

# **ZOOK<sup>®</sup>** Graphite Rupture Disks

ZOOK Rupture Disks provide many exclusive performance and service benefits. Information contained in this bulletin **should not** be applied to other rupture disks including impervious graphite designs of similar appearance.

# ZOOK® Graphite Rupture Disks...

protect equipment and personnel from the effects of overpressurization in static and dynamic pressurized systems. The disk is designed to rupture at a predetermined burst rating when installed in a piping system.

Each disk is made from a single piece of graphite, a high-purity form of carbon, which is impregnated with phenolic resin. The resulting material, called impervious graphite, is impermeable and is resistant to most corrosives.

Easy to install and maintain, disks:

- are tamperproof
- have no springs or moving parts
- mount directly between standard flanges without special holders.

Options and accessories increase the flexibility of standard disks. TFE coated disks offer stick-resistant surfaces. Special gaskets and stainless steel armor are also available. Spacer rings let you replace metal rupture disks without requiring piping modification. For unique applications, our engineering department will work with you to create a custom-designed disk.

ZOOK is the first and largest company in the world committed to manufacturing **QUALITY** impervious graphite rupture disks, through product innovations and superior service. ZOOK is the first graphite rupture disk manufacturer to earn the ASME Code UD symbol stamp and certificate of authorization. ZOOK is certified in accordance with the Pressure Equipment Directive (PED 97/23/EC) and can provide CE marked Graphite Rupture Disks. ZOOK is also certified in accordance to TÜV standards.

In addition:

- ZOOK offers 1-day shipment of disks with over 100 rating and diameter combinations. Service personnel are also available 24 hours-a-day, 7 days-a-week, 365 days-a-year to handle your emergency shut-down needs

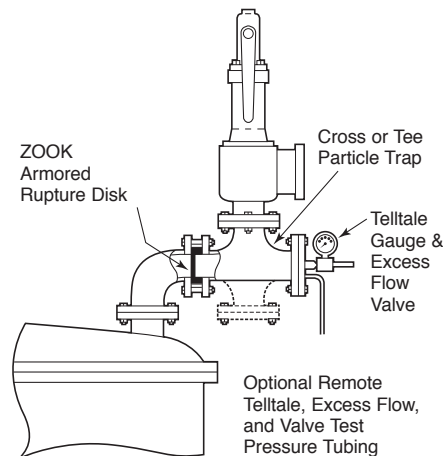
- produces a standard line of graphite disks as small as 1/2" diameter and disks with burst ratings as low as 0.25 psig
- tests disk performance at cryogenic and elevated temperatures

## Applications

ZOOK Disks enhance **SAFETY** in chemical, petrochemical, pharmaceutical, food, medical, and related processing systems around the world. Other applications include: storage tanks, tank trailers, rail cars, barges, pressured switchgear, and air conditioning compressors.

ZOOK Disks also increase *system efficiency* by:

- eliminating back pressure effects on overpressure devices in common vent lines
- solving sourcing and cost problems for disks used with highly corrosive fluids
- offering ultra low rated pressure settings
- preventing relief valves from fouling and leaking



## Installation

ZOOK Graphite Rupture Disks fit directly between standard flanges without the need for additional holders.

A flow arrow on each disk indicates proper orientation.

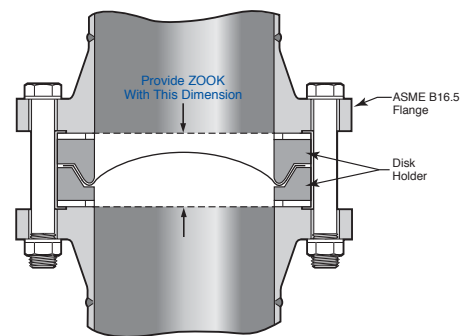
Armor provides additional protection from extraneous stress to the disk resulting from misaligned piping. Armor is standard on selected diameter and burst ratings and is required in fire case and toxic services. See **ARMOR**, page 7, for more information.

Gaskets should be ring type, non-metallic, relatively soft, and properly sized. See **GASKETS**, page 8, for more information.

