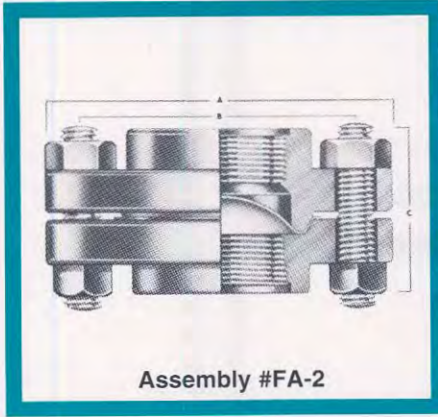
NOTE: COMPANION FLANGES NOT FURNISHED
BY BS&B AS PART OF THE
SAFETY HEAD ASSEMBLY



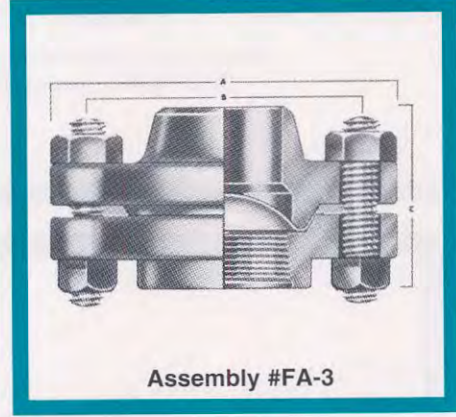
Assembly #FA-7R



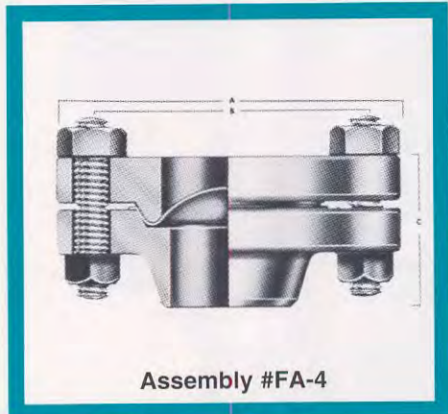
Assembly #FA-1



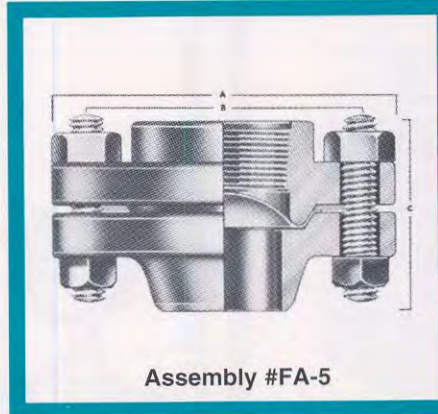
Assembly #FA-2



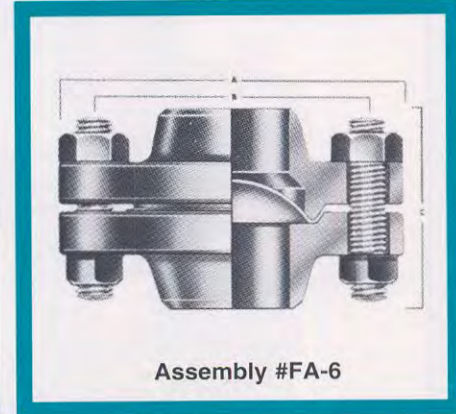
Assembly #FA-3



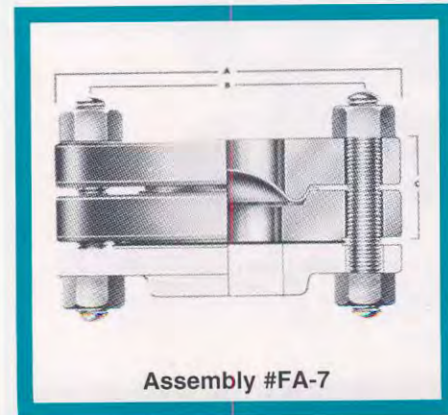
Assembly #FA-4



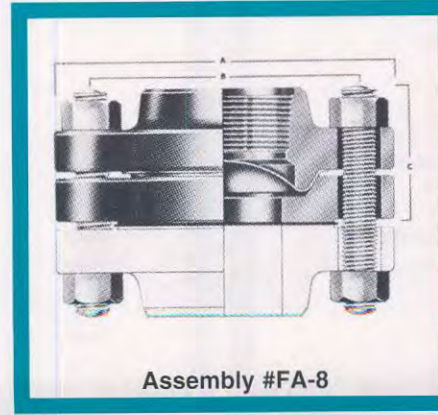
Assembly #FA-5



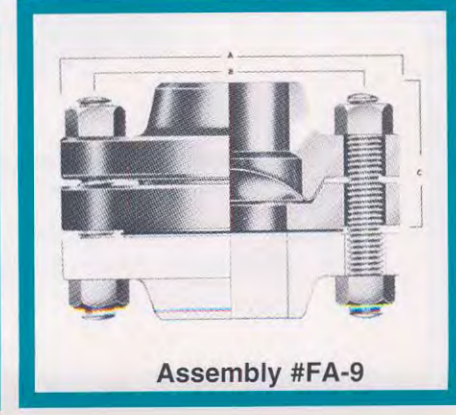
Assembly #FA-6



Assembly #FA-7



Assembly #FA-8



Assembly #FA-9

DIMENSIONS FOR BOLTED FLANGE TYPE SAFETY HEADS WITH ANGULAR SEAT DESIGN

Nom. Pipe & Disk Size	Outside Diameter (A) Assy. FA-7R	Outside Diameter (A) Assy. FA-1 to FA-9	Bolt Circle (B)	STUDS		(C) OVERALL HEIGHT BY ASSEMBLY NO. <small>in. mm</small>									
				NO.	DIA.	FA-1	FA-2	FA-3	FA-4	FA-5	FA-6	FA-7	FA-7R	FA-8	FA-9
						in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm
150# ANSI (275# Max. @ -20°F to +100°F) (19.3 Kg/Cm² Max. @ -28.9°C to +37.8°C)															
1/2	—	3/2	2 ¹ / ₈	4	1/2	1 ¹ / ₁₆	2 ¹ / ₄	2 ¹ / ₈	2 ¹ / ₁₆	3 ¹ / ₈	3 ¹ / ₁₆	1	—	1 ¹ / ₁₆	2 ¹ / ₁₆
12.7	—	88.9	60.3		12.7	39.7	57.2	73.0	61.9	79.4	96.8	25.4	—	42.9	58.7
1	2 ¹ / ₂	4 ¹ / ₄	3 ³ / ₈	4	1/2	1 ¹ / ₁₆	2 ¹ / ₂	3 ¹ / ₈	2 ¹ / ₈	3 ¹ / ₁₆	4 ⁵ / ₁₆	1 ¹ / ₄	1 ³ / ₄	2 ¹ / ₁₆	2 ¹ / ₁₆
25.4	63.5	108.5	79.4		12.7	42.9	63.5	79.4	73.0	93.7	109.5	31.8	44.5	52.4	68.3
1 1/2	3 ³ / ₄	5	3 ³ / ₈	4	1/2	1 ¹ / ₈	2 ¹ / ₁₆	3 ¹ / ₁₆	3 ¹ / ₄	4 ¹ / ₁₆	4 ¹ / ₁₆	1 ¹ / ₂	1 ³ / ₄	2 ¹ / ₁₆	3 ¹ / ₁₆
