

ZOOK®

RA Series *Reverse-Acting* Rupture Disk System



A revolutionary
pre-torque holder design
that meets all of your
rupture disk needs...

RA Series

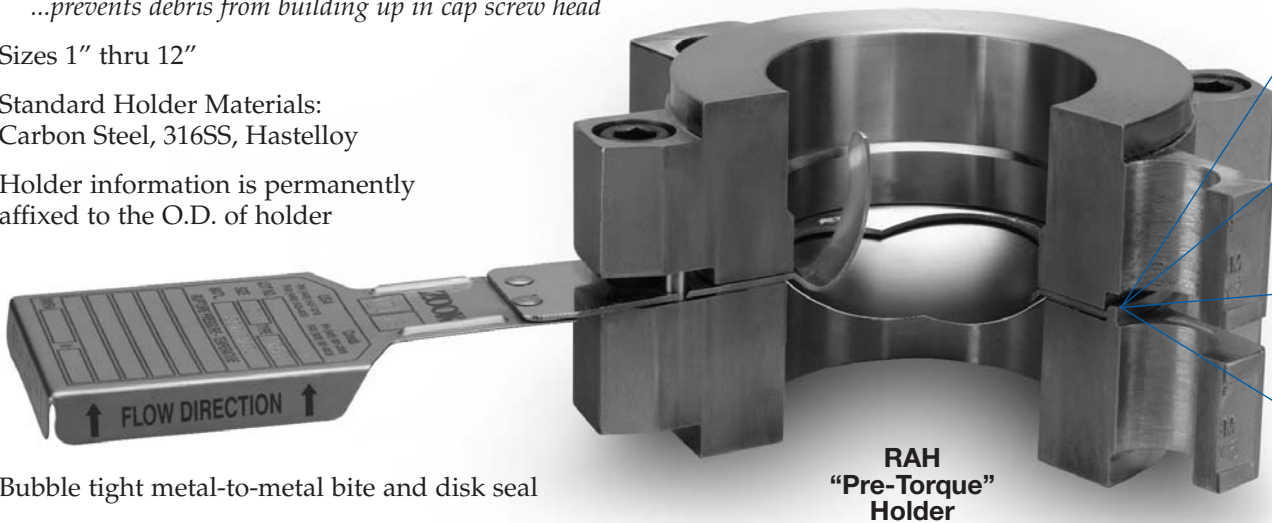


High Performance *Reverse-Acting* Rupture Disks and Holders

In a continued effort to provide cutting edge products and technologies for rupture disk users, ZOOK is pleased to introduce our RA Series of Rupture Disks and Holders. The RA Series offers one unique holder design for use with multiple types of ZOOK *Reverse-Acting* metal rupture disks.

Features / Benefits

- Pre-Torque Design
 - ...pre-assembly of a rupture disk into a holder prior to field installation
 - ...removal of the assembly from the piping system for inspection without disturbing the seal integrity of the Rupture Disk
 - ...mounting between soft or fragile material flanges (PVC, Glass, etc.) and sealed by using a soft gasket material with low torque on the companion flange bolting
- One **holder** design
 - ...accepts multiple disk designs
- Disk dome is contained within inlet holder
 - ...prevents damaging the disk during installation into mating flanges
- Locating pin
 - ...allows only reverse-acting type disks to be mounted into holder
- Fluoropolymer coated socket head cap screws
 - ...resists corroding to holder assembly
 - ...provides easy removal without special sockets
- Polyethylene cap screw covers
 - ...prevents debris from building up in cap screw head
- Sizes 1" thru 12"
- Standard Holder Materials:
Carbon Steel, 316SS, Hastelloy
- Holder information is permanently affixed to the O.D. of holder



RAH
"Pre-Torque"
Holder

- Bubble tight metal-to-metal bite and disk seal
- Flow direction arrows on disk tag and holder
 - ...provide permanent visual verification that holder assembly is properly oriented in the piping system
- Flange class and **type** specific
 - ...guards against installing an assembly into mating flanges with a different pressure rating than the rupture disk holder
- Positioning hole in mounting lug
 - ...located in the exact position as the mating flange
 - ...allows for proper alignment
 - ...can be used as an extra "hand" when installing into horizontal piping



ZOOK®

...rupture disks and related over-pressure protection products

RA4



- Solid metal design
- Ultra Low pressure range
(refer to ZOOK product bulletin 475200)

- Solid metal design
- Ultra Low pressure range
(refer to ZOOK product bulletin 475200)

RA6




The image shows a ZOOK RA6 valve, which is a solid metal device with a circular body and a rectangular handle. The handle has a label with technical specifications and a 'FLOW DIRECTION' arrow. The valve is shown in a close-up, angled view.

