



DRIVE INNOVATION FORWARD.

QUICK DISCONNECT COUPLINGS

**LIQUID COOLING OF EV CHARGING
AND EV FLEET OPERATIONS**

CPCWORLDWIDE.COM/LIQUIDCOOLING



EV CHARGING KEEPS THE PACE.

According to the International Energy Agency's 2020 EV report, the electric vehicle (EV) market will grow by 36% annually, reaching 245 million vehicles globally in 2030. DC fast and extreme fast charging infrastructure is needed to support this growth. And what's necessary for that?

LIQUID COOLING.



FAST CHARGING IS HEATING UP.

DC fast charging relies on higher power — over 350kW or more in Extreme Fast Chargers (XFCs). That kind of power generates significant heat. As external converters and EV supply equipment controls are responsible for safely and effectively managing the higher power levels between the charger and an EV, they require effective thermal management.

And this poses another challenge. A DC fast charger necessitates larger conductors. Along with increased charging speed and higher heat, the resulting cables can become bulky and unwieldy.

LIQUID COOLING: DRIVING INNOVATION FORWARD.

High-power EV charging solutions require the benefits of liquid cooling. Compared to standard air cooling, liquid cooling offers more efficient heat dissipation — the key to unlocking higher performance and shorter charging times.

Further, liquid cooled charging cables can use smaller conductors to reduce cable weight by up to 40%. That allows them to fit where other cables can't, optimizing limited space. As an added benefit, lighter-weight cables are easier to handle for consumers, promoting safe and reliable operation.

LIQUID COOLING EV APPLICATIONS USE QUICK DISCONNECT COUPLINGS (QDs)

IN THE HOSE HANDLE “NOZZLE”

AT THE INVERTER OF THE CHARGING
UNIT NEAR POWER SOURCE

AS PART OF DISTRIBUTION
NODES OF CONSOLIDATED
CHARGING UNITS

WITHIN FLEET BATTERY CHARGING
BAY STATION SYSTEMS

ON BOARD VEHICLES,
NEAR BATTERY AND/OR DRIVE
TRAIN SYSTEMS

ANYWHERE ELSE HEAT NEEDS
EFFICIENT DISSIPATION



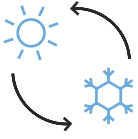
A GLOBAL LEADER IN LIQUID COOLING CONNECTORS.

CPC has been delivering robust, leak-free, worry-free couplings for liquid cooling of electronics for over a decade. Our thermal management expertise and proven record of custom-engineered solutions not only ensures that a variety of CPC quick disconnects are available to suit your application, it allows us to innovate at your pace when new options are needed.

PAVING THE WAY FOR EV CHARGING INFRASTRUCTURE.

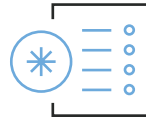
CPC quick disconnect couplings are purpose-built to address the challenges design engineers face and facilitate the cooling necessary to keep EVs charged and running.

YOUR CHALLENGES



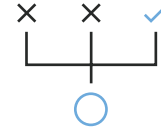
Extreme Conditions

It's a big world — high power charging stations (HPCs) need to operate from the blistering heat of the desert to the sub-zero temperatures of winter.



Development Support

Before EV infrastructure is widely adopted, it needs to provide an inarguable benefit. With products providing top flow to size ratios, we can help you ensure you're making the best case for efficiency.



Complex Infrastructure

From the space constraints of HPCs themselves to the various needs of manufacturers, fleet operators, cities, utilities and drivers, you need flexible solutions. CPC QDs are manufactured in a variety of sizes and materials.

OUR SOLUTIONS



Dependable Durability

CPC couplings are tough enough to withstand the elements, with robust seals designed for extended connection and options that are compatible with a wide variety of system coolants. Testing validates performance at extreme climates.



Trusted Reliability

Application-specific design, robust testing and high-performance manufacturing practices ensure quality products that charging station manufacturers and infrastructure operators alike can rely upon, reducing repairs and charging system downtime.



Maximum Versatility

We offer a wide portfolio of solutions with standard products manufactured in a variety of sizes that are trusted by the world's most trusted EV charging station manufacturers. Custom-engineered solutions are available for unique needs.



TORTURE TESTED AGAIN AND AGAIN AND AGAIN.

We want you to be absolutely confident in our liquid cooling connectors. That's why we are always testing them. It starts with materials testing, followed by product testing and then torture testing to failure. In addition to published validation reports, our connectors are designed and manufactured to meet the stringent ISO 9001 and ISO 13485 quality standards. All of which means you can rest easy knowing that CPC products will perform to their specifications. Our testing protocols include:

**HELIUM MASS SPECTROMETER
LEAK TESTING**

BUBBLE LEAK TESTING

PRESSURE DECAY TESTING

HYDROSTATIC LEAK TESTING

AND MORE

IMPRESSIVE INNOVATION. UNPARALLELED PERFORMANCE.



Backed by decades of experience, we're at the forefront of innovation, delivering the features needed to connect with confidence.