38.1	82.6	127.0	98.4		12.7	47.6	68.3	79.4	82.6	103.2	122.2	38.1	44.5	58.7	77.8
2	4	6	4 ³ / ₄	4	5/8	2 ¹ / ₈	3 ¹ / ₁₆	4	3 ³ / ₈	4 ¹ / ₁₆	5 ¹ / ₈	1 ¹ / ₈	1 ³ / ₄	2 ¹ / ₁₆	3 ³ / ₈
50.8	101.6	152.4	120.7		15.9	54.0	77.8	101.6	85.7	106.4	130.2	41.3	44.5	61.9	85.7
3	5 ¹ / ₄	7 ¹ / ₂	6	4	5/8	2 ¹ / ₁₆	3 ³ / ₈	4 ¹ / ₁₆	3 ¹ / ₁₆	4 ¹ / ₁₆	5 ¹ / ₁₆	2	1 ³ / ₄	2 ¹ / ₁₆	3 ³ / ₄
76.2	133.4	190.5	152.4		15.9	65.1	92.1	112.7	96.8	120.7	141.3	50.8	44.5	74.6	95.3
4	6 ¹ / ₄	9	7 ¹ / ₂	8	5/8	2 ¹ / ₁₆	3 ³ / ₈	4 ³ / ₁₆	4 ¹ / ₁₆	5 ¹ / ₈	6 ¹ / ₁₆	2	1 ³ / ₄	3 ¹ / ₁₆	4
101.6	171.5	228.6	190.5		15.9	68.3	98.4	112.2	103.2	130.2	154.0	50.8	44.5	77.8	101.6
6	8 ³ / ₈	11	9 ¹ / ₂	8	3/4	3 ¹ / ₁₆	4 ¹ / ₁₆	5 ¹ / ₈	4 ³ / ₈	6	7 ¹ / ₁₆	2 ¹ / ₈	2 ¹ / ₄	3 ¹ / ₂	4 ³ / ₁₆
152.4	219.1	279.4	241.3		19.1	77.8	112.7	142.9	117.5	152.4	179.4	54.0	57.2	88.9	115.9
8	10 ¹ / ₈	13 ¹ / ₂	11 ³ / ₄	8	3/4	3 ³ / ₂	4 ¹ / ₁₆	6 ¹ / ₁₆	5 ¹ / ₄	6 ¹ / ₁₆	8 ¹ / ₁₆	2 ¹ / ₈	2 ¹ / ₄	3 ¹ / ₁₆	5 ¹ / ₁₆
203.8	276.2	342.9	298.5		19.1	88.9	119.1	160.3	133.4	163.5	204.8	60.3	57.2	90.5	131.8
10	13 ¹ / ₄	16	14 ¹ / ₄	12	7/8	3 ³ / ₁₆	5 ¹ / ₁₆	6 ¹ / ₂	5 ¹ / ₁₆	6 ¹ / ₈	8 ¹ / ₁₆	2 ¹ / ₂	2 ¹ / ₄	3 ¹ / ₁₆	5 ¹ / ₄
254.10	336.6	406.4	362.0		22.2	96.8	128.6	165.1	134.9	168.3	204.8	63.5	69.9	96.8	133.4
12	16	19	17	12	7/8	4 ¹ / ₈	5 ¹ / ₁₆	7 ¹ / ₄	5 ¹ / ₈	7 ¹ / ₈	9 ¹ / ₁₆	2 ¹ / ₈	3 ¹ / ₄	4 ¹ / ₈	5 ¹ / ₁₆
304.8	406.4	482.6	431.8		22.2	104.8	141.3	184.2	149.2	187.3	230.2	66.7	95.3	104.8	147.6
14	—	21	18 ¹ / ₄	12	1	—	—	—	6 ¹ / ₂	—	10 ¹ / ₁₆	2 ¹ / ₈	—	—	6 ¹ / ₁₆
355.6	—	533.4	476.3		25.4	—	—	—	165.1	—	255.6	73.0	—	—	163.5
