

Opti-Gard SoLo (OPS)

Technical Information

Including specifications, performance data and schematic

General specifications

Size range	25mm to 150mm (1" to 6")
Burst pressure range	0.14 barg to 4.14 barg (2 psig to 60 psig)
Temperature range	-200°C to 600°C
Materials available	Stainless steel as standard, others available on request
Maximum operating ratio	95% of minimum burst pressure (92% of nominal burst pressure)
Performance tolerance	+/- 3% (zero manufacturing design range)
Fragmenting / non-fragmenting	Non-fragmenting
Vacuum service	Full vacuum
Fluid compatibility	Gas+liquid, gas, vapour
K _r value	0.8
Torque sensitive	No
Cycle life	Tested to over 1 million pressure vacuum cycles*
Reversal ratio	n/a with offset tag + System-Loc
Damage ratio	<1 fail-safe
Protective linings	n/a
Relief valve isolation	Excellent
Leak tightness	Excellent
Disc surface finish	n/a

(* from full vacuum to 95% of the minimum burst pressure)

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Performance data

Burst pressure range in barg (psig) at 15-30°C (59-86°F)

Liquid and gas applications with/without vacuum

Nominal bore		Material			
		Hastelloy		Stainless Steel	
mm	inch	min	max	min	max
25	1	1.31 (19)	4.14 (60)	1.24 (18)	4.14 (60)
40	1.5	1.03 (15)	2.07 (30)	0.97 (14)	2.07 (30)
50	2	0.69 (10)	1.38 (20)	0.62 (9)	1.38 (20)
65	2.5	0.69 (10)	1.38 (20)	0.62 (9)	1.38 (20)
80	3	0.41 (6)	0.9 (13)	0.34 (5)	0.9 (13)
100	4	0.41 (6)	0.9 (13)	0.34 (5)	0.9 (13)
150	6	0.41 (6)	0.9 (13)	0.34 (5)	0.9 (13)

NB: Not suitable for liquid only applications (gas cap required). Minimum tolerance on gas and liquid applications is +/-0.14barg (2psig)

Gas only applications with vacuum

Nominal bore		Material			
		Hastelloy		Stainless Steel	
mm	inch	min	max	min	max
25	1	1.1 (16)	4.14 (60)	1.03 (15)	4.14 (60)
40	1.5	0.83 (12)	2.07 (30)	0.76 (11)	2.07 (30)
50	2	0.48 (7)	1.38 (20)	0.41 (6)	1.38 (20)
65	2.5	0.48 (7)	1.38 (20)	0.41 (6)	1.38 (20)
80	3	0.28 (4)	0.9 (13)	0.21 (3)	0.9 (13)
100	4	0.28 (4)	0.9 (13)	0.21 (3)	0.9 (13)
150	6	0.28 (4)	0.9 (13)	0.21 (3)	0.9 (13)

Gas only applications without vacuum

Nominal bore		Material			
		Hastelloy		Stainless Steel	
mm	inch	min	max	min	max
25	1	1.03 (15)	4.14 (60)	0.97 (14)	4.14 (60)
40	1.5	0.76 (11)	2.07 (30)	0.69 (10)	2.07 (30)
50	2	0.41 (6)	1.38 (20)	0.35 (5)	1.38 (20)
65	2.5	0.41 (6)	1.38 (20)	0.35 (5)	1.38 (20)
80	3	0.28 (4)	0.9 (13)	0.21 (3)	0.9 (13)
100	4	0.14 (2)	0.9 (13)	0.14 (2)	0.9 (13)
150	6	0.21 (3)	0.9 (13)	0.21 (3)	0.9 (13)

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Performance tolerance (Zero manufacturing design range)

Burst Pressure	Tolerance	Burst Pressure	Tolerance
≤0.97 barg	+/- 0.07 barg	≤14 psig	+/- 1 psig
>0.97 - ≤4.48 barg	+/- 0.14 barg	>14 - ≤65 psig	+/- 2 psig
>4.48 barg	+/-3%	>65 psig	+/-3%

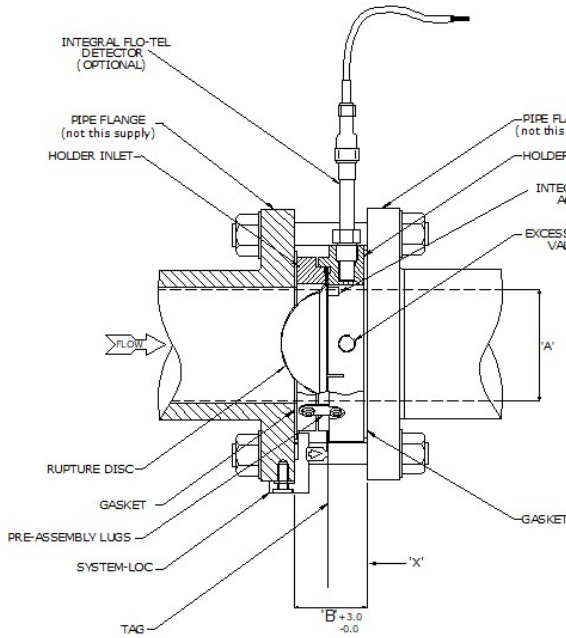
NB: Minimum tolerance on Gas and Liquid applications is +/-0.14barg (2psig)

Free flow area / Minimum net flow area (MNFA)

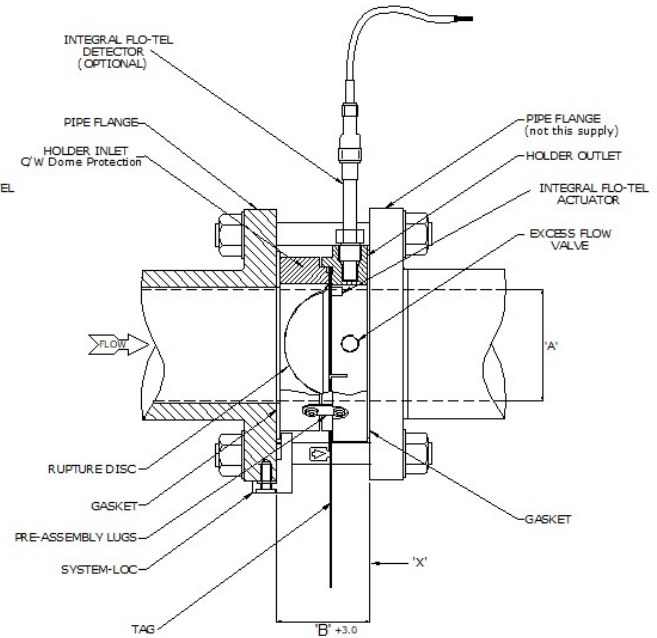
Nominal bore		With no vacuum support (XXX)		With non-opening vacuum support (NVS)	
mm	inch	mm ²	inch ²	mm ²	inch ²
25	1	596	0.93	383	0.594
40	1.5	1,288	2.01	905	1.403
50	2	2,185	3.41	1,493	2.314
65	2.5	3,207	5	2,155	3.36
80	3	5,236	8.17	3,598	5.61
100	4	8,332	12.9	5,110	7.96
150	6	17,849	27.84	11,187	17.43

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Product Schematic



Without Dome Protection



With Dome Protection

Nominal Bore (A)		Face to Face (B)	
mm	Inch	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)

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	-