

UNIVERSAL TRANSITION COUPLING

The Universal Connection



Engineered for Durability

Distributor in the United States for

Philmac[®]

The connection you can trust.

INTRODUCTION

HARCO Fittings is a distributor of Philmac Universal Transition Coupling (UTC®) fittings for the United States. Philmac is a global leader in the design and manufacture of plastic compression fittings that provide the ultimate in pipe connection flexibility. Australia-based Philmac was founded in 1929 and became part of the Aliaxis Group in Belgium in 2003.

The UTC® products are especially designed for connecting pipes that are made from a variety of different materials, such as polyethylene, galvanized steel, PVC, copper, ABS, lead, and stainless steel.

In addition to winning an Australian Design Award in 1999 for innovation in product development, the UTC® has been embraced by water utilities in Australia, the UK, Europe, and North America.

The entire range of UTC® fittings is fully approved for potable water, meeting NSF and CSA standards.

HARCO Fittings was founded in 1966 and is based in Lynchburg, Virginia with company warehouses in Winter Haven, Florida; Dallas, Texas; and Phoenix, Arizona. HARCO has developed next generation fittings including the first compact DI MJ fittings and the first injection molded gasketed PVC fittings in the USA for IPS size PVC water pipe, SDR 35 PVC sewer pipe, and C900 PVC water pipe. HARCO has developed numerous pipe fitting and valve innovations for the irrigation industry including swivel connection systems, knuckle restraints, clamshell restraints, and a line of DI isolation valves.

BENEFITS

Complete Flexibility

Universal Design: The Philmac UTC® is designed to accommodate a range of different diameters on most pipe material (including copper, PE, PVC, lead, steel, galvanized steel, ABS, and stainless steel).

Large Seal: The large seal in the Philmac UTC® is particularly suited to out-of-round and pitted pipes.

Fast and Easy Installation

Slide & Tighten™ technology: The Philmac UTC® incorporates all the benefits of Philmac's Slide & Tighten™ technology.

Simply witness mark the pipe against the flange on the fitting, and then insert the pipe to the correct depth. The nut can then be tightened using a wrench. The UTC® is fully installed when the nut can no longer be tightened with reasonable force.

No special tools are required and the Philmac UTC® is supplied ready to use.

Easy Disassembly: The design of the UTC® allows the pipe to be removed easily from the fitting once the nut is backed off.

Complete Coverage

The Philmac UTC® range is comprehensive: Configurations include "No Stop" Repair Couplings and Reducer Couplings. Inquire for other configurations.

Complete Security

Dynamic Sealing Method: Tightening the nut compresses the seal into position. During assembly, the pipe does not have to engage the seal, so there is no risk of seal damage or roll outs.

** Pipes at the top end of the fitting tolerance may incur minimum resistance.*

No Loose Components: The Philmac UTC® is fully contained with no loose components. There is no need to disassemble and separately handle a loose split ring, seal ring, or nut. All that is required is the insertion of the pipe and tightening of the nut.

Approvals: The Philmac UTC® holds a number of potable water approvals including NSF in the USA. The fittings are manufactured to the highest standards in accordance with the company's ISO 9001:2000 Quality Endorsed status.

High Performance Materials

Made from advanced thermoplastic materials: The Philmac UTC® is manufactured from lightweight, high performance polypropylene and acetal with outstanding impact, UV, chemical, and corrosion resistance. The UTC® split ring contains hard stainless steel grippers which provide superior end load resistance. Seals are nitrile rubber.

High Performance Materials

Rated to 200 PSI: The Philmac UTC® is pressure rated 200 psi at 73°F and 150 psi at 100°F to meet the needs of high pressure systems.

Suggested Specification

Fittings shall be Polypropylene Compression Fittings that without disassembly or modification will fit a range of pipes including polyethylene, PEX, PVC, copper, steel, stainless steel, ABS, and lead. Fittings shall be long term rated for 200 psi at 73°F and 150 psi at 100°F per ISO 14236 and shall be rated as "High Pressure" per AWWA C800. Fittings shall comply with NSF 61 and shall be "listed" by NSF. "Bodies" and "Spacers" shall be Polypropylene. Fitting "Compression Nuts" shall be Acetal or Polypropylene. "Split Ring" shall be of Acetal with Stainless Steel grippers. Joint seal activation shall be accomplished solely by actuation of the Compression Nut. Joint "Seals" shall not "interfere" with pipe insertion. No beveling or lubrication of pipe shall be required. Fitting components shall not require disassembly prior to assembly on to pipe. Fittings shall be "UTC" with "Slide & Tighten" capability as manufactured by Philmac Pty Ltd. and as sold by The Harrington Corporation (Harco) of Lynchburg, VA (434) 845-7094.

