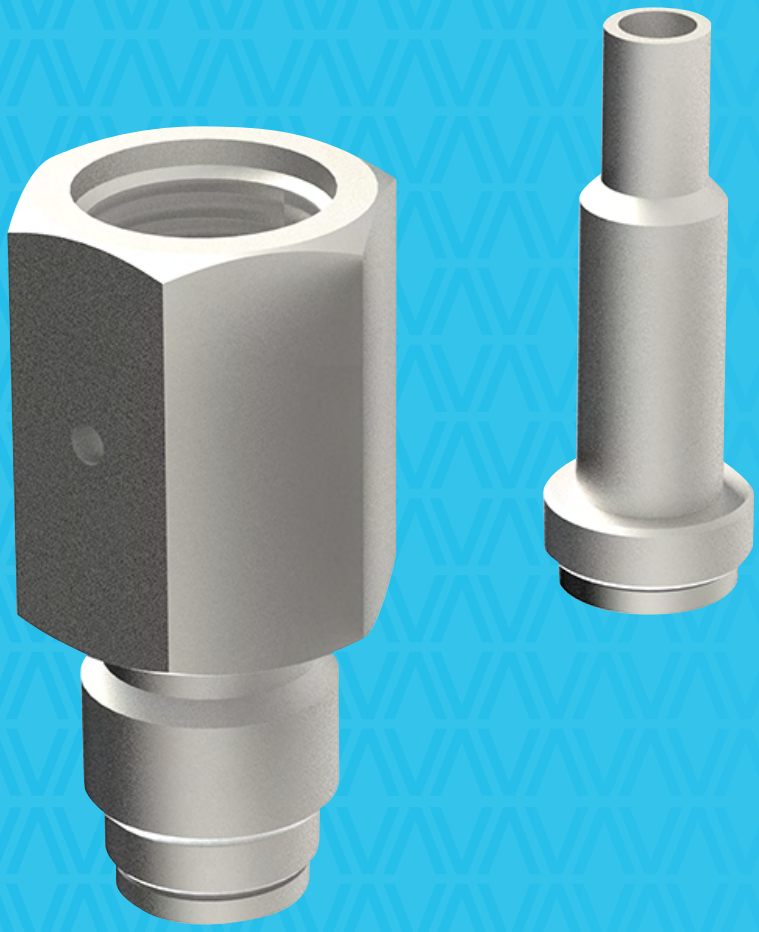
CARTEN

FLOW SOLUTIONS - **WE GO BEYOND**

INTRODUCING CARTEN'S 2048 SERIES

ULTRA-HIGH PURITY CHECK VALVES



SALES@CARTENCONTROLS.COM

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FLOW SOLUTIONS - **WE GO BEYOND**

2048 Series

Ultra-High Purity Check Valves

The 2048 check valve series allows the replacement of standard semiconductor fittings with our unique valve, allowing non-return functionality and without the need for sealing gaskets.

Key Features

- Available in ¼ line sizes
- Metal-to-metal external seals
- No VCR gaskets required to seal at the check valve male side
- Low cracking pressure to open

Typical Applications

Gas cabinet process lines, reactor gas line protection, isolation and reverse flow prevention functionality for gas mixing panels, gas mixing systems, valve manifold boxes (VMB's), and critical application containment functionality.

Key Specifications

Materials of Construction	Cleanliness	Specifications	Options
316L stainless body	Manufactured in ISO Class 4 Cleanroom	Design pressure up to 3500 PSI Max vacuum	Multiple cracking pressures
316 stainless poppet and spring + seat	Zero particles @0.1µm in static conditions	<10Ra micro-inch surface roughness	Can be fully integrated into valve as end connection
Barstock-only source	<10ppb O2/H20 outgassing	0.25 Cv (flow coefficient) at full flow	Multiple seat material options
FKM standard seat (minimal volume)	Cleaned using DI water & oven baked	100 % Leak tested using Mass spectrometer <1x10^{-9} scc/s under vacuum at 250 PSI Max	

2048 SERIES -Technical Data

CONSTRUCTION MATERIAL	Wetted Areas	316L Stainless Steel, Viton	
	Non-Wetted Areas	316 Stainless Steel	
TEMPERATURE RANGE	2048 Series	0°F - 300°F	
FLOW COEFFICIENT	2048 Series	C_v=0.25 at full flow	
CRACKING PRESSURE OPTIONS	2048 Series	Crack Pressure	Reseat Pressure
		1/2 ± 1/4 2 ± 1/2 5 ± 1 10 ± 2 50 ± 3 105 + 10,-5	1/4 1 3 7 47 90
LINE PRESSURE	2048 Series	Vacuum to 3500 psig	

LEAK RATES	Forward Pressure	Bubble tight to crack pressure
	Back Pressure	Bubble tight vacuum to 2500 PSID
	Vacuum Tested	1x10^{-9} scc/s He max.
CLEANLINESS/ PACKAGING	Assembled and tested in CLASS 10 cleanroom Double-bag packaging (2 mil nylon inner bag, 6mil polyethylene outer bag) with N_2 gas environment supplied from a liquid source	
STANDARD FINISH	Electropolished to 16 Ra (0.41 Ra m) on all wetted surfaces*	
OPTIONS	Cracking pressures Seal materials: Kalrez® EPR Buna-N Swivel end connection End connection configurations Female/Male VCR (-1-5)	

Specifications are subject to change without notice.