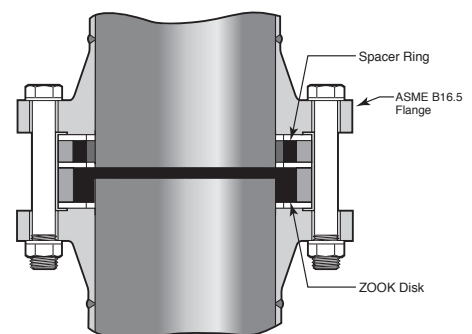
Normal good practice should be followed when making flange connections. Particular attention should be paid to ensure:

- concentric alignment of the disk and gaskets
- uniform cross-tightening of flange bolts
- adequate support of piping to withstand external loading and thrust during blowdown
- protection of personnel and equipment against high velocity open discharge of process material and rupture disk particles

## METAL Rupture Disk Installation



## Graphite Rupture Disk Replacement



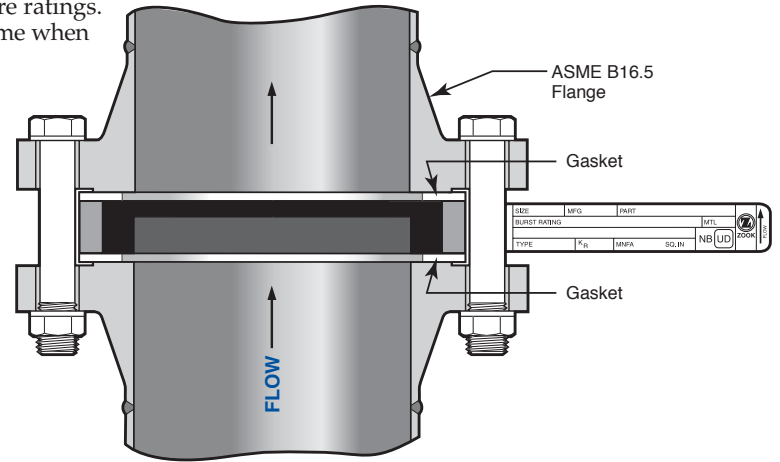
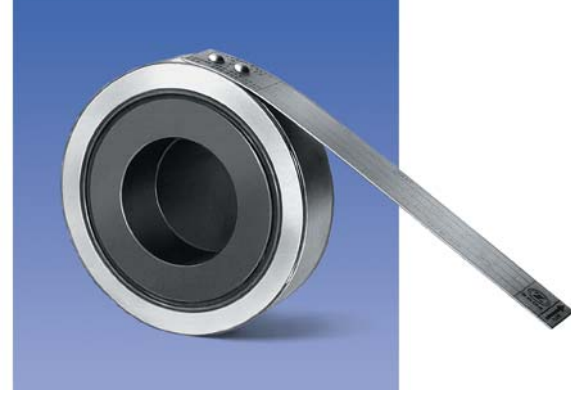
When replacing a metal rupture disk with a ZOOK Graphite Rupture Disk, a graphite lined armored spacer ring can be provided to fill the space of existing flange face-to-face distance, eliminating the need for piping modifications.

Detailed installation instructions are provided with each disk.

# MONO Type

*the best choice for low and intermediate burst ratings*

- Sizes 1/2" thru 24" diameters
  - Designed to fit ASME B16.5 Class 150 flanges (Higher ratings to fit Class 300 flanges are furnished in the INVERTED and DUPLEX Type Disks)
  - Burst ratings 0.25 to 150 psig
  - 0% manufacturing range
  - Operating pressures to 90% of the disk's marked burst pressure (Contact ZOOK for operating ratio for burst pressures below 40 psig)
  - Temperature ratings -290°F to +700°F (-179°C to +371°C). Maximum temperature rating without insulation is 430°F (221°C) or 700°F (371°C) with insulation. Contact ZOOK for higher temperature ratings. The specified temperature shall be at the disk location at the time when the disk is expected to rupture
  - Counterbored side of the disk contacts the process media
  - Vacuum supports are available for ratings below 25 psig
  - May be configured to withstand high back pressure generated in closed piping systems – request Bak-Pressure™ bulletin
  - Stocked MONO Disks, ready for immediate shipment
    - Sizes: 1", 1-1/2", 2", 3", 4", 6", 8" to fit ASME B16.5 Class 150 flanges
    - Burst Ratings: 10, 15, 20, 25, 30, 40, 50, 75, 100, 125, 150 psig @ 72°F (22°C)
- Note: Sizes 6" and 8" with burst ratings 125 and 150 psig @ 72°F (22°C) are stocked in INVERTED type
- ASME UD marking available



## Certified Flow Resistance Factor (K<sub>rgl</sub>)

Support Style	K <sub>rgl</sub>
MONO – no support	0.26
MONO – with bar	2.40
MONO – with cross	5.40
MONO – with ring	6.44
MONO – with plate	15.70

## Required Vacuum Support Style for Full Vacuum Service

Size	Burst Rating	Support Style
1"	below 25 psig	MONO – with ring
1-1/2"	below 25 psig	MONO – with bar
2" - 14"	9 to 25 psig	MONO – with bar
2" - 14"	5 to below 9 psig	MONO – with cross
2" - 14"	below 5 psig	MONO – with plate