16	—	23 ¹ / ₂	21 ¹ / ₄	16	1	—	—	—	6 ³ / ₁₆	—	10 ¹ / ₁₆	3	—	—	6 ¹ / ₂
406.4	—	596.9	539.8		25.4	—	—	—	166.7	—	255.6	76.2	—	—	165.1
18	—	25	22 ¹ / ₄	16	1 ¹ / ₈	—	—	—	7 ¹ / ₁₆	—	11 ¹ / ₈	3 ¹ / ₄	—	—	7 ¹ / ₁₆
457.2	—	635.0	577.9		28.6	—	—	—	182.6	—	282.6	82.6	—	—	182.6
20	—	27 ¹ / ₂	25	20	1 ¹ / ₈	—	—	—	7 ¹ / ₂	—	11 ¹ / ₂	3 ¹ / ₂	—	—	7 ¹ / ₂
508.0	—	698.5	635.0		28.6	—	—	—	190.5	—	292.1	88.9	—	—	190.5
24	—	32	29 ¹ / ₂	20	1 ¹ / ₄	—	—	—	8	—	12 ¹ / ₈	3 ³ / ₈	—	—	8
609.6	—	812.8	749.3		31.8	—	—	—	203.2	—	308.0	98.4	—	—	203.2
300# ANSI (720# Max. at -20° F to +100°F) (50.6 Kg/Cm² Max @ -28.9°C to +37.8°C.)															
1/2" through 2" — Same as 600# ANSI Group															
3	5 ¹ / ₄	8 ³ / ₄	6 ³ / ₈	8	3/4	3 ¹ / ₁₆	4 ¹ / ₁₆	5 ¹ / ₁₆	4 ³ / ₈	5 ¹ / ₄	6 ¹ / ₂	2 ¹ / ₈	1 ³ / ₄	3 ¹ / ₄	4 ¹ / ₂
76.2	146.1	209.6	168.3		19.1	84.1	106.4	138.1	111.1	133.4	165.1	60.3	44.5	82.6	114.3
4	7 ⁶ / ₁₆	10	7 ⁷ / ₈	8	3/4	3 ¹ / ₄	4 ¹ / ₈	5 ¹ / ₁₆	4 ³ / ₄	5 ¹ / ₈	6 ¹ / ₁₆	2 ¹ / ₈	1 ³ / ₄	3 ¹ / ₂	4 ¹ / ₁₆
101.6	177.8	254.0	200.0		19.1	82.5	104.8	138.1	120.7	142.9	173.0	66.7	44.5	88.9	119.1
6	9 ¹ / ₄	12 ¹ / ₂	10 ³ / ₈	12	3/4	3 ³ / ₈	4 ¹ / ₁₆	6	5 ¹ / ₁₆	6 ¹ / ₂	7 ¹ / ₁₆	3	2 ¹ / ₄	4 ¹ / ₁₆	5 ¹ / ₈
152.4	247.7	317.5	269.9		19.1	92.1	119.1	152.4	138.1	165.1	198.4	76.2	57.2	103.2	136.5
8	12	15	13	12	7/8	4 ¹ / ₁₆	5	6 ¹ / ₈	6 ¹ / ₁₆	6 ¹ / ₁₆	8 ¹ / ₁₆	3 ¹ / ₈	2 ¹ / ₄	4 ¹ / ₁₆	6 ¹ / ₁₆
203.8	304.8	381.0	330.2		22.2	106.4	127.0	174.6	155.6	176.2	223.8	85.7	69.9	106.4	153.9
600# ANSI (1440# Max. at -20° F to +100°F) (101.3 Kg/Cm² Max @ -28.9°C to +37.8°C.)															
