



**ULTRA HIGH PURITY**  
**WELDED CHECK VALVES**

**VCC Series**

[www.unilok.com](http://www.unilok.com)



## Features

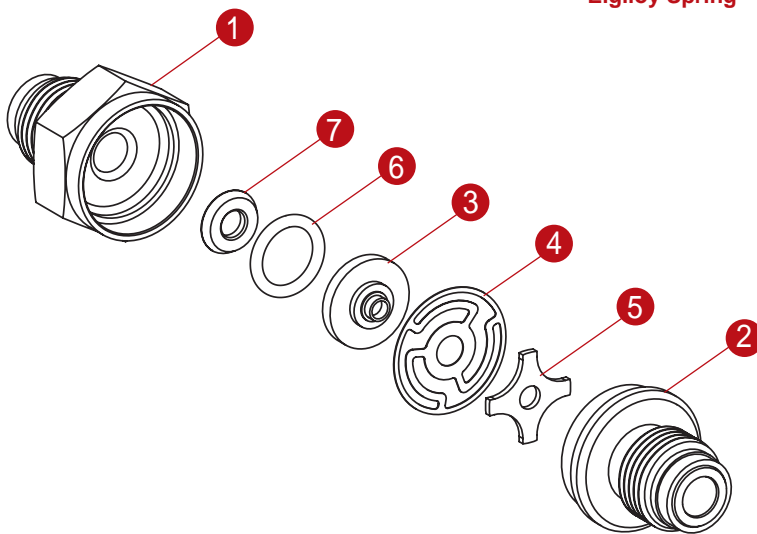
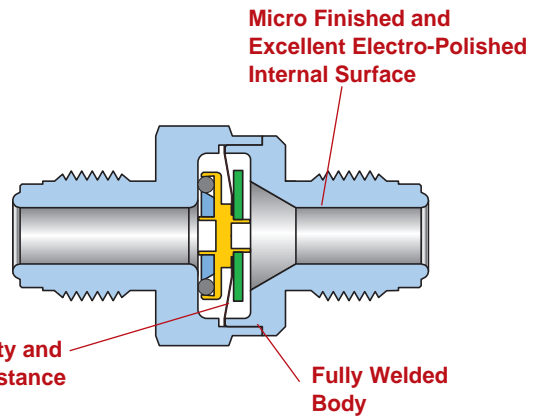
Fully welded and compact designed body with minimal dead space

Body material comply with SEMI F-20, "Specification 316LSS Materials for UHP (Ultra High Purity) Grade Semiconductor Manufacturing Applications"

Elgiloy® spring material with strong durability as well as corrosion resistance for long cycle life

Noise free operation

Broaden choice of end connection



## Materials of Construction

No.	Description	Materials
1	Inlet Body	316LSS
2	Outlet Body	316LSS
3	Poppet	316LSS
4	Spring	Elgiloy
5	Poppet Stop	316LSS
6	O-ring	Viton
7	O-ring Stopper	316LSS

## Pressure - Temperature Rating

Body Material		316LSS			
Temperature		Working Pressure			
°C		°F		psig	bar
-54 to	38	-65 to	100	3000	206
	93		200	2530	174
	148		300	2270	156
	204		400	2065	142

## Internal Surface Finish Levels

Designator	Surface Finish(μm)	
	Average	Maximum
BA	< 0.4	< 1.6
EP	< 0.125	< 0.4

## Helium Leak Test

Every VCC series valves are inboard helium leak tested to a rate of  $1 \times 10^{-9}$  std.cm<sup>3</sup>/s at all seals.

## Particle Contribution Test

According to ASTM F1394-92.

## Moisture Contribution Test

According to SEMA-90120397B-STD.

## Cleaning

All components are precisely cleaned with 18MΩ deionized water after the passivation procedure in accordance with our own UHP cleaning process  
Reference specification : SEMI E49.6.

## How To Order

Uni-Lok VCC series valves are ordered by part number as shown as below.

## Assembling

According to SEMI E49.6.

## Packaging

Each component is double bagged to ensure component cleanliness and to protect them from environmental contamination.

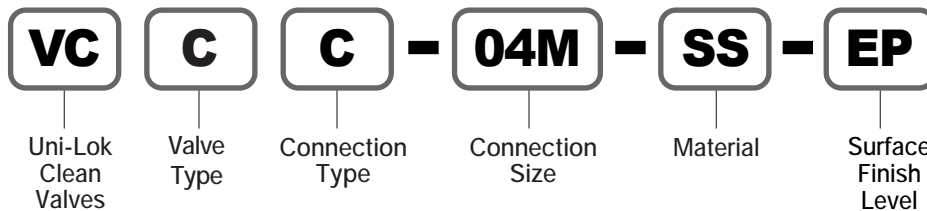
Referenced specification : SEMI E49.1.

