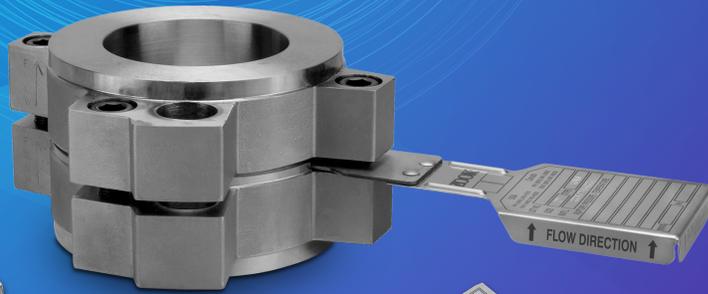


# ZOOK®



## RA Series

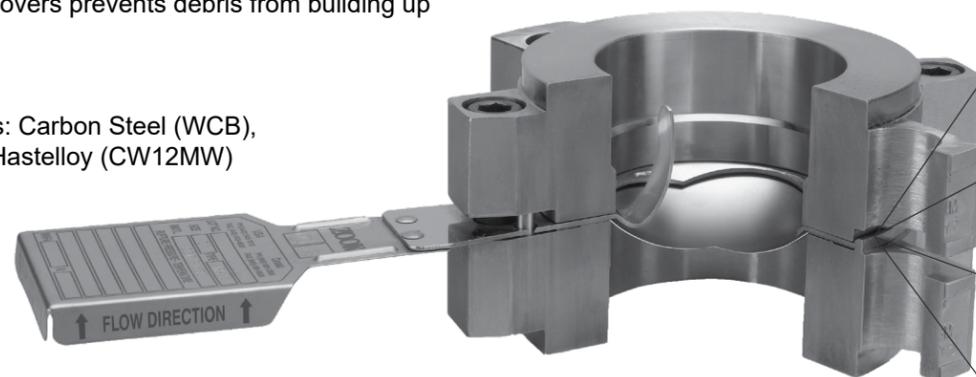
Reverse-Acting Rupture Disk System

Safety through knowledge and performance.

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.

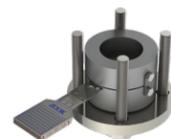
### Rupture Disk Holder Features

- RAH Series offers one unique holder design that fits with multiple types of ZOOK Reverse-Acting metal rupture disks (RA4, RA6, RA8, RAX)
- Pre-Torque Design allows for:
  - a) Pre-assembly of a rupture disk into a holder prior to field installation
  - b) Removal of the assembly from the piping system for inspection without disturbing the seal integrity of the rupture disk
  - c) Pre-torque bolts properly seat the disk by engaging the holder bite
- Disk Dome is contained within holder's inlet, which 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 and 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 (WCB), Stainless Steel (CF3M), Hastelloy (CW12MW)

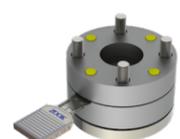


**RAH "Pre-Torque" Holder**

- Holder information is permanently affixed to the O.D. of holder
- Bubble tight metal-to-metal bite and disk seal
- Flow direction arrows on disk tag and holder provides permanent visual verification that holder assembly is properly oriented in the piping system
- ANSI, DIN, and JIS 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 is located in the exact position as the mating flange and allows for proper alignment. It can also be used as an extra "hand" when installing into horizontal piping
- For custom materials and alternative flanges (types/ratings) ZOOK offers custom inserts (RAHI) or full flanges (RAH7) and custom overall heights



**RAHI (Insert holder)**



**RAH7 (Full flanged pre-torque holder)**

### RA4

- Solid metal design
- Ultra low pressure range
- Burst ratings from 2 psig (0.14 barg) to 40 psig (2.76 barg)



### RA6

- Solid metal design
- Low pressure range
- Burst ratings from 12 psig (0.83 barg) to 200 psig (13.79 barg)



### RA8

- Solid metal design
- Mid pressure range
- Burst ratings from 26 psig (1.79 barg) to 1000 psig (68.97 barg)



### RAX

- Solid metal cross-scored design
- High pressure range
- Gas service only
- Burst ratings from 27 psig (1.86 barg) to 1480 psig (255.45 barg)



### Rupture Disk Features

- Designed for Non-fragmentation
- Operating ratios up to 95% of the low end of burst tolerance
- Disk design offers high cycle life
- Suitable for liquid, gas, or two-phase applications (RAX available for gas service only)
- Standard manufacturing design range and total tolerance ensures marked rating on disk tag does not exceed the MAWP of equipment
- Withstands full vacuum without vacuum support
- Wide range of standard and exotic materials available
- Sizes from 1" (25mm) through 12" (300mm)
- Unique alignment pin design ensures proper disk orientation into RAH Series disk holder
- 3-dimensional stainless steel tag permanently attached and engraved with complete disk specifications
- ASME UD, CE (PED), and TÜV compliance available

### Options

#### RA4-L\*, RA6-L\*, RA8-L\*, RAX-L\*

A process side PFA Teflon liner provides protection from corrosive media. The process side liner is placed between the disk and process side ring

#### RA4-BI\*, RA6-BI\*, RA8-BI\*, RAX-BI\*

Equipped with ZOOK's Integral Burst Indicator

#### RA4+, RA6+, RA8+, RAX+

Factory tested to 100% of the low end of the tolerance to ensure no disks will burst low

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

### Certified Flow Resistance Factors (Kr)

Type	Kr <sub>l</sub> (Liquid)	Kr <sub>g</sub> (Gas)
RA4 Series	1.63	1.63
RA6 Series	0.98	0.80
RA8 Series	1.16	0.59
RAX Series	▲	2.00

