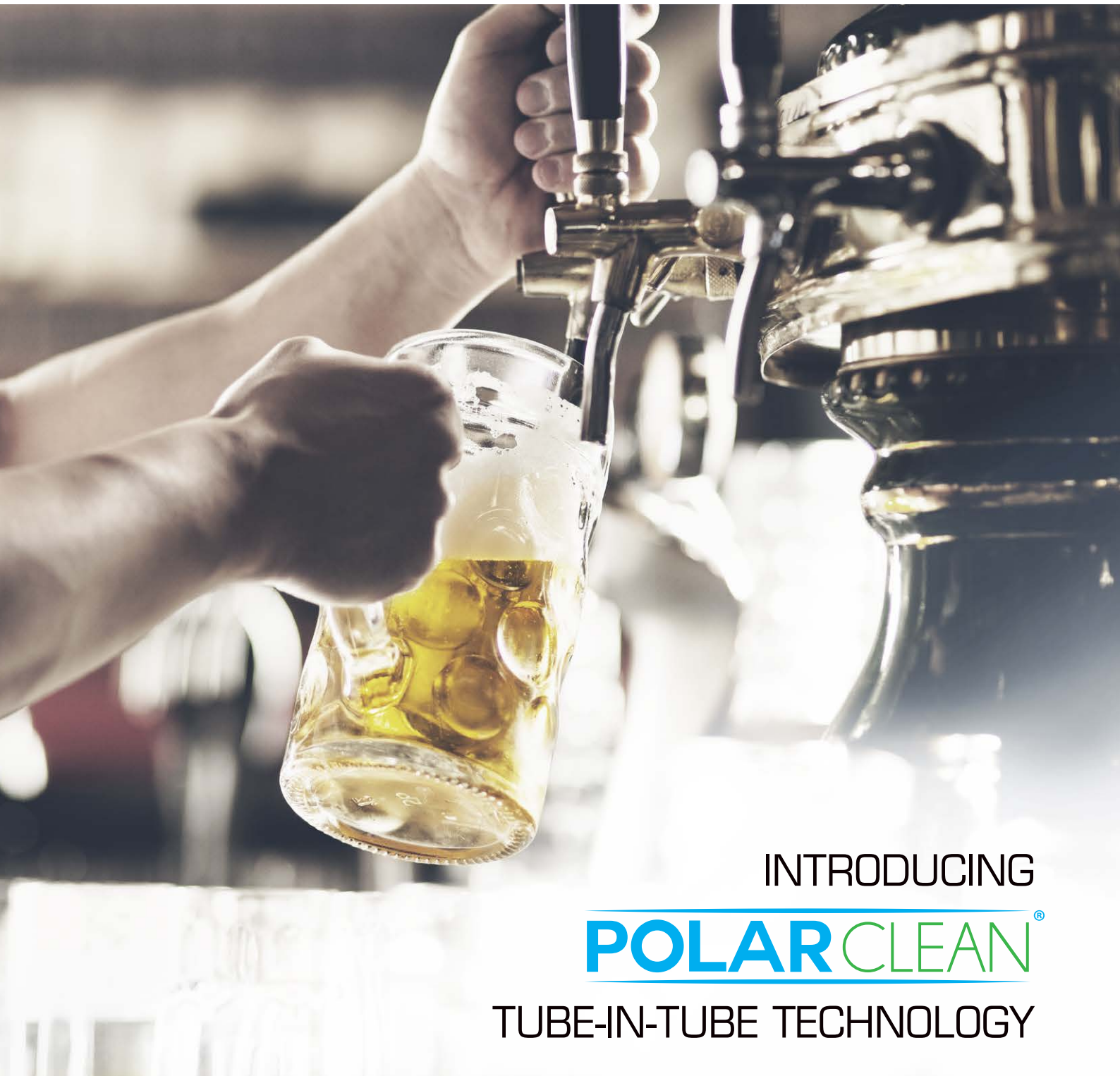




John Guest®

The Push-fit People



INTRODUCING

POLARCLEAN®

TUBE-IN-TUBE TECHNOLOGY

*Cool, fresh beer every time,
with Polarclean.*

WHAT IS **POLAR**CLEAN®?

