PpTM2-PT	AUGUST 2008

Polypress

A high performance range for hot and cold water supply and heating systems

Polypipe

Polypipe Polypress

Polypress was specifically developed for potable water, hot and cold plumbing and heating systems. Seven sizes of pipes range from 16 to 63mm. One of the characteristic features of this pipe is a thin aluminium layer which fulfils the requirement for dimensional stability in heating installations. The multi layered composite pipes and a large range of fittings ensure a quick, reliable and flexible installation. A range of brass bodied adaptors are available which allows the Polypress products to be connected to other existing materials.

The benefits are:

- WRAS approved; Certificate no. 0506128
- Suitable for potable water, hot and cold plumbing and heating systems
- Lightweight and easy to install
- Equivalent performance but more economical than copper
- Combines rigid pipe with flexible pipe in one system
- Mechanically pressed joints
- Intelligent product so bends stay in place
- Optimum flow properties
- Corrosion and chemically resistant
- Withstands operating temperatures of up to 95°c (long term) 100°c (short term)
- Withstands operating pressures of up to 10 bar

For further information see contact details on the back cover of this brochure.

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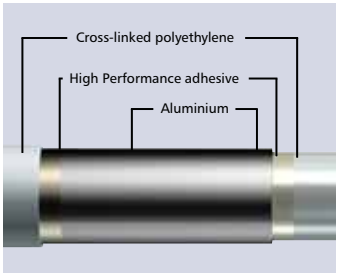
Polypipe Polypress



The composite pipe

The high-quality Polypress composite pipe, for the installation of potable water and heating pipe systems, consists of a cross-linked polyethylene type B inner and outer layer, sandwiched between is a layer of butt welded aluminium.

What do high quality composite pipe and perfect fit technology have in common? - Polypress

All in one

Polypress composite pipe system combines the advantages of metal and plastic, for potable water and heating applications. The composite Polypress pipe was specifically developed for heating systems in the sizes 16 and 20mm with a thin aluminium layer which fulfils the requirement for dimensional stability in heating installations.

Advantages of Polypress composite pipe

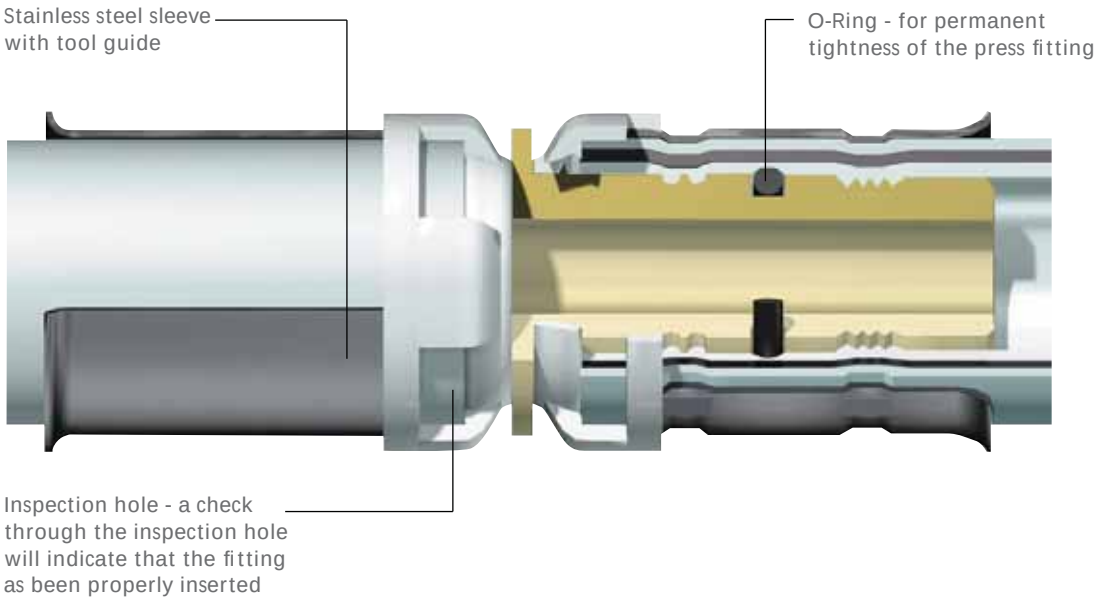
- **Quick installation**
- **High dimensional stability**
- **Easy to bend**
- **Low weight**
- **Low linear thermal expansion**
- **For all potable water qualities**
- **Corrosion resistant**

Made to measure - up to 63mm

Polypress pipes are offered in seven sizes ranging from 16mm to 63mm. Composite pipe permits optimum bending radii. Pipe sizes up to 20mm x 2.0mm can be easily bent by hand or by using a bending spring. Up to 32mm can be bent using a hydraulic bending tool. Above 32mm we recommend that a power tool be used.

The fittings

The PPSU plastic fittings in the size range 16mm to 32mm provide a reliable connection and generate a high level of stability after pressing.



Everything you could wish for

The fittings range, manufactured from dezincification resistant brass, gunmetal and PPSU (polyphenylsulfone), a high-grade plastic, forms a rationalised system: plastic for non-threaded connections and metal for threaded joints. The inspection hole in the press sleeve allows the installer to confirm that the pipe has been inserted completely into the fitting – for a fast and reliable installation.

Polypress System Overview

Applications	Building technology and industry.
Sizes (mm)	16 x 2; 20 x 2; 26 x 3; 32 x 3; 40 x 3.5; 50 x 4; 63 x 4.5
Temperature/Pressure	Maximum operating 95°C/10 bar
Drinking Water	As a drinking water pipeline, used for cold and hot water supply for all drinking water qualities (according to TrinkwV; German Drinking Water Ordinance) meets all the sanitary requirements and is WRAS approved to comply with the UK water supply regulations.
Heating	May be used without restriction as heating lines within the given capacity ratings.
Rainwater	As rainwater lines within buildings with a maintained rainwater pH value >6.
Compressed Air	As compressed air line in plant with an upstream oil filter (oil-free) up to 12 bar operating pressure and a maximum 40°C operating temperature.
Other Applications	Other fluids and applications upon enquiry (e.g. anti-freeze and disinfection agents).
Installation in Buildings	Can be used for installations in buildings as surface mounted or concealed riser and distribution system and for pre-wall installation with pre-formed fixing devices or in concrete components. Pressed fittings are permanently tight and thus approved for concealed installations.
Installation Outside Buildings	Must be protected against permanent direct UV radiation (sunlight).
Building Material	Complies with building material class B2 (normal flammability) according to DIN 4102.
Certificates & Approvals	WRAS Certificate number 0506128. DVGW DW-8501AT2396.

Polypress Approvals and Tests

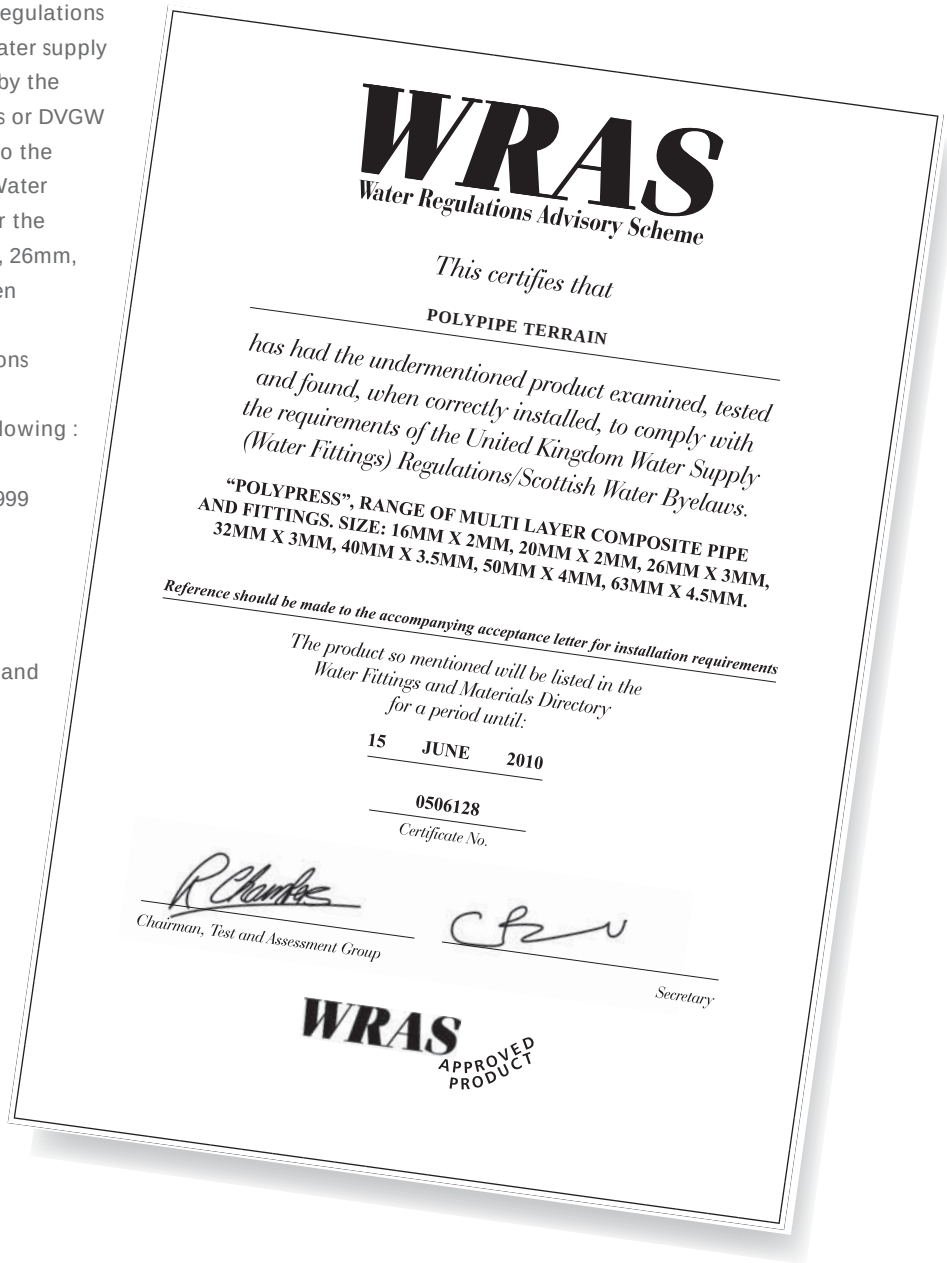
Technical Directives and Approvals

Water Regulations Advisory Scheme Approval

Polypress has been approved by the Water Regulations Advisory Scheme (WRAS) for hot and cold water supply and applications. Polypress is also approved by the German Association of Gas and Water Trades or DVGW for all cold and hot water supply according to the requirements of Trinkwv(German Drinking Water Ordinance). Polypress has WRAS approval for the complete range covering sizes 16mm, 20mm, 26mm, 32mm, 40mm, 50mm and 63mm and has been approved subject to the relevant tests and examinations contained within the Regulations Specifications and does not contravene the requirements, if correctly installed of the following :

Water Supply (Water Fittings) Regulations 1999
Water byelaw 2003 Scotland
Water regulations Northern Ireland.

Polypress is also included within the Water Regulations Advisory Scheme 'water fittings and material directory'



WRAS
Water Regulations Advisory Scheme

This certifies that

POLYPIPE TERRAIN

has had the undermentioned product examined, tested and found, when correctly installed, to comply with the requirements of the United Kingdom Water Supply (Water Fittings) Regulations/Scottish Water Byelaws.

"POLYPRESS", RANGE OF MULTI LAYER COMPOSITE PIPE AND FITTINGS. SIZE: 16MM X 2MM, 20MM X 2MM, 26MM X 3MM, 32MM X 3MM, 40MM X 3.5MM, 50MM X 4MM, 63MM X 4.5MM.

Reference should be made to the accompanying acceptance letter for installation requirements

The product so mentioned will be listed in the Water Fittings and Materials Directory for a period until:

15 JUNE 2010

0506128
Certificate No.

Chairman, Test and Assessment Group

Secretary

WRAS APPROVED PRODUCT

Polypress Properties

UV resistance

Polypress pipes shall be protected against direct sunlight or UV radiation. Consequently, Polypress pipes shall be covered during transport or storage if they have been removed from their original packaging. When Polypress is used in a protective tube, adequate UV protection is assured during the installation phase. Furthermore, jackets made from insulating material can undertake the function of UV protection with Polypress pipes (without protective tube).

Chemical resistance

The chemical properties of polyethylene are significantly improved by cross-linking. As a result, supplementary sheet 1 to DIN 8075 that lists the media to which non-cross-linked polyethylene is resistant, can be used as an aid to assessing the chemical resistance of Polypress pipes.
Polypress pipes are resistant to the following media:

- Concrete, plaster, mortar and cement
- Disinfectants and cleaning agents according to DVGW worksheet W 291 and DIN 2000. Maximum permissible chlorine content is 0.1mg per litre.
- All natural potable water constituents
- Corrosion-protection agents according to DIN 1988 part 4

Polypress pipes shall be protected against direct contact with bitumen or bitumen strips. Furthermore, Polypress pipes shall be protected against greases, solvents and oils. If the Polypress installation system used in areas where, for example, aggressive gases, permanently acting moisture or building materials containing chlorine are to be encountered, the connections are to be protected using suitable jacketing. This also applies to contact with screed, mortar or plaster. Applications for Polypress installation system other than those listed above can be authorised on request.

Equipotential bonding

There is a discontinuity between the Polypress connector and the pipe in the form of a fixing ring. This means no conductive metal pipeline installation can be created. The Polypress installation system is not a conductive pipeline installation, and therefore can not be used for equipotential bonding. Consequently, it does not have to be grounded either.

VDE 0100 parts 410 and 540 demands equipotential bonding between all types of protective earth conductors and existing “conductive” water and heating pipes. It states that the connection to a protective earth conductor may be made either

a) at a central point, e.g. in the consumer unit (sub-circuit distribution board) of the dwelling
b) on the equipotential bonding strip of the main equipotential bonding conductor
c) via a metal water consumption pipe that has electrical continuity to the main equipotential bonding conductor

With the Polypress installation system, equipotential bonding may only be made using one of the two first connections a) or b) to the protective earth conductor. This also applies to renovation work when metal pipelines are replaced by Polypress pipes.

Frost protection and trace heaters

The Polypress installation system shall be protected against freezing when it is filled with water and routed in areas at risk from frost. When trace heaters are used, the operating temperature of the potable water shall not exceed 60 °C (intermittent maximum 70 °C, e.g. for thermal disinfections). The Polypress installation pipe is suitable for use in conjunction with a trace heater. The aluminium core pipe ensures an even transmission of heat throughout the entire pipe. The trace heater is fastened to the pipe using cable ties or adhesive tape under normal temperatures inside the building. Specifically, refer to the manufacturer's information in this regard. During repair and maintenance work, be sure to switch off the trace heaters in the corresponding parts of the pipeline when the water is not circulating. Also, a suitable protective sheath shall be used when Polypress connections are laid in screed and concrete, and also where they may come into contact with mortar or plaster.

Bacteria

If conditions are favourable the bacterium legionella pneumophila and related bacteria that can be found naturally in environmental water sources such as rivers, lakes and reservoirs, usually in low numbers may grow creating conditions in which the risk from Legionnaires' disease is increased. It is therefore important to control the risks by introducing measures outlined in the Approved Code of Practice & Guidance document Legionnaires' disease - The Control of Legionella Bacteria in Water Systems (L8).

BS6700 provides guidance regarding disinfection and flushing of pipelines. The maximum length of time the Polypress system can be exposed to levels of chlorine above that of drinking water is three hours.

Fire protection

Pipe sheathing

A range pipe sheathing products are available for Polypress in diameters from 16 to 63mm. Suitable products include; Rockwool Conlit shells (150P and 150U), Doyma (3088-ALU products) and Henkel (Tangit products).

Polypress for Rainwater

Risk of mistaking identity

Polypress pipes carrying water in rainwater utilisation plant shall be colour marked to avoid mistaking them with the potable water supply and other supply systems. All draw-off points supplied with rainwater shall be identified with the words “Not potable water” or an equivalent logo.

Information material

- DVGW code of practice twin 5 contains general information on rainwater utilisation systems; ZVSHK code of practice “Rainwater utilisation systems” contains specific information for planning, construction, operation and maintenance of such systems.
- DVGW worksheet W 555 “Rainwater utilisation systems in domestic areas”.

* Refer to WRAS information and guidance notes: August 1999 9/02/05 and 9/02/04.

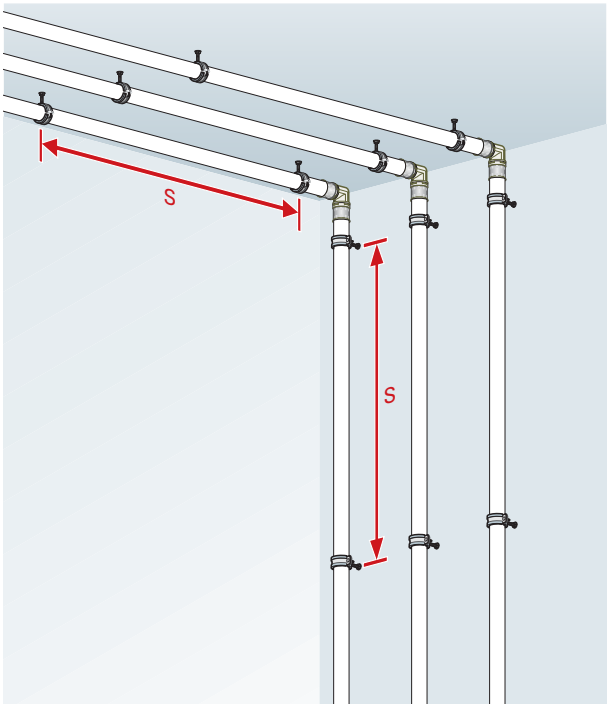
Polypress for Drinking Water and Heating

Fixing centres and bending radii

Maximum pipe clip distance “S” in exposed Polypress pipelines:

DN	Pipe dimension (mm)	Max. pipe clip distance (cm)
12	16 x 2.0	120
15	20 x 2.0	150
20	26 x 3.0	175
25	32 x 3.0	200
32	40 x 3.5	200
40	50 x 4.0	250
50	63 x 4.5	250

Polypress pipelines shall be fixed to a load-bearing base at 1.0m intervals as well as immediately before and after a pipe elbow, using plastic dowel hooks. Surface-mounted fixing of Polypress pipes shall be performed with pipe clips including a sound insulation inlay. The material of the sound insulation inlay shall be compatible with the plastic. Fixing of Polypress pipes in pre-wall shall be performed on the respective support systems using the aforementioned pipe clips. For information on compatible pipe inserts please contact Polypipe Terrain technical department.

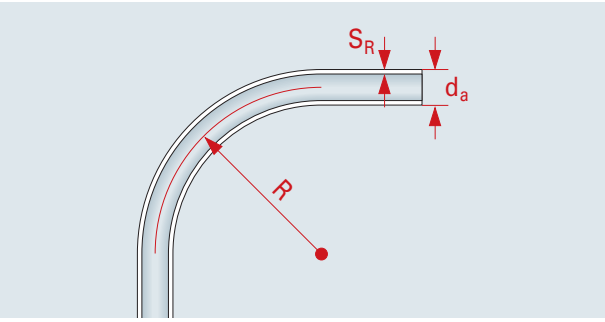


Polypress bending radii

The minimum bending radii “R” (see illustration below) given in the table below shall be complied with.

Pipe dimension (mm)	Bending radii without tool	Bending radii with internal pipe bending spring
16 x 2.0	5 x d_a	2.0 x d_a
20 x 2.0	5 x d_a	3.0 x d_a
	Bending radii with bending tool	
26 x 3.0	3.6 x d_a	
32 x 3.0	3.6 x d_a	
40 x 3.5	4.0 x d_a	
50 x 4.0	4.0 x d_a	
63 x 4.5	4.5 x d_a	

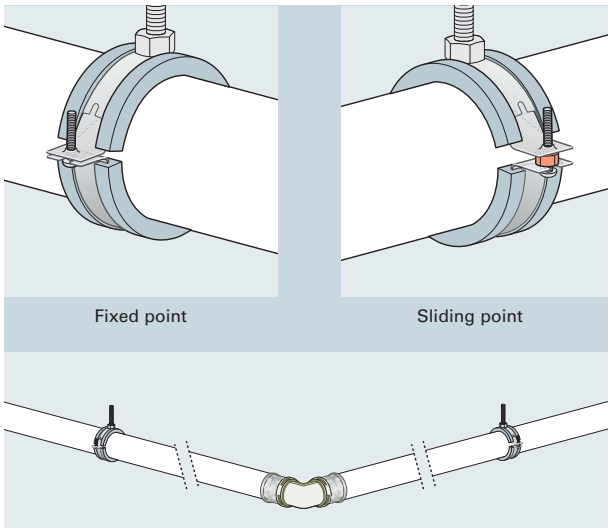
The bending process on Polypress pipe shall not result in either indentations or deformations on the inside of the pipe bend. Damage to the PEX external layer of the Polypress pipe is not permitted.



Polypress fittings

- Do not use fittings to bend pipes.
- Install fittings only after bending pipes.
- Only install fittings in straight sections of pipe and avoid stress on the installed fitting.

Linear expansion



Linear expansion

Pipe fixings, on the one hand, have the task of carrying the piping system and, on the other, of coping with the temperature dependant length changes that occur during operation. Pipe fixings are divided into rigid and sliding types which allow the pipe to move axially. Pipelines shall always be routed so that changes in length are not blocked. Sliding points shall be arranged so that they do not become rigid points during operation. Rigid points should not be arranged on press-fit connections. In long pipelines, the rigid point should be arranged in the middle of the pipe run to direct the expansion in two directions. Additionally, make sure that the pipelines are able to flex in walls and through ceilings. This can be ensured by positioning the riser correctly in the duct, by using a sufficiently sized lining tube.

Pipe Length L (m)	Temperature differential ΔT (K)						
	10	20	30	40	50	60	70
0.1	0.026	0.052	0.078	0.104	0.130	0.156	0.182
0.2	0.052	0.104	0.156	0.208	0.260	0.312	0.364
0.3	0.078	0.156	0.234	0.312	0.390	0.468	0.546
0.4	0.104	0.208	0.312	0.416	0.520	0.624	0.728
0.5	0.130	0.260	0.390	0.520	0.650	0.780	0.910
0.6	0.156	0.312	0.468	0.624	0.780	0.936	1.092
0.7	0.182	0.364	0.546	0.728	0.910	1.092	1.274
0.8	0.208	0.416	0.624	0.832	1.040	1.248	1.456
0.9	0.234	0.468	0.702	0.936	1.170	1.404	1.638
1.0	0.260	0.520	0.780	1.040	1.300	1.560	1.820
2.0	0.520	1.040	1.560	2.080	2.600	3.120	3.640
3.0	0.780	1.560	2.340	3.120	3.900	4.680	5.460
4.0	1.040	2.080	3.120	4.160	5.200	6.240	7.280
5.0	1.300	2.600	3.900	5.200	6.500	7.800	9.100
6.0	1.560	3.120	4.680	6.240	7.800	9.360	10.920
7.0	1.820	3.640	5.460	7.280	9.100	10.920	12.740
8.0	2.080	4.160	6.240	8.830	10.400	12.480	14.560
9.0	2.340	4.680	7.020	9.360	11.700	14.040	16.380
10.0	2.600	5.200	7.800	10.400	13.000	15.600	18.200

Thermal changes in length

Pipe line changes are caused by heating and cooling.
The coefficient of expansion of Polypress composite metal pipes is 0.026 mm/m x K.

Example

Temperature differential ΔT	50 K
Pipe length L	5m
Coefficient of expansion α	0.026mm/m . K
Linear expansion ΔL	6.5mm

ΔL = α x L x ΔT
= 0.026mm/m . K x 5m x 50K
= 6.5mm

Dimensions of expansion legs

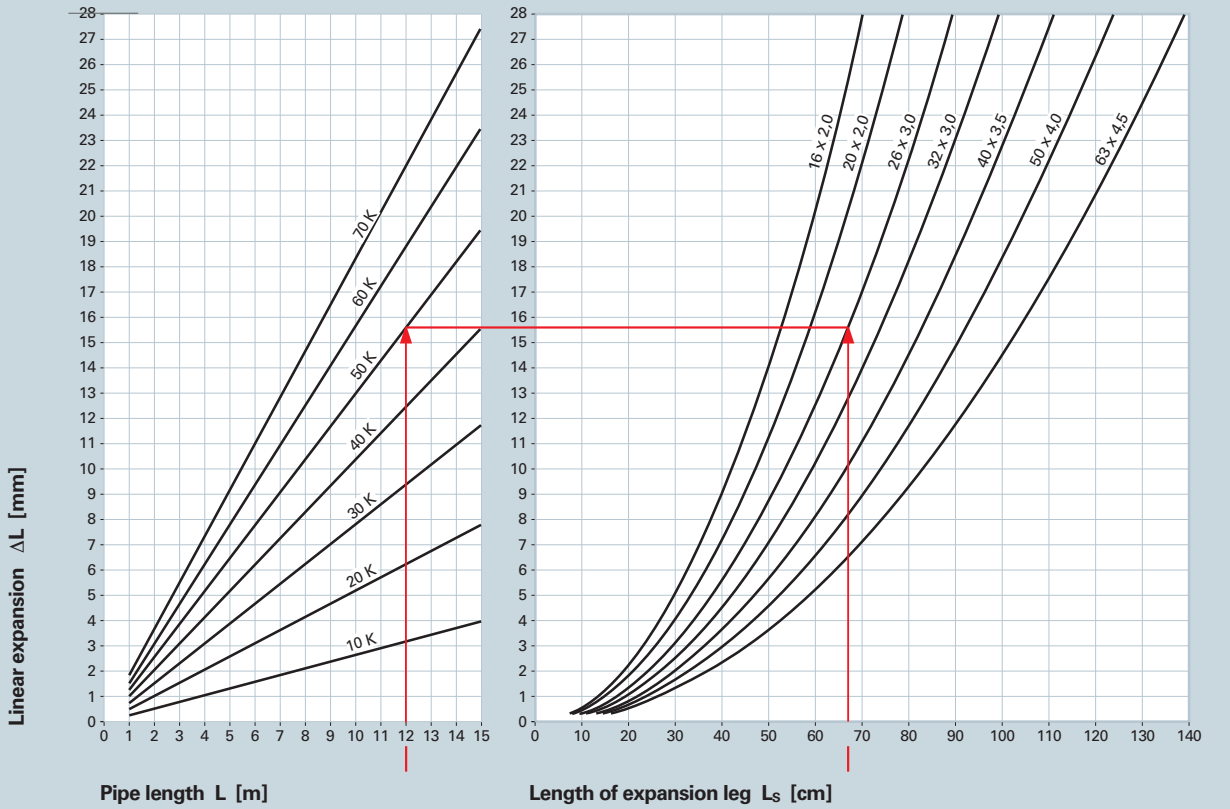
Vertical pipe routing of Polypress pipes in ducts and channels depends on the cavities available. Thermal linear expansion can be compensated using bending legs adapted to the particular installation situations.

