

# Check Valves

10C, 10CO Series, 10,000 psig (690 bar)

15C, 15CO Series, 15,000 psig (1034 bar)

20C, 20CO Series, 20,000 psig (1379 bar)

60C, 60CO Series, 60,000 psig (4137 bar)



Medium & High Pressure  
Fittings and Tubing

Quick Couplings

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# 10C Series

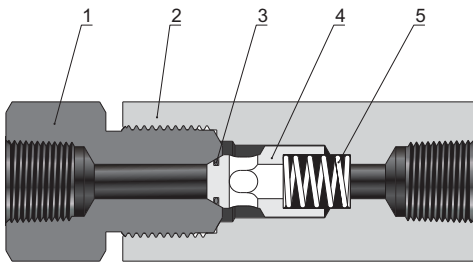
## 10,000 psig (690 bar)

### Pipe O-ring Check Valves

#### Features

- Fluorocarbon FKM O-ring for operation from 0°F to 400°F (-17.8°C to 204°C), other materials of O-rings available
- Cracking pressure: 14 psig~26 psig (0.966 bar~1.794 bar)
- Provides unidirectional flow and tight shut-off for liquids and gases with high reliability. When differential drops below cracking pressure, valve shuts off (Not for use as relief valve)
- Resilient O-ring seat design for noise-free closing and zero leakage

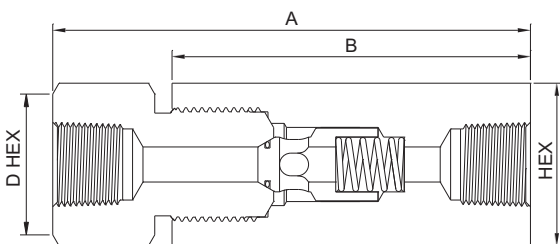
#### Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	<i>Cover Gland</i>	<i>316 SS/A479</i>
2	<i>Valve Body</i>	<i>316 SS/A479</i>
3	<i>O-ring</i>	<i>Fluorocarbon FKM</i>
4	<i>Poppet</i>	<i>316 SS/A479</i>
5	<i>Spring</i>	<i>300 Series Stainless Steel</i>
	Lubricant	Molybdenum Disulfide/Fluorinated-based

*Wetted components listed in italics.*

#### Ordering Information and Dimensions



Ordering Number	Connection	Orifice in. (mm)	Cv	Dimensions, in. (mm)				Working Pressure psig (bar)
				A	B	D - HEX	HEX	
10CSS-FNS12	FNS12	0.52 (13.21)	4.70	6.11 (155.3)	4.75 (120.7)	1.5 (38.1)	1.75 (44.5)	10,000 (690)
10CSS-FNS16	FNS16	0.69 (17.53)	7.40	7.33 (186.2)	5.75 (146.1)	1.75 (44.5)	1.88 (47.8)	10,000 (690)

NOTE: For other pipe connections, please refer to 15C Series Pipe O-ring Check Valves for details.

# 10CO Series

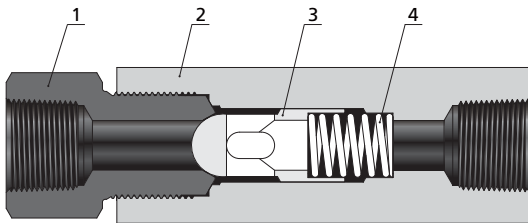
## 10,000 psig (690 bar)

### Pipe Ball Check Valves

#### Features

- ⦿ Working temperature range: -110°F to 400°F (-79°C to 204°C)
- ⦿ Prevents reverse flow where leak-tight shut-off is not mandatory (Not for use as relief valve)
- ⦿ An integral design of the ball and poppet to assure positive, in-line seating without "chatter".  
Poppet designed essentially for axial flow with minimum pressure drop
- ⦿ Optional wetted materials of cover gland and ball poppet for longer life

