EMMETI

Gerpex

Distribution system for thermosanitary systems with multilayer pipes and brass fittings

Heating & Plumbing

Technical sheet 60 · GB 01

EMMETI
The new factory for Multilayer pipe

The 9th of January on 2009 Emmeti inaugurated, in Fontanafredda (PN) loc. Le Forcate, the new PE-Xb/Al/PE-Xb multilayer pipe factory.
The production line, the crosslinking chamber, the coating line, the automatic packaging, the raw-material warehouse and the Laboratory, are running in a covered place of 10.000 m^2.
This last one, equipped with the most modern devices for product analysis and checks, ensures maximum reliability and safety of the finished product and its compliance with the last standards.
The production capacity of the plant up to speed, is 30,000,000 meters per year.
By means of this new factory, in addiction with the already operating in Ponte S. Marco (BS), with the production of press and compression fittings, Emmeti is placed on the European market among the few companies able to offer its own complete multilayer system.

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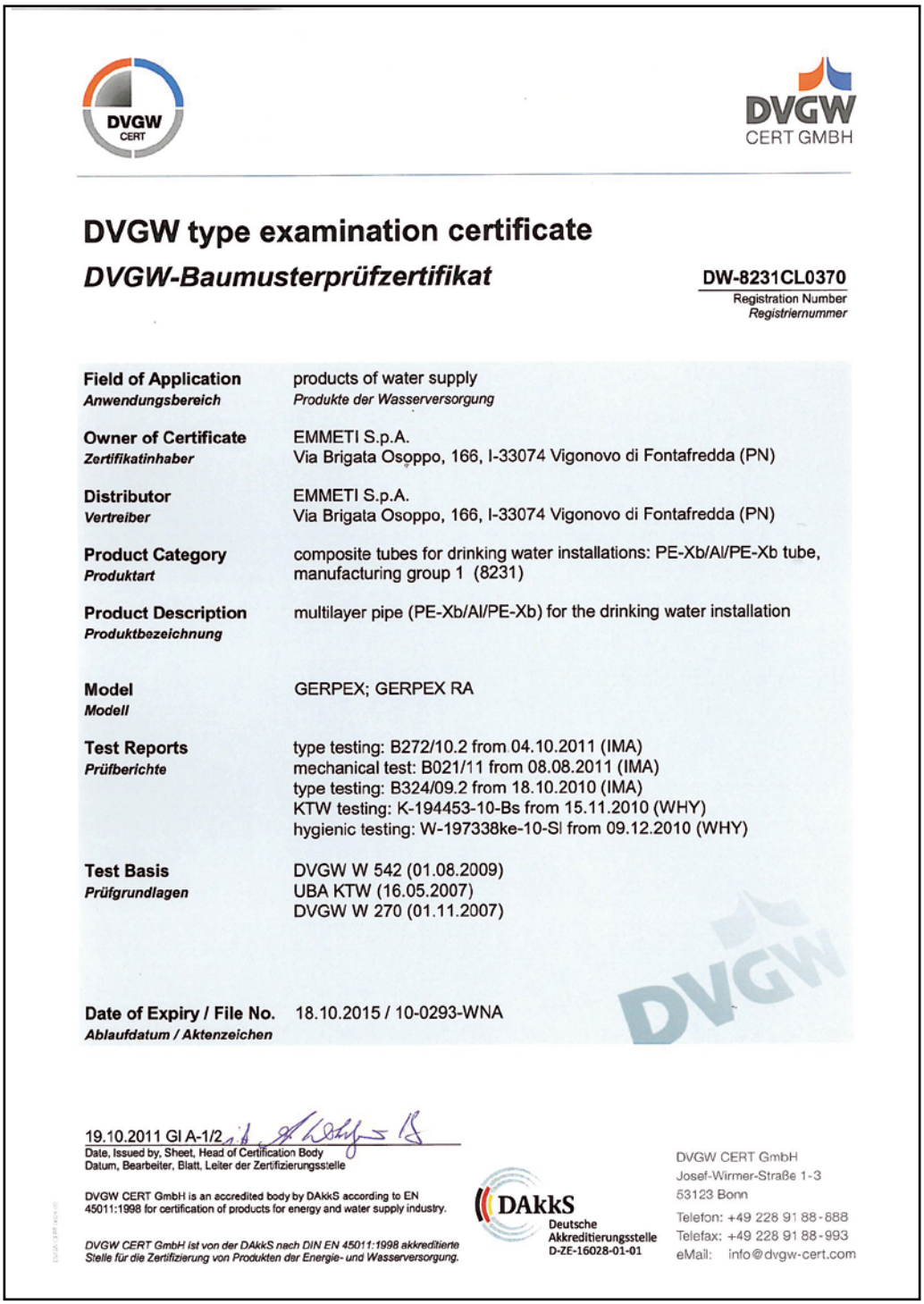
Quality certifications



DVGW CERT

DVGW CERT GMBH

DVGW type examination certificate

DVGW-Baumusterprüfzertifikat

DW-8231CL0370
Registration Number
Registriernummer

Field of Application ***Anwendungsbereich***	products of water supply *Produkte der Wasserversorgung*
Owner of Certificate ***Zertifikatinhaber***	EMMETI S.p.A. Via Brigata Osoppo, 166, I-33074 Vigonovo di Fontafredda (PN)
Distributor ***Vertreiber***	EMMETI S.p.A. Via Brigata Osoppo, 166, I-33074 Vigonovo di Fontafredda (PN)
Product Category ***Produktart***	composite tubes for drinking water installations: PE-Xb/Al/PE-Xb tube, manufacturing group 1 (8231)
Product Description ***Produktbezeichnung***	multilayer pipe (PE-Xb/Al/PE-Xb) for the drinking water installation
Model ***Modell***	GERPEX; GERPEX RA
Test Reports ***Prüfberichte***	type testing: B272/10.2 from 04.10.2011 (IMA) mechanical test: B021/11 from 08.08.2011 (IMA) type testing: B324/09.2 from 18.10.2010 (IMA) KTW testing: K-194453-10-Bs from 15.11.2010 (WHY) hygienic testing: W-197338ke-10-Sl from 09.12.2010 (WHY)
Test Basis ***Prüfgrundlagen***	DVGW W 542 (01.08.2009) UBA KTW (16.05.2007) DVGW W 270 (01.11.2007)
Date of Expiry / File No. ***Ablaufdatum / Aktenzeichen***	18.10.2015 / 10-0293-WNA

19.10.2011 GI A-1/2
Date, Issued by, Sheet, Head of Certification Body
Datum, Bearbeiter, Blatt, Leiter der Zertifizierungsstelle

DVGW CERT GmbH is an accredited body by DAkkS according to EN 45011:1998 for certification of products for energy and water supply industry.

DVGW CERT GmbH ist von der DAkkS nach DIN EN 45011:1998 akkreditierte Stelle für die Zertifizierung von Produkten der Energie- und Wasserversorgung.

DAkkS Deutsche Akkreditierungsstelle D-ZE-16028-01-01

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DVGW CERT

DVGW

CERT

DVGW type examination certificate

DVGW-Baumusterprüfzertifikat

DW-8501BN0004
Registration Number
Registriernummer

Field of Application ***Anwendungsbereich***	products of water supply *Produkte der Wasserversorgung*
Owner of Certificate ***Zertifikatinhaber***	EMMETI S.p.A. Via Brigata Osoppo, 166, I-33074 Vigonovo di Fontafredda (PN)
Distributor ***Vertreiber***	EMMETI S.p.A. Via Brigata Osoppo, 166, I-33074 Vigonovo di Fontafredda (PN)
Product Category ***Produktart***	installation systems and system joints: drinking water installation system (8501)
Product Description ***Produktbezeichnung***	drinking water installation system consisting of compressing connectors made of metal and multilayer pipes PE-Xb/Al/PE-Xb respectively PE-Xb/Al/PE-HD
Model ***Modell***	GERPEX; GERPEX RA
Test Reports ***Prüfberichte***	laboratory control test: B270/12 from 13.09.2012 (IMA) type testing: B272/10.1 from 04.10.2011 (IMA)
Test Basis ***Prüfgrundlagen***	DVGW W 534 (01.05.2004) BGA KTW (12.12.1985) UBA KTW (07.10.2008) DVGW W 270 (01.11.2007)

Date of Expiry / File No. 10.06.2017 / 12-0142-WNV
Ablaufdatum / Aktenzeichen

18.12.2012 GI A-1/2
Date, Issued by, Sheet, Head of Certification Body
Datum, Bearbeiter, Blatt, Leiter der Zertifizierungsstelle

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DAkkS
Deutsche Akkreditierungsstelle
D-ZE-16028-01-01

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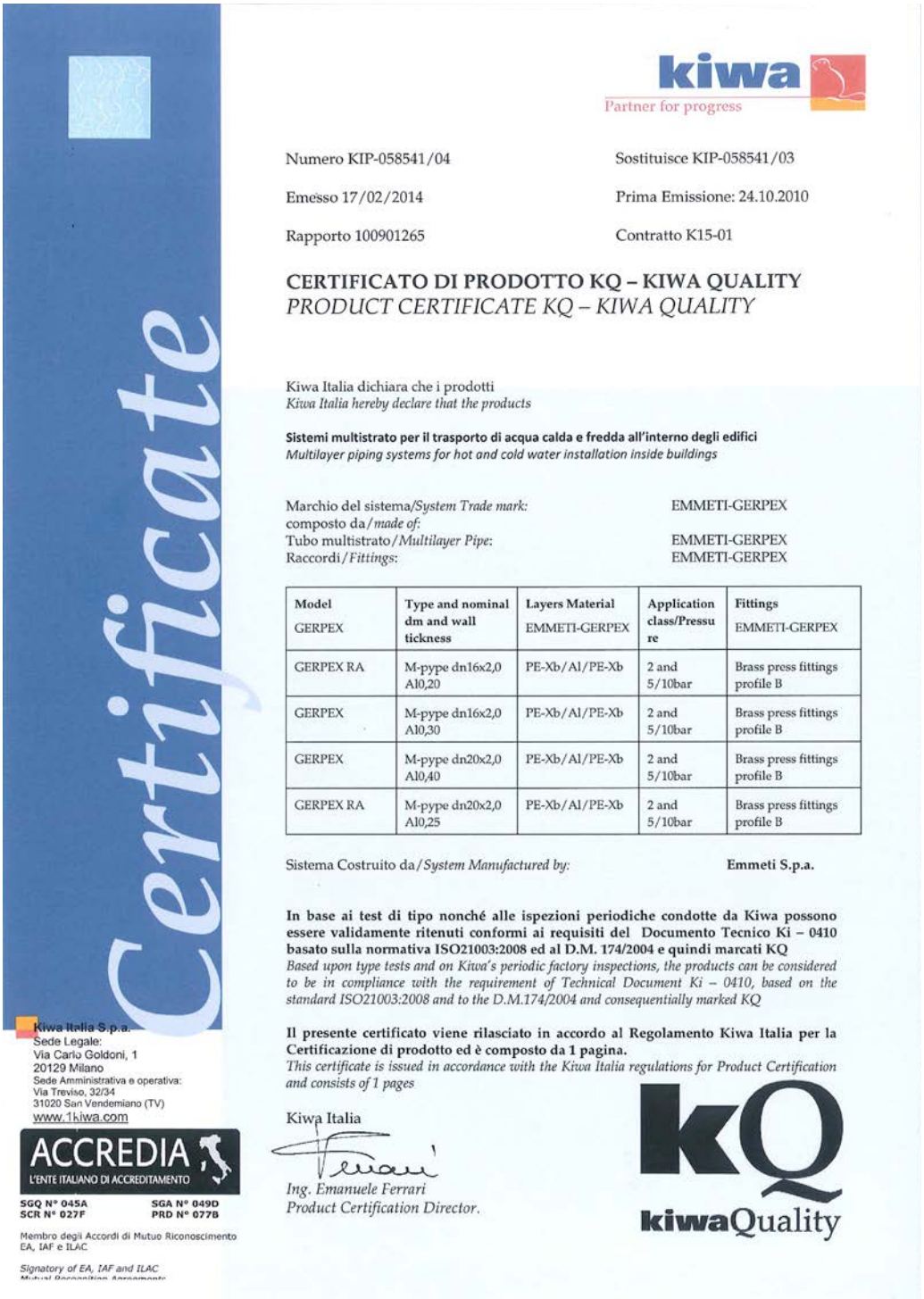
Quality certifications



Certificate

kiwa
Partner for progress

Numero KIP-058541/04 — Sostituisce KIP-058541/03

Emesso 17/02/2014 — Prima Emissione: 24.10.2010

Rapporto 100901265 — Contratto K15-01

CERTIFICATO DI PRODOTTO KQ – KIWA QUALITY
PRODUCT CERTIFICATE KQ – KIWA QUALITY

Kiwa Italia dichiara che i prodotti
Kiwa Italia hereby declare that the products

Sistemi multistrato per il trasporto di acqua calda e fredda all'interno degli edifici
Multilayer piping systems for hot and cold water installation inside buildings

Marchio del sistema/*System Trade mark:* EMMETI-GERPEX
composto da/*made of:*
Tubo multistrato/*Multilayer Pipe:* EMMETI-GERPEX
Raccordi/*Fittings:* EMMETI-GERPEX

Model GERPEX	Type and nominal dm and wall tickness	Layers Material EMMETI-GERPEX	Application class/Pressure	Fittings EMMETI-GERPEX
GERPEX RA	M-pype dn16x2,0 Al0,20	PE-Xb/Al/PE-Xb	2 and 5/10bar	Brass press fittings profile B
GERPEX	M-pype dn16x2,0 Al0,30	PE-Xb/Al/PE-Xb	2 and 5/10bar	Brass press fittings profile B
GERPEX	M-pype dn20x2,0 Al0,40	PE-Xb/Al/PE-Xb	2 and 5/10bar	Brass press fittings profile B
GERPEX RA	M-pype dn20x2,0 Al0,25	PE-Xb/Al/PE-Xb	2 and 5/10bar	Brass press fittings profile B

Sistema Costruito da/*System Manufactured by:* **Emmeti S.p.a.**

In base ai test di tipo nonché alle ispezioni periodiche condotte da Kiwa possono essere validamente ritenuti conformi ai requisiti del Documento Tecnico Ki – 0410 basato sulla normativa ISO21003:2008 ed al D.M. 174/2004 e quindi marcati KQ
Based upon type tests and on Kiwa's periodic factory inspections, the products can be considered to be in compliance with the requirement of Technical Document Ki – 0410, based on the standard ISO21003:2008 and to the D.M.174/2004 and consequentially marked KQ

Il presente certificato viene rilasciato in accordo al Regolamento Kiwa Italia per la Certificazione di prodotto ed è composto da 1 pagina.
This certificate is issued in accordance with the Kiwa Italia regulations for Product Certification and consists of 1 pages

Kiwa Italia
Ing. Emanuele Ferrari
Product Certification Director.

kQ
kiwaQuality

Kiwa Italia S.p.a.
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Sede Amministrativa e operativa:
Via Treviso, 32/34
31020 San Vendemiano (TV)
www.it.kiwa.com

ACCREDIA
L'ENTE ITALIANO DI ACCREDITAMENTO
SGQ N° 045A SGA N° 049D
SCR N° 027F PRD N° 077B

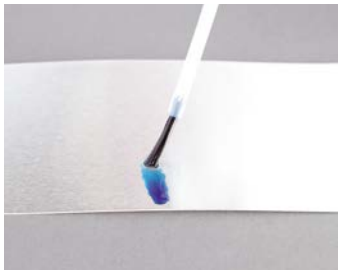
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC

Quality controls

The whole manufacturing process of Emmeti multilayer pipe is subject to strict controls carried out before, during and after production right from the raw materials through to the finished product.

In the production department and analytical laboratory, checks include the following:

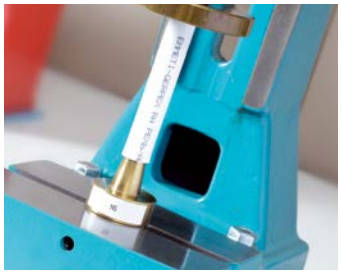
Melt Flow Index (MFI)
Verify compliance of the polymer raw materials to be used.



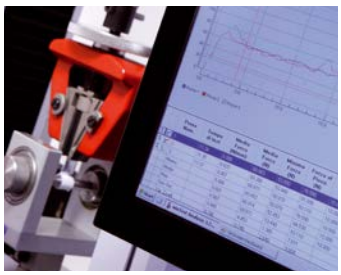
INK Test
Ensure that the strip of aluminium is clean.

Dimensional control in production
Automatic computerized control of pipe dimensions.

Ball Test
To ensure that there are no occlusions or deformations on the inside of the pipe by using compressed air to pass a ball through the pipe.



Enlargement Test
Test performed both in production and in the laboratory to verify the quality of welds and the adhesion of individual layers.



Peeling
Test resistance to delamination between the inner layer and the aluminium

Verify degree of bonding (cross-linking)
Verification performed in the laboratory to check the correct level (%) of cross-linking.

Resistance to internal pressure
Test resistance to a specific internal pressure at 95 °C; the pressure value is chosen as a function of the type of pipe (maximum diameter, aluminium thickness) and the duration of the test (22h, 165h, 1000h), by referring to the relative regression curves.

Thermal cycles
Test on a system consisting of the pipe and fittings and subjected to 5000 temperature cycles (20 to 95 °C) of 30 minutes each with a pressure of 10 bar.

