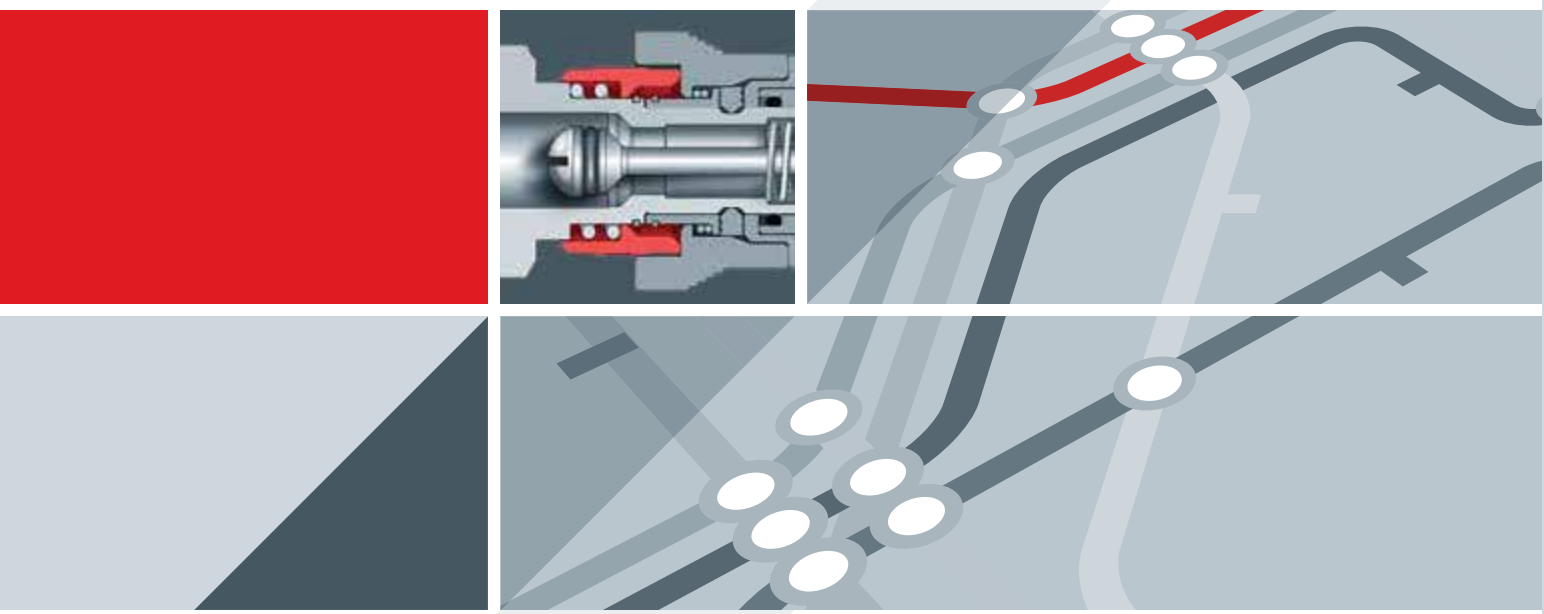


QCLOK[®]

