SYSTEM
KAN-therm

SYSTEM **KAN-therm** Push Platinum

ISO 9001

TECHNOLOGY
OF SUCCESS

Contents

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- This catalogue of the **KAN-therm** Push Platinum System includes a new **KAN-therm** Push Platinum System and the standard **KAN-therm** Push System.

The catalogue is divided into a Technical Part and an Assortment Part:
- **KAN-therm** Push Platinum System Technical Part,
- **KAN-therm** Push Platinum System Technical Part,
- **KAN-therm** Push Platinum System and **KAN-therm** Push System common part.

The technical part includes all information required to order products and for its assembly on a construction site etc. For more details please see „**KAN-therm** System Designers and Contractors Guide".

The common assortment part of the catalogue comprises:

1. The **KAN-therm** Push Platinum System used for water supply systems and heating systems and comprising:
- PE-Xc/Al/PE-HD Platinum multi-layer pipes within the range of 14-32 mm diameters,
- PPSU plastic fittings and brass fittings for PE-Xc, PE-RT and PE-Xc/Al/PE-HD Platinum pipes.

2. The **KAN-therm** Push System used for water supply systems and heating systems and comprising two material configurations of pipes and fittings:
- PE-Xc pipes with an anti-diffusion barrier within a range of diameters 12 – 32 mm,
- PE-RT pipes with an anti-diffusion barrier within a range of diameters 12 – 32 mm,
- PPSU plastic fittings and brass fittings for PE-Xc, PE-RT and PE-Xc/Al/PE-HD Platinum pipes.

3. Push System fittings – dia. 18x2.0 (available till January 31. 2013)
Since **KAN-therm** Push System plastic PPSU fittings and brass fittings for PE-Xc and PE-RT - dia. 18x2 pipes, are successively withdrawn from the offer nonetheless here all the **KAN-therm** Push elements available till 31.01.20 are listed.

4. Screwed joints for 12 - 32 mm dia. PE-Xc and PE-RT pipes.

5. Tools for assembling **KAN-therm** Push System pipes and fittings.

CAUTION!!!
PE-Xc and PE-RT pipes with the anti-diffusion barrier in diameters 16×2 and 18×2 designed mainly for floor heating and manifold-based heating systems are available in the catalogue **KAN-therm** System: Screwed joints and **KAN-therm** System – Underfloor heating.

The **KAN-therm** Push Platinum System is a modern and complete system consisting of multi-layer PE- Xc/Al/PE-HD Platinum pipes and standard **KAN-therm** Push fittings made of PPSU or brass, within a diameter range of 14-32 mm.

Push Platinum System leak-tight joints without O-rings are made by pushing a brass ring onto a fitting and a pipe. These connections do not require additional sealing like a PTFE tape or tow. The system is complemented by manifolds and installation cabinets available in section Manifolds, cabinets and accessories.

The latest plastic material invention PPSU – phenylene polysulfone – used for fittings production ensures:

- full resistance against corrosion,
- full neutratrality against potable water,
- durability of fittings higher than that of pipes,
- high mechanical strength.

The technology of making PPSU fittings practically excludes possible occurence of hidden defects.

Due to a perfect design of parts of the **KAN-therm** Push Platinum System and their mutual matching, provides:

- over a 50-years opration life,
- high temperature operation – T_{work} = 80°C (operating temperature), T_{max} = 90°C (max. temperature – the heat source shall be protected against a temperature rise above that level),
- extremely durable PPSU joints with the max. working temperatures limted by the pipe life,
- absolutely no corrosion irrespective of the water quality,

The **KAN-therm** Push Platinum System allows for a selection of best solutions both in technical and cost terms as:

- joints can be hidden in screed and under plaster,
- possibility of connecting with systems made of other materials,
- possible cost-saving distribution systems.

The **KAN-therm** Push Platinum System guarantees full safety of mounting and operation.

- PPSU fittings are made according to **PN-EN ISO 15875-3:2005** and **PN-EN ISO 22391-3:2010**, and obtains hygiene certyficates by PZH,
- brass „Push“ type fittings conform to **PN-EN 1254-3:2004**, and obtains hygiene certyficates by PZH*,
- multi-layer PE-Xc/Al/PE-HD Platinum pipes conform to **PN-EN ISO 21003** and obtains hygiene certyficates by PZH*.

Multi-layer PE-Xc/Al/PE-HD Platinum pipes

PE-Xc/Al/PE-HD Platinum pipes are manufactured as multi-layer pipes, where the base-pipe is made of the PE-Xc polyethylene subjected to molecular crosslinking by an electron beam. Laser-welded aluminium layer provides a complete protection against oxygen diffusion and significantly lowers the thermal expansion of a pipe. An external coating of the high-density polyethylene PH-ED protects the aluminium layer against a mechanical damage. Due to their design, pipes do not have the 'shape memory' and can be given any shape.

Assortment of PE-Xc/Al/PE-HD Platinum pipes:

- PE-Xc/Al/PE-HD Platinum multi-layer pipes according to PN-EN IS 21003-2 standard – in dia. 14, 18, 25, 32 mm.

Dimensions, application and water volumes of multi-layer PE-Xc/Al/PE-HD Platinum pipes:

№	Rated diameter DN	OD [mm]	Wall thickness [mm]	For installation:	Water volume [dm³/m]
1	14	14	2,25	c.o. / t. c.w. & h.w.	0,071
2	18	17	2,8	c.o. / t. c.w. & h.w	0,102
3	25	25	3,7	c.o. / t. c.w. & h.w	0,243
4	32	32	4,7	c.o. / t. c.w. & h.w	0,401

Parameters of multi-layer PE-Xc/Al/PE-HD Platinum pipes

Operating parameters of multi-layer PE-Xc/Al/PE-HD Platinum pipes acc. to **PN-EN ISO 21003-2**:

Installation and application class (acc. to ISO 10508)	Nominal dia. DN	External diameter [mm]	Wall thickness [mm]	Operating parameters		Connection type	
				P_{work} [bar]	T_{work}/T_{max} [°C]	Push (with pushed -on ring)	Screwed (threaded)
tap cold water	14	14	2,25	10	20	+	+
	18	17	2,8	10	20	+	+
	25	25	3,7	10	20	+	-
	32	32	4,7	10	20	+	-
tap hot water (**class 1**)	14	14	2,25	10	60/80	+	+
	18	17	2,8	10	60/80	+	+
	25	25	3,7	10	60/80	+	-
	32	32	4,7	10	60/80	+	-
tap hot water (**class 2**)	14	14	2,25	10	70/80	+	+
	18	17	2,8	10	70/80	+	+
	25	25	3,7	10	70/80	+	-
	32	32	4,7	10	70/80	+	-
underfloor heating, radiator heating – low temperature (**class 4**)	14	14	2,25	10	60/70	+	+
	18	17	2,8	10	60/70	+	+
	25	25	3,7	10	60/70	+	-
	32	32	4,7	10	60/70	+	-
radiator heating (**class 5**)	14	14	2,25	10	80/90	+	+
	18	17	2,8	10	80/90	+	+
	25	25	3,7	10	80/90	+	-
	32	32	4,7	10	80/90	+	-

Operating temperature T_{work} for individual classes shall be regarded as a design temperature, the maximal temp. - T_{max} - as a temperature, which should not be exceeded – the system must be protected against it.

Multi-layer PE-Xc/Al/PE-HD Platinum pipes – Physical properties

№	Property	Unit	Value
1	Heat conductivity	[W/mK]	0,4
2	Coefficient of linear expansion	[mm/mK]	0,025
3	Material constant		33
4	Material density	[g/cm³]	0,95
5	Internal pipe roughness (absolute)	[mm]	0,007
6	Max usage temperature	[°C]	95
7	E module	[N/mm2]	2950
8	Minimum bending radius	without bending spring	5 x Dz
		with bending spring	3 x Dz
9	Minimum distance between supports	[mm]	1000 (Ø14-18)
			1500 (Ø25-32)

Transport and storage

PE-RT and PE-Xc pipes are delivered in 25, 50, 200 m rolls in carton packages. They can be stored in different temperatures, also below 0°C. Because of vulnerability to UV rays, pipes should be protected against direct, long-lasting exposure to sunlight.

Push Platinum connections

Fittings for the **KAN-therm** Push Platinum System connections

To make connections with the **KAN-therm** Push Platinum elements standard **KAN-therm** Push PPSU System fittings and brass fittings are used.

- elbows and tees
- elbows, tees and other fittings with nickel-plated Ø15mm pipes,
- couplings, Platinum eurocone adapters, male and female connectors,
- wallplate elbows,
- other.

Notice:

When assembling PPSU fittings keep elements clean and avoid contact with chemical agents.

Brass rings for **KAN-therm** Push Platinum System joints

To seal **KAN-therm** Push Platinum System connection of a pipe and a fitting, standard **KAN-therm** Push brass rings in diameters 14 – 32 mm are used.

Ring for Push connections

Assembling Push Platinum joints

1. Cut a multi-layer PE-Xc/Al/PE-HD Platinum pipe to a required length with scissors. The cut must be perpendicular to the pipe axis.

CAUTION!!! - For cutting use only sharp blades.

2. Put the ring onto a pipe with the internally chamfered end toward a fitting. Select the ring properly to the pipe diameter.

3. Expand the pipe with a hand or electric expanding tool. In both cases use the expanding tool in three stages. First two expansions not full, then rotate the expanding tool through 30° and 15° against the pipe. The third expansion is full.

CAUTION!!!: For expanding use only
Push Platinum **expanding head**

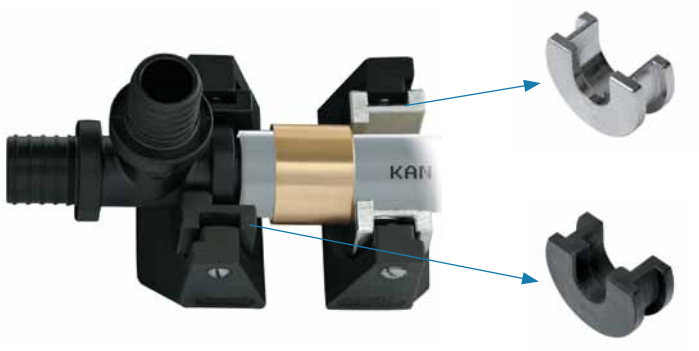
4. Insert the fitting into a pipe up to the last bead on the fitting.

5. Slide the ring with a hand/hydraulic or electric machine Grip fittings only at their flange. Do not slide two rings at the same time.

6. Observe assembling process - after sliding the sleeve up to fittnigs flange, the whole process should be stopped. The connection is ready for pressure test.

Notice:

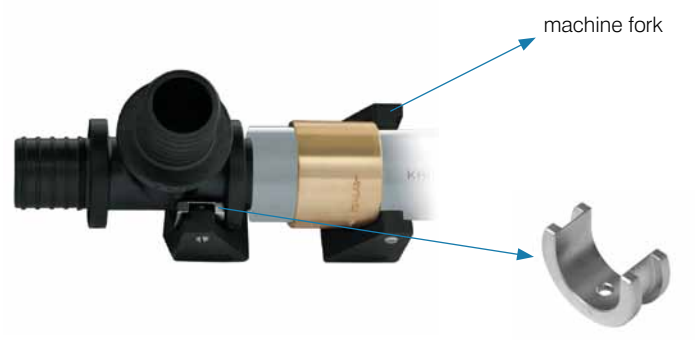
1. For assembly of a PPSU fittings use only at the side of a fitting black inserts marked T (14, 18 or 25), and at the ring side straight nickel-plated inserts. The PPSU fitting shall be supported at its flange directly next to the stub pipe onto which the rings is being pushed.



nickel-plated insert

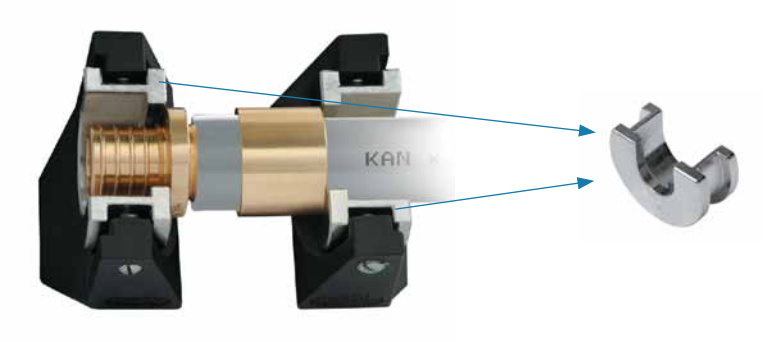
straight black insert

2. When assembling a PPSU fitting dia. 32 mm insert at the fitting end a straight nickel-plated insert. dia. 25 mm, and on the ring side empty machines fork.



straight nickel-plated insert Ø25mm

3. For assembly of brass elements use straight nickel-plated inserts.

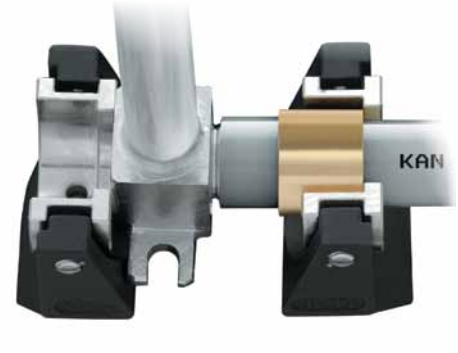


nickel-plated straight insert

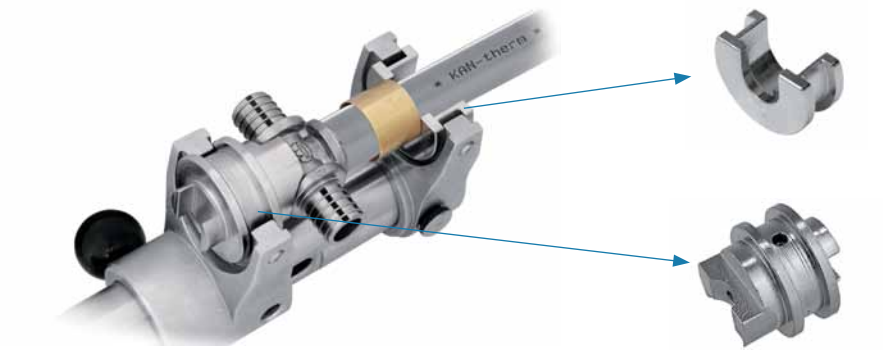
4. For screwed connections ∅ 32 mm use only forks (no inserts).

Assembling a ∅32 joint without using inserts

5. For assembly of other brass elements e.g. screwed couplings, wallplate elbows (excluding angle wallplate elbows) and elements of connections to radiators use straight nickel-plated inserts marked: P8471, P8469, P8468, P8467.