CAUTION: Philmac does not recommend or warrant the use of UTC® Compression Fittings "inside the building" or for "hot water" applications.



INSTALLATION INSTRUCTIONS



1. Cut pipe to length
Cut pipe square and to length using the flange on the central body as a guide. Ensure end of connecting pipe is undamaged and clean.



2. Prepare fitting
To ensure adequate insertion depth, witness mark the pipe to the back of the flange. A marker pen can be used or use of a thumb is suitable.



3. Pipe Insertion
Ensure the nut is backed off and 3 threads are showing. (Pipes at the top end of the fitting tolerance may require 5 threads showing.) Insert pipe to the correct depth.



4. Nut tightening
Tighten the nut firmly with a wrench. The nut will not butt against the body flange when the pipe size is at the top end of the fitting tolerance.

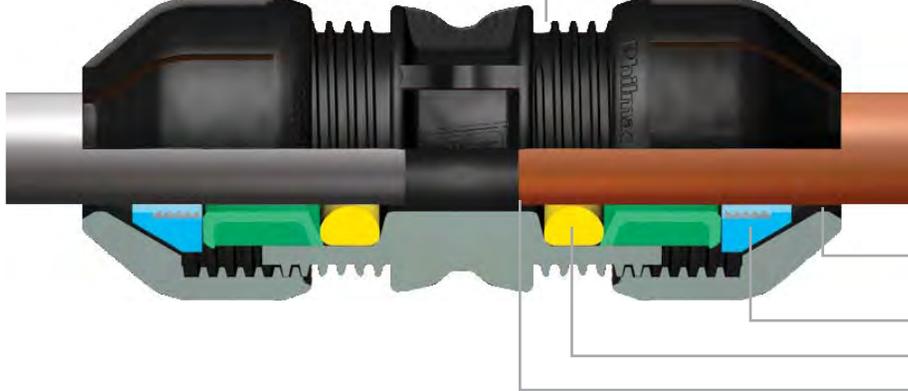


5. Fully Installed
The fitting is fully installed when the nut cannot be tightened any further with reasonable force.

HOW IT WORKS

PRINCIPLES OF OPERATION – UTC® COMPRESSION FITTINGS

FULLY OPEN



Fitting is pre-assembled in the ready-to-use open position with 3 threads showing.

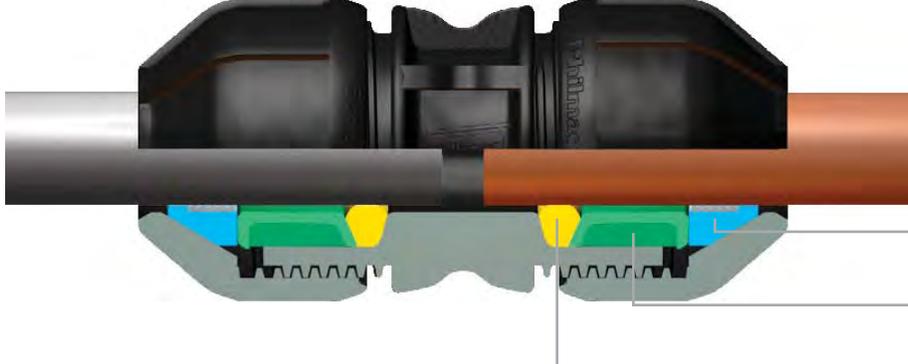
Clearance between the pipe and fitting allows for easy insertion of the pipe.

Split ring is in a relaxed position.

Seal is in a relaxed position.

Pipe is inserted up to the flange on the fitting.

FULLY CLOSED

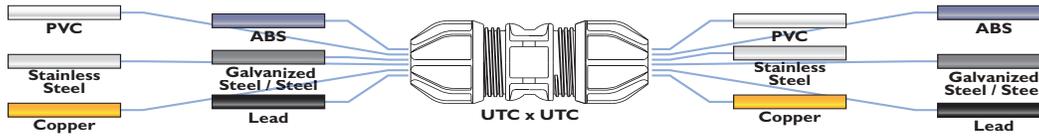


Nut is tightened with a wrench firmly to ensure proper installation. Some threads may be exposed, depending on the size of pipe inserted into the fitting.

Split ring with the stainless grippers bites into the pipe, providing end load resistance.

Thrust sleeve transfers pressure to the seal ring.

