

CONVENTIONAL PREBULGED SOLID METAL TYPE P

DESCRIPTION

The design principle, used to ensure a predictable bursting pressure of these pressure safety devices, is simply a tension failure of a metal membrane. As the applied pressure approaches the bursting pressure, a point is reached where thinning of the metal occurs, leading rapidly to disc bursting and pressure relief.

The conventional prebulged bursting discs are available in several configurations of different components.

FEATURES AND BENEFITS

- Simple, modular construction with large variety of application specific solutions
- 75% operating ratio
- Available in a wide range of corrosion resistant materials, optionally with protective coatings / lining
- Best cost-effective protection available
- Wide range of standard configurations to suit most industry applications



APPROVALS:

- CE
- UD



SPECIFICATIONS

Type of Disc	P(V), CP(V) – CPC, CP(V)-C					
Action	Forward-Acting					
Sizes ¹	½" – 44"			DN15 – DN1100		
Disc Material	Aluminum	316 SST	Nickel 200	Monel® 400	Inconel® 600	Silver
Max. Operating Temperature	121°C	482°C	427°C	482°C	593°C	121°C
Protective Coating ²	Yes					
Ratio of Operating Pressure to Minimum Burst Pressure	75%					
Cycling Duty ³	NR	NR	NR	NR	NR	NR
Pulsating Duty (light) ³	MC	R	R	R	R	MC
Pulsating Duty (heavy)	NR	MC	MC	MC	MC	NR
Vacuum Service (without vacuum support V) ⁴	NR	NR	NR	NR	NR	NR
Vacuum Service (with vacuum support V) ³	R	R	R	R	R	R
Polymerisation Processes	NR	NR	NR	NR	NR	NR
Hydraulic Service	R	R	R	R	R	R
Minimal Fragmentation	NR	NR	NR	NR	NR	NR
Seat Configuration ⁵	30°					
Use in Flanged Holders – Type BT	Yes					
Use in Union Type Holders – Type UT	Yes					
Use in Screw Type Holders – Type ST	Yes					

R = RECOMMENDED MC = MARGINAL CONDITIONS NR = NOT RECOMMENDED

(1) Consult Fike for discs > DN600 (24").

(2) Maximum temperature for various coatings: Urethane Acrylic 65°C, Urethane 120°C and Teflon 230°C.

(3) When burst pressure is over 70 barg, these duties are recommended.

(4) When burst pressure is below 70 barg, then vacuum resistance requires the use of vacuum support.

(5) Discs over DN600 (24") have flat seat design.



