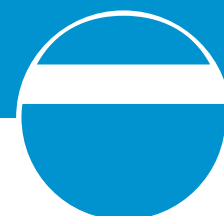


TECHNICAL DATA SHEET

VALSIR® SUPPLY SYSTEMS

PEXALBRASS



valsir®
QUALITY FOR PLUMBING

PEXALBRASS

The product

Pexal® Brass is a system of press fittings suitable for a variety of applications, from hot and cold drinking water supply systems, to heating systems and industrial installations.

By using a portable pressing machine equipped with a suitable jaw, the pipe is shaped around the fitting insert. Even in the presence of temperature fluctuations, the joint remains perfectly watertight and cannot be loosened thanks to the stainless steel sleeve that covers the portion of pipe in contact with the insert. The sleeve has inspection holes to verify the correct insertion of the pipe on the fitting.



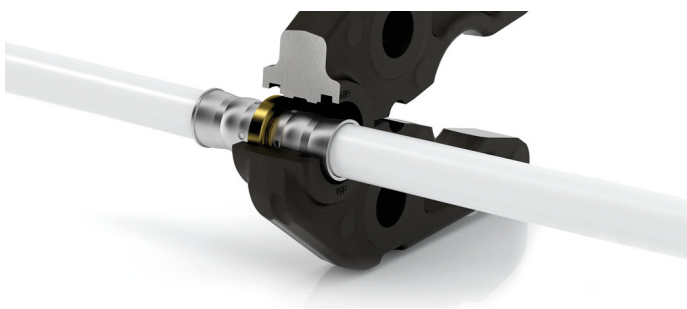
Features

Simplicity

The Pexal® Brass jointing technique was born in order to simplify and speed up connection operations with a consequent reduction of installation costs.

Multipress

The Pexal® Brass fittings are multipress and therefore compatible with a wide range of pressing profiles available on the market (H, TH, U, C, VAL) and this allows the plumber to use the pressing jaws already in his possession without having to buy new ones.



Pressing profile TH



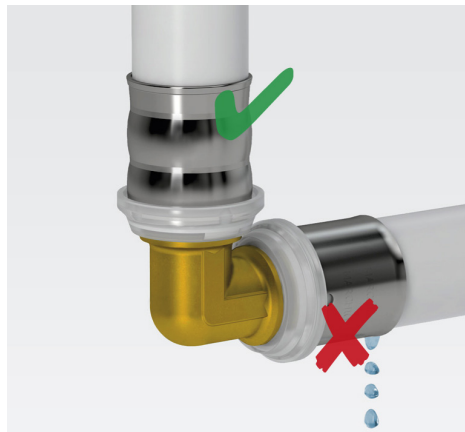
Pressing profile H, U, C, VAL

Safety

The fittings are designed so that to indicate any incomplete pressing during system testing, which according to international standards is necessary once the system has been completed (please refer to the chapter “Commissioning”). Thanks to the particular profile of the insert, the fittings indicate incomplete pressing by dripping, thus immediately identifying the point to be repaired.

Furthermore, the fittings are created with a special insert having a profile that prevents the pipe from becoming disconnected and two ring seals to guarantee maximum safety and reliability over time.

The physical and chemical integrity of the coupling is guaranteed by the anti-loosening profile, the double seal ring and a plastic ring that insulates the aluminium layer of the multilayer pipe from the brass alloy of the fitting body.



Versatility

The range of brass press fittings Pexal® Brass is among the widest on the market, from a 16 mm diameter to a 90 mm diameter. The range is also characterized by numerous types of fittings and accessories for all applications.

Hygiene

Brass press fittings are certified to transport potable water, and can therefore be used for the construction of domestic hot and cold water distribution systems.

Compatibility

Pexal® Brass ensures full compatibility with other piping systems.

The special transition fittings and accessories allow already existing copper and crosslinked polyethylene pipes to be easily connected to Valsir multilayer pipes.



Technical data

Table Pexal® Brass fittings features.

| | |
|-------------------------------------|---|
| Body | Brass alloy |
| Sleeve | AISI 304 stainless steel with inspection holes to check the correct insertion of the pipe |
| Seals | 2 made of EPDM |
| Chemical/physical detachment | Through the bottom ring made of PTFE which prevents contact between the aluminium layer and the brass fitting |
| Dimensional range | 14-90 mm |
| Suitable pipes | Pexal®, Mixal®, Thermoline® |
| Equipment required | Pipe cutter, calibrator, lubricant, pressing machine |

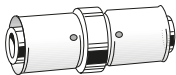


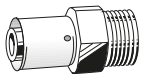
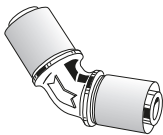
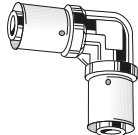
Table Pressing profiles for Pexal® Brass.