Contact ZOOK for sizes 16" and larger

## Specifications – ASME B16.5 Class 150

Nominal Disk Sizes	Minimum net flow area (MNFA) Sq. inches					Disk Dimensions				Burst Ratings psig	
	Full Bore	Vacuum support style				Diameter		Thickness*			
		Ring	Bar	Cross	Plate	I.D.	O.D.	Standard Disk	Insulated Unit	Min.	Max.
1/2"	0.30	N/A	N/A	N/A	N/A	0.622"	1-3/4"	5/8"	1-3/4"	25	150
3/4"	0.53	N/A	N/A	N/A	N/A	0.824"	2-1/8"	5/8"	1-3/4"	25	150
1"	0.78	0.44	0.60	0.47	0.32	1"	2-1/2"	7/8"	2-1/4"	10	150
1-1/2"	1.76	N/A	1.34	1.05	0.72	1-1/2"	3-1/4"	7/8"	2-1/4"	7	150
2"	3.14	N/A	2.39	1.86	1.30	2"	4"	7/8"	2-1/4"	3	150
3"	7.06	N/A	5.56	4.31	2.95	3"	5-1/4"	7/8"	2-1/4"	2	150
4"	12.56	N/A	10.56	8.81	5.47	4"	6-3/4"	7/8"	2-1/4"	1.5	150
6"	28.27	N/A	22.27	17.27	12.05	6"	8-5/8"	7/8"	2-1/4"	1	100
8"	50.02	N/A	40.26	31.82	21.14	8"	10-7/8"	1-1/8"	2-3/4"	0.50	100
10"	78.53	N/A	63.53	50.78	32.66	10"	13-1/4"	1-1/2"	3-3/8"	0.25	100
12"	113.09	N/A	89.09	69.09	47.24	12"	16"	2"	4-3/8"	0.25	75
14"	137.88	N/A	108.06	83.31	58.07	13-1/4"	17-5/8"	2-1/4"	4-7/8"	0.25	50
16"	182.65	N/A	144.52	112.65	84.49	15-1/4"	20-1/8"	2-1/2"	5-3/8"	0.25	50
18"	233.70	N/A	181.95	153.70	104.31	17-1/4"	21-1/2"	2-3/4"	5-7/8"	0.25	50
20"	291.03	N/A	233.28	184.53	122.49	19-1/4"	23-3/4"	3"	6-3/8"	0.25	40
24"	424.55	N/A	354.80	294.05	190.61	23-1/4"	28-1/8"	3"	6-3/8"	0.25	25

\*Standard disk thickness does not include gaskets.

Insulated unit thickness includes all gaskets

Note: Maximum pressure rating of ASME B16.5 Class 150 flanges is 290 psig @ 100°F (38°C).

The maximum pressure rating is lower at higher temperatures.

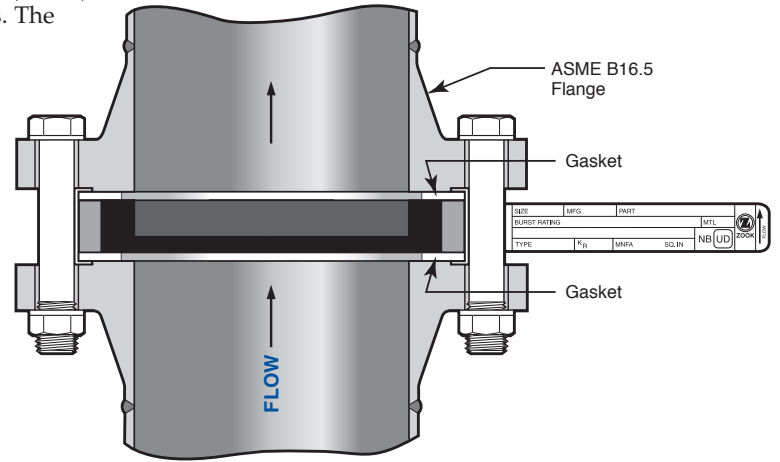
Reference ASME/ANSI B16.5

ZOOK service personnel are available 24 hours-a-day, 7 days-a-week, 365 days-a-year

