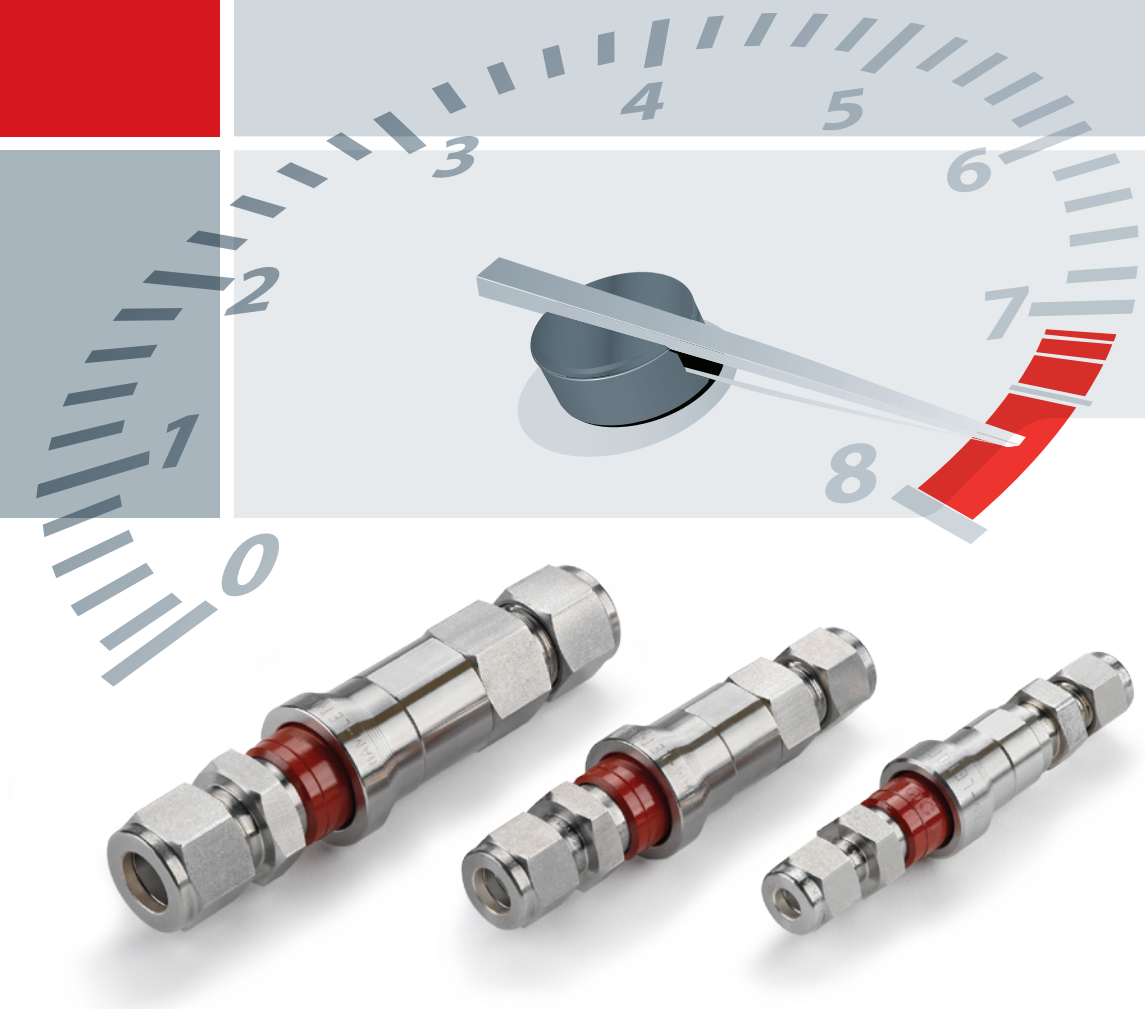
QCLOK®

INSTRUMENTATION QUICK CONNECTORS



HAM-LET®
ADVANCED CONTROL TECHNOLOGY

FEATURES

- Valved and non-valved stems available.
- Working pressure rating: up to 3,000psig (206bar).
- Interchangeable and intermixable with major manufacturers' Instrumentation Quick Connectors.
- Viton® O-Rings as standard, other O-rings are available per request.
- Smooth and safe connection between the QC-LOK® Connector valves is reached by a simple pushing operation due to a smart heavy duty locking mechanism.
- The QC-LOK® Instrumentation Quick Connectors validation tests are based on ANSI/B93.51M – 1980.

