DATASHEET /
TECHNICAL SPECIFICATIONS

OE for Pharma

OPTI-GARD FOR API

HIGH-PERFORMANCE REVERSE ACTING RUPTURE DISC

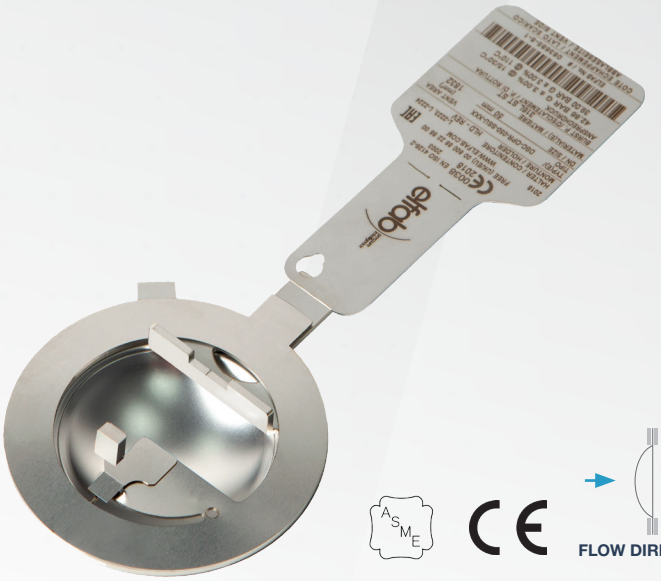
Opti-Gard covers the vast majority of bioprocessing and API plant requirements.

FDA

ASME BPE

ISO 1127

Meets bioprocessing requirements



OsecoElfab's high-performance Opti-Gard rupture disc for API plants is a non-torque sensitive reverse acting disc manufactured to meet ASME BPE requirements.

The disc features a smooth, uninterrupted surface on the process side, with electropolishing and oxygen cleaning available. The disc has a non-fragmenting design and is suitable for Clean-In-Place (CIP) and Steam-in-Place (SIP) processes.

Opti-Gard for API is avaliable with our non-invasive burst sensor Flo-Tel to reduce the risk of contamination and eliminate re-wiring costs following disc activation.

Size	1" - 24"
Burst Pressure	5.7 - 1,450 psig
K_R Value (K_{RGL})	1.74
Operating Ratio	Up to 95%
Performance Tolerance	+/- 3%
Manufacturing Range	0%

Let us help you with all your pressure relief questions.

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TECHNICAL SPECIFICATIONS

Size range	1"-24" / 25-600mm
Burst pressure range	5.7 psig to 1450 psig / 0.4 barg to 100 barg)
Temperature range	-328°F to 1112°F (-200°C to 600°C)
Standard materials	316 Stainless Steel, Hastelloy® C, Inconel®, Monel®, Nickel (others available on request)
K_R Value	1.74
Max. Operating Ratio*	Up to 95%*
Performance Tolerance	+/-3%
Manufacturing Range	0%
Fragmentation	Non-fragmenting design
Vacuum Service	Withstands full vacuum (14.7 psi) without separate vacuum support
Fluid compatibility	Gas service, liquid service and two-phase service
Torque requirements	Not torque sensitive
Cycling or static service	Cycling service: Tested to over 100,000 pressure/vacuum cycles
Protective linings	Fluoropolymer liners available on vent and process sides
Relief Valve Isolation	Suitable for safety relief valve isolation
Disc Surface Finish	Smooth surface on the process side to minimize product build-up
Design Standards	Designed to meet ISO 4126-2:2019 and PED 2014/68/EU

** May vary based on application - please consult Engineering*

Certifications

Meets ASME BPE requirements
ASME UD
CE
SIL

Related Products

Sensors
Flo-Tel

Holders
Reverse holders

Rupture Discs
Opti-Gard SoLo
Opti-Gard Ferrule
Opti-Gard SoLo Ferrule

Burst Pressure Ranges

Opti-Gard Min/Max Burst Pressure @ 15-30ºC (59-86ºF)

SIZE DN (mm)	SIZE inches	MATERIAL	MIN barg (psig)	MAX barg (psig)
25	1	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	3.5 (50)	100 (1450) 86 (1250) 55 (797)
40	1.5	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	1.9 (27)	80 (1160) 80 (1160) 55 (797)
50	2	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.9 (13) 1.0 (14) 1.0 (14)	79 (1160) 79 (1160) 45 (652)
65	2.5	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.9 (13) 1.0 (14) 1.0 (14)	60 (870) 60 (870) 45 (652)
80	3	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.5 (7)	50 (725) 50 (725) 45 (652)
100	4	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.5 (7)	50 (725) 93 (1350) 38 (551)
150	6	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.5 (7) 0.5 (7) 0.7 (10)	40 (580) 85.5 (1240) 30 (435)
200	8	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.5 (7) 0.5 (7) 0.6 (8.5)	30 (435) 30 (435) 23 (335)
250	10	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.5 (7)	20 (290) 20 (290) 15 (217)
300	12	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.5 (7)	15 (217) 15 (217) 12 (174)
350	14	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.4 (5.7)	12 (174) 13 (188) 9.5 (137)
400	16	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.4 (5.7)	6 (87) 10 (145) 4.5 (65)
450	18	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.4 (5.7)	6 (87) 16.5 (240) 4.5 (65)
500	20	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.4 (5.7)	6 (87) 6 (87) 4.5 (65)
600	24	Hastelloy C 316 Stainless Steel / Inconel Nickel / Monel	0.4 (5.7)	6 (87) 6 (87) 4.5 (65)