Formulae

Linear expansion $\Delta L = \alpha \times L \times \Delta T$ (mm)

Length of expansion leg $L_s = C \times \sqrt{d_a \times \Delta L}$ (mm)

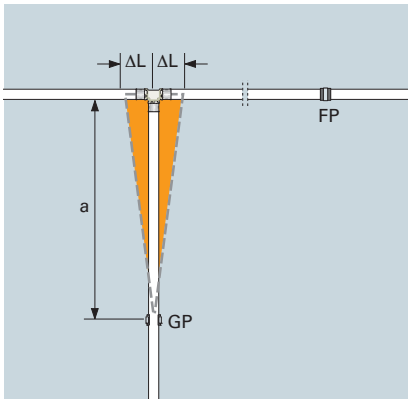
Key		
α	Coefficient of expansion	(1/K)
C	Material dependent constant for Polypress pipes	(=33)
d_a	External pipe diameter	(mm)
L	Pipe length	(m)
ΔL	Linear expansion	(mm)
L_s	Length of expansion leg	(mm)
ΔT	Temperature differential	(K)



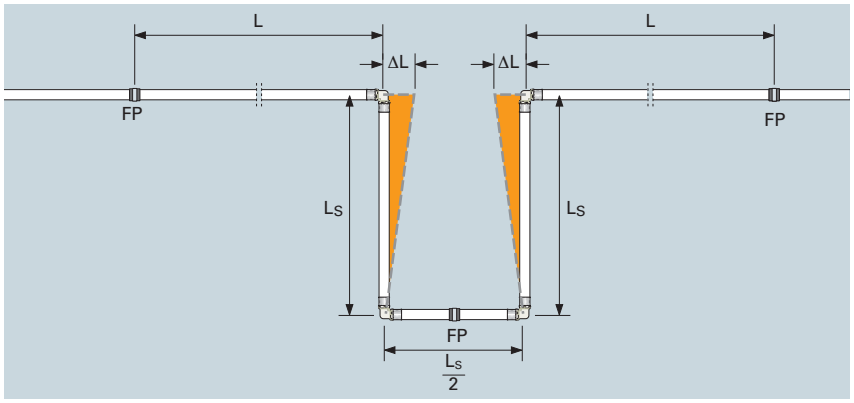
Example: Pipe length 12 m | Linear expansion 15.6 mm | Length of expansion leg 66.5 cm
Temperature differential 50 K | External pipe diameter 26 mm

Polypress Design Guidance

Example applications

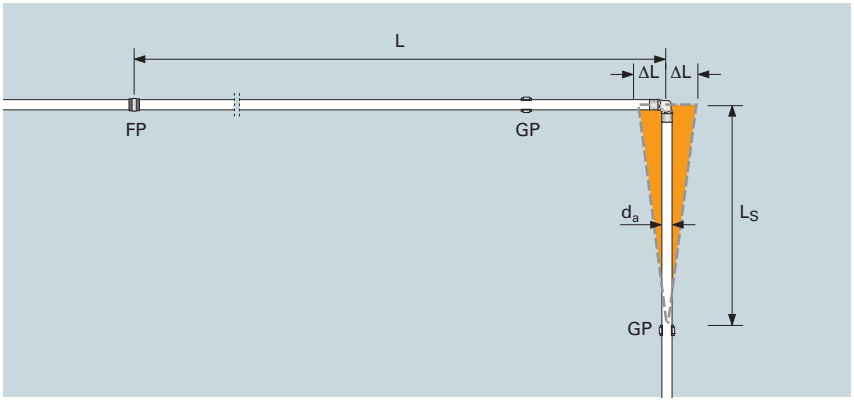


Compensating for changes in length using an expansion leg “a”



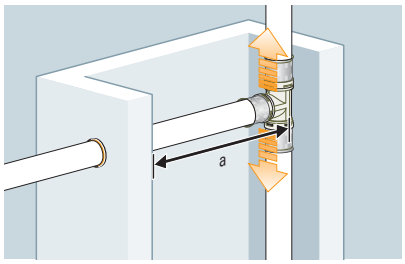
Compensating for changes in length using an expansion leg

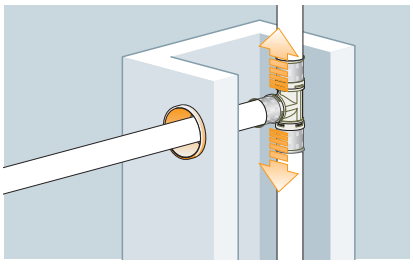
Key	
a	Expansion leg
d_a	Outside pipe diameter
FP	Rigid point
GP	Sliding point
L	Pipe length
ΔL	Linear expansion
L_s	Length of expansion leg

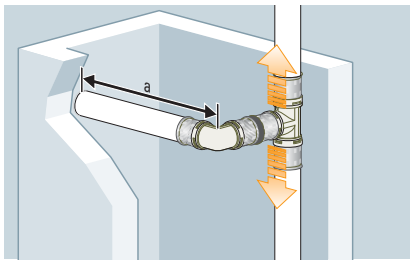


Compensating for changes in length using an expansion leg

Compensating for changes in length using an expansion leg 'a' in a riser







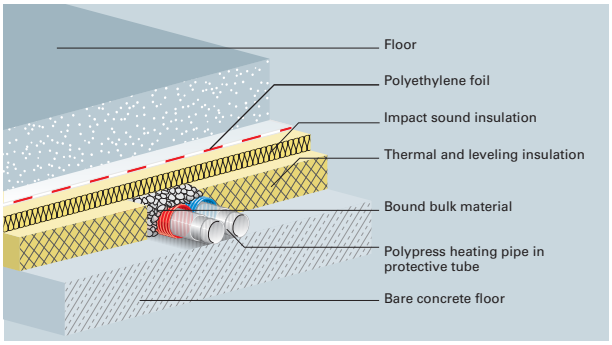
Pipelines in concrete

Use suitable measures to protect fittings against corrosion when Polypress is routed directly in the floor or concrete.

Pipelines under the screed raft

The support structure shall be sufficiently dry to accommodate the floating floor and shall have a flat, level surface. It shall not have any projecting points or the like that could allow for the generation of sound and/or lead to fluctuations in the floor thickness. Given a corresponding insulation requirement, the Polypress pipes shall be provided with the appropriate pipe insulation. The pipelines shall be routed on the support structure and firmly fixed to it. Plastic dowel hooks for single or double pipe fixings are to be used for this. The levelling layer is produced using thermal or impact sound insulation at least up to the height of the crown of the pipeline. When insulated pipelines are used, the applicable minimum height is the crown of the pipe insulation. The levelling layer is to be laid directly adjacent to the routed pipelines. The cavity resulting from routing the pipe in the levelling layer shall be filled in using a bulk material (perlite) up to the top edge of the levelling layer. This ensures that the impact sound insulation is laid without gaps over the entire floor structure and will have a level support.

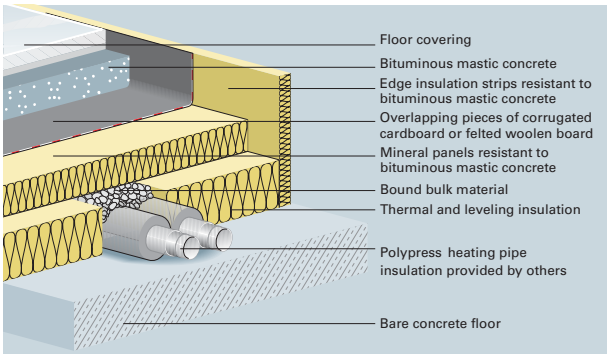
- REF DIN 18202 DIN 18560 PART 2, 4.1.
- Energy conservation ordinance (EnEV)



Floor structure under screed

Pipelines under bituminous mastic concrete raft

Bituminous mastic concrete (also referred to as hot screed) may not be laid directly onto Polypress in a protective tube and on other plastic parts or radiator connection components. When bituminous mastic concrete is laid, it has a temperature of up to 280° C; this would damage the pipes and accessories. Make sure that the Polypress in a protective tube does not come into contact with the bituminous mastic concrete at any point. Providing the following laying instructions are complied with, there is no reason why Polypress in a protective tube should not be routed in the levelling layer under a bituminous mastic concrete raft. After Polypress in a protective tube or Polypress in pipe insulation has been routed and the levelling layer (e.g. bulk perlite material) has been laid up to the crown of the pipe or the top edge of the pipe insulation, cover with rock wool mats compatible with bituminous mastic concrete with a minimum thickness of 20 mm (thermal conductivity group WLG 040) and fire protection class A1 (non-combustible) according to DIN 4102, with no gaps over the entire surface. Lay overlapping pieces of corrugated cardboard, for example, over the rock wool mat to prevent any bituminous mastic concrete from penetrating into the insulating layer. Pipe and pre-formed feed-through the insulating layers, e.g. those required for radiator connections or draw-off points in plumbing systems, shall also be jacketed with the aforementioned rock wool strips and sealed tight. As well as preventing any possible damage to the Polypress pipe, this is also intended to prevent high temperatures from being transmitted from metallic pre-forms into the press-fit connection. Once the bituminous mastic concrete has set and cooled, remove the rock wool in the area of the projecting pipe or pre-form connections and cover with floor collars.



Floor structure under bituminous mastic concrete

Polypress Design Guidance

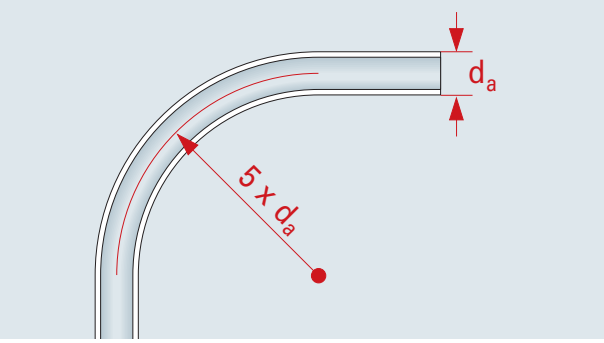
Pipeline routing on uncovered concrete

Pipeline should be routed without crossing if possible, in straight lines, with parallel axes and parallel to the wall, according to the layout of the rooms. Wall feed-throughs should be avoided when installing distributor connection pipes. It is a good idea to route the pipes through existing doorways depending on the layout of the rooms. This means it is necessary to use 90° pipe elbows. The bending radius of 5 x outside diameter shall be complied with when routing Polypress in a protective tube.

Insulation of Polypress pipelines

The minimum thickness of insulating layers are specified in relation to a thermal conductivity value of λ = 0.035 W/m x K (WLG 035 - thermal conductivity group WLG 035 according to the energy conservation ordinance:EnEV). The values for the insulating layer thickness shall be converted when insulation with a different thermal conductivity λ is used. The protective tube of Polypress does not represent insulation as defined in the Energy Conservation Ordinance (EnEV).

Polypress bending radii



Insulating layer thickness for Polypipe pipelines with 100% insulation according to EnEV Table 1, ref. 1 - 4							
Pipe dimension (mm)	**16 x 2.0**	**20 x 2.0**	**26 x 3.0**	**32 x 3.0**	**40 x 3.5**	**50 x 4.0**	**63 x 4.5**
Internal diameter (mm)	**12**	**16**	**20**	**26**	**33**	**42**	**54**
λ [W/(m x K)]	**Insulating layer thickness (mm)**						
0.025	11	11	12	17	18	24	31
0.30	15	15	16	23	24	32	41
0.035	20	20	20	30	30	42	54
0.040	26	26	25	38	38	51	64
0.050	44	41	39	57	57	77	96

Insulating layer thickness for Polypipe pipelines with 50% insulation according to EnEV Table 1, ref. 5 - 6							
Pipe dimension (mm)	**16 x 2.0**	**20 x 2.0**	**26 x 3.0**	**32 x 3.0**	**40 x 3.5**	**50 x 4.0**	**63 x 4.5**
Internal diameter (mm)	**12**	**16**	**20**	**26**	**33**	**42**	**54**
λ [W/(m x K)]	**Insulating layer thickness (mm)**						
0.025	6	6	6	9	9	13	16
0.30	8	8	8	12	12	17	21
0.035	10	10	10	15	15	21	27
0.040	13	13	13	18	18	26	32
0.050	20	19	19	27	26	37	45

Pipe insulation for Polypress pipelines with potable water pipes (cold) according to DIN 1988 part 2, Table 9							
Installation situation of pipelines	**Exposed routing in unheated room (e.g. basement)**	**Exposed routing in heated room**	**In a duct without a pipeline that carries hot water**	**In a duct adjacent to a pipeline that carries hot water**	**Chased into masonry, riser**	**In a wall duct adjacent to a pipeline that carries hot water**	**On bare concrete floor**
Thickness of insulating layer in (mm) at λ = 0,040 W/(m x K)	**4**	**9**	**4**	**13**	**4**	**13**	**4**
Pipe sizes	**Diameter including pipe insulation (mm)**						
16 x 2.0	24	34	24	42	24	42	24
20 x 2.0	28	38	28	46	28	46	28
26 x 3.0	34	44	34	52	34	52	34
32 x 3.0	40	50	40	58	40	58	-
40 x 3.5	48	58	48	66	48	66	-
50 x 4.0	58	68	58	76	58	76	-
63 x 4.5	72	81	72	89	72	89	-

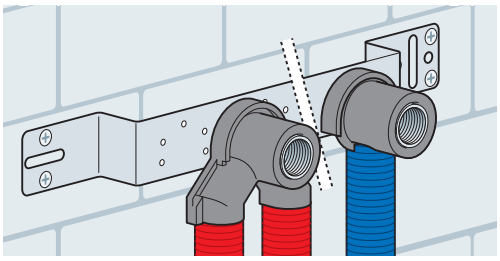
Polypress Installation Guidance

General

In selecting the pipe distribution system, the following advantages of the individual systems should be considered. For example,
there is no need for complicated planning for an individual supply pipe from the potable water distributor because usually only one pipe dimension is used. The pipe distribution system including double wall elbow or the ring main distribution offer an even pressure and temperature distribution as well as an optimum turnover of water, thereby reducing stagnation times. The Polypress pipe shall be routed in a protective tube when there are no insulation requirements. Furthermore, corresponding acoustic insulation sections are available for fitting connections such as long wall elbows, short wall elbows, double wall elbows and concealed cistern elbows. These fitting insulate the transmission of sound between the structure of the building or building components and the pipe system.

Surface-mounted fitting connection

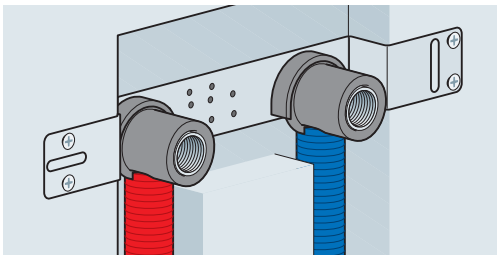
The Polypress surface-mounted fitting connector is made using a mounting plate fixed on the masonry, including the Polypress short wall elbow. The Polypress supply pipeline is connected to the short wall elbow or double wall elbow on the masonry. The Polypress pipeline distribution can take the form of an individual supply pipe from the potable water distributor or via a T-piece distribution system.



Surface-mounted fitting connection

Concealed fitting connection

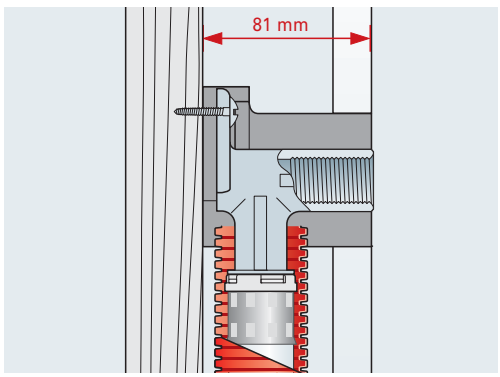
The Polypress concealed fitting connection is made using a mounting plate mounted in the masonry, including the Polypress long wall elbow. The Polypress supply pipeline is routed in a slot in the masonry and is connected to the long wall elbow. The Polypress pipeline distribution can take the form of an individual supply pipe from the potable water distributor or via a T-piece distribution system.



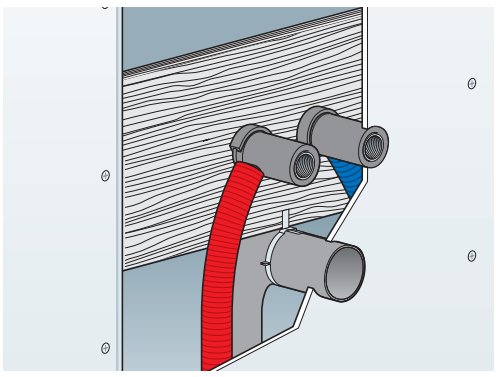
Concealed fitting connection

Pre-wall installation

The Polypress potable water installation in drywall construction can be made as an individual supply pipe system via the potable water distributor, as a ring main system or a T-piece distribution system from the riser. In this case, fitting connections such as long wall elbows, double wall elbows as well as thread adapters and the concealed cistern elbow are used, depending on the pipeline routing. In contrast to the concealed cistern elbow or the threaded adapter (which are directly mounted on the cistern), double wall elbows, long wall elbows or adapters are mounted on the fixture plates described, depending on the drywall construction system.



Pre-wall installation cross section



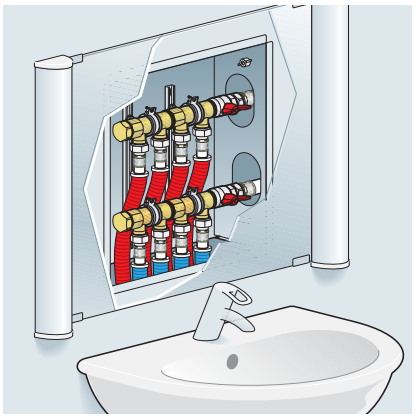
Pre-wall installation elevation

Connection to the manifold

Individual connections and T-piece manifold systems can be routed to the particular draw-off points via the central potable water distributor. Connection variants such as the mounting set, double wall elbow, long or short wall elbow and the Polypress pipe itself with Polypress screwed connections, adapters or press-fit distributor connections are available for this purpose. When Polypress connecting pipes are routed to the potable water manifold, they shall be insulated as required. The pipe spacings for routing pipes in runs shall be taken into account. The Polypress pipe is also mounted on the manifold using Polypress press-fit manifold connections in dimensions 16 x 2.0 and 20 x 2.0. The Polypress manifolds can be combined, with between 2 to 10 port connections each, depending on the size of the Polypress manifold cabinets. The cold and hot water connecting pipes shall be connected to the distributor axially flush and without tension. The manifold connection to the cold and hot risers is made directly via the manifold ball valves (1" female thread on both ends) as well as the water meter (if used) and a shut-off device for the meter.

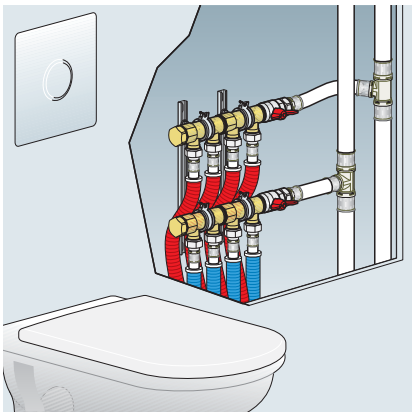
Distribution manifolds

Polypress can be positioned in an extremely wide range of locations depending on the situation in the building. The secure, permanent, lengthways force-locking press-fit connections means that the floor manifold may be installed in an inaccessible location according to DIN 1988 part 2. The following examples show typical installation variants for Polypress manifolds:



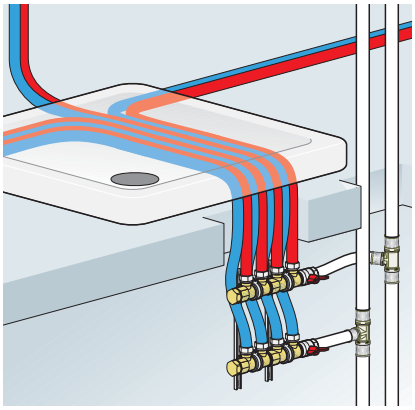
Manifold in built-in box

In this case the manifold is positioned behind a mirror and is easily accessible. This is important, particularly for decentralised consumption metering.



Manifold in the pre-wall

Manifold in pre-wall with direct connection to the Polypress riser. In this case, a cavity formed by the pre-wall is used for accommodating the wall mounted manifold bracket with acoustic insulation to DIN 4109.



Manifold below the first floor ceiling

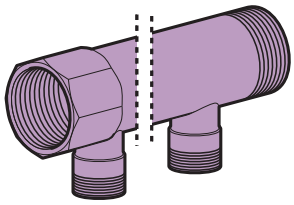
In this case the manifold is in the pre-wall with a direct connection to the Polypress riser. The cavity formed by the pre-wall is used for accommodating the manifold.

Polypress Installation Guidance

Polypress potable water distributor manifold

Polypress potable water distributor manifolds are characterised by their high quality materials, the possibility of combining the number of distributor connections, and also by their sound insulated attachment to the distributor mount according to DIN 52218. The Polypress potable water manifold is made of dezincification resistant brass. It is composed of two distributor manifolds that can have a different number of distributor connections. There is a distributor manifold with two distributor connections and one with three distributor connections. They can be combined with one another as required to achieve the necessary number of ports. Each of the manifolds has a 1" male thread and 1" female thread, and is equipped with 3/4" distributor connections. The ends of the manifolds are sealed with 1" male threaded plugs which also serve as a drainage facility if required. The Polypress potable water manifold can be combined with distributor manifolds, and plugs and holders, and can be connected from the left or right. The Polypress potable water manifold can be installed in the distributor cabinet or on the building structure itself.

Distributor connections	2	3	4	5	6	7	8	9	10
No. of distributor manifolds 2-way	1	-	2	1	-	2	1	-	2
No. of distributor manifolds 3-way	-	1	-	1	2	1	2	3	2
Distributor length Total (mm)	130	185	234	289	344	393	448	503	552
Distributor+ ball cock[1] (mm)	193	248	297	352	407	456	511	566	615
WM connection Vertical[2] (mm)	343	398	447	502	557	606	661	716	765
WM connection Horizontal[3] (mm)	413	468	517	572	627	676	731	786	835



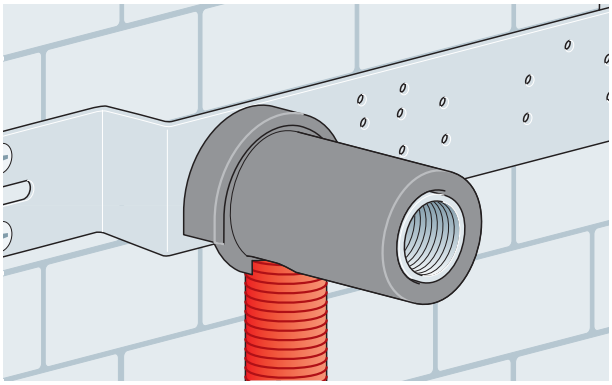
(WM - water meter)

[1] 80mm has been assumed as the installation length of the ball valve.

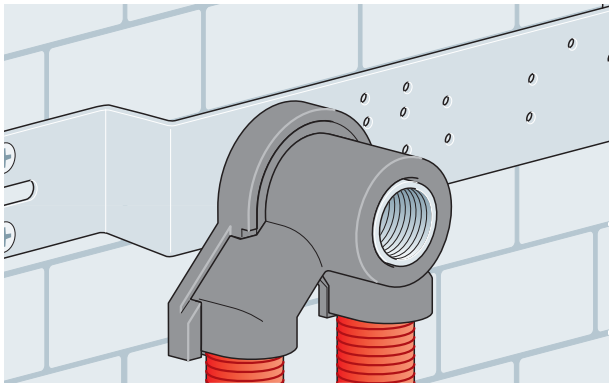
[2] 150mm has been assumed as the installation length of the water meter including ball valve.

[3] 220mm has been assumed as the installation length of the water meter including ball valve.

Sound insulation



Wall elbow sound insulation set



Double wall elbow sound insulation set

Sound insulation

DIN 4109 explains the conditions for sound insulation in buildings. Furthermore, the correct decoupling of all plumbing and system components from the structure of the building when installing Polypress pipe is to be ensured. A well thought out floor plan design represents the most effective and economic sound insulation measure. During planning, it is essential to make sure that restrooms and occupied rooms should not, if possible, be divided by walls that are used for installing plumbing fittings and equipment as well as pipelines. Sound generation in plumbing systems is primarily due to solid borne noise. In addition to using low noise fittings and acoustically insulated pipe clips, the planning should also envisage Polypress decoupling measures in the form of two-part acoustic protection sets for fastening elbow connectors. Pipe connectors that are installed directly in the masonry or plaster shall be wrapped with insulation material. Solid-borne noise transmission in the pipelines depends on the sound generation properties of the pipe material under consideration. The density and modulus of elasticity of the pipeline material are the decisive parameters in determining the speed of sound transmission. This sound transmission speed is very low in cross-linked polyethylene, which explains why Polypress pipes are highly suitable in terms of sound insulation.

Bacteria

Measures to prevent bacterial growth are defined in DVGW worksheet W 551.

Measures include:

- Avoiding non-circulating pipelines without trace heaters
- No more than 5K cooling of the circulating hot water temperature in hot water and circulation pipes
- Min. 60° C potable water storage temperature
- Avoiding aerosol formation at draw-off devices
- Permitting a rapid exchange of water by avoiding excessively large, non-circulating floors and individual pipes without trace heaters
- Pipe sections that are not in use shall be drained and shut off

The Polypress installation pipe has a smooth, low-roughness, cross-linked polyethylene coating on the inside of the pipe that makes a significant contribution to counteracting incrustations.

Pressure tests

DIN 1988 part 2 section 11.1.2 specifies a pressure test of the potable water pipes with filtered water after completion and while they are still uncovered. The test result can be influenced by the temperature differences between the Polypress installation pipe and the test medium due to the high coefficient of heat transfer of the PE-X/Al/PE-X material composite. A temperature differential of 10 K corresponds to a pressure change of 0.5 to 1.0 bar. As a result, the temperature of system parts made from Polypress installation pipes should match that of the test medium. Furthermore, it is necessary to look and check each joint to make sure it has been pressed correctly.

Performing the pressure test

The pressure test is performed in two steps (preliminary and main test). The preliminary test alone is sufficient for small system parts such as connections and distribution pipes within damp rooms.

Preliminary test

The operating pressure plus 5 bar (15 bar) shall be applied as the test pressure during the preliminary test. This test pressure shall be changed to the output test pressure twice within 30 minutes at intervals of 10 minutes in each case. Subsequently, the test pressure may not drop by more than 0.6 bar after a further 30 minutes of test time (0.1 bar per five minutes), and there shall be no more leaks.

Main test

The main test takes place immediately following the preliminary test and the test duration is two hours. The test pressure read off during the preliminary test shall not drop by more than 0.2 bar after 2 hours. There shall be no leaks at any point on the system being tested. The template of the test report for the pressure test on Polypress potable water installations is on page 22.

