RUPTURE DISC

UD
ASME Authorized
Specify When Ordering

Data Sheet 3040

Poly-SD Series

Ideal for Polymerization Processes
The patented, smooth annular seating design is free from ledges or crevices and helps prevent material buildup on the rupture disc.

Failsafe Design
The Poly-SD will provide pressure relief at or below its rated burst pressure even if damaged or installed upside down.

3-D Tag
A 3-D, stainless steel tag with prominent flow arrows, visually confirms proper installation and orientation.

Score Configuration
Scoring on the downstream side controls the burst pressure and opening characteristics. The Poly-SD series includes 3 different scoring configurations to optimize performance over a wide range of pressures.

Liquid, Vapor, or Two-Phase Media
The Poly-SD can be used in liquid, vapor, or multi-phase applications.

High Operating Ratio
The Poly-SD can be operated as high as 90% of its rated burst pressure depending on the service conditions.

Vacuum Resistant
The Poly-SD can withstand full vacuum without a vacuum support in a wide range of pressures. See Table 2 for vacuum limits by size and material.

Non-Fragmenting Design
The Poly-SD can be manufactured to be non-fragmenting, Specify non-fragmenting when ordering.

Relief Valve Isolation
The Poly-SD is ideal for relief valve isolation. By isolating the valve from the process, the risk of corrosion or material buildup within the valve is minimized. Specify relief valve isolation when ordering.

Poly-SD Holder
The Poly-SD is mounted in a unique Poly-SD insert type holder that fits between standard piping flanges. Carbon steel and 316 SST materials are available from stock. Other materials and configurations are available on request.

Table 1 - Poly-SD Performance Data

Available Sizes		1/2" to 24" (Other sizes are available, consult factory)						
Disc Material		316 SST	Nickel	Monel	Inconel	Hastelloy	Tantalum	Alum/Silver
Maximum Operating Temperature °F(°C)		600 (316)	750 (399)	800 (427)	1000 (538)	800 (427)	450 (232)	250 (121)
Protective Coatings		Yes - Teflon® (450°F), Urethane (250°F), Urethane Acrylic (150°F), FEP Liner (450°F)						
Ratio of Operating Pressure to Stamped Burst Pressure (1)	**70%**	S	S	S	S	S	S	S
	80%	S	S	S	S	S	S	S
	90%	R	R	R	R	R	R	NR
Cyclic Duty (Pos to Neg)		R	R	R	R	R	R	NR
Light Pulsating Duty		R	R	R	R	R	R	MC
Heavy Pulsating Duty		R	R	R	R	R	R	NR
Holder Model		Poly-SD						
Bolted Type Assy (BT)		Yes						
Union Type Assy (UT)		No						
Screw Type Assy (ST)		No						

NOTE: Discs operating at 90% should be limited to applications which do not involve extreme pressure cycling.

S Superior **R** Recommended **MC** Marginal Condition **NR** Not Recommended

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October, 1999
Revised Issue

Table 2 - Burst Pressure Specifications (psig @ 72°F)

Size (1)	Inches	1/2	3/4	1	1.5	2	3	4	6	8	10	12	14	16	18	20	24
	DN	15	20	25	40	50	80	100	150	200	250	300	350	400	450	500	600
Min/Max Burst Pressures (Will not withstand full vacuum)	316 SST	-	-	200 250	150 200	140 200	130 190	120 180	100 150	75 135	60 135	50 130	43 115	85 115	75 115	65 115	55 115
	Inconel 600	300 350	200 300	130 155	100 150	95 180	80 150	65 150	60 150	55 130	44 115	37 110	32 110	65 110	55 110	50 110	45 110
	Monel 400	300 350	250 300	75 185	80 130	75 160	70 140	60 140	55 125	55 110	44 95	37 90	32 90	65 90	55 90	50 90	45 90
	Nickel 200/201	251 300	200 250	60 80	60 80	50 60	36 60	30 50	25 50	30 70	24 70	20 70	17 70	30 70	25 70	25 70	20 70
	Hastelloy C276	620 1000	521 750	400 700	365 600	365 425	-	-	-	-	-	-	-	-	-	-	-
	Tantalum	250 360	200 245	100 150	80 130	60 120	45 110	40 100	35 100	-	-	-	-	-	-	-	-
	Aluminum 1100	45 90	40 80	34 70	30 55	23 35	15 45	15 50	15 50	-	-	-	-	-	-	-	-
	Silver	100 185	96 125	60 75	35 60	30 70	25 50	25 50	20 50	-	-	-	-	-	-	-	-
Min/Max Burst Pressures (Withstand full vacuum @ 72°F)	316 SST[3]	550 3000	450 2500	250 2250	200 1800	200 1600	190 1300	180 1100	150 500	135 450	135 400	130 350	115 300	115 250	115 200	115 150	-
	Inconel 600[3]	350 3000	300 2500	155 2250	150 1800	180 1600	150 1300	150 1100	150 500	130 450	115 400	110 350	110 300	110 250	110 200	110 150	-
	Monel 400[3]	350 3000	300 2500	185 2250	130 1800	160 1600	140 1300	140 1100	125 500	110 450	95 400	90 350	90 300	90 250	90 200	90 150	90 100
	Nickel 200/201[3]	300 3000	250 2500	80 2250	80 1800	60 1600	60 1300	50 1100	55 500	70 450	70 400	70 350	70 300	70 250	70 200	70 150	70 100
	Hastelloy C276[3]	1000 3000	750 2500	700 2250	600 1800	425 1600	315 1300	315 1100	315 700	-	-	-	-	-	-	-	-
	Tantalum	360 1000	245 833	150 750	130 600	120 533	110 433	100 367	100 233	-	-	-	-	-	-	-	-
	Aluminum 1100	90 450	80 375	70 338	55 270	35 240	45 195	50 165	50 105	-	-	-	-	-	-	-	-
	Silver	185 450	125 375	75 338	60 270	70 240	50 195	50 165	50 105	-	-	-	-	-	-	-	-

NOTES: 1. Larger sizes are available - consult Fike.
2. Consult Fike for higher pressures.
3. For coated discs derate stated maximum burst pressure by 50%.

Table 3 - Manufacturing Ranges (psig @ 72°F)

Specified Burst Pressure	Mfg. Range %
15 to 45.9	+14% to -7%
46 to 90.9	+ 12% to -6%
91 to 270.9	+ 10% to -5%
271 to 500.9	+8% to -4%
501 and up	+ 6% to -3%

Consult Fike for other available manufacturing ranges.

Table 4 - Rupture Tolerances

Burst Pressures ≤ 40 psig	+/- 2 psi
Burst Pressures > 40 psig	+/- 5%

HOW TO SPECIFY: To order the Poly-SD rupture disc, please specify the following information as a minimum.

Previous Lot No. _____
or

Burst pressure _____ **@ Temp** _____
Mfg. range _____
Disc material _____
Disc coating _____
Flange rating _____
Vacuum **Yes / No**
Fragmenting **Yes / No**
Liquid / Vapor _____
ASME Certs **Yes / No**

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