

STD

STANDARD RUPTURE DISC

The OsecoElfab Standard Rupture disc is a forward acting disc commonly used in high-pressure, small-diameter applications.



The STD rupture disc is a simple, forward acting pressure relief device that offers an economical solution for a wide range of applications. The solid metal crowned or pre-bulged disc excels in gas or liquid applications.

It is installed with a 30° angular seating area, and is used primarily to vent to controlled areas or direct to the atmosphere.

The STD is designed for operation in applications where normal system pressures do not exceed 70% of the stamped burst pressure. This will ensure excellent and long service life.

Size	1/4" - 24"
Burst Pressure	3-30,000 psig
K_R Value (K_{RGL})	STD 0.88 STDV 1.98
Operating Ratio	70%
Performance Tolerance	+/- 5%
Manufacturing Range	10%

**Let us help you with all
your pressure relief questions.**

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TECHNICAL SPECIFICATIONS



Size range	1/4"-24" (6-600mm)
Burst pressure range	3-30,000 psig (0.2-2,068.4 barg)
Standard materials	316 Series Stainless Steel, Nickel, Inconel® 600, Monel®, Hastelloy® C
K _R Value	STD K _{RGL} : 0.88 STDV K _{RGL} : 1.98
Max. Operating Ratio	70%
Performance Tolerance	+/-5%
Manufacturing Range	10%
Fragmentation	May fragment
Vacuum Service	May require a vacuum support
Fluid compatibility	Gas service and liquid service
Torque requirements	See installation guide
Cycling or static service	Static service
Protective linings	PFA-grade Fluoropolymer liners available for atmospheric and/or process sides
Design Standards	Designed to meet ASME Section XIII standards

Certifications

ASME UD
CRN
PED 2014/68/EU
China SELO

Related Products

Sensors

AMS
SVT
CMS

Holders

RDI
RDI - P
RDH
UNION

Burst Pressure Ranges

STD Min/Max Burst Pressure @ 72° F (psig) / 22° C (barg)



