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TECHNICAL MANUAL

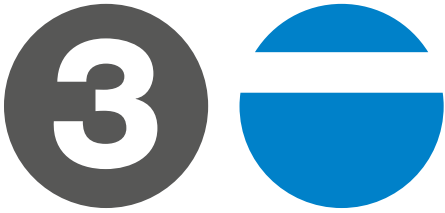
SUPPLY SYSTEMS

Joints and connections

MADE IN ITALY



valsir[®]
QUALITY FOR PLUMBING



JOINTS AND CONNECTIONS

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JOINTS AND CONNECTIONS

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3.1 Joints

In this section the procedures will be indicated for performing correct joints using the various types of fittings produced by Valsir. The proper use of the fittings doesn't only involve scrupulously following the jointing phases of the pipe but also the observance of a few simple but basic rules for the fittings connection to other devices or accessories within a water supply or heating system.

- When using natural sealants such as hemp, it is important that the correct amount is used. In general, a layer of hemp should be applied that is sufficiently thick to fill the grooves of the thread without exceeding the crests. If, when tightening, you find that the torque force is very high, the cause may be due to an excessive amount of sealant; in this case, if you continue tightening, the thread could be damaged, resulting in immediate leakages or leakages over time.
- For Pexal® Easy and Bravopress® threaded fittings only Teflon tape is recommended.
- Always verify the compatibility of Pexal® Easy and Bravopress® fittings when using different sealants. Please refer to the chemical compatibility table in the Appendix.
- The maximum tightening torques for threaded connections are:

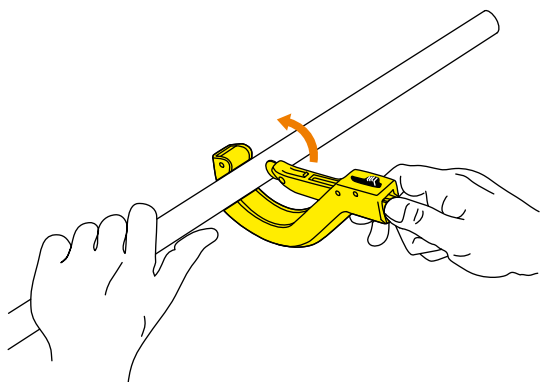
Thread	3/8"	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"	3"
Maximum tightening torques for brass fittings [Nm]	25	40	50	70	70	70	70	70
Maximum tightening torques for PPSU fittings [Nm]	8	20	35	60	70	70	70	70

- Always verify the compatibility of the material of the fittings and the pipes with the type of liquid transported and that of the materials with which they come into contact during installation. Please refer to the chemical compatibility table in the Appendix for compatibility with the most common chemical substances.
- Always check that all the tools - pipe cutters, calibrators/bevellers, pressing and socketing tools - are in good condition.
- For pressing and socketing machines a periodic maintenance at least every 2 years is recommended, depending on intensity of use.
- We do not recommend the use of pipe cutting shears that could ovalize the multilayer pipe and damage the aluminium inner layer. Especially with Pexal® Easy fittings, use planetary pipe cutters (see Valsir Equipment).
- When installing fittings suitable lubricants must be used, that is, lubricants that do not modify the organoleptic properties of the transported water. Also, avoid lubricants that could damage the O-ring seals, the pipe or the fittings.
- In the case of threaded joints between fittings made of different metals (such as brass and steel), make sure that the metals that are in contact cannot cause electrolytic corrosion.

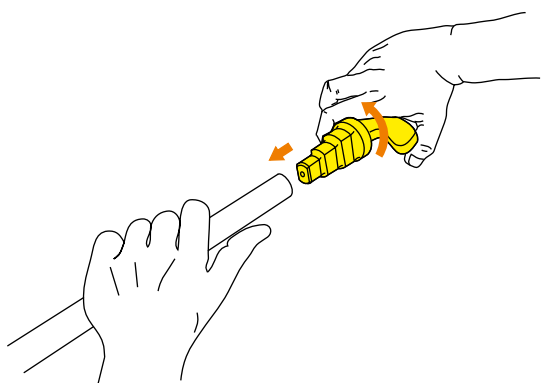
3.1.1 Pexal® Brass press fittings, diameters 14÷40 mm

Installation instructions

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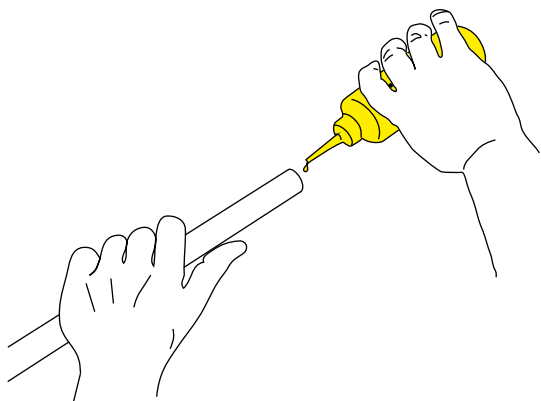


- 1) Cut the pipe using a suitable pipe cutter or shear, such that the circularity of the multilayer pipe section is maintained without causing oval shape.

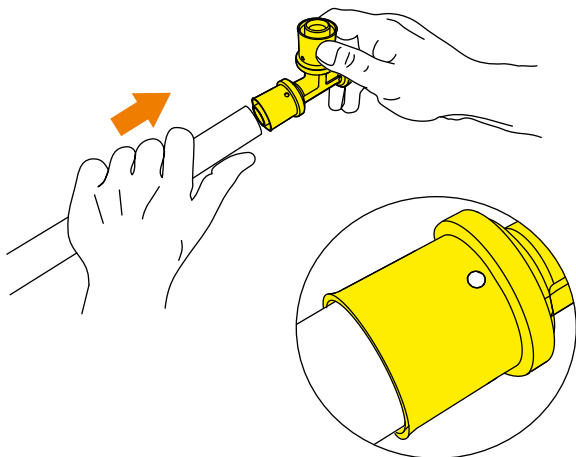


- 2) To calibrate and chamfer the pipe insert the special calibrator and carefully rotate it in order to obtain a perfectly round inner circumference of the pipe. At the same time, by pushing the calibrator into the pipe and rotating it, the pipe is also chamfered thanks to the reamer on the calibrating tool. Remove any residual material left inside the pipe.

Calibration and chamfering of the pipe are essential operations to be performed before the insert is pushed into the pipe. Beforehand always make sure that the reamer has no dents as they would damage the pipe and compromise the seal.

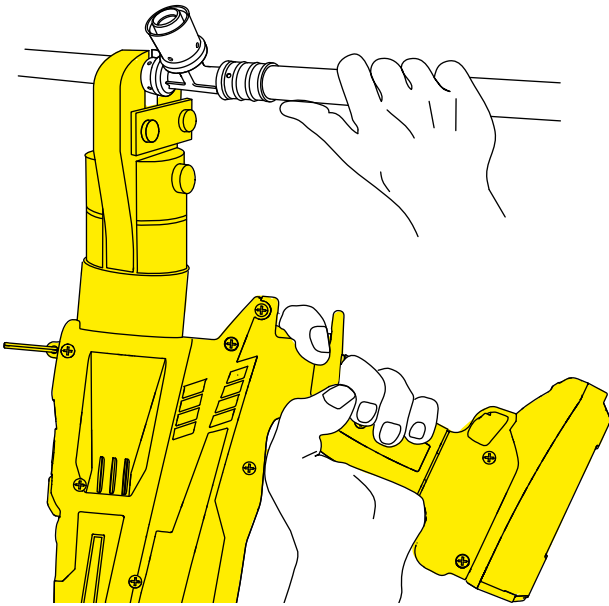


- 3) Use Valsir silicone oil to lubricate the inside of the pipe end or the O-rings mounted on the insert, this operation facilitates the insertion of the insert into the pipe and guarantees the durability of the O-ring over time. Avoid the use of other products such as grease or other lubricating liquids.

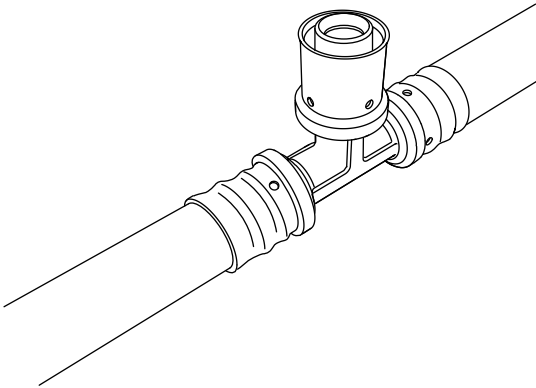


- 4) Insert the fitting on the pipe checking through the sleeve inspection holes that the pipe has been properly inserted.

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- 5) Position the pressing machine so that the pressing jaw is aligned and in position with respect to the body of the fitting and tighten by pressing the start button on the pressing machine (for more details refer to the instructions supplied with the pressing machine).
Use pressing jaws whose profile (H, TH, U, C) is compatible with the fitting that you are installing (always refer to the pressing profiles shown on the metal ring of the fitting, on the fitting's packaging or on the catalogue/price list).

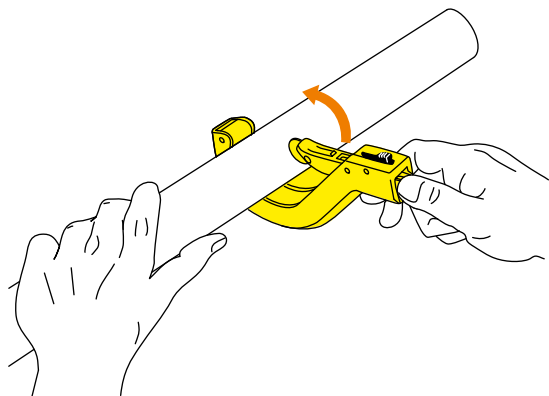


- 6) Remove the pressing jaw and verify through the metal sleeve inspection holes that the pipe has remained fully inserted during the whole connecting process.

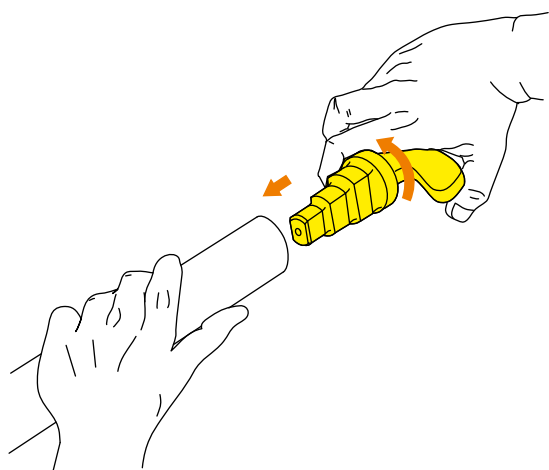
3.1.2 Pexal® Brass press fittings, diameters 50÷90 mm

Installation instructions

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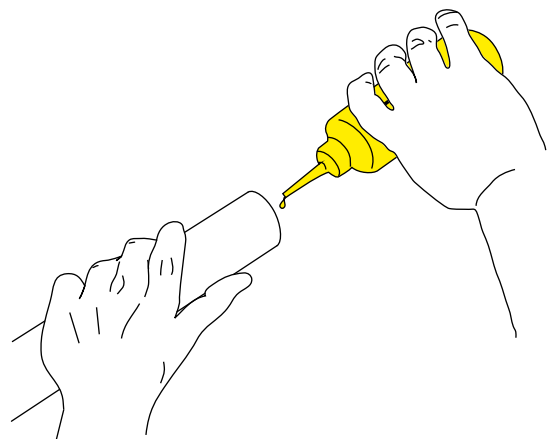


- 1) Cut the pipe using a suitable pipe cutter, avoid using pipe cutting shears that could ovalize and damage the multilayer pipe.



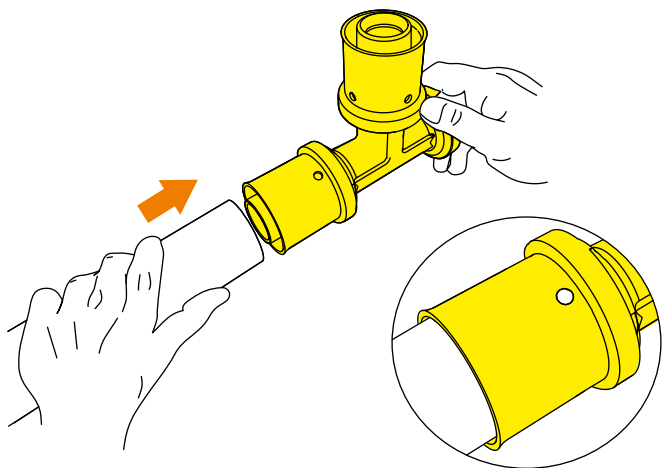
- 2) To calibrate and chamfer the pipe insert the special calibrator and carefully rotate it in order to obtain a perfectly round inner circumference of the pipe. At the same time, by pushing the calibrator into the pipe and rotating it, the pipe is also chamfered thanks to the reamer on the calibrating tool. Remove any residual material left inside the pipe.

The calibration and chamfering of the pipe are essential operations to be performed before the insert is pushed into the pipe. Beforehand, always make sure that the reamer has no dents as they would damage the pipe and compromise the seal.

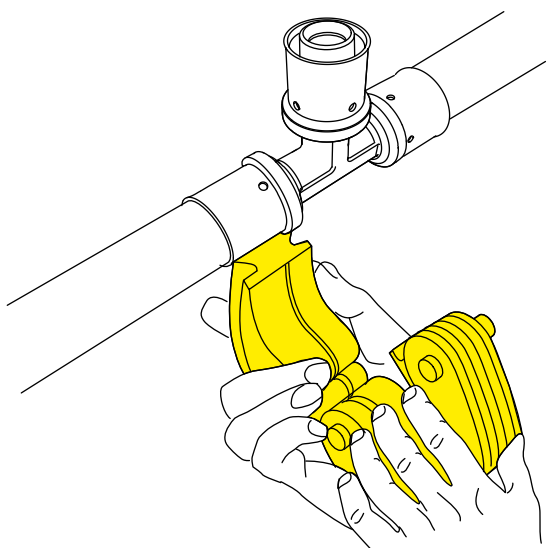


- 3) Use Valsir silicone oil to lubricate the inside of the pipe end or the O-rings mounted on the insert, this operation facilitates introduction of the insert into the pipe and guarantees the durability of the O-ring over time. Avoid the use of other products such as grease or other lubricating liquids.

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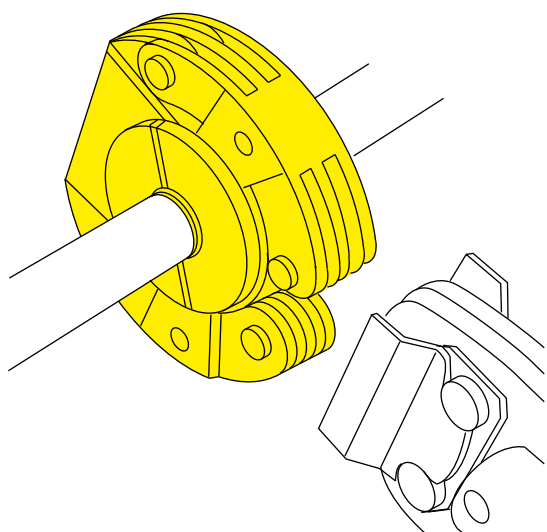


- 4) Push the fitting over the pipe checking through the sleeve inspection holes that the pipe has been properly inserted.

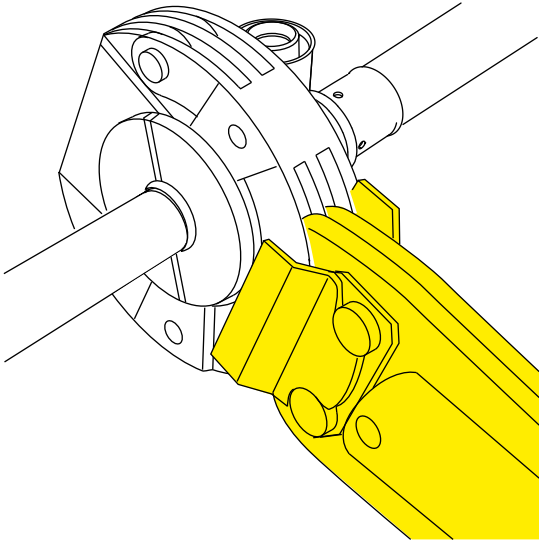


- 5) Position the pressing machine so that the pressing jaw is aligned with the body of the fitting.

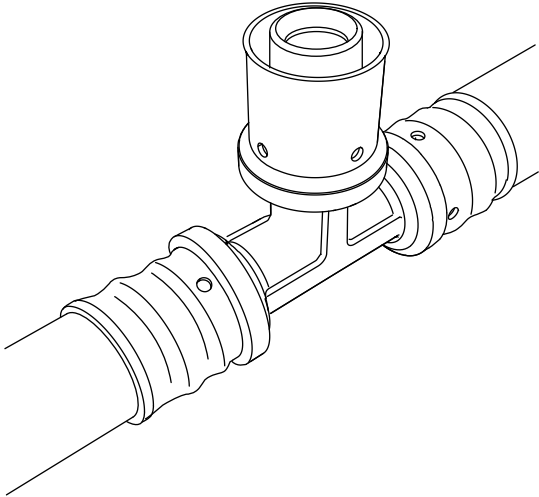
Use pressing jaws whose profile is compatible with the fitting that is to be used for installation (always refer to the pressing profiles indicated on the metal nut of the fitting, on the packaging of the fitting or on the catalogue/price list).



- 6) Hook the chain pressing jaw to the pressing machine.



- 7) Tighten by pressing the pressing machine start button.
(For more details refer to the instructions supplied with the pressing machine).

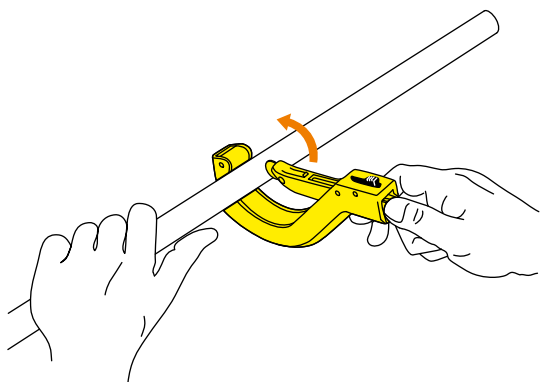


- 8) Remove the pressing machine and verify through the metal sleeve inspection holes that the pipe has remained fully inserted during the whole connection process.

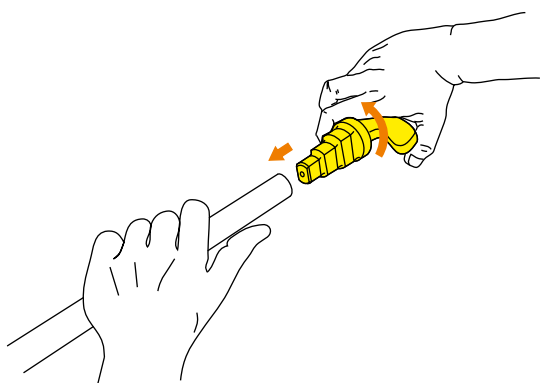
3.1.3 Bravopress® technopolymer press fittings, diameters 16÷40 mm

Installation instructions

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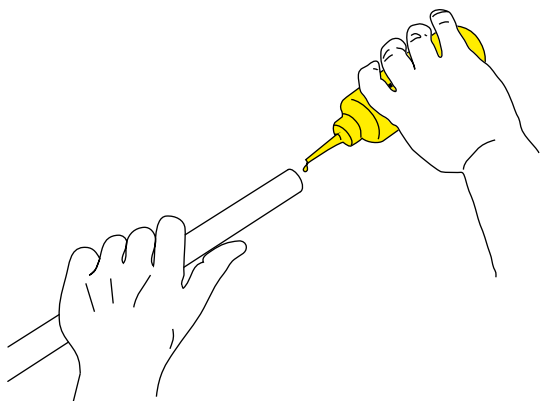


- 1) Cut the pipe using a suitable pipe cutter, avoid using a pipe cutting shears that could ovalize and damage the multilayer pipe.

