

ATLAS ALL-SEAL GASKETS:

A RELIABLE ALTERNATIVE TO ELASTOMERIC O-RINGS WITH NO PERMEATION!

Atlas All-Seal gaskets offer a dependable all metal vacuum seal for Ultra High Vacuum and Ultra High Purity regimes.

All-Seal gaskets are compatible with standard dovetail or straight-sided O-ring grooves or can be used free-form.

The clean, non-outgassing seals are metallic and rely on metallic deformation sealing. All-Seal gaskets maintain seals for extended time periods. Eliminate elastomeric permeation, contamination, and embrittlement with our All-Seal aluminum metallic gasket.

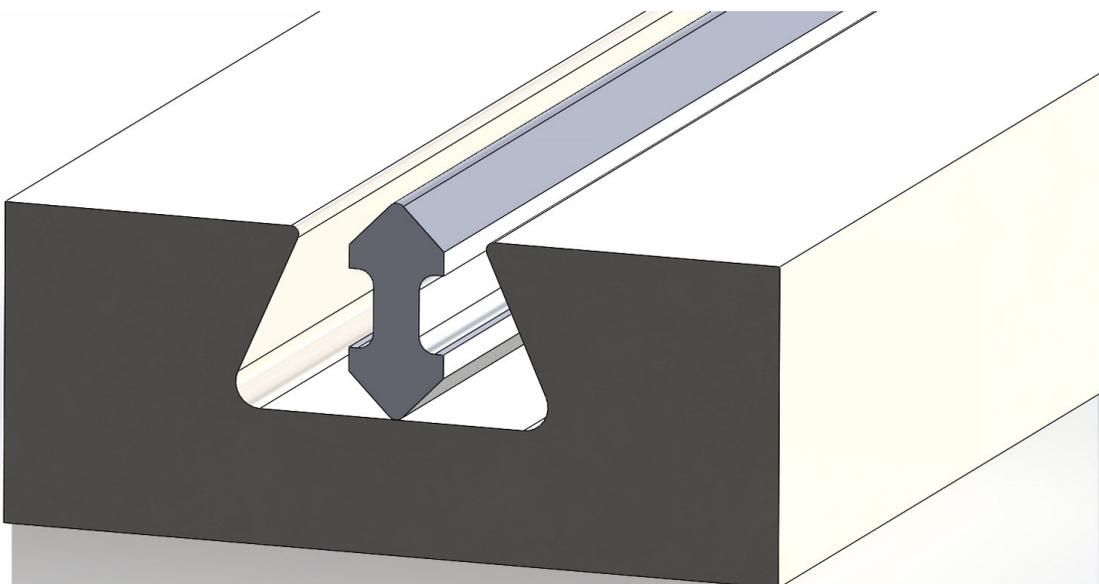
Atlas All-Seals are not elastic and will not return to their original shape. They can however be used repeatedly provided they are carefully torqued. Repeated use is possible if the flanges are not sealed metal-to-metal (where each flange face is tightened flush).

The All-Seal combines the low permeation of metallic seals with the versatility of O-rings

All metal seals are the only way to achieve UHV and XHV. ConFlat (CF) flanges are the gold standard for UHV sealing. They are, however, heavy and bulky and knife edge seals are not well suited for large or rectangular vacuum ports. Elastomeric O-rings seals have been the only choice for large ports, but they reach their limit due to excessive permeation even when differentially pumped at high vacuum. Additionally, the composition of elastomeric O-rings is a source of contamination.

All-Seal gaskets may be used in a wide variety of geometries while still providing UHV seals

Ask us to UHVify your vacuum system!



Cross section of All-Seal in a dovetail groove

UHVify Your Chamber

Simple All-Metal Sealing for UHV, XHV, UHP

The Atlas All-Seal simplifies UHV, XHV, & UHP demountable sealing enabling smaller lighter no/ low permeation seals. All-Seal gaskets can be applied in many geometries enabling better performance.

All-Seal for Ultra High Purity

Elastomeric seals are sources of contamination. Contaminants are added to elastomers to reduce their inherent permeation which for many applications becomes a trade-off between permeation and contamination. Atlas All-Seal gaskets are metallic and are considerably cleaner and do no compromise on permeation. They are typically aluminum, however they are available in other metallic materials (Nickel, Copper, Tin...). Consequently, alternative alloys of All-Seal gaskets can be selected to improve chemical resistance.

Versatile All Metal Gaskets

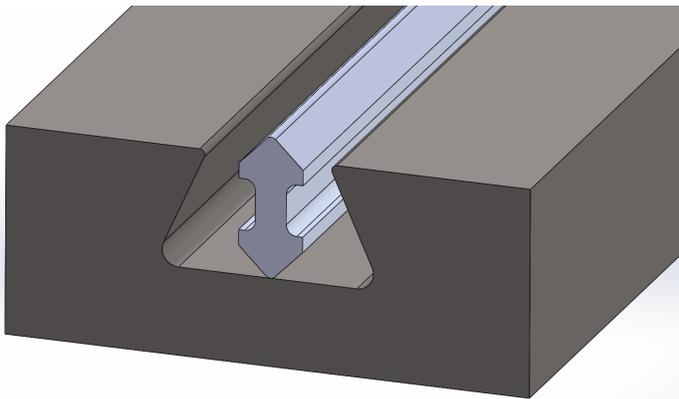
The All-Seal gasket combines the low permeation of metallic seals with the versatility of O-rings.

All Seal for Nuclear and Radiation Application

Atlas aluminum All-Seal gaskets have a low Z and do not cross link like elastomeric seals. Consequently they have a low nuclear activation and retain the seal longer than elastomeric O-rings.

All Seal for Existing Chambers

Atlas All-Seal gaskets enable low and high vacuum chambers that have previously been designed to seal with elastomeric and fluoroelastomers (such as viton, FMK, buna, PTFE, kalrez and Chemrez, teflon, etc.) to be retro-fitted for ultra high vacuum.



Cross section of All-Seal in a dovetail groove

Patent Pending Atlas Technologies,
www.AtlasUHV.com 360-385-3123

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Viton is a trade mark of Dupont

Kalrez® is a registered trademark of DuPont Performance Elastomers

Chemraz® is a registered trademark of Green Tweed

Simriz® is a registered trademark of Freudenberg-NOK