

GRAPHITE RUPTURE DISC SERIES - GD, GDI, GDV, GDL, GDHT, GDIHT, GDVHT, GDLHT

DESCRIPTION

Fike Graphite Series Rupture Discs are a simple and reliable pressure relief device. Our Graphite Discs are manufactured to be virtually impermeable which results in excellent corrosion resistance to most acids and corrosive media, resistance to temperature and long term stability. The discs install directly between pipe flanges eliminating the need for a holder.

Fike graphite rupture discs come standard with a non-asbestos gasket attached to the vent side for added safety, but all discs are easily customizable to the customer's exact specifications. Each disc is additionally offered with a "Zero" manufacturing range as the standard allowing each lot of graphite rupture discs to be marked with the requested burst pressure, at the requested temperature. Maximum variation from the marked pressure is expressed as the rupture tolerance in accordance to the table shown below:



RUPTURE TOLERANCE

Specified Burst Pressure	Rupture Tolerance
BP ≥ 15 PSIG (1.03 BARG)	± 5%
BP ≥ 1 PSIG (.07 BARG) < 15 PSIG (1.03 BARG)	±.75 PSIG (.05 BARG)
BP < 1 PSIG (.07 BARG)	-0/+ .75 PSI (.05 BARG)

Form No. R.1.40.01-6

GD SERIES

The GD Series meets most processing applications. The disc is available in diameters from 1 to 24 inches at burst ratings from 1 psig for specified temperatures below 392°F.

GDV SERIES (NOT SHOWN)

The GDV Series rupture disc is intended for use in vacuum service applications. The GDV rupture disc utilizes one of two vacuum support designs, required for burst pressures less than 20 psig (1.38 BARG) in vacuum conditions. A dial type support will be supplied standard below 10 psig (.69 BARG) and a bar type support will be supplied standard for 10 to 25 psig (.69 to 1.72 BARG). Vacuum supports are optional, but not necessary above 25 psig (1.72 BARG) as discs become self supporting. Vacuum supports will not be supplied above 50 psig (3.45 BARG). Please consult factory for custom configurations.

GDI SERIES

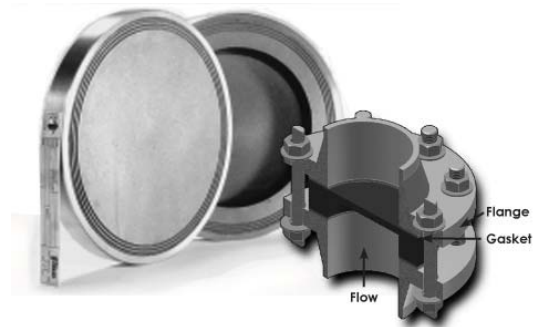
GDI Series Discs are produced for Class 150 and Class 300 flanges. Inverted discs have the same temperature characteristics as GD discs but have a lower minimum burst rating. If vacuum support is required, then the GDV Disc must be specified.

GDL SERIES

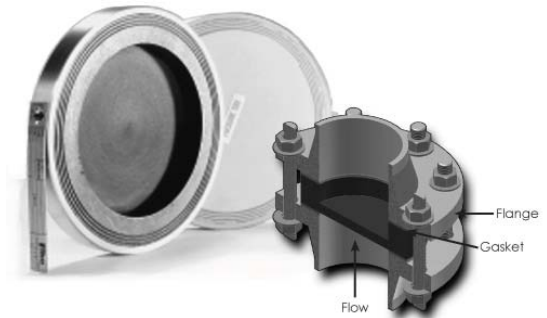
GDL Discs extend corrosion resistance to highly oxidizing agents, halogens and virtually all other corrosives, except free fluorine. A sheet of PTFE is used as a permanent barrier on the service side of the disc. Additionally, these discs are suitable for specified temperatures up to 392°F without insulation.

GDHT, GDIHT, GDVHT, GDLHT SERIES

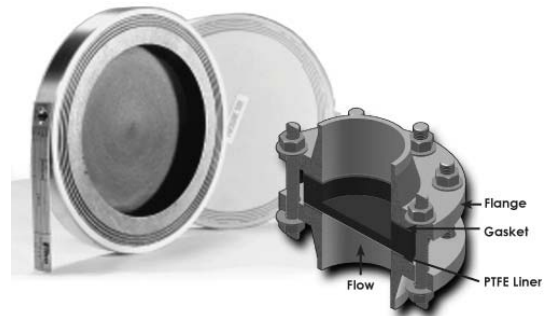
Insulated discs are available in GD, GDV, GDI and GDL styles to accommodate specified temperatures up to 700°F. They are furnished as an attached unit as shown because the nameplate rating of the disc must be established at the cold face temperature of the insulation. GDHT, GDIHT, GDLHT, GDVHT and discs utilize fibrous silica and alumina which is not suitable with liquid applications, and can be attacked by hydrofluoric and phosphoric acids and concentrated alkalis.