Polypress Test Report

Polypress pressure test report for potable water

Pressure test report according to DIN 1988 part two section 11.1.2 for Polypress system with water as test medium

Project: Building project _____

Client _____ Installing company _____

Start of test (date/time) _____ End of test (date/time) _____

Name of drinking water installation segment tested _____

Pipes filled with filtered water and completely vented Yes ☐ No ☐

Ambient temperature _____ C Water temperature _____ C

Installed Polypress pipes (mm) 16 x 2.0 ☐ 20 x 2.0 ☐ 26 x 3.0 ☐ 32 x 3.0 ☐ 40 x 3.5 ☐ 50 x 4.0 ☐ 63 x 4.5 ☐

Total pipe length approx. _____ m

Visual inspection of the pressed and screwed connections performed Yes ☐ No ☐

Pressed connectors were pressed and screwed connectors tight Yes ☐ No ☐

Preliminary test (test duration approx. 60 minutes)

Permitted operating pressure 10 bar, test pressure 15 bar Yes ☐ No ☐

>Initial pressure (start of test) P1
Re-establish test pressure twice within 30 minutes at 10 minute intervals bar _____ Time _____

>Test pressure (30 minutes after start of test) P2 bar _____ Time _____

>Test pressure (60 minutes after start of test) P3 bar _____ Time _____

>Pressure drop every 5 minutes P4
(max. 0.1 bar/5 minutes and P2, P3 max. 0.6 bar) bar _____ P2 -P3 _____

No leaks detected during the test time Yes ☐ No ☐

Max. pressure drop was not exceeded during the test time Yes ☐ No ☐

Main test (directly after preliminary test; test time approx. 2 hours)

>Test pressure P5 bar _____ Time _____

>Test pressure P6
Time(max. pressure drop P5, P6 = 0.2 bar bar _____ Time _____

No leaks detected during the test time Yes ☐ No ☐

Place _____ Date _____

_____ _____

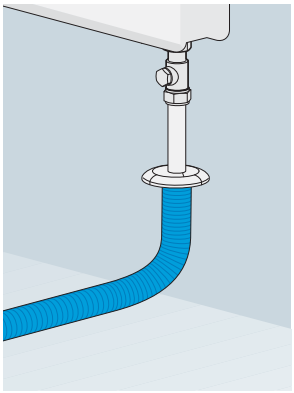
Signature of client/representative Signature of installation company representative

Planning the heating

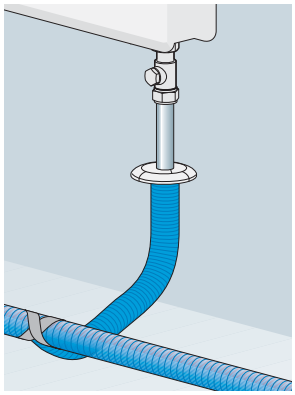
Polypress pipelines shall be routed with a sheath when there are no insulation requirements or with insulation when there are insulation requirements. Routing pipelines in the skirting board represents an exception to this, because the Polypress pipe can be routed without the aforementioned jacketing in this case. A clean finish to the radiator connection pipes in the visible area on the floor or wall surface is achieved by using double collars for twin pipe systems or single collars for single pipe systems. The Polypress radiator unions are to be connected using standard Euro cone recesses according to DIN (draft) 3838.

Polypress connection to radiator

The simplest method of implementing the radiator connection from the floor involves a direct connection with the Polypress pipe in a sheath using the radiator connecting union. This variant is carried out in a single or twin pipe system using the individual supply lines from the distributor, distribution with normal T-pieces or crossing T-pieces in the floor structure. The excellent stability of the Polypress pipe is advantageous here, since after 90° bends have been made in the pipe, the bend will have no tendency to open out. Attention is to be paid to insulation measures such as wrapping the T-pieces with suitable insulating material as well as embedding the crossing T-piece in the sound insulation set provided for this purpose. When the Polypress pipe is passed through the floor plate, make sure that this is done either with pipe insulation or in the sheath.



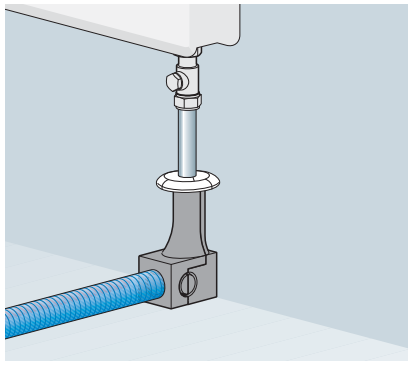
Polypress single connection from distributor



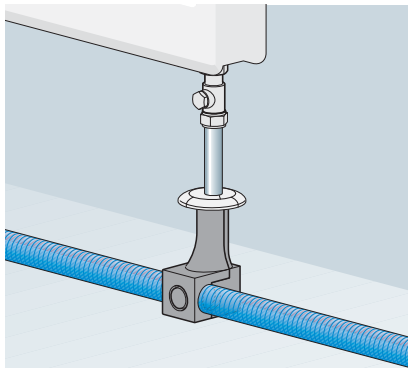
Polypress T-piece distributor

Pre-formed connection to radiator

The radiator connection from the floor is made using Polypress pre-formed connections such as the radiator connection elbow or nickel-plated T-piece via the radiator valve union. The radiator connection elbows are made in the single or twin pipe system using the individual supply lines from the distributor, distribution with normal T-pieces or crossing T-pieces in the floor structure. The radiator connection T-piece allows efficient routing as a ring main in the twin pipe system without additional preformed connections. Attention is to be paid to insulation measures such as wrapping the normal T-pieces with suitable insulating material as well as embedding the crossing T-piece in the sound insulation set provided for this purpose. Acoustic decoupling from the bare concrete floor and the floor raft is provided by a sound insulation element that is used jointly for the Polypress radiator connection elbow and for the Polypress radiator connection T-piece. Furthermore, the jacketing provides thermal insulation in the area of the floor feeds.



Polypress single connection from distributor with radiator connection elbow

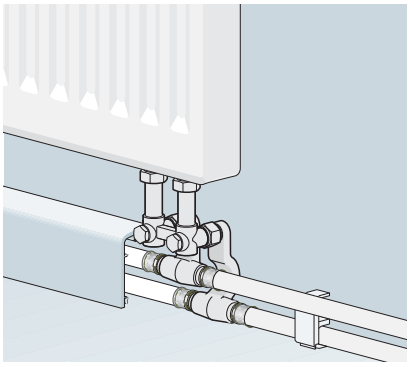


Polypress ring main with radiator connection T-piece

Polypress Installation Guidance

Radiator connection from skirting board

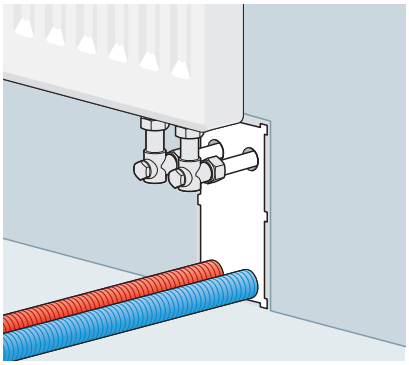
The radiator connections are made using the radiator connection set. These sets offer not only passages with the same diameter in the supply and return pipe but also reduced passages to the left or right. Furthermore, radiator connections can be used as terminating pieces to the left or right on the end of the pipeline in question. The radiator connection from the radiator connection set can be made using special pre-formed options such as the equalizing elbow with shut-off or the adaptor bend without shut-off, including connection screw fitting for the radiator connection set. The connection to the radiator valve is made using the corresponding value unions.



Polypress skirting board connection

Radiator connection from wall

For reasons of hygiene, having the radiator connection coming out of the wall instead of the floor is becoming increasingly important. The Polypress system offers a radiator connection block for this purpose. The radiator connection block makes it possible to have pipe distribution within the floor structure using the individual supply line directly from the distributor, as well as having T-piece distribution with normal T-pieces or crossing T-pieces. In twin pipe routing with an individual supply line from the distributor, there is no need to have any other fitting in the floor structure because the pipeline can be passed straight through the connection block fixed in the wall. For this connection variant, it is possible to use with Polypress pipe size 16 x 2.0mm.
The Polypress pipe is connected to the radiator using the corresponding Polypress unions.

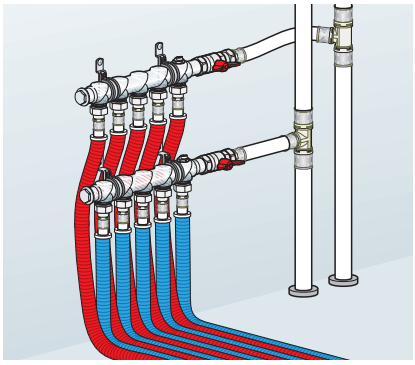


Polypress connection with radiator connection block

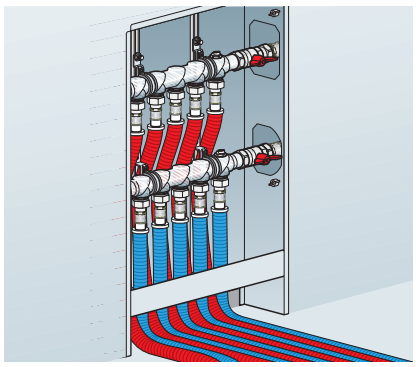
Distribution manifold connections

Individual connections can be routed to the particular radiator connections via the central heating manifold. Radiator connection such as radiator connection elbows, wall connection block or the Polypress pipe itself with Polypress screwed connections or Polypress pressed distributor connections are available for this purpose. When the radiator connection pipes are routed to the heating manifold, they shall be provided with corresponding all-round insulation or be routed in a protective conduit. The pipe spacing for routing pipes in runs shall be taken into account.

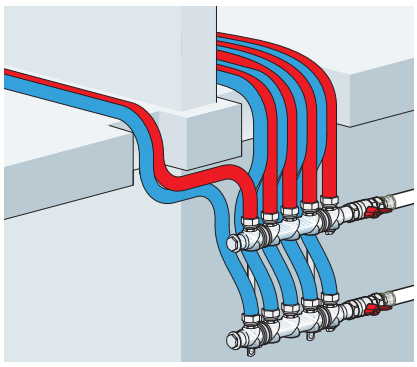
The Polypress pipe is also mounted on the distributor using Polypress screwed connections or Polypress pressed distributor connections in the sizes 16 x 2.0mm and 20 x 2.0mm. Polypress heating manifolds can be assembled with between 2 to 12 supply and return connections, depending on the size. The supply and return pipes shall be connected to the distributor axially flush and without tension. The manifold connection to the supply and return risers is made directly via the distributor ball valves (¾" or 1" with female thread) as well as the calorimeter (if used) and a shut-off device for the calorimeter.



Manifold installation on the structure of the building



Manifold installation in the distributor cabinet



Manifold installation under the first floor ceiling

Heating pipe manifold

Heating pipe distributors are intended for use with the heating water medium according to DIN 2035 at a max. operating pressure of 10 bar and a max sustained operating temperature of 110 C. The heating pipe manifolds are made from high-grade steel (material no. 1.4301). Heating pipe manifolds are characterized by their very light weight, high-quality material, a cross section approx. 10% larger than comparable brass distributors as well as their acoustically insulated attachment to the manifold mount according to DIN 52218. The manifold consists of two distributor manifolds (supply/return) which are installed on the manifold mount. Pipes can be connected to them from the left or right hand side, depending on how they are fitted on the manifold mount. The distributor manifold connection is pre-installed with a flat seal and a ¾" female thread union nut. Optionally, ball cocks with ¾" or 1" female thread are available for continuous connections. The manifold contains drainage and venting options as well as ¾" male thread heating pipe connections with Euro cone recesses.
The manifold can be installed in a manifold cabinet or on to the structure of the building.

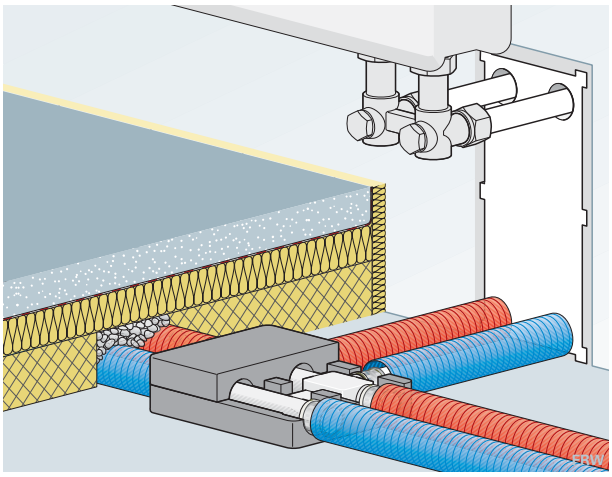
Heating circuits	2	3	4	5	6	7	8	9	10	11	12
Distributor length (mm)	205	260	315	370	425	480	535	590	645	700	755
Distibutor + ball cock[1] (mm)	285	340	395	450	505	560	615	670	725	780	835
CM connection vertical[2] (mm)	355	410	465	520	575	630	685	740	795	850	905
CM connection horizontal[3] (mm)	425	480	535	590	645	700	755	810	865	920	975

(CM - calorimeter) [1] 80mm has been assumed as the installation length of the ball valve.
[2] 150mm has been assumed as the installation length of the calorimeter unit including ball valve.
[3] 220mm has been assumed as the installation length of the calorimeter unit including ball valve.

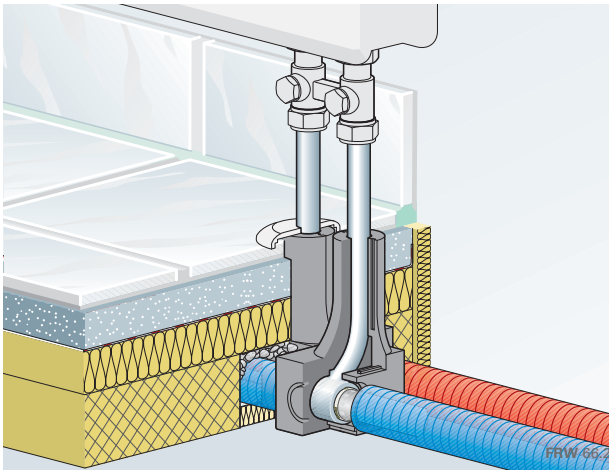
Polypress Installation Guidance

Sound insulation

Polypress sound insulation elements shall be provided for acoustically decoupling Polypress radiator pre-formed connections. The sound insulation element can be used jointly for radiator connection elbows and radiator connection T-pieces. As a result, solid borne noise is prevented between the various metal pre-formed connections and the uncovered concrete floor on the one hand, and the screed plate on the other hand. This is achieved by jacketing and decoupling. The sound insulation element can be installed either for the radiator connection from the floor or the radiator connection from the wall using the corresponding radiator pre-formed connections.



Acoustic decoupling from the screed plate



Acoustic decoupling from the bare concrete

Heating pressure test

The leak test of the system shall be performed according to DIN 18380. Consequently, the installation company shall subject the system to a pressure test after installation and before closing the slots in the masonry and the wall and floor openings. Before this, a visual inspection shall be performed to check that the connections have been pressed correctly and completely. The installation company shall issue a certificate for the pressure test and shall give a copy of this certificate to the client. Hot water heating systems shall be tested with a pressure of 1.3 times the total pressure at each point in the system, at least 1 bar excess pressure. Immediately after the cold water test, the system shall be heated to the highest hot water temperature that is used as the basis for the calculation and its leak tightness tested at the highest temperature.

Polypress test report for heating installation

Project: Building project _____

_____

Building section _____

_____

Permitted max. operating pressure (in relation to the lowest point in the system) _____ bar

System height _____ m Supply temperature _____ °C Return temperature _____ °C

Tester _____

Start Date _____ Pressing tool type _____

Time _____ Pressing jaw type _____

Test pressure _____ bar Processed pipe _____

End Date _____ Nominal pipe widths _____

Time _____

Pressure drop
(max. 0.2 bar) _____ bar

The aforementioned plant has been heated _____ to the design temperature and no leaks could be detected.
There were also no leaks after cooling. A visual inspection has been performed to check for correct pressing at the connections.

Yes ☐ No ☐

Suitable measures shall be taken if there is a risk of freezing (e.g. using antifreeze, controlling the temperature in the building). If antifreeze is no longer required for the correct operation of the system, the antifreeze shall be removed by draining the system and flushing it with at least 3 times the water volume.

Antifreeze has been added to the water Yes ☐ No ☐

Precedure as explained above Yes ☐ No ☐

Certification

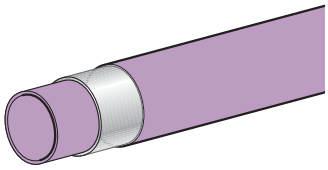
_____ _____

Signature of client/representative Signature of installation company representative

Polypress Technical Data

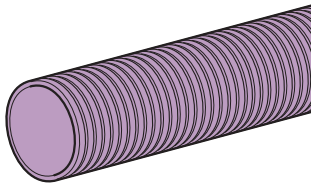
Polypress pipe

DN (mm)	12	15	20	25	32	40	50
Size (mm)	16 x 2.0	20 x 2.0	26 x 3.0	32 x 3.0	40 x 3.5	50 x 4.0	63 x 4.5
Inside diameter (mm)	12	16	20	26	33	42	54
Material	PE - Xb/Al/PE - Xb						
Pipe roughness (mm)	0.007						
Max. operating temperature °C	95						
Max. operating pressure at 95°C (bar)	10						
Building material class	B2						
Pipe weight (g/m)	112	154	294	404	583	879	1321
Water content (litres/m)	0.113	0.201	0.314	0.531	0.855	1.385	2.29
Thermal conductivity (W/m x K)	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Coefficient of expansion (mm/m x K)	0.026						
Minimum bending radius (mm) Free bending	80	100					
With bending tool			94	116	160	200	284
With internal pipe bending spring	32	60					
Length of rolled pipe (m)	100/200	100	50	50			
Length of pipe (m)	5	5	5	5	5	5	5



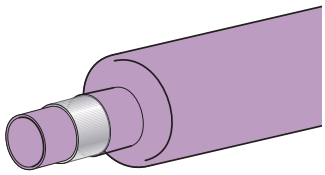
Protective conduit

DN (mm)	Outside diameter/ inside diameter (mm)	Material	Weight (g/m)	Thermal conductivity (W/m x K)
16	21/16.4	PE-HD	45	0.45
19	24/19	PE-HD	55	0.45
23	28/23	PE-HD	62	0.45



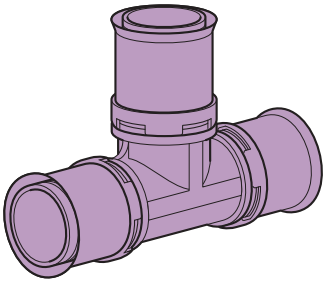
Polypress pipe insulation

DN (mm)	12	15	20
Size (mm)	16 x 2.0	20 x 2.0	26 x 3.0
9mm insulation outside diameter (mm)	34	38	44
13mm insulation outside diameter (mm)	42	46	52
Material	Polyethelene foam fire resistant to class B1		
Length of rolled pipe and insulation (m)	50		
Thermal conductivity	0.04 W/mk		



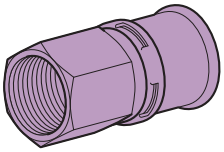
Plastic connectors (threadless connectors)

Size (mm)		Test method	16 x 2.0	20 x 2.0	26 x 3.0	32 x 3.0	Unit
Material		Polyphenylene sulfone (PPSU)					
Building material class		B2					
Density(g/cm³)		DIN 53479A	1.29				
Tensile strength (MPa)		DIN 53455	70				
Impact strength (kJ/m²)		ISO180/1C	No breakage				
Temperature resistance °C	- intermittent		180				
	- sustained		160				
Thermal conductivity (W/m x K)			0.35				
Linear coefficient of thermal expansion (mm/m x K)		DIN 53752	0.056				
Use for		Heating and potable water installation					



Metal connectors (threadless and threaded connectors)

Size (mm)	16 x 2.0	20 x 2.0	26 x 3.0	32 x 3.0	40 x 3.5	50 x 4.0	63 x 4.5
Material	Dezincification-resistant brass						
Use for	Heating and potable water installation						



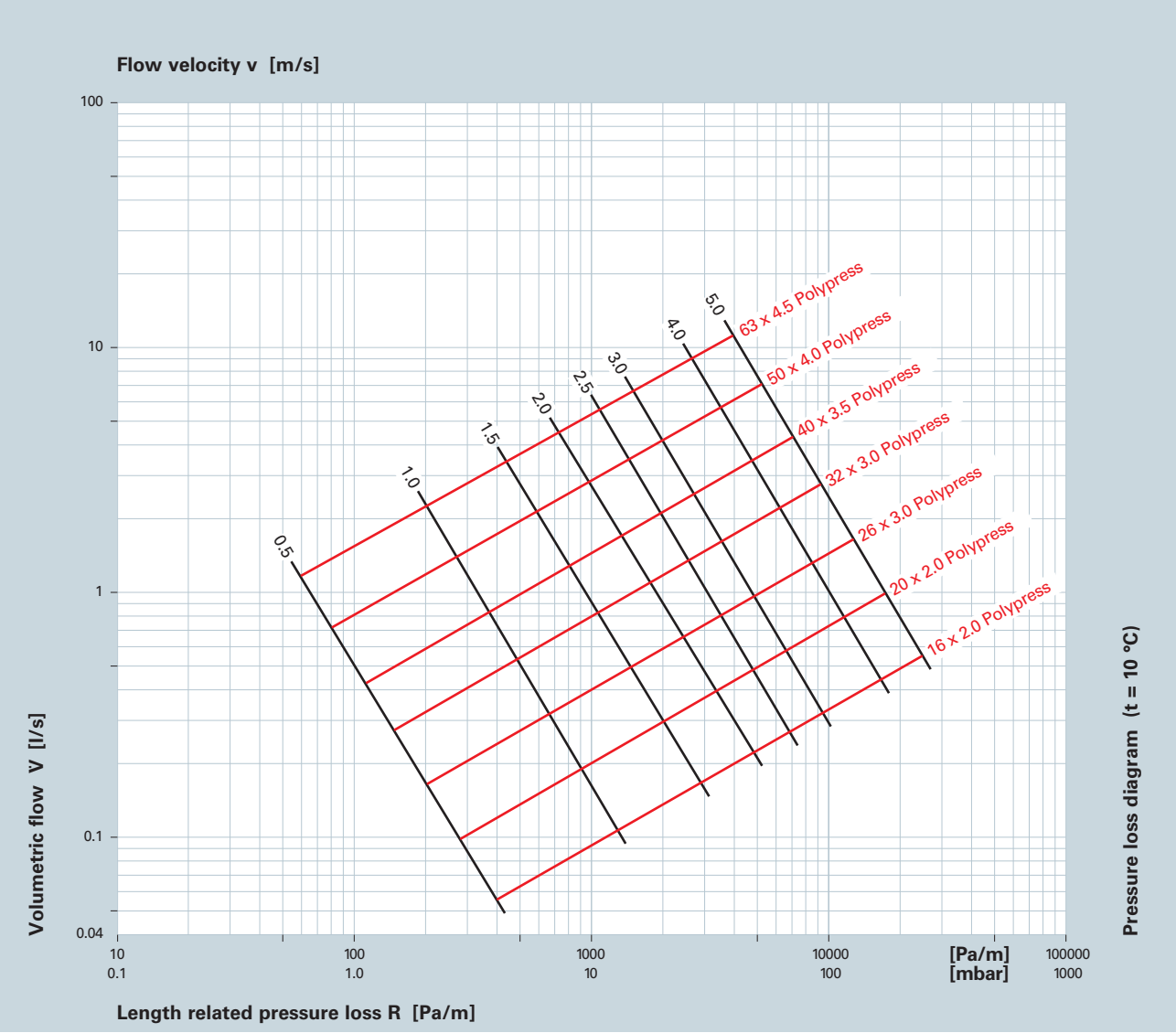
Polypress Technical Data

Pressure loss table

Pressure loss table for Polypress potable water pipe at a fluid temperature of 10°C								
(mm)	16 x 2.0		20 x 2.0		26 x 2.0		32 x 3.0	
Pipe size flow velocity v (m/s)	Volumetric flow V̇ (L/s)	Pressure loss R (mbar/m)	Volumetric flow V̇ (L/s)	Pressure loss R (mbar/m)	Volumetric flow V̇ (L/s)	Pressure loss R (mbar/m)	Volumetric flow V̇ (L/s)	Pressure loss R (mbar/m)
0.5	0.06	4.13	0.10	2.83	0.16	2.12	0.27	1.47
0.6	0.07	5.62	0.12	3.88	0.19	2.89	0.32	2.05
0.7	0.08	7.31	0.14	5.07	0.22	3.78	0.37	2.69
0.8	0.09	9.17	0.16	6.42	0.25	4.78	0.42	3.42
0.9	0.10	11.30	0.18	7.79	0.28	5.91	0.48	4.16
1.0	0.11	13.54	0.20	9.34	0.31	7.12	0.53	5.00
1.2	0.14	18.66	0.24	13.05	0.38	9.75	0.64	6.95
1.4	0.16	24.58	0.28	17.09	0.44	12.79	0.74	9.12
1.6	0.18	31.25	0.32	21.60	0.50	16.19	0.85	11.71
1.8	0.20	38.87	0.36	26.42	0.57	19.92	0.96	14.45
2.0	0.23	46.49	0.40	32.12	0.63	24.00	1.06	17.46
2.5	0.28	67.69	0.50	47.45	0.79	35.93	1.33	26.08
3.0	0.34	93.73	0.60	66.08	0.94	49.27	1.59	36.51
3.5	0.40	127.58	0.70	88.03	1.10	66.44	1.86	48.99
4.0	0.45	159.30	0.80	110.98	1.26	83.98	2.12	62.14
4.5	0.51	200.77	0.90	137.93	1.41	105.28	2.39	77.09
5.0	0.57	239.54	1.01	167.94	1.57	127.47	2.65	93.25

Pressure loss table for Polypress potable water pipe at a fluid temperature of 10°C						
(mm)	40 x 3.5		50 x 4.0		63 x 4.5	
Pipe size flow velocity v (m/s)	Volumetric flow V̇ (L/s)	Pressure loss R (mbar/m)	Volumetric flow V̇ (L/s)	Pressure loss R (mbar/m)	Volumetric flow V̇ (L/s)	Pressure loss R (mbar/m)
0.5	0.43	1.09	0.69	0.80	1.15	0.59
0.6	0.51	1.51	0.83	1.11	1.37	0.81
0.7	0.60	1.95	0.97	1.46	1.60	1.08
0.8	0.68	2.50	1.11	1.86	1.83	1.37
0.9	0.77	3.07	1.25	2.30	2.06	1.66
1.0	0.88	3.71	1.39	2.80	2.29	2.04
1.2	1.03	5.17	1.66	3.82	2.75	2.83
1.4	1.20	6.83	1.94	5.09	3.21	3.76
1.6	1.37	8.57	2.22	6.52	3.66	4.86
1.8	1.54	10.70	2.49	8.10	4.12	5.91
2.0	1.71	13.03	2.77	9.90	4.58	7.15
2.5	2.14	19.69	3.46	14.80	5.73	10.70
3.0	2.57	27.54	4.16	20.46	6.87	14.91
3.5	2.99	36.37	4.85	27.27	8.02	19.85
4.0	3.42	46.05	5.54	35.04	9.16	25.48
4.5	3.85	57.67	6.23	43.14	10.31	31.49
5.0	4.28	69.68	6.93	52.67	11.45	38.19

Pressure loss diagram



Temperature correction factor									
	Correction factor φ depending on temperature								
Flow velocity v (m/s)	10°C	20°C	30°C	40°C	50°C	60°C	70°C	80°C	90°C
0.5	1.0	0.93	0.88	0.83	0.79	0.76	0.73	0.71	0.68
1.0	1.0	0.94	0.89	0.84	0.81	0.78	0.76	0.73	0.71
2.0	1.0	0.94	0.90	0.86	0.84	0.81	0.79	0.77	0.75
3.0	1.0	0.95	0.91	0.88	0.86	0.83	0.81	0.80	0.78
4.0	1.0	0.95	0.92	0.89	0.87	0.85	0.83	0.82	0.80
5.0	1.0	0.96	0.93	0.90	0.88	0.86	0.84	0.83	0.82
6.0	1.0	0.96	0.93	0.91	0.89	0.87	0.86	0.84	0.83

Polypress Technical Data

Formulae

Pressure loss due to individual resistances	
$Z = \sum \zeta \cdot (v^2 \cdot \varsigma) / 2$	(Pa)
$Z = \sum \zeta \cdot v^2 \cdot 5$ (for water only)	(mbar)
Mass flow in heating circuit	
$\dot{m}_H = [\dot{Q}_{HK} / (\vartheta_V - \vartheta_R)] \cdot 0.86$	(kg/h)
Total pressure loss in heating circuit	
$\Delta p_g = (R \cdot l) + Z + \Delta p_V$	(mbar)
Temperature difference between supply and return	
$\Delta \vartheta = \vartheta_V - \vartheta_R$	(K)

Key		
Z	Pressure loss due to fittings	(mbar)
$\sum \zeta$	Sum of individual resistance elements	
ς	Density of fluid	(kg/m^3)
v	Flow velocity	(m/s)
$\dot{Q}_{HK}$	Heating power	(W)
ϑ_V	Temperature of supply	(K)
ϑ_R	Temperature of return	(K)
R	Pressure loss pipe per metre	(mbar/m)
l	Length of circuit	(m)
Δp_V	Pressure drop of installed equipment e.g. valves	(mbar)

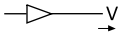
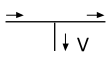
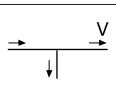
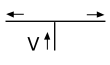
Performance values

During the design of the pipeline we recommend that you do not exceed the following approximate velocity values:

- Potable water collective supply and riser pipes: ≤ 2.0m/s
- Potable water individual pipe: ≤ 4.0m/s
- Radiator connection pipe: ≤ 0.3m/s
- Radiator distributions pipe: ≤ 0.5m/s
- Heating system house connection, cellar pipes and risers: ≤ 1.0m/s

Individual resistances

Loss coefficients (equivalent pipe lengths) of individual resistances of Polypress fittings

Pipe dimension (mm) Inside diameter (mm) Element resistance value ζ / equivalent pipe length EL (m)		16 x 2 12 ζ	EL	20 x 2 16 ζ	EL	26 x 3 20 ζ	EL	32 x 3 26 ζ	EL	40 x 3.5 33 ζ	EL	50 x 4 42 ζ	EL	63 x 4.5 54 ζ	EL
90° elbow		4.2	1.8	2.8	1.7	2.4	2.0	2.0	2.2	1.6	2.5	1.6	3.2	1.2	3.4
45° elbow		–	–	–	–	1.5	1.3	1.2	1.4	1.2	1.8	0.8	1.6	0.8	2.2
Reducer		1.8	0.8	1.3	0.8	1.0	0.8	0.8	0.9	0.7	1.1	0.6	1.2	0.5	1.3
Tee with branching flow		4.9	2.1	3.2	2.0	2.6	2.2	2.0	2.3	1.8	2.8	1.8	3.6	1.5	4.2
Tee with through flow		1.9	0.8	1.0	0.6	0.8	0.7	0.6	0.7	0.5	0.8	0.5	1.0	0.4	1.1
Tee with branching flow in two directions		4.6	2.0	3.0	1.9	2.6	2.1	2.0	2.3	1.8	2.7	1.7	3.5	1.4	3.8

The loss coefficient ξ in each case is assigned to the volumetric flow (partial flow) that is indicated by "V" in the graphical symbol. A flow speed of 2 m/s was assumed for determination of the equivalent pipe lengths.

