



# RA8 Series Reverse-Acting Metal Rupture Disks

The RA Series of rupture disks are complementary designs to cover the majority of rupture disk applications and are designed to be used in the RAH type holder.



## Features

- Designed for Non-fragmentation
- Scoreless design offers higher cycle life when compared to scored reverse acting disks
- 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)
- Certified for liquid, gas, or two-phase applications
- 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
- Wide range of standard and exotic materials available
- Sizes from 1" (25mm) through 24" (600mm)
- Burst ratings from 26 psi (1.79 barg) to 1000 psig (68.97 barg)
- Resists product build-up. The smooth convex side of the disk is exposed to the process media
- Damage ratio of 1.0 or less
- 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 compliance available

## Safety Relief Valve Protection

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

## Option Liners

TFE liners are available to provide protection from corrosive media.

*Note that the maximum temperature ratings for disks supplied with liners is lower than an unlined disk.*

# RA8 Series Minimum and Maximum Pressure Ratings – psig (barg) @ 72°F (22°C)

| Disk Size  | Minimum Burst Pressures – psig @ 72°F (barg @ 22°C) |               |        |               |        |               |        |               |        | Maximum Burst Pressure |         | MNFA in <sup>2</sup> (cm <sup>2</sup> ) |
|------------|---|---------------|--------|---------------|--------|---------------|--------|---------------|--------|------------------------|---------|---|
|            | With Liner (RA8-L)                                  | 316SS         |        | Inconel       |        | Monel         |        | Nickel        |        | Liquid                 | Gas     |   |
|            |   | Liquid        | Gas    | Liquid        | Gas    | Liquid        | Gas    | Liquid        | Gas    |                        |         |   |
| 1"         | 144   | 200           | 144    | 200           | 144    | 200           | 144    | 200           | 144    | 1000                   | 720     | 0.86                                    |
| 25 mm      | (9.93)  | (13.79)       | (9.93) | (13.79)       | (9.93) | (13.79)       | (9.93) | (13.79)       | (9.93) | (68.97)                | (49.66) | (5.5)                                   |
| 1-1/2"     | 120   | 167           | 120    | 167           | 120    | 167           | 120    | 167           | 120    | 1000                   | 720     | 2.00                                    |
| 40 mm      | (8.28)  | (11.52)       | (8.28) | (11.52)       | (8.28) | (11.52)       | (8.28) | (11.52)       | (8.28) | (68.97)                | (49.66) | (12.90)                                 |
| 2"         | 100   | 118           | 100    | 118           | 100    | 118           | 100    | 118           | 100    | 850                    | 720     | 3.36                                    |
| 50 mm      | (6.9)   | (8.14)        | (6.9)  | (8.14)        | (6.9)  | (8.14)        | (6.9)  | (8.14)        | (6.9)  | (58.62)                | (49.66) | (21.70)                                 |
| 3"         | 65  | 68            | 65     | 68            | 65     | 68            | 65     | 68            | 65     | 425                    | 285     | 7.25                                    |
| 80 mm      | (4.48)  | (4.69)        | (4.48) | (4.69)        | (4.48) | (4.69)        | (4.48) | (4.69)        | (4.48) | (29.31)                | (19.66) | (46.80)                                 |
| 4"         | 55  | 69            | 55     | 69            | 55     | 69            | 55     | 69            | 55     | 425                    | 285     | 12.53                                   |
| 100 mm     | (3.79)  | (4.76)        | (3.79) | (4.76)        | (3.79) | (4.76)        | (3.79) | (4.76)        | (3.79) | (29.31)                | (19.66) | (80.80)                                 |
| 6"         | 45  | 67            | 45     | 67            | 45     | 67            | 45     | 67            | 45     | 350                    | 225     | 26.59                                   |
| 150 mm     | (3.1)   | (4.62)        | (3.1)  | (4.62)        | (3.1)  | (4.62)        | (3.1)  | (4.62)        | (3.1)  | (24.14)                | (15.52) | (171.50)                                |
| 8"         | 35  | 54            | 35     | 54            | 35     | 54            | 35     | 54            | 35     | 300                    | 180     | 45.48                                   |
| 200 mm     | (2.41)  | (3.72)        | (2.41) | (3.72)        | (2.41) | (3.72)        | (2.41) | (3.72)        | (2.41) | (20.69)                | (12.41) | (293.40)                                |
| 10"        | 30  | 46            | 30     | 46            | 30     | 46            | 30     | 46            | 30     | 150                    | 100     | 70.52                                   |
| 250 mm     | (2.07)  | (3.17)        | (2.07) | (3.17)        | (2.07) | (3.17)        | (2.07) | (3.17)        | (2.07) | (10.34)                | (6.9)   | (455.00)                                |
| 12"        | 26  | 38            | 26     | 38            | 26     | 38            | 26     | 38            | 26     | 110                    | 75      | 98.33                                   |
| 300 mm     | (1.79)  | (2.62)        | (1.79) | (2.62)        | (1.79) | (2.62)        | (1.79) | (2.62)        | (1.79) | (7.59)                 | (5.17)  | (634.40)                                |
| Max. Temp. | 500°F (260°C)                                       | 900°F (482°C) |        | 900°F (482°C) |        | 900°F (482°C) |        | 750°F (399°C) |        |                        |         |   |

