GEP-6002 Rev. AA 102335 Ref. I.D.: 5993



Preparation and Installation of the Composite Type Rupture Disc (Light Lip and Heavy Lip) in 30° Seat 7I Insert, Full Bolted, and Union Type Holders

WARNING

USER SHOULD READ AND THOROUGHLY UNDERSTAND THESE INSTRUCTIONS BEFORE INSTALLING RUPTURE DISC. THESE INSTRUCTIONS DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY FACTORS ASSOCIATED WITH THE RUPTURE DISC'S USE IN SERVICE. IT IS THE RESPONSIBILITY OF THE USER TO ESTABLISH APPROPRIATE SAFETY, HEALTH, AND TRAINING MEASURES FOR THEIR PERSONNEL INSTALLING, SERVICING, OR WORKING IN AN AREA WHERE RUPTURE DISC ASSEMBLIES ARE IN USE. SERVICE AND/OR MAINTENANCE ON OR AROUND THE RUPTURE DISC DEVICE MUST NOT BE PERFORMED WHILE THE DEVICE IS SUBJECTED TO OPERATING PRESSURES AND/OR TEMPERATURES.

IT IS THE USER'S SOLE RESPONSIBILITY FOR DESIGN AND PLACEMENT OF RUPTURE DISCS WITHIN THEIR FACILITY AND UPON THE EQUIPMENT UPON WHICH THE RUPTURE DISC OF USER'S SELECTION IS TO BE LOCATED. IT IS USER'S SOLE RESPONSIBILITY FOR THE DESIGN OF ADEQUATE VENTING AND INSTALLATION OF ADEQUATE VENT PIPING OR DIRECTIONAL FLOW AFTER RUPTURE OCCURS WITH THE RUPTURE DISC AS INTENDED. WHEN SIZE IS SPECIFIED, CONTINENTAL DISC CORPORATION ASSUMES THAT ADEQUATE PROVISIONS HAVE BEEN MADE BY PURCHASER FOR PROPER VENTING OF A SYSTEM TO RELIEVE THE SPECIFIC PRESSURE. LOCATE RUPTURE DISC WHERE PEOPLE OR PROPERTY WILL NOT BE EXPOSED TO THE SYSTEM DISCHARGE IN CASE OF RUPTURE. VENT TOXIC OR FLAMMABLE FUMES OR LIQUIDS TO A SAFE LOCATION TO PREVENT PERSONAL INJURY OR PROPERTY DAMAGE.

IT IS THE USER'S SOLE RESPONSIBILITY TO SPECIFY THE BURST PRESSURE RATING OF A RUPTURE DISC AT A COINCIDENT TEMPERATURE AT WHICH THE RUPTURE DISC IS TO BE USED. A RUPTURE DISC IS A TEMPERATURE SENSITIVE DEVICE. THE BURST PRESSURE OF THE RUPTURE DISC IS DIRECTLY AFFECTED BY ITS EXPOSURE TO THE COINCIDENT TEMPERATURE. GENERALLY, AS THE TEMPERATURE AT THE RUPTURE DISC INCREASES, THE BURST PRESSURE DECREASES; INVERSELY, AS THE TEMPERATURE AT THE RUPTURE DISC DECREASES, THE BURST PRESSURE MAY INCREASE. FAILURE TO PROPERLY UTILIZE A RUPTURE DISC AT THE SPECIFIED COINCIDENT TEMPERATURE COULD CAUSE PREMATURE FAILURE OR OVERPRESSURIZATION OF A SYSTEM.

THE INSTANTANEOUS RELEASE OF PRESSURE FROM THE RUPTURE DISC CAN CREATE VIOLENT NOISES DUE TO THE DISCHARGE AT SONIC VELOCITY. IT IS THE USER'S SOLE RESPONSIBILITY TO PROTECT AGAINST HEARING DAMAGE TO ANY BYSTANDERS.