Free Flow Area / Minimum Net Flow Area (MNFA)

NOMINAL BORE		MNFA with no vacuum support (XXX)	
DN (mm)	inches	mm^2	Sq. Inch
25	1	494	0.766
40	1.5	1,065	1.651
50	2	1,799	2.789
65	2.5	2,657	4.119
80	3	4,336	6.722
100	4	7,047	10.923
150	6	15,046	23.322
200	8	28,625	44.37
250	10	42,095	65.248
300	12	61,294	95.006
350	14	81,278	125.982
400	16	110,674	171.545
450	18	137,932	213.795
500	20	167,571	259.735
600	24	240,048	372.075

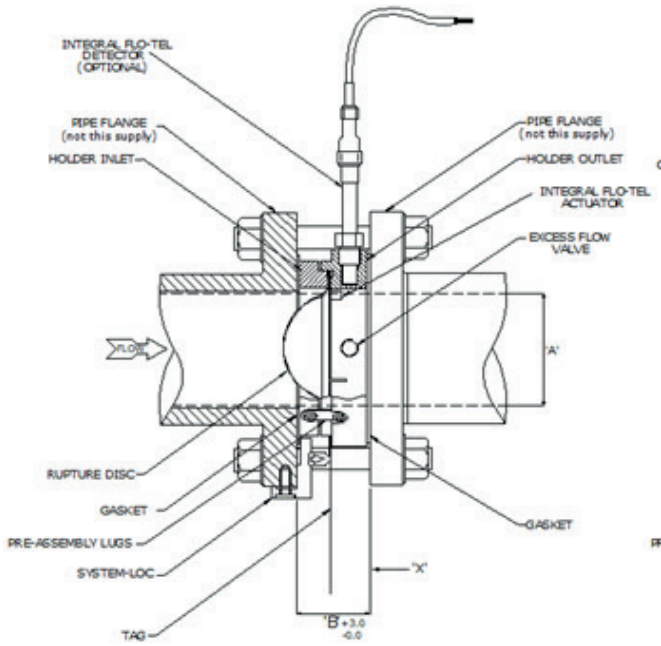
Burst Tolerance

+/-2 psig ≤ 65 psig +/-3% > 65 psig	+/-0.14 barg ≤ 4.48 barg +/-3% > 4.48 barg

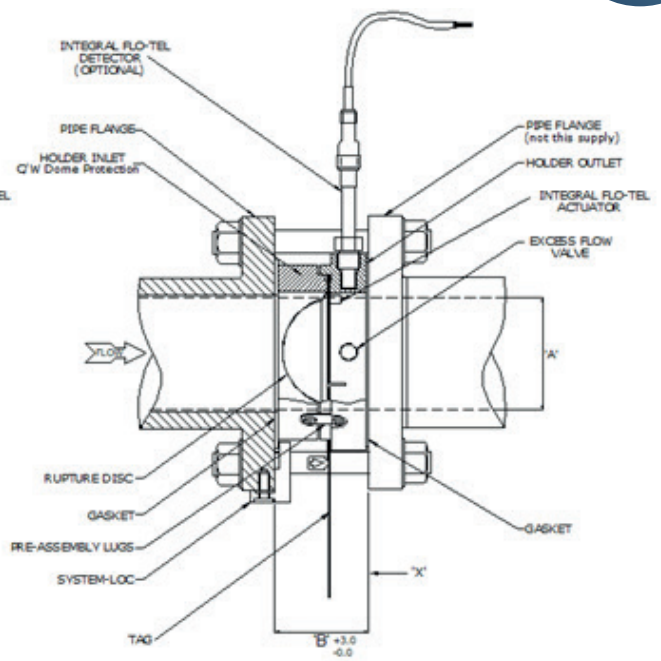
K_R Value (Frictional Loss Factor)

K_R	Opti-Gard
K_{RGL}	1.74

Schematic Drawing



Without Dome Protection



With Dome Protection

NOMINAL BORE (A)		FACE-TO-FACE (B)	
DN (mm)	inches	With dome protection (mm)	No dome protection (mm)
25	1	40.4 (Std)	-
40	1.5	42.4 (Std)	-
50	2	44.4 (Std)	-
65	2.5	50 (Std)	-
80	3	55 (Std)	-
100	4	58 (Std)	-
150	6	74.5 (Std)	-
200	8	90.5	51.5 (Std)
250	10	105.5	51.5 (Std)
300	12	120.5	51.5 (Std)
350	14	145	51 (Std)
400	16	166	51 (Std)
450	18	182	51 (Std)
500	20	201	51 (Std)
600	24	238	51 (Std)

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

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	-

**Others available on request*

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