



# LoKr SAFETY CARTRIDGE™

*Upgrade your pressure relief performance with **no changes to piping, no torque concerns and no leaks***

**EXCEPTIONALLY LOW  $K_R$  / WIDE BURST PRESSURE RANGE / NOT TORQUE SENSITIVE**



A **Halma** company



# The Safety Cartridge Eliminates Common Pain Points

Featuring a one-piece, e-beam welded design, the Oseco Safety Cartridge solves many pain points common to three-piece rupture discs. The patented, hermetically sealed assembly is leak-tight, easy to install, and not torque sensitive.

- 1

### LEAK-TIGHT

  - Hermetically sealed design removes common leak paths
  - Process media cannot leak outside the piping
  - Supports LDAR and EPA Guidelines (VOCs, HRVOCs, and VHAPs)
- 2

### EASY TO INSTALL

  - Single-piece assembly is easy and intuitive to install
  - This eliminates installation errors and reduces installation time
  - The disc dome is protected from damage during installation
- 3

### NO CONFLICTING TORQUE VALUES

  - One-piece design is not torque sensitive
  - Follow gasket torque values for worry-free installation
  - No risk of damage from uneven torque
  - Less sensitive to misaligned piping



# The LoKr disc Improves Process Performance

Delivering a best-in-class Flow Resistance Factor (FRF) or  $K_R$ , the LoKr is a highly engineered rupture disc. The advanced design maximizes pressure relieving performance while providing superior reliability and extraordinary service life.

- 1

### BEST-IN-CLASS $K_R$ VALUE

  - Minimize line sizes for rupture discs installed in-series with PRVs
  - Improve performance and efficiency, even at low flow rates
  - Makes it easier to keep pressure drops across the relief line below 3%
  - Help prevent valve chatter
- 2

### USE AS A SINGLE-DISC SOLUTION

  - Sizes and pressure ranges cover the majority of applications in the plant
  - High-cycling and high temperature capabilities for superior reliability and long service life, even in the toughest applications
  - Reduce inventory of holders and discs required in the stock-room





# The LoKr Safety Cartridge™ Offers a Universal Solution

# No Need to Change Line Sizes for a Greater Flow Rate

The next step in the evolution of rupture disc technology for pressure relieving systems unites the innovative welded technology of the Oseco Safety Cartridge with the technically advanced design of the LoKr rupture disc.

Combining the LoKr's best-in-class Flow Resistance Factor (FRF) or  $K_R$  with the ease of use and leak-tightness of the Safety Cartridge, the LoKr SC covers the widest range of burst pressures and application types possible with a single disc.

1

## MINIMIZE REQUIRED LINE SIZES

- Exceptionally low  $K_R$  value
- Increase flow rate on burst without changing line sizes
- Minimize line sizes in new plant installations
- Change to the LoKr SC from almost any solution with minimal or no pipe modifications

2

## EXCEPTIONAL RELIABILITY

- Non-torque sensitive disc is less susceptible to damage
- Durable design is vacuum-resistant and high-cycling
- Easy to train contractors to use and install it
- Dimple design offers very high accuracy on burst even at low pressures

3

## REDUCE INVENTORY AND STOCK COSTS

- Wide burst pressure range
- Multiple materials of construction
- Use a single solution for a wide variety of applications

4

## MEET ENVIRONMENTAL TARGETS

- Single-piece design
- E-Beam welded
- Eliminates leak paths
- Reduces emissions
- Helps minimize downtime

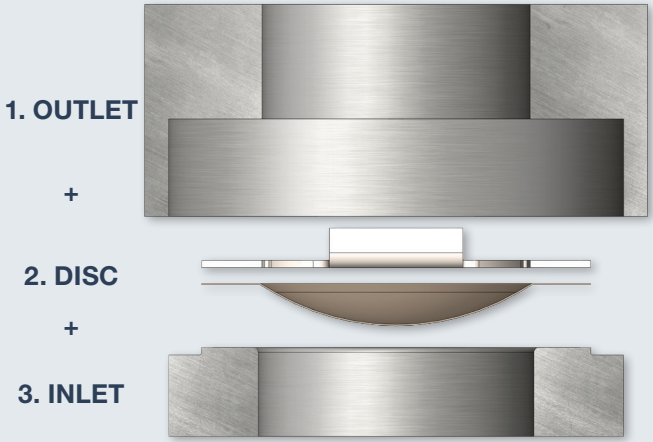




# The “Universal” Safety Cartridge

Suitable for nearly all applications, the LoKr SC offers an exceptionally low  $K_R$  value and high burst accuracy, all offered in **ONE HERMETICALLY SEALED COMPONENT.**