# INVERTED Type

*the best choice for higher burst ratings*

- Sizes 1/2" thru 24" diameters
  - Designed to fit ASME B16.5 Class 150 and 300 flanges
  - Burst ratings 0.25 to 1,000 psig or higher
  - 0% manufacturing range
  - Flat surface of the disk contacts the process media
  - Operating pressures to 90% of the disk's marked burst pressure (Contact ZOOK for operating ratio for burst pressures below 40 psig)
  - Temperature ratings -290°F to +700°F (-179°C to +371°C) Maximum temperature rating without insulation is 430°F (221°C) or 700°F (371°C) with insulation. Contact ZOOK for higher temperature ratings. The specified temperature shall be at the disk location at the time when the disk is expected to rupture
  - Stocked INVERTED Disks, ready for immediate shipment.
    - Sizes: 1", 1-1/2", 2", 3" to fit ASME B16.5 Class 300 flanges
    - Burst Ratings: 175, 200, 225, 250, 275, 300 psig @ 72°F (22°C)
- Note: Sizes 6" and 8" ASME B16.5 Class 150 flanges with burst ratings 125, 150 psig @ 72°F (22°C) are stocked in INVERTED type
- ASME B16.5 Class 300 disks are armored
  - ASME UD marking available



## Certified Flow Resistance Factor (K<sub>rgl</sub>)

Type	K <sub>rgl</sub>
INVERTED	0.64

## Specifications – ASME B16.5 Class 150

Nominal Disk Sizes	Minimum net flow area (MNFA) sq. inches	Disk Dimensions				Burst Ratings psig	
		Diameter		Thickness*		Min.	Max.
		I.D.	O.D.	Standard Disk	Insulated Unit		
1/2"	0.30	0.622"	1-3/4"	5/8"	1-3/4"	25	above 1000
3/4"	0.53	0.824"	2-1/8"	5/8"	1-3/4"	25	above 1000
1"	0.78	1"	2-1/2"	7/8"	2-1/4"	10	above 1000
1-1/2"	1.76	1-1/2"	3-1/4"	7/8"	2-1/4"	7	1000
2"	3.14	2"	4"	7/8"	2-1/4"	3	300
3"	7.06	3"	5-1/4"	7/8"	2-1/4"	2	300
4"	12.56	4"	6-3/4"	7/8"	2-1/4"	1.5	250
6"	28.27	6"	8-5/8"	7/8"	2-1/4"	1	170
8"	50.02	8"	10-7/8"	1-1/8"	2-3/4"	0.50	170
10"	78.53	10"	13-1/4"	1-1/2"	3-3/8"	0.25	150
12"	113.09	12"	16"	2"	4-3/8"	0.25	150
14"	137.88	13-1/4"	17-5/8"	2-1/4"	4-7/8"	0.25	150
16"	182.65	15-1/4"	20-1/8"	2-1/2"	5-3/8"	0.25	150
18"	233.70	17-1/4"	21-1/2"	2-3/4"	5-7/8"	0.25	below 150
20"	291.03	19-1/4"	23-3/4"	3"	6-3/8"	0.25	below 150
24"	424.55	23-1/4"	28-1/8"	3"	6-3/8"	0.25	below 150

## Specifications – ASME B16.5 Class 300

1/2"	0.30	0.622"	2"	5/8"	1-3/4"	25	above 1000
3/4"	0.53	0.824"	2-1/2"	5/8"	1-3/4"	25	above 1000
1"	0.78	1"	2-3/4"	1"	2-1/2"	10	above 1000
1-1/2"	1.76	1-1/2"	3-5/8"	1"	2-1/2"	7	1000
2"	3.14	2"	4-1/4"	1"	2-1/2"	3	500
3"	7.06	3"	5-3/4"	1-1/4"	3"	2	500
4"	12.56	4"	7"	1-1/4"	3"	1.5	500
6"	28.27	6"	9-3/4"	1-3/4"	4"	1	450
8"	50.02	8"	12"	2-1/4"	5"	0.50	450

\*Standard disk thickness does not include gaskets. Insulated unit thickness includes all gaskets

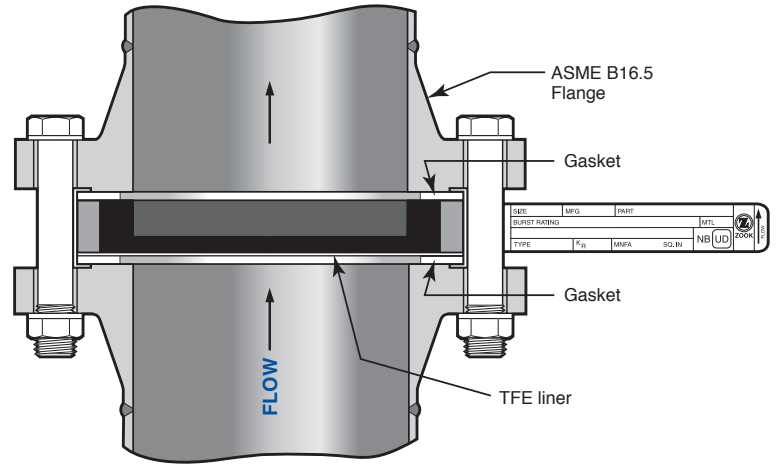
Note: Maximum pressure rating of ASME B16.5 Class 150 flanges is 290 psig @ 100°F (38°C). ASME B16.5 Class 300 flanges is 750 psig @ 100°F (38°C). The maximum pressure rating is lower at higher temperatures. Reference ASME/ANSI B16.5

