

Features

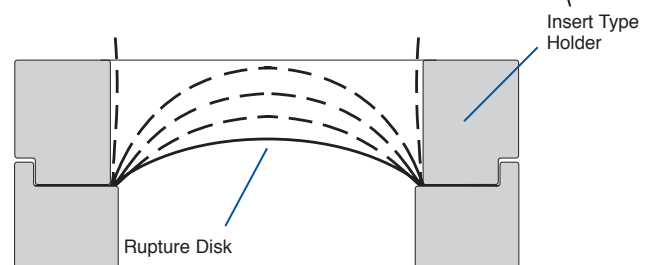
- Forward-acting, tension-loaded design without score lines
- Burst ratings 5 to 50,000 psig
- Operating pressures to 70% of the disk's marked burst pressure
- Seat Configuration: Flat-Seat
- Sizes 3/16" thru 24" diameters
- Temperature ratings to 900°F (482°C)
- Suitable for liquid, gas or 2-phase flow
- 3-dimensional stainless steel tag is standard

Options

Vacuum Supports are required on vacuum services. Vacuum supports are attached to the process side of the disk and allow the disk to support a full system vacuum. Contact ZOOK if back pressures are in excess of 15 psig or cycling is present

Liners / Coatings TFE liners are available to provide protection from corrosive media if required. Coatings are also available. Refer to Table 1 for maximum temperature ratings for disk, liner and coatings

Protective Rings are recommended with FPB Series Disks to provide stability and protection when thin materials and/or liners are used. Refer to Table 1



FPB Series Disks mount with the concave surface facing the process media. As pressure increases above the recommended operating pressure, the disk will bulge until it reaches the maximum tensile strength of the material and ruptures.

FPB	Prebulged solid metal disk with flat seat and random burst pattern
FPB-R	FPB Disk with bottom ring
R-FPB-R	FPB Disk with top and bottom rings
FPB-L	FPB Disk with bottom liner
L-FPB-L	FPB Disk with top and bottom liners
FPB-LR	FPB Disk with bottom liner and ring
RL-FPB-LR	FPB Disk with top and bottom liners and rings
FPB-V	FPB Disk with bottom vacuum support
FPB-LV	FPB Disk with bottom liner and vacuum support
R-FPB-V	FPB Disk with top ring and bottom vacuum support
RL-FPB-LV	FPB Disk with top ring and liner and bottom liner and vacuum support
RL-FPB-LVR	FPB Disk with top ring and liner and bottom liner vacuum support and ring

Table 1 – FPB Series Minimum and Maximum Pressure Ratings – psig (bar) @ 72°F (22°C) Protective Ring and Temperature Specifications

