

1721U / 1704U DOUBLE U-SHAPED PRESS FITTING FOR “COBRA-PEX” PEX PIPE



DESCRIPTION

The steady increase in cases of Legionella, caused by systems that have been incorrectly designed and/or built, has led to the conception of these press fittings - Art. 1721U / 1704U - which, thanks to their particular U-shape, **guarantee constant flow within the plumbing system**, avoiding phenomena of stagnation which provide the ideal habitat for the proliferation of Legionella pneumophila bacterium.

THE LEGIONELLA PROBLEM: The Legionella bacterium, discovered in the United States in 1976 following an epidemic that caused the death of more than 30 people, proliferates in stagnant water with a temperature of between 20 to 50°C.

These conditions can be found in sanitary installations with poor water circulation, so it is essential to design and construct the system correctly to avoid dangerous hot water stagnation.

Legionella is contracted by inhaling contaminated water particles that are dispersed into the environment via a principle similar to aerosol.



ADVANTAGES / STRENGTHS

- Guarantees a constant exchange of water inside the plumbing system to avoid stagnation.
- Anti-Legionella.
- Low pressure losses.
- Better flow compared to a terminal fitting of the same size.

Advantages/strengths of press connections:

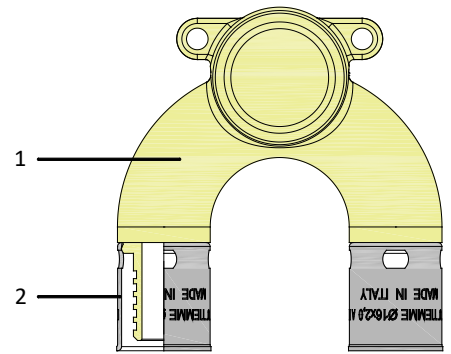
- Anti-slip profile: guaranteeing perfect water tightness.
- Stainless steel pipe bushing: high corrosion resistance.
- Suitable for chased installation.
- Complete system with dedicated COBRA-PEX pipe and tools (shears, pressers, pliers ...).

PRODUCTION RANGE

Art.	Code	Press fitting size for PEX pipe	Connection size	Finishing treatment
	170 0339	Ø 16x1,8	G 1/2" F (ISO 228)	Yellow
	170 0340	Ø 16x2	G 1/2" F (ISO 228)	Yellow
	170 0341	Ø 20x1,9 e Ø 20x2	G 1/2" F (ISO 228)	Yellow
Art.	Code	Press fitting size for PEX pipe	Connection size	Finishing treatment
	170 0347	Ø 16x1,8	R 1/2" M ISO 7/1 (EN 10226)	Yellow
	170 0348	Ø 16x2	R 1/2" M ISO 7/1 (EN 10226)	Yellow
	170 0349	Ø 20x1,9 e Ø 20x2	R 1/2" M ISO 7/1 (EN 10226)	Yellow

CONSTRUCTION SPECIFICATIONS

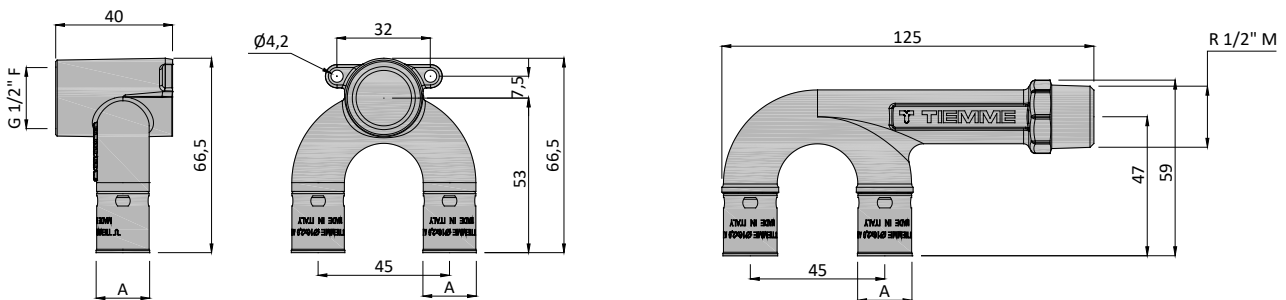
- (1) Body of the fitting: CW617N Brass
- (2) Tightening bushing: AISI 304 Stainless steel
- Connecting thread: F ISO 228
M ISO 7/1 (EN 10226) R conical



TECHNICAL SPECIFICATIONS

- Maximum working temperature: + 95 °C
- Minimum working temperature: - 20 °C (provided the fluid remains in liquid state)
- Max working pressure: 10 bar (relative to the "COBRAPEX" PEX pipe)

DIMENSIONAL CHARACTERISTICS



Art.	Code	A
1721U	170 0339	Ø 16x1,8
	170 0340	Ø 16x2
	170 0341	Ø 20x1,9 e Ø 20x2

Dimensions in mm.

