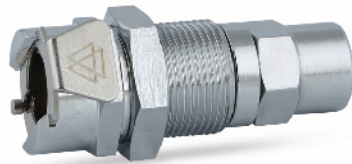




INSYNC
ENGINEERING
Connect | Unite | Arise

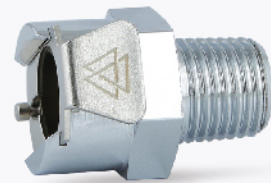
Innovation

Reliable

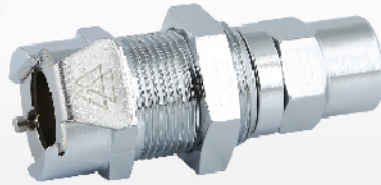


Efficiency

Accuracy



Connection



About Us

Insync Engineering, is specialised in a variety of Fluid Handling Solutions. With a combined experience of 55 years in designing, and manufacturing of Flow Control, Regulations and Connections.

Insync offers solutions for all kinds of applications across many life sciences, specialty industrial and chemical handling markets in the field of fluid handling.

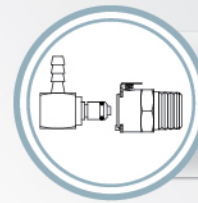
Insync produces wide range of general purpose connect and disconnect couplings.

Efficient design of coupling provides reliable, secured and leakage free connections for fluid handling system for liquid and air.

Apart from standard product Insync provides customized solutions specific to customer's specific application.

Quality

Insync is committed, delivering quality & customer satisfaction. Our quality system certified to ISO 9001:2009, ensures quality control at all levels of products, from raw material supplies, manufacturing process till distribution. Insync focus on continuous improvement of product quality, system and ultimate customer satisfaction.

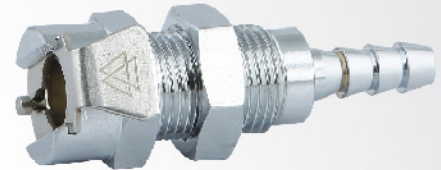


Suitable/ fits with
equivalent standard
industrial couplings

Specifications

PRESSURE:

Vacuum to 250 psi, 17.3 bar



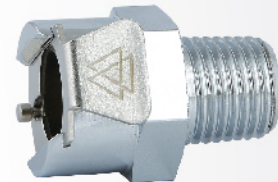
TEMPERATURE:

-40°F to 180°F (-40°C to 82°C)

(High temperature versions available with ratings to 400°F)

MATERIALS:

Body	- Brass (SS / SS316)
Latch	- Stainless steel
Valves	- Acetal
Valve spring	- 316 stainless steel
External springs and pin	- Stainless steel
O-rings	- Buna-N (for option refer selection of O Ring)



FINISH:

Chrome plated



TUBING SIZES:

