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 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 V0-rated and is compatible with most liquid cooling fluids.

EVERIS™ BLQ SERIES

Engineered specifically for integrated mounting and external locking engagement, these QDs feature ultra-reliable dripless connections and disconnections.
### EVERIS™ LQ8:
Liquid cooling non-spill coupling for a secure, reliable connection and dripless disconnect with a nominal flow of 1/2" (12.7 mm).
**MATERIAL:** Nickel-plated brass
**TUBING ID SIZES:** 5/8" ID (15.9 mm ID)

### 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)

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

### 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

### 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

### LC:
Durable and able to withstand higher pressure and temperatures; 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)

### NS212:
Twist-to-connect design features non-spill valves designed to provide fast, safe and virtually leak-free fluid line connections with a nominal flow of 1/8" (3.2 mm).
**MATERIAL:** Glass-filled polypropylene
**TUBING ID SIZES:** 1/8" to 1/4" (3.2mm to 6.4mm)

### 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)
**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
- PTFE
- Krytox

**COLOR:**
- Matte Black with Cool Blue or Warm Red

**TUBING SIZES:**
- 1/4” ID (6.4mm ID)

**LUBRICANTS:**
- Krytox® PFPE

**FILTRATION:**
- 0.063 cc per disconnect rated at 200 psi

**AIR INCLUSION:**
- 0.015 cc per connect

**FLOW COEFFICIENT:**
- CV ~ 1.4 (1.2 Kv)

**FEATURES**

- Made of high-performance PPSU material
- Non-spill valve design
- High flow to size ratio with low pressure drop
- Ergonomic body and latch design
- Robust product testing
- Color coding
- Shrouded latch protection

**BENEFITS**

- Lightweight, durable and chemically compatible with widely used liquid cooling fluids; UL94 VO flame retardant
- Disconnect under pressure with no spills
- Increased cooling efficiency in small spaces
- Simple, intuitive one-handed operation
- Provides connection assurance
- Instant visual identification of cooling lines
- Prevention from accidental disconnect

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**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 out 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
- PTFE
- Krytox

**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

**FILTRATION:**
- 0.015 cc per disconnect rated at 0 psi

**AIR INCLUSION:**
- 0.025 cc per connect

**FLOW COEFFICIENT:**
- CV ~ 2.4 (1.2 Kv)

**FEATURES**

- Made of high-performance PPSU material
- Non-spill valve design
- High flow to size ratio with low pressure drop
- Ergonomic body and latch design
- Robust product testing
- Color coding
- Shrouded latch protection

**BENEFITS**

- Lightweight, durable and chemically compatible with widely used liquid cooling fluids; UL94 VO flame retardant
- Disconnect under pressure with no spills
- Increased cooling efficiency in small spaces
- Simple, intuitive one-handed operation
- Provides connection assurance
- Instant visual identification of cooling lines
- Prevention from accidental disconnect

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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)

FEATURES
  - Non-spill valve
  - Redundant multi-sided seals
  - High flow capacity with low pressure drop
  - EPDM, FKM or FVMQ seals
  - Ergonomic body and latch design
  - Audible click
  - 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
  - Efficient, cost-effective cooling
  - Compatibility with common coolants (e.g. glycol/water, mineral oil) and application temperatures
  - Simple, intuitive one-handed operation
  - Connection assurance
  - Instant visual identification of connection lines
  - Meets size requirements for space-constrained electronics
  - Allows user-to-orient latch or tube to facilitate installation and maintenance
  - Space saving

COUPLING BODIES - Nickel-chrome plated brass

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<tr>
<th>TERMINATION</th>
<th>TUBE/TUBE THREAD</th>
<th>SIZE</th>
<th>MATERIAL</th>
<th>CODE</th>
<th>BYPASS</th>
<th>KEY</th>
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<td>6.4mm ID</td>
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<td>LQ2D304REDBL</td>
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<td>6.4mm ID</td>
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<td>LQ2D404REDBL</td>
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<td>6.4mm ID</td>
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<td>LQ2D304REDBL</td>
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<td>0.56 (14.3)</td>
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<tr>
<td>IN-LINE THREAD G / NPT</td>
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<td>6.4mm ID</td>
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<td>LQ2D404REDBL</td>
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COUPLING INSERTS - Nickel-chrome plated brass

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<td>LQ2D404REDBL</td>
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<td>0.56 (14.3)</td>
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PRODUCT DIMENSIONS

<table>
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<th>Dimension</th>
<th>Description</th>
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<td>L = Height/Diameter</td>
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<td>T = Total Length</td>
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<td>C = Connected Length</td>
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<td>E = Elbow Radius Length</td>
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</tbody>
</table>

DID YOU KNOW

“Spillage” can be easily misconstrued. Depending upon flow size, a typical OD 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, FPMQ 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)

**MAXIMUM FLOW AT CONNECT:** 3.0 gal/min, 11.3 l/min at 0 – 120 psi

**MATERIALS:**
- **Main Components:** Nickel-chrome plated brass Valves and Thumb latch: Polyethylene Valve Springs (wetted): Stainless steel External spring: Stainless steel Seals: EPDM standard (FPMQ, FPMQG options) Compliance: RoHS, Reach

**COLOR:** Chrome with Cool Blue or Warm Red

**TUBING SIZES:**
- LQ4D47004BLU: 3/8" ID, 1/4" OD
- LQ4D46006BLU: 5/32" ID, 3/32" OD
- LQ4D22006BLU: 1/16" ID, 1/16" OD
- LQ4D10006BLU: 3/32" ID, 1/8" OD
- LQ4D17006BLU: 5/32" ID, 1/4" OD
- LQ4D17004LRED: 5/32" ID, 1/4" OD

