

# ZOOK®



## Selection Guide

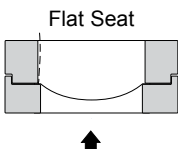

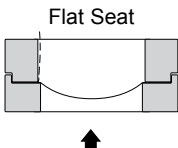

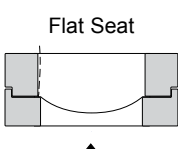

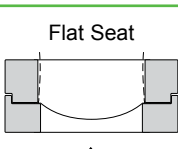

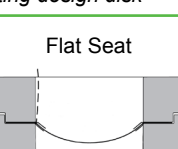

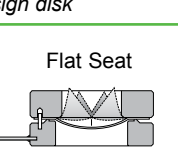

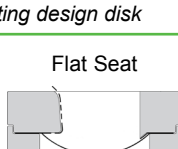

For High-Quality Metal & Graphite Rupture Disks



**Safety** through **knowledge** and **performance**.



### Reverse Acting (Compression-Loaded) Metal Rupture Disks

Disk Series	Seat Configuration Flow Direction	Sizes in. / mm	Pressures psig / barg	Standard Operating Ratio	Vacuum Support Required	Certifications	Standard Mating Holder	Service
<b>RA4</b>		in. 1 – 12 mm 25 – 300	psig 2 – 40 barg 0.14 – 2.76	95%	NO	ASME UD PED TÜV	<b>RAH</b> 	Liquid & Gas
<i>Solid metal, non-fragmenting design disk</i>								
<b>RA6</b>		in. 1 – 12 mm 25 – 300	psig 12 – 200 barg 0.83 – 13.79	95%	NO	ASME UD PED TÜV	<b>RAH</b> 	Liquid & Gas
<i>Solid metal, non-fragmenting design disk</i>								
<b>RA8</b>		in. 1 – 12 mm 25 – 300	psig 26 – 1,000 barg 1.79 – 68.97	95%	NO	ASME UD PED TÜV	<b>RAH</b> 	Liquid & Gas
<i>Solid metal, non-fragmenting design disk</i>								
<b>RAX</b>		in. 1 – 12 mm 25 – 300	psig 27 – 1,480 barg 1.86 – 102.04	95%	NO	ASME UD PED TÜV	<b>RAH</b> 	Gas
<i>Solid scored metal, non-fragmenting design disk</i>								
<b>RLP</b>		in. 1 – 12 mm 25 – 300	psig 2 – 40 barg 0.14 – 2.76	95%	NO	ASME UD PED TÜV	<b>RLP-I</b> 	Liquid & Gas
<i>Solid metal, non-fragmenting design disk</i>								
<b>SRA</b>		in. 1 – 12 mm 25 – 300	psig 27 – 1,480 barg 1.86 – 102.04	95%	NO	ASME UD PED TÜV	<b>SR7A</b> 	Gas
<i>Solid scored metal, non-fragmenting design disk</i>								
<b>URA</b>		in. 1 – 30 mm 25 – 750	psig 12 – 1,000 barg 0.83 – 68.97	95%	NO	ASME UD PED TÜV	<b>URA-I</b> 	Liquid & Gas
<i>Solid metal, non-fragmenting design disk</i>								