1/8" to 1/4" ID, 3.2mm to 6.4mm ID

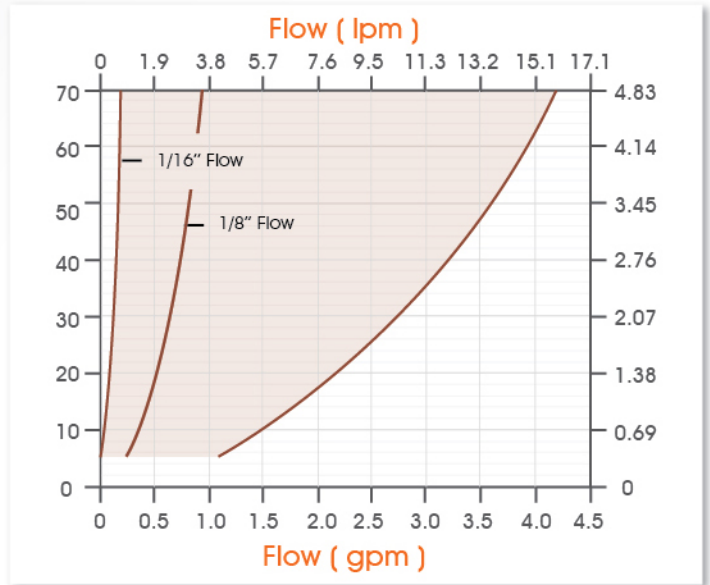
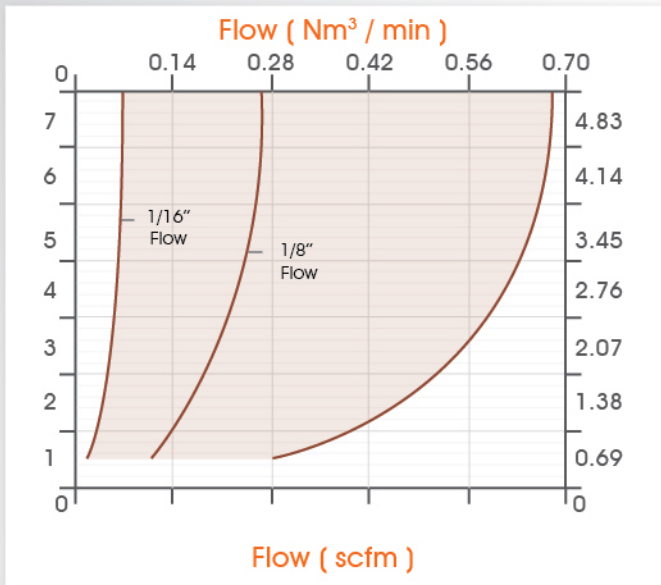
WARNING: Pressure, temperature, chemicals and operating environment can affect the performance of couplings.

VCM Series Couplings: are made of chrome plated brass built, its robust design of coupling makes it suitable for most demanding application, with high temperature and high pressure requirements, They are available with internal shut-off valves or straight through. These coupling interchange with other similar industry thumb latch quick disconnect coupling.



VCM Series Air Flow, 100 psig Inlet Pressure

VCM Series Water Flow



Valved Body & Insert



Valved & Non-Valved Coupling Set



Non-Valved Body & Insert



Liquid Flow Rate Information for Couplings

The chart below shows the flow rate for couplings. Each coupling was tested with water at 70°F (21°C). To determine flow rates for specific coupling configurations, use the formula.

$$Q = C_v \sqrt{\frac{\Delta P}{S}}$$

Q = Flow rate in gallons per minute
 C_v = Average coefficient across various flow rates (see chart)
 ΔP = Pressure drop across coupling (psi)
 S = Specific gravity of liquid