1/2	—	3 ³ / ₄	2 ⁵ / ₈	4	1/2	1 ¹ / ₈	2 ¹ / ₁₆	3 ¹ / ₁₆	2 ¹ / ₈	3 ¹ / ₁₆	4 ¹ / ₁₆	1 ¹ / ₄	—	1 ¹ / ₁₆	2 ¹ / ₁₆
12.7	—	95.3	66.7		12.7	47.6	65.1	81.0	73.0	87.3	103.2	31.8	—	49.2	65.1
1	2 ¹ / ₄	4 ⁷ / ₈	3 ¹ / ₂	4	5/8	2 ¹ / ₈	2 ¹ / ₁₆	3 ¹ / ₈	3 ¹ / ₄	4 ¹ / ₁₆	4 ¹ / ₄	1 ¹ / ₂	1 ³ / ₄	2 ¹ / ₁₆	3
25.4	69.9	123.8	88.9		15.9	54.0	74.6	92.1	82.6	103.2	120.7	38.1	44.5	58.7	76.2
1 1/2	3 ³ / ₈	6 ¹ / ₈	4 ¹ / ₂	4	3/4	2 ¹ / ₁₆	3 ¹ / ₁₆	4 ¹ / ₈	3 ¹ / ₈	4 ¹ / ₂	5 ¹ / ₁₆	1 ³ / ₄	1 ³ / ₄	2 ¹ / ₈	3 ¹ / ₁₆
38.1	92.1	155.6	114.3		19.1	61.9	84.1	104.8	92.1	114.3	134.9	44.5	44.5	66.7	87.3
2	4 ¹ / ₄	6 ¹ / ₂	5	8	5/8	2 ¹ / ₁₆	3 ¹ / ₁₆	4 ¹ / ₁₆	3 ³ / ₄	4 ¹ / ₄	6	1 ¹ / ₈	1 ³ / ₄	2 ¹ / ₈	4 ¹ / ₈
50.8	108.0	165.1	127.0		15.9	68.3	81.0	125.4	95.3	108.0	152.4	47.6	44.5	60.3	104.8
3	—	8 ¹ / ₄	6 ¹ / ₈	8	3/4	3 ¹ / ₁₆	4 ¹ / ₁₆	4 ¹ / ₈	4 ¹ / ₈	5 ¹ / ₄	6 ¹ / ₂	2 ¹ / ₈	—	3 ¹ / ₄	4 ¹ / ₂
76.2	—	209.6	168.3		19.1	84.1	106.4	138.1	111.1	133.4	165.1	60.3	—	82.6	114.3
4	—	10 ¹ / ₄	8 ¹ / ₂	8	7/8	4 ¹ / ₁₆	4 ¹ / ₁₆	6 ¹ / ₁₆	5 ¹ / ₁₆	6 ¹ / ₁₆	8 ¹ / ₁₆	3 ¹ / ₈	—	4 ¹ / ₈	5 ¹ / ₈
101.6	—	273.1	215.9		22.2	103.2	115.9	160.3	150.1	163.5	208.0	92.1	—	104.8	149.2
6	—	14	11 ¹ / ₂	12	1	4 ¹ / ₁₆	5 ¹ / ₁₆	7 ¹ / ₁₆	6 ¹ / ₁₆	7 ¹ / ₁₆	9 ¹ / ₁₆	4 ¹ / ₈	—	4 ¹ / ₈	6 ³ / ₄
152.4	—	355.6	292.1		25.4	125.4	138.1	185.7	176.2	188.9	236.5	111.1	—	123.8	171.5
900# ANSI (2160# Max. at -20° F to +100°F) (151.9 Kg/Cm² Max @ -28.9°C to +37.8°C.)															
1/2" through 2" — Same as 1500# ANSI Group															
3	—	9 ¹ / ₂	7 ¹ / ₂	8	3/8	4 ¹ / ₁₆	4 ¹ / ₁₆	6 ¹ / ₁₆	5 ¹ / ₈	6 ¹ / ₄	8 ¹ / ₈	3 ¹ / ₈	—	4	5 ¹ / ₈