### FEATURES

- **Non-split valve**
- **Redundant multi-kinded seals**
- **High flow capacity with low pressure drop**
- **EPDM, FPMQ or FPMQG seals**
- **Ergonomic body and latch design**
- **Swivel connection**
- **Color coding**
- **Connection assurance**

**BENEFITS**
- **Disconnect under pressure with no spills**
- **Extra protection from leak-causing contaminants and debris**
- **Efficient, cost-effective cooling system**
- **Compatibility with common coolants (e.g., glycol/water, mineral oil and application temperatures)**
- **Simple, intuitive one-handed operation**
- **Instant visual identification of coupling lines**
- **Meets size requirements for space-constrained electronics**
- **Allows user to orbit latch or tube to facilitate installation and maintenance**
- **Space saving**

### COUPLING DIMENSIONS

**SPECS FOR FLOW**

- **Flow (gpm)**
- **Flow (lpm)**

**SPECS FOR PRESSURE**

- **Pressure Drop, ∆ P (psi)**
- **Pressure Drop, ∆ P (bar)**

- **FORCE TO CONNECT (lbf)**
- **PRESSURE (psi)**

**PRODUCT DIMENSIONS**

- **A = Total Length**
- **B = Height/Dimension**
- **C = Connected Length**

[Diagram and charts showing pressure drop and force to connect for various sizes and configurations.]

*All measurements are in inches (indicated unless otherwise noted.)*

**For FKM seal option, add “F” to part number. Example: LQ4D22006BLU4F**

**All LQ4 Series couplings are compatible with ISO 12875-1 parts.**

**CPC worldwide.com • 1-800-444-2474**
**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: Polyurethane
- Valve Springs (wetted): Stainless steel
- External spring: Stainless steel
- Seals: FPM standard (FKM, FVMQ options)
- Compliance: RoHS, REACH

**COLOR:** Chrome with Cool Blue or Warm Red

**TUBING SIZES:**

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

**LUBRICANTS:** Krytox® PFE

**SPILLAGE:**

- 0.03 cc per connector rated at 0 psi
- 0.03 cc per connector rated at 120 psi

**AIR INCLUSION:** 0.33 cc per connect

**FLOW COEFFICIENT:** Cv ~ 2.2 (1.9 Kv)

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**FEATURES**

- Non-spill valve
- Redundant multi-kid seals
- High-flow capacity with low pressure drop
- EPDM, FVMQ or FPMQ seals
- Ergonomic body and latch design
- Available click
- Single-piece option for insert

**BENEFITS**

- Disconnect under pressure with no spills
- Extra protection from leak-causing contaminants and debris
- Efficient, cost-effective cooling system
- 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

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**FLOW COEFFICIENT:** Cv ~ 2.2 (1.9 Kv)
LIQUID COOLING

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 quick 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: 0.50 cc per connect
FLOW COEFFICIENT: Cv ~ 6.0 (3.2 Ku)

FEATURES

Non-spill valve
Redundant, multi-lobed seals
High flow capacity with low pressure drop
EPDM seals
Ergonomic body and latch design
Audible click
Low profile
Single-piece options for insert and body

BENEFITS

Disconnect under pressure with no spills
Extra protection from leak-causing contaminants and debris
Efficient, cost-effective cooling
Compatibility with common coolants (e.g., glycol/water)
Simple, intuitive, one-handed operation
Connection assurance
Meets size requirements for space-constrained electronics applications
Space saving

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.

Why Chemical Compatibility is Critical
Download tech guide to learn about component material compatibility and liquid cooling system performance.
**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)

**MAXIMUM FLOW AT DISCONNECT:**  1.00 gal/min at 0 - 100 psi

**MATERIALS:**
- **Main Components:** Nickel-chrome plated brass
- **Valves:** Polysulfone
- **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
- ≤0.05 cc per disconnect at 200 psi

**AIR INCLUSION:**  ≤0.04 cc per connect

**FLOW COEFFICIENT:**  CV ~ 0.4 (0.3 Kv)

### FEATURES

- Non-slip valve
- Redundant multi-lobed seals
- Innovation valve design
- Ruggedness
- Axial engagement tolerance
- Single-piece options for body & insert

### BENEFITS

- Disconnect under pressure with no spills
- Extra protection from leak-causing contaminants and debris
- Enables extended periods in connected state
- Able to withstand long-term, repeated use
- Allows full flow even when not fully engaged
- Space saving

### DID YOU KNOW

**Evaluate QDs for liquid cooling applications** by comparing their nominal flow coefficient (CV or Kv.)

**FLOW COEFFICIENT:**

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

**PRESSURE:**

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**PRESSURE DROP (bar):**

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**PRESSURE DROP (psi):**

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<th>10</th>
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<tbody>
<tr>
<td>0</td>
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<tr>
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<td></td>
<td></td>
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</table>

**DID YOU KNOW**

- Evaluate QDs for liquid cooling applications by comparing their nominal flow coefficient (CV or Kv.)
- Non-slip valve
- Disconnect under pressure with no spills
- Extra protection from leak-causing contaminants and debris
- Enables extended periods in connected state
- Able to withstand long-term, repeated use
- Allows full flow even when not fully engaged
- Space saving

