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QUALITY

CPC works with customers to meet expectations and deliver quality products that can be relied upon. Employees work with quality systems and collaborate with suppliers and the CPC distribution network to serve customers' needs. CPC measures and continually improves our standards of product quality, support services and overall customer and employee satisfaction. CPC's Quality System conforms to ISO 9001:2008 and ISO 13485 standards.

TESTING

We want you to be absolutely confident in our liquid cooling connectors. That's why CPC has developed rigorous testing protocols which are followed throughout the development and manufacturing process including: helium mass spectrometer leak testing, bubble leak testing, pressure decay testing and hydrostatic leak testing – among others. It starts with materials testing, followed by prototype and product testing, and torture testing manufactured couplings to failure. Validation reports are available. Ultimately, you can rest easy knowing that CPC products will perform to their specifications.

EVERIS® QDs DESIGNED AND BUILT FOR THERMAL MANAGEMENT

CPC designs and manufactures Everis® quick disconnect couplings (QDs) to specifically meet the demands for high performance in liquid cooling. Everis quick release couplings from CPC are designed to optimize flow while offering excellent durability and ease of use. Everis QD's are compatible with a variety of coolants. Most importantly, Everis quick disconnects' patented non-spill design is ideal for long-term, connected use. Everis QD's rugged reliability is needed for sensitive and critical liquid cooling of electronics environments such as found in high performance computing, EV charging, data centers, 5G, and edge computing as well as medical electronics.

EVERIS® LQ SERIES

Purpose-built liquid cooling non-spill nickel plated brass, aluminum, and stainless steel couplings offer a secure, reliable connection and dripless disconnect.

EVERIS® PLQ SERIES

Designed to avoid galvanic corrosion and condensation issues, these robust, high-performance QDs are lightweight and dimensionally stable. They are made of polyphenylsulfone (PPSU) which is UL94 VOrated and is compatible with most liquid cooling fluids.

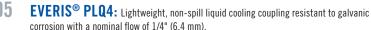
EVERIS® BLO SERIES

Engineered specifically for integrated mounting and external locking engagement, these QDs feature ultra-reliable dripless connections and disconnections.

LIQUID COOLING PAGES 04-19

EVERIS® PLQ2: Lightweight, reliable, non-spill liquid cooling coupling resistant to





MATERIAL: Polyphenylsulfone PPSU

TUBING ID SIZES: 1/4" to 3/8" (6.4mm to 9.5mm)



EVERIS® LQ2: Liquid cooling non-spill coupling for a secure, reliable connection and dripless disconnect with a nominal flow of 1/8" (3.2 mm).

MATERIAL: Nickel-plated brass



EVERIS® LQ4: Liquid cooling non-spill coupling for a secure, reliable connection and dripless disconnect with a nominal flow of 1/4" (6.4mm)

MATERIAL: Nickel-plated brass



EVERIS® LQ6: Liquid cooling non-spill coupling for a secure, reliable connection and dripless disconnect with a nominal flow of 3/8" (9.5 mm).

MATERIAL: Nickel-plated brass

TUBING ID SIZES: 3/8" to 1/2" ID (9.5mm to 12.7mm ID)



and dripless disconnect with a nominal flow of 1/2" (12.7 mm).

TUBING ID SIZES: 5/8" ID (15.9 mm ID)





galvanic corrosion with a nominal flow of 1/8" (3.2 mm).

MATERIAL: Polyphenylsulfone PPSU

TUBING ID SIZES: 1/4" ID (6.4mm ID)





corrosion with a nominal flow of 1/4" (6.4 mm).



TUBING ID SIZES: 1/4" ID (6.4mm ID)





TUBING ID SIZES: 1/4" to 3/8" (6.4mm to 9.5mm)





EVERIS® LQ8: Liquid cooling non-spill coupling for a secure, reliable connection

MATERIAL: Nickel-plated brass









LEGEND











LIQUID COOLING PAGES 04-19

EVERIS® BLQ2: Ultra-reliable non-spill liquid cooling blind mate coupling for integrated mounting with a nominal flow of 1/8" (3.2 mm).

MATERIAL: Nickel-plated brass

TUBING ID SIZES: 1/4" SAE-4



EVERIS® BLQ4: Ultra-reliable non-spill liquid cooling blind mate coupling for integrated mounting with a nominal flow of 1/4" (6.4 mm).

MATERIAL: Nickel-plated brass





EVERIS® BLQ6: Ultra-reliable non-spill liquid cooling blind mate coupling for integrated mounting with a nominal flow of 3/8" (9.5 mm).

MATERIAL: Anodized aluminum





GENERAL PURPOSE PAGES 20-38 —

HFC35 & 57: Withstand harsh environments and offered with or without UV-resistant materials to withstand harmful rays without affecting performance.

MATERIAL: Polysulfone (white), UV-resistant polysulfone (black)

TUBING ID SIZES: 3/8" to 3/4" (9.5mm to 19.0mm)





NS4: Non-spill coupling that virtually eliminates spills and minimizes downtime. With a nominal flow of 1/4" (6.4 mm).

MATERIAL: Glass-filled polypropylene, ABS

TUBING ID SIZES: 1/8" to 3/8" (3.2mm to 9.5mm)





NS6: Durable, yet lightweight construction that features non-spill valves and is compatible with many chemicals. With a nominal flow of 3/8" (9.5 mm).

MATERIAL: Glass-filled polypropylene

TUBING ID SIZES: 3/8" and 1/2" (9.5mm and 12.7mm)





2

GENERAL PURPOSE PAGES 20-38

30 PLC®: Widest selection of sizes and configurations offered; resistant to most mild chemical solutions.

TUBING ID SIZES: 1/4" to 3/8" (6.4mm to 9.5mm)





LC: Durable and able to withstand higher pressure and temperature; easy one-hand connection and disconnection with a nominal flow of 1/4" (6.4 mm) or 3/8" (9.5 mm).

MATERIAL: Chrome-plated brass

TUBING ID SIZES: 1/4" to 3/8" (6.4mm to 9.5mm)





DPC: Dual port connection in a contoured design that delivers ease-of-use and excellent flow in a compact size.

MATERIAL: Acetal

TUBING ID SIZES: 1/4" to 3/8" (6.4mm to 9.5mm)





LEGEND











DOUBLE SHUT-OFF









EVERIS® PLQ2 SERIES CONNECTOR

Everis® PLQ2 Series quick disconnect couplings are

purpose-built for liquid cooling of electronics applications and offer a high-flow capacity to optimize thermal management system performance. The Everis PLQ2 connector is lightweight, not susceptible to galvanic corrosion and is made of PPSU which is rated UL94 V0 flame retardant. With an ergonomic thumb latch, Everis PLQ2 fittings are easy to use. Everis PLQ2 quick disconnects' patented design offers reliable long-term connections and the non-spill valves provide drip-free connections and disconnections.



SPECIFICATIONS

PRESSURE:

Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

Operating: 0°F to 240°F (-17°C to 115°C)

Storage/Shipping:

-40°F to 240°F (-40°C to 115°C)

MATERIALS:

Main Components: Polyphenylsulfone (PPSU)

Valves and Thumb latch: PPSU
Valve Springs (wetted): Stainless steel
External spring: Stainless steel

Seals: EPDM Seal Spacer: PTFE Compliance: RoHS, REACH

COLOR:

Matte Black with Cool Blue or Warm Red

TUBING SIZES: 1/4" ID (6.4mm ID)

LUBRICANTS: Krytox® PFPE

SPILLAGE:

<0.015 cc per disconnect at 0 psi <0.063 cc per disconnect rated at 200 psi

AIR INCLUSION: 0.04 cc per connect

FLOW COEFFICIENT: Cv ~ 0.4 (0.3 Kv)

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions.

FEATURES

Made of high-performance — Lightweight, durable and chemically compatible with widely used liquid cooling fluids; UL94 VO flame retardant

BENEFITS

Non-spill valve design \longrightarrow Disconnect under pressure with no spills

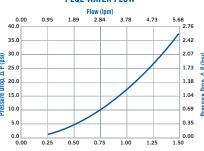
 $\hbox{\it Ergonomic body and latch design } \longrightarrow \hbox{\it Simple, intuitive one-handed operation}$

Robust product testing \longrightarrow High durability and reliability in long-use applications

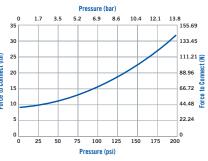
 $\hbox{\tt Color coding } \longrightarrow \hbox{\tt Instant visual identification of cooling lines}$

Shrouded latch protection \longrightarrow Prevention from accidental disconnect

PLQ2 WATER FLOW



PLQ2 FORCE TO CONNECT



These graphs are intended to give you a general idea of the performance capabilities of each product line. Contact CPC for flow of a particular coupling combination

EVERIS® PLQ4 SERIES CONNECTOR

Everis® PLQ4 Series quick disconnect couplings

are purpose-built for liquid cooling of electronics applications and offer a high-flow capacity to optimize thermal management system performance. Made of PPSU, a high-performance, engineered thermoplastic, Everis PLQ4 connectors are lightweight, and not susceptible to galvanic corrosion. With an ergonomic thumb latch, Everis PLQ4 are easy to use. The couplings' patented design offers reliable long-term connections and the non-spill valves provide drip-free connections and disconnections to protect sensitive equipment.

SPECIFICATIONS

PRESSURE:

Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

Operating: 0°F to 240°F (-17°C to 115°C)

Storage/Shipping:

-40°F to 240°F (-40°C to 115°C)

MATERIALS:

Main Components: Polyphenylsulfone (PPSU)

Valves and Thumb latch: PPSU
Valve Springs (wetted): Stainless steel
External spring: Stainless steel

Seals: EPDM Seal Spacer: PTFE

Compliance: RoHS, REACH

COLOR:

Matte Black with Cool Blue or Warm Red

TUBING SIZES:

1/4" to 3/8" ID (6.4mm to 9.5mm ID)

LUBRICANTS: Krytox® PFPE

SPILLAGE:

<0.025 cc per disconnect at 0 psi <0.055 cc per disconnect rated at 120 psi

AIR INCLUSION: 0.20 cc per connect

FLOW COEFFICIENT: Cv ~ 1.4 (1.2Kv)

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions.

FEATURES BENEFITS

Made of high-performance — Lightweight, durable and chemically compatible with widely used liquid cooling fluids; UL94 VO flame retardant

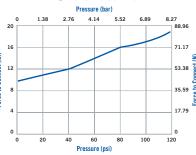
Non-spill valve \longrightarrow Disconnect under pressure with no spills High flow to size ratio with low pressure drop \longrightarrow Increased cooling efficiency in small spaces

 $\hbox{\it Ergonomic body and latch design} \quad \longrightarrow \quad \hbox{\it Simple, intuitive one-handed operation}$

PLQ4 WATER FLOW (0-20 GPM) Flow (lpm) 40 7.6 15.1 22.7 30.3 37.9 4.83 4.14 2.76 2.76 2.07 4.83 4.14 3.45 4.14 3.45 6.69

5





These graphs are intended to give you a general idea of the performance capabilities of each product line. Contact CPC for flow of a particular coupling combination

EVERIS® **LQ2** SERIES CONNECTOR

Everis® LQ2 Series quick disconnect couplings with

1/8" flow are designed for liquid cooling applications. With a small form factor for tight spaces, Everis LQ2 connectors offer a high-flow capacity to optimize system performance. The couplings' patented design offers reliable long-term connections and provides drip-free connections and disconnections to protect sensitive equipment. EPDM, FVMQ and FKM seals are standard options for compatibility with water, glycol and dielectric coolants. For other material and termination options, see your regional CPC sales representative.



SPECIFICATIONS

PRESSURE: Vacuum to 200 psi, 13.8 bar

TEMPERATURE:

Operating*: 0°F to 240°F (-17°C to 115°C) **Storage/Shipping:**

-40°F to 240°F (-40°C to 115°C)

MAXIMUM FLOW AT DISCONNECT:

1.00 gal/min at 0 - 100 psi 0.25 gal/min at 101 - 200 psi

MATERIALS:

Main Components: Nickel-chrome plated brass Valves and Thumb latch: Polysulfone Valve Springs (wetted): Stainless steel External spring: Stainless steel Seals: EPDM standard (FKM, FVMQ options)

Compliance: RoHS, REACH

COLOR: Chrome with Cool Blue or Warm Red

TUBING SIZES: 1/4" ID (6.4mm ID)

LUBRICANTS: Krytox® PFPE

SPILLAGE:

<0.015 cc per disconnect at 0 psi <0.063 cc per disconnect rated at 200 psi

AIR INCLUSION: < 0.04 cc per connect

FLOW COEFFICIENT: Cv ~0.4 (0.3 Kv)

*FVMQ seal option extends operating temperature to ~40°F (~40°C)
WARNING: Pressure, temperature, chemicals, and operating environment can
affect the performance of couplings. It is the customer's responsibility to test
the suitability of CPC's products in their own application conditions.

FEATURES BENEFITS

Non-spill valve — Disconnect under pressure with no spills

High flow capacity with low pressure drop ———— Efficient, cost-effective cooling

EPDM, FKM or FVMQ seals — Compatibility with common coolants (e.g. glycol/water, mineral oil) and application temperatures

Ergonomic body and latch design ————— Simple, intuitive one-handed operation

Audible click — Connection assurance

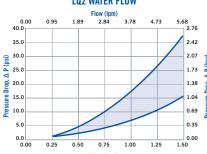
Low profile \longrightarrow Meets size requirements for space-constrained

electronics

mstanation and maintena

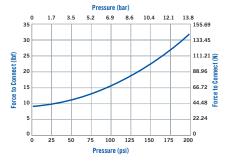
Single-piece options for insert \longrightarrow Space saving

LQ2 WATER FLOW



6

LQ2 FORCE TO CONNECT



These graphs are intended to give you a general idea of the performance capabilities of each product line. Contact CPC for flow of a particular coupling combination.