GENERAL

The HAM-LET QC-LOK® Instrumentation Quick Connectors are designed for service in a large variety of applications, with MAWP up to 3,000psig (206 bar).

Single and Double End Shutoff Stems

Single-end shutoff (SESO) - Stems have no valve and remain open when uncoupled.
Double-end shutoff (DESO) - Stems have valve and shut off when uncoupled.

MATERIALS OF CONSTRUCTION

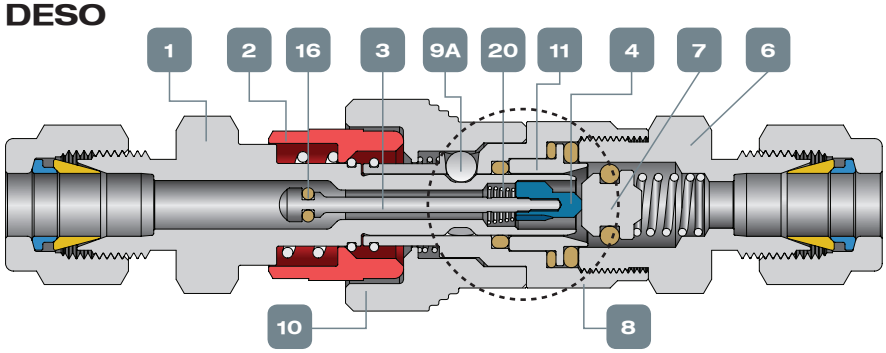
		Components	Material
Valved and Non-Valved Stems	1	Body	316SS
	2	Sleeve	316SS
	3	Stem	316SS
	4	Stem nut	316SS
	5	Extender	316SS
Body	6	End connection	316SS
	7	Poppet	316SS
	8	Body	316SS
	9A*	Locking Balls	302SS
	9B**	Locking Dogs	316SS
	10	Sleeve	316SS
	11	Internal body	316SS

		Components	Material
O-Rings	12	Poppet seal	Viton
	13	End connection seal	Viton
	14A*	Body seal	Viton
	15	Stem seal	Viton
	16	Stem Internal seal	Viton
Springs	17	Poppet spring	316SS
	18	Body sleeve spring	316SS
	19	Stem sleeve spring	316SS
	20	Stem spring	316SS
	21	Stem sleeve locking ring	316SS
	22	Body sleeve locking ring	316SS

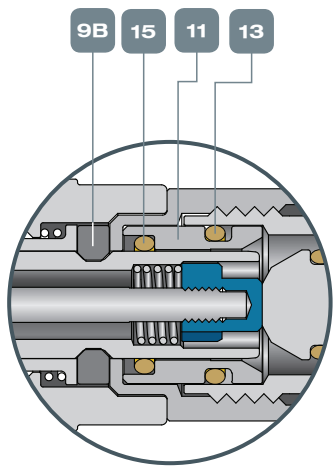
***A** - QC4 Only ****B** - QC6 and QC8 Only

QC4 CROSS SECTION

DESO

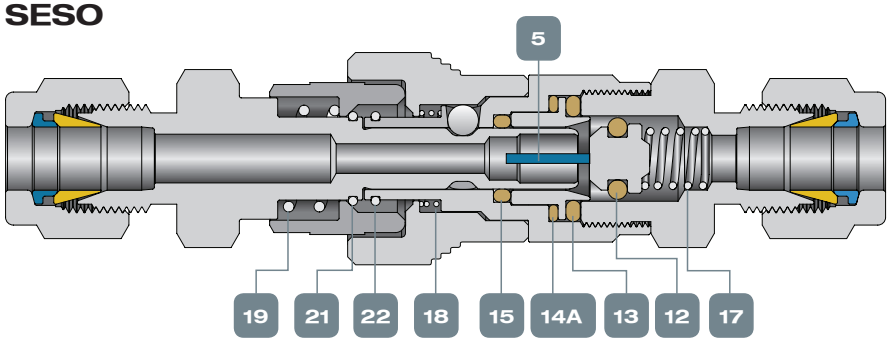


FLOW DIRECTION



Detailed view
QC6 and QC8

SESO



CLEANING & PACKAGING

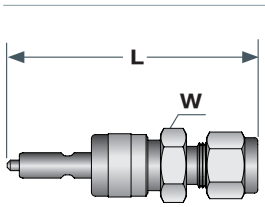
HAM-LET Quick Connectors are treated with HAM-LET Passivation, Cleaning and Packaging (Procedure 8075).
Oxygen Cleaning and Packaging for Quick Connectors are available as an option (Procedure 8055).