## 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.

Overall process of testing, cleaning, assembling and packaging for every VCC series valves are performed in a certified clean room.

**Example :** The following part number, **VCCC-04M-SS-EP** is designated for Clean Check Valve, both 1/4" Male UCR, 316LSS, EP.



Valve Type	
C	Welded Check Valve

Connection Type	
U	Uni-Lok Tube Fitting
C-*M	Male UCR
C-*F	Female UCR
WB-*T	Butt Weld -Tube

UCR - Metal Face Seal

Connection Size				
Fractional(Inch) Tube O.D. Designation				
Tube O.D.	inch	1/4	3/8	1/2
	mm	6.35	9.52	12.70
Designator		04	06	08

UCR Size Designator		
UCR Size	1/4	1/2
Designator	04	08

Material	
DM	316LSS - Double Melting
SM	316LSS - Single Melting
SS	316LSS

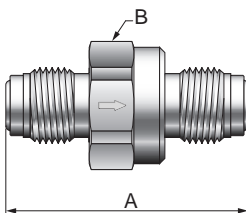
Surface Finish Level	
BA	BA
EP	EP - Electro Polished

# VCC series

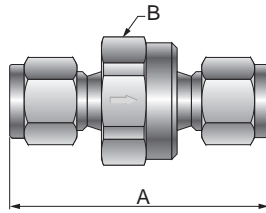
## (Fully Welded Check Valve)

### Specification

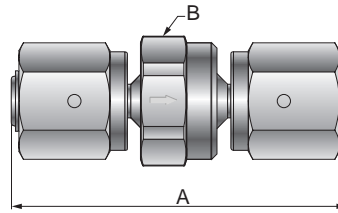
Size	1/4"	3/8", 1/2"
Cv Value	0.55	0.70
Max. Working Pressure	3000 psig (206 bar)	
Max. Working Pressure	3000 psig (206 bar)	
Normal Cracking Pressure	< 2 psig (0.14 bar)	
Reseal Pressure	up to 5~10 psig (0.34~0.69 bar)	
Max. Working Temperature	-10~80° C (-23~176° F)	
External Leakage Allowance - He (Holding Time - Min 1 min)	≤ 1x10 <sup>-9</sup> atm.cc/s	



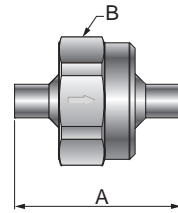
Male UCR



Female UCR



Uni-Lok Tube Fitting



Tube Butt Weld

### Ordering Information & Dimensions

Part Number	End Connection		Dimensions (mm)	
	Inlet	Outlet	A	B
VCC	U-04T-	1/4" Uni-Lok	49.8	22.2
	C-04M-	1/4" Male UCR	45.8	22.2
	C-08M-	1/2" Male UCR	52.3	26.9
	C-04F-	1/4" Female UCR	61.7	22.2
	C-08F-	1/2" Female UCR	61.7	26.9
	WB-04T-	1/4" Tube Butt Weld	31.5	22.2
	WB-06T-	3/8" Tube Butt Weld	31.5	22.2
	WB-08T-	1/2" Tube Butt Weld	31.5	26.9

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



CONNECTS THE WORLD SINCE 1984 [www.unilok.com](http://www.unilok.com)

**본사 및 제1공장**  
 인천광역시 남동구 고잔동 725-13번지  
 남동공단 152블럭 12롯데 ☎ 405-822  
 전화 : 032-822-6600  
 팩스 : 032-822-6604

**제2공장**  
 인천광역시 남동구 고잔동 684-7번지  
 남동공단 114블럭 8롯데 ☎ 405-818  
 전화 : 032-433-6601  
 팩스 : 032-441-7600

**Headquarters & 1<sup>st</sup> Factory**  
 152 Block-12 Lot, Namdong Indus-Park, 725-13,  
 Gojan-Dong, Namdong-Gu, Incheon, Korea  
 Tel : +82-32-821-6673  
 Fax : +82-32-822-6604

**2<sup>nd</sup> Factory**  
 114 Block-8 Lot, Namdong Indus-Park, 684-7,  
 Gojan-Dong, Namdong-Gu, Incheon, Korea  
 Tel : +82-32-433-6601  
 Fax : +82-32-441-7600