



PB Series Forward-Acting Metal Rupture Disks

Features

- The PB series is a forward-acting, tension-loaded design
- Operating ratios up to 75% of the low end of burst tolerance
- Excellent for liquid, gas or 2 phased flow
- Wide range of standard and exotic materials available
- Sizes from 1/4" (6mm) through 24" (600mm)
- Burst ratings from 3 psig (0.21 barg) to 60,000 psig (4136.85 barg)
- 3-dimensional stainless steel tag permanently engraved with complete disk specifications
- ASME, CE (PED), and TÜV compliance available

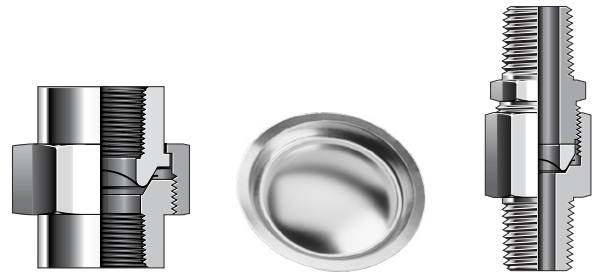


Options

- PB-V **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
- PB-L **Liners / Coatings** Teflon liners are available to provide protection from corrosive media if required. Coatings are also available. Refer to Table for maximum temperature ratings for disk, liner and coatings
- PB-R **Protective Rings** are recommended with PB Series Disks to protect delicate materials and/or to provide stability when vacuum supports are not supplied



PB Series disk mounts into 7A - Angle Seat disk holder (refer to 7A - Angle Seat data sheet)



Contact ZOOK for Union & Screw-type options



PB Series Specifications

Minimum and Maximum Pressure Ratings - psig (barg) @ 72°F (22°C) Protective Ring and Temperature Specifications