TESTING

The Quick Connectors designs have been tested for Proof and Burst. Every Quick Connector is factory tested for proper assembly by leakage detection at 1000 psig (68 bar) or its maximum working pressure if less than 1000 psig (68 bar). The maximum allowable leakage is 0.1 std cc/min.

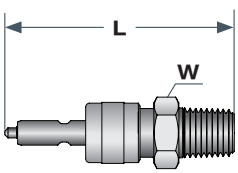
QC-LOK SERIES DIMENSIONS - STEM

Let-Lok Stem



Fitting Size	Basic Ordering Numbers		Series	Flow Coefficient (Cv)		Dimensions		
						L		W
	SESO	DESO		SESO	DESO	SESO	DESO	
						Dimensions, in. (mm)		
1/8"	QC4-SS-S-L-1/8	NA	QC4	-	-	2.27 (57.8)		5/8
1/4"	QC4-SS-S-L-1/4	QC4-SS-D-L-1/4	QC4	0.3	0.2	2.36 (59.9)	2.42 (61.5)	5/8
3/8"	QC6-SS-S-L-3/8	QC6-SS-D-L-3/8	QC6	1.0	0.5	2.52 (64.0)	2.64 (67.1)	3/4
1/2"	QC8-SS-S-L-1/2	QC8-SS-D-L-1/2	QC8	2.4	1.5	2.96 (75.2)	3.16 (80.3)	15/16
						Dimensions, mm (in.)		
6	QC4-SS-S-L-6MM	QC4-SS-D-L-6MM	QC4	0.3	0.2	59.9 (2.36)	61.5 (2.42)	16
10	QC6-SS-S-L-10MM	QC6-SS-D-L-10MM	QC6	1.0	0.5	67.3 (2.65)	70.4 (2.77)	22
12	QC8-SS-S-L-12MM	QC8-SS-D-L-12MM	QC8	2.4	1.5	75.2 (2.96)	80.3 (3.16)	24

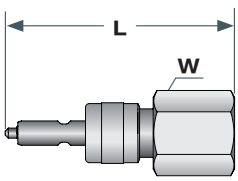
Male Pipe Thread Stem



Fitting Size	Basic Ordering Numbers		Series	Flow Coefficient (Cv)		Dimensions, in. (mm)		
						L		W inch
	SESO	DESO		SESO	DESO	SESO	DESO	
NPT (ISO Tapered, BSPT*)								
1/8"	QC4-SS-S-MN-1/8	QC4-SS-D-MN-1/8	QC4	0.3	0.2	2.07 (52.6)	2.13 (54.1)	5/8
1/4"	QC4-SS-S-MN-1/4	QC4-SS-D-MN-1/4	QC4	0.3	0.2	2.22 (56.4)	2.28 (57.9)	5/8
3/8"	QC6-SS-S-MN-3/8	QC6-SS-D-MN-3/8	QC6	0.8	0.5	2.35 (59.7)	2.47 (62.7)	3/4
1/2"	QC8-SS-S-MN-1/2	QC8-SS-D-MN-1/2	QC8	2.0	1.3	2.84 (72.1)	3.04 (77.2)	15/16
ISO Parallel, BSPP								
1/8"	QC4-SS-S-MG-1/8	QC4-SS-D-MG-1/8	QC4	0.3	0.2	2.07 (52.6)	2.13 (54.1)	5/8
1/4"	QC4-SS-S-MG-1/4	QC4-SS-D-MG-1/4	QC4	0.3	0.2	2.22 (56.4)	2.28 (57.9)	5/8
3/8"	QC6-SS-S-MG-3/8	QC6-SS-D-MG-3/8	QC6	0.8	0.5	2.35 (59.7)	2.47 (62.7)	3/4
1/2"	QC8-SS-S-MG-1/2	QC8-SS-D-MG-1/2	QC8	2.0	1.3	2.84 (72.1)	3.04 (77.2)	15/16