# DUPLEX Type

*the best choice for applications involving highly oxidizing agents and halogens*



- Disks extend corrosion resistance by utilizing a liner on the flat surface of the disk that contacts the process media
- Disks are capable of resisting virtually any corrosive except elemental free fluorine
- Sizes 1/2" thru 24" diameters
- Designed to fit ASME B16.5 Class 150 and 300 flanges
- Burst ratings 0.50 to 1000 psig or higher
- 0% manufacturing range
- Operating pressures to 90% of the disk's marked burst pressure (Contact ZOOK for operating ratio for burst pressures below 40 psig)
- Temperature ratings -290°F to +700°F (-179°C to +371°C) Maximum temperature rating without insulation is 430°F (221°C) or 700°F (371°C) with insulation. Contact ZOOK for higher temperature ratings. The specified temperature shall be at the disk location at the time when the disk is expected to rupture
- External type vacuum supports are available for vacuum service (Contact ZOOK when vacuum is present)
- ASME B16.5 Class 300 disks are armored
- ASME UD marking available



## Certified Flow Resistance Factor ( $K_{rgl}$ )

Type	$K_{rgl}$
DUPLEX	0.64

## Specifications – ASME B16.5 Class 150

Nominal Disk Sizes	Minimum net flow area (MNFA) sq. inches	Disk Dimensions				Burst Ratings psig	
		Diameter		Thickness*		Min.	Max.
		I.D.	O.D.	Standard Disk	Insulated Unit		
1/2"	0.30	0.622"	1-3/4"	5/8"	1-3/4"	25	above 1000
3/4"	0.53	0.824"	2-1/8"	5/8"	1-3/4"	25	above 1000
1"	0.78	1"	2-1/2"	7/8"	2-1/4"	10	above 1000
1-1/2"	1.76	1-1/2"	3-1/4"	7/8"	2-1/4"	7	1000
2"	3.14	2"	4"	7/8"	2-1/4"	3	300
3"	7.06	3"	5-1/4"	7/8"	2-1/4"	2	300
4"	12.56	4"	6-3/4"	7/8"	2-1/4"	1.5	250
6"	28.27	6"	8-5/8"	7/8"	2-1/4"	1	170
8"	50.02	8"	10-7/8"	1-1/8"	2-3/4"	0.75	170
10"	78.53	10"	13-1/4"	1-1/2"	3-3/8"	0.50	150
12"	113.09	12"	16"	2"	4-3/8"	0.50	150
14"	137.88	13-1/4"	17-5/8"	2-1/4"	4-7/8"	0.50	150
16"	182.65	15-1/4"	20-1/8"	2-1/2"	5-3/8"	0.50	150
18"	233.70	17-1/4"	21-1/2"	2-3/4"	5-7/8"	0.50	below 150
20"	291.03	19-1/4"	23-3/4"	3"	6-3/8"	0.50	below 150
24"	424.55	23-1/4"	28-1/8"	3"	6-3/8"	0.50	below 150

## Specifications – ASME B16.5 Class 300

1/2"	0.30	0.622"	2"	5/8"	1-3/4"	25	above 1000
3/4"	0.53	0.824"	2-1/2"	5/8"	1-3/4"	25	above 1000
1"	0.78	1"	2-3/4"	1"	2-1/2"	10	above 1000
1-1/2"	1.76	1-1/2"	3-5/8"	1"	2-1/2"	7	1000
2"	3.14	2"	4-1/4"	1"	2-1/2"	3	500
3"	7.06	3"	5-3/4"	1-1/4"	3"	2	500
4"	12.56	4"	7"	1-1/4"	3"	1.5	500
6"	28.27	6"	9-3/4"	1-3/4"	4"	1	450
8"	50.02	8"	12"	2-1/4"	5"	0.75	450

\*Standard disk thickness does not include gaskets. Insulated unit thickness includes all gaskets  
 Note: Maximum pressure rating of ASME B16.5 Class 150 flanges is 290 psig @ 100°F (38°C). ASME B16.5 Class 300 flanges is 750 psig @ 100°F (38°C). The maximum pressure rating is lower at higher temperatures. Reference ASME/ANSI B16.5

