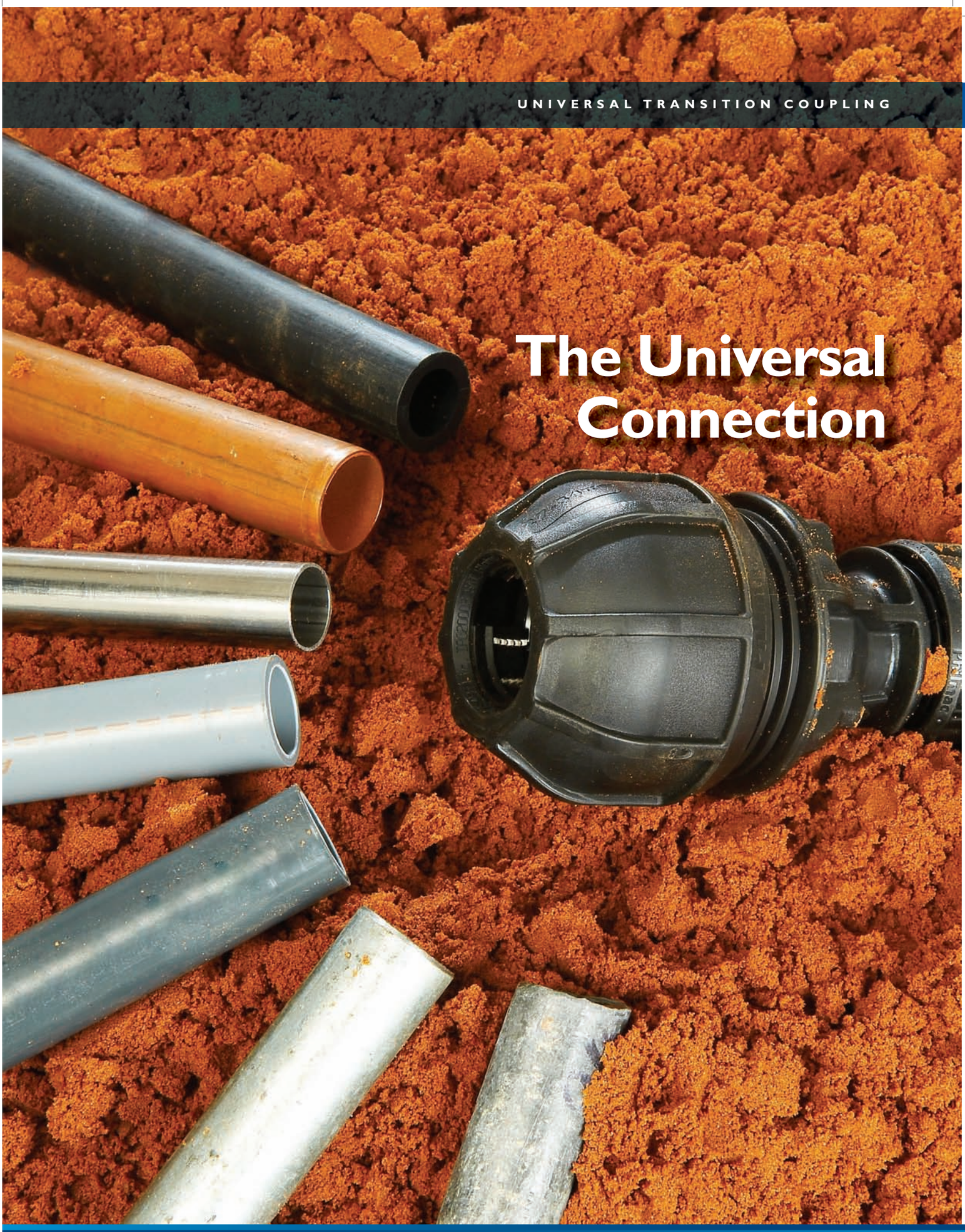
UNIVERSAL TRANSITION COUPLING

The Universal Connection



Philmac®

The connection you can trust.