Art.	Code	A
1704U	170 0347	Ø 16x1,8
	170 0348	Ø 16x2
	170 0349	Ø 20x1,9 e Ø 20x2

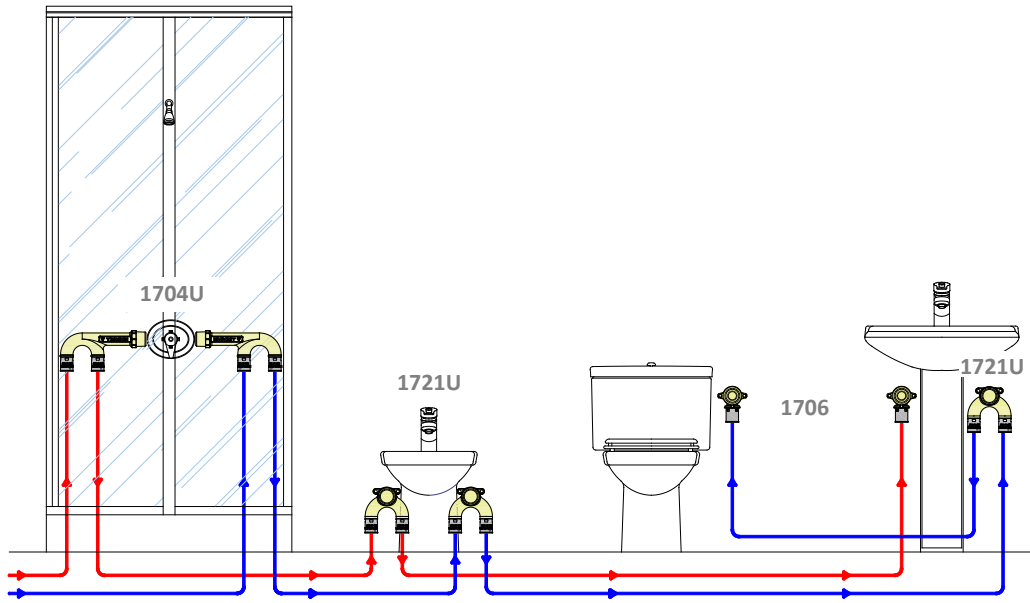
Dimensions in mm.

INSTALLATION

To minimise the risk of Legionella and guarantee a constant, high quality supply of water, the "blind branches" of the system must be kept to a minimum to avoid stagnation of water in the pipes.

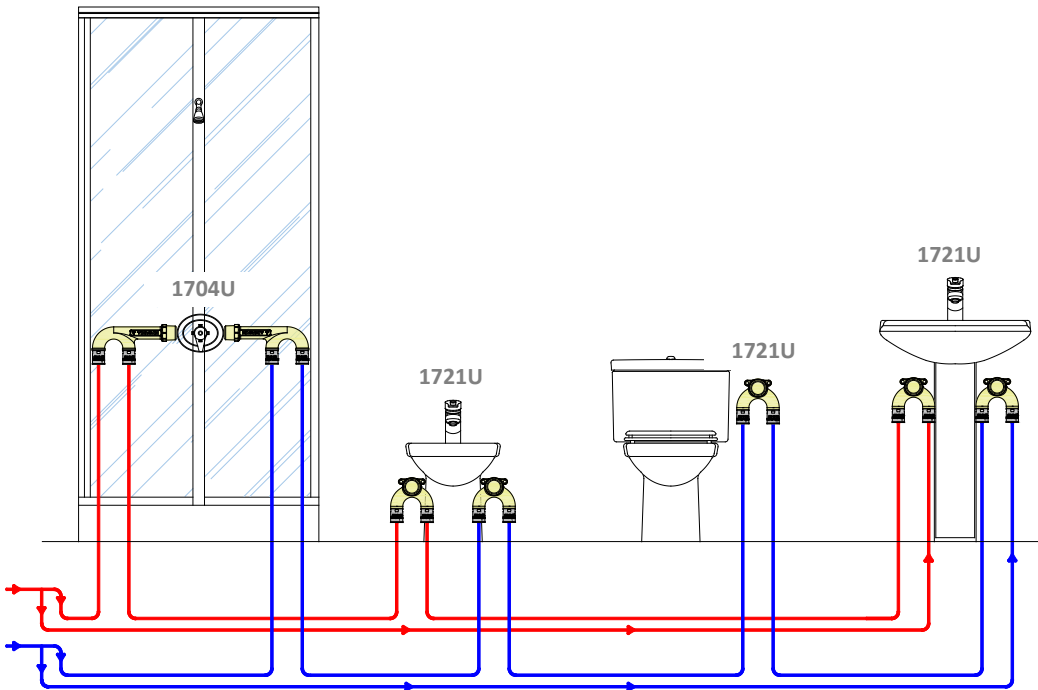
The very best installation solution is to use a double U-shaped press fitting in the following configurations: connection "in a row" and "in a loop".