Pressure cycles
Test on a system consisting of the pipe and fittings and subjected to 10,000 pressure cycles (from 1 to 30 bar) at 23 °C with a frequency of 0.5 Hz.

Vibration test
Vibration test on a system consisting of the pipe and fittings which is subjected to 330 alternating bending cycles with an internal pressure of 15 bar at room temperature.

Fields of application

Gerpex is the modern and efficient Emmeti system used to build heating and sanitary systems with multilayer pipes, made from cross-linked polyethylene (PEX) and aluminium, and special fittings.

The fittings are available in two different versions: press-fittings and screw-fittings. The wide range of fittings and the various fastening options make the Gerpex System a complete and highly reliable product.

The Gerpex System is suitable for:

- Heating systems
- Chilled water air-conditioning systems
- Hydraulic systems
- Compressed air systems

For the transport of other fluids, please contact our Technical Support service for the suitable checks.

The advantages of a complete system

Greater resistance to high temperatures
Resistance to temperatures up to a maximum of 95 °C.

Greater resistance to pressure
Resistance to pressures up to a maximum of 10 bar (at 95 °C).

Contained linear expansion
The linear expansion in relation to a variation in temperature is comparable with that of copper.

Thermal insulation
The system is available with an insulating coating which meets the following fire safety standards:
Classe 1 (UNI 9177) - D_L-s2-d2 (EN 13501-1).

Low load losses
The smooth surface of the pipe prevents limescale deposits and promotes the smooth flow of fluid thus considerably reducing pressure drops across the system.

A higher water flow rate is attainable
The pipe has considerable resistance to mechanical erosion from solid particles that the water normally drags with it.

Resistance to crushing and abrasion
This is due to the resistance of the aluminium layer and of the layers in PE-X used in the pipe's construction.

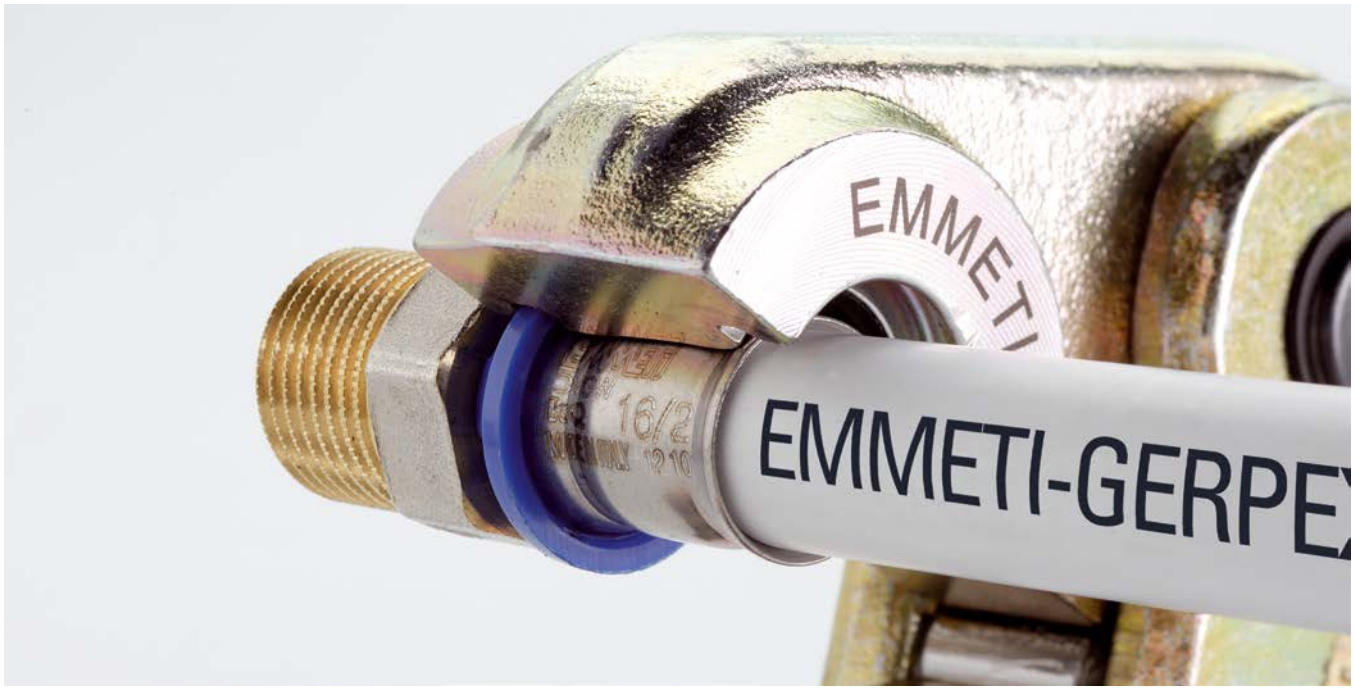
Impermeability to oxygen
The aluminium layer makes the Gerpex pipe impermeable to gasses and therefore to oxygen that would cause corrosion of the system's metal components.

Resistance to external chemical agents
Gerpex pipes embedded in walls or buried under flooring can be, due to their qualities, placed in "acidic" and "alkali" environments.

Complete resistance to electrochemical corrosion
This characteristic is obtained thanks to the materials used in the pipe's construction and the adoption in the fittings of a special dielectric element.

Reduced weight and rapid installation
Thanks to its low specific weight and the ability to bend easily, the Gerpex System is extremely easy to install.
Once bent into the desired position, the pipe remains in that position just like a metal pipe would do.
Attaching pipe fittings is quick and simple giving it a significant advantage over using traditional materials.

Features
the system Gerpex



Avoiding electrical voltage
Multilayer Gerpex pipes are made with a combination of aluminium and cross-linked polyethylene. Both the inner and outer pipes wrap around the aluminium pipe, effectively sealing it.
This design eliminates any direct electrical contact with the metal part of the tube.
In addition, at each junction, the Gerpex multilayer pipes are isolated from the joint fitting by means of a plastic ring.
This ensures that no direct current flow can be generated and avoids setting up an electrical voltage across the pipe system.

Chemical resistance
The chemical characteristics PE-X make the Gerpex pipe system resistant to any of the following substances:

- Plaster, concrete, mortar and cement
- Disinfectants and cleaning agents complying with DVGW technical sheet W291 and DIN 2000
- All natural materials containing drinking water according to DIN 2000
- Anti corrosives according to DIN 1988 part 4

Multilayer Gerpex pipes must be protected from substances such as bitumen, grease, solvents and mineral oils.
For compatibility with other chemical compounds, reference should be made to the ISO/TR 10358:1993 tables.

Gerpex pipe fittings must be protected with an appropriate coating if used in environments exposed to the danger of corrosion such as being laid in continuous flooring, in spaces with permanent humidity, in the presence of aggressive gases or concealed in direct contact with cement mortar or binders of lime.

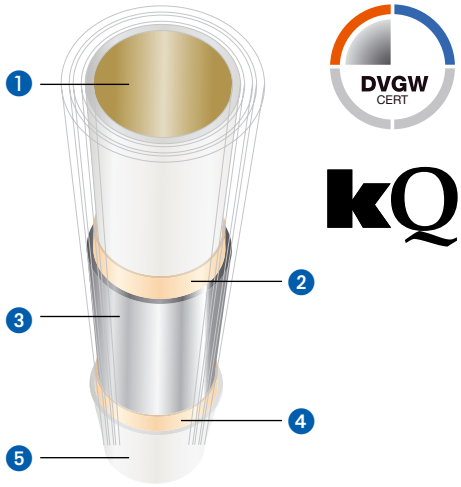
O-ring seals (in EPDM) are not compatible with petroleum products and therefore the use of lubricants derived from petroleum is prohibited.
The Gerpex system can be used with water and glycol mixtures to reach temperatures down to -10 °C.

Heat isolation
The hot water distribution networks for domestic use or heating, must be insulated in compliance with current legislation.
The Gerpex pipes preisolated with a sheath can be used in these plants, as for the distribution of cold or refrigerated water (air conditioning systems), preventing the risk of condensate (after verification in compliance with the UNI EN ISO 12241- 2002 Standard).

Resistance to UV rays
The Gerpex multilayer pipes must be protected from exposure to direct sunlight. They therefore must be covered during transport or storage, if they do not have the original packaging. The Gerpex pipes laid freely without protective pipes must be protected from prolonged exposure to solar rays (several months) by a covering.
The UV protection function of the Gerpex pipes can only be performed by the isolating layer (isolated Gerpex), by opaque sheets or by wrapping them in dark materials.

No hygiene risks
The Gerpex multilayer pipes are approved for use in installations with drinking water. The lack of hygiene risks, meaning suitability for hot and cold drinking water, has been certified in compliance with the KTW Directives by the DVGW research institute and is subject to constant external control.
The use of the Gerpex system in sanitary systems is ensured by certificates of fitness for drinking water in compliance with current legislation.
The Gerpex multilayer pipes contribute considerably to preventing the proliferation of legionella, thanks to the smooth surface of the internal pipe in PE-X, which does not promote deposits.

Multilayer pipe Gerpex



Construction

Multilayer pipe for plumbing systems made of composite material through a technologically advanced process with which a PE-Xb (cross linked polyethylene) pipe is combined to an aluminium core (minimum thickness 0.3 mm) welded on top, coated on the outside with another layer of PE-Xb (PE-HD, size 40-75).
Gerpex pipes combine the processing and durability advantages of a plastic pipe to the sturdiness and dimensional stability to temperature and pressure of a metal pipe.

1. Cross-linked polyethylene inner pipe (PE-Xb).
2. Bonding layer connecting the inner pipe to the aluminium pipe
3. Butt-welded aluminium pipe, thickness min 0,3 mm
4. Bonding layer connecting the outer pipe to the aluminium pipe
5. Cross-linked polyethylene outer pipe (PE-Xb), size 16-32
   High-density polyethylene outer pipe (PE-HD), size 40-75

The range

Available in rolls with diameters of DN 16, 20, 26, 32 and in bars DN 16, 20, 26, 32, 40, 50, 63 and 75. The pipe on rolls is also available preisolated with closed cell expanded polyethylene sheath, cross-link coating.

Dimensional data

Gerpex pipe external Ø	**mm**	**16**	**20**	**26**	**32**	**40**	**50**	**63**	**75**
Gerpex pipe internal Ø	mm	12	16	20	26	33	42	54	65
Overall thickness	mm	2	2	3	3	3,5	4	4,5	5
Weight (1)	Kg/m	0,13	0,15	0,28 (0,30)	0,38 (0,41)	0,58	0,88	1,32	1,6
Water content	l/m	0,11	0,20	0,31	0,53	0,85	1,38	2,29	3,32
Isolation thickness (2)	mm	6	6/9	9	9	-	-	-	-
Packs nude pipe (roll)	m	100	100/200	50	50	-	-	-	-
Packs nude pipe (bars L= 4m)	m	96*	96*	40*	40*	20	20	12	12
Packs insulated pipe (roll)	m	50/100	50	50	25	-	-	-	-

(1) Bare pipe; parenthetical the values for the tube in bars
(2) For isolated pipes only
* packaged in rigid protective pipe

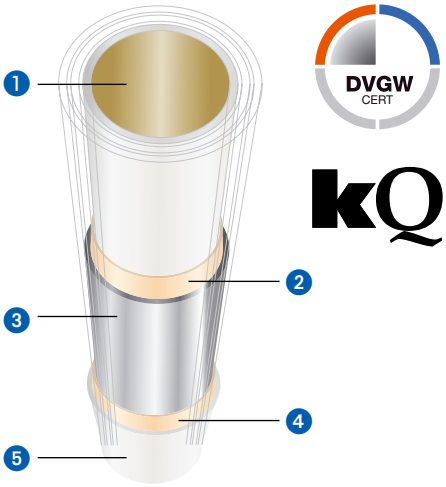
Technical data Gerpex pipe

Classes of application (UNI ISO 21003 - see table "Classification of the conditions of use"): 2/10 bar, 5/10 bar
Max. operating temperature: 95 °C
Max. operating pressure: 10 bar
Coefficient of linear expansion: 0,026 mm/m °C
Thermal conductivity: 0,45 W/m °C
Minimum radius of bending: 5 x Ø pipe
Surface roughness of internal pipe: 7 μm
Fire reaction class: E_L (EN 13501-1)

Technical data of insulating sheath

Material: Closed-cell expanded polyurethane, covered with a film in extruded LD-PE.
Thermal conductivity (at 40 °C): ≤ 0,040 W/mK (UNI EN ISO 8497).
Water vapour resistance factor μ: 5000 (UNI EN 13469)
Fire reaction class of covering: 1 (UNI 9177); DL-s2-d2 (EN 13501-1)
Admitted operating temperature of the covering: -45 °C ÷ +100 °C.

Multilayer pipe Gerpex RA



Construction

Multilayer pipe for plumbing systems made of composite material through a technologically advanced process with which a PE-Xb (cross linked polyethylene) pipe is combined to an aluminium core (minimum thickness 0.2 mm) welded on top, coated on the outside with another layer of PE-Xb.
Gerpex RA pipes combine the processing and durability advantages of a plastic pipe to the sturdiness and dimensional stability to temperature and pressure of a metal pipe.

1. Cross-linked polyethylene inner pipe (PE-Xb)
2. Bonding layer connecting the inner pipe to the aluminium pipe
3. Butt-welded aluminium pipe, thickness min 0,2 mm
4. Bonding layer connecting the outer pipe to the aluminium pipe
5. Cross-linked polyethylene outer pipe (PE-Xb)

The range

Gerpex RA pipe is available in rolls with diameters of DN 14, 16, 18, 20, 26, 32 and in bars DN 16, 20, 26 and 32.
The pipe on rolls is also available preisolated with closed cell expanded polyethylene sheath, cross-link coating

Dimensional data

Gerpex RA pipe external Ø	**mm**	**14**	**16**	**18**	**20**	**26**	**32**
Gerpex RA pipe internal Ø	mm	10	12	14	16	20	26
Overall thickness	mm	2	2	2	2	3	3
Weight (1)	Kg/m	0,85	0,10	0,12	0,13	0,26	0,33
Water content	l/m	0,08	0,11	0,15	0,20	0,31	0,53
Isolation thickness (2)	mm	6	6/10	6	6/9/13	9/13	9/13
Packs nude pipe (roll)	m	100	100/200/500	100	100/200	50	50
Packs nude pipe (bars L= 4m)	m	-	96*	-	96*	40*	40*
Packs insulated pipe (roll)	m	50/100	50/100	50/100	50	50	25

(1) Bare pipe; parenthetical the values for the tube in bars
(2) For isolated pipes only
* packaged in rigid protective pipe

Technical data Gerpex RA pipe

Classes of application (UNI ISO 21003 - see table "Classification of the conditions of use"): 2/10 bar; 5/10 bar
Max. operating temperature: 95 °C
Max. operating pressure: 10 bar
Coefficient of linear expansion: 0,026 mm/m °C
Thermal conductivity: 0,43 W/m °C
Minimum radius of bending: 5 x Ø tubo
Surface roughness of internal pipe: 7 μm
Fire reaction class: E_L (EN 13501-1)

Technical data of insulating sheath

Material: Closed-cell expanded polyurethane, covered with a film in extruded LD-PE.
Thermal conductivity (at 40 °C): ≤ 0,040 W/mK (UNI EN ISO 8497).
Water vapour resistance factor μ: 5000 (UNI EN 13469)
Fire reaction class of covering: 1 (UNI 9177); DL-s2-d2 (EN 13501-1)
Admitted operating temperature of the covering: -45 °C ÷ +100 °C.

Classification of the conditions of use (UNI ISO 21003)

Application class	Design temperature T_D (°C)	Durability a T_D (years)	T_{max} (°C)	Durability a T_{max} (years)	$T_{malfunction}$ (°C)	Durability at $T_{malfunction}$ (ore)	Range of application
1	60	49	80	1	95	100	Hot water (60 °C)
2	70	49	80	1	95	100	Acqua calda (70 °C)
4	20 + 40 + 60	2,5 20 25	70	2,5	100	100	Floor heating and low temperature radiators
5	20 + 60 + 80	14 25 10	90	1	100	100	High temperature radiators

Marking example of Gerpex pipe DN 16x2 (al 0,3)

EMMETI-GERPEX PEXb/AL/PEXb 16x2 PER IMPIANTI TERMICI E SANITARI T=95°C P=10 bar KQ UNI EN ISO 21003 Class 2/10 bar, 5/10 bar DVGW DW8501BN0004 Made in Italy 14:28 14/04/14 4M111052 100 m

KEY

EMMETI-GERPEX	Trade name pipe
PEXb/AL/PEXb	Internal layer pipe in PE-Xb, intermediate layer in aluminum, external layer pipe in PE-Xb
16x2	External diameter and pipe wall thickness, expressed in millimeters (nominal dimensions)
PER IMPIANTI TERMICI E SANITARI	Fields of application of the pipe
T=95 °C	Max. operating temperature=95 °C
P=10 bar	Max. operating pressure=10 bar
KQ UNI EN ISO 21003	KIWA certification in accordance with Technical Standard UNI EN ISO 21003
Class 2/10 bar, 5/10 bar	Application class in accordance with Technical Standard UNI EN ISO 21003
DVGW DW8501BN0004	N° certificate in accordance with German Technical Regulation DVGW W534
Made in Italy	Pipe made in Italy
14:28	Time of manufacturing
14/04/14	Date of manufacturing
4M111052	Production batch
100 m	Progressive roll length

EMMETI-GERPEX PEXb/AL/PEXb 16x2 PER IMPIANTI TERMICI E SANITARI T=95°C P=10 bar KQ UNI EN ISO 21003 Class 2/10 bar, 5/10 bar DVGW DW8501BN0004 Made in Italy 14:28 14/04/14 4M111052 100 m

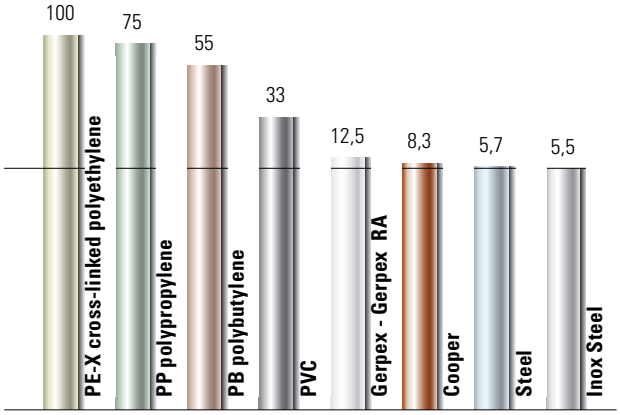
Certification and quality

The features and performance of Gerpex and Gerpex RA pipe are verified and certified by numerous quality marks and international standards. In particular, Gerpex and Gerpex RA pipes have obtained the DVGW certificate of quality regarding the prestigious German institution Technical Regulation W542, as well as KIWA in accordance with UNI EN ISO 21003.