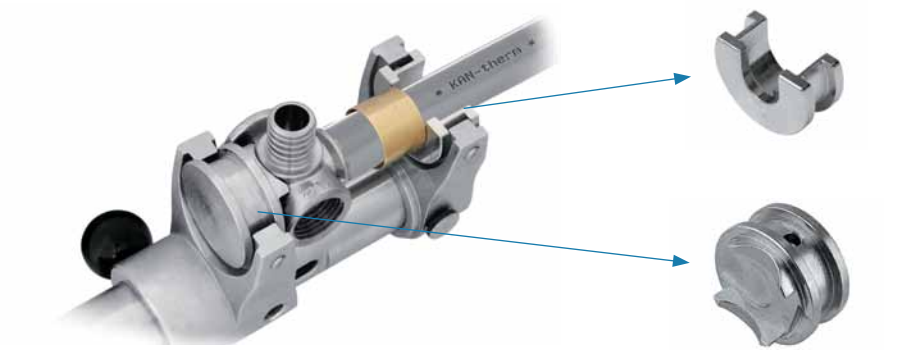
6. For tees ∅14, 18, 25 mm use at the side of fitting nickel-plated shaped inserts marked respectively P8465, P8463, P8468, and P8464. At the ring side use straight nickel-plated inserts.



straight nickel-plated insert e.g. for ∅18mm, P8468

shaped nickel-plated insert e.g. for dia. P8463

7. For brass angle wallplate elbows ∅18 mm use at the fitting side shaped nickel-plated insert marked P8470. At the ring side use a straight nickel-plated insert.



straight nickel-plated insert e.g. for ∅18mm, P8468

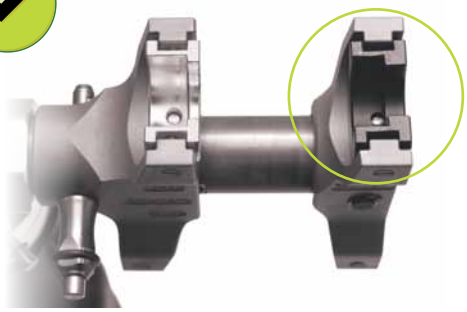
shaped nickel-plated insert e.g. for dia. P8463

CAUTION!!! - the presented above shaped inserts for brass joints are not a standard part of tool kits, please order them separately.

Novopress tool (battery driven)

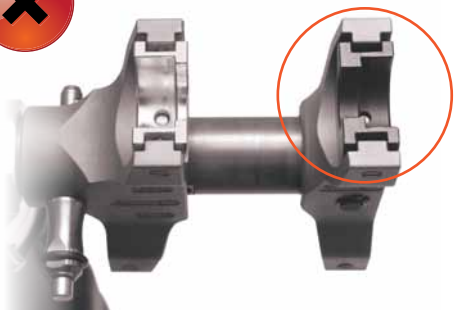
Correct way of mounting inserts on machine forks

Diameter range 14 - 25 mm.



Incorrect way of mounting inserts on machine forks

Diameter range 14 - 25 mm.



Tools for Push Platinum joints

To make a joint in the **KAN-therm** Push Platinum System use **KAN-therm** Push System tools.Tools must be provided with expanding heads for multi-layer PE-Xc/Al/PE-HD Platinum pipes.

Heads for Push Platinum joints

For connections of the KAN-therm Push Platinum System use standard set of tools additionally equipped with Push Platinum heads.

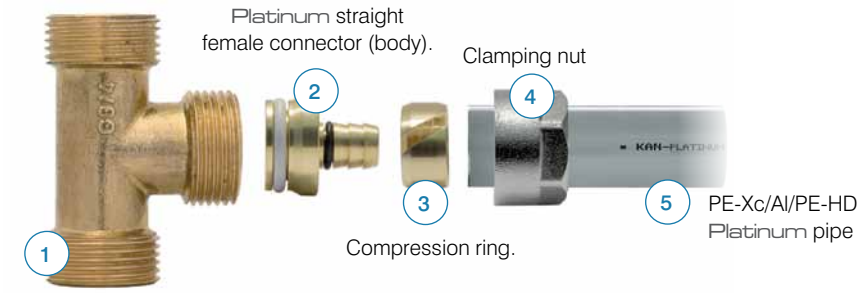
1. Push Platinum expanding heads -14, 18, 25, 32 (1 piece each)

Tools - Safety

All tools must be applied and used in accordance with their purpose and the manufacturer's instructions.
Use for other purposes or in other areas are considered to be inconsistent with the intended use.
Intended use also requires compliance with the instructions, conditions of inspection and maintenance and relevant safety regulations in their current version.
All works done with tools, which do not meet the application compatible with the intendedpurpose may result in damage to tools, accessories and pipes. The consequence may be the leak and / or damage.

Screwed connection for PE-Xc/Al/PE-HD Platinum pipes

Screwed connections in the **KAN-therm** Push Platinum System are the only permissible form of screwed connections. The range of diameters for the **KAN-therm** Push Platinum System is 14 – 18 mm.



Push Platinum screwed joints (with a white O-ring) for Eurokonus connections can be combined with:

- fittings for screwed joints with a male thread (series of fittings 9012),
- manifolds equipped with special nipples,
- combined radiator valves.

This kind of joints is self-sealing and no additional sealing like PTFE tape or tow should be used. Connections must be easily accessible.

KAN-therm Push Platinum System – Compensation of thermal elongation

The elongation (ΔL) due to temperature change can be determined from the following formula:
where:
α - coefficient of linear expansion [mm/mK]
L - length of pipeline section [m]
ΔT - temperature difference (assembly and operation) [K]

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

Required length of an flexible arm is determined from the formula:
where:
K - material constant
Dz - external diameter [mm]
Ls - length of the elastic arm [mm]

$$L_s = K \times \sqrt{Dz \times \Delta L}$$

In case a system is embedded within diameters 14-25 mm, we suggest to lay pipes in tight curves for selfcompensation of the pipelines thermal elongation.

The **KAN-therm** Push System is a complete system consisting of PE pipes PE-Xc or PE-RT and PPSU fittings or brass fittings within a diameter range ∅12-32 mm.
A **KAN-therm** Push System leak-tight joints without O-rings are made by pushing a brass ring onto a fitting and a pipe. These joints do not require additional sealing like a PTFE tape or tow. Other complementing elements of the system are manifolds and installation cabinets.

The **KAN-therm** Push System was designed on a rule „fast assembly – permanent effect" thus investment and finishing work can be substantially sped up.

KAN-therm Push System – Modern technology

The latest plastic material invention PPSU – phenylene polysulfone – used for joints ensures:
- full resistance against corrosion,
- full neutrality against potable water,
- durability of fittings higher than that of pipes,
- high mechanical strength,
- The technology of making PPSU fittings practically excludes possible occurrence of hidden defects.

KAN-therm Push System – Technology for many years

Due to a perfect design of parts of the **KAN-therm** Push System and their matching merits as follows are achieved:
- over a 50-year operation life,
- possible work at high temperatures – $T_{work.}$ = 80°C (operating temperature), T_{max} = 90°C (max. temperature – the heat source must be protected against a temperature rise above that level),
- extremely durable PPSU fittings the max. operating parameters are limited by the pipe life,
- absolutely no corrosion irrespective of the water quality.

KAN-therm Push System – Optimum technology

The **KAN-therm** Push System allows for a selection of best solutions both in technical terms and cost terms as:
- Push joints can be hidden in floors,
- possible connecting with systems made of other materials,
- possible cost-saving distribution systems.

KAN-therm Push System – Safe technology

The **KAN-therm** Push System guarantees full safety of mounting and operation:
- „Push" type fittings made of PPSU conform to **PN-EN ISO 15875-3:2005** and **PN-EN ISO 22391-3:201** and and obtains hygiene certyficates by PZH,
- PE-RT pipes conform to **PN-EN ISO 22391-2:2010** and obtains hygiene certyficates by PZH,
- PE-Xc pipes conform to **PN-EN ISO 15875-2:2005** and obtains hygiene certyficates by PZH the abovementioned documents are binding for insulated PE-Xc and PE-RT pipes. The thermal insulation obtains the technical approval by ITB,
- a 10-year guarantee for the Push system.

PE-RT pipes

PE-RT pipes of the **KAN-therm** Push System are made of a high thermal resistance polyethylene DOWLEX 2388 E.

Assortment of PE-RT pipes:

- PE-RT pipes acc. to DIN 16776, 16833, 4726 pipes with an anti-diffusion barrier EVOH, series: Ø12×2; Ø14×2; Ø18×2*; Ø18×2,5; Ø25×3,5; Ø32×4,4 do for central heating systems and hot and cold tap water systems,
- PE-RT pipes with an anti-diffusion barrier within diameters 14×2 and 18×2*, 18×2,5 are available also in a 6 mm thick thermal insulation.

KAN-therm Push **pipes: dimensions, application and water volumes:**

№	OD [mm]	Wall thickness [mm]	EVOH shield	For installation:	Water volume [dm3/m]
1	12	2,0	yes	c.o., z.w. and c.w.u.	0,050
2	14	2,0	yes	c.o., z.w. and c.w.u.	0,079
3	18*	2,0	yes	c.o., z.w. and c.w.u.	0,154
4	18	2,5	yes	c.o., z.w. and c.w.u.	0,133
5	25	3,5	yes	c.o., z.w. and c.w.u.	0,254
6	32	4,4	yes	c.o., z.w. and c.w.u.	0,423

The EVOH (ethylene-vinyl alcohol) coating is applied directly on the base pipe and bound with it with a layer of glue. This coating satisfies the DIN 4726 requirements.

PE-Xc pipes

KAN-therm Push System PE-Xc pipes are manufactured form a high-density polyethylene and are subjected to networking with an electron beam („c" – a physical method, without using chemical agents).

Assortment of PE-Xc pipes:

- PE-Xc pipes acc. to DIN 16892/93, 4726/29 with the EVOH anti-diffusion barrier, series Ø12×2; Ø14×2; Ø18×2*; Ø18×2,5; Ø25×3,5; Ø32×4,4 for central heating and hot and cold tap water systems,
- PE-Xc pipes with an anti-diffusion barrier within diameters 14×2 and 18×2*, 18×2,5 are available also in a 6 mm thick thermal insulation.

KAN-therm Push System **PE-Xc pipes: application and water volumes:**

№	OD [mm]	wall thickness [mm]	EVOH coating	installation	water volume [dm³/m]
1	12	2,0	yes	c.o., z.w. and c.w.u.	0,050
2	14	2,0	yes	c.o., z.w. and c.w.u.	0,079
3	18*	2,0	yes	c.o., z.w. and c.w.u.	0,154
4	18	2,5	yes	c.o., z.w. and c.w.u.	0,133
5	25	3,5	yes	c.o., z.w. and c.w.u.	0,254
6	32	4,4	yes	c.o., z.w. and c.w.u.	0,423

The EVOH (ethylene-vinyl alcohol) coating is applied directly on the base pipe and bound with it with a layer of glue. This coating satisfies the DIN 4726 requirements.

* System **KAN-therm** Push 18×2 connectors are offered till 31.01.2013

PE-RT and PE-Xc pipes operating parameters

PE-RT pipes acc. to **PN-EN ISO 22391-2:2010** and PE-Xc pipes acc. to **PN-EN ISO 15875-2:2004**: Operating parameters:

Installation and application class (acc. to ISO 10508)	Nominal diameter [mm]]	Wall thickness [mm]	EVOH coating	Operating parameters			Connection type	
				P_{work} [bar]		T_{work}/T_{max} [°C]	Push	screwed
				PE-Xc	PE-RT			
cold tap water	14	2	yes	10	10	20	+	+
	18	2,5	yes	10	10	20	+	+
	25	3,5	yes	10	10	20	+	+
	32	4,4	yes	10	10	20	+	+
hot tap water (**class 1**)	14	2	yes	10	10	60/80	+	+
	18	2,5	yes	10	10	60/80	+	+
	25	3,5	yes	10	10	60/80	+	+
	32	4,4	yes	10	10	60/80	+	+
hot tap water (**class 2**)	14	2	yes	10	10	70/80	+	+
	18	2,5	yes	10	10	70/80	+	+
	25	3,5	yes	10	10	70/80	+	+
	32	4,4	yes	10	10	70/80	+	+
underfloor heating, low temperature radiator heating (**class 4**)	12	2	yes	10	10	60/70	+	+
	14	2	yes	10	10	60/70	+	+
	18*	2	yes	10	8	60/70	+	+
	18	2,5	yes	10	10	60/70	+	+
	25	3,5	yes	10	10	60/70	+	+
	32	4,4	yes	10	10	60/70	+	+
radiator heating (**class 5**)	12	2	yes	10	10	80/90	+	+
	14	2	yes	10	8	80/90	+	+
	18*	2	yes	8	6	80/90	+	+
	18	2,5	yes	10	8	80/90	+	+
	25	3,5	yes	10	8	80/90	+	+
	32	4,4	yes	10	8	80/90	+	+

PE-RT and PE-Xc pipes: Physical properties

№	Properties	Unit	Value
1	thermal conductivity	[W/mK]	0,41
2	coefficient of linear expansion		
	20°C	[K-1]	$1,4\times10^{-4}$
	100°C	[K-1]	$2,0\times10^{-4}$
3	material density	[g/cm³]	0,94
4	pipe internal roughness (absolute)	[mm]	0,005
5	application temperature - limit value		
	PE-RT	[°C]	-40 ÷ 90
	PE-Xc	[°C]	-40 ÷ 95
6	Module E	[N/mm²]	600

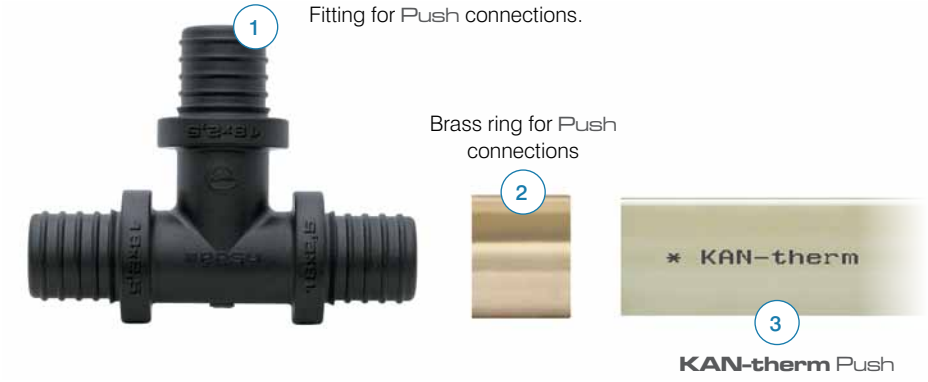
Transport and storage

PE-RT and PE-Xc pipes are delivered in coils 25, 50, 200 m in cartons. They can be stored at different temperatures also below 0°C. As these pipes are sensitive to UV radiation protect them against a long-term sun radiation.

*KAN-therm Push System 18×2 connectors are offered till 31.01.2013

Push connections

A Push type connection is made by pushing a brass ring onto a pipe and a fitting with the help of a hand, hydraulic or battery-driven machine.



Fittings for Push connections:

- elbows and tees,
- elbows, tees and other fittings with nickel-plated pipes ∅15mm,
- connectors, screwed couplings, male thread and female thread connectors,
- wallplate elbows,
- other fittings.