RUPTURE DISCS AND TAGS ARE MADE OF METAL FOILS OF VARYING THICKNESS. THE METAL EDGES MAY BE SHARP. PERSONNEL INSTALLING OR EXAMINING THE RUPTURE DISCS SHOULD PROTECT AGAINST CUTS OR INJURY WHEN HANDLING THE RUPTURE DISC. DO NOT LIFT A RUPTURE DISC BY ITS ATTACHED TAG.

PARTICLES MAY BE DISCHARGED WHEN THE RUPTURE DISC RUPTURES. THESE PARTICLES MAY BE PART OF THE RUPTURE DISC ITSELF, OR OTHER ENVIRONMENTAL MATTER IN THE SYSTEM. IT IS THE USER'S SOLE RESPONSIBILITY TO ASSURE THAT THESE PARTICLES ARE DIRECTED TO A SAFE AREA TO PREVENT PERSONAL INJURY OR PROPERTY DAMAGE.

THERE IS NO GUARANTEE OF RUPTURE DISC LIFE. SUCH LIFE SPAN IS AFFECTED BY CORROSION, CREEP AND FATIGUE, AND PHYSICAL DAMAGE. THESE CONDITIONS WILL DERATE THE RUPTURE DISC TO A LOWER SET PRESSURE. THE CUSTOMER AND/OR USER SHOULD BE PREPARED TO HANDLE PREMATURE FAILURE OF THE RUPTURE DISC. THE MEDIA OR OTHER ENVIRONMENTAL CONDITIONS SHOULD NOT ALLOW ANY BUILDUP OR SOLIDIFICATION OF MEDIA TO OCCUR ON A RUPTURE DISC. THIS MAY INCREASE THE PRESSURE SETTING OF THE RUPTURE DISC.

CUSTOMER AND/OR ITS INSTALLER SHALL BE SOLELY RESPONSIBLE FOR THE PROPER INSTALLATION OF SELLER'S HOLDERS AND RUPTURE DISCS INTO A SYSTEM. CUSTOMER AND/OR ITS INSTALLER SHALL BE SOLELY RESPONSIBLE FOR IMPROPER INSTALLATION AND PHYSICAL DAMAGE RESULTING THEREFROM, INCLUDING BUT NOT LIMITED TO, DAMAGE RESULTING FROM LEAKAGE, IMPROPER TORQUING OR SEATING OF A RUPTURE DISC OR FAILURE TO FOLLOW INSTALLATION INSTRUCTIONS WHERE PROVIDED.

RUPTURE DISCS ARE PRECISION SAFETY DEVICES AND MUST BE INSTALLED PROPERLY. RUPTURE DISCS MUST BE INSTALLED BY TRAINED, KNOWLEDGEABLE INSTALLERS AND ONLY WITHIN ENVIRONMENTS SUITABLE AND APPROPRIATE FOR A RUPTURE DISC. CARE MUST BE USED IN A FACILITY'S DESIGN TO PROTECT BOTH THE RUPTURE DISC FROM INADVERTENT DAMAGE WHICH COULD CAUSE ITS PREMATURE RELEASE AND TO PROTECT INDIVIDUALS EXPOSED TO HAZARDS CREATED BY SUCH SUDDEN RELEASE.

PROPER INSTALLATION OF A RUPTURE DISC IS CRITICAL TO PERFORMANCE AND TO SAFETY. FAILURE TO PROVIDE PROPER SEATING OF A RUPTURE DISC MAY AFFECT RUPTURE DISC PERFORMANCE, BURST PRESSURE ACCURACY AND MAY RESULT IN ITS PREMATURE FAILURE.

I. Safety Precautions Before Installation

- 1. The Composite Type rupture disc is a precision instrument and must be handled with extreme care. Rupture discs should be installed only by qualified personnel familiar with rupture discs and proper piping practices.
- 2. Do not install rupture disc if there is any damage in the dome area. A damaged rupture disc is any rupture disc with visible nicks or dents in the dome.
- Continental Disc Corporation does not recommend reinstalling a rupture disc that has been removed from the holder as reinstallation may adversely affect the joint sealing capabilities and/or performance of the rupture disc.
- See rupture disc tag to verify set pressure, operating temperature, and all other operating parameters.