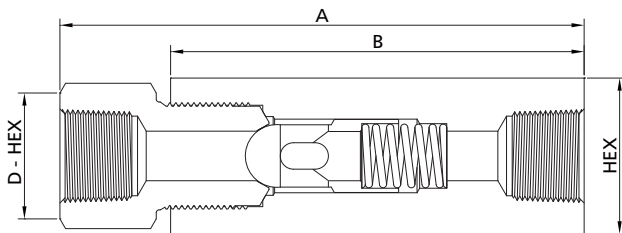
#### Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	<i>Cover Gland</i>	<i>316 SS/A479</i>
2	<i>Valve Body</i>	<i>316 SS/A479</i>
3	<i>Ball Poppet</i>	<i>316 SS/A479</i>
4	<i>Spring</i>	<i>300 Series Stainless Steel</i>
	Lubricant	Molybdenum Disulfide/Fluorinated-based

*Wetted components listed in italics.*

#### Ordering Information and Dimensions



Ordering Number	Connection	Orifice in. (mm)	Cv	Dimensions, in. (mm)				Working Pressure psig (bar)
				A	B	D - HEX	HEX	
10COSS-FNS12	FNS12	0.52 (13.21)	4.70	6.11 (155.3)	4.75 (120.7)	1.5 (38.1)	1.75 (44.5)	10,000 (690)
10COSS-FNS16	FNS16	0.69 (17.53)	7.40	7.33 (186.2)	5.75 (146.1)	1.75 (44.5)	1.88 (47.8)	10,000 (690)

NOTE: For other pipe connections, please refer to 15CO Series Pipe Ball Check Valves for details.

# 15C Series

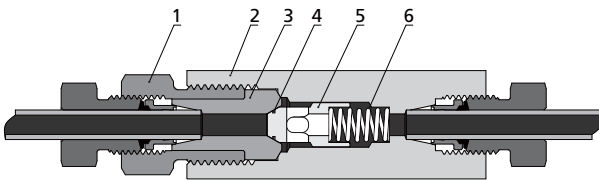
## 15,000 psig (1034 bar)

### O-ring Check Valves

#### Features

- ⦿ Fluorocarbon FKM O-ring for operation from 0°F to 400°F (-17.8°C to 204°C), other materials of O-rings available
- ⦿ Tubing sizes available in 1/4", 3/8" and 1/2"
- ⦿ Cracking pressure: 14 psig~26 psig (0.966 bar~1.794 bar)
- ⦿ Provides unidirectional flow and tight shut-off for liquids and gases with high reliability. When differential drops below cracking pressure, valve shuts off (Not for use as relief valve)
- ⦿ Resilient O-ring seat design for noise-free closing and zero leakage

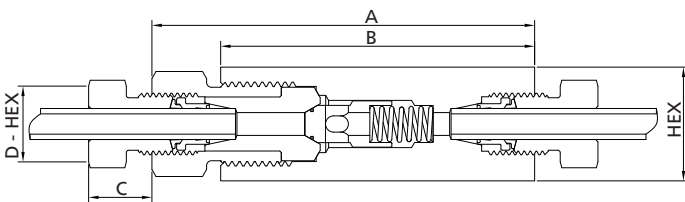
#### Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Cover	316SS/A479
4	O-ring	Fluorocarbon FKM
5	Poppet	316 SS/A479
6	Spring	300 Series Stainless Steel
Lubricant		Molybdenum Disulfide/Fluorinated-based

*Wetted components listed in italics.*

#### Ordering Information and Dimensions



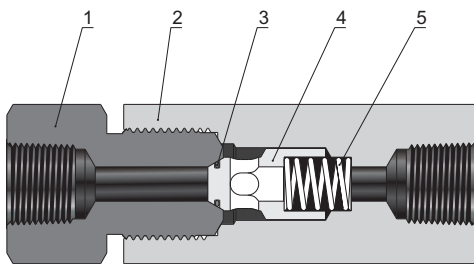
Ordering Number	Connection	Orifice in. (mm)	Cv	Dimensions, in. (mm)					Working Pressure psig (bar)
				A	B	C	D - HEX	HEX	
15CSS-DHL4	DHL4	0.188 (4.78)	0.63	3.35 (85)	2.72 (69.2)	0.52 (13.3)	0.63 (16.0)	0.81 (20.6)	15,000 (1034)
15CSS-DHL6	DHL6	0.250 (6.35)	1.70	3.72 (94.6)	3.13 (79.6)	0.53 (13.5)	0.75 (19.1)	1.00 (25.4)	15,000 (1034)
15CSS-DHL8	DHL8	0.375 (9.53)	3.40	4.41 (112.0)	3.68 (93.5)	0.60 (15.3)	0.93 (23.6)	1.38 (35.1)	15,000 (1034)

