

SAFE-GARD

CROSS-SCORED FORWARD ACTING DISC

Technically advanced rupture disc with cross-scoring for increased safety at very high pressures



Safe-Gard is a forward acting rupture disc with precision cross-scoring on the vent side for enhanced safety in liquid, gas or vapour applications.

The single-membrane, domed rupture disc combines the versatility of conventional metal discs with the performance benefits of scored technology. Safe-Gard features a smooth surface finish to help prevent product build-up. The disc can be supplied with a fluoropolymer liner on the process and/or vacuum side for additional protection from corrosion.

The range of sizes and options for opening or non-opening vacuum support make Safe-Gard suitable for use at very high pressures as a metal alternative to composite domed discs.

Size	1/2" - 20"
Burst Pressure	51 - 2,683 psig
Temperature	-328°F to 1,112°F
Operating Ratio	90%
Performance Tolerance	+/-5%
Manufacturing Range	0%

Let us help you with all your pressure relief questions.

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**REQUEST A QUOTE FOR
SAFE-GARD**



TECHNICAL SPECIFICATIONS



Size range	1/2"-20" (15-500mm)
Burst pressure range	51-2683 psig (3.1-185 barg)
Temperature range	-328°F to 1,112°F (-200°C to 600°C)
Standard materials	Stainless Steel as standard, others available on request
K _R Value	0.68
Max. Operating Ratio	90% of minimum burst pressure (86% of nominal burst pressure)
Performance Tolerance	+/-5%
Manufacturing Range	0%
Fragmentation	Non-fragmenting design
Vacuum Service	Additional vacuum support available for lower burst pressures
Fluid compatibility	Gas service, liquid service and vapour service
Torque requirements	Not torque sensitive
Cycling or static service	Cycling service
Protective linings	Fluoropolymer liners available on vent and process sides
Relief Valve Isolation	Suitable for relief valve isolation
Design Standards	Can be designed to meet ASME Section XIII or ISO 4126-2:2019 standards

Certifications

ASME UD
CE
SIL

Related Products

Holders

STANDARD (FORWARD) HOLDER

Sensors

FLO-TEL
FLO-TEL XD

Burst Pressure Ranges

Safe-Gard Min/Max Burst Pressure @ 59-86°F (15-30°C)



SIZE		MATERIAL	MIN barg (psig)	MAX barg (psig)	MINIMUM BURST PRESSURE TO WITHSTAND VACUUM WITHOUT VACUUM SUPPORT barg (psig)
DN (mm)	inches				
0.5	15	Stainless Steel/Inconel Hastelloy C Monel Nickel	15 (218) 17 (247) 13.5 (196) 12 (174)	185 (2,683) 185 (2,683) 175 (2,538) 170 (2,466)	n/a
1	25	Stainless Steel/Inconel Hastelloy C Monel Nickel	4 (58) 4.6 (67) 3.6 (52) 3.2 (46)	185 (2,683) 185 (2,683) 160 (2,320) 150 (2,176)	5 (73)
1.5	40	Stainless Steel/Inconel Hastelloy C Monel Nickel	3.8 (55) 4.4 (64) 2.4 (49) 3 (45)	140 (2,031) 140 (2,031) 125 (1,813) 120 (1,740)	6 (87)
2	50	Stainless Steel/Inconel Hastelloy C Monel Nickel	3.5 (51) 4 (58) 3.2 (46) 2.8 (41)	125 (1,813) 125 (1,813) 110 (1,595) 100 (1,450)	7 (102)
2.5	65	Stainless Steel/Inconel Hastelloy C Monel Nickel	3.5 (51) 4 (58) 3.2 (46) 2.8 (41)	105 (1,523) 105 (1,523) 90 (1,309) 85 (1,233)	9 (131)
3	80	Stainless Steel/Inconel Hastelloy C Monel Nickel	3.1 (45) 3.6 (52) 2.8 (41) 2.5 (36)	90 (1,309) 90 (1,309) 80 (1,160) 70 (1,015)	10 (145)
4	100	Stainless Steel/Inconel Hastelloy C Monel Nickel	3.1 (45) 3.6 (52) 2.8 (41) 2.5 (36)	75 (1,088) 75 (1,088) 68 (986) 60 (870)	12 (174)
6	150	Stainless Steel/Inconel Hastelloy C Monel Nickel	3.0 (44) 3.5 (51) 2.7 (39) 3 (44)	55 (798) 55 (798) 50 (725) 40 (580)	17 (247)
8	200	Stainless Steel/Inconel Hastelloy C Monel Nickel	3.5 (51) 4 (58) 3.2 (46) 2.4 (35)	40 (580) 40 (580) 38 (551) 30 (435)	Consult Factory
10	250	Stainless Steel/Inconel Hastelloy C Monel Nickel	4.5 (65) 5.2 (75) 4.0 (58) 3.6 (52)	33 (479) 33 (479) 30 (435) 24 (348)	
12	300	Stainless Steel/Inconel Hastelloy C Monel Nickel	5.0 (73) 5.8 (84) 4.5 (65) 4 (58)	30 (435) 30 (435) 28 (406) 20 (290)	
14	350	Stainless Steel/Inconel Hastelloy C Monel Nickel	6 (87) 6.9 (100) 5.4 (78) 4.8 (80)	28 (406) 28 (406) 24 (348) 18 (261)	
16	400	Stainless Steel/Inconel Hastelloy C Monel Nickel	6 (87) 6.9 (100) 5.4 (78) 4.8 (80)	24 (348) 24 (348) 20 (290) 16 (232)	
18	450	Stainless Steel/Inconel Hastelloy C Monel Nickel	6 (87) 6.9 (100) 5.4 (78) 4.8 (80)	20 (290) 20 (290) 18 (261) 14 (203)	
20	500	Stainless Steel/Inconel Hastelloy C Monel Nickel	6 (87) 6.9 (100) 5.4 (78) 4.8 (80)	18 (261) 18 (261) 16 (232) 12 (174)	