SIZE		MATERIAL	MIN psig (barg)	MAX psig (barg)	FLUOROPOLYMER LINER ON ONE SIDE		FLUOROPOLYMER LINER ON TWO SIDES	
inches	DN (mm)				MIN psig (barg)	MAX psig (barg)	MIN psig (barg)	MAX psig (barg)
0.5	15	316 Stainless Steel	625 (43.1)	30000 (2068.4)	820 (56.5)	10000 (689.5)	910 (62.7)	10000 (689.5)
		Nickel	280 (19.3)	20000 (1378.9)	500 (34.5)	6000 (413.7)	600 (41.4)	6000 (413.7)
		Inconel	440 (30.3)	30000 (2068.4)	790 (54.5)	10000 (689.5)	790 (54.4)	10000 (689.5)
		Monel	340 (23.4)	25000 (1723.7)	500 (34.5)	6000 (413.7)	600 (41.4)	6000 (413.7)
		Aluminum	90 (6.2)	1500 (103.4)	235 (16.2)	1500 (103.4)	380 (26.2)	1500 (103.4)
		Hastelloy C	1100 (75.8)	30000 (2068.4)	1245 (85.9)	30000 (2068.4)	1315 (90.7)	30000 (2068.4)
0.75	20	316 Stainless Steel	455 (31.4)	1000 (68.9)	650 (44.8)	1000 (68.9)	740 (51.0)	1000 (68.9)
		Nickel	200 (13.8)	1000 (68.9)	370 (25.5)	1000 (68.9)	460 (31.7)	1000 (68.9)
		Inconel	325 (22.4)	1000 (68.9)	500 (34.5)	1000 (68.9)	590 (40.7)	1000 (68.9)
		Monel	250 (17.2)	1000 (68.9)	420 (29.0)	1000 (68.9)	510 (35.2)	1000 (68.9)
		Aluminum	55 (3.8)	650 (44.8)	225 (15.5)	650 (44.8)	315 (21.7)	650 (44.8)
		Hastelloy C	750 (51.7)	30000 (2068.4)	844 (58.2)	30000 (2068.4)	890 (61.4)	30000 (2068.4)
1	25	316 Stainless Steel	320 (22.1)	3700 (255.1)	370 (25.5)	3700 (255.1)	420 (29.0)	3700 (255.1)
		Nickel	145 (10.0)	3700 (255.1)	195 (13.4)	3700 (255.1)	245 (16.9)	3700 (255.1)
		Inconel	225 (15.5)	3700 (255.1)	275 (19.0)	3700 (255.1)	325 (22.4)	3700 (255.1)
		Monel	175 (12.1)	3700 (255.1)	225 (15.5)	3700 (255.1)	275 (19.0)	3700 (255.1)
		Aluminum	40 (2.8)	1000 (68.9)	90 (6.2)	1000 (68.9)	140 (9.7)	1000 (68.9)
		Hastelloy C	500 (34.5)	3700 (255.1)	592 (40.8)	3700 (255.1)	627 (43.2)	3700 (255.1)
1.5	40	316 Stainless Steel	210 (14.5)	2200 (151.7)	245 (16.9)	2200 (151.7)	280 (19.3)	2200 (151.7)
		Nickel	95 (6.5)	2200 (151.7)	130 (9.0)	2200 (151.7)	165 (11.4)	2200 (151.7)
		Inconel	150 (10.3)	2200 (151.7)	185 (12.8)	2200 (151.7)	220 (15.2)	2200 (151.7)
		Monel	115 (7.9)	2200 (151.7)	150 (10.3)	2200 (151.7)	185 (12.8)	2200 (151.7)
		Aluminum	26 (1.8)	750 (51.7)	60 (4.1)	700 (48.3)	95 (6.5)	700 (48.3)
		Hastelloy C	375 (25.9)	2200 (151.7)	431 (29.7)	2200 (151.7)	454 (31.3)	2200 (151.7)
2	50	316 Stainless Steel	120 (8.3)	2200 (151.7)	145 (10.0)	2200 (151.7)	170 (11.7)	2200 (151.7)
		Nickel	55 (3.8)	2200 (151.7)	79 (5.4)	2200 (151.7)	105 (7.2)	2200 (151.7)
		Inconel	87 (6.0)	2200 (151.7)	110 (7.6)	2200 (151.7)	135 (9.3)	2200 (151.7)
		Monel	67 (4.6)	2200 (151.7)	91 (6.3)	2200 (151.7)	115 (7.9)	2200 (151.7)
		Aluminum	16 (1.1)	570 (39.3)	40 (2.8)	500 (34.5)	64 (4.4)	500 (34.5)
		Hastelloy C	250 (17.2)	2200 (151.7)	289 (19.9)	2200 (151.7)	306 (21.1)	2200 (151.7)
3	80	316 Stainless Steel	90 (6.2)	2200 (151.7)	105 (7.2)	2200 (151.7)	120 (8.3)	2200 (151.7)
		Nickel	41 (2.8)	2200 (151.7)	55 (3.8)	2200 (151.7)	69 (4.8)	2200 (151.7)
		Inconel	63 (4.3)	2200 (151.7)	77 (5.3)	2200 (151.7)	91 (6.3)	2200 (151.7)
		Monel	49 (3.4)	2200 (151.7)	63 (4.3)	2200 (151.7)	77 (5.3)	2200 (151.7)
		Aluminum	12 (0.8)	460 (31.7)	26 (1.8)	400 (27.6)	40 (2.8)	400 (27.6)
		Hastelloy C	175 (12.1)	2200 (151.7)	205 (14.1)	2200 (151.7)	217 (15)	2200 (151.7)
4	100	316 Stainless Steel	68 (4.7)	2200 (151.7)	79 (5.4)	2200 (151.7)	90 (6.2)	2200 (151.7)
		Nickel	31 (2.1)	2200 (151.7)	42 (2.9)	2200 (151.7)	53 (3.7)	2200 (151.7)
		Inconel	48 (3.3)	2200 (151.7)	59 (4.1)	2200 (151.7)	70 (4.8)	2200 (151.7)
		Monel	37 (2.6)	2200 (151.7)	48 (3.3)	2200 (151.7)	59 (4.1)	2200 (151.7)
		Aluminum	9 (0.6)	360 (24.8)	20 (1.4)	325 (22.4)	31 (2.1)	325 (22.4)
		Hastelloy C	140 (9.7)	2200 (151.7)	161 (11.1)	2200 (151.7)	170 (11.7)	2200 (151.7)
6	150	316 Stainless Steel	51 (3.5)	3600 (248.2)	59 (4.1)	800 (55.2)	67 (4.6)	800 (55.2)
		Nickel	23 (1.6)	1400 (96.5)	31 (2.1)	500 (34.5)	39 (2.7)	500 (34.5)
		Inconel	36 (2.5)	2200 (151.7)	44 (3.0)	800 (55.2)	52 (3.6)	800 (55.2)
		Monel	28 (1.9)	1800 (124.1)	36 (2.5)	500 (34.5)	44 (3.0)	500 (34.5)
		Aluminum	7 (0.5)	275 (19.0)	15 (1.0)	240 (16.5)	23 (1.6)	240 (16.5)
		Hastelloy C	95 (6.6)	3600 (248.3)	110 (7.6)	3600 (248.3)	115 (7.9)	3600 (248.3)