## Pipe O-ring Check Valves

### Features

- Fluorocarbon FKM O-ring for operation from 0°F to 400°F (-17.8°C to 204°C), other materials of O-rings available
- Cracking pressure: 14 psig~26 psig (0.966 bar~1.794 bar)
- Provides unidirectional flow and tight shut-off for liquids and gases with high reliability. When differential drops below cracking pressure, valve shuts off (Not for use as relief valve)
- Resilient O-ring seat design for noise-free closing and zero leakage

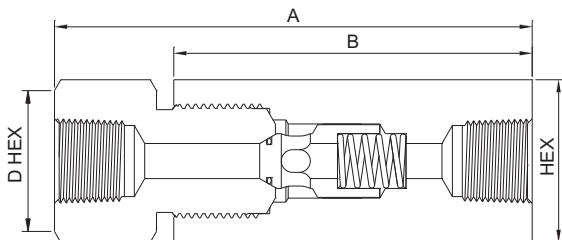
### Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	<i>Cover Gland</i>	<i>316 SS/A479</i>
2	<i>Valve Body</i>	<i>316 SS/A479</i>
3	<i>O-ring</i>	<i>Fluorocarbon FKM</i>
4	<i>Poppet</i>	<i>316 SS/A479</i>
5	<i>Spring</i>	<i>300 Series Stainless Steel</i>
	Lubricant	Molybdenum Disulfide/Fluorinated-based

*Wetted components listed in italics.*

### Ordering Information and Dimensions



Ordering Number	Connection	Orifice in. (mm)	Cv	Dimensions, in. (mm)				Working Pressure psig (bar)
				A	B	D - HEX	HEX	
15CSS-FNS4	FNS4	0.12 (3.05)	0.28	3.30 (83.8)	2.38 (60.3)	0.94 (23.8)	0.94 (23.8)	15,000 (1034)
15CSS-FNS6	FNS6	0.22 (5.59)	0.84	3.95 (100.3)	2.88 (73.2)	1.13 (28.6)	1.13 (28.6)	15,000 (1034)
15CSS-FNS8	FNS8	0.36 (9.12)	2.30	5.07 (128.9)	3.88 (98.6)	1.38 (34.9)	1.38 (34.9)	15,000 (1034)

# 15CO Series

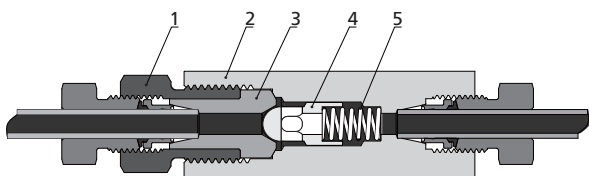
## 15,000 psig (1034 bar)

### Ball Check Valves

#### Features

- ⦿ Working temperature range: -110°F to 800°F (-79°C to 427°C)
- ⦿ Tubing sizes available in 1/4", 3/8" and 1/2"
- ⦿ Prevents reverse flow where leak-tight shut-off is not mandatory (Not for use as relief valve)
- ⦿ An integral design of the ball and poppet to assure positive, in-line seating without "chatter".  
 Poppet designed essentially for axial flow with minimum pressure drop
- ⦿ Optional wetted materials of cover gland and ball poppet for longer life

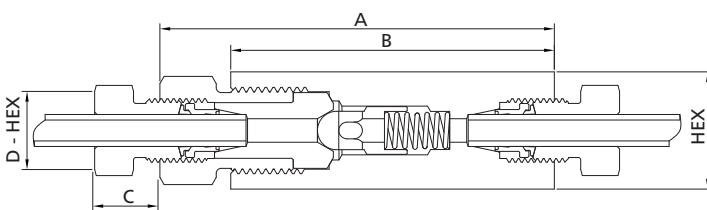
#### Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Cover	316 SS/A479
4	Ball Poppet	316 SS/A479
5	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum Disulfide/Fluorinated-based