CROSS-SECTION



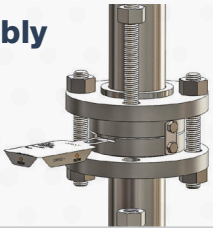


3 PIECES welded into ONE

- Sizes 1"–10"
- Operating ratio: 95%
- Burst tolerance: +/-5% of specified burst pressure
- Materials available: 316 Series Stainless Steel, Inconel® 600, Monel® and Hastelloy® C
- Available for gas and liquid service
- Suitable for high-cycling or pulsating applications
- Leak checked to 1x10<sup>-8</sup> cc-atm/sec using helium
- Non-fragmenting design
- Fully isolated pressure relief device allows for torquing to any gasket specifications
- Withstands full vacuum

## Easy Installation

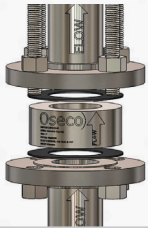


1

Disassembly






2


Placement & Alignment





3


Torquing & Inspection





**SAFETY EQUIPMENT**


 - Safety Goggles


 - Gloves

 - Other as required by facility

**TOOLS & MATERIALS**

 - Torquing Specifications

 - Torque Wrench

 - Cleaning Solvent compatible with service media

# Technical Specifications

**COMMON APPLICATIONS:** Lethal service, difficult installations, high-cycling or pulsating applications. Applications where a Safety Cartridge is desirable and there is a need for a low  $K_R$  value, particularly where it is advantageous to keep lines sizes or pipework modifications to a minimum.

The table below outlines our standard sizes, materials, burst pressures, and MNFA. Specifications outside of those listed may be possible as a custom order. Please contact us to discuss your requirements.

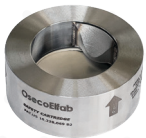
| NOMINAL BORE<br>inches | MATERIAL                    | BURST PRESSURE (PSIG) |                                  | MINIMUM NET FLOW AREA (MNFA) | CARTRIDGE HEIGHT   |                   |
|------------------------|-----------------------------|-----------------------|----------------------------------|------------------------------|--------------------|-------------------|
|                        |                             | MIN<br>psig           | MAX<br>psig                      |                              | STANDARD<br>inches | MINIMUM<br>inches |
| 1"                     | 316<br>Inc<br>Mon<br>Hast C | 15<br>25<br>15<br>25  | 2,000<br>2,000<br>2,000<br>2,500 | 0.86                         | 1.500              | 1.250             |
| 1.5"                   | 316<br>Inc<br>Mon<br>Hast C | 10                    | 1,500<br>1,500<br>1,300<br>2,200 | 2.04                         | 1.688              | 1.500             |
| 2"                     | 316<br>Inc<br>Mon<br>Hast C | 10                    | 1,200<br>1,500<br>1,200<br>2,200 | 3.36                         | 1.880              | 1.625             |
| 3"                     | 316<br>Inc<br>Mon<br>Hast C | 10                    | 1,200<br>1,500<br>1,200<br>2,000 | 7.39                         | 2.188              | 2.000             |
| 4"                     | 316<br>Inc<br>Mon<br>Hast C | 10                    | 1,200<br>1,500<br>1,200<br>1,500 | 12.73                        | 2.875              | 2.500             |
| 6"                     | 316<br>Inc<br>Mon<br>Hast C | 10                    | 750                              | 28.89                        | 3.625              | 3.250             |
| 8"                     | 316<br>Inc<br>Mon<br>Hast C | 10                    | 600<br>600<br>600<br>750         | 50.02                        | 3.750              | 3.750             |
| 10"                    | 316<br>Inc<br>Mon<br>Hast C | 10                    | 400<br>400<br>400<br>500         | 78.85                        | 4.500              | 4.500             |

$K_R$  Value

|         |      |
|---------|------|
| LoKr SC | 0.22 |
|---------|------|

# Our Products and Services Provide Complete Peace of Mind

## PRODUCT LINE



### LoKr Safety Cartridge

*Exceptionally low  $K_R$  covering the widest possible range of burst pressures and application types*



### Opti Safety Cartridge

*Reverse acting disc in a single piece with non-invasive Flo-Tel burst detection*



### FAS Safety Cartridge

*Forward acting disc in a single piece unit eliminates multiple leak paths*



### HPSR

*Ultra High Pressure Scored Reverse: Single piece unit designed for burst pressures over 6,000 psig*



### High Performance Rupture Discs

**LoKr™:** Best-in-class low  $K_R$  value



**OPR+/OPK+:** Non-invasive burst detection system



**FAS™:** Lowest  $K_R$  value available for forward acting discs



### Explosion Protection

*Explosion vents and burst detection*



### Burst Sensors

## SERVICES

Engineering and Maintenance  
Training Seminars

Safety Surveys

Custom Engineered Solutions

Expedited Shipments

Emergency Response Team

24/7/365 Customer Service

Let us help you with all  
your pressure relief questions.

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