**PRODUCT DIMENSIONS**

- **Height/Diameter**
- **Total Length**
- **Connected Length**

**EVERIS™ BLQ2 SERIES DIMENSIONS**

**COUPLING BODIES**

- **Nickel-chrome plated brass**
- **Temperature:**  -40°F to 240°F (-40°C to 115°C)
- **Flow:**  9.10 gpm (15.7 lpm)
- **Pressure:**  165.5 bar (2400 psi)

**COUPLING INSERTS**

- **Nickel-chrome plated brass**
- **Temperature:**  -40°F to 240°F (-40°C to 115°C)
- **Flow:**  9.10 gpm (15.7 lpm)
- **Pressure:**  165.5 bar (2400 psi)

---

**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: Polyurethane
- 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
- <0.005 cc per disconnect at 120 psi

AIR INCLUSION:
- 0.20 cc per connect

FLOW COEFFICIENT: Cv = 0.4 (1.2 Nu)

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 for their own application conditions.

FEATURES

- Non-spill valves
- Redundant seals
- Innovative valve design
- Ragged construction
- Avail engagement tolerance
- Single-piece options for body & insert

BENEFITS

- Disconnect under pressure with no spills
- Extra protection from leak-causing contaminants and debris
- Enables extended periods in connected state
- Able to withstand long-term, repeated use
- Allows full flow even when not fully engaged
- Space saving

FEATURES

- Everis™ BLQ4 utilizes patented technology that eliminates drips and is designed for long-term connected use.
- Innovative valve design
- Non-spill valves

BENEFITS

- Enables extended periods in connected state
- Able to withstand long-term, repeated use
- Allows full flow even when not fully engaged
- Space saving

LIQUID COOLING

cpcworldwide.com/Everis-BLQ4

Metal or plastic quick disconnects?
Download the tech guide to learn about performance, weight, and compatibility considerations.

cpcworldwide.com/LC-HP-Plastic-Guide
**EVERIS™ BLQ6 SERIES CONNECTOR**

**EVERIS™ BLQ6 Series quick disconnect couplings** Ultra-reliable, non-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 gpm/min, 11.3 L/min

**ENGAGEMENT TOLERANCE:** Coupling must be within 1/32" 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

**SPLILAGE:**
- <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 CPC’s products in their own application conditions.

### FEATURES

- Non-spill valve
- Redundant seals
- Innovative valve design
- Rugged anodized aluminum
- Axial engagement tolerance
- Optional panel mount kit

### BENEFITS

- Disconnect under pressure with no spills
- Extra protection from leak-causing contaminants and debris
- Provides reliability for extended periods of operation
- Able to withstand long-term, ongoing and repeated use
- Allows full flow even when not fully engaged
- Enables either the body, insert or both to be panel mounted

**PRODUCT DIMENSIONS**

**COUPLING BODIES** - Nickel-chrome plated brass

**COUPLING INSERTS** - Nickel-chrome plated brass

**PRESSURE DROP, ∆ P (psi)**

<table>
<thead>
<tr>
<th>TERMINATION</th>
<th>THREAD SIZE</th>
<th>METRIC EQ</th>
<th>SAE PKG</th>
<th>USE</th>
<th>MANUFACTURER'S SIZE</th>
<th>CONFIGURATION</th>
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</thead>
<tbody>
<tr>
<td>IN-LINE STRAIGHT THREAD SAE</td>
<td>G 1/2</td>
<td>N/A</td>
<td>BLQ6D0006</td>
<td>7/8&quot;</td>
<td>(28.4)</td>
<td>0.06 (1.68)</td>
</tr>
<tr>
<td>IN-LINE STRAIGHT THREAD G / BSPP</td>
<td>G 1/2</td>
<td>N/A</td>
<td>BLQ6D1008</td>
<td>26</td>
<td>1.27 (32.7)</td>
<td>2.26 (57.6)</td>
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</table>

**PRESSURE DROP, ∆ P (bar)**

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**PRESSURE DROP, ∆ P (lpm)**

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<td>2.26 (57.6)</td>
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</table>

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.

**PRESSURE (psi)**

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<tr>
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**PRESSURE (lpm)**

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<td>26</td>
<td>1.27 (32.7)</td>
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</table>

**PRESSURE (bar)**

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<td>(28.4)</td>
<td>0.06 (1.68)</td>
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<td>G 1/2</td>
<td>N/A</td>
<td>BLQ6D1008</td>
<td>26</td>
<td>1.27 (32.7)</td>
<td>2.26 (57.6)</td>
</tr>
</tbody>
</table>

- All measurements are in inches (millimeters) unless otherwise noted.
- All SAE terminations are compatible with SAE J1926-1 ports.
- G-20 SAE terminations are compatible with SAE J1926-1 ports.
- Kit price design.
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 380°F (-40°C to 193°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
O-rings: Buna-N
FINISH: Chrome
TUBING SIZES: 1/4" to 3/8" ID, 6.4mm to 9.5mm ID

FEATURER

- Brass material
- Chrome plating
- High temperature capability
- CPC thumb latch
- Compatible

LC WATER FLOW

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. Choose a product and the most suitable coupling configurations selected, you can reasonably expect values to fall within the shaded area.

