



*Solutions for the
pharmaceutical,
biochemical, and food
processing industries.*



ASME Authorized

HYGIENIC DISKS



hygienic disks

Safety. In the process plant, safety is more than just a policy, it's a way of life. And when you process pharmaceuticals, biochemicals, or foods, you depend on safety not only for your workers but also for the customers who use your products. You rely on pressure systems that not only preclude explosions but also ensure product purity.

When safety counts, trust Oseco. Oseco combines the trustworthiness and security demanded by sensitive process industries with the guarantees provided by the latest pressure relief technologies. Oseco's wide array of pressure relief devices include a robust line of reliable, easy-to-maintain hygienic rupture disks, panels, and sensors, which relieve overpressure and pre-explosive conditions within microseconds while delivering full compliance with FDA regulations for hygienic service.

Unlike some vendors, Oseco provides hygienic pressure relief products with a standard gasket arrangement that fits existing sanitary joint configurations. Instead of requiring proprietary ferrule holders or special gasket geometry, you can simply replace existing installations with Oseco hygienic rupture disks in existing joint configurations.

Where noted, Oseco hygienic rupture disks can be provided with the prestigious UD stamp, authorized by the National Board of Boiler and Pressure Vessel Inspectors. Oseco has received more ASME and National Board certifications for hygienic rupture disk lines than any other rupture disk maker.

Oseco hygienic pressure relief devices are available in a wide range of FDA-approved elastomers, including white and red silicone, Viton®, and EPDM. Rupture disk designs include forward-acting, reverse-operating, and bidirectional configurations. Oseco custom-designs every pressure relief solution to meet the exacting specifications demanded by plant safety.



Teflon® is a registered trademark of E.I. du Pont de Nemours and Company, Inc. Tri-Clover® is a registered trademark of Alfa Laval. Viton® is a registered trademark of DuPont Dow Elastomers, L.L.C. OSECO, FAS, and PRO are registered trademarks, and FAS-S, FM-S, LPSS, MV, MV-S, OSS, POSIPRO, PRO-S, and VAPRO are trademarks, of Oklahoma Safety Equipment Co., Inc.

REVERSE-OPERATING HYGIENIC RUPTURE DISK

pro-s

Oseco's PRO-S is a full-featured, high-performance disk for low to medium burst pressures constructed with Oseco's unique reverse-buckling technology.

- No need for special holders
- Standard sizes from 1" to 4"
- Standard zero manufacturing range
- Choice of FDA-approved elastomer gaskets
- Temperature capability to 450 °F
- Burst pressures from 16 psig to 150 psig
- Standard stainless steel 316 construction, other materials optional

The PRO-S disk includes integral sanitary gaskets in FDA-approved elastomers for easy installation without any special holder required. It is suitable for temperatures up to 450 °F with silicone gaskets (400 °F for Viton® and 300 °F for EPDM). The PRO-S is excellent for both gas and liquid service, is nonfragmenting, is vacuum-ready without any need for separate vacuum supports, and may be operated to 90% of set burst pressure with excellent service life. Specially designed tags are standard to ensure correct installation. A smooth surface in contact with process media minimizes product buildup and contamination. Even if damaged during installation, the PRO-S will still burst at or below marked burst pressure. Precision-scored by Oseco's sophisticated computerized load cells, it can also be provided with very quick delivery in emergencies.



TABLE 1

Minimum and Maximum Burst Pressure for Stainless Steel 316 PRO-S Rupture Disks at 72° F*

Line Size inches	Min Pressure psig	Max Pressure psig
1.0	40	150
1.5	32	120
2.0	27	90
3.0	20	75
4.0	16	70

*Other materials are available upon request. Pressures outside standard range are also possible. Consult the Oseco factory for availability.

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disk

BIDIRECTIONAL HYGIENIC RUPTURE DISK

fm-s

The FM-S is another Oseco innovation: the first flat bidirectional high-performance rupture disk for pharmaceutical and hygienic industries. The FM-S is constructed of stainless steel 316 with gaskets in a choice of FDA-approved elastomers, and it fits within standard ferrule connections. This sanitary design is achieved by using Oseco's state-of-the-art laser technology and ensures suitability for your hygienic applications. The FM-S may be operated to 60% of set burst pressure with excellent service life.

