

# oseco ***SAFETY CARTRIDGE***<sup>TM</sup>

*An innovative rupture disc solution to eliminate leaks and installation errors, and increase safety.*



A HALMA COMPANY

oseco pressure  
intelligence



**1930s Technology**  
Standard Rupture Disc



**1940s Technology**  
Composite Rupture Disc



**1960s Technology**  
Knife Blade Assembly



**1980s Technology**  
Forward-Acting Scored  
Rupture Disc



**2000s Technology**  
Precision Reverse-Buckling  
Rupture Disc



Opti-Gard® Reverse-Buckling  
with Integrated Sensor



Throughout the evolution of rupture disc technology for pressure relief systems, **Oseco** has been with you every step of the way. Oseco delivers reliable products on the leading edge of technology. Our tradition continues with the introduction of the most innovative rupture disc system to be created in the last twenty years, the **Oseco Safety Cartridge™**.

- **HERMETICALLY SEALED DESIGN** to eliminate leak paths
- **FULLY INTEGRATED HOLDER-DISC** to eliminate installation errors
- **ONE-PIECE ASSEMBLY** to eliminate torque issues
- **REDUCED** cost of ownership



**THE FUTURE**  
Oseco Safety Cartridge™



# OSECO ELIMINATES COMMON PAIN POINTS

After many years of research and industry experience, **Oseco** continues to address today's issues with rupture disc systems. Customers have asked for solutions to these common pain points *and the Oseco Safety Cartridge™ delivers.*

1

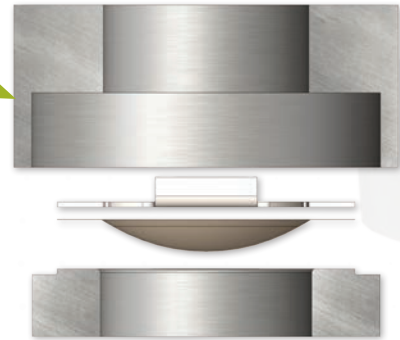
## PAIN POINT: INSTALLATION

- Misalignment of piping
- Uneven torque
- Mishandling / damage
- Difficult applications

### SOLUTION: FULLY INTEGRATED HOLDER-DISC

- Handling of the disc is eliminated
- Immune-force is transferred through the outlet, not to the disc
- Dome is always protected
- Reduces installation time

**DETAIL:** Oseco Safety Cartridge™ Assembly. Three pieces welded into **ONE**.



2

## PAIN POINT: LABOR CONCERNS

- Inexperienced maintenance technicians
- Lack of installation training
- Contract labor
- Employee turnover

### SOLUTION: INTUITIVE DESIGN

- Shortens learning curve and supports correct installation

3

## PAIN POINT: LEAKING

- Between holder and flange
- Between rupture disc and holder
- Multiple leak paths

### SOLUTION: ONE-PIECE ASSEMBLY

- Follows torque specs of gaskets—force placed on the outlet rather than the disc
- Patented electron beam weld design

4

## PAIN POINT: FUGITIVE EMISSIONS

- EPA limits on chemical types
- Emissions of VOCs, HRVOCs, and VHAPs
- Location and repair of leaking components

### SOLUTION: HERMETICALLY SEALED DESIGN

- Cannot leak outside of the piping
- Supports LDAR and EPA Guidelines (HRVOCs)

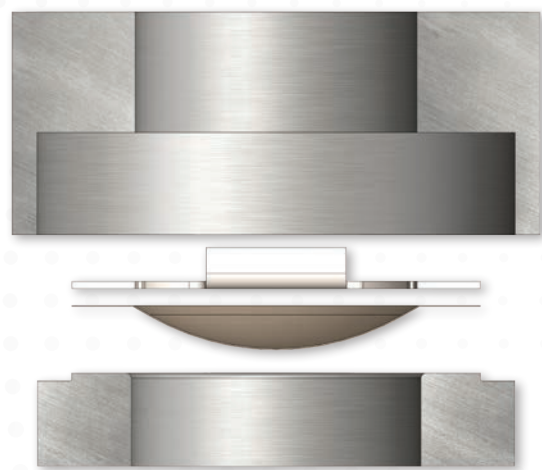




# ONE PIECE... PEACE OF MIND

Oseco's patented design allows the traditional three components of a rupture disc system to be combined into **ONE HERMETICALLY SEALED COMPONENT.**

Cross-section



Three pieces welded into ONE.