▲ - Not Available

## Holder Dimensions / Specifications

Nominal Size	Available Flange Class* (ANSI / DIN)	Minimum Height <sup>♦</sup> (in. / mm)	Standard Height (in. / mm)			Weight (Short Pattern) (lbs / kgs)	Number of Cap Screws	Cap Screws Hex Size (in.)	Gauge tap (NPT) (in.)
			Short Pattern RAH 	Mid Pattern RAH-LP1 	Long Pattern RAH-LP2 				
1"	150/300/600	1-9/16	2-1/8	2-11/32	2-9/16	3.8 lbs	4	3/16	1/8, 1/4 <sup>▲</sup>
25 mm	10/16/25/40	39.68	53.97	59.53	65.09	1.72 kgs	4	3/16	1/8, 1/4
1-1/2"	150/300/600	1-11/16	2-1/4	2-29/32	3-9/16	6.4 lbs	4	1/4	1/8, 1/4
40 mm	10/16/25/40	42.86	57.15	73.82	90.49	2.9 kgs	4	1/4	1/8, 1/4
2"	150/300/600	2-5/32	2-23/32	3-15/16	5-5/32	9.0 lbs	4	5/16	1/8, 1/4, 1/2
50 mm	10/16/25/40	54.77	69.06	100	130.97	4.08 kgs	4	5/16	1/8, 1/4, 1/2
2-1/2"	150/300/600	2-9/16	3-1/8	4-15/16	6-23/32	16.6 lbs	4	3/8	1/8, 1/4, 1/2
65 mm	10/16/25/40	65.09	79.38	125.41	170.66	7.5 kgs	4	3/8	1/8, 1/4, 1/2
3"	150/300/600	2-9/16	3-1/8	4-15/16	6-23/32	16.6 lbs	4	3/8	1/8, 1/4, 1/2
80 mm	10/16/25/40	65.09	79.38	125.41	170.66	7.5 kgs	4	3/8	1/8, 1/4, 1/2
4"	150/300	2-19/32	3-5/32	5-31/32	8-3/4	22.5 lbs	4	3/8	1/8, 1/4, 1/2
100 mm	10/16/25/40	65.88	80.17	151.61	222.25	10.2 kgs	4	3/8	1/8, 1/4, 1/2
6"	150/300	3-7/32	3-7/16	6-25/32	10-3/32	36.00 lbs	8	5/16	1/8, 1/4, 1/2
150 mm	10/16/25/40	81.76	87.31	172.24	256.38	16.33 kgs	8	5/16	1/8, 1/4, 1/2
8"	150/300	4-1/16	4-5/8	9-1/32	13-15/32	53.4 lbs	8	3/8	1/8, 1/4, 1/2
200 mm	10/16	103.19	117.48	229.39	342.11	24.22 kgs	8	3/8	1/8, 1/4, 1/2
10"	150	4-3/4	5-21/32	11-5/32	16-11/16	99.8 lbs	12	3/8	1/8, 1/4, 1/2
250 mm	10/16	120.65	143.67	283.37	423.86	45.27 kgs	12	3/8	1/8, 1/4, 1/2
12"	150/300	5-1/16	6-17/32	13-5/32	19-25/32	136.00 lbs	12	1/4	1/8, 1/4, 1/2
300 mm	10/16	128.59	165.89	334.17	502.44	61.69 kgs	12	1/4	1/8, 1/4, 1/2

**Notes:**

- \* Holders are also available to fit JIS flanging. Contact ZOOK for details
- ♦ Minimum height specified in table above will maintain the pre-torque feature of the rupture disk holder
- ♦ A 12" RA6 disk can only be installed in Short pattern or taller RAH holder. Contact factory for Minimum height installations
- ▲ Refer to ASME/ANSI B16.5 pipe flanges and flange fittings (Table 2) for max allowable pressure/temperature ratings per flange class
- ▲ Gauge tap size needs to be reviewed with factory for reduced 1" RAH-G holders

## Options / Accessories

### Short / Mid / Long Pattern

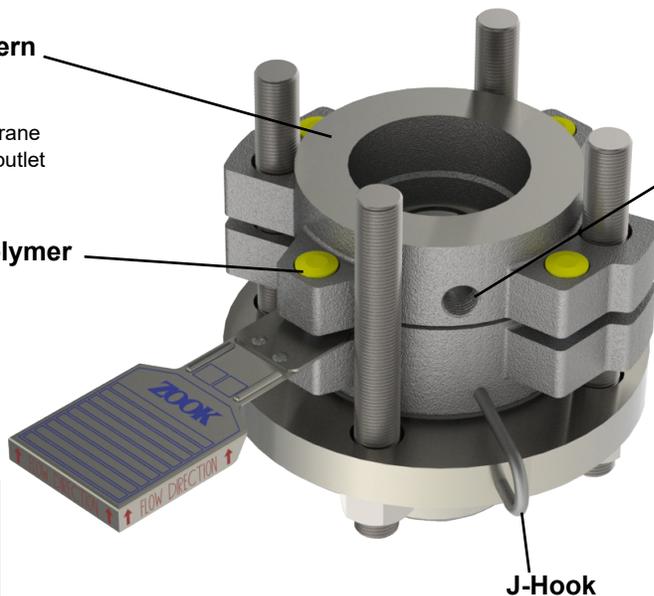
- Can be machined to meet existing piping specifications
- Prevents rupture disk membrane from protruding beyond the outlet holder after burst

### 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



### Eye Bolt

- To assist in lifting



### Gauge Tap

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

### PTFE Sleeved Holder Inlet

- Ideal for corrosive applications and reducing product build-up (Refer to PTFE Sleeved Holder Inlet Data Sheet)

### Tantalum Coating

- Ideal for extreme corrosive applications and higher temperatures

Teflon - Trademark of The Chemours Company  
Hastelloy - Trademark of Haynes International

**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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