



Protecting Biopharma Manufacturing

Pure-Gard: an innovation in sanitary pressure relief



A **Halma** company

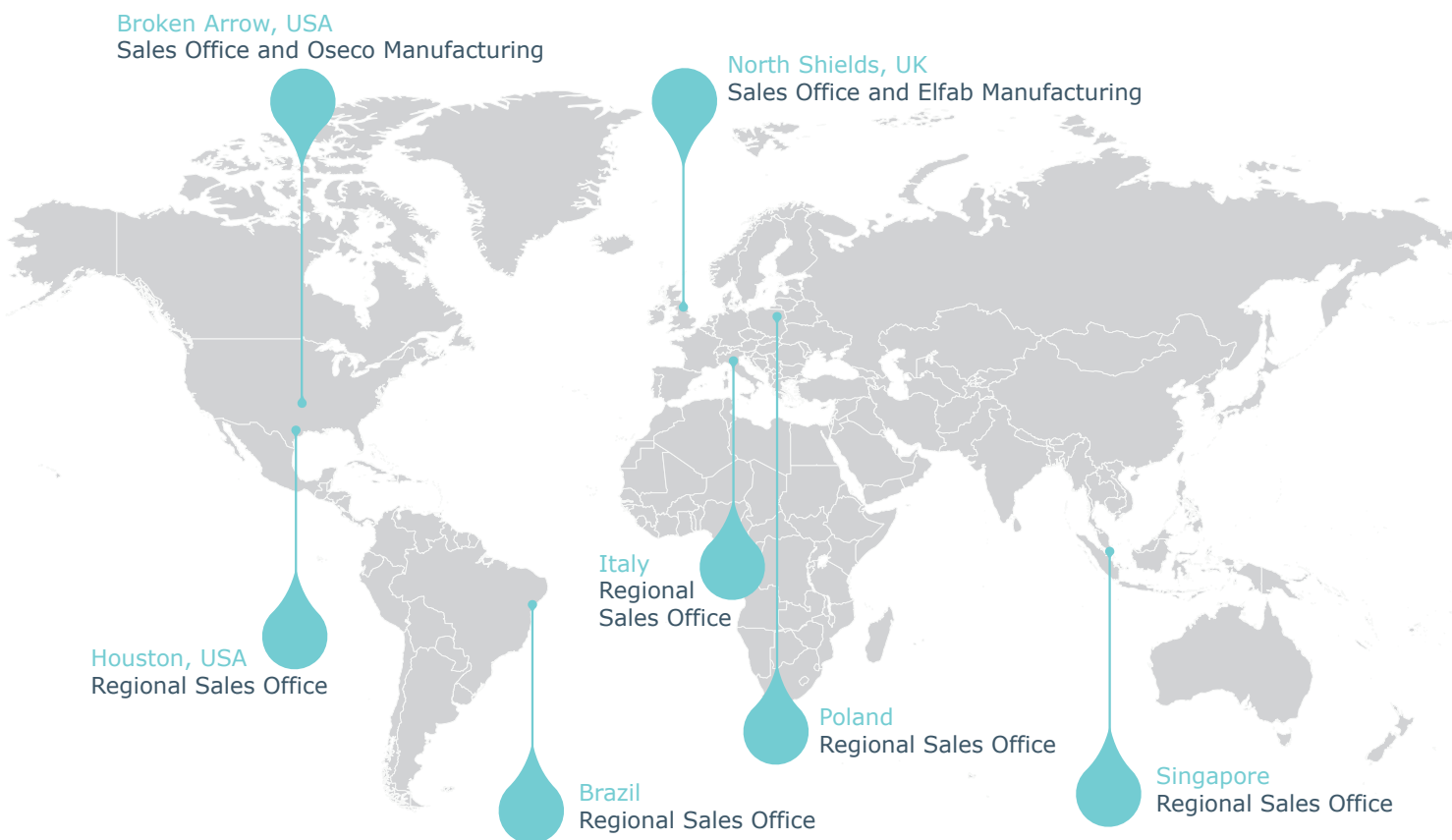
About Oseco and Elfab

Dedicated to protecting the lives of your people and safeguarding your critical processes and equipment, Elfab and Oseco are leading providers of pressure management solutions for the pharmaceutical industry.

Both companies work in collaboration, with a joint Pharmaceutical Team offering a global service, industry expertise and a broad range of pressure relief products for a safer, cleaner world.

Global Reach

Our specialist, global Pharmaceutical Team is supported by two manufacturing facilities, one in North Shields (UK) and one in Broken Arrow (USA). Together, Oseco and Elfab offer regional sales offices around the world and a network of channel partners dedicated to our pharmaceutical customers.



Contact Us

To discuss your pressure relief requirements with a member of our global Pharmaceutical Team, please email us at pharmasales@elfab.com or speak to us directly on **+44 (0)191 293 1234 (UK) / +1 (918) 258 5626 (US)**

About Pure-Gard

Pure-Gard is a one-piece cartridge with a rupture disc electron-beam welded between two ferrules. It provides a pressure relief solution independent of the gasket, allowing regular change of gaskets, as required, with no need to change the disc.

Electron-beam welding achieves an exceptionally high integrity weld joint. This ensures the interface between the disc and the ferrule wall is crevice-free and meets industry expectations for cleanability.



Technology you can trust

The unique and complex biopharmaceutical manufacturing environment drives the need for technology you can trust. Pure-Gard introduces a revolutionary solution to protect your processes and equipment.