An ergonomically designed thumb latch provides both ease and speed of installation and system maintenance — just listen for the CPC “click” to know you're connected.



Optimized flowrates for superior performance.



A robust portfolio of QDs allow coolant to efficiently chill inverters, umbilicals and other components within your system.



Blind mates provide access to power inverters at the back of HPCs no matter how hard to reach they may be and provide flow tolerances at connection. They can also compensate for axial tolerance variations in assemblies without sacrificing flow performance.



Made of durable PPSU or metal and high-performance polymers that withstand pressures during installation and use (side load, flexing, tensile forces) for years of leak-free reliability.

MEET YOUR LIQUID COOLING LINEUP.

A wide variety of use cases within EV charging applications requires a wide portfolio of products. CPC offers the quick disconnect couplings options you need with features like non-spill shutoff valves and locking hose barb terminations.

CPC's innovative design and quality manufacturing spans all product lines. However, Everis™ connectors are exclusively designed and built for the rigors of liquid cooling applications. But it doesn't end there. CPC continues to expand the portfolio with advanced engineering coupling models along with new size, configuration and termination option solutions. Visit cpcworldwide.com/liquidcooling for details.

EVERIS™ LQ SERIES

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



Everis™ LQ2

Nominal flow of 1/8" (3.2 mm)
with a Cv of 0.37 (Kv 0.32)
Termination options: locking hose barb, SAE, & G thread



Everis™ LQ4

Nominal flow of 1/4" (6.4 mm)
with a Cv of 1.3 (Kv 1.1)
Termination options: hose barb, locking hose barb, SAE, NPT, G thread, & PTF



Everis™ LQ6

Nominal flow of 3/8" (9.5 mm)
with a Cv of 2.2 (Kv 1.9)
Termination options: hose barb, locking hose barb, SAE, NPT, G thread, & PTF



Everis™ LQ8

Nominal flow of 1/2" (12.7 mm)
with a Cv of 6 (Kv 5.2)
Termination options: locking hose barb, SAE & G thread

EVERIS™ BLQ SERIES

Designed specifically for integrated mounting and external locking engagement, with ultra-reliable dripless connections and disconnections.



Everis™ BLQ2

Nominal flow of 1/8" (3.2 mm)
with a Cv of 0.37 (Kv 0.32)
Termination option: SAE



Everis™ BLQ4

Nominal flow of 1/4" (6.4 mm)
with a Cv of 1.3 (Kv 1.1)
Termination options: SAE & G thread



Everis™ BLQ6

Nominal flow of 3/8" (9.5 mm)
with a Cv of 2.2 (Kv 1.9)
Termination options: SAE & G thread

EVERIS™ PLQ SERIES

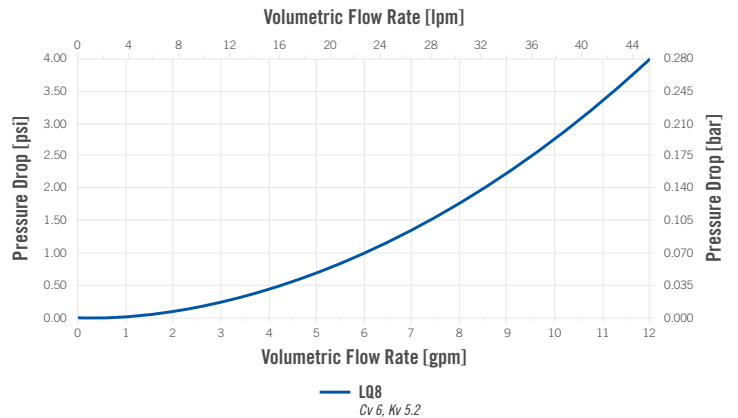
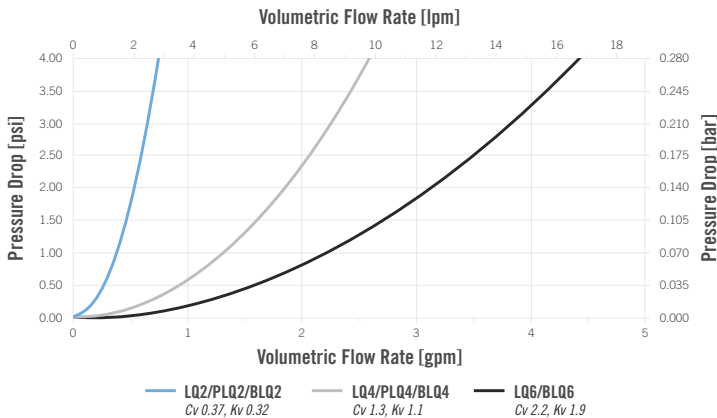
The robust Everis PLQ series' high-performance polyphenylsulfone PPSU QDs are lightweight, dimensionally stable and UL94 VO-rated. Specify the Everis PLQ line to avoid galvanic corrosion and condensation issues.