* For ISO Tapered (BSPT) change MN to MR

Female Pipe Thread Stem

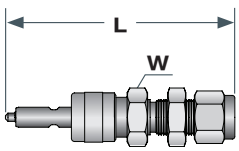


Fitting Size	Basic Ordering Numbers		Series	Flow Coefficient (Cv)		Dimensions, in. (mm)		
						L		W inch
	SESO	DESO		SESO	DESO	SESO	DESO	
NPT (ISO Tapered, BSPT*)								
1/8"	QC4-SS-S-FN-1/8	QC4-SS-D-FN-1/8	QC4	0.3	0.2	2.01 (51.1)	2.07 (52.6)	5/8
1/4"	QC4-SS-S-FN-1/4	QC4-SS-D-FN-1/4	QC4	0.3	0.2	2.26 (57.4)	2.32 (58.9)	3/4
3/8"	QC6-SS-S-FN-3/8	QC6-SS-D-FN-3/8	QC6	0.8	0.5	2.35 (59.7)	2.47 (62.7)	7/8
1/2"	QC8-SS-S-FN-1/2	QC8-SS-D-FN-1/2	QC8	2.0	1.3	2.82 (71.6)	3.02 (76.7)	1 1/16
ISO Parallel, BSPP								
1/8"	QC4-SS-S-FG-1/8	QC4-SS-D-FG-1/8	QC4	0.3	0.2	2.01 (51.1)	2.07 (52.6)	5/8
1/4"	QC4-SS-S-FG-1/4	QC4-SS-D-FG-1/4	QC4	0.3	0.2	2.26 (57.4)	2.32 (58.9)	3/4
3/8"	QC6-SS-S-FG-3/8	QC6-SS-D-FG-3/8	QC6	0.8	0.5	2.35 (59.7)	2.47 (62.7)	7/8
1/2"	QC8-SS-S-FG-1/2	QC8-SS-D-FG-1/2	QC8	2.0	1.3	2.82 (71.6)	3.02 (76.7)	1 1/16

* For ISO Tapered (BSPT) change FN to FR

QC-LOK SERIES DIMENSIONS - STEM

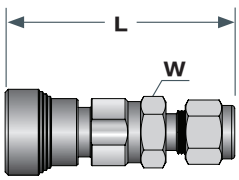
Let-Lok Bulkhead Stem



Fitting Size	Basic Ordering Numbers		Series	Dimensions				
				L		W	Max Panel Thickness	Min Panel Hole Dia
	SESO	DESO		SESO	DESO			
				Dimensions, in. (mm)				
1/4"	QC4-SS-S-LB-1/4	QC4-SS-D-LB-1/4	QC4	2.74 (69.6)	2.80 (71.1)	5/8	0.25 (6.4)	15/32 (11.9)
3/8"	QC6-SS-S-LB-3/8	QC6-SS-D-LB-3/8	QC6	3.21 (81.5)	3.33 (84.6)	3/4	0.44 (11.17)	0.59 (15.1)
1/2"	QC8-SS-S-LB-1/2	QC8-SS-D-LB-1/2	QC8	3.75 (95.2)	3.94 (100)	15/16	0.50 (12.7)	0.78 (19.8)
				Dimensions, mm (in.)				
6	QC4-SS-S-LB-6MM	QC4-SS-D-LB-6MM	QC4	69.6 (2.74)	71.1 (2.80)	16	6.4 (0.25)	11.9 (15/32)
10	QC6-SS-S-LB-10MM	QC6-SS-D-LB-10MM	QC6	81.7 (3.22)	84.8 (3.34)	22	11.2 (0.44)	16.6 (0.65)
12	QC8-SS-S-LB-12MM	QC8-SS-D-LB-12MM	QC8	95.3 (3.75)	100.1 (3.98)	24	12.7 (0.50)	19.8 (0.78)