Disk Size	316			Inconel			Monel			Hastelloy C276			Nickel			Aluminum			MNFA in ² (mm ²)	
	Min.	P.R.*	Max.	Min.	P.R.*	Max.	Min.	P.R.*	Max.	Min.	P.R.*	Max.	Min.	P.R.*	Max.	Min.	P.R.*	Max.	PB PBUT	PB-V PBUT-V
1/4"	1228	▲	60000	1065	▲	60000	445	▲	30000	1228	▲	30000	495	▲	30000	180	▲	1600	0.05	-
6.35 mm	84.69	▲	4139.94	73.45	▲	4139.94	30.69	▲	2068.97	84.69	▲	2068.97	34.14	▲	2068.97	12.41	▲	110.34	32.26	-
1/2"	600	1000	9000	450	1000	9000	360	1000	9000	600	1000	9000	275	1000	9000	75	150	1500	0.17	0.13
12.70 mm	41.38	68.97	620.69	31.03	68.97	620.69	24.83	68.97	620.69	41.38	68.97	620.69	18.97	68.97	620.69	5.17	10.34	103.45	109	83.87
3/4"	400	900	9000	350	900	9000	230	700	9000	400	900	9000	220	700	9000	60	125	1000	0.44	0.35
19.05 mm	27.59	62.07	620.69	24.14	62.07	620.69	15.86	48.28	620.69	27.59	62.07	620.69	15.17	48.28	620.69	4.14	8.62	68.97	283	225
1"	300	700	9000	220	700	9000	175	500	9000	300	700	9000	135	500	9000	35	60	1000	0.71	0.51
25 mm	20.69	48.28	620.69	15.17	48.28	620.69	12.07	300.00	620.69	20.69	48.28	620.69	9.31	34.48	620.69	2.41	4.14	68.97	458	329
1-1/2"	200	500	6000	140	500	6000	115	300	6000	200	500	6000	90	300	6000	23	40	800	1.54	1.05
40 mm	13.79	34.48	413.79	9.66	34.48	413.79	7.93	20.69	413.79	13.79	34.48	413.79	6.21	20.69	413.79	1.59	2.76	55.17	993	677
2"	110	350	6000	95	300	6000	65	300	4000	110	350	6000	60	300	4000	15	35	600	3.36	3.19
50 mm	7.59	24.14	413.79	6.55	20.69	413.79	4.48	20.69	275.86	7.59	24.14	413.79	4.14	20.69	275.86	1.03	2.41	41.38	2167	2058
3"	90	300	6000	75	250	4000	50	250	3000	90	300	6000	40	200	3000	10	30	500	7.39	7.02
80 mm	6.21	20.69	413.79	5.17	17.24	275.86	3.45	17.24	206.90	6.21	20.69	413.79	2.76	13.79	206.90	0.69	2.07	34.48	4767	4529
4"	60	250	5000	55	250	3000	40	175	2000	60	250	5000	30	140	2000	8	40	390	12.73	12.18
100 mm	4.14	17.24	344.83	3.79	17.24	206.90	2.76	12.07	137.93	4.14	17.24	344.83	2.07	9.66	137.93	0.55	2.76	26.90	8212	7858
6"	50	200	3500	40	200	2500	30	175	1500	50	200	3500	25	100	1500	7	40	290	28.27	21.76
150 mm	3.45	13.79	241.38	2.76	13.79	172.41	2.07	12.07	103.45	3.45	13.79	241.38	1.72	6.90	103.45	0.48	2.76	20.00	18238	14038
8"	40	210	1500	30	200	1500	25	100	1200	40	210	1500	18	100	1200	6	30	225	50.01	35.92
200 mm	2.76	14.48	103.45	2.07	13.79	103.45	1.72	6.90	82.76	2.76	14.48	103.45	1.24	6.90	82.76	0.41	2.07	15.52	32264	23174
10"	30	170	750	25	170	750	20	125	750	30	170	750	16	125	750	6	25	175	78.54	57.96
250 mm	2.07	11.72	51.72	1.72	11.72	51.72	1.38	8.62	51.72	2.07	11.72	51.72	1.10	8.62	51.72	0.41	1.72	12.07	50670	37393
12"	25	180	700	22	180	750	18	125	700	25	180	700	14	80	700	5	25	150	113.10	85.54
300 mm	1.72	12.41	48.28	1.52	12.41	51.72	1.24	8.62	48.28	1.72	12.41	48.28	0.97	5.52	48.28	0.34	1.72	10.34	72967	55186
Max. Temp.	900°F (482°C)			900°F (482°C)**			800°F (427°C)			900°F (482°C)			750°F (399°C)			250°F (121°C)				

Notes: ▲ Not Available

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

** Contact ZOOK for higher temperatures

• Other materials and sizes are available upon request
• For sizes, burst ratings and temperatures not shown, contact ZOOK
• Maximum temperature for lined PB-L with Teflon material liner: 500°F (260°C)

• Not all pressures are achievable with PB Series Disks. If Manufacturing tests do not yield desired results, consideration must be given to alternate materials, alternate disk designs, or a broader manufacturing design range

