



ZANITARY® Series Sanitary Metal Rupture Disks



Safety through knowledge and performance.

ZANITARY® Series Metal Rupture Disks

About ZOOK

ZOOK is a global market leader with over 90 years of manufacturing expertise, developing high-performance sanitary pressure relief solutions for the pharmaceutical, life sciences, biotech and food & beverage industries. ZOOK is committed to developing pressure relief solutions for customers requiring rigorous sanitary and hygienic standards while maximizing customers' productivity and keeping their people safe.

Global Reach

ZOOK has global locations in the USA, United Kingdom, Canada and Malaysia, with two state-of-the-art manufacturing facilities supplying to over 90 channel partners worldwide.



ZOOK Unique Technology

The new patent pending technology incorporates completely new and unique design and manufacturing processes. Utilizing a materials' natural properties, this exclusive process delivers a superior fatigue resistant and high performance rupture disk. Without indentations or crevices meeting the demanding geometric 3-A requirements, the new ZANITARY disk design ensures that the process side is inherently smooth providing a high purity service.



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Ferrule Standard and NovAseptic Flanges

The ZANITARY® can be installed into the Tri-Clover, BS, DIN, and ISO Standard ferrules along with the NA tank connectors as per the following:

- Tri-Clover
- ASME BPE
- BS4825-3 1991
- ISO 2852-1993 (Second Edition 1883-06-15)
- DIN 32676-2001-02

Temperature Testing

Every batch of ZANITARY® disks is tested in environmental chambers at the coincident temperature as specified by the end-user. The use of chart compensation factors are not utilized to ensure the disk meets the exact operating environment as specified by the client.

Stress Relieving

During the production process, stresses are introduced into the disk membrane material from mechanical operations. A heat stress relieving process is applied to each disk to ensure these localized high stress points are eliminated to protect the operating performance of the disk. After stress relieving is complete, all disks are then processed through an eco-friendly passivation operation.

Welded Cartridge

Looking for a welded custom solution? The welded cartridge combines the ZANITARY® product with ZOOK's in-house welding technology:

- Creates a cartridge style design which eliminates risk of disk damage
- Eliminates the need to separate piping system, a true "plug and play" unit
- Eliminates the effect of misaligned or improper line loading on rupture disk
- Creates hermetic seals between disk and ferrule components upstream and downstream of cartridge
- Eliminates the risk of installation damage



ZANITARY® Series Metal Rupture Disks

Torque-Rite Nut Features

- An audible “click” indicating correct torque setting
- Maintains the recommended constant 50 inch/pounds force
- Retrofits all sanitary clamps, 1” to 4”
- No torque wrench or special training required
- Torque-rite® sanitary clamp nut (eliminates the problems associated with over/under tightening)



Options

- ZAN-L* A process side PFA Teflon liner provides extra protection from corrosion or viscous process build-up (PEEK liner required for 3A compliance).
- ZAN-BI* Equipped with ZOOK’s Integral Burst Indicator.
- ZAN95 Factory tested to 100% of the low end of the tolerance for optimized performance in demanding applications.
- ZANEP Electropolishing available in accordance to ASME BPE SF4

Note: *The maximum temperature rating of rupture disks supplied with liners and BI’s is lower than the base disk material.

Sensors and Detectors

- BI Burst Indicator Available*
 - Remote Sensor RDI-S Available
 - Leak Detector Device Available
- * Maximum temperature for a BI is 400°F (204°C)



Shown with optional BI Burst Indicator and EPDM gaskets

ECO-Friendly Packaging

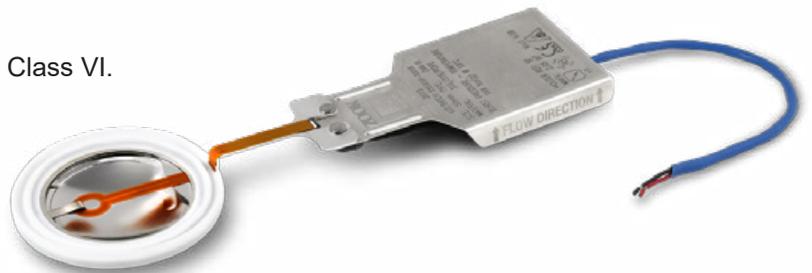
- Packaging utilizes FDA compliant coating
- Eco-Friendly Packaging does not contain any plastic
- Individually packed
- Nitrogen atmosphere bagging available

Gaskets

All gasket materials available are certified to FDA USP Class VI.