EVERIS® LQ2 SERIES DIMENSIONS

COUPLING BODIES - Nickel-chrome plated brass

	TERMINATION	TUBING/THREAD SIZE	METRIC Eq.	SHUTOFF	HEX	A	В	©	D
	IN-LINE LOCKING	1/4" ID	6.4mm ID	LQ2D1704LRED		0.82 (20.9)	2.09 (53.1)	1.34 (34.0)	
6 18	HOSE BARB			LQ2D1704LBLU		0.82 (20.9)	2.09 (53.1)	1.34 (34.0)	
	IN-LINE	1/4 SAE-4: 7/16-20 ¹		LQ2D3004RED	9/16"	0.82 (20.9)	1.72 (43.6)	1.34 (34.0)	
Ø IA	STRAIGHT THREAD Port sae			LQ2D3004BLU	9/16"	0.82 (20.9)	1.72 (43.6)	1.34 (34.0)	
	ELBOW LOCKING	1/4" ID	6.4mm ID	LQ2D3304LRED		0.79 (20.1)	1.64 (41.5)	1.64 (41.5)	1.03 (26.2)
Ole	HOSE BARB			LQ2D3304LBLU		0.79 (20.1)	1.64 (41.5)	1.64 (41.5)	1.03 (26.2)
5 7 5 F	IN-LINE THREAD	G1/8 ²		LQ2D3102RED	15mm	0.82 (20.9)	1.67 (42.5)	1.39 (35.3)	
8	G / BSPP			LQ2D3102BLU	15mm	0.82 (20.9)	1.67 (42.5)	1.39 (35.3)	

COUPLING INSERTS - Nickel-chrome plated brass



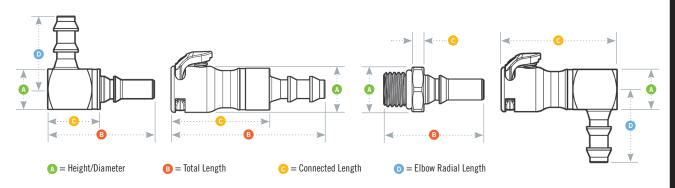
TERMINATION	TUBING/THREAD SIZE	METRIC Eq.	SHUTOFF	HEX	A	В	G	D
IN-LINE LOCKING	1/4" ID	6.4mm ID	LQ2D2204LRED		0.56 (14.3)	1.96 (49.8)	0.44 (11.2)	
HOSE BARB			LQ2D2204LBLU		0.56 (14.3)	1.96 (49.8)	0.44 (11.2)	
IN-LINE	1/4 SAE-4: 7/16-20 ^{1,3}		LQ2D4604RED	9/16"	0.56 (14.3)	1.28 (32.4)	0.15 (3.8)	
STRAIGHT THREAD Sae			LQ2D4604BLU	9/16"	0.56 (14.3)	1.28 (32.4)	0.15 (3.8)	
ELBOW LOCKING	1/4" ID	6.4mm ID	LQ2D2304LRED		0.56 (14.3)	1.51 (38.2)	0.74 (18.7)	1.03 (26.2)
HOSE BARB			LQ2D2304LBLU		0.56 (14.3)	1.51 (38.2)	0.74 (18.7)	1.03 (26.2)
IN-LINE	G1/8 ^{2,3}		LQ2D4702RED	15mm	0.59 (15.0)	1.20 (30.5)	0.15 (3.8)	
STRAIGHT THREAD G / BSPP			LQ2D4702BLU	15mm	0.59 (15.0)	1.20 (30.5)	0.15 (3.8)	

All measurements are in inches (millimeters) unless otherwise noted.
For FKM seal option, add V suffix to part number. Example: LQ2D3004REDV

For FVMQ seal option, add FLS suffix to part number. Example: LQ2D3004REDFLS

¹All SAE terminations are compatible with SAE J1926-1 ports.
²All G (BSPP) terminations are compatible with ISO 1179-1 ports.
³One-piece design

PRODUCT DIMENSIONS



DID YOU KNOW

"Spillage" can be easily misconstrued. Depending upon flow size, a typical QD will emit less than 0.02 cc of fluid, which often equates to a wetted surface on the face of the connector.

EVERIS® LQ4 SERIES CONNECTOR

Everis® LQ4 Series quick disconnect couplings

with 1/4" flow offer a relative high-flow capacity to optimize system performance. The couplings' patented design offers reliable long-term connections and provides drip-free connections and disconnections to protect sensitive equipment. EPDM, FVMQ and FKM seals are standard options for compatibility with water, glycol or dielectric coolants. For other material and termination options see your regional CPC sales representative.



SPECIFICATIONS

PRESSURE: Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

Operating*: 0°F to 240°F (-17°C to 115°C) Storage/Shipping:

-40°F to 240°F (-40°C to 115°C)

MAXIMUM FLOW AT DISCONNECT:

3.0 gal/min, 11.3L/min at 0 - 120 psi

MATERIALS:

Main Components:

Nickel-chrome plated brass

Valves and Thumb latch: Polysulfone Valve Springs (wetted): Stainless steel

External spring: Stainless steel

Seals: EPDM standard (FKM, FVMQ options)

Compliance: RoHS, REACH

COLOR: Chrome with Cool Blue or Warm Red

TUBING SIZES:

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

LUBRICANTS: Krytox® PFPE

SPILLAGE:

0.025 cc per disconnect rated at 0 psi 0.055 cc per disconnect rated at 120 psi

AIR INCLUSION: 0.020 cc per connect

FLOW COEFFICIENT: Cv ~1.4 (1.2 Kv)

*FVMQ seal option extends operating temperature to -40°F (-40°C) WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions.

FEATURES

Non-spill valve

Redundant multi-lobed seals —

High flow capacity with low pressure drop ———— Efficient, cost-effective cooling system

EPDM. FKM or FVMQ seals

Ergonomic body and latch design —

Color coding

Low profile

Swivel connection

Single-piece options for insert ———

BENEFITS

→ Disconnect under pressure with no spills

 Extra protection from leak-causing contaminants and debris

Compatibility with common coolants (e.g. glycol/water, mineral oil) and application temperatures

→ Simple, intuitive one-handed operation

Connection assurance

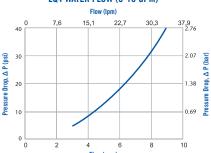
→ Instant visual identification of cooling lines

→ Meets size requirements for space-constrained electronics

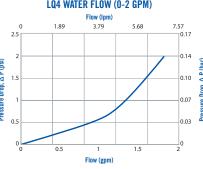
Allows user to orient latch or tube to facilitate installation and maintenance

Space saving

LQ4 WATER FLOW (0-10 GPM)

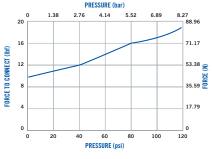


LQ4 WATER FLOW (0-2 GPM)



8

LQ4 FORCE TO CONNECT



These graphs are intended to give you a general idea of the performance capabilities of each product line. Contact CPC for flow of a particular

EVERIS® LQ4 SERIES DIMENSIONS

COUPLING BODIES - Nickel-chrome plated brass

TERMINATION	TUBING/THREAD SIZE	METRIC EQ.	SHUTOFF	HEX	A	В	C
IN-LINE LOCKING	1/4" ID	6.4mm ID	LQ4D17004LRED		0.98 (24.8)	2.60 (65.9)	1.85 (46.9)
HOSE BARB	1/4" ID	6.4mm ID	LQ4D17004LBLU		0.98 (24.8)	2.60 (65.9)	1.85 (46.9
	3/8" ID	9.5mm ID	LQ4D17006LRED		0.98 (24.8)	2.69 (68.2)	1.81 (46.0
	3/8" ID	9.5mm ID	LQ4D17006LBLU		0.98 (24.8)	2.69 (68.2)	1.81 (46.0
IN-LINE	1/4" ID	6.4mm ID	LQ4D17004RED		0.98 (24.8)	2.50 (63.4)	1.85 (46.9)
HOSE BARB	1/4" ID	6.4mm ID	LQ4D17004BLU		0.98 (24.8)	2.50 (63.4)	1.85 (46.9
	3/8" ID	9.5mm ID	LQ4D17006RED		0.98 (24.8)	2.50 (63.4)	1.85 (46.9
	3/8" ID	9.5mm ID	LQ4D17006BLU		0.98 (24.8)	2.50 (63.4)	1.85 (46.9
IN-LINE	1/4 SAE-4: 7/16-20 ¹		LQ4D30004RED	13/16"	0.98 (24.8)	2.21 (56.0)	1.85 (46.9
STRAIGHT THREAD	1/4 SAE-4: 7/16-20 ¹		LQ4D30004BLU	13/16"	0.98 (24.8)	2.21 (56.0)	1.85 (46.9
SAE	3/8 SAE-6: 9/16-18 ¹		LQ4D30006RED	13/16"	0.98 (24.8)	2.24 (56.8)	1.85 (46.9
	3/8 SAE-6: 9/16-18 ¹		LQ4D30006BLU	13/16"	0.98 (24.8)	2.24 (56.8)	1.85 (46.9
IN-LINE	1/4" NPT		LQ4D10004RED	13/16"	0.98 (24.8)	2.35 (59.6)	1.85 (46.9
PIPE THREAD	1/4" NPT		LQ4D10004BLU	13/16"	0.98 (24.8)	2.35 (59.6)	1.85 (46.9
	3/8" NPT		LQ4D10006RED	13/16"	0.98 (24.8)	2.35 (59.6)	1.85 (46.9
	3/8" NPT		LQ4D10006BLU	13/16"	0.98 (24.8)	2.35 (59.6)	1.85 (46.9
IN-LINE	1/4" ID x 3/8" OD		LQ4D13006RED	13/16"	0.98 (24.8)	2.50 (63.4)	1.85 (46.9
PTF	1/4" ID x 3/8" OD		LQ4D13006BLU	13/16"	0.98 (24.8)	2.50 (63.4)	1.85 (46.9
IN-LINE THREAD	G1/4 ²		LQ4D31004RED	20mm	0.98 (24.8)	2.29 (58.0)	1.89 (47.9
G / BSPP	G1/4 ²		LQ4D31004BLU	20mm	0.98 (24.8)	2.29 (58.0)	1.89 (47.9
	G3/8 ²		LQ4D31006RED	22mm	0.98 (24.8)	2.29 (58.0)	1.89 (47.9
	G3/8 ²		LQ4D31006BLU	22mm	0.98 (24.8)	2.29 (58.0)	1.89 (47.9

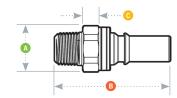
COUPLING INSERTS - Nickel-chrome plated brass

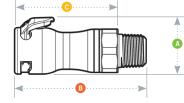
TERMINATION	TUBING/THREAD SIZE	METRIC EQ.	SHUTOFF	HEX	A	B	C		
IN-LINE LOCKING	1/4" ID	6.4mm ID	LQ4D22004LRED		0.80 (20.3)	2.44 (62.1)	0.63 (16.0)		
HOSE BARB	1/4" ID	6.4mm ID	LQ4D22004LBLU		0.80 (20.3)	2.44 (62.1)	0.63 (16.0)		
	3/8" ID	9.5mm ID	LQ4D22006LRED		0.80 (20.3)	2.53 (64.4)	0.59 (15.1)		
	3/8" ID	9.5mm ID	LQ4D22006LBLU		0.80 (20.3)	2.53 (64.4)	0.59 (15.1)		
IN-LINE	1/4" ID	6.4mm ID	LQ4D22004RED		0.80 (20.3)	2.34 (59.5)	0.63 (16.0)		
HOSE BARB	1/4" ID	6.4mm ID	LQ4D22004BLU		0.80 (20.3)	2.34 (59.5)	0.63 (16.0)		
	3/8" ID	9.5mm ID	LQ4D22006RED		0.80 (20.3)	2.34 (59.5)	0.63 (16.0)		
	3/8" ID	9.5mm ID	LQ4D22006BLU		0.80 (20.3)	2.34 (59.5)	0.63 (16.0)		
IN-LINE	1/4 SAE-4: 7/16-20 ¹		LQ4D46004RED	13/16"	0.88 (22.4)	2.05 (52.2)	0.63 (16.0)		
STRAIGHT THREAD	1/4 SAE-4: 7/16-20 ¹		LQ4D46004BLU	13/16"	0.88 (22.4)	2.05 (52.2)	0.63 (16.0)		
SAE	3/8 SAE-6: 9/16-18 ^{1,3}		LQ4D46006RED	11/16"	0.75 (19.1)	1.65 (41.8)	0.19 (4.8)		
	3/8 SAE-6: 9/16-18 ^{1,3}		LQ4D46006BLU	11/16"	0.75 (19.1)	1.65 (41.8)	0.19 (4.8)		
IN-LINE	1/4" NPT		LQ4D24004RED	13/16"	0.88 (22.4)	2.19 (55.7)	0.63 (16.0)		
PIPE THREAD	1/4" NPT		LQ4D24004BLU	13/16"	0.88 (22.4)	2.19 (55.7)	0.63 (16.0)		
	3/8" NPT		LQ4D24006RED	13/16"	0.88 (22.4)	2.19 (55.7)	0.63 (16.0)		
	3/8" NPT		LQ4D24006BLU	13/16"	0.88 (22.4)	2.19 (55.7)	0.63 (16.0)		
IN-LINE	1/4" ID x 3/8" OD		LQ4D20006RED	13/16"	0.88 (22.4)	2.34 (59.5)	0.63 (16.0)		
PTF	1/4" ID x 3/8" OD		LQ4D20006BLU	13/16"	0.88 (22.4)	2.34 (59.5)	0.63 (16.0)		
IN-LINE	G1/4 ²		LQ4D47004RED	20mm	0.85 (21.6)	2.13 (54.2)	0.67 (17.0)		
STRAIGHT THREAD	G1/4 ²		LQ4D47004BLU	20mm	0.85 (21.6)	2.13 (54.2)	0.67 (17.0)		
G / BSPP	G3/8 ^{2 3}		LQ4D47006RED	22mm	0.93 (23.6)	1.66 (42.0)	0.19 (4.8)		
	G3/8 ^{2 3}		LQ4D47006BLU	22mm	0.93 (23.6)	1.66 (42.0)	0.19 (4.8)		
For FKM seal ontion, add	For FKM seal ontion, add V suffix to part number. Fxample: 1.04D30006RLUV			¹ All SAF terminations are compatible with SAF 11926-1 ports					

For FVMQ seal option, add FLS suffix to part number. Example: LQ4D3000B6LUFLS

All SAE terminations are compatible with SAE J1926-1 ports. ²All G (BSPP) terminations are compatible with ISO 1179-1 ports.

