



BS&B SAFETY SYSTEMS, INC.
BS&B SAFETY SYSTEMS LTD.

TYPE AVB, VAC-SAF™ Atmospheric Vacuum Breaker RUPTURE DISK

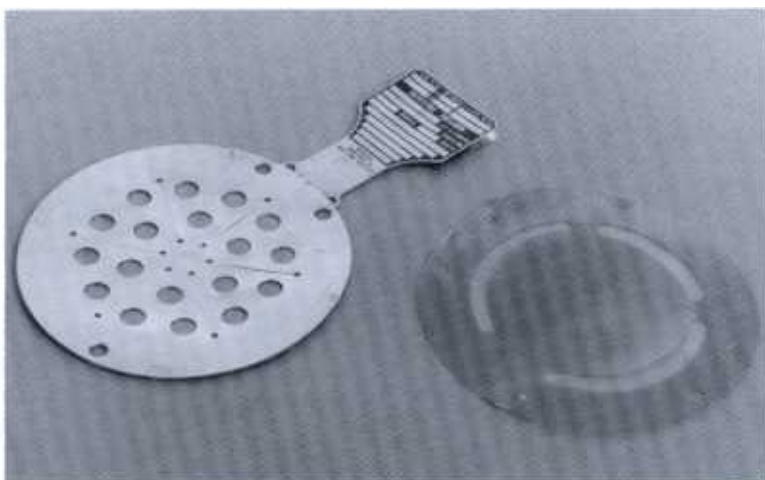
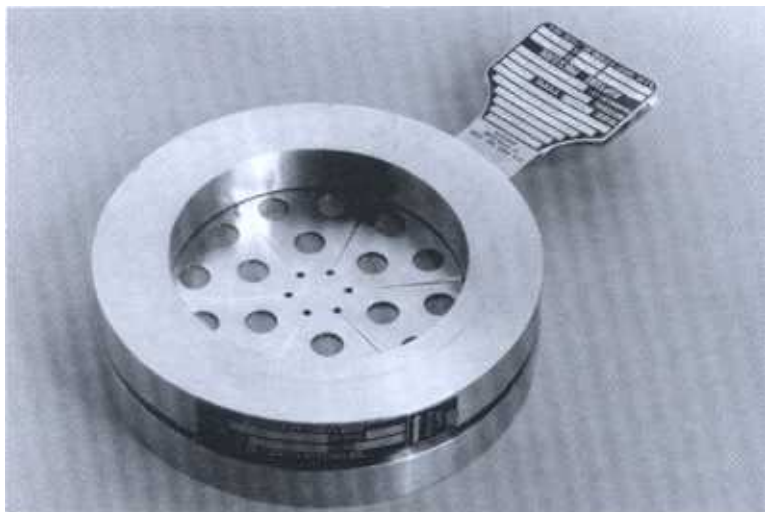
CATALOG
77-8004

SECTION C-8

A two way relief Rupture Disk designed to protect vessels, silos, storage tanks etc against both positive overpressure and implosions under vacuum conditions.

FEATURES

1. A dual acting, flat rupture disk which bursts in one direction to relieve positive overpressure and in the other direction as a vacuum breaker.
2. Available in sizes 3" (80mm), 4" (100mm), 6" (150mm) and 8" (200mm).
3. Pressure ratings include 3 psig and up on the positive side and 1 psig and up on the vacuum side.
4. To achieve maximum disk service life operating pressures may be up to 70% of the tagged burst pressure in the positive direction and up to 60% in the vacuum direction.
5. The AVB disk is installed in a VB-7R QUIKSERT Safety Head which fits between the bolts of two companion flanges.
6. Asymmetric alignment pins in the Safety Head mate with locator holes in the rupture disk for proper alignment and installation.



CONSTRUCTION

1. The AVB Rupture Disk is an assembly comprised of four component parts. (Figure 1)
2. Positive pressure relief is controlled by the top section (Figure 1, part 4). Available in standard materials: 316 SS, Inconel, Monel, Nickel and Hastelloy C-276.
3. When positive overpressure relief occurs, the complete disk assembly must be replaced.
4. When only vacuum relief occurs, replacement vacuum components (Figure 1, Parts 1, 2 & 3) are available to be used with the undamaged top section.

