

# Spring O-rings™



Spring O-rings™ are an ideal product for the demanding challenges encountered in Cryogenic Sealing.

Today, even traditional markets such as transportation, food processing, pharmaceutical, medical and chemical processing industries encounter low temperature cryogenic conditions, where it is very difficult to achieve effective liquid or gas sealing.

Elastomers that we usually consider good at low temperatures (i.e. Silicone and Fluorosilicone) can quickly become brittle and lose the ability to provide resilience resulting in premature leakage.

However, the Spring O-ring™ utilises a precision rolled flat strip spring in 301 stainless steel (AMS 5519N) specially formed to energize a seamless jacket of Fluoropolymer (FEP or PFA). This composite assembly provides effective sealing in face type applications as low as -250°C.

## STRETCHING

Spring O-rings™ should have a split housing design that does not require the stretch of the part on fitting. A small amount of stretch can be tolerated but never greater than 4% of the seals inside diameter. Standard static groove conditions apply with a minimum surface finish of 20 micro-inches.

## PRESSURE VENTING

For pressures greater than 60 bar, we recommend that the jacket of the Spring O-ring™ is vented. Vents are a series of small holes through the wall of the encapsulating jacket, and prevent any pressure rupture.

## TEMPERATURE RANGE

- FEP / Spring O-ring: 250°C to +204°C (-420°F to +428°F)
- PFA / Spring O-ring: 250°C to +260°C (-420°F to +500°F)

Lead times are approximately 14 - 21 days for sizes from the standard range, and prices (on application) are very reasonable considering the technical merits of this product.

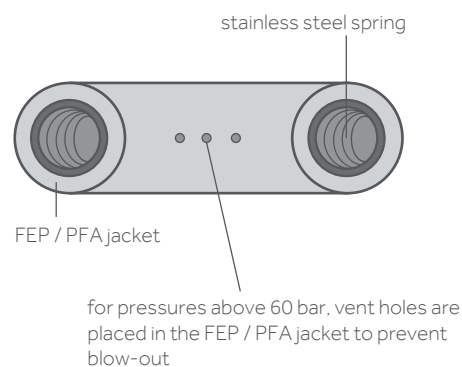


Fig 1.1 Spring O-ring™ jacket venting

There is simply **no better seal for cryogenic applications**. These specialised seals are well suited for use at **extreme low temperatures**.