

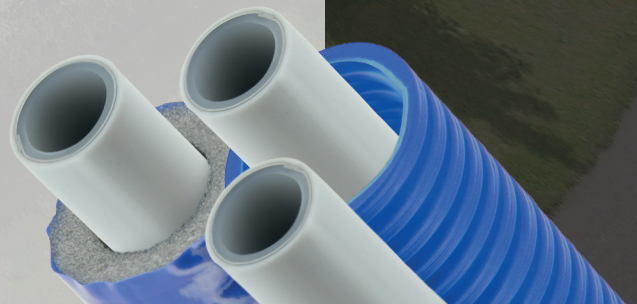
# **bonfix<sup>®</sup>**

the fitting factory

## **BONFIX ALU-PRESS FITTINGS AND PIPES SUITABLE FOR DRINKING WATER AND CENTRAL HEATING SYSTEMS**


































**bonfix<sup>®</sup>**  
the fitting factory



**PRODUCT RANGE**

Alu-press fittings for drinking water and central heating

 <p><b>Straight coupling</b> 2 x alu-press</p>	 <p><b>Reduced straight fitting</b> 2 x alu-press</p>	 <p><b>Elbow</b> 2 x alu-press</p>	 <p><b>Tee</b> 3 x alu-press</p>	 <p><b>Tee reduced</b> 3 x alu-press</p>
 <p><b>Straight connector</b> alu-press x male iron</p>	 <p><b>Straight coupling</b> alu-press x female iron</p>	 <p><b>Elbow</b> male iron x alu-press</p>	 <p><b>Elbow</b> female iron x alu-press</p>	 <p><b>Tee</b> alu-press x female iron x alu-press</p>
 <p><b>Straight coupling</b> alu-press x compression</p>	 <p><b>Straight coupling</b> alu-press x press (m)</p>	 <p><b>Straight coupling</b> alu-press x external</p>	 <p><b>Elbow</b> alu-press x external</p>	 <p><b>Tee</b> alu-press x male iron x alu-press</p>
 <p><b>Wallplate</b> female iron x alu-press</p>	 <p><b>Wallplate</b> female iron x alu-press</p>	 <p><b>Flow-through wallplate</b> alu-press x female iron x alu-press</p>	 <p><b>Compression ends for ALU-PEX (multilayer)</b> alu-press x compression</p>	 <p><b>Stop end</b> 1 x alu-press</p>
 <p><b>2-piece flat-seal elbow coupling</b> female iron x alu-press</p>	 <p><b>2-piece coupling with flat seal</b> female iron x alu-press</p>	 <p><b>2-piece coupling</b> alu-press x eurocone</p>	 <p><b>2-piece coupling</b> alu-press x eurocone (nickel plated)</p>	<p>■ = 16 mm ■ = 20 mm ■ = 26 mm ■ = 32 mm ■ = 40, 50, 63 mm</p>

 <p><b>Wall plate bracket</b> female iron x alu-press</p>	 <p><b>Radiator bend</b> external x alu-press</p>	 <p><b>Elbow</b> euroconus x alu-press for connection for concealed cistern</p>	 <p><b>Elbow</b> alu-press x compression</p>
 <p><b>Ball valve</b> female iron x alu-press</p>	 <p><b>Ball valve</b> male iron x alu-press</p>	 <p><b>Ball valve</b> 2x alu-press</p>	

## PRODUCT RANGE

Alu-press pipes for drinking water and central heating














 <p><b>Alu-press tube</b></p>	 <p><b>Alu-press tube</b> with insulation (blue)</p>	 <p><b>Alu-press tube</b> with insulation (red)</p>	 <p><b>Alu-press tube</b> with casing pipe (blue)</p>	 <p><b>Alu-press tube</b> with casing pipe (red)</p>
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*NB! BONFIX does not have tubes in the sizes 40, 50 and 63 mm. If the pipe meets the following wall thickness, it is suitable for a safe connection. For example Henco: 40 x 3,5 / 50 x 4,0 / 63 x 4,5. If you have any questions about the use, please contact sales@bonfix.nl*

**PRODUCT RANGE**

BONFIX Aluminium press jaws / press tools

 <p><b>Manual press</b> up to 20 mm</p>	 <p><b>Insert</b> up to 20 mm</p>	 <p><b>Manual press</b> up to 32 mm</p>	 <p><b>Insert</b> manual press (up to 32 mm) mini press machine medium press machine</p>
 <p><b>Mini BONFIX press machine</b></p>	 <p><b>Separate press jaws</b> mini press machine</p>	 <p><b>Parent jaw</b> mini press machine</p>	
 <p><b>Medium BONFIX press machine</b></p>	 <p><b>Separate press jaws</b> medium press machine</p>	 <p><b>Parent jaw</b> medium press machine</p>	
 <p><b>Pipe cutter</b></p>	 <p><b>Burr remover</b></p>	 <p><b>Calibration set</b></p>	



# BONFIX ALU-PRESS FITTINGS AND PIPES SUITABLE FOR DRINKING WATER AND CENTRAL HEATING SYSTEMS

product information

**bonfix**<sup>®</sup>  
the fitting factory

We design and manufacture all fittings in our factories in Italy. Our technical team designs according to the most important international guidelines and based on 25 years of experience and intensive cooperation with international partners.