II. 7I Insert Type 30° Seat Holder

A. Preparation of Holders for Installation

New Installation

Clean all foreign material from the rupture disc sealing area of both the holder inlet and outlet.

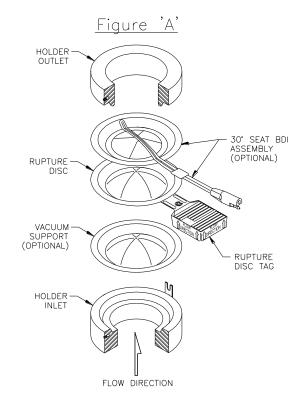
Replacement Installation

- 1. If the Burst Disc Indicator (B.D.I.®) Alarm System is used, disconnect the alarm strip from the monitor by unplugging the B.D.I. connector from the lead wire connector.
- 2. Remove the holder from the system and place on a flat surface.
- 3. Disassemble the holder by loosening the pre-assembly screws, or by removing the pre-assembly cap screws, whichever is applicable. Lift the holder outlet up and set aside; then remove the burst rupture disc.
- 4. Clean the rupture disc sealing area of both the holder inlet and outlet. These surfaces must be completely clean and free of all rust, corrosion, and foreign material to ensure a proper seal. Use of solvents, steel wool, or fine emery cloth is permissible. Do not re-machine. Do not use scraper or abrasives.
- 5. Inspect the rupture disc sealing area for nicks, scratches, or pitting. If any of these conditions are present, consult the factory for repair.
- 6. Remove any adhered gasket material from previous installation.

B. Assembly of the Rupture Disc and Holder (See Figure A)

Component parts of the 7I Insert Type 30° Seat Holder assembly are illustrated in the proper installation sequence.

- Carefully remove and discard any shipping protectors furnished with rupture discs or holder. DO NOT INSTALL A SHIPPING PROTECTOR IN A HOLDER ASSEMBLY.
- 2. Place the holder inlet on a flat surface.
- 3. Place the COMPOSITE Type rupture disc on the holder inlet opening with the dome side facing up as illustrated.
- 4. If the 30° Seat B.D.I. Alarm System is used, visually inspect the adhesion of the strip to the seal and the electrical circuit. If the strip has become detached or the circuit has been broken, DO NOT INSTALL THE RUPTURE DISC. Ensure that the B.D.I. connector strip extends straight and flat.
- 5. Align and lower the holder outlet carefully onto the holder inlet.
- Fasten the assembly together by tightening the pre-assembly screws or by replacing and tightening the pre-assembly cap screws.



C. Installation of the 7I Insert Type 30° Seat Holder Assembly into the System (See **Figure B**)

- If the Universal B.D.I. Alarm System is used, see the Universal B.D.I. Assembly Installation Instructions for additional details. (Note: The Universal B.D.I. assembly and the 30° Seat B.D.I. assembly are optional accessories, and it is not necessary to use the two together at any one time.)
- Before placing the assembly into the system, ensure that the companion flange gasket surfaces are clean and free of all rust, corrosion, and foreign material.
- 3. A J-Hook (optional) may be provided in the holder inlet to ensure correct installation of the assembly relative to flow direction. If the J-Hook is used, the corresponding inlet companion flange must be drilled to accommodate the J-Hook prior to installation of the assembly. Refer to the J-Hook Installation Guide for locating and drilling specifications.
- Install the 7I Insert Type 30° Seat Holder assembly and customer furnished gaskets WITH ALL FLOW ARROWS POINTING IN THE PROPER FLOW DIRECTION and the J-Hook (if furnished) inserted into the drilled companion flange.
- If the B.D.I. Alarm System is used, installation of the strain relief device is necessary (see Figure C):
 - Slip the strain relief device over one companion flange stud as shown.
 Place the device near where the B.D.I. strip exits.
 - Allowing sufficient slack for easy connection to the B.D.I. connector, secure the lead wire to the strain relief device by fastening the twistlock on the clip.
- 6. Install lightly oiled, free running studs and nuts to finger tightness. Using a cross torquing pattern (see Figure D), torque each nut with a calibrated torque wrench at 20% increments of recommended torque value (see Table 1). Repeat 20% increments and cross torquing pattern until final torque value is achieved. Recheck all nuts in rotational sequence at final torque value. When properly torqued, the distance between the holder inlet and the holder outlet should be approximately equal around the perimeter of the holder. These values are based on using gasket materials having a gasket factor of 2.75, gasket seating stress of 3,700 psi, and stud and nut material per ASME SA193-B7 and SA194-2H respectively, with a stress of up to 25,000 psi. The use of studs and nuts with lower strength may prove unsatisfactory.
- 7. If the B.D.I. Alarm System is used, plug the B.D.I. connector into the lead wire connector using a slight twisting action.