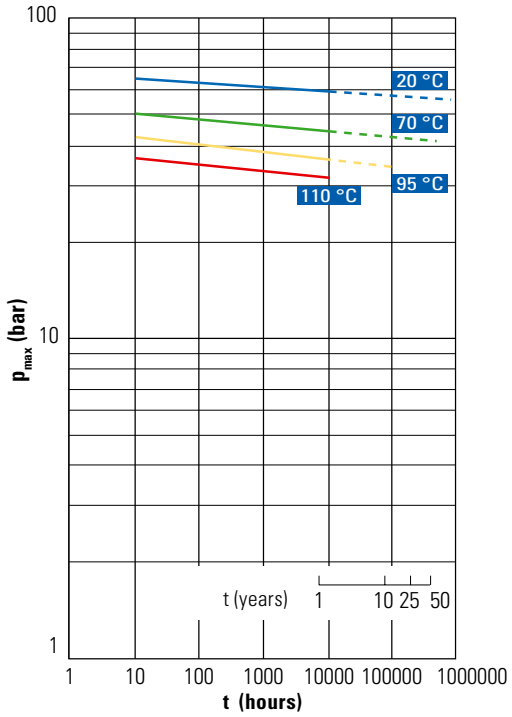
Drinking water

The use of Gerpex and Gerpex RA systems in medical facilities is guaranteed by the certificate of suitability for drinking water according to the current national legislation in force (Ministerial Decree 174 of the Ministry of Health) as well as compliance with the requirements by the German institute KTW.

linear thermal expansion for 10 m pipes of different materials ΔT 50 °C (values expressed in mm)



Regression curves
Gerpex - Gerpex RA pipes
(Ø 16 x 2)



Reading example

The maximum pressure (p_{max}) for a duration of 50 years at a certain temperature is identified by intersecting the straight line (vertical) pertaining to the 50 years with the straight line (coloured) pertaining to the temperature.
Note: the expected operating pressure (p_{es}), the safety coefficient will be equal to $Ks=p_{max}/p_{es}$.

Bonding (Cross-linking)

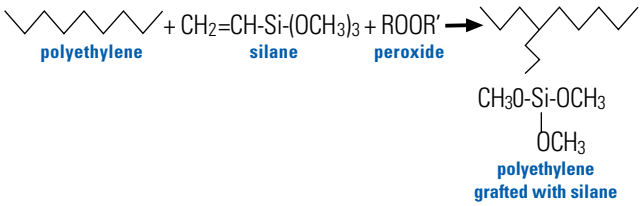
Bonding or cross-linking is the process by which the polyethylene improves its chemical/ mechanical characteristics following the formation of bonds between the polymer chains.

There are 4 different bonding methods:

Bonding Type	Designation	Percentage	Test Method
Peroxide	PE-Xa	≥ 70%	EN 579
Silane	PE-Xb	≥ 65%	EN 579
Electron Beam Welding	PE-Xc	≥ 60%	EN 579
Azo	PE-Xd	≥ 60%	EN 579

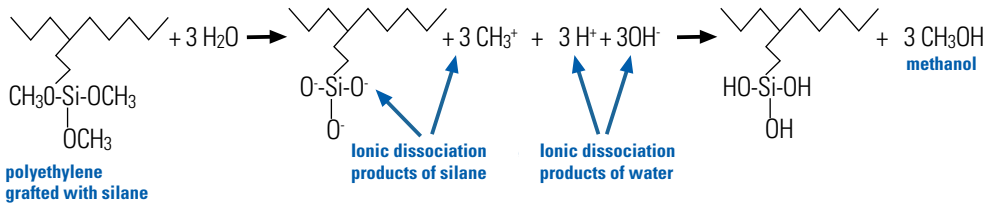
The bonded polyethylene used in Gerpex and Gerpex RA multilayer pipes is of the PE-Xb type and is obtained with the silane method.

In this process, high-density grafted polyethylene is used i.e. a silane additive is used with a small amount of peroxide being added to act as an initiator.

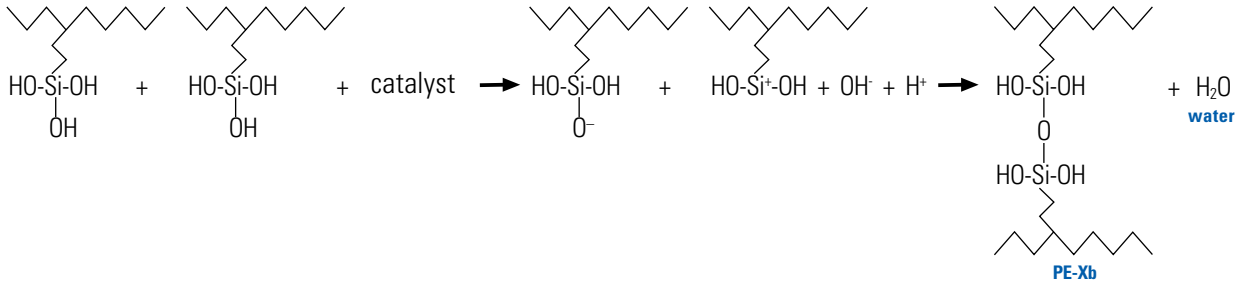


The process begins with a combined extrusion of grafted polyethylene granules and a catalyst (max 5 %). Subsequently, the cross-linking mechanism is activated by placing the pipe in contact with water at high temperature (or steam).

In the first phase, the water acts as reagent (hydrolysis) and methanol is produced.



In the second and last phase, water is produced (condensation) as a result of reactions triggered by the catalyst.



This therefore creates intermolecular bridges inside the material that improves the characteristics of the pipe in terms of:
- Resistance over time to temperature and pressure;
- Resistance to corrosion;
- Chemical resistance;
- The ability to use the pipe with both high and low temperatures.

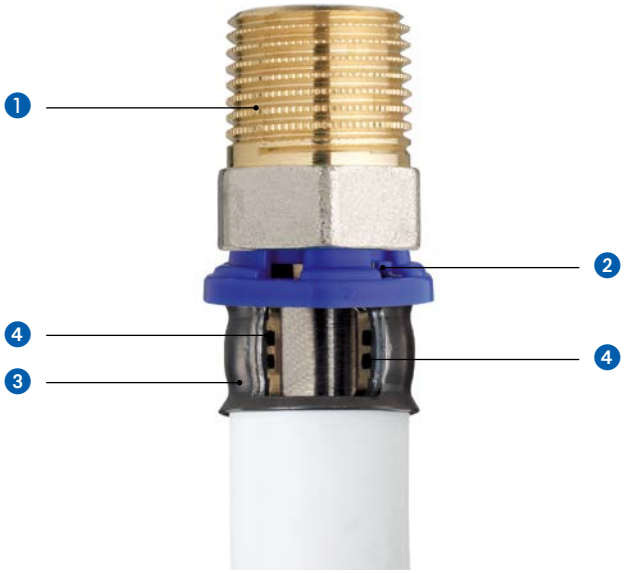
Press fittings

Features

Gerpex Emmeti press-fittings have been designed to be installed with the connection technique based on the use of electric or manual pressing devices. This type of joint has become increasingly more popular due to its extremely simple and quick installation, along with the high level of sealing at temperature and pressure.
The pincer, specific for every diameter of fittings, compresses a stainless steel bush, which blocks the pipe onto the core of the fitting. The hydraulic and mechanical sealing is guaranteed by the special profile of the fitting and the double O-ring.
After pressing, the fitting produces a joint with maximum stability and duration, which makes it particularly suitable in embedded installations.

Construction details

The stainless steel bush is blocked onto the fitting by coupling onto the blue plastic ring.
Each bush has the indication of the diameter and production data engraved (year week).
The plastic ring has four important functions:
- it prevents electric contact between the layer of aluminium of the pipe and the brass body of the fitting, thus preventing the risk of possible corrosion,
- it allows to check, through relevant apertures, that the pipe has been introduced into the fitting fully home,
- it guides the correct positioning of the jaws around the bush,
- fixes the bush to the fitting.



1. CW617N (UNI EN 12165) and CW614N (UNI EN 12164) brass body*. Threads: UNI EN IS O 228-1, UNI EN 10226.
2. Nylon sleeve ring, dielectric
3. AISI 304 steinless steel sleeve
4. EPDM dual o-ring

* nickel-pladed only on surface non in contact with fluides; availibility after exhaustion of totally nickel-plated versions.

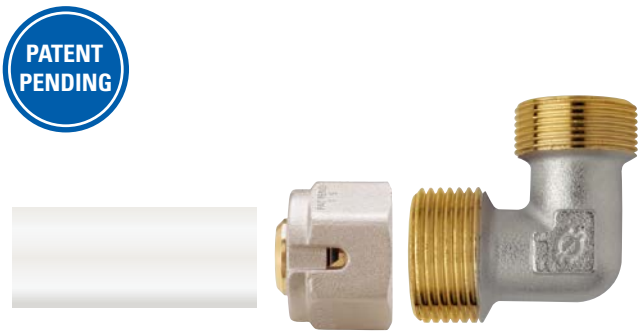
Certification and quality

The quality of the Gerpex system with press fittings is certified by the German Body DVGW, in compliance with Technical Regulation W534.

Fittings to be tightened

Uses

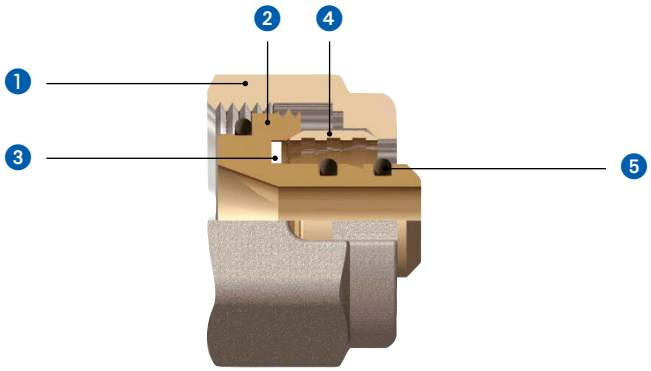
The use of the screw-together pipe fittings makes installing the multi-layer pipe easy, and moreover it requires very few tools.
The 24x19 threading allows for a single type of fitting which can be matched with Emmeti seals 24x19 for multi-layer pipe thus rationalizing stocks. The hydraulic seal is ensured by means of a system with three O-rings and a toothed pipeholding ogive.
All the fittings are equipped with a special PTFE ring that insulates the aluminium of the pipe from the brass fitting.



Construction details

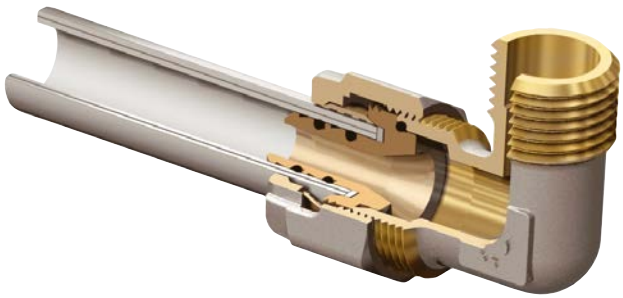
The single body seal is supplied with it components (nut, olive, adaptor) already assembled and ready for insertion into the pipe.
The opening on the nut makes it possible to verify if the fitting has been inserted all the way down to the Seat point.

1. Nut in CW617N (UNI EN 12165)
2. Adapter in CW614N (UNI EN 12164)
3. Washer in PTFE
4. Hose clip notched ogive, cut in CW614N (UNI EN 12164)
5. Sealing O-Ring in EPDM



The range

For Gerpex pipe DN 14, 16, 18, 20: seal and fittings with 24x19 thread, compatible with all products Emmeti of thermal line.
For Gerpex pipe DN 26: seal and fittings with 32 x 1,5 thread.



The range

Gerpex rolls nude pipe

Size	Mts. pack
16 x 2	100
20 x 2	100 / 200
26 x 3	50
32 x 3	50

Gerpex bare nude pipe

4 mt bars

Size	Mts. pack
16 x 2	96
20 x 2	96
26 x 3	40
32 x 3	40
40 x 3,5	20
50 x 4	20
63 x 4,5	12
75 x 5	12

Gerpex rolls insulated pipe

Closed cell cross-linked polyethylene isolating sheath, coated.
Isolating thermal conductivity at 40 °C: ≤0,040 W/m °C

Size	Insulation thickness	Mts. pack
16 x 2	6 mm	50/100
20 x 2	6 mm	50
20 x 2	9 mm	50
26 x 3	9 mm	50
32 x 3	9 mm	25

Gerpex RA rolls nude pipe

Size	Mts. pack
14 x 2	100
16 x 2	100 / 200 / 500
18 x 2	100
20 x 2	100 / 200
26 x 3	50
32 x 3	50

Gerpex RA rolls insulated pipe

Closed cell cross-linked polyethylene isolating sheath, coated.
Isolating thermal conductivity at 40 °C: ≤0,040 W/m °C

Size	Insulation thickness	Mts. pack
14 x 2	6 mm	50/100
16 x 2	6 mm	50/100
18 x 2	6 mm	50/100
20 x 2	6 mm	50
20 x 2	9 mm	50
26 x 3	9 mm	50
32 x 3	9 mm	25

Gerpex RA rolls insulated pipe

Closed cell cross-linked polyethylene isolating sheath, coated.
Isolating thermal conductivity at 40 °C: ≤0,040 W/m °C

Size	Insulation thickness	Mts. pack
16 x 2	10 mm	50
20 x 2	13 mm	50
26 x 3	13 mm	25
32 x 3	13 mm	25

Gerpex RA rolls insulated pipe

Closed cell cross-linked polyethylene isolating sheath, coated.
Isolating thermal conductivity at 40 °C: ≤0,040 W/m °C

Size	Insulation thickness	Mts. pack
16 x 2 rosso	6 mm	100
16 x 2 azzurro	6 mm	100
20 x 2 rosso	6 mm	50
20 x 2 azzurro	6 mm	50

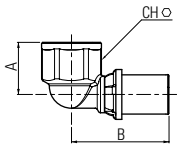
Gerpex RA bare nude pipe

4 mt bars

Size	Mts. pack
16 x 2	96
20 x 2	96
26 x 3	40
32 x 3	40

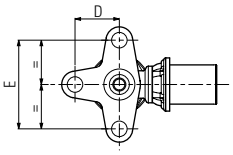
Press fittings

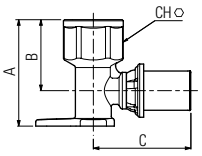
Female connecting elbow



Size	Profile	A mm	B mm	CH mm
16 x 1/2"	B (KSP1)	23,5	44	24
18 x 1/2"	B (KSP1)	19,5	44,5	24
20 x 1/2"	B (KSP1)	23,5	44	24
20 x 3/4"	B (KSP1)	28	48	30
26 x 3/4"	B (KSP1)	28	48	30
32 x 1"	B (KSP1)	33	53	38

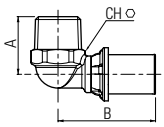
Female elbow, flanged elbow





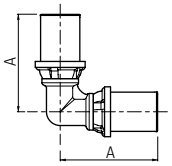
Size	Profile	A mm	B mm	C mm	D mm	E mm	CH mm
16 x 1/2"	B (KSP1)	48	32	44	20	40	24
16 x 1/2"	B (KSP1)	68	52	44	20	40	24
18 x 1/2"	B (KSP1)	52,5	36,5	43	20	24	24
20 x 1/2"	B (KSP1)	68	52	44	20	40	24
20 x 1/2"	B (KSP1)	48	32	44	20	40	24
20 x 3/4"	B (KSP1)	56	37	48	20	40	30
26 x 3/4"	B (KSP1)	56	37	48	20	40	30