NOTE

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

BENEFITS

- Durable construction withstands higher pressure and temperature
- Attractive appearance
- Versions rated to 400°F (204°C)
- One-hand connection and disconnection

LC mates with PLC Series couplings

NOTE

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

TABLE

<table>
<thead>
<tr>
<th>LC SERIES</th>
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<th>LC14004</th>
<th>LC16004</th>
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<td>0.58</td>
<td>0.68</td>
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<tr>
<td>LC16006</td>
<td>0.28</td>
<td>0.38</td>
<td>0.48</td>
<td>0.58</td>
</tr>
</tbody>
</table>

NOTE

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

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.

Cv VALUES

- Q = Flow rate in gallons per minute
- Cv = Average coefficient across various flow rates (base chart)
- AP = Pressure drop across coupling (psid)
- S = Specific gravity of liquid

NOTE

High temperature versions available with ratings to 400°F. Call customer service for more information.
### LC SERIES DIMENSIONS

**COUPLING BODIES** - Chrome-plated brass

<table>
<thead>
<tr>
<th>TERMINATION</th>
<th>NPT THREAD SIZE</th>
<th>METRIC EQ</th>
<th>STRAIGHT THRU</th>
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<tr>
<td>IN-LINE PIPE THREAD</td>
<td>1/4&quot; NPT</td>
<td>LC10004</td>
<td>0.98 (25.4)</td>
<td>1.05 (26.7)</td>
</tr>
<tr>
<td></td>
<td>1/4&quot; BSPT</td>
<td>LC10004BSP</td>
<td>0.98 (25.4)</td>
<td>1.05 (26.7)</td>
</tr>
<tr>
<td></td>
<td>5/32&quot; NPT</td>
<td>LC10005</td>
<td>0.98 (25.4)</td>
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<td>PANEL MOUNT FERRULELESS POUTUBE FITTING, PTF†</td>
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<td>6.4mm OD, 4.3mm ID</td>
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<td>0.98 (25.4)</td>
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<tr>
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<td>3/8&quot;, 0.14&quot; ID</td>
<td>5.5mm OD, 4.3mm ID</td>
<td>LC15006</td>
<td>0.88 (22.4)</td>
</tr>
<tr>
<td></td>
<td>5/32&quot; ID</td>
<td>7.9mm ID</td>
<td>LC16004</td>
<td>0.88 (22.4)</td>
</tr>
<tr>
<td></td>
<td>3/32&quot; ID</td>
<td>9.5mm ID</td>
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<tr>
<td>PANEL MOUNT HOSE BARB</td>
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<td>6.4mm ID</td>
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<td>0.88 (22.4)</td>
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<tr>
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<td>5/32&quot; ID</td>
<td>7.9mm ID</td>
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<tr>
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<td>3/32&quot; ID</td>
<td>9.5mm ID</td>
<td>LC17006</td>
<td>0.88 (22.4)</td>
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<td>6.4mm ID</td>
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<td>7.9mm ID</td>
<td>LC19005</td>
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</tbody>
</table>

**COUPLING INSERTS** - Chrome-plated brass

<table>
<thead>
<tr>
<th>TERMINATION</th>
<th>NPT THREAD SIZE</th>
<th>METRIC EQ</th>
<th>STRAIGHT THRU</th>
<th>SHUTOFF</th>
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<tbody>
<tr>
<td>IN-LINE PIPE THREAD</td>
<td>1/4&quot; NPT</td>
<td>LC20004</td>
<td>0.98 (25.4)</td>
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<td>1/4&quot; BSPT</td>
<td>LC20004BSP</td>
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<tr>
<td></td>
<td>5/32&quot; NPT</td>
<td>LC20005</td>
<td>0.98 (25.4)</td>
<td>1.05 (26.7)</td>
</tr>
<tr>
<td>PANEL MOUNT FERRULELESS POUTUBE FITTING, PTF†</td>
<td>3/8&quot;, 0.17&quot; ID</td>
<td>6.4mm OD, 4.3mm ID</td>
<td>LC21004</td>
<td>0.98 (25.4)</td>
</tr>
<tr>
<td></td>
<td>3/8&quot;, 0.14&quot; ID</td>
<td>5.5mm OD, 4.3mm ID</td>
<td>LC21005</td>
<td>0.88 (22.4)</td>
</tr>
<tr>
<td></td>
<td>5/32&quot; ID</td>
<td>7.9mm ID</td>
<td>LC22004</td>
<td>0.88 (22.4)</td>
</tr>
<tr>
<td></td>
<td>3/32&quot; ID</td>
<td>9.5mm ID</td>
<td>LC22005</td>
<td>0.88 (22.4)</td>
</tr>
<tr>
<td>PANEL MOUNT HOSE BARB</td>
<td>1/4&quot; ID</td>
<td>6.4mm ID</td>
<td>LC24004</td>
<td>0.88 (22.4)</td>
</tr>
<tr>
<td></td>
<td>5/32&quot; ID</td>
<td>7.9mm ID</td>
<td>LC24005</td>
<td>0.88 (22.4)</td>
</tr>
<tr>
<td></td>
<td>3/32&quot; ID</td>
<td>9.5mm ID</td>
<td>LC24006</td>
<td>0.88 (22.4)</td>
</tr>
</tbody>
</table>

**PRODUCT DIMENSIONS**

<table>
<thead>
<tr>
<th>PANEL DIMENSIONS</th>
<th>COUPLING BOBIES</th>
<th>COUPLING INSERTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANEL THICKNESS</td>
<td>MAX. – MIN.</td>
<td>PANEL NUT HEX</td>
</tr>
<tr>
<td>0.08 – 0.25</td>
<td>7/32&quot; – 1/16&quot; NPT</td>
<td>1/16&quot;, 24UNEF</td>
</tr>
</tbody>
</table>

**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, etc. Contact CPC for more information.

---

**HOSE BARB ELBOW**

**Hose Barb Polyurethane Fitting, PTF† Ferruleless Polytube**

**Panel Mount Polyurethane Fitting, PTF† Ferruleless Polytube**

**Pipe Thread (Female)**

**Termination**

**Panel Opening**

**Panel Thickness**

MAX.–MIN.