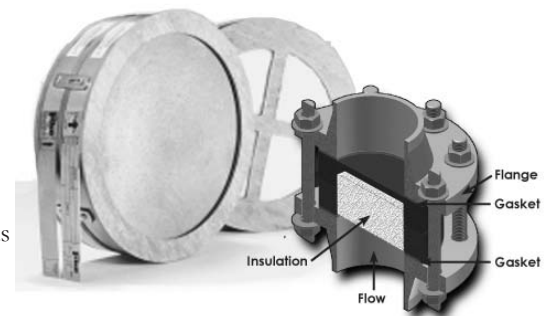
GD Series



GDI Series



GDL Series



GDHT Series

Special Considerations:

- 1) Carbon steel or stainless steel armoring is optional for all graphite rupture discs. For added safety and reliable performance, armoring is strongly recommended for higher pressures. Armoring is not available for GD discs under 10 PSIG(.69 BARG) without a vacuum support.
- 2) Carbon steel armoring is required on the following discs:
 - a) All discs for ANSI Class 300 flanges
 - b) All discs rated above 338°F
 - c) All discs above the following pressure ratings:

Nominal Diameter	Burst Pressure
1-3 inch	150 PSIG (10.34 BARG)
4 and 6 inch	100 PSIG (6.89 BARG)
8 and 10 inch	75 PSIG (5.17 BARG)
12-24 inch	50 PSIG (3.45 BARG)

- 3) Standard non-asbestos gaskets are bonded to the outlet side on the GD, GDV, GDI, and GDL models. The GDHT, GDIHT, GDVHT and GDLHT models are provided with gaskets standard on both the outlet and inlet side of the disc.
- 4) Gaskets should be ring type, non-metallic, relatively soft, and must be sized as shown in the gasket specification table.
- 5) Attached and loose gaskets are available in the following materials:





Gasket Material	Thickness (in.)	Max Temp
Blue-Gard® Non-Asbestos (Standard)	1/8	700°F (371°C)
Neoprene	1/8	250°F (121°C)
PTFE Teflon (Solid)	1/8	500°F (260°C)
PTFE (Envelope) Neoprene Filler	3/16	500°F (260°C)
Blue Gylon	1/8	500°F (260°C)

Consult factory for other materials

- 6) PTFE Coatings are available on the process side, downstream side, or both sides.
- 7) All graphite discs will fragment upon burst.

Graphite Information

- 8) GD and GDV Series standard burst pressures for ANSI 150 flanges are: 5, 10, 15, 20, 25, 30, 40, 50, 75, 100, 125, 150 (PSIG @ 72°F).
- 9) GD and GDV Series standard burst pressures for ANSI 300 flanges are: 175, 200, 275, 300 (PSIG @ 72°F).

Performance Attributes		Process Media	
Operating Ratio	Vacuum Resistant	Liquid	Vapor/Gas
			
90%	yes	yes	yes

GD SERIES BURST PRESSURES & DIMENSIONS*

Fits Class 150 ASME Flanges								
Size (inches)	Diameter		Thickness		Burst Pressures		Gasket I.D.	Gasket O.D.
	I.D.	O.D.	GD	GDHT	Min. PSIG (BARG)	Max. PSIG (BARG)		
1	1	2 1/2	7/8	2 1/2	15 (1.03)	400 (27.58)	1 1/2	2 3/8
1 1/2	1 1/2	3 1/4	7/8	2 1/2	7 (.48)	300 (20.68)	2 1/4	3 1/8
2	2	4	7/8	2 1/2	3 (.21)	250 (17.24)	3	3 7/8
3	3	5 1/4	7/8	2 3/4	2 (.14)	200 (13.79)	4 1/8	5 1/8
4	4	6 3/4	7/8	2 3/4	2 (.14)	150 (10.34)	5 1/8	6 5/8
6	6	8 5/8	7/8	3	1 (.07)	100 (6.89)	7 1/4	8 1/2
8	8	10 7/8	1 1/8	3 1/4	1 (.07)	100 (6.89)	9 1/2	10 3/4
10	10	13 1/4	1 1/2	3 7/8	5 (.34)	100 (6.89)	11 3/4	13 1/8
12	12	16	2	4 3/8	5 (.34)	100 (6.89)	13 3/4	15 7/8
14	13 1/4	17 5/8	2 1/4	5 1/8	5 (.34)	75 (5.17)	15 1/2	17 1/2
16	15 1/4	20 1/8	2 1/2	5 3/8	5 (.34)	75 (5.17)	17 3/4	20
18	17 1/4	21 1/2	2 3/4	6 1/8	5 (.34)	50 (3.45)	19 1/2	21 1/2
20	19 1/4	23 3/4	3	6 3/8	5 (.34)	30 (2.07)	21 1/2	23 5/8
24	23 1/4	28 1/8	3	6 7/8	5 (.34)	25 (1.72)	25 1/2	28
Fits Class 300 ASME Flanges								
1	1	2 3/4	1	2 5/8	50 (3.45)	400 (27.58)	1 1/2	2 5/8
1 1/2	1 1/2	3 5/8	1	2 5/8	15 (1.03)	300 (20.68)	2 1/4	3 1/2
2	2	4 1/4	1	2 5/8	15 (1.03)	250 (17.24)	3	4 1/8
3	3	5 3/4	1 1/4	3 1/8	15 (1.03)	200 (13.79)	4 1/8	5 3/8
4	4	7	1 1/4	3 1/8	15 (1.03)	150 (10.34)	5 1/8	6 3/8
6	6	9 3/4	1 3/4	3 7/8	15 (1.03)	100 (6.89)	7 1/4	9 5/8
8	8	12	2 1/4	4 3/8	15 (1.03)	100 (6.89)	9 1/2	11 7/8