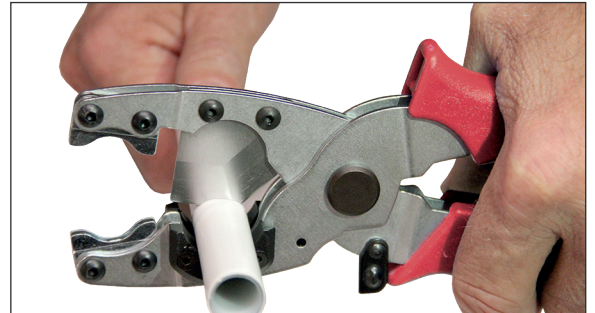
## INTRODUCTION

BONFIX B.V. supplies a wide range of aluminium press fittings and pipes under the brand name BONFIX. The system can be used for drinking water and central heating systems, both low and high temperature types and can be surface-mounted. The system comes with a 10-year system warranty. The system warranty applies only if the pipe and the fitting originate from BONFIX B.V. and have been installed in conformity with the installation instructions of BONFIX B.V. with an approved machine with a TH - H - U - B - F and CH profile press tool. As well as **kiwa** the system also comes with the KOMO Mark. KOMO is a collective mark that is used in the Dutch building industry, in the residential and non-residential construction sector and in civil and hydraulic engineering. These marks are administered by the KOMO Foundation.

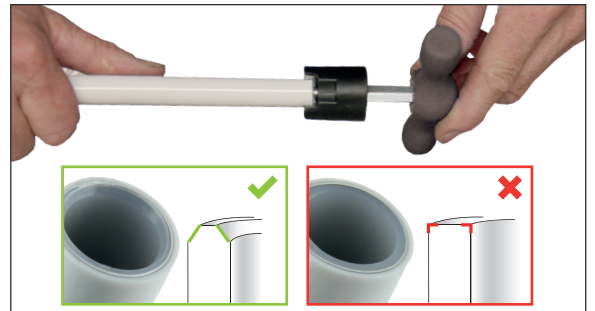


## INSTALLATION INSTRUCTIONS

Cut the BONFIX Aluminium press pipe straight and to the right length. Use the right tools for the job



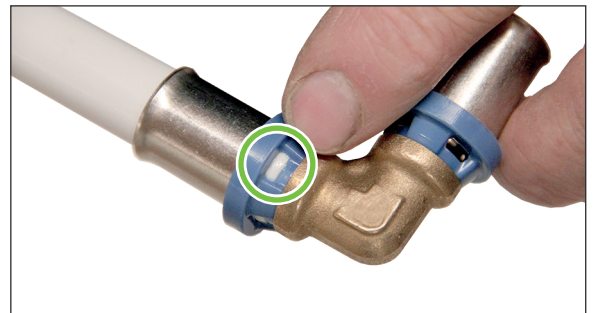
Calibrate the inside and outside of the pipe using a calibrating device. This is to prevent burrs from damaging the O-rings



Insert the pipe into the fitting as far as it will go

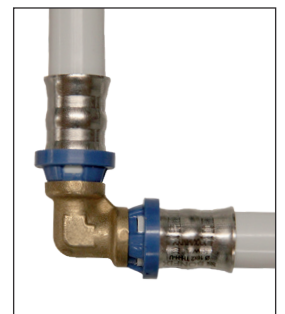
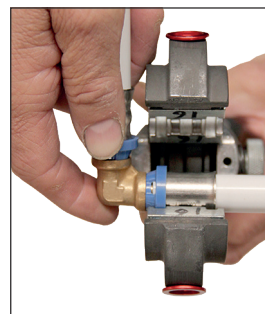



Make sure that the press sleeve is completely placed over the pipe. This can be seen from the inspection window (see figure)



Place the fitting in the correct position in the profile jaw and press the fitting on the pipe. The connection piece is compressed by pressing the jaws of the pliers tightly. This may only be done once, otherwise the seal may be damaged. Do not interrupt the pressing but fully complete it!