**Note:** Standard operating ratio is stated as a % of minimum burst pressure (including burst tolerance)

### Forward Acting (Tension-Loaded) Metal Rupture Disks

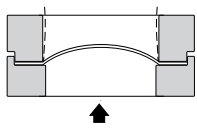

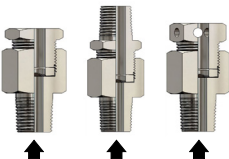

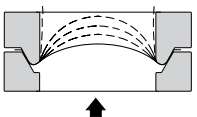


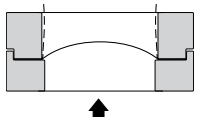

Disk Series	Seat Configuration Flow Direction	Sizes in./mm	Pressures psig/barg	Standard Operating Ratio	Vacuum Support Required	Certifications	Standard Mating Holder	Service
<b>ARD</b>	Flange Mounted	in. 1 to 44  mm 25 – 1100	psig 1 – 60  barg 0.07 – 4.14	50% <sup>1</sup>	YES	PED TÜV	Mounts between ANSI & DIN flanges *no holder required*	Liquid & Gas
<i>Composite metal, fragment resistant design disk</i>								
<b>ARD</b>	Bi-Directional, Bursts at the specified pressure in both directions							
<b>ARDL</b>	Uni-Directional, Bursts at the specified pressure in one direction							
<b>ARDS</b>	Bi-Directional, Bursts at two different set pressures as specified							
<b>ARDV</b>	Uni-Directional, Bursts at the specified pressure in one direction, withstands full vacuum							
<b>D</b>	30° Angle Seat	in. 1/2 – 24  mm 13 – 600	psig 3 – 2,500  barg 0.21 – 172.37	85%	YES	ASME UD PED TÜV	<b>7A</b>  <b>Screw Type</b>  <b>Union Type</b>	Liquid & Gas
<i>Composite metal, fragment resistant design disk (when supplied with non metallic seal)</i>								
<b>D</b>	Slotted metal top section and a Teflon or metal seal							
<b>DR</b>	D Disk with a protective bottom ring							
<b>RDR</b>	D Disk with a top and bottom protective ring							
<b>DV</b>	D Disk with a bottom vacuum support							
<b>LD</b>	D Disk with a Teflon seal and top liner							
<b>TLDV</b>	D Disk designed to withstand full vacuum and top liner (Non-ASME UD)							
<b>FAC</b>	Flat Seat	in. 1 – 12  mm 25 – 300	psig 3 – 2,500  barg 0.21 – 172.37	85%	YES	PED TÜV	<b>FAH</b>	Liquid & Gas
<i>Composite metal, fragment resistant design disk (when supplied with non metallic seal)</i>								
<b>FAC</b>	Slotted metal top section and a Teflon or metal seal							
<b>FACR</b>	FAC Disk with a protective bottom ring							
<b>FACV</b>	FAC Disk with a bottom vacuum support							
<b>FAX</b>	Flat Seat	in. 1 – 12  mm 25 – 300	psig 45 – 3,600  barg 3.10 – 248.28	90%	Contact ZOOK	ASME PED TÜV	<b>FAH</b>	Liquid & Gas
<i>Solid metal scored, non-fragmenting design disk</i>								

**Note:**

- Standard operating ratio is stated as a % of minimum burst pressure (including burst tolerance)






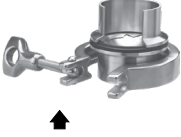


<sup>1</sup> ARD operating ratio is applied to the marked rating on the disk tag.

### Forward Acting (Tension-Loaded) Metal Rupture Disks

Disk Series	Seat Configuration Flow Direction	Sizes in./mm	Pressures psig/barg	Standard Operating Ratio	Vacuum Support Required	Certifications	Standard Mating Holder	Service
<b>FDZ</b>	Flat Seat 	in. 1/2 – 30  mm 13 – 750	psig 3 – 2,500  barg 0.21 – 172.37	85%	YES	PED TÜV		Liquid & Gas
<i>Composite metal, fragment resistant design disk (when supplied with non metallic seal)</i>								
<b>FDZ</b>	Slotted metal top section and a Teflon or metal seal							
<b>FDZR</b>	FDZ Disk with a protective bottom ring							
<b>RFDZR</b>	FDZ Disk with a top and bottom protective ring							
<b>FDZV</b>	FDZ Disk with a bottom vacuum support							
<b>FDZH</b>	FDZ Disk with a bottom handling support							
<b>FPB</b>	Screw Type 	in. 3/16 - 11/16  mm 4.8 - 17.5	psig 60 - 60,000  barg 4.14 - 4137	75%	YES	PED TÜV		Liquid & Gas
<i>Solid metal, fragmenting design disk</i>								
<b>PB</b>	30° Angle Seat 	in. 1/4 – 24  mm 6 – 600	psig 3 – 60,000  barg 0.21 – 4136.85	75%	YES	ASME UD PED TÜV	 <b>Screw Type</b>  <b>Union Type</b>	Liquid & Gas
<i>Solid metal, fragmenting design disk</i>								
<b>SFAZ</b>	Flat Seat 	in. 1/2 – 24  mm 13 – 610	psig 15 – 3,600  barg 1 – 248.28	90%	Contact ZOOK	ASME UD PED TÜV		Liquid & Gas
<i>Solid metal scored, non-fragmenting design disk</i>								

