

INSTRUMENT

Check Valve VC



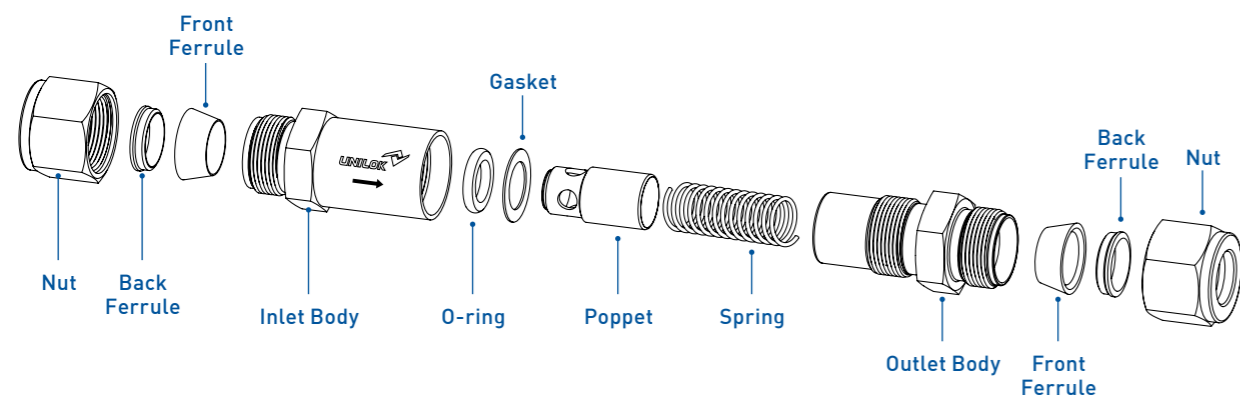
Check Valve VC

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Features

Valve Series		Cracking Pressure	Maximum Working Pressure
VC3	General Purpose	Fixed	3000 psig 207 bar
VC6	High Pressure	Fixed	6000 psig 413 bar
VC3C	Compact One Piece	Fixed	3000 psig 207 bar
VC3CA	Compact Adjustable Cracking Pressure	Adjustable	3000 psig 207 bar



Cleaning

UNILOK valves are free from machine oils, loose particles and grease throughout the close cleaning process.

Testing

Every check valve is 100% factory tested with nitrogen for cracking and reseal performance.

The special cleaning for high purity application is available upon request.

Important Notification

Proper installation, materials compatibility, operation and maintenance of these valves are the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.

UNILOK check valves are designed for directional flow control only.

How To Order

UNILOK VC series check valves are ordered by part number as shown below.

Example: The following part number, **VC31U-04T-SS-01** is designated for VC3 series check valve with both 1/4", UNILOK tube fitting, 1psig cracking pressure, 316SS.



Valve Type	
C3	3000psig Fixed CP
C6	6000psig Fixed CP
C3C	3000psig Compact Fixed CP
C3CA	3000psig Compact Adjustable CP

CP - Cracking Pressure

Connection Type	
U	UNILOK Tube Fitting
F	Female NPT or ISO7/1(PT)
M	Male NPT or ISO7/1(PT)

Connection Size							
Fractional(Inch) Tube O.D. Designation							
Tube O.D.	inch	1/8	1/4	3/8	1/2	3/4	1
	mm	3.17	6.35	9.52	12.70	19.05	25.40
Designator		02T	04T	06T	08T	12T	16T

Metric Tube O.D. Designation							
Tube O.D.	mm	3	6	8	10	12	25
Designator		M03T	M06T	M08T	M10T	M12T	M25T

Pipe Size Designation (NPT or ISO7/1-PT)						
Pipe Size	1/8	1/4	3/8	1/2	3/4	1
Designator	02N/R	04N/R	06N/R	08N/R	12N/R	16N/R

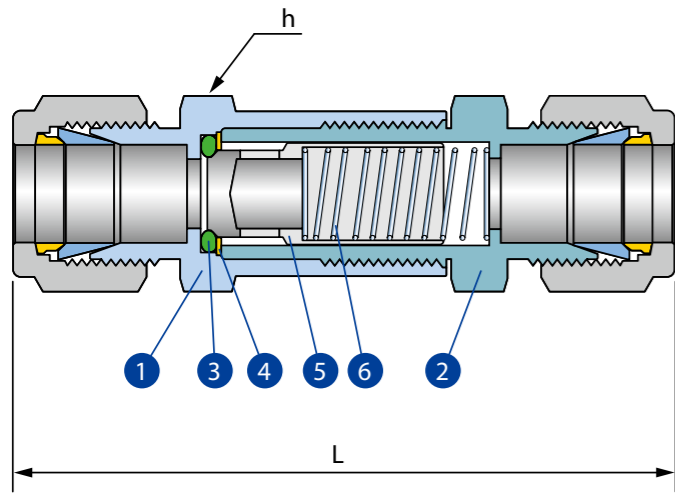
Body Materials	
SS	316SS
BS	Brass
MO	Alloy 400