**It is important NOT to compress the press coupling more than once!**



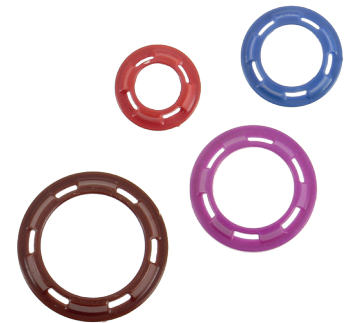
 Before use, the entire piping system must be compressed in conformity with local installation regulations and worksheets.

### THE BENEFITS OF THE BONFIX ALUMINIUM PRESS FITTINGS

- 10 year system warranty
- The press sleeve is made of stainless steel 304
- All fittings are 100% tested during assembly
- **Leak Before Pressed** function
- These fittings can be used for legionnaire's disease prevention
- Each size has its own colour code
- The fittings have a hexagonal socket.
- Several types of profile jaws can be used for installation (see page 12)
- As well as **kiwa** the fittings also bear the KOMO quality mark and the requirements of the European UBA list.
- All threads are conical
- Easy mounting of the pipe on the fitting with the Teflon-coated O-rings
- The body of the fitting is made of high quality brass!

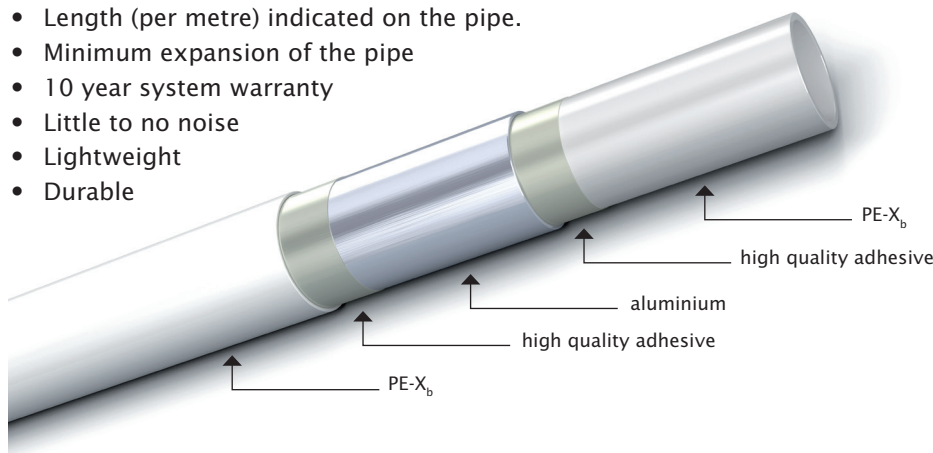
### BENEFITS OF THE COLOURED ALUMINIUM PRESS RINGS:

- Ensures the correct position in the TH-profile press tool
- The ring is designed to prevent the aluminium of the aluminium press pipe from coming into direct contact with the bronze of the fitting, which rules out electrolytic corrosion
- The special nylon-reinforced ring provides stability and shock-resistance, even at low ambient temperatures.
- The inspection windows at the bottom of the plastic make it easier to position the pipe during installation. These openings also show a droplet if the fitting is taken into use without being pressed (**Leak Before Pressed** function) See page 9
- Each size up to DN 32 has its own colour



### THE BENEFITS OF THE ALUMINIUM PRESS PIPES

- 100% airtight
- Corrosion resistant
- Long system life (approx. 50 years) under normal usage conditions
- As well as **kiwa** the pipe also bears the KOMO quality mark and the requirements of the European UBA list.
- No chemicals are used in the production process, therefore ideal for drinking water.
- Easy to bend into the desired shape using a suitable bending spring and will not bend back
- The maximum constant temperature of the pipe is +70°C
- High resistance to pressure and temperature
- Length (per metre) indicated on the pipe.
- Minimum expansion of the pipe
- 10 year system warranty
- Little to no noise
- Lightweight
- Durable



**ALUMINIUM PRESS FITTINGS**


The brass parts of all fittings in the BONFIX Aluminium press range are produced by hot pressing.

**COMPOSITION OF BONFIX ALUMINIUM PRESS FITTINGS WITH EPDM RING**

Fitting component	Material	Material composition
Body (brass)	UNI EN 12165-CW617N-CuZn40Pb2	<b>Cu</b> 57-59 <b>Pb</b> 1.6-2.2 <b>Sn</b> <0.3 <b>Fe</b> <0.3 <b>Ni</b> <0.3 <b>AL</b> <0.05 <b>Zn</b> divers
Nut (bronze)	UNI EN 12164-CW614N-CuZn39Pb3	<b>Cu</b> 57-59 <b>Pb</b> 2.3-3.5 <b>Sn</b> <0.3 <b>Fe</b> <0.1 <b>Ni</b> <0.3 <b>AL</b> <0.05 <b>Zn</b> divers
O-ring (EPDM)	UNI EN 681-1 Type WB	<b>EPDM PEROX 70</b>
Press sleeve (RVS 304)		Stainless Steel <b>1.4301 (AISI 304)</b>

Notes on the material used:

**BRASS ALLOY**

All products made by means of hot pressing are in conformity with **kiwa**  DIN 50930.6, which prescribes that the lead content in the alloy is a maximum of 2.2%.