Notice:
During assembly of PPSU fittings keep all elements clean and avoid contact with chemical agents.

Brass ring for Push connections:

Brass ring for Push connections

*KAN-therm Push System 18×2 connectors are offered till 31.01.2013

Assembly of Push connections

1. Cut a PE-RT or PE-Xc pipe to a required length with scissors. A cut shall be perpendicular to the pipe axis. For cutting use only sharp blades.

2. Put the ring onto the pipe with its chamfered end toward the fitting. Select the ring appropriately to the pipe diameter.

3. Expand the pipe with a hand or electric expanding tool. In both cases use the expanding tool in three stages. First two expansions not full, then rotate the expanding tool through 30° and 15° against the pipe. The third expansion is full.

4. Insert the fitting into a pipe up to the last bead on the fitting.

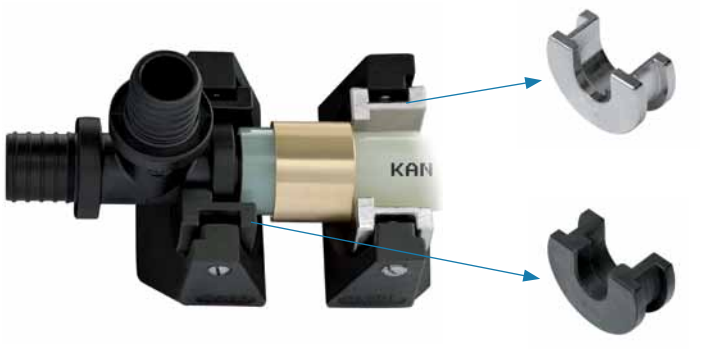
5. Slide the ring with a hand/hydraulic or electric machine Grip fittings only at their flange. Do not slide two rings at the same time.

6. Observe assembling process - after sliding the sleeve up to fittnigs flange, the whole process should be stopped. The connection is ready for pressure test.

To eliminate the excessive overload on fittings by bending force,
it is not recommended to bend pipes at a distance less than 10 external diameters from the fitting.

Notice:

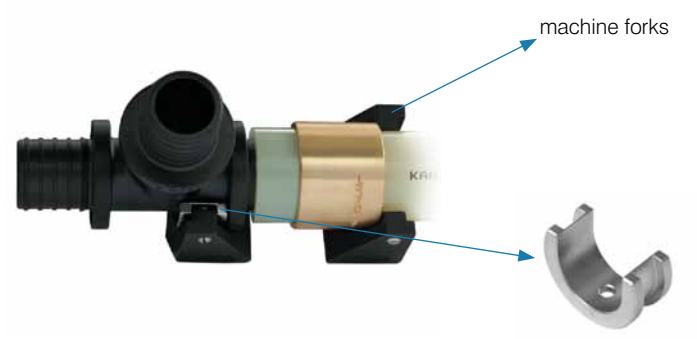
1. For assembly of PPSU plastic fittings on the fitting side you must use black inserts marked T (12, 14, 18 or 25), and on the ring side straight, nickel-plated inserts. A PPSU fitting must be supported at the collar directly next to the stub pipe you push the ring onto.



nickel-plated straight insert

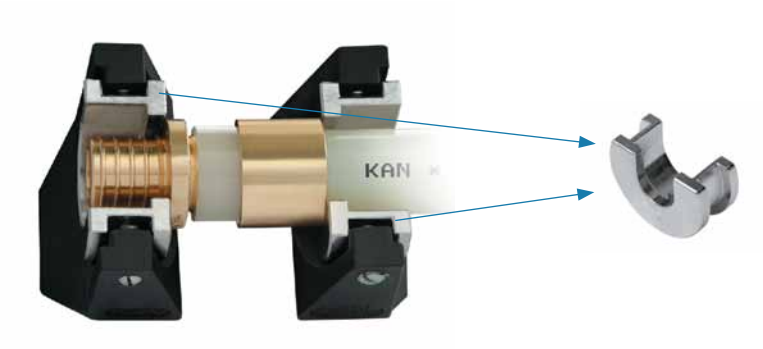
black straight insert

2. When assembling a PPSU fitting dia. 32 mm insert at the fitting end a straight nickel-plated insert. dia. 25 mm, and on the ring side empty machines fork.



straight, nickel-plated insert Ø25mm

3. Brass elements are assembled using straight, nickel-plated inserts.

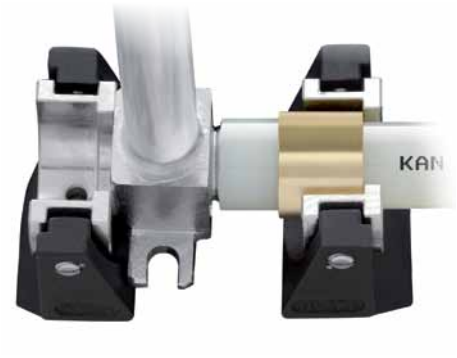


straight, nickel-plated insert Ø25mm

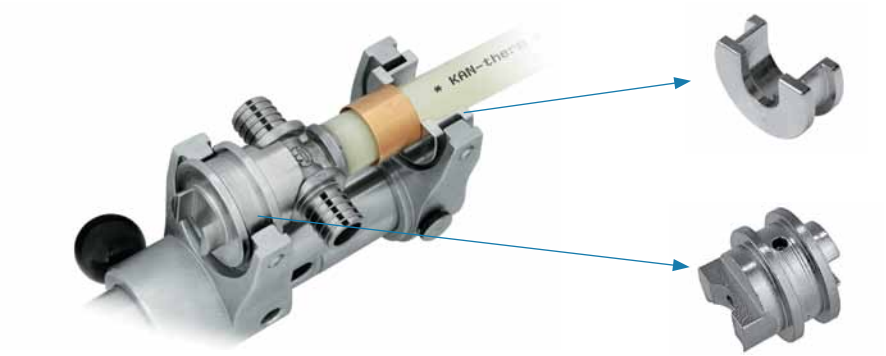
4. For screwed joints ∅ 32 mm apply only machine forks without inserts.

assembling a ∅32 connection without using inserts

5. For assembly of other brass elements e.g. threaded couplings, wallplate elbows (excluding angle wallplate elbows) and connection pieces to radiators use nickel-plated inserts marked: P8471, P8469, P8468, P8467.



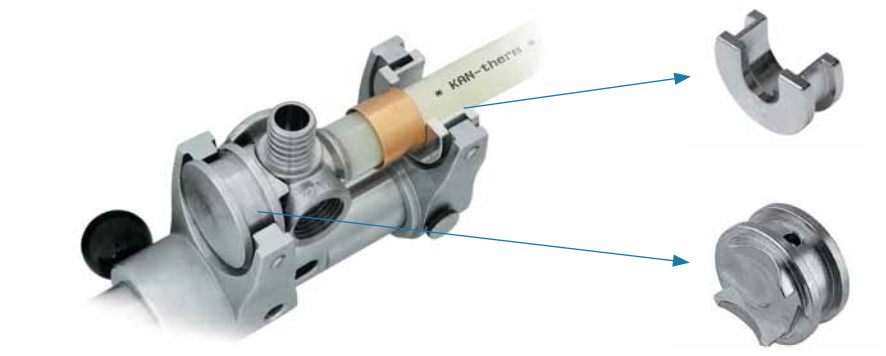
6. For tees (stub pipes at branches) ∅14, 18, 25 mm at the side of fittings use nickel-plated shaped inserts marked: P8465, P8463, P8468, P8464. At the ring side use nickel-plated straight inserts.



straight nickel-plated insert
e.g. for ∅18mm, P8468

shaped nickel-plated insert e.g.
for ∅18mm, P8463

7. For brass, angle wallplate elbows ∅18 mm use at the fitting side a nickel-plated insert marked P8470. At the ring side use a nickel-plated straight insert.



nickel-plated, straight insert e.g. for
∅18mm, P8468

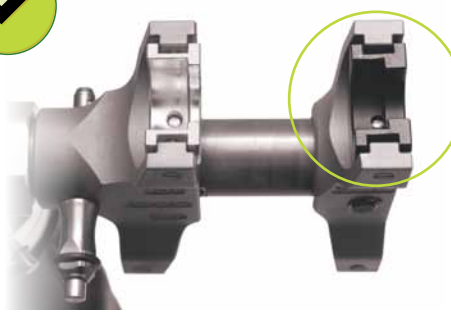
shaped insert nickel-plated e.g.
for ∅18mm, P8468

CAUTION!!! - the above presented shape inserts for brass fitings are not a standard part of tool sets; they should be ordered separately.

Novopress tool (battery driven)

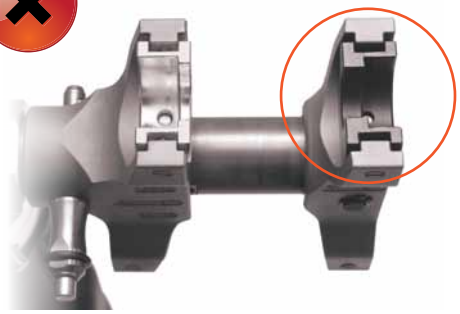
Correct way of mounting inserts on machine forks

Diameter range 14 - 25 mm.



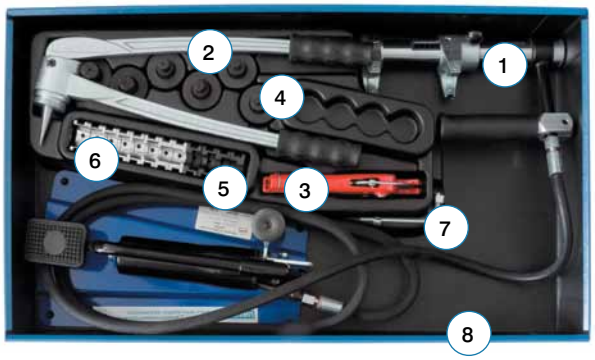
Incorrect way of mounting inserts on machine forks

Diameter range 14 - 25 mm.



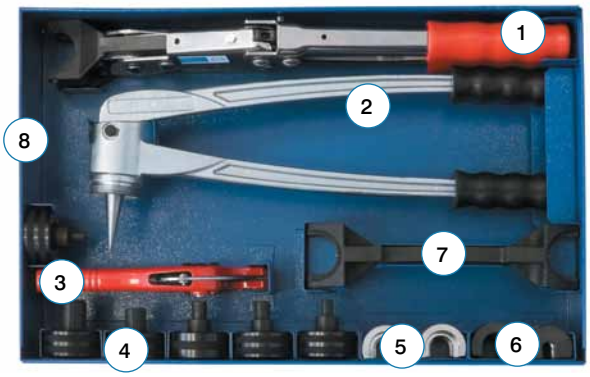
Tools for Push connections

Set – foot driven hydraulic tool



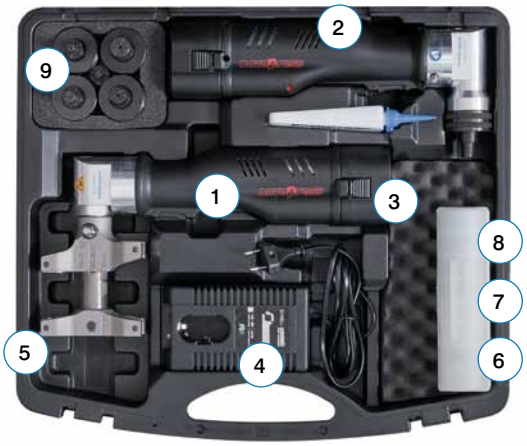
1. foot driven hydraulic tool
2. expanding tool for pipes
3. scissors for PE-RT and PE-Xc pipes;
4. set of heads for the expanding tool (12×2; 14×2;18×2; 18×2.5; 25×3.5; 32×4.4) – only for pipes PE-RT and PE-Xc
5. set of inserts for PPSU fitings
6. set of inserts for brass fittings or rings (T12, T14; T18; T25) – 2 pieces each
7. hexagonal key
8. case

Set – hand tool



1. hand chain machine
2. expanding tool for pipes
3. scissors for pipes
4. set of heads for the expanding tool (12×2; 14×2;18×2; 18×2,5; 25×3,5; 32×4.4) – only for pipesPE-RT and PE-Xc
5. set of inserts for rings12, 14, 18, 25 (2 piece each)
6. set of inserts for PPSU fittings (T12, T14; T18; T25) – 1 piece each
7. two pairs of forks for connections of a dia.12-18mm and 25-32mm;
8. case

Set – expanding tool and a battery-driven tool for Push 12-32 mm connections



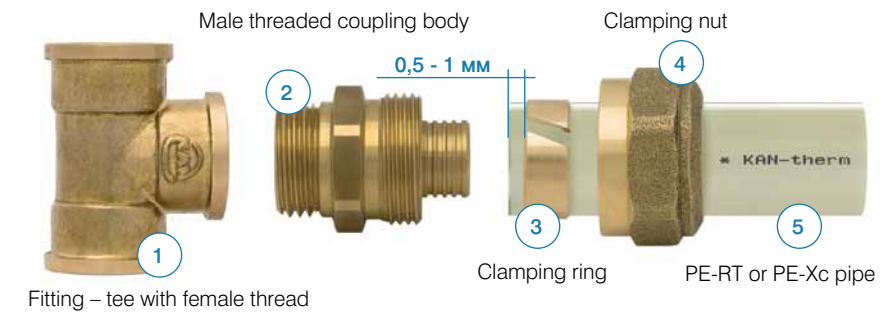
1. Battery driven tool AAP101 - 1 pcs.
2. Battery driven expanding tool AXI101 - 1 pcs.
3. Battery 9,6V 3,0Ah (standard) - 2 pcs.
4. Charger - 1 pcs.
5. Case - 1 pcs.
6. Box for inserts - 1 pcs.
7. Black inserts (for PPSU fittings) 12×2, 14×2, 18×2 (18×2,5), 25×3,5 (1 pcs. each)
8. Inserts (for brass fittings and rings) 12×2, 14×2,18×2 (18×2,5), 25×3,5 (2 pcs each.)
9. Expanding head - 12×2, 14×2, 18×2, 18×2,5, 25×3,5, 32×4,4 (1 pcs. each). – only for PE-RT and PE-Xc pipes

Tools - Safety

All tools must be applied and used in accordance with their purpose and the manufacturer's instructions.
Use for other purposes or in other areas are considered to be inconsistent with the intended use.
Intended use also requires compliance with the instructions, conditions of inspection and maintenance and relevant safety regulations in their current version.
All works done with tools, which do not meet the application compatible with the intended purpose may result in damage to tools, accessories and pipes.
The consequence may be the leak and / or damage.

Screwed joints for PE-RT and PE-Xc - Ø12-32 mm

Assembling of a screwed joint:
1. Screw the joint body into a fitting provided with a sealed thread.
2. Fit the nut and the clamping ring on a pipe.
3. Push a pipe onto the coupling body and screw on a ring-clamping nut.