C_v VALUES FOR 1/8" FLOW VCM COUPLINGS

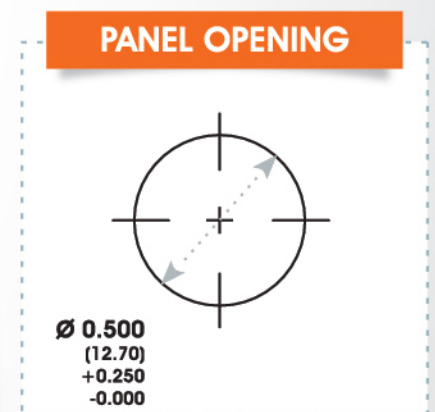
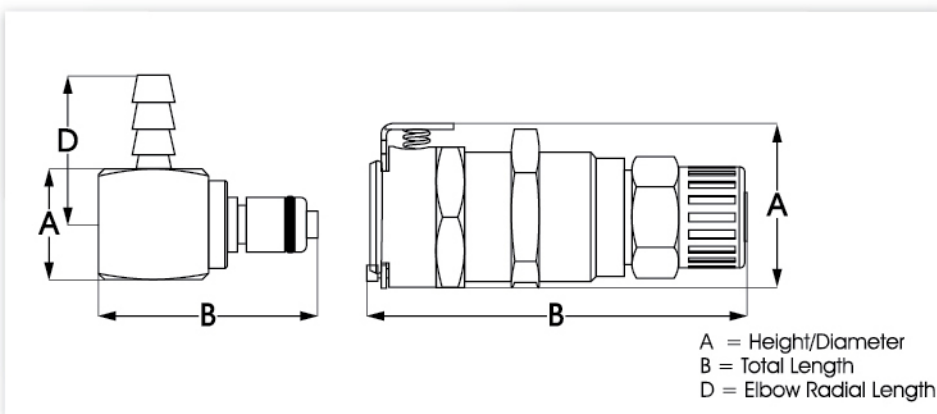
	VCM 2004	VCMD 2004	VCM 2006	VCMD 2006	VCM 2202	VCMD 2202	VCM 2204	VCMD 2204	VCM 2402	VCMD 2402	VCM 2404	VCMD 2304	VCM 2602	VCMD 2304	VCM 2104	VCMD 2304	VCM 2203	VCMD 2203
VCM1002	0.385	0.172	0.454	0.211	0.267	0.213	0.354	0.213	0.443	0.234	0.443	0.236	0.354	0.437	0.367	0.189	0.287	0.167
VCMD1002	0.266	0.154	0.287	0.19	0.193	0.213	0.320	0.212	0.301	0.243	0.329	0.203	0.287	0.303	0.243	0.278	0.320	0.181
VCM1004	0.387	0.197	0.485	0.323	0.231	0.193	0.345	0.254	0.356	0.232	0.443	0.285	0.354	0.440	0.412	0.342	0.378	0.164
VCMD1004	0.286	0.184	0.308	0.231	0.245	0.184	0.278	0.227	0.256	0.225	0.321	0.251	0.283	0.312	0.265	0.250	0.264	0.168
VCM1204	0.385	0.174	0.476	0.234	0.323	0.194	0.345	0.261	0.324	0.254	0.289	0.234	0.367	0.373	0.432	0.245	0.244	0.192
VCMD1204	0.192	0.182	0.204	0.21	0.236	0.156	0.256	0.246	0.185	0.193	0.321	0.187	0.264	0.193	0.254	0.189	0.265	0.154
VCM1602	0.214	0.162	0.265	0.197	0.213	0.163	0.234	0.176	0.321	0.173	0.254	0.201	0.263	0.321	0.223	0.156	0.250	0.172
VCMD1602	0.213	0.143	0.202	0.176	0.231	0.163	0.201	0.173	0.203	0.174	0.167	0.157	0.165	0.186	0.194	0.165	0.143	0.124
VCM1604	0.302	0.248	0.346	0.178	0.193	0.231	0.364	0.187	0.354	0.163	0.412	0.221	0.367	0.380	0.350	0.253	0.283	0.154
VCMD1604	0.22	0.182	0.287	0.219	0.231	0.153	0.235	0.189	0.245	0.174	0.242	0.193	0.183	0.178	0.234	0.233	0.243	0.260
VCM1703	0.272	0.221	0.289	0.192	0.185	0.182	0.287	0.192	0.293	0.173	0.264	0.203	0.286	0.292	0.234	0.195	0.234	0.183
VCMD1703	0.231	0.163	0.184	0.154	0.176	0.162	0.221	0.156	0.178	0.163	0.189	0.164	0.175	0.206	0.184	0.162	0.167	0.190

Selection of O-Ring

Selection of O-ring material for application is very much critical, for best performance and longer durability, it is very important to consider, media being transferred and environment in which coupling being used.


Please refer table, for more detail understanding

Material Grade	Temperature	Compatibility
BUNA-N	-40°F to 250°F (-40°C to 120°C)	Solvent, Oil & Water
EPDM	-70°F to 300°F (-57°C to 149°C)	Petroleum & Polar Solvents
SILICON	-70°F to 400°F (-57°C to 204°C)	High Temperature Fluctuations
FKM	-15°F to 400°F (-26°C to 204°C)	Chemicals & Strong Acid



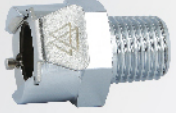





	Panel Thickness		Panel Nut Hex	Panel Nut Thread
	Min	Max		
Coupling Bodies (Except Male Thread)	0.05	0.50	5/8	1/2 - 24UNS
Male Thread	0.06	0.21	5/8	1/2 - 24UNS
Coupling Bodies	0.06	0.30	5/8	1/2 - 24UNS