Table Tolerance

Table Tolerance - ZOOK and ASME											Table Tolerance - PED						
Burst Pressure Range (psig)		ZOOK and ASME Manufacturing Design Range (psig)								Burst Tolerance	Burst Pressure Range (barg)		Total Performance Tolerance				
		Standard		Reduced Tolerance									Standard	Reduced Tolerance			
Minimum	Maximum	Minus	Plus	Half Minus	Half Plus	Quarter Minus	Quarter Plus	Zero Minus	Zero Plus		Minimum	Maximum		Good	Better	Best	
Min	<1.0	0	0.3	0.00	0.15	0.00	0.08	0.00	0.00	± 0.25 psig	Min	<0.069	±75%	±73%	±70%	±0.017 barg	
1.0	<2.5	0.5	0.5	0.25	0.25	0.13	0.13	0.00	0.00	± 0.33 psig	0.069	<0.172	±65%	±45%	±35%	±0.023 barg	
2.5	<4.0	1	1	0.50	0.50	0.25	0.25	0.00	0.00	± 0.5 psig	0.172	<0.276	±50%	±30%	±20%	±0.035 barg	
4.0	<7.0	1	2	0.50	1.00	0.25	0.50	0.00	0.00	± 0.5 psig	0.276	<0.483	±50%	±30%	±20%	±0.035 barg	
7.0	<11.0	1.5	2.5	0.75	1.25	0.38	0.63	0.00	0.00	± 0.8 psig	0.483	<0.759	±50%	±30%	±20%	±0.055 barg	
11.0	<15.0	2	3	1.00	1.50	0.50	0.75	0.00	0.00	± 1.3 psig	0.759	<1.034	±25%	±20%	±15%	±0.090 barg	
15.0	<17	2	3	1.00	1.50	0.50	0.75	0.00	0.00	± 2.0 psig	1.034	<1.172	±25%	±20%	±15%	±0.138 barg	
17	<26	2	4	1.00	2.00	0.50	1.00	0.00	0.00	± 2.0 psig	1.172	<1.793	±25%	±20%	±15%	±0.138 barg	
26	<40	3	5	1.50	2.50	0.75	1.25	0.00	0.00	± 2.0 psig	1.793	<2.758	±20%	±15%	±10%	±0.138 barg	
40	<66	4	6	2.00	3.00	1.00	1.50	0.00	0.00	± 5%	2.758	<4.552	±15%	±10%	±7.5%	±5%	
66	<101	5	9	2.50	4.50	1.25	2.25	0.00	0.00	± 5%	4.552	<6.966	±15%	±10%	±7.5%	±5%	
101	<151	6	12	3.00	6.00	1.50	3.00	0.00	0.00	± 5%	6.966	<10.412	±10%	±7.5%	±6.5%	±5%	
151	<201	9	16	4.50	8.00	2.25	4.00	0.00	0.00	± 5%	10.412	<13.859	±10%	±7.5%	±6.5%	±5%	
201	<351	12	23	6.00	11.50	3.00	5.75	0.00	0.00	± 5%	13.859	<24.201	±10%	±7.5%	±6.5%	±5%	
351	<500	15	30	7.50	15.00	3.75	7.50	0.00	0.00	± 5%	24.201	<34.474	±10%	±7.5%	±6.5%	±5%	
500	Max	3%	6%	1.5%	3.0%	0.75%	1.5%	0.00	0.00	± 5%	34.474	Max	±10%	±7.5%	±6.5%	±5%	

Certified Flow Resistance Factors

Disk Type	Krgl
PB	0.92
PB-V	5.46

Teflon - TM The Chemours Company
Inconel - TM Special Metals Corporation
Monel - TM Special Metals Corporation
Hastelloy - TM Haynes International



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Visit us at www.zookdisk.com

SERVING AMERICA, CENTRAL & SOUTH AMERICA

16809 Park Circle Drive
Chagrin Falls, Ohio 44022
United States

Toll Free: +1 800 543 1043
Phone: +1 440 543 1010
Fax: +1 440 543 4930
E-mail: sales@zookdisk.com

SERVING EUROPE, MIDDLE EAST & AFRICA

Navigation House, Bridge St.
Killammarsh, Sheffield, S21 1AL
United Kingdom

Phone: +44 (0) 1909 560999
Fax: +44 (0) 1909 560860
E-mail: sales.europe@zookdisk.com

SERVING CANADA

4400 South Service Road
Burlington, Ontario, L7L 5R8
Canada

Toll Free: +1 800 370 6057
Phone: +1 905 681 2885
Fax: +1 905 681 8838
E-mail: sales.canada@zookdisk.com

SERVING ASIA PACIFIC

Unit No. 23A-05, Menara Landmark
No.12, Jalan Ngee Heng
80000 Johor Bahru, Johor,
Malaysia

Phone: +60 (7) 2910099
Fax: +60 (7) 2910096
E-mail: sales.asia@zookdisk.com



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