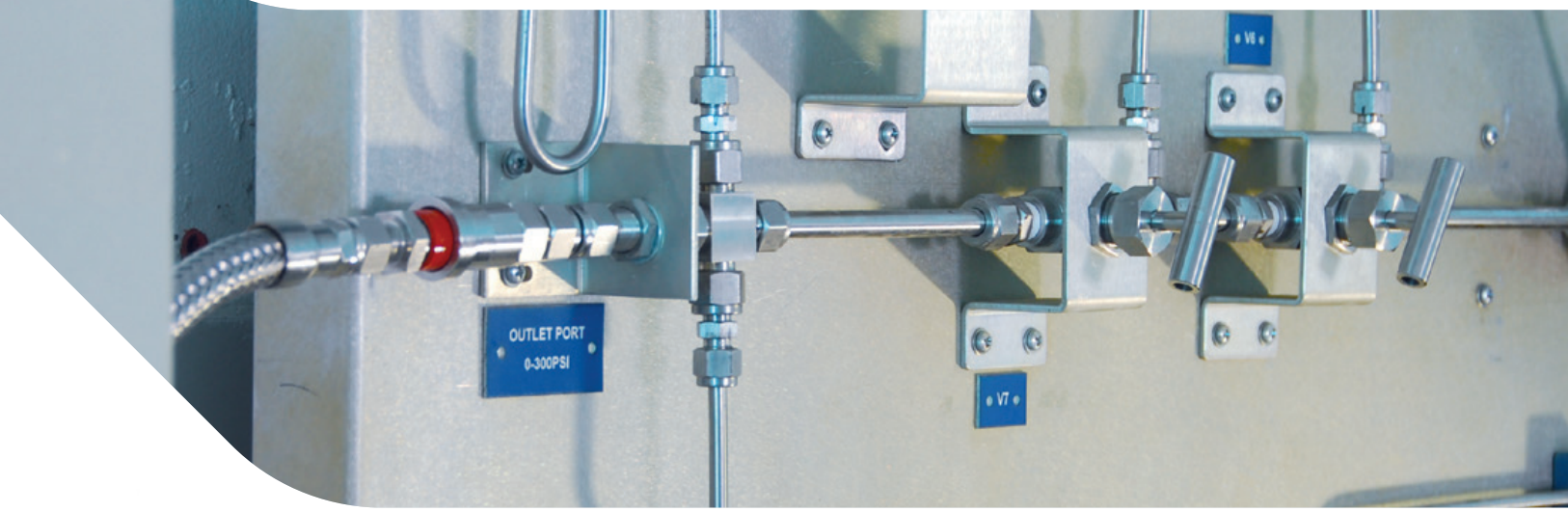
INSTRUMENTATION QUICK CONNECTORS | QCLOK®



HAM-LET® Group

FEATURES

- Valved and non-valved stems available
- Working pressure rating: up to 3,000 psig (206 bar)
- Interchangeable and intermixable with major manufacturers' Instrumentation Quick Connectors
- Fluorocarbon FKM 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 a MAWP of up to 3,000 psig (206 bar).