VCM SERIES










Coupling Bodies - Chrome-plated Brass

Non Valved	With Valve	Tubing/thread Size	Metric	A In (mm)	B In (mm)
IN LINE PIPE THREAD					
	VCM1002	1/8" NPT		0.76 (20)	1.00 (25)
VCM1002BSPT	VCMD1002BSPT	1/8" BSPT		0.76 (20)	1.00 (25)
VCM1004	VCMD1004	1/4" NPT		0.76 (20)	1.10 (28)
VCM1004BSPT	VCMD1004BSPT	1/4" BSPT		0.76 (20)	1.10 (28)
PANNEL MOUNT FERRULELESS POLYTUBE FITTING					
	VCM12025	5/32" OD, 0.10" ID	4.0 OD, 2.5 ID	0.76 (20)	1.67 (42)
VCM1204	VCMD1204	1/4" OD, 0.17" ID	6.4 OD, 4.3 ID	0.76 (20)	1.77 (45)
PANEL MOUNT HOSE BARB					
	VCM1602	1/8" ID	3.2 ID	0.76 (20)	1.67 (42)
VCM1603	VCMD1603	3/16" ID	4.8 ID	0.76 (20)	1.89 (48)
VCM1604	VCMD1604	1/4" ID	6.4 ID	0.76 (20)	1.89 (48)
PANEL MOUNT MALE THREADS					
	VCM1502	1/8" NPT		0.76 (20)	1.22 (31)
IN-LINE FERRULELESS POLYTUBE FITTING					
	VCM1304	1/4" OD, 0.17" ID	6.4 OD, 4.3 ID	0.76 (20)	1.77 (45)
IN LINE HOSE BARB					
	VCM1702	1/8" ID	3.2 ID	0.76 (20)	1.67 (42)
VCM1603	VCMD1603	3/16" ID	4.8 ID	0.76 (20)	1.89 (48)
VCM1604	VCMD1604	1/4" ID	6.4 ID	0.76 (20)	1.89 (48)

All measurements are in inches (millimeters) unless otherwise specified.