# TWO-WAY Type

*dual rated to protect against two different pressures in opposite directions*

- Applications include protection of storage tanks against both excess vacuum and overpressure when single vessel entry is required
- Sizes 1-1/2" thru 24" diameters
- Designed to fit ASME B16.5 Class 150 flanges. Contact ZOOK for ASME B16.5 Class 300 flanges
- Burst ratings 0.25 to 1000 psig or higher
- 0% manufacturing range
- Operating pressures to 90% of the disk's marked burst pressure (Contact ZOOK for operating ratio for burst pressures below 40 psig)
- Temperature ratings -290°F to +430°F (-179°C to +221°C). Contact ZOOK for higher temperature ratings. The specified temperature shall be at the disk location at the time when the disk is expected to rupture
- Optional liner available on flat side of disk to extend corrosion resistance
- Carbon steel armor standard, 316SS optional
- Furnished complete with TFE gaskets attached. Other gasket materials are available
- Generally a minimum differential of 10 psi is required between burst ratings. Contact ZOOK for other burst rating combinations

## Specifications – ASME B16.5 Class 150

Nominal Disk Sizes	Disk Dimensions			Minimum Burst Rating psig
	Diameter		Thickness*	
	I.D.	O.D.		
1-1/2"	1-1/2"	3-1/4"	1-1/8"	7
2"	2"	4"	1-1/8"	3
3"	3"	5-1/4"	1-1/8"	2
4"	4"	6-3/4"	1-1/8"	1.5
6"	6"	8-5/8"	1-1/8"	1
8"	8"	10-7/8"	1-3/8"	0.50
10"	10"	13-1/4"	1-3/4"	0.25
12"	12"	16"	2-1/4"	0.25
14"	13-1/4"	17-5/8"	2-1/2"	0.25
16"	15-1/4"	20-1/8"	2-3/4"	0.25
18"	17-1/4"	21-1/2"	3"	0.25
20"	19-1/4"	23-3/4"	3-1/4"	0.25
24"	23-1/4"	28-1/8"	3-1/4"	0.25

\*Disk thickness includes all gaskets.  
Contact ZOOK for flow area (MNFA)

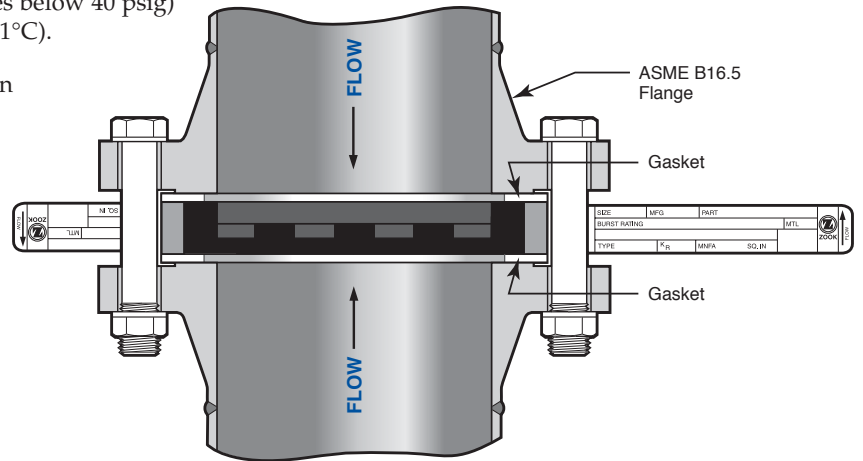
## Technical Data

### Testing Method

*Standard disks* are rated at the specified burst pressure without applying a Manufacturing Design Range (MDR) by bursting two or more disks to establish burst accuracy. Where higher than room temperature (+40°F to +100°F) service is specified, oven tests can be conducted, or disks can be room temperature tested with compensation made using a temperature curve developed specifically for our disks. (These disks are designated *Chart Compensated Disks*.) *ASME disks* are tested at the specified coincident temperature.

### ASME Code and Jurisdictional Regulations

Most jurisdictions require ASME Code compliance on Boiler and Pressure Vessel construction. All pressure vessels within the scope of the ASME Code Section VIII, Div. 1 shall be provided with pressure relief devices. It is the responsibility of the *user* to ensure that the required devices are properly installed prior to initial operation of the pressure vessels.



If company policy or jurisdictional regulation requires ASME Code compliance, the rupture disk devices used for pressure vessel overpressure protection shall bear the ASME Code UD symbol. The UD marking is the manufacturer's declaration that the device was manufactured in full compliance with the ASME Code.

Disks specified to ASME Code requirements are rated using a 0% MDR unless a special MDR is specified and agreed upon. 0% MDR disks are marked with the specified burst rating. Refer to the certified type for the flow resistance factors ( $K_f$ ) and the Minimum Net Flow Area (MNFA).