INSTRUMENTATION QUICK CONNECTORS

QUICK CONNECTORS



 **HAM-LET[®]**
ADVANCED CONTROL TECHNOLOGY

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 Shutoff Stems

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

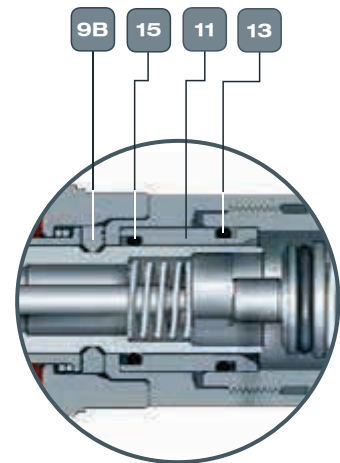
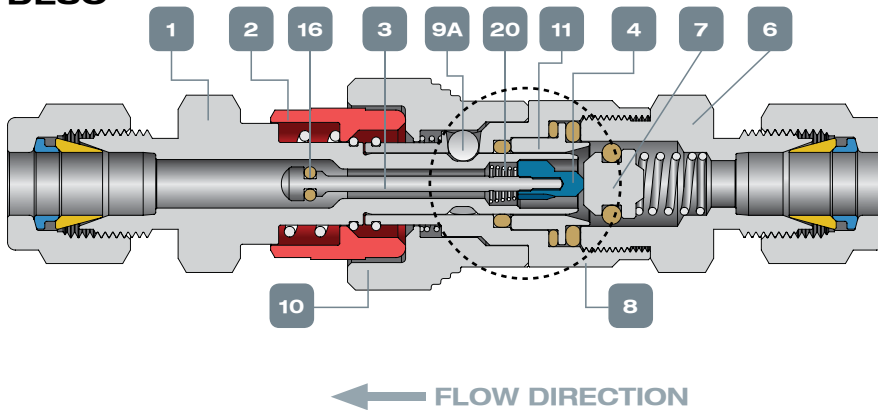
Double-end shutoff (DESO) - Stems have valve and shut off when uncoupled.

| MATERIALS OF CONSTRUCTION | | | MATERIALS OF CONSTRUCTION | | | | |
|-----------------------------|------------|----------------|---------------------------|------------|----------|--------------------------|------------------|
| | Components | Material | | Components | Material | | |
| Valved and Non-Valved Stems | 1 | Body | 316SS | O-Rings | 12 | Poppet seal | Fluorocarbon FKM |
| | 2 | Sleeve | 316SS | | 13 | End connection seal | Fluorocarbon FKM |
| | 3 | Stem | 316SS | | 14A* | Body seal | Fluorocarbon FKM |
| | 4 | Stem nut | 316SS | | 15 | Stem seal | Fluorocarbon FKM |
| | 5 | Extender | 316SS | | 16 | Stem Internal seal | Fluorocarbon FKM |
| Body | 6 | End connection | 316SS | Springs | 17 | Poppet spring | 316SS |
| | 7 | Poppet | 316SS | | 18 | Body sleeve spring | 316SS |
| | 8 | Body | 316SS | | 19 | Stem sleeve spring | 316SS |
| | 9A* | Locking Balls | 302SS | | 20 | Stem spring | 316SS |
| | 9B** | Locking Dogs | 316SS | | 21 | Stem sleeve locking ring | 316SS |
| | 10 | Sleeve | 316SS | | 22 | Body sleeve locking ring | 316SS |
| | 11 | Internal body | 316SS | | | | |

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

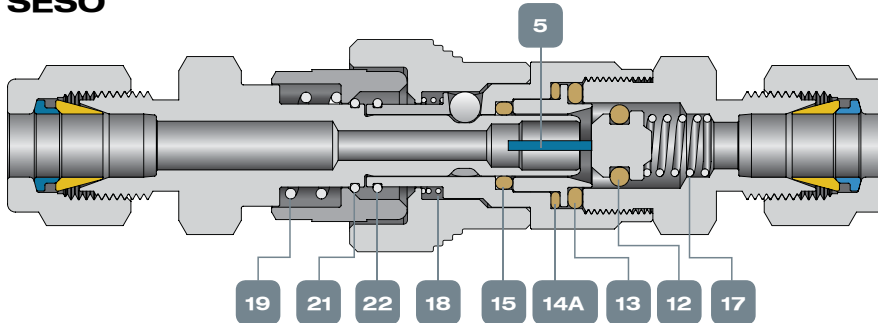
QC4 CROSS SECTION

DESO



Detailed view QC6 and QC8

SESO



CLEANING & PACKAGING

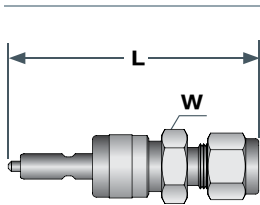
Every Quick connector is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean & Lubricant Free Cleaning and packaging, in accordance with Special Cleaning and Packaging (procedure 8185), is available as an option.

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.