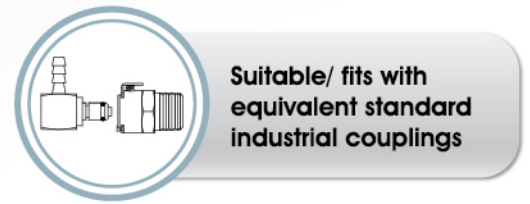


Suitable/ fits with
equivalent standard
industrial couplings

Non Valved	With Valve	Tubing/thread Size	Metric	A In (mm)	B In (mm)	
IN LINE PIPE THREAD						
	VCM2402	1/8" NPT		0.58 (15)	1.03 (27)/1.43 (37)	
VCM2402BSPT	VCMD2402BSPT	1/8" BSPT		58 (15) .72 (19)	1.03 (27)/1.43 (37)	
VCM2404	VCMD2404	1/4" NPT		0.65 (17)	1.08 (28)/1.43 (37)	
IN LINE PIPE THREAD FEMALE						
	VCM2602	1/8" NPT Female		0.58 (15)	0.95 (25)/1.65 (42)	
VCM2604	VCMD2604	1/4" NPT Female		0.72 (19)	1.15 (30)/1.82 (47)	
VCM2604BSPPP	VCMD2604BSPPP	1/4" BSPP Female		0.72 (19)	1.23 (32)/1.91 (49)	
PANEL MOUNT FERRULELESS POLYTUBE FITTING						
	VCM4004	1/4" OD, .17" ID	6.4 OD, 4.3 ID	0.72 (19)	1.75 (45)/1.85 (47)	
PANEL MOUNT HOSE BARB						
	VCM4202	1/8" ID	3.2 ID	0.72 (19)	1.65 (42)/1.75 (45)	
VCM4203	VCMD4203	3/16" ID	4.8 ID	0.72 (19)	1.87 (48)/1.97 (51)	
VCM4204	VCMD4204	1/4" ID	6.4 ID	0.72 (19)	1.87 (48)/1.97 (51)	
IN LINE PIPE FERRULELESS POLYTUBE FITTING						
	VCM20025	5/32" OD, 0.10" ID	4.0 OD, 2.5 ID	0.58 (15)	1.13 (29)/1.53 (39)	
VCM2004	VCMD2004	1/4" OD, 0.17" ID	6.4 OD, 4.3 ID	0.58 (15)	1.15 (30)/1.55 (40)	
VCM2006	VCMD2006	3/8" OD, 0.25" ID	9.5 OD, 6.4 ID	0.58 (15)	1.30 (34)/1.50 (39)	
IN LINE HOSE BARB						
	VCM2202	1/8" ID	3.2 ID	0.58 (15)	1.05 (27)/1.65 (42)	
VCM2203	VCMD2203	3/16" ID	4.8 ID	0.58 (15)	1.25 (32)/1.85 (47)	
VCM2204	VCMD2204	1/4" ID	6.4 ID	0.58 (15)	1.25 (32)/1.67 (43)	
IN LINE FEMALE THREAD						
	VCM4004	VCMD281032	10-32 UNF	0.58 (15)	0.63 (17)/1.30 (34)	
ELBOW FERRULELESS POLYTUBE FITTING						
	VCM21025	VCMD21025	5/32" OD, 0.10" ID	4.0 OD, 2.5 ID	0.63 (17)	1.18 (30)/1.28 (33)
VCM2104	VCMD2104	VCMD2104	1/4" OD, 0.17" ID	6.4 OD, 4.3 ID	0.63 (17)	1.18 (30)/1.28 (33)
ELBOW HOSE BARB						
	VCM2302	VCMD2302	1/8" ID	3.2 ID	0.62 (16)	1.18 (30)/1.28 (33)
VCM2304	VCMD2304	VCMD2304	1/4" ID	6.4 ID	0.63 (17)	1.18 (30)/1.28 (33)

All measurements are in inches (millimeters) unless otherwise specified.





SPECIFICATIONS

PRESSURE:

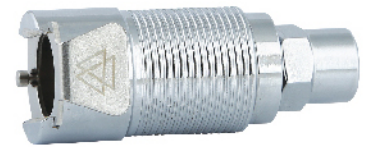
Vacuum to 250 psi, 17.3 bar



TEMPERATURE:

-40°F to 180°F (-40°C to 82°C)

(High temperature versions available with ratings to 400°F)



MATERIALS:

- | | |
|--------------------------|--|
| Body | - Brass (SS / SS 316) |
| Thumb latch | - Stainless steel |
| Valves | - Acetal |
| Valve spring | - 316 stainless steel |
| External springs and pin | - Stainless steel |
| O-rings | - Buna-N (option available refer O ring selection chart) |



FINISH:

Chrome Plated

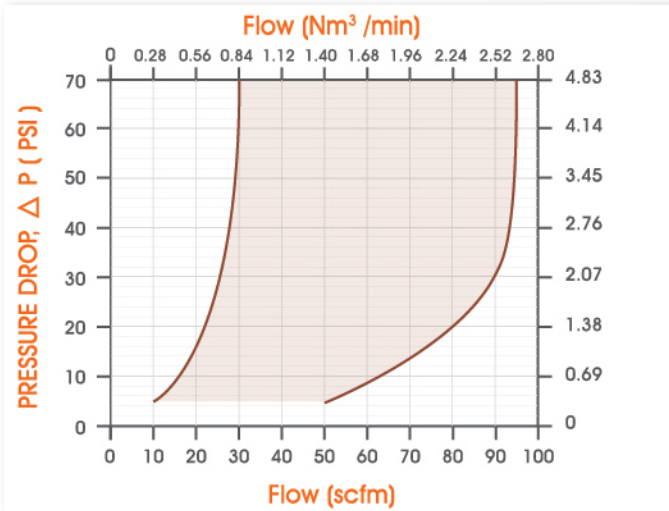
TUBING SIZES:

1/4" to 3/8" ID, 6.4mm to 9.5mm ID

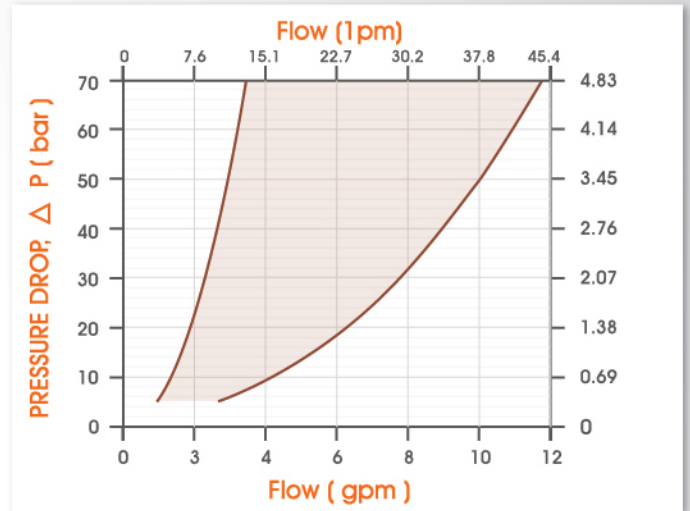
WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings.

VCL Series Couplings: are made of chrome plated brass built, its robust design of coupling makes it suitable for most demanding application, with high temperature and high pressure requirements, they are available with internal shut-off valves or straight through. These coupling interchange with industry's other similar thumb latch quick disconnect coupling.

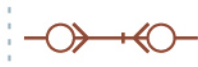
VCL Air Flow, 100 psig Inlet Pressure



VCL Water Flow



Valved Body insert



Valved & Non-Valved Coupling Set



Valved & Non valved body insert



Liquid Flow Rate Information for Couplings

The chart below shows the flow rate for couplings.

Each coupling was tested with water at 70°F (21°C).

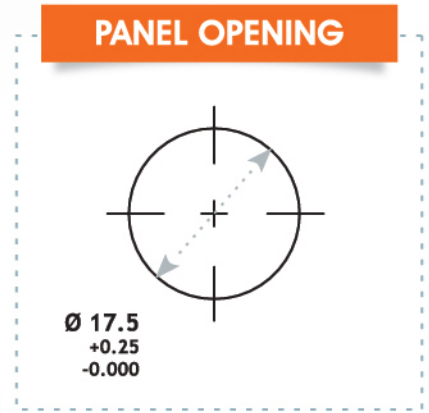
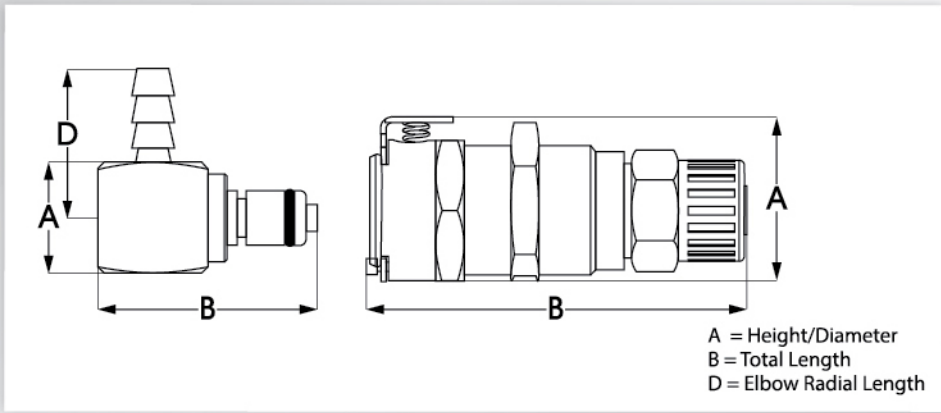
To determine flow rates for specific coupling configurations use the formula:

$$Q = C_v \sqrt{\frac{\Delta P}{S}}$$

- Q = Flow rate in gallons per minute
- C_v = Average coefficient across various flow rates (see chart)
- ΔP = Pressure drop across coupling (psi)
- S = Specific gravity of liquid