Male connecting elbow



Size	Profile	A mm	B mm	CH mm
16 x 1/2"	B (KSP1)	26	44	22
18 x 1/2"	B (KSP1)	26	42,5	22
20 x 1/2"	B (KSP1)	26	44	22
20 x 3/4"	B (KSP1)	31,5	48	27
26 x 3/4"	B (KSP1)	31,5	48	27
32 x 1"	B (KSP1)	38	53	34
40 x 1"1/4	TH (KSP11)	44	69,5	46
50 x 1"1/2	TH (KSP11)	49	75,5	52
63 x 2"	TH (KSP11)	61	81	65

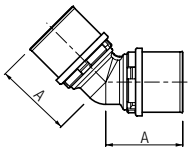
Intermediate elbow



Size	Profile	A mm
16 x 16	B (KSP1)	44
18 x 18	B (KSP1)	43,5
20 x 20	B (KSP1)	44
26 x 26	B (KSP1)	48
32 x 32	B (KSP1)	53
40 x 40	TH (KSP11)	66
50 x 50	TH (KSP11)	74,5
63 x 63	TH (KSP11)	82
75 x 75	TH (KSP11) (**)	100,5

(**) Compatible profile F (KSP2)

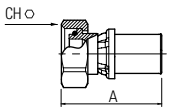
Intermediate elbow 45°



Size	Profile	A mm
40 x 40	TH (KSP11)	54
50 x 50	TH (KSP11)	59,5
63 x 63	TH (KSP11)	63
75 x 75	TH (KSP11) (**)	75,5

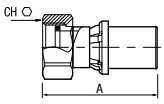
(**) Compatible profile F (KSP2)

Straight with female swivel nut, o-ring fitting



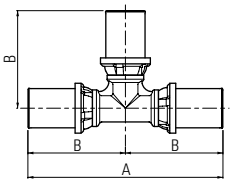
Size	Profile	A mm	CH mm
Ø 16 - 24x19	B (KSP1)	45,5	27
Ø 20 - 24x19	B (KSP1)	45,5	27
Ø 16 - Eurocone 3/4"	B (KSP1)	45,5	30
Ø 20 - Eurocone 3/4"	B (KSP1)	45,5	30

Straight with female swivel nut, flat seal



Size	Profile	A mm	CH mm
16 x 3/8"	B (KSP1)	41	19
16 x 1/2"	B (KSP1)	41	25
16 x 3/4"	B (KSP1)	42	30
20 x 1/2"	B (KSP1)	41	25
20 x 3/4"	B (KSP1)	42	30
26 x 3/4"	B (KSP1)	45	30
26 x 1"	B (KSP1)	42	37
32 x 1"	B (KSP1)	46	37
32 x 1"1/4	TH (KSP11)	59,5	46
40 x 1"1/2	TH (KSP11)	70	52
50 x 2"	TH (KSP11)	78	64
63 x 2"1/2	TH (KSP11)	91	80

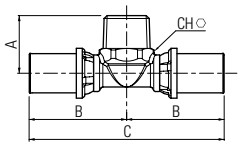
Intermediate Tee joint



Size	Profile	A mm	B mm
16 x 16 x 16	B (KSP1)	88	44
18 x 18 x 18	B (KSP1)	85	42,5
20 x 20 x 20	B (KSP1)	88	44
26 x 26 x 26	B (KSP1)	96	48
32 x 32 x 32	B (KSP1)	106	53
40 x 40 x 40	TH (KSP11)	132	66
50 x 50 x 50	TH (KSP11)	149	74,5
63 x 63 x 63	TH (KSP11)	164	82
75 x 75 x 75	TH (KSP11) (**)	201	100,5

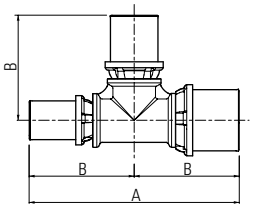
(**) Compatible profile F (KSP2)

Male intermediate T-fitting



Size	Profile	A mm	B mm	C mm	CH mm
16 x 1/2" x 16	B (KSP1)	26	44	88	22
20 x 1/2" x 20	B (KSP1)	26	44	88	22
20 x 3/4" x 20	B (KSP1)	31,5	48	96	27
26 x 3/4" x 26	B (KSP1)	31,5	48	96	27

Intermediate reducing Tee joint



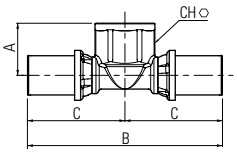
Size	Profile	A mm	B mm
16 x 20 x 16	B (KSP1)	88	44
20 x 16 x 16	B (KSP1)	88	44
20 x 16 x 20	B (KSP1)	88	44
20 x 20 x 16	B (KSP1)	88	44
20 x 26 x 20	B (KSP1)	96	48
20 x 32 x 20	B (KSP1)	106	53
26 x 16 x 20	B (KSP1)	96	48
26 x 16 x 26	B (KSP1)	96	48
26 x 20 x 16	B (KSP1)	96	48
26 x 20 x 20	B (KSP1)	96	48
26 x 20 x 26	B (KSP1)	96	48
26 x 26 x 16	B (KSP1)	96	48
26 x 26 x 20	B (KSP1)	96	48
26 x 32 x 26	B (KSP1)	106	53
32 x 16 x 32	B (KSP1)	106	53
32 x 20 x 20	B (KSP1)	106	53
32 x 20 x 26	B (KSP1)	106	53
32 x 20 x 32	B (KSP1)	106	53
32 x 26 x 20	B (KSP1)	106	53
32 x 26 x 26	B (KSP1)	106	53
32 x 26 x 32	B (KSP1)	106	53
32 x 32 x 16	B (KSP1)	106	53
32 x 32 x 20	B (KSP1)	106	53
32 x 32 x 26	B (KSP1)	106	53
40 x 26 x 32	TH (KSP11) (1)/(2)	124,5	57,5
40 x 26 x 40	TH (KSP11) (1)	132	57,5
40 x 32 x 32	TH (KSP11) (2)	124,5	58,5
40 x 32 x 40	TH (KSP11) (1)	132	66
40 x 40 x 32	TH (KSP11) (2)	124,5	66
50 x 26 x 50	TH (KSP11) (1)	149	64
50 x 32 x 50	TH (KSP11) (1)	149	63,5
50 x 40 x 40	TH (KSP11)	149	74,5
50 x 40 x 50	TH (KSP11)	149	72,5
50 x 50 x 32	TH (KSP11) (2)	139,5	74,5
50 x 50 x 40	TH (KSP11)	149	74
63 x 50 x 63	TH (KSP11)	164	82

(1) Takeoffs profile 26x3: B (KSP1)
(2) Takeoffs profile 32x3: B (KSP1)

75 x 40 x 75	TH (KSP11) (**)	201	91
75 x 50 x 75	TH (KSP11) (**)	201	91

(**) 75x5 takeoffs: compatible profile F (KSP2)

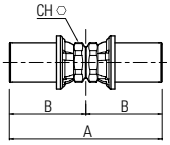
Intermediate Tee joint with female branching



Size	Profile	A mm	B mm	C mm	CH mm
16 x 1/2" x 16	B (KSP1)	23,5	88	44	24
16 x 3/4" x 16	B (KSP1)	28	96	48	30
20 x 1/2" x 20	B (KSP1)	23,5	88	44	24
20 x 3/4" x 20	B (KSP1)	28	96	48	30
26 x 1/2" x 20	B (KSP1)	21,5	93	48	24
26 x 1/2" x 26	B (KSP1)	21,5	96	48	24
26 x 3/4" x 26	B (KSP1)	28	96	48	30
32 x 3/4" x 32	B (KSP1)	33	106	53	38
32 x 1" x 32	B (KSP1)	33	106	53	38
40 x 3/4" x 40	TH (KSP11)	35,5	130	65	38
40 x 1" x 40	TH (KSP11)	39	130	65	38
40 x 1"1/4 x 40	TH (KSP11)	48,5	140	71,5	47
50 x 3/4" x 50	TH (KSP11)	40	133	66,5	38
50 x 1" x 50	TH (KSP11)	41	133	66,5	38
50 x 1"1/4 x 50	TH (KSP11)	48,5	143	71,5	47
63 x 1" x 63	TH (KSP11)	46,5	143	71,5	47
63 x 1"1/4 x 63	TH (KSP11)	48,5	143	71,5	47
75 x 1" x 75	TH (KSP11) (**)		56	201	100,5

(**) Compatible profile F (KSP2)

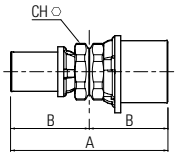
Vertical intermediate union joint



Size	Profile	A mm	B mm	CH mm
14 x 14	B (KSP1)	67	33,5	15
16 x 16	B (KSP1)	73	34,5	16
18 x 18	B (KSP1)	67	33,5	-
20 x 20	B (KSP1)	73	34,5	20
26 x 26	B (KSP1)	71	35,5	23
32 x 32	B (KSP1)	74	37	29
40 x 40	TH (KSP11)	95	47,5	40
50 x 50	TH (KSP11)	101	50,5	48
63 x 63	TH (KSP11)	103	51,5	60
75 x 75	TH (KSP11) (**)	116	58	78

(**) Compatible profile F (KSP2)

Vertical intermediate reducing union joint



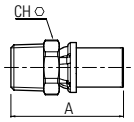
Size	Profile	A mm	B mm	CH mm
20 x 16	B (KSP1)	73	34,5	20
26 x 16	B (KSP1)	71	35,5	23
26 x 20	B (KSP1)	71	35,5	23
32 x 16	B (KSP1)	73	36,5	29
32 x 20	B (KSP1)	73	36,5	29
32 x 26	B (KSP1)	73	36,5	29
40 x 26	TH (KSP11) (1)	86,5	47,5	40
40 x 32	TH (KSP11) (2)	86	43	40
50 x 32	TH (KSP11) (2)	91,5	50,5	48
50 x 40	TH (KSP11)	99	49,5	48
63 x 40	TH (KSP11)	101	50,5	60
63 x 50	TH (KSP11)	103	51,5	60

(1) Takeoffs profile 26x3: B (KSP1)
(2) Takeoffs profile 32x3: B (KSP1)

75 x 40	TH (KSP11) (**)	105,5	58	78
75 x 50	TH (KSP11) (**)	108	58	78
75 x 63	TH (KSP11) (**)	107,8	58	70

(**) 75x5 takeoffs: compatible profileF (KSP2)

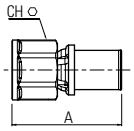
Vertical Male union joint



Size	Profile	A mm	CH mm
14x1/2"	B (KSP1)	53,5	22
16 x 1/2"	B (KSP1)	50,8	22
18 x 1/2"	B (KSP1)	53,5	22
20 x 1/2"	B (KSP1)	50,8	22
20 x 3/4"	B (KSP1)	54,5	27
26 x 3/4"	B (KSP1)	54,5	27
26 x 1"	B (KSP1)	59,5	34
32 x 1"	B (KSP1)	60,5	34
32 x 1"1/4	B (KSP1)	66,5	46
40 x 1"	TH (KSP11)	71,5	46
40 x 1"1/4	TH (KSP11)	74	46
50 x 1"1/2	TH (KSP11)	77	52
63 x 2"	TH (KSP11)	82,2	65
75 x 2"1/2	TH (KSP11) (**)	95,7	78

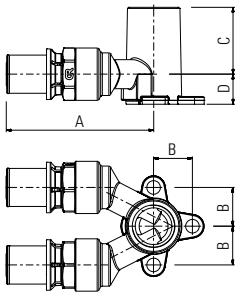
(**) Compatible profile F (KSP2)

Vertical Female union joint



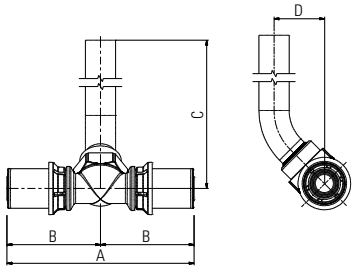
Size	Profile	A mm	CH mm
16 x 1/2"	B (KSP1)	49,5	24
18 x 1/2"	B (KSP1)	47,5	24
20 x 1/2"	B (KSP1)	49,5	24
20 x 3/4"	B (KSP1)	52	30
26 x 3/4"	B (KSP1)	52	30
26 x 1"	B (KSP1)	56	38
32 x 1"	B (KSP1)	57	38

Female double elbow with flange



Size	Profile	A mm	B mm	C mm	D mm
16 x 1/2"	B (KSP1)	76	20	34,5	15,5
20 x 1/2"	B (KSP1)	76	20	34,5	15,5

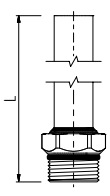
Tee with chromed copper pipe



Size	Profile	A mm	B mm	C mm	D mm
16 x Ø15 x 16	B (KSP1)	93	46,5	290	25
20 x Ø15 x 20	B (KSP1)	93	46,5	290	25

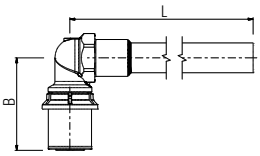
Distance Tee 25 mm, chromed pipe 290 mm long.

Chromed copper pipe



Size	L mm
Ø 15 x 1/2" M	175

Type elbow fitting with chromed copper pipe



Size	Profile	B mm	L mm
16 x Ø 15	B (KSP1)	44	165,5

Built-in galvanized bracket for flanged elbows

Takeoffs 80-100-153 mm
Takeoffs 153 mm for fixing flanged elbow in 4 point.

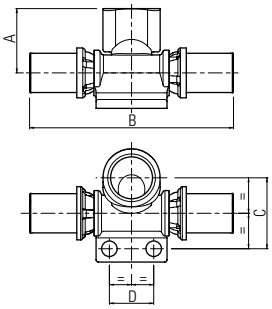
Built-in galvanized bracket for flanged elbows

Takeoffs 80-100-153 mm

Galvanised bracket for flanged elbow

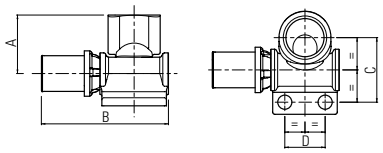
Note: suitable only for flanged elbow with threaded base (year 2005).
Takeoff 153 mm

Female T with elbow



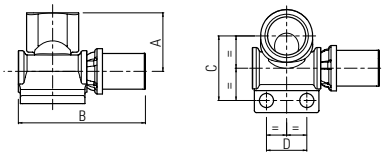
Size	Profile	A mm	B mm	C mm	D mm
16 x 1/2" x 16	B (KSP1)	29	92	32	20
20 x 1/2" x 20	B (KSP1)	29	92	32	20

Right terminal



Size	Profile	A mm	B mm	C mm	D mm
16 x 1/2"	B (KSP1)	29	63	32	20
20 x 1/2"	B (KSP1)	29	63	32	20

Left terminal



Size	Profile	A mm	B mm	C mm	D mm
16 x 1/2"	B (KSP1)	29	63	32	20
20 x 1/2"	B (KSP1)	29	63	32	20

Bracket for female T with elbow

Plug for circuit test with o-ring

Size
1/2" (blue or red)
3/4" (blue or red)

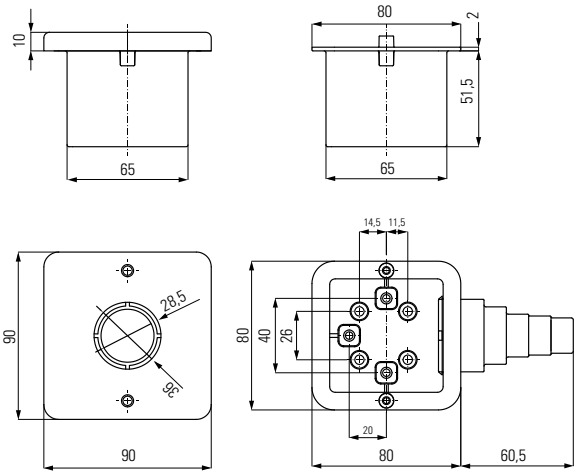
Leackage test plug for multi-layer pipe

Size
16 x 2
20 x 2

Complete with 1/2" F fitting for release valve (provided standard)

Built-in box for flanged elbows

Flush-mounting Box 1 for the installation of Gerpex flanged elbow joints, complete with a non-sealing lid 2 and adaptable extension 3.