Gaskets available (other materials on request):

- Viton
- EPDM
- Buna
- PTFE (Teflon)
- Silicone



ZANITARY® Series Specifications

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

Disk Size	Minimum Burst Pressure (psig/barg)				Maximum Burst Pressure (psig/barg)	MNFA in ² (mm ²)	Tri-Clover Ferrule Dimensions in (mm)		
	316L	Hastelloy C276	ZAN-L*	ZAN-BI			Ferrule OD	Tube ID	
1"	35	65	85	+5 psig (+0.34 barg) of base material	300	0.43	1.98	0.87	
25 mm	2.41	4.48	5.86		20.7	277	50.4	22.1	
1-1/2"	15	25	45		250	1.08	1.98	1.37	
40 mm	1.03	1.72	3.10		17.24	696	50.4	34.8	
2"	11	25	35		180	2.05	2.52	1.87	
50 mm	0.76	1.72	2.41		12.41	1322	63.9	47.5	
2-1/2"	11	25	35		145	3.25	3.05	2.37	
64 mm	0.76	1.72	2.41		10	2096	77.4	60.2	
3"	11	20	30		120	4.71	3.58	2.87	
80 mm	0.76	1.38	2.07		8.27	3038	90.9	72.9	
4"	11	20	30		80	8.49	4.68	3.83	
100 mm	0.76	1.38	2.07		5.52	5477	118.9	97.4	
Max. Temp.	Dependant on the gasket material used								

Notes:

- * For PFA Liner, contact ZOOK for PEEK minimums
- For materials, sizes, burst ratings and temperatures not shown, contact ZOOK
- Contact ZOOK for higher temperatures

Manufacturing Design Range & Total Performance Tolerance

	ASME					PED			Operating Ratio
	Burst Pressure (psig)		Manufacturing Design Range	Burst Tolerance	Operating Ratio*	Burst Pressure (barg)		Total Tolerance	
	Minimum	Maximum				Minimum	Maximum		
Premium	11.0	<15	0%	±1.3 psig	100%	0.690	<1.034	±0.090 barg	100%
Standard	11.0	<15	0%	±1.3 psig	95%	0.690	<1.034	±0.090 barg	95%
Premium	15.0	<26	0%	±2.0 psig	100%	1.034	<1.793	±0.138 barg	100%
Standard	15.0	<26	0%	±2.0 psig	95%	1.034	<1.793	±0.138 barg	95%
Premium	26.0	<40	0%	±2.0 psig	100%	1.793	<2.758	±0.138 barg	100%
Standard	26.0	<40	0%	±2.0 psig	95%	1.793	<2.758	±0.138 barg	95%
Premium	40	Max	0%	±5 %	100%	2.758	Max	±5%	100%
Standard	40	Max	0%	±5 %	95%	2.758	Max	±5%	95%

* Operating ratio from minimum of burst tolerance

Notes:

- 0% manufacturing range might not be available in all materials
- Burst tolerances are the maximum expected variation from the disk's marked burst pressure

Gaskets (other materials on request)

Standard Gasket Materials (Stocked)			Temperature Range	
Materials	Cured	Colour	Min	Max
Viton	Bisphenol	Black	0° F (-18° C)	400° F (204° C)
Buna	Sulfur		-20° F (-29° C)	230° F (110° C)
EPDM	Peroxide		-67° F (-55° C)	347° F (175° C)
PTFE	-	White	-20 F (-29° C)	500° F (260° C)
Other Available Gasket Materials			Temperature Range	
Materials	Cured	Colour	Min	Max
Silicone	Peroxide	Red	-67° F (-55° C)	400° F (204° C)
		White		
		Black		
		Clear		
	Platinum	Clear		
Buna	Sulfur	White	0° F (-18° C)	400° F (204° C)
Viton	Bisphenol		-20 F (-29° C)	230° F (110° C)
EPDM	Peroxide		-67° F (-55° C)	347° F (175° C)

Teflon-TM The Chemours Company
Tri-clamp/Tri-clover – TM Alfa Laval
Torque-Rite – TM Rubber Fab

ZANITARY® Series Metal Rupture Disks



The ZANITARY® Series includes a ground-breaking rupture disk technology for rigorous sanitary and hygienic applications, utilizing the patent pending ZOOK Unique technology. The innovative manufacturing process and advanced design provides the best solution for high-performance pressure relief solutions.

Industries



 Pharmaceutical



 Life Sciences



 Biotechnology



 Food & Beverage

Applications

◦ Autoclaves	◦ Drying & Mixing Equipment	◦ Process Piping
◦ Bioreactors	◦ Fermenters	◦ Process & Transport Vessels
◦ CIP & SIP Skids	◦ Filters	◦ Safety Valve Protection
◦ Clean Steam Piping	◦ Heat Exchangers	◦ Storage Tanks



ZANITARY® Series Accessories and Differentiators

Sanitary Clamps

ZOOK offers tri-clamp fittings for use with sensors and ZANITARY® Series disks. Options are also available for high burst pressure disks.



Torque Rite Nut

The Torque Rite Nut retrofits all sanitary clamps, with no torque wrench or special training required and eliminates the problems associated with over/under tightening. An audible “click” indicates the correct inch/pounds force maintaining the recommended constant 50 inch/pounds force.

RDI-S Sensor

The RDI-S is a one-time use sensor that installs into a sanitary spool located on the ventside of a sanitary bursting disk assembly. Upon rupture of the disk, the RDI-S alarm circuit is opened by the flowing media. Fits easily into existing piping systems.



Sanitary Ferrules

ZOOK can supply 316L ferrule connections and spool pieces to meet the appropriate standard required by the customer.





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