**EPDM PEROX 70**

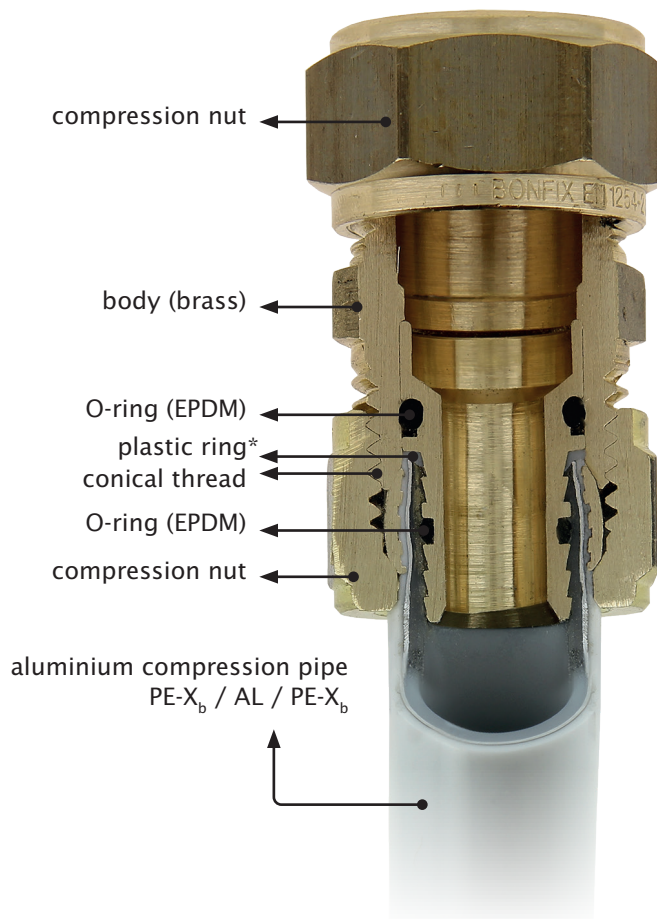
All gaskets are made of peroxide EPDM approved for drinking water UNI EN 681-1 type WB. Perox guarantees excellent properties at both high and low temperatures in the presence of acids, ozone and water. Workable temperature between: -20 °C and +90 °C.

**TRANSITION BRASS COMPRESSOR/  
ALUMINIUM PRESS BONFIX**

Want to create a safe and fast transition from copper pipe or central heating pipe to aluminium press pipe? Use the reducing set of BONFIX (23910 and 23915). When using this Aluminium press kit together with the BONFIX Aluminium press pipe, the warranty on the system remains in place.



\* This white plastic ring separates the aluminium from the brass of the fitting to prevent electrolytic corrosion.



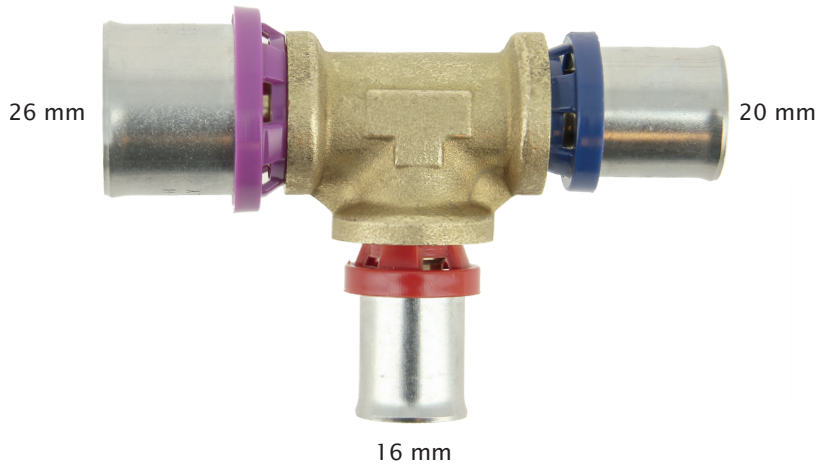
**Illustration: Compression set for transition Aluminium press**  
\* This white plastic ring separates the aluminium from the brass of the fitting to prevent electrolytic corrosion.