**Note:** Standard operating ratio is stated as a % of minimum burst pressure (including burst tolerance)

### Sanitary Rupture Disks

Disk Series	Sizes in./mm	Pressures psig / barg	Standard Operating Ratio	Vacuum Support Required	Certifications	Features	Disk Mounting Flow Direction	Service
<b>ZANITARY</b>  <i>Solid scored metal, non-fragmenting design disk</i>	in. 1 – 4  mm 25 – 100	psig 11 – 300  barg 0.76 – 20.69	95%	NO	ASME UD PED TÜV KOSHA	Patent Pending, Unique Design, No Paint or Enamel on Tag, Inventive Stress, Relieving Process, Eco-Friendly Plastic Free Packaging.	 ↑	Liquid & Gas
<b>RAUS</b>  <i>Solid metal, non-fragmenting design disk, unscored</i>	in. 1 – 4  mm 25 – 100	psig 18 – 300  barg 1.24 – 20.69	95%	NO	ASME UD PED TÜV KOSHA	Standard black Buna-N, EPDM, Viton gasket supplied with disk. PTFE optional. Other materials on request.	 ↑	Liquid & Gas
<b>RLPS</b>  <i>Solid metal, non-fragmenting design disk, unscored</i>	in. 1 – 4  mm 25 – 100	psig 3 – 83  barg 0.21 – 5.72	95%	Consult ZOOK	PED TÜV KOSHA	Standard black Buna-N, EPDM, Viton gasket supplied with disk. PTFE optional. Other materials on request.	 ↑	Liquid & Gas
<b>SD</b>  <i>Graphite rupture disk</i>	in. 1 – 4  mm 25 – 100	psig 1.5 – 50  barg 0.10 – 3.45	90%	Contact ZOOK for pressures less than 25 psig	ASME UD PED TÜV	FEP liner on process side. Mounts using standard sanitary style process side gasket and vent side O-ring.	 ↑	Liquid & Gas

**Note:** Standard operating ratio is stated as a % of minimum burst pressure (including burst tolerance)


### ZANITARY Unique Technology

The ZANITARY® Series is an advanced sanitary disk designed for the biotechnology, pharmaceutical and food processing industries. The new design effortlessly fits between standard sanitary ferrules.

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.

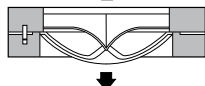



### Ultra-Low Pressure Sanitary Fitting Rupture Disks

Disk Series	Disk Size in./mm	Pressures	Standard Operating Ratio	Vacuum Support Required	Certifications	Features	Standard Mating Holder	Service
<b>ProVAC-S / ProPOS-S</b>	in. 2 - 4  mm 50 - 100	Ultra low rating 1" of water column to 109"  Burst Cap 7 to 150 psig	60% w/316 girdle  85%	Non opening support is included as standard	PED TÜV	Dual-acting sanitary fitting design with laser cut metal top section and girdle		Liquid & Gas


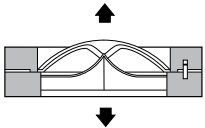



### Ultra-Low Pressure Rupture Disks

Disk Series	Seat Configuration Flow Direction	Sizes in./mm	Pressures pos/neg	Standard Operating Ratio pos/neg	Certifications	Standard Mating Holder	Service
<b>Z-POS (ProPos)</b>	Flat Seat 	in. 2 - 12  mm 50 - 300	positive 1" of water column to 109"  negative 2 psig to 150 psig	60% w/316 girdle  85%	PED TÜV		Liquid & Gas


