

POLY-SD SERIES, RUPTURE DISC & HOLDER

The Poly-SD is a forward acting scored rupture disc that can be used in liquid, vapor and two phase flow and is available in a large variety of materials. The patented, smooth design of this rupture disc (free from ledges or crevices preventing material buildup on the disc), also makes the Poly-SD ideal for polymerization processes. In addition, the non-fragmenting Poly-SD rupture disc is well suited for pressure relief valve isolation from process contaminants and corrosion.



POLY-SD Rupture Disc

SPECIFICATIONS

SIZES	0.50 – 24 in	DN15 – DN600				
DISC MATERIALS	316 / 316L SST Hastelloy® C276 Inconel® 600 Monel® 400 Nickel 200/201 Tantalum Aluminum 1100 Silver	1.4401 / 1.4404 2.4819 2.4816 2.4360 / 2.4361 2.4066 / 2.4068 - - -				
BURST PRESSURE RANGE	15 – 3000 psig	1.03 – 206.84 barg				
BURST PRESSURE TOLERANCE	See table on page 4					
OPERATING RATIO	For standard applications 90%	For CE or KOSHA applications < 2.76 barg = 90% > 2.76 barg = 95%				
STANDARD MANUFACTURING RANGE	Zero	N/A				
MAX OPERATING TEMP	See table on pages 2-7	See table on pages 2-7				
K_{RG} / K_{RL} / K_{RGL} & MNFA	Information on Kr-values and MNFA can be found here (TB8104) .					
CYCLING / PULSATING DUTY	Not Recommended ⁽¹⁾					
VACUUM RESISTANCE	Full – See tables on pages 2-4					
BACK PRESSURE	Can withstand full vacuum - See tables on pages 2-4					
PROCESS MEDIA	Gas / Vapor, Liquid, two phase, & Polymerization					
FRAGMENTATION	Non-fragmenting					
APPROVALS	 ASME	 CE MARKED	 KOSHA	 SELO	 CRN	 EAC

(1) For Cycling / Pulsating duty, please consult Fike’s data sheets for AXIUS or ATLAS discs.

OPTIONS

BURST INDICATOR⁽¹⁾	BurstCheck™ / BurstCheck Plus™ / BurstCheck 2™ / RI / RI2
COATINGS/PLATING⁽²⁾	FEP ⁽³⁾ , PUR (Polyurethane), Gold Plating, Tantalum
LINERS⁽²⁾	FEP ⁽³⁾

- (1) More information on burst indicators can be found [here \(Burst Indicators Data Sheet\)](#).
- (2) See additional coating and liner data on next page
- (3) Note: FEP (Fluorinated ethylene propylene) is typically green to indicate clearly where the coating is (in comparison to a clear coat).

MINIMUM / MAXIMUM BURST PRESSURE IN PSIG/BARG @ 72°F/22°C⁽¹⁾⁽²⁾⁽³⁾

Material		316/316L SST 1.4401/1.4404				Hastelloy® C276 2.4819				Inconel® 600 2.4816					
Max Operating Temperature		900°F		482°C		900°F		482°C		1100°F		593°C			
Size		PSIG		BARG		PSIG		BARG		PSIG		BARG			
In	DN	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
.50	15	550	3000	37.92	206.84	1000	3000	68.95	206.84	350	3000	24.13	206.84		
0.75	20	450	2500	31.02	172.37	750	2500	51.71	172.37	300	2500	20.68	172.37		
1	25	250	2250	17.24	155.13	700	2250	48.26	155.13	155	2250	10.69	155.13		
1.5	40	200	1800	13.79	124.10	600	1800	41.37	124.10	150	1800	10.34	124.10		
2	50	200	1600	13.79	110.31	425	1600	29.30	110.31	180	1600	12.41	110.31		
3	80	190	1300	13.10	89.63	315	1300	21.72	89.63	150	1300	10.34	89.63		
4	100	180	1100	12.41	75.84	315	1100	21.72	75.84	150	1100	10.34	75.84		
6	150	150	500	10.34	34.47	315	500	21.72	34.47	150	500	10.34	34.47		
8	200	135	450	9.31	31.02	Consult Factory	Consult Factory	Consult Factory	Consult Factory	130	450	8.96	31.02		
10	250	135	400	9.31	27.57					115	400	7.93	27.57		
12	300	130	350	8.96	24.13					110	350	7.58	24.13		
14	350	115	300	7.93	20.68					110	300	7.58	20.68		
16	400	115	250	7.93	17.23					110	250	7.58	17.23		
18	450	115	200	7.93	13.78					110	200	7.58	13.78		
20	500	115	150	7.93	10.34					110	150	7.58	10.34		
24	600	Consult Factory		Consult Factory						Consult Factory		Consult Factory		Consult Factory	