**Panel Nut**

**Panel Nut Thread**

**Chrome-plated brass**

- 3/8" ID
- 5/16" ID
- 1/4" ID
- 3/8" OD, 1/4" ID
- 1/4" OD, 0.17" ID
- 1/4" OD, 0.14" ID
- 5/32" ID
- 3/32" ID
- 9.5mm OD, 6.4mm ID
- 6.4mm OD, 4.3mm ID
- 7.9mm ID
- 9.5mm ID
- 1.15 (29.2)
- 0.72 (18.3)
- 0.72 (18.3)
- 0.72 (18.3)
- 0.94 (23.9)
- 1.28 (32.5)
- 1.25/1.87 (31.8/47.5)
- 1.25/1.90 (31.8/48.3)
- 1.25/1.55 (31.8/39.4)
**NS212 SERIES CONNECTOR**

**NS212 Series couplings** were built on the company’s proven platform of non-spill valves designed to provide fast, safe and leak-free fluid line connections. The NS212 is an easy, twist-to-connect coupling with an integrated locking mechanism and double-sided non-spill shutoff valves. It is also chemically resistant and ideal for a diverse range of applications including painting and ink management, analytical instrumentation, electronic cooling and chemical handling. NS212 couplings provide high-flow fluid transfer in a small footprint.

### SPECIFICATIONS

**PRESSURE:** Vacuum to 45 psi, 3.1 bar

**TEMPERATURE:** 32°F to 120°F (0°C to 49°C)

**MATERIALS:**
- Main components: Glass-filled polypropylene
- Valve spring: 316 stainless steel
- Seal material: EPDM (FKM/Silicon/FFKM optional)

**COLOR:** Gray with black accent standard

**TUBING SIZES:**
- 1/8” and 1/4” ID, 3.2mm and 6.4mm ID

**SPILLAGE:** <0.025 cc/disconnect

**INCLUSION:** 0.009 cc/connect

---

**FEATURES**

- Efficient, non-spill design
- Disconnect under pressure with no spills
- Multiple seal materials
- Broad chemical compatibility for diverse applications
- Twin-to-connect locking
- Easy, non-spill connections in tight spaces
- Compact design
- High flow in a small connector
- Ultra low air inclusion
- Minimizes contaminants, reduces the need to purge lines

**BENEFITS**

- Ultra low air inclusion
- Easy, non-spill connections in tight spaces
- High flow in a small connector
- Disconnect under pressure with no spills
- Efficient, non-spill design
- Multiple seal materials
- Broad chemical compatibility for diverse applications
- Twin-to-connect locking
- Compact design
- Ultra low air inclusion

---

**PRESSURE DROP, ∆P (bar)**

- 0.00 0.30 0.50 0.70 1.00 1.73 2.05
- 0.00 0.10 0.30 0.40 0.50 0.60 0.80

---

**PRODUCT DIMENSIONS**

**PANEL DIMENSIONS**

- Panel thickness: 0.30 – 0.05

---

**ACCESSORIES**

- **DESCRIPTION:** Panel Mount Gasket Replacement for Sealing Panel Mount Bodies Listed Above
- **Material:** Buna-N
- **Part No.:** 1833006

---

**PHOTO:**

![NS212 Connector Image](cpcworldwide.com/NS212)

---

**NS212 SERIES DIMENSIONS**

**COUPLING BODIES - Polypropylene**

<table>
<thead>
<tr>
<th>TERMINATION</th>
<th>TUBING/TUBE SIZE</th>
<th>METRIC CO.</th>
<th>SHUTOFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN-LINE PIPE THREAD</td>
<td>1/8” NPT</td>
<td>0.30 – 0.05</td>
<td>1.27 (32.3)</td>
</tr>
<tr>
<td>IN-LINE HOSE BARB</td>
<td>1/8” OD, .17 ID</td>
<td>0.44 (11.2)</td>
<td>1.53 (38.6)</td>
</tr>
<tr>
<td>IN-LINE HOSE BARB</td>
<td>1/4” OD, .17 ID</td>
<td>0.44 (11.2)</td>
<td>1.53 (38.6)</td>
</tr>
</tbody>
</table>

---

**COUPLING INSERTS - Polypropylene**

<table>
<thead>
<tr>
<th>TERMINATION</th>
<th>TUBING/TUBE SIZE</th>
<th>METRIC CO.</th>
<th>SHUTOFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN-LINE PIPE THREAD</td>
<td>1/8” NPT</td>
<td>0.30 – 0.05</td>
<td>1.27 (32.3)</td>
</tr>
<tr>
<td>IN-LINE HOSE BARB</td>
<td>1/8” OD, .17 ID</td>
<td>0.44 (11.2)</td>
<td>1.53 (38.6)</td>
</tr>
<tr>
<td>IN-LINE HOSE BARB</td>
<td>1/4” OD, .17 ID</td>
<td>0.44 (11.2)</td>
<td>1.53 (38.6)</td>
</tr>
</tbody>
</table>