PRODUCT DIMENSIONS





- A = Height/Diameter
- Total Length
- Connected Length

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

EVERIS® **LQ6** SERIES CONNECTOR

Everis® LQ6 Series quick disconnect couplings feature 3/8" flow for liquid cooling of electronics applications. Everis LQ6 connectors offer a high-flow capacity to optimize liquid cooling system performance. The couplings' patented design offers reliable long-term connections and the non-spill valves provide drip-free connections and disconnections to protect sensitive equipment. FKM, FVMQ and EPDM seals are standard options for compatibility with dielectric or glycol/water coolants. For other material and termination options see your regional CPC sales representative.



SPECIFICATIONS

PRESSURE: Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

Operating*: 0°F to 240°F (-17°C to 115°C) **Storage/Shipping:**

-40°F to 240°F (-40°C to 115°C)

MAXIMUM FLOW AT DISCONNECT:

5.0 gal/min, 18.9 L/min at 0 - 120 psi

MATERIALS:

Main Components:

Nickel-chrome plated brass

Valves and Thumb latch: Polysulfone Valve Springs (wetted): Stainless steel

External spring: Stainless steel

Seals: EPDM standard (FKM, FVMQ options)

Compliance: RoHS, REACH

COLOR: Chrome with Cool Blue or Warm Red

TUBING SIZES:

3/8" to 1/2" ID, 9.5mm to 12.7mm ID

LUBRICANTS: Krytox® PFPE

SPILLAGE:

0.03 cc per disconnect rated at 0 psi 0.03 cc per disconnect rated at 120 psi

AIR INCLUSION: 0.33 cc per connect

FLOW COEFFICIENT: Cv ~2.2 (1.9 Kv)

*FVMQ seal option extends operating temperature to -40°F (-40°C)
WARNING: Pressure, temperature, chemicals, and operating environment can
affect the performance of couplings. It is the customer's responsibility to test
the suitability of CPC's products in their own application conditions.

FEATURES

Redundant multi-lobed seals

Color coding

Low profile

Swivel connection

> Extra protection from leak-causing contaminants and debris

High flow capacity with low pressure drop ———— Efficient, cost-effective cooling system

EPDM, FKM or FVMQ seals — Compatibility with common coolants (e.g. glycol/water, mineral oil) and application temperatures

BENEFITS

Connection assurance

→ Instant visual identification of cooling lines

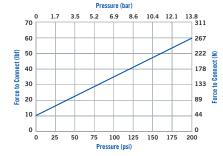
→ Meets size requirements for space-constrained electronics

Allows user to orient latch or tube to facilitate installation and maintenance

LQ6 WATER FLOW (0-20 GPM)

LQ6 WATER FLOW (0-2 GPM)

LQ6 FORCE TO CONNECT



These graphs are intended to give you a general idea of the performance capabilities of each product line. Contact CPC for flow of a particular coupling combination.

EVERIS® LQ6 SERIES DIMENSIONS

COUPLING BODIES - Nickel-chrome plated brass

	TERMINATION	TUBING/THREAD SIZE	METRIC EQ.	SHUTOFF	HEX	A	В	G
THE STATE OF THE S	IN-LINE LOCKING	3/8" ID	9.5mm ID	LQ6D17006LRED		1.19 (30.1)	2.96 (75.1)	2.08 (52.8)
	HOSE BARB	3/8" ID	9.5mm ID	LQ6D17006LBLU		1.19 (30.1)	2.96 (75.1)	2.08 (52.8)
		1/2" ID	12.7mm ID	LQ6D17008LRED		1.19 (30.1)	3.08 (78.2)	2.08 (52.8)
		1/2" ID	12.7mm ID	LQ6D17008LBLU		1.19 (30.1)	3.08 (78.2)	2.08 (52.8)
W.	IN-LINE	3/8" ID	9.5mm ID	LQ6D17006RED		1.19 (30.1)	2.73 (69.3)	2.08 (52.8)
1	HOSE BARB	3/8" ID	9.5mm ID	LQ6D17006BLU		1.19 (30.1)	2.73 (69.3)	2.08 (52.8)
		1/2" ID	12.7mm ID	LQ6D17008RED		1.19 (30.1)	2.73 (69.3)	2.08 (52.8)
		1/2" ID	12.7mm ID	LQ6D17008BLU		1.19 (30.1)	2.73 (69.3)	2.08 (52.8)
9	IN-LINE	3/8 SAE-6: 9/16-18 ¹		LQ6D30006RED	1"	1.19 (30.1)	2.47 (62.7)	2.08 (52.8)
	STRAIGHT THREAD	3/8 SAE-6: 9/16-18 ¹		LQ6D30006BLU	1"	1.19 (30.1)	2.47 (62.7)	2.08 (52.8)
	PORT SAE	1/2 SAE-8: 3/4-16 ¹		LQ6D30008RED	1"	1.19 (30.1)	2.52 (64.0)	2.08 (52.9)
		1/2 SAE-8: 3/4-16 ¹		LQ6D30008BLU	1"	1.19 (30.1)	2.52 (64.0)	2.08 (52.9)
	IN-LINE	3/8" NPT		LQ6D10006RED	1"	1.19 (30.1)	2.58 (65.5)	2.08 (52.8)
,	PIPE THREAD	3/8" NPT		LQ6D10006BLU	1"	1.19 (30.1)	2.58 (65.5)	2.08 (52.8)
	IN-LINE	3/8" ID x 1/2" OD		LQ6D13008RED	1"	1.19 (30.1)	2.91 (73.9)	2.09 (53.0)
	PTF	3/8" ID x 1/2" OD		LQ6D13008BLU	1"	1.19 (30.1)	2.91 (73.9)	2.09 (53.0)
	IN-LINE THREAD	G3/8 ²		LQ6D31006RED	26mm	1.19 (30.1)	2.59 (67.3)	2.15 (54.6)
	G / BSPP	G3/8 ²		LQ6D31006BLU	26mm	1.19 (30.1)	2.59 (67.3)	2.15 (54.6)
1		G1/2 ²		LQ6D31008RED	26mm	1.19 (30.1)	2.59 (67.3)	2.15 (54.6)
		G1/2 ²		LQ6D31008BLU	26mm	1.19 (30.1)	2.59 (67.3)	2.15 (54.6)

COUPLING INSERTS - Nickel-chrome plated brass

TERMINATION	TUBING/THREAD SIZE	METRIC EQ.	SHUTOFF	HEX	A	В	G
IN-LINE LOCKING	3/8" ID	9.5mm ID	LQ6D22006LRED		1.0 (25.3)	2.79 (70.7)	0.65 (16.4
HOSE BARB	3/8" ID	9.5mm ID	LQ6D22006LBLU		1.0 (25.3)	2.79 (70.7)	0.65 (16.4
	1/2" ID	12.7mm ID	LQ6D22008LRED		1.0 (25.3)	2.91 (73.9)	0.65 (16.4
	1/2" ID	12.7mm ID	LQ6D22008LBLU		1.0 (25.3)	2.91 (73.9)	0.65 (16.4
IN-LINE	3/8" ID	9.5mm ID	LQ6D22006RED		1.0 (25.3)	2.56 (65.0)	0.65 (16.4
HOSE BARB	3/8" ID	9.5mm ID	LQ6D22006BLU		1.0 (25.3)	2.56 (65.0)	0.65 (16.4
	1/2" ID	12.7mm ID	LQ6D22008RED		1.0 (25.3)	2.56 (65.0)	0.65 (16.4
	1/2" ID	12.7mm ID	LQ6D22008BLU		1.0 (25.3)	2.56 (65.0)	0.65 (16.4
IN-LINE	3/8 SAE-6: 9/16-18 ¹		LQ6D46006RED	1"	1.10 (27.9)	2.30 (58.4)	0.65 (16.4
STRAIGHT THREAD	3/8 SAE-6: 9/16-18 ¹		LQ6D46006BLU	1"	1.10 (27.9)	2.30 (58.4)	0.65 (16.4
PORT SAE	1/2 SAE-8: 3/4-16 ^{1,3}		LQ6D46008RED	7/8"	1.10 (27.9)	1.95 (49.6)	0.25 (6.4)
	1/2 SAE-8: 3/4-16 ^{1,3}		LQ6D46008BLU	7/8"	1.10 (27.9)	1.95 (49.6)	0.25 (6.4)
IN-LINE	3/8" NPT		LQ6D24006RED	1"	1.10 (27.9)	2.41 (61.2)	0.65 (16.4
PIPE THREAD	3/8" NPT		LQ6D24006BLU	1"	1.10 (27.9)	2.41 (61.2)	0.65 (16.4
IN-LINE	3/8" ID x 1/2" OD		LQ6D20008RED	1"	1.10 (27.9)	2.74 (69.6)	0.65 (16.6
PTF	3/8" ID x 1/2" OD		LQ6D20008BLU	1"	1.10 (27.9)	2.74 (69.6)	0.65 (16.6
IN-LINE THREAD	G3/8 ²		LQ6D47006RED	26mm	1.12 (28.4)	2.42 (61.5)	0.72 (18.2
G / BSPP	G3/8 ²		LQ6D47006BLU	26mm	1.12 (28.4)	2.42 (61.5)	0.72 (18.2
	G1/2 ^{2,3}		LQ6D47008RED	26mm	1.12 (28.4)	2.04 (51.8)	0.28 (7.0)
	G1/2 ^{2,3}		LQ6D47008BLU	26mm	1.12 (28.4)	2.04 (51.8)	0.28 (7.0)

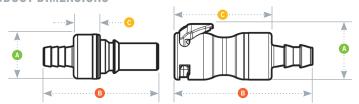
For FKM seal option, add V suffix to part number. Example: LQ6D17006BLUV For FVMQ seal option, add FLS suffix to part number. Example: LQ6D17006BLUFLS

¹All SAE terminations are compatible with SAE J1926-1 ports.

²All G (BSPP) terminations are compatible with ISO 1179-1 ports.

³One place design

PRODUCT DIMENSIONS



A = Height/Diameter

B = Total LengthConnected Length

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

10

Flow (gpm)

EVERIS® LQ8 SERIES CONNECTOR

Everis® LQ8 Series quick disconnect couplings feature 1/2" flow

for liquid cooling of electronics applications. Specifically designed for thermal management applications, Everis LQ8 connectors offer a high-flow capacity to optimize liquid cooling system performance. They provide ultra-reliable, dripless connections and disconnections for ease of use and peace of mind given proximity to sensitive or valuable equipment components. LQ8 guick disconnects (QDs) use a patented design which offers reliable long-term connections. EPDM seals are a standard for compatibility with glycol/water coolants. For other material and termination options contact CPC; sales representatives and applications engineers are available to assist with any questions you may have.



SPECIFICATIONS

PRESSURE: Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

Operating: 0°F to 240°F (-17°C to 115°C)

Storage/Shipping:

-40°F to 240°F (-40°C to 115°C)

MATERIALS:

Main Components: Nickel-chrome plated brass **Valves and thumb latch:** Polyphenylsulfone (PPSU)

Valve Springs (wetted): Stainless steel **External spring:** Stainless steel

Seals: EPDM

Compliance: RoHS, REACH

COLOR: Chrome with Black

TUBING SIZES: 5/8" ID (15.9 mm ID)

LUBRICANTS: Krytox® PFPE

FORCE TO CONNECT: 21 lbs. typical at 0 psi

SPILLAGE:

0.02 cc per disconnect rated at 0 psi 0.07 cc per disconnect rated at 60 psi

AIR INCLUSION: 0.60 cc per connect

FLOW COEFFICIENT: Cv ~ 6.0 (5.2 Kv)

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions.

FEATURES

Non-spill valve

→ Disconnect under pressure with no spills

> Extra protection from leak-causing contaminants Redundant, multi-lobed seals and debris

→ Efficient, cost-effective cooling High flow capacity with low

pressure drop

→ Compatibility with common coolants (e.g., glycol/water) **EPDM** seals

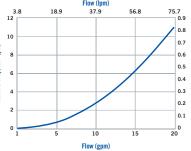
BENEFITS

Audible click -Connection assurance

→ Meets size requirements for space-constrained

Single-piece options for insert and body — Space saving

LQ8 WATER FLOW



These graphs are intended to give you a general idea of the performance capabilities of each product line. Contact CPC for flow of a particular

DID YOU KNOW

Not all elastomers are compatible with all fluids used in liquid cooling. And low temperature seals may be needed for frigid environments.

EVERIS® LQ8 SERIES DIMENSIONS

COUPLING BODIES - Nickel-chrome plated brass



IN-L	INE LOCKING E Barb	TUBING/THREAD SIZE 5/8" ID	METRIC EQ. 15.9 mm ID	SHUTOFF LQ8D17010L	НЕХ	A 1.58 (40.1)	B 4.25 (108.0)	c 2.73 (69.3)
IN-L STR/ SAE	INE Aight Thread	3/4 SAE-12: 1-1/16-12 ^{1,3}		LQ8D30012	1 - 1/4"	1.58 (40.1)	2.58 (65.6)	2.15 (54.6)
	INE AIGHT THREAD 3SPP	G 3/4 ²		LQ8D31012		1.58 (40.1)	3.30 (83.8)	2.80 (71.1)

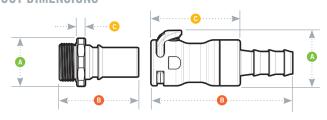
COUPLING INSERTS - Nickel-chrome plated brass



TERMINATION	TUBING/THREAD SIZE	METRIC EQ.	SHUTOFF	HEX	A	B	G
IN-LINE LOCKING Hose Barb	5/8" ID	15.9 mm ID	LQ8D22010L		1.30 (33.0)	4.00 (101.6)	0.80 (20.4)
IN-LINE Straight thread Sae	3/4 SAE-12: 1-1/16-12 ^{1,3}		LQ8D46012	1 - 1/4"	1.30 (33.0)	2.40 (61.0)	0.22 (5.6)
IN-LINE Straight thread G / BSPP	G 3/4 ^{2,3}		LQ8D47012	34mm	1.40 (35.6)	2.40 (61.0)	0.22 (5.6)

All measurements are in inches (millimeters) unless otherwise noted. ¹All SAE terminations are compatible with SAE J1926-1 ports. ²All G (BSPP) terminations are compatible with ISO 1179-1 ports. ³One-piece design

PRODUCT DIMENSIONS



A = Height/Diameter B = Total Length Connected Length

EVERIS® **BLQ2** SERIES CONNECTOR

Everis® BLQ2 Series quick disconnect couplings provide

ultra-reliable, dripless connections and disconnections that protect valuable electronics. Designed specifically for rack mounted liquid cooling applications, the Everis BLQ2 utilizes patented technology that eliminates drips and is able to withstand long-term connection.