- (1) For applications requiring higher burst pressures or larger sizes, please contact Fike.
- (2) These burst pressures will withstand full vacuum.
- (3) Aluminum and Silver max operating ratio is 80%.

Material		Monel® 400 2.4360 / 2.4361				Nickel 200/201 2.4066 / 2.4068				Tantalum			
Max Operating Temperature		900°F		482°C		800°F		427°C		500°F		260°C	
Size		PSIG		BARG		PSIG		BARG		PSIG		BARG	
In	DN	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
.50	15	350	3000	24.13	206.84	300	3000	20.69	206.84	360	1000	24.82	68.95
0.75	20	300	2500	20.69	172.37	250	2500	17.24	172.37	245	833	16.89	57.43
1	25	185	2250	12.76	155.13	80	2250	5.52	155.13	150	750	10.34	51.71
1.5	40	130	1800	8.96	124.10	80	1800	5.52	124.10	130	600	8.96	41.37
2	50	160	1600	11.03	110.31	60	1600	4.14	110.31	120	533	8.27	36.74
3	80	140	1300	9.65	89.63	60	1300	4.14	89.63	110	433	7.58	29.85
4	100	140	1100	9.65	75.84	50	1100	3.45	75.84	100	367	6.89	25.30
6	150	125	500	8.62	34.47	50	500	3.45	34.47	100	233	5.89	16.06
8	200	110	450	7.58	31.02	70	450	4.83	31.02	Consult Factory	Consult Factory		
10	250	95	400	6.55	27.57	70	400	4.83	27.57				
12	300	90	350	6.21	24.13	70	350	4.83	4.13				
14	350	90	300	6.21	20.68	70	300	4.83	20.68				
16	400	90	250	6.21	17.23	70	250	4.83	17.23				
18	450	90	200	6.21	13.78	70	200	4.83	13.78				
20	500	90	150	6.21	10.34	70	150	4.83	10.34				
24	600	90	100	6.21	6.89	70	100	4.83	6.89				

- (1) For applications requiring higher burst pressures or larger sizes, please contact Fike
- (2) These burst pressures will withstand full vacuum.
- (3) Aluminum and Silver max operating ratio is 80%.

Material		Aluminum 1100 ⁽³⁾				Silver ⁽³⁾			
Max Operating Temperature		250°F		121°C		250°F		121°C	
Size		PSIG		BARG		PSIG		BARG	
In	DN	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
.50	15	90	450	6.21	31.02	185	450	12.75	31.02
0.75	20	80	375	5.52	25.85	125	375	8.61	25.85
1	25	70	338	4.83	23.30	75	338	5.17	23.30
1.5	40	55	270	3.79	18.61	60	270	4.14	18.61
2	50	35	240	2.41	16.54	70	240	4.83	16.54
3	80	45	195	3.10	13.44	50	195	3.45	13.44
4	100	50	165	3.45	11.37	50	165	3.45	11.37
6	150	50	105	3.45	7.23	50	105	3.45	7.23

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- (3) Aluminum and Silver max operating ratio is 80%.