---

** graduations are intended to give a general idea of the performance capabilities of each product size. 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."
## 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 couplings 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 TPV® soft-touch overmold
- Thumb latch: Glass-filled polypropylene, ABS
- Valve spring: 316 stainless steel
- External spring: 316 stainless steel
- O-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:** <0.08 cc per disconnect at all rated pressures

**Inclusion:** 0.25 cc per connect

### Features

**Non-spill design**
- Disconnect under pressure with no spills

**Color coding**
- Instant visual differentiation of media lines

**Glass-filled polypropylene**
- Durable and compatible with many chemicals

**Medical-grade ABS**
- Gamma sterilizable

### Benefits

**NS4 Water Flow**

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Flow (gpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2.04</td>
</tr>
<tr>
<td>15</td>
<td>2.32</td>
</tr>
<tr>
<td>25</td>
<td>2.58</td>
</tr>
<tr>
<td>35</td>
<td>2.81</td>
</tr>
<tr>
<td>50</td>
<td>3.11</td>
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<tr>
<td>65</td>
<td>3.41</td>
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<tr>
<td>80</td>
<td>3.66</td>
</tr>
<tr>
<td>90</td>
<td>3.91</td>
</tr>
<tr>
<td>100</td>
<td>4.12</td>
</tr>
</tbody>
</table>

**NS4 Pressure Range**

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Pressure (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>1.4</td>
</tr>
<tr>
<td>25</td>
<td>2.8</td>
</tr>
<tr>
<td>35</td>
<td>4.2</td>
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<tr>
<td>50</td>
<td>5.6</td>
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<tr>
<td>65</td>
<td>7.0</td>
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<tr>
<td>80</td>
<td>8.4</td>
</tr>
<tr>
<td>90</td>
<td>9.8</td>
</tr>
<tr>
<td>100</td>
<td>11.2</td>
</tr>
</tbody>
</table>

### NS4 Series Dimensions

#### Coupling Bodies - Polypropylene/ABS

<table>
<thead>
<tr>
<th>TERMINATION</th>
<th>TUBE THREAD SIZE</th>
<th>METRIC COUPLING</th>
<th>ABS SHUTOFF</th>
<th>POLYPROPYLEN/ABS SHUTOFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT/PT</td>
<td>1/4” NPT</td>
<td>N40300304</td>
<td>N40300304</td>
<td>N40300304FR</td>
</tr>
<tr>
<td>PT/PT</td>
<td>1/4” BSPT</td>
<td>N40300304BSPT</td>
<td>N40300304BSPT</td>
<td>N40300304BSPT</td>
</tr>
<tr>
<td>PT/FITTING</td>
<td>1/4” OD, 1/16” OD</td>
<td>N30100306</td>
<td>N40300304</td>
<td>N40300304</td>
</tr>
<tr>
<td>PT/FITTING</td>
<td>5/8” OD, 1/16” OD</td>
<td>N40300304</td>
<td>N40300304</td>
<td>N40300304</td>
</tr>
<tr>
<td>HOSE BAND</td>
<td>1/8” OD</td>
<td>N40100302</td>
<td>N40100302</td>
<td>N40100302</td>
</tr>
<tr>
<td>HOSE BAND</td>
<td>1/4” OD</td>
<td>N40100304</td>
<td>N40100304</td>
<td>N40100304</td>
</tr>
<tr>
<td>HOSE BAND</td>
<td>5/8” OD</td>
<td>N40100306</td>
<td>N40100304</td>
<td>N40100304</td>
</tr>
<tr>
<td>HOSE BAND (HR-202 INTERCONNECT)</td>
<td>1/8” OD</td>
<td>N40300302</td>
<td>N40300304</td>
<td>N40300304</td>
</tr>
<tr>
<td>HOSE BAND (USB INTERFACE)</td>
<td>1/4” OD</td>
<td>N40300304</td>
<td>N40100304</td>
<td>N40100304</td>
</tr>
<tr>
<td>HOSE BAND (USB INTERFACE)</td>
<td>5/8” OD</td>
<td>N40300306</td>
<td>N40300304</td>
<td>N40100304</td>
</tr>
<tr>
<td>HOSE BAND (USB INTERFACE)</td>
<td>1/2” OD</td>
<td>N40300306</td>
<td>N40300304</td>
<td>N40100304</td>
</tr>
<tr>
<td>HOSE BAND (USB INTERFACE)</td>
<td>3/4” OD</td>
<td>N40300306</td>
<td>N40300304</td>
<td>N40100304</td>
</tr>
</tbody>
</table>