Pressure loss tables

Pressure loss table for Polypress heating pipe with a temperature divergence of 15K (70°C/55°C)									
Pipe size power (Watt)	Mass flow (kg/h)	16 x 2.0mm		20 x 2.0mm		26 x 3.0mm		32 x 3.0mm	
		v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)
700	40.13	0.10	0.20	-	-	-	-	-	-
800	45.87	0.11	0.25	-	-	-	-	-	-
900	51.60	0.13	0.31	-	-	-	-	-	-
1000	57.33	0.14	0.36	-	-	-	-	-	-
1100	63.07	0.16	0.43	-	-	-	-	-	-
1200	68.80	0.17	0.49	0.10	0.13	-	-	-	-
1300	74.53	0.19	0.56	0.10	0.15	-	-	-	-
1400	80.27	0.20	0.63	0.11	0.16	-	-	-	-
1500	86.00	0.22	0.71	0.12	0.19	-	-	-	-
1600	91.73	0.23	0.79	0.13	0.20	-	-	-	-
1700	97.47	0.24	0.88	0.14	0.23	-	-	-	-
1800	103.20	0.26	0.86	0.15	0.25	-	-	-	-
1900	108.93	0.27	1.06	0.15	0.27	0.10	0.10	-	-
2000	114.67	0.29	1.16	0.16	0.30	0.10	0.11	-	-
2200	126.13	0.32	1.37	0.18	0.35	0.11	0.12	-	-
2400	137.60	0.34	1.58	0.19	0.41	0.12	0.14	-	-
2600	149.07	0.37	1.82	0.21	0.47	0.13	0.16	-	-
2800	160.53	0.40	2.08	0.23	0.53	0.14	0.18	-	-
3000	172.00	0.43	2.35	0.24	0.60	0.16	0.21	-	-
3200	183.47	0.46	2.63	0.26	0.68	0.17	0.23	0.10	0.07
3400	194.93	0.49	2.92	0.27	0.74	0.18	0.26	0.10	0.07
3600	206.40	0.52	3.25	0.29	0.82	0.19	0.29	0.11	0.08
3800	217.87	0.55	3.59	0.31	0.90	0.20	0.31	0.12	0.09
4000	229.33	0.57	3.91	0.32	0.99	0.21	0.34	0.12	0.10
4200	240.80	0.60	4.29	0.34	1.08	0.22	0.37	0.13	0.11
4400	252.27	0.63	4.65	0.36	1.16	0.23	0.40	0.13	0.11
4600	263.73	0.66	4.99	0.37	1.26	0.24	0.44	0.14	0.12
4800	275.20	0.69	5.39	0.39	1.37	0.25	0.47	0.15	0.13
5000	286.67	0.72	5.83	0.40	1.46	0.26	0.51	0.15	0.14
5250	301.00	0.75	6.38	0.42	1.60	0.27	0.55	0.16	0.15
5500	315.33	0.79	6.96	0.44	1.75	0.28	0.60	0.17	0.17
5750	329.67	0.83	7.52	0.46	1.88	0.30	0.65	0.18	0.18
6000	344.00	0.86	7.97	0.48	2.01	0.31	0.70	0.18	0.20
6250	358.33	0.90	8.59	0.50	2.18	0.32	0.74	0.19	0.21
6500	372.67	0.93	9.25	0.52	2.34	0.34	0.79	0.20	0.22
6750	387.00	0.97	9.94	0.55	2.50	0.35	0.85	0.21	0.24
7000	401.33	1.00	10.61	0.57	2.64	0.36	0.90	0.21	0.26
7500	430.00			0.61	3.01	0.39	1.02	0.23	0.29
8000	458.67			0.65	3.39	0.41	1.14	0.24	0.33
8500	487.33			0.69	3.73	0.44	1.27	0.26	0.36
9000	516.00			0.73	4.13	0.47	1.39	0.28	0.40
9500	544.67			0.77	4.56	0.49	1.54	0.29	0.43

Polypress Technical Data

Pressure loss tables

Pressure loss table for Polypress heating pipe with a temperature divergence of 15K (70°C/55°C)									
Pipe size power (Watt)	Mass flow (kg/h)	16 x 2.0mm		20 x 2.0mm		26 x 3.0mm		32 x 3.0mm	
		v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)
10000	573.33	-	-	0.81	4.88	0.52	1.69	0.31	0.48
10500	602.00	-	-	0.85	5.42	0.54	1.85	0.32	0.52
11000	630.67	-	-	0.89	5.85	0.57	2.00	0.34	0.57
11500	659.33	-	-	0.93	6.34	0.59	2.17	0.35	0.61
12000	688.00	-	-	0.97	6.85	0.62	2.34	0.37	0.66
12500	716.67	-	-	-	-	0.65	2.51	0.38	0.71
13000	745.33	-	-	-	-	0.67	2.69	0.40	0.76
13500	774.00	-	-	-	-	0.70	2.88	0.41	0.81
14000	802.67	-	-	-	-	0.72	3.08	0.43	0.86
14500	831.33	-	-	-	-	0.75	3.29	0.44	0.82
15000	860.00	-	-	-	-	0.78	3.51	0.46	0.88
15500	888.67	-	-	-	-	0.80	3.71	0.47	1.04
16000	917.33	-	-	-	-	0.83	3.94	0.49	1.10
16500	946.00	-	-	-	-	0.85	4.15	0.50	1.16
17000	974.67	-	-	-	-	0.88	4.37	0.52	1.22
17500	1003.33	-	-	-	-	0.90	4.61	0.54	1.29
18000	1032.00	-	-	-	-	0.93	4.86	0.55	1.36
18500	1060.67	-	-	-	-	0.96	5.11	0.57	1.43
19000	1089.33	-	-	-	-	0.88	5.34	0.58	1.50
19500	1118.00	-	-	-	-	1.01	5.58	0.60	1.58
20000	1146.67	-	-	-	-	-	-	0.61	1.65
20500	1175.33	-	-	-	-	-	-	0.63	1.73
21000	1204.00	-	-	-	-	-	-	0.64	1.79
21500	1232.67	-	-	-	-	-	-	0.68	1.87
22000	1261.33	-	-	-	-	-	-	0.67	1.95
22500	1290.00	-	-	-	-	-	-	0.69	2.03
23000	1318.67	-	-	-	-	-	-	0.70	2.11
23500	1347.33	-	-	-	-	-	-	0.72	2.19
24000	1376.00	-	-	-	-	-	-	0.73	2.28
25000	1433.33	-	-	-	-	-	-	0.76	2.46
25500	1462.00	-	-	-	-	-	-	0.78	2.52
26000	1490.67	-	-	-	-	-	-	0.80	2.61
26500	1519.33	-	-	-	-	-	-	0.81	2.70
27000	1548.00	-	-	-	-	-	-	0.83	2.79
27500	1576.67	-	-	-	-	-	-	0.84	2.88
28000	1605.33	-	-	-	-	-	-	0.86	2.97

Pressure loss tables

Pressure loss table for Polypress heating pipe with a temperature divergence of 15K (70°C/55°C)							
Pipe size power (Watt)	Mass flow (kg/h)	40 x 3.5mm		50 x 4.0mm		63 x 4.5mm	
		v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)
5250	301.00	0.10	0.04	-	-	-	-
5500	315.33	0.10	0.05	-	-	-	-
5750	329.67	0.11	0.06	-	-	-	-
6000	344.00	0.11	0.06	-	-	-	-
6250	358.33	0.12	0.07	-	-	-	-
6500	372.67	0.12	0.07	-	-	-	-
6750	387.00	0.13	0.08	-	-	-	-
7000	401.33	0.13	0.08	-	-	-	-
7500	430.00	0.14	0.09	-	-	-	-
8000	458.67	0.15	0.10	-	-	-	-
8500	487.33	0.16	0.11	0.10	0.04	-	-
9000	516.00	0.17	0.13	0.11	0.04	-	-
9500	544.67	0.18	0.14	0.11	0.04	-	-
10000	573.33	0.19	0.15	0.12	0.05	-	-
10500	602.00	0.20	0.16	0.12	0.05	-	-
11000	630.67	0.21	0.18	0.13	0.06	-	-
11500	659.33	0.22	0.19	0.13	0.06	-	-
12000	688.00	0.23	0.21	0.14	0.07	-	-
12500	716.67	0.24	0.22	0.15	0.07	-	-
13000	745.33	0.25	0.24	0.15	0.08	-	-
13500	774.00	0.26	0.25	0.16	0.08	0.10	0.02
14000	802.67	0.27	0.27	0.16	0.09	0.10	0.03
14500	831.33	0.28	0.29	0.17	0.09	0.10	0.03
15000	860.00	0.28	0.31	0.18	0.10	0.11	0.03
15500	888.67	0.29	0.33	0.18	0.10	0.11	0.03
16000	917.33	0.30	0.35	0.19	0.11	0.11	0.03
16500	946.00	0.31	0.37	0.19	0.11	0.12	0.04
17000	974.67	0.32	0.39	0.20	0.12	0.12	0.04
17500	1003.33	0.33	0.41	0.21	0.13	0.12	0.04
18000	1032.00	0.34	0.43	0.21	0.13	0.13	0.04
18500	1060.67	0.35	0.45	0.22	0.14	0.13	0.04
19000	1089.33	0.36	0.47	0.22	0.15	0.13	0.05
19500	1118.00	0.37	0.49	0.23	0.16	0.14	0.05
20000	1146.67	0.38	0.52	0.23	0.16	0.14	0.05
20500	1175.33	0.39	0.54	0.24	0.17	0.15	0.05
21000	1204.00	0.40	0.56	0.25	0.18	0.15	0.05
21500	1232.67	0.41	0.59	0.25	0.18	0.15	0.06
22000	1261.33	0.42	0.61	0.26	0.19	0.16	0.06
22500	1290.00	0.43	0.64	0.26	0.20	0.16	0.06
23000	1318.67	0.44	0.67	0.27	0.21	0.16	0.06
23500	1347.33	0.45	0.69	0.28	0.22	0.17	0.06
24000	1376.00	0.46	0.72	0.28	0.22	0.17	0.07

Polypress Technical Data

Pressure loss tables

Pressure loss table for Polypress heating pipe with a temperature divergence of 15K (70°C/55°C)							
Pipe size power (Watt)	Mass flow (kg/h)	40 x 3.5mm		50 x 4.0mm		63 x 4.5mm	
		v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)
25000	1433.33	0.47	0.78	0.29	0.24	0.18	0.07
25500	1462.00	0.48	0.80	0.30	0.25	0.18	0.08
26000	1490.67	0.49	0.83	0.30	0.26	0.18	0.08
26500	1519.33	0.50	0.86	0.31	0.27	0.19	0.08
27000	1548.00	0.51	0.89	0.32	0.28	0.19	0.08
27500	1576.67	0.52	0.82	0.32	0.29	0.19	0.09
28000	1605.33	0.53	0.95	0.33	0.30	0.20	0.09
28500	1634.00	0.54	0.98	0.33	0.30	0.20	0.09
29000	1662.67	0.55	1.01	0.34	0.31	0.21	0.09
29500	1691.33	0.56	1.04	0.35	0.33	0.21	0.10
30000	1720.00	0.57	1.07	0.35	0.34	0.21	0.10
30500	1748.67	0.58	1.10	0.36	0.35	0.22	0.10
31000	1777.33	0.59	1.13	0.36	0.35	0.22	0.11
31500	1806.00	0.60	1.16	0.37	0.36	0.22	0.11
32000	1834.67	0.61	1.20	0.37	0.37	0.23	0.11
32500	1863.33	0.62	1.23	0.38	0.38	0.23	0.11
33000	1892.00	0.63	1.26	0.39	0.39	0.23	0.12
33500	1920.67	0.64	1.30	0.39	0.40	0.24	0.12
34000	1949.33	0.65	1.33	0.40	0.41	0.24	0.12
35000	2006.67	0.66	1.41	0.41	0.44	0.25	0.13
36000	2064.00	0.68	1.49	0.42	0.46	0.26	0.14
37000	2121.33	0.70	1.56	0.43	0.49	0.26	0.14
38000	2178.67	0.72	1.64	0.45	0.50	0.27	0.15
39000	2236.00	0.74	1.72	0.46	0.53	0.28	0.16
40000	2293.33	0.76	1.80	0.47	0.55	0.28	0.17
50000	2866.67	0.95	2.77	0.59	0.84	0.35	0.25
60000	3440.00	-	-	0.70	1.19	0.43	0.35
70000	4013.33	-	-	0.82	1.57	0.50	0.47
80000	4586.67	-	-	0.94	2.00	0.57	0.59
90000	5160.00	-	-	1.05	2.47	0.64	0.74
100000	5733.33	-	-	-	-	0.71	0.89
110000	6306.67	-	-	-	-	0.78	1.04
120000	6880.00	-	-	-	-	0.85	1.22
130000	7453.33	-	-	-	-	0.92	1.43
140000	8026.67	-	-	-	-	0.99	1.64
150000	8600.00	-	-	-	-	1.06	1.85

Pressure loss tables

Pressure loss table for Polypress heating pipe with a temperature divergence of 10K (55°C/45°C)									
Pipe size power (Watt)	Mass flow (kg/h)	16 x 2.0mm		20 x 2.0mm		26 x 3.0mm		32 x 3.0mm	
		v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)
500	43.00	0.11	0.24	-	-	-	-	-	-
600	51.60	0.13	0.33	-	-	-	-	-	-
700	60.20	0.15	0.42	-	-	-	-	-	-
800	68.80	0.17	0.52	-	-	-	-	-	-
900	77.40	0.19	0.63	0.11	0.17	-	-	-	-
1000	86.00	0.21	0.74	0.12	0.20	-	-	-	-
1100	94.60	0.24	0.89	0.13	0.23	-	-	-	-
1200	103.20	0.26	1.02	0.14	0.27	-	-	-	-
1300	111.80	0.28	1.15	0.16	0.30	0.10	0.10	-	-
1400	120.40	0.30	1.32	0.17	0.34	0.11	0.12	-	-
1500	129.00	0.32	1.49	0.18	0.37	0.12	0.13	-	-
1600	137.60	0.34	1.64	0.19	0.42	0.12	0.15	-	-
1700	146.20	0.36	1.84	0.20	0.46	0.13	0.16	-	-
1800	154.80	0.38	2.06	0.22	0.52	0.14	0.18	-	-
1900	163.40	0.41	2.20	0.23	0.56	0.15	0.19	-	-
2000	172.00	0.43	2.39	0.24	0.62	0.15	0.21	-	-
2200	189.20	0.47	2.85	0.26	0.72	0.17	0.25	0.10	0.07
2400	206.40	0.51	3.36	0.29	0.84	0.18	0.29	0.11	0.08
2600	223.60	0.56	3.88	0.31	0.97	0.20	0.33	0.12	0.10
2800	240.80	0.60	4.47	0.34	1.10	0.22	0.38	0.13	0.11
3000	258.00	0.64	5.10	0.36	1.25	0.23	0.43	0.14	0.12
3200	275.20	0.68	5.74	0.38	1.40	0.25	0.48	0.15	0.14
3400	292.40	0.73	6.31	0.41	1.56	0.26	0.53	0.15	0.15
3600	309.60	0.77	6.93	0.43	1.74	0.28	0.58	0.16	0.17
3800	326.80	0.81	7.63	0.46	1.92	0.29	0.64	0.17	0.18
4000	344.00	0.86	8.40	0.48	2.11	0.31	0.70	0.18	0.20
4200	361.20	0.90	9.19	0.51	2.24	0.32	0.77	0.19	0.22
4400	378.40	0.94	10.02	0.53	2.45	0.34	0.84	0.20	0.24
4600	395.60	0.98	10.83	0.55	2.65	0.35	0.91	0.21	0.28
4800	412.80	1.03	11.66	0.58	2.87	0.37	0.98	0.22	0.28
5000	430.00	-	-	0.60	3.07	0.38	1.06	0.23	0.30
5250	451.50	-	-	0.63	3.32	0.40	1.14	0.24	0.33
5500	473.00	-	-	0.66	3.61	0.42	1.24	0.25	0.36
5750	494.50	-	-	0.69	3.91	0.44	1.35	0.26	0.39
6000	516.00	-	-	0.72	4.23	0.46	1.45	0.27	0.42
6250	537.50	-	-	0.75	4.53	0.48	1.55	0.28	0.45
6500	559.00	-	-	0.78	4.87	0.50	1.66	0.30	0.48
6750	580.50	-	-	0.81	5.15	0.52	1.77	0.31	0.51
7000	602.00	-	-	0.84	5.49	0.54	1.89	0.32	0.54
7500	645.00	-	-	0.90	6.25	0.58	2.15	0.34	0.61
8000	688.00	-	-	0.96	7.00	0.62	2.42	0.36	0.68
8500	731.00	-	-	1.02	7.84	0.65	2.65	0.39	0.75

Polypress Technical Data

Pressure loss tables

Pressure loss table for Polypress heating pipe with a temperature divergence of 10K (55°C/45°C)									
Pipe size power (Watt)	Mass flow (kg/h)	16 x 2.0mm		20 x 2.0mm		26 x 3.0mm		32 x 3.0mm	
		v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)
9000	774.00	-	-	-	-	0.69	2.95	0.41	0.84
9500	817.00	-	-	-	-	0.73	3.26	0.43	0.92
10000	860.00	-	-	-	-	0.77	3.58	0.46	1.02
10500	903.00	-	-	-	-	0.81	3.92	0.48	1.12
11000	946.00	-	-	-	-	0.85	4.27	0.50	1.21
11500	989.00	-	-	-	-	0.89	4.62	0.52	1.31
12000	1032.00	-	-	-	-	0.92	4.97	0.56	1.41
12500	1075.00	-	-	-	-	0.96	5.35	0.57	1.51
13000	1118.00	-	-	-	-	1.00	5.71	0.59	1.62
13500	1161.00	-	-	-	-	-	-	0.61	1.74
14000	1204.00	-	-	-	-	-	-	0.64	1.86
14500	1247.00	-	-	-	-	-	-	0.66	1.99
15000	1290.00	-	-	-	-	-	-	0.68	2.12
15500	1333.00	-	-	-	-	-	-	0.71	2.25
16000	1376.00	-	-	-	-	-	-	0.73	2.39
16500	1419.00	-	-	-	-	-	-	0.75	2.53
17000	1462.00	-	-	-	-	-	-	0.77	2.65
17500	1505.00	-	-	-	-	-	-	0.80	2.79
18000	1548.00	-	-	-	-	-	-	0.82	2.92
18500	1591.00	-	-	-	-	-	-	0.84	3.06
19000	1634.00	-	-	-	-	-	-	0.87	3.21
19500	1677.00	-	-	-	-	-	-	0.89	3.37
20000	1720.00	-	-	-	-	-	-	0.91	3.53
20500	1763.00	-	-	-	-	-	-	0.93	3.69
21000	1806.00	-	-	-	-	-	-	0.96	3.86
21500	1849.00	-	-	-	-	-	-	0.98	4.03
22000	1892.00	-	-	-	-	-	-	1.00	4.18

Pressure loss tables

Pressure loss table for Polypress heating pipe with a temperature divergence of 10K (55°C/45°C)							
Pipe size power (Watt)	Mass flow (kg/h)	40 x 3.5mm		50 x 4.0mm		63 x 4.5mm	
		v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)
10000	860.00	0.28	0.32	0.17	0.10	0.11	0.03
10500	903.00	0.30	0.35	0.18	0.11	0.11	0.03
11000	946.00	0.31	0.38	0.19	0.12	0.12	0.04
11500	989.00	0.33	0.41	0.20	0.13	0.12	0.04
12000	1032.00	0.34	0.45	0.21	0.14	0.13	0.04
12500	1075.00	0.35	0.48	0.22	0.15	0.13	0.05
13000	1118.00	0.37	0.52	0.23	0.16	0.14	0.05
13500	1161.00	0.38	0.55	0.24	0.17	0.14	0.05
14000	1204.00	0.40	0.59	0.24	0.18	0.15	0.06
14500	1247.00	0.41	0.63	0.25	0.20	0.15	0.06
15000	1290.00	0.42	0.67	0.26	0.21	0.16	0.06
15500	1333.00	0.44	0.71	0.27	0.22	0.16	0.07
16000	1376.00	0.45	0.75	0.28	0.24	0.17	0.07
16500	1419.00	0.47	0.80	0.29	0.25	0.17	0.07
17000	1462.00	0.48	0.84	0.30	0.26	0.18	0.08
17500	1505.00	0.49	0.88	0.31	0.28	0.18	0.08
18000	1548.00	0.51	0.93	0.31	0.29	0.19	0.09
18500	1591.00	0.52	0.97	0.32	0.31	0.20	0.09
19000	1634.00	0.54	1.02	0.33	0.32	0.20	0.09
19500	1677.00	0.55	1.07	0.34	0.34	0.21	0.10
20000	1720.00	0.57	1.11	0.35	0.35	0.21	0.10
20500	1763.00	0.58	1.16	0.38	0.36	0.22	0.11
21000	1806.00	0.59	1.21	0.37	0.38	0.22	0.11
21500	1849.00	0.61	1.27	0.38	0.40	0.23	0.12
22000	1892.00	0.62	1.32	0.38	0.41	0.23	0.12
22500	1935.00	0.64	1.37	0.39	0.43	0.24	0.13
23000	1978.00	0.65	1.43	0.40	0.45	0.24	0.13
23500	2021.00	0.66	1.49	0.41	0.46	0.25	0.14
24000	2064.00	0.68	1.54	0.42	0.48	0.25	0.14
24500	2107.00	0.69	1.60	0.45	0.50	0.26	0.15
25000	2150.00	0.71	1.66	0.44	0.52	0.26	0.15
25500	2193.00	0.72	1.72	0.45	0.54	0.27	0.16
26000	2236.00	0.74	1.78	0.45	0.56	0.27	0.16
26500	2279.00	0.75	1.85	0.46	0.58	0.28	0.17
27000	2322.00	0.76	1.91	0.47	0.60	0.29	0.18
27500	2365.00	0.78	1.97	0.48	0.61	0.29	0.18
28000	2408.00	0.79	2.04	0.49	0.63	0.30	0.19
28500	2451.00	0.81	2.10	0.50	0.65	0.30	0.19
29000	2494.00	0.82	2.16	0.51	0.67	0.31	0.20
29500	2537.00	0.83	2.23	0.51	0.70	0.31	0.21
30000	2580.00	0.85	2.29	0.52	0.72	0.32	0.21
30500	2623.00	0.86	2.36	0.53	0.74	0.32	0.22