MINIMUM / MAXIMUM BURST PRESSURE IN PSIG/BARG @ 72°F/22°C⁽¹⁾⁽²⁾⁽³⁾

Material		316/316L SST 1.4401/1.4404				Hastelloy® C276 2.4819				Inconel® 600 2.4816			
Max Operating Temperature		900°F		482°C		900°F		482°C		1100°F		593°C	
Size		PSIG		BARG		PSIG		BARG		PSIG		BARG	
In	DN	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
.50	15	Consult Factory		Consult Factory		620	1000	42.74	68.95	300	350	20.68	24.13
0.75	20					521	750	36.92	51.71	200	300	13.79	20.68
1	25	200	250	13.79	17.23	400	700	27.57	48.26	130	155	8.96	10.68
1.5	40	150	200	10.34	13.78	365	600	25.16	41.37	100	150	6.89	10.34
2	50	140	200	9.65	13.78	365	425	25.16	29.30	95	160	6.55	12.41
3	80	100	190	6.89	13.10	Consult Factory		Consult Factory		80	150	5.52	10.34
4	100	80	180	5.52	12.41					65	150	4.48	10.34
6	150	80	150	5.52	10.34					60	150	4.14	8.96
8	200	75	135	5.17	9.30					55	130	3.79	7.93
10	250	60	135	4.14	9.30					44	115	3.03	7.58
12	300	50	130	3.45	8.96					37	110	2.55	7.58
14	350	43	115	2.96	7.93					32	110	2.20	7.58
16	400	85	115	5.86	7.93					65	110	4.48	7.58
18	450	75	115	5.17	7.93					55	110	3.79	7.58
20	500	65	115	4.48	7.93					50	110	3.45	7.58
24	600	55	115	3.79	7.93	45	110	3.10	7.58				

- (1) For applications requiring higher burst pressures or larger sizes, please contact Fike
- (2) These burst pressures will **NOT** withstand full vacuum.
- (3) Aluminum and Silver max operating ratio is 80%.

Material		Monel® 400 2.4360 / 2.4361				Nickel 200/201 2.4066 / 2.4068				Tantalum			
Max Operating Temperature		900°F		482°C		800°F		427°C		500°F		260°C	
Size		PSIG		BARG		PSIG		BARG		PSIG		BARG	
In	DN	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
.50	15	300	350	20.68	24.13	251	300	17.31	20.68	250	360	17.23	24.82
0.75	20	250	300	17.24	20.68	200	250	13.79	17.24	200	245	13.79	16.89
1	25	75	185	5.17	12.75	60	80	4.14	5.52	100	150	6.89	10.34
1.5	40	80	130	5.52	8.96	60	80	4.14	5.52	80	130	5.52	8.96
2	50	75	160	5.17	11.03	50	60	3.44	4.14	60	120	4.14	8.27
3	80	80	140	4.83	9.65	36	60	2.48	4.14	45	110	3.10	7.58
4	100	60	140	4.14	9.65	30	50	2.06	3.45	40	100	2.75	6.89
6	150	55	150	3.79	8.61	25	50	1.72	3.45	35	100	2.41	6.89
8	200	55	130	3.79	7.58	30	70	2.06	4.83	Consult Factory	Consult Factory		
10	250	44	115	3.03	6.55	24	70	1.65	4.83				
12	300	37	110	2.55	6.20	20	70	1.37	4.83				
14	350	32	110	2.20	6.20	17	70	1.17	4.83				
16	400	65	110	4.48	6.20	30	70	2.06	4.83				
18	450	55	110	3.79	6.20	25	70	1.72	4.83				
20	500	50	110	3.45	6.20	25	70	1.72	4.83				
24	600	45	110	3.10	6.20	20	70	1.37	4.83				

- (1) For applications requiring higher burst pressures or larger sizes, please contact Fike
- (2) These burst pressures will **NOT** withstand full vacuum.
- (3) Aluminum and Silver max operating ratio is 80%.

