RD540 REVERSE ACTING, RUPTURE DISC & HOLDER

The RD540 is a reverse-acting scored rupture disc, suitable for the most challenging industrial pressure relief applications. This iteration of Fike's patented G2 Manufacturing Technology is pre-engineered for low pressure applications not encompassed by the RD520 AXIUS. This rupture disc will provide highly accurate and reliable overpressure protection.

RD540 High Performance G2 Rupture Disc

SPECIFICATIONS

SIZES	1 – 8 in	DN25 – DN200	
DISC MATERIALS	316 / 316L SST	1.4401 / 1.4404	
BURST PRESSURE RANGE	1.375 – 10 psig	0.09 – 0.69 barg	
BURST PRESSURE TOLERANCE	See table on page 3		
OPERATING RATIO	90%		
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(1)	K_{RG} = 0.45		
CYCLING / PULSATING DUTY	Will achieve up to 10,000 cycles from ½ Atm. backpressure to 90% operating ratio		
VACUUM RESISTANCE	Burst Pressure < 5 psig [.345 bar]: will withstand 10 psig [.69 bar] Burst Pressure ≥ 5 psig [.345 bar]: will withstand Full Vacuum		
BACK PRESSURE			
PROCESS MEDIA	Gas / Vapor Only		
FRAGMENTATION	Non-fragmenting		
APPROVALS	ASME	CE MARKED	CRN

(1) More information on Kr-values and MNFA can be found in Technical Bulletin TB8104.

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

Material		316/316L SST 1.4401/1.4404			
Max Operating Temperature		900°F		482°C	
Size		PSIG		BARG	
In	DN	Min.	Max.	Min.	Max.
1	25	2.75	10.00	0.19	0.69
1.5	40	2.00	10.00	0.14	0.69
2	50	2.00	10.00	0.14	0.69
3	80	1.75	10.00	0.12	0.69
4	100	1.75	10.00	0.12	0.69
6	150	1.375	10.00	0.09	0.69
8	200	1.375	10.00	0.09	0.69

(1) For applications requiring higher burst pressures or larger sizes, please refer to the RD520 AXIUS rupture disc data sheet R.1.37.01.
(2) See table below for the minimum inlet vapor volume requirement.

MINIMUM INLET VAPOR VOLUME (WITHOUT BURST INDICATOR)

SIZES		BURST PRESSURE RANGE		MINIMUM FREE VAPOR VOLUME	
In	DN	PSIG	BARG	in^3	cm^3
1	25	2.75 – 5.99	0.19 – 0.41	5.19	85.05
		6.00 – 10.00	0.41 – 0.69	2.59	42.44
1.5	40	2.00 – 4.99	0.14 – 0.34	24.43	400.34
		5.00 – 10.00	0.34 – 0.69	9.16	150.11
2	50	2.00 – 3.99	0.14 – 0.28	53.69	879.82
		4.00 – 10.00	0.28 – 0.69	20.13	329.87
3	80	1.75 – 3.49	0.12 – 0.24	221.78	3634.32
		3.50 – 10.00	0.24 – 0.69	66.53	1090.23
4	100	1.75 – 3.49	0.12 – 0.24	509.21	8344.46
		3.50 – 10.00	0.24 – 0.69	152.76	2503.29
6	150	1.375 – 2.99	0.09 – 0.21	1733.42	28405.66
		3.00 – 10.00	0.21 – 0.69	520.03	8521.76
8	200	1.375 – 2.74	0.09 – 0.19	4002.16	65583.65
		2.75 – 10.00	0.19 – 0.69	1200.65	19675.13

BURST / PERFORMANCE TOLERANCES

BURST PRESSURE		TOLERANCE
PSIG @ 72°F	BARG @ 22°C	
< 5	< 0.34	± 15%
≥ 5	≥ 0.34	± 10%

BURST INDICATOR OPTIONS

SIZES		BURST INDICATOR(1)	CORRESPONDING RD540 MINIMUM BURST PRESSURES WITH BC2-LP / BC2		CORRESPONDING RD540 MINIMUM INLET VAPOR VOLUME WITH BC2-LP / BC2	
In	DN		PSIG	BARG	in^3	cm^3
1	25	N/A	N/A	N/A	N/A	N/A
1.5	40	BurstCheck 2™ Low Pressure	5.00	0.34	24.43	400.34
2	50		4.00	0.28	53.69	879.82
3	80		2.75	0.19	221.78	3634.32
4	100		2.75	0.19	509.21	8344.46
6	150	BurstCheck 2™	1.375	0.09	1733.42	28405.66
8	200		1.375	0.09	4002.16	65583.65

(1) More information on burst indicators can be found in the Burst Indicators Data Sheet R.1.02.01.

HOLDERS FOR RD540: XL/XLO

GI INSERT TYPE

TQ PRE-TORQUEABLE TYPE

TQ+ PRE-TORQUEABLE TYPE

XL: Standard Overall Height Profile
XLO: 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.

Fike offers two types of pretorqueable holders, the "TQ+" and "TQ". The purpose of the TQ+ and TQ holder designs are 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+ and 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.

The TQ+ type holders were designed with the ability to be installed in multiple international flange rating configurations. The TQ+ can be specified for the following rupture disc models: RD320, RD520 AXIUS, SRL, SRX, Poly-SD, and RD540.

SPECIFICATIONS (1)

SIZE	1 – 8 inches	DN25 – DN200
FLANGE RATING	ASME 150 – 600 / JIS 5K- JIS 63K	PN 10 - 100
FLANGE FACING	Serrated gasket faces standard, others available	
MATERIAL(2)	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 and TQ+ include pre-assembly screws	

(1) Holders are designed to fit within the standard bolt circle as defined by the customer specified flange rating.
(2) Additional materials available upon request. Consult factory if necessary.

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
O-RING/GROOVE	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 in the Accessories Data Sheet R.1.16.01.

HOLDER HEIGHTS

		ASSEMBLY HEIGHT (1)												Max Gauge Tap	
		GI INSERT TYPE				PRE-TORQUEABLE TQ				PRE-TORQUEABLE TQ+					
Size		**XL**		**XLO**		**XL**		**XLO**		**XL**		**XLO**		**XL**	**XLO**
In	**DN**	In	mm	In	mm	In	mm	In	mm	In	mm	In	mm		
1	DN25	2.41	61.15	2.16	54.80	2.65	67.31	2.28	57.79	2.41	61.25	1.53	38.90	½"	¼"
1.5	DN40	2.91	73.86	2.16	54.81	3.15	80.02	2.15	54.62	2.91	73.96	1.72	43.74	½"	¼"
2	DN50	3.03	77.02	2.09	53.15	3.44	87.31	2.56	65.08	3.03	77.02	1.91	48.57	½"	½"
3	DN80	3.80	96.60	2.11	53.68	4.18	106.13	2.55	64.85	3.80	96.55	2.18	55.40	½"	½"
4	DN100	4.63	117.70	2.51	63.86	4.77	121.23	2.80	71.22	4.64	117.83	2.96	75.16	½"	½"
6	DN150	6.10	154.9	2.85	72.4	6.08	154.4	2.89	73.5	6.11	155.2	3.80	96.5	½"	½"
8	DN200	7.66	194.6	3.10	78.8	7.63	193.7	3.16	80.2	-	-	-	-	½"	½"

(1) Assembly height includes rupture disc