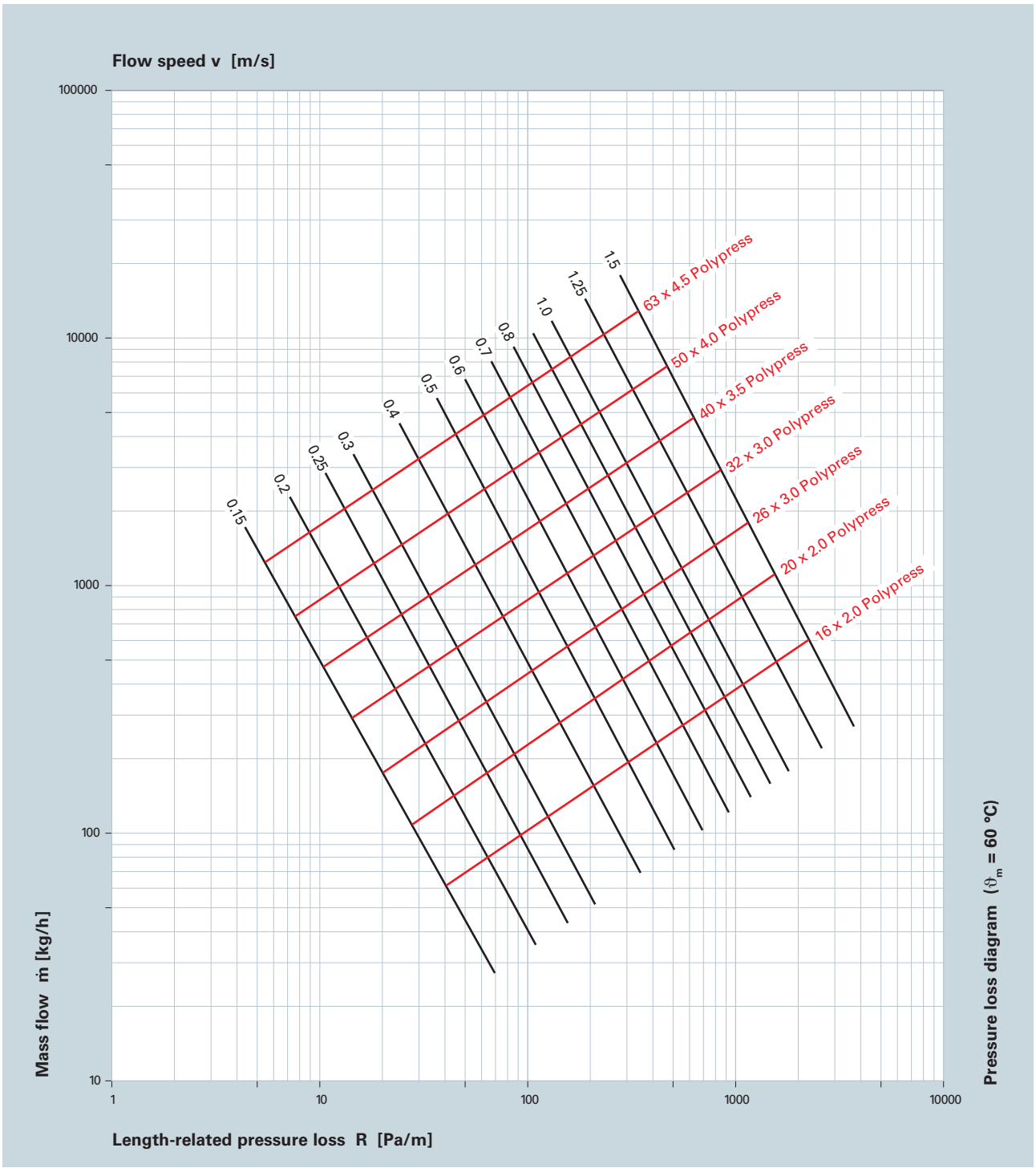
Polypress Technical Data

Pressure loss tables

Pressure loss table for Polypress heating pipe with a temperature divergence of 10K (55°C/45°C)							
Pipe size power (Watt)	Mass flow (kg/h)	40 x 3.5mm		50 x 4.0mm		63 x 4.5mm	
		v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)	v (m/s)	R (mbar/m)
31000	2666.00	0.88	2.43	0.54	0.76	0.33	0.23
31500	2709.00	0.89	2.49	0.55	0.78	0.33	0.23
32000	2752.00	0.90	2.46	0.56	0.81	0.34	0.24
32500	2795.00	0.92	2.54	0.57	0.83	0.34	0.25
33000	2838.00	0.93	2.61	0.58	0.85	0.35	0.25
33500	2881.00	0.95	2.69	0.58	0.88	0.35	0.26
34000	2924.00	0.96	2.77	0.59	0.90	0.36	0.27
35000	3010.00	0.99	2.94	0.61	0.95	0.37	0.28
36000	3096.00	1.02	3.11	0.63	1.01	0.38	0.29
37000	3182.00	-	-	0.65	1.06	0.39	0.31
38000	3268.00	-	-	0.66	1.11	0.40	0.33
39000	3354.00	-	-	0.68	1.17	0.41	0.34
40000	3440.00	-	-	0.70	1.23	0.42	0.36
41000	3526.00	-	-	0.72	1.29	0.43	0.38
42000	3612.00	-	-	0.73	1.35	0.44	0.40
43000	3698.00	-	-	0.75	1.41	0.45	0.42
44000	3784.00	-	-	0.77	1.47	0.46	0.44
45000	3870.00	-	-	0.79	1.53	0.48	0.41
46000	3956.00	-	-	0.80	1.59	0.49	0.47
47000	4042.00	-	-	0.82	1.65	0.50	0.49
48000	4128.00	-	-	0.84	1.72	0.51	0.51
49000	4214.00	-	-	0.86	1.78	0.52	0.53
50000	4300.00	-	-	0.87	1.84	0.53	0.55
51000	4386.00	-	-	0.89	1.91	0.54	0.57
52000	4472.00	-	-	0.91	1.98	0.55	0.59
53000	4558.00	-	-	0.92	2.04	0.56	0.61
54000	4644.00	-	-	0.94	2.11	0.57	0.63
55000	4730.00	-	-	0.96	2.18	0.58	0.65
56000	4816.00	-	-	0.98	2.25	0.59	0.67
57000	4902.00	-	-	0.99	2.32	0.60	0.69
58000	4988.00	-	-	1.01	2.39	0.61	0.71
59000	5074.00	-	-	-	-	0.62	0.73
60000	5160.00	-	-	-	-	0.63	0.73
70000	6020.00	-	-	-	-	0.74	0.98
80000	6880.00	-	-	-	-	0.84	1.27
90000	7740.00	-	-	-	-	0.95	1.55
100000	8600.00	-	-	-	-	1.06	1.89

Pressure loss diagram

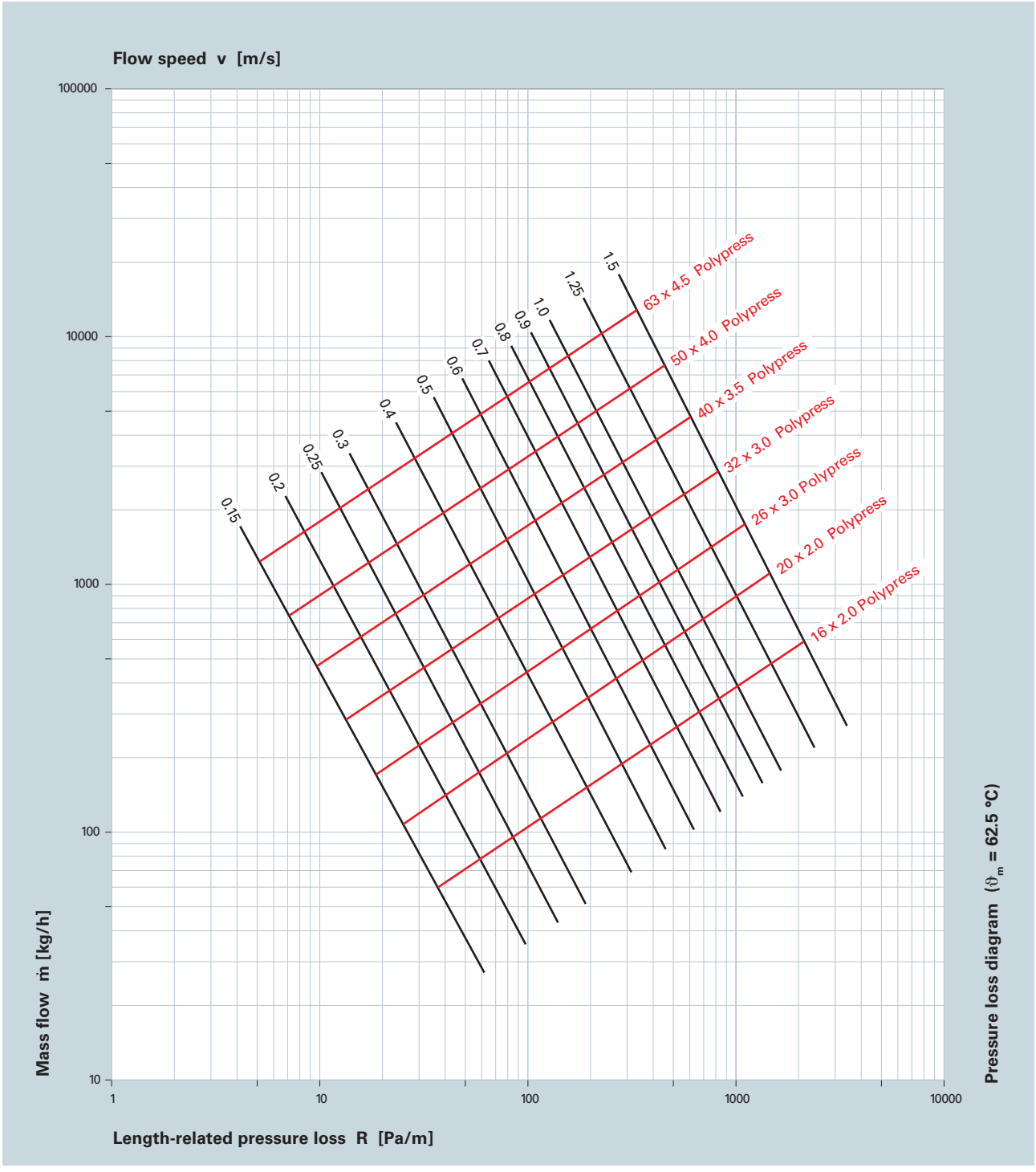
Temperature divergence ΔT =20K (ϑ_m= 60°C)



Polypress Technical Data

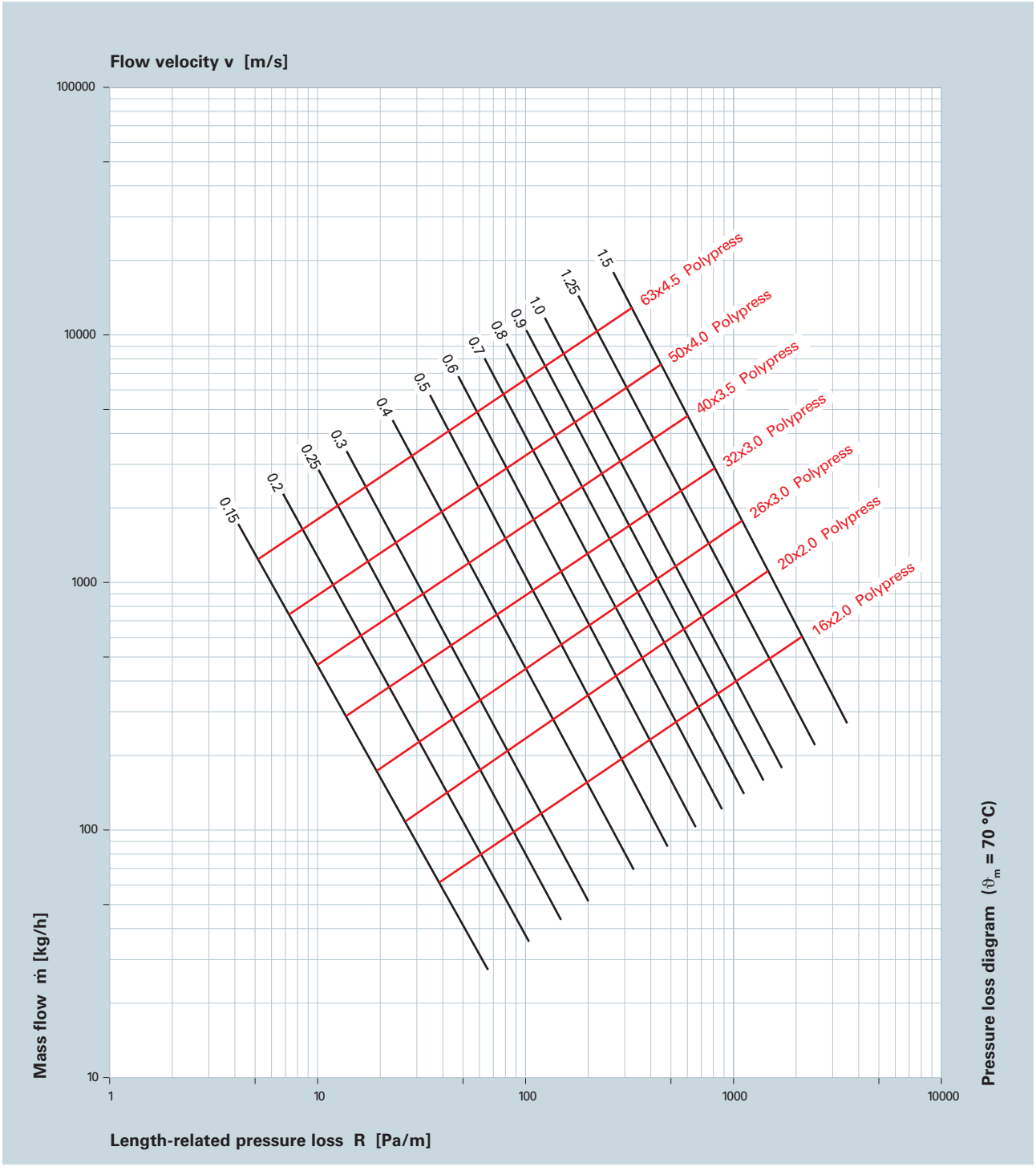
Pressure loss diagram

Temperature divergence ΔT =15K (ϑ_m= 62.5°C)



Pressure loss diagram

Temperature divergence ΔT =20K (ϑ_m= 70°C)

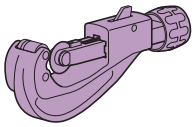


Polypress Installation

Connection technique

Pipe preparation

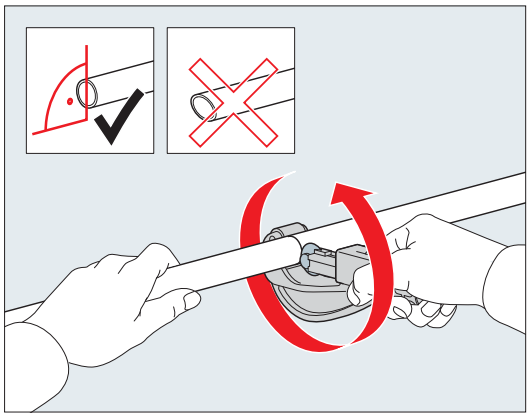
Pipe cutter

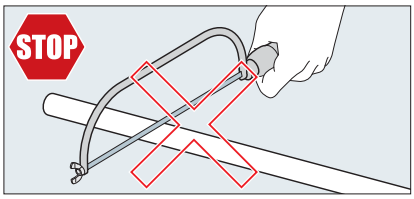


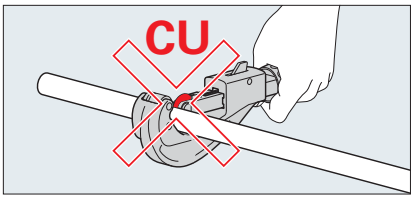
DIM	Order no.
14 - 40mm	PP99000225
14 - 63mm	PP99000216

Spare blades

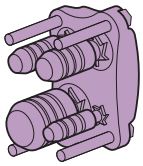
DIM	Order no.
14 - 40mm	PP99000227
14 - 63mm	PP99000217



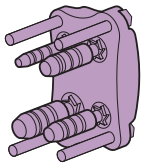




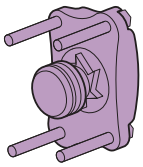
Deburring and calibration tools



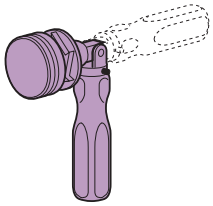
DIM	Order no.
16 / 20 / 26 / 32	PP99000213



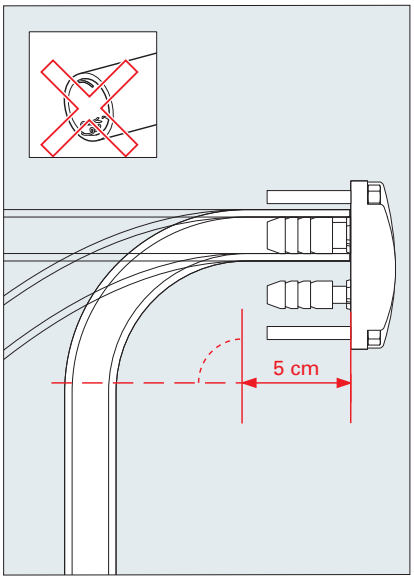
DIM	Order no.
14 / 16 / 18 / 20	PP99000211

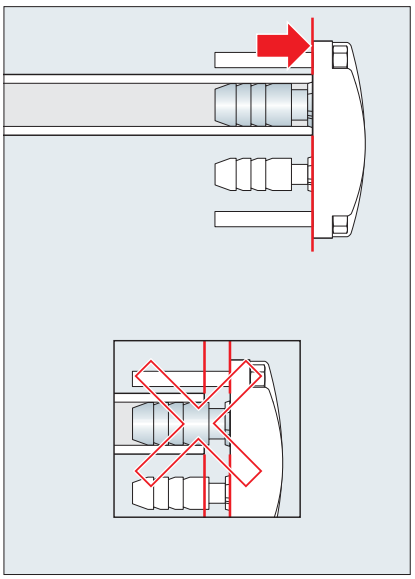


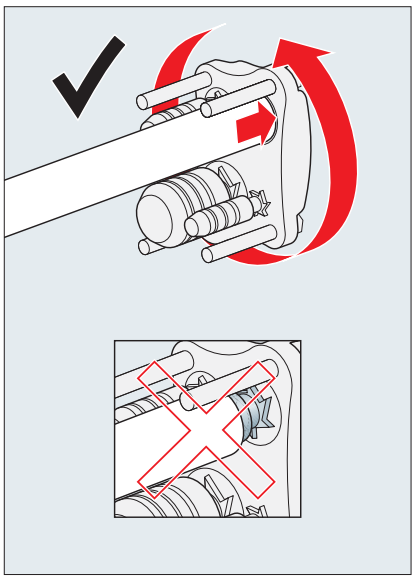
DIM	Order no.
40	PP99040218
50	PP99050218



DIM	Order no.
63	PP99063218

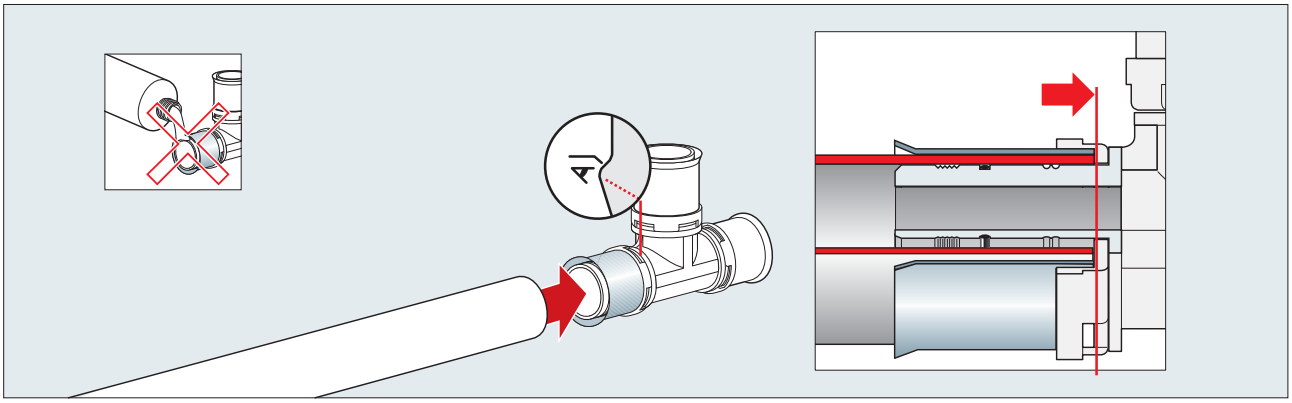


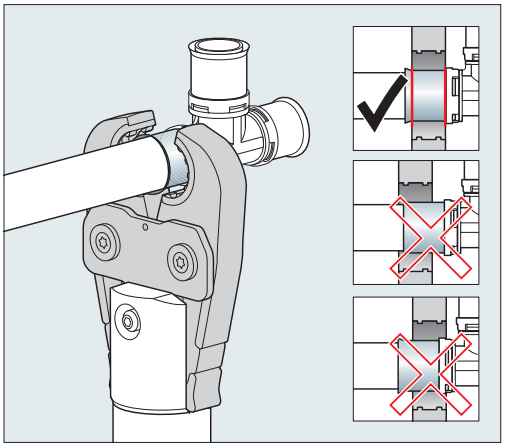


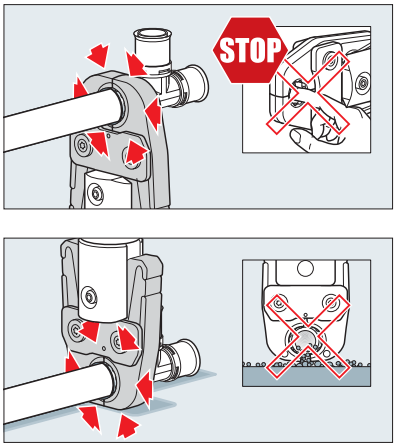


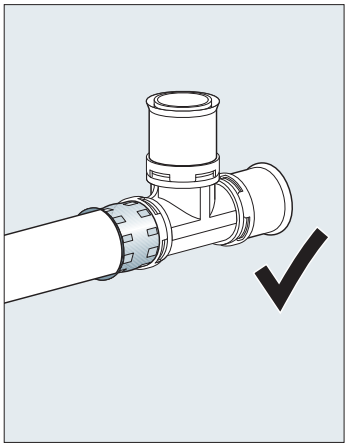
Connection technique 16 to 32mm

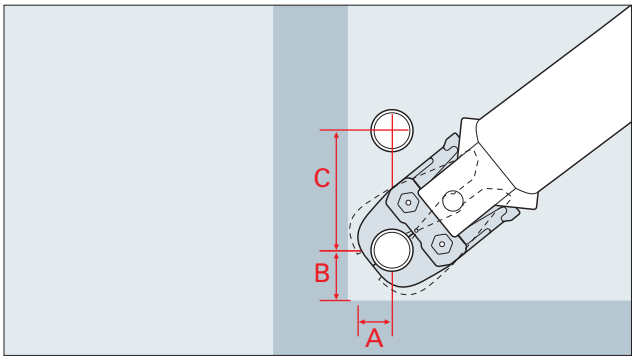
Pressing with pressing jaws

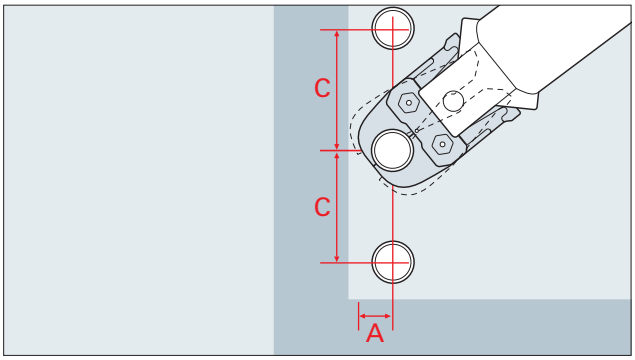












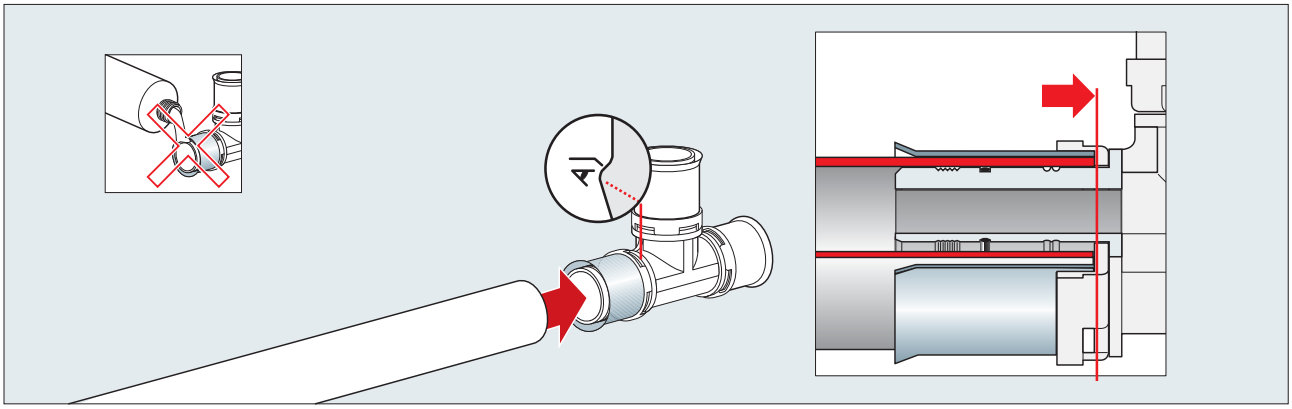
Pipe size mm	A mm	B mm	C mm
16 x 2.0	31	30	77
20 x 2.0	31	30	77
26 x 3.0	31	34	90
32 x 3.0	31	52	90

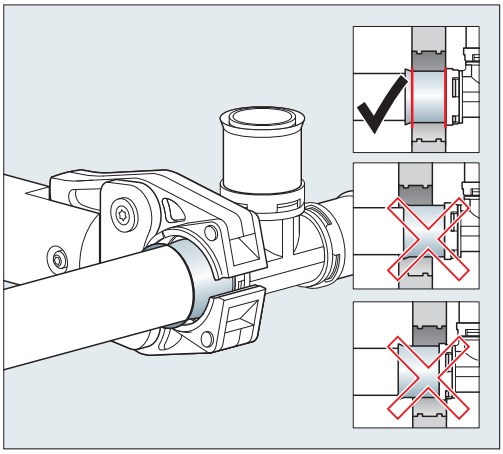
Pipe size mm	A mm	C mm
16 x 2.0	21	48
20 x 2.0	21	50
26 x 3.0	26	77
32 x 3.0	28	77