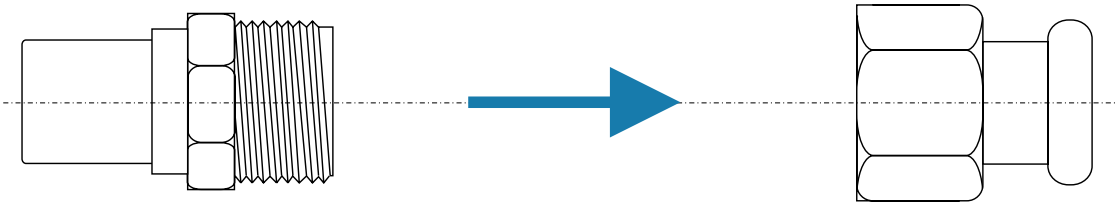


Fit a clamping ring onto a pipe so that the ring edge is 0,5 - 1 mm away from the pipe edge. A pipe should be pushed to the end of the pipe connectors body. This connection may be taken apart - after the connector body is pulled out of a pipe you should cut away the used pipe end and you may create a new connection.
Do not turn a fitting on a pipe during assembly and after it and do not use any lubricants to push a pipe easier onto a fitting body.

Screwed joints can be combined with:
- female threaded fittings like elbows, tees, wallplate elbows, manifolds without a nipple,
- female thread fixtures.

Seal these connections
- with tow and a paste additive but in case of brass female threads do not use too much tow,
- do not combine female thread (cylindrical profile) brass couplings with male pipe threads (conical profile) as brass can crack,
- observe the rule that female thread pipe connectors and fittings should not be combined with element other than **KAN-therm** System pieces,

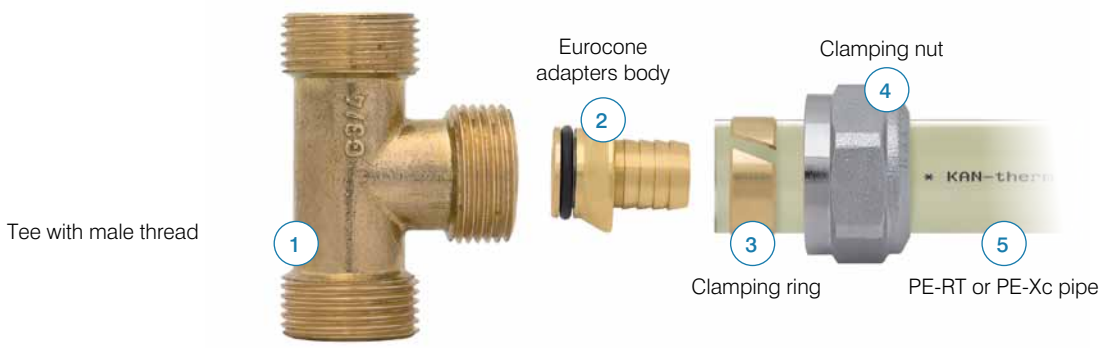
KAN-therm brass male thread connector | Female steel connector



- do not embed them in a floor.

Eurocone adapters for PE-RT and PE-Xc - Ø12-25 mm pipes

Eurocone adapter are a version of screwed joints.



The main element of such connections is an eurocone adapter body with a sealing O-ring between a body and a fitting. Eurocones combine with:

- a 9012 series fittings with male threads,
- manifolds with special nipples,
- combined radiator valves.

Eurocone adapters are characteristic for a sealing on the cone and an O-ring between body and a fitting. This kind of joints is self-sealing and no additional sealing element like a PTFE tape or tow shall be used. Locate such connections at generally accessible places.

Joining fittings with nickel-plated pipes with radiator fixtures

For good looks of a **KAN-therm** radiator connection both from a floor or a wall we offer special fittings with nickel-plated copper pipes.

Connect fixed elbows and tees with a nickel-plated pipe with radiator valves or directly with VK-type radiators via elements like:

- screwed joint for a copper pipe Ø15 G¾", code 9023.08,
- screwed joint for a copper pipe Ø15 G½", code K-609010,
- clamp for a copper pipe Ø15 G½", code 729202W,
- coupling body G½", code 9001.35.

All joints of this kind are self-sealing and no additional sealing is needed.

KAN-therm multilayer pipe PE-Xc/Al/PE-HD Push Platinum

NEW!

Size	Pipe length in coil/on palette	Code
Ø14×2	200/3000	0.1420
Ø18×2,5	200/3000	0.1825
Ø25×3,5	50/750	0.2535
Ø32×4,4	25/375	0.3244

KAN-therm pipe PE-Xc acc. to DIN 16892/93 with EVOH layer acc. to DIN 4726

Size	Pipe length in coil/on palette	Code
Ø12×2	200/4000	0.2144
Ø14×2	200/4000	0.2145
Ø18×2,5	200/3000	0.9119
Ø25×3,5	50/1000	0.9127
Ø32×4,4	25/500	0.9133

KAN-therm pipe PE-Xc acc. to DIN 16892/93 with EVOH layer acc. to DIN 4726 - in 5 m bars

Size	Pipe length in coil/on palette	Code
Ø32×4,4	5/50	0.9135

KAN-therm pipe PE-Xc acc. to DIN 16892/93 with EVOH layer acc. to DIN 4726 - in 6 mm thermal insulation

NEW!

Size	Pipe length in coil/on palette	Code
Ø12×2 red	50	0.2144-6C
Ø12×2 blue	50	0.2144-6N
Ø14×2 red	50	0.2145-6C
Ø14×2 blue	50	0.2145-6N
Ø18×2,5 red	50	0.9119-6C
Ø18×2,5 blue	50	0.9119-6N

KAN-therm pipe PE-RT with EVOH layer acc. to DIN 4726

Size	Pipe length in coil/on palette	Code
Ø12×2	200/4000	0.2174
Ø14×2	200/4000	0.2175
Ø18×2,5	200/3000	0.2177
Ø25×3,5	50/1000	0.9226
Ø32×4,4	25/500	0.9228

KAN-therm pipe PE-RT with EVOH layer acc. to DIN 4726 - in 6 mm thermal insulation

NEW!

Size	Pipe length in coil/on palette	Code
Ø14×2 red	50	0.2175-6C
Ø14×2 blue	50	0.2175-6N
Ø18×2,5 red	50	0.2177-6C
Ø18×2,5 blue	50	0.2177-6N
Ø25×3,5 red	25	0.9226-6C
Ø25×3,5 blue	25	0.9226-6N
Ø32×4,4 red	25	0.9228-6C
Ø32×4,4 blue	25	0.9228-6N

** on request

KAN-therm Push brass connector, with flange, with male thread

Size	Pcs. in one bag/box	Code
** Ø12×2 G½"	10/150	9014.580
Ø14×2 G½"	10/150	9006.37K
Ø18×2,5 G½"	10/150	9006.39K
Ø18×2,5 G¾"	10/150	9006.90K
Ø25×3,5 G½"	10/100	9014.98
Ø25×3,5 G¾"	10/100	9014.220
Ø25×3,5 G1"	5/70	9014.200
Ø32×4,4 G1"	5/50	9019.030

KAN-therm Push connector PPSU, with flange, with female thread

Size	Pcs. in one bag/box	Code
14×2 G½"	10/120	9019.47
18×2,5 G½"	10/120	9019.46

It is not allowed to connect fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g. R½'').

KAN-therm Push brass connector, with flange, with female thread

Size	Pcs. in one bag/box	Code
** Ø12×2 G½"	10/150	9014.590
Ø14×2 G½"	10/150	9014.270
Ø18×2,5 G½"	10/150	9014.290
Ø18×2,5 G¾"	10/120	9014.380
Ø25×3,5 G½"	10/100	9014.400
Ø25×3,5 G¾"	5/70	9014.300
Ø32×4,4 G1"	5/50	9019.040

It is not allowed to connect fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g. R½'').

KAN-therm Push coupling

Size	Pcs. in one bag/box	Code
Ø14×2/Ø14×2	20/200	9019.23
Ø18×2,5/Ø18×2,5	20/160	9019.26
Ø25×3,5/Ø25×3,5	10/100	9019.28
Ø18x2,5/Ø14x2	20/200	9019.27
Ø25×3,5/Ø18×2,5	10/100	9019.30

KAN-therm Push coupling, reducing

Size	Pcs. in one bag/box	Code
** Ø12×2/Ø12×2	50/700	9014.610
** Ø14×2/Ø14×2	50/500	9006.06
** Ø18×2,5/Ø18×2,5	20/400	9006.08
** Ø25×3,5/Ø25×3,5	10/100	9006.10
Ø32×4,4/Ø32×4,4	5/60	9019.050
** Ø14×2/Ø12×2	50/500	9016.250
** Ø18×2,5/Ø14×2	20/400	9019.130
** Ø25×3,5/Ø18×2,5	20/200	9006.11CN
Ø32×4,4/Ø25×3,5	5/70	9019.120

KAN-therm brass coupling Push - service element

Size	Pcs. in one bag/box	Code
Ø18×2/Ø18×2,5	1/50	9006.12KPL

Caution: Coupling allows for connecting diameter 18x2, 5 to the existing installation made in the diameter 18×2,0.
Connector includes two System **KAN-therm** Push sliding sleeves in diameter 18 mm (code 9001.80).

**on request

KAN-therm Push tee PPSU

Size	Pcs. in one bag/box	Code
** Ø12×2/Ø12×2/Ø12×2	20/200	9014.650
Ø14×2/Ø14×2/Ø14×2	10/100	9018.250
Ø18×2,5/Ø18×2,5/Ø18×2,5	10/80	9018.020
Ø25×3,5/Ø25×3,5/Ø25×3,5	5/40	9018.030
Ø32×4,4/Ø32×4,4/Ø32×4,4	2/20	9018.69
** Ø14×2/Ø12×2/Ø12×2	20/200	9014.570
** Ø14×2/Ø12×2/Ø14×2	20/200	9014.560
Ø18×2,5/Ø14×2/Ø14×2	10/80	9018.730
Ø18×2,5/Ø14×2/Ø18×2,5	10/80	9018.720
Ø18×2,5/Ø25×3,5/Ø18×2,5	5/40	9018.240
Ø25×3,5/Ø14×2/Ø18×2,5	5/40	9018.760
Ø25×3,5/Ø14×2/Ø25×3,5	5/40	9018.740
Ø25×3,5/Ø18×2,5/Ø18×2,5	5/40	9018.070
Ø25×3,5/Ø18×2,5/Ø25×3,5	5/40	9018.080
Ø32×4,4/Ø18×2,5/Ø25×3,5	2/20	9018.510
Ø32×4,4/Ø18×2,5/Ø32×4,4	2/20	9018.530
Ø32×4,4/Ø25×3,5/Ø25×3,5	2/20	9018.500
Ø32×4,4/Ø25×3,5/Ø32×4,4	2/20	9018.520

KAN-therm Push brass tee

Size	Pcs. in one bag/box	Code
** Ø14×2/Ø14×2/Ø14×2	20/200	9006.16B
** Ø18×2,5/Ø18×2,5/Ø18×2,5	10/150	9006.18B
** Ø25×3,5/Ø25×3,5/Ø25×3,5	5/60	9006.20B
Ø14×2/Ø18×2,5/Ø14×2	10/120	9013.68
** Ø18×2,5/Ø12×2/Ø12×2	10/120	9013.580
** Ø18×2,5/Ø12×2/Ø14×2	10/120	9013.660
** Ø18×2,5/Ø12×2/Ø18×2,5	10/120	9013.620
** Ø25×3,5/Ø14×2/Ø25×3,5	5/60	9013.42B
** Ø25×3,5/Ø18×2,5/Ø18×2,5	5/60	9006.67B
** Ø25×3,5/Ø18×2,5/Ø25×3,5	5/60	9006.66B
Ø25×3,5/Ø32×4,4/Ø25×3,5	2/20	9013.720
Ø32x4/Ø4/14x2/Ø32x4,4	2/20	9006.680

KAN-therm Push elbow PPSU

Size	Pcs. in one bag/box	Code
Ø14×2/Ø14×2	20/300	9018.170
Ø18×2,5/Ø18×2,5	20/160	9018.190
Ø25×3,5/Ø25×3,5	5/60	9018.200
Ø32×4,4/Ø32×4,4	5/30	9018.560

KAN-therm Push brass elbow

Size	Pcs. in one bag/box	Code
** Ø14×2/Ø14×2	20/400	9006.11B
** Ø18×2,5/Ø18×2,5	20/200	9006.13B
** Ø25×3,5/Ø25×3,5	10/80	9006.15B

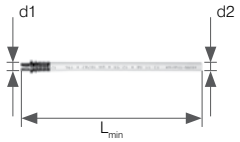
KAN-therm Push brass elbow, with male thread

Size	Pcs. in one bag/box	Code
Ø14×2/15Cu - G½"	20/200	9029.12
** Ø18×2,5/15Cu - G½"	20/200	9029.11

To connect these male elbows to copper pipes use eurocone adapter for copper pipe Ø15, G½", code K-609010.