*Wetted components listed in italics.*

#### Ordering Information and Dimensions



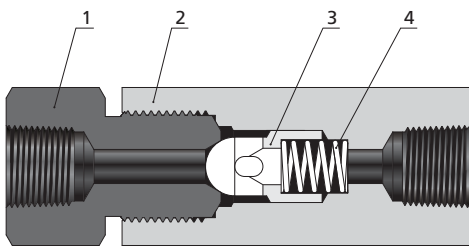
Ordering Number	Connection	Orifice in. (mm)	Cv	Dimensions, in. (mm)					Working Pressure psig (bar)
				A	B	C	D - HEX	HEX	
15COSS-DHL4	DHL4	0.188 (4.78)	0.63	3.35 (85)	2.72 (69.2)	0.52 (13.3)	0.63 (16.0)	0.81 (20.6)	15,000 (1034)
15COSS-DHL6	DHL6	0.250 (6.35)	1.70	3.72 (94.6)	3.13 (79.6)	0.53 (13.5)	0.75 (19.1)	1.00 (25.4)	15,000 (1034)
15COSS-DHL8	DHL8	0.375 (9.53)	3.40	4.41 (112.0)	3.68 (93.5)	0.60 (15.3)	0.93 (23.6)	1.38 (35.1)	15,000 (1034)

# Pipe Ball Check Valves

## Features

- ⦿ Working temperature range: -110°F to 400°F (-79°C to 204°C)
- ⦿ Prevents reverse flow where leak-tight shut-off is not mandatory (Not for use as relief valve)
- ⦿ An integral design of the ball and poppet to assure positive, in-line seating without "chatter".  
 Poppet is designed essentially for axial flow with minimum pressure drop
- ⦿ Optional wetted materials of cover gland and ball poppet for longer life

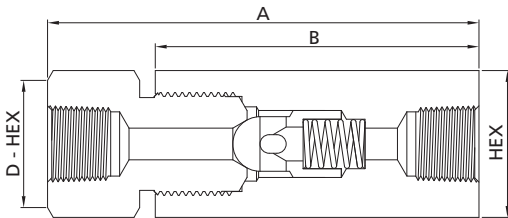
## Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	<i>Cover Gland</i>	<i>316 SS/A479</i>
2	<i>Valve Body</i>	<i>316 SS/A479</i>
3	<i>Ball Poppet</i>	<i>316 SS/A479</i>
4	<i>Spring</i>	<i>300 Series Stainless Steel</i>
	Lubricant	Molybdenum Disulfide/Fluorinated-based

*Wetted components listed in italics.*

## Ordering Information and Dimensions



Ordering Number	Connection	Orifice in. (mm)	Cv	Dimensions, in. (mm)				Working Pressure psig (bar)
				A	B	D - HEX	HEX	
15COSS-FNS4	FNS4	0.12 (3.05)	0.28	3.30 (83.8)	2.38 (60.3)	0.94 (23.8)	0.94 (23.8)	15,000 (1034)
15COSS-FNS6	FNS6	0.22 (5.59)	0.84	3.95 (100.3)	2.88 (73.2)	1.13 (28.6)	1.13 (28.6)	15,000 (1034)
15COSS-FNS8	FNS8	0.36 (9.12)	2.30	5.07 (128.9)	3.88 (98.6)	1.38 (34.9)	1.38 (34.9)	15,000 (1034)

Medium & High Pressure Fittings and Tubing  
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# 20C Series

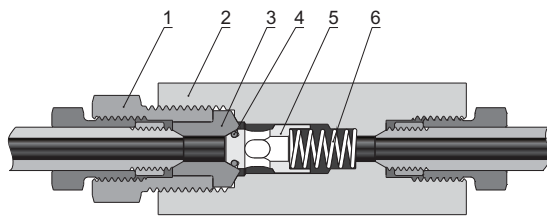
## 20,000 psig (1379 bar)

### O-ring Check Valves

#### Features

- Fluorocarbon FKM O-ring for operation from 0°F to 400°F (-17.8°C to 204°C), other materials of O-rings available
- Tubing sizes available from 1/4" to 1"
- Cracking pressure: 14 psig~26 psig (0.966 bar~1.794 bar)
- Provides unidirectional flow and tight shut-off for liquids and gases with high reliability. When differential drops below cracking pressure, valve shuts off (Not for use as relief valve)
- Resilient O-ring seat design for noise-free closing and zero leakage

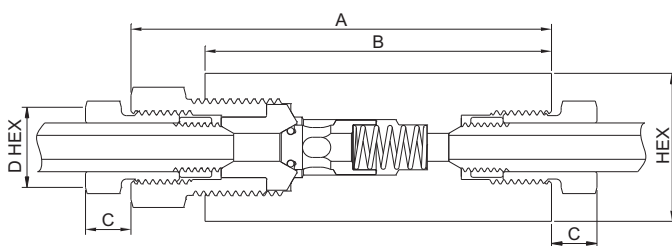
#### Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Cover	316 SS/A479
4	O-ring	Fluorocarbon FKM
5	Poppet	316 SS/A479
6	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum Disulfide/Fluorinated-based

Wetted components listed in italics.