SPECIFICATIONS

PRESSURE:

Vacuum to 200 psi, 13.8 bar

TEMPERATURE:

Operating: 0°F to 240°F (-17°C to 115°C)

Storage/Shipping:

-40°F to 240°F (-40°C to 115°C)

MAXIMUM FLOW AT DISCONNECT:

1.00 gal/min at 0 - 100 psi .025 gal/min at 101 - 200 psi

MATERIALS:

Main Components:

Nickel-chrome plated brass

Valves: Polysulfone

Valve Springs (wetted): Stainless steel

Seals: EPDM

Compliance: RoHS, REACH

COLOR: Chrome

THREAD SIZES: 1/4" SAE-4

LUBRICANTS: Krytox® PFPE

SPILLAGE:

< 0.015 cc per disconnect at 0 psi;

< 0.063 cc per disconnect at 200 psi

AIR INCLUSION: <0.04 cc per connect

·

FLOW COEFFICIENT: Cv ~ 0.4 (0.3 Kv)

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions.

FEATURES BENEFITS

Non-spill valve — Disconnect under pressure with no spills

Redundant multi-lobed seals

Extra protection from leak-causing contaminants and debris

0.25

Single-piece options for body & insert ————— Space savir

BLQ2 WATER FLOW

0.50

Flow (gpm)

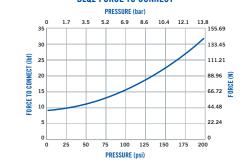
BLQ2 ACTUATION vs Cv

Degree of Actuation, D (mm)

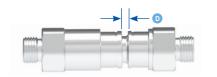
Degree of Actuation D (in.)

14

BLQ2 FORCE TO CONNECT



ACTUATION LENGTH



EVERIS® BLQ2 SERIES DIMENSIONS

COUPLING BODIES - Nickel-chrome plated brass



TERMINATION						
IN-LINE STRAIGHT THREAD SAE						

TUBING/THREAD SIZE	METRIC EQ.	SHUTOFF	HEX	A	В	0
1/4 SAE-4: 7/16-20 ^{1,2}	N/A	BLQ2D3004	9/16"	0.62 (15.7)	1.31 (33.3)	0.95 (24.1)

COUPLING INSERTS - Nickel-chrome plated brass



IERMINATION	l
IN-LINE STRAIGHT	
THREAD SAF	I

 TUBING/THREAD SIZE
 METRIC EQ.
 SHUTOFF
 HEX
 A
 B
 C

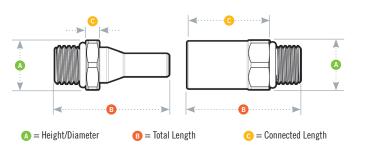
 1/4 SAE-4: 7/16-2012
 N/A
 BLQ2D4604
 9/16"
 0.62 (15.7)
 1.32 (33.3)
 0.15 (3.8)

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

¹All SAE terminations are compatible with SAE J1926-1 ports

²One-piece design

PRODUCT DIMENSIONS



Everis® QD Reliability

QDs designed for long-term, connected use with non-spill valves for dripless connection and disconnection.



EVERIS® BLQ4

SERIES CONNECTOR

Everis® BLQ4 Series quick disconnect couplings provide

ultra-reliable, dripless connections and disconnections that protect valuable electronics. Designed specifically for rack mounted liquid cooling applications, Everis BLQ4 utilizes patented technology that eliminates drips and is designed for long-term connected use.



SPECIFICATIONS

PRESSURE:

Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

Operating: 0°F to 240°F (-17°C to 115°C)

Storage/Shipping:

-40°F to 240°F (-40°C to 115°C)

MAXIMUM FLOW AT DISCONNECT:

3.0 gal/min, 11.3L/min

ENGAGEMENT TOLERANCE:

Coupling must be within 1/8" (3mm) of fully engaged to achieve maximum flow.

MATERIALS:

Main Components:

Nickel-chrome plated brass

Valves: Polysulfone

Valve Springs (wetted): Stainless steel

Seals: EPDM

Compliance: RoHS, REACH

THREAD SIZES:

Insert: G 1/4, G 3/8, SAE-4, SAE-6 **Body:** G 1/4, G 3/8, SAE-4, SAE-6, SAE-8

LUBRICANTS: Krytox® PFPE

SPILLAGE:

< 0.025 cc per disconnect at 0 psi; < 0.055 cc per disconnect at 120 psi

AIR INCLUSION: 0.20 cc per connect

FLOW COEFFICIENT: Cv ~1.4 (1.2 Kv)

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions

FEATURES

Non-spill valves → Disconnect under pressure with no spills

Extra protection from leak-causing contaminants Redundant seals and debris

BENEFITS

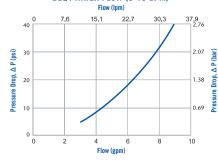
→ Enables extended periods in connected state Innovative valve design

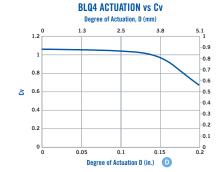
Rugged construction → Able to withstand long-term, repeated use

Axial engagement tolerance → Allows full flow even when not fully engaged

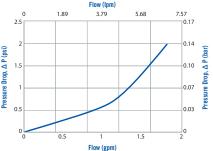
Single-piece options for body & insert ———— Space saving

BLQ4 WATER FLOW (0-10 GPM)

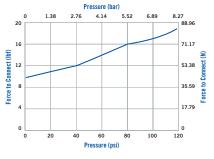




BLQ4 WATER FLOW (0-2 GPM)



BLQ4 FORCE TO CONNECT



These graphs are intended to give you a general idea of the performance capabilities of each product line. Contact CPC for flow of a particular coupling combination.

EVERIS® BLQ4 SERIES DIMENSIONS

COUPLING BODIES - Nickel-chrome plated brass



COUPLING INSERTS - Nickel-chrome plated brass



TERMINATION	TUBING/THREAD SIZE	METRIC EQ.	SHUTOFF	HEX	A	6	C
IN-LINE Straight Thread Sae	1/4 SAE-4: 7/16-20 ¹ 3/8 SAE-6: 9/16-18 ^{1,3}	N/A N/A	BLQ4D46004 BLQ4D46006	22mm 22mm	0.93 (23.6) 0.75 (19.1)	1.99 (50.5) 1.49 (37.8)	0.69 (17.5) 0.19 (4.8)
IN-LINE Straight thread G / BSPP	G 1/4 (BSPP) ² G 3/8 (BSPP) ^{2,3}	N/A N/A	BLQ4D47004 BLQ4D47006	22mm 22mm	0.93 (23.6) 0.93 (23.6)	2.05 (52.1) 1.49 (37.8)	0.75 (19.1) 0.19 (4.8)

All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters.

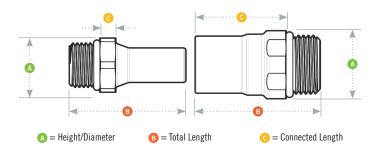
¹All SAE terminations are compatible with SAE J1926-1 ports.

²All G (BSPP) terminations are compatible with ISO 1179-1 ports. ³One-piece design.

ACTUATION LENGTH



PRODUCT DIMENSIONS



EVERIS® BLQ6 SERIES CONNECTOR

Everis® BLQ6 Series quick disconnect couplings Ultra-reliable, no-

drip connections for thermal management to help protect valuable electronic systems. Designed specifically for blind mate liquid cooling applications, the BLQ6 Series uses patented technology that eliminates drips and is specifically designed to withstand long-term connection. An optional accessory kit is available for panel mount connections.



SPECIFICATIONS

PRESSURE: Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

Operating: 0°F to 240°F (-17°C to 115°C)

Storage/Shipping:

-40°F to 240°F (-40°C to 115°C)

MAXIMUM FLOW AT DISCONNECT:

3.0 gal/min, 11.3L/min

ENGAGEMENT TOLERANCE:

Coupling must be within 1/8" of fully engaged to achieve maximum flow.

MATERIALS:

Main Components: Anodized Aluminum

Valves: Polysulfone

Valve Springs (wetted): Stainless steel

Seals: EPDM

Panel Mount Kit: Stainless steel Compliance: RoHS, REACH

THREAD SIZES:

Insert: SAE-6, G 1/2 Body: SAE-6, G 1/2

LUBRICANTS: Krytox® PFPE

SPILLAGE:

< 0.03 cc per disconnect at 0 psi;

<0.03 cc per disconnect at 120 psi

AIR INCLUSION: <0.022 cc per connect

FLOW COEFFICIENT: Cv ~ 2.2 (1.90 Kv)

AXIAL MISALIGNMENT: 1 mm max

WARNING: Pressure, temperature, chemicals and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPCI's products in their own application conditions.

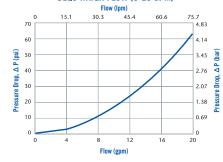
FEATURES BENEFITS

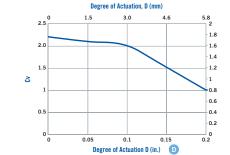
Redundant seals — Extra protection from leak-causing contaminants and debris

Rugged anodized aluminum — Able to withstand long-term, ongoing and repeated use

Optional panel mount kit — Enables either the body, insert or both to be panel mounted

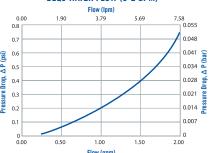
BLQ6 WATER FLOW (0-20 GPM)



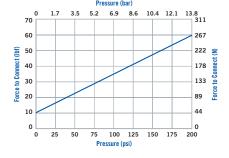


BLQ6 ACTUATION vs Cv

BLQ6 WATER FLOW (0-2 GPM)



BLQ6 FORCE TO CONNECT



These graphs are intended to give you a general idea of the performance capabilities of each product line. Contact CPC for flow of a particular coupling combination.

EVERIS® BLQ6 SERIES DIMENSIONS

COUPLING BODIES - Nickel-chrome plated brass



TERMINAT	ION	TUBING/THREAD SIZE	METRIC EQ	SHUTOFF	HEX	A	B	G
IN-LINE S Thread S		3/8 SAE-6: 9/16-18 ¹	N/A	BLQ6D30006	7/8"	0.96 (24.4)	2.08 (52.7)	1.68 (42.8)
IN-LINE S G / BSPP	STRAIGHT THREAD	G 1/2 ²	N/A	BLQ6D31008	26mm	1.12 (28.4)	2.26 (57.5)	1.76 (44.7)

COUPLING INSERTS - Nickel-chrome plated brass



TERMINATION	TUBING/THREAD SIZE	METRIC EQ	SHUTOFF	HEX	A	В	©
IN-LINE STRAIGHT Thread Port Sae	3/8 SAE-6: 9/16-18 ¹	N/A	BLQ6D46006	7/8"	0.96 (24.4)	2.27 (57.7)	0.99 (25.2)
IN-LINE STRAIGHT THREAD G / BSPP	G 1/2 ^{2,3}	N/A	BLQ6D47008	26mm	1.12 (28.4)	2.00 (50.9)	0.70 (17.8)

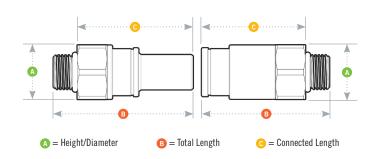
All measurements are in inches (millimeters) unless otherwise noted.

*All SAE terminations are compatible with SAE J1926-1 ports.

*All G (BSPP) terminations are compatible with ISO 1179-1 ports.

*One-piece design

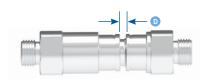
PRODUCT DIMENSIONS



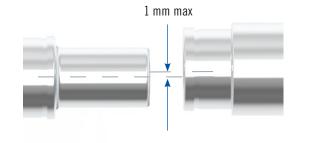
PANEL DIMENSIONS

PANEL Opening	PANEL THICKNESS Max.—Min.
see drawing	0.075 -0.175"
Ø .790"±.005	

ACTUATION LENGTH



RADIAL TOLERANCE



PANEL MOUNT KIT (P/N BLQ6PMKIT)

Retainer Ring

Panel

Retainer Ring

BLQ6 Body or Insert

Wave Spring



Optimize system design and maintenance with effective connections

CPC designs and manufactures EVERIS® quick disconnect couplings to specifically meet the requirements for high performance and reliability in liquid cooling thermal management. For liquid cooling applications that are frequently serviced, require more price competitive components, and/or where robustness and performance requirements of the liquid cooling system are not highly demanding, general-purpose couplings and connectors may fit the bill. CPC general purpose connectors are versatile and engineered to fit a broad range of fluid handling applications. These multifunctional couplings offer a diverse set of options including terminations, configurations, sizes, and materials. With decades of experience in delivering connection technology, CPC engineers have built a portfolio of general-purpose couplings and connectors that satisfy the needs of system designers around the world.

- Thumb latch with an audible "CPC Click" for connection assurance
- Precise hose barbs to improve the seal and grip for various grades of tubing
- Non-spill technology to enhance equipment modularity and serviceability

GENERAL PURPOSE

Couplings and Connectors

HFC35 & 57 SERIES CONNECTORS

HFC35 Series polysulfone couplings are able to withstand demanding applications and feature physical strength, chemical resistance and autoclavability.

HFC57 Series polysulfone couplings are UV resistant and able to withstand continued exposure to harmful UV rays without affecting performance.

Both can operate in harsh environments in temperatures from -40°F to 280°F (-40°C to 138°C) and pressures from vacuum to 125 psi (8.6 bar). An ergonomic design and a large, shrouded thumb latch pad produce a coupling that is easy to grip and simple to operate. An efficient valve design leads to high flow and exceptionally low spillage. Both series also add bulkhead panel mount, garden hose thread and Hastelloy® C spring options.