Article number	Description
23905	Gradient set from 15 mm compression to ø14x2,0 Alu-press
23910	Gradient set from 15 mm compression to ø16x2,0 Alu-press
23915	Gradient set from 22 mm compression to ø20x2,0 Alu-press
23925	Gradient set from 28 mm compression to ø25x2,5 Alu-press
23935	Gradient set from 28 mm compression to ø26x3,0 Alu-press



### ALUMINIUM PRESS COLOUR CODE

Each size has its own colour coding to identify the right fitting at a glance.



### COLOR SCHEME

Ø diameter	Colour
16 x 2.0	Red
20 x 2.0	Blue
26 x 3.0	Purple
32 x 3.0	Brown

### O-RINGS IN THE BONFIX ALUMINIUM PRESS FITTING

The O-rings are countersunk in the body and feature silicone/Teflon. This keeps the O-rings in place and keeps assembly fast and smooth.



### SAWTOOTH PROFILE

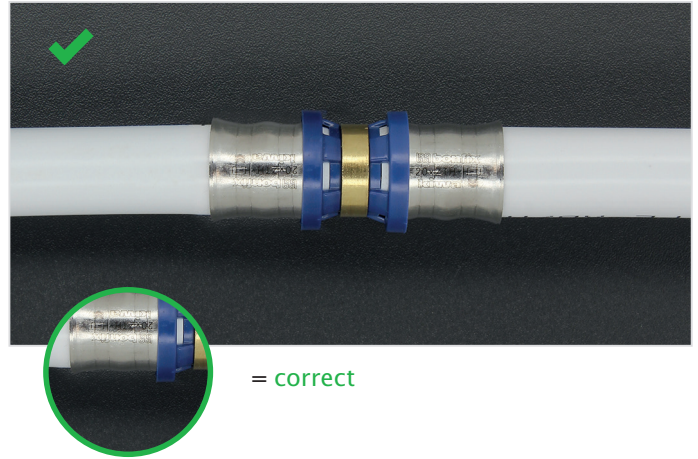
Sawtooth profile provides increased resistance to pulling out the pipe.

### PROFILE EDGE

Profile edge for extra grip.

**BONFIX LEAK BEFORE PRESS (LBP) FUNCTION**

BONFIX Aluminium press fittings are supplied with a Leak Before Pressed (LBP) function. Fittings with this function have the advantage that as long as the connections are NOT pressed, they leak water during the mandatory pressure test. This means that incomplete compression can easily be identified. When correctly assembled and pressed, the Aluminium press fittings are airtight and watertight.

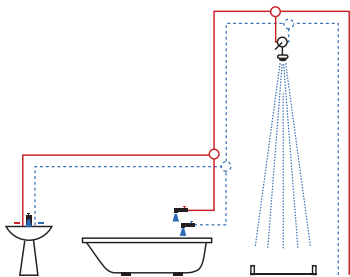


**!** More than 95% of problems with couplings are caused by forgetting to press a fitting.

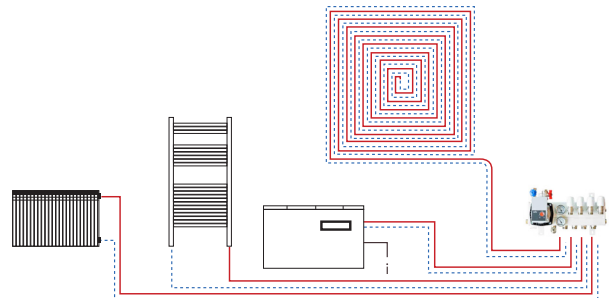
**APPLICATION OF BONFIX ALU-PRESS FITTINGS WITH EPDM RING**

Application	Dimension/pressure	Sealing ring	Tools
<ul style="list-style-type: none"> <li>Drinking water</li> <li>Heating</li> <li>Cooling water</li> <li>Dry compressed air</li> </ul> <i>Perslucht met minder dan 25 mg/m<sup>3</sup> olie</i>	d = 16 - 32 mm maximum 10 bar	EPDM Colour: black Maximum temperature: - 20 °C tot + 90 °C <i>(please note that this only applies to the fitting)</i>	d = 16 - 32 mm free choice of press machines and profile press tools. BONFIX Aluminium press fittings can be sealed with TH - H - U - B - F and CH profile jaws.