CORROSION-RESISTANT LININGS AND COATINGS FOR BOLTED TYPE SAFETY HEADS

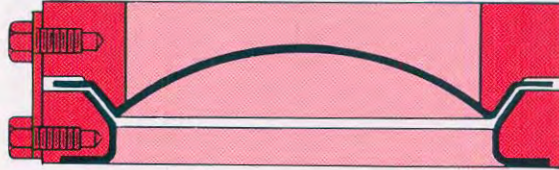
Lined and coated carbon steel Safety Heads are usually less expensive than Safety Heads made of a corrosion-resistant metal. Before specifying coated Safety Heads, however, consider standard Safety Heads of 316 or 304 stainless steel. These are available from stock in many sizes and ratings and may be more economical than lined or coated carbon steel Safety Heads. Other things to consider are the possibility of damage to the lining or coating and effect of process media.

Metal coatings

Tantalum coating is available in some sizes of standard Safety Heads. Consult factory.

Coatings

Carbon steel Safety Heads can be protected against corrosion by applying FEP (Teflon) coating over the entire surface of both inlet and outlet. Only rupture disks in lower pressure ranges can be used with coated Safety Heads since coating produces a surface that has a low friction coefficient. Consult factory when coating of Safety Heads is being considered.



**Lined base flange in
QUIKSERT Assembly FA-7R**

PRESSURE/TEMPERATURE RATINGS FOR BOLTED TYPE SAFETY HEAD FLANGES

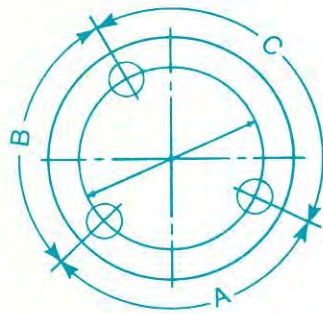
SERVICE TEMP °F	Maximum Rating PSIG KG/Cm²																							
	150# ANSI B1tg				300# ANSI B1tg				600# ANSI B1tg				900# ANSI B1tg				1500# ANSI B1tg				2500# ANSI B1tg			
	Material				Material				Material				Material				Material				Material			
	CS	304 SS	316 SS	304L 316L	CS	304 SS	316 SS	304L 316L	CS	304 SS	316 SS	304L 316L	CS	304 SS	316 SS	304L 316L	CS	304 SS	316 SS	304L 316L	CS	304 SS	316 SS	304L 316L
-20 to 100 (-6 to 37.8)	265 (18.3)	275 (19)	275 (19)	230 (15.9)	695 (47.9)	720 (49.6)	720 (49.6)	600 (41.4)	1390 (96.1)	1440 (99.3)	1440 (99.3)	1200 (82.7)	2085 (143.8)	2160 (148.9)	2160 (148.9)	1800 (124.1)	3470 (239.2)	3600 (248.2)	3600 (248.2)	3000 (206.8)	5785 (398.9)	6000 (413.7)	6000 (413.7)	5000 (344.7)
200 (93.3)	250 (17.2)	235 (16.2)	240 (16.6)	195 (13.4)	655 (45.2)	600 (41.4)	620 (42.8)	505 (34.8)	1315 (90.7)	1200 (82.7)	1240 (85.5)	1015 (70)	1970 (135.8)	180 (124.1)	1880 (129.6)	1520 (104.8)	3280 (226.1)	3000 (206.8)	3095 (213.4)	2530 (174.4)	5470 (377.1)	5000 (344.7)	5160 (355.8)	4220 (291)
300 (148.9)	230 (15.9)	206 (14.2)	215 (14.8)	175 (12.1)	640 (44.1)	530 (36.5)	560 (38.6)	455 (31.4)	1275 (87.9)	1055 (72.7)	1120 (77.2)	910 (62.7)	1915 (132)	1585 (109.3)	1680 (115.8)	1360 (93.8)	3190 (219.9)	2640 (182)	2795 (192.7)	2270 (156.5)	5315 (366.5)	4400 (303.4)	4660 (321.3)	3780 (260.6)
400 (204.4)	200 (13.8)	180 (12.4)	195 (13.4)	160 (11)	620 (42.8)	470 (32.4)	515 (35.5)	415 (28.6)	1235 (85.2)	940 (64.8)	1030 (71)	825 (56.9)	1850 (127.6)	1410 (97.2)	1540 (106.2)	1240 (85.5)	3085 (212.7)	2350 (162)	2570 (177.2)	2065 (142.4)	5145 (354.7)	3920 (270.3)	4280 (295.1)	3440 (237.2)
500 (260)	170 (11.7)	170 (11.7)	170 (11.7)	145 (10)	585 (40.3)	435 (30)	480 (33.1)	380 (26.2)	1165 (80.3)	875 (60.3)	955 (65.8)	765 (52.7)	1745 (120.3)	1310 (90.3)	1435 (98.9)	1145 (78.9)	2910 (200.6)	2185 (150.7)	2390 (164.8)	1910 (131.7)	4850 (334.4)	3640 (251)	3980 (274.4)	3180 (219.3)
600 (315.5)	140 (9.5)	140 (9.5)	140 (9.5)	140 (9.5)	535 (36.9)	415 (28.6)	450 (31)	360 (24.8)	1065 (73.4)	830 (57.2)	905 (62.4)	720 (49.6)	1600 (110.3)	1245 (85.8)	1355 (93.4)	1080 (74.5)	2665 (183.7)	2075 (143.1)	2255 (155.5)	1800 (124.1)	4440 (306.1)	3460 (238.6)	3760 (259.2)	3000 (206.8)