### Coupling Inserts - Polypropylene/ABS

<table>
<thead>
<tr>
<th>TERMINATION</th>
<th>TUBE THREAD SIZE</th>
<th>METRIC COUPLING</th>
<th>ABS SHUTOFF</th>
<th>POLYPROPYLEN/ABS SHUTOFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT/PT</td>
<td>1/4” NPT</td>
<td>N40200404</td>
<td>N40200404</td>
<td>N40200404</td>
</tr>
<tr>
<td>PT/PT</td>
<td>1/4” BSPT</td>
<td>N40200404BSPT</td>
<td>N40200404BSPT</td>
<td>N40200404</td>
</tr>
<tr>
<td>PT/FITTING</td>
<td>1/4” OD, 1/16” OD</td>
<td>N40300404</td>
<td>N40300404</td>
<td>N40300404</td>
</tr>
<tr>
<td>PT/FITTING</td>
<td>5/8” OD, 1/16” OD</td>
<td>N40300406</td>
<td>N40300404</td>
<td>N40300404</td>
</tr>
<tr>
<td>HOSE BAND</td>
<td>1/8” OD</td>
<td>N40300402</td>
<td>N40300402</td>
<td>N40300402</td>
</tr>
<tr>
<td>HOSE BAND</td>
<td>1/4” OD</td>
<td>N40300404</td>
<td>N40300404</td>
<td>N40300404</td>
</tr>
<tr>
<td>HOSE BAND</td>
<td>5/8” OD</td>
<td>N40300406</td>
<td>N40300404</td>
<td>N40300404</td>
</tr>
<tr>
<td>PANEL MOUNT</td>
<td>1/8” OD</td>
<td>N40300402</td>
<td>N40300402</td>
<td>N40300402</td>
</tr>
<tr>
<td>PANEL MOUNT</td>
<td>1/4” OD</td>
<td>N40300404</td>
<td>N40300404</td>
<td>N40300404</td>
</tr>
<tr>
<td>PANEL MOUNT</td>
<td>5/8” OD</td>
<td>N40300406</td>
<td>N40300404</td>
<td>N40300404</td>
</tr>
<tr>
<td>PANEL MOUNT</td>
<td>1/8” OD</td>
<td>N40300402</td>
<td>N40300402</td>
<td>N40300402</td>
</tr>
<tr>
<td>PANEL MOUNT</td>
<td>1/4” OD</td>
<td>N40300404</td>
<td>N40300404</td>
<td>N40300404</td>
</tr>
<tr>
<td>PANEL MOUNT</td>
<td>5/8” OD</td>
<td>N40300406</td>
<td>N40300404</td>
<td>N40300404</td>
</tr>
<tr>
<td>ELBOW</td>
<td>1/8” OD</td>
<td>N40300402</td>
<td>N40300402</td>
<td>N40300402</td>
</tr>
<tr>
<td>ELBOW</td>
<td>1/4” OD</td>
<td>N40300404</td>
<td>N40300404</td>
<td>N40300404</td>
</tr>
<tr>
<td>ELBOW</td>
<td>5/8” OD</td>
<td>N40300406</td>
<td>N40300404</td>
<td>N40300404</td>
</tr>
</tbody>
</table>

All measurements are in inches (millimeters) unless otherwise stated. Tubing must meet stated inside and outside diameters. HFC35/37 Pressure Range, PLC Pressure Range, MPU Pressure Range, and NSH Pressure Range are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc. NS4 couplings are resistance welded at one end and feature an extra-heavy body to achieve an secure connection and are therefore easier to use and maintain. NS4, 1/8” ID (3.2mm) hose barb connection has a support shroud allowing a maximum tube OD of 1/4” (6.4mm).

### Accessories

- **Panel Mount Gasket Replacement for Sealing Panel Mount Inserts Listed Above**
  - **Material:** EPDM
  - **Part No.:** 161760
  - **Panel Size:** F48
  - **Part No.:** 161850

### Product Dimensions

<table>
<thead>
<tr>
<th>Panel Opening</th>
<th>Panel Thickness</th>
<th>max.–min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25” – 0.03”</td>
<td>0.25” – 0.03”</td>
<td></td>
</tr>
</tbody>
</table>

### Tooling

- **Parts:**
  - **SUREFLO:**
    - **Series:** 201200480
    - **Panel Thickness:** 0.25 – 0.03
**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, 83 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
- O-rings: EPDM

**COLOR:**
- Gray with dark gray overmold standard; gray with red or blue overmold available

**TUBING SIZES:**
- 3/8” and 1/2” OD, 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

---

**FEATURES**

- Non-spill design
- Color coding
- Glass-filled polypropylene
- CPC thumb latch

**BENEFITS**

- Disconnect under pressure with no spills
- Instant visual differentiation of media lines
- Durable and compatible with many chemicals
- One-hand connection and disconnection

---

**COUPLING INSERTS - Polypropylene**

**ACCESSORIES**

**PRODUCT DIMENSIONS**

**PANEL DIMENSIONS**

---

**NS6 SERIES DIMENSIONS**

**COUPLING BODIES - Polypropylene**

**TERMINATION**
- IN-LINE
- PIPE THREAD
- METRIC QD
- SHUTOFF

**TERMINATION**
- IN-LINE
- COMPRESSOR

**TERMINATION**
- IN-LINE
- HOSE BARB

---

**COUPLING INSERTS - Polypropylene**

**TERMINATION**
- IN-LINE
- PIPE THREAD
- METRIC QD
- SHUTOFF

**TERMINATION**
- IN-LINE
- COMPRESSOR

**TERMINATION**
- IN-LINE
- HOSE BARB

---

**PRODUCT DIMENSIONS**

**PANEL DIMENSIONS**

---

**ACCESSORIES**

**DESCRIPTION**
- PANEL MOUNT GASKET REPLACEMENT FOR SEALING PANEL MOUNT BODIES LISTED ABOVE

**MATERIAL**
- EPDM

**PART NO.**
- 1889600
- 1884300

---

*The overmold material is a TPV thermoplastic elastomer. This TPV is an alloy of polypropylene thermoplastic and Hypalon® elastomer. The material is typically selected for use in acids and bases.

**NOTES:**
- Standard product is gray; color options require a set-up charge and may have lower values shown. Therefore, depending on the exact coupling configuration ordered, you can reasonably expect values to fall within the shaded area.
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 Events 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 male 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 Every™ 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 gaseous 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. Office 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?

