



OSECO's VAPRO and POSIPRO rupture disks are ideal for vacuum and low-pressure protection.



VAPRO POSIPRO

**VAPRO IN ULTRALOW VACUUM RELIEF
POSIPRO IN ULTRALOW POSITIVE RELIEF**

R U P T U R E • D I S K S

VAPRO

IN ULTRALOW VACUUM RELIEF

Oseco's VAPRO rupture disk is an economical alternative for applications requiring extremely low vacuum pressure protection. The VAPRO rupture disk is designed to provide vacuum protection for pressures starting as low as 1" of water column. It's primary use is in storage tanks with very low vacuum resistance.



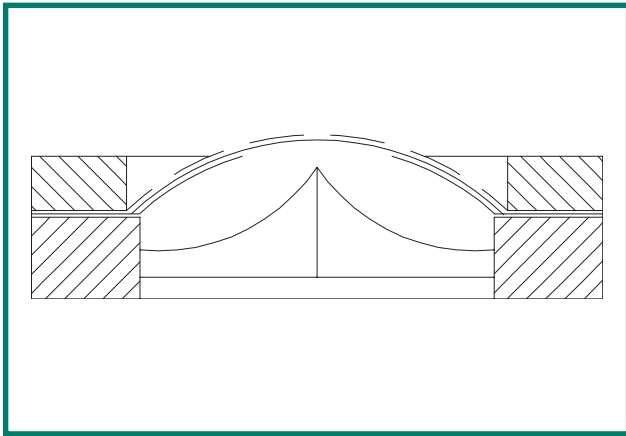
Oseco's VAPRO Rupture Disk

- The VAPRO rupture disk is a dual-acting disk that can protect from implosion at extremely low differential pressures and also provide protection from positive overpressure conditions.
- The VAPRO rupture disk consists of a perforated 316SS top section, a Teflon® seal, and a Teflon® or 316SS girdle.
- Operates to within 1" W.C. of minimum vacuum burst pressure (1"-10" W.C.) / Operates up to 90% of minimum vacuum burst pressure (10"-30" W.C.). Vacuum rupture tolerance is 6" water column and is expressed as min/max on tag (i.e. 6" W.C. min/12" W.C. max). See "How VAPRO Works on the next page.
- Operates up to 80% of positive stamped burst pressure. Positive rupture tolerance is $\pm 5\%$ above 40 psig and ± 2 psig at or below 40 psig.
- If the VAPRO rupture disk is never subject to any positive pressure, a 316SS support ring can be provided in place of the perforated metal top section.
- VAPRO is available in sizes of 3, 4, 6, 8 and 10 inches.
- VAPRO-S is available in standard sanitary fitting sizes of 4, 6, 8, 10 and 12 inches.

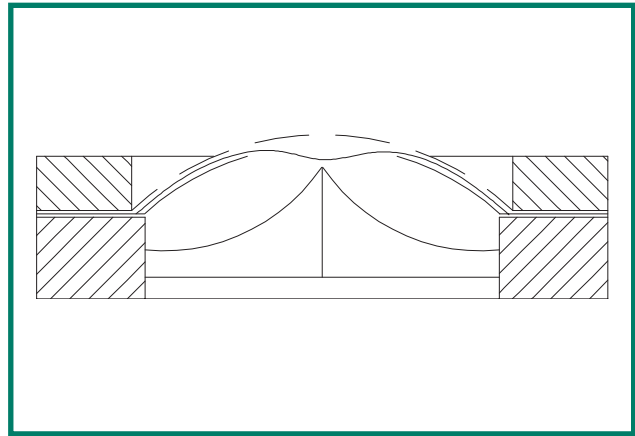
How the VAPRO Works

VAPRO vacuum burst pressures are stated as min/max pressures with six inches of water column between the minimum and the maximum burst pressure. The minimum is the lowest pressure differential at which the disk may begin to relieve. The maximum is the highest pressure differential required to achieve the full relief area.