650 (343.3)	125 (8.6)	125 (8.6)	125 (8.6)	125 (8.6)	525 (36.2)	410 (28.3)	445 (30.7)	350 (24.1)	1045 (72.1)	815 (56.2)	890 (61.4)	700 (48.3)	1570 (108.3)	1225 (84.5)	1330 (91.7)	1050 (72.4)	2615 (180.3)	2040 (140.7)	2220 (153.1)	1750 (120.7)	4355 (300.3)	3400 (234.4)	3700 (255.1)	2920 (201.3)
700 (371.1)	110 (7.6)	110 (7.6)	110 (7.6)	110 (7.6)	520 (35.9)	405 (28.3)	430 (29.7)	345 (23.8)	1035 (71.4)	805 (55.5)	865 (59.6)	685 (47.2)	1555 (107.2)	1210 (83.4)	1295 (89.3)	1030 (71)	2590 (178.6)	2015 (138.9)	2160 (148.9)	1715 (118.2)	4320 (297.9)	3360 (231.7)	3600 (248.2)	2860 (197.2)
750 (398.9)	95 (6.6)	95 (6.6)	95 (6.6)	95 (6.6)	475 (32.8)	400 (27.6)	425 (29.3)	335 (23.1)	945 (65.2)	795 (54.8)	845 (58.3)	670 (46.2)	1420 (97.9)	1195 (82.4)	1270 (87.6)	1010 (69.6)	2365 (163.1)	1990 (137.2)	2110 (145.5)	1680 (115.8)	3945 (272)	3320 (228.9)	3520 (242.7)	2800 (193.1)
800 (426.7)	80 (5.5)	80 (5.5)	80 (5.5)	80 (5.5)	390 (26.9)	395 (27.2)	415 (28.6)	330 (22.7)	780 (53.8)	790 (54.5)	830 (57.2)	660 (45.5)	1175 (81)	1180 (81.4)	1245 (85.8)	985 (67.9)	1995 (134.8)	1970 (135.8)	2075 (143.1)	1645 (113.4)	3260 (224.8)	3280 (226.1)	3460 (238.6)	2740 (188.9)
850 (454.4)	85 (5.9)	65 (4.5)	65 (4.5)	65 (4.5)	270 (18.6)	390 (26.9)	405 (27.9)	320 (22.1)	535 (36.9)	780 (53.8)	810 (55.9)	645 (44.5)	805 (55.5)	1165 (80.3)	1215 (83.8)	965 (66.5)	1340 (92.4)	1945 (134.1)	2030 (140)	1610 (111)	2230 (153.8)	3240 (223.4)	3380 (233)	2680 (184.8)
900 (482.2)	50 (3.5)	50 (3.5)	50 (3.5)		170 (11.7)	385 (26.5)	395 (27.2)		345 (23.8)	770 (53.1)	790 (54.5)		515 (35.5)	1150 (79.3)	1180 (81.4)		860 (59.3)	1920 (132.4)	1970 (135.8)		1430 (98.6)	3200 (220.6)	3280 (226.1)	
950 (510)	35 (2.4)	35 (2.4)	35 (2.4)		105 (7.2)	375 (25.8)	385 (26.5)		205 (14.1)	750 (51.7)	775 (53.4)		310 (21.4)	1125 (77.6)	1160 (80)		515 (35.5)	1870 (128.9)	1930 (133.1)		850 (58.6)	3120 (215.1)	3220 (222)	
1000 (537.8)	20 (1.4)	20 (1.4)	20 (1.4)		50 (3.5)	325 (22.4)	365 (25.2)		105 (7.2)	645 (44.5)	725 (50)		155 (10.7)	965 (66.5)	1090 (75.2)		260 (17.9)	1610 (111)	1820 (125.5)		430 (29.7)	2685 (185.1)	3030 (208.9)	
1050 (565.5)						310 (21.4)	360 (24.8)			620 (42.8)	720 (49.6)			925 (63.8)	1080 (74.5)			1545 (106.5)	1800 (124.1)			2570 (177.2)	3000 (206.8)	
1100 (593.3)						260 (17.9)	325 (22.4)			515 (35.5)	645 (44.5)			770 (53.1)	965 (66.5)			1285 (88.6)	1610 (111)			2145 (147.9)	2685 (185.1)	
1150 (621.1)						195 (13.4)	275 (19)			390 (26.9)	550 (37.9)			586 (40.3)	825 (56.9)			980 (67.6)	1370 (94.5)			1630 (112.4)	2285 (157.5)	
1200 (648.9)						155 (10.7)	205 (14.1)			310 (21.4)	410 (28.3)			465 (32.4)	620 (42.8)			770 (53.1)	1030 (71)			1285 (88.6)	1715 (118.2)	
1250 (676.7)						110 (7.6)	180 (12.4)			220 (15.2)	365 (25.2)			330 (22.8)	545 (37.6)			550 (37.9)	910 (62.7)			915 (63.1)	1515 (104.5)	
1300 (704.4)						85 (5.9)	140 (9.5)			165 (11.4)	275 (19)			245 (16.9)	410 (28.3)			410 (28.3)	685 (47.2)			685 (47.2)	1145 (78.9)	
1350 (732.2)						60 (4.1)	105 (7.2)			125 (8.6)	205 (14.1)			185 (12.8)	310 (21.4)			310 (21.4)	515 (35.5)			515 (35.5)	860 (59.3)	
1400 (760)						50 (3.5)	75 (5.2)			90 (6.2)	150 (10.3)			145 (10)	225 (15.5)			240 (16.6)	380 (26.2)			400 (27.6)	630 (43.4)	
1450 (787.8)						35 (2.4)	60 (4.1)			70 (4.8)	115 (7.9)			105 (7.2)	175 (12.1)			170 (11.7)	290 (20)			285 (19.7)	485 (33.4)	
1500 (815.5)						25 (1.7)	40 (2.8)			50 (3.5)	85 (5.9)			70 (4.8)	125 (8.6)			120 (8.3)	205 (14.1)			200 (13.8)	345 (23.8)	