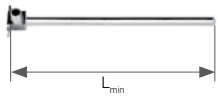
** on request

KAN-therm coupling for radiator connection with multilayer pipe L_{min} = 500 mm



Size	Pcs./packing	Code
Ø16×2/Ø14×2	50	9027.160
Ø16×2/Ø18×2,5	50	9027.180

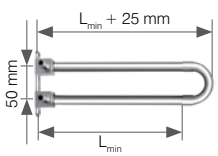
KAN-therm fixed elbow for radiator connection with dia 15 copper pipe, nickel plated



Size		Pcs./packing	Code
** Ø12×2	L_{min} = 210 mm	60	9016.230
** Ø12×2	L_{min} = 300 mm	50	9016.110
** Ø12×2	L_{min} = 750 mm	25	9016.27
Ø14×2	L_{min} = 210 mm	60	9014.450
Ø14×2	L_{min} = 300 mm	50	9016.000
Ø14×2	L_{min} = 750 mm	25	9016.010
Ø18×2,5	L_{min} = 210 mm	60	9015.230
Ø18×2,5	L_{min} = 300 mm	60	9016.020
** Ø18×2,5	L_{min} = 750 mm	25	9016.030

Various connection options for the fittings with nickel plated tubes with all kinds of fittings are described in the technical part of the catalog - "Screw connections"

KAN-therm double fixed elbow for radiator connection with dia 15 copper pipe, nickel plated



Size		Pcs./packing	Code
** Ø12×2	L_{min} = 200 mm	20	9016.240
Ø14×2	L_{min} = 200 mm	20	9014.460
Ø14×2	L_{min} = 300 mm	15	9015.250
Ø18×2,5	L_{min} = 200 mm	20	9015.240
Ø18×2,5	L_{min} = 300 mm	10	9015.270

Pipes to be cut using minicutter.
Various connection options for the fittings with nickel plated tubes with all kinds of fittings are described in the technical part of the catalog - "Screw connections"

** on request

KAN-therm tee for radiator connection with dia 15 copper pipe L_{min} = 300 mm, nickel plated

Size d1/d2	Pcs./packing	Code
** Ø12×2/Ø12×2	50	9013.49
Ø14×2/Ø14×2	50	9013.14
Ø18×2,5/Ø18×2,5	50	9006.310
Ø25×3,5/Ø25×3,5	40	9003.700
Ø32×4,4/Ø32×4,4	25	9019.150

KAN-therm Push reducing tee for radiator connection with dia 15 copper pipe L_{min} = 300 mm, nickel plated

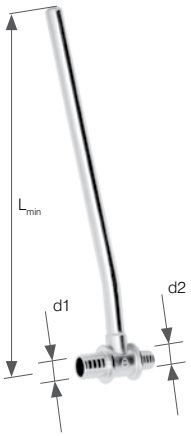
** Ø14×2/Ø12×2 left	50	9013.480
** Ø14×2/Ø12×2 right	50	9013.470
** Ø18×2,5/Ø12×2 left	50	9013.560
** Ø18×2,5/Ø12×2 right	50	9013.550
Ø18×2,5/Ø14×2 left	50	9013.500
Ø18×2,5/Ø14×2 right	50	9013.510
Ø25×3,5/Ø18×2,5 left	40	9013.270
Ø25×3,5/Ø18×2,5 right	40	9013.280
Ø32×4,4/Ø25×3,5 left	30	9019.090
Ø32×4,4/Ø25×3,5 right	30	9019.100

KAN-therm Push brass tee with copper pipe Ø15 nickel plated, L_{min} = 750 mm

** Ø12×2/Ø12×2	25	9013.13
** Ø14×2/Ø14×2	25	9013.15
** Ø18×2,5/Ø18×2,5	25	9006.320
** Ø25×3,5/Ø25×3,5	15	9003.710
** Ø32×4,4/Ø32×4,4	10	9019.160

KAN-therm Push reducing tee for radiator connection with dia 15 copper pipe L_{min} = 750 mm, nickel plated

** Ø14×2/Ø12×2 left	25	9013.460
** Ø14×2/Ø12×2 right	25	9013.440
** Ø18×2,5/Ø14×2 left	25	9013.520
** Ø18×2,5/Ø14×2 right	25	9013.530
** Ø25×3,5/Ø18×2,5 left	20	9013.290
** Ø25×3,5/Ø18×2,5 right	20	9013.300
** Ø32×4,4/Ø25×3,5 left	15	9019.110
** Ø32×4,4/Ø25×3,5 right	15	9019.140



All fittings are nickel plated.
Use RH and LH reduction tees to connect radiators. RH tee identification: looking at bigger diameter the copper pipe bow should be at the right side.
Drawing shows LH reduction tee.
Various connection options for the fittings with nickel plated tubes with all kinds of fittings are described in the technical part of the catalog - “Screw connections”.

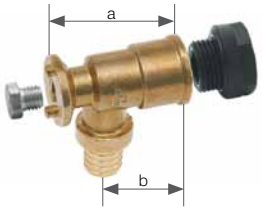
KAN-therm Push PPSU wallplate elbow with short plastic plug

Size	Pcs. in one bag/box	Code
** 12×2 G½"	5/60	9017.340
14×2 G½"	5/60	9017.000
18×2,5 G½"	5/60	9017.020

PPSU Wallplate elbow is sold with M8 nut and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn’t be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
To seal the thread use tow with sealing compound (avoid using excessive amount of tow).
It is not allowed to connect PPSU fittings with female pipe cylindrical thread (e.g. G½’’) with non-system elements with male pipe conical thread (e.g. R½’’).

KAN-therm Push wallplate elbow with short plastic plug

Size	Pcs. in one bag/box	Code
Ø14×2 G½" (K)	5/70	9017.030
Ø18×2,5 G½" (K)	5/70	9017.050
Ø18×2,5 G½" (D)	5/60	9017.070



(K) short version: a = 41 mm; b = 20 mm
(D) long version: a = 52,5 mm; b = 31,5 mm

To fix the wallplate elbow to the wall use the mountig plate. Battery connections can be used in central heating systems in connections of a radiator with wall outputs (by cables in a wall chase) by angle valve.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½’’) with non-system elements with male pipe conical thread (e.g. R½’’).
Brass Wallplate elbow is sold with fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn’t be used to blank off the installation permanently.

** on request

KAN-therm Push wallplate angle elbow with short plastic plug

Size	Pcs. in one bag/box	Code
Ø18×2,5/Ø18×2,5 G½"	5/60	9017.090

To fix the wallplate elbow to the wall use the mountig plate.
To seal the thread use tow with sealing compound (avoid using excessive amount of tow).
Sealing compounds like adhesives which are chemical aggressive should not be used.
Brass Wallplate elbow is sold with fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.

KAN-therm Push stop end cup

Size	Pcs. in one bag/box	Code
Ø14×2	50/500	9019.40
Ø18×2,5	20/200	9019.42
Ø25×3,5	10/150	9019.43
Ø32×4,4	5/60	9019.44

KAN-therm plastic plug for pressure test - short - service part

Size	Pcs. in one bag/box	Code
G½"	20/300	6095.33

It may be repeatedly use (has O-Ring seal) and should be used for all **KAN-therm** wallplate elbows and wallplate elbows.
Plastic short plug should be used only to make the pressure test and it cannot be use to blank off the installation permanently.

KAN-therm mounting bolt - service part

Pcs. in one bag/box	New Code	Code
100/2000	K-505100	6096.02

Use for wallplate elbow and tee to fix to the mounting plate.

KAN-therm Push sliding sleeve

Size	Pcs. in one bag/box	Code
** Ø12×2A	50/700	9014.490
Ø14×2A	50/700	9006.01
Ø18×2A/Ø18×2,5A	50/500	9001.80
Ø25×3,5A	20/200	9006.78
Ø32×4,4A	10/100	9019.07

When assembling Push connections use assembly tools for PE-RT and PE-Xc pipes with appropriate inserts (purchase or rental of tools available in **KAN** branches).

** on request

KAN-therm eurocone adapter for PE-Xc/Al/PE-HD Platinum pipes

NEW!

Size	Pcs. in one bag/box	Code
Ø14×2 G¾"	15/150	9004.16
Ø18×2,5 G¾"	15/150	9004.24

Eurocone adapter enables self sealing connections with male thread fittings and manifold nipples

KAN-therm eurocone adapter for PE-RT & PE-Xc pipes

Size	Pcs. in one bag/box	Code
Ø12×2 G½"	15/300	9012.91
Ø12×2 G¾"	15/150	9012.92
Ø14×2 G½"	15/300	9003.47
Ø14×2 G¾"	15/150	9006.56
Ø18×2,5 G¾"	15/150	9006.48
Ø25×3,5 G1"	10/80	9003.67

Eurocone adapter enables self sealing connections with male thread fittings and manifold nipples

KAN-therm pipe PE-Xc acc. to DIN 16892/93 with EVOH layer acc. to DIN 4726

Size	Pipe length in coil/on palette	Code
Ø18×2	200/3000	0.2148

KAN-therm pipe PE-Xc acc. to DIN 16892/93 with EVOH layer acc. to DIN 4726 - in 6 mm thermal insulation

Size	Pipe length in coil/on palette	Code
Ø18×2 red	50	0.2148-6C
Ø18×2 blue	50	0.2148-6N

KAN-therm pipe PE-RT with EVOH layer acc. to DIN 4726

Size	Pipe length in coil/on palette	Code
Ø18×2	200/3000	0.2178

KAN-therm pipe PE-RT with EVOH layer acc. to DIN 4726 - in 6 mm thermal insulation

Size	Pipe length in coil/on palette	Code
Ø18×2 red	50	0.2178-6C
Ø18×2 blue	50	0.2178-6N

KAN-therm Push brass connector, with flange, with male thread

Size	Pcs. in one bag/box	Code
Ø18×2 G½"	10/150	9006.89K

** on request

Push sliding sleeve is sold separately.

KAN-therm Push PPSU **straight female connector**

Size	Pcs. in one bag/box	Code
18×2 G½"	10/120	9019.31

It is not allowed to connect PPSU fittings with female pipe cylindrical thread (e.g. G½'') with elements with male pipe conical thread (e.g. R½'').

KAN-therm Push **brass connector, with flange, with female thread**

Size	Pcs. in one bag/box	Code
Ø18×2 G½"	10/150	9014.280

It is not allowed to connect fittings with female pipe cylindrical thread (e.g. G½'') with elements with male pipe conical thread (e.g. R½'').

KAN-therm Push PPSU **coupling**

Size	Pcs. in one bag/box	Code
Ø18×2/Ø18×2	20/160	9019.24
Ø18×2/Ø14×2	20/200	9019.25
Ø25×3,5/Ø18×2	10/100	9019.29

KAN-therm Push **reducing coupling**

Size	Pcs. in one bag/box	Code
** Ø18×2/Ø18×2	20/300	9001.86
** Ø18×2/Ø12×2	20/400	9016.260
** Ø18×2/Ø14×2	20/400	9006.060R
** Ø25×3,5/Ø18×2	20/200	9023.06

This coupler is used for repair purposes (re-boring faults) as well as for joining of long pipe sections.

KAN-therm Push PPSU **tee**

Size	Pcs. in one bag/box	Code
Ø18×2/Ø18×2/Ø18×2	10/80	9018.010
Ø14×2/Ø18×2/Ø14×2	10/100	9018.700
Ø18×2/Ø14×2/Ø14×2	10/80	9018.220
Ø18×2/Ø14×2/Ø18×2	10/80	9018.210
Ø18×2/Ø25×3,5/Ø18×2	5/40	9018.230
Ø25×3,5/Ø14×2/Ø18×2	5/40	9018.750
Ø25×3,5/Ø18×2/Ø18×2	5/40	9018.050
Ø25×3,5/Ø18×2/Ø25×3,5	5/40	9018.060
Ø32×4,4/Ø18×2/Ø25×3,5	2/20	9018.540
Ø32×4,4/Ø18×2/Ø32×4,4	2/20	9018.550

** on request

Push sliding sleeve is sold separately.

KAN-therm Push brass tee

Size	Pcs. in one bag/box	Code
** Ø18×2/Ø18×2/Ø18×2	10/150	9001.79B
** Ø14×2/Ø18×2/Ø14×2	10/150	9013.39B
** Ø18×2/Ø12×2/Ø12×2	10/120	9013.570
** Ø18×2/Ø12×2/Ø14×2	10/120	9013.640
** Ø18×2/Ø12×2/Ø18×2	10/120	9013.600
** Ø18×2/Ø14×2/Ø14×2	10/150	9013.10B
** Ø18×2/Ø14×2/Ø18×2	10/150	9013.11B
** Ø18×2/Ø18×2/Ø14×2	10/100	9013.70
** Ø18×2/Ø25×3,5/Ø18×2	5/60	9013.12B
** Ø25×3,5/Ø14×2/Ø18×2	5/60	9013.43B
** Ø25×3,5/Ø18×2/Ø18×2	5/60	9006.22B
** Ø25×3,5/Ø18×2/Ø25×3,5	5/60	9006.21B

KAN-therm Push crossing pair single

Size	Pcs. in one bag/box	Code
Ø18×2/Ø18×2/Ø18×2	1/6	9019.33
Ø18×2/Ø14×2/Ø14×2	1/6	9019.34
Ø18×2/Ø14×2/Ø18×2	1/6	9019.35
Ø14×2/Ø14×2/Ø18×2	1/6	9019.36

Crossing per single Push

KAN-therm Push brass tee, with male thread

Size	Pcs. in one bag/box	Code
Ø18×2/15Cu - G½"	10/120	9006.64B

To connect these male tees to copper pipes use eurocone adapter for copper pipe Ø15, G½", code K-609010.

KAN-therm Push PPSU elbow

Size	Pcs. in one bag/box	Code
Ø18×2/Ø18×2	20/160	9018.180

KAN-therm Push brass tee

Size	Pcs. in one bag/box	Code
** Ø18×2/Ø18×2	20/160	9001.78B

** on request

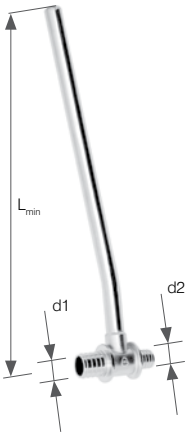
Push sliding sleeve is sold separately.

KAN-therm Push brass male elbow (for connecting cooper pipes Ø15)

Size	Pcs. in one bag/box	Code
Ø18×2/15Cu - G½"	20/200	9006.65B

To connect these male tees to copper pipes use eurocone adapter for copper pipe Ø15, G½", code K-609010.

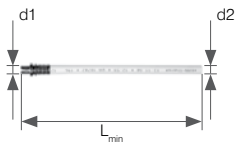
KAN-therm Push tee for radiator connection with dia 15 copper pipe L_{min} = 300 mm, nickel plated



Size d1/d2	Pcs. in one bag/box	Code
Ø18×2/Ø18×2	50	9001.770
KAN-therm Push reducing tee for radiator connection with dia 15 copper pipe L_{min} = 300 mm, nickel plated		
Ø18×2/Ø14×2 left	60	9013.16
Ø18×2/Ø14×2 right	50	9013.17
Ø25×3,5/Ø18×2 left	40	9003.130
Ø25×3,5/Ø18×2 right	40	9003.720
KAN-therm Push tee for radiator connection with dia 15 copper pipe L_{min} = 750 mm, nickel plated		
** Ø18×2/Ø18×2	25	9001.830
KAN-therm Push reducing tee for radiator connection with dia 15 copper pipe L_{min} = 750 mm, nickel plated		
** Ø18×2/Ø14×2 left	25	9013.18
** Ø18×2/Ø14×2 right	25	9013.19
** Ø25×3,5/Ø18×2 left	20	9003.140
** Ø25×3,5/Ø18×2 right	20	9003.730

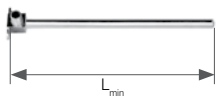
All fittings are nickel plated.
Use RH and LH reduction tees to connect radiators. RH tee identification: looking at bigger diameter the copper pipe bow should be at the right side. Drawing shows LH reduction tee.
Various connection options for the fittings with nickel plated tubes with all kinds of fittings are described in the technical part of the catalog - "Screw connections".

KAN-therm Push coupling for radiator connection with dia 16 multilayer pipe L_{min} = 500 mm



Size d1/d2	Pcs. in one bag/box	Code
Ø16×2/Ø18×2	50	9027.170

KAN-therm Push fixed elbow for radiator connection with dia 15 copper pipe, nickel plated



Size		Pcs./packing	Code
Ø18×2	L_{min} = 210 mm	60	9014.470
Ø18×2	L_{min} = 300 mm	60	9016.580
** Ø18×2	L_{min} = 750 mm	25	9016.590

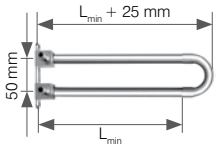
Various connection options for the fittings with nickel plated tubes with all kinds of fittings are described in the technical part of the catalog - "Screw connections".