INTRODUCTION

Philmac, the global leader in the design and manufacture of plastic compression fittings, has developed a unique range of mechanical compression fittings that provide the ultimate in pipe connection flexibility.

Without modification the same fitting connects to a variety of materials including PVC, copper, galvanized iron, ABS, lead, stainless steel, polyethylene and PEX.

Each size fitting covers a range of pipe diameters providing a 'Universal' solution. Providing a seal on out-of-round and pitted pipes is another aspect of the 'Universal' solution.

Since winning an Australian Design Award in 1999 for innovation in product development, the UTC® has been embraced by water utilities right around the world, including the UK, Europe, Middle East, North America and Australia.

BENEFITS

Universal Design: Through its wide tolerance, the Philmac UTC® is designed to accommodate a range of different diameters on most pipe material (including PVC, copper, galvanized iron, ABS, lead, stainless steel, polyethylene and PEX).

Large Seal: The large seal in Philmac UTC® is particularly suited to Out-of-Round and Pitted pipes.

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® means that once the nut is backed off, the pipe can easily be removed from the fitting.

Dynamic Sealing Method: The mechanical advantage of the nut thread compresses the seal into position, eliminating resistance when inserting the pipe into the fitting, so there is no risk of seal distortion or displacement.
** Pipes at the top end of the fitting tolerance may incur minimum resistance.*

No Loose Components: The Philmac UTC® is fully integrated with no loose components. There is no need for individual assembly of a split ring, sealing 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 – WRAS (UK) for above and below ground use; WSAA and WaterMark (Australia); ACS (France); DTC (Denmark), CSA (Canada) and NSF (USA). The fittings are also manufactured to the highest standards in accordance with the company's ISO 9001:2000 Quality Endorsed status.

Dielectric (insulating) fitting
UTC® fittings are insulating and are a "Dielectric" fitting for use between dis-similar metals.

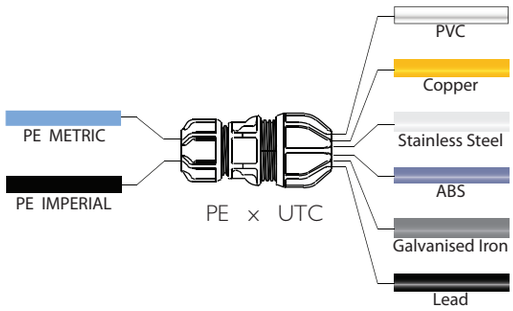
Made from advanced thermoplastic materials: The Philmac UTC® is manufactured from lightweight high performance thermoplastic materials with outstanding impact, UV, chemical and corrosion resistance. The UTC® end contains hard stainless steel grippers which provide superior end load resistance.

Rated to 12.5 Bar (180psi): The Philmac UTC® is pressure rated to 12.5 bar (180psi) at 23 °C (73 °F) to meet the needs of high pressure systems.

50 year + design life: Built to withstand the toughest conditions to ensure longevity and durability, Philmac UTC® has a 50 year+ design life at 23 °C (73 °F).

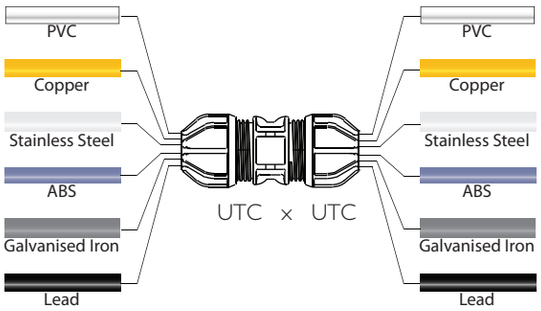
The Philmac UTC® range is comprehensive: Straight and reducing joiners, elbows and male adaptors, in both transition (PE to UTC®) and double ended versions (UTC® to UTC®) ranging from 15mm to 61mm