Everis™ PLQ2
 Nominal flow of 1/8" (3.2 mm)
 with a Cv of 0.37 (Kv 0.32)
 Termination options: Locking
 hose barb, SAE, G thread



Everis™ PLQ4
 Nominal flow of 1/4" (6.4 mm)
 with a Cv of 1.3 (Kv 1.1)
 Termination options: hose barb,
 locking hose barb, SAE, G thread



Note: Graphs indicate flow performance using water at room temperature

NS SERIES

Unlike Everis quick disconnects which are specifically designed for the rigors of liquid cooling, NS couplings are general purpose non-spill connectors commonly used in applications where just a single seal is required.

(Everis products have dual seals.)

Like all Everis couplings, NS couplings feature a non-spill valve which results in a wetted surface as the extent of fluid egress upon disconnect.



LC SERIES

CPC's Chrome-plated brass LC Series are built tough to withstand higher pressures and temperatures than the Everis and the NS Series quick disconnects.

They also feature the audible CPC signature click for confirmation of connection along with the CPC latch which allows for easy one-handed operation.



INNOVATION BORN FROM EXPERIENCE.

For over 40 years, CPC has been a leading provider of quick disconnect couplings, fittings and connectors. Our expertise in liquid cooling doesn't stop at electric vehicle charging — we're active in liquid cooling applications ranging from high performance computing to radar, lasers, 5G, medical devices and more.

By synthesizing our learnings from such a wide variety of disciplines, we are able to innovate in unexpected ways, anticipate future challenges and bring you the best purpose-built solutions.

READY TO HIT THE ROAD TOGETHER?

We want to work with you today to drive EV charging solutions forward.



KNOW EXACTLY WHAT YOU'RE LOOKING FOR?

Great, let's get down to business. Just call or e-mail us at info@cpcworldwide.com to request samples or a quote.

CPCWORLDWIDE.COM

North America

1-800-444-2474

Europe

49-6026-9973-0

Asia Pacific

(852) 2987-5272



CPC WARRANTY STATEMENT: CPC (Colder Products Company) warrants its products against defects in workmanship and materials for a period of 12 months from the date of sale by CPC to its initial customer (regardless of any subsequent sale of the products). This warranty is void if the product is misused, altered, tampered with or is installed or used in a manner that is inconsistent with CPC's written recommendations, specifications and/or instructions, or fails to perform due to normal wear and tear. CPC does not warrant the suitability of the product for any particular application. Determining product application suitability is solely the customer's responsibility. CPC is not liable for special, indirect, incidental, consequential or other damages including, but not limited to, loss, damage, personal injury, or any other expense directly or indirectly arising from the use of or inability to use its products either separately or in combination with other products. ALL OTHER WARRANTIES EXPRESS OR IMPLIED, WHETHER ORAL, WRITTEN OR IN ANY OTHER FORM, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY EXCLUDED. The sole and exclusive remedy under this warranty is limited, at the option of CPC, to replacement of the defective product or an account credit in the amount of the original selling price. All allegedly defective CPC products must be returned prepaid transportation to CPC, together with information describing the product's application and performance, unless otherwise authorized in writing by CPC.

CPC PATENT STATEMENT: CPC takes pride in its innovative quick disconnect coupling and fittings solutions, many of which have been awarded United States and international patents. CPC has a strong tradition of leadership in the quick disconnect market, and aggressively pursues and protects its proprietary information and intellectual property. In cases where it is practical and has a benefit to its customers, CPC has licensed its proprietary technology. Please contact CPC to discuss your unique needs.

CPC TRADEMARK STATEMENT: AseptiQuik®, BottleQuik®, BreakAway®, ChemQuik®, DrumQuik®, FitQuik®, IdentiQuik®, Nu-Seal®, SnapQuik®, Steam-Thru®, Softube® are registered trademarks with the U.S. Patent & Trademark Office. All other trademarks or service marks are property of their respective owners.

WARNING: Due to the wide variety of possible fluid media and operating conditions, unintended consequences may result from the use of this product, all of which are beyond the control of CPC. It is the user's responsibility to carefully determine and test for compatibility for use with their application. All such risks shall be assumed by the buyer.

WANT TO COLLABORATE?

For designers of EV charging, on-board liquid cooling and EV fleet battery systems, we've curated tools and resources to help you tackle any challenge:

- **ASK AN ENGINEER**
- **WHITE PAPERS**
- **LIQUID COOLING TECH GUIDES**
- **CAD FILES**

VISIT US AT CPCWORLDWIDE.COM TO GET STARTED.

HEADQUARTERS

2820 Cleveland Ave. N.,
Roseville, MN, USA 55113

Toll Free: +1 (800) 444-2474

Phone: +1 (651) 645-0091

Fax: +1 (651) 645-5404

EUROPE

Kurhessenstrasse 15
64546 Mörfelden-Walldorf
Germany

Phone: +49 6026 9973-0

SHANGHAI

Room 1802, Building A, IBC,
391 Guiping Road, Xuhui District,
Shanghai, China 200233

Phone: +86 21 2411 2666

Toll Free: +86 400 990 1978