

Two-Way Arma-Gard (2wS/2wD) Technical Information

Including specifications, performance data, temperature ranges and schematic

General specifications

Size range	25mm to 300mm (1" to 12")
Burst pressure range	0.7 barg to 35 barg (1 psig to 507 psig)
Materials available	Impregnated graphite
Maximum operating ratio	85% of minimum burst pressure (76.5% of nominal burst pressure)
Performance tolerance	+/- 10% (zero manufacturing design range)
Fragmenting / non-fragmenting	Fragmenting
Vacuum service	No support required above 1.7 barg (24.6 psig)
Fluid compatibility	Liquid, gas, vapour
K _r value	0.6
Torque sensitive	No
Damage ratio	<1 fail-safe
Protective linings	Available
Leak tightness	Average
Detection	Detection in one direction as standard. Detection for both directions requires a special holder and two Flo-Tel detectors. This is subject to process conditions.

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

Nominal bore		Material	
		Graphite	
mm	inch	min	max
25	1	0.7 (10)	35 (507)
40	1.5	0.48 (7)	25 (362)
50	2	0.28 (4.1)	20 (290)
65	2.5	0.21 (3)	13 (188)
80	3	0.21 (3)	6 (87)
100	4	0.14 (2)	4 (58)
150	6	0.1 (1.5)	3 (43.5)
200	8	0.07 (1)	2 (29)
250	10	0.07 (1)	2 (29)
300	12	0.07 (1)	2 (29)

Performance tolerance (Zero manufacturing design range)

Burst Pressure	Tolerance	Burst Pressure	Tolerance
≤0.21 barg	+/- 0.07 barg	≤3 psig	+/- 1 psig
>0.21 – ≤1.7 barg	+/- 0.18 barg	>3 – ≤24.7 psig	+/-2.5 psig
>1.7 barg	+/- 10%	>24.7 psig	+/- 10%

NOTES:

1) For two-way discs with the same burst pressure in both directions (2WS), the disc burst pressure can be specified anywhere between the minimum and maximum burst pressure ranges shown above. For example, for a 50mm disc you can specify a burst pressure anywhere between 4.1 psig and 290.psig.

2) For two-way discs with different burst pressures for forward and reverse operation (2WD), the maximum burst pressure specified may not exceed twice the specified low burst pressure. For example, if you specify a low burst pressure of 20 psig for a 50mm disc, the maximum burst pressure you specify may not exceed 40 psig.

Free flow area / Minimum net flow area (MNFA)

Nominal bore		AGS (2WS)		AGS (2WS)	
mm	inch	mm ²	inch ²	mm ²	inch ²
25	1	507	0.79	223	0.35
40	1.5	1140	1.78	501	0.78
50	2	2027	3.16	892	1.39
65	2.5	3167	4.94	1393	2.17
80	3	4560	7.11	2006	3.12
100	4	8107	12.63	3567	5.56
150	6	18241	28.43	8026	12.51
200	8	32429	50.54	14268	22.23
250	10	50671	78.96	22295	34.74
300	12	72966	113.71	32105	50.03

NOTES:

1) For two-way discs with the same burst pressure in both directions (2WS), please refer to the columns labelled **AGS (2WS)** for the relevant free flow area. The free flow area will be the same for both the forward and reverse operation of the rupture disc.

2) For two-way discs with different burst pressures for forward and reverse operation (2WD), please also refer to the column labelled **AGS (2WD)** for the relevant minimum free flow area. Depending on the ratio between the specified forward and reverse burst pressures, the disc free flow area will fall between the maximum free flow area, which is represented in the columns labelled **AGS (2WS)**, and the minimum free flow area, which is represented in the columns labelled **AGS (2WD)**.

Standard temperature ranges °C (°F)

Please note: For temperatures below zero, caution is needed if shock loading is involved.