FAMILY OF FITTINGS - A COMPREHENSIVE RANGE



Connects PE to a wide variety of pipes

PVC, copper, galvanised iron, ABS, lead, stainless steel, polyethylene and PEX



Connects a wide variety of pipes together

PVC, copper, galvanised iron, ABS, lead, stainless steel, polyethylene and PEX

APPLICATIONS

Repair work — UTC® is used extensively by water companies, plumbers and civil contractors for repair work. The UTC® x UTC® fitting was originally developed as a copper to copper repair joint at the request of a global water company.

New installations — Connecting polyethylene pipe to water meter risers and polyethylene pipe to copper.

UTC® fittings are used by water companies as a connection between polyethylene pipe and metal pipes.

Upgrades — UTC® is particularly useful in service line upgrades. A small number of PE x UTC® fitting provide a complete solution and will connect to whatever pipe the installer finds at the property boundary.

COMPLETE RANGE

Coupler 3G Metric/ Imperial PE x UTC

Male Adaptor x UTC

Coupler UTC x UTC

Reducing Coupler UTC x UTC

Elbow 3G Metric/ Imperial PE x UTC

UTC FITTINGS RANGE

For connection from Metric PE pipe to Copper, Alkathene, PVC, ABS, Stainless, Galvanised Iron and even Lead

UNIVERSAL TRANSITION JOINER UTC X POL
c/w Metric MDPE Liner

1032	15-21mm x 20mm/½"
1033	15-21mm x 25mm/¾"
1042	21-27mm x 20mm/½"
1043	21-27mm x 25mm/¾"
1052	27-34mm x 20mm/½"
1053	27-34mm x 25mm/¾"
1054	27-34mm x 32mm/1"
1055	27-34mm x 40mm/1¼"
1074	34-39mm x 32mm/1"
1064	39-43mm x 32mm/1"
1065	39-43mm x 40mm/1¼"
1075	34-39mm x 40mm/1¼"
1086	47-49mm x 50mm/1½"
1087	47-49mm x 63mm/2"
1097	59-61mm x 63mm/2"

UNIVERSAL TRANSITION ELBOW UTC X POL
c/w Metric MDPE Liner

1533	15-21mm x 25mm/¾"
1543	21-27mm x 25mm/¾"
1544	21-27mm x 32mm/1"
1553	27-34mm x 25mm/¾"
1653	27-34mm x 32mm/1"

For connection repairs of Metric PE pipe, Copper, Alkathene, PVC, ABS, Stainless, Galvanised Iron and even Lead

UNIVERSAL TRANSITION DOUBLE ENDED REPAIR JOINER

1133	15-21mm x 15-21mm
1144	21-27mm x 21-27mm
1155	27-34mm x 27-34mm
1177	34-39mm x 34-39mm
1166	39-43mm x 39-43mm
1188	47-49mm x 47-49mm
1199	59-61mm x 59-61mm

UNIVERSAL TRANSITION REDUCED REPAIR JOINER

1143	21-27mm x 15-21mm
1154	27-34mm x 21-27mm
1153	27-34mm x 15-21mm
1165	39-43mm x 27-34mm

For connection from BSP to Copper, Alkathene, PVC, ABS, Stainless, Galvanised Iron and even Lead

UNIVERSAL TRANSITION M.I. END CONNECTOR UTC X M.I. BSP

1231	15-21mm x ½" BSP
1232	15-21mm x ¾" BSP
1233	15-21mm x 1" BSP
1242	21-27mm x ¾" BSP
1243	21-27mm x 1" BSP
1244	21-27mm x 1¼" BSP
1252	27-34mm x ¾" BSP
1253	27-34mm x 1" BSP
1254	27-34mm x 1¼" BSP
1255	27-34mm x 1½" BSP

PIPE GAUGE for use with Universal Transition Coupling

1135	15-34mm
1136	34-43mm
1137	43-63 mm

UTC® SIZING CHART

The following chart provides a convenient means of identifying the appropriate UTC® fitting. For pipes and tubes not included in this chart, simply match the pipe's outside diameter to the appropriate UTC® body size.