SPECIFICATIONS

PRESSURE:

Vacuum to 125 psi, 8.6 bar

TEMPERATURE:

-40°F to 280°F (-40°C to 138°C)

MATERIALS:

Main components and valves:

HFC35 - Polysulfone

HFC57 - UV-resistant polysulfone

THUMB LATCH:

HFC35 - Polysulfone

HFC57 - UV-resistant polysulfone **Valve spring:** 316 stainless steel

External springs: 316 stainless steel

Panel mount gasket: EPDM Female GHT gasket: FDA EPDM

COLORS:

0-rings: EPDM

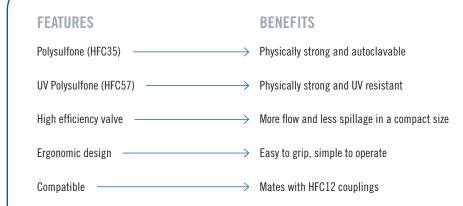
HCF35 - Natural white, dark gray latch

HCF57 - Black, black latch

TUBING SIZES:

3/8" to 3/4" ID, 9.5mm to 19.0mm ID

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC products in their own application conditions. Use the graphs on the following page as a guide. For compression termination specifications: 3/8° 0D or 172° 0D, +0.010/-0.000



DID YOU KNOW

The HFC57 Series polysulfone couplings are UV-resistant and able to withstand continued exposure to harmful rays without affecting performance.

These couplings offer all the same features as our HFC12 and HFC35 Series with the added advantage of UV-resistance to protect the strength and durability of your fluid connections. Use the HFC57 couplings in outdoor applications such as watercraft, lawn irrigation systems and solar heating on roofs and decks where a connector is subjected to the harsh rays of the sun.



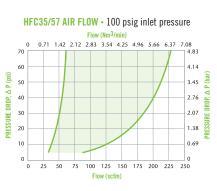
Also available in NSF listed versions for foodbased applications, please visit our website for part number information.

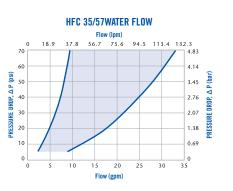


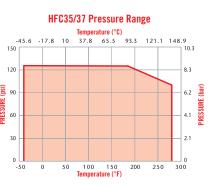
CPC

WHEN TO CONSIDER A CUSTOM PROJECT:

- A quick disconnect will add value to product, make it easier to use and more reliable
- Your specification cannot be met by an existing standard CPC product
- Unique requirements, budgets or timing warrant a conversation with CPC



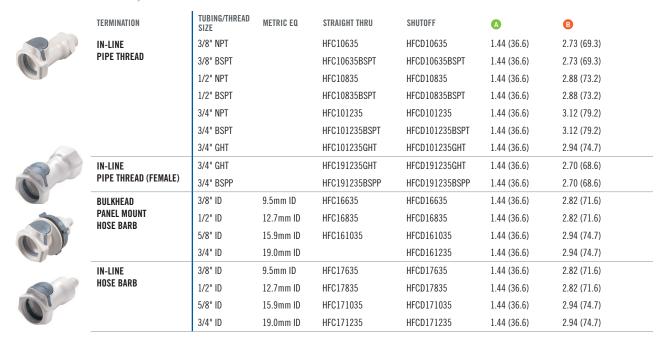




These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.

HFC35 SERIES DIMENSIONS

COUPLING BODIES - Polysulfone



COUPLING INSERTS - Polysulfone

	TERMINATION	TUBING/ THREAD SIZE	METRIC EQ	STRAIGHT THRU	SHUTOFF	Δ	В	D
	IN-LINE	3/8" NPT		HFC24635	HFCD24635	1.16 (29.5)	1.82/1.94 (46.2/49.3)	
	PIPE THREAD (NON-VALVED SHOWN)	3/8" BSPT		HFC24635BSPT	HFCD24635BSPT	1.16 (29.5)	1.97/2.09 (50.0/53.1)	
	(NON-VALVED SHOWN)	1/2" NPT		HFC24835	HFCD24835	1.16 (29.5)	1.97/2.09 (50.0/53.1)	
		1/2" BSPT		HFC24835BSPT	HFCD24835BSPT	1.16 (29.5)	1.17/2.09 (29.7/53.1)	
		3/4" NPT		HFC241235	HFCD241235	1.23 (31.2)	2.22/2.34 (56.4/59.4)	
		3/4" BSPT		HFC241235GHT	HFCD241235BSPT	1.23 (31.2)	2.21/2.33 (56.1/59.2)	
		3/4" GHT		HFC241235GHT	HFCD241235GHT	1.23 (31.2)	2.03/2.15 (51.6/54.6)	
	IN-LINE	3/4" GHT		HFC261235GHT	HFCD261235GHT	1.37 (34.8)	1.79/1.91 (45.5/48.5)	
	PIPE THREAD (FEMALE) (NON-VALVED SHOWN)	3/4" BSPP		HFC261235BSPP	HFCD261235BSPP	1.37 (34.8)	1.79/1.91 (45.5/48.5)	
	IN-LINE	3/8" ID	9.5mm ID	HFC22635	HFCD22635	1 (25.4)	1.91/2.03 (48.5/51.6)	
	HOSE BARB (Non-Valved Shown)	1/2" ID	12.7mm ID	HFC22835	HFCD22835	1 (25.4)	1.91/2.03 (48.5/51.6)	
	(NON TALVED SHOWN)	5/8" ID	15.9mm ID	HFC221035	HFCD221035	1 (25.4)	2.03/2.15 (51.6/54.6)	
		3/4" ID	19.0mm ID	HFC221235	HFCD221235	1 (25.4)	2.03/2.15 (51.6/54.6)	
	ELBOW	3/8" ID	9.5mm ID	HFC23635	HFCD23635	1 (25.4)	1.92/2.04 (48.8/51.8)	0.93 (23.6)
	HOSE BARB (Non-Valved Shown)	1/2" ID	12.7mm ID	HFC23835	HFCD23835	1 (25.4)	1.96/2.08 (49.8/52.8)	0.93 (23.6)

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All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters.

HFC35 & HFC57 ACCESSORIES

DESCRIPTION	MATERIAL	PART NO.
PANEL MOUNT GASKET REPLACEMENT: FOR SEALING PANEL MOUNT BODIES LISTED ABOVE	EPDM	621200
GHT GASKET REPLACEMENT: FOR SEALING FEMALE THREADS	FDA EPDM	2339400

HFC57 SERIES DIMENSIONS

COUPLING BODIES - UV Polysulfone



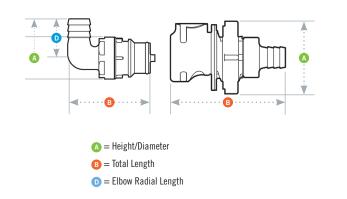
COUPLING INSERTS - UV Polysulfone

TERMINATION	TUBING/THREAD SIZE	METRIC EQ	STRAIGHT THRU	SHUTOFF	A	В
IN-LINE	3/8" BSPT		HFC24657BSPT	HFCD24657BSPT	1.16 (29.5)	1.84/1.96 (46.7/49.8)
PIPE THREAD	1/2" BSPT		HFC24857BSPT	HFCD24857BSPT	1.16 (29.5)	1.99/2.07 (50.6/52.6)
	1/2" NPT		HFC24857	HFCD24857	1.16 (29.5)	1.95/2.11 (49.5/53.6)
	3/4" BSPT		HFC241257BSPT	HFCD241257BSPT	1.23 (31.2)	2.19/2.31 (55.6/58.7)
	3/4" GHT		HFC241257GHT	HFCD241257GHT	1.16 (29.5)	2.15/2.27 (54.6/57.7)
IN-LINE PIPE THREAD (FEMALE) (NON-VALVED SHOWN)	3/4" GHT		HFC261257GHT	HFCD261257GHT	1.37 (34.8)	1.79/1.91 (45.5/48.5)
IN-LINE	3/8" ID	9.5mm ID	HFC22657	HFCD22657	1 (25.4)	1.91/2.03 (48.5/51.6)
HOSE BARB (Non-valved Shown)	1/2" ID	12.7mm ID	HFC22857	HFCD22857	1 (25.4)	1.91/2.03 (48.5/51.6)
(MON-VALVED SHOWN)	5/8" ID	15.9mm ID		HFCD221057	1 (25.4)	2.03/2.15 (51.6/54.6)
	3/4" ID	19.0mm ID	HFC221257	HFCD221257	1 (25.4)	2.03/2.15 (51.6/54.6)

All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. Couplings are pictured with valves unless otherwise noted.

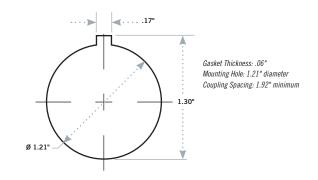
25

PRODUCT DIMENSIONS



PANEL DIMENSIONS

	PANEL Opening	PANEL THICKNESS MAX.—MIN.
COUPLING BODIES	see drawing	0.25-0.03





CPC

()CPC

NS4 SERIES CONNECTOR

NS4 Series couplings feature non-spill valves in a compact size, at a great price. Use the NS4 when even a few drops pose problems regarding media cost or environmental regulations. These innovative couplings are lightweight, chemically resistant and easy to use. The non-spill design effectively eliminates spills and minimizes downtime. NS4 coulings are also available with optional RFID (Radio Frequency Identification) capability.



SPECIFICATIONS

PRESSURE:

Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

32°F to 160°F (0°C to 71°C)

MATERIALS:

Main components and valves:

Glass-filled polypropylene with TPV* overmold, ABS with TPE* soft-touch overmold

Thumb latch: Glass-filled polypropylene, ABS

Valve spring: 316 stainless steel External spring: 316 stainless steel

0-rings: EPDM

COLOR:

Polypropylene: Gray with dark gray overmold standard; gray with red or blue overmold available†

ABS: White with teal overmold

TUBING SIZES:

1/8" to 3/8" ID, 3.2mm to 9.5mm ID

LUBRICANTS: Krytox® PFPE (inert)

SPILLAGE:

< 0.10 cc per disconnect at all rated pressures

INCLUSION: 0.26 cc per connect

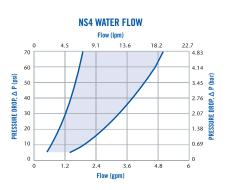
WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions.

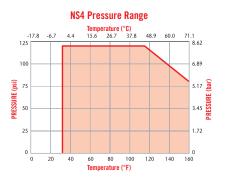
*The overmold material TPV (themoplastic vulcanizate) is used with the NS4 polypropylene couplings. TPV is an alloy of polypropylene thermoplastic and fully vulcanized EPDM rubber. TPV is typically resistant to water, acids and bases. The overmold material TPE (thermoplastic elastomer) is used with the NS4 ABS couplings. TPE is a blend of additives and copolymers in a special formulation that forms extremely durable bonds to the ABS substrate, while offering the traditional properties of soft-touch overmold.

†NOTE: Standard product is gray; color options require a minimum quantity. Please contact CPC for details.

FEATURES BENEFITS





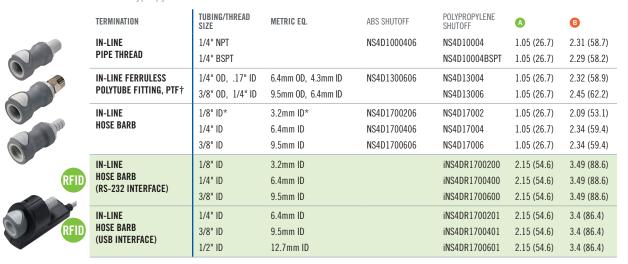


These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.

26

NS4 SERIES DIMENSIONS

COUPLING BODIES - Polypropylene/ABS



COUPLING INSERTS - Polypropylene/ABS

TERMINATION	TUBING/THREAD Size	METRIC EQ.	ABS SHUTOFF	POLYPROPYLENE SHUTOFF	A	B
IN-LINE	1/4" NPT		NS4D2400406	NS4D24004	0.96 (24.4)	1.95 (49.5
PIPE THREAD	1/4" BSPT		NS4D24004BSPT06	NS4D24004BSPT	0.96 (24.4)	1.95 (49.5
IN-LINE FERRULESS	1/4" OD, .17" ID	6.4mm OD, 4.3mm ID		NS4D20004	0.96 (24.4)	1.95 (49.5
POLYTUBE FITTING, PTF	[†] 3/8" OD, 1/4" ID	9.5mm OD, 6.4mm ID		NS4D20006	0.96 (24.4)	2.09 (53.2
IN-LINE	1/8" ID*	3.2mm ID*		NS4D22002	0.96 (24.4)	1.73 (43.9
HOSE BARB	1/4" ID	6.4mm ID	NS4D2200406	NS4D22004	0.96 (24.4)	1.98 (50.3
	3/8" ID	9.5mm ID	NS4D2200606	NS4D22006	0.96 (24.4)	1.98 (50.3
PANEL MOUNT	1/4" OD, .17" ID	6.4mm OD, 4.3mm ID		NS4D40004	1.17 (29.7)	2.3 (58.4)
FERRULESS POLYTUBE Fitting, PTF†	3/8" OD, 1/4" ID	9.5mm OD, 6.4mm ID		NS4D40006	1.17 (29.7)	2.3 (58.4)
PANEL MOUNT	1/8" ID*	3.2mm ID*	NS4D4200406	NS4D42002	1.17 (29.7)	2.07 (52.
HOSE BARB	1/4" ID	6.4mm ID		NS4D42004	1.17 (29.7)	2.32 (58.
	3/8" ID	9.5mm ID		NS4D42006	1.17 (29.7)	2.32 (58.
PANEL MOUNT	1/4" ID	6.4mm ID		NS4D43004	1.19 (30.2)	2.39 (60.
HOSE BARB ELBOW	3/8" ID	9.5mm ID		NS4D43006	1.19 (30.2)	2.39 (60.7
ELBOW	1/4" ID	6.4mm ID		NS4D23004	0.96 (24.4)	2.04 (51.
HOSE BARB	3/8" ID	9.5mm ID		NS4D23006	0.96 (24.4)	2.04 (51.8
IN-LINE	1/4" ID	6.4mm ID		iNS4DT2200400		
HOSE BARB (RS-232 INTERFACE)	3/8" ID	9.5mm ID		iNS4DT2200600		

All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc. †NOTE: CPC's Ferruleless PTF (polytube fitting) terminations do not require ferrules to achieve a secure connection and are therefore easier to use and reuse. *NOTE: 1/8" ID (3.2mm) hose barb connection has a support shroud allowing a maximum tube 0D of 1/4" (6.4mm).