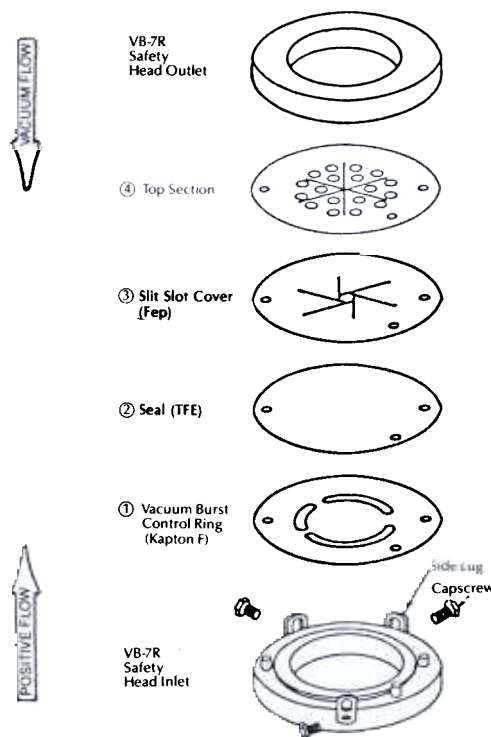


Figure 1



SELECTION DATA VAC-SAF™

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Table I: Positive Pressure Relief

Min/Max Burst Pressures

Disk Size		Min		Max		Relief Area
in	mm	PSIG	BARG	PSIG	BARG	
3	80	5	0.35	100	6.89	Full
4	100	5	0.35	100	6.89	Full
6	150	3	0.21	85	5.86	Full
8	200	3	0.21	65	4.48	Full

Min/Max ratings are applicable at 72°F, 22°C

Manufacturing Ranges

1. Available with 0%, 5% and 10% manufacturing ranges.
 2. Disks with 0% manufacturing range will be tagged at requested rating.
 3. On disks with 5% or 10% manufacturing range, the total range is placed on the minus side of the requested burst pressure.
- EXAMPLE: If a 50 psig disk is requested with a 10% manufacturing range, it may be tagged at any pressure between 45 psig and 50 psig.

Burst Tolerances

Burst tolerances are the maximum variation from the tagged burst pressure rating:

Tagged Burst Pressure Rating		Burst Tolerance %
PSIG	BARG	
3-5	0.21-0.35	±25
6-8	0.41-0.55	±20
9-12	0.62-0.83	±15
13-17	0.9 -1.17	±10
18-25	1.24-1.72	± 7
26-up	1.8 -up	± 5

Table II: Vacuum Pressure Relief

Min/Max Burst Pressures

Disk Size		Min		Max		Burst Range		Relief Area	
in	mm	PSIG	BARG	PSIG	BARG	PSIG	BARG	in ²	cm ²
3	80	3	0.206	10	0.689	± .5	±.0345	2.03	13.1
4	100	2	0.138	10	0.689	± .5	±.0345	3.58	23.1
6	150	1.5	0.103	6	0.413	±.25	±.0172	5.93	38.25
8	200	1	0.069	6	0.413	±.25	±.0172	9.25	59.68

Min/Max ratings are applicable at 72°F, 22°C

Burst Range

Standard marking is the burst range. All tolerances and manufacturing ranges are within the burst range. EXAMPLE: If a 4" 5 psig disk is specified, the tag will be stamped 4.5 psig to 5.5 psig.

Temperature Limits

	°F	°C
MIN	- 40	- 40
MAX	400	204

VB-7R SAFETY HEAD SPECIFICATIONS

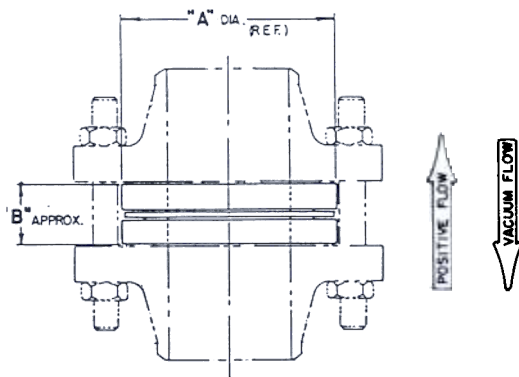


Figure 2

Dimensions

Nominal Size		Flange Bolting		"A" Outside Diameter		"B" Overall Height	
in	mm	ANSI	DIN	ANSI(in)	DIN(mm)	in	mm
3	80	150	10/16	5.250	142	1.25	31.75
4	100	150	10/16	6.750	162	1.25	31.75
6	150	150	10/16	8.625	218	1.25	31.75
8	200	150	10	10.875	273	1.25	31.75

Materials

304 SS

Carbon Steel

Others available on request

NOTE: Products, specifications, and all data in this literature are subject to change without notice. Questions regarding product selection and specifications for specific applications should be directed to BS&B, Attn: Customer Service Dept.

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