Single and Double End Shut-off Stems

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

MATERIALS OF CONSTRUCTION

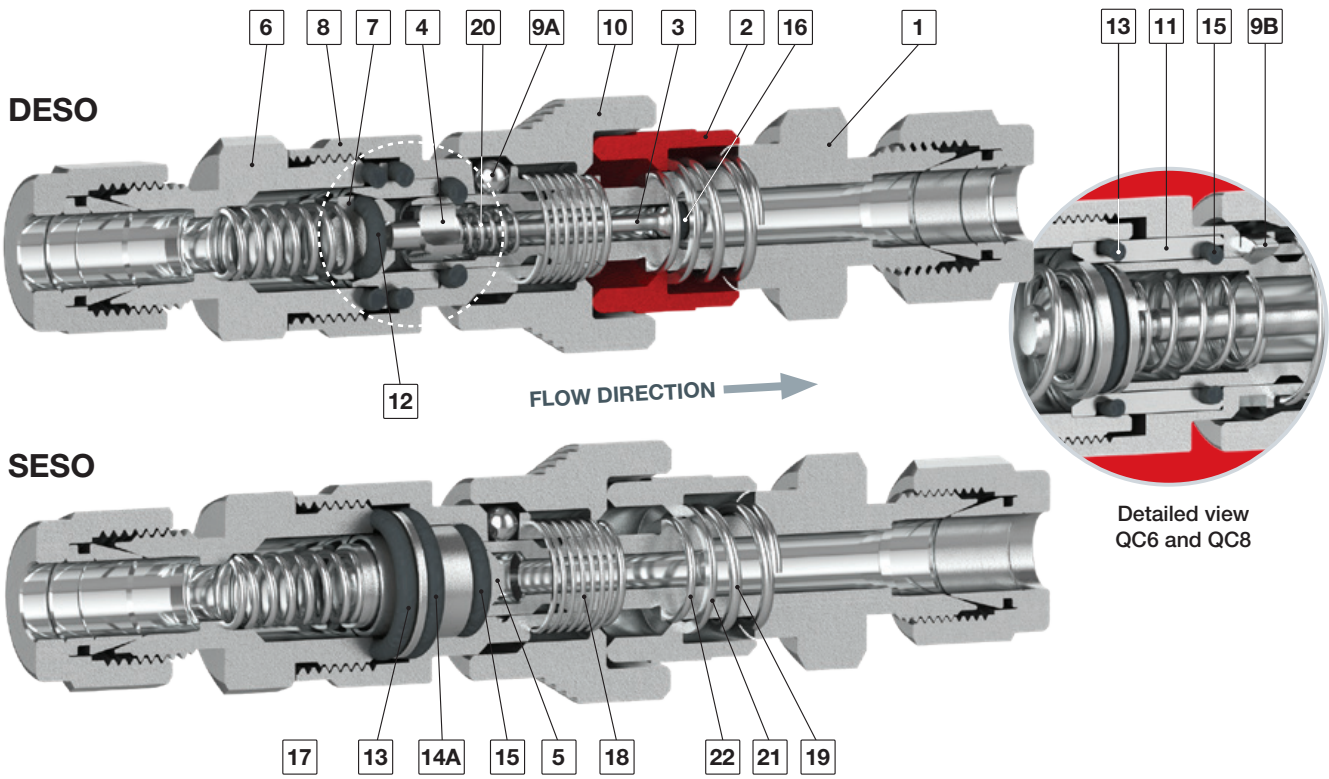
		Components	Material
Valved and Non-Valved Stems	1	*Body	316SS
	2	Sleeve	316SS
	3	*Stem	316SS
	4	*Stem nut	316SS
	5	*Extender	316SS
Body	6	*End connection	316SS
	7	*Poppet	316SS
	8	*Body	316SS
	[1]9A	Locking Balls	302SS
	[2]9B	Locking Dogs	316SS
	10	Sleeve	316SS
	11	*Internal body	316SS
		Lubricant	Silicone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

* Wetted parts

		Components	Material
O-Rings	*12	Poppet seal	Fluorocarbon FKM
	*13	End connection seal	Fluorocarbon FKM
	[1]14A	Body seal	Fluorocarbon FKM
	*15	Stem seal	Fluorocarbon FKM
	*16	Stem Internal seal	Fluorocarbon FKM
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

1 - QC4 Only **2** - QC6 and QC8 Only

QC4 CROSS SECTION



CLEANING & PACKAGING

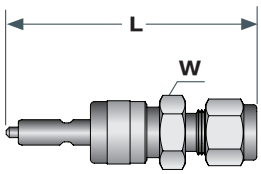
Every Quick connector is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean & Lubricant-Free Cleaning and Packaging, in accordance with Special Cleaning and Packaging (procedure 8185), is available as an option.

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.

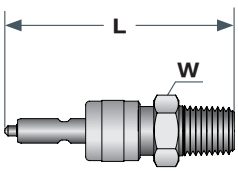
QC-LOK® SERIES DIMENSIONS - STEM

Let-Lok® Stem



Fitting Size	Basic Ordering Numbers		Series	Flow Coefficient (Cv)		Dimensions		
	SESO	DESO		SESO	DESO	L SESO	L DESO	W
						Dimensions, in. (mm)		
1/8"	QC4-SS-S-L-1/8	NA	QC4	0.08	-	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

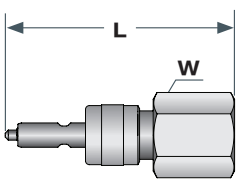
Male Pipe Thread Stem



Fitting Size	Basic Ordering Numbers		Series	Flow Coefficient (Cv)		Dimensions, in. (mm)		
	SESO	DESO		SESO	DESO	L SESO	L DESO	W inch
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)	3/4
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

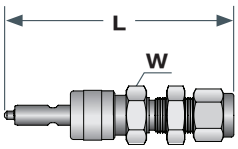


Fitting Size	Basic Ordering Numbers		Series	Flow Coefficient (Cv)		Dimensions, in. (mm)		
	SESO	DESO		SESO	DESO	L SESO	L DESO	W inch
NPT (ISO Tapered, BSPT*)								
1/8"	QC4-SS-S-FN-1/8	QC4-SS-D-FN-1/8	QC4	0.3	0.2	2.01 (51.1)	2.07 (52.6)	5/8
1/4"	QC4-SS-S-FN-1/4	QC4-SS-D-FN-1/4	QC4	0.3	0.2	2.26 (57.4)	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								
1/4"	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