#### Ordering Information and Dimensions



Ordering Number	Connection	Orifice in. (mm)	Cv	Dimensions, in. (mm)					Working Pressure psig (bar)
				A	B	C	D - HEX	HEX	
20CSS-2FH4	2FH4	0.125 (3.18)	0.28	2.94 (74.7)	2.50 (63.5)	0.38 (9.7)	0.50 (12.7)	0.81 (20.6)	20,000 (1379)
20CSS-2FH6	2FH6	0.218 (5.54)	0.84	3.12 (79.3)	2.62 (66.6)	0.44 (11.2)	0.62 (15.8)	1.00 (25.4)	20,000 (1379)
20CSS-2FH9	2FH9	0.359 (9.12)	2.30	4.18 (106.2)	3.50 (88.9)	0.55 (14.0)	0.94 (23.9)	1.38 (35.1)	20,000 (1379)
20CSS-2FH12	2FH12	0.516 (13.11)	4.70	5.50 (139.7)	4.75 (120.7)	0.60 (15.2)	1.19 (30.2)	1.75 (44.5)	20,000 (1379)
20CSS-2FH16	2FH16	0.688 (17.48)	7.40	6.91 (175.6)	5.75 (146.1)	0.74 (18.8)	1.38 (35.1)	2.12 (53.9)	20,000 (1379)

# 20CO Series

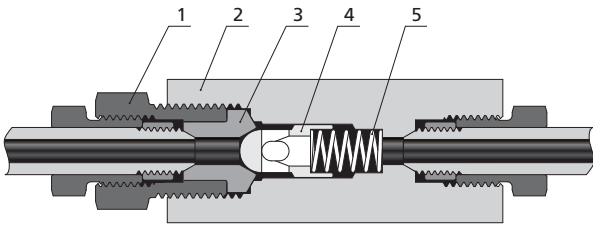
## 20,000 psig (1379 bar)

### Ball Check Valves

#### Features

- ⦿ Working temperature range: -110°F to 1200°F (-79°C to 649°C)
- ⦿ Tubing sizes available from 1/4" to 1"
- ⦿ Prevents reverse flow where leak-tight shut-off is not mandatory (Not for use as relief valve)
- ⦿ An integral design of the ball and poppet to assure positive, in-line seating without "chatter".  
Poppet is designed essentially for axial flow with minimum pressure drop
- ⦿ Optional wetted materials of cover gland and ball poppet for longer life

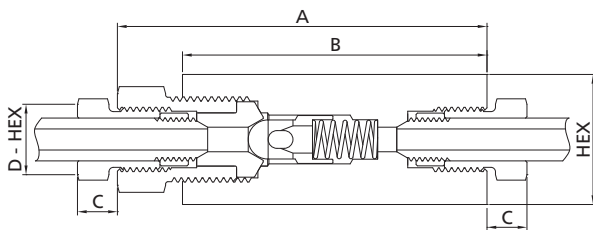
#### Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Cover	316 SS/A479
4	Ball Poppet	316 SS/A479
5	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum Disulfide/Fluorinated-based