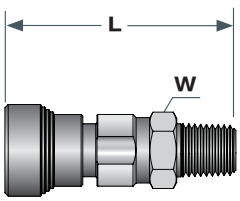
QC-LOK SERIES DIMENSIONS - BODY

Let-Lok Body



Fitting Size	Basic Ordering Number	Series	Dimensions	
			L	W
			Dimensions, in. (mm)	
1/8"	QC4-SS-B-L-1/8	QC4	2.26 (57.4)	5/8
1/4"	QC4-SS-B-L-1/4	QC4	2.30 (58.4)	5/8
3/8"	QC6-SS-B-L-3/8	QC6	2.58 (65.5)	3/4
1/2"	QC8-SS-B-L-1/2	QC8	3.09 (78.5)	15/16
			Dimensions, mm (in.)	
6	QC4-SS-B-L-6MM	QC4	58.4 (2.30)	16
10	QC6-SS-B-L-10MM	QC6	68.1 (2.68)	22
12	QC8-SS-B-L-12MM	QC8	78.5 (3.09)	24

Male Pipe Thread Body

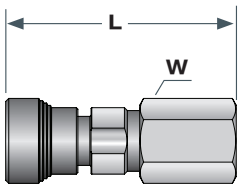


Fitting Size	Basic Ordering Number	Series	Dimensions, in. (mm)	
			L	W
NPT (ISO Tapered, BSPT*)				
1/8"	QC4-SS-B-MN-1/8	QC4	2.01 (51.1)	5/8
1/4"	QC4-SS-B-MN-1/4	QC4	2.16 (54.9)	5/8
3/8"	QC6-SS-B-MN-3/8	QC6	2.38 (60.5)	3/4
1/2"	QC8-SS-B-MN-1/2	QC8	2.97 (75.4)	15/16
ISO Parallel, BSPP				
1/8"	QC4-SS-B-MG-1/8	QC4	2.01 (51.1)	5/8
1/4"	QC4-SS-B-MG-1/4	QC4	2.16 (54.9)	5/8
3/8"	QC6-SS-B-MG-3/8	QC6	2.38 (60.5)	3/4
1/2"	QC8-SS-B-MG-1/2	QC8	2.97 (75.4)	15/16

* For ISO Tapered (BSPT) change MN to MR

QC-LOK SERIES DIMENSIONS - BODY

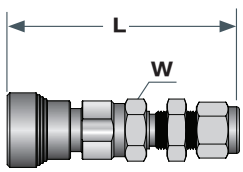
Female Pipe Thread Body



Fitting Size	Basic Ordering Number	Series	Dimensions, in. (mm)	
			L	W
NPT (ISO Tapered, BSPT*)				
1/8"	QC4-SS-B-FN-1/8	QC4	2.16 (54.9)	5/8
1/4"	QC4-SS-B-FN-1/4	QC4	2.42 (61.5)	3/4
3/8"	QC6-SS-B-FN-3/8	QC6	2.57 (65.3)	7/8
1/2"	QC8-SS-B-FN-1/2	QC8	3.22 (81.8)	1 1/16
ISO Parallel, BSPP				
1/8"	QC4-SS-B-FG-1/8	QC4	2.16 (54.9)	5/8
1/4"	QC4-SS-B-FG-1/4	QC4	2.42 (61.5)	3/4
3/8"	QC6-SS-B-FG-3/8	QC6	2.57 (65.3)	7/8
1/2"	QC8-SS-B-FG -1/2	QC8	3.22 (81.8)	1 1/16

* For ISO Tapered (BSPT) change FN to FR

Let-Lok Bulkhead Body



Fitting Size	Basic Ordering Number	Series	Dimensions	
			L	W
			Dimensions, in. (mm)	
1/4"	QC4-SS-B-LB-1/4	QC4	2.67 (67.8)	5/8
3/8"	QC6-SS-B-LB-3/8	QC6	3.28 (83.2)	3/4
1/2"	QC8-SS-B-LB-1/2	QC8	3.87 (98.2)	15/16
			Dimensions, mm (in.)	
6	QC4-SS-B-LB-6MM	QC4	67.8 (2.67)	16
10	QC6-SS-B-LB-10MM	QC6	83.4 (3.28)	22
12	QC8-SS-B-LB-12MM	QC8	98.1 (3.86)	24

Overall Length Calculation for QC Series

To calculate overall length in the coupled position, subtract the insertion depth from any overall Stem and Body combination length

SESO 1/4" : 28.6 mm (0.89 inch)
DESO 1/4" :30.2 mm (0.95 inch)
SESO 3/8" : 30.0 mm (1.18 inch)
DESO 3/8" :33.0 mm (1.3 inch)
SESO 1/2" : 37.6 mm (1.48 inch)
DESO 1/2" : 42.7 mm (1.68 inch)

Dimensions are for reference only, and are subject to change without notice

RECOMMENDATIONS

- It is recommended to install a filter ahead of the QC-LOK.
- Hanging hoses or other accessories should be supported in order to prevent side loads.
- The QC-LOK should be coupled or uncoupled at room temperature, and while the bodies and stems are aligned.
- Stem seal O-Rings should be lubricated from time to time.