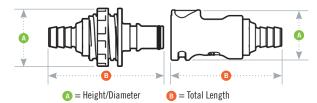
ACCESSORIES

DESCRIPTION	MATERIAL	PART NO.
PANEL MOUNT GASKET REPLACEMENT: FOR	EPDM	1879800
SEALING PANEL MOUNT INSERTS LISTED ABOVE	FKM	1889500

PANEL DIMENSIONS

	PANEL Opening	PANEL THICKNESS MAX.—MIN.
COUPLING INSERTS	see drawing	0.25 - 0.03

PRODUCT DIMENSIONS



NS6 SERIES CONNECTOR

NS6 Series couplings couplings feature non-spill valves at a great price. Use the NS6 when even a few drops of spillage pose problems regarding safety, media cost or environmental regulations. These innovative couplings are lightweight, chemically resistant and easy to use. The non-spill design virtually eliminates spills and minimizes downtime. Soft touch overmold makes them comfortable in the hand and very attractive.



SPECIFICATIONS

PRESSURE:

Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

32°F to 160°F (0°C to 71°C)

MATERIALS:

Main components and valves:

Glass-filled polypropylene with TPV* soft touch overmold

Thumb latch: Glass-filled polypropylene Valve spring (wetted): 316 stainless steel External spring: 316 stainless steel

0-rings: EPDM

COLOR:

Gray with dark gray overmold standard; gray with red or blue overmold available†

TUBING SIZES:

3/8" and 1/2" ID, 9.5mm and 12.7mm ID

LUBRICANTS: Krytox® PFPE (inert)

SPILLAGE:

- ~0.03 cc per disconnect @ 0 psi,
- ~0.30 cc/disconnect @ 120 psi

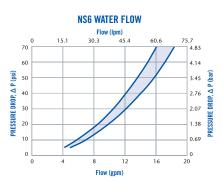
INCLUSION: 0.42 cc per connect

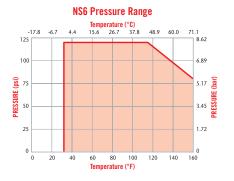
*The overmold material is a TPV (thermoplastic vulcanizate). This TPV is an alloy of polypropylene thermoplastic and fully vulcanized EPDM rubber. The material is typically resistant to water, acids and bases.

†NOTE: Standard product is gray; color options require a set-up charge and minimum quantities. Please contact CPC for details.

FEATURES BENEFITS

Non-spill design — Disconnect under pressure with no spills



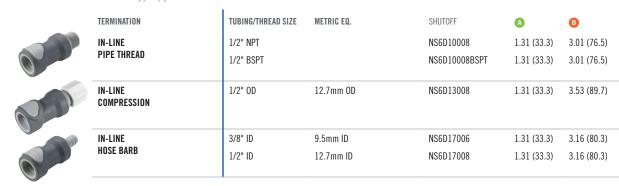


These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.

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NS6 SERIES DIMENSIONS

COUPLING BODIES - Polypropylene



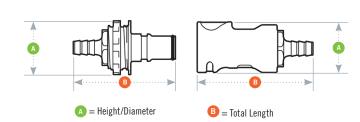
COUPLING INSERTS - Polypropylene

	TERMINATION	TUBING/THREAD SIZE	METRIC EQ.	SHUTOFF	A	В
	IN-LINE	1/2" NPT		NS6D24008	1.31 (33.3)	2.44 (62.0)
	PIPE THREAD	1/2" BSPT		NS6D24008BSPT	1.31 (33.3)	2.44 (62.0)
	IN-LINE COMPRESSION	1/2" OD	12.7mm OD	NS6D20008	1.31 (33.3)	3.01 (76.5)
	IN-LINE	3/8" ID	9.5mm ID	NS6D22006	1.31 (33.3)	2.59 (65.8)
In The	HOSE BARB	1/2" ID	12.7mm ID	NS6D22008	1.31 (33.3)	2.59 (65.8)
	PANEL MOUNT Compression	1/2" OD	12.7mm OD	NS6D40008	1.50 (38.1)	3.32 (84.3)
	PANEL MOUNT	3/8" ID	9.5mm ID	NS6D42006	1.50 (38.1)	2.85 (72.4)
	HOSE BARB	1/2" ID	12.7mm ID	NS6D42008	1.50 (38.1)	2.85 (72.4)

All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. Couplings are pictured with valves unless otherwise noted.

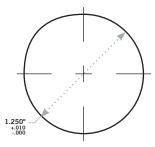
ACCESSORIES	DESCRIPTION	MATERIAL	PART NO.
	PANEL MOUNT GASKET REPLACEMENT: FOR	EPDM	1884300
	SEALING PANEL MOUNT BODIES LISTED ABOVE	FKM	1889600

PRODUCT DIMENSIONS



PANEL DIMENSIONS

	PANEL Opening	PANEL THICKNESS Max.—Min.
COUPLING	see drawing	0.25 — 0.03



PLC® SERIES CONNECTOR

The 1/4" flow PLC® Series is proven worldwide in thousands of applications and offers the widest selection of sizes and configurations. PLC couplings are injection molded from acetal thermoplastic and are resistant to most mild chemical solutions. One-hand connection/disconnection, plus integral terminations make the PLC Series the choice for ease of use and manufacture.



SPECIFICATIONS

PRESSURE:

Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

-40°F to 180° F (-40°C to 82°C)

MATERIALS:

Main components and valves: Acetal
Thumb latch: Stainless steel

Valve spring: 316 stainless steel
External springs and pin: Stainless steel

0-rings: Buna-N

COLOR: Natural white, others available

TUBING SIZES:

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

$\textit{JG}^{\otimes} \ \textit{Tubing Specifications:}$

Tube tolerances: 1/4" OD, +0.001/-0.004 | 3/8" OD, +0.001/-0.004

Tube Types: Plastic tube: Polyethylene, nylon, polyurethane. For soft or thin wall tubing with JG® terminations, tube supports are recommended.

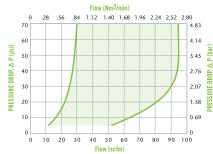
Metal tube: Brass, copper and mild steel

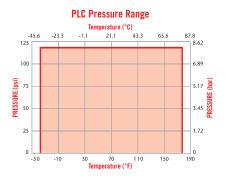
FEATURES BENEFITS

Integral terminations Fewer leak points, shorter assemblies, faster installations

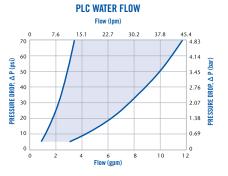
Compatible — Mates with LC and PLC12 Series couplings

PLC AIR FLOW • 100 psig inlet pressure





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These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.

LIQUID FLOW RATE INFORMATION FOR COUPLINGS

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

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

Q = Flow rate in gallons per minute

 $C_{v} = \text{Average coefficient across various} \\ \text{flow rates (see chart)}$

 ΔP = Pressure drop across coupling (psi) S = Specific gravity of liquid

INSERTS

	20004	20004	20006	20006	22004	22004	22006	22006	24004	24004	24006	24006	26004
PLC10004	0.40	0.36	1.05	0.58	0.83	0.56	1.40	0.82	1.40	0.75	1.40	0.77	0.83
PLCD10004	0.36	0.31	0.73	0.48	0.66	0.41	0.82	0.50	0.80	0.45	0.77	0.45	0.81
PLC10006	0.40	0.36	1.05	0.60	0.83	0.56	1.40	0.81	1.40	0.76	1.40	0.76	0.83
PLCD10006	0.37	0.31	0.81	0.47	0.70	0.43	1.02	0.51	0.98	0.46	0.99	0.48	0.98
PLC12006	0.38	0.36	0.84	0.63	0.74	0.56	1.14	0.75	1.14	0.70	1.14	0.72	0.74
PLCD12006	0.38	0.33	0.78	0.49	0.68	0.44	0.84	0.49	0.81	0.43	0.82	0.44	0.81
PLC16004	0.38	0.37	0.87	0.54	0.95	0.51	1.00	0.70	0.95	0.64	1.00	0.66	0.95
PLCD16004	0.37	0.31	0.61	0.44	0.57	0.41	0.78	0.44	0.78	0.43	0.75	0.46	0.78
PLC16006	0.38	0.37	1.00	0.57	0.95	0.53	1.40	0.80	1.40	0.71	1.40	0.73	1.40
PLCD16006	0.38	0.32	0.71	0.49	0.63	0.42	0.89	0.51	0.96	0.45	0.92	0.49	0.97

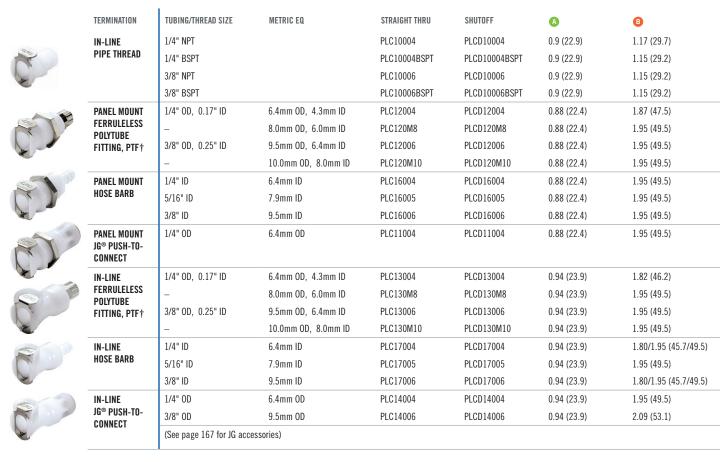
31

C_v VALUES

BODIES

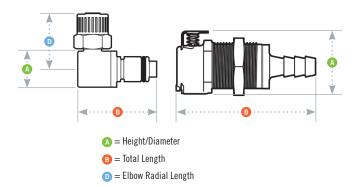
PLC® SERIES DIMENSIONS

COUPLING BODIES - Acetal



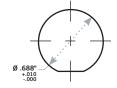
All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. Couplings are pictured with valves unless otherwise noted.
†NOTE: CPC's Ferruleless Polytube Fitting terminations do not require ferrules to achieve a secure connection, which makes them easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc. NOTE: JG is a registered trademark of John Guest USA, Inc.

PRODUCT DIMENSIONS



PANEL DIMENSIONS

	PANEL Opening	PANEL THICKNESS Max.—Min.	PANEL NUT HEX	PANEL NUT Thread
COUPLING BODIES	see drawing	0.50 - 0.05	13/16	11/16-24UNEF
COUPLING INSERTS	see drawing	0.30 - 0.05	13/16	11/16-24UNEF



COUPLING INSERTS - Acetal

	TERMINATION	TUBING/THREAD Size	METRIC EQ	STRAIGHT THRU	SHUTOFF	A	B	0
	IN-LINE	1/4" NPT		PLC24004	PLCD24004	0.72 (18.3)	1.25/1.66 (31.8/42.2)	
	PIPE THREAD	1/4" BSPT		PLC24004BSPT	PLCD24004BSPT	0.72 (18.3)	1.53/1.66 (38.9/42.2)	
		3/8" NPT		PLC24006	PLCD24006	0.87 (22.1)	1.25/1.63 (31.8/41.4)	
		3/8" BSPT		PLC24006BSPT	PLCD24006BSPT	0.87 (22.1)	1.51/1.63 (38.4/41.4)	
	PANEL MOUNT	1/4" OD, 0.17" ID	6.4mm OD, 4.3mm ID	PLC40004	PLCD40004	0.94 (23.9)	1.78/1.91 (45.2/48.5)	
	FERRULELESS Polytube	-	8.0mm OD, 6.0mm ID	PLC400M8	PLCD400M8	0.94 (23.9)	1.91/2.03 (48.5/51.6)	
	FITTING, PTF†	3/8" OD, 0.25" ID	9.5mm OD, 6.4mm ID	PLC40006	PLCD40006	0.94 (23.9)	1.91/2.05 (48.5/52.1)	
		-	10.0mm OD, 8.0mm ID	PLC400M10	PLCD400M10	0.94 (23.9)	1.91/2.05 (48.5/52.1)	
	PANEL MOUNT	1/4" ID	6.4mm ID	PLC42004	PLCD42004	0.94 (23.9)	1.91/2.05 (48.5/52.1)	
	HOSE BARB	5/16" ID	7.9mm ID	PLC42005	PLCD42005	0.94 (23.9)	1.91/2.05 (48.5/52.1)	
		3/8" ID	9.5mm ID	PLC42006	PLCD42006	0.94 (23.9)	1.91/2.05 (48.5/52.1)	
	PANEL MOUNT JG® PUSH-TO-	1/4" OD	6.4mm OD	PLC41004	PLCD41004	0.94 (23.9)	1.91/2.05 (48.5/52.1)	
	CONNECT							
	IN-LINE Ferruleless	1/4" OD, 017" ID	6.4mm OD, 4.3mm ID	PLC20004	PLCD20004	0.72 (18.3)	1.25/1.88 (31.8/73.2)	
	POLYTUBE Fitting, PTF†	_	8.0mm OD, 6.0mm ID	PLC200M8	PLCD200M8	0.72 (18.3)	1.38/1.82 (35.1/46.2)	
5		3/8" OD, 0.25" ID	9.5mm OD, 6.4mm ID	PLC20006	PLCD20006	0.72 (18.3)	1.38/1.82 (35.1/46.2)	
		-	10.0mm OD, 8.0mm ID	PLC200M10	PLCD200M10	0.72 (18.3)	1.38/1.82 (35.1/46.2)	
	IN-LINE Hose Barb	1/4" ID	6.4mm ID	PLC22004	PLCD22004	0.62 (15.7)	1.35/1.99 (34.3/50.6)	
	HOSE DAND	5/16" ID	7.9mm ID	PLC22005	PLCD22005	0.62 (15.7)	1.35/1.99 (34.3/50.6)	
		3/8" ID	9.5mm ID	PLC22006	PLCD22006	0.62 (15.7)	1.36/1.81 (34.5/46.0)	
	IN-LINE Jg® Push-to-	1/4" OD	6.4mm OD	PLC29004	PLCD29004	0.62 (15.7)	1.35/1.95 (34.3/49.5)	
	CONNECT	3/8" OD	9.5mm OD	PLC29006	PLCD29006	0.78 (19.8)	1.51/2.11 (38.4/53.6)	
	ELBOW FERRULELESS POLYTUBE FITTING, PTF†	3/8" OD, 0.25" ID	9.5mm OD, 6.4mm ID	PLC21006	PLCD21006	.61/.62 (15.45/15.8)	1.22/1.35 (31.0/34.3)	0.85/0.96 (21.6/24.4)
(m	ELBOW	1/4" ID	6.4mm ID	PLC23004	PLCD23004	.67/.63 (17.0/16.0)	1.10/1.28 (27.9/32.5)	0.85/0.96 (21.6/24.4)
	HOSE BARB	3/8" ID	9.5mm ID	PLC23006	PLCD23006	.67/.63 (17.0/16.0)	1.25/1.28 (31.8/32.5)	0.90/0.96 (22.9/24.4)

All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. Couplings are pictured with valves unless otherwise noted.
†NOTE: CPC's Ferruleless Polytube Fitting terminations do not require ferrules to achieve a secure connection, which makes them easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc. NOTE: JG is a registered trademark of John Guest USA, Inc.

