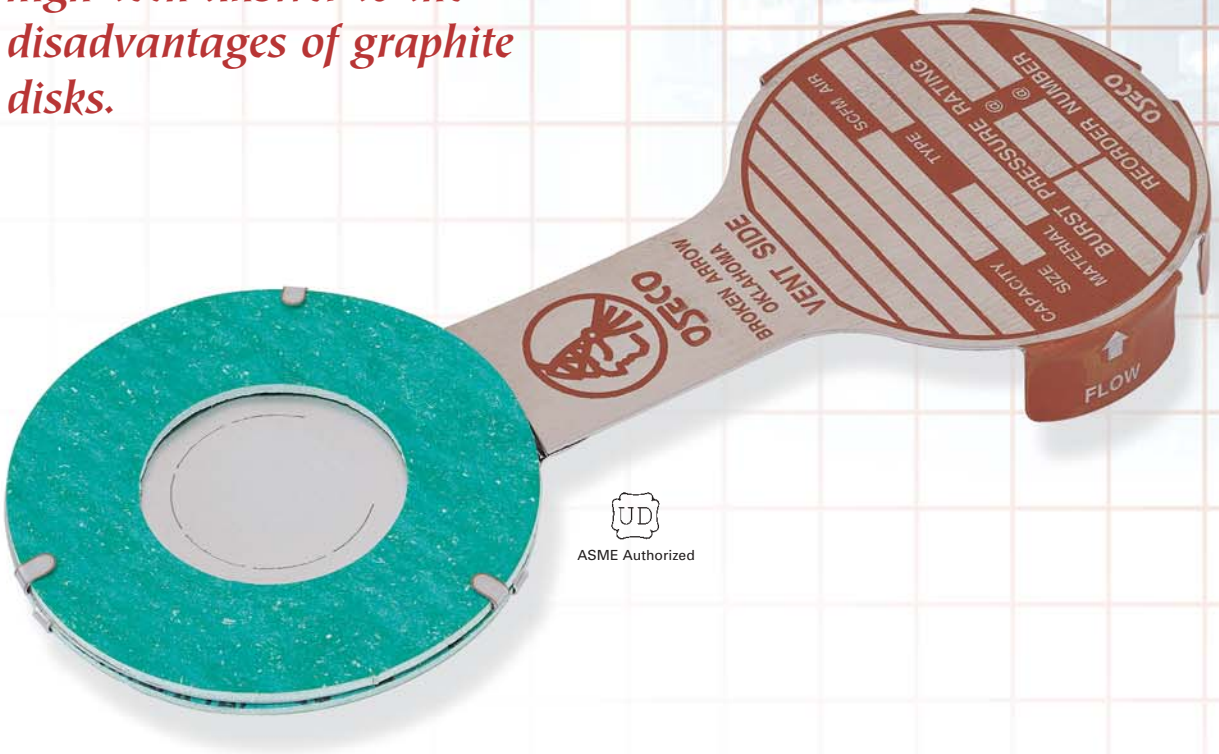
The GR series is Oseco's high-tech answer to the disadvantages of graphite disks.



UD
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GR™

A HALMA GROUP COMPANY

OSECO GRAPHITE REPLACEMENT

R U P T U R E • D I S K

GR GRAPHITE REPLACEMENT RUPTURE DISK

Oseco's GR pressure relief devices provide an economical, high-performance solution to the disadvantages of fragile graphite disks. The Teflon®-encapsulated stainless steel GR series gives you superior pressure relief protection for the pharmaceutical and chemical process industries.

The GR is precision-cut by Oseco's unparalleled in-house, five-axis laser to exacting standards, resulting in a precision disk with burst pressures as low as 2.5 psig! The Oseco advantage is the GR's particular suitability for corrosive applications, since it is nonfragmenting, non-torque-sensitive, and highly resistant to corrosion and breakage.

The GR is easy to install on its own, designed to bolt between standard 150# ANSI pipe flanges and to fit within the bolt circle. The GR can also be supplied with a spacer on its vent side to provide interchangeability with existing monoblock graphite disk installations. The spacer may be constructed either of permanently attached Valox® 420, for one-time use (GRO™), or of stainless steel or carbon steel for reusability and easy attachment (GRR™).

The GR is excellent for applications where fragmentation is a problem, due to its nonfragmenting design. It is an ideal, economical solution for low-pressure explosion prevention.

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Patent Pending

OSECO GR Graphite Replacement Disks

Please consult the Oseco factory for sizes, pressures, materials, or other options not listed.

- Standard Sizes: 1" to 8" diameter.
- Standard Burst Pressures: 2.5 psig to 150 psig. Stocked burst pressures are listed for all standard sizes. **See Table 2.**
- Manufacturing Range: All Oseco GR disks meet a standard zero manufacturing range.
- Tolerance: 5% tolerance for requested burst pressures at or above 40 psig (2 psig tolerance for requested burst pressures below 40 psig).
- UD Stamping Available
- Temperature Range: Maximum 500° F for GR and GRR (maximum 420° F for GRO).
- Applications: Excellent for either gas or liquid service.
- Operating Ratio: In cycling applications, the GR can face operating pressures up to 60% of the stamped burst pressure.
- Vacuum Supports: Fully opening vacuum supports are available and recommended for all disks rated 30 psig and below that are required to withstand vacuum. The vacuum support must be ordered at the same time as the disk.

Teflon® is a registered trademark of E.I. du Pont de Nemours and Company, Inc.
Valox® is a registered trademark of General Electric Company.
GR, GRO, GRR, and GS are trademarks, and OSECO is a registered trademark, of Oseco, Inc.