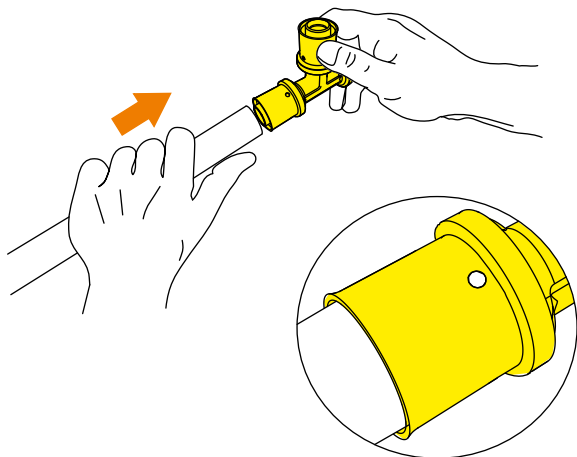


- 2) To calibrate and chamfer the pipe insert the special calibrator and carefully rotate it in order to obtain a perfectly round inner circumference of the pipe. At the same time, by pushing the calibrator into the pipe and rotating it, the pipe is also chamfered thanks to the reamer on the calibrating tool. Remove any residual material left inside the pipe.

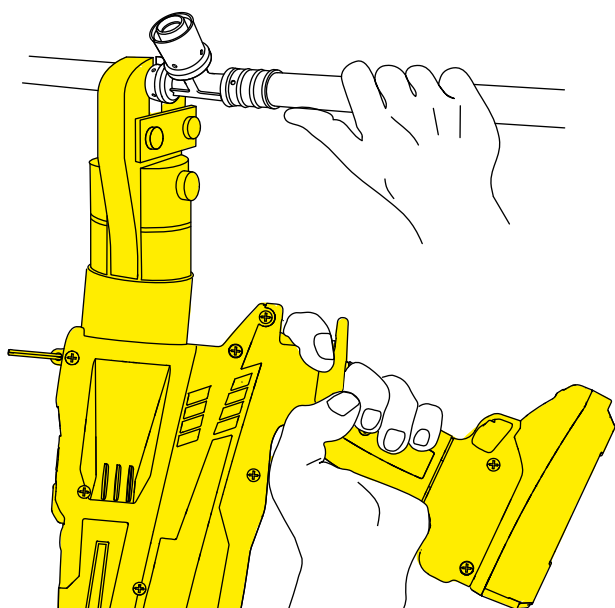
The calibration and chamfering of the pipe are essential operations to be performed before the insert is pushed into the pipe. Beforehand, always make sure that the reamer has no dents as they would damage the pipe and compromise the seal.



- 3) Use Valsir silicone oil to lubricate the inside of the pipe end or the O-rings mounted on the insert, this operation facilitates introduction of the insert into the pipe and guarantees the durability of the O-ring over time. Avoid the use of other products such as grease or other lubricating liquids.

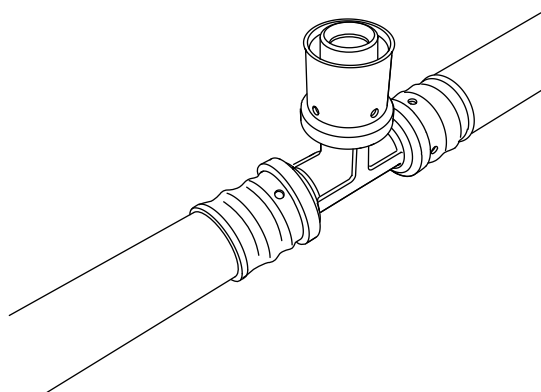


- 4) Push the fitting over the pipe checking through the sleeve inspection holes that the pipe has been properly inserted.



- 5) Position the pressing machine so that the pressing jaw is aligned and in position with respect to the body of the fitting and tighten by pressing the pressing machine start button (for more details refer to the instructions supplied with the pressing machine).

Use pressing jaws whose profile is compatible with the fitting that is to be used for installation (always refer to the pressing profiles indicated on the metal nut of the fitting, on the packaging of the fitting or on the catalogue/price list).

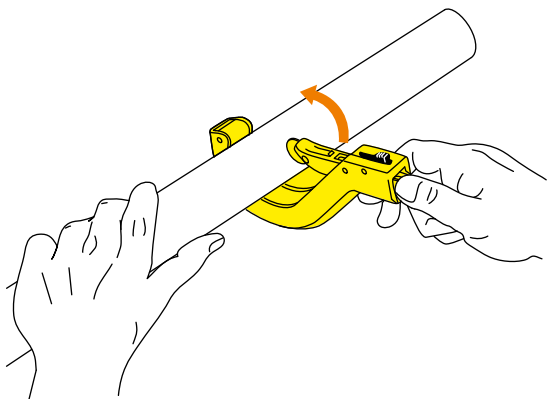


- 6) Remove the pressing jaw and verify through the metal sleeve inspection holes that the pipe has remained fully inserted during the whole connecting process.

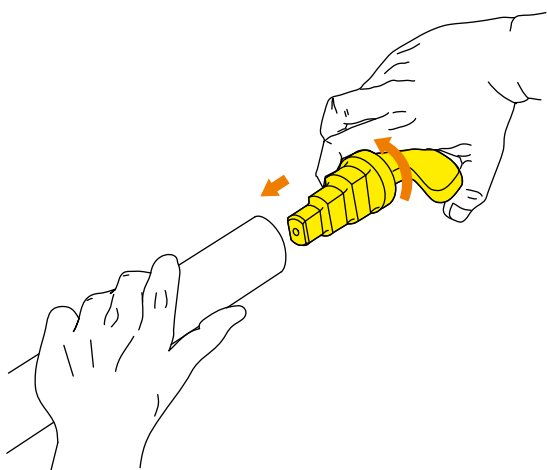
3.1.4 Bravopress® technopolymer press fittings, diameters 50÷63 mm

Installation instructions

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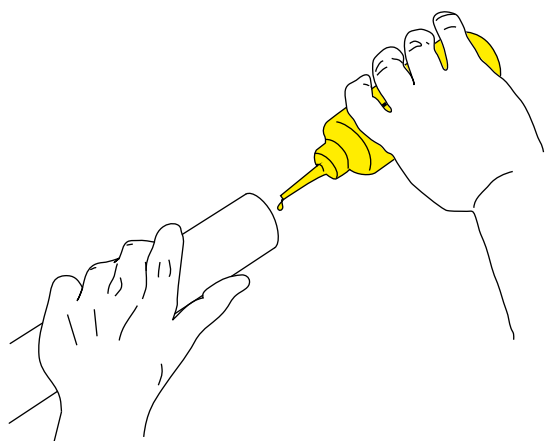


- 1) Cut the pipe using a suitable pipe cutter, avoid using pipe cutting shears that could ovalize and damage the multilayer pipe.

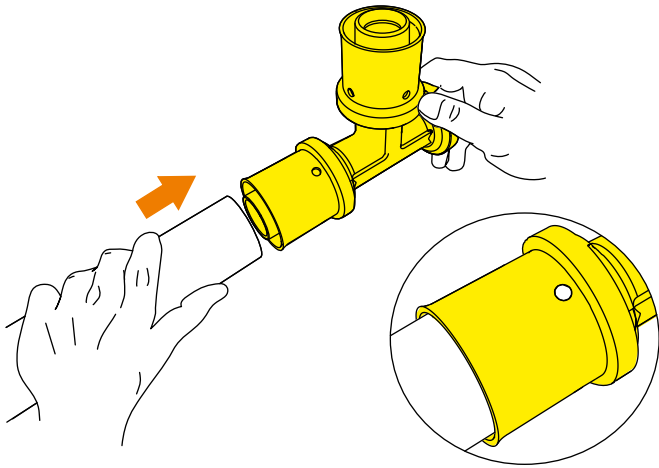


- 2) To calibrate and chamfer the pipe insert the special calibrator and carefully rotate it in order to obtain a perfectly round inner circumference of the pipe. At the same time, by pushing the calibrator into the pipe and rotating it, the pipe is also chamfered thanks to the reamer on the calibrating tool. Remove any residual material left inside the pipe.

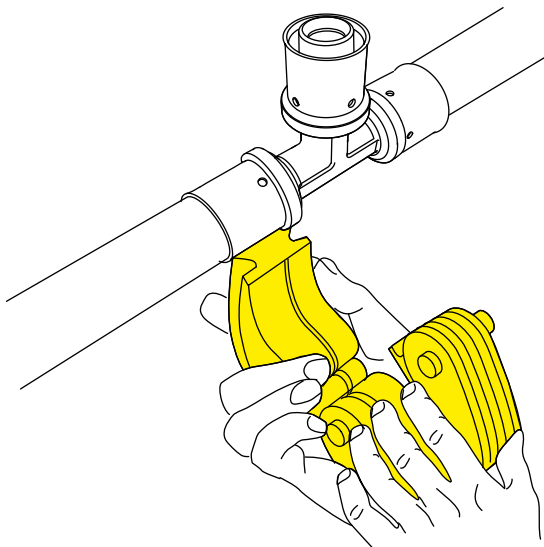
The calibration and chamfering of the pipe are essential operations to be performed before the insert is pushed into the pipe. Beforehand, always make sure that the reamer has no dents as they would damage the pipe and compromise the seal.



- 3) Use Valsir silicone oil to lubricate the inside of the pipe end or the O-rings mounted on the insert, this operation facilitates introduction of the insert into the pipe and guarantees the durability of the O-ring over time. Avoid the use of other products such as grease or other lubricating liquids.

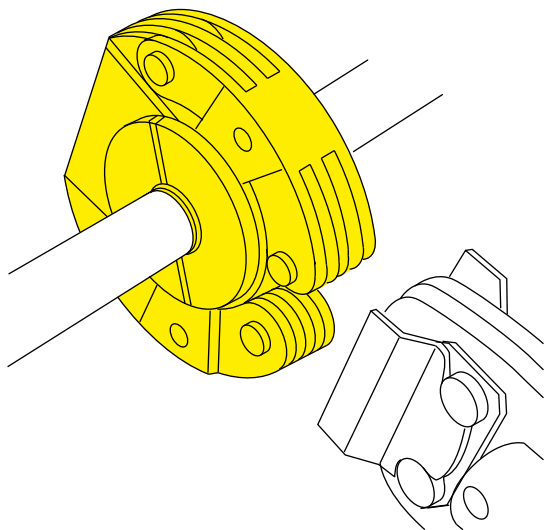


- 4) Push the fitting over the pipe checking through the sleeve inspection holes that the pipe has been properly inserted.



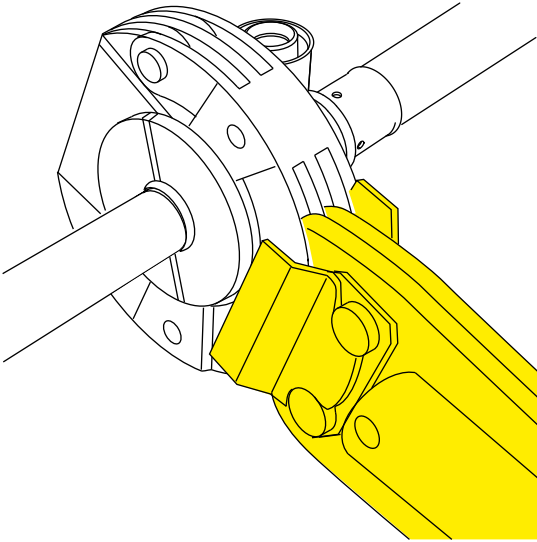
- 5) Position the pressing machine so that the pressing jaw is aligned with the body of the fitting.

Use pressing jaws whose profile is compatible with the fitting that is to be used for installation (always refer to the pressing profiles indicated on the metal nut of the fitting, on the packaging of the fitting or on the catalogue/price list).

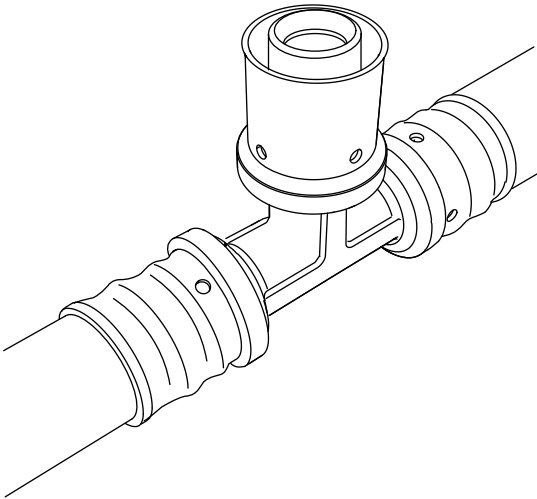


- 6) Hook the chain pressing jaw to the pressing machine.

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- 7) Tighten by pressing the pressing machine start button. (for more details refer to the instructions supplied with the pressing machine).

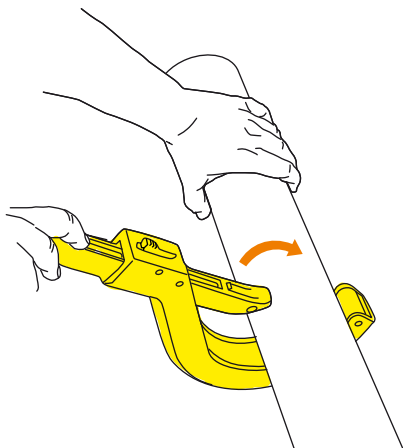


- 8) Remove the pressing jaw and verify through the metal sleeve inspection holes that the pipe has remained fully inserted during the whole connection process.

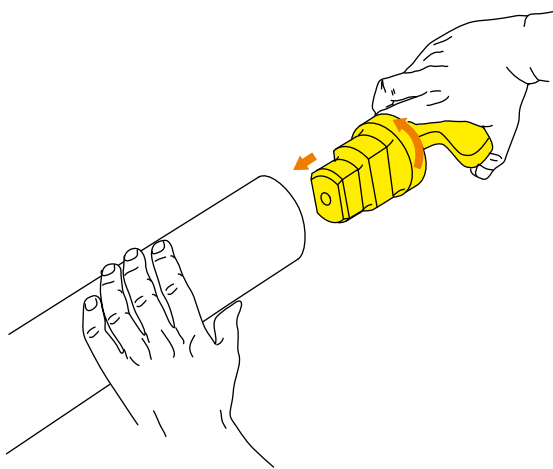
3.1.5 Pexal® XL modular fittings, diameter 110 mm

Installation instructions

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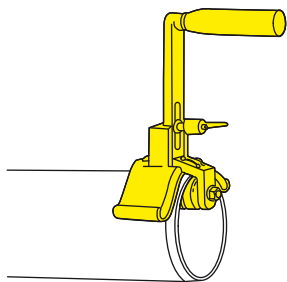


- 1) Cut the pipe using a suitable pipe cutter.

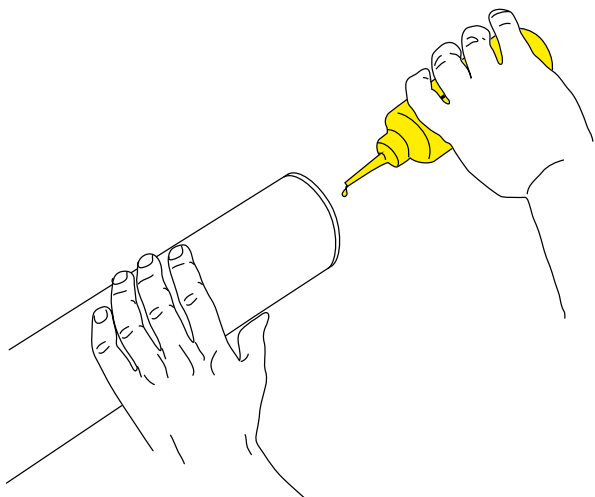


- 2) To calibrate and chamfer the pipe, insert the appropriate calibrating pin, making it rotate carefully in order to obtain a perfectly round internal circumference of the pipe. At the same time, push the sizing tool inside the pipe and rotate it to perform the inlet chamfer by means of the special tool milling cutter. Remove any residual material left inside the pipe.

Pipe size calibration and chamfering are essential operations to be carried out before inserting the insert into the pipe. Make sure that the calibrating pin is free from defects before performing the size calibration. If the used sizing tool has dents, it will damage the pipe and compromise the seal.

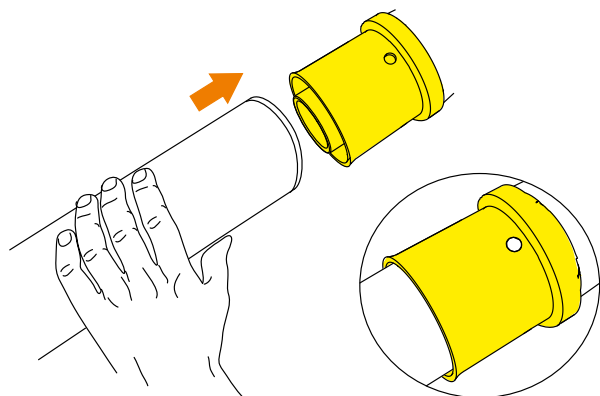


- 3) Chamfer and deburr the ends of the pipes using a chamfering tool.

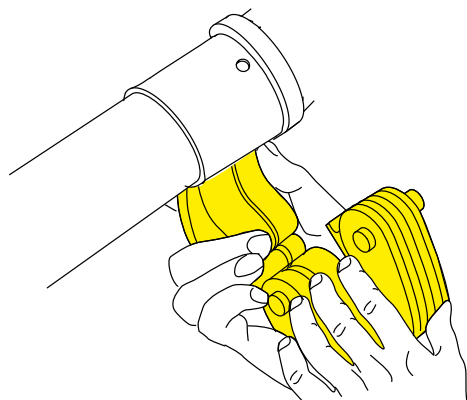


- 4) Using the silicone oil supplied by Valsir, lubricate the internal edge of the pipe or the O-rings mounted on the insert; this operation favours the insertion of the insert into the pipe and guarantees the durability of the O-rings over time. Avoid the use of other products such as grease or other lubricating fluids.

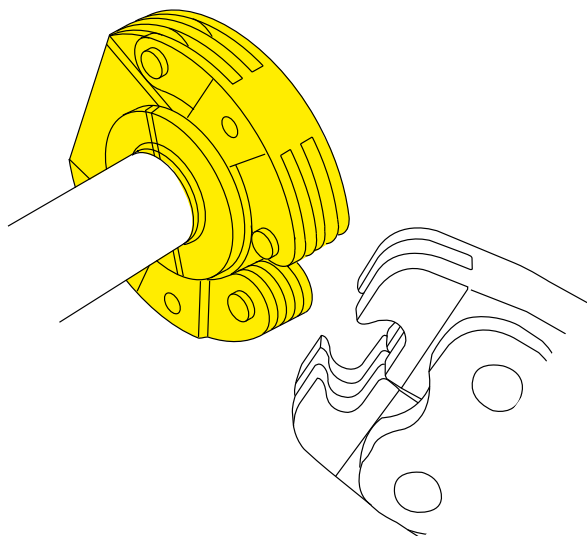
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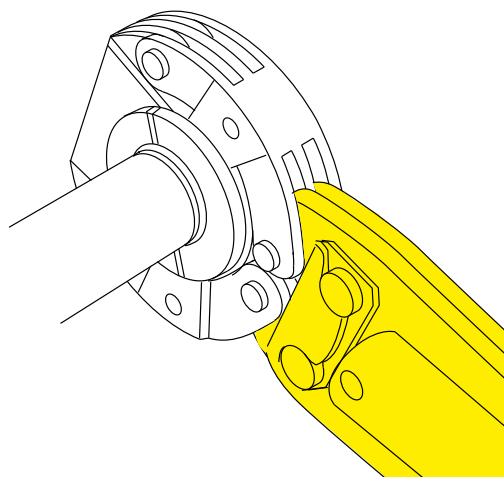
- 5) Insert the fitting insert on the pipe making sure, through the inspection holes on the metal sleeve, that the pipe reaches the bottom of the insert



- 6) Install the chain pressing jaw on the fitting and position it so that it is fully home against the plastic ring. Use pressing jaws whose profile is compatible with the fitting you are installing (always refer to the pressing profiles indicated on the metal sleeve of the fitting, on the packaging of the fitting or in the catalogue/price list).
When pressing $\varnothing 40$, use the appropriate jaw without chain.

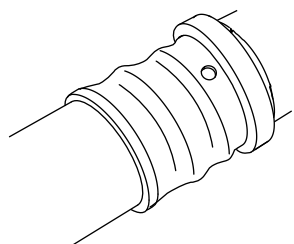


- 7) Hook the chain pressing jaw to the base insert on the pressing machine.