Cracking Pressure	
1/3	1/3 psig
01	1 psig
03	3 psig
10	10 psig
25	25 psig
100	100 psig

O-ring Materials	
None	FKM
EPDM	Ethylene Propylene
NBR	Buna N
P	Neoprene
K	Kalrez

Seal kits and spring kits are available for retrofit or maintenance. Contact UNILOK local distributors.

VC3 series (3000 psig, Fixed Cracking Pressure)



Materials of Construction

No.	Description	Materials	
Body Material		316SS	Br
1	Inlet Body	316SS	
2	Outlet Body	316SS	Br
3	O-ring	FKM	NBR
4	Gasket	304SS	
5	Poppet	316SS	
6	Spring	304SS	

Poppet - Silicone based lubricant
Inlet Body - Molybdenum dry film lubricant

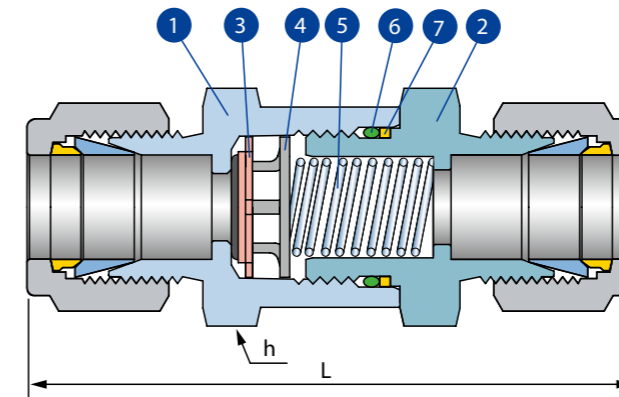
Ordering Information & Dimensions

Part No.	End Connections		CV	Dimensions (mm)	
	Inlet	Outlet		L	h
VC31	U-02T-	1/8" UNILOK	0.16	54.5	15.87
	U-04T-	1/4" UNILOK		59.0	
	U-M06T-	6mm UNILOK		59.2	
	F-02N-	1/8" Female NPT	0.47	46.7	
	M-02N-	1/8" Male NPT		47.3	
	M-04N-	1/4" Male NPT		52.8	
	MU-04N04T-	1/4" Male NPT 1/4" UNILOK		56.0	
	F-04N-	1/4" Female NPT	54.7	19.05	
VC32	U-06T-	3/8" UNILOK	1.48	80.6	22.22
	U-M10T-	10mm UNILOK		81.2	
	M-06N-	3/8" Male NPT		70.6	
VC33	U-08T-	1/2" UNILOK	1.70	86.1	22.22
	U-M12T-	12mm UNILOK		86.2	
	F-06N-	3/8" Female NPT		76.6	
	M-08N-	1/2" Male NPT		83.3	
	F-08N-	1/2" Female NPT		91.4	
VC34	U-10T-	5/8" UNILOK	2.60	88.0	28.58
	F-08N-	1/2" Female NPT		91.2	
VC35	U-12T-	3/4" UNILOK	5.20	92.0	31.75
	F-12N-	3/4" Female NPT		88.2	
	M-12N-	3/4" Male NPT		86.2	
VC36	U-16T-	1" UNILOK	8.00	106.3	34.92
	F-16N-	1" Female NPT		123.0	
	M-16N-	1" Male NPT		102.3	34.92

ISO7/1 Tapered Threads (PT) are available for all fractional sizes of VC3 series valves. Add "R" as a suffix instead of "N".

Dimensions are for reference only and are subject to change without prior notice.

