

RD500 ATLAS[®], REVERSE ACTING, RUPTURE DISC & HOLDER

The RD500 ATLAS is a reverse-acting scored rupture disc, suitable for the most challenging industrial pressure relief applications. Utilizing Fike’s patented G2 Manufacturing Technology, this rupture disc is pre-engineered and will provide highly accurate and reliable overpressure protection.



RD500 ATLAS High Performance Rupture Disc

SPECIFICATIONS

SIZES	1 – 42 in	DN25 – DN1050				
DISC MATERIALS	316 / 316L SST Hastelloy [®] C276 Inconel [®] 625	1.4401 / 1.4404 2.4819 2.4856				
BURST PRESSURE RANGE	3.25 – 1500 psig	0.22 – 103.42 barg				
BURST PRESSURE TOLERANCE	See table on page 3					
OPERATING RATIO	For standard applications 95%	For CE or KOSHA applications < 2.76 barg = 95% > 2.76 barg = 100%				
STANDARD MANUFACTURING RANGE	Zero	N/A				
MAX OPERATING TEMP	See table on page 2	See table on page 2				
K_{RG} / K_{RL} / K_{RGL} & MNFA	K _{RG} = 0.65 / K _{RL} = 1.50 ⁽¹⁾					
CYCLING / PULSATING DUTY	Will achieve up to 100,000 cycles depending on cycling conditions					
VACUUM RESISTANCE	Full					
BACK PRESSURE	105% of burst pressure					
PROCESS MEDIA	Gas / Vapor, Liquid, & two phase					
FRAGMENTATION	Non-fragmenting					
APPROVALS	 ASME	 CE MARKED	 KOSHA	 SELO	 CRN	 EAC

(1) More information on Kr-values and MNFA can be found [here \(TB8104\)](#).

OPTIONS

BURST INDICATOR⁽¹⁾	BurstCheck™ / BurstCheck Plus™ / BurstCheck 2™ / RI / RI2
COATINGS	FEP ⁽²⁾
LINERS	FEP, PFA ⁽³⁾

- (1) More information on burst indicators can be found [here \(Burst Indicators Data Sheet\)](#).
- (2) FEP coating allowed on both sides for 1-4" size. For the 6" size and larger, FEP coating only allowed on process side.
- (3) See additional liner data on next page.

MINIMUM / MAXIMUM BURST PRESSURE IN PSIG/BARG @ 72°F/22°C ⁽¹⁾

Material		316/316L SST 1.4401/1.4404				Hastelloy® C276 2.4819				Inconel® 625 2.4856			
Max Operating Temperature		900°F		482°C		900°F		482°C		1100°F		593°C	
Size ⁽²⁾		PSIG		BARG		PSIG		BARG		PSIG		BARG	
In	DN	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1	25	200	1100	13.79	75.84	380	1375	26.20	94.80	310	1500	21.37	103.42
1.5	40	120	1000	8.27	68.95	300	1200	20.68	82.74	180	1200	12.41	82.74
2	50	75	915	5.17	63.09	115	1060	7.93	73.08	100	970	6.89	66.88
3	80	60	780	4.14	53.78	60	865	4.14	59.64	75	625	5.17	43.09
4	100	60	615	4.14	42.40	60	750	4.14	51.71	60	700	4.14	48.26
6	150	50	540	3.45	37.23	Consult Factory		Consult Factory		50	630	3.45	43.44
8	200	50	400	3.45	27.58					50	525	3.45	36.20
10	250	50	465	3.45	32.06					50	520	3.45	35.85
12	300	Consult Factory		Consult Factory						Consult Factory		Consult Factory	
14	350	6.0	300	0.41	20.7	7.0	300	0.48	20.7	7.0	300	0.48	20.70
16	400	5.0	250	0.34	17.2	7.0	250	0.48	17.2	7.0	250	0.48	17.2
18	450	5.0	200	0.34	13.8	6.0	200	0.41	13.8	6.0	200	0.41	13.8
20	500	4.5	180	0.31	12.4	5.0	180	0.34	12.4	5.0	180	0.34	12.4
24	600	3.5	150	0.24	10.3	4.0	150	0.28	10.3	4.0	150	0.28	10.3
26	650	3.5	150	0.24	10.3	4.0	150	0.28	10.3	4.0	150	0.28	10.3
28	700	3.5	150	0.24	10.3	4.0	150	0.28	10.3	4.0	150	0.28	10.3
30	750	3.5	140	0.24	9.65	4.0	140	0.24	9.65	4.0	140	0.28	9.65
32	800	3.25	125	0.22	8.62	4.0	125	0.28	8.62	4.0	125	0.28	8.62
36	900	3.25	100	0.22	6.89	4.0	100	0.28	6.89	4.0	100	0.28	6.89
42	1050	3.25	75	0.22	5.17	4.0	75	0.28	5.17	4.0	75	0.28	5.17

- (1) For applications requiring lower burst pressures or smaller sizes, please refer to the RD520 AXIUS rupture disc data sheet R.1.37.01.
- (2) Sizes 14 in (DN350) and up are suitable for use in liquid systems only with listed volume of compressible vapor against the disc at the time of opening. See table below for the minimum vapor volume requirement.