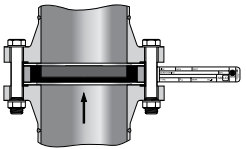

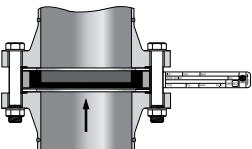

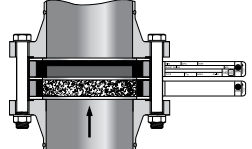

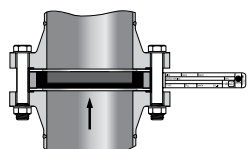

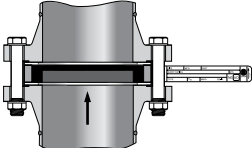

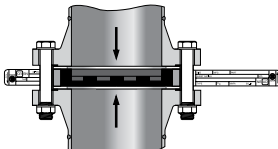
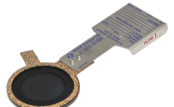
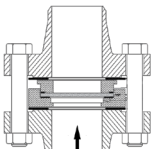


### Z-VAC (ProVac)

	Flat Seat 	in. 2 - 12  mm 50 - 300	positive 2 psig to 150 psig  negative 1" of water column to 109"	85%  60% w/316 girdle	PED TÜV		Liquid & Gas
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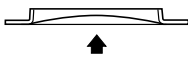
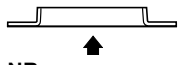

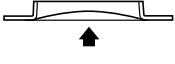
**Note:** Standard operating ratio is stated as a % of minimum burst pressure (including burst tolerance)

### Graphite Rupture Disks

Disk Series	Mounts directly between standard ASME B16.5 Class, DIN, or JIS flanges	Sizes in./mm	Pressures psig/barg	Maximum Operating Ratio	Vacuum Support Required	Certifications	Service
<b>FS INVERTED</b>			in. 1 – 24 mm 25 – 610	psig 1.00 – 1,000 barg 0.07 – 68.95	90%	Consult ZOOK	ASME UD PED Liquid & Gas
<i>Best choice for highly corrosive and broad temperature range applications</i>							
<b>FS-V INVERTED</b>	FS Inverted Disk with internal vacuum support						
<b>DUPLEX</b>			in. 1/2 – 24 mm 13 – 610	psig 0.50 – 1,000 barg 0.03 – 68.95	90%	Contact ZOOK on pressures less than 25 psig	ASME UD PED Liquid & Gas
<i>Highly corrosive applications</i>							
<b>INSULATED UNIT</b>			in. 1 – 24 mm 25 – 600	psig 0.25 – 150 barg 0.02 – 10.34	90%	Contact ZOOK on pressures less than 25 psig	Gas
<i>For temperatures exceeding 430°F (221°C) to 700°F (371°C)</i>							
<b>INVERTED</b>			in. 1/2 – 24 mm 13 – 610	psig 0.25 – 1,000 barg 0.02 – 68.95	90%	Contact ZOOK on pressures less than 25 psig	ASME UD PED Liquid & Gas
<i>Best choice for higher burst ratings</i>							
<b>MONO</b>			in. 1/2 – 24 mm 13 – 610	psig 0.25 – 150 barg 0.02 – 10.34	90%	Yes on pressures less than 25 psig	ASME UD PED Liquid & Gas
<i>Best choice for low and intermediate burst ratings</i>							
<b>TWO-WAY</b>			in. 1/2 – 24 mm 38 – 610	psig 0.25 – 1000 barg 0.02 – 68.95	90%		PED Liquid & Gas
<i>Dual rated to protect against two different pressures in opposite directions</i>							
<b>RT2 / RT2T</b>			in. 1 – 12 mm 25 – 300	psig 1 – 250 barg 1.07 – 17.25	90%	Contact ZOOK on pressures less than 25 psig	PED Liquid & Gas
<i>Replaceable element for use in graphite or stainless steel holder</i>							

**Note:** Standard operating ratio applies to the marked rating on the disk tag on disks marked above 40 psig. Contact ZOOK for operating ratio on disks marked below 40 psig.

