# **High Pressure Check Valves**

10C, 10CO Series, 10,000 psi (690 bar) 15C, 15CO Series, 15,000 psi (1034 bar) 20C, 20CO Series, 20,000 psi (1379 bar) 60C, 60CO Series, 60,000 psi (4137 bar)



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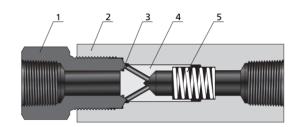
### **10C Series** 10,000 psi (690 bar)

### **Pipe O-ring Check Valves**

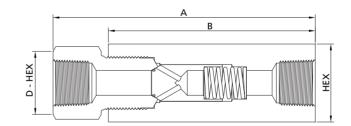
#### Features

- O 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).
- O Resilient O-ring seat design for noise-free closing leakage-free.
- Working pressure up to: 10,000 psig (690 bar).
- Working temperature: -50°F to 400°F (-45°C to 204°C).
- O Cracking pressure: 14 psig ~ 26 psig (0.966 bar ~ 1.794 bar).

### **Standard Materials**



### **Technical Data and Dimensions**



Ordering	Connection	Orifice	Rated	А	В	D - HEX	HEX	Pressure/Temperature Rating psig (bar) @
Number	Туре	in. (mm)	Cv		in. (	mm)	Room Temperature	
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)

#### High Pressure Check Valve 1

Item	Component	Valve Material
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	O-ring	Wide Selection of O-rings available
4	Poppet	316 SS/A479
5	Spring	300 Series Stainless Steel
	Lubricant	Copper/molybdenum disulfide



### **10CO Series** 10,000 psi (690 bar)

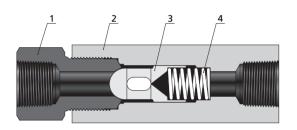
### **Pipe Ball Check Valves**

#### **Features**

O Prevents reverse flow where leak-tight shut-off is not mandatory. When differential drops below cracking pressure, valve closes (Not for use as relief valve)

- O Working pressure up to: 10,000 psig (690 bar)
- Working temperature: -110°F to 400°F (-79°C to 204°C)
- O Ball and poppet are an integral design to assure positive, in-line seating without "chatter", poppet is designed essentially for axial flow with minimum pressure drop
- O Optional wetted materials of Cover and Ball Poppet for longer life

#### **Standard Materials**



ltem	Component	Valve Material
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Ball Poppet	316 SS/A479
4	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum disulfide

### **15C Series** 15,000 psi (1034 bar)

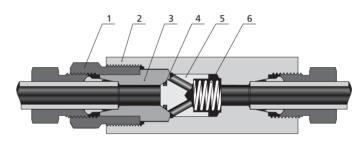
### **O-ring Check Valves**

#### **Features**

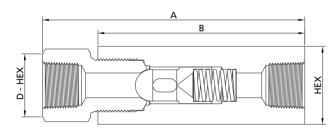
O Provides unidirectional flow and tight shut-off for liquids and gases with high reliability. When differential drops below cracking pressure, valve shuts off (Not for use as relief valve).

- Tubing sizes available for 1/4", 3/8", 1/2".
- © Resilient O-ring seat design for noise-free closing leakage-free.
- O Working pressure up to: 15,000 psig (1034 bar).
- O Working temperature: -50°F to 550°F (-45°C to 288°C).
- O Cracking pressure: 14 psig ~ 26 psig (0.966 bar ~ 1.794 bar).

#### **Standard Materials**

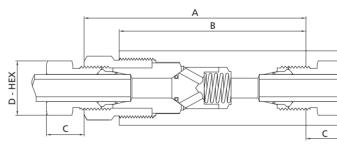


#### **Technical Data and Dimensions**



Ordering	Connection	Orifice	Rated	Α	В	D - HEX	HEX	Pressure/Temperature Rating psig (bar) @	
Number	Туре	in. (mm)	Cv	in. (mm)				Room Temperature	
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)	