Disk Size	Aluminum			Nickel			Monel			Inconel			316SS		
	min.	P.Ring*	max.	min.	P.Ring*	max.	min.	P.Ring*	max.	min.	P.Ring*	max.	min.	P.Ring*	max.
1/4"	180	▲	1600	495	▲	30000	445	▲	30000	1065	▲	30000	1228	▲	30000
6.35 mm	12.41	▲	110.34	34.14	▲	2068.97	30.69	▲	2068.97	73.45	▲	2068.97	84.69	▲	2069.97
1/2"	75	150	1500	275	1000	9000	360	1000	9000	450	1000	9000	600	1000	9000
12.70 mm	5.17	10.34	103.45	18.97	68.97	620.69	24.83	68.97	620.69	31.03	68.97	620.69	41.38	68.97	620.69
3/4"	60	125	1000	220	700	9000	230	700	9000	350	900	9000	400	900	9000
19.05 mm	4.14	8.62	68.97	15.17	48.28	620.69	15.86	48.28	620.69	24.14	62.07	620.69	27.59	62.07	620.69
1"	35	60	1000	135	500	9000	175	500	9000	220	700	9000	300	700	9000
25 mm	2.41	4.14	68.97	9.31	34.48	620.69	12.07	300.00	620.69	15.17	48.28	620.69	20.69	48.28	620.69
1-1/2"	23	40	800	90	300	6000	115	300	6000	140	500	6000	200	500	6000
40 mm	1.59	2.76	55.17	6.21	20.69	413.79	7.93	20.69	413.79	9.66	34.48	413.79	13.79	34.48	413.79
2"	15	35	600	60	300	4000	65	300	4000	95	300	6000	110	350	6000
50 mm	1.03	2.41	41.38	4.14	20.69	275.86	4.48	20.69	275.86	6.55	20.69	413.79	7.59	24.14	413.79
3"	10	30	500	40	200	3000	50	250	3000	75	250	4000	90	300	6000
80 mm	0.69	2.07	34.48	2.76	13.79	206.90	3.45	17.24	206.90	5.17	17.24	275.86	6.21	20.69	413.79
4"	8	40	390	30	140	2000	40	175	2000	55	250	3000	60	250	5000
100 mm	0.55	2.76	26.90	2.07	9.66	137.93	2.76	12.07	137.93	3.79	17.24	206.90	4.14	17.24	344.83
6"	7	40	290	25	100	1500	30	175	1500	40	200	2500	50	200	3500
150 mm	0.48	2.76	20.00	1.72	6.90	103.45	2.07	12.07	103.45	2.76	13.79	172.41	3.45	13.79	241.38
8"	6	30	225	18	100	1200	25	100	1200	30	200	1500	40	210	1500
200 mm	0.41	2.07	15.52	1.24	6.90	82.76	1.72	6.90	82.76	2.07	13.79	103.45	2.76	14.48	103.45
10"	6	25	175	16	125	750	20	125	750	25	170	750	30	170	750
250 mm	0.41	1.72	12.07	1.10	8.62	51.72	1.38	8.62	51.72	1.72	11.72	51.72	2.07	11.72	51.72
12"	5	25	150	14	80	700	18	125	700	22	180	750	25	180	700
300 mm	0.34	1.72	10.34	0.97	5.52	48.28	1.24	8.62	48.28	1.52	12.41	51.72	172	12.41	48.28
Max. Temp.	250°F (121°C)			750°F (399°C)			800°F (427°C)			900°F (482°C)			900°F (482°C)		

▲ Contact ZOOK

* Process side protective ring is required when specified burst pressure is at or below the value shown in this column

MONEL - TM Huntington Alloys
INCONEL - TM International Nickel

Table 1 – notes

- Maximum burst pressures depend on disk size and application temperature. Pressures to 50,000 psig are available
- Other materials and sizes are available upon request
- For sizes and burst ratings not shown, contact ZOOK
- Not all pressures are achievable with FPB Series Disks. If Manufacturing tests do not yield desired results, consideration must be given to alternate materials, alternate disk designs, or a broader manufacturing range
- Maximum temperature for lined FPB-L with PFA material liner: 500°F (260°C)
- Maximum temperature for lined FPB-L with PTFE material liner: 400°F (204°C)

Table 2 – Manufacturing Range/Burst Tolerance – psig (bar) @ 72°F (22°C)

Specified burst rating psig (bar)	Manufacturing Range (psi)		Burst Tolerance
	minus	plus	
2.5 (0.17) to below 4 (0.28)	1	1	▲
4 (0.28) to below 7 (0.48)	1	2	
7 (0.48) to below 11 (0.76)	1.5	2.5	
11 (0.76) to below 15 (1.03)	2	3	± 2 psi (0.14 bar)
15 (1.03) to below 17 (1.17)	2	3	
17 (1.17) to below 26 (1.79)	2	4	
26 (1.79) to below 40 (2.76)	3	5	
40 (2.76) to below 66 (4.55)	4	6	± 5%
66 (4.55) to below 101 (6.97)	5	9	
101 (6.97) to below 151 (10.41)	6	12	
151 (10.41) to below 201 (13.86)	9	16	
201 (13.86) to below 351 (24.21)	12	23	
351 (24.21) to below 500 (34.48)	15	30	
over 500 (34.48)	3%	6%	

▲ Contact ZOOK

Table 2 – notes

- 1/4 and 1/2 Manufacturing Ranges are available.
- Burst tolerances are the maximum expected variation from the marked burst rating on disk tag



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