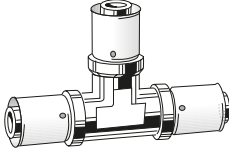
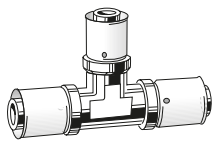
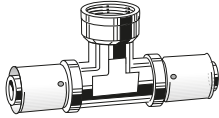
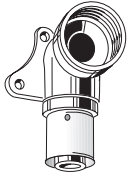
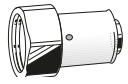
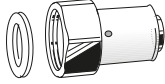

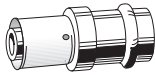

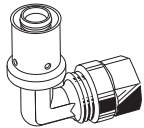
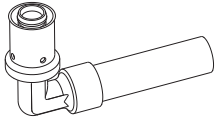
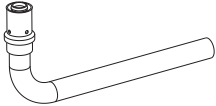
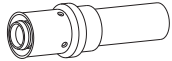
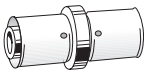
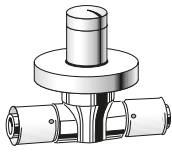
| Diameter | Pressing profiles |
|----------|-------------------|
| 14x2 | H |
| 16x2 | H, TH, U |
| 16x2.25 | H, TH, U |
| 18x2 | H, TH, U |
| 20x2 | H, TH, U |
| 20x2.25 | H, TH, U |
| 20x2.5 | H, TH, U |
| 25x2.5 | TH, U |
| 26x3 | H, TH, C |
| 32x3 | VAL, H, TH, U |
| 40x3.5 | VAL, TH, U |
| 50x4 | VAL, TH, U |
| 63x4.5 | VAL, TH, U |
| 75x5 | VAL, U |
| 90x7 | U |

Note: During installation, always check the suitable pressing profiles for the fitting in question.

Range

Table Pexal® Brass fittings and accessories.

| Description | Design | Description | Design |
|----------------------------|---|--------------------------|---|
| Intermediate coupling |  | Reducing coupling |  |
| Threaded coupling (female) |  | Threaded coupling (male) |  |
| 45° elbow |  | Elbow |  |

| Description | Design | Description | Design |
|--|---|--|---|
| Threaded elbow (male) |  | Threaded elbow (female) |  |
| Union tee |  | Reducing union tee |  |
| Threaded union tee (female) |  | Wingback elbow |  |
| Low wingback elbow |  | Swivel adaptor for manifolds with conic end |  |
| Swivel adaptor for manifolds with flat end |  | Repair fitting |  |
| Press transition fitting copper |  | Compression transition fitting copper |  |
| Elbow fitting for connection to copper |  | Elbow fitting with extension in chrome copper |  |
| Fitting with bend in chrome copper |  | Straight fitting with extension in chrome copper |  |
| Transition fitting for Pex pipe |  | Stop valve |  |

Approvals:

The approvals of Valsir® supply systems are available on the website: www.valsir.com

Localized pressure losses for Pexal® Brass fittings

Table Equivalent lengths L_{eq} for heating/conditioning systems.