- Standard sizes from 1" to 4"
- Stainless steel 316 construction
- FDA-approved gaskets available in silicone or EPDM
- Flat-metal low-pressure service
- Bidirectional design fit to standard ferrule connections



Bidirectional FM-S

TABLE 2

Minimum and Maximum Burst Pressure for Stainless Steel 316 FM-S Rupture Disks at 72° F*

Line Size inches	Min Pressure psig	Max Pressure psig
1.0	10	80
1.5	8	60
2.0	5	40
3.0	4	30
4.0	3	20

*Other materials are available upon request. Pressures outside standard range are also possible. Consult the Oseco factory for availability.

FORWARD-ACTING HYGIENIC RUPTURE DISK

fas-s

Our FAS-S is a high-performance disk for medium to very high burst pressures using Oseco's patented FAS technology.

- No need for special holders
- Manufacturing ranges of 0%, 5%, or 10%
- Absolutely "failsafe" rating
- Standard sizes from 1" to 4"

The FAS-S disk includes integral sanitary gaskets in FDA-approved elastomers for easy installation without any special holder required. The FAS-S is excellent for both gas and liquid service, is nonfracturing, is vacuum-ready without any need for separate vacuum supports, and may be operated to 90% of set burst pressure with excellent service life. Specially designed tags are standard to ensure correct installation. A smooth surface in contact with process media minimizes product buildup and contamination. Even if damaged or incorrectly installed, the FAS-S will still burst at or below marked burst pressure. The FAS-S is offered with standard gasket materials of EPDM, silicone, or Viton®.



TABLE 3

Minimum and Maximum Burst Pressure for Stainless Steel 316 FAS-S Rupture Disks at 72° F*

Line Size inches	Min Pressure psig	Max Pressure psig
1.0	110	4100
1.5	80	4000
2.0	60	3000
3.0	55	2100
4.0	50	2000

*Other materials are available upon request. Pressures outside standard range are also possible. Consult the Oseco factory for availability. 13 MHP Tri-Clover® or equivalent clamp should be considered for burst pressures above 300 psig. Consult clamp manufacturer for exact ratings.

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vapro • posipro

Oseco's VAPRO and POSIPRO are economical alternatives for applications requiring both positive and vacuum-pressure protection. VAPRO disks relieve extremely low vacuum pressures, and POSIPRO disks, extremely low positive overpressures, both as low as 1" WC. These disks are readily produced by our in-house, five-axis laser and may be supplied with perforated composite-style controlling membranes, Teflon® seals, and Teflon® or stainless steel 316 girdles. (Teflon® girdles are suitable up to 150 °F and stainless steel girdles up to 400 °F.) The VAPRO and POSIPRO operate up to 90% of the puncture pressure and 80% of the relief pressure, with excellent service life. Both disks are provided with FDA-approved sanitary holders.

- Interchangeability into competitive holders (consult factory for details)
- Rated pressures ranging from 1" WC to 100 psig
- Sizes ranging from 3" to 10"
- Suitability to both insert-style and sanitary holders



VAPRO in VRDS holder

TABLE 4
Minimum and Maximum Burst Pressure for VAPRO and POSIPRO Disks at 72° F*

Nominal Size		Min Puncture Pressure inches WC	Max Puncture Pressure inches WC	Min Relief Pressure psig	Max Relief Pressure psig
Clamp	Line				
4	3	1	30	11	100
6	4	1	30	8	75
8	6	1	30	6	50
10	8	1	30	5	40
12	10	6	30	4	30

*Disks will rupture at or above puncture pressure and achieve maximum flow at not more than 6"WC above the puncture pressure.
 "Puncture pressure" is dependent on girdle material and pertains to vacuum direction for VAPRO and positive direction for POSIPRO.
 "Relief pressure" pertains to opposite direction for each disk.