* Vacuum supports are required for burst pressures below 5 PSIG (0.34 BARG) for diameters 10 inch and over, a GDV disc must be specified.

GDV SERIES BURST PRESSURES & DIMENSIONS

Fits Class 150 ASME Flanges							
Size (inches)	Diameter		Thickness GDV	Burst Pressures		Gasket I.D.	Gasket O.D.
	I.D.	O.D.		Min. PSIG (BARG)	Max. PSIG (BARG)		
1	1	2 1/2	7/8	15 (1.03)	50 (3.45)	1 1/2	2 3/8
1 1/2	1 1/2	3 1/4	7/8	7 (.48)	50 (3.45)	2 1/4	3 1/8
2	2	4	7/8	3 (.21)	50 (3.45)	3	3 7/8
3	3	5 1/4	7/8	2 (.14)	50 (3.45)	4 1/8	5 1/8
4	4	6 3/4	7/8	2 (.14)	50 (3.45)	5 1/8	6 5/8
6	6	8 5/8	7/8	1 (.07)	50 (3.45)	7 1/4	8 1/2
8	8	10 7/8	1 1/8	1 (.07)	50 (3.45)	9 1/2	10 3/4
10	10	13 1/4	1 1/2	1 (.07)	50 (3.45)	11 3/4	13 1/8
12	12	16	2	.5 (.03)	50 (3.45)	13 3/4	15 7/8
14	13 1/4	17 5/8	2 1/4	.5 (.03)	50 (3.45)	15 1/2	17 1/2
16	15 1/4	20 1/8	2 1/2	.5 (.03)	50 (3.45)	17 3/4	20
18	17 1/4	21 1/2	2 3/4	.5 (.03)	50 (3.45)	19 1/2	21 1/2
20	19 1/4	23 3/4	3	.5 (.03)	30 (2.07)	21 1/2	23 5/8
24	23 1/4	28 1/8	3	.5 (.03)	25 (1.72)	25 1/2	28
Fits Class 300 ASME Flanges							
1 1/2	1 1/2	3 5/8	1	15 (1.03)	50 (3.45)	2 1/4	3 1/2
2	2	4 1/4	1	15 (1.03)	50 (3.45)	3	4 1/8
3	3	5 3/4	1 1/4	15 (1.03)	50 (3.45)	4 1/8	5 3/8
4	4	7	1 1/4	15 (1.03)	50 (3.45)	5 1/8	6 3/8
6	6	9 3/4	1 3/4	15 (1.03)	50 (3.45)	7 1/4	9 5/8
8	8	12	2 1/4	15 (1.03)	50 (3.45)	9 1/2	11 7/8