** on request
Push sliding sleeve is sold separately.

KAN-therm double fixed elbow for radiator connection with dia 15 copper pipe, nickel plated

Size		Pcs./packing	Code
Ø18×2	L_{min} = 200 mm	20	9014.480
Ø18×2	L_{min} = 300 mm	15	9015.260

Pipes to be cut using minicutter, code 210416.
Various connection options for the fittings with nickel plated tubes with all kinds of fittings are described in the technical part of the catalog - “Screw connections for pipe PE-RT and PE-Xc”.



KAN-therm Push PPSU wallplate elbow with short plastic plug

Size	Pcs./packing	Code
18×2 G½”	5/60	9017.010

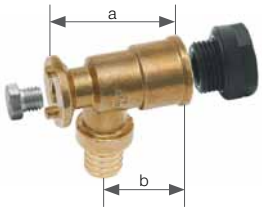
PPSU Wallplate elbow is sold with M8 nut and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn’t be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
To seal the thread use tow with sealing compound (avoid using excessive amount of tow).
It is not allowed to connect PPSU fittings with female pipe cylindrical thread (e.g. G½’’) with non-system elements with male pipe conical thread (e.g. R½’’).

KAN-therm Push brass wallplate elbow with short plastic plug

Size	Pcs. in one bag/box	Code
Ø18×2 G½" (K)	5/70	9017.040
Ø18×2 G½" (D)	5/60	9017.060

(K) short version: a = 41 mm; b = 20 mm
(D) long version: a = 52,5 mm; b = 31,5 mm

To fix the wallplate elbow to the wall use the mountig plate. Battery connections can be used in central heating systems in connections of a radiator with wall outputs (by cables in a wall chase) by angle valve.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½’’) with non-system elements with male pipe conical thread (e.g. R½’’).
Brass Wallplate elbow is sold with fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn’t be used to blank off the installation permanently.



KAN-therm Push brass wallplate angle tee with short plastic plug

Size	Pcs. in one bag/box	Code
** Ø18×2/Ø18×2 G½”	5/60	9017.080

To fix the wallplate elbow to the wall use the mountig plate.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½’’) with non-system elements with male pipe conical thread (e.g. R½’’).
Brass Wallplate elbow is sold with fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn’t be used to blank off the installation permanently

** on request

Push sliding sleeve is sold separately.

KAN-therm Push brass stop end cup

Size	Pcs. in one bag/box	Code
Ø18×2	20/200	9019.41

KAN-therm plastic plug for pressure test - short - service part

Size	Pcs. in one bag/box	Code
G½"	20/300	6095.33

It may be repeatedly use (has O-Ring seal) and should be used for all KAN-therm wallplate elbows and wallplate tees.
Plastic short plug is used only to make the pressure test and it cannot be use to blank off the installation permanently.

KAN-therm mounting bolt - service part

	Pcs. in one bag/box	New Code	Code
	100/2000	K-505100	6096.02

Use for wallplate elbow and tee to fix to the mounting plate.

KAN-therm Push brass sliding sleeve

Size	Pcs. in one bag/box	Code
Ø18×2A/Ø18×2,5A	50/500	9001.80

When assembling Push connections use assembly tools for PE-RT and PE-Xc pipes with appropriate inserts (purchase or rental of tools available in KAN branches).

KAN-therm eurocone adapter for PE-RT & PE-Xc pipes

Size	Pcs. in one bag/box	Code
Ø18×2 G¾"	15/150	9006.59

Eurocone adapter enables self sealing connections with male thread fittings and manifold nipples

KAN-therm compression ring - service part for screw fittings

Size	Pcs. in one bag/box	Code
** Ø18×2 G¾"	15/150	9006.59

For screw connections only.

** on request

KAN-therm pipe PE-Xc to acc. DIN 16892/93 with EVOH layer acc. to DIN 4726

Size	Pipe length in coil/on palette	Code
Ø12×2	200/4000	0.2144
Ø14×2	200/4000	0.2145
Ø16×2	200/3000	0.2146
* Ø18×2	200/3000	0.2148
Ø18×2,5	200/3000	0.9119
Ø25×3,5	50/1000	0.9127
Ø32×4,4	25/500	0.9133

*available till 31.01.2013

KAN-therm pipe PE-Xc to acc. DIN 16892/93 with EVOH layer acc. to DIN 4726 in 5 meter bars

Size	Pipe length in coil/on palette	Code
Ø32×4,4	5/50	0.9135

KAN-therm pipe PE-Xc to acc. DIN 16892/93 with EVOH layer acc. to DIN 4726 in 6 mm thermal insulation

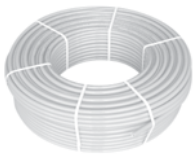
NEW!

Size	Pipe length in coil/on palette	Code
Ø12×2 red	50	0.2144-6C
Ø12×2 blue	50	0.2144-6N
Ø14×2 red	50	0.2145-6C
Ø14×2 blue	50	0.2145-6N
Ø18×2,5 red	50	0.9119-6C
Ø18×2,5 blue	50	0.9119-6N

KAN-therm pipe PE-RT with EVOH layer acc. to DIN 4726

Size	Pipe length in coil/on palette	Code
Ø12×2	200/4000	0.2174
Ø14×2	200/4000	0.2175
Ø16×2	200/3000	0.2176
* Ø18×2	200/3000	0.2178
Ø18×2,5	200/3000	0.2177
Ø25×3,5	50/1000	0.9226
Ø32×4,4	25/500	0.9228

*available till 31.01.2013



KAN-therm pipe PE-RT with EVOH layer acc. to DIN 4726 in 6 mm thermal insulation

NEW!

Size	Pipe length in coil/on palette	Code
Ø14×2 red	50	0.2175-6C
Ø14×2 blue	50	0.2175-6N
Ø18×2,5 red	50	0.2177-6C
Ø18×2,5 blue	50	0.2177-6N

** on request

KAN-therm brass compression straight male connector

Size	Pcs. in one bag/box	Code
Ø12×2 G½"	10/150	9014.23
Ø14×2 G½"	10/150	9006.42
Ø16×2 G½"	10/150	9006.43
Ø18×2 G½"	10/150	9001.94
Ø18×2,5 G½"	10/150	9006.44
Ø25×3,5 G½"	10/80	9014.310
Ø25×3,5 G¾"	10/80	9001.90
** Ø32×4,4 G1"	5/30	9019.000

Possibility of connecting with general purpose fittings.

KAN-therm brass compression straight female connector

Size	Pcs. in one bag/box	Code
Ø12×2 G½"	10/150	9014.320
Ø14×2 G½"	10/150	9014.330
Ø16×2 G½"	10/150	9014.340
Ø18×2 G½"	10/150	9014.350
Ø18×2,5 G½"	10/150	9014.360
Ø25×3,5 G¾"	10/80	9014.370
** Ø32×4,4 G1"	5/30	9019.010

Possibility of connecting with general purpose fittings.
It is not allowed to connect fittings with female pipe cylindrical thread (e.g. G½'') with elements with male pipe conical thread (e.g. R½'').

KAN-therm brass coupling

Size	Pcs. in one bag/box	Code
Ø12×2	10/120	9014.16
Ø14×2	10/120	9014.13
Ø16×2	10/150	9014.14
Ø18×2	10/120	981
Ø18×2,5	10/120	9014.17
Ø25×3,5	5/60	9014.19
** Ø32×4,4	2/30	9019.02

This coupling is used for repair purposes (re-boring faults) as well as for joining of long pipe sections.

KAN-therm compression ring - service part for screw fittings

Size	Pcs. in one bag/box	Code
** Ø12	100/1000	9012.913
** Ø14	100/1000	9006.95
** Ø16	100/1000	9006.97
** Ø18	100/1000	9001.96
** Ø25	50/500	9001.92

For screw connections only.

** on request

KAN-therm case set - battery crimping and expanding tools for Push connectors 12-32 mm

Code

KPPR-PUSHAK

It consists of the following items:
1. Battery crimping tool AAP101 - code: KPPR-PUSHAK1 - 1 pcs.
2. Battery expanding tool AXI101 - code: KPPR-PUSHAK2 - 1 pcs.
3. Battery 9,6V 3,0Ah (standard) - code: 41574-50 - 2 pcs.
4. Battery charger - code: 17047-50 - 1 pcs.
5. Briefcase - code: 4313301-302 - 1 pcs.
6. Insert set box - code: 38530-50 - 1 pcs.
7. Insert set (for PPSU tees and elbows) - code: 12×2 - PT8471, 14×2 - PT8469, 18×2 (18×2,5) - PT8468, 25×3,5 - PT8467 (1 pc. per set)
8. Insert set (for couplings) - code: 12×2 - P8471, 14×2 - P8469, 18×2 (18×2,5) - P8468, 32×4,4 (PPSU) - P8467 (2 pcs. per set).
9. Expanding head (for PE-RT & PE-Xc only) - code: 12×2 - Z-P12N, 14×2 - Z-P14N, 18×2 - Z-P18N, 18×2,5 - Z-P185N, 25×3,5 - Z-P25N, 32×4,4 - P32N (1 pc. per set) - **only for PE-Xc and PE-RT pipes**

KAN-therm case set - battery crimping tool for Push connectors 12-32 mm

Code

AAP101 KPL

It consists of the following items:
1. Battery crimping tool AAP101 - code: KPPR-PUSHAK1 - 1 pcs.
2. Battery 9,6V 3,0Ah (standard + spare) - code: 41574-50 - 2 pcs.
3. Battery charger - code: 17047-50 - 1 pcs.
4. Briefcase - code: 4313301-302 - 1 pcs.
5. Insert set box - code: 38530-50 - 1 pcs.
6. Insert set (for PPSU tees and elbows) - code: 12×2 - PT8471, 14×2 - PT8469, 18×2 (18×2,5) - PT8468, 25×3,5 - PT8467 (1 pc. per set)
7. Insert set (for couplings) - code: 12×2 - P8471, 14×2 - P8469, 18×2 (18×2,5) - P8468, 32×4,4 (PPSU) - P8467 (2 pcs. per set).

Area of application: Push (12-32 mm), Push Platinum (14-32 mm)

KAN-therm case set - battery expanding tool for PE-Xc and PE-RT pipes (12-32 mm)

Code

AXI101 KPL

It consists of the following items:
1. Battery expanding tool AXI101 - code: KPPR-PUSHAK2 - 1 pcs.
2. Battery 9,6V 3,0Ah (standard + spare) - code: 41574-50 - 2 pcs.
3. Battery charger - code: 17047-50 - 1 pcs.
4. Briefcase - code: 4313301-302 - 1 pcs.
5. Expanding head - code: 12×2 - Z-P12N, 14×2 - Z-P14N, 18×2 - P18N, 18×2,5 - Z-P185N, 25×3,5 - Z-P25N, 32×4,4 - Z-P32N (1 pc. per set) - **only for PE-Xc and PE-RT pipes**.

Area of application: Push (12-32 mm), Push Platinum (14-32 mm)

KAN-therm battery crimping tool for Push connectors 12-32 mm

Code

AAP101 2BAT

It consists of the following items:
1. Battery crimping tool AAP101 - code KPPR-PUSHAK1 - 1 pcs.
2. Battery 9,6V 3,0Ah (standard + spare) - code 41574-50 - 2 pcs.

KAN-therm battery expanding tool for PE-Xc and PE-RT pipes (12-32 mm)

Code

AXI101 2BAT

It consists of the following items:
1. Battery expanding tool AXI101 - code KPPR-PUSHAK2 - 1 pcs.
2. Battery 9,6V 3,0Ah (standard + spare) - code 41574-50 - 2 pcs.

** on request

KAN-therm hydraulic Push tool with foot drive - KPPN set

	Code
	KPPN-PUSH

It consists of the following items: PN01, PT8471, PT8469, PT8468, PT8467, P8471 (2 pcs.), P8469 (2 pcs.), P8468 (2 pcs.), P8467 (2 pcs.), 84550N, Z-P12N, Z-P14N, Z-P18N, Z-P185N, Z-P25N, Z-P32N, 002.001.003, 0.2125.

Expanding heads only for PE-RT i PE-Xc pipes.

Area of application: Push (12-32 mm), Push Platinum (14-32 mm).

KAN-therm hydraulic Push tool with foot drive

	Code
**	PN01

For connection Push/Push Platinum.

Area of application: Push (12-32 mm), Push Platinum (14-32 mm)

KAN-therm mechanical hand Push tool - KPPR set

	Code
	KPPR-PUSH

It consists of the following items: PR01/N, MZH1418-set, MZH2532-set, PT8471, PT8469, PT8468, PT8467, P8471 (2 pcs.), P8469 (2 pcs.), P8468 (2 pcs.), P8467 (2 pcs.), 84550N, Z-P12N, Z-P14N, Z-P18N, Z-P185N, Z-P25N, Z-P32N, 002.001.002, 0.2125.

Expanding heads only for PE-RT i PE-Xc pipes.

Area of application: Push (12-32 mm), Push Platinum (14-32 mm)

KAN-therm manual mechanical tool

	Code
**	PR01/N

For connection Push/Push Platinum.

Area of application: Push (12-32 mm), Push Platinum (14-32 mm)

KAN-therm forks set

Size	Code
** Ø12-Ø18 (set - 2 pcs.)	MZH1418
** Ø25-Ø32 (set - 2 pcs.)	MZH2532

For connection Push/Push Platinum.

Area of application: Push (12-32 mm), Push Platinum (14-32 mm)

** on request

KAN-therm insert for mechanical Push tool

Size	Code
** Ø12×2	PT8471
** Ø14×2	PT8469
** Ø18×2 (Ø18×2,5)	PT8468
** Ø25×3,5	PT8467

Can be used together with hydraulic with foot drive or mechanical or electric-hydraulic Push tool.
For mounting of elbows and tees made of PPSU from fitting side following inserts are to be used:
- PT8471 for diameter 12 ((black insert),
- PT8469 for diameter 14 ((black insert),
- PT8468 for diameter 18 ((black insert),
- PT8467 for diameter 25 ((black insert),
- P8467 for diameter 32 (nickel plated insert).

For PPSU body never use inserts for brass elbows and tees Push P8465, P8464, P8463 or inserts for wallplate elbows P8470.

KAN-therm insert for mechanical Push tool

Size	Code
** Ø12×2	P8471
** Ø14×2	P8469
** Ø18×2 (Ø18×2,5)	P8468
** Ø25×3,5 (Ø32×4,4 PPSU)	P8467

KAN-therm insert for mechanical Push tool (for brass Push tees and elbows)

Size	Code
** Ø14×2	P8465
** Ø18×2 (Ø18×2,5)	P8463
** Ø25×3,5 (Ø32×4,4)	P8464

KAN-therm insert for mechanical Push tool (for Push brass wallplate elbows)

Size	Code
** Ø18×2	P8470

KAN-therm external bending spring for PE-Xc/Al/PE-HD Platinum pipes

NEW

Size	Code
** Ø14	SZ-1410
Ø18	SZ-1814
Ø25	SZ-2620

** on request

KAN-therm special spanner for eurocone adapters

Size	Code
** 30 mm	K-501900

The spanner intended for eurocone adapter G¾" montage.