The heart of the GR series of rupture disks is a laser-cut stainless steel controlling membrane, encapsulated with PFA Teflon® seal in contact with the process. A stainless steel support ring ensures durability and anchors the stainless steel specification tag. Standard gaskets are nonasbestos material, with gaskets of PFA Teflon® and other materials available as an option.

GR

The GR disk is designed to fit between standard ANSI 150# flanges.

GRO

The GRO consists of the GR permanently attached to a one-time-use Valox® 420 spacer, which matches the overall height of standard monoblock graphite disks. Once overpressurization occurs, the entire assembly is replaced.

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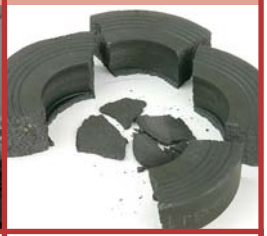
GRR

The GRR, designed for easy installation, consists of the GR with an attached carbon-steel reusable GS™ spacer. (Stainless steel GS spacers are also available.)

TABLE 1
Graphite vs. Stainless Steel Comparison

	Oseco Stainless Steel GR Series Disks	Competitor Graphite Disk
		
No holder required	Yes	Yes
Fully opening vacuum supports	Yes	No
Operation to 60% set pressure (high-cycling)	Yes	Yes
Corrosion-resistant material in contact with process	Yes	Sometimes*
Burst pressure not subject to change over time	Yes	Sometimes*
Nonfragmenting design	Yes	No
Non-torque-sensitive	Yes	No
Dust-free service	Yes	No
Damage resistance	High	Low
Maximum temperature (°F)	500	338

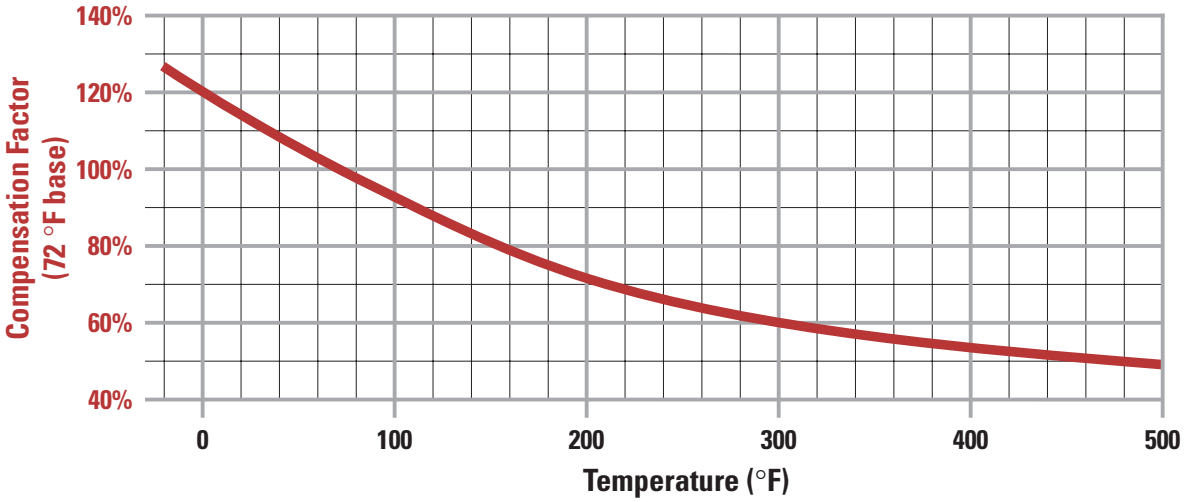
*Graphite is sensitive to wet oxidizing conditions. Incomplete resin treatment of graphite can also cause gradual changes in its burst pressure.

TABLE 2
Stock Burst Pressures for GR Rupture Disks at 72°F*

Pipe Size in	Stocked Burst Pressures 2.5	5	10	15	20	25	30	40	50	75	100	125	150	Overall GR Height in	Overall GRO, GRR Height in
1.0					X	X	X	X	X	X	X	X	X	0.125	0.875
1.5				X	X	X	X	X	X	X	X	X	X	0.125	0.875
2.0			X	X	X	X	X	X	X	X	X	X	X	0.125	0.875
3.0			X	X	X	X	X	X	X	X	X	X	X	0.125	0.875
4.0		X	X	X	X	X	X	X	X	X	X	X	X	0.125	0.875
6.0		X	X	X	X	X	X	X	X	X	X			0.125	0.875
8.0	X	X	X	X	X	X	X	X	X	X	X			0.125	1.125

*Please consult the Oseco factory for other burst pressures.

CHART 1
GR Disk Temperature Correction Curve



The above chart can be used to estimate the burst pressure of the GR disk at temperatures other than 72 °F. Please consult with the factory to confirm the estimation.

Made in the USA Since 1981

Oseco, Inc.

OSECO
1701 West Tacoma, **Broken Arrow, Okla.** 74012, U.S.A.
voice 1.918.258.5626 • fax 1.918.251.7662

EUROPE: OSECO EUROPE BV
Box 23, 8330AA **Steenwÿk, the Netherlands**
voice 31.521.522.578 • fax 31.521.510.405

ASIA: HALMA ASIA OSECO DIVISION
Pantech Complex, Block 192 Pandan Loop #501, **Singapore** 128381
voice 65.745.2936 • fax 65.745.0467

A HALMA GROUP COMPANY

www.oseco.com • 1.800.395.disk • info@oseco.com

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