

Oseco

SAFETY CARTRIDGE™

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

*Featuring the lowest K_R in the industry,
non-invasive sensing and fail-safe design*



A Halma company



OsecoElfab

1930s Technology
Standard Rupture Disc



1960s Technology
Knife Blade Assembly



1940s Technology
Composite Rupture Disc



1980s Technology
Forward-Acting Scored Rupture Disc



Throughout the evolution of rupture disc technology for pressure relief systems, **OsecoElfab** has remained at the forefront of innovation. Our tradition of delivering reliable products on the leading edge of technology 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**
eliminates leak paths
- **FULLY INTEGRATED HOLDER-DISC**
eliminates installation errors
- **ONE-PIECE ASSEMBLY**
eliminates torque issues
- **REDUCED** cost of ownership



THE FUTURE
Oseco Safety Cartridge™



2000s Technology
Precision Reverse-Buckling
Rupture Disc

OPR+/OPK+ Reverse-Buckling
with Integrated Sensor



OSECOELFAB ELIMINATES COMMON PAIN POINTS

1

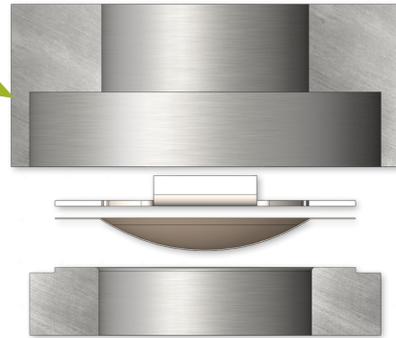
PAIN POINT: INSTALLATION

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

SOLUTION: FULLY INTEGRATED HOLDER-DISC

- Eliminates any need to handle the disc
- 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: LABOUR CONCERNS

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

SOLUTION: INTUITIVE DESIGN

- Shortens learning curve and supports correct installation

After many years of research and industry experience, **OsecoElfab** 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.**



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

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

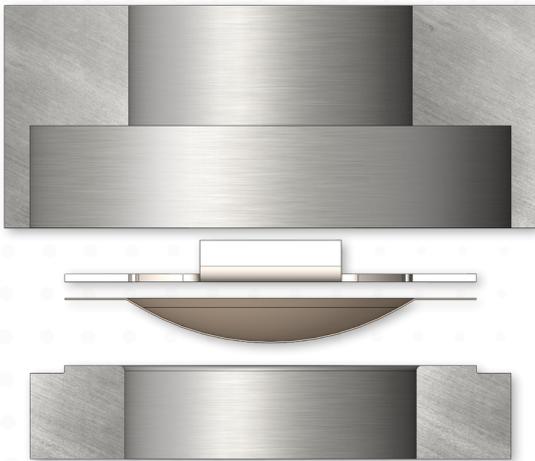
SOLUTION: **HERMETICALLY SEALED DESIGN**

- Cannot leak outside of the piping
- Supports implementation of the Industrial Emissions Directive (IED) 2010/75/EU and BATs

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**

- Sizes DN 25 - DN 300
- Operating ratio up to 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
- Leak checked to 1×10^{-8} cc-atm/sec using helium
- Non-fragmenting design
- Fully isolated pressure relief device allows for torquing to any gasket specifications
- Withstands full vacuum
- CE marked

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



Technical specifications

Oseco Safety Cartridge™ featuring OPR+ /OPK+ technology

SIZE DN (mm)	OPR+		OPK+	
	MIN psig (barg)	MAX psig (barg)	MIN ⁽²⁾ psig (barg)	MAX psig (barg)
DN 25	100 (6.89)	250 (17.24)	250 (17.24)	1160 (79.98)
DN 40	50 (3.48)	250 (17.24)	250 (17.24)	1087 (74.95)
DN 50	30 (2.07)	250 17.24	250 17.24	1015 (69.98)
DN 80	15 (1.03)	250 (17.24)	250 (17.24)	507* (34.96)
DN 100	10 (0.69)	175 (12.07)	175 (12.07)	363* (25.03)
DN 150–DN 300	Consult factory for technical specifications			

Oseco Safety Cartridge™ featuring FAS™ technology

SIZE DN (mm)	MATERIAL	MIN psig (barg)	MAX psig (barg)
DN 25	316 Inc Mon Hast C	220 (15.2) 200 (13.8) 140 (9.7) 270 (18.6)	2000 (137.9)
DN 40	316 Inc Mon Hast C	160 (11.0) 170 (11.7) 120 (8.3) 250 (17.2)	2000 (137.9)
DN 50	316 Inc Mon Hast C	120 (8.3) 130 (9.0) 100 (6.9) 200 (13.8)	1500 (103.4)
DN 80	316 Inc Mon Hast C	110 (7.6) 100 (6.9) 80 (5.5) 160 (11.0)	1500 (103.4)
DN 100	316 Inc Mon Hast C	110 (7.6) 100 (6.9) 90 (6.2) 140 (9.7)	1200 (82.7)
DN 150	316 Inc Mon Hast C	100 (6.9) 110 (7.6) 100 (6.9) 160 (11.0)	1000 (68.9)
DN 200	316 Inc Mon Hast C	110 (7.6) 120 (8.3) 100 (6.9) 170 (11.7)	500 (34.4)

K_R values - all sizes

OPR+	OPK+	FAS	
K _R	K _R ⁽¹⁾	K _{RG}	K _{RL}
0.78	1.5	0.223	0.19

- (1) High pressure circular scored rupture disc with knuckle (results in higher K_R value)
 (2) Low pressure rating with 316 Stainless Steel rupture disc – consult factory for other materials

OUR PRODUCTS AND SERVICES PROVIDE

COMPLETE PEACE OF MIND



PRODUCT LINE



Oseco Safety Cartridge™

Single piece unit eliminates multiple leak paths



Ultra High Pressure Scored Reverse-acting disc assembly

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



High performance reverse-acting disc

Opti-Gard: Industry leading operating ratio of 97%



High performance forward-acting scored disc

Safe-Gard: Cross-scored for increased safety



Composite rupture discs



Explosion protection



Burst detection systems



Installation tools



Pressure gauges

SERVICES

Engineering and maintenance training seminars

Safety surveys

Custom engineered solutions

Expedited shipments

Emergency response team

UK office

Alder Road, North Shields
Tyne and Wear, NE29 8SD UK
Tel: +44 (0) 191 293 1234

US office

1701 W. Tacoma
Broken Arrow, OK 74012 USA
Tel: (918) 258-5626

Let us help you with all your pressure relief questions. Contact our specialist Oseco Safety Cartridge™ product team on **(918) 258-5626** or **info@oseco.com**

www.osecoelfab.com