KAN-therm expanding tool for pipes

Size	Code
**	84550N

KAN-therm grease for expanding tool

	Code
	smar

Used for expanding tool 84550N

NEW!

KAN-therm expanding head for PE-Xc/Al/PE-HD Platinum pipes

Size	Code
Ø14×2	Z-P14PLAT
Ø18×2,5	Z-P185PLAT
Ø25×3,5	Z-P25PLAT
Ø32×4,4	Z-P32PLAT

Above expanding heads are not a standard elements of **KAN-therm** Push tools sets.
In case of mounting **KAN-therm** Push Platinum system, all tools sets has to be equipped with above expanding heads.

KAN-therm expanding head for pipes PE-RT and PE-Xc

Size	Code
Ø12×2	Z-P12N
Ø14×2	Z-P14N
Ø18×2	Z-P18N
Ø18×2,5	Z-P185N
Ø25×3,5	Z-P25N
Ø32×4,4	Z-P32N

Do not use for mounting **KAN-therm** Push Platinum System.

KAN-therm tool case for hydraulic tool with foot drive

	Code
**	002.001.003

It consists of the following items: PN01, PT8471, PT8469, PT8468, PT8467, P8471 (2 pcs.), P8469 (2 pcs.), P8468 (2 pcs.), P8467 (2 pcs.), 84550N, Z-P12N, Z-P14N, Z-P18N, Z-P185N, Z-P25N, Z-P32N, 002.001.003, 0.2125.

** on request

KAN-therm tool case for manual mechanical tool

Size	Pcs. in one bag/box	Code
**	002.001.002	

For manual mechanical Push tool PR01/N, inserts, expanding tool 84550, expanding head, cutter for pipes PE-Xc and PE-RT, code 0.2125

KAN-therm cutter for Ø12-32 pipes

Size	Pcs. in one bag/box	Code
	1/25	0.2125

KAN-therm cutters replacement blade for Ø12-32 pipes

Size	Pcs. in one bag/box	Code
		0.2125-O

KAN-therm minicutter for Ø15 copper pipes 4-16 mm

Size	Pcs. in one bag/box	Code
		210416

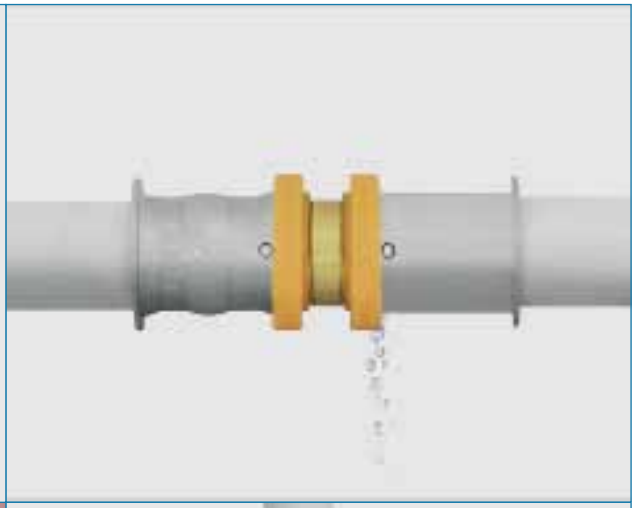
** on request

SYSTEM
KAN-therm

NEW NEW !

SYSTEM **KAN-therm** Press LBP

ISO 9001



TECHNOLOGY
OF SUCCESS

Contents

Page

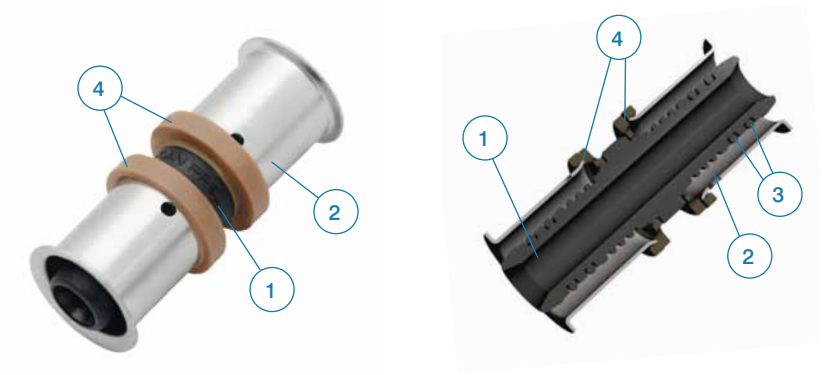
System **KAN-therm** Press LBP is new, complete installation system consisting of new generation LPB press fittings, multilayer PE-RT/Al/PE-RT, PE-RT/Al/PE-HD and polyethylene PE-Xc & PE-RT pipes.

Depending on the type and configuration of the material, in Systems **KAN-therm** Press LBP offer occur:
- multilayer pipes PE-RT/Al/PE-RT Multi Universal in diameter range 16 – 20 mm
- multilayer pipes PE-RT/Al/PE-HD Multi Universal in diameter range 16 – 32 mm
- PE-Xc pipes with anti diffusion barrier in diameter range 16 – 25 mm
- PE-RT pipes with anti diffusion barrier in diameter range 16 – 20 mm

The method of connecting pipes in **KAN-therm** Press LBP System is “press” technique based on crimping steel sleeve. For connecting pipes to appliances there may also be used screw connection fittings present in System **KAN-therm** Press (see page 57).

System **KAN-therm** Press LBP – new fittings construction

Components of **KAN-therm** Press LBP fittings



View and cross-section of **KAN-therm** Press LBP fitting

1. Fittings body
2. Crimping sleeve made of stainless steel
3. EPDM O-Ring seals
4. Colour plastic spacer rings

System **KAN-therm** Press LBP – features

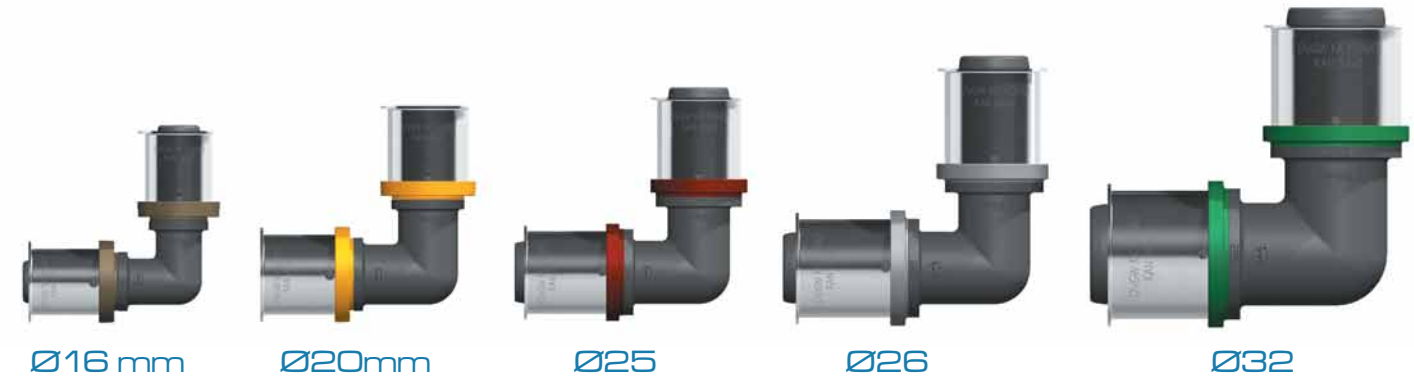
Thanks to its special construction, **KAN-therm** Press LBP fittings features:
- indication of un-pressed connections (LBP – Leak Before Press) – „unpressed - leaking”
- colour plastic indentification rings
- possibility of interchangeable use of „U” or „TH” profile jaws (in case of diameter 26 mm – „C” or „TH”)
- elimination of tube edges bevelling necessity
- precise positioning of crimping jaws on steel sleeve
- possibility of connecting with multilayer PE-RT/Al/PE-RT, PE-RT/Al/PE-HD and poliethylene PE-Xc & PE-RT pipes.
- elimination of bimetallic corrosion phenomenon (in case when pipe with aluminium layer is inserted) by using plastic spacer rings
- possibility of concealing joints in floors

System **KAN-therm** Press LBP – LBP function

LBP - „Leak Before Press". Mistakenly un-pressed joint is detected by the visible water leak during filling installation with water without pressure - before proper pressure test. This function is consistent with DVGW recommendations („controlled leak").

System **KAN-therm** Press LBP – identification

Every fitting has polymer ring, which color depends on the diameter of the connected pipe.



Such solution makes work more efficient both in the warehouse and in the construction site where it is difficult to identify fitting diameter (ex. lack of light). Regardless of the color identification, each nozzle is marked with diameter of connected pipes. Dimensions of connected pipes (outer diameter x wall thickness) are also marked on the steel sleeve.

System **KAN-therm** Press LBP – universality

Special construction of **KAN-therm** Press LBP fittings allows for connecting multilayer PE-RT/Al/PE-HD, PE-RT/Al/PERT and polyethylene PE-Xc & PE-RT pipes.

System **KAN-therm** Press LBP – range of applications

Areas of application and operating parameters of **KAN-therm** Press LBP with multilayer PE-RT/Al/PE-RT and PERT/Al/PE-HD pipes are shown in table:

Application (acc. to ISO 10508)	Dimension	Type of pipe
hot and cold tap water [Class 1(2)] T_{work}/T_{max} = 60(70)/80°C P_{work} = 10 bar Surface heating, low parameter radiator heating [Class 4] T_{work}/T_{max} = 60/70°C P_{work} = 10 bar Radiator heating [Class 5] T_{work}/T_{max} = 80/90°C P_{work} = 10 bar For all classes T_{mal} - 100°C	16 × 2,0 20 × 2,0 25 × 2,5 26 × 3,0 32 × 3,0	PE-RT/Al/PE-HD Multi Universal
	16 × 2,0 20 × 2,0	PE-RT/Al/PE-RT Multiuniversal

Operating parameters assumed in accordance with current guidelines for granting technical approvals for multilayer pipes, based on ISO 10508, which sets out classes of applications in heating and hot water.
Areas of application and operating parameters of **KAN-therm** Press LBP with polyethylene PE-Xc and PE-RT pipes are shown in table:

Areas of application (according to ISO 10508)	Dimension	Type of pipe
low parameter radiator heating [Class 4] T_{work}/T_{max} = 60/70°C P_{work} = 6 bar Radiator heating [Class 5] T_{work}/T_{max} = 80/90°C P_{work} = 6 bar	16 × 2,0 20 × 2,0 25 × 2,3	PE-Xc
	16 × 2,0 20 × 2,0	PE-RT

KAN-therm Press LBP System – Safety

Pipes and fittings in **KAN-therm** Press LBP System holds a set of necessary approvals and comply with current standards and normatives, which ensures long-lasting and trouble-free operation and full security of the installation:

- **KAN-therm** Press LBP PPSU fittings with steel sleeve: technical approval AT-15-7837/2008 and positive PZH hygienic result
- **KAN-therm** Press LBP brass fittings: complies with PN-EN 1254-3, technical approval AT-15-7837/2008 and positive PZH hygienic result
- PE-RT/Al/PE-HD pipes: complies with PN-EN ISO 21003-2:2009, technical approval AT-15-7591/2008 and positive PZH hygienic result
- PE-RT/Al/PE-RT pipes: complies with PN-EN ISO 21003-2:2009, technical approval AT-15-7479/2007 and positive PZH hygienic result
- PE-Xc pipes: complies with PN-EN ISO 15875-2:2004 and positive PZH hygienic result;
- PE-RT pipes: complies with PN-EN ISO 22391-2:2010 and positive PZH hygienic result

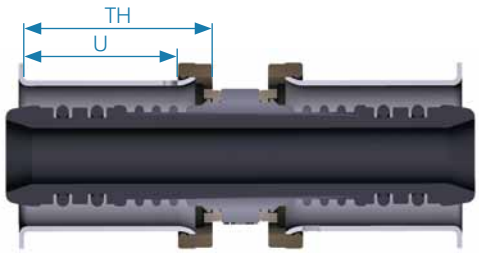
Pipes and fittings of **KAN-therm** Press LBP System also holds positive opinion of Western certification units:

System **KAN-therm** Press LBP is granted with 10-year material warranty.

System **KAN-therm** Press LBP – connections

Press connection is based on crimping steel sleeve embedded on fittings nozzle while the tube is inserted into the coupling. Each nozzle is equipped with O-ring seals made of EPDM synthetic rubber resistant to high temperatures and pressure. Crimping the steel sleeve is made by manual or electric machine equipped with (depending on the diameter) "U","C" or "TH" profile jaw. This method allows for concealing joints in floors or plaster.

Construction **KAN-therm** Press LBP System fittings enables usage of different types of jaw for making joints within the same diameter – "U" and "TH" profile ("C" and "TH" for diameter 26mm), see table below:



Summary of **KAN-therm** Press LBP **fittings regarding of diameter range and crimping profiles**			
Fitting construction **KAN-therm** Press LBP	Diameter range		Clamping/pressing profile
	16	distance ring colours	U or TH
	20		
	25		
	26		C or TH
	32		U or TH

While making joints in **KAN-therm** Press System use only original tools from **KAN-therm** offer, or tools recommended by **KAN**. Tools are available as individual components or in complete sets – see page 70

System **KAN-therm** Press LBP – assembly

1. Cut a pipe at the right angle to its axis to a required length using scissors for multi-layer pipes or with a disc cutter.
   CAUTION!!! - for cutting use only sharp blades.

2. Shape the pipe. Bend using the external or internal spring. Observe the min. bending radius R > 5 Dz.

3. Insert the pipe into a coupling - push the pipe centrally along the coupling axis. Check the insertion depth - the pipe edge must be visible in inspection holes in the steel ring.

4. Apply the press jaws exactly on the steel ring between the plastic distance ring and the steel ring collar perpendictulary to its axis. In case of the “TH” profile place the jaws on the plastic distance ring (the ring must be embraced by the jaws outern groove).

In both cases due to the fitting design the clamping tool jaws will not shift during pressing.

5. Start the press drive and make the connection. The process of pressing lasts till the jaws close fully.
   The ring can be pressed on a pipe only once.

6. After pressing unlock the jaws and take off the tool from a clamped ring. The connection is now ready for the pressure test.

To eliminate the excessive overload on fittings by bending force,
it is not recommended to bend pipes at a distance less than 10 external diameters from the fitting.

CAUTION!
In case of **KAN-therm** Press LBP fittings there's no need for bevelling pipe edges. For bigger diameters (25mm and above) to facilitate pipe insertion into the fitting it is recommended to use the calibration tool.

Press connections should be performed at temperatures above 0°C. Before start, check tool manuals and safety conditions.

Tools - Safety

All tools must be applied and used in accordance with their purpose and the manufacturer's instructions.
Use for other purposes or in other areas are considered to be inconsistent with the intended use.
Intended use also requires compliance with the instructions, conditions of inspection and maintenance and relevant safety regulations in their current version.
All works done with tools, which do not meet the application compatible with the intended purpose may result in damage to tools, accessories and pipes.
The consequence may be the leak and / or damage.