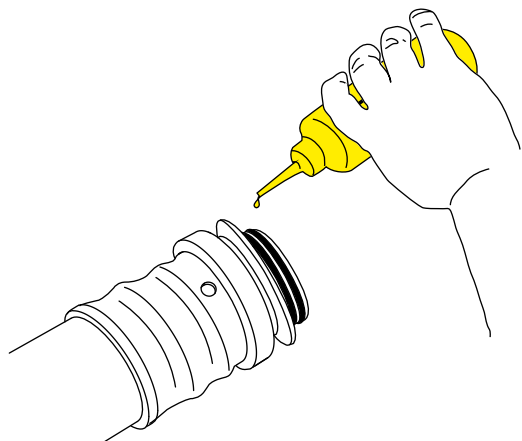


- 8) Tighten by pressing the start button of the pressing machine (for more details refer to the instructions in the pressing machine package).

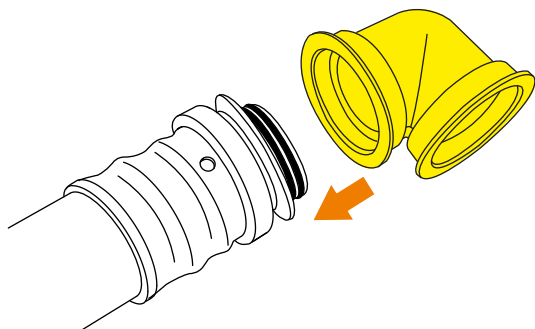
Installation instructions



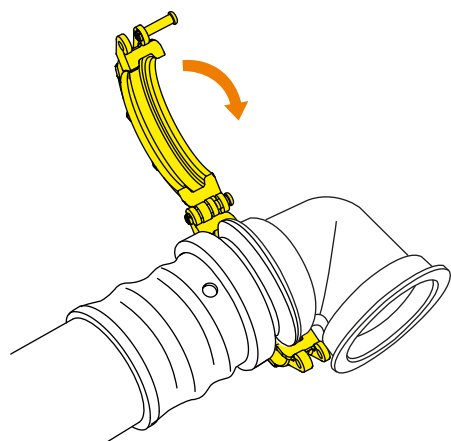
- 9) Remove the pressing jaw and check through the inspection holes on the metal sleeve that the pipe has remained in contact with the fitting during the entire joining process.



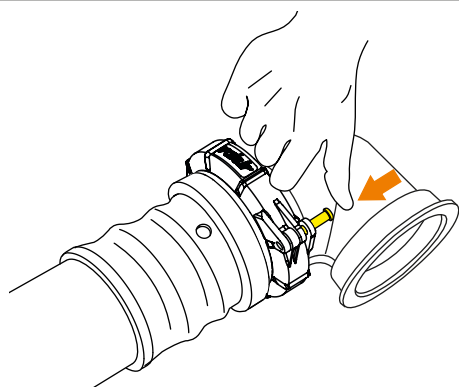
- 10) Lubricate the O-rings located at the base of the insert.



- 11) Insert the fitting body on the insert.



- 12) Install the clamp.

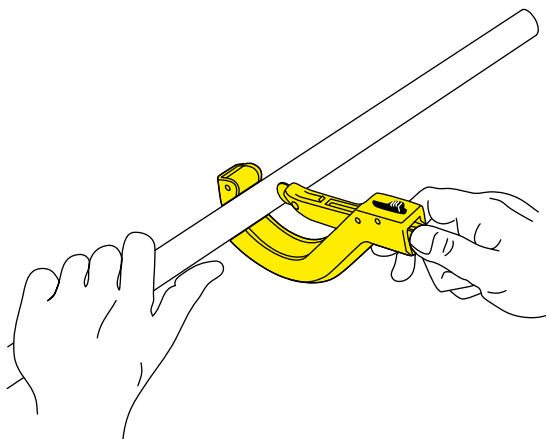


- 13) Tighten the pin.

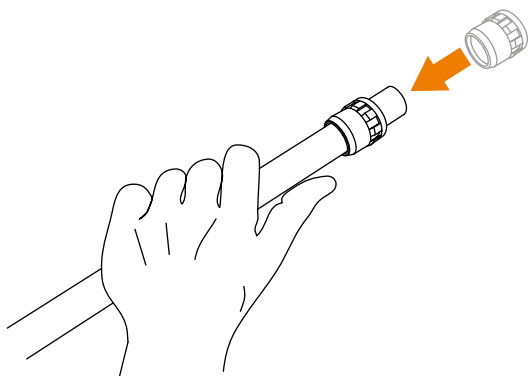
3.1.6 Pexal® Easy full bore technopolymer press fittings, diameters 14÷32 mm

Installation instructions

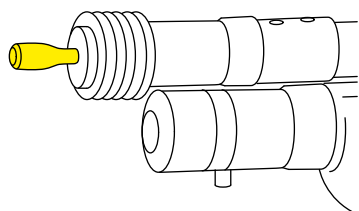
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- 1) Cut the pipe using a suitable pipe cutter, avoid using a shears pipe cutter that could ovalize and damage the multilayer pipe.

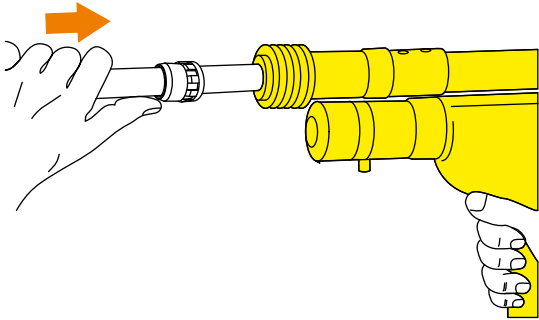


- 2) Loosen the cap from the fitting and slide it onto the pipe making sure that the threaded part is positioned towards the end that has to be socketed.

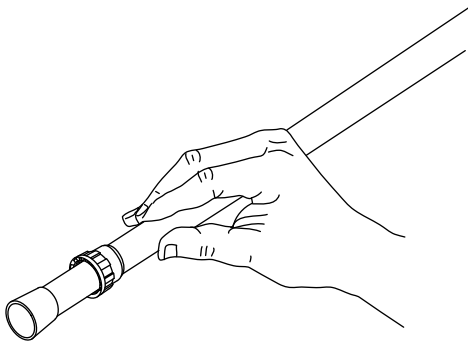


- 3) Prepare the socketing machine (for more details refer to the instructions supplied with the machine).

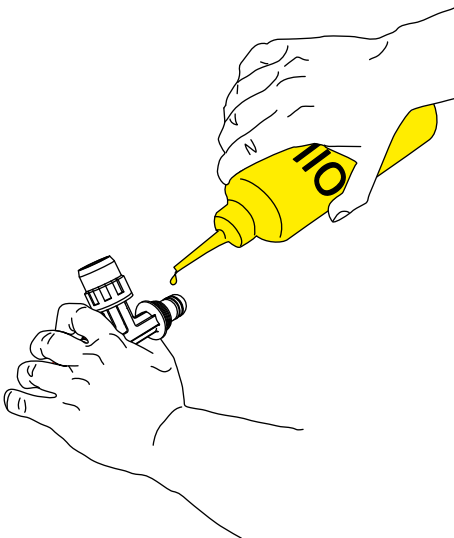
Installation instructions



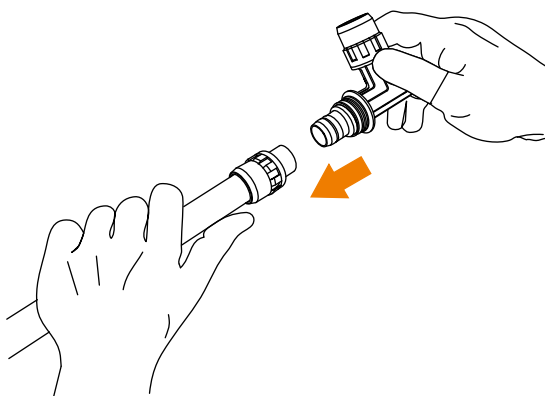
- 4) Insert the pipe on the extractor by pushing fully home on the expander. Operate the bellings machine as described in its operating instructions and perform the complete bellings cycle. When finished, remove the pipe, unhook the extractor and eject the plastic expander. The plastic expander must only be used once, however, it is made of LDPE and therefore can be recycled.



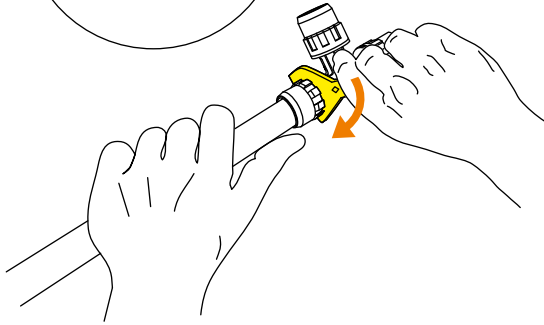
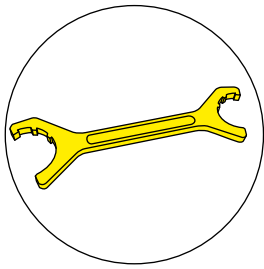
- 5) At the end of the process, the socketing should appear uniform, the pipe must not show any signs of cracking and the aluminium layer should be intact.



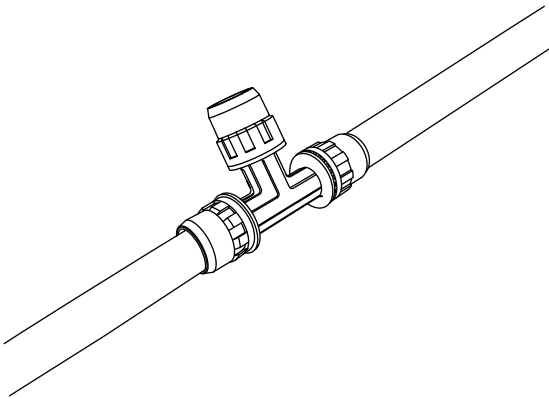
- 6) Using the silicone oil provided by Valsir lubricate the inner edges of the pipe or the O-rings mounted on the insert, this operation facilitates introduction of the insert into the pipe and guarantees the durability of the O-ring over time. Avoid the use of other products such as grease or other lubricating liquids.



- 7) Push the fitting insert into the socketed pipe up to full insertion depth and tighten the cap manually as much as possible.



- 8) Fully tighten the cap on the fitting using a spanner until it locks in position on the anti-unscrewing surface of the fitting.



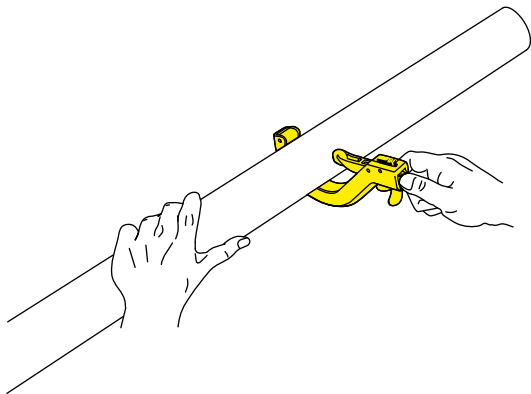
- 9) In order to have a proper connection all the caps must be fully tightened on the body of the fitting. If necessary, it is possible to disassemble and reassemble the pipe on the fitting with a proper wrench.

After connecting/disconnecting about four/five times, the anti-unscrewing surface tends to wear and it is therefore advisable to replace the fitting.

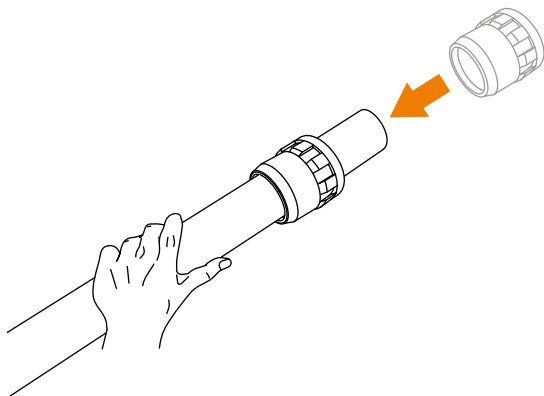
3.1.7 Pexal® Easy full bore technopolymer fittings, diameters 40÷75 mm

Installation instructions

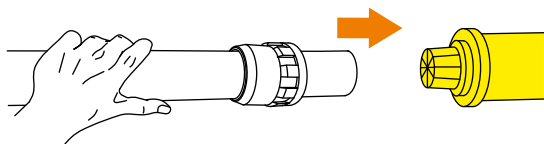
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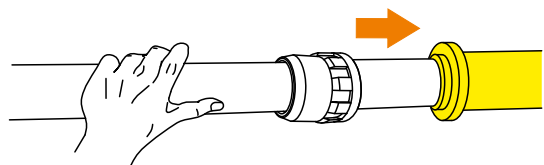
- 1) Cut the pipe using a planetary pipe cutter - not shear cutters which could make the multilayer pipe oval in shape.



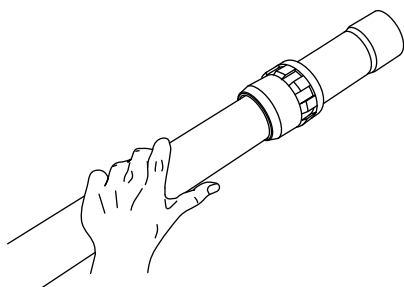
- 2) Loosen the cap from the fitting and slide it onto the pipe making sure that the threaded part is positioned towards the end that has to be socketed.



- 3) Prepare the socketing machine (for more details refer to the instructions supplied with the machine). Insert the pipe on the mechanical expander to full insertion depth. The expander is covered with a special elastomer and must be kept properly lubricated.

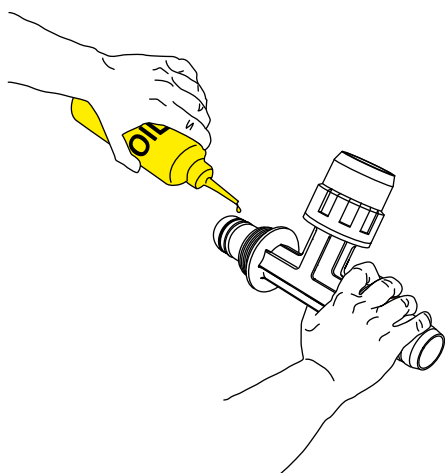


- 4) Use the socketing machine as indicated in the operating instructions and perform the complete socketing cycle.

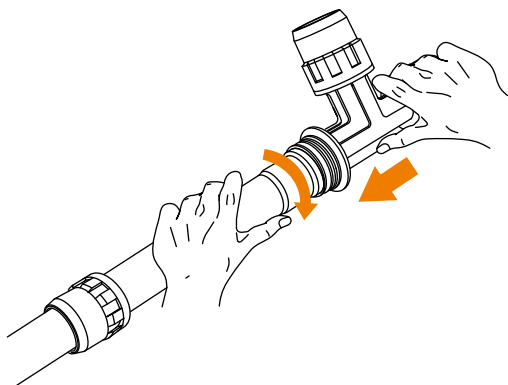


- 5) At the end of the process, the socketing should appear uniform, the pipe must not show any signs of cracking and the aluminium layer should be intact.

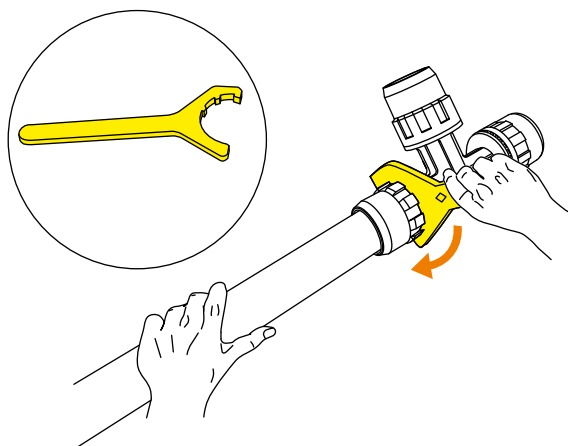
3



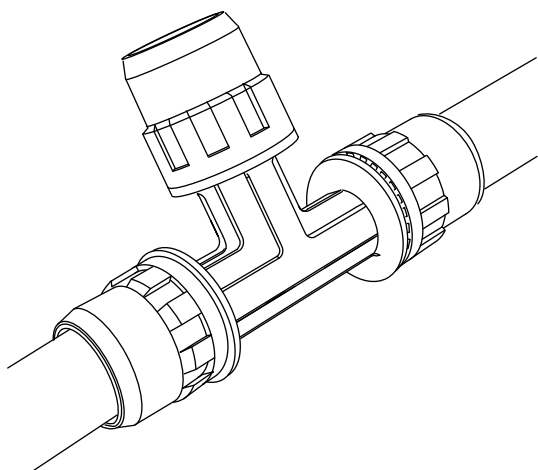
- 6) Using the Valsir silicone oil lubricate the inner edges of the pipe or the O-rings mounted on the insert. This operation facilitates introduction of the insert into the pipe and guarantees the durability of the O-ring over time. Avoid the use of other products such as grease or other lubricating liquids.



- 7) Within few minutes from socketing operation slide the fitting body inside the flared pipe all the way to the end and manually screw back in the knob on the fitting body. In case of Ø 75 make the sliding in easier rotating the fitting body which is equipped of a runner.



- 8) Fully tighten the cap on the fitting using a spanner until it locks in position on the anti-unscrewing surface of the fitting.



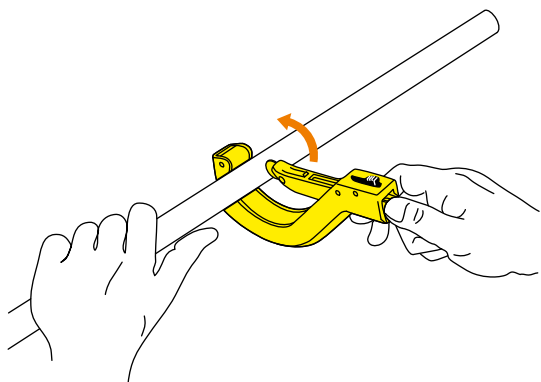
- 9) In order to have a proper connection all the caps must be fully tightened on the body of the fitting. If necessary, you can remove and replace the fitting.

After connecting/disconnecting about four/five times, the anti-unscrewing surface tends to wear and it is therefore advisable to replace the fitting.

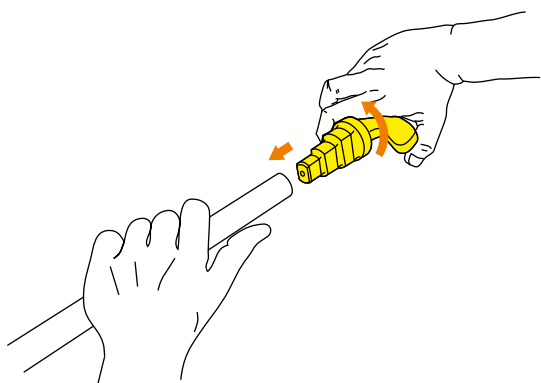
3.1.8 Pexal® Twist brass compression fittings, diameters 14÷32 mm

Installation instructions

3

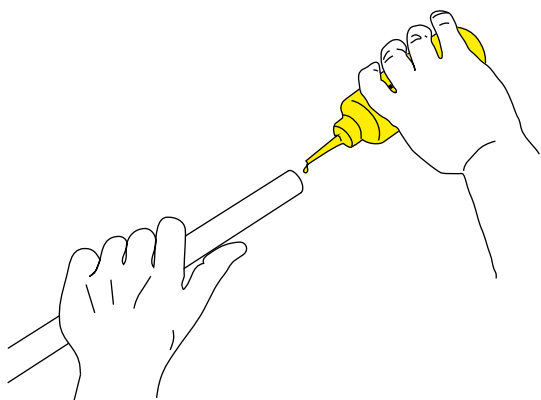


- 1) Cut the pipe using a suitable pipe cutter, avoid using a pipe cutting shears that could ovalize and damage the multilayer pipe.