Guide only. Actual size is dependant on the pipe condition

	15-21	21-27	27-34	34-39	39-43	47-49	59-61
Alkathene	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
Normal Gauge IRS 134	1/2"	3/4"	1"	1-1/4"			
Heavy Gauge IRS 135		1/2"	3/4"	1"			
Copper - Metric	15mm	22mm	28mm	35mm	42mm		
Galvanised Iron	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
Stainless Steel	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
Metric ABS/PVC	16 & 20mm	25mm	32mm		40mm		
Imperial ABS/PVC	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	
Lead	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	
	5lb (20mm)	6lb (21.6mm)	9lb (30.6mm)	7lb (37.6mm)	16lb (41mm)	12lb (48mm)	
		7lb (23.2mm)	11lb (32.8mm)				
		9lb (25.4mm)					
	1/2"	3/4"	1"		1-1/4"		
	2lb (16mm)	4lb (25.2mm)	6lb (31mm)		9lb (39.2mm)		
	4lb (19.2mm)	5lb (26.4mm)	7lb (31.6mm)				

Fitting selection can be made easier with the use of the Philmac Pipe Gauge

Lead
The general condition of lead pipe can make sizing difficult at top and bottom tolerance. If the recommended UTC® is not successful the next size up or down depending on the fit should be offered.

UTC® is a cold water rated fitting. It is rated at 50+ years design life at 12.5bar and 20 °C. Please consult Philmac for derating factors in excess of 20 °C

INSTALLATION INSTRUCTIONS – UTC®

(Joins PE, copper, stainless steel, ABS, galvanized iron, lead, steel or PVC pipes)

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. Ready to use position.
The fitting is pre-assembled and ready to use, however always 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.

3. Pipe insertion
To ensure adequate insertion depth, witness mark the pipe to the back of the flange. If conditions permit a marker pen can be used or alternatively use of a thumb is suitable. Then insert pipe to the correct depth.

4. Nut tightening
Tighten nut firmly with a wrench. 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.

6. Disassembly
Unscrew the nut with a wrench. Pipe will be released and can be pulled out of the fitting.

- Use a pipe measuring gauge if there are doubts on pipe outside diameter (OD) size.
- Installation instructions are also applicable for the PE end.

METRIC/IMPERIAL™ INSTALLATION INSTRUCTIONS

1. Cut the Pipe Square
Cut the pipe square. There is no need to prepare the pipe end. Chamfering or lubrication is not required.

2. Insert Liner in MDPE pipe
With MDPE pipe a liner must be used to ensure conformance with WRAS.

3. No Liner or Insert Required for Imperial Pipe
For connections to imperial PE pipe (BS1972/3284 and IRS 135 Heavy Gauge) a liner or insert is not required.

4. Ready to Use Position
The fitting is pre-assembled and ready to use, however always ensure the nut is fully relaxed and 2 threads are showing before inserting the pipe.

5. Pipe Insertion
Insert the pipe fully into the fitting to the point where the stop is felt.

6. Nut Tightening
The nut should be tightened by hand and then firmly with a wrench.

7. Fully Installed
Fitting is now fully installed.

8. Imperial Fully Installed
For connections to Imperial PE pipe (BS1972/3284 and IRS 135 Heavy Gauge) steps 5 to 8 are the same as for MDPE connections.

9. Disassembly
To disassemble the fitting simply loosen the nut using a wrench until 2 threads are showing. Pipe will be released and can simply be pulled out of the fitting.

Note: Philmac recommends the use of PTFE tape on BSP threads to ensure a positive

For further information on all Philmac products and services contact our Internal Sales Department as detailed below.

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