- Solid metal design
- Low pressure range
- 90% Operating ratio (available up to 95%)

(refer to ZOOK product bulletin 475300)

- Solid metal design
 - Low pressure range
 - 90% Operating ratio
(available up to 95%)
- (refer to ZOOK product bulletin 475300)

RA8



- Solid metal design
- Mid pressure range
- 90% Operating ratio (available up to 95%)

(refer to ZOOK product bulletin 475400)

- Solid metal design
 - Mid pressure range
 - 90% Operating ratio
(available up to 95%)
- (refer to ZOOK product bulletin 475400)

RAX

- Scored metal design
- High pressure range
- **GAS SERVICE ONLY**

(refer to ZOOK product bulletin 475500)

- Scored metal design
 - High pressure range
 - **GAS SERVICE ONLY**
- (refer to ZOOK product bulletin 475500)

- Designed for Non-fragmentation
- Standard operating ratio of 90% of the marked rating on disk tag. Higher operating ratio available upon request. (Contact ZOOK for operating ratio on pressures below 40 psig)
- Disk designs offer high cycle life (when compared to forward-acting design disks)
- Certified for liquid, gas, or two-phase applications (RAX available for gas service only)
- Standard manufacturing ranges of 0%, -5%, and -10% ensures marked rating on disk tag does not exceed the MAWP of equipment.
- Withstands full vacuum without vacuum support
- Resists product build-up. The smooth convex side of the disk is exposed to the process media
- Unique alignment pin design ensures proper disk orientation into holder
- 3-dimensional stainless steel tag permanently engraved with complete disk specifications
- ASME UD, CE, and TUV marking available.

When disk is mounted under a Relief Valve, the working components of the valve are isolated from hostile environments.

TFE liners are available to provide protection from corrosive media. *Note that the maximum temperature ratings for disks supplied with liners is lower than the unlined disk.*

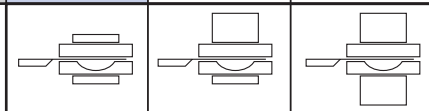
Disk Type	K _{rl} (Liquid)	K _{rg} (Gas)
RA4 Series	1.63	1.63
RA6 Series	0.98	0.80
RA8 Series	1.16	0.78
RAX Series	▲	2.00

▲ – Not Available

Holder Dimensions/Specifications

Nominal Size	Available ANSI Flange Class*	Minimum Height (in)*	Standard Height (in)			Weight (Lbs.) (Short Pattern)	Number of Cap Screws	Cap Screws Hex Size	Gauge tap (NPT)**
			Short Pattern	Mid Pattern	Long Pattern				
1"	150/300/600	1.562	2.126	2.350	2.574	3.8	4	3/16"	1/8"
1-1/2"	150/300/600	1.686	2.250	2.899	3.548	6.4	4	1/4"	1/8", 1/4"
2"	150/300/600	2.158	2.722	3.941	5.160	9.0	4	5/16"	1/8", 1/4"
3"	150/300/600	2.564	3.128	4.928	6.728	16.6	4	3/8"	1/8", 1/4"
4"	150/300	2.592	3.156	5.956	8.756	22.5	4	3/8"	1/8", 1/4"
6"	150/300	2.583	3.444	6.769	10.094	36.0	8	5/16"	1/8", 1/4"
8"	150/300	3.090	4.612	9.037	13.462	53.4	8	3/8"	1/8", 1/4"
10"	150	3.400	5.642	11.167	16.692	99.8	12	3/8"	1/8", 1/4"
12"	150/300	3.274	6.516	13.141	19.766	136.0	12	1/4"	1/8", 1/4"

* Holders are also available to fit DIN and JIS flanging. Contact ZOOK for details.