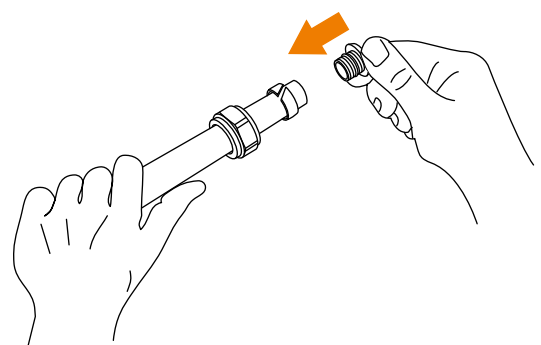


- 2) To calibrate and chamfer the pipe insert the special calibrator and carefully rotate it in order to obtain a perfectly round inner circumference of the pipe. At the same time, by pushing the calibrator into the pipe and rotating it, the pipe is also chamfered thanks to the reamer on the calibrating tool. Remove any residual material left inside the pipe.

The calibration and chamfering of the pipe are essential operations to be performed before the insert is pushed into the pipe. Beforehand, always make sure that the reamer has no dents as they would damage the pipe and compromise the seal.



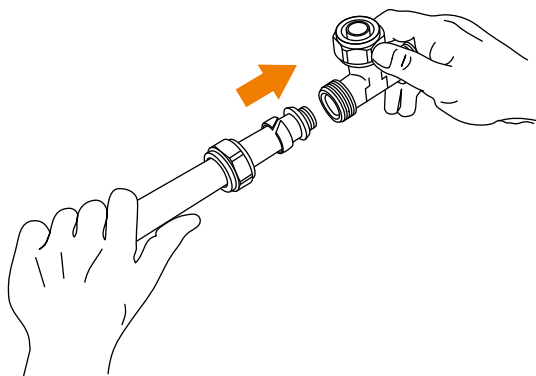
- 3) Using Valsir silicone oil lubricate the inner edges of the pipe or the O-rings mounted on the insert, this operation facilitates introduction of the insert into the pipe and guarantees the durability of the O-rings over time. Avoid the use of other products such as grease or other lubricating liquids.



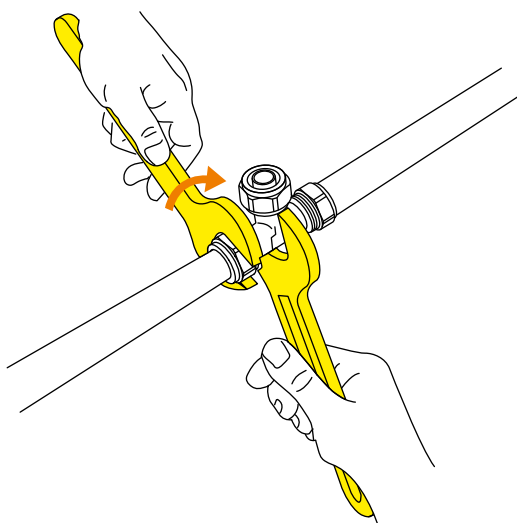
- 4) Mount the fitting in the following way. Slide the nut and the cut olive onto the pipe, making sure that the conical part of the olive is facing the nut. Push the insert with double O-ring inside the pipe to full insertion depth so that the Teflon insulating ring is in contact with the pipe.

Installation instructions

3

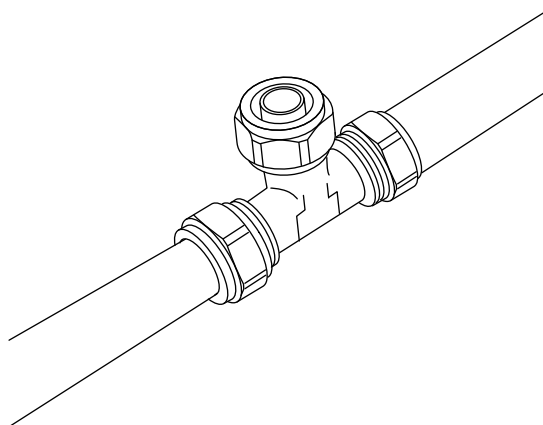


- 5) For diameters 16x2.25, 20x2.5, 26x3, 32x3 insert the insert in the seat of the fitting body and screw the nut by hand as far as possible. For the other diameters, the insert is fixed on the fitting.



- 6) Tighten the nut with no more than two full turns of the spanner, stop tightening sooner if the pipe tends to twist together with the nut. This operation must be performed with the use of two spanners: one to tighten the nut and the other to grip the fitting.

Pipe size	CH on nut (mm)	CH on fitting
14x2	22	17
16x2	24	17
16x2.25	22	17
18x2	30	20
20x2	30	20
20x2.5	27	21
26x3	34	29
32x3	42	32

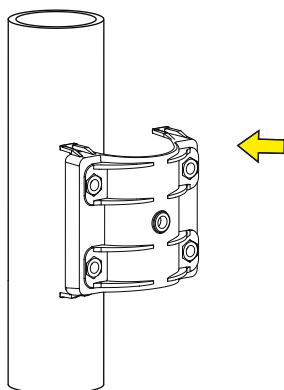


- 7) Make sure the pipes connected to the fitting are axially aligned and that the nuts have been fully tightened before testing the system.

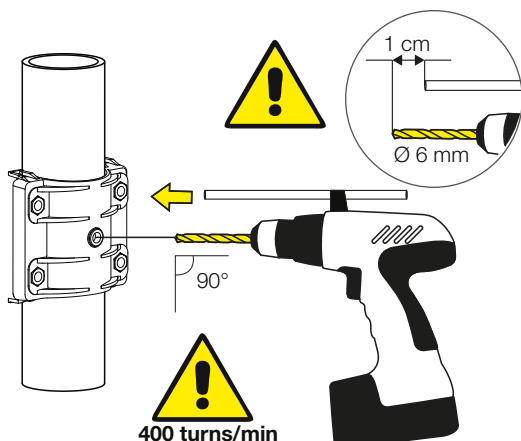
3.1.9 Derivation clamp for Pexal® Connex-T multilayer system, diameters 50÷90 mm

Installation instructions

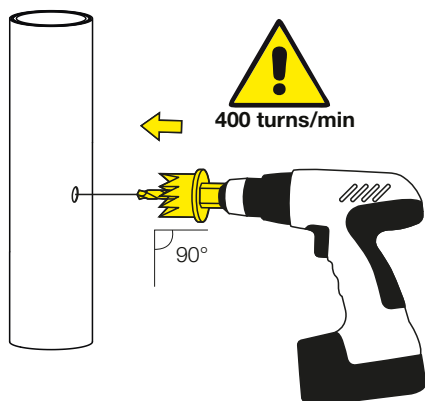
3



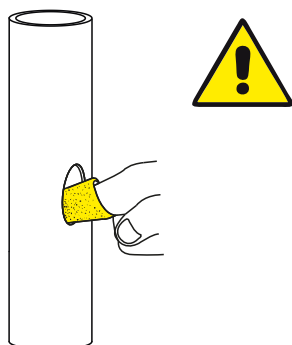
- 1) Position the rear half-shell with the guide hole positioned in the hypothetical centre of the derivation hole to be made.



- 2) Use the centring hole located in the rear half-shell to drill the guide hole, use $\varnothing 6$ mm bit for metal and insert the stop so that the bit penetrates 1 cm maximum into the hole. Use a maximum speed of 400 rpm.

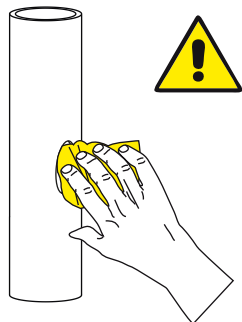


- 3) Drill the hole with the special hollow cutter supplied by Valsir, using the centring hole as guide for the tip of the cutter. Keep the drill perpendicular to the axis of the pipe when drilling. The special stop on the hollow cutter will block its insertion. Use a maximum speed of 400 rpm.

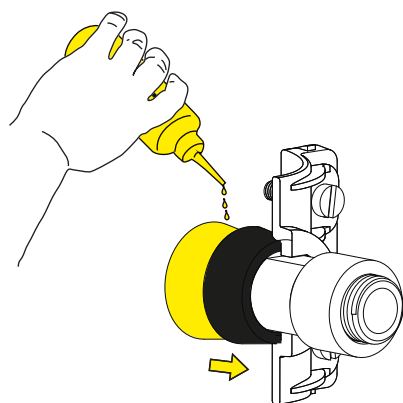


- 4) Remove any milling burrs and sharp edges inside the hole using the fine sandpaper supplied in the milling kit provided by Valsir.

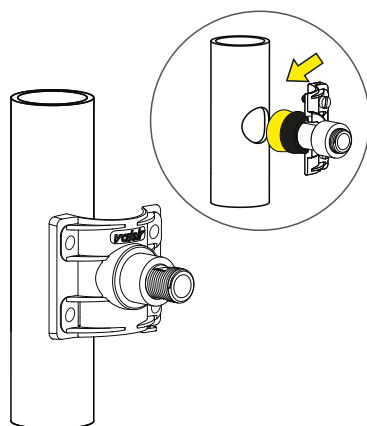
3



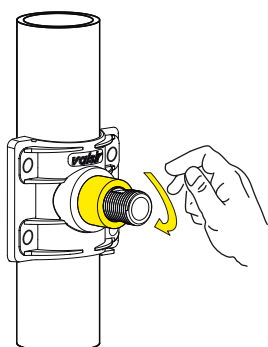
- 5) Clean the hole in order to remove any residue on the edge and inside the pipe.



- 6) Using silicone oil supplied by Valsir, lubricate the brass cone and the EPDM seal. This operation facilitates the sliding of the parts during tightening and ensures the durability of the seal over time. Avoid the use of other products such as grease or other lubricating fluids.

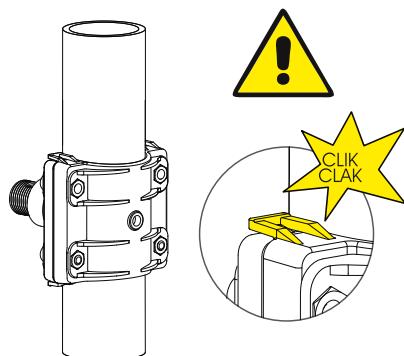


- 7) Insert the threaded insert and front half-shell inside the hole, placing it over the pipe.

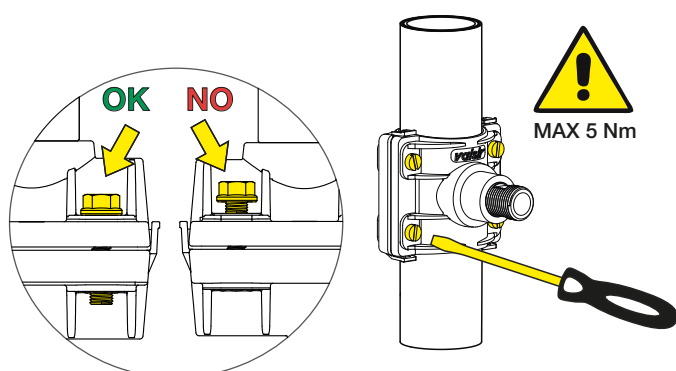


- 8) Manually tighten the locking ring nut so that the half-shell is secured to the pipe.

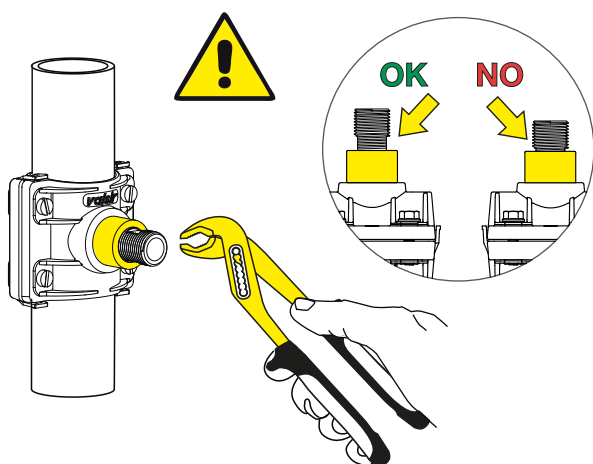
Installation instructions



- 9) Position the rear half-shell and lock it to the front one using the appropriate fixing hooks, in this way the two parts will remain hooked to the pipe.



- 10) Then tighten using the screws supplied with a \varnothing 6 mm socket wrench or with an electric screwdriver/screwdriver. Apply a maximum torque of 5 Nm.



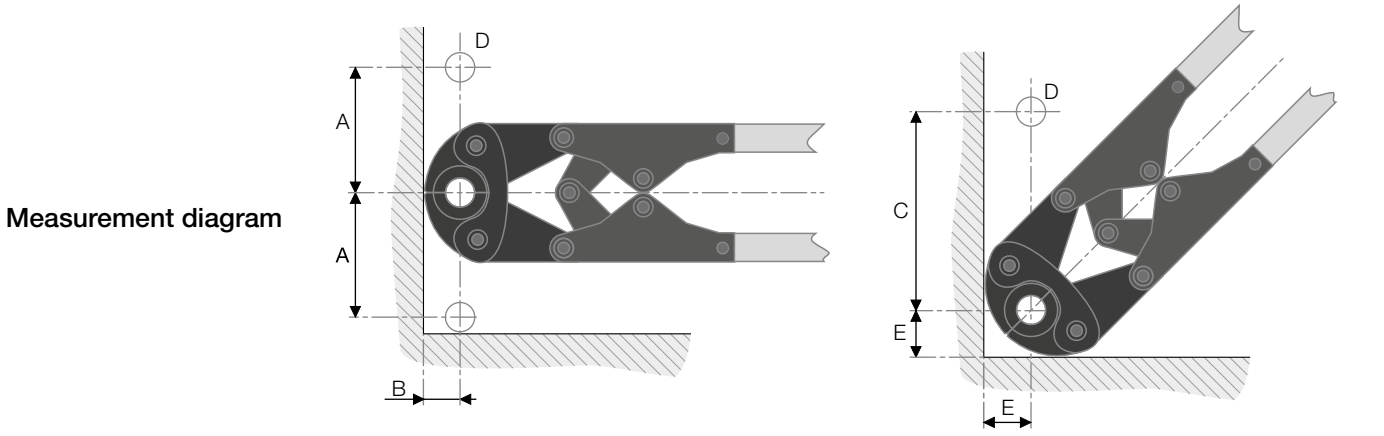
- 11) Fully tighten the locking ring nut on the threaded insert until the end stop is reached as shown in the figure.

3.2 Minimum space requirements for press fittings

When installing press fittings you need to take into account the size of the pressing jaws.

Table 3.1

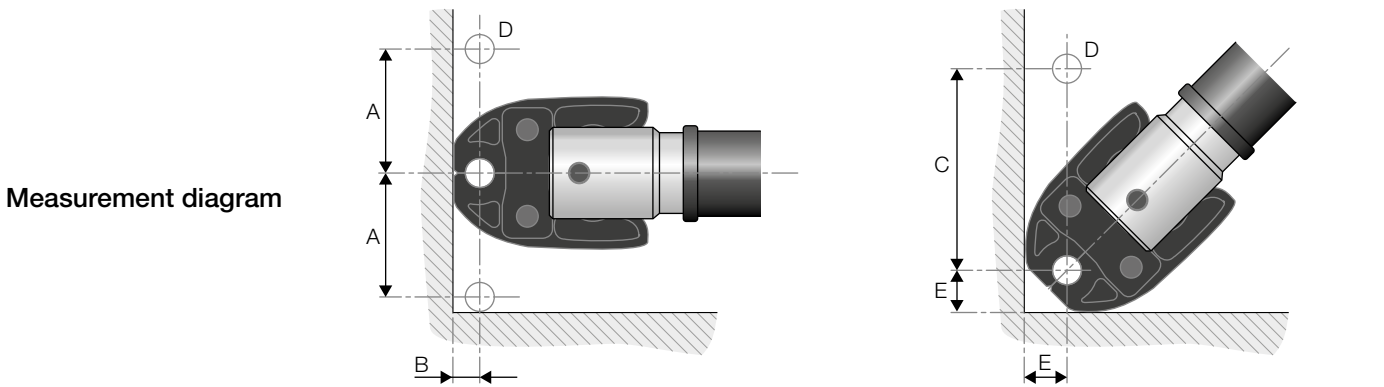
Type of equipment	Manual pressing tool
Type of fittings	Pexal® Brass, Bravopress®



Diameter D [mm]	16	20	26	32
A [mm]	58	60	63	66
B [mm]	35	35	35	35
C [mm]	78	80	83	86
E [mm]	47	47	47	47

Table 3.2

Type of equipment	Maxipress EVO pressing tool
Type of fittings	Pexal® Brass, Bravopress®

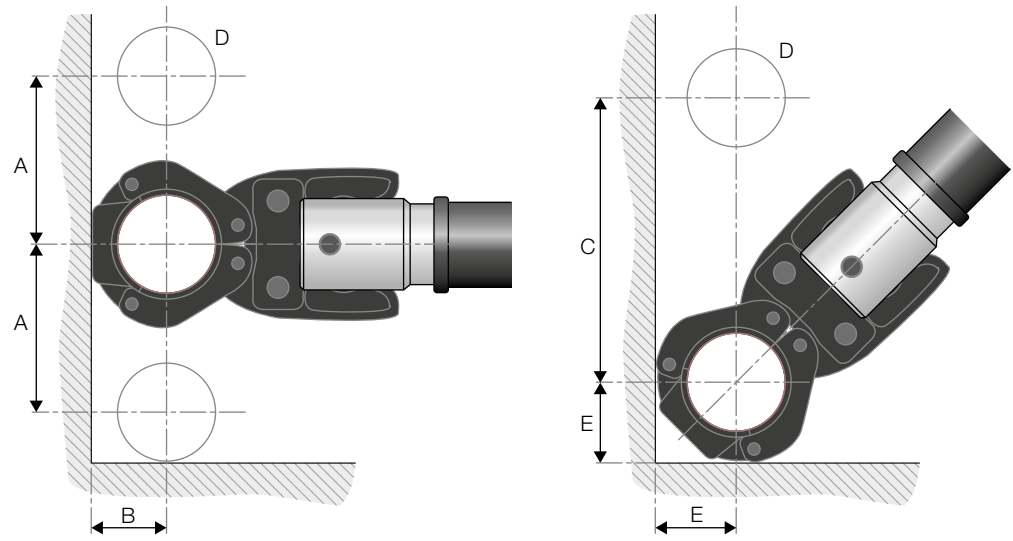


Diameter D [mm]	14	16	18	20	25	26	32	40
A [mm]	54	56	59	59	69	69	81	88
B [mm]	24	24	25	25	29	29	37	41
C [mm]	82	85	87	87	91	91	98	105
E [mm]	35	35	36	36	42	42	46	48

Table 3.3

Type of equipment	Maxipress EVO pressing tool
Type of fittings	Pexal® Brass

Measurement diagram

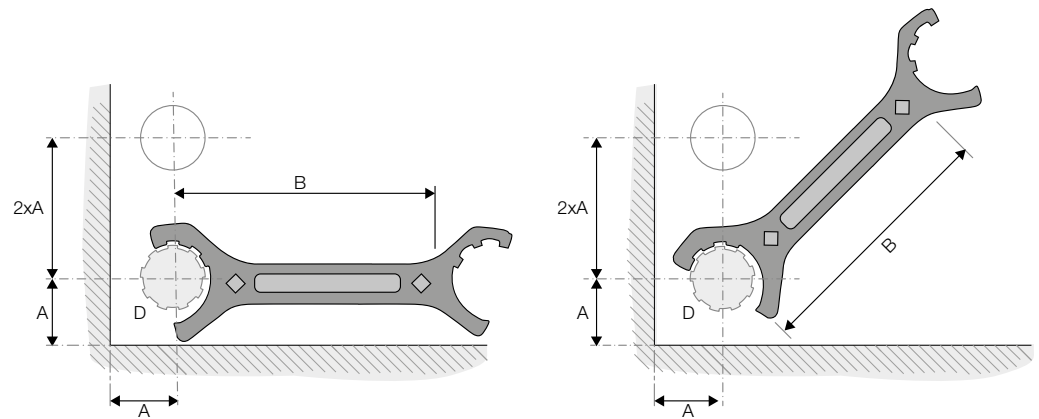


Diameter D [mm]	40	50	63	75	90	110
A [mm]	88	100	115	123	135	146
B [mm]	68	75	84	75	85	91
C [mm]	88	100	115	113	135	150
E [mm]	68	75	84	80	90	85

Table 3.4

Type of equipment	Pexal® Easy spanner
Type of fittings	Pexal® Easy

Measurement diagram



Diameter D [mm]	16	20	26	32	40	50	63	75
A [mm]	18	20	28	31	35	50	61.5	67.5
B [mm]	168	170	213	211	205	285	341.5	387.5

3.3 Minimum pipe length between two fittings

The fittings must be installed at certain intervals that do not compromise the simplicity of installation and the hydraulic seal.