III. Full Bolted Type 30° Seat Holder

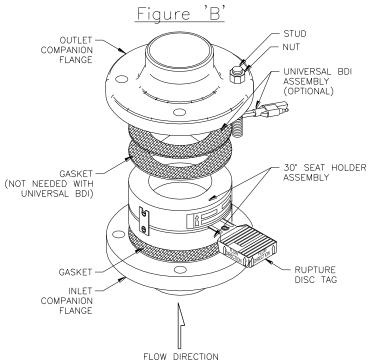
A. Preparation of Holders for Installation

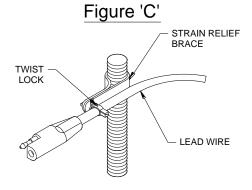
New Installation

Clean all foreign material from the rupture disc sealing area of both the holder inlet and outlet.

Replacement Installation

- If the Burst Disc Indicator (B.D.I.) Alarm System is used, disconnect the alarm strip from the monitor by unplugging the B.D.I. connector from the lead wire connector.
- 2. Remove the studs and nuts that hold the assembly together.





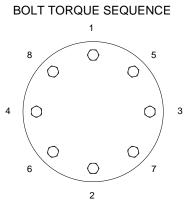


Figure 'D'

EXAMPLE OF

8 - BOLTS

- 3. Separate the inlet and outlet; then remove the burst rupture disc.
- 4. Clean the rupture disc sealing area of both the holder inlet and outlet. These surfaces must be completely clean and free of all rust, corrosion, and foreign material to ensure a proper seal. Use of solvents, steel wool, or fine emery cloth is permissible. Do not re-machine. Do not use scraper or abrasives.
- 5. Inspect the rupture disc sealing area for nicks, scratches, or pitting. If any of these conditions are present, consult the factory for repair.
- 6. Remove any adhered gasket material from previous installation.

B. Assembly of the Rupture Disc and Holder (See Figure E)

Component parts of the Full Bolted Type 30° Seat Holder assembly are illustrated in the proper installation sequence.

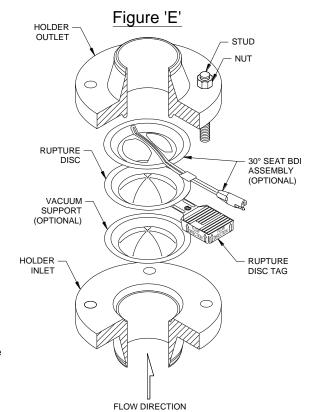
- Carefully remove and discard any shipping protectors furnished with rupture discs or holder. DO NOT INSTALL A SHIPPING PROTECTOR IN A HOLDER ASSEMBLY.
- Place the COMPOSITE Type rupture disc on the holder inlet opening with the dome side facing up as illustrated.
- If the 30° Seat B.D.I. Alarm System is used, visually inspect the adhesion of the strip to the seal and the electrical circuit.
 If the strip has become detached or the circuit has been broken, DO NOT INSTALL THE RUPTURE DISC. Ensure that the B.D.I. connector strip extends straight and flat.
- 4. Align and lower the holder outlet carefully onto the holder inlet.
- 5. If the 30° Seat B.D.I. Alarm System is used, installation of the strain relief device is necessary. This requires that one stud approximately 2 inches longer than the others is needed near where the B.D.I. strip exits (see Figure F). Slip the strain relief device over the longer stud and secure with a nut. Allowing sufficient slack for easy connection to the B.D.I. connector, secure the lead wire to the strain relief device by fastening the twist lock.
- 6. Install lightly oiled, free running studs and nuts to finger tightness. Using a cross torquing pattern (see **Figure D**, **Page 3**), torque each nut with a calibrated torque wrench at 20% increments of recommended torque value (see **Table 1**). Repeat 20% increments and cross torquing pattern until final torque value is achieved. Recheck all nuts in rotational sequence at final torque value. When properly torqued, the distance between the holder inlet and the holder outlet should be approximately equal around the perimeter of the holder. These values are based on using gasket material having a gasket factor of 2.75, gasket seating stress of 3,700 psi, and stud and nut material per ASME SA193-B7 and SA194-2H respectively, with a stress of up to 25,000 psi. The use of studs and nuts with lower strength may prove unsatisfactory.
- If the 30° Seat B.D.I. Alarm System is used, plug the B.D.I. connector into the lead wire connector using a slight twisting action.