Free Flow Area / Minimum Net Flow Area (MNFA)

NOMINAL BORE		MNFA with no vacuum support (XXX)		MNFA with non-opening vacuum support (NVS)		MNFA with opening vacuum support (OVS)	
inches	DN (mm)	Sq. Inch	mm ²	Sq. Inch	mm ²	Sq. Inch	mm ²
1	25	0.5	322	0.38	244	0.5	322
1.5	40	1.24	800	0.95	608	1.25	800
2	50	2	1,290	1.47	943	2.01	1,290
2.5	65	3.27	2,112	2.44	1,564	3.29	2,112
3	80	4.96	3,200	3.77	2,421	4.99	3,200
4	100	8	5,161	5.96	3,823	8.05	5,161
6	150	17.43	11,250	11.06	7,091	17.55	11,250
8	200	31	20,000	19.7	12,629	31.19	20,000
10	250	48.44	31,250	31.25	20,036	48.74	31,250
12	300	69.75	45,000	-	-	70.18	45,000
14	350	94.94	61,250	-	-	95.53	61,250
16	400	124	80,000	-	-	124.77	80,000
18	450	156.94	101,250	-	-	157.91	101,250
20	500	193.75	125,000	-	-	194.96	125,000
24	600	422.6	27,3397	-	-	416.61	268,782
28	700	578.9	37,3928	-	-	571.22	368,528
32	800	764.77	49,0167	-	-	666.63	430,083

Burst Tolerance

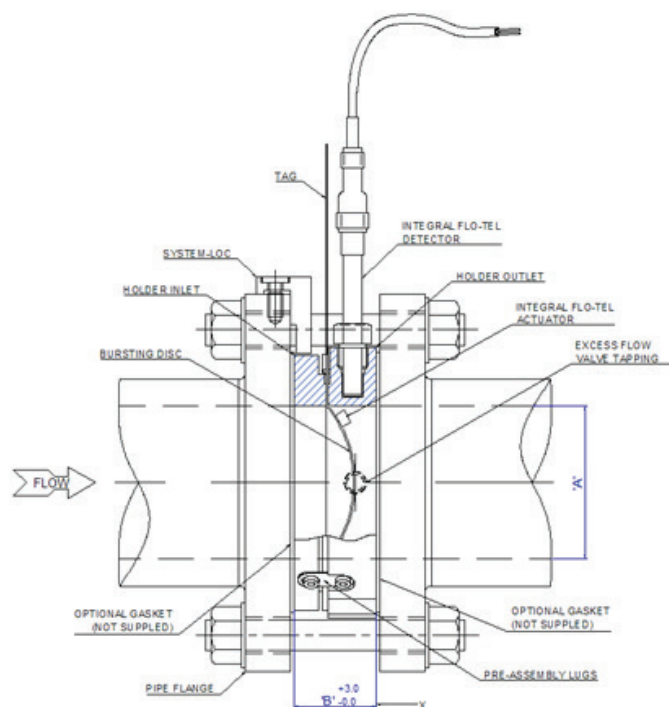
+/-5% > 40 psig
+/-5% > 2.76 barg

+/-4 psig ≤ 40 psig
+/-0.28 barg ≤ 2.75 barg

K_R Value (Frictional Loss Factor)

K _R	Safe-Gard
K _{RGL}	0.68

Schematic Drawing



NOMINAL BORE (A)		FACE-TO-FACE (B)	
inches	DN (mm)	(inches)	(mm)
1	25	1.49	37.9
1.5	40	1.49	37.9
2	50	1.49	37.9
2.5	65	1.58	40
3	80	1.65	42
4	100	1.83	46.5
6	150	2.44	62
8	200	2.28	58
10	250	2.28	58
12	300	2.28	58
14	350	1.97	50
16	400	1.97	50
18	450	1.97	50
20	500	1.97	50

FLANGE SPECIFICATIONS	
EN 1092-1 PN DESIGNATED	BS EN 1759-1 ANSI DESIGNATED
PN 6	ANSI 150
PN 10	ANSI 300
PN 16	ANSI 600
PN 20	ANSI 900
PN 25	ANSI 1500
PN 40	ANSI 2500
PN 50	-
PN 63	-
PN 100	-

Face-to-face dimensions account for the disc and holder assembly only. They do not account for gasket thickness.