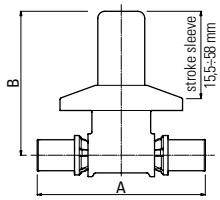


Valve for built-in application

Body

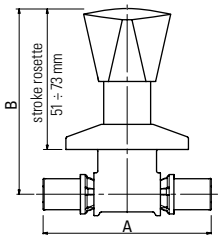
Size	Profile
16 x 3/4"	B (KSP1)
18 x 3/4"	B (KSP1)
20 x 3/4"	B (KSP1)
26 x 3/4"	B (KSP1)

Screw group 3/4" for built-in valve body



Size	A mm	B mm
3/4"	96	83,5

Cap shutter 3/4" with handle



Size	A mm	B mm
3/4"	96	108

Extended screw (+20 mm) brass 3/4"

Size
3/4" for built-in valve body
3/4" for cap shutter with handle

Monoblocco seal

Monoblocco seal 24x19 and Eurocone for multi-layer pipe

Size	Thread
12 x 1,6	24x19
14 x 2	24x19
16 x 2	24x19
16 x 2,25	24x19
17 x 2	24x19
18 x 2	24x19
20 x 2	24x19
20 x 2,25	24x19
20 x 2,5	24x19
26 x 3	M32x1,5
16 x 2	Eurocone
20 x 2	Eurocone

Fitting Female 24x19 - Male M32x1,5

Size
F 24x19 - M 32x1,5
Complete with O-Ring and adapter female side

Straight Male fitting 1/2" - M32x1,5

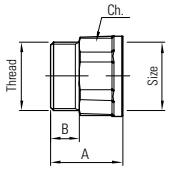
Size
M 1/2" - M 32x1,5
Complete with O-Ring

CH 38 spanner for multi-layer Monoblocco seals 26x3

To be used for the tightening of the single-piece seals for multi-layer pipe 26x3 on the branches of Topway manifolds with interval of 50 mm

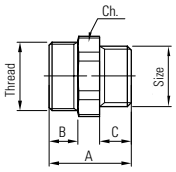
Fittings to be tightened

Straight female joint, nickel-plated



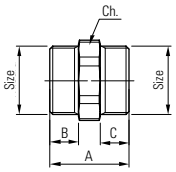
Size	Thread	A mm	B mm	CH mm
1/2"	24x19	25	10	25
3/4"	24x19	27	10	31
3/4"	M32x1,5	27	10	34
1"	M32x1,5	28,5	10	38

Straight male joint, nickel-plated



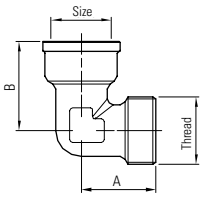
Size	Attacco	A mm	B mm	C mm	CH mm
1/2"	24x19	28,5	10	11	25
3/4"	24x19	29,5	10	12	31
3/4"	M32x1,5	30	10	12	34
1"	M32x1,5	31,5	10	13,5	34

Straight joint double jointed nickel-plated



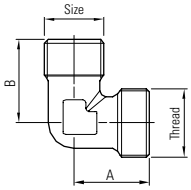
Size	A mm	B mm	C mm	CH mm
24x19	27,5	10	10	25
M32x1,5	28	10	10	34

Female elbow joint nickel-plated



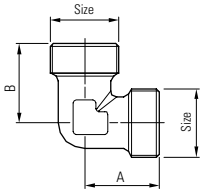
Size	Thread	A mm	B mm
1/2"	24x19	26	31
3/4"	24x19	29	33,5
3/4"	M32x1,5	31	35
1"	M32x1,5	33	38,5

Male elbow joint nickel-plated



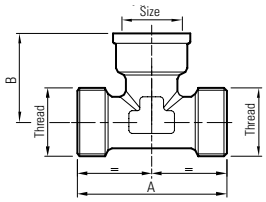
Size	Thread	A mm	B mm
1/2"	24x19	26	29
3/4"	24x19	29	31
3/4"	M32x1,5	31	32
1"	M32x1,5	33	35

Double-jointed elbow nickel-plated



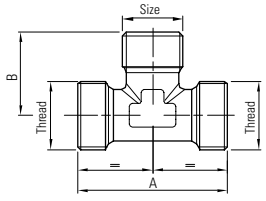
Size	A mm	B mm
24x19	26	27,5
M32x1,5	31	31,5

TEE joint female nickel-plated



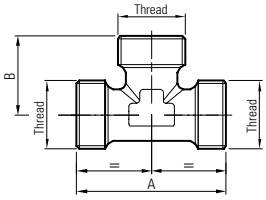
Size	Thread	A mm	B mm
1/2"	24x19	52	31
3/4"	24x19	58	33,5

TEE-joint male nickel-plated



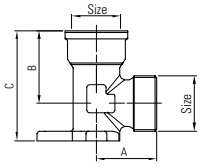
Size	Thread	A mm	B mm
1/2"	24x19	52	29
3/4"	24x19	58	31

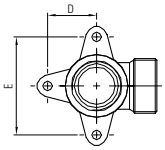
TEE-joint three-piece nickel-plated



Size	Thread	A mm	B mm
20x20x20	24x19	52	27,5

Elbow joint female with flange nickel-plated





Size	Thread	A mm	B mm	C mm	D mm	E mm
1/2"	24x19	26	31	47	21	42

Galvanized bracket for flanged elbow

Tooling

Manual pressing machine

360° rotating head
Telescopic arms, extensible 300 mm
Instrument weight: approximately 3,3 Kg
Instrument lenght: 560 - 860 mm
Thrust force: min. 30 kN
Press fittings: from DN 14 to DN 32

Dies for manual pressing machine

Size	Profile
16 x 2	B(KSP1)
20 x 2	B(KSP1)
26 x 3	B(KSP1)
32 x 3	B(KSP1)

14,4 V battery powered pressing machine SPM32 for Gerpex jaws from DN 14 to DN 75

Weight including accumulator: 3,9 Kg
Dimensions LxHxS: 390x310x95
Feed force: min. 32kN - Power supply: 14,4 V
Battery charger: 230 V, 50 Hz
Battery capacity : 2,6 Ah
Charging time: 45 min approx.
Pressing performance: approx. 235 (DN20)
Pressing time: from 4 to 7 depending on DN
Operation temperature range: -20 °C ÷ 40 °C
360° rotating head
Automatic piston retraction
USB connection for remote diagnosis
Optical malfunction report and workin state indicator - Complete with metal case, battery 14,4 V, battery charger, USB cable, analysis software.

230 V powered pressing machine SPM32 for Gerpex jaws from DN 14 to DN 75

Weight including accumulator: 4,5 Kg
230 V adapter weight: 840 g
Dimensions LxHxS: 390x310x95
Feed force: min. 32kN
Power supply: 230 V, 50 Hz
Max loading: 30 A
Adapter voltage output: 14,4 V
Pressing time: from 4 to 7 depending on DN
Operation temperature range: -20 °C ÷ 40 °C
360° rotating head
Automatic piston retraction
USB connection for remote diagnosis
Optical malfunction report and working state indicator
Complete with metal case, 230 V adapter, USB cable, analysis software.

Spare battery 14,4 V

for SMP32 pressing machine

Battery charger 14,4 V

230 V adapter

Permits power supply to the SPM32 pressing machine, directly at 230 V, replacing the 14,4 V battery

Case for jaws

TH (KSP11)

Dies for Gerpex chain jaw UW 63

Size	Profile
40 x 3,5	TH(KSP11)
50 x 4	TH(KSP11)
63 x 4,5	TH(KSP11)

Ø 14 ÷ Ø 32
B (KSP1)

Ø 40 ÷ Ø 50
TH (KSP11)

Ø 63
TH (KSP11)

Gerpex jaw

Size	Profile
14 x 2	B(KSP1)
16 x 2	B(KSP1)
18 x 2	B(KSP1)
20 x 2	B(KSP1)
26 x 3	B(KSP1)
32 x 3	B(KSP1)
40 x 3,5	TH(KSP11)
50 x 4	TH(KSP11)
63 x 4,5	TH(KSP11)

SPM19 battery pressing machine 18V for Gerpex jaw with dies from DN 16 to DN 32

Weight (battery not included): 1,8 Kg
Dimensions LxHxS: 371x100x74 mm
Feed force: min 19 kN
Power supply: 18 V DC
Battery power: 230 V, 50 Hz
Battery capacity: 1,5 Ah
Charging time: 30 minutes aprox
Pressing time: from 3 to 4 s (depending on the nominal width)
Operation temperature range: -10 °C ÷ 40 °C
Sound level: 75 dB(A) in 1 m distance
Vibrations: < 2,5 m/s2 (real value pondered by the acceleration)
360° rotating head
Automatic piston retraction
USB connection for remote diagnosis
Optical malfunction report and workin state indicator
Complete with nylon case,
battery 18 V, battery charger, USB cable, analysis software

Ø 75
TH (KSP11)

Gerpex jaws

Size	Profile
75	TH(KSP11)

Gerpex jaw for SPM19 pressing machine

Gerpex chain jaw UW 63

Dies for jaw for SPM19 pressing machine

Size	Profile
16 x 2	B(KSP1)
20 x 2	B(KSP1)
26 x 3	B(KSP1)
32 x 3	B(KSP1)

Battery 18 V for SPM19 pressing machine

1,5 Ah

Battery charger 18 V for SPM19 pressing machine

230 V adapter for SPM19 pressing machine

Permits power supply to the SPM19 pressing machine, directly at 230 V, replacing the 18 V battery

Flarer and calibrator

Size
Ø 14
Ø 16
Ø 18
Ø 20
Ø 26
Ø 32
Ø 40
Ø 50
Ø 63
Ø 75
Ø 16 - 20 - 26

Shear for multi-layer pipe

Size
Ø 14 ÷ 26
Ø 26 ÷ 40

Gerpex shear

Size
Ø 14 ÷ 32

Pipe cutter

Size
Ø 14 ÷ 32

Pipe cutter

Size
Ø 6 ÷ 75

Internal spring for bending pipe

Size
Ø 16 L=500 mm
Ø 18 L=500 mm
Ø 20 L=500 mm
Ø 26 L=1000 mm

External spring for bending pipe

Size
Ø 16 L=500 mm
Ø 20 L=500 mm

Hydraulic bending machine for Gerpex pipe

Size
Ø 26 ÷ 32

Complete with case, shape Ø 26 and Ø 32

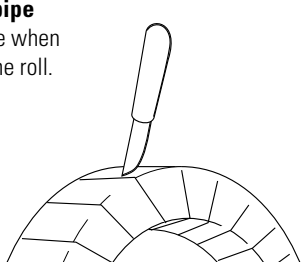
Forms and Shapes for bending machine

Size
Ø 16
Ø 20

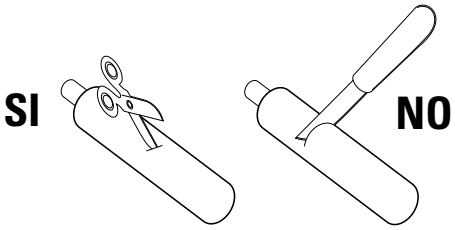
Installing the system

All installation operations must be carried out at temperatures above -10 °C and below 45 °C to avoid any possible damage to the materials.
In case of temperatures below 0 °C, store the materials (pipes and fittings) at a higher temperature before use.

Removal of packaging from the pipe
Pay attention to not damage the pipe when removing the packaging tape from the roll.



For insulated pipe, make sure you do not cut into insulating sheath.

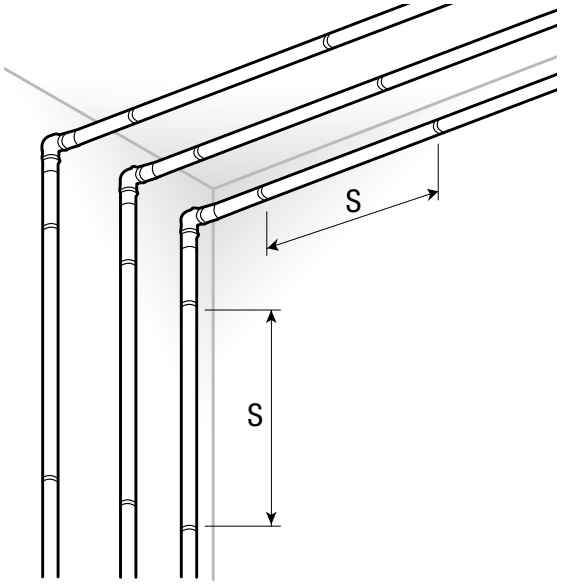


Surface mounted installation

In surface mounted installations, in false ceilings, in the gaps of dry wall systems (e.g. plasterboard) and in shafts, the pipes must be adequately secured with suitable collars placed at a distance of no more than a certain value that depends on the size of the pipe.

Maximum distance "S" for bracketing surface mounted pipes (see following figure):

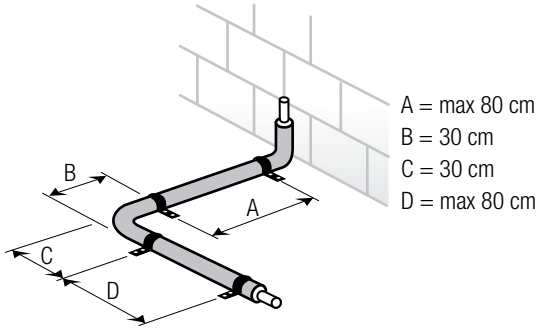
Pipe dimension	Maximum Distance (S) for bracketing (cm)
14 x 2	100
16 x 2	100
18 x 2	125
20 x 2	125
26 x 3	150
32 x 3	200
40 x 3,5	200
50 x 4	250
63 x 4,5	250
75 x 5	250



Surface embedded installation

In surface embedded installations, the pipes must be suitably secured with ties and there must be a minimum distance between them of 80 cm on straight lengths, and placed 30 cm before and after each bend.
For this type of installation it is preferable to lay insulated pipe that has a foam sheath covering or pass the pipe through flexible tubing.

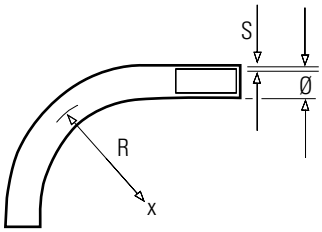
Press fittings: in laying concealed piping, the press fittings must be protected from corrosion that can result from contact with chemicals contained in plasters and mortars.
It is possible to use boxing, adhesive tapes specifically adapted for such applications, or coverings in an expanded plastic material that has been adequately sealed.



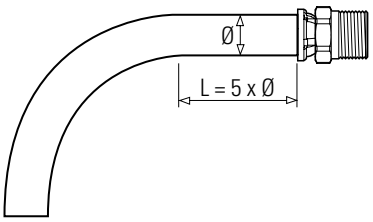
Minimum radius of bends

The bending of pipes must be carried out in accordance with the minimum values provided by the following table.

Pipe dimension (Ø x S)	Minimum radius of bend R	Minimum radius of bend R with spring pipe bender	Minimum radius of bend R with hydraulic bender
14 x 2	5 x Ø	3 x Ø	
16 x 2	5 x Ø	3 x Ø	
18 x 2	5 x Ø	3 x Ø	
20 x 2	5 x Ø	3 x Ø	
26 x 3	8 x Ø	4 x Ø	4 x Ø
32 x 3			4 x Ø
40 x 3,5			4 x Ø
50 x 4			4 x Ø
63 x 4,5			4,5 x Ø
75 x 5			5 x Ø



It is preferable to use elbow unions to form curves on pipes with a diameter greater than 26.
In bending the pipe you must also avoid putting pressure on the unions already installed and the distance between a union and the beginning of the bend must be greater than 5xø, where Ø is the external diameter of the pipe..



Thermal expansion

During the installation phase, pay particular attention to thermal expansion that can particularly affect multilayer pipes. The elongation a pipe undergoes as a result of a variation in temperature can be calculated with the following formula:

$\Delta L = \alpha \times L \times \Delta T$

where:

α is the coefficient of linear expansion, equal to 0.026 mm/m K for insulated pipes;

L is the initial length of the pipe (m);

ΔT is the temperature difference (K).

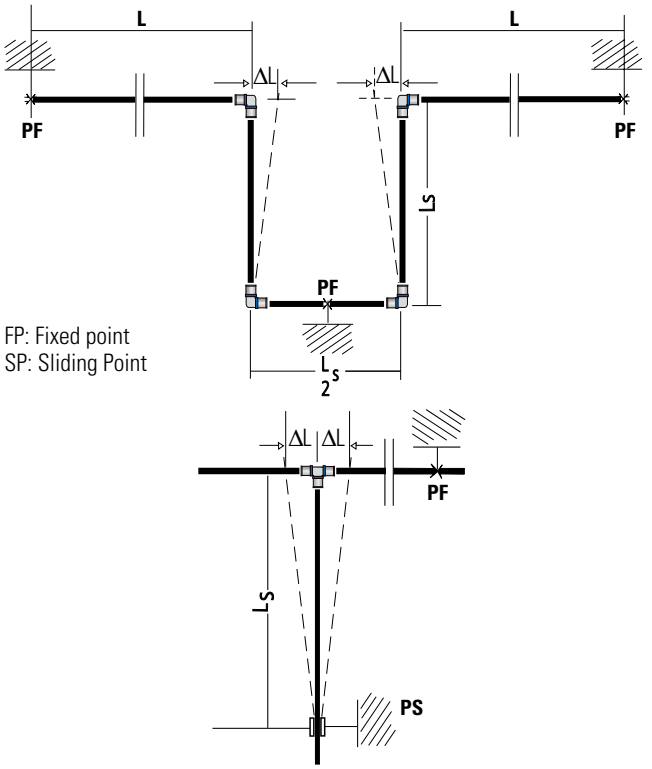
Example:
Length of pipe: 12 m
Temperature difference: 50 K
$\Delta = 0.026 \times 12 \times 50 = 15.6$ mm

ΔT	**10**	**20**	**30**	**40**	**50**	**60**	**70**
L				**ΔL**			
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	1,910	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

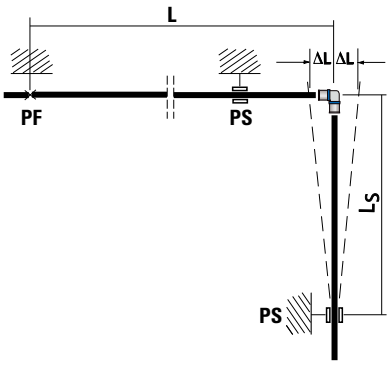
L = Length (m) **ΔT** = Temperature difference (K)

ΔL = Longitudinal expansion (mm)

In surface mounted installations or installations in false ceilings and shafts, longitudinal thermal expansion can be compensated for through careful arrangement of fixed and sliding brackets (points), depending on the type of installation, thus providing suitable thermal expansion compensators.