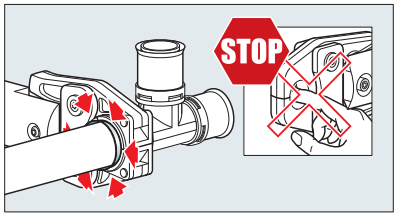
Polypress Installation

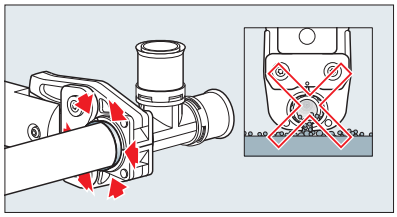
Connection technique 40 to 63mm

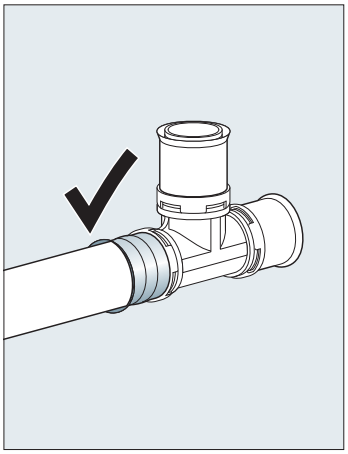
Pressing with pressing jaws

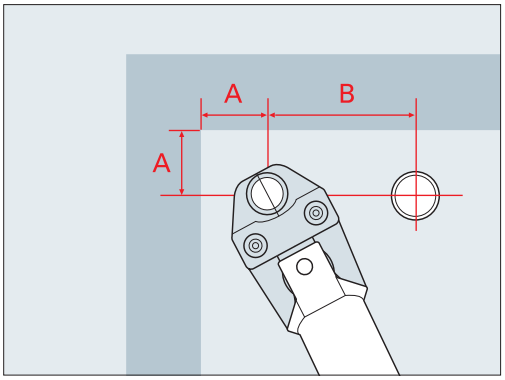


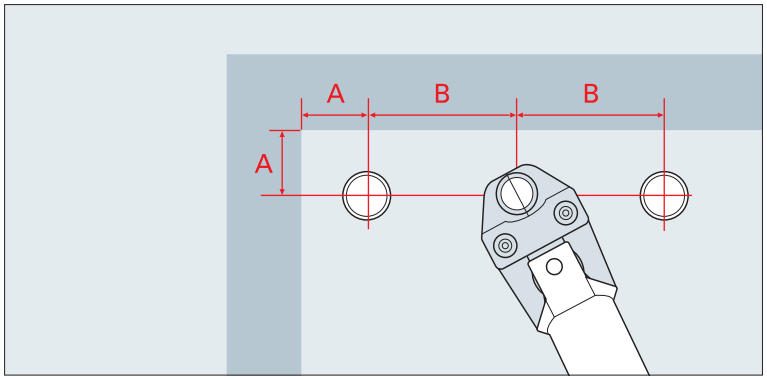








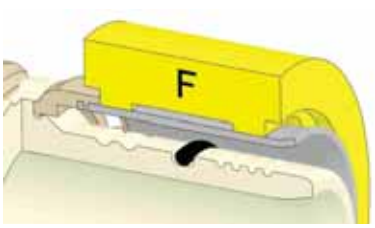


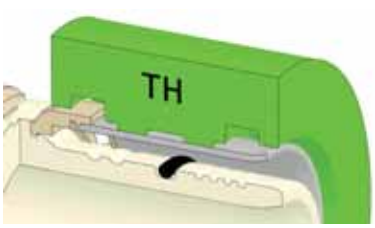


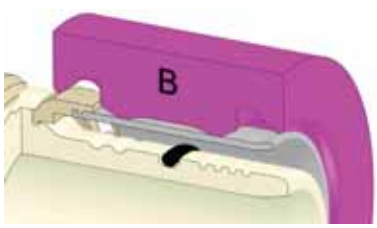
Pipe size mm	A mm	B mm
40 x 3.5	80	130
50 x 4.0	90	140
63 x 4.5	110	160

Tool compatibility list

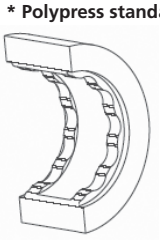
Press tools	Type	Identification	Year	Voltage	Press Jaw	Press Jaw
					16 - 20 - 26 - 32	40 - 50 - 63
					F* - TH - B - Contour	F* - Contour
Novopress	ACO 1			12V	Yes	Yes
	ACO 201			12V	Yes	Yes
	AFP 201			12V	Yes	Yes
	ECO 1			230V	Yes	Yes
	EFP 1			230V	Yes	Yes
	EFP 201			230V	Yes	Yes
	EFP 2	ab Ser.-Nr.30.001	1996	230V	Yes	Yes
REMS	Akku-Press			12V	Yes	Yes
	Akku-Press ACC			12V	Yes	Yes
	Power-Press E			230V	Yes	Yes
	Power-Press 2000			230V	Yes	Yes
	Power-Press ACC			230V	Yes	Yes
Viega bzw. Nussbaum	PT3-AH			12V	Yes	Yes
	PT3-EH			230V	Yes	Yes
	Typ 2	Ser.-Nr.96509001	1996	230V	Yes	Yes
Roller	Multi-Press/Multi Press ACC			12V	Yes	Yes
	Uni Press E/Uni Press 2000			230V	Yes	Yes
	Uni Press ACC			230V	Yes	Yes
Klauke	UAP2			12V	Yes	Yes
	UNP2			230V	Yes	Yes
	UP2 EL 14			230V	Yes	No
	HPU 2			Hydr.	Yes	Yes
Rothenberger	Romax Pressliner ECO			12V	Yes	Yes
	Romax Pressliner			12V	Yes	Yes
	Romax AC ECO			230V	Yes	Yes
CLASEN	AKU-Presshandy			12V	Yes	Yes
RIDGID	Presswerkzeug RP 10-B			12V	Yes	Yes
	Presswerkzeug RP 10-S			230V	Yes	Yes
Geberit	PWH 75	blauses Gehäuse	1996	230V	Yes	Yes
Novopress	AFP 101			9.6V	ATTENTION Special Jaws necessary	No
Novopress	Presskid			12V		No
Klauke mini	MAP1			9.6V		No
Viega	Picco			14.4V		No

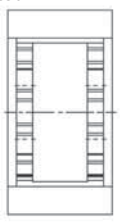


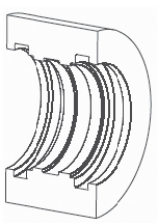


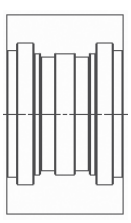


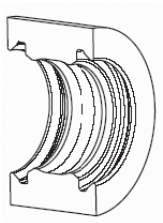
*** Polypress standard contour**

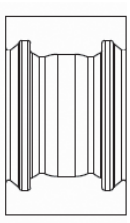








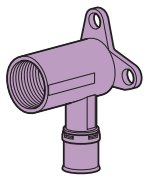




Polypress Installation

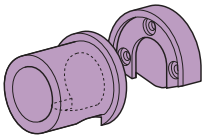
Sound insulation elements for potable water applications

Wall mounted elbow brass short (S)/long (L)



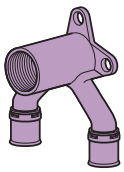
DIM	Order no.
16mm x ½" - S	PP96816720
20mm x ½" - S	PP96820720
26mm x ¾" - S	PP96826720
16mm x ½" - L	PP96816721
16mm x ½" - L	PP96820721

Acoustic insulation



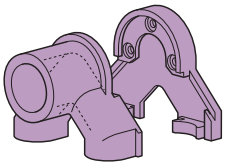
DIM	Order no.
16 / 20mm - S	PP94916215
26mm - S	PP94926215
16 / 20mm - L	PP95916211

Double wall mounted brass elbow

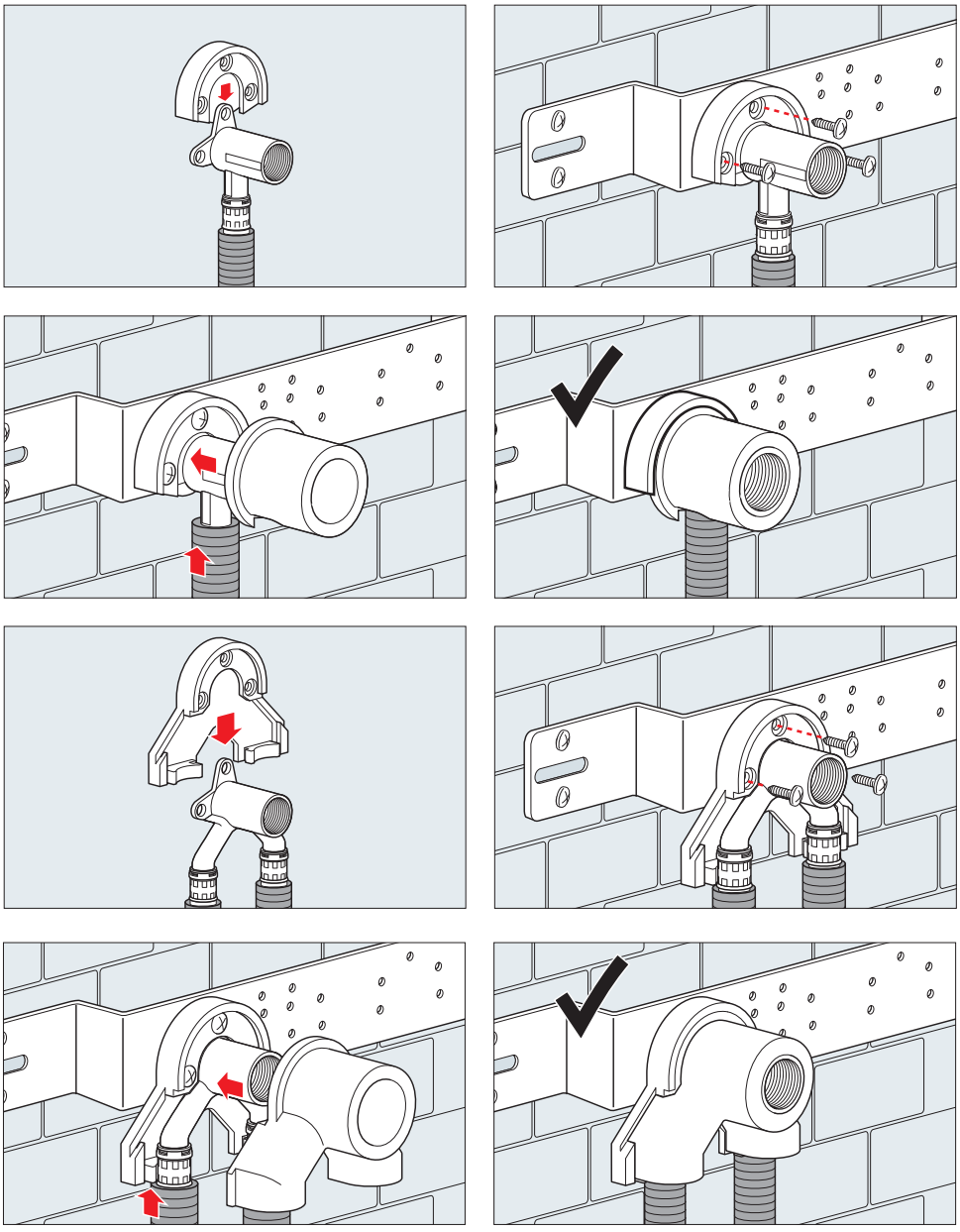


DIM	Order no.
16mm x ½"	PP96816749
20mm x ½"	PP96820749

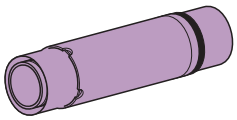
Acoustic insulation



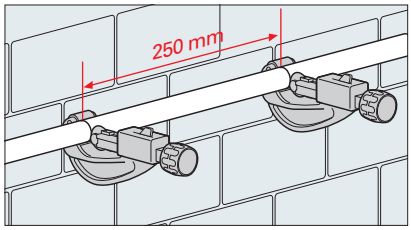
DIM	Order no.
16 x 20mm	PP94916216

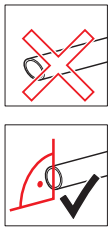


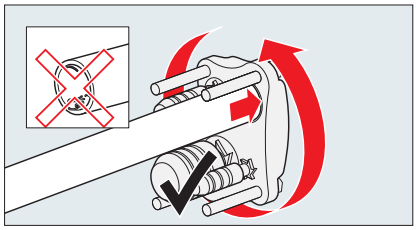
Retro-fit T-piece installation/repair coupling

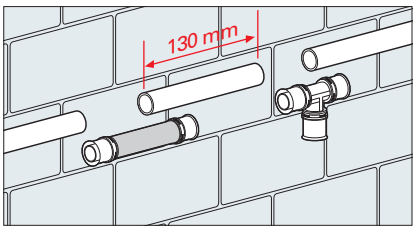


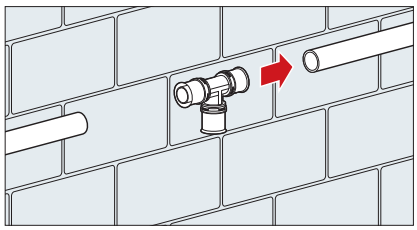
DIM	Order no.
26	PP96726102
32	PP96732102

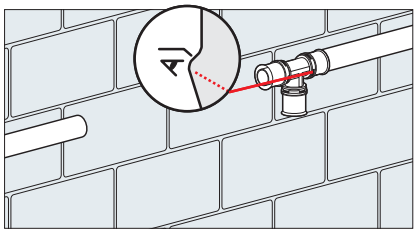


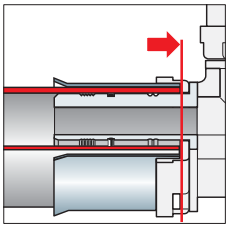


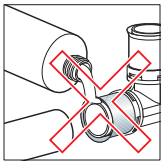


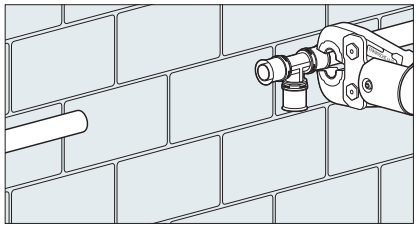


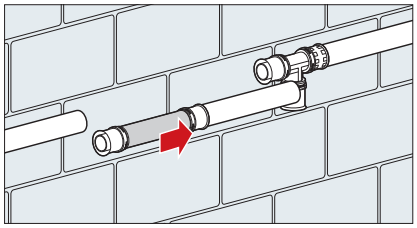


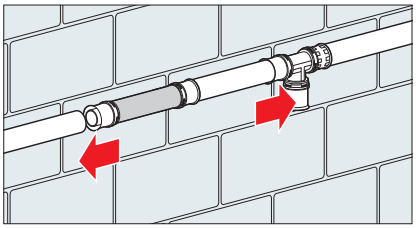


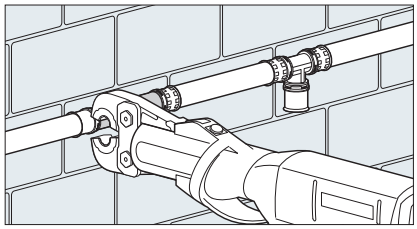


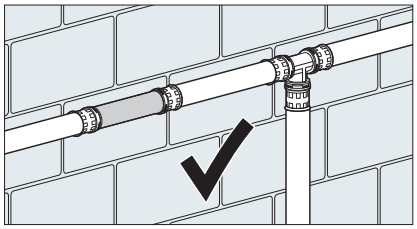








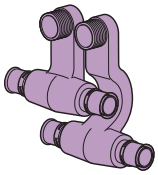




Polypress Installation

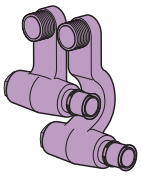
Radiator connections

Radiator connection set brass



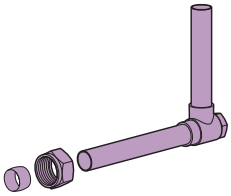
DIM	Order no.
16mm x ½"x 16mm	PP96816705
20mm x ½"x 20mm	PP96820705
16mm x ½"x 20mm	PP96816702
20mm x ½"x 16mm	PP96820702

Radiator connection set with end cap



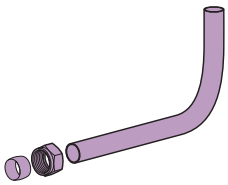
DIM	Order no.
16mm x ½"x cap	PP96816703
Cap x ½"x 16mm	PP96816704

Compensating elbow with shut off valve

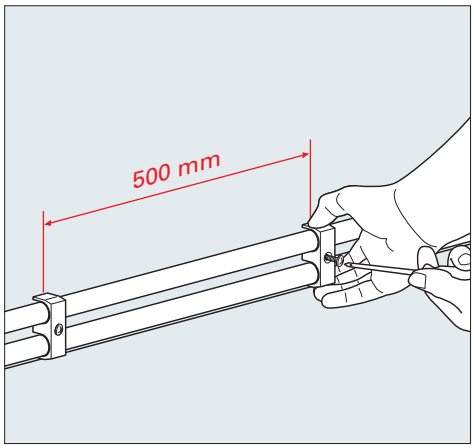


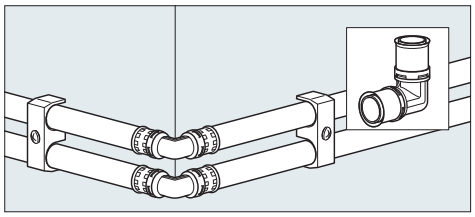
DIM	Order no.
15mm x 1-½"	PP94815200

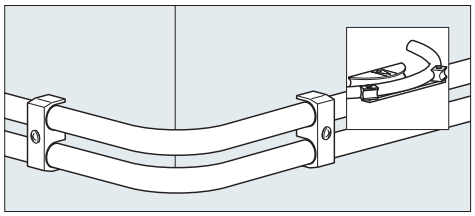
Adaptor bend

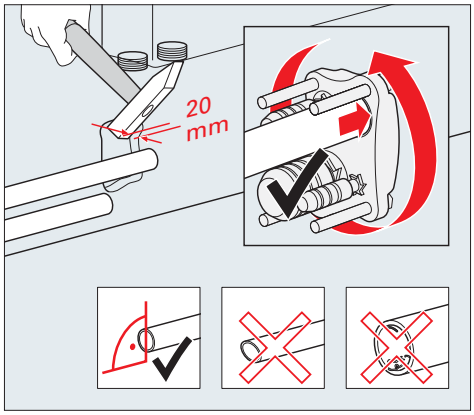


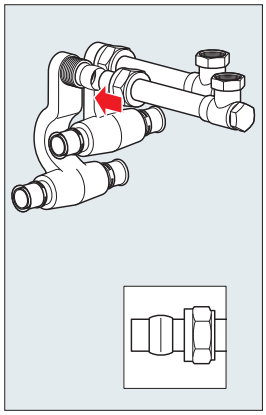
DIM	Order no.
15mm x 1-½"	PP94815201

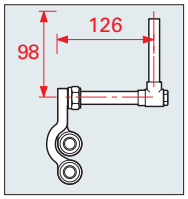


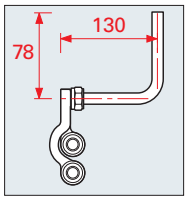


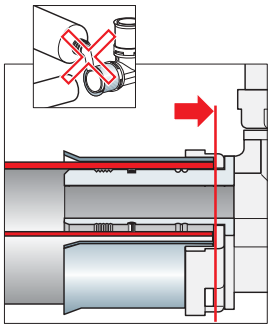


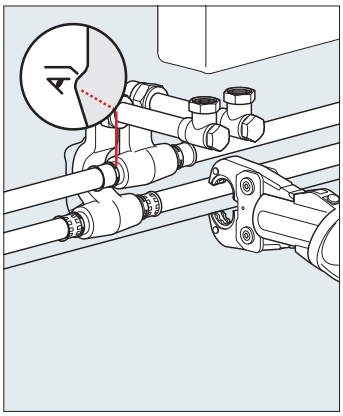


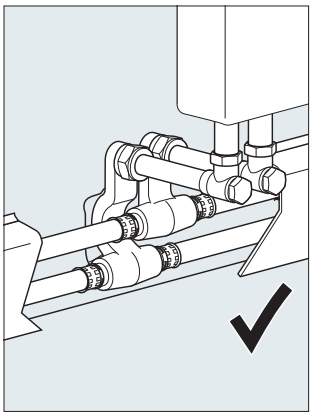






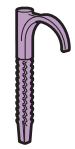




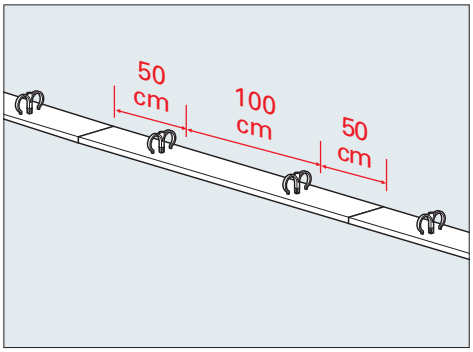


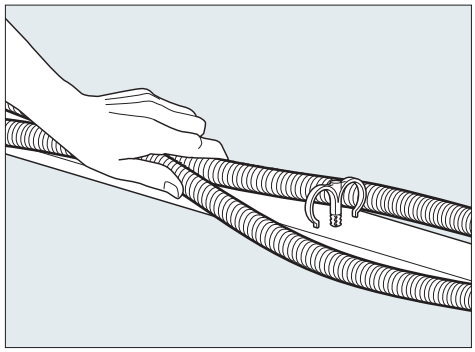
Polypress in a protective sheath

Single dowel hook

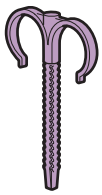


DIM	Order no.
16 - 20mm	PP95912114

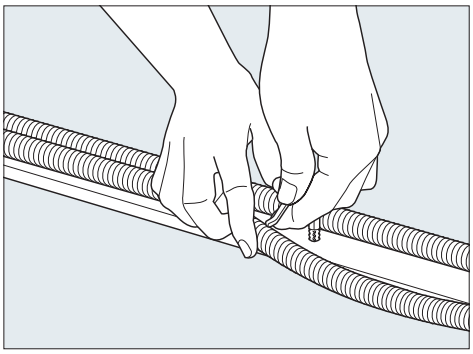


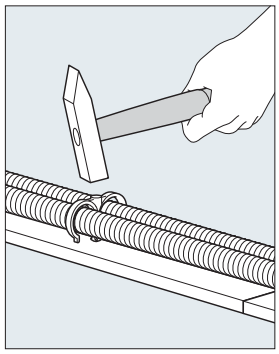


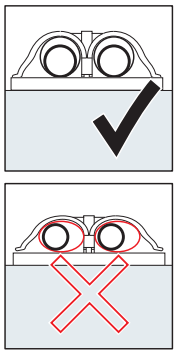
Double dowel hook



DIM	Order no.
16 - 20mm	PP95912115



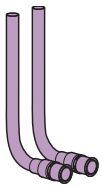




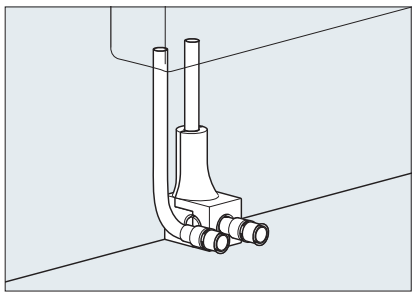
Polypress Installation

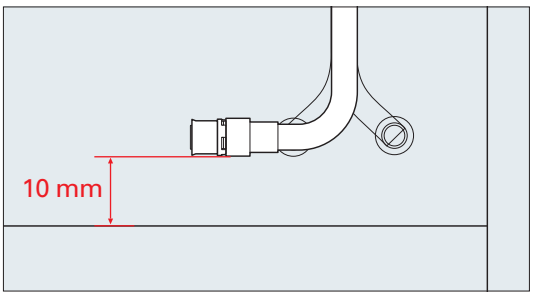
Sound insulation element for heating applications

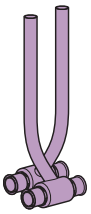
Radiator connector brass



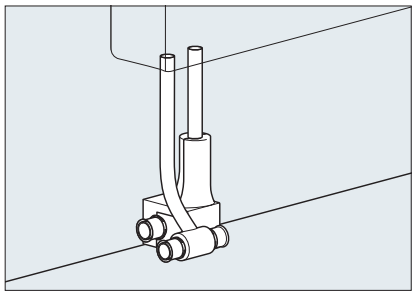
DIM	Order no.
16 x 330mm	PP96816733

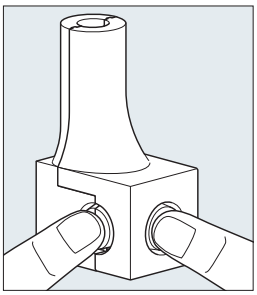




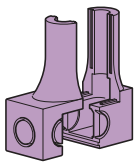


DIM	Order no.
16 x 330mm	PP96816753

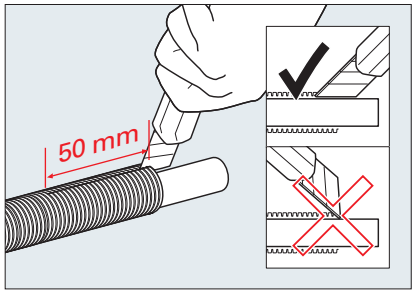


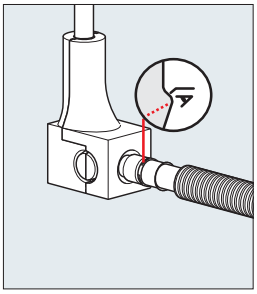


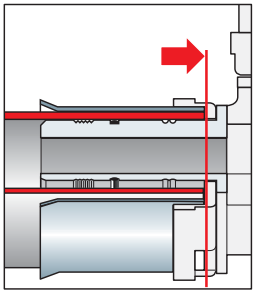
Acoustic insulation

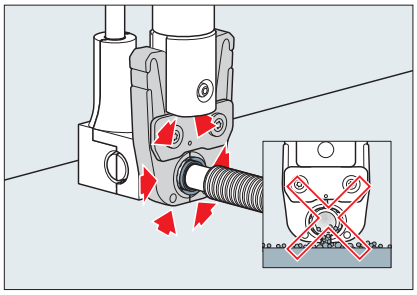


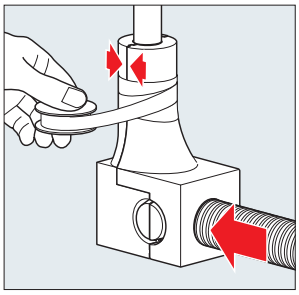
DIM	Order no.
16 / 20mm	PP95900100

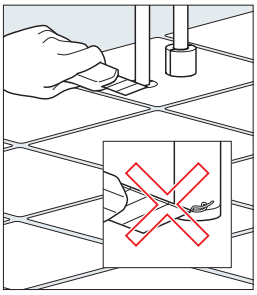


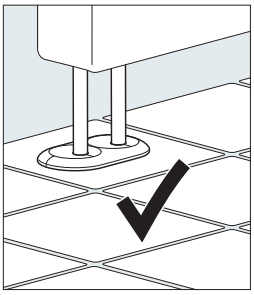




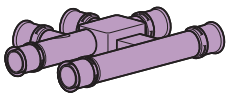








Crossing T-piece



DIM	Order no.
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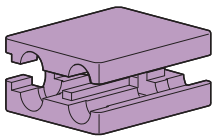
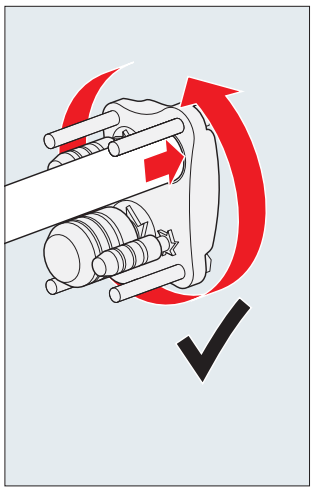
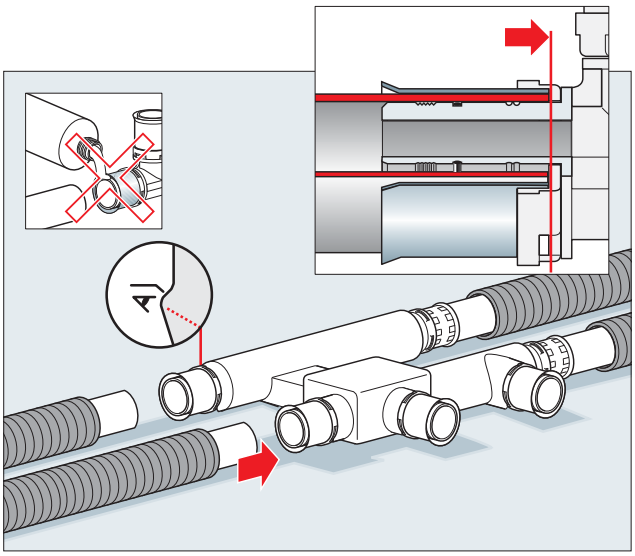
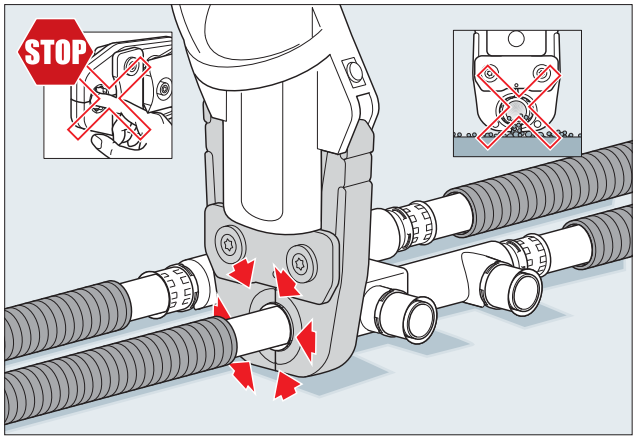
20 / 16 / 16	PP96820338
20 / 16 / 20	PP96820339
20 / 20 / 16	PP96820358