Connection "in a row" (fig. 1):



The connection shown in fig. 1 is defined as "in a row" and has the characteristic of guaranteeing **constant water exchange and better temperature control**, to prevent the temperature from stabilising within values of high bacterial proliferation (temperatures between approximately 20 and 50 °C). To obtain the desired results it is essential that the last utility is the one that is used the most (for example, the sink for hot water and/or the toilet for cold water), so that the fluid is "forced" to pass through the entire system quite frequently.

Connection: "in a loop" (fig. 2):



A valid alternative to the "row" type connection is the "loop" connection shown in fig. 2.

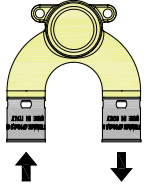
This makes it **irrelevant which utility is the most widely used**.

In fact, the opening of any outlet will generate an exchange of water in both branches of the ring to optimise the pressure drops in the entire system.

TIEMME RACCORDERIE S.p.A. will not be held responsible in the event of failures and/or accidents resulting from failure to comply with these instructions and from improper use of the system. The information given does not exempt the user from scrupulously following current regulations and good technical standards.

LOCALISED PRESSURE DROPS

Below are the values of the fitting pressure drops expressed in **equivalent metres of pipe (L_{eq})**, which means that the localised fitting pressure drops are expressed in a simulated length of the network (COBRAPEX pipe) which determines the same resistance value.

Pipe COBRAPEX	FLUID SPEED (m/s)		
		Values in equivalent metres of pipe (L _{eq})	
Ø 16	0,5	0,75	
	0,8	0,83	
	1	0,80	
	2	1,00	
Ø 20	0,5	0,83	
	0,8	0,96	
	1	1,00	
	2	1,20	

Alternatively, in the case of more complex sizing processes, it is possible to calculate pressure drop values using the following formula:

$$\Delta p = k * 0,005 * \rho * v^2$$

where:

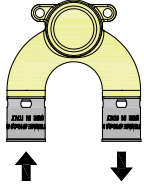
Δp = Localised pressure drop (mbar)

k = Loss factor

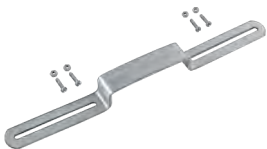
ρ = Fluid density (kg/m³)

v = fluid speed (m/s)

The loss factor value k is shown below

Pipe COBRAPEX		
	Loss factor k	
Ø 16	2,4	
Ø 20	1,9	

ACCESSORIES



Art. 1481

Cod. 147 0005

Fixing bracket.

See the product catalogue for further details.

SPECIFICATION ITEM

Art. 1721U

Double U-shaped press fitting, female connection, with 2 hole fixing flange for “COBRA-PEX” PEX pipe, made up of: CW617N brass body, tightening bushing in AISI 304 stainless steel, G 1/2" F (ISO 228) connection thread.

Maximum working temperature: + 95 °C. Minimum working temperature: - 20 °C (provided the fluid remains in liquid state). Max working pressure: 10 bar (relative to the COBRA-PEX pipe).

Production range: Press connection measurements for PEX pipe Ø 16x1,8 - Ø 16x2 - Ø 20x1,9 e 20x2 mm

Art. 1704U

Double U-shaped press fitting, male side connection, for “COBRA-PEX” PEX pipe, made up of: CW617N brass body, tightening bushing in AISI 304 stainless steel, 1/2" M ISO 7/1 (EN 10226) connection thread.

Maximum working temperature: + 95 °C. Minimum working temperature: - 20 °C (provided the fluid remains in liquid state). Max working pressure: 10 bar (relative to the COBRA-PEX pipe).

Production range: Press connection measurements for PEX pipe Ø 16x1,8 - Ø 16x2 - Ø 20x1,9 e 20x2 mm

CERTIFICATIONS



ADDITIONAL INFORMATION ABOUT THE PRODUCT

See the technical documentation mentioned below for further information about this product:

Type of document	Document code	Useful information available
Technical details	1700	- Instructions for connecting the pipe onto the press fitting.