C_v VALUES FOR 1/8" FLOW VCL COUPLINGS

BODIES INSERTS	VCL 20004	VCLD 20004	VCL 20006	VCLD 20006	VCL 22004	VCLD 22004	VCL 22006	VCLD 22006	VCL 24004	VCLD 24004	VCL 24006	VCLD 24006	VCL 26004
VCL10004	0.5310	0.4520	0.8790	0.6340	0.9750	0.7630	1.2300	0.9730	1.2320	0.8300	1.2030	0.8900	1.0230
VCLD10004	0.4220	0.4430	0.6750	0.6740	0.7560	0.5540	0.9500	0.6300	0.9320	0.6200	0.8630	0.6220	0.9730
VCL10006	0.5120	0.4010	0.9030	0.7620	0.8320	0.5430	1.0400	0.9020	1.2560	0.8540	1.1100	0.8610	0.8870
VCLD10006	0.4320	0.4320	0.7540	0.6300	0.6550	0.5670	1.1300	0.6810	1.0200	0.5740	1.0560	0.5710	1.0120
VCL12006	0.4540	0.4420	0.9430	0.7310	0.5690	0.6540	1.0100	0.8310	1.3200	0.8930	1.2400	0.8340	0.9120
VCLD12006	0.4430	0.4050	1.0200	0.6120	0.8790	0.5500	0.9200	0.5810	0.9730	0.6020	0.9630	0.4340	0.9730
VCL16004	0.5010	0.4030	0.9010	0.6860	0.8870	0.6320	0.9630	0.8920	0.9530	0.7450	1.1500	0.7320	1.0340
VCLD16004	0.4210	0.3940	0.7630	0.5630	0.6720	0.5020	0.8340	0.5630	0.8670	0.6450	0.8940	0.6320	0.9210
VCL16006	0.4630	0.4340	0.8820	0.6350	1.0500	0.6440	1.1530	0.7860	1.3240	0.8380	0.9780	0.9450	1.2640
VCLD16006	0.4400	0.4020	0.6430	0.7840	0.7620	0.5430	0.9450	0.7230	1.0500	0.5630	1.1420	0.6420	1.0540



	Panel Thickness		Panel Nut Hex	Panel Nut Thread
	Min	Max		
Coupling Bodies	0.05	0.50	13/16	11/16 - 24UNEF
Coupling Inserts	0.090	0.300	13/16	11/16 - 24UNEF

VCL SERIES

Coupling Bodies - Chrome-plated Brass

Non Valved	With Valve	Tubing/thread Size	Metric	A In (mm)	B In (mm)
IN LINE PIPE THREAD					
VCL10004	VCLD10004	1/4" NPT		0.88 (22)	1.15 (29)
VCL10004BSPT	VCLD10004BSPT	1/4" BSPT		0.88 (22)	1.15 (29)
VCL10006	VCLD10006	3/8" NPT		0.88 (22)	1.15 (29)
VCL10006BSPT	VCLD10006BSPT	3/8" BSPT		0.88 (22)	1.15 (29)
PANEL MOUNT FERRULELESS POLYTUBE FITTING					
VCL12004	VCLD12004	1/4" OD, 0.17" ID	6.4 OD, 4.3 ID	0.88 (22)	1.87 (48)
VCL12006	VCLD12006	3/8" OD, 0.25" ID	9.5 OD, 6.4 ID	0.88 (22)	2 (51)
PANEL MOUNT HOSEBARB					
VCL16004	VCLD16004	1/4" NPT	6.4 ID	0.88 (22)	2 (51)
VCL16005	VCLD16005	5/16" ID	7.9 ID	0.88 (22)	2 (51)
VCL16006	VCLD16006	3/8" ID	9.5 ID	0.88 (22)	2 (51)
PANEL MOUNT MALE THREADS					
VCL15004	VCLD15004	1/4" NPT		0.88 (22)	1.5 (38)
IN LINE PIPE FERRULELESS POLYTUBE FITTING					
VCL13004	VCLD13004	1/4" OD, 0.17" ID	6.4 OD, 4.3 ID	0.88 (22)	1.87 (48)
VCL13006	VCLD13006	3/8" OD, 0.25" ID	9.5 OD, 6.4 ID	0.88 (22)	2 (51)