Metals

Metal	Min temp	Max temp
Hastelloy B2 SB33 5N10665	-200 (-328)	426 (800)
Hastelloy C22 SB574 N06022	-196 (-321)	600 (1112)
Hastelloy C276 SB575 N10276	-196 (-321)	600 (1112)
Inconel Alloy SB 166 N06600	-196 (-321)	482 (900)
Inconel Alloy SB 443 N06625	-196 (-321)	400 (750)
Inconel Alloy SB 425 N08825	-182 (-296)	400 (750)
Monel Alloy SB 164 N04400 Annealed	-182 (-296)	400 (750)
Monel Alloy SB 164 N04400 Hot Worked	-253 (-423)	537 (1000)
Nickel Alloy 2200	-185 (-301)	315 (600)
Nickel Alloy 2201	-185 (-301)	400 (750)
Steel - Stainless Steel (316 & 304)	-196 (-321)	600 (1112)
Steel - Duplex Steel UNS31803 UN32205	-50 (-58)	300 (572)
Titanium SB348 R50400 Gr2	-196 (-321)	315 (600)
Zirconium SB550 R60702 (Zr)	No info	371 (700)
Zirconium SB550 R60705 (Zr +5%Nb)	No info	371 (700)

PFA, PTFE and graphite

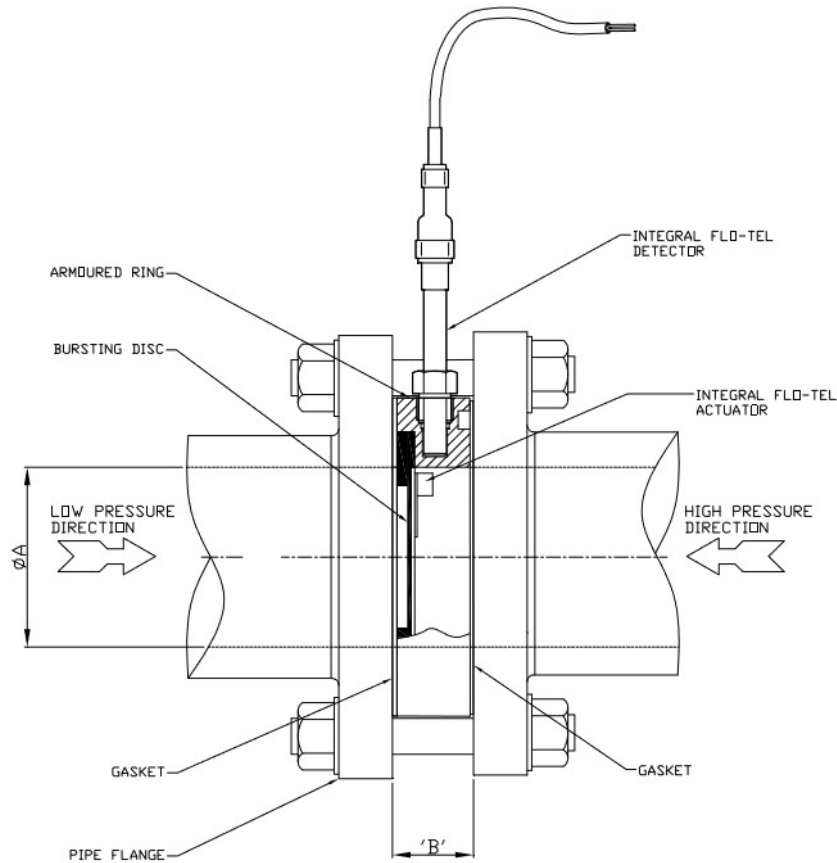
Material	Min temp	Max temp
PFA	-200 (-392)	200 (392)*
PTFE	-200 (-392)	200 (392)*
Graphite MXAS600	-50 (-58)	180 (356)

*Low temperature embrittlement is at -268°C (-450.4°F)

Standard testing ranges °C (°F)

Discs up to 200mm	-45°C (-49°F) to 450°C (842°F)
Discs up to 500mm	Ambient to 450°C (842°F)
OEM products	-75°C (-103°F) to 450°C (842°F)

Product Schematic



Nominal Bore (A)		Face To Face (B)		
mm	Inch	No gasket mm	Fibre gasket mm	Envelope gasket mm
25	1	20	23	25
40	1.5	20	23	25
50	2	20	23	25
65	2.5	20	23	25
80	3	20	23	25
100	4	23	26	28
150	6	25	28	30
200	8	32	35	37
250	10	35	38	40
300	12	38	41	43

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	-