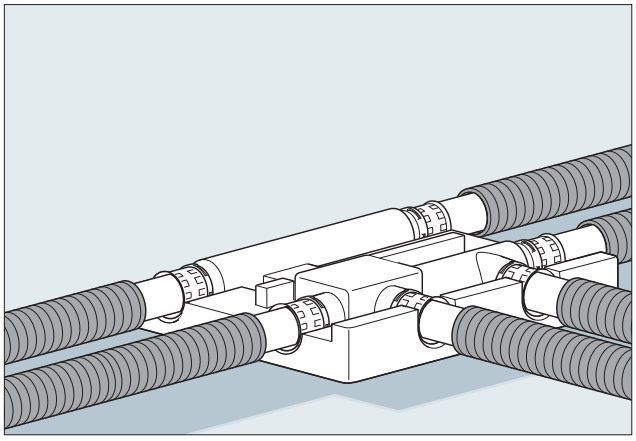


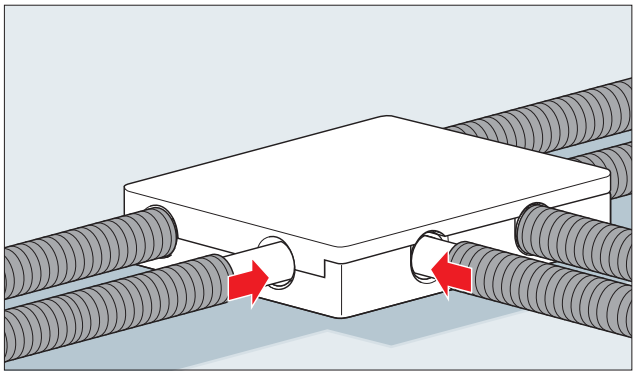
DIM	Order no.
16 / 20	PP95900300

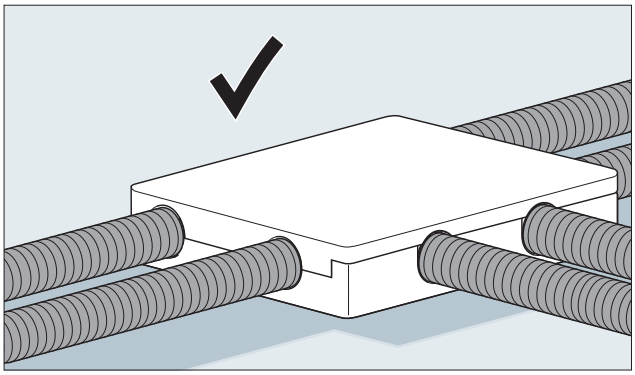








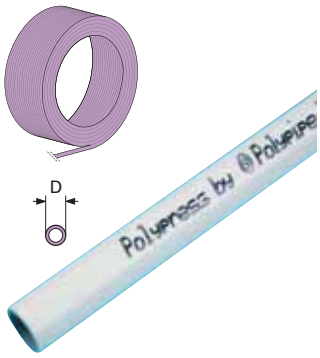




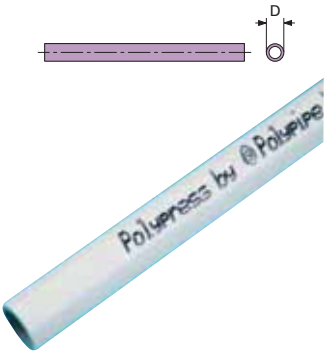
Polypress Pipes and Fittings

Polypress pipes

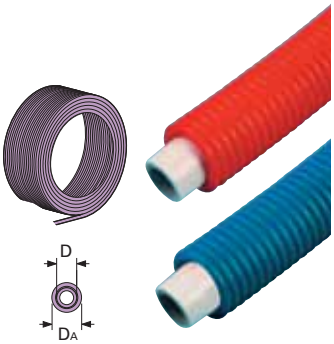
Description	Weight	Technical data	Product code
Multi-layer composite pipe coiled PEX-AL-PEX	**kg/coil**	**D mm**	
16 x 2.0mm x 100m	11.10	16	**PP96016400**
16 x 2.0mm x 200m	22.20	16	**PP96016700**
20 x 2.0mm x 100m	15.30	20	**PP96020400**
26 x 3.0mm x 50m	14.70	26	**PP96026200**
32 x 3.0mm x 50m	20.53	32	**PP96032200**



Multi-layer composite pipe straight 5m lengths PEX-AL-PEX	**kg**	**D mm**	
16 x 2.0mm	0.555	16	**PP96016005**
20 x 2.0mm	0.764	20	**PP96020005**
26 x 3.0mm	1.464	26	**PP96026005**
32 x 3.0mm	2.013	32	**PP96032005**
40 x 3.5mm	2.904	40	**PP96040005**
50 x 4.0mm	4.382	50	**PP96050005**
63 x 4.5mm	6.588	63	**PP96063005**



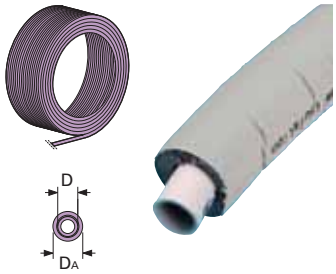
Multi-layer composite pipe coiled 50m PEX-AL-PEX (with protective conduit)	**kg**	**D mm**	**DA mm**	
16 x 2.0mm red	8.68	16	24	**PP96116200**
16 x 2.0mm blue	8.68	16	24	**PP96116201**
20 x 2.0mm red	11.19	20	28	**PP96120200**
20 x 2.0mm blue	11.19	20	28	**PP96120201**



Multi-layer composite pipe coiled 50m PEX-AL-PEX in 9mm insulation	**kg**	**D mm**	**DA mm**	
16mm x 2mm silver (extended delivery item)	7.55	16	34	**PP96216204**
16mm x 2mm red (extended delivery item)	7.55	16	34	**PP96216214**
16mm x 2mm blue (extended delivery item)	7.55	16	34	**PP96216224**
20mm x 2mm silver (extended delivery item)	10.05	20	38	**PP96220204**
20mm x 2mm red (extended delivery item)	10.05	20	38	**PP96220214**
20mm x 2mm blue (extended delivery item)	10.05	20	38	**PP96220224**
26mm x 3mm silver (special order/extended delivery item)	17.50	26	44	**PP96226204**

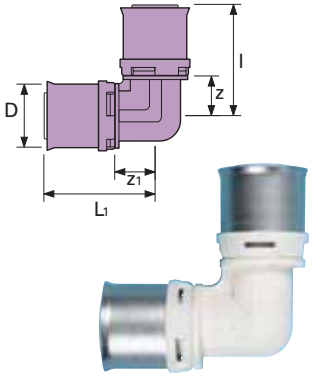
Polypress pipes

Description	Weight	Technical data		Product code
Multi-layer composite pipe coiled 50m PEX-AL-PEX in 13mm insulation	**kg**	**D mm**	**D_A mm**	
16mm x 2mm silver (extended delivery item)	8.05	16	42	**PP96216207**
20mm x 2mm silver (extended delivery item)	10.70	20	46	**PP96220207**
26mm x 3mm silver (special order/extended delivery item)	18.40	26	52	**PP96226207**

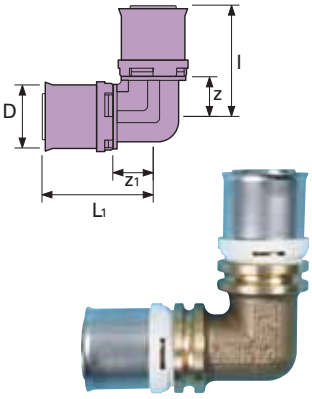


Polypress fittings - elbows

Description	Weight	Technical data			Product code
90° elbow PPSU	**kg/Pc**	**D mm**	**l/l_1 mm**	**z/z_1 mm**	
16 x 16mm	0.023	16	38	15	**PP98616200**
20 x 20mm	0.032	20	43	18	**PP98620200**
26 x 26mm	0.053	26	53	22	**PP98626200**
32 x 32mm	0.083	32	60	24	**PP98632200**



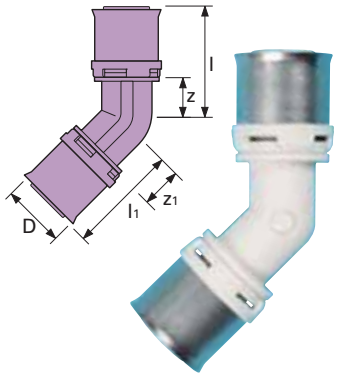
90° elbow dezincification-resistant brass	**kg/Pc**	**D mm**	**l/l_1 mm**	**z/z_1 mm**	
40 x 40mm	0.912	40	93	46	**PP96740200**
50 x 50mm	1.320	50	104	51	**PP96750200**
63 x 63mm	1.919	63	115	56	**PP96763200**



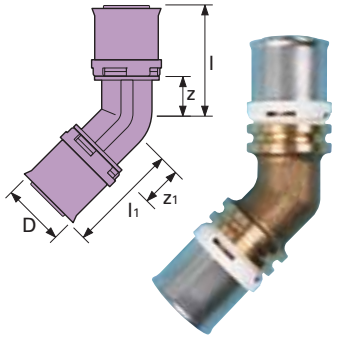
Polypress Fittings

Polypress fittings - elbows

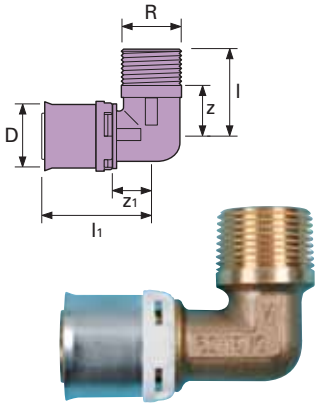
Description	Weight	Technical data			Product code
45° elbow PPSU	**kg/Pc**	**D mm**	**l/l1 mm**	**z/z1 mm**	
26 x 26mm	0.054	26	51	20	**PP98626201**
32 x 32mm	0.058	32	56	20	**PP98632201**



45° elbow dezincification-resistant brass	kg/Pc	D mm	l/l1 mm	z/z1 mm	
40 x 40mm	0.816	40	86	39	**PP96740201**
50 x 50mm	1.215	50	93	40	**PP96750201**
63 x 63mm	1.788	63	103	44	**PP96763201**

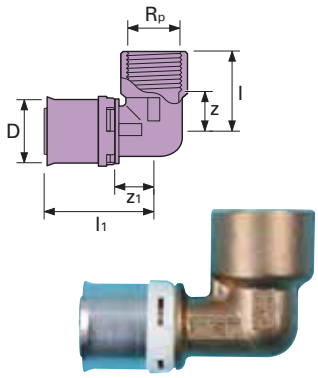


Male thread 90° ebow dezincification-resistant brass	kg/Pc	D mm	R inch	l mm	l1 mm	z mm	z1 mm	
16mm x ½"	0.081	16	½	30	43	17	20	**PP96816782**
20mm x ½"	0.098	20	½	30	46	17	20	**PP96820782**
20mm x ¾"	0.116	20	¾	30	46	15	20	**PP96820783**
26mm x ¾"	0.150	26	¾	36	56	21	25	**PP96826783**
32mm x 1"	0.257	32	1	45	56	26	20	**PP96832784**
40mm x 1¼"	0.704	40	1¼	57	93	28	46	**PP96740785**
50mm x 1½"	0.963	50	1½	62	103	41	50	**PP96750786**



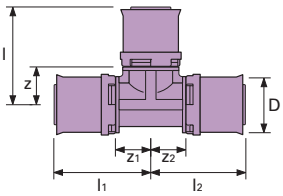
Polypress fittings - elbows

Description	Weight	Technical data						Product code
Female thread 90° elbow dezincification-resistant brass	**kg/Pc**	**D mm**	**R inch**	**l mm**	**l_1 mm**	**z mm**	**z_1 mm**	
16mm x ½"	0.091	16	½	30	43	17	20	**PP96816792**
20mm x ½"	0.103	20	½	30	46	17	20	**PP96820792**
20mm x ¾"	0.117	20	¾	30	46	17	20	**PP96820793**
26mm x ¾"	0.170	26	¾	36	56	21	25	**PP96826793**
32mm x 1"	0.292	32	1	45	56	26	20	**PP96832794**

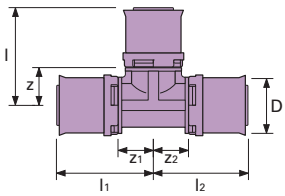


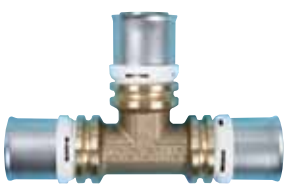
Polypress fittings - tees

Description	Weight	Technical data			Product code
Equal tee PPSU	**kg/Pc**	**D mm**	**l /l_1 /l_2 mm**	**z/z_1/z_2 mm**	
16 x 16 x 16mm	0.032	16	40	18	**PP98616300**
20 x 20 x 20mm	0.042	20	43	18	**PP98620300**
26 x 26 x 26mm	0.080	26	55	22	**PP98626300**
32 x 32 x 32mm	0.120	32	60	24	**PP98632300**



Equal tee dezincification-resistant brass	kg/Pc	D mm	l/l_1 mm	z/z_1 mm	
40 x 40 x 40mm	1.264	40	93	46	**PP96740300**
50 x 50 x 50mm	1.800	50	103	50	**PP96750300**
63 x 63 x 63mm	2.880	63	115	50	**PP96763300**

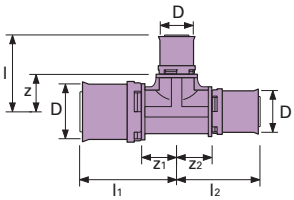




Polypress Fittings

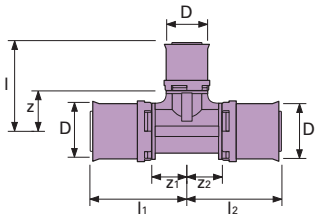
Polypress fittings - tees

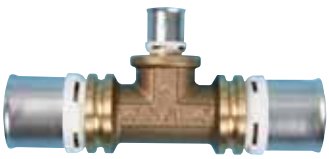
Description	Weight	Technical data						Product code
Reducing tee PPSU	**kg/Pc**	**D mm**	**l mm**	**l_1 mm**	**l_2 mm**	**z mm**	**z_1/z_2 mm**	
16 x 20 x 16mm	0.038	16 / 20 / 16	41	40	40	15	18	**PP98616350**
20 x 16 x 16mm	0.036	20 / 16 / 16	40	41	38	18	15	**PP98620333**
20 x 16 x 20mm	0.048	20 / 16 / 20	40	41	41	18	15	**PP98620330**
20 x 20 x 16mm	0.042	20 / 20 / 16	43	43	40	17.5	17.5	**PP98620303**
20 x 26 x 20mm	0.060	20 / 26 / 20	50	48	48	19	22	**PP98620360**
20 x 32 x 20mm	0.072	20 / 32 / 20	54	50	50	18	24	**PP98620370**
26 x 16 x 20mm	0.053	26 / 16 / 20	44	47	42	22	17	**PP98626335**
26 x 16 x 26mm	0.064	26 / 16 / 26	45	47	47	22	17	**PP98626330**
26 x 20 x 16mm	0.061	26 / 20 / 16	48	50	42	22	19	**PP98626353**
26 x 20 x 20mm	0.060	26 / 20 / 20	48	50	45	22	19	**PP98626355**
26 x 20 x 26mm	0.067	26 / 20 / 26	48	50	50	22	19	**PP98626350**
26 x 26 x 16mm	0.067	26 / 26 / 16	53	53	45	22	22	**PP98626303**
26 x 26 x 20mm	0.068	26 / 26 / 20	53	53	48	22	22	**PP98626305**
26 x 32 x 20mm	0.085	26 / 32 / 20	57	55	50	21	24	**PP98626375**
26 x 32 x 26mm	0.091	26 / 32 / 26	57	55	55	21	24	**PP98626370**
32 x 16 x 26mm	0.074	32 / 16 / 26	47	51	46	24	16	**PP98632336**
32 x 16 x 32mm	0.089	32 / 16 / 32	47	52	52	24	16	**PP98632330**
32 x 20 x 20mm	0.073	32 / 20 / 20	50	54	44	24	18	**PP98632355**
32 x 20 x 26mm	0.082	32 / 20 / 26	50	54	49	24	18	**PP98632356**
32 x 20 x 32mm	0.096	32 / 20 / 32	50	54	54	24	18	**PP98632350**
32 x 26 x 20mm	0.085	32 / 26 / 20	55	57	47	24	21	**PP98632365**
32 x 26 x 26mm	0.096	32 / 26 / 26	55	57	52	24	21	**PP98632366**
32 x 26 x 32mm	0.107	32 / 26 / 32	55	57	57	24	21	**PP98632360**
32 x 32 x 20mm	0.101	32 / 32 / 20	60	60	50	24	24	**PP98632305**
32 x 32 x 26mm	0.108	32 / 32 / 26	60	60	55	24	24	**PP96832306**



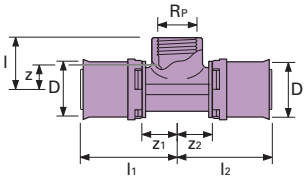
Polypress fittings - tees

Description	Weight	Technical data						Product code
Reducing tee dezincification-resistant brass	**kg/Pc**	**D mm**	**l mm**	**l_1 mm**	**l_2 mm**	**z mm**	**z_1/z_2 mm**	
40 x 20 x 40mm	1.015	40 / 20 / 40	61	93	93	46	36	**PP96740350**
40 x 26 x 40mm	1.035	40 / 26 / 40	66	93	93	46	36	**PP96740360**
40 x 32 x 40mm	1.047	40 / 32 / 40	71	93	93	46	36	**PP96740370**
50 x 26 x 50mm	1.474	50 / 26 / 50	71	103	103	50	40	**PP96750360**
50 x 32 x 50mm	1.496	50 / 32 / 50	76	103	103	50	40	**PP96750370**
50 x 40 x 50mm	1.674	50 / 40 / 50	97	103	103	50	40	**PP96750380**
63 x 32 x 63mm	2.400	63 / 32 / 63	92	115	115	56	56	**PP96763370**
63 x 40 x 63mm	2.395	63 / 40 / 63	103	115	115	56	56	**PP96763380**
63 x 50 x 63mm	2.483	63 / 50 / 63	109	115	115	56	56	**PP96763390**





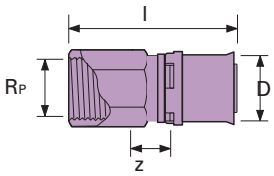
Female thread tee dezincification-resistant brass	kg/Pc	D-R_P-D mm	l mm	l_1/l_2 mm	z mm	z_1/z_2 mm	
16mm x ½"x 16mm	0.102	16 - ½"- 16	18	39	5	16	**PP96816742**
20mm x ½"x 20mm	0.124	20 - ½"- 20	19	42	6	16	**PP96820742**
20mm x ¾"x 20mm	0.140	20 - ¾"- 20	19	43	6	18	**PP96820743**
26mm x ½"x 26mm	0.171	26 - ½"- 26	20	47	7	16	**PP96826742**
26mm x ¾"x 26mm	0.185	26 - ¾"- 26	22	50	7	19	**PP96826743**
32mm x ½"x 32mm	0.290	32 - ½"- 32	26	55	11	19	**PP96832742**
32mm x ¾"x 32mm	0.257	32 - ¾"- 32	26	55	11	19	**PP96832743**
32mm x 1"x 32mm	0.268	32 - 1"- 32	26	55	11	19	**PP96832744**
40mm x ½"x 40mm	0.910	40 - ½"- 40	35	88	20	40	**PP96740742**
50mm x ¾"x 50mm	0.934	50 - ¾"- 50	43	97	23	44	**PP96750743**
63mm x 1"x 63mm	2.040	63 - 1"- 63	49	107	29	48	**PP96763744**

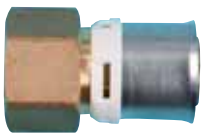


Polypress Fittings

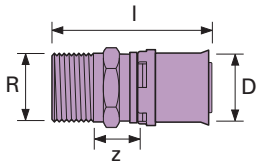
Polypress fittings - adaptors

Description	Weight	Technical data				Product code
Female thread adaptor dezincification-resistant brass	**kg/Pc**	**D mm**	**R_p inch**	**l mm**	**z mm**	
16mm x ½"	0.082	16	½	44	8	**PP96816772**
20mm x ½"	0.089	20	½	47	8	**PP96820772**
20mm x ¾"	0.113	20	¾	50	9	**PP96820773**
26mm x ¾"	0.131	26	¾	55	9	**PP96826773**
26mm x 1"	0.211	26	1	58	10	**PP96826774**
32mm x 1"	0.239	32	1	73	10	**PP96832774**
40mm x 1¼"	0.550	40	1¼	87	19	**PP96740775**
50mm x 1½"	0.723	50	1½	91	19	**PP96750776**



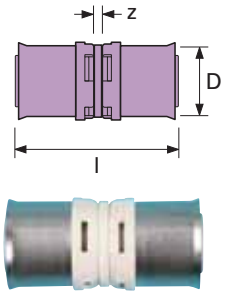


Male thread adaptor dezincification-resistant brass	kg/Pc	D mm	R_p inch	l mm	z mm	
16mm x ½"	0.060	16	½	46	10	**PP96816762**
20mm x ½"	0.067	20	½	49	10	**PP96820762**
20mm x ¾"	0.092	20	¾	52	11	**PP96820763**
20mm x 1"	0.156	20	1	56	13	**PP96820764**
26mm x ¾"	0.106	26	¾	57	11	**PP96826763**
26mm x 1"	0.173	26	1	61	13	**PP96826764**
32mm x 1"	0.198	32	1	66	13	**PP96832764**
40mm x 1¼"	0.706	40	1¼	98	27	**PP96740765**
50mm x 1½"	0.949	50	1½	106	29	**PP96750766**
63mm x 2"	1.310	63	2	119	31	**PP96763768**

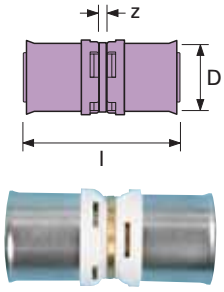


Polypress fittings - adaptors

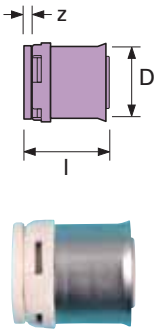
Description	Weight	Technical data			Product code
Coupling PPSU	**kg/Pc**	**D mm**	**l mm**	**z mm**	
16 x 16mm	0.019	16	50	5	**PP98616100**
20 x 20mm	0.022	20	56	5	**PP98620100**
26 x 26mm	0.044	26	66	5	**PP98626100**
32 x 32mm	0.048	32	76	5	**PP98632100**



Coupling dezincification-resistant brass	**kg/Pc**	**D mm**	**l mm**	**z mm**	
40 x 40mm	0.450	40	109	15	**PP96740100**
50 x 50mm	0.714	50	120	15	**PP96750100**
63 x 63mm	1.108	63	133	15	**PP96763100**



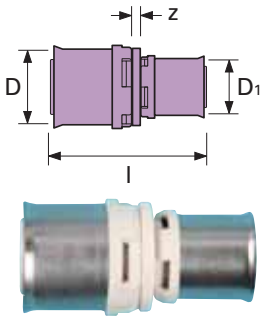
Blanking plug PPSU	**kg/Pc**	**D mm**	**l mm**	**z mm**	
16mm	0.011	16	26	3	**PP98616820**
20mm	0.015	20	28	3	**PP98620820**
26mm	0.026	26	33	3	**PP98626820**
32mm	0.039	32	38	3	**PP98632820**



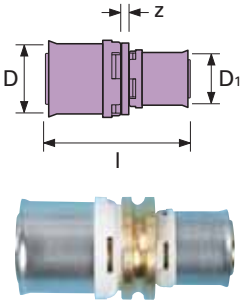
Polypress Fittings

Polypress fittings - adaptors

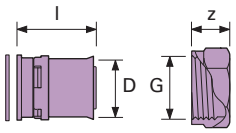
Description	Weight	Technical data			Product code
Reducing coupling PPSU	**kg/Pc**	**D/ D_1 mm**	**l mm**	**z mm**	
20 x 16mm	0.024	20 / 16	53	5	**PP98620130**
26 x 20mm	0.044	26 / 20	61	5	**PP98626150**
32 x 26mm	0.060	32 / 26	71	5	**PP98632160**

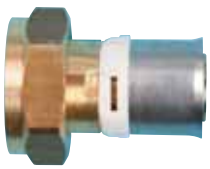


Reducing coupling dezincification-resistant brass	kg/Pc	D mm	l mm	z mm	
40 x 26mm	0.422	40 / 26	93	15	**PP96740160**
40 x 32mm	0.422	40 / 32	98	15	**PP96740170**
50 x 32mm	0.612	50 / 32	113	15	**PP96750170**
50 x 40mm	0.657	50 / 40	115	15	**PP96750180**
63 x 40mm	1.000	63 / 40	131	25	**PP96763180**
63 x 50mm	1.071	63 / 50	137	25	**PP96763190**



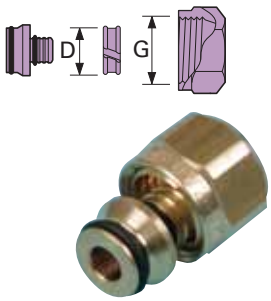
Flat seal coupling with female thread dezincification-resistant brass	kg/Pc	D mm	G inch	l mm	z mm	
16mm x ½"	0.068	16	½	40	12	**PP96816672**
16mm x ¾"	0.067	16	¾	29	12	**PP96816673**
20mm x ¾"	0.086	20	¾	38	12	**PP96820673**
20mm x 1"	0.118	20	1	32	17	**PP96820674**
26mm x 1"	0.170	26	1	47	17	**PP96826674**
32mm x 1¼"	0.238	32	1¼	56	20	**PP96832675**
32mm x 1½"	0.272	32	1½	44	20	**PP96832676**
40mm x 1½"	1.640	40	1½	83	36	**PP96740796**
50mm x 1¾	1.640	50	1¾	92	39	**PP96750797**
50mm x 2"	1.640	50	2	92	39	**PP96750798**
63mm x 2⅜"	1.640	63	2⅜	104	45	**PP96763799**