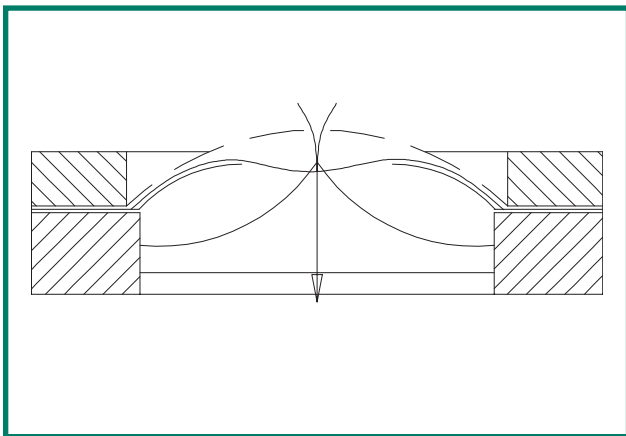
Assuming a VAPRO disk had a vacuum burst pressure of 6" wc min/12" wc max, the disk would work as shown below.



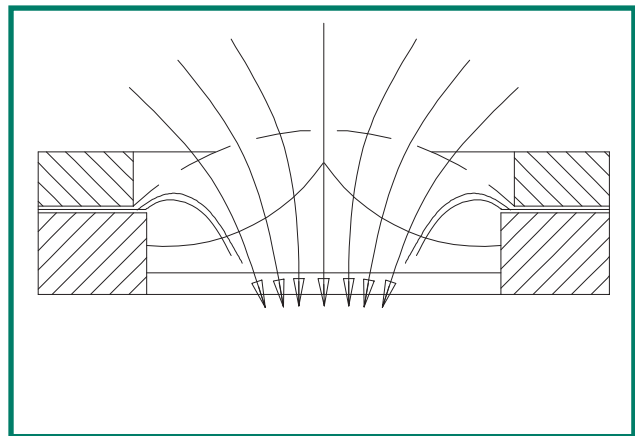
VAPRO disk assembly with no vacuum.



0" to 6" water column – The vacuum acting on the teflon seal loads the girdle and deflects the seal toward the knife blades.



6" to 12" water column – The seal begins to puncture on the knife blades and relieves vacuum through the perforated top section.



12" water column – The seal continues to be opened by the knife blades until it reaches a maximum flow area.

POSIPRO

IN ULTRALOW POSITIVE RELIEF

Oseco's POSIPRO rupture disk is an economical alternative for applications requiring extremely low positive pressure protection. The POSIPRO rupture disk is designed to provide protection for pressures starting as low as 1" of water column. Its primary use is in storage tanks with very low design pressures.



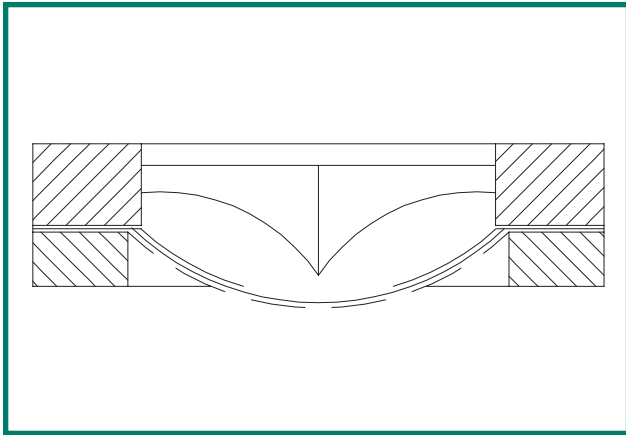
Oseco's POSIPRO Rupture Disk

- The POSIPRO rupture disk is a dual-acting disk that can protect from extremely low overpressure conditions and also provides protection from vacuum.
- The POSIPRO consists of a Teflon® or 316SS girdle, a Teflon® seal, and a 316SS perforated top section.
- Operates to within 1" W.C. of minimum positive burst pressure (1-10" W.C.) / Operates up to 90% of minimum positive burst pressure (10-30" W.C.) Positive rupture tolerance is 6" water column and is expressed as min/max on tag (i.e. 6" W.C. min/ 12" W.C. max). See "How POSIPRO Works on the next page.
- Operates up to 80% of stamped burst pressure in vacuum direction. Vacuum rupture tolerance is $\pm 5\%$ above 40 psig and ± 2 psig at or below 40 psig.
- If the POSIPRO is never subject to any vacuum pressure, a 316SS support ring can be provided in place of the perforated metal top section.
- POSIPRO is available in sizes of 3, 4, 6, 8 and 10 inches.
- POSIPRO-S is available in standard sanitary fitting sizes of 4, 6, 8, 10 and 12 inches.