#### **Technical Data and Dimensions**



Ordering	Connection	Orifice	Rated	А	В	с	D - HEX	HEX	Pressure/Temperature
Number	Туре	in. (mm)	Cv			in. (mm)		Rating psig (bar) @ Room Temperature	
15CSS-FH4	FH4	0.188 (4.78)	0.63	3.18 (80.8)	2.56 (65.0)	0.52 (13.3)	0.63 (16.0)	0.81 (20.6)	15,000 (1034)
15CSS-FH6	FH6	0.250 (6.35)	1.70	3.59 (91.2)	3.00 (76.2)	0.53 (13.5)	0.75 (19.1)	1.00 (25.4)	15,000 (1034)
15CSS-FH8	FH8	0.375 (9.53)	3.40	4.23 (107.4)	3.50 (88.9)	0.60 (15.3)	0.93 (23.6)	1.38 (35.1)	15,000 (1034)

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#### High Pressure Check Valve 3

Item	Component	Valve Material
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Cover	Wide Selection of O-rings available
4	O-ring	Fluorocarbon FKM
5	Poppet	316 SS/A479
6	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum disulfide



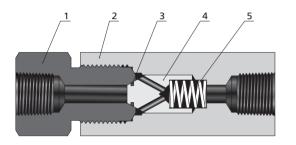


### **Pipe O-ring Check Valves**

#### Features

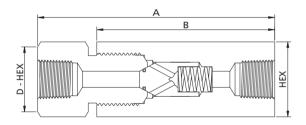
- O Provides unidirectional flow and tight shut-off for liquids and gases with high reliability.
- When differential drops below cracking pressure, valve shuts off (Not for use as relief valve).
- © Resilient O-ring seat design for noise-free closing leakage-free.
- ◎ Working pressure up to: 15,000 psig (1034 bar).
- Working temperature: -50°F to 400°F (-45°C to 204°C).
- Cracking pressure: 14 psig ~ 26 psig (0.966 bar~1.794 bar).

#### **Standard Materials**



Item	Component	Valve Material
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	O-ring	Wide Selection of O-rings available
4	Poppet	316 SS/A479
5	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum disulfide

#### **Technical Data and Dimensions**



Ordering	Connection	Orifice	Rated	Α	В	D - HEX	HEX	Pressure/Temperature Rating psig (bar) @
Number	Туре	in. (mm)	Cv	in. (mm)				Room Temperature
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)

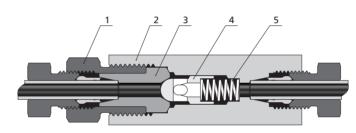
### **15CO Series** 15,000 psi (1034 bar)

### **Ball Check Valves**

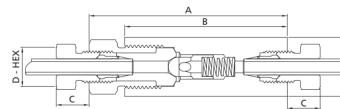
#### Features

- O Prevents reverse flow where leak-tight shut-off is not mandatory. When differential drops below cracking pressure, valve closes (Not for use as relief valve).
- Tubing sizes available for 1/4", 3/8", 1/2".
- O Working pressure up to: 15,000 psig (1034 bar).
- ◎ Working temperature: -110°F to 800°F (-79°C to 427°C).
- ◎ Ball and poppet are an integral design to assure positive, in-line seating without "chatter". poppet is designed essentially for axial flow with minimum pressure drop.
- O Optional wetted materials of Cover and Ball Poppet for longer life

#### **Standard Materials**



#### **Technical Data and Dimensions**



Ordering	Connection	Orifice	Rated	A	В	с	D - HEX	HEX	Pressure/Temperature Rating psig (bar) @
Number	Туре	in. (mm)	Cv						Room Temperature
15COSS-FH4	FH4	0.188 (4.78)	0.63	3.18 (80.8)	2.56 (65.0)	0.52 (13.3)	0.63 (16.0)	0.81 (20.6)	15,000 (1034)
15COSS-FH6	FH6	0.250 (6.35)	1.70	3.59 (91.2)	3.00 (76.2)	0.53 (13.5)	0.75 (19.1)	1.00 (25.4)	15,000 (1034)
15COSS-FH8	FH8	0.375 (9.53)	3.40	4.23 (107.4)	3.50 (88.9)	0.60 (15.3)	0.93 (23.6)	1.38 (35.1)	15,000 (1034)

Item	Component	Valve Material
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