*Wetted components listed in italics.*

#### Ordering Information and Dimensions



Ordering Number	Connection	Orifice in. (mm)	Cv	Dimensions, in. (mm)					Working Pressure psig (bar)
				A	B	C	D - HEX	HEX	
20COSS-2FH4	2FH4	0.125 (3.18)	0.28	2.94 (74.7)	2.50 (63.5)	0.38 (9.7)	0.50 (12.7)	0.81 (20.6)	20,000 (1379)
20COSS-2FH6	2FH6	0.218 (5.54)	0.84	3.12 (79.3)	2.62 (66.6)	0.44 (11.2)	0.62 (15.8)	1.00 (25.4)	20,000 (1379)
20COSS-2FH9	2FH9	0.359 (9.12)	2.30	4.18 (106.2)	3.50 (88.9)	0.55 (14.0)	0.94 (23.9)	1.38 (35.1)	20,000 (1379)
20COSS-2FH12	2FH12	0.516 (13.11)	4.70	5.50 (139.7)	4.75 (120.7)	0.60 (15.2)	1.19 (30.2)	1.75 (44.5)	20,000 (1379)
20COSS-2FH16	2FH16	0.688 (17.48)	7.40	6.91 (175.6)	5.75 (146.1)	0.74 (18.8)	1.38 (35.1)	2.12 (53.9)	20,000 (1379)

# 60C Series

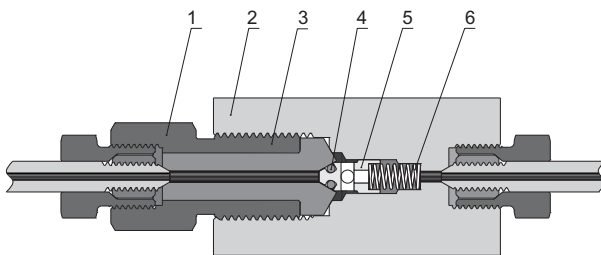
## 60,000 psig (4137 bar)

### O-ring Check Valves

#### Features

- Fluorocarbon FKM O-ring for operation from 0°F to 400°F (-17.8°C to 204°C), other materials of O-rings available
- Tubing sizes available from 1/4" to 9/16"
- Cracking pressure: 14 psig~26 psig (0.966 bar~1.794 bar)
- Provides unidirectional flow and tight shut-off for liquids and gases with high reliability. When differential drops below cracking pressure, valve shuts off (Not for use as relief valve)
- Resilient O-ring seat design for noise-free closing and zero leakage

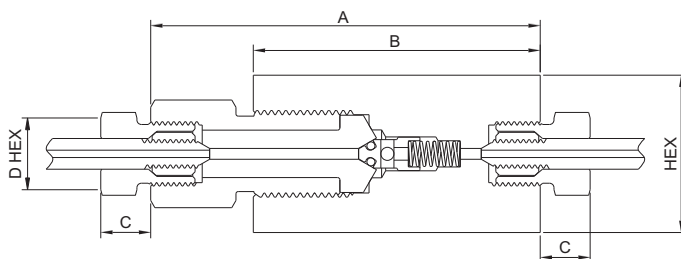
#### Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Cover	316 SS/A479
4	O-ring	Fluorocarbon FKM
5	Poppet	316 SS/A479
6	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum Disulfide/Fluorinated-based

*Wetted components listed in italics.*

#### Ordering Information and Dimensions



Ordering Number	Connection	Orifice in. (mm)	Cv	Dimensions, in. (mm)					Working Pressure psig (bar)
				A	B	C	D - HEX	HEX	
60CSS-6FH4	6FH4	0.094 (2.39)	0.15	3.38 (85.9)	2.50 (63.5)	0.47 (11.9)	0.63 (16.0)	1.18 (30.0)	60,000 (4137)
60CSS-6FH6	6FH6	0.125 (3.18)	0.28	3.86 (98.1)	2.80 (71.1)	0.61 (15.5)	0.81 (20.6)	1.18 (30.0)	60,000 (4137)
60CSS-6FH9	6FH9	0.187 (4.75)	0.63	4.62 (117.4)	3.38 (85.9)	0.95 (24.1)	1.12 (28.5)	1.50 (38.1)	60,000 (4137)

# 60CO Series

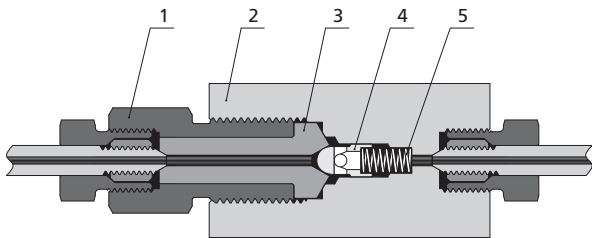
## 60,000 psig (4137 bar)