### Transportation Rupture Disks

Disk Series	Disk Mounting Flow Direction	Sizes in./mm	Standard Pressures psig / barg	Standard Operating Ratio	Vacuum Support Required	Certifications	Features	Service
<b>AC (Acid Car)</b>	2" AAR rubber covered safety vents 	in. 2  mm 50	psig 60, 100, 165  barg 4.14, 6.89, 11.38	90%	NO	PED	<ul style="list-style-type: none"> <li>PTFE &amp; Viton liner on process side</li> <li>Carbon Steel Armor</li> <li>TFE coated green</li> <li>Non-Asbestos gasket on vent side</li> </ul>	Liquid & Gas
Graphite rupture disk								
<b>RC (Rail Car)</b>	2" AAR metal seated safety vents 	in. 2  mm 50	psig 60, 100, 165  barg 4.14, 6.89, 11.38	90%	NO	PED	<ul style="list-style-type: none"> <li>PTFE &amp; Viton liner on process side</li> <li>Carbon Steel Armor</li> <li>TFE coated green</li> <li>Non-Asbestos gasket on vent side</li> </ul>	Liquid & Gas
Graphite rupture disk								
<b>TD</b>	Standard ASME B16.5 Class 150 flanges 	in. 2, 3, 4  mm 50, 80, 100	psig 30, 35, 40, 45, 50  barg 2.07, 2.41, 2.76, 3.10, 3.45	90%	NO	ASME UD PED	<ul style="list-style-type: none"> <li>PTFE liner on process side</li> <li>Carbon Steel Armor</li> <li>TFE gasket on pressure side</li> <li>Non-Asbestos gasket on vent side</li> <li>TFE coated green</li> </ul>	Liquid & Gas
Graphite rupture disk								
<b>ICP</b>	Standard ASME B16.5 Class 150 & ISO flanges 	in. 2 1/2 & 3  mm 65, 80	psig 54.4, 63.8  barg 3.75, 4.40	90%	Consult ZOOK	PED TÜV	<ul style="list-style-type: none"> <li>Nickel disk construction</li> <li>PTFE gasket &amp; PFA liner on process side</li> <li>316 locating ring and PTFE gasket on vent side</li> <li>Custom pressures also available</li> </ul>	Liquid & Gas
Solid metal scored, non-fragmenting design disk								
<b>TCP-NR / TCP-R</b>	Fits standard tank car safety vents  <b>TCP-NR</b> Fits standard tank car safety vents  <b>TCP-R</b>	in. 2  mm 50	psig 75, 100, 165  barg 5.17, 6.90, 11.38	55%	NO	PED TÜV	<ul style="list-style-type: none"> <li>316 construction w/PFA seal</li> <li>316 locating ring on vent side</li> <li>Supplied with PTFE inlet gasket</li> <li>Custom pressures also available</li> </ul>	Liquid & Gas
Composite metal, fragment resistant design disk								
<b>TCP-S</b>	Fits standard tank car safety vents 	in. 2  mm 50	psig 75, 100, 165  barg 5.17, 6.90, 11.38	90%	NO	PED TÜV	<ul style="list-style-type: none"> <li>Nickel disk construction</li> <li>PTFE gasket &amp; PFA liner on process side</li> <li>316 locating ring and PTFE gasket on vent side</li> <li>Custom pressures also available</li> </ul>	Liquid & Gas
Solid metal scored, non-fragmenting design disk								

Note: Standard operating ratio is stated as a % of minimum burst pressure (including burst tolerance)

## Welded Solutions



Custom welded assemblies are ideal for customers that have special requirements in the manufacturing, production and testing of rupture disks that can not be met using standard rupture disk products.

The advanced welding technology provides additional precision resulting in the ability to relieve excessive pressure conditions from enclosed pressure circuits in just milliseconds. They are manufactured to exacting specifications to meet very low leakage levels, close pressure tolerances, weight restrictions and can also incorporate various material selection. Welded assemblies can also be used as pressure activation devices in control sequences.