Material		Aluminum 1100 ⁽³⁾				Silver ⁽³⁾			
Max Operating Temperature		250°F		121°C		250°F		121°C	
Size		PSIG		BARG		PSIG		BARG	
In	DN	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
.50	15	45	90	3.10	6.21	100	185	6.89	12.76
0.75	20	40	80	2.75	5.52	96	125	6.61	8.62
1	25	34	70	2.34	4.83	60	75	4.14	5.17
1.5	40	30	55	2.06	3.79	35	60	2.41	4.14
2	50	23	35	1.58	2.41	30	70	2.06	4.83
3	80	15	45	1.03	3.10	25	50	1.72	3.45
4	100	15	50	1.03	3.45	25	50	1.72	3.45
6	150	15	50	1.03	3.45	20	50	1.37	3.45

- (1) For applications requiring higher burst pressures or larger sizes, please contact Fike
- (2) These burst pressures will **NOT** withstand full vacuum.
- (3) Aluminum and Silver max operating ratio is 80%.

BURST / PERFORMANCE TOLERANCES

BURST PRESSURE		TOLERANCE	
PSIG @ 72°F	BARG @ 22°C	PSI	BAR
≤ 40	≤ 2.76	± 2	± 0.14
> 40	> 2.76	± 5%	± 5%

OPTIONAL COATING AND LINER MATERIAL DATA

COATING/LINER MATERIAL	TEMPERATURE RANGE	
	°F	°C
FEP	-40 to 450	-40 to 232
PUR	-80 to 250	-62 to 121

HOLDERS FOR POLY-SD: POLY-SD AND VISCOUS TEE



GI INSERT TYPE TQ PRE-TORQUEABLE TYPE TQ+ PRE-TORQUEABLE TYPE VISCOUS TEE HOLDER

“G Insert” type rupture disc holders are furnished with a method of preassembly so the rupture disc may be installed at a workbench or some other convenient location. Once the disc is in place the unit may be assembled and installed into the line, minimizing the chance of damage to the rupture disc.

Fike offers two types of pretorqueable holders, the “TQ+” and “TQ”. The purpose of the TQ+ and TQ holder designs are to allow rupture discs to be installed and then “torqued” to recommended static load levels ensuring proper clamping of the rupture disc within the assembly. This can take place at a workbench rather than in the field where conditions could be less than ideal, greatly reducing the possibility of assembly errors.

Once together, the rupture disc assembly may then be delivered to the field location and installed between companion flanges where additional torque loads applied are essential for proper functionality of the assembly. TQ+ and TQ assemblies may also be removed, inspected and replaced during routine maintenance schedules and plant turnarounds without compromising disc performance as long as the disc is not removed.

The TQ+ type holders were designed with the ability to be installed in multiple international flange rating configurations. The TQ+ can be specified for the following rupture disc models: RD320, RD520 AXIUS, SRL, SRX, and Poly-SD

The Viscous Tee Bursting Disc Safety Device design causes the process media to continuously sweep across the surface of the rupture disc, minimizing product build-up and plugging that could affect disc performance.

SPECIFICATIONS ⁽¹⁾⁽³⁾

SIZE	0.50 – 24 inches	DN15 – DN600
FLANGE RATING	ASME 150 – 2500 / JIS 5K- JIS 63K	PN 10 - 100
FLANGE FACING	Serrated gasket faces standard, others available	
MATERIAL⁽²⁾	Stainless Steel 316, Stainless Steel 304, Hastelloy®, Inconel®, and Carbon Steel	1.4401/1.4404, 1.4301/1.4306, 2.4819, 2.4816, 2.4816, 1.0460
PRE-ASSEMBLY SCREWS	GI Insert Type, TQ, and TQ+ include pre-assembly screws	

- (1) GI, TQ, and TQ+ Holders are designed to fit within the standard bolt circle as defined by the customer specified flange rating.
- (2) Additional materials available upon request. Consult factory if necessary.
- (3) Full G available upon request, consult factory.