LC SERIES CONNECTOR

CPC's LC Series chrome-plated brass couplings are built

tough and made to last in the most demanding applications. Ideal for use with higher temperature or pressure, the LC Series features a one-hand operation for swift and easy connects and disconnects.



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:

Main components: Chrome-plated brass

Thumb latch: Stainless steel

Valves: Acetal

Valve springs: 316 stainless steel External springs and pin: Stainless steel

C : D ...

0-rings: Buna-N

FINISH: Chrome

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. It is the customer's responsibility to test the suitability of CPC products in their own application conditions.

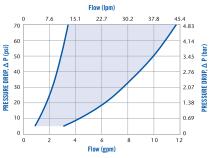
FEATURES

BENEFITS

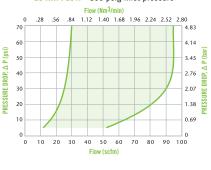
High temperature capability —————————————————————————————————Versions rated to 400°F (204°C)

Compatible — LC mates with PLC Series couplings

LC WATER FLOW



LC AIR FLOW • 100 psig inlet pressure



These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.

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DID YOU KNOW

O-ring selection is a key decision in determining which connector will perform best in your specific application. Understanding the material characteristics and how they can be affected by both the media being transferred and the environment in which the connector is being used is important.

NOTE

High temperature versions available with ratings to 400 F. Call customer service for more information.

LIQUID FLOW RATE INFORMATION FOR COUPLINGS

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

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

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

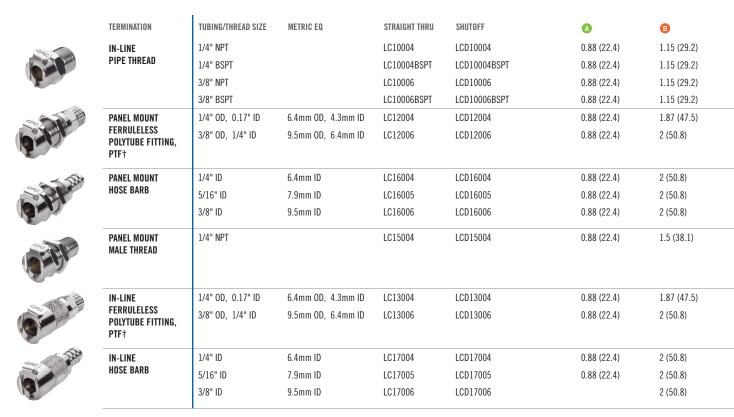
C_v VALUES

INSERTS

		LC 20004	LCD 20004	LC 20006	LCD 20006	LC 22004	LCD 22004	LC 22006	LCD 22006	LC 24004	LCD 24004	LC 24006	LCD 24006	LC 26004
ES	LC10004	0.40	0.36	1.05	0.58	0.83	0.56	1.40	0.82	1.40	0.75	1.40	0.77	0.83
	LCD10004	0.36	0.31	0.73	0.48	0.66	0.41	0.82	0.50	0.80	0.45	0.77	0.45	0.81
	LC10006	0.40	0.36	1.05	0.60	0.83	0.56	1.40	0.81	1.40	0.76	1.40	0.76	0.83
	LCD10006	0.37	0.31	0.81	0.47	0.70	0.43	1.02	0.51	0.98	0.46	0.99	0.48	0.98
	LC12006	0.38	0.36	0.84	0.63	0.74	0.56	1.14	0.75	1.14	0.70	1.14	0.72	0.74
m	LCD12006	0.38	0.33	0.78	0.49	0.68	0.44	0.84	0.49	0.81	0.43	0.82	0.44	0.81
-	LC16004	0.38	0.37	0.87	0.54	0.95	0.51	1.00	0.70	0.95	0.64	1.00	0.66	0.95
	LCD16004	0.37	0.31	0.61	0.44	0.57	0.41	0.78	0.44	0.78	0.43	0.75	0.46	0.78
	LC16006	0.38	0.37	1.00	0.57	0.95	0.53	1.40	0.80	1.40	0.71	1.40	0.73	1.40
	LCD16006	0.38	0.32	0.71	0.49	0.63	0.42	0.89	0.51	0.96	0.45	0.92	0.49	0.97

LC SERIES DIMENSIONS

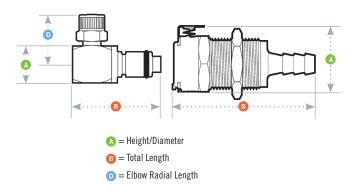
COUPLING BODIES - Chrome-plated brass



All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters.

†NOTE: CPC's Ferruleless PTF (polytube fitting) terminations do not require ferrules to achieve a secure connection and are therefore easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc. NOTE: Elbow configurations are available. Contact CPC for more information.

PRODUCT DIMENSIONS



PANEL DIMENSIONS

	PANEL Opening	PANEL THICKNESS Max.—Min.	PANEL NUT HEX	PANEL NUT Thread
COUPLING BODIES	see drawing	0.50 - 0.05	13/16	11/16-24UNEF
COUPLING INSERTS	see drawing	0.090- 0.300	13/16	11/16-24UNEF



COUPLING INSERTS - Chrome-plated brass

	TERMINATION	TUBING/THREAD Size	METRIC EQ	STRAIGHT THRU	SHUTOFF	A	В	D
	IN-LINE	1/4" NPT		LC24004	LCD24004	0.72 (18.3)	1.25/1.68 (31.8/42.7)	
	PIPE THREAD	1/4" BSPT		LC24004BSPT	LCD24004BSPT	0.72 (18.3)	1.25/1.68 (31.8/42.7)	
,		3/8" NPT		LC24006	LCD24006	0.87 (22.1)	1.25/1.55 (31.8/39.4)	
		3/8" BSPT		LC24006BSPT	LCD24006BSPT	0.87 (22.1)	1.25/1.55 (31.8/39.4)	
	IN-LINE	1/4" NPT Female		LC26004	LCD26004	0.72 (18.3)	1.25/1.90 (31.8/48.3)	
	PIPE THREAD (FEMALE)	1/4" BSPP Female		LC26004BSPP	LCD26004BSPP	0.72 (18.3)	1.25/1.75 (31.8/44.5)	
	PANEL MOUNT	1/4" OD, 0.17" ID	6.4mm OD, 4.3mm ID	LC40004	LCD40004	0.94 (23.9)	1.83/1.98 (46.5/50.3)	
A STATE OF THE PARTY OF THE PAR	FERRULELESS POLYTUBE Fitting, PTF†	3/8" OD, 1/4" ID	9.5mm OD, 6.4mm ID	LC40006	LCD40006	0.94 (23.9)	1.96/2.11 (47.8/53.6)	
	PANEL MOUNT	1/4" ID	6.4mm ID	LC42004	LCD42004	0.94 (23.9)	1.96/2.11 (47.8/53.6)	
	HOSE BARB	5/16" ID	7.9mm ID	LC42005	LCD42005	0.94 (23.9)	1.96/2.11 (47.8/53.6)	
		3/8" ID	9.5mm ID	LC42006	LCD42006	0.94 (23.9)	1.96/2.11 (47.8/53.6)	
	IN-LINE	1/4" OD, 0.17" ID	6.4mm OD, 4.3mm ID	LC20004	LCD20004	0.72 (18.3)	1.25/1.87 (31.8/47.5)	
	FERRULELESS POLYTUBE Fitting, PTF†	3/8" OD, 1/4" ID	9.5mm OD, 6.4mm ID	LC20006	LCD20006	0.72 (18.3)	1.38/1.83 (1.4/35.1)	
1	IN-LINE	1/4" ID	6.4mm ID	LC22004	LCD22004	0.63 (16.0)	1.35/2.00 (34.3/50.8)	
	HOSE BARB	5/16" ID	7.9mm ID	LC22005	LCD22005	0.63 (16.0)	1.35/1.85 (34.3/47.0)	
		3/8" ID	9.5mm ID	LC22006	LCD22006	0.63 (16.0)	1.35/1.83 (34.3/35.1)	
A2 4000	ELBOW	1/4" OD, 0.17" ID	6.4mm OD, 4.3mm ID	LC21004	LCD21004	0.63 (16.0)	1.28/1.43 (32.5/36.3)	0.83 (21.1)
	FERRULELESS POLYTUBE Fitting, PTF†	3/8" OD, 1/4" ID	9.5mm OD, 6.4mm ID	LC21006	LCD21006	0.63 (16.0)	1.28/1.43 (32.5/36.3)	0.96 (24.4)
1100	ELBOW	1/4" ID	6.4mm ID	LC23004	LCD23004	0.63/0.62	1.28/1.43 (32.5/36.3)	1.28 (32.5)
	HOSE BARB	3/8" ID	9.5mm ID	LC23006	LCD23006	0.63/0.62	1.28/1.43 (32.5/36.3)	1.28 (32.5)

All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. Couplings are pictured with valves unless otherwise noted.
†Note: CPC's Ferruleless PTF (polytube fitting) terminations do not require ferrules to achieve a secure connection and are therefore easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc. NOTE: Elbow configurations are available. Contact CPC for more information.

DPC SERIES CONNECTOR

The 1/4" flow DPC Series couplings feature a dual port connection in a contoured design that delivers ease-of-use and excellent flow in a compact size. Made from acetal thermoplastic, the DPC Series includes valved and non-valved couplings with a single plastic thumb latch. One-hand operation makes the DPC Series the choice for simple, simultaneous connections and disconnections where two fluid lines are required.



SPECIFICATIONS

PRESSURE:

Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

32°F to 180°F (0°C to 82°C)

MATERIALS:

Main components: Acetal Thumb latch: Acetal

Valve spring: 316 stainless steel **External springs:** Stainless steel

0-rings: Buna-N

COLOR:

White with blue latch

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. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions.



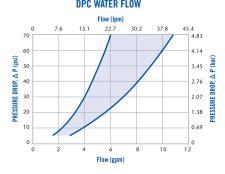
FEATURES BENEFITS

Intuitive one step, two-line connection and Single thumb latch disconnection

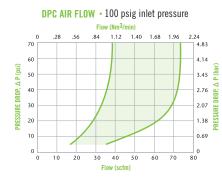
Ensures correct directional flow Insert keyed to body

Attractive, high-quality appearance and Compact, modular design configuration flexibility

Fewer moving parts, shorter assemblies, faster Integral terminations



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These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.

DPC SERIES DIMENSIONS

COUPLING BODIES - Acetal



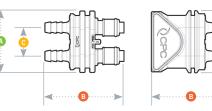
TERMINATION	TUBING/ Thread Size	METRIC Eq.	STRAIGHT Thru	SHUTOFF	A	В	C
IN-LINE	1/4" ID	6.4mm ID	DPC17004	DPCD17004	1.62 (41.1)	2.09 (52.9)	0.75 (19.1)
HOSE BARB	3/8" ID	9.5mm ID	DPC17006	DPCD17006	1.62 (41.1)	2.09 (52.9)	0.75 (19.1)

COUPLING INSERTS - Acetal



TERMINATION	TUBING/ Thread Size	METRIC EQ.	STRAIGHT Thru	SHUTOFF	A	В	©
	1/4" ID	6.4mm ID	DPC22004	DPCD22004	1.62 (41.1)	1.97/2.11 (50.0/53.6)	0.75 (19.1)
HOSE BARB	3/8" ID	9.5mm ID	DPC22006	DPCD22006	1.62 (41.1)	1.97/2.11 (50.0/53.6)	0.75 (19.1)

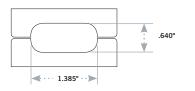
PRODUCT DIMENSIONS





A = Height/Diameter Center-to-center distance PANEL DIMENSIONS

	PANEL Opening	PANEL THICKNESS Max. — Min.
COUPLING BODIES	contact CPC	
COUPLING INSERTS	see drawing	0.135 - 0.132





Ask An Engineer
Contact CPC with your quick
disconnect and liquid cooling
application-related questions.
CPC's dedicated engineers
are happy to help.

CPC QUICK DISCONNECT COUPLING BASICS

A CPC quick disconnect coupling (QD) consists of two parts, a female coupling body and a male coupling insert, or "plug," that when connected create a fluid flow path. Each of CPC's Everis QD couplings has a valve architecture with multi-lobed seals to provide redundant protection against leakage over extended periods of time. CPC's liquid cooling QD valves are designed to ensure the valve closes quickly and reliably when the coupling is disconnected after long periods in a connected state. Upon disconnection, the integrated non-spill shutoff valves automatically stop flow, preventing pressure loss. With non-spill functionality, spillage at disconnection consists of a wetted surface — which is not enough fluid to create or enable a drip. Once the QDs are connected, the flow of coolant fluid begins.

