D Series

Forward-Acting Composite Metal Rupture Disks

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

Features

- The D Series is a slotted metal top section and allows the use of metal & teflon seal materials. A wide variety of corrosive resistant seal materials are available
- State-of-the-art laser slotted metal burst cap
- Operating ratios up to 85% of the low end of burst tolerance
- Disk design offers high cycle life
- Excellent for liquid, gas or 2 phased flow
- Wide range of standard and exotic materials available
- Sizes from 1/2” (13mm) through 24” (600mm)
- Burst ratings from 3 psig (0.21 barg) to 2500 psig (172.37 barg)
- 3-dimensional stainless steel tag permanently engraved with complete disk specifications
- ASME, CE (PED), and TÜV compliance available

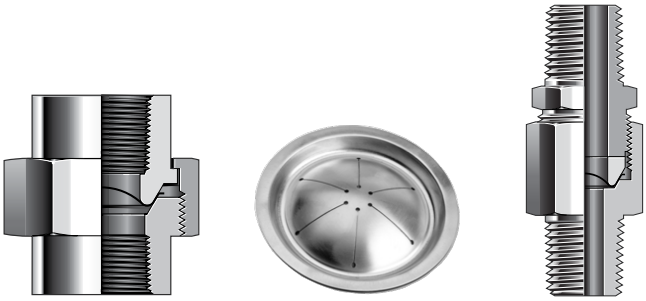
Options

D-V & TLDV **Vacuum Supports** are required on vacuum services. Vacuum supports allow the disk to support full system vacuum

D-R & R-D-R **Protective Rings** are recommended with D Series disks to protect delicate materials and/or to provide stability when vacuum supports are not supplied

D-H **Handling Supports** are attached to the process side of the disk to protect disk seals when vacuum supports are not supplied

L-D & TLDV **Atmospheric liners** add extra protection against corrosive process conditions downstream of the disk



Contact ZOOK for Union & Screw-type options

D Series Specifications

D Series Minimum and Maximum Pressure Ratings psig (barg) @ 72°F (22°C)

Disk Size	Minimum Burst Pressures with Listed Seal Materials									
	Top Section 316SS, Nickel, Inconel, Monel or Hastelloy C276							Maximum Burst Pressures (Any Seal)	MNFA in² (mm²)	
	316	Inconel	Monel	Nickel	Hastelloy C276	Aluminum	PFA		D DUT	D-V DUT-V
1/2”	1100	880	600	540	1100	140	90	2500	0.17	0.13
12.70 mm	75.843	60.674	41.369	37.232	75.843	9.653	6.206	172.368	109	83.87
3/4”	800	700	460	440	800	110	60	2500	0.44	0.35
19.05 mm	55.159	48.264	31.716	30.337	55.159	7.585	4.137	172.368	283	225
1”	400	300	240	185	400	60	25♦	2500	0.71	0.51
25 mm	27.580	20.685	16.548	12.756	27.580	4.137	1.723	172.368	458	329
1-1/2”	275	200	155	125	275	35	20	2000	1.54	1.05
40 mm	18.961	13.790	10.687	8.619	18.961	2.414	1.379	137.895	993	677
2”	165	120	90	80	165	25	15♦	1500	3.36	3.19
50 mm	11.377	8.274	6.206	5.516	11.377	1.724	1.035	103.421	2167	2058
3”	125	95	70	55	125	15	10♦	1000	7.39	7.02
80 mm	8.619	6.551	4.827	3.793	8.619	1.035	0.690	68.947	4767	4529
4”	90	75	50	40	90	12♦	8♦	900	12.73	12.18
100 mm	6.206	5.172	3.448	2.758	6.206	0.828	0.552	62.052	8212	7858
6”	75	60	40	35	75	10♦	6♦	700	28.27	21.76
150 mm	5.172	4.137	2.758	2.414	5.172	0.690	0.414	48.263	18238	14038
8”	60	40	35	25	60	8♦	5♦	600	50.01	35.92
200 mm	4.137	2.758	2.414	1.724	4.137	0.552	0.345	41.368	32264	23174
10”	45	30	30	22	45	7♦	4♦	500	78.54	57.96
250 mm	3.103	2.069	2.069	1.517	3.103	0.483	0.276	34.473	50670	37393
12”	40	25	25	19	40	7♦	3♦	400	113.10	85.54
300 mm	2.758	1.724	1.724	1.311	2.758	0.483	0.207	27.579	72967	55186
Max. Seal Temp.	900°F (482°C)	900°F (482°C)*	800°F (427°C)	750°F (399°C)	900°F (482°C)	600°F (316°C)	500°F (260°C)			

Notes: * Contact ZOOK for higher temperatures
♦ Contact the factory for ASME minimums or NB-18
• For sizes, burst ratings and temperatures not shown, contact ZOOK

L-D and TLDV Series Minimum and Maximum Pressure Ratings psig (barg) @ 72°F (22°C)

Disk Size	L-D		TLDV			
	Top Section 316, Nickel, Inconel or Monel		Top Section			
			316, Inconel or Monel		Nickel	
	Seal Material: PFA		Seal Material: PFA		Seal Material: PFA	
	min.	max.	min.	max.	min.	max.
1”	50	1000	80	1000	80	600
25 mm	3.448	68.947	5.516	68.947	5.516	41.368
1-1/2”	40	700	75	700	75	450
40 mm	2.758	48.263	5.172	48.263	5.172	31.026
2”	25	550	35	550	35	395
50 mm	1.724	37.921	2.414	37.921	2.414	27.234
3”	20	450	25	450	25	315
80 mm	1.379	31.026	1.724	31.026	1.724	21.718
4”	15	410	18	410	18	300
100 mm	1.035	28.268	1.242	28.268	1.242	20.684
6”	10♦	320	14♦	320	14♦	225
150 mm	0.690	22.063	0.966	22.063	0.966	15.513
8”	7.5♦	290	11♦	290	11♦	200
200 mm	0.518	19.994	0.759	19.994	0.759	13.789
10”	5♦	240	8♦	240	8♦	160
250 mm	0.345	16.547	0.552	16.547	0.552	11.031
12”	5♦	200	8♦	200	8♦	140
300 mm	0.345	13.789	0.552	13.789	0.552	9.652
Max. Temp.	500°F (260°C)		500°F (260°C)		500°F (260°C)	

Notes: ♦ Contact the factory for ASME minimums or NB-18
• For sizes, burst ratings and temperatures not shown, contact ZOOK

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		
				Half		Quarter		Zero						Good	Better	Best
Minimum	Maximum	Minus	Plus	Minus	Plus	Minus	Plus	Minus	Plus		Minimum	Maximum				
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
D	2.40
D-V	6.21

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

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