MINIMUM FREE VAPOR VOLUME FOR LIQUID APPLICATIONS

Size		Minimum Free Vapor Volume		Relief Area	
In	DN	ft ³	m ³	in ²	cm ²
14	350	7	0.21	117	752
16	400	11	0.32	153	989
18	450	16	0.45	195	1258
20	500	22	0.62	239	1540
24	600	38	1.07	346	2234
26	650	48	1.36	408	2630
28	700	60	1.69	474	3058
30	750	74	2.08	541	3491
32	800	89	2.53	617	3978
36	900	127	3.60	784	5057
42	1050	202	5.72	1066	6878

BURST / PERFORMANCE TOLERANCES

BURST PRESSURE		TOLERANCE	
PSIG @ 72°F	BARG @ 22°C	PSI	BAR
≤ 20	≤ 1.38	± 1	± 0.07
> 20	> 1.38	± 5%	± 5%

OPTIONAL LINER MATERIAL DATA

SIZE		LINER MATERIAL	TEMPERATURE RANGE	
In	DN		°F	°C
1 - 12	25 – 300	FEP	-40 to 400	-40 to 204
		PFA	-40 to 500	-40 to 260

HOLDERS FOR RD500 ATLAS: ATLAS/ATLAS-LO



GI INSERT TYPE



TQ PRE-TORQUEABLE TYPE ⁽¹⁾

Atlas: Standard Overall Height Profile
 Atlas-LO: Low Overall Height Profile

“G Insert” type rupture disc holders are furnished with a method of preassembly so the rupture disc may be installed at a workbench or some other convenient location. Once the disc is in place the unit may be assembled and installed into the line, minimizing the chance of damage to the rupture disc.

The purpose of the TQ holder design is to allow rupture discs to be installed and then “torqued” to recommended static load levels ensuring proper clamping of the rupture disc within the assembly. This can take place at a workbench rather than in the field where conditions could be less than ideal, greatly reducing the possibility of assembly errors.

Once together, the rupture disc assembly may then be delivered to the field location and installed between companion flanges where additional torque loads applied are essential for proper functionality of the assembly. TQ assemblies may also be removed, inspected and replaced during routine maintenance schedules and plant turnarounds without compromising disc performance as long as the disc is not removed.

SPECIFICATIONS ⁽²⁾

SIZE	1 – 42 inches	DN25 – DN1050
FLANGE RATING	ASME 150 – 600 / JIS 5K- JIS 63K	PN 10 - 100
FLANGE FACING	Serrated gasket faces standard, others available	
MATERIAL ⁽³⁾⁽⁴⁾	Stainless Steel 316, Stainless Steel 304, Hastelloy®, Inconel®, and Carbon Steel	1.4401/1.4404, 1.4301/1.4306, 2.4819, 2.4816, 1.0460
PRE-ASSEMBLY SCREWS	GI Insert Type comes with SST side clips TQ includes pre-assembly screws	

- (1) TQ Pre-Torqueable type available upon request. Consult factory.
- (2) Holders are designed to fit within the standard bolt circle as defined by the customer specified flange rating.
- (3) Additional materials available upon request. Consult factory if necessary.
- (4) NACE MR0103 and MR0175 are available.

ACCESSORIES ⁽¹⁾

GAUGE TAPS	When a gauge tap is requested, a ½" NPT is provided unless otherwise specified. See Dimensions table for limitations. For additional tap sizes/configurations consult factory
EXCESS FLOW VALVE	Installed to prevent pressure build-up between the rupture disc and downstream piping
J-HOOK	Used to ensure proper installation orientation
EYEBOLTS	Used to handle large and heavy holders
JACKSCREWS	Provide a means of separating piping flanges safely for rupture disc assembly installation
SPACER RINGS	Required when using Atlas-LO holder in direct coupling with relief valve. Supplied standard with ½" NPT gauge tap
O-RING/GROOVE⁽²⁾	Leak tight without O-ring/Groove to 1x10 ⁻⁴ atm cc/sec He Leak tight with O-ring/Groove to 1x10 ⁻⁶ atm cc/sec He

- (1) More information on Accessories can be found [here \(Accessories Data Sheet\)](#).
 (2) Available in 1-4" (DN25-DN100) sizes only.

HOLDER HEIGHTS ⁽¹⁾

Size		GI INSERT TYPE				Max Gauge Tap	
		Atlas		Atlas-LO			
In	DN	In	mm	In	mm	Atlas	Atlas-LO
1	25	-	-	1.50	38.1	½"	⅛"
1.5	40	-	-	1.69	42.9	½"	¼"
2	50	-	-	1.88	47.8	½"	⅜"
3	80	-	-	2.13	54.1	½"	½"
4	100	-	-	2.88	73.2	½"	½"
6	150	6.48	164.6	3.69	93.6	¾"	½"
8	200	7.91	200.8	3.75	95.2	¾"	½"
10	250	9.81	249.2	4.30	109.1	¾"	½"
12	300	11.51	292.3	4.63	117.5	¾"	½"
14	350	-	-	4.34	110.3	-	½"
16	400	-	-	4.75	120.7	-	¾"
18	450	-	-	5.31	134.9	-	¾"
20	500	-	-	5.90	149.9	-	¾"
24	600	-	-	6.98	177.3	-	¾"
26	650	-	-	7.58	192.5	-	¾"
28	700	-	-	7.93	201.3	-	¾"
30	750	-	-	8.41	213.5	-	¾"
32	800	-	-	8.97	227.9	-	¾"
36	900	-	-	9.60	243.7	-	¾"
42	1050	-	-	10.32	262.0	-	¾"

- (1) Assembly height does not include spacer ring, rupture disc, or gasket thickness.