Table 3.5

Type of fittings	Pexal® Brass												
Measurement diagram													
Diameter D [mm]	14	16	18	20	25	26	32	40	50	63	75	90	
Distance d [mm]	10	15	15	15	25	25	25	25	25	30	30	40	

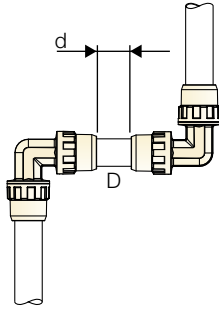
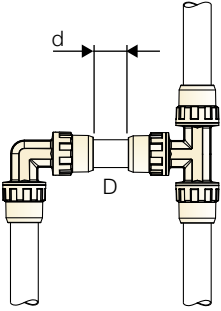
Table 3.6

Type of fittings	Bravopress®								
Measurement diagram									
Diameter D [mm]	16	20	25	26	32	40	50	63	
Distance d [mm]	15	15	25	25	25	25	25	30	

Table 3.7

Type of fittings	Pexal® XL						
Measurement diagram							
Diameter D [mm]	40	50	63	75	90	110	
Distance d [mm]	25	25	30	30	40	40	

Table 3.8

Type of fittings	Pexal® Easy										
Measurement diagram											
Diameter D [mm]	14	16	18	20	26	32	40	50	63	75	
Distance d [mm]	5	5	5	5	5	5	10	10	10	10	

3.4 Connection to water outlets and appliances

Listed below are several connection systems that depend on the type of fittings chosen.

These are not the only solutions; it is recommended to verify always other alternative systems with the back-up of Valsir's Technical Office.

3.4.1 Connection to water outlets and appliances with Pexal® Brass

Table 3.9

Type	Wingback elbow								
Description	Connection system for cold or hot water, suitable for any kind of wall. The wingback elbow is fixed to the wall with screws/plugs. This system is also suitable for pipes with lagging or a protective corrugated tube.								
Picture									
Type of fittings	Pexal® Brass								
Suitable pipes	Pexal®, Mixal®, Thermoline®								
Dimensions D₁ [mm]	14x2	16x2	16x2.25	18x2	20x2	20x2	20x2.5	26x3	
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	1/2"	3/4"	
Required components	Wingback elbow								

Table 3.10

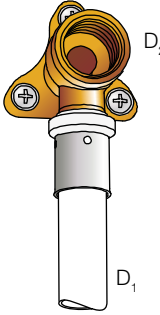
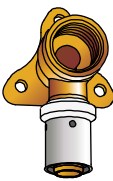
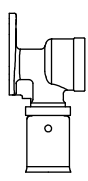
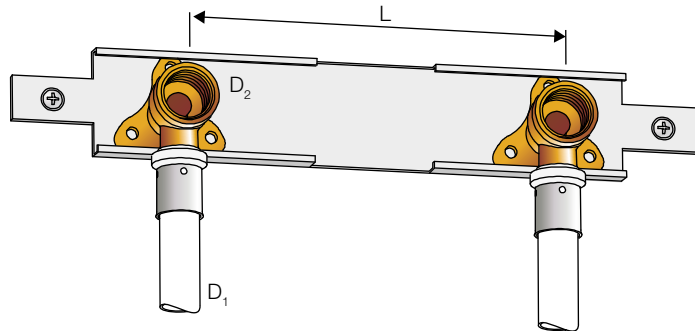
Type	Low wingback elbow		
Description	Connection system for cold or hot water suitable for thin walls and walls of any kind. The wingback elbow is fixed to the wall with screws/plugs.		
Picture			
Type of fittings	Pexal® Brass		
Suitable pipes	Pexal®, Mixal®, Thermoline®		
Dimensions D₁ [mm]	16x2		
Dimensions D₂ [inch]	1/2"		
Required components	Low wingback elbow		

Table 3.11

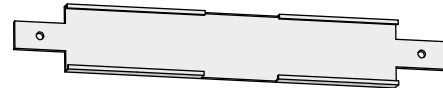
Type	Fixing plate with wingback elbows
Description	Connection system for cold or hot water suitable for any kind of wall. The wingback elbows can slide inside the fixing plate and be set at a variable distance according to requirements. The system is also suitable for pipes with lagging or a protective corrugated tube.

Picture



Type of fittings	Pexal® Brass									
Suitable pipes	Pexal®, Mixal®, Thermoline®									
Dimensions D₁ [mm]	14x2	16x2 ⁽¹⁾	16x2.25	18x2	20x2	20x2	20x2.25	20x2.5	25x2.5	26x3
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	1/2"	1/2"	3/4"	3/4"
Interaxis distance L	max 105 mm or max 205 mm (depending on the type of fixing plate)									

Fixing plate



Required components

Wingback elbows

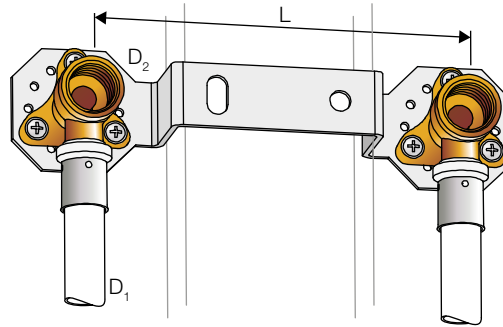


Note. Items are supplied separately.
(1) Also available in shallow version.

Table 3.12

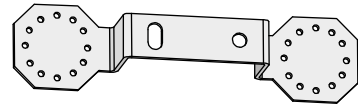
Type	Fixing plate with wingback elbows, for thin walls
Description	Connection system for cold and hot water suitable for plasterboard or wooden walls. The fixing plate profile allows installation on the metal or wood framing that sustains the wall. The system is also suitable for pipes with lagging or a protective corrugated tube.

Picture



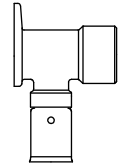
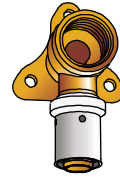
Type of fittings	Pexal® Brass									
Suitable pipes	Pexal®, Mixal®, Thermoline®									
Dimensions D₁ [mm]	14x2	16x2 ^{(1)/(2)}	16x2.25	18x2	20x2	20x2	20x2.25	20x2.5	25x2.5	26x3
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	1/2"	1/2"	3/4"	3/4"
Interaxis distance L	120 mm or 153 mm (depending on the fixing plate type)									

Fixing plate



Required components

Wingback elbow



(1) Note. The articles are supplied already assembled.
 (2) Also available in shallow version.

Table 3.13

Type	Fixing plate for terminal fittings or 15° elbow fitting	
Description	Connection system for cold and hot water suitable for all kinds of walls. Terminal fittings can be fixed to the fixing plate with two centre-to-centre distances as required. The multi-hole system on the plate allows fittings to be placed in various positions with respect to the plate axis. The fitting is fixed to the plate with a nut located behind the fitting. The system is also suitable for pipe with heat insulating conduit or corrugated protective conduit.	
Picture		
Type of fittings	Pexal® Brass	
Suitable pipes	Pexal®, Mixal®, Thermoline®	
Dimensions D₁ [mm]	16x2	20x2
Dimensions D₂ [inch]	1/2"	1/2"
Interaxis distance L	min 75 mm and max 155 mm	

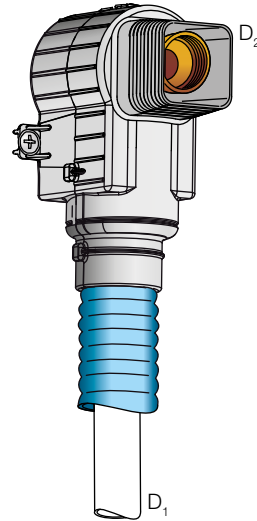
Required components	Fixing plate for terminal fitting	
	Terminal fitting	
	15° elbow terminal fitting	

Note. Items are supplied separately.

Table 3.14

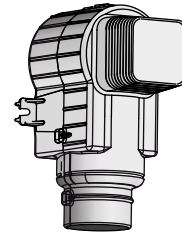
Type	Inspection box with wingback elbow
Description	Connection system for cold or hot water suitable for any kind of wall. The inspection box can be installed in any position using screws/plugs in the lateral slots. It is made of two matching shells that slot together; the upper shell has a protective cover that is useful during plastering and allows housing of the system testing cap. The pipe inlet side has special inserts that ensure coupling with the protective corrugated tube. This system is also suitable for pipes with lagging. For more details on the use of this type of connection to appliances, please refer to section 3.4.5.

Picture



Types of fittings	Pexal® Brass								
Suitable pipes	Pexal®, Mixal®, Thermoline®								
Dimensions D₁ [mm]	14x2	16x2	16x2.25	18x2	20x2	20x2	20x2.5	26x3	
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	1/2"	3/4"	

Inspection box for wingback elbows



Required components

Wingback elbow



Note. Items are supplied separately.

Table 3.15

Type	Straight fitting with chrome plated copper extension
Description	This type of fitting is generally employed to make radiator connections in heating systems. The extension that juts out from the wall and is therefore visible is made of chrome plated copper to meet the aesthetic requirements of this type of plant.

Picture					
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Types of fittings	Pexal® Brass				
Suitable pipes	Pexal®, Mixal®, Thermoline®				
Dimensions D₁ [mm]	16x2	20x2	26x3	26x3	32x3
Dimensions D₂ [mm]	15	22	22	28	28

Required components	Straight fitting with chrome plated copper extension				

Table 3.16

Type	Elbow fitting with chrome plated copper extension
Description	This type of fitting is generally employed to make radiator connections in heating systems. The extension that juts out from the wall and is therefore visible is made of chrome plated copper to meet the aesthetic requirements of this type of plant.

Picture					
----------------	--	--	--	--	--

Types of fittings	Pexal® Brass				
Suitable pipes	Pexal®, Mixal®, Thermoline®				
Dimensions D₁ [mm]	16x2				
Dimensions D₂ [mm]	15				

Required components	Elbow fitting with chrome plated copper extension				

Table 3.17

Type	Fitting with bent extension in chrome plated copper
Description	This type of fitting is generally employed to make radiator connections in heating systems. The extension that juts out from the wall and is therefore visible is made of chrome plated copper to meet the aesthetic requirements of this type of plant.
Picture	
Types of fittings	Pexal® Brass
Suitable pipes	Pexal®, Mixal®, Thermoline®
Dimensions D₁ [mm]	16x2
Dimensions D₂ [mm]	15
Required components	Fitting with bent extension in chrome plated copper

3.4.2 Connection to water outlets and appliances with Bravopress®

Table 3.18

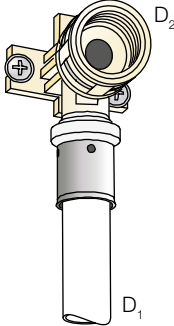
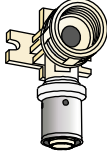
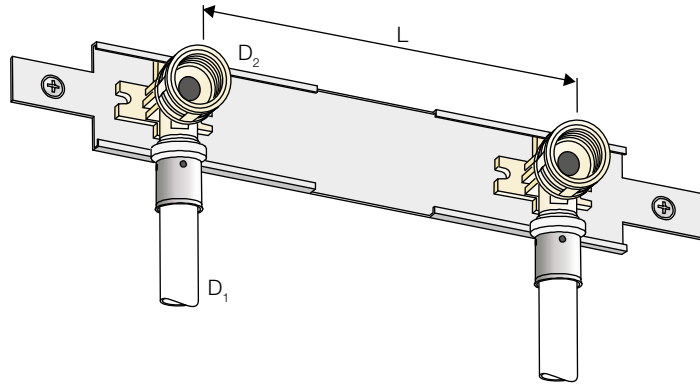
Type	Wingback elbow				
Description	Connection system for cold or hot water, suitable for any kind of wall. The wingback elbow is fixed to the wall with screws/plugs. The system is also suitable for pipes with lagging or a protective corrugated tube.				
Picture					
Types of fittings	Bravopress®				
Suitable pipes	Pexal®, Mixal®, Thermoline®				
Dimensions D ₁ [mm]	16x2	20x2	20x2	25x2.5	26x3
Dimensions D ₂ [mm]	1/2"	1/2"	3/4"	3/4"	3/4"
Required components	Wingback elbow				

Table 3.19

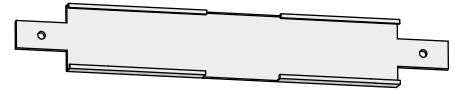
Type	Fixing plate with wingback elbows
Description	Connection system for cold and hot water suitable for any kind of wall. The wingback elbows can slide inside the fixing plate and be set at a variable distance depending on the requirements. The system is also suitable for pipes with lagging or a protective corrugated tube.

Picture



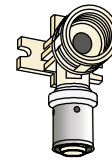
Types of fittings	Bravopress®				
Suitable pipes	Pexal®, Mixal®, Thermoline®				
Dimensions D₁ [mm]	16x2	20x2	20x2	25x2.5	26x3
Dimensions D₂ [inch]	1/2"	1/2"	3/4"	3/4"	3/4"
Interaxis distance L	max 105 mm or max 205 mm (depending on the type of fixing plate)				

Fixing plate



Required components

Wingback elbow

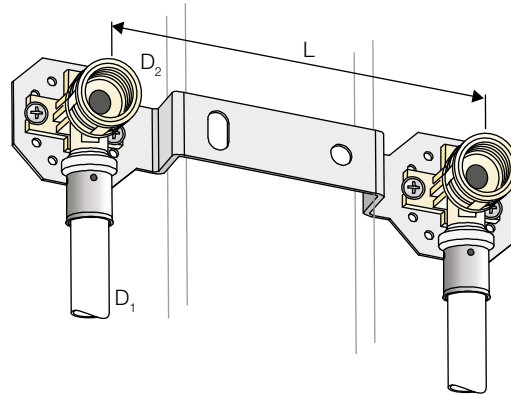


Note. Items are supplied separately.

Table 3.20

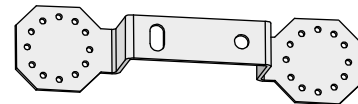
Type	Fixing plate with wingback elbows, for thin walls
Description	Connection system for cold and hot water suitable for plasterboard or wooden walls. The fixing plate profile allows installation on the metal or wood framing that sustains the wall. The system is also suitable for pipes with lagging or a protective corrugated tube.

Picture



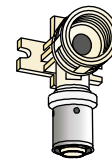
Type of fittings	Bravopress®				
Suitable pipes	Pexal®, Mixal®, Thermoline®				
Dimensions D₁ [mm]	16x2	20x2	20x2	25x2.5	26x3
Dimensions D₂ [inch]	1/2"	1/2"	3/4"	3/4"	3/4"
Interaxis distance L	120 mm or 153 mm (depending on the type of fixing plate)				

Fixing plate



Required components

Wingback elbow

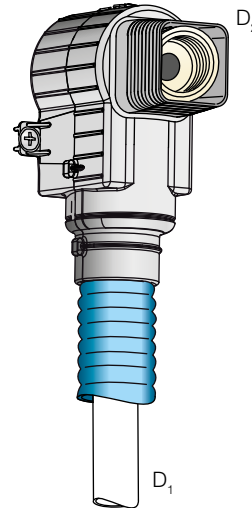


Note. Items are supplied separately.

Table 3.21

Type	Inspection box with wingback elbow
Description	Connection system for cold or hot water suitable for any kind of wall. The inspection box can be installed in any position using screws/plugs in the lateral slots. It is made of two matching shells that slot together; the upper shell has a protective cover that is useful during plastering and allows housing of the system testing cap. The pipe inlet side has special inserts that ensure coupling with the protective corrugated tube. This system is also suitable for pipes with lagging. For more details on the use of this type of connection to appliances, please refer to section 3.4.5.

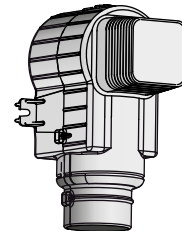
Picture



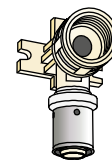
Types of fittings	Bravopress®					
Suitable pipes	Pexal®, Mixal®, Thermoline®					
Dimensions D₁ [mm]	16x2	18x2	20x2	20x2	25x2.5	26x3
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"

Required components

Inspection box for wingback elbow



Wingback elbow



Note. Items are supplied separately.

3.4.3 Connection to water outlets and appliances with Pexal® Easy

Table 3.22

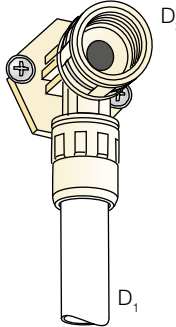
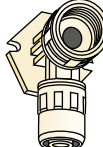
Type	Wingback elbow			
Description	Connecting system for cold or hot water, suitable for any kind of wall. The wingback elbow is fixed to the wall with screws/plugs. The system is also suitable for pipes with lagging or a protective corrugated tube.			
Picture				
Types of fittings	Pexal® Easy			
Suitable pipes	Pexal®			
Dimensions D ₁ [mm]	16x2	16x2.25	20x2	20x2.5
Dimensions D ₂ [inch]	1/2"	1/2"	1/2"	1/2"
Required components	Wingback elbow			

Table 3.23

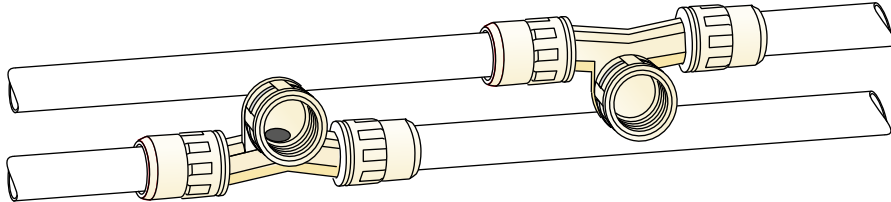
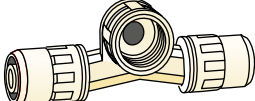
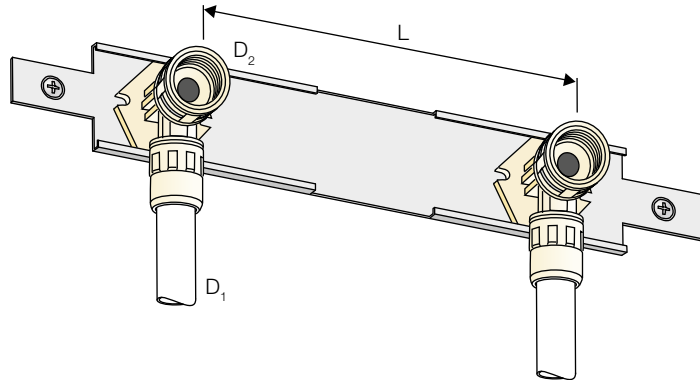
Type	Eccentric tee fitting			
Description	Connection system for cold and hot water, suitable for brick walls. This fitting incorporates a suitable housing for the passage of parallel pipes and is typically used in branch circuits. The system is also suitable for pipes with lagging or protective corrugated tube.			
Picture				
Types of fittings	Pexal® Easy			
Suitable pipes	Pexal®			
Dimensions D ₁ [mm]	16x2	16x2.25	20x2	20x2.5
Dimensions D ₂ [inch]	1/2"	1/2"	1/2"	1/2"
Required components	Eccentric tee fitting			

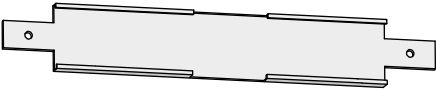
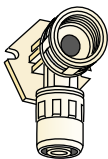
Table 3.24

Type	Fixing plate with wingback elbows
Description	Connection system for cold and hot water suitable for any kind of wall. The wingback elbows can slide inside the fixing plate and be set at a variable distance according to requirements. The system is also suitable for pipes with lagging or a protective corrugated tube.

Picture



Types of fittings	Pexal® Easy			
Suitable pipes	Pexal®			
Dimensions D₁ [mm]	16x2	16x2.25	20x2	20x2.5
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"
Interaxis distance L	max 105 mm or max 205 mm (depending on the type of fixing plate)			

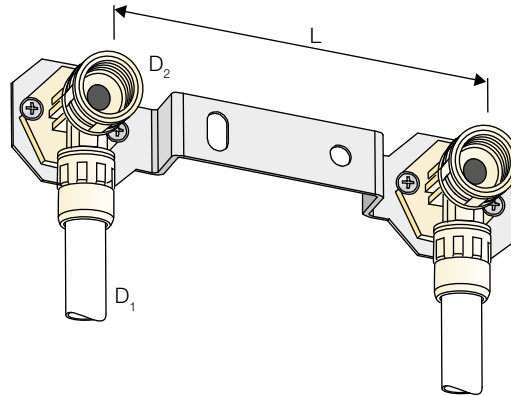
Required components	Fixing plate	
	Wingback elbow	

Note. Items are supplied separately.

