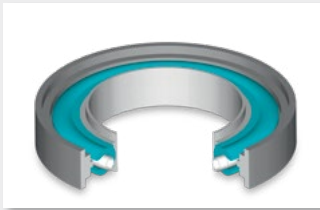




Turcon® Variseal® NW

**FLANGE SEAL WITH EXCEPTIONAL
CHEMICAL RESISTANCE**



Trelleborg Sealing Solutions presents its Turcon® Variseal® NW that provides cost-effective and optimal sealing in the most extreme of processing applications.

The Turcon® Variseal® NW flange seal is engineered for sealing applications where exceptional resistance to extreme chemicals, often at elevated temperatures, is required. Maximum compatibility is achieved in this unique design by the energizing spring, the weak point of the seal in terms of chemical resistance, being completely encapsulated in a highly chemically resistant Turcon® polytetrafluoroethylene (PTFE) based jacket. This ensures there is no possible contact between the spring and the system media to give maximum working seal life.

The seal is manufactured in Turcon® MF, which is specially developed for hygienic environments and is compliant to all major approvals. The compound combines superior wear resistance with compatibility to virtually all chemicals at the most extreme of operating temperatures. This includes the harsh Cleaning in Place (CIP) and Sterilization in Place (SIP) regimes faced in hygienic processing.

Advantages and benefits:

- Operating temperatures from -253 °C to +260 °C / -423 °F to +500 °F
- Extremely long service life
- Suitable for use in a vacuum and overpressure
- PTFE based sealing jacket is resistant to virtually all media
- Available in all KF and NW sizes with aluminum or stainless steel support rings
- Easy retrofit into current NW grooves
- No sticking or welding of PTFE to hardware surfaces
- No tooling costs

Applications:

- Turcon® Variseal® NW is suitable for use wherever the chemical and thermal resistance of a standard elastomer O-Ring is no longer sufficient
- It offers a more cost-effective alternative to perfluoroelastomer (FFKM) O-Rings in some applications
- Semiconductor manufacturing
 - Proven in fluorine gas at high temperatures
 - Operates in a vacuum
 - Low outgassing
- Food and beverage production
 - Resistant to CIP and SIP regimes
- General chemical processing where there is extreme system media

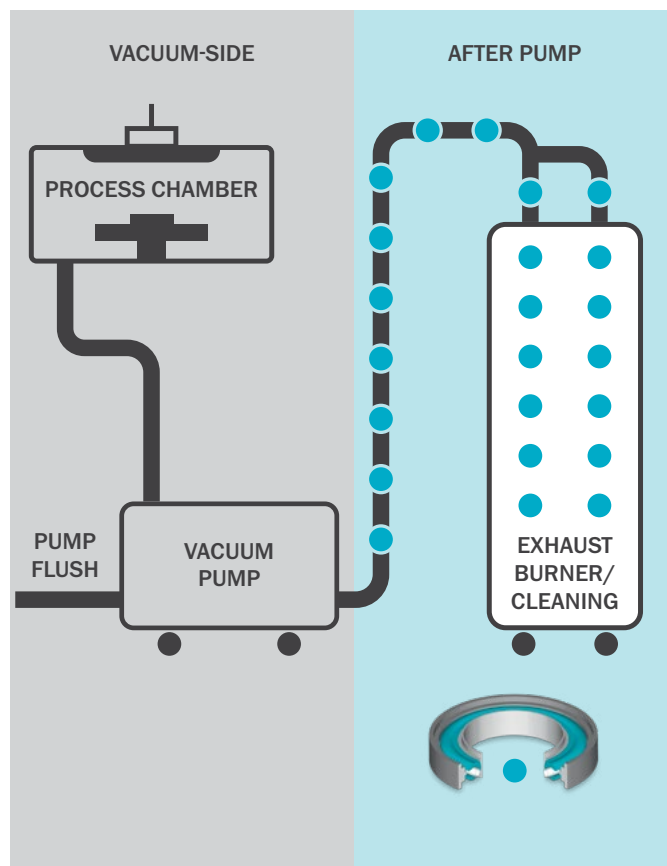
TURCON® VARISEAL® NW

Test Results:

Vacuum measurements	Leakage rate
Variseal® NW clamped with blind cover	$< 1 \times 10^{-11}$ mbar x l/s
Variseal® NW with loose blind cover (not clamped)	$< 2 \times 10^{-8}$ mbar x l/s

Leak rate measurements at specified pressure				
Pressure	Test run 1	Test run 2	Test run 3	Test run 4
0.5 bar	3.2×10^{-8} mbar x l/s	3.5×10^{-8} mbar x l/s	4.2×10^{-8} mbar x l/s	4.0×10^{-8} mbar x l/s
1.0 bar	3.4×10^{-8} mbar x l/s	4.3×10^{-8} mbar x l/s	4.4×10^{-8} mbar x l/s	4.6×10^{-8} mbar x l/s
1.5 bar	3.8×10^{-8} mbar x l/s	6.0×10^{-8} mbar x l/s	5.0×10^{-8} mbar x l/s	6.2×10^{-8} mbar x l/s
2.0 bar	4.3×10^{-8} mbar x l/s	6.2×10^{-8} mbar x l/s	5.8×10^{-8} mbar x l/s	6.8×10^{-8} mbar x l/s

Using Leybold Phoenix L 300 leak tester QT 300



Technical specifications for MF1 material				
Property	Test condition	Norm	Unit	MF1
Minimum Temperature			°C	-253
			°F	-423
Maximum Temperature			°C	260
			°F	500
Tensile strength at rupture	+23 °C / +73 °F	ASTM D 4894	MPa	36
Elongation at rupture	+23 °C / +73 °F	ASTM D 4894	%	330
Deformation under pressure	+23 °C / +73 °F - 24h 13.8 MPa	ASTM D 621	%	8.9
Creep	+23 °C / +73 °F - 24h 13.8 MPa - .5 h	ASTM D 621	%	5.6
Color				White / Light Grey
Approvals				
FDA				Yes
USP Class VI				Yes
3-A				Yes