ALIGNMENT	In the case of blind mate liquid cooling connectors, how does the system hardware ensure alignment of the QDs? For example, will they be panel mounted with an external locking mechanism? The design of Everis™ blind mate quick disconnects is such that some minor misalignment is allowable and the QD will perform accordingly.
COOLANT	What is your selected fluid? The thermal properties, viscosity and corrosiveness of the fluid going through the liquid cooling system all need to be considered. Chemical compatibility of the coolant with all system and coupling subcomponent materials is particularly important.
COMPATIBILITY	What other materials will be used in the system? It is important to be aware of potential issues derived from galvanic corrosion due to fluid and material incompatibility. Be aware that system corrosion and component erosion resulting from incompatibilities can result in particles in the system which can affect both subcomponent reliability and system performance. Use of polymer materials can help to prevent these issues.
CYCLES	How many make/break cycles will the quick disconnect need to accommodate? Some applications are such that, upon connection, the QD is rarely disconnected. Other installations may experience many disconnections. Understanding anticipated cycling can influence recommendations for seals and your specification of coolant.
DIMENSION	How much room is there for the QD? Are there access needs for installation or operation surrounding the QD? Based upon cooling load and space constraints, does the application require a high flow-to-size ratio for its quick disconnects? Specifying engineers should refer to Cv or Kv graphs for accurate flow characteristics. Orifice diameter and physical size of the QD are not good indicators of performance.
FLAMMABILITY	Does the application need to pass a particular certification? Do system components need to be composed of materials that have a specific UL94-rating?
FLOWRATE	What is your required flow and desired target range for allowable pressure drop for each liquid cooling system subcomponent? Understand configuration and multiple component impacts to flow and specify pumps accordingly. Be sure to allow for the effect of shutoff valves and tubing connections in your calculations.
FORM FACTOR	What type of connector style is desired? Will you need single-handed operation as is offered with latch-style quick disconnects or will the connectors be panel mounted or affixed to a manifold?

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PRESSURE	What is the maximum pressure the liquid cooling system will experience and subsequently, the pressure that your connections will need to withstand? What is the standard operating pressure? Or are you designing a low-pressure system? Engineers can refer to Cv or Kv for accurate flow information. System designers will also be concerned with pressure drop associated with each system component.
SHUTOFF OPTIONS	Do you need automatic or integral shutoff valves in your quick disconnects? Most connectors recommended for liquid cooling applications are non-spill. Other shutoff options are single or double shutoff.
SPECIAL REQUIREMENTS	What unique scenarios must the product address or possess? Sterilization, NSF listed, USP Class VI approved materials, special packaging, color coding, assemblies and keying are some examples. Custom development is available to support these needs.
SPILLAGE	What amount of fluid loss is acceptable upon each disconnection of the quick disconnect? Is the coolant a regulated or hazardous material? Depending upon flow size, a typical non-spill QD will emit a small bit of fluid, which often equates to a wetted surface on the face of the connector.
TEMPERATURE	Know your minimum and maximum temperature range. How much will temperature fluctuate, to what degree, and how often? Also consider that operating temperature will vary from shipping/storage temperature of the liquid cooling system subassemblies.
TERMINATION	How are you connecting the coupling to the rest of the system? Common termination options include locking hose barb, hose barb, and threaded terminations. Threaded terminations are available in all applicable international standards including NPT, BSPP (or G-thread), and SAE. Alternative terminations are also available upon request.
TESTING	What tests do your component manufacturers perform? What independent, subassembly or system-level tests do liquid cooling system designers need to conduct? Prior to locking a specification, ask what tests the liquid cooling connectors have been through and request copies of testing validation reports.
TOLERANCE	What mounting method and locking systems are planned for use with blind mate quick disconnects? Understand what tolerances each quick disconnect offers and how they affect flow and system performance.
TORQUE	What tools and how much force will be applied to affix the QDs to the manifold of the liquid cooling system? Will it be measurable and consistent? Many quick release couplings feature a maximum torque measurement to preserve the integrity and reliability of the assembly of the QD.
TRANSPORTATION	Will the system be delivered over land or via air transport? Self-contained or pressurized liquid cooling cargo by air can be affected by temperature and altitude. Both methods of transportation are susceptible to fluctuating environmental conditions.
TUBING	What type, material, and size of tubing are you using? Besides inside and outside diameter of the piping or tubing used, system designers need to specify the material. For tubing, this can help direct the type of hose barb that can be used (locking vs. traditional vs. custom.)
VIBRATION	Will the liquid cooling system be installed in a location with seismic activity? Or will it experience vibration during operation, such as would be common in a transit application?







CPC RESOURCES

Thermal engineers, specifiers and owners/operators of thermal management systems can learn about material properties, temperature, and chemical considerations for liquid cooling applications by browsing and downloading white papers, tech guides and brochures from the Resources and Support section of CPC's website. White papers and tech guides are available for immediate download. For example, the table at bottom is from Tech Guide 5012: "Liquid Cooling and the Chemical Compatibility Imperative."

FLUID SELECTION

Coolant fluid viscosity, specific gravity and freezing and boiling points impact system design and component selection. Thermal engineers specifying quick disconnects for liquid cooling applications often begin by evaluating their fluid selection options:

FLUID	SPECIFIC GRAVITY	THERMAL CONDUCTIVITY W/MK	SPECIFIC HEAT J/KGK	VISCOSITY CP	BOILING °F	FREEZING °F	COST	
1,1,1,2-TETRAFLUOROETHANE (R-134A)	0.52	0.082	1440	0.20	-15°	-154°	\$\$\$	
MINERAL OIL	0.92	0.106	1670	6.64	392°	-15°	\$\$	
WATER	1.00	0.580	4181	1.00	212°	32°	\$	
PROPYLENE GLYCOL, 50% SOLUTION	1.04	0.357	3559	5.20	223°	-49°	\$\$	
2,3,3,3-TETRAFLUOROPROPENE R1234YF)	1.10	0.064	1382	0.16	-22°	-238°	\$\$\$	
ETHYLENE GLYCOL, 50% SOLUTION	1.13	0.402	3283	2.51	224°	-35°	\$\$	
HYDROFLUOROETHER (HFE)	1.61	0.075	1300	0.45	93°	-189°	\$\$\$\$	
FLUORINERT™ FC-72	1.68	0.057	1100	0.64	133°	-130°	\$\$\$\$	
PERFLUOROPOLYETHER (PFPE)	1.70	0.090	960	0.45	392° - 500°	23°	\$\$\$\$	

MATERIAL AND COOLANT COMPATIBILITY

When considering wetted components in a liquid cooling system, the following combinations are:

A = RECOMMENDED: Little or no potential for chemical reaction or corrosion.

B = **GOOD OPTIONS**: Minor potential for chemical reaction or corrosion, with limited affect on system performance.

F = **NOT RECOMMENDED:** Mild to severe chemical or corrosive reactions likely. May impede system performance.

	WATER	ETHYLENE GLYCOL	PROPYLENE GLYCOL	MINERAL OIL	REFRIGERANTS	DIELECTRICS
COMMODITY PLASTICS	Α	A	В	A	F	В
ENGINEERED THERMOPLASTICS	Α	A	В	A	A to F ¹	В
ELASTOMERS	Α	A	Α	A ²	A to F ³	A to F ³
ALUMINIM	В	A	В	A	A	A
BRASS (PLATED)	Α	A	В	A	A	Α
COPPER	В	В	Α	В	A	A
STAINLESS STEEL	A	В	В	A	A	A

¹Thermoplastics may be engineered to enhance compatibility with specific refrigerants.

TYPES OF LIQUID COOLING

There are two types of liquid cooling: direct and immersion. Both types of liquid cooling can use either a single-phase or a two-phase method.

DIRECT SINGLE-PHASE

A liquid cooled system is considered to be "single-phase" when the fluid used to extract heat from the electronics does not undergo a phase change; the coolant remains in liquid state throughout the cooling loop. The temperature of the fluid will vary depending upon where in the cooling circuit it is. The fluid is contained within piping or tubing and it is not in direct contact with the electronics being cooled. Pure water or a Water-Glycol mix is the common fluid in this type of system. QDs are required at the server entry and exit and also inside the cooling loop (for cold plate connections or internal manifolds inside the server blade). It is the most common loop in the market due to its effectiveness, relative ease of implementation, and overall cost-effectiveness.

DIRECT TWO-PHASE

When a coolant undergoes a phase change from liquid to gas and back to liquid within the cooling loop, it is considered direct two-phase cooling. The coolant in gas or fluid state is contained within the loop and it is not in direct contact with the system components being cooled. Dielectric fluids are used in these systems and quick disconnects are required at the server entry and exit, as well as inside the cooling loop. It is the most effective way of dissipating heat.

SINGLE PHASE IMMERSION

With immersion systems, electronics are safely submerged in dielectric fluid liquid in a sealed but readily accessible enclosure. The dielectric fluid is not conductive, allowing for the safe operation of electronics while in direct contact with the fluid. The heat from electronic components is transferred to the fluid. Pumps are often used to flow the heated fluid to a heat exchanger, where it is cooled and cycled back into the enclosure. In single-phase immersion cooling, fluid remains in its liquid phase. While very effective in heat dissipation, it requires sealed structures to prevent losses, and maintenance of the equipment can be messy.

TWO PHASE IMMERSION

Similar to single phase immersion systems, the electronic components requiring cooling are directly immersed in dielectric liquid in a sealed but readily accessible enclosure or tank. In two-phase immersion cooling however, the heat from electronic components causes the fluid to boil, producing vapor that rises from the liquid. The vapor then condenses on a heat exchanger (condenser) within the tank returning it to a liquid state which is returned to the tank. There is an exponential increase in heat transfer efficiency.

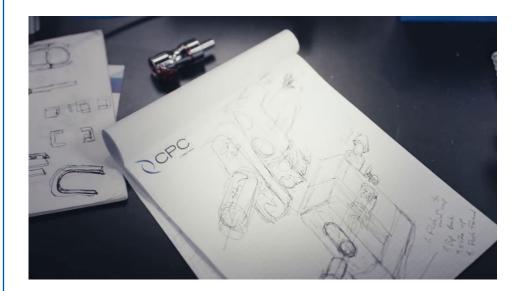
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²Most elastomers are compatible, however EPDM is not recommended for use with mineral oil.

³Elastomers may be engineered to enhance compatibility with specific refrigerants and dielectric fluids

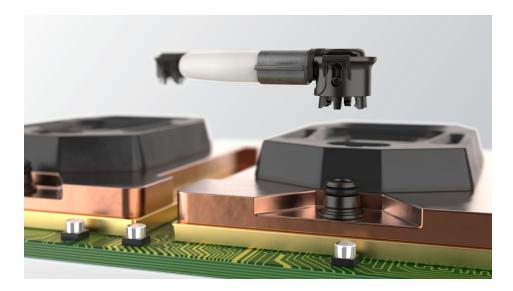


CUSTOM PROJECT CAPABILITIES

Drawing upon our established skills in innovation, we can engineer a custom-made connector for your application. Count on us to deliver the fluid handling expertise essential for your unique project requirements.

INNOVATION AND EXPERTISE PUT TO WORK FOR YOU

CPC believes in collaboration. Our engineers, working closely with your team, help solve challenging design or technical issues and help you get to market faster. Work with a company that has over 40 years' experience working with thousands of fluid management scenarios. Our highly knowledgeable experts help identify your challenges and optimize connector solutions for you to consider. Trust us to develop reliable connections for your liquid cooling application. Collaborating early in your design process empowers you to find the ideal connector perfectly suited for your needs.



CONSIDER A CUSTOM PROJECT

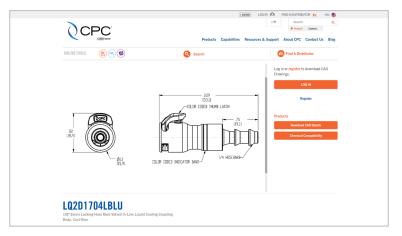
- When a new design would add value to a system making it easier to use, more reliable or more efficient
- When a specification cannot be met by an existing standard CPC product
- When a project has unique requirements such as space, performance, compatibility, budget, or scheduling challenges

Our Custom Engineering team supports a wide range of customer needs—from simple and minor modifications to fully customized components or assemblies. We're ready to meet your thermal management needs and fluid handing requirements.

CONTACT US

When in doubt, just ask. With such a variety of liquid cooling system types and the necessity for finely tuned thermal management performance where every component may have an impact, it can get confusing. CPC has layers of support to help solve challenging design or technical issues and help you get to market faster. Just ask. Call CPC's Customer Service at 1-800-444-2474 or 651-645-0091. You can also send an email to







DOWNLOAD SPEC SHEETS

You can research product characteristics, use the product specifier and find mating parts on the website. Register and login to o download spec sheets with detailed product information.

DOWNLOAD CAD DRAWINGS

Once you've become a registered user on the CPC website, it's simple to download CAD files. Examine detail and compare products. Download CAD files instantly to drop into your assembly in your preferred file format. Downloads are available in a huge variety of file formats so you can easily design the CPC quick disconnects into your specific application even without a sample yet in hand.



WE'RE HERE TO HELP

FOLLOW

Learn about upcoming liquid cooling training, webinars and trade shows. Get access to complimentary event registrations where CPC engineers present their latest research or recommendations.

WATCH

CPC's YouTube channel features a liquid cooling playlist. Learn about trends from recorded interview conversations. Get information on new products from CPC experts.

Get started by "Asking An Engineer."

Contact CPC with your quick disconnect and liquid cooling application-related questions. CPC's dedicated engineers are happy to help.

Register on the website to access CAD files for download:



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LIQUID COOLING COUPLINGS

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GENERAL PURPOSE COUPLINGS AND CONNECTORS

HFC 35 & 3722
NS426
NS628
PLC®
LC
DPC38



LIQUID COOLING FLUID HANDLING TO TAKE YOU FORWARD, FASTER

CPC (Colder Products Company) has been designing and manufacturing connectors since 1978. For over the past decade, CPC has supplied quick disconnect couplings or QDs (also known as quick release connectors) to manufacturers designing and building liquid cooling of electronics systems to address the heat density and high temperatures generated by technology such as powerful microchips and lasers. Our range of purpose-built for liquid cooling Everis® QDs are used by premier technology leaders in applications ranging from supercomputing and data centers to EV charging stations. CPC's innovative non-spill coupling and connection technologies allow tubing to be quickly and easily connected and disconnected, instilling confidence for thermal engineers and system operators alike.





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