*Thread type: connection thread: R/Rp thread according to ISO 7/1 - EN 10226. Fixing thread (nut): G thread according to ISO 228.*



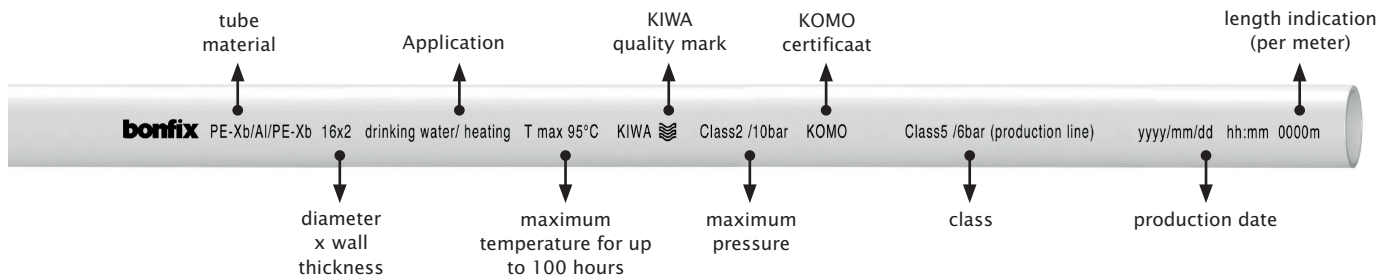
*sanitary (cold and heat) systems*



*heating and cooling systems*

### BONFIX ALUMINIUM PRESS PIPES

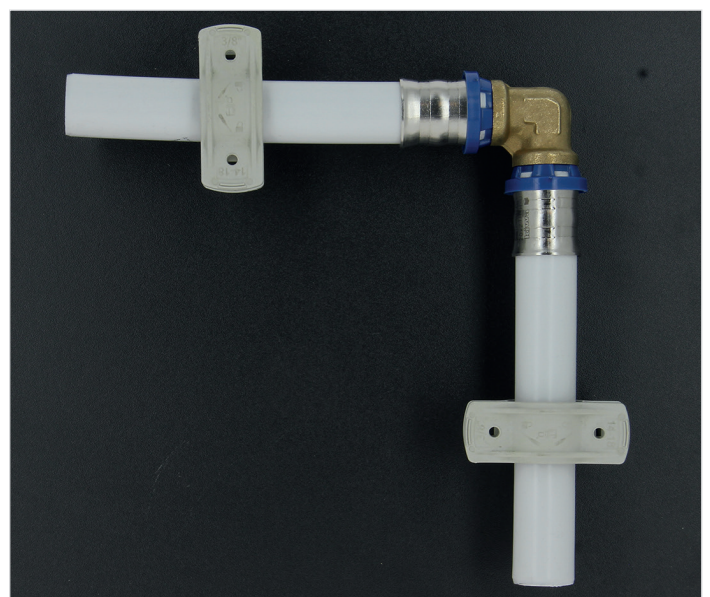
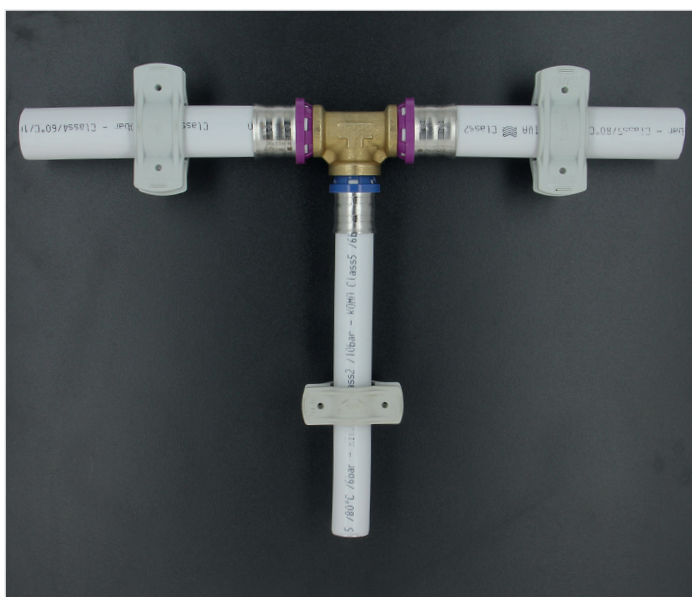
Given below is an explanation of the labelling on the BONFIX Aluminium press pipe:



### RECOMMENDED DISTANCE BETWEEN MOUNTING POINTS

It is important that the forces acting on an installation are absorbed by the mounting points (pipe brackets) of the structure. This should never be attached to a fitting but always on either side of it. With an adapter T-piece, always select the pipe with the largest external diameter as the mounting point. The recommended distance between the mounting points of the BONFIX Aluminium press pipe depends on the cross-section of the pipe used.