**NOTE:** For materials, sizes, burst ratings and temperatures not shown, contact ZOOK

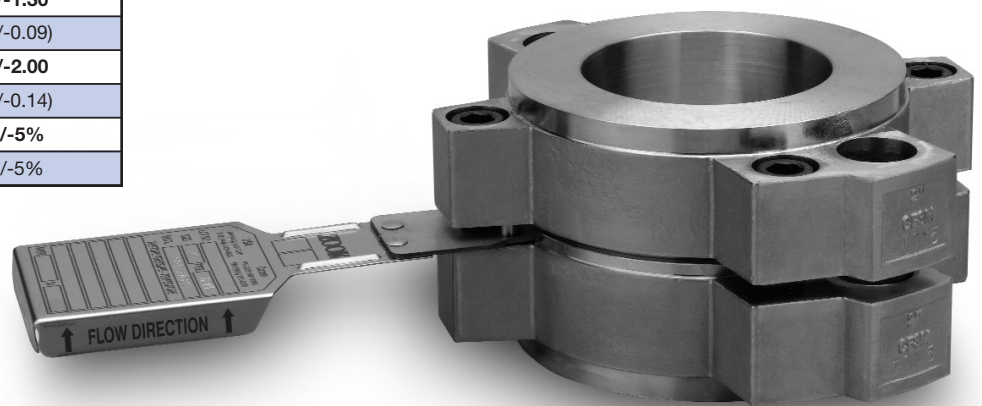
## Manufacturing Range / Burst Tolerance psig (barg) @ 72°F (22°C)

| Specified Burst Pressure Rating        | Manufacturing Ranges | Burst Tolerance      |
|--|----------------------|----------------------|
| 1 to below 5<br>(0.07 to below 0.34)   | 0%, -5%, -10%        | +/-0.50<br>(+/-0.03) |
| 5 to below 10<br>(0.34 to below 0.69)  |                      | +/-0.80<br>(+/-0.06) |
| 10 to below 15<br>(0.69 to below 1.03) |                      | +/-1.30<br>(+/-0.09) |
| 15 to 40<br>(1.03 to 2.76)             |                      | +/-2.00<br>(+/-0.14) |
| Above 40<br>(Above 2.76)               |                      | +/-5%<br>(+/-5%)     |

### 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

RA8 Series Disk mounts into RAH Series Disk Holder (refer to ZOOK product bulletin 475100)



## Certified Flow Resistance factors

| Disk Type  | K <sub>rl</sub> (Liquid) | K <sub>rg</sub> (Gas) |
|------------|--------------------------|-----------------------|
| RA8 Series | 1.16                     | 0.59                  |

Monel – TM Huntington Alloys  
Inconel – TM International Nickel



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