Table 3.25

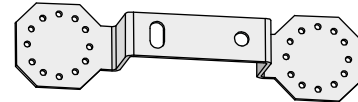
Type	Fixing plate with wingback elbows, for thin walls
Description	Connection system for cold and hot water suitable for plasterboard or wooden walls. The fixing plate profile allows installation on the metal or wood framing that sustains the wall. The system is also suitable for pipes with lagging or a protective corrugated tube.

Picture



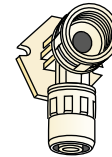
Types of fittings	Pexal® Easy			
Suitable pipes	Pexal®			
Dimensions D₁ [mm]	16x2	16x2.25	20x2	20x2.5
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"
Interaxis distance L	120 mm or 153 mm (depending on the type of fixing plate)			

Fixing plate



Required components

Wingback elbow

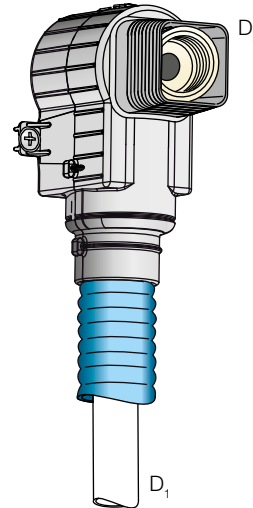


Note. Items are supplied separately.

Table 3.26

Type	Inspection box with wingback elbow
Description	Connection system for cold or hot water suitable for any kind of wall. The inspection box can be installed in any position using screws/plugs in the lateral slots. It is made of two matching shells that slot together; the upper shell has a protective cover that is useful during plastering and allows housing of the system testing cap. The pipe inlet side has special inserts that ensure coupling with the protective corrugated tube. This system is also suitable for pipes with lagging. For more details on the use of this type connection to appliances, please refer to section 3.4.5.

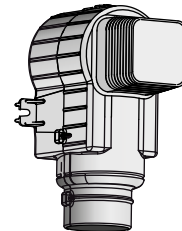
Picture



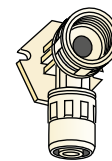
Types of fittings	Pexal® Easy			
Suitable pipes	Pexal®			
Dimensions D₁ [mm]	16x2	16x2.25	20x2	20x2.5
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"

Required components

Inspection box for wingback elbow



Wingback elbow



Note. Items are supplied separately.

3.4.4 Connection to water outlets and appliances with Pexal® Twist

Table 3.27

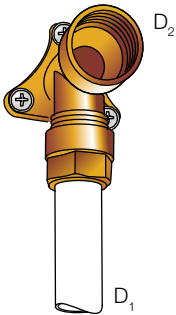

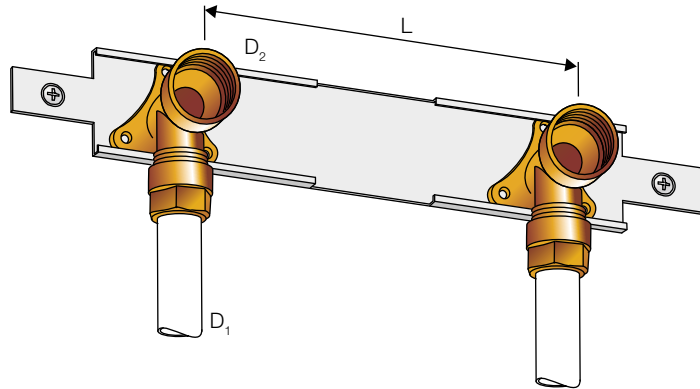
Type	Wingback elbow					
Description	Connection system for cold or hot water suitable for any kind of wall. The wingback elbow is fixed to the wall with screws/plugs. The system is also suitable for pipes with lagging or a protective corrugated tube.					
Picture						
Types of fittings	Pexal® Twist					
Suitable pipes	Pexal®, Mixal®, Thermoline®					
Dimensions D ₁ [mm]	14x2	16x2	16x2.25	18x2	20x2	20x2.5
Dimensions D ₂ [inch]	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Required components	Wingback elbow					

Table 3.28

Type	Fixing plate with wingback elbow
Description	Connection system for cold and hot water suitable for any kind of wall. The wingback elbows can slide inside the fixing plate and be set at a variable distance according to requirements. The system is also suitable for pipes with lagging or a protective corrugated tube.

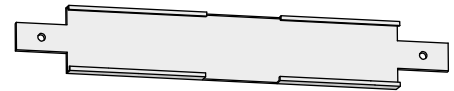
Picture



Types of fittings	Pexal® Twist					
Suitable pipes	Pexal®, Mixal®, Thermoline®					
Dimensions D₁ [mm]	14x2	16x2	16x2.25	18x2	20x2	20x2.5
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Interaxis distance L	max 105 mm or max 205 mm (depending on the type of fixing plate)					

Required components

Fixing plate

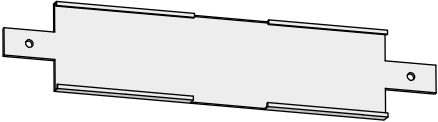
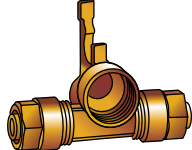


Wingback elbow



Note. Items are supplied separately.

Table 3.29

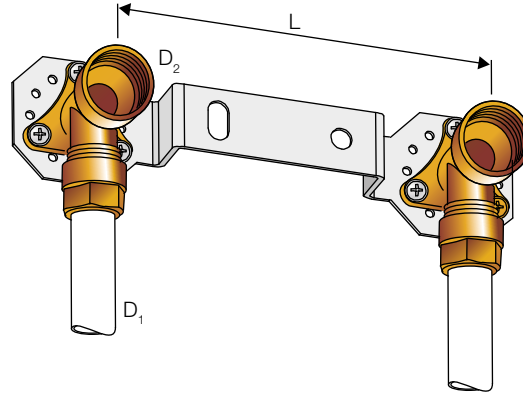
Type	Fixing plate with double sliding fittings
Description	Connecting system for cold or hot water, suitable for any type of wall. The double fittings can slide inside the fixing plate and be set at a variable interaxis distance according to requirements. This solution is suitable for branch circuits and the double fittings have suitable hooks for the passage of the pipes. The system is also suitable for pipes with lagging or protective corrugated tube.
Picture	
Types of fittings	Pexal® Twist
Suitable pipes	Pexal®, Mixal®, Thermoline®
Dimensions D₁ [mm]	16x2.25
Dimensions D₂ [inch]	1/2"
Interaxis distance L	max 130 mm or max 230 mm (depending on the type of fixing plate)
Required components	<p>Fixing plate </p> <p>Double sliding fitting </p>

Note. Items are supplied separately.

Table 3.30

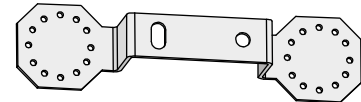
Type	Fixing plate with wingback elbows, for thin walls
Description	Connection system for cold and hot water suitable for plasterboard or wooden walls. The fixing plate profile allows installation on the metal or wood framing that sustains the wall. The system is also suitable for pipes with lagging or a protective corrugated tube.

Picture



Types of fittings	Pexal® Twist					
Suitable pipes	Pexal®, Mixal®, Thermoline®					
Dimensions D₁ [mm]	14x2	16x2	16x2.25	18x2	20x2	20x2.5
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Interaxis distance L	120 mm or 153 mm (depending on the type of fixing plate)					

Fixing plate



Required components

Wingback elbow

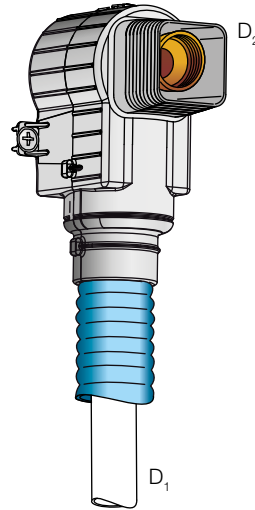


Note. Items are supplied separately.

Table 3.31

Type	Inspection box with wingback elbow
Description	Connection system for cold or hot water suitable for any kind of wall. The inspection box can be installed in any position using screws/plugs in the lateral slots. It is made of two matching shells that slot together; the upper shell has a protective cover that is useful during plastering and allows housing of the system testing cap. The pipe inlet side has special inserts that ensure coupling with the protective corrugated tube. This system is also suitable for pipes with lagging. For more details on the use of this type connection to utilities, please refer to section 3.4.5.

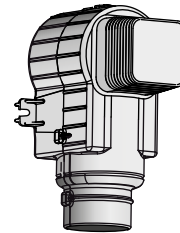
Picture



Types of fittings	Pexal® Twist					
Suitable pipes	Pexal®, Mixal®, Thermoline®					
Dimensions D₁ [mm]	14x2	16x2	16x2.25	18x2	20x2	20x2.5
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

Required components

Inspection box for wingback elbow



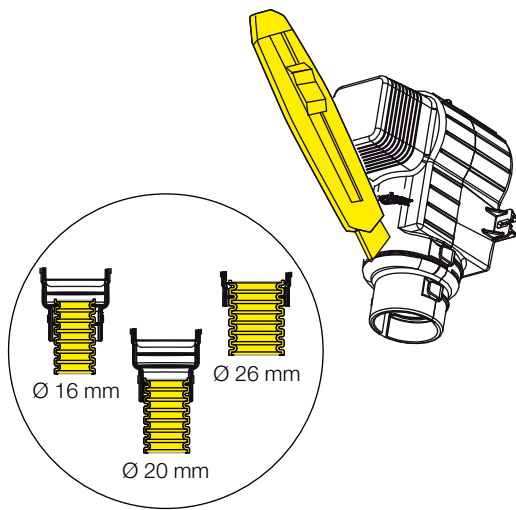
Wingback elbow



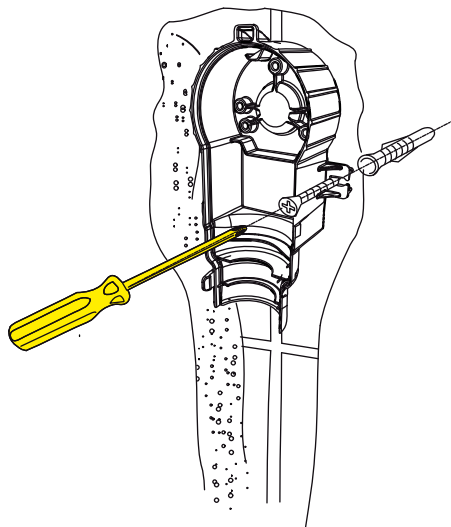
Note. Items are supplied separately.

3.4.5 Installation of the inspection box with wingback elbow

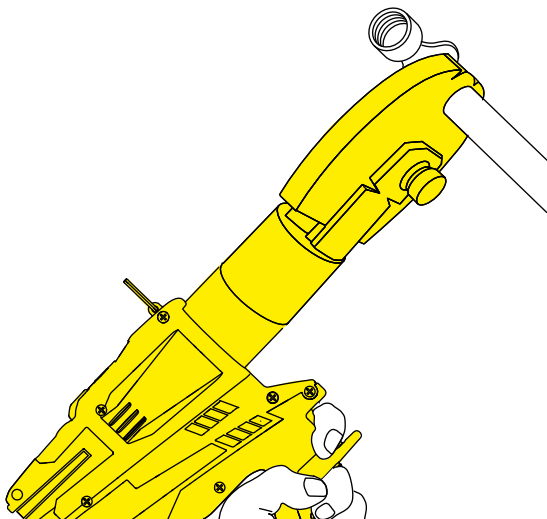
Installation instructions



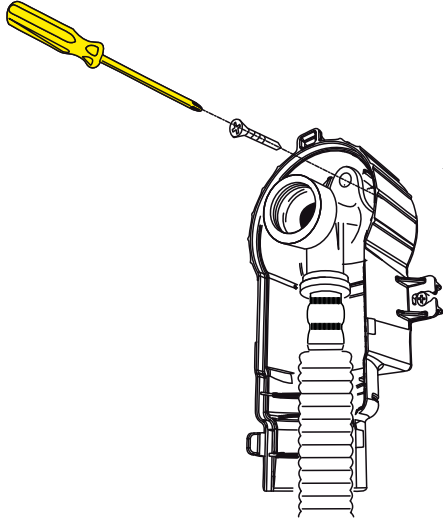
- 1) The inspection box for wingback elbows has suitable inserts for coupling to the protective corrugated tubes. For the 26 mm diameter, cut the ending part of the box at the marking.



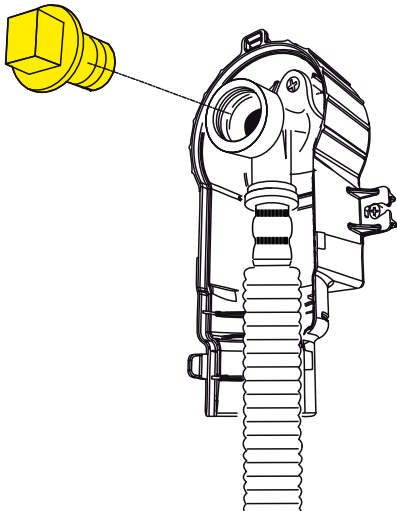
- 2) Separate the two half-shells of the inspection box and secure the back half to the wall using two screws/plugs where the slots are positioned.



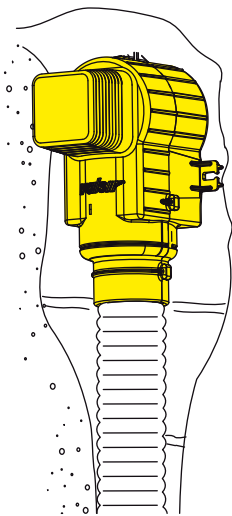
- 3) Install the wingback elbow on the pipe following the installation instructions in section 3.1 depending on the type of wingback elbow chosen.



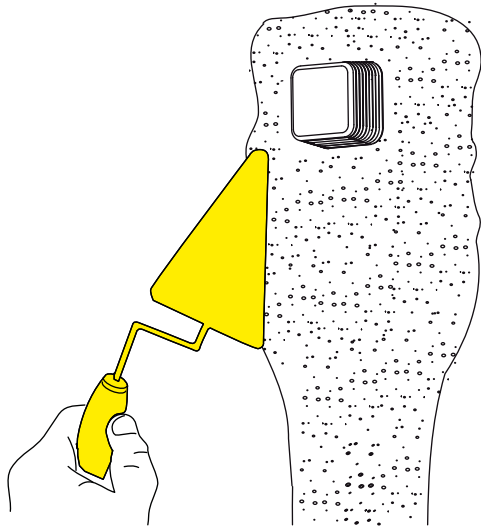
- 4) Insert the wingback elbow and the pipe inside the half-shell. Secure the wingback elbow with the screws that come with the inspection box.



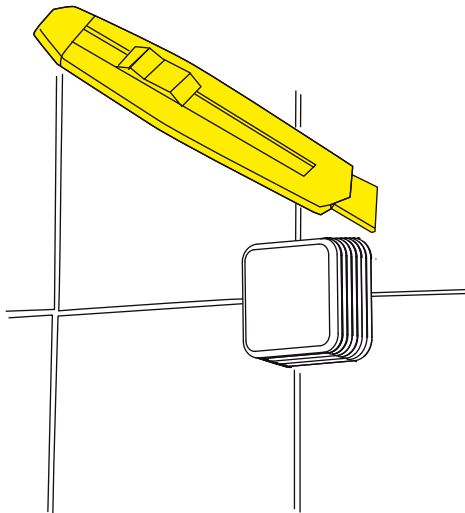
- 5) If required, insert the cap for system testing.



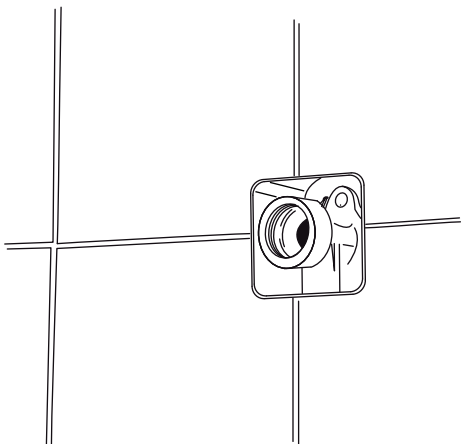
- 6) Close the inspection box by slotting the two half-shells together with the help of the hinge to be found at the top of the box and the snap hooks.



7) Complete the masonry work.



8) Using a suitable cutter remove the part of the inspection box that protrudes from the finished wall.



9) Test the system and, finally, connect the fixture.

3.5 Distribution to water outlets and appliances

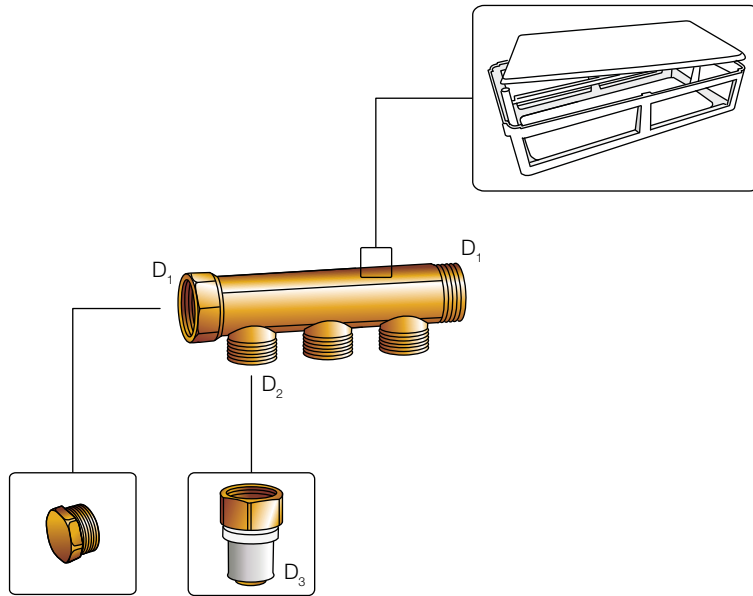
Listed below are several methods of distribution to water outlets and appliances that depend on the type of fittings chosen. These are not the only options; it is recommended to verify always other alternative systems with the back-up of Valsir's Technical Office.

3.5.1 Distribution to water outlets and appliances with Pexal® Brass


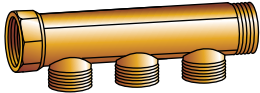

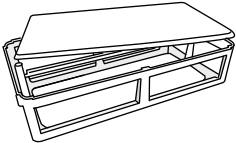
Table 3.32

Type	2 or 3-way manifolds
Description	System suitable for hot or cold water supply. The manifolds are available in 2 and 3-way sizes and can be screwed together depending on the number of appliances to be supplied. The straight terminal with female nut and tapered end must be used on the ports. The plastic cabinet is available in different sizes, depending on the number of appliances to be supplied.

Picture



Types of fittings	Pexal® Brass				
Suitable pipes	Pexal®, Mixal®, Thermoline®				
Dimensions D₁ [inch]	3/4"	3/4"	3/4"	3/4"	3/4"
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"	1/2"
Dimensions D₃ [mm]	14x2	16x2	16x2.25	20x2	20x2.5
Cabinet for manifolds	Available for up to 7 (400 mm), 9 (500 mm) and 11 (600 mm) appliances.				