Ø Diameter	Maximum distance
16 mm	1,0 meter
20 mm	1,0 meter
26 mm	1,5 meter
32 mm	2,0 meter



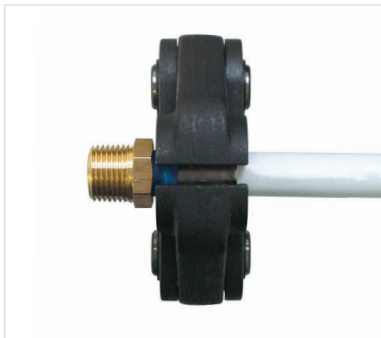


**ALUMINIUM PRESS TOOL**

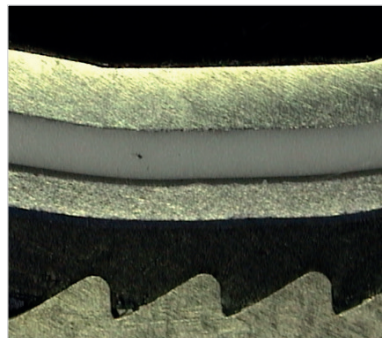
The same machine as for the BONFIX Press fittings can be used for the BONFIX Aluminium press system. All you need is different jaws for the BONFIX press machine. The suitable jaws are shown below:

Ø Diameter	Profiel						
	TH	H	U	B	F	CH	hand pliers
16 x 2,0	✓	✓	✓	✓	✓	✓	✓
20 x 2,0	✓	✓	✓	✓	✓	✓	✓
26 x 3,0	✓	✓		✓	✓	✓	✓*
32 x 3,0	✓	✓	✓	✓	✓		✓*
40 x 3,0	✓		✓				
50 x 3,0	✓		✓				
63 x 3,0	✓						

\* See page 3 of this technical documentation.



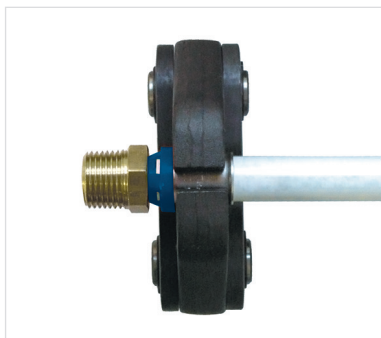
TH-profile



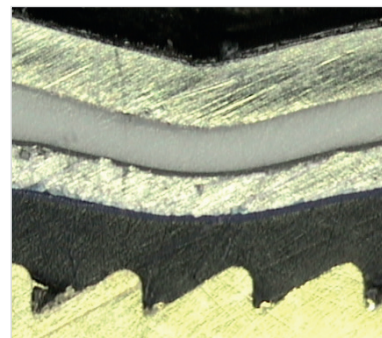
TH-profile **after compression**



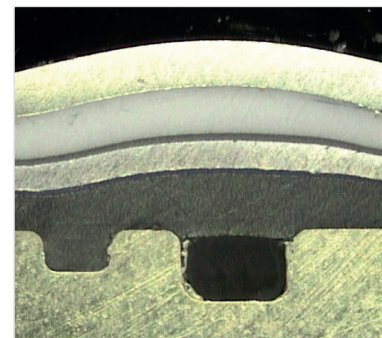
O-ring **after compression** TH-profile



U-profile



U-profile **after compression**



O-ring **after compression** U-profile



**LOSS OF PRESSURE IN THE SYSTEM**

The pressure loss that occurs in the system is due to the diameter of the pipe used and the temperature of medium being transported. How this mutually relates is shown in the following tables:

**LOCAL PRESSURE LOSS**

Pressure loss can occur inside the system due to the use of bends. This loss can be calculated by putting the length of the system and the bends etc. in a formula.

The formula for this is:

$\Delta p = 0.499 * k * v^2$  (kPa) per T = 10 °C

$\Delta p = 0.495 * k * v^2$  (kPa) per T = 40 °C

$\Delta p = 0.487 * k * v^2$  (kPa) per T = 70 °C

**UITLEG AFKORTINGEN**

$\Delta p$  = local pressure loss

k = the loss per fitting, below an overview with the different types

v = the speed (m/s)

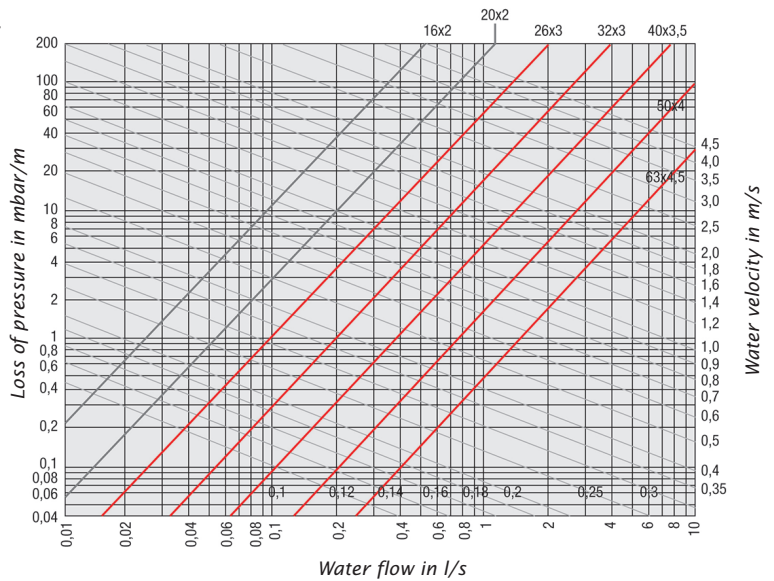
Calculating the pressure loss at the end of the pipe can be done by means of a simple calculation:

every 10 cm there is a loss of 1 kPa, 1 bar is equal to 100 kPa.