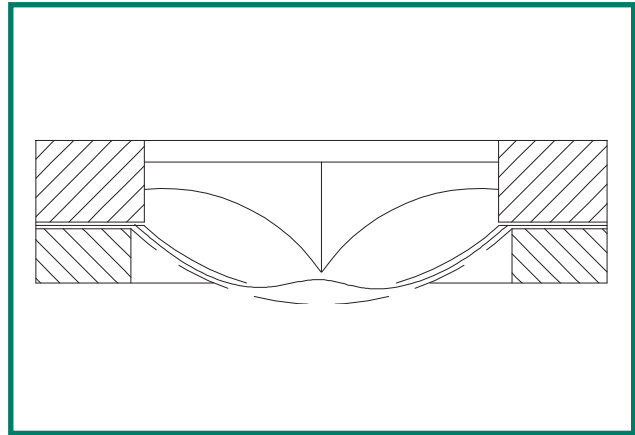
How the POSIPRO Works

POSIPRO positive burst pressures are stated as min/max pressures with six inches of water column between the minimum and the maximum burst pressure. The minimum is the lowest pressure differential at which the disk may begin to relieve. The maximum is the highest pressure differential required to achieve the full relief area.

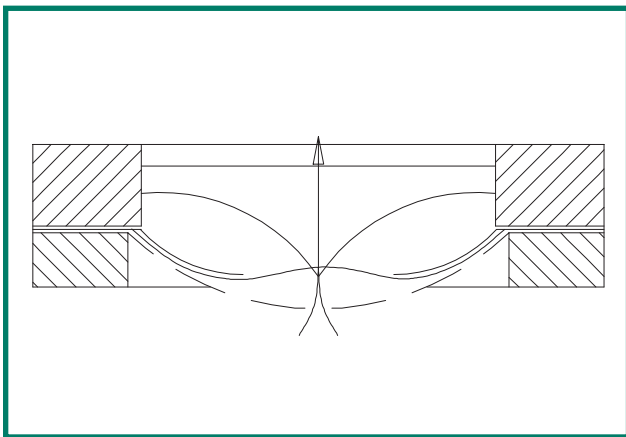
Assuming a POSIPRO disk had a positive burst pressure of 6" wc min/12" wc max, the disk would work as shown below.



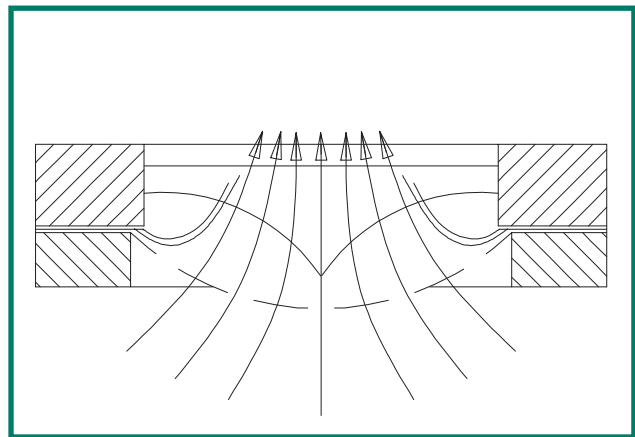
POSIPRO disk assembly with no positive pressure.



0" to 6" water column – The positive pressure acting on the teflon seal loads the girdle and deflects the seal toward the knife blades.



6" to 12" water column – The seal begins to puncture on the knife blades and relieves overpressure through the perforated top section.



12" water column – The seal continues to be opened by the knife blades until it reaches a maximum flow area.

