

# PCR

## PRECISION CUT REVERSE

The PCR is designed for **high-cycling or high-vacuum gas and vapor applications such as Gas-Insulated Switchgear equipment.**

Available in the **Oseco Safety Cartridge™**



OsecoElfab's PCR is a cross-scored, reverse-buckling rupture disc. Reversal occurs when the disc reaches the rated pressure and it opens along the score lines.

The cross-scoring allows the disc to achieve higher burst pressures without fragmentating.

The PCR is excellent for relief valve isolation (gas and vapor service) and excels in extreme cycling or high vacuum/back pressure applications. The PCR is commonly used in SF6 switchgear units.

<b>Size</b>	25 - 300mm
<b>Burst Pressure</b>	2.07 - 86.2 barg
<b><math>K_R</math> Value (<math>K_{RG}</math>)</b>	2.17
<b>Operating Ratio</b>	90%
<b>Performance Tolerance</b>	+/-5%
<b>Manufacturing Range</b>	0%

Let us help you with all  
your pressure relief questions.

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THE PCR



# TECHNICAL SPECIFICATIONS



Size range	25-300mm (1"-12")
Burst pressure range	2.07-86.2 barg (30-1250 psig)
Standard materials	316 Series Stainless Steel, Nickel, Inconel® 600, Monel®
K <sub>R</sub> Value	2.17
Max. Operating Ratio	90%
Performance Tolerance	+/-5%
Manufacturing Range	0%
Fragmentation	Non-fragmenting design
Vacuum Service	Withstands full vacuum (14.7 psi) without separate vacuum support
Fluid compatibility	Gas service, vapor service
Torque requirements	See installation guide
Cycling or static service	Suitable for high-cycling applications
Protective linings	Fluoropolymer liner available on process side
Relief Valve Isolation	Suitable for safety relief valve isolation
Design Standards	Designed to meet ASME Section XIII standards

## Certifications

ASME UD  
CRN  
PED 2014/68/EU  
CU/TR 032

## Related Products

### One Piece Unit

Oseco Safety  
Cartridge

### Sensors

SVT  
AMS

### HOLDERS

PRDI  
PRDI - P  
PRDH

# Burst Pressure Ranges

PCR Min/Max Burst Pressure @ 72° F (psig) / 22° C (barg)



SIZE		MATERIAL	MIN psig (barg)	MAX psig (barg)
(inches)	DN (mm)			
1	25	316 Stainless Steel	200 (13.8)	1250 (86.2)
		Nickel	100 (6.9)	
		Inconel	140 (9.7)	
		Monel	150(10.3)	
1.5	40	316 Stainless Steel	185 (12.8)	1000 (68.9)
		Nickel	85 (5.9)	
		Inconel	95 (6.5)	
		Monel	90 (6.2)	
2	50	316 Stainless Steel	170 (11.7)	1000 (68.9)
		Nickel	65 (4.5)	
		Inconel	80 (5.5)	
		Monel	75 (5.2)	
3	80	316 Stainless Steel	155 (10.7)	1000 (68.9)
		Nickel	55 (3.8)	
		Inconel	70 (4.8)	
		Monel	65 (4.5)	
4	100	316 Stainless Steel	135 (9.3)	800 (55.2)
		Nickel	45 (3.1)	
		Inconel	60 (4.1)	
		Monel	55 (3.8)	
6	150	316 Stainless Steel	95 (6.5)	800 (55.2)
		Nickel	35 (2.4)	
		Inconel	50 (3.4)	
		Monel	45 (3.1)	
8	200	316 Stainless Steel	N/A	N/A 700 (48.3) 700 (48.3) 700 (48.3)
		Nickel	35 (2.4)	
		Inconel	45 (3.1)	
		Monel	40 (2.8)	
10	250	316 Stainless Steel	N/A	N/A 180 (12.41) 180 (12.41) N/A
		Nickel	35 (2.4)	
		Inconel	45 (3.1)	
		Monel	N/A	
12	300	316 Stainless Steel	N/A	N/A 120 (8.27) 120 (8.27) N/A
		Nickel	30 (2.07)	
		Inconel	40 (2.8)	
		Monel	N/A	

\*Fluoropolymer liner (PFA)  
Max. temperature @500° F



## Free Flow Area / Minimum Net Flow Area (MNFA)

NOMINAL BORE		MNFA	
inches	DN (mm)	Sq. Inch	mm <sup>2</sup>
1	25	0.6	387.1
1.5	40	1.3	838.7
2	50	2.5	1,612.9
3	80	4.8	3,096.7
4	100	8	5,161.3
6	150	18	11,612
8	200	32	20,645
10	250	51.25	33,064
12	300	73.4	47,354

## Burst Tolerance

+/- 0.14 barg at or below 2.8 barg  
+/-5% above 2.8 barg

+/- 2 psig at or below 40 psig  
+/-5% above 40 psig

## K<sub>R</sub> Value (Frictional Loss Factor)

K <sub>R</sub>	PCR
K <sub>RG</sub>	2.17