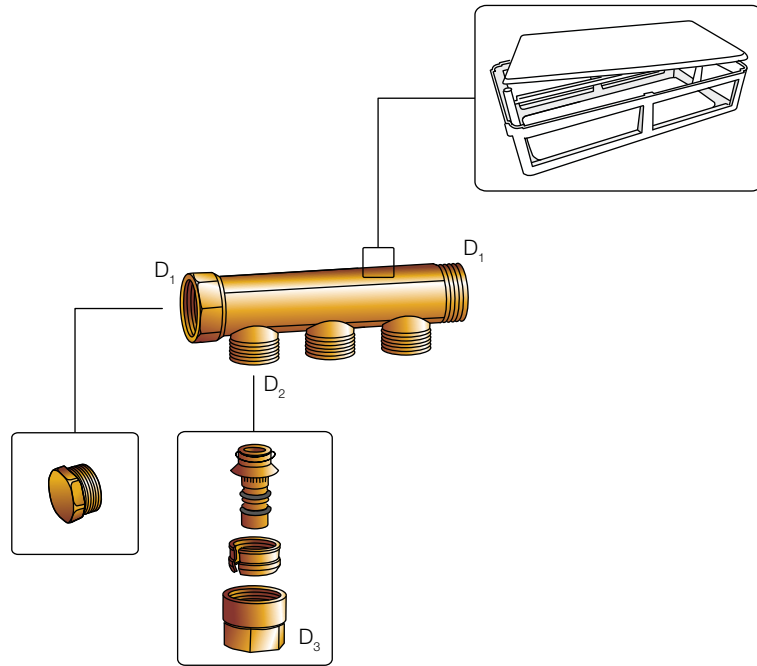
Required components	Straight terminal with female nut and tapered end		2 or 3-way manifold	
	End plug		Plastic cabinet for manifolds	

Note. Items are supplied separately.

Table 3.33

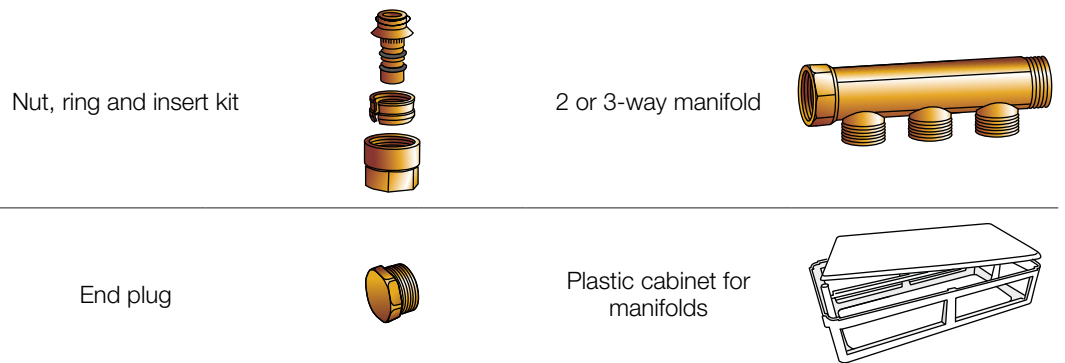
Type	2 or 3-way manifolds
Description	System suitable for hot or cold water supply. The manifolds are available in 2 and 3-way sizes and can be screwed together depending on the number of appliances to be supplied. The straight terminal with female nut and nut, ring and insert kit must be used on the ports. The plastic cabinet is available in different sizes, depending on the number of appliances to be supplied.

Picture



Types of fittings	Pexal® Brass				
Suitable pipes	Pexal®, Mixal®, Thermoline®				
Dimensions D₁ [inch]	3/4"	3/4"	3/4"	3/4"	3/4"
Dimensions D₂ [inch]	1/2"	1/2"	1/2"	1/2"	1/2"
Dimensions D₃ [mm]	14x2	16x2	16x2.25	20x2	20x2.5
Cabinet for manifolds	Available for up to 7 (400 mm), 9 (500 mm) and 11 (600 mm) appliances.				

Required components



Note. Items are supplied separately.

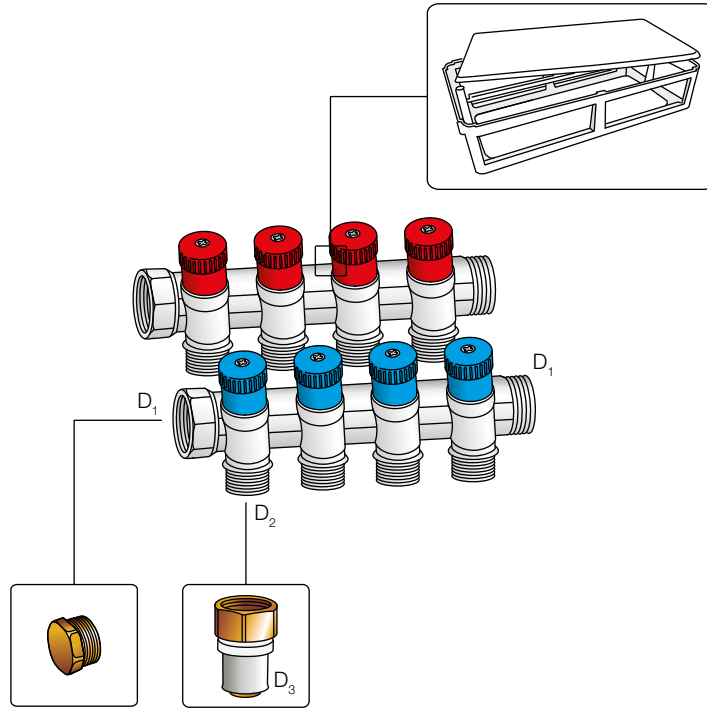
Table 3.34

Type 2, 3 or 4-way manifolds with isolating service valves

Description

System suitable for hot or cold water supply. The manifolds are available in 2, 3 and 4-way sizes and incorporate isolating service valves with red or blue knobs. The manifolds can be screwed together depending on the number of appliances to be supplied. The straight terminal with female nut and tapered end must be used on the ports. The plastic cabinet is available in different sizes, depending on the number of appliances to be supplied.

Picture



Types of fittings

Pexal® Brass

Suitable pipes

Pexal®, Mixal®, Thermoline®

Dimensions D₁ [inch]

3/4" 3/4" 3/4" 3/4" 3/4"

Dimensions D₂ [inch]

1/2" 1/2" 1/2" 1/2" 1/2"


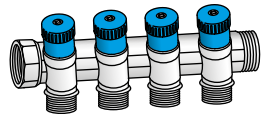

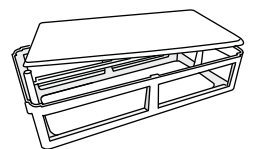
Dimensions D₃ [mm]

14x2 16x2 16x2.25 20x2 20x2.5

Cabinet for manifolds

Available for up to 7 (400 mm), 9 (500 mm) and 11 (600 mm) appliances.

Required components

Straight terminal with female nut and tapered end		2, 3 or 4-way manifolds with red or blue knobs	
End plug		Plastic cabinet for manifolds	

Note. Items are supplied separately.

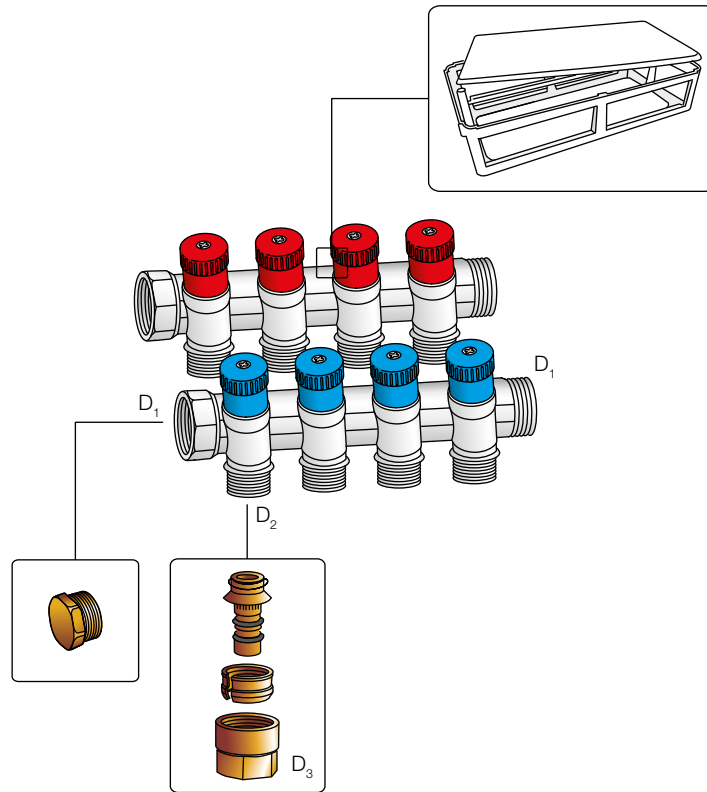
Table 3.35

Type 2, 3 or 4-way manifolds with isolating service valves

Description

System suitable for hot or cold water supply. The manifolds are available in 2, 3 and 4-way sizes and incorporate isolating service valves with red or blue knobs. The manifolds can be screwed together depending on the number of appliances to be supplied. The straight terminal with female nut and nut, ring and insert kit must be used on the ports. The plastic cabinet is available in different sizes, depending on the number of appliances to be supplied.

Picture



Types of fittings

Pexal® Brass

Suitable pipes

Pexal®, Mixal®, Thermoline®

Dimensions D₁ [inch]

3/4"

3/4"

3/4"

3/4"

3/4"

Dimensions D₂ [inch]

1/2"

1/2"

1/2"

1/2"

1/2"

Dimensions D₃ [mm]

14x2

16x2

16x2.25

20x2

20x2.5

Cabinet for manifolds

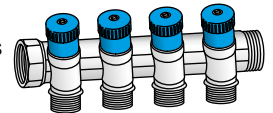
Available for up to 7 (400 mm), 9 (500 mm) and 11 (600 mm) appliances.

Required components

Nut, ring and insert kit



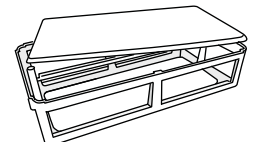
2, 3 or 4-way manifolds with red or blue knobs



End plug



Plastic cabinet for manifolds



Note. Items are supplied separately.

3.5.2 Distribution to water outlets and appliances with Pexal® Easy

Table 3.36

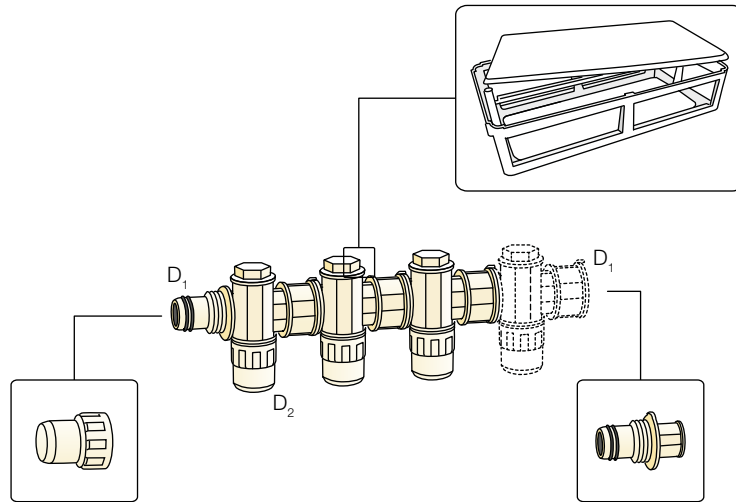
Type	Modular manifold				
Description	System suitable for hot or cold water supply. The manifolds can be assembled by using the basic modules to create the number of ports in relation to the number of fixtures to be supplied. End caps and plugs can be used to close the left or right side of the manifold. The plastic cabinet is available in different sizes, depending on the number of fixtures to be supplied.				
Picture					
Types of fittings	Pexal® Easy				
Suitable pipes	Pexal®				
Dimensions D ₁ [mm]	20x2	20x2	20x2.5	26x3	26x3
Dimensions D ₂ [mm]	14x2	16x2	16x2.25	16x2	20x2
Cabinet for manifolds	Available for up to 5 (400 mm), 7 (500 mm) and 9 (600 mm) appliances.				
Required components	Basic module for modular manifold		Left or right end caps and plugs		
	Plastic cabinet for manifolds				

Note. Items are supplied separately.

Table 3.37

Type	Modular manifold
Description	System suitable for hot or cold water supply. The manifolds can be assembled by using the basic modules to create the number of ports in relation to the number of fixtures to be supplied. End caps and plugs can be used to close the left or right side of the manifold. The plastic cabinet is available in different sizes, depending on the number of fixtures to be supplied.

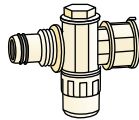
Picture



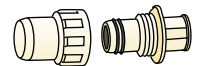
Types of fittings	Pexal® Easy			
Suitable pipes	Pexal®			
Dimensions D₁ [mm]	26x3	26x3	26x3	26x3
Dimensions D₂ [mm]	14x2	16x2	16x2.25	18x2
Cabinet for manifolds	Available for up to 5 (400 mm), 7 (500 mm) and 9 (600 mm) appliances.			

Required components

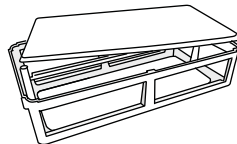
Basic module for modular manifold



Left or right end caps and plugs



Plastic cabinet for manifolds



Note. Items are supplied separately.

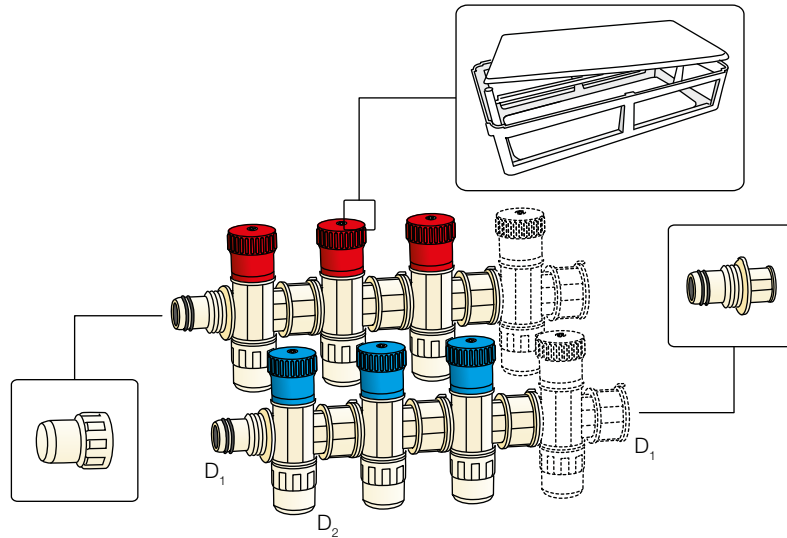
Table 3.38

Type Modular manifolds with isolating service valves

Description

System suitable for hot or cold water supply. The manifolds can be assembled by using the basic modules to create the number of ports in relation to the number of fixtures to be supplied. The modules incorporate isolating service valves with blue or red knobs. End caps and plugs can be used to close the left or right side of the manifold. The plastic cabinet is available in different sizes, depending on the number of fixtures to be supplied.

Picture



Types of fittings

Pexal® Easy

Suitable pipes

Pexal®

Dimensions D₁ [mm]

20x2

20x2.5

26x3

26x3

Dimensions D₂ [mm]

16x2

16x2.25

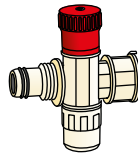
16x2

16x2.25

Cabinet for manifolds

Available for up to 5 (400 mm), 7 (500 mm) and 9 (600 mm) fixtures.

Basic module
for modular manifold

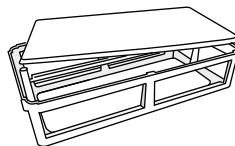


Left or right
end caps and plugs



Required components

Plastic cabinet
for manifolds

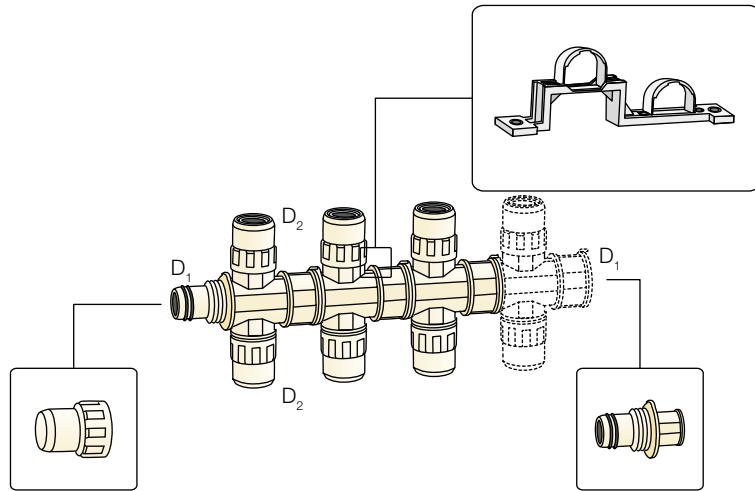


Note. Items are supplied separately.

Table 3.39

Type	Cross modular manifold
Description	System suitable for hot or cold water supply. The cross manifolds can be assembled by using the basic modules to create the number of ports in relation to the number of fixtures to be supplied. This type of manifold is usually used to supply heating systems. End caps and plugs can be used to close the left or right side of the manifold. Special brackets are available to secure the manifold to the wall.

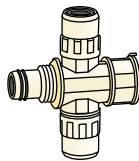
Picture



Types of fittings	Pexal® Easy			
Suitable pipes	Pexal®			
Dimensions D₁ [mm]	20x2	20x2	26x3	26x3
Dimensions D₂ [mm]	14x2	16x2	14x2	16x2
Cabinet for manifolds	Available for up to 5 (400 mm), 7 (500 mm) and 9 (600 mm) appliances.			

Required components

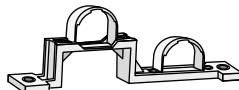
Basic module for modular manifold



Left or right end caps and plugs



Brackets for manifold

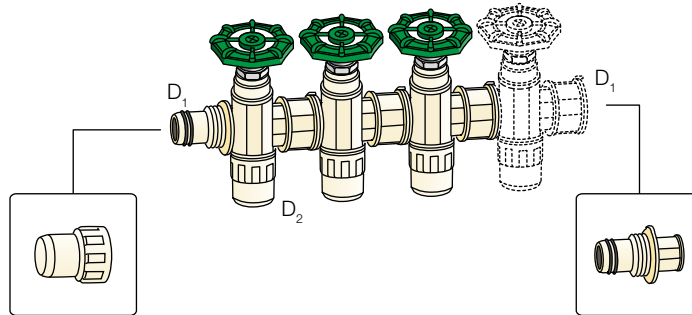


Note. Items are supplied separately.

Table 3.40

Type	Modular manifolds with isolating service valves
Description	System suitable for hot or cold water supply. The manifolds can be assembled by using the basic modules to create the number of ports in relation to the number of fixtures to be supplied. These manifolds are usually used for junctions in central heating plants. End caps and plugs can be used to close the left or right side of the manifold.

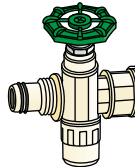
Picture



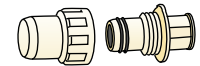
Types of fittings	Pexal® Easy			
Suitable pipes	Pexal®			
Dimensions D_1 [mm]	32x3	32x3	40x3.5	40x3.5
Dimensions D_2 [mm]	16x2	20x2	20x2	26x3
Cabinet for manifolds	-			

Required components

Basic module
for modular manifold

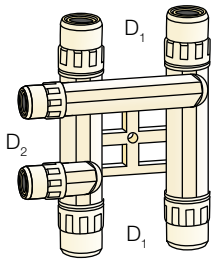
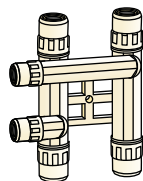



Left or right
end caps and plugs



Note. Items are supplied separately.

Table 3.41

Type	Double branch tee fitting		
Description	System suitable for hot or cold water supply. The double branch tee fitting is generally used to supply the water outlets and appliances of heating systems with branches or the branch-off points of water outlets and on risers. Special brackets are available to help secure the manifold to the wall.		
Picture			
Types of fittings	Pexal® Easy		
Suitable pipes	Pexal®		
Dimensions D₁ [mm]	26x3		
Dimensions D₂ [mm]	16x2		
Cabinet for manifolds	-		
Required components	Double branch tee fitting		Brackets for manifolds 

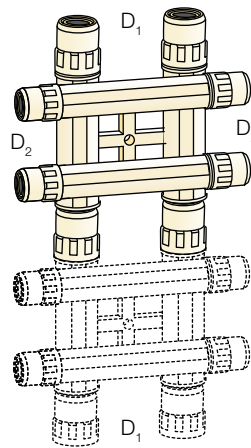
Note. Items are supplied separately.

Table 3.42

Type	Modular coplanar manifold
Description	System suitable for hot or cold water supply. Coplanar manifolds can be assembled by using the basic modules to create the number of ports in relation to the number of fixtures to be supplied. These manifolds are usually used to supply heating systems. Special brackets are available to secure the manifold to the wall.