### Pressure Ratings and Burst Tolerances

Burst ratings range from 0.25 psig to above 1000 psig for sizes 1/2" thru 24". Refer to minimum and maximum values in tables provided for each disk. Standard burst tolerances are:

Pressure Rating psig @ 72°F (22°C)	Burst Tolerance
Above 40	±5%
15 to 40	±2.0 psi
5 to less than 15	±1.0 psi
Above 1 to less than 5	±0.75 psi
1 or less	+0.75 psi / -0

Contact ZOOK for tighter burst tolerance

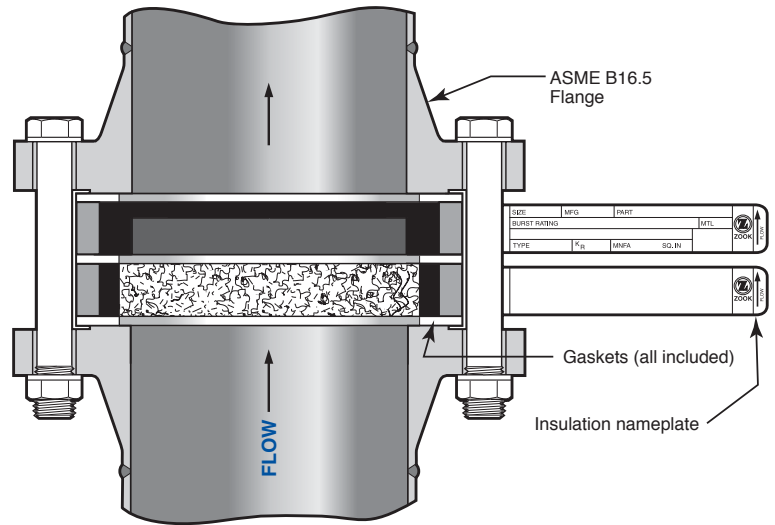
### Corrosion Resistance

Depending on the type of options, ZOOK Graphite rupture disks can be subjected to almost any corrosive with the exception of free fluorine. A reference guide with corrosion resistance information is available upon request for use when specifying ZOOK Graphite Rupture Disks. This guide offers compatibility with common corrosives. Where there is doubt about compatibility, a sample of ZOOK Enterprises graphite can be supplied on request for your onsite evaluation. Please contact the factory if you have any questions.

# Insulated Unit

for temperatures exceeding 430°F (221°C) to 700°F (371°C)

- Furnished as an attached unit. Disk's nameplate rating must be established at the cold face temperature of the insulation
- NOT available for TWO-WAY Disks or disks with ring or plate vacuum supports
- Insulated Units are supplied armored with required insulation and gaskets for service above 430°F (221°C) to 700°F (371°C). Standard armor is carbon steel, gaskets are compressed fiber, and insulation is spun alumina/silica. This insulation prohibits use with liquids and some corrosives. Other materials are available upon request
- Contact ZOOK for flow reduction factor when using Insulated Unit
- For temperatures exceeding 700°F (371°C) contact ZOOK



## Vacuum

Disks are self-supporting up to full vacuum at burst ratings of 25 psig and higher. At lower pressures, integral vacuum supports are available only for MONO Disks. External vacuum supports are available for DUPLEX Disks. Contact ZOOK for partial vacuum services.

## Dimensional Standards

Standard disks fit directly between ASME B16.5 Class 150 or 300 flanges with flat or raised faces. Flat ring gaskets are required and can be attached to the disk before shipment. Contact ZOOK for flange requirements other than ANSI.

## Capacity and Flow Resistance

Full bore opening at time of rupture is a consistent characteristic of ZOOK Disks and results in very low flow resistance values ( $K_F$ ). Refer to  $K_F$  values in tables provided for each disk type.

## Service Life

Indefinite service life is normal in static systems. Replacement is unnecessary at operating-pressure to burst-rating ratios to 90%. In cycling service, this ratio should be lowered.

## Burst Sensors

For remote and quick detection of a ruptured condition, ZOOK offers the ZENSOR™. Rupture disk and sensing element are integral parts of the electrical circuit to eliminate false readings. Model BA: An external re-usable and replaceable indicator. Specify Model BA-L for optional leak detection.

## Armor

Armor is available on any standard style, size and rating of graphite rupture disk. Standard material is Carbon Steel (316SS optional). Armor is required on the following:

- Disks for ASME B16.5 Class 300 flanges
- TWO-WAY Type Disks
- Disks rated for temperatures above 338°F (170°C), regardless of disk style or flange class
- Disks for ASME B16.5 Class 150 flanges. See table at right with the following sizes and burst ratings:

Sizes	Rated Over psig @ 72°F (22°C)
1/2" - 3"	150
4"	100
6" - 10"	75
12" - 24"	50

Where fire or blowdown temperatures exceeding 338°F (170°C) are design considerations, armor is required. Armored disks typically withstand the same conditions, i.e. blowdown temperatures, as the piping.