| Pipe | Fitting | | | | | | | | | | | | | | | | | |
|----------------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | | | | |
| | Water velocity [m/s] | | | | | | | | | | | | | | | | | |
| | 0.3 | 0.5 | 0.8 | 0.3 | 0.5 | 0.8 | 0.3 | 0.5 | 0.8 | 0.3 | 0.5 | 0.8 | 0.3 | 0.5 | 0.8 | 0.3 | 0.5 | 0.8 |
| Equivalent length L_{eq} | | | | | | | | | | | | | | | | | | |
| 14x2 | 0.2 | 0.3 | 0.3 | 1.0 | 1.1 | 1.3 | 0.4 | 0.4 | 0.5 | 1.0 | 1.2 | 1.4 | 1.1 | 1.3 | 1.5 | 0.3 | 0.3 | 0.4 |
| 16x2.25 | 0.2 | 0.3 | 0.3 | 1.0 | 1.2 | 1.3 | 0.3 | 0.4 | 0.5 | 1.1 | 1.2 | 1.4 | 1.1 | 1.3 | 1.5 | 0.3 | 0.3 | 0.4 |
| 16x2 | 0.2 | 0.3 | 0.3 | 1.0 | 1.2 | 1.3 | 0.3 | 0.4 | 0.5 | 1.1 | 1.3 | 1.4 | 1.2 | 1.3 | 1.5 | 0.3 | 0.3 | 0.4 |
| 18x2 | 0.2 | 0.3 | 0.3 | 1.1 | 1.2 | 1.4 | 0.3 | 0.4 | 0.4 | 1.2 | 1.3 | 1.5 | 1.2 | 1.4 | 1.6 | 0.3 | 0.3 | 0.3 |
| 20x2.5 | 0.2 | 0.2 | 0.3 | 1.1 | 1.3 | 1.5 | 0.4 | 0.4 | 0.5 | 1.2 | 1.4 | 1.6 | 1.3 | 1.5 | 1.7 | 0.3 | 0.3 | 0.4 |
| 20x2 / 20x2.25 | 0.2 | 0.2 | 0.3 | 1.2 | 1.4 | 1.5 | 0.4 | 0.4 | 0.5 | 1.3 | 1.5 | 1.7 | 1.3 | 1.5 | 1.7 | 0.3 | 0.3 | 0.4 |
| 25x2 / 26x3 | 0.2 | 0.2 | 0.3 | 1.3 | 1.5 | 1.6 | 0.4 | 0.4 | 0.5 | 1.4 | 1.6 | 1.8 | 1.4 | 1.6 | 1.9 | 0.3 | 0.3 | 0.4 |
| 32x3 | 0.1 | 0.2 | 0.2 | 1.5 | 1.7 | 1.9 | 0.4 | 0.4 | 0.5 | 1.6 | 1.9 | 2.1 | 1.6 | 1.9 | 2.1 | 0.3 | 0.3 | 0.4 |
| 40x3.5 | 0.2 | 0.2 | 0.3 | 1.7 | 1.9 | 2.2 | 0.4 | 0.5 | 0.5 | 1.9 | 2.2 | 2.5 | 1.9 | 2.2 | 2.4 | 0.3 | 0.4 | 0.4 |
| 50x4 | 0.1 | 0.2 | 0.2 | 2.0 | 2.2 | 2.5 | 0.4 | 0.5 | 0.6 | 2.2 | 2.5 | 2.8 | 2.2 | 2.5 | 2.7 | 0.3 | 0.4 | 0.4 |
| 63x4.5 | 0.0 | 0.1 | 0.1 | 2.3 | 2.6 | 2.9 | 0.5 | 0.5 | 0.6 | 2.6 | 3.0 | 3.3 | 2.5 | 2.9 | 3.2 | 0.4 | 0.4 | 0.5 |
| 75x5 | 0.0 | 0.0 | 0.1 | 2.6 | 3.0 | 3.3 | 0.5 | 0.6 | 0.7 | 3.0 | 3.4 | 3.8 | 2.9 | 3.3 | 3.6 | 0.4 | 0.5 | 0.5 |
| 90x7 | 0.0 | 0.0 | 0.0 | 2.8 | 3.2 | 3.6 | 0.5 | 0.6 | 0.7 | 3.3 | 3.7 | 4.1 | 3.1 | 3.5 | 3.9 | 0.4 | 0.5 | 0.5 |

Note. In heating and conditioning systems, the maximum velocity recommended is 0.3 m/s for the connections to the terminal units, 0.5 m/s for the horizontal collectors and 0.8 m/s for the common pipes.

Table Equivalent lengths L_{eq} for water supply systems.