OSS

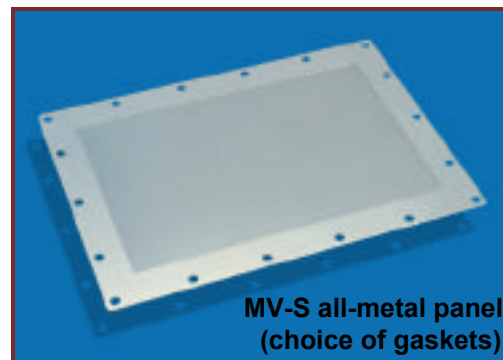
The OSS is Oseco's primary sensor for hygienic disks and ranges in size from 1.5" to 4".

lpss

The low-pressure LPSS sensor is used with our VAPRO and POSIPRO disks when sanitary fittings are required. Consult Oseco if choosing an LPSS.

mv-s

Oseco's trustworthy hygienic MV-S rupture panel ranges from 8" square to 44" x 69" rectangular, and is provided with burst pressures from 0.2 to 10 psig. Standard materials include stainless steel 316, with gaskets in a choice of FDA-approved elastomers. This construction ensures compatibility with high-temperature processes while preventing product buildup. Please contact Oseco for a quotation regarding your specific size and pressure needs.



oseco OKLAHOMA SAFETY EQUIPMENT CO., INC.



At the turn of the century, pioneers from America's Midwest began using flat copper disks to prevent explosions in oil separators and other pressure vessels. Over the last one hundred years, constant design refinements to these rupture disks secured their suitability for virtually any overpressure relief situation. As a new century dawns, one company is positioned to deliver the trustworthiness and security demanded in the former era. And one company consistently uses the latest rupture disk technologies to guarantee that trust. One company. Oseco.



Ever since its inception, Oseco has provided you, the customer, with superior products, excellent prices, and the best possible service. The Oseco Advantage means we'll work on a holiday weekend if your company is shut down and you desperately need a rupture disk. It's the pioneering spirit of our continuing as leaders in the industry while striving for new ideas and innovations to meet your constantly changing needs. It's the assurance that your plant and its process are certified to be safe and pure. Start benefiting from the Oseco Advantage today.

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disk

Trust . . . the Oseco Advantage

PERFORMANCE

Oseco manufactures rupture disks, panels, and other pressure relief products in two climate-controlled, state-of-the-art facilities, considered by many the finest in the world industry-wide. Computerized load cells, used to manufacture our high-performance rupture disks, provide technology so precise that we can control scoring to within millionths of an inch. You've come to expect accuracy, dependability, and repeatability from Oseco.

QUALITY

Only Oseco uses single-craftsperson responsibility: the maker's signature on each and every order assures you we have enough pride in our work to take credit for it. This, coupled with a quality control program that exceeds the requirements of ISO 9001, promises you that Oseco's products are made with the highest quality in the industry.

RESPONSE

Orders for most custom-made products are shipped from Oseco within three weeks of receiving the order. Oseco utilizes its own in-house, five-axis laser, which allows us to provide reduced delivery times for emergency SureShip orders. In many cases, same-day service is available!

SERVICE

Oseco's company-owned, employee-operated laser gives us control over production and gives you the fastest delivery available. Its precise, repeatable trimming technology also makes available unique new designs, such as our low-pressure PLR. After all, Oseco's goal is to provide you, the customer, with the best response, quality, and overall performance for your rupture disk needs.

Let us prove our commitment to this goal: contact your local Oseco representative and ask us for a Rupture Disk Review. Your representative and a factory technician will review all of your pressure applications, suggest changes as applicable, and give you a competitive quotation at no cost, guaranteed to save you money.

TRUST OSECO TO PROVIDE YOU WHAT YOU NEED MOST: VALUE!

Visit the Oseco website at www.oseco.com, write us at info@oseco.com, or call us toll-free at 1.800.395.disk for more information or to receive your free Rupture Disk Review.



OSECO

A handwritten signature in blue ink that reads 'Joe Ragosta'.

Joseph M. Ragosta
President, Oseco

Made in the USA Since 1981

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