Oseco's Integral Holder Solution for easy installation and critical applications.

- Sizes 1" – 12"
- Materials of construction: Hastelloy® C, 316 Series Stainless Steel, Inconel® 600, and Monel®
- Available for gas and liquid service
- 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



**COMMON APPLICATIONS**  
Lethal Service, Difficult Installations, High Cycling

**BURST TOLERANCE**  
+/-5% of specified burst pressure

**OPERATING RATIO**  
Up to 95%

**PRODUCT DIMENSIONS**  
Standard height matches industry standard insert-style holders

*\*Special height available to fit any flange type or configuration, consult factory for more information*

## Technical Specifications

SIZE inches	LOW PRESSURE (Circular Scored)			HIGH PRESSURE (Cross Scored)	
	MIN psig (barg)	MAX psig (barg)	MAX <sup>(1)</sup> psig (barg)	MIN <sup>(2)</sup> psig (barg)	MAX psig (barg)
1" DN 25	75 6.89	250 17.24	1160 79.98	200 13.79	1250 86.18
1.5" DN 40	50 1.03	250 17.24	1087 74.95	185 12.76	1000 68.95
2" DN 50	30 2.07	250 17.24	1015 69.98	170 11.72	1000 68.95
3" DN 80	15 1.03	250 17.24	507 34.96	155 10.69	1000 68.95
4" DN 100	10 0.69	175 12.07	363 25.03	135 9.31	800 55.16
6"– 12"	Consult factory for technical specifications				

LOW PRESSURE (Circular Scored)		HIGH PRESSURE (Cross Scored)
K <sub>R</sub>	K <sub>R</sub> <sup>(1)</sup>	K <sub>R</sub>
0.78	1.5	2.17

(1) High pressure circular scored rupture disc with knuckle (results in higher K<sub>R</sub> value)  
(2) Low pressure rating with 316 Stainless Steel rupture disc—consult factory for other materials

## Easy Installation

### SAFETY EQUIPMENT

- Safety Goggles
- Gloves
- Other as required by facility

### TOOLS & MATERIALS

- Cleaning Solvent compatible with service media
- Torquing Specifications
- Torque Wrench

### 1 Disassembly



### 2 Placement & Alignment



### 3 Torquing & Inspection



# OSECO PRODUCTS AND SERVICES PROVIDE

## COMPLETE PEACE OF MIND

**oseco** pressure intelligence

### PRODUCT LINE



#### **Oseco Safety Cartridge™**

*Single piece unit eliminates multiple leak paths*



#### **Ultra High Pressure Scored Reverse-Buckling Disc Assembly**

**HPSR:** *Single piece unit designed for a burst pressure over 6,000 psig*



#### **High Performance Reverse-Buckling Disc**

**Pro+ KRGL:** *Industry leading  $K_R$  value*

**Opti-Gard®:** *Innovative non-invasive burst detection system*



#### **High Performance Forward-Acting Scored Disc**

**FAS:** *Lowest  $K_R$  value available in the market*



#### **Composite Rupture Disc**



#### **Standard Rupture Disc**



#### **Explosion Protection**



#### **Burst Detection Systems**

### SERVICES

Engineering and  
Maintenance  
Training Seminars

Safety Surveys

Custom Engineered  
Solutions

Expedited Shipments

Emergency  
Response Team

**24/7/365**  
**Customer Service**

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