FP: Fixed point
SP: Sliding Point



Where:

Ls = C x √ (Ø x ΔL)

Ls = Length of compensator (mm)

Ø = External diameter of pipe (mm)

C = Material constant
(for insulated pipes C=33)

With

ΔL = 15,6 mm (previous example),
Ø = 26 mm

the result will be:
Ls = 33 x √ (26 x 15,6) = 665 mm

In order to guarantee the free movement of pipes in an installation inside a vertical shaft with horizontal branches, the branches must have a minimum free length Ls and the passage through the side wall of the shaft should be free and the pipe protected with a sheath (Fig. A and B).

In case the size of the shaft doesn't allow for a compensator of length Ls, the hole in the side wall should be increased in size and at the same time the tube should be protected with an insulating sheath of thickness S≥ 1,5xΔL (Fig. C).

Fig. A

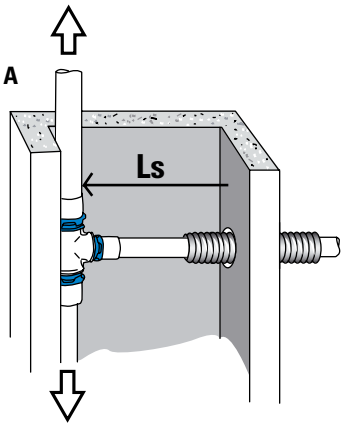


Fig. B

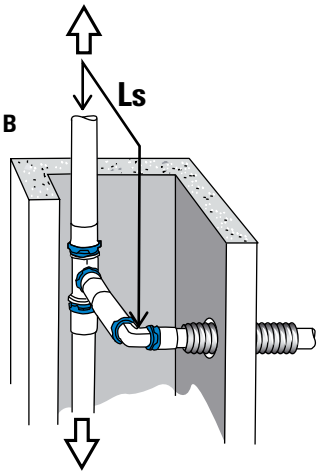
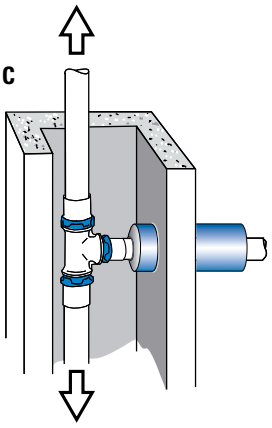
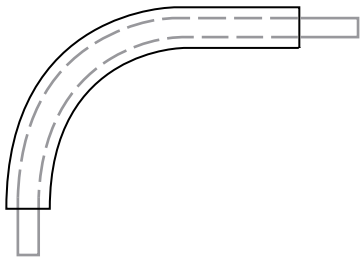


Fig. C



Where pipes are concealed or embedded in screed (laid in the floor), thermal expansion can be compensated for by creating an insulated curve at least every 10m (for example with an insulating foam sheath or by passing the pipe through flexible tubing).

Note: where the pipes are being used in radiant circuits (spiral or serpentine for underfloor heating/cooling), these guidelines do not apply!



Testing of the system

Once the pipes have been installed, including all pressure fittings, a test of the system must be performed in accordance with current regulations and before any part of the system is permanently covered.

As far as Italy is concerned, the regulations in force as at the date of publication of this document are:

UNI 5364:1976 - Hot water heating systems. Rules for presentation of offer and for testing.
Of particular note in point 3.1.8 is that a leak test be carried out by bringing the system to a pressure higher than 10 kgf/cm2, higher than that of normal testing, and maintaining this pressure for at least 6 consecutive hours.

UNI 9182:2014 - Hot and cold water supply and distribution installations - Design, installation and testing
For point 26.2.1, cold hydraulic leak testing and point 26.2.2, hot hydraulic leak testing, please refer to regulation UNI EN 806-4.

UNI EN 806-4:2010 - Specifications for installations inside buildings conveying water for human consumption. Installation
Of particular note in point 6.1.3 is the description of the method for testing plastic pipes (including insulated pipe).

UNI EN 1264-4:2009 - Water based surface embedded heating and cooling systems - Installation
Of particular note in point 4.3 is the prescribed leak test to a minimum pressure two times higher than the maximum, with a minimum of 6 bar.

For further details, please refer to the appropriate regulation.
It is recommended, however, to always consult the regulations in force in the country where the installation is being carried out.

Correct assembly of the press fittings

Multi-pincer press fittings

Cutting
Cut the multilayer pipe with a pipe cutter or shears, verifying that the cut is perpendicular to the pipe axis.

Calibration - Flaring
Calibrate the cut end using the relevant calibrator, which allows to calibrate and flare the ends of the pipe (Fig. C).
The operation is essential, as it determines the correct internal diameter of the pipe and creates the rounded end that eases introduction of the fitting.

Fig. C

Fig. D

Insertion the fitting
Insert the fitting into the pipe fully home; the transparent plastic ring allows to verify correct positioning (Fig. D).

Pressing
Place the jaws around the bush (Fig. E) by matching the collar of the plastic ring with the groove of the jaws (Fig. F).
Start the hydraulic press-fitting tool until it clicks, signalling the completion of the press-fitting operation (Fig. G).
The operation must be done carefully so that the pipes are kept free of any tension. Once the fitting has been press-fitted, avoid placing the joint under any tension.

Fig. E

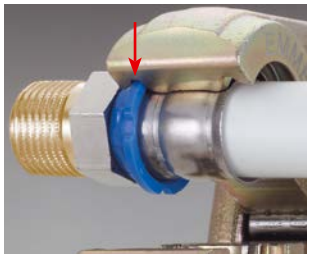


Fig. F

Completion of pressing
Remove the pressing device and open the jaws again.

Fig. G

Screw modular fittings

Cutting
Cut the multilayer pipe with a pipe cutter or shears, verifying that the cut is perpendicular to the pipe axis.

Calibration - Flaring
Calibrate the cut end using the relevant calibrator, which allows to calibrate and flare the ends of the pipe.
The operation is essential, as it determines the correct internal diameter of the pipe and creates the rounded end that eases introduction of the fitting.

Inserting the fitting
Insert the pipe into the monobloc seal, checking correct introduction through the slot in the nut (Fig. A).

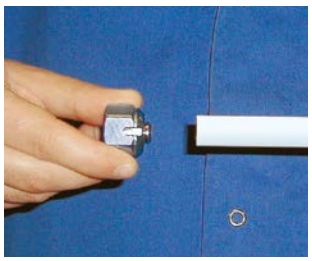


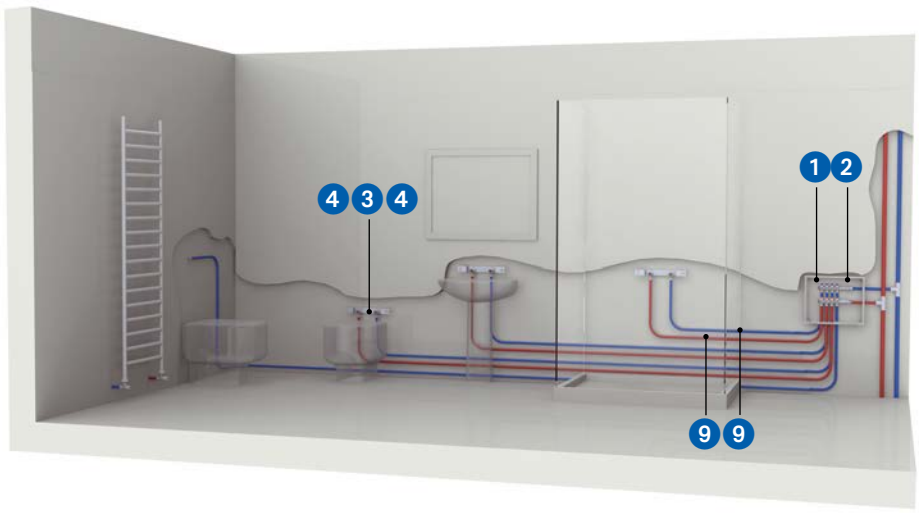
Fig. A

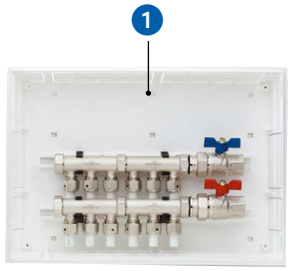
Screwing
Screw the nut and tighten using a hex wrench, without excessive force. (Fig. B).

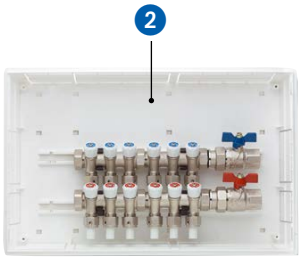
Fig. B

Examples of installation

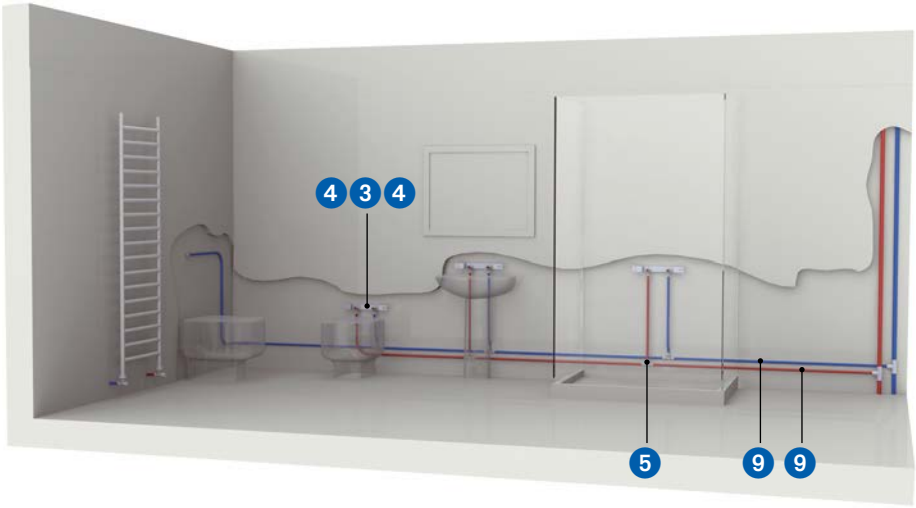
Distribution with collector

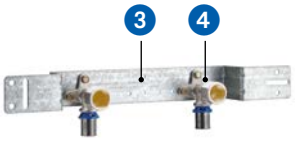




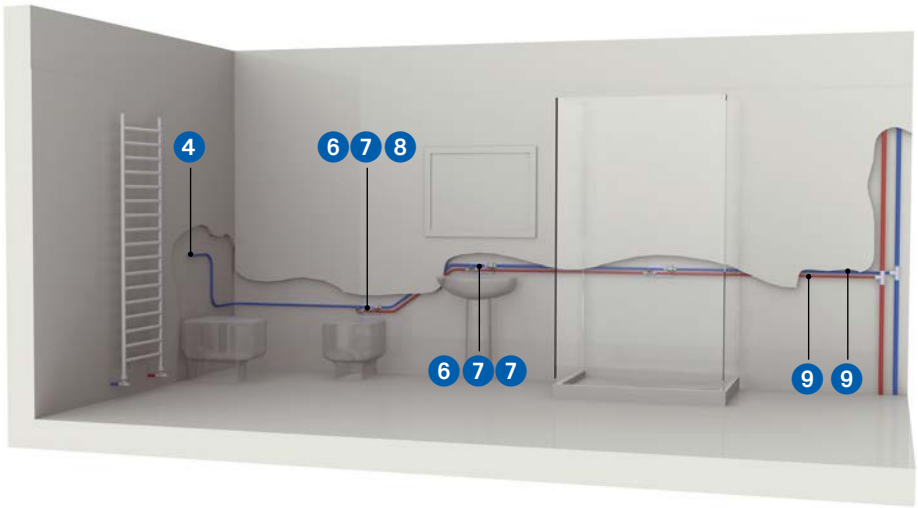


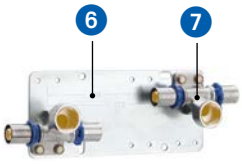
Distribution with ‘T’ fitting





Series distribution in a wall





Distributed pressure drops

Gerpex/Gerpex RA - Water at 10 °C

DN 14x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
110	0,39	323
115	0,41	350
120	0,42	377
125	0,44	405
130	0,46	433
135	0,48	463
140	0,50	493
145	0,51	525
150	0,53	557
155	0,55	590
160	0,57	623
165	0,58	658
170	0,60	693
175	0,62	729
180	0,64	766
185	0,65	803
190	0,67	842
195	0,69	881
200	0,71	921
205	0,73	962
210	0,74	1003
215	0,76	1045
220	0,78	1088
225	0,80	1132
230	0,81	1176
235	0,83	1221
240	0,85	1267
245	0,87	1314
250	0,88	1361
255	0,90	1409
260	0,92	1458
265	0,94	1507
270	0,95	1557
275	0,97	1608
280	0,99	1659
285	1,01	1712
290	1,03	1764
295	1,04	1818
300	1,06	1872
305	1,08	1927
310	1,10	1983
315	1,11	2039
320	1,13	2096
325	1,15	2154
330	1,17	2212
335	1,18	2271
340	1,20	2331
345	1,22	2391
350	1,24	2452
355	1,26	2514
360	1,27	2576

DN 16x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
120	0,29	158
130	0,32	182
140	0,34	208
150	0,37	234
160	0,39	262
170	0,42	291
180	0,44	322
190	0,47	354
200	0,49	387
210	0,52	422
220	0,54	458
230	0,56	495
240	0,59	533
250	0,61	572
260	0,64	613
270	0,66	655
280	0,69	698
290	0,71	742
300	0,74	788
310	0,76	834
320	0,79	882
330	0,81	930
340	0,84	980
350	0,86	1031
360	0,88	1084
370	0,91	1137
380	0,93	1191
390	0,96	1246
400	0,98	1303
410	1,01	1360
420	1,03	1419
430	1,06	1479
440	1,08	1539
450	1,11	1601
460	1,13	1664
470	1,15	1728
480	1,18	1793
490	1,20	1858
500	1,23	1925
510	1,25	1993
520	1,28	2062
530	1,30	2132
540	1,33	2203
550	1,35	2275
560	1,38	2348
570	1,40	2422
580	1,42	2496
590	1,45	2572
600	1,47	2649
610	1,50	2727
620	1,52	2805

DN 18x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
140	0,25	100
155	0,28	119
170	0,31	140
185	0,33	163
200	0,36	186
215	0,39	211
230	0,42	238
245	0,44	266
260	0,47	295
275	0,50	325
290	0,52	357
305	0,55	390
320	0,58	424
335	0,60	459
350	0,63	496
365	0,66	534
380	0,69	573
395	0,71	613
410	0,74	654
425	0,77	697
440	0,79	740
455	0,82	785
470	0,85	831
485	0,88	878
500	0,90	926
515	0,93	975
530	0,96	1025
545	0,98	1076
560	1,01	1129
575	1,04	1182
590	1,06	1237
605	1,09	1292
620	1,12	1349
635	1,15	1407
650	1,17	1465
665	1,20	1525
680	1,23	1586
695	1,25	1647
710	1,28	1710
725	1,31	1774
740	1,34	1838
755	1,36	1904
770	1,39	1971
785	1,42	2039
800	1,44	2107
815	1,47	2177
830	1,50	2247
845	1,52	2319
860	1,55	2392
875	1,58	2465
890	1,61	2539

DN 20x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
150	0,21	60
170	0,23	74
190	0,26	90
210	0,29	108
230	0,32	126
250	0,35	146
270	0,37	167
290	0,40	189
310	0,43	213
330	0,46	237
350	0,48	263
370	0,51	290
390	0,54	318
410	0,57	347
430	0,59	377
450	0,62	408
470	0,65	441
490	0,68	474
510	0,70	508
530	0,73	544
550	0,76	580
570	0,79	617
590	0,82	656
610	0,84	695
630	0,87	736
650	0,90	777
670	0,93	819
690	0,95	863
710	0,98	907
730	1,01	952
750	1,04	998
770	1,06	1045
790	1,09	1093
810	1,12	1142
830	1,15	1192
850	1,17	1243
870	1,20	1294
890	1,23	1347
910	1,26	1400
930	1,28	1454
950	1,31	1510
970	1,34	1566
990	1,37	1623
1010	1,40	1680
1030	1,42	1739
1050	1,45	1799
1070	1,48	1859
1090	1,51	1920
1110	1,53	1982
1130	1,56	2045
1150	1,59	2109

NOTE: 1 bar = 0.1 N/mm² = 100 kPa = 10 m c.a.