Polarclean® is a simple yet innovative push-fit drinks dispense range, conceptualized and developed by John Guest. The range enhances the conditioning of beer & beverages in the supply tube using 'tube-in-tube' technology. The improved heat transfer efficiency of tube-in-tube compared to traditional 'contact' cooling, allows pubs, bars and restaurants to serve extra cold beer & beverage at every pour, without a cold-room or secondary cooling device.

Tube-in-tube can be deployed from keg to tap and helps overcome product stagnation by keeping every part of the draught system consistently cold, providing a fresh as well as hygienic environment. By maintaining a low temperature environment it may be possible to considerably reduce beer-line cleaning frequency, reducing product wastage.

The Polarclean range utilises John Guest's world renowned Speedfit Technology enabling fast and reliable connections, without the need of tools. John Guest manufactures many millions of push-fit connectors each year across a broad spectrum of applications including: Automotive, Plumbing & Heating, Industrial, Drinks Dispense, Water Purification and Telecommunications.





HOW DOES IT WORK?

Polarclean technology allows one push-fit connection inside another, enabling a tube-in-tube arrangement. The internal primary product tube is fully enveloped by a secondary external tube carrying a constantly recirculating refrigerated coolant (typically water or water/glycol blend), over the entire length of the system. The refrigerated coolant and more efficient heat transfer of tube-in-tube maintains the critically low temperatures necessary to keep beer and beverage fresh.

Polarclean also offers much more flexibility for draught installations because the keg, cooler and font can all be located separately at a distance to better suit the constraints of the venue. This is unlike current small draught systems, where keg, cooler and font must all be in close proximity.

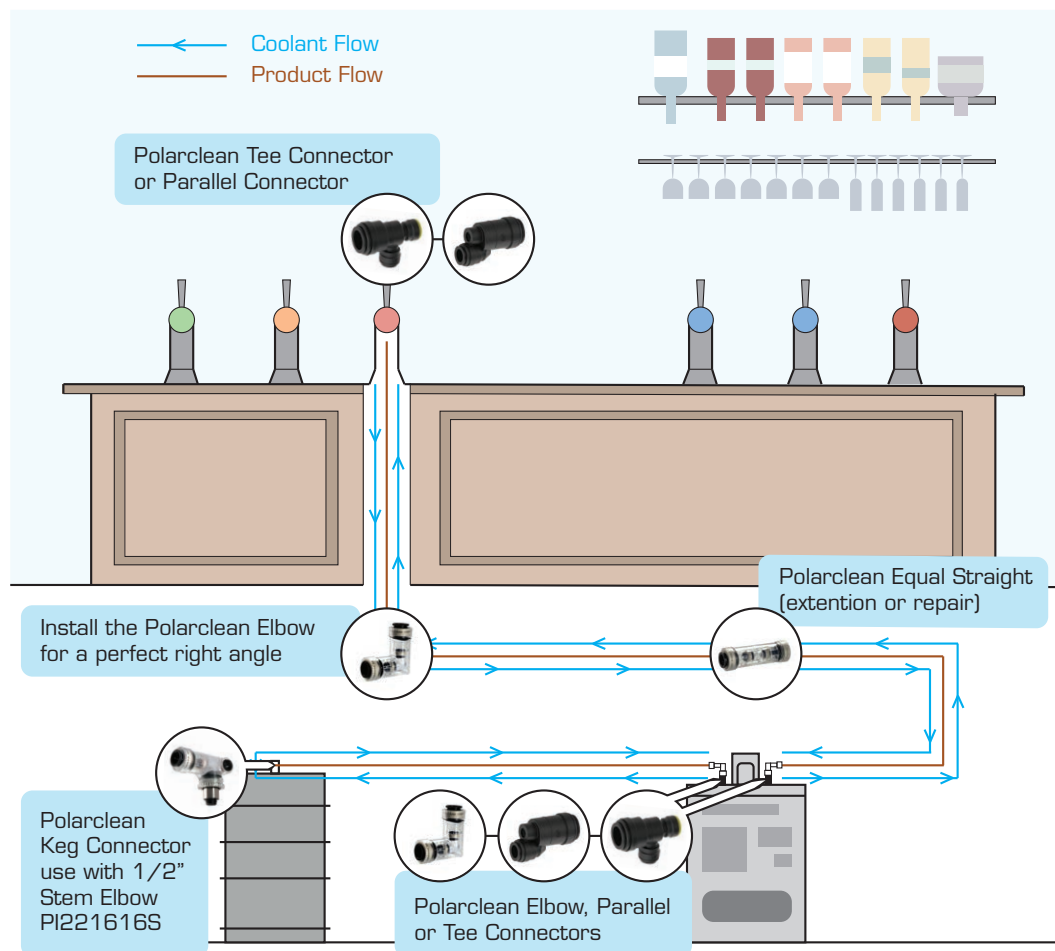
Polarclean tube-in-tube systems positively thrive on exposure to beer unlike traditional 'contact' systems where beer volume is at risk the moment it leaves the cooler. Polarclean technology and flexibility is ideal for restaurants, bars, bistro's, café's and hotels where installing a draught beer system was previously not feasible.