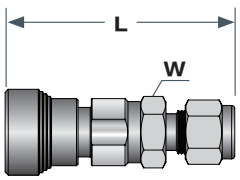
LET-LOK® Bulkhead Stem



Fitting Size	Basic Ordering Numbers		Series	Flow Coefficient (Cv)		Dimensions				
						L		W	Max Panel Thickness	Min Panel Hole Dia
	SESO	DESO		SESO	DESO	SESO	DESO			
						Dimensions, in. (mm)				
1/4"	QC4-SS-S-LB-1/4	QC4-SS-D-LB-1/4	**QC4**	0.3	0.2	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**	1.0	0.5	2.92 (74.2)	3.07 (78.0)	3/4	0.44 (11.17)	19/32 (15.1)
1/2"	QC8-SS-S-LB-1/2	QC8-SS-D-LB-1/2	**QC8**	2.4	1.5	3.43 (87.1)	3.63 (92.2)	15/16	0.50 (12.7)	25/32 (19.8)
						Dimensions, mm (in.)				
6	QC4-SS-S-LB-6MM	QC4-SS-D-LB-6MM	**QC4**	0.3	0.2	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**	1.0	0.5	77.7 (3.06)	78.7 (3.10)	22	11.2 (0.44)	16.7 (21/32)
12	QC8-SS-S-LB-12MM	QC8-SS-D-LB-12MM	**QC8**	2.4	1.5	87.1 (3.43)	92.2 (3.63)	24	12.7 (0.50)	19.6 (49/64)

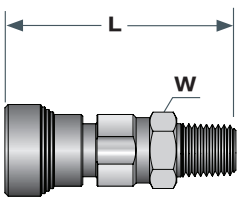
QC-LOK® SERIES DIMENSIONS - BODY

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

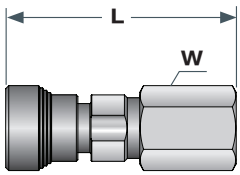


Fitting Size	Basic Ordering Number	Series	Dimensions, in. (mm)	
			L	W
NPT (ISO Tapered, BSPT*)				
1/8"	QC4-SS-B-MN-1/8	**QC4**	2.01 (51.1)	5/8
1/4"	QC4-SS-B-MN-1/4	**QC4**	2.16 (54.9)	5/8
3/8"	QC6-SS-B-MN-3/8	**QC6**	2.38 (60.5)	3/4
1/2"	QC8-SS-B-MN-1/2	**QC8**	2.97 (75.4)	15/16
ISO Parallel, BSPP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

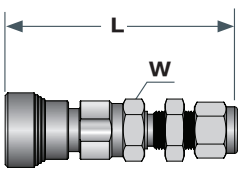
Female Pipe Thread Body



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		Max Panel Thickness	Min Panel Hole Diameter
			L	W		
			Dimensions, in. (mm)			
1/4"	QC4-SS-B-LB-1/4	**QC4**	2.67 (67.8)	5/8	0.25 (6.4)	15/32 (11.9)
3/8"	QC6-SS-B-LB-3/8	**QC6**	2.98 (75.7)	3/4	0.44 (11.17)	19/32 (15.1)
1/2"	QC8-SS-B-LB-1/2	**QC8**	3.56 (90.4)	15/16	0.50 (12.7)	25/32 (19.8)
			Dimensions, mm (in.)			
6	QC4-SS-B-LB-6MM	**QC4**	67.8 (2.67)	16	6.4 (0.25)	11.9 (15/32)
10	QC6-SS-B-LB-10MM	**QC6**	75.9 (2.99)	22	11.2 (0.44)	16.7 (21/32)
12	QC8-SS-B-LB-12MM	**QC8**	90.4 (3.56)	24	12.7 (0.50)	19.6 (49/64)

Overall Length Calculation for QC Series

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

Series	Depth, mm. (in)	
	SESO	**DESO**
QC4	28.6mm(0.89 inch)	30.2mm(0.95 inch)
QC6	30.0mm(1.18 inch)	33.0mm(1.3 inch)
QC8	37.6mm(1.48 inch)	42.7mm(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 Fluorocarbon FKM 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)
Fluorocarbon FKM	-15 to 400 (-26 to 204)
Polychloroprene (CR)	-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
QC4- 1/4” Body
QC6- 3/8” Body
QC8- 1/2” Body

Material
SS - 316

Connector Type
B - Body
S - SESO Stem
D - DESO Stem

End Connection
L - LET-LOK® (Tube)
LB - LET-LOK® Bulkhead
NB - NPT Bulkhead
MN - Male NPT
FN - Female NPT
MG - Male ISO Parallel
FG - Female ISO Parallel
MR - Male ISO Tapered
FR - Female ISO Tapered
H - Hose Connector
HL - ONE-LOK®

Size	
1/8	
1/4	**6MM**
3/8	**10MM**
1/2	**12MM**

DESO Stems can't be made with 1/8" ends

O - Ring
BLANK - Fluorocarbon FKM
BU - BUNA N
EP - EPDM
NE - Polychloroprene (CR)
KZ - Perfluoroelastomer

Treatment
OC - Oxygen Clean
LF - Lubricant Free
SF - Silicone Free

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!

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.

QC-LOK | 2019_Rev00