Burst Pressure Ranges cont.

STD Min/Max Burst Pressure @ 72° F (psig) / 22° C (barg)



SIZE		MATERIAL	MIN psig (barg)	MAX psig (barg)	FLUOROPOLYMER LINER ON ONE SIDE		FLUOROPOLYMER LINER ON TWO SIDES	
inches	DN (mm)				MIN psig (barg)	MAX psig (barg)	MIN psig (barg)	MAX psig (barg)
8	200	316 Stainless Steel	40 (2.8)	2100 (144.8)	46 (3.2)	600 (41.4)	52 (3.6)	600 (41.4)
		Nickel	18 (1.2)	1100 (75.8)	24 (1.7)	375 (25.9)	30 (2.1)	375 (25.9)
		Inconel	28 (1.9)	1700 (117.2)	34 (2.3)	600 (41.4)	40 (2.8)	600 (41.4)
		Monel	22 (1.5)	1450 (100.0)	28 (1.9)	375 (25.9)	34 (2.3)	375 (25.9)
		Aluminum	5 (0.3)	205 (14.1)	11 (0.8)	180 (12.4)	17 (1.2)	180 (12.4)
		Hastelloy C	70 (4.8)	2100 (144.8)	79 (5.4)	2100 (144.8)	84 (5.8)	2100 (144.8)
10	250	316 Stainless Steel	30 (2.1)	1400 (96.5)	35 (2.4)	500 (34.5)	40 (2.8)	500 (34.5)
		Nickel	14 (1.0)	800 (55.2)	19 (1.3)	300 (20.7)	24 (1.7)	300 (20.7)
		Inconel	22 (1.5)	1400 (96.5)	27 (1.9)	500 (34.5)	32 (2.2)	500 (34.5)
		Monel	17 (1.2)	1150 (79.3)	22 (1.5)	300 (20.7)	27 (1.9)	300 (20.7)
		Aluminum	4 (0.3)	165 (11.4)	9 (0.6)	135 (9.3)	14 (1.0)	135 (9.3)
		Hastelloy C	55 (3.8)	1400 (96.6)	63 (4.3)	1400 (96.6)	66 (4.6)	1400 (96.6)
12	300	316 Stainless Steel	27 (1.9)	1000 (68.9)	31 (2.1)	400 (27.6)	35 (2.4)	400 (27.6)
		Nickel	12 (0.8)	670 (46.2)	16 (1.1)	250 (17.2)	20 (1.4)	250 (17.2)
		Inconel	19 (1.3)	1000 (68.9)	23 (1.6)	400 (27.6)	27 (1.9)	400 (27.6)
		Monel	15 (1.0)	960 (66.2)	19 (1.3)	250 (17.2)	23 (1.6)	250 (17.2)
		Aluminum	4 (0.3)	140 (9.7)	8 (0.6)	110 (7.6)	12 (0.8)	110 (7.6)
		Hastelloy C	45 (3.1)	1000 (69.0)	51 (3.5)	1000 (69.0)	54 (3.7)	1000 (69.0)
14	350	316 Stainless Steel	23 (1.6)	750 (51.7)	Consult Factory			
		Nickel	11 (0.8)	570 (39.3)				
		Inconel	17 (1.2)	725 (50.0)				
		Monel	13 (0.9)	750 (51.7)				
		Aluminum	3 (0.2)	125 (8.6)				
		Hastelloy C	40 (2.8)	750 (51.7)				
16	400	316 Stainless Steel	20 (1.4)	500 (34.5)	Consult Factory			
		Nickel	9 (0.6)	410 (28.3)				
		Inconel	15 (1.0)	500 (34.5)				
		Monel	11 (0.8)	500 (34.5)				
		Aluminum	3 (0.2)	105 (7.2)				
		Hastelloy C	35 (2.4)	500 (34.5)				
18	450	316 Stainless Steel	18 (1.2)	475 (32.7)	Consult Factory			
		Nickel	8 (0.60)	445 (30.7)				
		Inconel	13 (0.9)	475 (32.7)				
		Monel	10 (0.7)	475 (32.7)				
		Aluminum	3 (0.2)	95 (6.5)				
		Hastelloy C	30 (2.1)	475 (32.8)				
20	500	316 Stainless Steel	16 (1.1)	450 (31.0)	Consult Factory			
		Nickel	8 (0.6)	400 (27.6)				
		Inconel	12 (0.8)	450 (31.0)				
		Monel	9 (0.6)	450 (31.0)				
		Aluminum	2 (0.1)	85 (5.9)				
		Hastelloy C	28 (1.9)	450 (31.0)				
24	600	316 Stainless Steel	44 (3.0)	230 (15.9)	Consult Factory			
		Nickel	37 (2.6)	145 (10.0)				
		Inconel	45 (3.1)	230 (15.9)				
		Monel	55 (3.8)	450 (31.0)				
		Aluminum	2 (0.1)	71 (4.9)				
		Hastelloy C	50 (3.7)	450 (31.0)				