### Ball Check Valves

#### Features

- Working temperature range: -110°F to 1200°F (-79°C to 649°C)
- Tubing sizes available from 1/4" to 9/16"
- Prevents reverse flow where leak-tight shut-off is not mandatory (Not for use as relief valve)
- An integral design of the ball and poppet to assure positive, in-line seating without "chatter".  
Poppet is designed essentially for axial flow with minimum pressure drop
- Optional wetted materials of cover gland and ball poppet for longer life

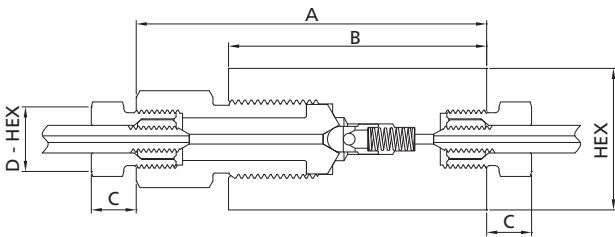
#### Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Cover	316 SS/A479
4	Ball Poppet	316 SS/A479
5	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum Disulfide/Fluorinated-based

*Wetted components listed in italics.*

#### Ordering Information and Dimensions



Ordering Number	Connection	Orifice in. (mm)	Cv	Dimensions, in. (mm)					Working Pressure psig (bar)
				A	B	C	D - HEX	HEX	
60COSS-6FH4	6FH4	0.094 (2.39)	0.15	3.38 (85.9)	2.50 (63.5)	0.47 (11.9)	0.63 (16.0)	1.18 (30.0)	60,000 (4137)
60COSS-6FH6	6FH6	0.125 (3.18)	0.28	3.86 (98.1)	2.80 (71.1)	0.61 (15.5)	0.81 (20.6)	1.18 (30.0)	60,000 (4137)
60COSS-6FH9	6FH9	0.187 (4.75)	0.63	4.62 (117.4)	3.38 (85.9)	0.95 (24.1)	1.12 (28.5)	1.50 (38.1)	60,000 (4137)

NOTE: All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact FITOK Group or our authorized distributors.

Medium & High Pressure Fittings and Tubing

Quick Couplings

Medium & High Pressure Valves

Line Filters

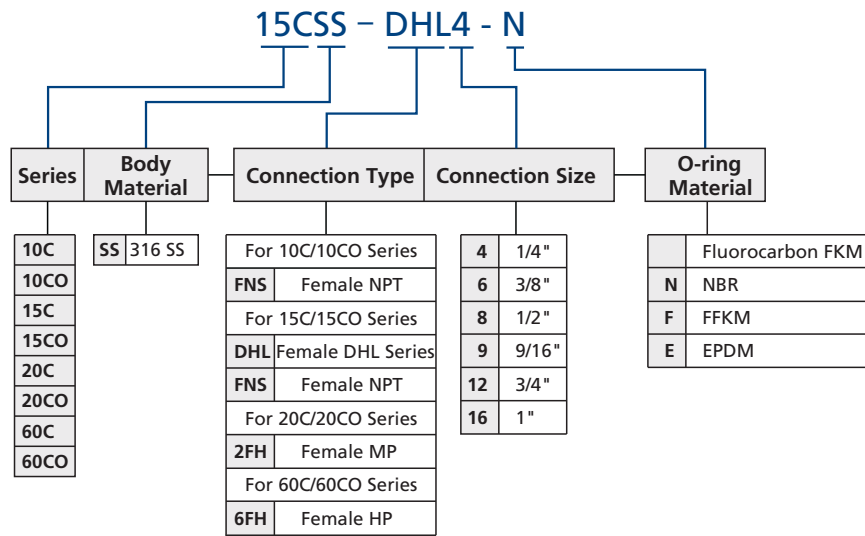
Sour Service Products

Subsea Valves

Tools and Installation Instructions

Technical Information

## Ordering Number Description



- NOTES: 1. "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.
2. For products applied under lower temperature, please contact FITOK Group or our authorized distributors.

Code	O-ring Material	Working Temperature Range, °F (°C)
	Fluorocarbon FKM	0 to 400 (-17.8 to 204)
N	NBR	-10 to 250 (-23 to 121)
F	FFKM	-20 to 550 (-29 to 288)
E	EPDM	-50 to 300 (-45 to 148)

Medium & High Pressure Fittings and Tubing

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