BURST PRESSURES IN BARG AT 22°C ¹

Disc Material	Aluminum 1100		Aluminum 1100, Polyurethane coat one side		Aluminum 1100, Polyurethane coat both sides		Aluminum 1100, Teflon® coat one side		Aluminum 1100, Teflon® coat both sides		Silver		1.4401 (316 SST) / 1.4404 (316L SST)		Nickel 200/201		Monel® 400		Inconel® 600			
	Max. Temp: 121°C		Max. Temp: 121°C		Max. Temp: 121°C		Max. Temp: 121°C		Max. Temp: 121°C		Max. Temp: 121°C		Max. Temp: 482°C		Max. Temp: 427°C		Max. Temp: 482°C		Max. Temp: 593°C			
Size	ANSI	DN	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1/2"	15	4.48	79.29	4.48	79.29	5.17	79.29	6.21	79.29	8.96	79.29	16.89	206.84	34.47	758.42	18.96	206.84	26.20	758.42	31.03	758.42	
3/4"	20	3.10	46.88	3.10	46.88	3.45	46.88	4.14	46.88	6.21	46.88	12.07	206.84	27.58	689.48	12.07	206.84	20.68	689.48	17.24	689.48	
1"	25	2.28	35.85	2.34	35.85	2.34	35.85	3.45	35.85	5.17	35.85	8.62	206.84	17.24	413.69	8.27	206.84	11.72	413.69	14.82	413.69	
1 1/2"	40	1.72	23.44	1.72	23.44	1.86	23.44	2.41	23.44	3.45	23.44	5.86	206.84	13.10	206.84	6.21	206.84	7.93	206.84	9.65	206.84	
2"	50	1.17	15.17	1.38	15.17	1.65	15.17	1.93	15.17	2.76	15.17	3.79	172.37	7.58	206.84	4.14	206.84	4.48	206.84	6.89	206.84	
3"	80	0.69	10.69	0.97	10.69	1.17	10.69	1.72	10.69	2.07	10.69	2.41	137.90	6.21	206.84	2.76	206.84	3.45	206.84	5.86	206.84	
4"	100	0.55	7.93	0.76	7.93	0.90	7.93	1.03	7.93	1.38	7.93	1.70	103.42	4.14	206.84	2.10	206.84	2.62	206.84	3.79	206.84	
6"	150	0.48	5.86	0.55	5.86	0.69	5.86	0.69	5.86	1.00	5.86	1.40	68.95	3.45	148.93	1.72	148.93	2.00	148.93	3.10	148.93	
8"	200	0.34	4.48	0.34	4.48	0.41	4.48	0.55	4.48	0.69	4.48	1.17	34.47	2.76	99.28	1.24	99.28	1.59	99.28	2.21	99.28	
10"	250	0.31	3.45	0.34	3.45	0.41	3.45	0.55	3.45	0.69	3.45	-	-	2.14	49.64	1.24	49.64	1.59	49.64	1.79	49.64	
12"	300	0.22	3.10	0.28	3.10	0.34	3.10	0.48	3.10	0.62	3.10	-	-	1.86	49.64	1.20	49.64	1.31	49.64	1.65	49.64	
14"	350	0.19	2.76	0.28	2.76	0.34	2.76	0.41	2.76	0.55	2.76	-	-	1.65	49.64	1.00	49.64	1.17	49.64	1.38	49.64	
16"	400	0.17	2.41	0.28	2.41	0.34	2.41	0.41	2.41	0.55	2.41	-	-	1.45	49.64	0.83	49.64	1.03	49.64	1.24	49.64	
18"	450	0.16	2.07	0.28	2.07	0.34	2.07	0.41	2.07	0.55	2.07	-	-	1.24	49.64	0.83	49.64	1.03	49.64	1.17	49.64	
20"	500	0.14	1.72	0.28	1.72	0.34	1.72	0.41	1.72	0.55	1.72	-	-	1.03	49.64	0.83	49.64	1.03	49.64	1.03	49.64	
24"	600	0.10	1.38	0.28	1.38	0.34	1.38	0.41	1.38	0.55	1.38	-	-	1.72	49.64	1.52	49.64	2.96	49.64	3.10	49.64	

(1) Lower burst pressures may be possible – consult factory.

PERFORMANCE TOLERANCES ¹

Burst Pressure in barg at 22°C	Performance Tolerance at 22°C
≤ 1.5	± 0.15 barg
1.5 < burst pressure < 2.76	stand. ± 10% / red. ± 0.15 barg
≥ 2.76	stand. ± 10% / red. ± 5%

(1) Consult Fike for possibility to reduce tolerances.

Performance tolerance as specified by ISO/EN is a total tolerance which includes both manufacturing and bursting tolerance.

As per ISO/EN the bursting discs can be marked with:

- Specified burst pressure with a performance tolerance (in % or a value)
E.g.: 10 barg at 22°C ± 10% (± 1 barg).
- Maximum and minimum burst pressure.
E.g.: Max 11 barg at 22°C - min 9 barg at 22°C

On request bursting discs can be marked as per ASME code section VIII with the average burst test result and the bursting tolerance of ± 5% for burst pressures ≥ 2.76 barg. (0.15 barg for burst pressures < 2.76 barg).