3

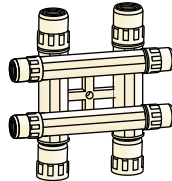
Picture



Types of fittings	Pexal® Easy
Suitable pipes	Pexal®
Dimensions D₁ [mm]	26x3
Dimensions D₂ [mm]	16x2
Cabinet for manifolds	-

Required components

Coplanar modular manifold



Brackets for manifold



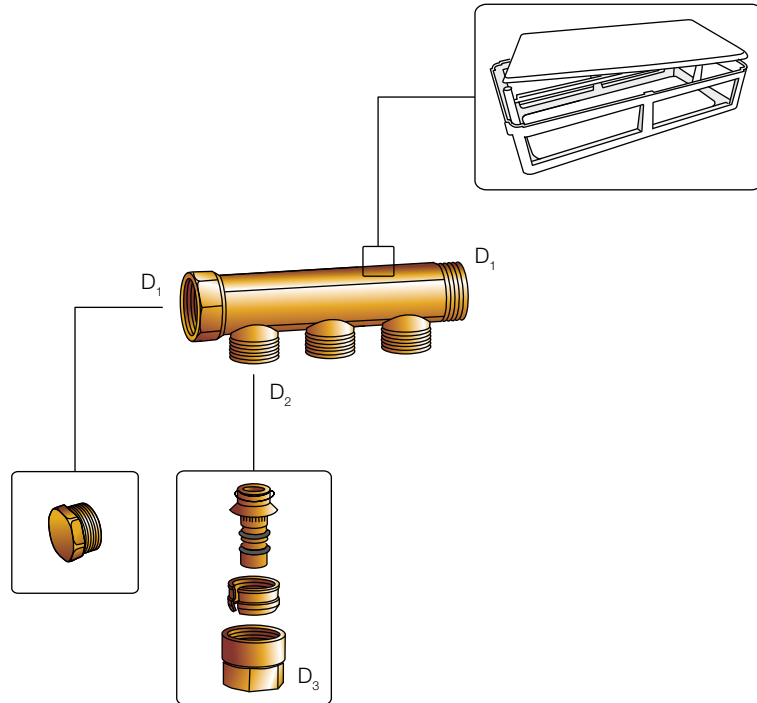
Note. Items are supplied separately.

3.5.3 Distribution to water outlets and appliances with Pexal® Twist


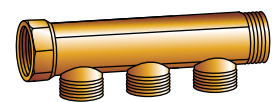

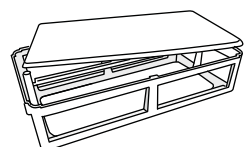
Table 3.43

Type	2 or 3-way manifolds
Description	System suitable for hot and cold water supply. The manifolds are available in 2 and 3-way sizes and can be screwed together depending on the number of appliances to be supplied. The appropriate kit composed of nut, olive and insert must be used on the ports. The plastic cabinet is available in different sizes, depending on the number of appliances to be supplied.

Picture



Types of fittings	Pexal® Twist				
Suitable pipes	Pexal®, Mixal®, Thermoline®				
Dimensions D ₁ [inch]	3/4"	3/4"	3/4"	1"	1"
Dimensions D ₂ [inch]	1/2"	1/2"	1/2"	3/4"	3/4"
Dimensions D ₃ [mm]	14x2	16x2	16x2.25	20x2	20x2.5
Cabinet for manifolds	Available for up to 7 (400 mm), 9 (500 mm) and 11 (600 mm) fixtures.				

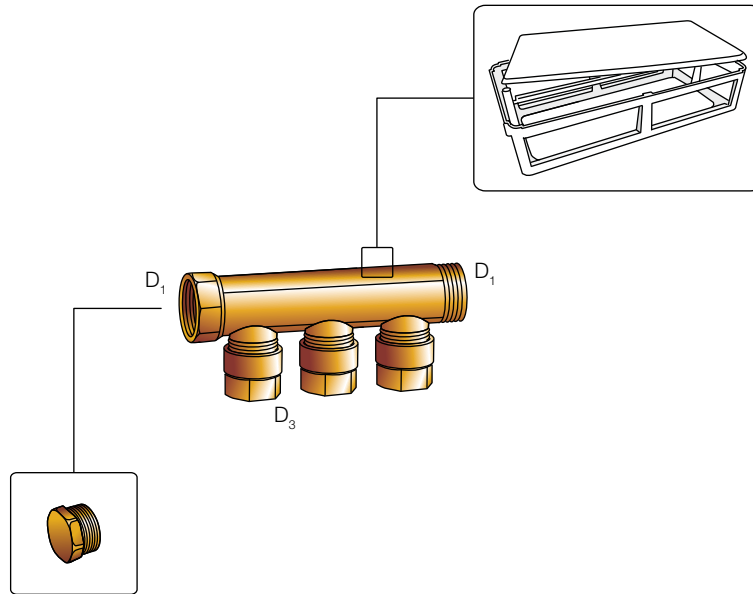
Required components	Straight terminal with female nut and tapered end		2 or 3-way manifold	
	End plug		Plastic cabinet for manifolds	

Note. Items are supplied separately.

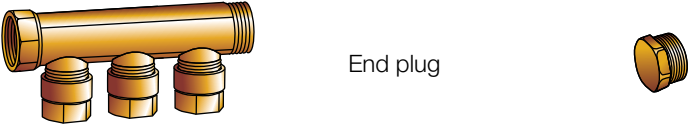

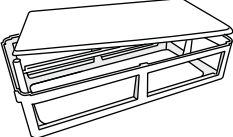
Table 3.44

Type	2 or 3-way manifold with connections
Description	System suitable for hot and cold water supply. The manifolds are available in 2 and 3-way sizes and can be screwed together depending on the number of appliances to be supplied. The ports are pre-fitted with pipe connections. The plastic cabinet is available in different sizes, depending on the number of appliances to be supplied.

Picture



Types of fittings	Pexal® Twist	
Suitable pipes	Pexal®	
Dimensions D₁ [inch]	3/4"	1"
Dimensions D₃ [mm]	16x2.25	20x2.5
Cabinet for manifolds	Available for up to 7 (400 mm), 9 (500 mm) and 11 (600 mm) fixtures.	

Required components	2 or 3-way manifold with connections		End plug	
	Plastic cabinet for manifolds			

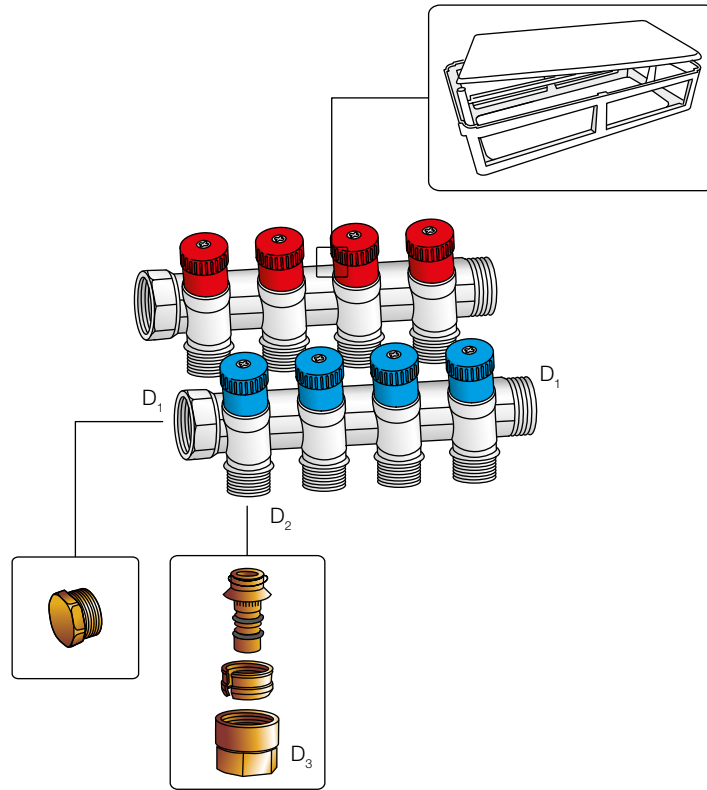
Note. Items are supplied separately.

Table 3.45


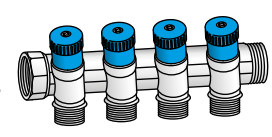

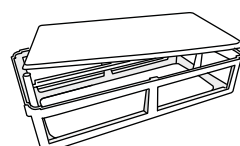
Type 2, 3 or 4-way manifolds with isolating service valves

Description System suitable for hot or cold water supply. The manifolds are available in 2, 3 and 4-way sizes and incorporate isolating service valves with red or blue knobs. The manifolds can be screwed together depending on the number of appliances to be supplied. The appropriate kit composed of nut, olive and insert must be used on the ports. The plastic cabinet is available in different sizes, depending on the number of fixtures to be supplied.

Picture



Types of fittings	Pexal® Twist		
Suitable pipes	Pexal®, Mixal®, Thermoline®		
Dimensions D₁ [inch]	3/4"	3/4"	3/4"
Dimensions D₂ [inch]	1/2"	1/2"	1/2"
Dimensions D₃ [mm]	14x2	16x2	16x2.25
Cabinet for manifolds	Available for up to 7 (400 mm), 9 (500 mm) and 11 (600 mm) appliances.		

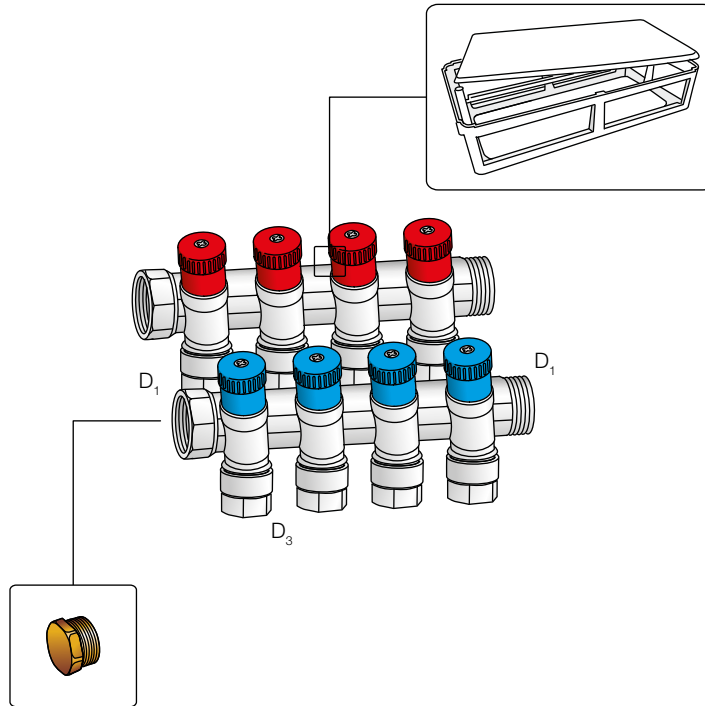
Required components	<p>Straight terminal with female nut and tapered end</p> 	<p>2, 3 or 4-way manifolds with blue and red knobs</p> 
	<p>End plug</p> 	<p>Plastic cabinet for manifolds</p> 

Note. Items are supplied separately.

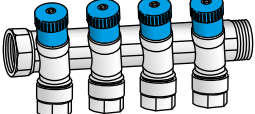

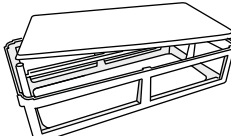
Table 3.46

Type	2, 3 or 4-way manifolds with isolating service valves and connections
Description	System suitable for hot and cold water supply. The manifolds are available in 2, 3 and 4-way sizes and incorporate isolating service valves with red or blue knobs. The ports are pre-fitted with pipe connections. These manifolds can be screwed together depending on the number of appliances to be supplied. The plastic cabinet is available in different sizes, depending on the number of fixtures to be supplied.

Picture



Types of fittings	Pexal® Twist
Suitable pipes	Pexal®
Dimensions D₁ [inch]	3/4"
Dimensions D₃ [mm]	16x2.25
Manifold cabinet	Available for up to 7 (400 mm), 9 (500 mm) and 11 (600 mm) fixtures.

Required components	<p>2, 3 or 4-way manifolds with red and blue knobs and connections</p>  <p>End plug</p> 
	<p>Plastic cabinets for manifolds</p> 

Note. Items are supplied separately.

3.6 Special fittings

Listed below are some special fittings that can be used to connect Valsir systems to copper pipes or to repair damaged pipes. These are not the only available options; it is recommended to verify always other alternative systems with the back-up of Valsir's Technical Office.

3.6.1 Special joints with Pexal® Brass

Table 3.47

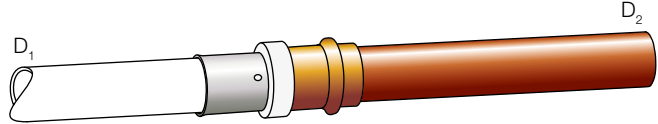
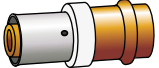
Type	Straight transition fitting for connection to copper pipes (press)						
Description	This fitting is used to connect Valsir pipes to copper pipes. The joint is made by pressing both ends of the fitting; connection to the copper pipe is made with the brass part of the fitting and therefore without the risk of galvanic corrosion.						
Picture							
Types of fittings	Pexal® Brass						
Suitable pipes	Pexal®, Mixal®, Thermoline®						
Dimensions D ₁ [mm]	16x2	16x2	16x2	20x2	26x3	26x3	32x3
Dimensions D ₂ [mm]	14	15	16	22	22	28	28
Required components	Straight transition fitting for copper pipes						

Table 3.48

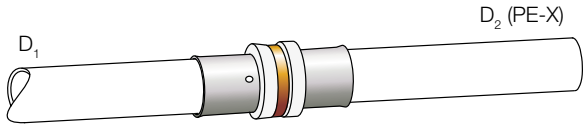
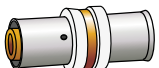
Type	Straight transition fitting (press)	
Description	This fitting is used to connect Valsir multilayer systems with crosslinked polyethylene pipes with a wall thickness that differs from the standard Valsir pipe. The joint is made by pressing on both sides.	
Picture		
Types of fittings	Pexal® Brass	
Suitable pipes	Pexal®, Mixal®, Thermoline®	
Dimensions D ₁ [mm]	16x2	16x2
Dimensions D ₂ [mm]	16x1.5	20x1.9
Required components	Straight transition fitting	
		

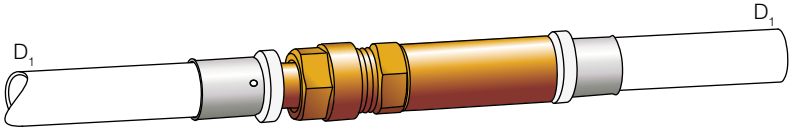
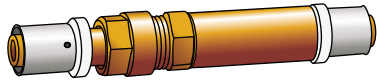
Table 3.49

Type	Straight transition fitting for connection to copper pipes (compression)			
Description	This fitting is used to connect Valsir pipes to copper pipes. The joint is made by pressing on the Valsir pipe end and by compression on the copper pipe end; connection to the copper pipe is made with the brass part of the fitting and therefore without the risk of galvanic corrosion.			
Picture				
Types of fittings	Pexal® Brass			
Suitable pipes	Pexal®, Mixal®, Thermoline®			
Dimensions D₁ [mm]	16x2	20x2	20x2	26x3
Dimensions D₂ [mm]	15	18	22	22
Required components	Straight transition fitting for copper pipes			

Table 3.50

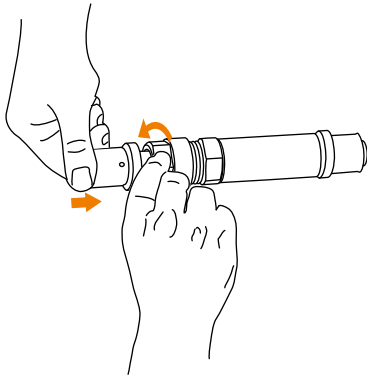
Type	Elbow transition fitting for connection to copper pipes (compression)	
Description	This fitting is used to connect Valsir pipes to copper pipes. The joint is made by pressing on the Valsir pipe end and by compression on the copper pipe end; connection to the copper pipe is made with the brass part of the fitting and therefore without the risk of galvanic corrosion.	
Picture		
Types of fittings	Pexal® Brass	
Suitable pipes	Pexal®, Mixal®, Thermoline®	
Dimensions D₁ [mm]	16x2	20x2
Dimensions D₂ [mm]	15	22
Required components	Elbow transition fitting for copper pipes	

Table 3.51

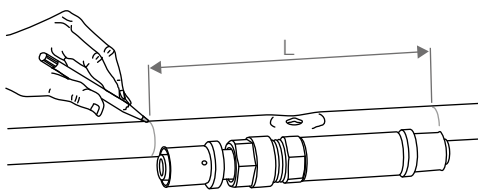
Type	Repair fitting					
Description	This special fitting is used to repair damaged pipelines. For more details on the use of this fitting please refer to section 3.6.2.					
Picture						
Types of fittings	Pexal® Brass					
Suitable pipes	Pexal®, Mixal®, Thermoline®					
Dimensions D₁ [mm]	16x2	16x2.25	18x2	20x2	20x2.5	26x3
Required components	Repair fitting					

3.6.2 Installation of a repair fitting

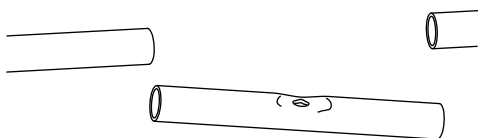
Installation instructions



- 1) Prepare the repair fitting by shortening it to its minimum length, if necessary, by loosening the nut on the telescopic element.

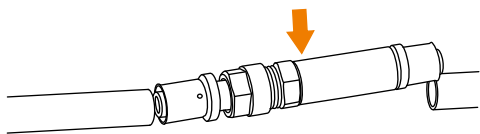


- 2) Cut a sufficient length L from the damaged pipeline in order to insert the repair fitting between the two remaining ends of the pipe.

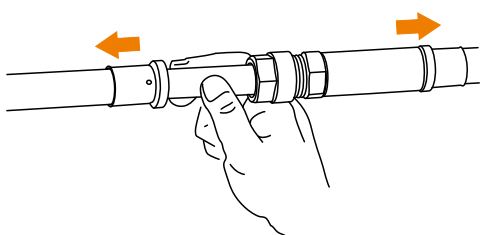


- 3) Cut, calibrate, chamfer and lubricate the ends of the pipe following the instructions described in section 3.1.1.

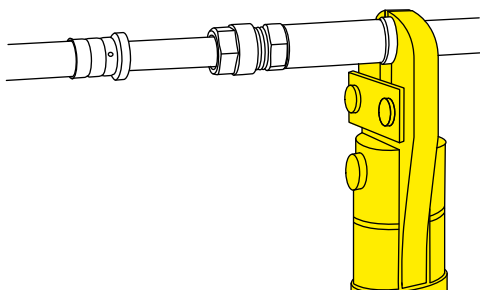
3



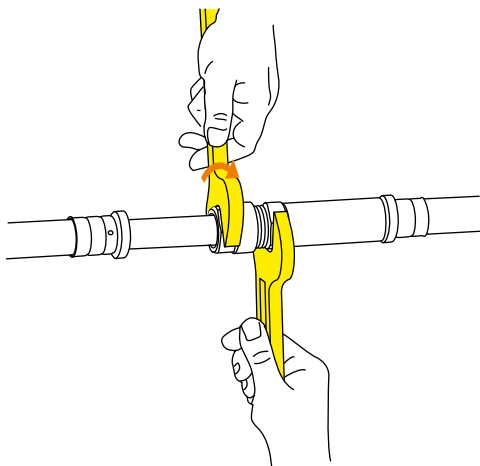
- 4) Position the repair fitting and insert one of the ends of the pipe.



- 5) Using the telescopic system extend the joint until both pipelines are fully inserted inside the fitting. Use the inspection holes on the sleeves to check that the pipes have been fully inserted.



- 6) Press both ends by following the instructions described in Section 3.1.1.



- 7) Lock the telescopic element by tightening the nut on the main body.



WASTE SYSTEMS



SUPPLY SYSTEMS



GAS SYSTEMS



FLUSHING SYSTEMS



BATHROOM SYSTEMS



TRAPS



RADIANT SYSTEMS



DRAINAGE SYSTEMS



HRV SYSTEM



ACADEMY



SEWER SYSTEMS



WATER TREATMENT



valsir[®]
QUALITY FOR PLUMBING



L02-69041 - Giugno 2022



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