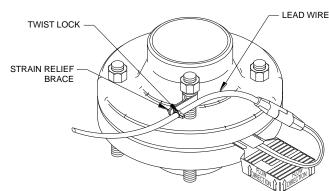
A. Preparation of Holders for Installation

New and Replacement Installation

- 1. Clean the rupture disc sealing area of both the holder inlet and outlet. These surfaces must be completely clean and free of all rust, corrosion, and foreign material to ensure a proper seal. Use of solvents, steel wool, or fine emery cloth is permissible. Do not re-machine. Do not use scraper or abrasives.
- Care should be taken during assembly and installation to ensure that nothing sharp protrudes down through the inlet or outlet cavities. A rupture disc that has been scratched, dented, or damaged in any way, may result in premature failure.



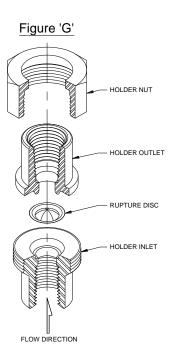




B. Assembly of the Rupture Disc and Holder (See Figure G)

Component parts of the Union Type assembly are illustrated in the proper installation sequence.

- Carefully remove and discard any shipping protectors furnished with rupture discs or holder. DO NOT INSTALL A SHIPPING PROTECTOR IN A HOLDER ASSEMBLY.
- Place the holder inlet on a flat surface.
- 3. Position the rupture disc in the holder inlet with the dome side facing up as shown. Handle with care.
- 4. Carefully lower the holder outlet onto the rupture disc.
- 5. Slip the nut over the holder outlet and thread it onto the holder inlet. Place a wrench on the holder inlet to keep it from turning. Using a calibrated torque wrench, torque the nut to the following requirements:



Tor	que for Discs with F	luoropolyme	r Seal	Torque for Discs with Metal Seal				
	Pressure Rating	Torque Re	quirement		Pressure Rating	Torque Re	quirement	
Size	Holder	(Ft•Lbs)	(N•m)	Size	Holder	(Ft•Lbs)	(N•m)	
1/2"	3000	50	68	1/2"	3000	50	68	
	6000	80	108		6000	80	108	
1"	4000	150	203	1"	4000	200	271	
	6000	150	203		6000	300	407	
1-1/2"	4000	200	271	1-1/2"	4000	800	1085	
2"	4000	350	475	2"	4000	2000	2711	

C. Installation of the Union Type Assembly into the System (See Figure H)

- Assure that the unit being installed is compatible with current system operating conditions.
- 2. Before installing the Union Type assembly into the system, clean mating threads of all grit, dirt, or foreign material, to ensure proper seal.
- Install the Union Type assembly WITH ALL FLOW ARROWS POINTING IN THE PROPER FLOW DIRECTION.
- 4. When installing the assembly into the system, do not tighten or loosen seal between holder inlet and holder outlet, for this could cause damage to the rupture disc or cause premature failure.