VCR is a registered trademark of the Cajon Company
Kalrez and Viton are registered trademarks of DuPont de Nemours E. I. & Co.

*Passivated steel spring

REV. 99-1

Component Selection

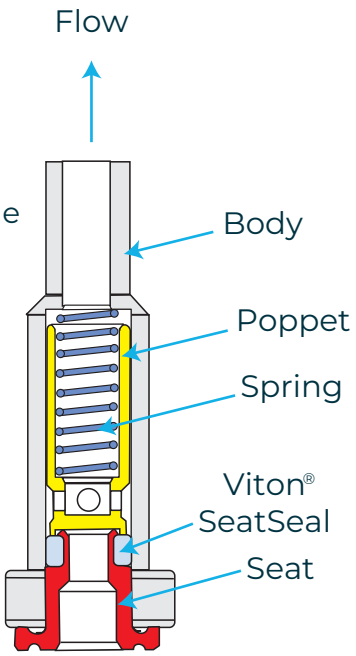
The total system design must be considered when selecting a valve to ensure performance. Valve application, materials compatibility installation, operation and maintenance are the responsibility of the system design engineer.

NOTE 1: Dimensional drawings shown are for reference only. Please contact the manufacturer for customer drawings showing updated dimensions.

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FLOW SOLUTIONS - **WE GO BEYOND**

PRODUCT FEATURES

- High Performance / Compact Design
- Vacuum to 3500 psig Operating Pressure
- Ultrasonically Cleaned to Semiconductor Ultra-High Purity Standards
- 100% Tested for Check Performance and External Leakage
- Choice of End Connections
- Compatible with Standard Face Seal Components
- Purged and Final Packaged in CLASS1 Cleanroom. Double-Bag Packaging with N_2 Gas Supplied from Liquid Source

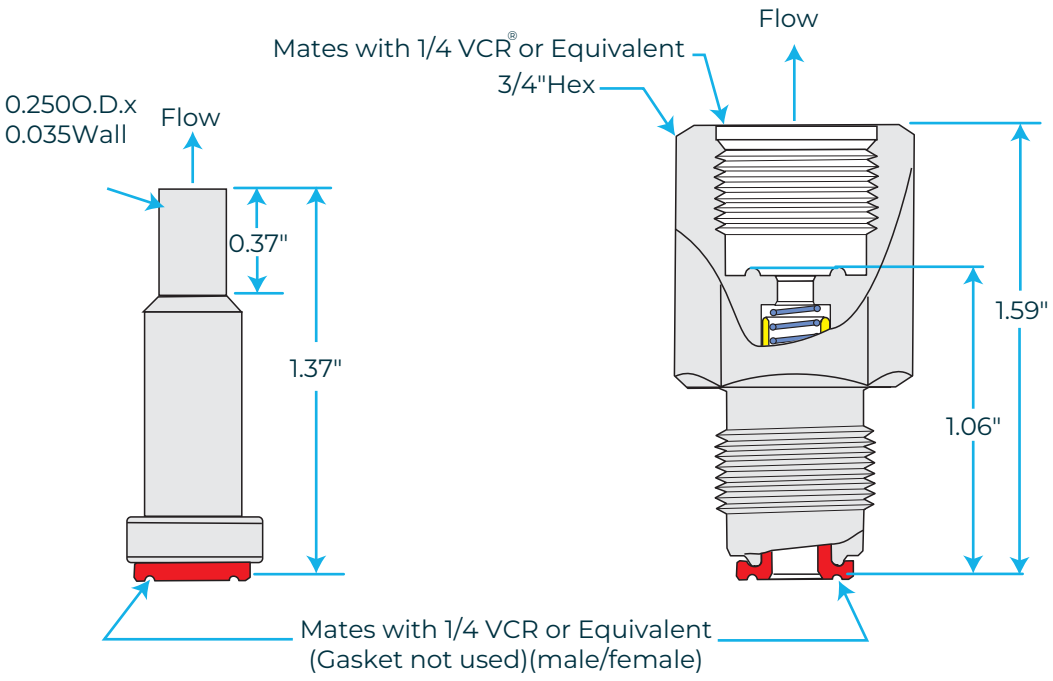


2048-W4

CONSTRUCTION MATERIALS

- 316L Stainless Steel Body and Fittings
- 316 Stainless Steel Poppet, Seat, and Spring
- Standard Viton® Seat Seal

2048 SERIES - Valve Dimensions



2048-W4
(TubeWeld)

2048-5-1
(MalexFemale)

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FLOW SOLUTIONS - **WE GO BEYOND**

Carten Controls Ltd.,
Unit 613, Northern Extension
Waterford Industrial Park,
Waterford Ireland

Tel: +353 (0)51 355436
Email: sales@cartencontrols.com
Website: http://www.cartencontrols.com

Fujikin (Deutschland) GmbH
Immermannstraße 33 -
D-40210 Düsseldorf, Germany.

Tel: +49 (0) 211-350458
Email: info@fujikin.de
Website: http://www.fujikin.de

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