Free Flow Area / Minimum Net Flow Area (MNFA)

NOMINAL BORE		MNFA	
inches	DN (mm)	Sq. Inch	mm ²
0.25	6	0.049	31.61
0.5	15	0.19	122.58
0.75	20	0.44	283.87
1	25	0.6	387.09
1.5	40	1.48	954.83
2	50	2.85	1,838
3	80	5.41	3,490
4	100	10.3	6,645
6	150	22.3	14,387
8	200	45.6	29,419
10	250	72.7	46,903
12	300	101	65,161
14	350	135	87,096
16	400	176	113,548
18	450	230	148,387
20	500	279	180,000
24	600	415	267,741

Angular Seat STD Vacuum Support Requirements

MATERIAL	FULL VACUUM psig (barg)	2/3 VACUUM psig (barg)	1/2 VACUUM psig (barg)
316 Stainless Steel	1200 (82.73)	975 (67.22)	725 (49.98)
Nickel	1200 (82.73)	975 (67.22)	725 (49.98)
Inconel 600	1200 (82.73)	975 (67.22)	725 (49.98)
Monel	1200 (82.73)	975 (67.22)	725 (49.98)
Aluminum	450 (31.02)	360 (24.82)	725 (49.98)
Hastelloy C	1200 (82.73)	975 (67.22)	725 (49.98)

If the burst pressure of a rupture disc at operating temperature is below these minimum pressures, a vacuum support is required.

For back pressures greater than 14.7 psig and other disc materials consult factory.

Burst Tolerance

+/-5% > 40 psig +/-5% > 2.8 barg	+/-2 psig ≤ 40 psig +/-0.14 barg ≤ 2.8 barg
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K_R Value (Frictional Loss Factor)

K _R	STD	STDV
K _{RGL}	0.88	1.98