Seal ring compression is achieved by exploiting the mechanical advantage of the thread.



UTC® SIZING CHART

The following chart provides a convenient means of identifying the appropriate UTC® fitting. UTC® fittings are available in sizes B, C, D, E, F, and G. Product may best be identified by the millimeter markings on the nuts.

- Recommendations are based on the variation in average diameter permitted by standard. Out of roundness effects are not considered. Call for pipes not listed.
- The UTC® is pressure rated 200psi at 73°F and 150psi at 100°F.
- **CAUTION: Philmac does not recommend or warrant the use of UTC® Compression Fittings "inside the building" or for "hot water" applications.**

UTC® SELECTION RECOMMENDATIONS

Pipe Materials ^d	Standards	Nominal Pipe Size						
		½"	⅝"	¾"	1"	1 ¼"	1 ½"	2"
Copper (Type K, L, & M)	ASTM B88	na	na	B	C	D	E	na
CTS PE or PEX	ASTM D2737 / F876	na	na	B	C	D	E	na
PVC (IPS-OD)	ASTM D2241 / D1785	B	na	B^a & C	C^a & D	E	F	G
ABS (IPS-OD)	ASTM D1527/ D2661/ F628	B	na	B^a & C	C^a & D	E	F	G
Galvanized Steel/Steel (IPS-OD)	ASTM A53	B	na	B^a & C	C^a & D	E	F	G
Stainless Steel ^c	ASTM A312 / A358 / A376	B	na	B^a & C	C^a & D	E	F	G
PE IPS-OD (SDR)	ASTM D3035 / D2447	B	na	B^a & C	C^a & D	E	F	G
PE SIDR 7 (IPS-ID)	ASTM D2239	na	na	C	D	na	na	na
PE SIDR 9 (IPS-ID)	ASTM D2239	na	na	B	C	na	na	na
PE SIDR 11.5 (IPS-ID)	ASTM D2239	na	na	B	C	E	F^a	na
PE SIDR 15 (IPS-ID)	ASTM D2239	na	na	B	C	E	na	G
Lead Strong		na	B	C	D	E	na	na
Extra Strong		B	C	C	D	na	na	na
Double Extra Strong ^b		B	C	C^b & D^b	E	F	na	na

- a. There may be occasions when the pipe is slightly too large for this UTC® size, in which case the coupling can be loaded on pipe disassembled.
- b. If the OD of the ¾" "Double Extra Strong" lead pipe is larger than 1.34", use a Size D UTC® fitting or shave the pipe to fit a Size C UTC® fitting.
- c. Recommendations assume pipe is standard IPS diameter. Some pipe manufacturers may make pipe to other outside diameter dimensions.
- d. UTC is not recommended for PE-AL-PE and PEX-AL-PEX composite pipes.

na: not available - A UTC® fitting for this size pipe is not available.

UTC® FITTINGS AVAILABLE: *see price sheet or call for other configurations.*

UTC® Repair Couplings

SIZE	PIPE OD RANGE		PART No.
	INCHES	MILLIMETERS	
Size B	0.83 - 1.06"	21 - 27 mm	75-608BB
Size C	1.06 - 1.34"	27 - 34 mm	75-608CC
Size D	1.34 - 1.54"	34 - 39 mm	75-608DD
Size E	1.54 - 1.69"	39 - 43 mm	75-608EE
Size F	1.85 - 1.93"	47 - 49 mm	75-608FF
Size G	2.32 - 2.40"	59 - 61 mm	75-608GG

UTC® Reducer Couplings

SIZES	PIPE OD RANGE,	PIPE OD RANGE,	PART No.
	LARGE END	SMALL END	
Size C to Size B	1.06 - 1.34" 27 - 34 mm	0.83 - 1.06" 21 - 27 mm	75-617CB
Size D to Size C	1.34 - 1.54" 34 - 39 mm	1.06 - 1.34" 27 - 34 mm	75-617DC
Size E to Size C	1.54 - 1.69" 39 - 43 mm	1.06 - 1.34" 27 - 34 mm	75-617EC
Size F to Size E	1.85 - 1.93" 47 - 49 mm	1.54 - 1.69" 39 - 43 mm	75-617FE

Direct all sales inquiries to:



www.harcofittings.com
PF151-092413

HARCO Fittings
P.O. Box 10335
Lynchburg, VA 24506-0335
Phone: (434) 845-7094
Fax: (434) 845-8562

Harco Warehouses in:
Winter Haven, FL
Dallas, TX
Phoenix, AZ

Philmac®
an O'Aliaxis company
www.philmac.com.au