VAPRO/POSIPRO RUPTURE DISKS



TABLE 1
VAPRO & VAPRO-S
Ranges of Vacuum and Positive Pressure Relief

VAPRO Rupture Disk Size (Inches)	VAPRO-S Standard Sanitary Fitting Size (Inches)	Vacuum Relief (Inches H ₂ O)		Positive Pressure Relief (PSIG@ 72° F)		
		Teflon Girdle	316 Girdle	Minimum Burst Pressure	Maximum Burst Pressure	
		Range of Starting Relief Points Available	Range of Starting Relief Points Available		VRDI Holder	VRDS Holder
3	4	1-30	6-30	11	150	100
4	6	1-30	6-30	8	125	75
6	8	1-30	6-30	6	100	50
8	10	1-20	6-30	5	75	40
10	12	-	6-30	4	50	30

Example: VAPRO Required Relief Spread

Operator requests 6" VAPRO rupture disk with Teflon girdle to relieve at 30" H₂O vacuum. VAPRO will puncture at above 30" H₂O and achieve maximum flow at or below 36" H₂O.



TABLE 2
POSIPRO & POSIPRO-S
Ranges of Vacuum and Positive Pressure Relief

POSIPRO Rupture Disk Size (Inches)	POSIPRO-S Standard Sanitary Fitting Size (Inches)	Positive Relief (Inches H ₂ O)		Vacuum Pressure Relief (PSIG@ 72° F)		
		Teflon Girdle	316 Girdle	Minimum Burst Pressure	Maximum Burst Pressure	
		Range of Starting Relief Points Available	Range of Starting Relief Points Available		POSI Holder	POSS Holder
3	4	1-30	6-30	11	150	100
4	6	1-30	6-30	8	125	75
6	8	1-30	6-30	6	100	50
8	10	1-20	6-30	5	75	40
10	12	-	6-30	4	50	30

Example: POSIPRO Required Relief Spread

Operator requests 8" POSIPRO rupture disk with stainless steel girdle to relieve at 25" H₂O positive pressure. POSIPRO will puncture at above 25" H₂O and achieve maximum flow area at or below 31" H₂O positive pressure.



VAPRO and POSIPRO Temperature Limits

Girdle Material	Temperature Limit	
	Minimum	Maximum
Teflon	-25° F	150° F
316 SS	-25° F	400° F

SENSORS

The Oseco LPSF burst disk alarm sensors provide an immediate signal when a VAPRO or POSIPRO rupture disk has burst to relieve a vacuum or overpressure condition.

The Oseco OSS is used in sanitary applications to provide an immediate signal when a VAPRO-S or POSIPRO-S rupture disk has burst to relieve a vacuum or overpressure condition.

HOLDERS

The VAPRO is used in the type VRDI rupture disk holder.

The VAPRO-S is used in the type VRDS sanitary rupture disk holder.

The POSIPRO is used in the type POSI rupture disk holder.

The POSIPRO-S is used in the type POSS sanitary rupture disk holder.

The Oseco Advantage...

DELIVERY

Orders for most custom-made products are shipped from Oseco within three weeks of receiving the order. Only Oseco utilizes its own, in-house laser that allows us to provide reduced delivery times for emergency orders. In most cases, SAME DAY service is available!

QUALITY

Only Oseco utilizes single craftsman responsibility; pride assured by his/her signature on each and every order. This, coupled with our quality control program that exceeds the requirements of ISO 9001, assures you receive the highest quality product.

COMPETITIVE PRICING

Oseco's products are the highest quality industry-wide. They are offered at very competitive pricing and the fastest delivery available.

BEST OVERALL SERVICE

Our goal at Oseco is to provide you, the customer, with the best delivery, quality and overall performance for your Rupture Disk needs.

Let us prove our commitment to this goal by contacting your local Oseco representative and asking him for a Rupture Disk Review. He and a factory technician will review all of your Rupture Disk applications, suggest changes where applicable, and provide you with a competitive quotation guaranteed to save you money, at no charge.

OSECO WILL PROVIDE YOU WITH WHAT YOU NEED MOST...VALUE!!!

Call Oseco toll free at **1-800-395-DISK** for more information or to receive your free Rupture Disk Review. Visit the Oseco web site at www.oseco.com.



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