CONVENTIONAL PREBULGED (P) & CPV SERIES

UD
ASME Authorized
Specify When Ordering

Data Sheet

DESCRIPTION

Conventional Prebulged (P) and CPV Series Rupture Discs are designed for installation in flanges which utilize the standard 30° angular seating arrangement.

The Conventional Prebulged (P) Rupture Disc is a single-member disc that may utilize a Teflon® or polyurethane coating on either or both sides. A vacuum support may be used in conjunction with the Conventional Prebulged (P) Disc and can be coated on either or both sides with Teflon® or polyurethane. Vacuum supports are not normally required if the burst pressure of the disc is in excess of 1000 psig (69 barg). If the disc may be subjected to back pressures in excess of 14.7 pounds (1.013 barg), Fike must be advised, since it may be necessary to construct a special pressure support.

P-Type Rupture Disc

The CPV Rupture Disc is a three-member disc that consists of a retainer ring, a rupture disc, and a vacuum support. These components are spot welded together to make a sturdy, closely fitted unit. The rupture disc and vacuum support components may be coated or lined in the same manner as the Conventional Prebulged (P) Disc and vacuum support.

CPV Rupture Disc

The CPV-C Disc is constructed the same as the CPV Disc except that a full cover is used in place of the retainer ring, protecting the disc from downstream dirt or rust. The CPV-C Disc retains the same advantages of ruggedness and ease of installation as the CPV Disc.

When reordering rupture discs, specify the product and the serial number of the item being replaced.

TABLE 1
STANDARD MANUFACTURING RANGES*

Specified Rupture Pressure		Mfg. Range % @ 72°F/22°C
PSIG @ 72°F	barg @ 22°C	
less than 4	less than .276	zero
4-6	.276	+40 to 20
7-10	.5-.7	+30 to -15
11-15	.8-1.0	+20 to -10
16-25	1.1-1.7	+16 to -8
26-45	1.8-3.1	+14 to -7
46-90	3.2-6.2	+12 to -6
91-270	6.3-18.6	+10 to -5
271-500	18.7-34.5	+8 to -4
501-up	34.6-up	+6 to -3

TABLE 2
NORMAL RUPTURE TOLERANCE

Marked Rupture Pressure		Rupture Tolerance % @ 72°F/22°C
PSIG @ 72°F	barg @ 22°C	
less than 5	less than .345	±1 psi/.07 barg
5-14.99	.345-1.034	±1.5 psi/.103 barg
15-40	1.034-2.758	±2 psi/.138 barg
above 40	above 2.758	±5%

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TABLE 3
P, CP & CPV SERIES RUPTURE DISC BURST PRESSURES[1] @ 72°F/22°C

Rupture Disc	In.	1/2	3/4	1	1 1/2	2	3	4	6	8	10	12	14	16	18	20	24
Aluminum 1100, Max. Temp. 250°F/121°C	Min.[4]	65	45	33	25	17	10	8	7	5	4.5	3.2	2.8	2.5	2.3	2.0	1.5
	Max.	1150	680	520	340	220	155	115	85	65	50	45	40	35	30	25	20
Aluminum 1100, lead lined one side[5] Max. Temp. 250°F/121°C	Min.[4]	89	61	46	31	18	14	11	9	7	6	5	5	4			
	Max.	1150	680	520	340	220	155	115	85	65	50	45	40	35			
Aluminum 1100, polyurethane coat one side[3] Max. Temp 250°F/121°C	Min.[4]	65	45	34	25	20	14	11	8	5	5	4	4	4	4	4	4
	Max.	1150	680	520	340	220	155	115	85	65	50	45	40	35	30	25	20
Aluminum 1100, polyurethane coat both sides[3] Max. Temp. 250°F/121°C	Min.[4]	75	50	34	27	24	17	13	10	6	6	5	5	5	5	5	5
	Max.	1150	680	520	340	220	155	115	85	65	50	45	40	35	30	25	20
Aluminum 1100,Teflon® coat one side[3] Max. Temp. 250°F/121°C	Min.[4]	90	60	50	35	28	25	15	10	8	8	7	6	6	6	6	6
	Max.	1150	680	520	340	220	155	115	85	65	50	45	40	35	30	25	20
Aluminum 1100, Teflon® coat both sides[3] Max. Temp. 250°F/121°C	Min.[4]	130	90	75	50	40	30	20	5	10	10	9	8	8	8	8	8
	Max.	1150	680	520	340	220	155	115	85	65	50	45	40	35	30	25	20
Copper[5], Max. Temp. 250°F/121°C	Min.[4]	210	140	110	65	35	28	30	26	37							
	Max.	3000	3000	3000	3000	2500	1500	1000	1000	700							
Copper, lead lined[5] Max. Temp. 250°F/121°C	Min.[4]	235	155	125	73	40	32	33	28								
	Max.	3000	3000	2000	1500	1000	800	600	500								
Silver, Max. Temp. 250°F/121°C	Min.[4]	245	175	125	85	55	35	25	20	17							
	Max.	3000	3000	3000	3000	2500	2000	1500	1000	500							
Nickel 200/201, Max. Temp. 800°F/427°C	Min.[4]	275	175	120	90	60	40	30.5	25	18	18	17	15	12	12	12	22
	Max.	3000	3000	3000	3000	3000	3000	3000	2160	1440	720	720	720	720	720	720	720
Monel® 400, Max. Temp. 900°F/482°C	Min.[4]	380	300	170	115	65	50	38	29	23	23	19	17	15	15	15	43
	Max.	10000	10000	6000	3000	3000	3000	3000	2160	1440	720	720	20	20	20	720	720
Inconel® 600, Max. Temp. 1100°F/593°C	Min.[4]	450	250	215	140	100	85	55	45	32	26	24	20	18	17	15	45
	Max.	10000	10000	6000	3000	3000	3000	3000	2160	1440	720	720	20	20	20	720	720
316 SST/316L SST, Max. Temp. 900°F/482°C	Min.[4]	500	400	250	190	110	90	60	50	40	31	27	24	21	18	15	25
	Max.	10000	10000	6000	3000	3000	3000	3000	2160	1440	720	720	20	20	20	720	720

*Notes:
1.) Consult factory for discs larger than 24" in diameter (DN600)
2.) All or any one of the members of the three-component disc may be coated with polyurethane 250°F/121°C; or Teflon 450°F/232°C. All Nickel, Monel®, Inconel® and stainless steel discs, when coated with Teflon® or polyurethane, will have slightly higher minimum burst pressures than those listed in Table 3. Maximum temperature application of a disc with a coating depends upon the maximum temperature application of either the metal or the coating, whichever is lower. The maximum temperatures of the metal discs are tabulated above.
3.) Lower minimum burst pressures may be possible. Consult factory for availability and performance limitations.

Performance Attributes			Process Media		Rupture Disc Holders		
Operating Ratio	Vacuum Resistant	Pulsating/ Cyclic	Liquid	Vapor/Gas	Bolted/Type	Screw Type	Union Type
70%	yes	yes	yes	yes	yes	yes	yes

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