Gerpex/Gerpex RA - Water at 10 °C

DN 26x3		
G (l/h)	V (m/s)	Dp/m (Pa/m)
400	0,35	115
440	0,39	136
480	0,42	158
520	0,46	182
560	0,50	207
600	0,53	234
640	0,57	262
680	0,60	291
720	0,64	322
760	0,67	354
800	0,71	387
840	0,74	422
880	0,78	457
920	0,81	494
960	0,85	533
1000	0,88	572
1040	0,92	613
1080	0,95	655
1120	0,99	698
1160	1,03	742
1200	1,06	787
1240	1,10	834
1280	1,13	881
1320	1,17	930
1360	1,20	980
1400	1,24	1031
1440	1,27	1083
1480	1,31	1136
1520	1,34	1191
1560	1,38	1246
1600	1,41	1302
1640	1,45	1360
1680	1,49	1418
1720	1,52	1478
1760	1,56	1539
1800	1,59	1600
1840	1,63	1663
1880	1,66	1727
1920	1,70	1792
1960	1,73	1858
2000	1,77	1925
2040	1,80	1992
2080	1,84	2061
2120	1,87	2131
2160	1,91	2202
2200	1,95	2274
2240	1,98	2347
2280	2,02	2421
2320	2,05	2495
2360	2,09	2571
2400	2,12	2648

DN 32x3		
G (l/h)	V (m/s)	Dp/m (Pa/m)
800	0,42	111
860	0,45	126
920	0,48	142
980	0,51	159
1040	0,54	176
1100	0,58	194
1160	0,61	213
1220	0,64	233
1280	0,67	253
1340	0,70	275
1400	0,73	296
1460	0,76	319
1520	0,80	342
1580	0,83	366
1640	0,86	391
1700	0,89	416
1760	0,92	443
1820	0,95	469
1880	0,98	497
1940	1,01	525
2000	1,05	553
2060	1,08	583
2120	1,11	613
2180	1,14	644
2240	1,17	675
2300	1,20	707
2360	1,23	739
2420	1,27	773
2480	1,30	806
2540	1,33	841
2600	1,36	876
2660	1,39	912
2720	1,42	948
2780	1,45	985
2840	1,49	1022
2900	1,52	1060
2960	1,55	1099
3020	1,58	1138
3080	1,61	1178
3140	1,64	1219
3200	1,67	1260
3260	1,71	1301
3320	1,74	1344
3380	1,77	1386
3440	1,80	1430
3500	1,83	1474
3560	1,86	1518
3620	1,89	1563
3680	1,93	1609
3740	1,96	1655
3800	1,99	1702

DN 40x3,5		
G (l/h)	V (m/s)	Dp/m (Pa/m)
1000	0,32	53
1100	0,36	63
1200	0,39	73
1300	0,42	84
1400	0,45	96
1500	0,49	108
1600	0,52	121
1700	0,55	134
1800	0,58	148
1900	0,62	163
2000	0,65	178
2100	0,68	194
2200	0,71	211
2300	0,75	228
2400	0,78	245
2500	0,81	264
2600	0,84	282
2700	0,88	302
2800	0,91	321
2900	0,94	342
3000	0,97	363
3100	1,01	384
3200	1,04	406
3300	1,07	428
3400	1,10	451
3500	1,14	475
3600	1,17	499
3700	1,20	523
3800	1,23	548
3900	1,27	574
4000	1,30	600
4100	1,33	626
4200	1,36	653
4300	1,40	681
4400	1,43	709
4500	1,46	737
4600	1,49	766
4700	1,53	796
4800	1,56	825
4900	1,59	856
5000	1,62	886
5100	1,66	918
5200	1,69	949
5300	1,72	982
5400	1,75	1014
5500	1,79	1047
5600	1,82	1081
5700	1,85	1115
5800	1,88	1149
5900	1,92	1184
6000	1,95	1220

Gerpex/Gerpex RA - Water at 10 °C

DN 50x4		
G (l/h)	V (m/s)	Dp/m (Pa/m)
2000	0,40	57
2200	0,44	67
2400	0,48	78
2600	0,52	90
2800	0,56	102
3000	0,60	115
3200	0,64	129
3400	0,68	144
3600	0,72	159
3800	0,76	174
4000	0,80	191
4200	0,84	208
4400	0,88	225
4600	0,92	244
4800	0,96	263
5000	1,00	282
5200	1,04	302
5400	1,08	323
5600	1,12	344
5800	1,16	366
6000	1,20	388
6200	1,24	411
6400	1,28	434
6600	1,32	458
6800	1,36	483
7000	1,40	508
7200	1,44	534
7400	1,48	560
7600	1,52	587
7800	1,56	614
8000	1,60	642
8200	1,64	670
8400	1,68	699
8600	1,72	728
8800	1,76	758
9000	1,80	789
9200	1,84	820
9400	1,88	851
9600	1,92	883
9800	1,96	915
10000	2,00	948
10200	2,05	982
10400	2,09	1016
10600	2,13	1050
10800	2,17	1085
11000	2,21	1121
11200	2,25	1156
11400	2,29	1193
11600	2,33	1230
11800	2,37	1267
11950	2,40	1295

DN 63x4,5		
G (l/h)	V (m/s)	Dp/m (Pa/m)
3000	0,36	35
3500	0,42	46
4000	0,49	58
4500	0,55	71
5000	0,61	85
5500	0,67	101
6000	0,73	118
6500	0,79	135
7000	0,85	154
7500	0,91	174
8000	0,97	195
8500	1,03	216
9000	1,09	239
9500	1,15	263
10000	1,21	287
10500	1,27	313
11000	1,33	340
11500	1,39	367
12000	1,46	395
12500	1,52	425
13000	1,58	455
13500	1,64	486
14000	1,70	518
14500	1,76	551
15000	1,82	584
15500	1,88	619
16000	1,94	654
16500	2,00	690
17000	2,06	727
17500	2,12	765
18000	2,18	804
18500	2,24	844
19000	2,30	884
19500	2,37	925
20000	2,43	967
20500	2,49	1010
21000	2,55	1053
21500	2,61	1097
22000	2,67	1142
22500	2,73	1188
23000	2,79	1235
23500	2,85	1282
24000	2,91	1330
24500	2,97	1379
25000	3,03	1429
25500	3,09	1479
26000	3,15	1530
26500	3,21	1582
27000	3,27	1635
27500	3,34	1688
28000	3,40	1742

DN 75x5		
G (l/h)	V (m/s)	Dp/m (Pa/m)
5000	0,42	35
5500	0,46	42
6000	0,50	49
6500	0,54	56
7000	0,59	64
7500	0,63	72
8000	0,67	81
8500	0,71	90
9000	0,75	99
9500	0,80	109
10000	0,84	119
10500	0,88	130
11000	0,92	141
11500	0,96	152
12000	1,00	164
12500	1,05	176
13000	1,09	189
13500	1,13	201
14000	1,17	215
14500	1,21	228
15000	1,26	242
15500	1,30	257
16000	1,34	271
16500	1,38	286
17000	1,42	302
17500	1,46	317
18000	1,51	333
18500	1,55	350
19000	1,59	366
19500	1,63	383
20000	1,67	401
20500	1,72	418
21000	1,76	436
21500	1,80	455
22000	1,84	473
22500	1,88	492
23000	1,93	512
23500	1,97	531
24000	2,01	551
24500	2,05	572
25000	2,09	592
25500	2,13	613
26000	2,18	634
26500	2,22	656
27000	2,26	678
27500	2,30	700
28000	2,34	722
28500	2,39	745
29000	2,43	768
29500	2,47	791
30000	2,51	815

Gerpex/Gerpex RA - Water at 50 °C

DN 14x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
110	0,39	257
115	0,41	278
120	0,42	299
125	0,44	321
130	0,46	344
135	0,48	368
140	0,50	392
145	0,51	417
150	0,53	442
155	0,55	468
160	0,57	495
165	0,58	522
170	0,60	550
175	0,62	579
180	0,64	608
185	0,65	638
190	0,67	668
195	0,69	700
200	0,71	731
205	0,73	764
210	0,74	796
215	0,76	830
220	0,78	864
225	0,80	899
230	0,81	934
235	0,83	970
240	0,85	1006
245	0,87	1043
250	0,88	1081
255	0,90	1119
260	0,92	1157
265	0,94	1197
270	0,95	1236
275	0,97	1277
280	0,99	1318
285	1,01	1359
290	1,03	1401
295	1,04	1444
300	1,06	1487
305	1,08	1530
310	1,10	1574
315	1,11	1619
320	1,13	1664
325	1,15	1710
330	1,17	1756
335	1,18	1803
340	1,20	1851
345	1,22	1899
350	1,24	1947
355	1,26	1996
360	1,27	2045

DN 16x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
120	0,29	126
130	0,32	145
140	0,34	165
150	0,37	186
160	0,39	208
170	0,42	231
180	0,44	256
190	0,47	281
200	0,49	308
210	0,52	335
220	0,54	363
230	0,56	393
240	0,59	423
250	0,61	454
260	0,64	487
270	0,66	520
280	0,69	554
290	0,71	589
300	0,74	625
310	0,76	662
320	0,79	700
330	0,81	739
340	0,84	778
350	0,86	819
360	0,88	860
370	0,91	903
380	0,93	946
390	0,96	990
400	0,98	1035
410	1,01	1080
420	1,03	1127
430	1,06	1174
440	1,08	1222
450	1,11	1271
460	1,13	1321
470	1,15	1372
480	1,18	1423
490	1,20	1476
500	1,23	1529
510	1,25	1583
520	1,28	1637
530	1,30	1693
540	1,33	1749
550	1,35	1806
560	1,38	1864
570	1,40	1923
580	1,42	1982
590	1,45	2042
600	1,47	2103
610	1,50	2165
620	1,52	2227

DN 18x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
140	0,25	79
155	0,28	95
170	0,31	111
185	0,33	129
200	0,36	148
215	0,39	168
230	0,42	189
245	0,44	211
260	0,47	234
275	0,50	258
290	0,52	283
305	0,55	309
320	0,58	337
335	0,60	365
350	0,63	394
365	0,66	424
380	0,69	455
395	0,71	487
410	0,74	519
425	0,77	553
440	0,79	588
455	0,82	623
470	0,85	660
485	0,88	697
500	0,90	735
515	0,93	774
530	0,96	814
545	0,98	855
560	1,01	896
575	1,04	939
590	1,06	982
605	1,09	1026
620	1,12	1071
635	1,15	1117
650	1,17	1163
665	1,20	1211
680	1,23	1259
695	1,25	1308
710	1,28	1358
725	1,31	1408
740	1,34	1460
755	1,36	1512
770	1,39	1565
785	1,42	1619
800	1,44	1673
815	1,47	1728
830	1,50	1785
845	1,52	1841
860	1,55	1899
875	1,58	1957
890	1,61	2016

DN 20x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
150	0,21	47
170	0,23	59
190	0,26	72
210	0,29	85
230	0,32	100
250	0,35	116
270	0,37	133
290	0,40	150
310	0,43	169
330	0,46	188
350	0,48	209
370	0,51	230
390	0,54	252
410	0,57	275
430	0,59	299
450	0,62	324
470	0,65	350
490	0,68	376
510	0,70	404
530	0,73	432
550	0,76	461
570	0,79	490
590	0,82	521
610	0,84	552
630	0,87	584
650	0,90	617
670	0,93	651
690	0,95	685
710	0,98	720
730	1,01	756
750	1,04	793
770	1,06	830
790	1,09	868
810	1,12	907
830	1,15	946
850	1,17	987
870	1,20	1028
890	1,23	1069
910	1,26	1112
930	1,28	1155
950	1,31	1199
970	1,34	1243
990	1,37	1288
1010	1,40	1334
1030	1,42	1381
1050	1,45	1428
1070	1,48	1476
1090	1,51	1525
1110	1,53	1574
1130	1,56	1624
1150	1,59	1675

Gerpex/Gerpex RA - Water at 50 °C

DN 26x3		
G (l/h)	V (m/s)	Dp/m (Pa/m)
400	0,35	91
440	0,39	108
480	0,42	126
520	0,46	145
560	0,50	165
600	0,53	186
640	0,57	208
680	0,60	231
720	0,64	256
760	0,67	281
800	0,71	307
840	0,74	335
880	0,78	363
920	0,81	393
960	0,85	423
1000	0,88	454
1040	0,92	487
1080	0,95	520
1120	0,99	554
1160	1,03	589
1200	1,06	625
1240	1,10	662
1280	1,13	700
1320	1,17	739
1360	1,20	778
1400	1,24	819
1440	1,27	860
1480	1,31	902
1520	1,34	945
1560	1,38	989
1600	1,41	1034
1640	1,45	1080
1680	1,49	1126
1720	1,52	1174
1760	1,56	1222
1800	1,59	1271
1840	1,63	1321
1880	1,66	1371
1920	1,70	1423
1960	1,73	1475
2000	1,77	1528
2040	1,80	1582
2080	1,84	1637
2120	1,87	1692
2160	1,91	1748
2200	1,95	1805
2240	1,98	1863
2280	2,02	1922
2320	2,05	1981
2360	2,09	2041
2400	2,12	2102

DN 32x3		
G (l/h)	V (m/s)	Dp/m (Pa/m)
800	0,42	88
860	0,45	100
920	0,48	113
980	0,51	126
1040	0,54	140
1100	0,58	154
1160	0,61	169
1220	0,64	185
1280	0,67	201
1340	0,70	218
1400	0,73	235
1460	0,76	253
1520	0,80	272
1580	0,83	291
1640	0,86	311
1700	0,89	331
1760	0,92	351
1820	0,95	373
1880	0,98	394
1940	1,01	417
2000	1,05	439
2060	1,08	463
2120	1,11	487
2180	1,14	511
2240	1,17	536
2300	1,20	561
2360	1,23	587
2420	1,27	613
2480	1,30	640
2540	1,33	668
2600	1,36	696
2660	1,39	724
2720	1,42	753
2780	1,45	782
2840	1,49	812
2900	1,52	842
2960	1,55	873
3020	1,58	904
3080	1,61	936
3140	1,64	968
3200	1,67	1000
3260	1,71	1033
3320	1,74	1067
3380	1,77	1101
3440	1,80	1135
3500	1,83	1170
3560	1,86	1205
3620	1,89	1241
3680	1,93	1277
3740	1,96	1314
3800	1,99	1351

DN 40x3,5		
G (l/h)	V (m/s)	Dp/m (Pa/m)
1000	0,32	42
1100	0,36	50
1200	0,39	58
1300	0,42	67
1400	0,45	76
1500	0,49	86
1600	0,52	96
1700	0,55	107
1800	0,58	118
1900	0,62	129
2000	0,65	142
2100	0,68	154
2200	0,71	167
2300	0,75	181
2400	0,78	195
2500	0,81	209
2600	0,84	224
2700	0,88	239
2800	0,91	255
2900	0,94	271
3000	0,97	288
3100	1,01	305
3200	1,04	322
3300	1,07	340
3400	1,10	358
3500	1,14	377
3600	1,17	396
3700	1,20	416
3800	1,23	435
3900	1,27	456
4000	1,30	476
4100	1,33	497
4200	1,36	519
4300	1,40	541
4400	1,43	563
4500	1,46	585
4600	1,49	608
4700	1,53	632
4800	1,56	655
4900	1,59	679
5000	1,62	704
5100	1,66	729
5200	1,69	754
5300	1,72	779
5400	1,75	805
5500	1,79	832
5600	1,82	858
5700	1,85	885
5800	1,88	913
5900	1,92	940
6000	1,95	968

Gerpex/Gerpex RA - Water at 50 °C

DN 50x4		
G (l/h)	V (m/s)	Dp/m (Pa/m)
2000	0,40	45
2200	0,44	53
2400	0,48	62
2600	0,52	71
2800	0,56	81
3000	0,60	92
3200	0,64	103
3400	0,68	114
3600	0,72	126
3800	0,76	138
4000	0,80	152
4200	0,84	165
4400	0,88	179
4600	0,92	193
4800	0,96	208
5000	1,00	224
5200	1,04	240
5400	1,08	256
5600	1,12	273
5800	1,16	290
6000	1,20	308
6200	1,24	326
6400	1,28	345
6600	1,32	364
6800	1,36	383
7000	1,40	403
7200	1,44	424
7400	1,48	445
7600	1,52	466
7800	1,56	487
8000	1,60	510
8200	1,64	532
8400	1,68	555
8600	1,72	578
8800	1,76	602
9000	1,80	626
9200	1,84	651
9400	1,88	676
9600	1,92	701
9800	1,96	727
10000	2,00	753
10200	2,05	780
10400	2,09	807
10600	2,13	834
10800	2,17	862
11000	2,21	890
11200	2,25	918
11400	2,29	947
11600	2,33	976
11800	2,37	1006
12000	2,41	1036

DN 63x4,5		
G (l/h)	V (m/s)	Dp/m (Pa/m)
3000	0,36	28
3500	0,42	36
4000	0,49	46
4500	0,55	56
5000	0,61	68
5500	0,67	80
6000	0,73	93
6500	0,79	107
7000	0,85	122
7500	0,91	138
8000	0,97	154
8500	1,03	172
9000	1,09	190
9500	1,15	209
10000	1,21	228
10500	1,27	249
11000	1,33	270
11500	1,39	291
12000	1,46	314
12500	1,52	337
13000	1,58	361
13500	1,64	386
14000	1,70	411
14500	1,76	437
15000	1,82	464
15500	1,88	491
16000	1,94	519
16500	2,00	548
17000	2,06	578
17500	2,12	608
18000	2,18	638
18500	2,24	670
19000	2,30	702
19500	2,37	734
20000	2,43	768
20500	2,49	802
21000	2,55	836
21500	2,61	871
22000	2,67	907
22500	2,73	943
23000	2,79	980
23500	2,85	1018
24000	2,91	1056
24500	2,97	1095
25000	3,03	1134
25500	3,09	1174
26000	3,15	1215
26500	3,21	1256
27000	3,27	1298
27500	3,34	1340
28000	3,40	1383