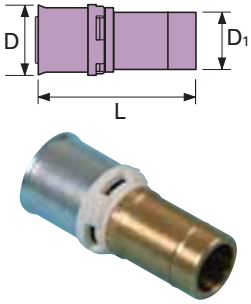


Polypress fittings - adaptors

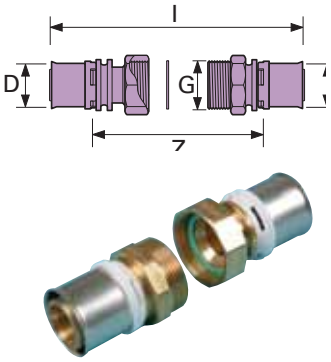
Description	Weight	Technical data		Product code
Polypress to copper compression adaptor dezincification-resistant brass	**kg/Pc**	**D mm**	**G inch**	
16 x 15mm	0.052	16	½	**PP97916115**
20 x 22mm	0.100	20	1⅛	**PP97920122**
26 x 22mm	0.122	26	1⅛	**PP97926122**



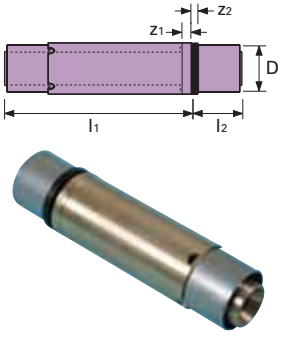
Polypress to Polyplumb adaptor dezincification-resistant brass	**kg/Pc**	**D mm**	**D_1 mm**	**L mm**	
16 x 15mm	0.050	16	15	31	**PP96816738**
20 x 22mm	0.082	20	22	35	**PP96820738**
26 x 22mm	0.106	26	22	35	**PP96826738**
26 x 28mm	0.133	26	28	40	**PP96826739**



Compression fitting dezincification-resistant brass	**kg/Pc**	**D mm**	**G inch**	**l mm**	**Z mm**	
40 x 40mm	1.410	40	1½	177	83	**PP96740101**
50 x 50mm	2.010	50	2	196	91	**PP96750101**
63 x 63mm	3.700	63	2½	226	108	**PP96763101**



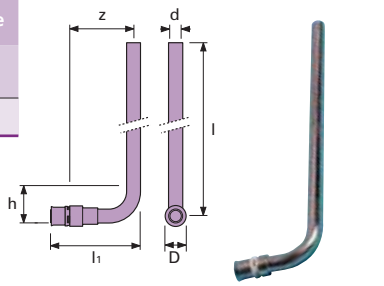
Repair coupling with compression sleeve red brass	**kg/Pc**	**D mm**	**l_1 mm**	**l_2 mm**	**z mm**	**z_1 mm**	
26 x 26mm	0.300	26	91	27	6	3	**PP96726102**
32 x 32mm	0.400	32	102	33	6	3	**PP96732102**



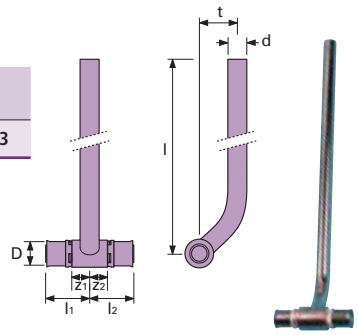
Polypress Fittings

Polypress fittings - heating applications

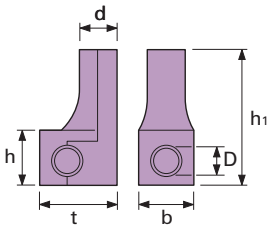
Description	Weight	Technical data						Product code
Short radiator connection elbow brass	**kg/Pc**	**D mm**	**d mm**	**l mm**	**l_1 mm**	**h mm**	**z mm**	
16 x 330mm	0.165	16	15 x 1	330	80	37	45	**PP96816733**



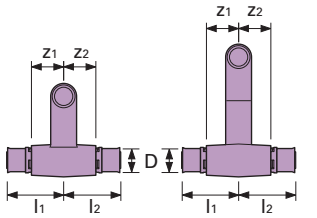
Short radiator connection tee brass	**kg/Pc**	**D mm**	**d mm**	**l mm**	**l_1 /l_2 mm**	**z_1 /z_2 mm**	**t mm**	
16 x 330mm	0.300	16	15 x 1	330	35	12	15	**PP96816753**

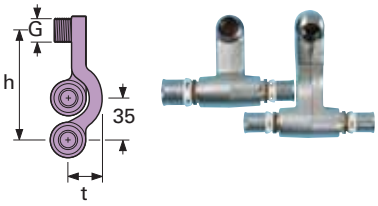


Noise absorption & insulation kit polyethylene foam	**kg/Pc**	**D mm**	**d mm**	**b mm**	**t mm**	**h mm**	**h_1 mm**	
16 / 20mm	0.065	16 / 20	35	49	70	50	124	**PP95900100**



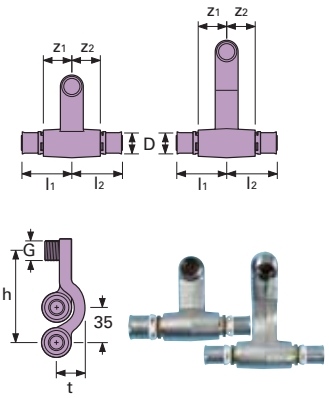
Radiator connection kit with male thread brass	**kg/Pc**	**D-G-D mm**	**l_1 2 mm**	**z_1/ z_2 mm**	**t mm**	**h mm**	
16mm x ½"x 16mm	0.620	16 - ½" - 16	51	29	30	90	**PP96816705**
20mm x ½"x 20mm	0.625	20 - ½" - 20	54	29	30	90	**PP96820705**



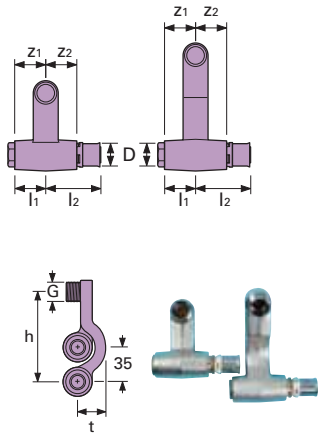


Polypress fittings - heating applications

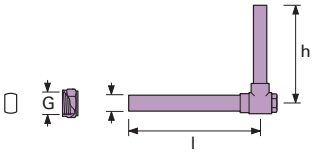
Description	Weight	Technical data						Product code
Radiator connection kit with male thread and reducing coupling brass	**kg/Pc**	**D-G-D mm**	**l_1 mm**	**l_2 mm**	**z_1 / z_2 mm**	**t mm**	**h mm**	
16mm x ½"x 20mm	0.720	16 - ½" - 16	101	107	29	30	90	**PP96816702**
20mm x ½"x 16mm	0.720	20 - ½" - 20	107	101	29	30	90	**PP96820702**



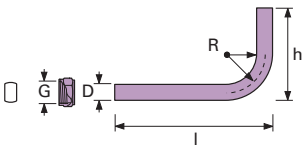
Radiator connection kit with male thread and blanking plugs brass	kg/Pc	D-G mm	l_1 mm	l_2 mm	z_1 / z_2 mm	t mm	h mm	
16mm x ½"x blanking plug	0.680	16 - ½"	28	51	29	30	90	**PP96816703**
blanking plug x ½"x 16mm	0.680	16 - ½"	28	51	29	30	90	**PP96816704**



Compensating elbow assembly with shut-off valve and female thread chrome-plated copper pipe	kg/Pc	D mm	G inch	l mm	h mm	
15mm x 1 - ½"	0.180	15	½	126	98	**PP94815200**



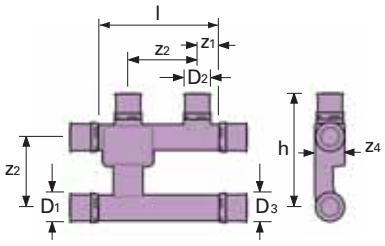
Adaptor Elbow with female thread Chrome-plated copper pipe	kg/Pc	D mm	G inch	l mm	h mm	R mm	
15mm x 1 - ½"	0.094	15	½	130	78	10	**PP94815201**



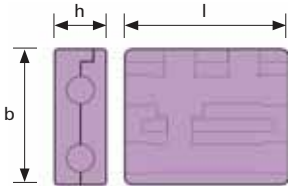
Polypress Fittings

Polypress fittings - heating applications

Description	Weight	Technical data							Product code
Crossing tee brass	**kg/Pc**	**$D_{1/2/3}$ mm**	**l mm**	**z_1 mm**	**z_2 mm**	**z_3 mm**	**z_4 mm**	**h mm**	
16 x 2.0 - 16 x 2.0 - 16 x 2.0mm	0.672	16 - 16 -16	145	15	60	22	25	98	**PP96816399**
20 x 2.0 - 16 x 2.0 - 16 x 2.0mm	0.688	20 - 16 - 16	148	15	60	22	25	98	**PP96820338**
20 x 2.0 - 16 x 2.0 - 20 x 2.0mm	0.688	20 - 16 - 20	153	15	60	22	25	98	**PP96820339**
20 x 2.0 - 20 x 2.0 - 16 x 2.0mm	0.704	20 - 20 - 16	148	15	60	22	25	101	**PP96820358**

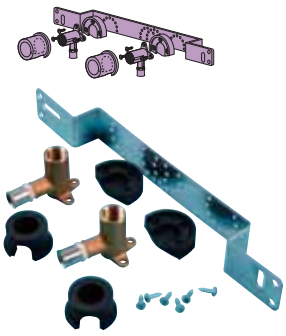


Acoustic insulation EPS	kg/Pc	D-D mm	l mm	b mm	h mm	
Acoustic insulation for crossing tee	0.027	16 - 20	150	125	51	**PP95900300**

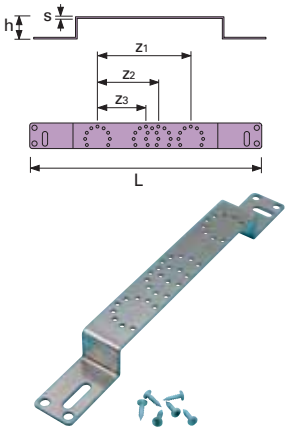


Polypress fittings - potable water applications

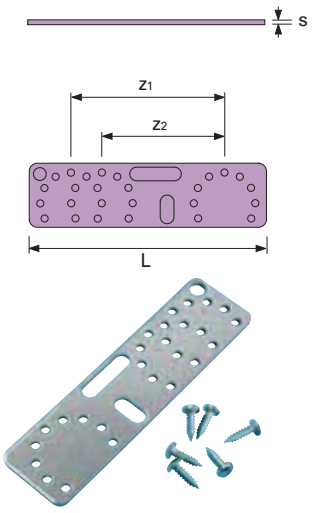
Description	Weight	Technical data	Product code
Wall mount kit complete with insulation and elbows	**kg/Pc**		
16mm x ½" - 80 - 100 - 153mm	0.830		**PP96816700**



Galvanised flat steel wall mounted plate	kg/Pc	L mm	z_1 mm	z_2 mm	z_3 mm	h mm	s mm	
80 - 100 - 153mm	0.411	382	153	100	80	36	3	**PP94900110**



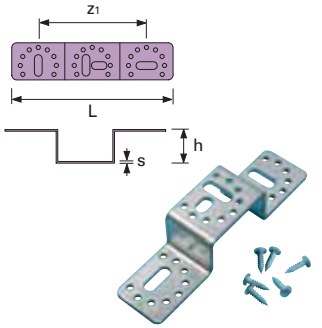
Wall Mounted rail galvanised flat steel	kg/Pc	L mm	z_1 mm	z_2 mm	S mm	
80 - 100mm	0.132	155	100	80	3	**PP94900115**
120 - 153mm	0.182	208	153	120	3	**PP94900116**



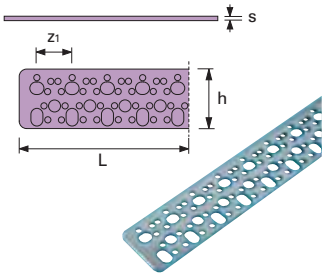
Polypress Fittings

Polypress fittings - potable water applications

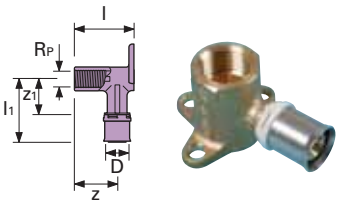
Description	Weight	Technical data				Product code
Gemini wall mounted plate galvanised flat steel	**kg/Pc**	**L mm**	**z_1 mm**	**h mm**	**s mm**	
Single 120mm	0.209	175	120	36	3	**PP94900117**
153mm	0.252	208	153	36	3	**PP94900118**



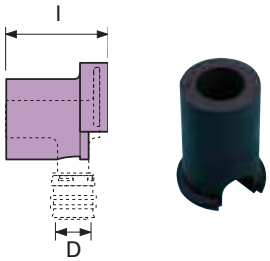
Wall mounted rail 1.2m galvanised flat steel	**kg/Pc**	**L mm**	**z_1 mm**	**h mm**	**s mm**	
1200mm	0.788	1200	25	42	3	**PP94900119**



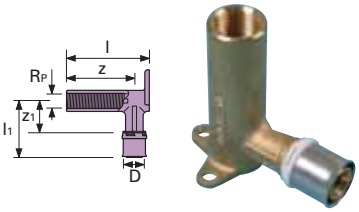
Short 90° wall mounted elbow with female thread dezincification-resistant brass	**kg/Pc**	**D-R_P mm**	**l mm**	**l_1 mm**	**z mm**	**z_1 mm**	
16mm x ½"	0.135	16 - ½"	35	43	18	20	**PP96816720**
20mm x ½"	0.143	20 - ½"	35	46	18	20	**PP96820720**
26mm x ¾"	0.172	26 - ¾"	35	56	18	25	**PP96826720**



Short 90° wall mounted noise absorption & insulation kit polyurethane foam	**kg/Pc**	**D mm**	**l mm**	
16 / 20mm	0.031	16 / 20	56	**PP94916215**
26mm	0.025	26	56	**PP94926215**

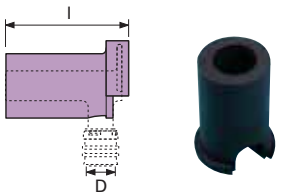


Long 90° wall mounted elbow with femaile thread dezincification-resistant brass	**kg/Pc**	**D-R_P mm**	**l mm**	**l_1 mm**	**z mm**	**z_1 mm**	
16mm x ½"	0.233	16 - ½"	78	43	61	20	**PP96816721**
20mm x ½"	0.240	20 - ½"	78	46	61	20	**PP96820721**

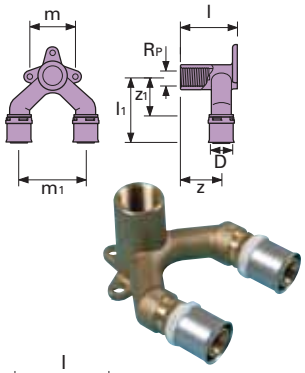


Polypress fittings - potable water applications

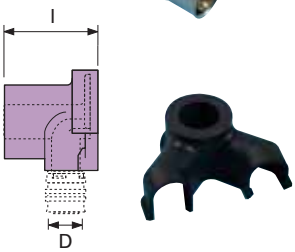
Description	Weight	Technical data		Product code
Long 90° wall mounted noise absorption & insulation kit polyurethane foam	**kg/Pc**	**D mm**	**l mm**	
16 / 20mm	0.033	16 - 20	82	**PP95916211**



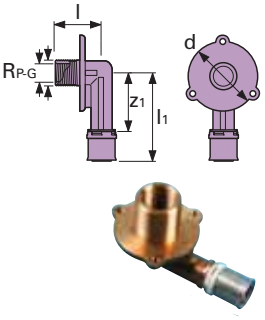
Double wall mount elbow with femaile thread dezincification-resistant brass	kg/Pc	D-R_P mm	l mm	z mm	z_1 mm	l_1 mm	m mm	m_1 mm	
16mm x ½"	0.260	16 - ½"	36	35	41	66	40	60	**PP96816749**
20mm x ½"	0.260	20 - ½"	36	35	41	71	40	40	**PP96820749**



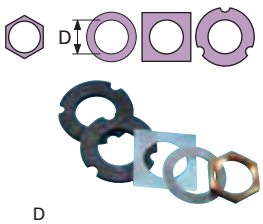
Double 90° wall mount noise absorption & insulation kit polyurethane foam	kg/Pc	D mm	l mm	
16 / 20mm	0.060	16 - 20	39	**PP94916216**



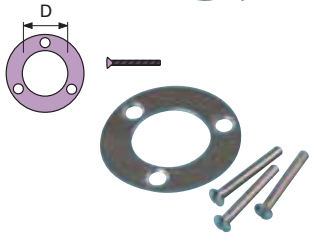
Elbow for concealed toilet cisterns dezincification-resistant brass	kg/Pc	D-R_P-G mm	l mm	l_1 mm	z_1 mm	d mm	
16mm x ½" female thread x ¾" male thread	0.192	16 - ½" - ¾"	42	48	25	50	**PP96816724**
16mm x ½" female thread x ¾" male thread with fixing kit	0.203	16 - ½" - ¾"	42	48	25	50	**PP96816734**



Elbow for concealed toilet cisterns acoustic fastening kit	kg/Pc	D mm	
	0.011	30	**PP99516701**



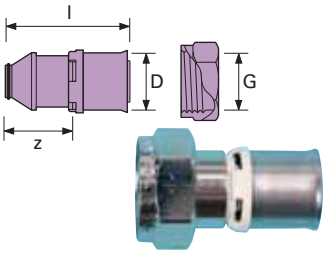
Elbow for concealed toilet cisterns fastening kit	kg/Pc	D mm	
	0.050	30	**PP99516700**



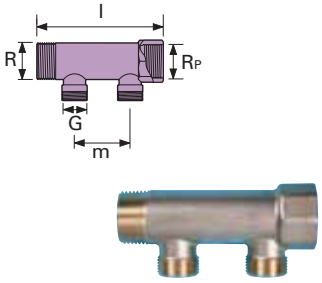
Polypress Fittings

Polypress fittings - potable water applications

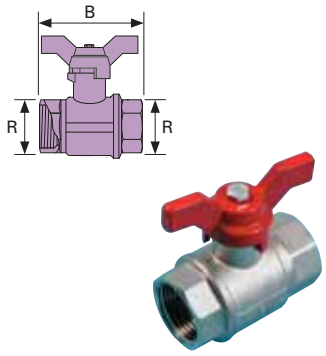
Description	Weight	Technical data			Product code
Manifold connection with female thread dezincification-resistant brass	**kg/Pc**	**D-G mm**	**l mm**	**z mm**	
16mm x ¾" female thread	0.090	16 - ¾"	40	17	**PP96816710**
20mm x ¾" female thread	0.110	20 - ¾"	49	24	**PP96820710**



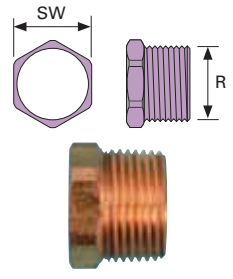
Manifold red brass	kg/Pc	R/Rp inch	G inch	l mm	m mm	
2-way eurocone	0.405	1/1	¾	121	55	**PP99500502**
3-way eurocone	0.585	1/1	¾	176	55	**PP99500503**



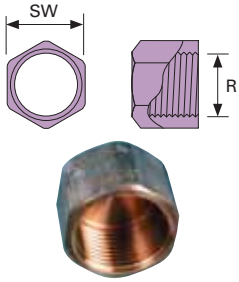
Ball valve with female thread dezincification-resistant brass	kg/Pc	R inch	B mm	
1"x 1"	0.553	1	68	**PP99500511**



Manifold plug with male thread dezincification-resistant brass	kg/Pc	R inch	SW mm	
1"	0.100	1	32	**PP99500513**

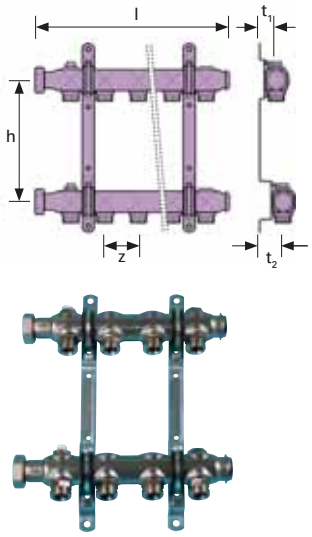


Manifold cap with female thread dezincification-resistant brass	kg/Pc	R inch	SW mm	
¾"	0.061	¾	30	**PP99500514**
1"	0.112	1	36	**PP99500515**

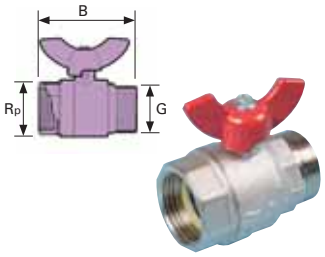


Polypress fittings - heating applications

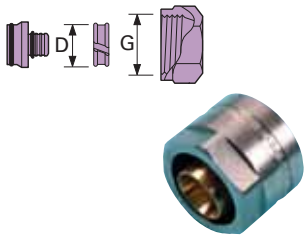
Description	Weight	Technical data					Product code
Heating manifold. high grade steel with acoustic wall bracket	**kg/Pc**	**l mm**	**h mm**	**z mm**	**t_1 mm**	**t_2 mm**	
2 Port	3.60	205	185	55	35	55	**PP99501202**
3 Port	4.50	260	185	55	35	55	**PP99501203**
4 Port	5.80	315	185	55	35	55	**PP99501204**
5 Port	6.80	370	185	55	35	55	**PP99501205**
6 Port	7.50	425	185	55	35	55	**PP99501206**
7 Port	8.40	480	185	55	35	55	**PP99501207**
8 Port	9.60	535	185	55	35	55	**PP99501208**
9 Port	10.40	590	185	55	35	55	**PP99501209**
10 Port	11.20	645	185	55	35	55	**PP99501210**
11 Port	12.10	700	185	55	35	55	**PP99501211**
12 Port	13.10	755	185	55	35	55	**PP99501212**



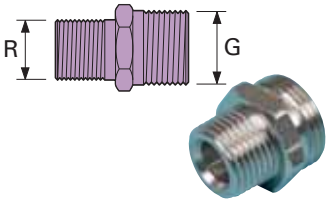
Ball valve heating manifold female/male threaded brass	kg/Pc	B mm	Rp inch	G inch	
1" FT x 1"MT	0.300	80	1	1	**PP99501130**
¾" FT x 1"MT	0.200	55	¾	1	**PP99502130**



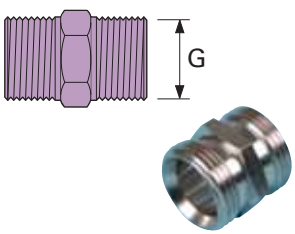
Screw fitting - clamping joint with female thread nickel-plated brass	kg/Pc	D mm	G inch	
16mm x ¾"	0.070	16	¾	**PP94816103**
20mm x ¾"	0.070	20	¾	**PP94820103**



Radiator compression coupling nickel-plated brass	kg/Pc	R inch	G inch	
½ x ¾"	0.055	½	¾	**PP92800712**



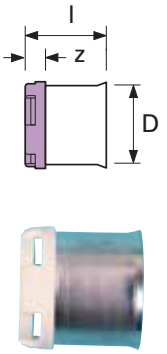
Eurocone coupling nickel-plated brass	kg/Pc	G inch	
¾ x ¾" male thread	0.050	¾	**PP92800100**



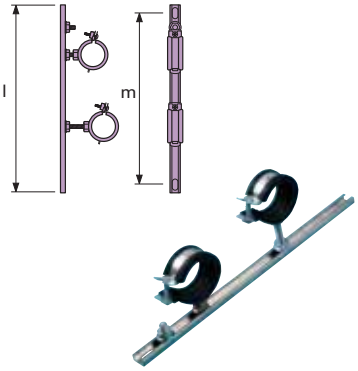
Polypress Fittings

Polypress fittings - spares and accessories

Description	Weight	Technical data			Product code
Spare compression sleeve stainless steel	**kg/Pc**	**D mm**	**l mm**	**z mm**	
16mm	0.008	16	21	7	**PP96816505**
20mm	0.030	20	24	7	**PP96820505**
26mm	0.030	26	28	9	**PP96826505**
32mm	0.040	32	32	9	**PP96832505**
40mm	0.035	40	47	12	**PP96740505**
50mm	0.050	52	52	12	**PP96750505**
63mm	0.068	63	59	12	**PP96763505**

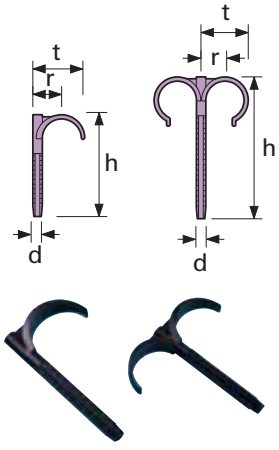


Wall mount brackets galvanised	kg/Pc	m mm	l mm	
1″	0.313	500	700	**PP9500512**



Spare o-ring EDPM	kg/Pc	
16mm	0.001	**PP94716510**
20mm	0.001	**PP94720510**
26mm	0.001	**PP94726510**
32mm	0.001	**PP94732510**
40mm	0.001	**PP96740510**
50mm	0.002	**PP96750510**
63mm	0.002	**PP96763510**

Single/double dowel hook plastic	kg/Pc	D mm	h mm	r mm	t mm	
single	0.010	8	60	20	40	**PP95912114**
double	0.010	8	60	20	40	**PP95912115**



Polypress tools

Description	Weight	Product code
Deburring and calibration tool	**kg/Pc**	
16 / 18 / 20mm	0.290	**PP99000211**
16 / 20 / 26 / 32mm	0.520	**PP99000213**

Deburring and calibration tool	kg/Pc	
40mm	0.335	**PP99040218**
50mm	0.455	**PP99050218**

Deburring and Calibration Tool	kg/Pc	
63mm	0.700	**PP99063218**

Deburring and Calibration Kit	kg/Pc	
16 - 32mm	2.00	**PP99000250**

Polypress Fittings

Polypress tools

Description	Weight	Product code
Pressure test plug	**kg/Pc**	
16mm	0.25	**PP99116000**
20mm	0.25	**PP99120000**
26mm	0.32	**PP99126000**
32mm	0.38	**PP99132000**

Pipe cutter	kg/Pc	
14 - 40mm	0.460	**PP99000225**
Spare cutting blade	0.010	**PP99000227**
16 - 63mm	0.800	**PP99000216**
Spare cutting blade	0.010	**PP99000217**

Shears	kg/Pc	
12 - 20mm	0.341	**PP99000220**
Spare cutting blade	0.020	**PP99000221**

Bending spring	kg/Pc	
16mm	0.220	**PP99116640**
20mm	0.300	**PP99120640**

Polypress tools

Description	Weight	Product code
Uncoiler 'light'	**kg/Pc**	
up to 600mm	22.00	**PP99200700**

Pipe straightener	kg/Pc	
16 / 20 / 26mm	3.60	**PP99200701**

Press jaws	kg/Pc	
16mm	1.95	**PP99016600**
20mm	1.93	**PP99020600**
26mm	2.05	**PP99026600**
32mm	2.10	**PP99032600**
40mm	2.02	**PP99040500**
50mm	2.40	**PP99050500**
63mm	5.00	**PP99063500**

Press tool required (not supplied)

Notes

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