FS-Inverted Type
Graphite Rupture Disks

ZOOK's Fluoropolymer Sintered Graphite Rupture Disk offers enhanced features when compared to resin impregnated graphite disks. The Fluoropolymer coating is sintered at a high temperature onto a graphite blank. The durable coating seals the graphite material, which enhances corrosion resistance and allows the disk to operate from sub-zero to elevated temperatures with minimal effect on burst performance.

Features

- The best choice for highly corrosive and broad temperature range applications
- Non-stick surface conforms to FDA regulations
- Resists product build-up – only the coated flat surface of the disk is exposed to the process media
- Durable coating offers exceptional corrosion resistance
- Available in nominal sizes 1" (25 mm) thru 24" (600 mm) diameters
- Designed to fit industry standard flanges ASME B16.5, ISO and JIS
- Burst ratings to 1,000 psig (68.95 barg)
- 0% manufacturing range is standard
- Operating pressures to 90% of the disk's marked burst pressure (Contact ZOOK for operating ratio for burst pressures below 40 psig)
- Extended temperature range: –290°F to +500°F (–179°C to +260°C)
- Vacuum support not required for disks with burst pressures of 25 psig and above (Use FS-V Inverted Type for vacuum service)
- All flange group 2 disks are armored
- ASME (UD) and PED (CE) compliance available

Certified Flow Resistance Factor (Krgl)