*Minimum height specified in table above will maintain the pre-torque feature of the rupture disk holder
Refer to ASME/ANSI B16.5 Pipe flanges and Flange Fittings (Table 2) for Max allowable Pressure/Temperature Ratings per flange Class

Options/Accessories

Mid/Long Pattern

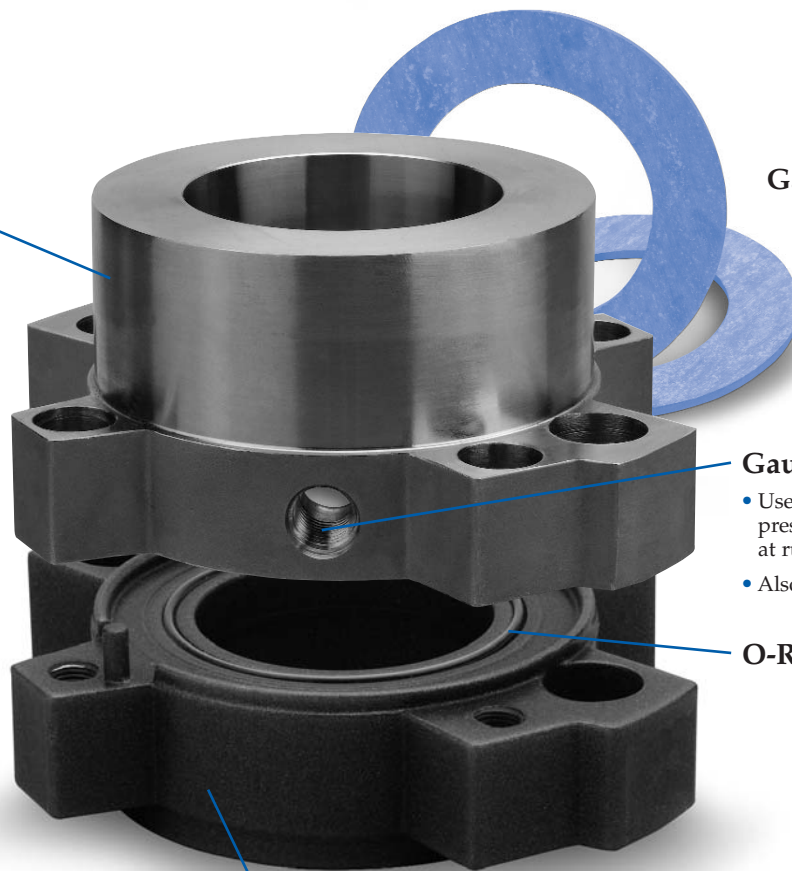
- Can be machined to meet existing piping specifications
- Prevents Rupture Disk membrane from protruding beyond the outlet holder after burst



Replacement Fluoropolymer Coated Cap Screws

Cap Screw Specifications*	
Type	Socket Head
Material	Alloy Steel
Hardness	38-43-RC
Threads	UNRF 3A

*Required to meet Pre-Torque specifications



Gaskets

Gauge Tap**

- Used for monitoring pressure/temperature at rupture disk location
- Also available on inlet holder

O-Ring Seal

Special Coating

– Fluoropolymer Teflon® Sintered (FS)

- Provides durable, non-stick, corrosion resistant surface (Requires O-Ring Seal)

Teflon – TM DuPont
Hastelloy – TM Cabot Corp.
Monel – TM Huntington Alloys
Inconel – TM International Nickel



ZOOK Enterprises, LLC
16809 Park Circle Drive
Chagrin Falls, OH 44022 U.S.A.
Toll Free **800.543.1043**
Phone **440.543.1010**
Fax **440.543.4930**
E-mail **sales@zook.cc**

ZOOK Canada, Inc.
4400 South Service Road
Burlington, ON Can. L7L 5R8
Toll Free **800.370.6057**
Phone **905.681.2885**
Fax **905.681.8838**
E-mail **sales.canada@zook.cc**

ZOOK Europe, LTD.
Unit 1.14, Great House Waterside Business Park
Redwall Close, Rotherham Road
Dinnington, Sheffield UK. S25 3QA
Phone **0044 (0) 1909 560999**
Fax **0044 (0) 1909 560860**
E-mail **zookeurope@zook.cc**



visit us on the web at www.zook.cc