Technical Specifications



Pure-Gard

Product Description	One-piece welded assembly using Opti-Gard SoLo technology. The non-fragmenting, reverse acting rupture disc is suitable for low to medium pressure applications.					
ASME UD certification	Yes	Yes	Yes	Yes	Yes	Yes
Technical Specifications						
Size range	1" (25mm)	1.5" (40mm)	2" (50mm)	2.5" (65mm)	3" (80mm)	4" (100mm)
Burst pressure range	18 psig to 145 psig (1.24 barg to 10 barg)	14 psig to 130 psig (1 barg to 9 barg)	10 psig to 116 psig (0.7 barg to 8 barg)	7 psig to 116 psig (0.5 barg to 8 barg)	6 psig to 101 psig (0.4 barg to 7 barg)	5 psig to 101 psig (0.3 barg to 7 barg)
Minimum burst pressure to withstand full vacuum	25 psig (1.72 barg)	23 psig (1.59 barg)	21 psig (1.45 barg)	21 psig (1.45 barg)	23 psig (1.59 barg)	23 psig (1.59 barg)
Temperature range	to 260°C					
MNFA	0.5in ² (323mm ²)	1.24in ² (804mm ²)	2.37in ² (1,534mm ²)	3.87in ² (2,498mm ²)	5.71in ² (3,685mm ²)	10.46in ² (6,749mm ²)
Operating ratio	95% of minimum burst					
Tolerance	+/- 3%					
Ra value (EP available on request)	0.4Ra (micrometres) (15 micro-inches)					
K _{RGL}	0.85					
L/D geometry (L ₁)	0.31" (8mm)					
Overall length (L ₂)	1.77" (45mm)					

Pure-Gard (for higher pressures)

Product Description	One-piece welded assembly using Opti-Gard technology. The non-fragmenting, reverse acting rupture disc is suitable for high pressure applications.					
ASME UD certification	Yes	Yes	Yes	Yes	Yes	Yes
Technical Specifications						
Size range	1" (25mm)	1.5" (40mm)	2" (50mm)	2.5" (65mm)	3" (80mm)	4" (100mm)
Burst pressure range	40 psig to 300 psig (2.75 barg to 20.7 barg)	30 psig to 300 psig (2.1 barg to 20.7 barg)	25 psig to 300 psig (1.73 barg to 20.7 barg)	22 psig to 300 psig (1.52 barg to 20.7 barg)	20 psig to 300 psig (1.38 barg to 20.7 barg)	20 psig to 300 psig (1.38 barg to 20.7 barg)
Full vacuum compliance	Yes					
Temperature range	to 260°C					
MNFA	0.46in ² (297mm ²)	1.14in ² (739mm ²)	2.13in ² (1,375mm ²)	3.48in ² (2,247mm ²)	5.04in ² (3,252mm ²)	8.92in ² (5,757mm ²)
Operating ratio	95% of minimum burst					
Tolerance	+/- 3%					
Ra value (EP available on request)	0.4Ra (micrometres) (15 micro-inches)					
K _{RGL}	1.74					
L/D geometry (L ₁)	0.39" (10mm)					
Overall length (L ₂)	1.85" (47mm)					

Manufacturing capability

We can manufacture small to large volumes, using state-of-the-art electron-beam welding for superior performance. For urgent requests we offer fast-track manufacturing. Please contact us for details.

Specifications

Specifications available:
ASME BPE, BS4825-3, BS6362, DIN32676, ISO1127, ISO2037, ISO2852, SMS3008, SMS3017

Materials

Stainless Steel 316L/1.4435 dual-certified as standard. Other material combinations for the inlet, outlet and disc include Hastelloy®, Inconel®, Monel®, Tantalum and Nickel.

Process capability

Pure-Gard is suitable for use in single- and multi-phase processes with gases, vapours, liquids and liquids with a gas cap. Pure-Gard is CIP and SIP compliant: full cleanability has been proven with riboflavin testing.

Opti-Gard technology

Pure-Gard incorporates our Opti-Gard rupture disc technology, with industry-leading tolerances and a wide range of burst pressures. The Opti-Gard SoLo disc covers the majority of biopharmaceutical process conditions, with the Opti-Gard disc offering higher burst pressures where necessary.

Features and benefits

01

Crevice and dimple free

Pure-Gard meets your expectations for cleanability with its crevice and dimple free design. Our rigorous testing programme includes 100% dye penetrant testing and 100% helium leak testing. Pure-Gard has additionally been subjected to an independent riboflavin test. Details are available in a white paper.



02

Structural stability

The one-piece design provides protection for the rupture disc, avoiding the risk of damage at the point of installation. Pure-Gard's structural stability also means its performance is unaffected by vent-side pipework loads.



03

Extended product life

Pure-Gard provides a solution independent of the gasket. Unlike conventional sanitary pressure relief solutions, the disc need not be disposed of when the gaskets are changed. This innovation significantly extends Pure-Gard's useful life compared to traditional sanitary solutions.



04

Tag free

The Pure-Gard specifications and technical information are laser etched on the side, making it easy to read and removing the need for a tag.



05

Non-invasive, reusable burst detection

Pure-Gard is designed for use with Elfab's Vent-Tel burst detection system, an independent, reusable, non-invasive solution mounted directly to the Tri-Clamp, making rupture disc inspection and replacement quick and simple.



06

A range to suit your requirements

Pure-Gard is available in a range of sizes and burst pressures to suit your specific requirements. Pure-Gard devices are manufactured to be compatible with the Millipore NovAseptic Connectors and similar ASME/PED fittings as well as all inline ferrule fittings.





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