Pressure–Temperature Ratings	
Coupled	***MAWP QC4** 3000 psig (206 bar) @ 70°F (21°C)
	***MAWP QC6** 1500 psig (103 bar) @ 70°F (21°C)
	***MAWP QC8** 750 psig (51.7 bar) @ 70°F (21°C)
	***MAWT** 400°F (204°C) @ 250 psig (17.2 bar)
Uncoupled and When Coupling and Uncoupling	***MAWP** 250 psig (17.2 bar) @ 70°F (21°C)

*MAWP - Maximum Allowable Working Pressure
*MAWT - Maximum Allowable Working Temperature

Note:
Uncoupled QC-LOK is rated up to 70°F (21°C)
Pressure & Temperature ratings are for stainless steel construction and Viton Seals

Spillage and Air Inclusion		
Size	**Spillage CM^3**	**Air Inclusion CM^3**
1/4"	0.3	0.3
3/8"	1.0	1.0
1/2"	3.0	3.0

Definitions:

Spillage: Volume of flowing media that will be released from the system while disconnecting the DESO (only) Quick Connector.

Air Inclusion: Volume of air that will be entered to the system while connecting the DESO (only) Quick Connector.

Maximum Flow Rate	
Size	Water Flow U.S. gal/min (L/min) at 70°F (20°C)
QC4	4 (15)
QC6	6 (22)
QC8	10 (37)

O-RINGS

Different materials are available for special applications

O-Ring Material	Temperature Raiting °F (°C)
Buna N	-35 to 250 (-37 to 121)
Ethylene Propylene (EPDM)	-70 to 250 (-57 to 121)
Viton (Fluorocarbon)	-15 to 400 (-26 to 204)
Neoprene	-35 to 225 (-37 to 107)
Perfluoroelastomer	-15 to 500 (-26 to 260)

Warning

- Always take notice of pressure rating restrictions that apply to coupling or uncoupling.
- SESO should not be uncoupled under pressure.
- QC–LOK should not be rotated while coupled.

QC4 SERIES ORDERING INFORMATION

OPTIONAL

QC4 - SS - B - L - 1/4 - [ ] - [ ]

Series	Material	Connector Type	End Connection	Size	O – Ring	Treatment
QC4- 1/4" Body	**SS** - 316	**B** - Body	**L** - LET-LOK® (Tube)	**1/8** 6MM	**BLANK** - Viton®	**OC** - Oxygen Clean
QC6- 3/8" Body		**S** - SESO Stem	**LB** - LET-LOK® Bulkhead	**1/4** 6MM	**BU** - BUNA N	**LF** - Lubricant Free
QC8- 1/2" Body		**D** - DESO Stem	**NB** - NPT Bulkhead	**3/8** 10MM	**EP** - EPDM	
			MN - Male NPT	**1/2** 12MM	**NE** - Neoprene	
			FN - Female NPT	DESO Stems can't be made with 1/8" ends	**KZ** - Perfluoroelastomer	
			MG - Male ISO Parallel			
			FG - Female ISO Parallel			
			MR - Male ISO Tapered			
			FR - Female ISO Tapered			
			H - Hose Connector			
			HL - ONE-LOK®			

High–Flow Quick Connectors

The full-flow option contains a full flow body and a SESO stem.
To order a full flow body please select the relevant letters and "HF".
Example: QC4-SS-B-FN-1/4-HF

BODY AND STEM PROTECTORS

Body & stem protectors prevent entry of contaminants & damages caused upon uncoupling of the bodies and stems. The protectors do not contain pressure.

STEM PROTECTOR	BODY PROTECTOR
QC4-SS-SP | QC6-SS-SP | QC8-SS-SP	QC4-SS-BP | QC6-SS-BP | QC8-SS-BP
	

Warning! For your safety

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

Viton® - TM DuPont