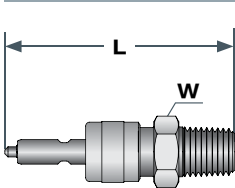
QC-LOK® SERIES DIMENSIONS - STEM

Let-Lok® Stem



| Fitting Size | Basic Ordering Numbers | | Series | Flow Coefficient (Cv) | | Dimensions | | |
|----------------------|------------------------|-----------------|--------|-----------------------|------|-------------|-------------|-------|
| | SESO | DESO | | SESO | DESO | L | | W |
| | | | | | | SESO | DESO | |
| 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 |

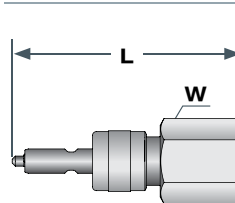
Male Pipe Thread Stem



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

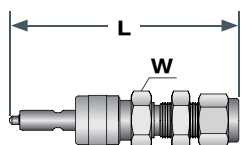


| Fitting Size | Basic Ordering Numbers | | Series | Flow Coefficient (Cv) | | Dimensions, in. (mm) | | |
|--------------------------|------------------------|-----------------|--------|-----------------------|------|----------------------|-------------|-----------|
| | SESO | DESO | | SESO | DESO |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

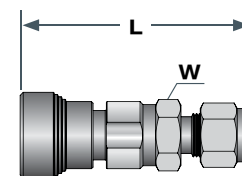
Let-Lok® Bulkhead Stem



| Fitting Size | Basic Ordering Numbers | | Series | Flow Coef- ficient (Cv) | | Dimensions | | | | |
|----------------------|------------------------|------------------|------------|----------------------------|------|-------------|-------------|-------|---------------------|--------------------|
| | SESO | DESO | | SESO | DESO | L | | W | Max Panel Thickness | Min Panel Hole Dia |
| 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) |

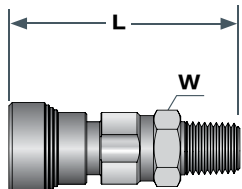
QC-LOK® SERIES DIMENSIONS - BODY

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



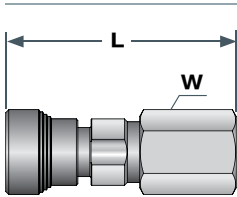
| Fitting Size | Basic Ordering Number | Series | Dimensions, in. (mm) | |
|---------------------------------|-----------------------|------------|----------------------|-------|
| | | | L | W |
| NPT (ISO Tapered, BSPT*) | | | | |
| 1/8" | QC4-SS-B-MN-1/8 | QC4 | 2.01 (51.1) | 5/8 |
| 1/4" | QC4-SS-B-MN-1/4 | 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

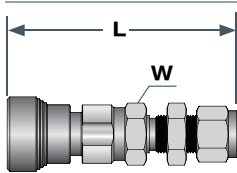
Female Pipe Thread Body



| 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 Dia |
|-----------------------------|-----------------------|------------|-------------|-------|---------------------|--------------------|
| | | | 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

- 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 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 Rating °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

QC4 - SS - B - L - 1/4 - OPTIONAL

| Series | Material | Connector Type | End Connection | Size | O - Ring |
|----------------|----------|----------------|--------------------------|----------|---------------------------|
| QC4- 1/4" Body | SS - 316 | B - Body | L - LET-LOK® (Tube) | 1/8 6MM | BLANK - Fluorocarbon FKM |
| QC6- 3/8" Body | | S - SESO Stem | LB - LET-LOK® Bulkhead | 1/4 6MM | BU - BUNA N |
| QC8- 1/2" Body | | D - DESO Stem | NB - NPT Bulkhead | 3/8 10MM | EP - EPDM |
| | | | MN - Male NPT | 1/2 12MM | NE - Polychloroprene (CR) |
| | | | FN - Female NPT | | KZ - Perfluoroelastomer |
| | | | MG - Male ISO Parallel | | |
| | | | FG - Female ISO Parallel | | |
| | | | MR - Male ISO Tapered | | |
| | | | FR - Female ISO Tapered | | |
| | | | H - Hose Connector | | |
| | | | HL - ONE-LOK® | | |

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


| Treatment |
|---------------------|
| OC - Oxygen Clean |
| LF - Lubricant 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, Rev.05, January 2014