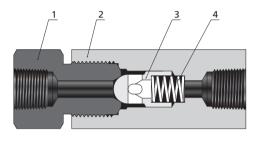


### **Pipe Ball Check Valves**

#### Features

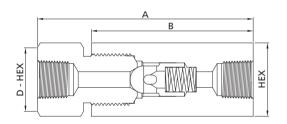
- O Prevents reverse flow where leak-tight shut-off is not mandatory. When differential drops below cracking pressure, valve closes (Not for use as relief valve).
- O Working pressure up to: 15,000 psig (1034 bar).
- ◎ Working temperature: -110°F to 400°F (-79°C to 204°C).
- ◎ Ball and poppet are an integral design to assure positive, in-line seating without "chatter".
- poppet is designed essentially for axial flow with minimum pressure drop.
- O Optional wetted materials of Cover and Ball Poppet for longer life

#### **Standard Materials**



Item	Component	Valve Material
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Ball Poppet	316 SS/A479
4	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum disulfide

#### **Technical Data and Dimensions**



Ordering	Connection	Orifice	Rated	Α	В	D - HEX	HEX	Pressure/Temperature Rating psig (bar) @	
Number	Туре	in. (mm)	Cv	in. (mm)				Room Temperature	
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)	

### **20C Series** 20,000 psi (1379 bar)

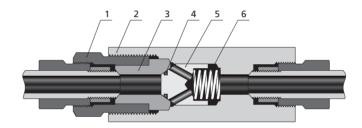
### **O-ring Check Valves**

#### **Features**

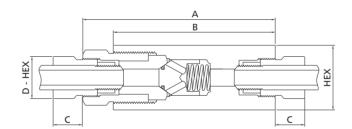
O Provides unidirectional flow and tight shut-off for liquids and gases with high reliability. When differential drops below cracking pressure, valve shuts off (Not for use as relief valve).

- © Tubing sizes available for 1/4" to 1".
- O Resilient O-ring seat design for noise-free closing leakage-free.
- O Working pressure up to: 20,000 psig (1379 bar).
- O Working temperature: -50°F to 550°F (-45°C to 288°C).
- O Cracking pressure: 14 psig ~ 26 psig (0.966 bar~1.794 bar).

#### **Standard Materials**



#### **Technical Data and Dimensions**



Ordering	Connection	Orifice	Rated	А	В	с	D - HEX	HEX	Pressure/Temperature Rating psig (bar) @
Number			Cv				Room Temperature		
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)

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#### High Pressure Check Valve 7

Component	Valve Material
Cover Gland	316 SS/A479
Valve Body	316 SS/A479
Cover	316 SS/A479
O-ring	Wide Selection of O-rings available
Poppet	316 SS/A479
Spring	300 Series Stainless Steel
Lubricant	Molybdenum disulfide
	Cover Gland Valve Body Cover O-ring Poppet Spring



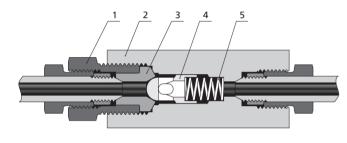
## **20CO Series** 20,000 psi (1379 bar)

### **Ball Check Valves**

#### **Features**

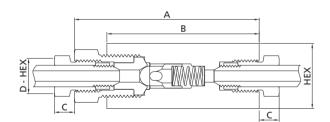
- O Prevents reverse flow where leak-tight shut-off is not mandatory. When differential drops below cracking pressure, valve closes (Not for use as relief valve).
- Tubing sizes available for 1/4" to 1".
- O Working pressure up to: 20,000 psig (1379 bar).
- ◎ Working temperature: -110°F to 1200°F (-79°C to 649°C).
- O Ball and poppet are an integral design to assure positive, in-line seating without "chatter". poppet is designed essentially for axial flow with minimum pressure drop.
- O Optional wetted materials of Cover and Ball Poppet for longer life

#### **Standard Materials**



Item	Component	Valve Material
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

#### **Technical Data and Dimensions**



Ordering	Connection	Orifice	Rated	A	В	с	D - HEX	HEX	Pressure/Temperature Rating psig (bar) @
Number	Туре	in. (mm)	Cv			in. (mm)		Room Temperature	
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)