JACK SCREWS TAKE THE WORK OUT OF INSTALLING SAFETY HEADS

Jack screws make it easy to install QUICKSERT Safety Heads (Assembly FA-7R). Insert the jack screws through holes drilled in downstream ANSI companion flange in accordance with pattern shown. As jack screws engage stationary ANSI flange mounted to pressure vessel or upstream piping, downstream flange and piping lift to provide adequate clearance for easy removal of Safety Head.

Jack screws can be used with full-diameter preassembled Safety Heads (Assembly FA-7) by having lugs welded to O.D. of companion pipe flanges. Jack screws are inserted through holes drilled in downstream lugs. BS&B will furnish complete package of two (2) ANSI pipe flanges with pressure rating and connections required, Safety Head preassembly (FA-7) and jack screws.

Jack screws can also be used with Assemblies FA-1, FA-2, FA-3, FA-4, FA-5 and FA-6.

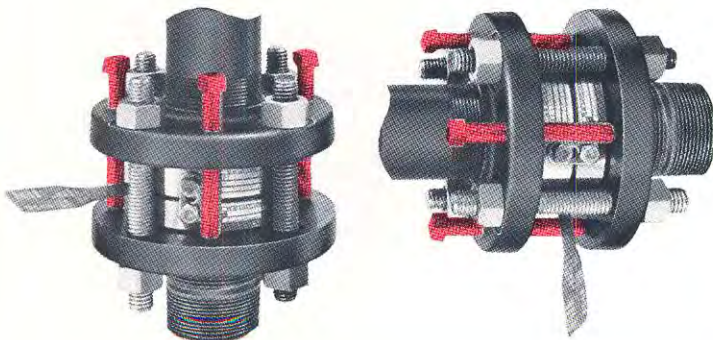


Three (3) jack screws required. Jack screws have 1/2-13NC threads. Position jack screws to avoid interference with studs and nuts on ANSI flanges.