Krgl	0.64

Specifications

Disk Size					MNFA				Thickness*				Outside Diameter																								Burst Ratings				Temperature	
									(Flange Group 1)		(Flange Group 2)		ASME B16.5 Class						DIN & ISO										ISO ONLY				JIS											
NPS		DN	Actual ID		Full Bore		w/ External Vacuum Support		ASME Cl 150 PN6 / 10 / 16 / 20 JIS 5K / 10K / 16K		ASME Cl 300 / 600 PN25 / 40 / 50 JIS 20K / 30K		150		300		600		PN6		PN10		PN16		PN25		PN40		PN20		PN50		5K		10K		16K		20K		30K		Min Pressure (All Flanges)	Min Pressure (All Flanges)	Max Pressure (All Flanges)	Max Pressure (All Flanges)	°F	°C
in	mm	mm	in	mm	in²	mm²	in²	mm²	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	psig	barg	psig	barg		
1	25	25	1	25	0.78	503	0.34	219	0.88	22.3	1.000	25.4	2.50	63.5	2.75	69.8	2.75	69.8	2.52	64.0	2.80	71.1	2.80	71.1	2.80	71.1	2.80	71.1	2.50	63.5	2.75	69.8	2.48	62.9	2.80	71.1	2.80	71.1	2.80	71.1	2.99	75.9	20	1.38	1000	68.97	-290 to 500	-179 to 260
1-½	38	40	1.5	38	1.76	1,135	0.76	490	0.88	22.3	1.000	25.4	3.25	82.5	3.63	92.2	3.63	92.2	3.39	86.1	3.62	91.9	3.62	91.9	3.62	91.9	3.62	91.9	3.25	82.5	3.63	92.2	3.15	80.0	3.39	86.1	3.39	86.1	3.39	86.1	3.82	97.0	20	1.38	1000	68.97	-290 to 500	-179 to 260
2	50	50	2	50	3.14	2,025	1.36	877	0.88	22.3	1.000	25.4	4.00	101.6	4.25	107.9	4.25	107.9	3.78	96.0	4.21	106.9	4.21	106.9	4.21	106.9	4.21	106.9	4.00	101.6	4.25	107.9	3.54	89.9	3.98	101.0	3.98	101.0	3.98	101.0	4.37	111.0	15	1.03	300	20.69	-290 to 500	-179 to 260
2-½	64	65	2.5	64	4.78	3,083	2.58	1,664	0.88	22.3	1.000	25.4	4.75	120.6	5.00	127.0	5.00	127.0	4.59	116.5	5.00	127.0	5.00	127.0	5.00	127.0	5.00	127.0	4.75	120.6	5.00	127.0	4.52	114.8	4.76	120.9	4.76	120.9	4.76	120.9	5.39	136.9	■	■	■	■	■	■
3	76	80	3	76	7.06	4,554	3.87	2,496	0.88	22.3	1.250	31.7	5.25	133.3	5.75	146.0	5.75	146.0	5.20	132.0	5.59	141.9	5.59	141.9	5.59	141.9	5.59	141.9	5.25	133.3	5.75	146.0	4.96	125.9	5.16	131.0	5.39	136.9	5.39	136.9	5.79	147.0	10	0.69	300	20.69	-290 to 500	-179 to 260
4	102	100	4	102	12.56	8,103	5.77	3,722	0.88	22.3	1.250	31.7	6.75	171.4	7.00	177.8	-	-	5.98	151.8	6.38	162.0	6.38	162.0	6.61	167.8	6.61	167.8	6.75	171.4	7.00	177.8	5.75	146.0	6.14	155.9	6.38	162.0	6.38	162.0	6.69	169.9	8	0.55	250	17.24	-290 to 500	-179 to 260
5	127	125	5	127	19.63	12,664	8.39	5,412	0.88	22.3	■	■	7.75	196.8	8.28	210.3	-	-	7.16	181.8	7.55	191.7	7.55	191.7	7.64	194.0	7.64	194.0	7.75	196.8	8.38	212.8	7.12	180.8	7.36	186.9	7.87	199.9	7.87	199.9	8.07	204.9	■	■	■	■	■	■
6	152	150	6	152	28.27	18,238	14.78	9,535	0.88	22.3	1.750	44.4	8.63	219.2	9.75	247.6	-	-	8.15	207.0	8.58	217.9	8.58	217.9	8.82	224.0	8.82	224.0	8.63	219.2	9.75	247.6	8.31	211.0	8.54	216.9	9.25	234.9	9.25	234.9	9.76	247.9	4	0.28	170	11.72	100 and less	38 and less
																																											8	0.55	85	5.86	>100	>38
8	203	200	8	203	50.02	32,270	25.81	16,651	1.13	28.7	2.250	57.1	10.88	276.3	12.00	304.8	-	-	10.31	261.8	10.75	273.0	10.75	273.0	11.18	283.9	11.42	290.0	10.88	276.3	12.00	304.8	10.12	257.0	10.51	266.9	11.20	284.4	11.20	284.4	11.54	293.1	4	0.28	170	11.72	100 and less	38 and less
																																											6	0.41	85	5.86	>100	>38
10	254	250	10	254	78.53	50,664	32.70	21,096	1.50	38.1	-	-	13.25	336.5	-	-	-	-	12.48	316.9	12.91	327.9	12.95	328.9	-	-	-	-	-	-	-	-	12.68	322.0	12.99	329.9	13.90	353.0	-	-	-	-	3	0.21	150	10.34	100 and less	38 and less
																																											4	0.28	80	5.52	>100	>38
12	305	300	12	305	113.09	72,961	47.24	30,477	2.00	50.8	-	-	16.00	406.4	-	-	-	-	14.69	373.1	14.88	377.9	15.12	384.0	-	-	-	-	-	-	-	-	14.45	367.0	14.76	374.9	15.87	403.1	-	-	-	-	3	0.21	150	10.34	100 and less	38 and less
																																											4	0.28	80	5.52	>100	>38
14	356	350	13.25	337	137.88	88,954	-	-	2.25	57.1	-	-	17.63	447.8	-	-	-	-	16.65	422.9	17.24	437.9	17.48	443.9	-	-	-	-	-	-	-	-	16.14	409.9	16.54	420.1	17.60	447.0	-	-	-	-	3	0.21	150	10.34	100 and less	38 and less
																																											4	0.28	80	5.52	>100	>38
16	406	400	15.25	387	182.65	117,838	-	-	2.50	63.5	-	-	20.13	511.3	-	-	-	-	18.62	472.9	19.25	488.9	19.49	495.0	-	-	-	-	-	-	-	-	18.50	469.9	19.02	483.1	19.96	506.9	-	-	-	-	2	0.14	150	10.34	100 and less	38 and less
																																											3	0.21	75	5.17	>100	>38
18	457	450	17.25	438	233.70	150,773	-	-	2.75	69.8	-	-	21.50	546.1	-	-	-	-	20.79	528.0	21.22	538.9	21.85	554.9	-	-	-	-	-	-	-	-	20.87	530.1	21.81	553.9	22.52	572.0	-	-	-	-	2	0.14	150	10.34	100 and less	38 and less
																																											3	0.21	75	5.17	>100	>38
20	508	500	19.25	489	291.03	187,760	-	-	3.00	76.2	-	-	23.75	603.2	-	-	-	-	22.76	578.1	23.39	594.1	24.29	616.9	-	-	-	-	-	-	-	-	22.83	579.8	23.35	593.0	24.69	627.1	-	-	-	-	2	0.14	150	10.34	100 and less	38 and less
																																											3	0.21	75	5.17	>100	>38
24	610	600	23.25	591	424.55	273,902	-	-	3.00	76.2	-	-	28.13	714.5	-	-	-	-	26.73	678.9	27.36	694.9	28.90	734.0	-	-	-	-	-	-	-	-	27.09	688.0	27.44	696.9	28.78	731.0	-	-	-	-	2	0.14	150	10.34	100 and less	38 and less
																																											3	0.21	75	5.17	>100	>38

Notes:
*Overall thickness dimension does not include gaskets
▲ Max pressure based on max design Pressure/Temperature of companion flanging selected
■ Contact ZOOK
- Disks w/pressure ratings of 25 psig (1.72 barg) and above will support full vacuum w/o additional support
- Contact ZOOK Engineering for applications with less than full vacuum or Bak-Pressure
- Maximum pressure rating of Class 150 flanges is 290 psig (19.99 barg) @ 100°F (38°C). Class 300 flanges is 750 psig (51.71 barg) @ 100°F (38°C). The maximum pressure rating is lower at higher temperatures. Reference ASME/ANSI B16.5
- All pressures shown are based on an ambient temperature of 72°F (22°C)
- Not all minimum/maximum pressure and temperature combinations are available. Please contact ZOOK for more information
- Unless otherwise noted, stated MNFA and Kr values apply to the rupture disk only and does not include the addition of external vacuum supports or insulated units