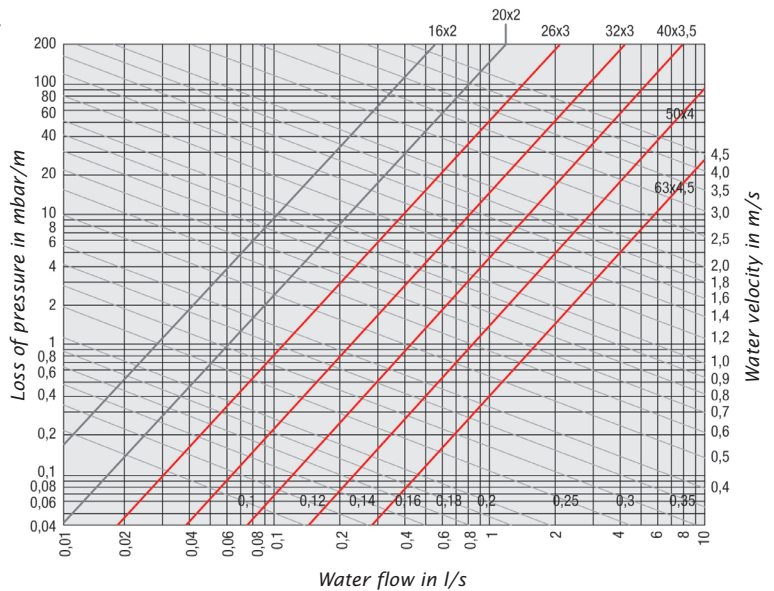
**INDICATION OF THE K COEFFICIENT**

Bend 45°	k = 0,3
Knee	k = 1,0
Bend 90°	k = 0,75
Reducing coupling with widening	k = 1,0
Reducer coupling with reduction	k = 0,5
Tee	k = 3,0
Crosspiece	k = 5,0

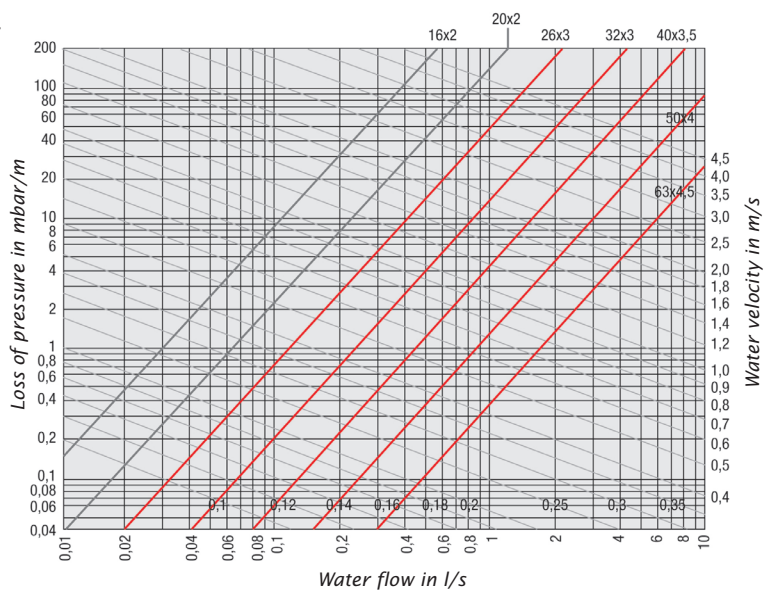
Loss of pressure at 10 °C



Loss of pressure at 50 °C




Loss of pressure at 80 °C



WATCH THE ASSEMBLY FILM THRU THIS QR CODE OF THE ALU-PRESS  
SYSTEM FOR DRINKING WATER AND CENTRAL HEATING



 *Use suitable tools for installation to avoid damage.*

*The technical documentation is non-binding and subject to change.  
It is the responsibility of the designer to select products that are suitable for the desired application.*

**WARRANTY AND LIABILITY**

*Warranty and liability in accordance with our general terms and conditions.  
Damage caused by stress corrosion does not fall within the scope of product liability.*