Jack Screw Specifications (for use with Assemblies FA-7R and RB-7R)

ANSI Flange Size in. mm	Jack Screw				Jack Screw Bolt Circle in. mm	Jack Screw Drill Pattern		
	Dia. in. mm	Length		Angle A		Angle B	Angle C	
		FA-7R in. mm	RB-7R in. mm					
150# ANSI								
1 25.4	1/2 12.7	3 76.2	3 76.2	3 79.4	90°	105°	165°	
1 1/2 38.1	1/2 12.7	3 76.2	3 76.2	3 98.4	90°	105°	165°	
2 50.8	1/2 12.7	4 101.6	4 101.6	4 3/4 120.7	90°	105°	165°	
3 76.2	1/2 12.7	4 101.6	4 101.6	6 152.4	90°	105°	165°	
4 101.6	1/2 12.7	4 101.6	5 127.0	8 203.2	90°	127 1/2°	142 1/2°	
6 152.4	1/2 12.7	4 101.6	6 152.4	10 254.0	90°	135°	135°	
8 203.2	1/2 12.7	5 127.0	7 177.8	12 1/2 317.0	90°	135°	135°	
10 254.0	1/2 12.7	6 152.4	8 203.2	14 1/2 368.3	90°	120°	150°	
12 304.8	1/2 12.7	6 152.4	8 203.2	17 1/2 444.5	90°	120°	150°	
14 355.6	3/4 19.1	6 152.4	8 1/2 215.9	19 1/4 488.9	90°	120°	150°	
16 406.4	3/4 19.1	6 152.4	9 228.6	21 3/4 552.5	90°	112 1/2°	157 1/2°	
300# ANSI 1" through 3" - Same as 600# ANSI Group								
4 101.6	1/2 12.7	4 101.6	4 127.0	5 209.6	90°	135°	135°	
6 152.4	1/2 12.7	5 127.0	6 152.4	10 7/8 276.2	90°	120°	150°	
8 203.2	1/2 12.7	6 152.4	7 177.8	13 1/4 336.6	90°	120°	150°	
10 254.0	1/2 12.7	6 152.4	8 203.2	15 1/4 387.4	90°	112 1/2°	157 1/2°	
600# ANSI								
1 25.4	1/2 12.7	3 76.2	3 76.2	3 1/2 88.9	90°	105°	165°	
1 1/2 38.1	1/2 12.7	4 101.6	4 101.6	4 1/2 114.3	90°	105°	165°	
2 50.8	1/2 12.7	4 101.6	4 101.6	5 1/4 133.4	90°	135°	135°	
3 76.2	1/2 12.7	4 101.6	4 101.6	6 7/8 174.6	90°	135°	135°	

Jack screws simplify removal of QUICKSERT Safety Heads (Assembly FA-7R) from vertical or horizontal run



Jack screws lift heavy flange and outlet piping in Assembly FA-2 for easy removal of rupture disk



OTHER
USEFUL
ACCESSORIES
FOR
BOLTED
TYPE
SAFETY
HEADS



Eye Bolts

Eye bolts are desirable when weight is a factor in lifting preassembled Safety Heads (Assemblies FA-7 and FA-7R) or raised-face outlet flanges of Assemblies FA-1 and FA-4.

Safety Head studs can also be used in lifting. Tapped openings are drilled 180° apart to accommodate the studs used in the Safety Head assembly. Studs removed during disassembly are screwed into tapped openings to serve as lifting lugs.



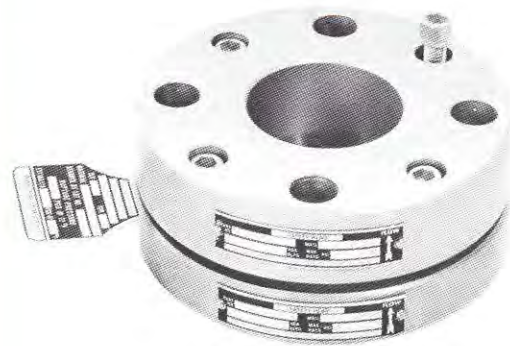


Baffle Plate

When a Safety Head is free-vented to atmosphere, a baffle plate should be considered to disperse overpressure and absorb recoil. Extra length studs are provided to engage baffle plate.

Gauge Tap

A gauge tap in outlet flange of Safety Head should be considered when Safety Head is installed in a vertical position with outlet free-vented or exhaust piping extended . . . or where atmospheric conditions or process temperature produce condensation that could accumulate on convex side of disk. Drain line can be installed.



Full Diameter Safety Head Preassembly

When preassembly of Safety Head is desired but QUICKSERT Safety Head with reduced diameter flanges cannot be used, Assembly FA-7 with full diameter Safety Head flanges is available as a preassembly. Recessed cap screws are used.





SAFETY SYSTEMS

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ISO 9001 Quality System Certification



ISO 9001
Cert. Reg. No. M262



Cert. Reg. No. 12-100-6194

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