DN 75x5		
G (l/h)	V (m/s)	Dp/m (Pa/m)
5000	0,42	28
5500	0,46	33
6000	0,50	39
6500	0,54	45
7000	0,59	51
7500	0,63	57
8000	0,67	64
8500	0,71	71
9000	0,75	79
9500	0,80	86
10000	0,84	95
10500	0,88	103
11000	0,92	112
11500	0,96	121
12000	1,00	130
12500	1,05	140
13000	1,09	150
13500	1,13	160
14000	1,17	170
14500	1,21	181
15000	1,26	192
15500	1,30	204
16000	1,34	215
16500	1,38	227
17000	1,42	239
17500	1,46	252
18000	1,51	265
18500	1,55	278
19000	1,59	291
19500	1,63	304
20000	1,67	318
20500	1,72	332
21000	1,76	347
21500	1,80	361
22000	1,84	376
22500	1,88	391
23000	1,93	406
23500	1,97	422
24000	2,01	438
24500	2,05	454
25000	2,09	470
25500	2,13	487
26000	2,18	504
26500	2,22	521
27000	2,26	538
27500	2,30	556
28000	2,34	573
28500	2,39	591
29000	2,43	610
29500	2,47	628
30000	2,51	647

Gerpex/Gerpex RA - Water at 80 °C

DN 14x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
110	0,39	239
115	0,41	259
120	0,42	279
125	0,44	299
130	0,46	321
135	0,48	343
140	0,50	365
145	0,51	388
150	0,53	412
155	0,55	436
160	0,57	461
165	0,58	487
170	0,60	513
175	0,62	540
180	0,64	567
185	0,65	595
190	0,67	623
195	0,69	652
200	0,71	682
205	0,73	712
210	0,74	742
215	0,76	774
220	0,78	805
225	0,80	838
230	0,81	870
235	0,83	904
240	0,85	938
245	0,87	972
250	0,88	1007
255	0,90	1043
260	0,92	1079
265	0,94	1115
270	0,95	1152
275	0,97	1190
280	0,99	1228
285	1,01	1267
290	1,03	1306
295	1,04	1346
300	1,06	1386
305	1,08	1426
310	1,10	1468
315	1,11	1509
320	1,13	1551
325	1,15	1594
330	1,17	1637
335	1,18	1681
340	1,20	1725
345	1,22	1770
350	1,24	1815
355	1,26	1860
360	1,27	1906

DN 16x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
120	0,29	117
130	0,32	135
140	0,34	154
150	0,37	173
160	0,39	194
170	0,42	216
180	0,44	238
190	0,47	262
200	0,49	287
210	0,52	312
220	0,54	339
230	0,56	366
240	0,59	394
250	0,61	424
260	0,64	454
270	0,66	485
280	0,69	517
290	0,71	549
300	0,74	583
310	0,76	617
320	0,79	653
330	0,81	689
340	0,84	726
350	0,86	763
360	0,88	802
370	0,91	841
380	0,93	881
390	0,96	922
400	0,98	964
410	1,01	1007
420	1,03	1050
430	1,06	1094
440	1,08	1139
450	1,11	1185
460	1,13	1231
470	1,15	1279
480	1,18	1327
490	1,20	1375
500	1,23	1425
510	1,25	1475
520	1,28	1526
530	1,30	1578
540	1,33	1630
550	1,35	1684
560	1,38	1737
570	1,40	1792
580	1,42	1848
590	1,45	1904
600	1,47	1960
610	1,50	2018
620	1,52	2076

DN 18x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
140	0,25	74
155	0,28	88
170	0,31	104
185	0,33	120
200	0,36	138
215	0,39	156
230	0,42	176
245	0,44	197
260	0,47	218
275	0,50	241
290	0,52	264
305	0,55	288
320	0,58	314
335	0,60	340
350	0,63	367
365	0,66	395
380	0,69	424
395	0,71	454
410	0,74	484
425	0,77	516
440	0,79	548
455	0,82	581
470	0,85	615
485	0,88	650
500	0,90	685
515	0,93	722
530	0,96	759
545	0,98	797
560	1,01	835
575	1,04	875
590	1,06	915
605	1,09	956
620	1,12	998
635	1,15	1041
650	1,17	1084
665	1,20	1129
680	1,23	1174
695	1,25	1219
710	1,28	1266
725	1,31	1313
740	1,34	1361
755	1,36	1409
770	1,39	1459
785	1,42	1509
800	1,44	1560
815	1,47	1611
830	1,50	1663
845	1,52	1716
860	1,55	1770
875	1,58	1824
890	1,61	1879

DN 20x2		
G (l/h)	V (m/s)	Dp/m (Pa/m)
150	0,21	44
170	0,23	55
190	0,26	67
210	0,29	80
230	0,32	93
250	0,35	108
270	0,37	124
290	0,40	140
310	0,43	157
330	0,46	176
350	0,48	195
370	0,51	215
390	0,54	235
410	0,57	257
430	0,59	279
450	0,62	302
470	0,65	326
490	0,68	351
510	0,70	376
530	0,73	402
550	0,76	429
570	0,79	457
590	0,82	485
610	0,84	515
630	0,87	544
650	0,90	575
670	0,93	606
690	0,95	638
710	0,98	671
730	1,01	705
750	1,04	739
770	1,06	774
790	1,09	809
810	1,12	845
830	1,15	882
850	1,17	920
870	1,20	958
890	1,23	997
910	1,26	1036
930	1,28	1076
950	1,31	1117
970	1,34	1159
990	1,37	1201
1010	1,40	1244
1030	1,42	1287
1050	1,45	1331
1070	1,48	1376
1090	1,51	1421
1110	1,53	1467
1130	1,56	1514
1150	1,59	1561

Gerpex/Gerpex RA - Water at 80 °C

DN 26x3		
G (l/h)	V (m/s)	Dp/m (Pa/m)
400	0,35	85
440	0,39	101
480	0,42	117
520	0,46	135
560	0,50	154
600	0,53	173
640	0,57	194
680	0,60	216
720	0,64	238
760	0,67	262
800	0,71	287
840	0,74	312
880	0,78	339
920	0,81	366
960	0,85	394
1000	0,88	423
1040	0,92	454
1080	0,95	485
1120	0,99	516
1160	1,03	549
1200	1,06	583
1240	1,10	617
1280	1,13	652
1320	1,17	688
1360	1,20	725
1400	1,24	763
1440	1,27	802
1480	1,31	841
1520	1,34	881
1560	1,38	922
1600	1,41	964
1640	1,45	1006
1680	1,49	1050
1720	1,52	1094
1760	1,56	1139
1800	1,59	1185
1840	1,63	1231
1880	1,66	1278
1920	1,70	1326
1960	1,73	1375
2000	1,77	1424
2040	1,80	1475
2080	1,84	1526
2120	1,87	1577
2160	1,91	1630
2200	1,95	1683
2240	1,98	1737
2280	2,02	1791
2320	2,05	1847
2360	2,09	1903
2400	2,12	1960

DN 32x3		
G (l/h)	V (m/s)	Dp/m (Pa/m)
800	0,42	82
860	0,45	94
920	0,48	105
980	0,51	118
1040	0,54	130
1100	0,58	144
1160	0,61	158
1220	0,64	172
1280	0,67	188
1340	0,70	203
1400	0,73	219
1460	0,76	236
1520	0,80	253
1580	0,83	271
1640	0,86	289
1700	0,89	308
1760	0,92	328
1820	0,95	347
1880	0,98	368
1940	1,01	388
2000	1,05	410
2060	1,08	431
2120	1,11	454
2180	1,14	476
2240	1,17	499
2300	1,20	523
2360	1,23	547
2420	1,27	572
2480	1,30	597
2540	1,33	622
2600	1,36	648
2660	1,39	675
2720	1,42	702
2780	1,45	729
2840	1,49	757
2900	1,52	785
2960	1,55	813
3020	1,58	843
3080	1,61	872
3140	1,64	902
3200	1,67	932
3260	1,71	963
3320	1,74	994
3380	1,77	1026
3440	1,80	1058
3500	1,83	1091
3560	1,86	1124
3620	1,89	1157
3680	1,93	1191
3740	1,96	1225
3800	1,99	1260

DN 40x3,5		
G (l/h)	V (m/s)	Dp/m (Pa/m)
1000	0,32	39
1100	0,36	46
1200	0,39	54
1300	0,42	62
1400	0,45	71
1500	0,49	80
1600	0,52	89
1700	0,55	99
1800	0,58	110
1900	0,62	121
2000	0,65	132
2100	0,68	144
2200	0,71	156
2300	0,75	169
2400	0,78	182
2500	0,81	195
2600	0,84	209
2700	0,88	223
2800	0,91	238
2900	0,94	253
3000	0,97	268
3100	1,01	284
3200	1,04	300
3300	1,07	317
3400	1,10	334
3500	1,14	351
3600	1,17	369
3700	1,20	387
3800	1,23	406
3900	1,27	425
4000	1,30	444
4100	1,33	464
4200	1,36	484
4300	1,40	504
4400	1,43	525
4500	1,46	546
4600	1,49	567
4700	1,53	589
4800	1,56	611
4900	1,59	633
5000	1,62	656
5100	1,66	679
5200	1,69	703
5300	1,72	727
5400	1,75	751
5500	1,79	775
5600	1,82	800
5700	1,85	825
5800	1,88	851
5900	1,92	877
6000	1,95	903

Gerpex/Gerpex RA - Water at 80 °C

DN 50x4		
G (l/h)	V (m/s)	Dp/m (Pa/m)
2000	0,40	42
2200	0,44	50
2400	0,48	58
2600	0,52	66
2800	0,56	76
3000	0,60	85
3200	0,64	96
3400	0,68	106
3600	0,72	117
3800	0,76	129
4000	0,80	141
4200	0,84	154
4400	0,88	167
4600	0,92	180
4800	0,96	194
5000	1,00	209
5200	1,04	223
5400	1,08	239
5600	1,12	254
5800	1,16	271
6000	1,20	287
6200	1,24	304
6400	1,28	321
6600	1,32	339
6800	1,36	357
7000	1,40	376
7200	1,44	395
7400	1,48	414
7600	1,52	434
7800	1,56	454
8000	1,60	475
8200	1,64	496
8400	1,68	517
8600	1,72	539
8800	1,76	561
9000	1,80	584
9200	1,84	607
9400	1,88	630
9600	1,92	653
9800	1,96	678
10000	2,00	702
10200	2,05	727
10400	2,09	752
10600	2,13	777
10800	2,17	803
11000	2,21	829
11200	2,25	856
11400	2,29	883
11600	2,33	910
11800	2,37	938
12000	2,41	966

DN 63x4,5		
G (l/h)	V (m/s)	Dp/m (Pa/m)
3000	0,36	26
3500	0,42	34
4000	0,49	43
4500	0,55	53
5000	0,61	63
5500	0,67	75
6000	0,73	87
6500	0,79	100
7000	0,85	114
7500	0,91	129
8000	0,97	144
8500	1,03	160
9000	1,09	177
9500	1,15	194
10000	1,21	213
10500	1,27	232
11000	1,33	251
11500	1,39	272
12000	1,46	293
12500	1,52	314
13000	1,58	337
13500	1,64	360
14000	1,70	383
14500	1,76	408
15000	1,82	433
15500	1,88	458
16000	1,94	484
16500	2,00	511
17000	2,06	538
17500	2,12	566
18000	2,18	595
18500	2,24	624
19000	2,30	654
19500	2,37	685
20000	2,43	716
20500	2,49	747
21000	2,55	779
21500	2,61	812
22000	2,67	845
22500	2,73	879
23000	2,79	914
23500	2,85	949
24000	2,91	984
24500	2,97	1021
25000	3,03	1057
25500	3,09	1095
26000	3,15	1132
26500	3,21	1171
27000	3,27	1210
27500	3,34	1249
28000	3,40	1289

DN 75x5		
G (l/h)	V (m/s)	Dp/m (Pa/m)
5000	0,42	26
5500	0,46	31
6000	0,50	36
6500	0,54	41
7000	0,59	47
7500	0,63	53
8000	0,67	60
8500	0,71	66
9000	0,75	73
9500	0,80	81
10000	0,84	88
10500	0,88	96
11000	0,92	104
11500	0,96	113
12000	1,00	121
12500	1,05	130
13000	1,09	140
13500	1,13	149
14000	1,17	159
14500	1,21	169
15000	1,26	179
15500	1,30	190
16000	1,34	201
16500	1,38	212
17000	1,42	223
17500	1,46	235
18000	1,51	247
18500	1,55	259
19000	1,59	271
19500	1,63	284
20000	1,67	297
20500	1,72	310
21000	1,76	323
21500	1,80	337
22000	1,84	350
22500	1,88	364
23000	1,93	379
23500	1,97	393
24000	2,01	408
24500	2,05	423
25000	2,09	438
25500	2,13	454
26000	2,18	469
26500	2,22	485
27000	2,26	501
27500	2,30	518
28000	2,34	534
28500	2,39	551
29000	2,43	568
29500	2,47	586
30000	2,51	603

Pressure drops fittings

To determine localised pressure drops of plants with Gerpex fittings, it is possible to refer to the following values for the loss coefficient (ξ), which can be obtained from technical literature.

$\Delta p = \xi \rho v^2/2$

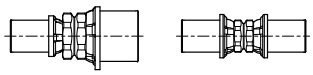
Δp = pressure drop (Pa = 0.01 mbar)

ξ = loss coefficient

ρ = volume mass of the fluid (kg/m³)

Water temperature [°C]	ρ [kg/m³]
20	0,9982
40	0,9922
60	0,99832
80	0,9718

v = speed of the fluid (m/s)

Fitting figure	ξ
	1,8
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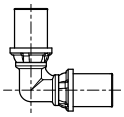
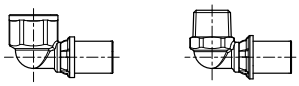
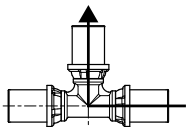
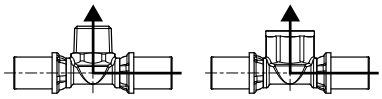
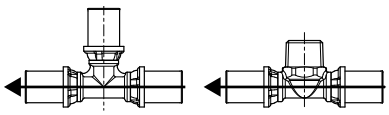
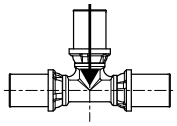
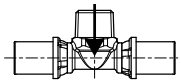
	2,4
	2,2
	2,4
	2,2
	1,8
	3,2
	3,0

Insurance certificate system

All the components of the system for Emmeti floor hydrothermal plants are designed and manufactured in compliance
with European directives and undergo strict quality audits certified by prestigious independent bodies.
To demonstrate the quality of their products and to protect the user against damage caused by possible defects,
Emmeti Spa has stipulated an insurance contract that guarantees every system for unlimited time.
The policy provides the following coverage amounts per incident:

- € 4,000,000.00 for injuries to persons;
- € 4,000,000.00 for damage to property and/or animals;
- € 400,000.00 for damage due to third party activity interruption/suspension;
- € 400,000.00 for expenses pertaining to the withdrawal/replacement of the defective product.

Insurance Certificate

Company EMMETI S.p.a., as manufacturer and distributor of the heating floor system, consisting of multi-layer pipes and press-fittings (named Gerpex System), provides this guarantee declaration, in acknowledgement of the fact that his civil liability, resulting from **defective products**, for possible damages to third parties, included the final client, is guaranteed by HELVETIA Swiss Insurance Company, with Policy n. 057/07/191428.

Company EMMETI S.p.a. guarantees, through the present Policy, starting from the date of the test of his products and without any validity term, the possible material damages, caused to third parties, resulting from **defective products**, on condition that this Policy will be in force at the moment of claim receipt by EMMETI S.p.a.

The above mentioned Policy relieves Company EMMETI S.p.a. from his civil liability, as manufacturer of Gerpex System, for **defective products**, for any accidents/losses within:
4.000.000,00 Euro for damages to people;
4.000.000,00 Euro for damages to works/goods;
400.000,00 Euro for damages for going out of business;
400.000,00 Euro for expenses due to withdrawal/replace of defective product.

The insurance lapses if are used other products different from the ones supplied by EMMETI, if are not followed the instructions of installing and laying; if are not complied the agreements taken with EMMETI.

Commitments of the Client in case of accident/loss:
In case of accident/loss, the Client has to inform EMMETI, in writing, within 3 days from the date he has discovered the fact (art. 1913 Cod. Civ).
The breach of this oblige could imply the total or partial loss of the recompense right (art. 1915 Cod. Civ).

Atomic risks and pollution damages:
Out of the insurance coverage are the damages that, in relation to the insured risks, have happened in connection to transformations or atom energetic subsidence, natural or artificially caused (nuclear fission and fusion, radioactive isotope, accelerating machines etc...).
Out of the insurance coverage are also the damages of any nature and due to any causes, consequent from atmosphere pollution, pollution, seepages, contamination of water, ground or cultivations, interruption, impoverishment or deviation of headwater or waterways, alterations or impoverishment of water-bearing layers, mineral deposits and in general of whatever present in the subsoil subject to exploitation.

Customer _____

Street _____ Post Code _____ Town _____ Province _____

Tel. _____

Installer _____

Street _____ Post Code _____ Town _____ Province _____

Tel. _____

Emmeti S.p.a. supply: _____

Invoice n. _____ date ② _____

Date of installation _____

Date of test ① _____ Installer signature and stamp _____

P.S.: ① on condition that this will happen within 12 months from the date of purchase ②

Emmeti Spa - Via Brigata Osoppo, 166 - 33074 Vigonovo frazione di Fontanafredda (PN) - Italia
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