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 equals 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 required copies of testing validation reports.

TOLERANCE

What mounting method and locking systems are planned for use with blind male 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?

Contact CPC with your quick disconnect and liquid cooling application-related questions. CPC’s dedicated engineers are happy to help.
**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 specify quick disconnects for liquid applications often begin by evaluating their fluid selection options:

<table>
<thead>
<tr>
<th>FLUID</th>
<th>SPECIFIC GRAVITY</th>
<th>THERMAL CONDUCTIVITY (W/M·°C)</th>
<th>SPECIFIC HEAT CAPACITY (J/G·°C)</th>
<th>VISCOSITY (CST)</th>
<th>BOILING ‘F</th>
<th>FREEZING ‘F</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2-TETRAFLUOROETHANE (R-134a)</td>
<td>0.52</td>
<td>0.082</td>
<td>1440</td>
<td>0.20</td>
<td>-15°</td>
<td>-154°</td>
<td>$55</td>
</tr>
<tr>
<td>MINERAL OIL</td>
<td>0.81</td>
<td>0.106</td>
<td>1670</td>
<td>0.64</td>
<td>382°</td>
<td>-15°</td>
<td>$5</td>
</tr>
<tr>
<td>WATER</td>
<td>1.00</td>
<td>0.580</td>
<td>41.81</td>
<td>1.80</td>
<td>212°</td>
<td>32°</td>
<td>$</td>
</tr>
<tr>
<td>PROPYLENE GLYCOL, 99% SOLUTION</td>
<td>1.04</td>
<td>0.367</td>
<td>3559</td>
<td>5.30</td>
<td>223°</td>
<td>-49°</td>
<td>$5</td>
</tr>
<tr>
<td>2,3,3,3-TETRAFLUOROPROPENE (R-124mF)</td>
<td>1.10</td>
<td>0.064</td>
<td>1382</td>
<td>0.16</td>
<td>-22°</td>
<td>-236°</td>
<td>$55</td>
</tr>
<tr>
<td>ETHYLENE GLYCOL, 50% SOLUTION</td>
<td>1.53</td>
<td>4.402</td>
<td>3230</td>
<td>2.51</td>
<td>254°</td>
<td>-35°</td>
<td>$</td>
</tr>
<tr>
<td>HYDROFLUOROETHER (HFE)</td>
<td>1.86</td>
<td>0.075</td>
<td>1300</td>
<td>0.45</td>
<td>59°</td>
<td>-189°</td>
<td>$555</td>
</tr>
<tr>
<td>FLUORINERT™ FC-72</td>
<td>1.64</td>
<td>0.057</td>
<td>1100</td>
<td>0.64</td>
<td>133°</td>
<td>-130°</td>
<td>$555</td>
</tr>
<tr>
<td>PERFLUOROPOLYETHER (PFPE)</td>
<td>1.70</td>
<td>0.006</td>
<td>960</td>
<td>0.45</td>
<td>335°</td>
<td>546°</td>
<td>23°</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>CYCLICLESS GASES</th>
<th>PROPYLENE GLYCOL</th>
<th>MINERAL OIL</th>
<th>REFRIGERANTS</th>
<th>DIELECTRICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMERCIAL PLASTICS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>F</td>
<td>B</td>
</tr>
<tr>
<td>ENGINEERED THERMOPLASTICS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>ELASTOMERS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>ALUMINUM</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>BRASS (PLATED)</td>
<td>A</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>COPPER</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>STAINLESS STEEL</td>
<td>A</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

1. Thermoplastics may be engineered to enhance compatibility with specific refrigerants.
2. Most elastomers are compatible, however EPDM is not recommended for use with mineral oil.
3. Elastomers may be engineered to enhance compatibility with specific refrigerants and dielectric fluids.

**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. 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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There is nothing like holding a product and seeing how smoothly and intuitively it works. Many quick disconnects are available in small quantities from the website. Purchase CPC’s liquid cooling connectors conveniently and securely online using a credit card on each product page. If you don’t see your desired QD available as a “single,” just contact CPC customer service at 1-800-444-2474 or 651-645-0091 or e-mail your request to info@cpcworldwide.com. Contact us if you need a sample for testing or prototyping.

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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.

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

CONTACT
If you need additional information about our liquid cooling quick connects or how we can help you research and identify the fluid handling connector solutions for your application, just contact us at 1-800-444-2474 or 651-645-0091 or e-mail your request to info@cpcworldwide.com. Our sales team, distributors and/or applications engineers can collaborate with you to specify, integrate, and deploy reliable thermal management QDs from CPC to meet your liquid cooling fluid management needs.
CUSTOM PROJECT CAPABILITIES

Drawing upon our skills in innovation, we can engineer a custom-made connector for your application. Count on us to deliver the fluid handling expertise and experience 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 CUSTOMS PROJECT

• When a new design would add value to a system making it easier to use and 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 handling requirements.

REQUEST A QUOTE

For complex liquid cooling systems needing multiple quick disconnects of varying sizes or for large orders, consider requesting a quote. CPC will work with you to understand your volume and schedule and associated delivery needs.

FIND A DISTRIBUTOR

CPC has distributors all around the world. Find one in your region or country on the website or call CPC’s Customer Service at 1-800-444-2474 or 651-645-0091. You can also send an email to info@cpcworldwide.com.

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 info@cpcworldwide.com.

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