Disks not covered above are furnished unarmored unless armor is specifically ordered. Armor is highly recommended for:

- added safety
- greater reliability
- easier installation.

# Gaskets



Gaskets used with graphite disks are stocked in the following materials: Neoprene, compressed fiber, solid PTFE, and PTFE envelope. Gaskets can be supplied loose or attached to the disk (Note: field replacement of gaskets NOT recommended on TWO-WAY Disks or Insulated Units)

When supplying your own gaskets, follow dimensions in the chart, especially the inside diameter which provides proper clearance to ensure accurate burst. 1/8" thick gasket is recommended. Gaskets for INSULATED Disks are made from high-temperature material and are always supplied attached.

## Gasket Dimensions

Nominal Disk Sizes	ASME B16.5 Flange Classes			
	Class 150		Class 300	
	I.D.	O.D.	I.D.	O.D.
1/2"	7/8"	1-3/4"	7/8"	2"
3/4"	1-1/8"	2-1/8"	1-1/8"	2-1/2"
1"	1-5/16"	2-1/2"	1-5/16"	2-3/4"
1-1/2"	1-29/32"	3-1/4"	1-29/32"	3-5/8"
2"	2-1/2"	4"	2-1/2"	4-1/4"
3"	3-3/4"	5-1/4"	3-3/4"	5-3/4"
4"	5"	6-3/4"	4-3/4"	7"
6"	7-1/8"	8-5/8"	7-1/8"	9-3/4"
8"	8-7/8"	10-7/8"	9"	12"
10"	11-5/8"	13-1/4"	N/A	N/A
12"	13-3/4"	16"	N/A	N/A
14"	14-1/2"	17-5/8"	N/A	N/A
16"	17"	20-1/8"	N/A	N/A
18"	19-1/2"	21-1/2"	N/A	N/A
20"	21-3/4"	23-3/4"	N/A	N/A
24"	25"	28-1/8"	N/A	N/A

## Corrosion Guide

Refer to the chart to determine which disk is best suited for your system fluid. Corrosives not shown can typically be accommodated by our unlined Graphite Disks. If in doubt, use the DUPLEX Disk or contact ZOOK to obtain a material sample for testing.

INSULATED Disks cannot be used with liquids, hydrofluoric and phosphoric acids or concentrated alkalis.

### Chemicals requiring ZOOK Duplex Type Disk.

F= Specify Duplex Disk with FEP Liner

Aluminum Hydroxide	Iodine – F
Aststine	Lithium
Bromine – F	Nitric Acid
Bromine (water) – F	Nitrous Acid
Calcium Chlorate	Nitrous Oxide
Calcium Hydroxide	Oleum
Calcium Hypochlorite	Potassium (Liquid)
Castor Oil	Potassium Chlorate
Caustic Potash	Potassium Hydroxide
Caustic Soda	Potassium Hypochlorite
Chloral – F	Potassium Persulfate
Chlorine Trifluoride – F	Rubidium (Liquid)
Chlorobenzene – F	Sodium Chlorate
Chloroform – F	Sodium Hydroxide
Chromic Acid	Sodium Hypochlorite
Francium	Sulfuric Acid
Hydrofluoric Acid	Sulfurous Acid
Hydrogen Peroxide	Sulfur Trioxide (Oleum)

Standard liner materials is PTFE. Other liner materials available upon request: FEP, PFA, Kynar®, Halar®

The information in this chart should be used as a general guide to the selection of the suitable material. Variations in the chemical behavior could be different due to factors such as temperature, pressure, concentration or mixture of chemicals. While utmost care was used in compiling this chart, we assume no responsibility for it's accuracy and completeness. Specifications are subject to change without notice.

Kynar, Halar – Registered TM DuPont

### Interchanging with Other Manufacture's Product

ZOOK's manufacturing process utilizes synthetic graphite impregnated with a particular resin utilizing a proprietary process; therefore, it is not a safe assumption that different brands of graphite rupture disks are equal and interchangeable.

### WARNING

If a disk ruptures, material may:

- vent at high velocity with significant reaction thrust force
- contain disk particles and other solids and liquids
- be toxic or flammable.

The end user must make provisions to prevent personal injury and equipment damage. Use of disks described in this bulletin are intended for use only by persons with requisite technical skill and at their own discretion and risk. Because application, installation, and use are beyond our control, we make no warranties expressed or implied and do not assume any liability exceeding purchase price of the disk.

It is the responsibility of the end user to fully understand his process and determine the disk needed to properly protect the system.



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