GDI & GDL SERIES BURST PRESSURES & DIMENSIONS

Fits Class 150 ASME Flanges							
Size (inches)	Diameter		Thickness GDI, GDL	Burst Pressures PSIG (BARG)		Gasket I.D.	Gasket O.D.
	I.D.	O.D.		Min. PSIG (BARG)	Max. PSIG (BARG)		
1	1	2 1/2	7/8	10 (.69)	400 (27.58)	1 1/2	2 3/8
1 1/2	1 1/2	3 1/4	7/8	7 (.48)	300 (20.68)	2 1/4	3 1/8
2	2	4	7/8	3 (.21)	250 (17.24)	3	3 7/8
3	3	5 1/4	7/8	2 (.14)	200 (15.79)	4 1/8	5 1/8
4	4	6 3/4	7/8	1.50 (.10)	150 (10.34)	5 1/8	6 5/8
6	6	8 5/8	7/8	1 (.07)	150 (10.34)	7 1/4	8 1/2
8	8	10 7/8	1 1/8	.50 (.03)	150 (10.34)	9 1/2	10 3/4
10	10	13 1/4	1 1/2	.25 (.02)	125 (8.62)	11 3/4	13 1/8
12	12	16	2	.25 (.02)	125 (8.62)	13 3/4	15 7/8
14	13 1/4	17 5/8	2 1/4	.25 (.02)	100 (6.89)	15 1/2	17 1/2
16	15 1/4	20 1/8	2 1/2	.25 (.02)	100 (6.89)	17 3/4	20
18	17 1/4	21 1/2	2 3/4	.25 (.02)	100 (6.89)	19 1/2	21 3/8
20	19 1/4	23 3/4	3	.25 (.02)	50 (3.45)	21 1/2	23 5/8
24	23 1/4	28 1/8	3	.25 (.02)	50 (3.45)	25 1/2	28
Fits Class 300 ASME Flanges							
1	1	2 3/4	1	10 (.69)	400 (27.58)	1 1/2	2 5/8
1 1/2	1 1/2	3 5/8	1	7 (.48)	300 (20.68)	2 1/4	3 1/2
2	2	4 1/4	1	3 (.21)	250 (17.24)	3	4 1/8
3	3	5 3/4	1 1/4	2 (.14)	200 (15.79)	4 1/8	5 5/8
4	4	7	1 1/4	1.50 (.10)	150 (10.34)	5 1/8	6 7/8
6	6	9 3/4	1 3/4	1 (.07)	150 (10.34)	7 1/4	9 5/8
8	8	12	2 1/4	.50 (.03)	150 (10.34)	9 1/2	11 7/8

AVAILABLE ASME CERTIFIED BURST PRESSURES

Size (inches)	GD Series		GDV Series With Vacuum Support		GDI/GDL Series	
	Min. PSIG (BARG)	Max. PSIG (BARG)	Min. PSIG (BARG)	Max. PSIG (BARG)	Min. PSIG (BARG)	Max. PSIG (BARG)
1	50 (3.44)	400 (27.58)	15 (1.03)	50 (3.45)	15 (1.03)	400 (27.58)
1 1/2	15 (1.03)	300 (20.68)	7 (.48)	20 (1.38)	7 (.48)	300 (20.68)
2	15 (1.03)	250 (17.24)	3 (.21)	20 (1.38)	3 (.21)	250 (17.24)
3	15 (1.03)	200 (13.79)	2 (.14)	20 (1.38)	2 (.14)	200 (13.79)
4	15 (1.03)	150 (10.34)	2 (.14)	20 (1.38)	2 (.14)	150 (10.34)
6	15 (1.03)	100 (6.89)	1 (.07)	20 (1.38)	1 (.07)	100 (6.89)
8	15 (1.03)	100 (6.89)	1 (.07)	20 (1.38)	1 (.07)	100 (6.89)
10	15 (1.03)	100 (6.89)	1 (.07)	20 (1.38)	1 (.07)	100 (6.89)
12	15 (1.03)	100 (6.89)	.5 (.03)	20 (1.38)	.5 (.03)	100 (6.89)
14	15 (1.03)	75 (5.17)	.5 (.03)	20 (1.38)	.5 (.03)	75 (5.17)
16	15 (1.03)	75 (5.17)	.5 (.03)	20 (1.38)	.5 (.03)	75 (5.17)
18	15 (1.03)	50 (3.45)	.5 (.03)	20 (1.38)	.5 (.03)	50 (3.45)
20	15 (1.03)	30 (2.07)	.5 (.03)	20 (1.38)	.5 (.03)	30 (2.07)
24	15 (1.03)	25 (1.72)	.5 (.03)	20 (1.38)	.5 (.03)	25 (1.72)

HOW TO SPECIFY

To order the Graphite Rupture Disc, please specify the following as a minimum

Previous Lot Number:	
OR	
Model:	
Size:	
Flange Rating:	ANSI 150, 300, or other
Burst Pressure:	@ (Temperature)
Accessories (specify):	Gaskets Armoring PTFE Coating
Gasket Attached:	Yes / No
Gasket Material:	
ASME Certification:	Yes / No

CERTIFICATIONS



ASME Authorized
Specify When Ordering



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Form No. R.1.40.01-6 December, 2010 Specifications are subject to change without notice.