ZOOK Offers the Highest Quality Control:

- 100% leak testing
- Burst testing in accordance to specified standards
- Weld & body pressure testing
- Digital inspection of threads & body dimensions
- Ultra sonically cleaned
- 100% Material Traceability

## Extrusion Burst Plugs



Extrusion Burst Plugs are pressure relief devices designed for over-pressure protection of plastic and rubber extrusion processes

- Each EBP assembly consists of a threaded tubular body with a rupture disk welded onto the process end
- ZOOK has the ability to supply any specific combinations of dimensions, threading, and body configuration
- Stocked burst ratings 1,000 psig to 15,000 psig in 500 psig increments (for higher pressures contact ZOOK)
- 0% manufacturing range
- Burst tolerance  $\pm 10\%$  with typical standard deviation of  $\pm 1\%$  throughout the temp range of 300°F to 750°F (149°C to 399°C)
- Many standard EBPs in stock

## Explosion Vents



### CVF Series

Flat composite design with single hinge busting pattern

### CVP Series

Domed composite design with single hinge bursting pattern

### CVIIF Series

Flat composite design with segmented bursting pattern

### CVIIP Series

Domed composite design with segmented bursting pattern

## Burst Sensors / Indicators

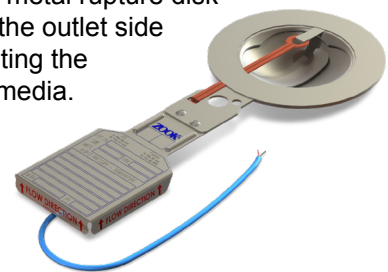
### BA Burst Indicator

The BA Rupture Disk Burst Sensor alerts personnel to take immediate action to protect system components from further damage upon an overpressure event. The BA installs on vent side of the disk holder or alone and requires minimal flange face-to-face clearance.



### BI Integral Burst Indicator

The BI Series integral burst indication offers a simple and effective means of indication over-pressure or discharge indication for metal rupture disk applications. Affixed to the outlet side of the rupture disk isolating the indicator from process media.



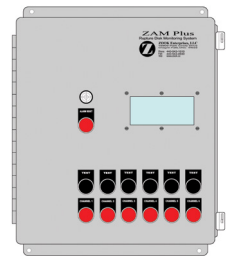
### RDI Burst Indicator

Over pressure or discharge indication for rupture disk and relief valve applications. The RDI installs onto the vent side of a rupture disk assembly or onto the discharge side of a relief valve. One time use, LOW COST.



### ZAM Plus Monitor

The ZAM series Alarm Monitor is a surface mounted monitor designed to remotely detect the condition of a rupture disk in service. Used in conjunction with the ZOOK ZENSOR®, BA, RDI, BI or similar devices, it will immediately warn the operator of a ruptured disk.



### ZENSOR®

Designed for use with ZOOK Impervious Graphite Rupture disks 1" and larger. It can be used with ZOOK Two-Way Disks in systems with pressure and/or vacuum conditions and with ZOOK Bak-Pressure™ Disks in systems where extreme back pressures develop.



### Z-Alert

The non-invasive detection device is situated remote of the disk allowing maintenance and inspection without interfering with the disk assembly. This product meets global Exd certification requirements and its robust design makes it suitable for use in arduous and hazardous environments.



## Accessories

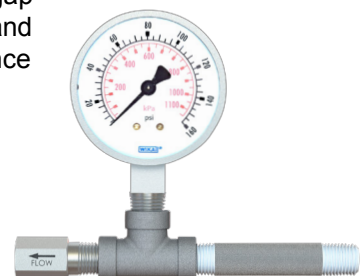
### Pipe End Covers

Applications include protection of safety relief valves, rupture disks, manifold piping systems, ductwork, common header systems, flame stacks, etc.



### Tell-Tale Indicator

Used to monitor the air gap between a rupture disk and relief valve or the presence of back pressure in a header system.



**ZOOK** is committed to finding pressure relief solutions for our customers that maximize their productivity and performance while keeping them safe. ZOOK is a global market leader with over 90 years of manufacturing expertise of high quality metal & graphite rupture disks and other pressure relief products. ZOOK has global locations in the USA, United Kingdom, Canada and Malaysia, with state-of-the-art manufacturing facilities in Canada and the USA.

Our products are sold in 65+ countries and to-date have over 6,000 customers buying our products worldwide.

We are dedicated to investing heavily in the latest technology and production to stay competitive in the marketplace, and are able to offer comprehensive solutions to the selection and sizing of products best suited for each customer application.

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