ACCESSORIES ⁽¹⁾

GAUGE TAPS	When a gauge tap is requested, a ½” NPT is provided unless otherwise specified. See Dimensions table for limitations. For additional tap sizes/configurations consult factory
EXCESS FLOW VALVE	Installed to prevent pressure build-up between the rupture disc and downstream piping
J-HOOK	Used to ensure proper installation orientation
EYEBOLTS	Used to handle large and heavy holders
JACKSCREWS	Provide a means of separating piping flanges safely for rupture disc assembly installation

- (1) More information on Accessories can be found [here \(Accessories Data Sheet\)](#).

OPTIONS

COATINGS	FEP, Tantalum
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HOLDER HEIGHTS – GI (.50/DN15 – 4/DN100)

Size		ASSEMBLY HEIGHT ⁽¹⁾				
		FLANGE RATING (ASME)	GI INSERT TYPE			
In	DN		¼" NPT		½" NPT	
			In	mm	In	mm
.50	DN15	150	1.75	44.45	Consult Factory	Consult Factory
		300	1.75	44.45		
		600	1.75	44.45		
		900	1.69	42.93		
		1500	1.69	42.93		
.75	DN20	150	1.75	44.45	2.00	50.80
		300	1.69	42.93	1.94	49.28
		600	1.69	42.93	1.94	49.28
		900	1.63	41.40	1.88	47.75
		1500	1.63	41.40	1.88	47.75
1	25	150	1.75	44.45	2.00	50.80
		300	1.69	42.93	1.94	49.28
		600	1.69	42.93	1.94	49.28
		900	1.63	41.40	1.88	47.75
		1500	1.63	41.40	1.88	47.75
1.5	40	150	1.75	44.45	2.00	50.80
		300	1.69	42.93	1.94	49.28
		600	1.69	42.93	1.94	49.28
		900	1.69	42.93	1.94	49.28
		1500	1.69	42.93	1.94	49.28
2	50	150	1.69	42.93	1.94	49.28
		300	1.69	42.93	1.94	49.28
		600	1.69	42.93	1.94	49.28
		900	1.63	41.40	1.94	49.28
		1500	1.63	41.40	1.88	47.75
3	80	150	1.69	42.93	1.88	47.75
		300	1.69	42.93	1.94	49.28
		600	1.69	42.93	1.94	49.28
		900	1.69	42.93	1.94	49.28
		1500	1.88	47.75	2.13	54.10
4	100	150	1.69	42.93	1.94	49.28
		300	1.69	42.93	1.94	49.28
		600	1.69	42.93	1.94	49.28
		900	1.69	42.93	2.19	55.63
		1500	1.88	47.75	2.13	54.10

(1) Approximate assembly height does not include rupture disc.

HOLDER HEIGHTS – GI (6/DN150 – 24/DN600)

Size		ASSEMBLY HEIGHT ⁽¹⁾				
		FLANGE RATING (ASME)	¼" NPT		½" NPT	
In	DN		In	mm	In	mm
6	150	150	1.94	49.3	2.19	55.6
		300	1.94	49.3	2.19	55.6
		600	1.94	49.3	2.19	55.6
		900	1.94	49.3	2.19	55.6
8	200	150	2.25	57.2	2.25	57.2
		300	2.25	57.2	2.25	57.2
		600	2.75	69.9	2.75	69.9
10	250	150	2.56	65.0	2.56	65.0
		300	2.56	65.0	2.56	65.0
		600	3.44	87.4	3.44	87.4
12	300	150	2.69	68.3	2.69	68.3
		300	2.69	68.3	2.69	68.3
		600	Consult Factory			
14	350	150	3.31	84.1	3.31	84.1
		300	3.31	84.1	3.31	84.1
		600	Consult Factory			
16	400	150	3.56	90.4	3.56	90.4
		300	3.56	90.4	3.56	90.4
		600	Consult Factory			
18	450	150	3.75	95.3	3.75	95.3
		300	3.75	95.3	3.75	95.3
		600	Consult Factory			
20	500	150	4.38	111.3	4.38	111.3
		300	4.38	111.3	4.38	111.3
		600	Consult Factory			
24	600	150	3.56	90.4	4.85	123.2
		300	4.38	111.3	4.88	124.0
		600	Consult Factory			

(1) Approximate assembly height does not include rupture disc.