| Pipe | Fitting | | | | | | | | | | | | | | |
|----------------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|--|---|
| | | | | | | | | | | | | | | | |
| | Water velocity [m/s] | | | | | | | | | | | | | | |
| | 2 | | 4 | | 2 | | 4 | | 2 | | 4 | | 2 | | 4 |
| Equivalent length L_{eq} | | | | | | | | | | | | | | | |
| 14x2 | 0.4 | 0.5 | 1.6 | 1.8 | 0.6 | 0.7 | 1.7 | 1.9 | 1.8 | 2.1 | 0.5 | 0.5 | | | |
| 16x2.25 | 0.4 | 0.5 | 1.6 | 1.9 | 0.6 | 0.7 | 1.8 | 2.0 | 1.9 | 2.2 | 0.4 | 0.5 | | | |
| 16x2 | 0.4 | 0.5 | 1.7 | 1.9 | 0.6 | 0.6 | 1.8 | 2.0 | 1.9 | 2.2 | 0.4 | 0.5 | | | |
| 18x2 | 0.4 | 0.5 | 1.7 | 2.0 | 0.6 | 0.6 | 1.9 | 2.2 | 2.0 | 2.3 | 0.4 | 0.5 | | | |
| 20x2.5 | 0.4 | 0.5 | 1.8 | 2.1 | 0.6 | 0.6 | 2.0 | 2.3 | 2.1 | 2.3 | 0.4 | 0.5 | | | |
| 20x2 / 20x2.25 | 0.4 | 0.5 | 1.9 | 2.2 | 0.6 | 0.7 | 2.1 | 2.4 | 2.1 | 2.5 | 0.5 | 0.5 | | | |
| 25x2 / 26x3 | 0.4 | 0.4 | 2.0 | 2.3 | 0.6 | 0.6 | 2.2 | 2.5 | 2.3 | 2.6 | 0.4 | 0.5 | | | |
| 32x3 | 0.3 | 0.4 | 2.3 | 2.6 | 0.6 | 0.7 | 2.6 | 2.9 | 2.6 | 2.9 | 0.5 | 0.5 | | | |
| 40x3.5 | 0.4 | 0.4 | 2.6 | 3.0 | 0.6 | 0.7 | 3.0 | 3.4 | 2.9 | 3.3 | 0.5 | 0.6 | | | |
| 50x4 | 0.3 | 0.4 | 3.0 | 3.4 | 0.7 | 0.8 | 3.4 | 3.9 | 3.3 | 3.8 | 0.5 | 0.6 | | | |
| 63x4.5 | 0.3 | 0.3 | 3.5 | 4.0 | 0.7 | 0.8 | 4.0 | 4.5 | 3.9 | 4.4 | 0.6 | 0.6 | | | |
| 75x5 | 0.2 | 0.3 | 4.0 | 4.5 | 0.8 | 0.9 | 4.6 | 5.2 | 4.4 | 4.9 | 0.6 | 0.7 | | | |
| 90x7 | 0.1 | 0.2 | 4.3 | 4.8 | 0.8 | 0.9 | 5.0 | 5.6 | 4.7 | 5.2 | 0.6 | 0.7 | | | |

Note. In water supply systems the maximum velocity recommended is 2 m/s for the supply manifolds, the risers and the branch lines to the floors, and 4 m/s for the end sections that connect to the individual points of use.

Table k loss factors.

| Pipe | Fitting | | | | | | | | | | | | |
|----------------|---------------|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | |
| | k loss factor | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 14x2 | 1.2 | 4.6 | 1.7 | 4.9 | 5.3 | 1.3 | | | | | | | |
| 16x2.25 | 1.0 | 4.0 | 1.4 | 4.3 | 4.5 | 1.1 | | | | | | | |
| 16x2 | 1.0 | 3.8 | 1.3 | 4.1 | 4.3 | 1.0 | | | | | | | |
| 18x2 | 0.8 | 3.3 | 1.1 | 3.6 | 3.7 | 0.8 | | | | | | | |
| 20x2.5 | 0.7 | 3.1 | 1.0 | 3.4 | 3.6 | 0.8 | | | | | | | |
| 20x2 / 20x2.25 | 0.7 | 3.0 | 0.9 | 3.3 | 3.4 | 0.7 | | | | | | | |
| 25x2 / 26x3 | 0.5 | 2.5 | 0.7 | 2.7 | 2.8 | 0.5 | | | | | | | |
| 32x3 | 0.3 | 2.0 | 0.5 | 2.3 | 2.3 | 0.4 | | | | | | | |
| 40x3.5 | 0.3 | 1.7 | 0.4 | 1.9 | 1.9 | 0.3 | | | | | | | |
| 50x4 | 0.2 | 1.5 | 0.3 | 1.7 | 1.6 | 0.3 | | | | | | | |
| 63x4.5 | 0.1 | 1.3 | 0.3 | 1.4 | 1.4 | 0.2 | | | | | | | |
| 75x5 | 0.1 | 1.1 | 0.2 | 1.3 | 1.2 | 0.2 | | | | | | | |
| 90x7 | 0.0 | 1.0 | 0.2 | 1.2 | 1.1 | 0.1 | | | | | | | |

PLUMBING

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SUPPLY SYSTEMS



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