Polarclean is already well established in the drinks dispense market with world leading brand owners embracing the technology and the benefits it brings. The fact it enables genuine consistent quality draught beer dispense in previously unthinkable conditions make it desirable for brand owners, venues and consumers alike.

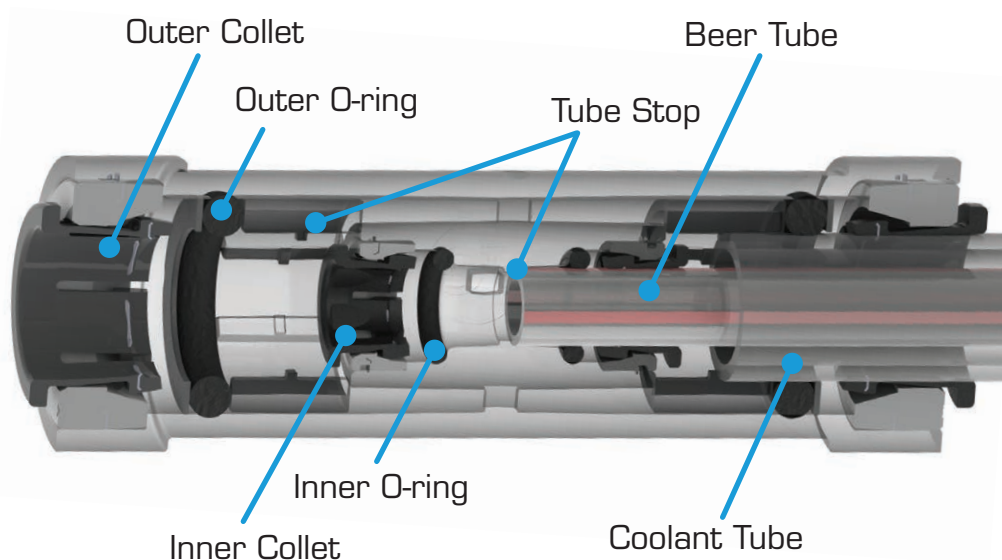
POLARCLEAN® BENEFITS

A tube-in-tube arrangement can provide the following benefits in a draught beer dispense system compared to a standard installation:

- Extra cold and consistent beer temperatures can be achieved at every pour.
 - No cellar or secondary cooling requirement means installation has lower investment and cost.
 - Reduced beer-line microbiological growth.
 - Reduced beer-line cleaning frequency, increased revenue per keg and less downtime.
 - Less fob meaning increased revenue per keg.
 - Fewer temperature related 'call-outs'.
 - Improved system efficiency and reduced running costs.
 - Less energy ensuring reduced carbon emissions.
 - Differing brand temperature specifications can be achieved in a single python. Non tube-in-tube product lines still benefit from proximity cooling from tube-in-tube coolant lines ie Cold & Extra Cold.
 - Faster dispense due to lower temperature consistency.
 - No unauthorised corruption of tube-in-tube beer-lines. Extensions and splits are not possible without access to Polarclean connectors & tubing.
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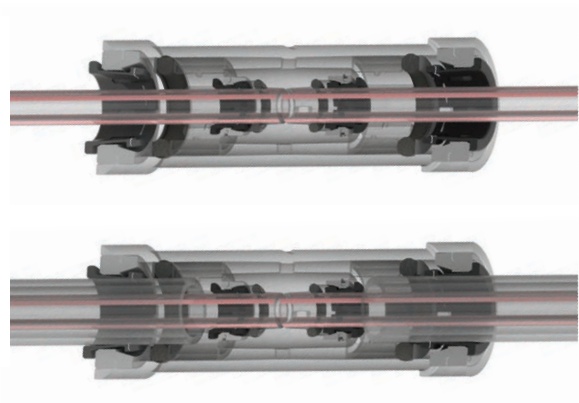


TO MAKE A TUBE-IN-TUBE CONNECTION



For transparent connectors:

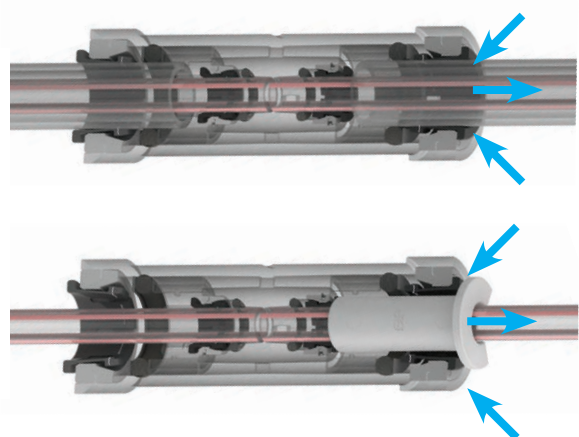
1. Push beer tube up to tube stop. Visually confirm correct tube positioning and pull to check connection is secure.
2. Push the coolant tube up to the tube stop. Visually confirm correct tube positioning and pull to check connection is secure.
3. Connect beer supply and check for leakages.
4. Connect coolant supply and check for leakages.



TO DISCONNECT A TUBE-IN-TUBE CONNECTION

For transparent connectors:

1. Ensure both beer and coolant lines are depressurised. Push and hold the outer collet square against the face of the fitting whilst withdrawing the coolant tube.
2. Fit the Polarclean Collet Release Tool (NC2654) over the beer tube and slide into the Polarclean connector until square against the inner collet. Depress the inner collet whilst withdrawing beer tube.
3. Remove Release Tool.



NOTE: For non-transparent Polarclean connectors the beer tube passes through the connector without interruption.

THE POLARCLEAN[®] RANGE



POLARCLEAN EQUAL ELBOW CONNECTOR
NC2618
3/8" - 3/8"



POLARCLEAN KEG CONNECTOR
NC2648 (1/2 BSP) OR NC2782 (5/8 BSP)
3/8" WITH 1/2" COOLANT INLET
(USE STEM ELBOW AT COOLANT INLET - PI221616S)



POLARCLEAN REDUCING ELBOW CONNECTOR
NC2635
3/8" - 8MM (RED COLLET)



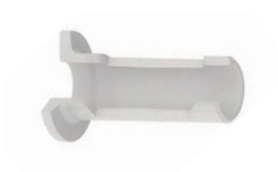
POLARCLEAN TEE CONNECTOR
NC909
3/8" THRO' / 3/8" COOLANT BRANCH



POLARCLEAN EQUAL STRAIGHT CONNECTOR
NC2617
3/8" - 3/8"



POLARCLEAN PARALLEL CONNECTOR
NC2546
3/8" THRO' / 1/2" COOLANT BRANCH IN-LINE



POLARCLEAN INTERNAL COLLET RELEASE TOOL
NC2654



POLARCLEAN BARBED COOLER SPIGOT
NC2742
18MM

NOTE: ALL 'OUTER' TUBE-IN-TUBE COOLANT TUBES ARE 18MM DIAMETER.



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