HOLDER HEIGHTS – TQ/TQ+ (1/DN25 – 24/DN600)

Size		ASSEMBLY HEIGHT ⁽¹⁾				
In	DN	FLANGE RATING (ANSI)	TQ		TQ+	
			In	mm	In	mm
1	25	150	1.50	38.1	1.50	38.1
		300	Consult Factory			
1.5	40	150	1.63	41.4	1.69	42.9
		300	Consult Factory			
2	50	150	1.75	44.5	1.88	47.8
		300/600	1.75	44.5		
3	80	150	2.13	54.1	2.13	54.1
		300	Consult Factory			
4	100	150	2.88	73.2	2.88	73.2
		300	2.88	73.2		
6	150	150	3.21	81.5	3.69	93.7
		300	3.63	92.2		
8	200	150	3.50	88.9	Consult Factory	Consult Factory
		300	3.72	94.5		
10	250	150	3.94	100.0		
		300	3.94	100.0		
12	300	150	3.94	100.0		
		300	5.19	131.8		
14	350	150	Consult Factory	Consult Factory		
		300				
16	400	150				
		300				
18	450	150				
		300				
20	500	150				
		300				
24	600	150				
		300				

(1) Approximate assembly height does not include rupture disc.

HOLDER DIMENSIONS – VISCOUS TEE ⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾⁽⁵⁾

Size		A		B (APPROX.)		C	
In	DN	In	mm	In	mm	In	mm
2	DN50	7.50	190.5	3.13	79.4	0.75	19.1
3	DN80	10.00	254.0	3.88	98.6	0.94	24.0
4	DN100	12.50	317.5	4.25	108.0	0.94	24.0
6	DN150	16.00	406.4	5.75	146.1	1.00	25.4

- (1) For 150 ANSI Viscous Tee assemblies.
- (2) Companion flange bolt pattern is not 150 ANSI standard on 2" / DN50 and 6" / DN150 sizes.
- (3) Reference Figure 2 for dimensions call-outs.
- (4) Dimension B, Figure 2, depends on companion flange configuration.
- (5) Flange ratings available through ASME 2500.

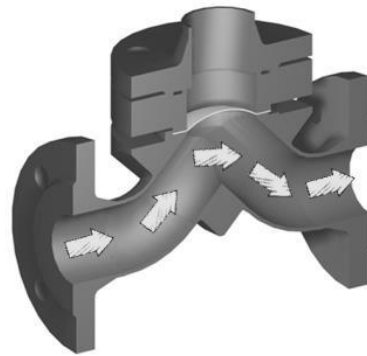


Figure 1

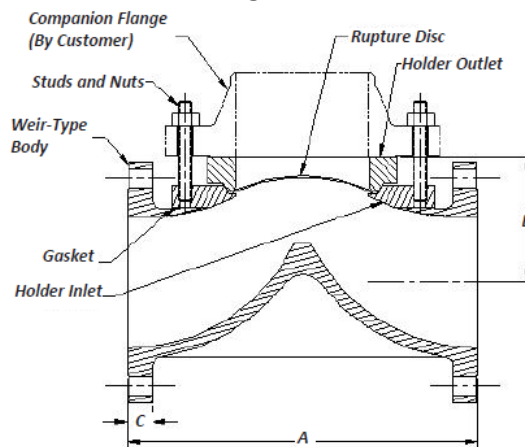


Figure 2