Non Valved	With Valve	Tubing/thread Size	Metric	A In (mm)	B In (mm)
IN LINE HOSEBARB					
VCL17004	VCLD7004	1/4" ID	6.4 ID	0.88 (22)	2 (51)
VCL17005	VCLD7005	5/16" ID	7.9 ID	0.88 (22)	2 (51)
VCL17006	VCLD7006	3/8" ID	9.5 ID	0.88 (22)	2 (51)

All measurements are in inches (millimeters) unless otherwise specified.

VCL SERIES

Coupling Inserts - Chrome-plated Brass

Non Valved	With Valve	Tubing/thread Size	Metric	A In (mm)	B In (mm)
IN LINE PIPE THREAD					
VCL24004	VCLD24004	1/4" NPT		0.72 (19)	1.25 (32) / 1.68 (43)
VCL24004BSPT	VCLD24004BSPT	1/4" BSPT		0.72 (19)	1.25 (32) / 1.68 (43)
VCL24006	VCLD24006	3/8" NPT		0.87 (23)	1.25 (32) / 1.55 (40)
VCL24006BSPT	VCLD24006BSPT	3/8" BSPT		0.87 (23)	1.25 (32) / 1.55 (40)
IN LINE PIPE THREAD FEMALE					
VCL26004	VCLD26004	1/4" NPT Female		0.72 (19)	1.25 (32) / 1.90 (49)
VCL26004BSPP	VCLD26004BSPP	1/4" BSPP Female		0.72 (19)	1.25 (32) / 1.75 (45)
PANEL MOUNT FERRULELESS POLYTUBE FITTING					
VCL40004	VCLD40004	1/4" OD, 0.17" ID	6.4 OD, 4.3 ID	0.94 (24)	1.83 (47) / 1.98 (51)
VCL40006	VCLD40006	3/8" OD, 0.25" ID	9.5 OD, 6.4 ID	0.94 (24)	1.96 (50) / 2.11 (54)
PANEL MOUNT HOSE BARB					
VCL42004	VCLD42004	1/4" ID	6.4 ID	0.94 (24)	1.96 (50) / 2.11 (54)
VCL42005	VCLD42005	5/16" ID	7.9 ID	0.94 (24)	1.96 (50) / 2.11 (54)
VCL42006	VCLD42006	3/8" ID	9.5 ID	0.94 (24)	1.96 (50) / 2.11 (54)
IN LINE FERRULELESS POLYTUBE FITTING					
VCL20004	VCLD20004	1/4" OD, 0.17" ID	6.4 OD, 4.3 ID	0.72 (19)	1.25 (32) / 1.87 (48)
VCL20006	VCLD20006	3/8" OD, 0.25" ID	9.5 OD, 6.4 ID	0.72 (19)	1.38 (36) / 1.83 (47)
IN LINE HOSEBARB					
VCL22004	VCLD22004	1/4" ID	6.4 ID	0.63 (17)	1.35 (35) / 2.00 (51)
VCL22005	VCLD22005	5/16" ID	7.9 ID	0.63 (17)	1.35 (35) / 1.85 (47)
VCL22006	VCLD22006	3/8" ID	9.5 ID	0.63 (17)	1.35 (35) / 1.83 (47)

All measurements are in inches (millimeters) unless otherwise specified.





INSYNC

ENGINEERING

Connect | Unite | Arise

Unit No- 1B, B.J. Industrial Estate,
Ramchandra cross lane, Kachpada,
Malad West, Mumbai, Maharashtra- 400064

🌐 www.insyncengineering.in

✉ info@insyncengineering.in