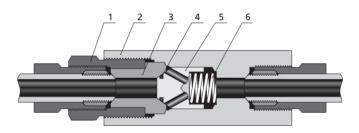
### **60C Series** 60,000 psi (4137 bar)

### **O-ring Check Valves**

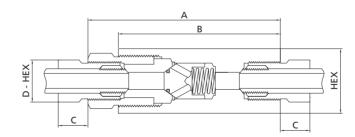
#### **Features**

- O 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).
- Tubing sizes available for 1/4" to 9/16".
- © Resilient O-ring seat design for noise-free closing leakage-free.
- O Working pressure up to: 60,000 psig (4137 bar).
- O Working temperature: -50°F to 550°F (-45°C to 288°C).
- O Cracking pressure: 14 psig ~ 26 psig (0.966 bar~1.794 bar).

#### **Standard Materials**



#### **Technical Data and Dimensions**



Ordering	Connection	Orifice	Rated	Α	В	с	D - HEX	HEX	Pressure/Temperature Rating psig (bar) @
Number	Туре	in. (mm)	Cv	in (mm)				Room Temperature	
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)

Item	Component	Valve Material
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Cover	316 SS/A479
4	O-ring	Wide Selection of O-rings available
5	Poppet	316 SS/A479
6	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum disulfide



## **60CO** Series 60,000 psi (4137 bar)

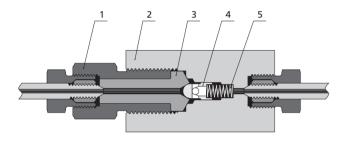
### **Ball Check Valves**

#### **Features**

O Prevents reverse flow where leak-tight shut-off is not mandatory. When differential drops below cracking pressure, valve closes (Not for use as relief valve).

- Tubing sizes available for 1/4" to 9/16".
- O Working pressure up to: 60,000 psig (4137 bar).
- ◎ Working temperature: -110°F to 1200°F (-79°C to 649°C).
- ◎ Ball is cradled in floating poppet to assure positive, in-line seating without "chatter". poppet is designed essentially for axial flow with minimum pressure drop.
- O Optional wetted materials of Cover and Ball Poppet for longer life

#### **Standard Materials**



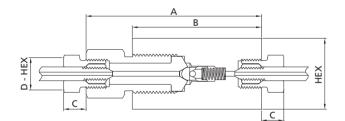
Item	Component	Valve Material
1	Cover Gland	316 SS/A479
2	Valve Body	316 SS/A479
3	Cover	316 SS/A479
4	Ball Poppet	316 SS/A479
5	Spring	300 Series Stainless Steel
	Lubricant	Molybdenum disulfide

Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

Options: O-ring

Fluorocarbon FKM is standard. For other materials, add a material code to the valve ordering number. Example: 20CSS-FH6-F

#### **Technical Data and Dimensions**



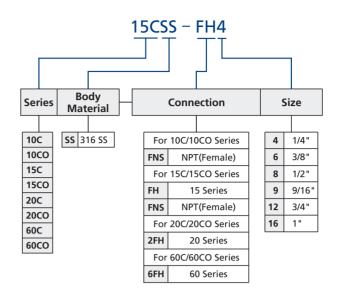
Ordering	Connection	Orifice	Rated	A	В	с	D - HEX	HEX	Pressure/Temperature Rating psig (bar) @
Number	Туре	in. (mm)	Cv			in. (mm)			Room Temperature
60COSS-6FH4	6FH4	0.094 (2.39)	0.15	3.38 (85.9)	2.50 (63.5)	0.47 (11.9)	0.63 (16.0)	1.18 (30.0)	60,000 (4137)
60COSS-6FH6	6FH6	0.125 (3.18)	0.28	3.86 (98.1)	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 the authorized representative or FITOK Group.



#### **Part Number Description**



Code	O-ring Material	Temperature Range
	Fluorocarbon FKM	0 to 400°F (-17.8 to 204°C)
N	NBR	-40 to 250°F (-40 to 121°C)
F	FFKM	-20 to 550°F (-29 to 288°C)
E	EPDM	-50 to 300°F (-45 to 148°C)