V. Preventative Maintenance

- Risk assessment and an annual rupture disc replacement are recommended. Rupture disc service life is determined by system operating conditions. The effects of severe pressure/vacuum cycles, corrosion, temperature variations, or other adverse conditions must be evaluated by the user through actual service experience to determine optimal service life.
 - FLOW DIRECTION

 D TO THESE CONDITIONS,

Figure 'H'

HOLDER OUTLET

HEX NUT

HOLDER INLET

- 2. IF THE RUPTURE DISC IS NOT REPLACED PERIODICALLY WHEN EXPOSED TO THESE CONDITIONS, PREMATURE FAILURE OF THE RUPTURE DISC MAY OCCUR, THEREBY DISCHARGING THE PROCESS MEDIA.
- 3. To avoid extended downtime, maintain three spare rupture discs in stock at all times for each holder in use. The number of spares required ultimately will be determined by service conditions.

VI. Customer Service

If you wish to discuss your application, installation, or maintenance, please contact the Customer Service Department at our headquarters location.

B.D.I. ALARM SYSTEM OPERATING LIMITS

TEMPERATURE: -40° F to + 400° F

 $(-40^{\circ} \text{ C to} + 204^{\circ} \text{ C})$

MAX CURRENT: 50 Milli Amps MAX VOLTAGE: 24 VDC

FULFILLS THE REQUIREMENTS OF DIRECTIVE 2014/34/EU (ATEX) FOR: Equipment or protective system intended for use in potentially explosive atmospheres.

Conformity assessment performed by Notified Body no. 0359, Intertek Testing and Certification Limited, Leatherhead, Surrey, UK.

BURST DISC INDICATOR (B.D.I.®): Sizes 25mm through 900mm (1 inch through 36 inches)

Marked:

II 1 G Ex ia IIC Tx Ga II 1 D Ex ia IIIC Tx Da I M1 Ex ia I Ma

 $(Tamb = -40^{\circ}C \le Ta \le +204^{\circ}C)$

EC Type Examination Certificate: ITS13ATEX27734X

THE MAXIMUM INTRINSICALLY SAFE INPUT PARAMETERS ARE AS FOLLOWS:

Ui = 24V dc Ii = 50 mA Pi = 0.3W

THE EQUIVALENT PARAMETERS ARE:

Ci = 0Li = 0

SPECIAL CONDITIONS FOR SAFE USE:

- 1. Temperature Class of the BDI sensor is marked as Tx, since the surface temperature is controlled by the process temperature being monitored. The sensor itself exhibits negligible temperature rise.
- 2. When located in an area requiring EPL Ga / Category 1G (e.g. Zone 0) hazardous area, the user shall ensure that electrostatic charging of the non-metallic parts cannot occur.
- 3. When provided with terminations by means of flying leads, these shall be terminated in an appropriately protected terminal box.
- 4. When installed, the BDI strip shall be provided with an IP rating of IP20 as a minimum.
- 5. For Group I applications, the BDI strip and terminations shall be protected to IP54 or better.

Recommended Torque Values for Composite Type Rupture Discs (Light Lip and Heavy Lip)