VC6 series (6000 psig, Fixed Cracking Pressure)



Materials of Construction

No.	Description	Materials
1	Inlet Body	316SS
2	Outlet Body	316SS
3	Poppet	FKM bonded 316SS
4	Poppet Stop	316SS
5	Spring	302SS
6	O-ring	FKM
7	Backup Ring	PTFE

Ordering Information & Dimensions

Part No.	End Connections		CV	Dimensions (mm)		
	Inlet	Outlet		L	h	
VC61	U-02T-	1/8" UNILOK	0.67	57.7	17.46	
	U-04T-	1/4" UNILOK		61.7		
	U-M06T-	6mm UNILOK		61.7		
	M-02N-	1/8" Male NPT		44.8		
	M-04N-	1/4" Male NPT		54.8		
VC62	U-06T-	3/8" UNILOK	1.80	69.9	25.40	
	U-08T-	1/2" UNILOK		75.2		
	U-M08T-	8mm UNILOK		68.6		
	U-M10T-	10mm UNILOK		71.1		
	U-M12T-	12mm UNILOK		75.2		
	F-06N-	3/8" Female NPT		64.8		
	F-08N-	1/2" Female NPT		77.0		26.98
	M-12N-	3/4" Male NPT		59.2		
	M-16N-	1" Male NPT		69.2		25.40

ISO7/1 Tapered Threads (PT) are available for all fractional sizes of VC6 series valves. Add "R" as a suffix instead of "N".

Pressure Rating at 70°F (21°C)

Series	316SS	
	psig	bar
VC61	6000	413
VC63	5000	344

O-ring Seal Temperature Rating

O-ring Materials	Temperature Rating	
	°C	°F
FKM	-28 ~ 204	-18 ~ 400
Ethylene Propylene	-45 ~ 135	-49 ~ 275
Buna N	-20 ~ 105	-4 ~ 221
Neoprene	-40 ~ 121	-40 ~ 250
Kalrez	-20 ~ 315	-22 ~ 599

CNG Application

UNILOK VC6 series, high pressure check valves are available for CNG application with CNG compatible HNBR O-ring.

To order, add -H to the end of part number.

Dimensions are for reference only and are subject to change without prior notice.

Pressure Rating at 70°F (21°C)

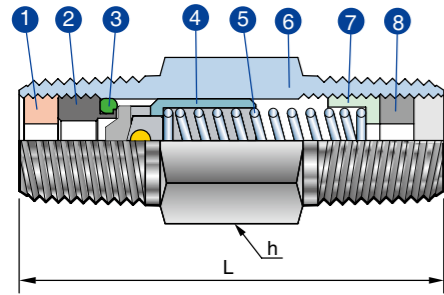
Series	316SS		Brass	
	psig	bar	psig	bar
VC31	3000	207	3000	207
VC32	3000	207	3000	207
VC33	3000	207	3000	207
VC34	2000	138	1500	103
VC35	2000	138	1500	103
VC36	2000	138	1500	103

Cracking - Reseal Pressure

Normal Cracking Pressure	Cracking Pressure Range (psig)		Reseal Pressure
	Min.	Max.	
1/3	0	3	up to 6
1	0	4	up to 5
3	2	7	up to 4
10	7	15	3
25	20	30	17
50	40	60	35
75	60	90	53
100	80	120	70

VC3CA series

(3000 psig, Compact, Adjustable Cracking Pressure)



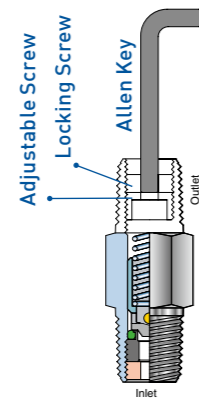
Ordering Information & Dimensions

Part No.	End Connections		CV	Dimensions (mm)	
	Inlet	Outlet		L	h
VC3CA1	F-04N-	1/4" Female NPT	0.35	75.7	19.05
	M-04N-	1/4" Male NPT		42.2	14.28

Materials of Construction

No.	Description	Materials
1	Insert Lock Screw	316SS
2	Insert	316SS
3	O-ring	FKM
4	Poppet	316SS
5	Spring	302SS
6	Body	316SS
7	Adjustable Screw	316SS
8	Locking Screw	316SS

Adjustment of Cracking Pressure



1. Unscrew "locking screw" counter-clockwise.
2. Slide "allen key" up to "adjustable screw" position.
3. Turn "adjustable screw";

To decrease cracking pressure  To increase cracking pressure

4. Move out "allen key" up to "locking screw" position.
5. Turn "allen key" clockwise.
6. Cracking Pressure Range : 3 to 5 psig.

Dimensions are for reference only and are subject to change without prior notice.