TABLE 1

SIZE		COMPANION FLANGES			RUPTURE [FLUOROPOL	DISCS WITH YMER SEALS	RUPTURE DISCS WITH METAL SEALS			
IN	MM	ANSI	DIN	JIS	TORQUE (FT•LB)	TORQUE (N•m)	TORQUE (FT•LB)	TORQUE (N•m)		
1	25	150			9	12	14	19		
1	25		10/16		9	12	13	18		
1	25			10/16/20	12	16	18	24		
1	25	300/600		30/40	12	16	20	28		
1	25		25/40		9	12	15	20		
1	25	900/1500			15	20	30	40		
1	25	2500			15	20	30	40		
1-1/2	40	150			13	18	20	28		
1-1/2	40		10/16	10/16/20	17	23	26	36		
1-1/2	40	300/600			20	27	50	68		
1-1/2	40		25/40		17	23	42	56		
1-1/2	40			30/40	21	28	52	70		
1-1/2	40	900/1500			30	41	60	82		
1-1/2	40	2500			35	47	70	94		
2	50	150	10/16	10	21	28	30	40		
2	50			16/20	11	15	15	20		
2	50	300/600		30/40	39	53	30	40		
2	50		25/40		79	107	60	82		
2	50	900/1500			20	27	40	54		
3	80	150			15	20	30	40		
3	80		10/16	10	10	14	20	28		
3	80			16/20	13	18	26	36		
3	80	300/600			20	27	40	54		
3	80		25/40		17	23	34	46		
3	80			30/40	21	28	42	56		
				T	T	T	T			
4	100	150	10/16	10	15	20	30	40		
4	100			16/20	19	26	38	52		
4	100	300			25	34	50	68		
4	100		25/40		26	35	52	70		
4	100			30	29	39	58	78		
4	100	600		40	30	41	60	82		
	450	450			00	07	40	F 4		
6	150	150	40/40	4.0	20	27	40	54		
6	150		10/16	10	21	28	42	56		
6	150	200		16/20	15	20	30	40		
6	150	300	25/40		20	27	40	54		
6	150		25/40	30	38	52	76 50	104		
0	6 150 30 25 34 50 68									
8	200	150			50	68	100	136		
8	200		10		52	70	104	140		
8	200		16	10	35	47	70	94		
8	200			16/20	38	52	76	104		
8	200	300			40	54	80	108		
8	200		25/40	30	43	58	86	116		
J	200	l l	20,70		ı iO			. 10		

Recommended Torque Values for Composite Type Rupture Discs (Light Lip and Heavy Lip) TABLE 1 (continued)

SIZE		COMPANION FLANGES			RUPTURE D		RUPTURE DISCS WITH METAL SEALS		
IN	MM	ANSI	DIN	JIS	TORQUE (FT•LB)	TORQUE (N•m)	TORQUE (FT•LB)	TORQUE (N•m)	
10	250	150			60	81	120	162	
10	250		10		54	73	108	146	
10	250			10	59	80	118	160	
10	250		16	16/20	65	88	130	176	
10	250	300			50	68	100	136	
10	250		25		71	96	142	192	
10	250		40	30	79	107	158	214	
				- 55					
12	300	150			90	122	180	244	
12	300		10		81	110	162	220	
12	300			10	67	91	134	182	
12	300		16		97	132	194	264	
12	300			16/20	73	99	146	198	
12	300	300			90	122	180	244	
			•	•					
14	350	150			110	149	220	298	
14	350		10		65	88	130	176	
14	350			10	71	96	142	192	
14	350		16		78	106	156	212	
14	350			16/20	97	132	194	264	
14	350	300			90	122	180	244	
14	350		25	30	118	160	236	320	
14	350		40		130	176	160	352	
16	400	150			95	129	190	258	
16	400		10	10	90	122	180	244	
16	400		16		101	137	202	274	
16	400			16/20	112	152	224	304	
16	400	300			95	129	190	258	
16	400		25		123	167	246	334	
16	400		40	30	135	183	270	366	
					_				
18	450	150			105	142	210	284	
18	450			10	71	96	142	192	
18	450			16/20	88	119	176	238	
18	450	300			80	108	160	216	
		450		Т	10=				
20	500	150			105	142	210	284	
20	500		10	10	88	119	176	238	
20	500		16	16/20	110	149	220	298	
20	500	300			80	108	160	216	
20	500		25		100	136	200	272	
20	500		40		147	199	294	398	
24	600	150		1	110	149	220	298	
24	600	150	10		94	127	188	298 254	
24	600			10	87	118	174	236	
24	600		16		114	155	228	310	
24	600			16/20	104	141	208	282	
					110		220		
24 24	600	300	25		110	149 169	250	298 338	
24	600		2 5		125	109	250	338	
30	750	150			120	163	240	326	
30	750			10	132	179	264	358	
	750			16	172	233	344	358 466	
30 30									
3 ∪	750			20	229	310	458	620	



Performance Under Pressure®

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