System **KAN-therm** Press LBP – compensation of thermal elongation

Guidelines for fixing pipelines, implementation of fixing points (PS), sliding supports (PP) and compensation of thermal elongation are available in technical part of **KAN-therm** Press directory or **KAN-therm** or designer and contractors guide book.

KAN-therm Press System is a complete system consisting of press fittings, screwed fittings with manifolds and cabinets, and multilayer pipes PE-RT/Al/PE-RT Multi Universal, PE-RT/Al/PE-HD Multi Universal in diameter Ø14-40 mm, and PE-X/Al/PE-X in diameter Ø50-63 mm.

System **KAN-therm** Press - modern technology

An ultra modern material - PPSU (phenylene polysulfone) - used in production of press fittings ensures:

- fully corrosion resist,
- fully neutral towards potable water,
- fitting durability higher than pipes,
- high mechanical strength.

Production technology of PPSU fittings excludes any latent defects

Multi Universal pipes of **KAN-therm** Press System consist of inner layer of PE-RT polyethylene of high thermal resistance (in accordance with DIN 16883) and outer layer of PE-HD high density polyethylene or polyethylene of higher thermal resistance PE-RT. Between polyethylene layers there is an aluminum layer that is permanently bounded with the polyethylene layers. Such a structure provides natural resistance to diffusion of oxygen into the system, elasticity, and the lack of "elastic memory" (after bending pipes preserve shape), and also eight times smaller thermal elongation in comparison with polyethylene pipes.

System **KAN-therm** Press - long lasting technology

KAN-therm Press System, because of the perfect design of its elements and their matching, provides:

- over 50 year of service life,
- possibility of operating in high temperatures - Twork=80°C (operating), T_{max}=90°C (maximum; the heat source should be protected against exceeding that temperature) and operating pressure of 10 bar.
- extremely durable PPSU fittings whose maximum operating parameters are limited by pipe durability,
- total lack of corrosion with all kinds of water quality.

System **KAN-therm** Press - optimal technology

KAN-therm Press System allows to choose optimal technological and economical solutions because of:

- possibility of concealing press fittings in floor screeds an under plaster,
- possibility of using one type of pipes for water and heating systems.

KAN-therm Press System - safe technology

KAN-therm Press System guarantees full safety of assembly and operation:

- Press fittings with sleeve holds Technical approval AT-15-7837/2008 and positive PZH higenical results,
- pipes PE-RT/Al/PE-HD has Technical approval AT-15-7591/2008 and positive PZH higenical results,
- pipes PE-RT/Al/PE-RT has Technical approval AT-15-7479/2007 and positive PZH higenical results,
- pipes PE-X/Al/PE-X produced acc. to PN-EN ISO 21003-2:2009 also obtains positive PZH higenical results,
- safe design of press fittings provides full control over O-Ring seals during assembly,
- **KAN-therm** Press System has a 10-year warranty,
- **KAN-therm** Press System is approved in many european countries.

System **KAN-therm** Press - Assembly of „pressed" connections

Cut the pipe perpendicular to its axis using special cutter.

Shape the pipe as required. Bend using external or internal spring. Obey minimum bending radius R ≥ 5 Dz.

Calibrate the pipe and chamfer its internal edge with a calibrator but not deeper than down to the aluminium layer.

Thru inspection holes in the steel ring check if a pipe is inserted right – it must be visible in the holes

Apply the clamping tool jaws on a ring so it contacts the tube coupling collar. The external collar of jaws shall be pushed to the tube coupling collar but not embrace it.

Start the clamping tool drive and make the connection.

To eliminate the excessive overload on fittings by bending force,
it is not recommended to bend pipes at a distance less than 10 external diameters from the fitting.

Press connections with a pressed-on ring

- are self-sealing,
- can be concealed in walls and also in floors, provided O-Rings have not been damaged during the assembly,
- are made using a jaw adequate to a given pipe diameter,
- should be made using tools delivered by **KAN-therm** (for diameters 16, 20, 25, 32, 40 mm it is permissible to use "U" standard compatible jaws, for diameter Ø26 "C" standard compatible, and for Ø50, 63 mm "TH" standard compatible according to REMS catalog),
- have a diameter range of Ø16-63 mm,
- should be made at temperatures higher than 0°C.

System **KAN-therm** Press - Assembling screwed joints

Cut the pipe perpendicular to its axis using special cutter.

Shape the pipe as required. Bend using external or internal spring. Obey minimum bending radius R ≥ 5 Dz.

Calibrate the pipe and chamfer its edges with a calibrator but not deeper than to the aluminium layer. Fit onto a pipe the screwed joint nut with the cut ring (or a connection nut).

Insert the screwed joint body into a pipe till it definitely stops. The joint insertion depth is ca. 9 mm for pipes ∅14, 16, 20 and 12 mm for pipes ∅25, 26.

Slide the adapter body with the pipe into the fitting socket. Slide the compression ring to the fitting body (in case of erurocone adapter).

Screw the nut onto the fitting body using flat spanner.

To eliminate the excessive overload on fittings by bending force,
it is not recommended to bend pipes at a distance less than 10 external diameters from the fitting.

Screwed joints :

- are self-sealing – avaialble for diameters ∅14-26mm,
- screwed joints can not be hidden in walls,
- it is not recommended to embed this kind of connections in a floor screed,
- in case of renovating an installation they can be taken apart.

Joining fittings with nickel-plated pipes with radiator fixtures

For good looks of a **KAN-therm** radiator connection both from a floor or wall we offer special fittings with nickel-plated pipes. Connect fixed elbows and tees with a nickel-plated pipe within radiator valves or directly with VK type radiators via elements like:

- screwed coupling for copper tube ∅15 G¾", code 9023.08,
- screwed coupling for copper tube ∅15 G½", code K-609010,
- clamp for a copper tube ∅15 G½", code 729202W,
- G½" tube coupling body, code 9001.35.

All joints of this kind are self-sealing and no additional sealing is needed.

WARNING:
Do not combine brass couplings with a female thread within elements with conical male thread. In case you apply brass joints with a female thread combine them only with elements with a cylindrical male thread. To seal such connections use tow with a paste additive (to much tow is inadvisable).
During assembly of PPSU fittings keep all elements clean and avoid contact with chemical agents.

System **KAN-therm** Press - Fastening pipelines

For maximum distances between pipeline supports see the Table below:

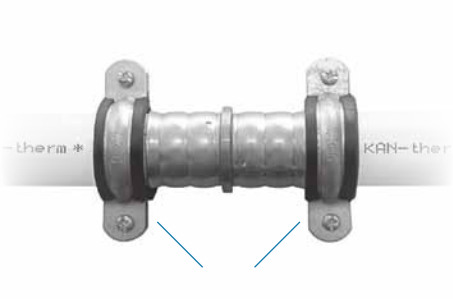
Pipe diameter	14×2	16×2	20×2	25×2,5	26×3	32×3	40×3,5	50×4	63×4,5
Max distances between pipeline fastening supports [m]	1,2	1,2	1,3	1,5	1,5	1,6	1,7	2,0	2,2

Supports can be executed as sliding supports PP. Sliding supports shall be located maintaining required distances as the pipeline weight must be supported properly. If a required location of a sliding support restricts the required length a compensating arm, instead of a sliding, support a pipeline from below.

System **KAN-therm** Press - fixed point PS and slidable points PP

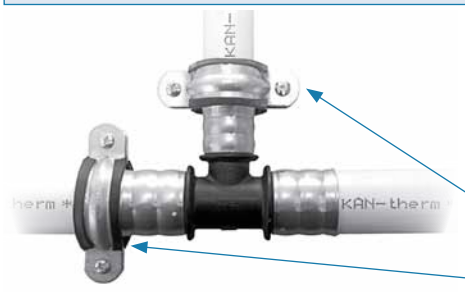
- fixed points shall prevent any movement of a pipeline therefore they shall be mounted at connections (on both sides of a connection, e.g. coupling),
- with this system pipe clamps serving as fixed points shall not be mounted directly at fittings or on pressed-on rings,
- when mounting fixed points at tees check that pipe clamps blocking a pipeline are not mounted on branches of a diameter smaller by more than one size than a pipeline from which they branch off (forces generated by large diameter pipes can damage a smaller diameter),
- sliding supports allow only axial movements of a pipeline (they act as fixed points in the perpendicular angle to the pipeline axis) and should be made using plastic, snap-on clamps supplied within the **KAN-therm** System,
- do not mount sliding supports at connections as this may block the pipe thermal expansion,
- don't forget that sliding supports prevent movements transverse to the pipeline axis therefore their locations can determine the length of compensation arms.

Mounting a fixed points at a joint



tight screwed clamp fastened to building element

Mounting a fixed point at a tee



WARNING:
do not mount a clamp on a branch if this is smaller by more than one size than the tee nominal diameter

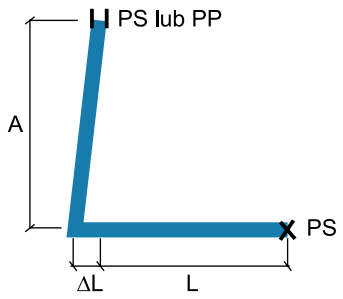
tight screwed clamp fastened to building element

KAN-therm Press System – "L" compensation of pipeline thermal elongations

L [m]	ΔL - elongation [mm]							
	Δt - temperature difference [°C]							
	10	20	30	40	50	60	80	90
0,5	0,13	0,25	0,38	0,50	0,63	0,75	1,00	1,13
1	0,25	0,50	0,75	1,00	1,25	1,50	2,00	2,25
2	0,50	1,00	1,50	2,00	2,50	3,00	4,00	4,50
3	0,75	1,50	2,25	3,00	3,75	4,50	6,00	6,75
4	1,00	2,00	3,00	4,00	5,00	6,00	8,00	9,00
5	1,25	2,50	3,75	5,00	6,25	7,50	10,00	11,25
6	1,50	3,00	4,50	6,00	7,50	9,00	12,00	13,50
7	1,75	3,50	5,25	7,00	8,75	10,50	14,00	15,75
8	2,00	4,00	6,00	8,00	10,00	12,00	16,00	18,00
9	2,25	4,50	6,75	9,00	11,25	13,50	18,00	20,25
10	2,50	5,00	7,50	10,00	12,50	15,00	20,00	22,50
15	3,75	7,50	11,25	15,00	18,75	22,50	30,00	33,75
20	5,00	10,00	15,00	20,00	25,00	30,00	40,00	45,00
25	6,25	12,50	18,75	25,00	31,25	37,50	50,00	56,25
30	7,50	15,00	22,50	30,00	37,50	45,00	60,00	67,50
35	8,75	17,50	26,25	35,00	43,75	52,50	70,00	78,75
40	10,00	20,00	30,00	40,00	50,00	60,00	80,00	90,00

Table 1. Pipe elongation for different lengths and various temperature growths

A ΔL elongation causes a pipeline to deform along the length of an elastic arm A.
Compensation arm A length should not cause excessive stress in the pipeline (should not be smaller then value given in table 2) and depends on pipe external diameter, pipe thermal elongation, and a constant (linear expansion coefficient) for a given material.

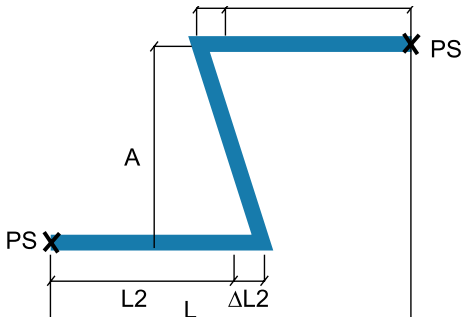


A	flexible arm length
PP	sliding support (allows only axial movement of a pipeline)
PS	fixed point (prevents any movement of a pipeline)
L	the initial length of a pipeline
ΔL	pipeline thermal elongation

ΔL elongation [mm]	A - length of flexible arm [mm]							
	Dz - pipe OD [mm]							
	14	16	20	25-26	32	40	50	63
5	300	320	360	410	460	510	570	640
10	430	460	510	580	640	720	810	900
15	530	560	620	710	790	880	990	1 110
20	600	640	720	820	910	1 020	1 140	1 280
30	740	790	880	1 010	1 120	1 250	1 400	1 570
40	850	910	1 020	1 160	1 290	1 440	1 610	1 810
50	950	1 020	1 140	1 300	1 440	1 610	1 800	2 020
60	1 050	1 120	1 250	1 420	1 580	1 770	1 970	2 210
70	1 130	1 210	1 350	1 540	1 700	1 910	2 130	2 390
80	1 210	1 290	1 440	1 640	1 820	2 040	2 280	2 560
90	1 280	1 370	1 530	1 740	1 930	2 160	2 420	2 710

Table 2 Minimum length A of an flexible arm depending on the pipe external diameter and its elongation

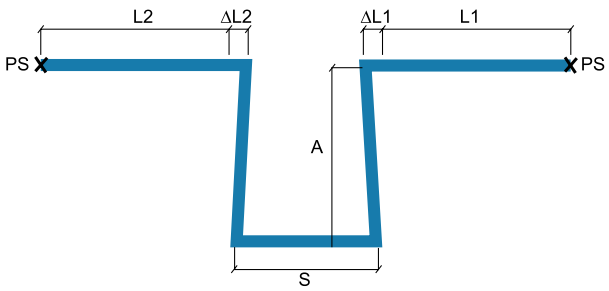
KAN-therm Press System - "Z" compensation of pipeline thermal elongations



A - flexible arm length
PP – sliding support (allows only an axial movement of a pipeline)
PS – fixed point (prevents any movement of a pipeline)
L – initial length of pipeline
ΔL - pipeline elongation

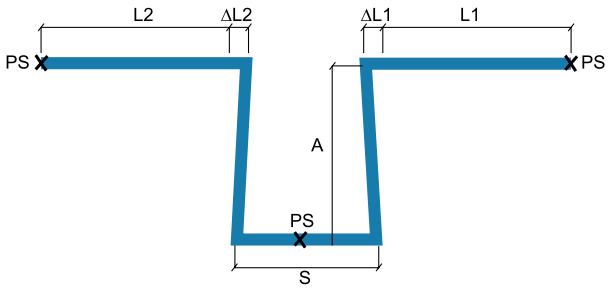
For compensation arm dimensioning, L1 and L2 sum is taken as substitute length LZ=L1+L2, and for this LZ length substitute elongation ΔLz is determined on the basis of Table 1. Next, compensation arm AZ length (expansion compensation length) is determined on the basis of Table 2.

KAN-therm Press System - "U" compensation of pipeline thermal elongations



A - flexible arm length
PP – sliding support (allows only an axial movement of a pipeline)
PS – fixed point (prevents any movement of a pipeline)
L – initial length of pipeline
ΔL - pipeline elongation
SD – width of the U-shale compensator

To determine the length of a compensation arm take as the substitute length Lz half of the sum of L1 and L2: Lz=(L1 + L2)/2 and for this length you take the substitute elongation ΔLz from Table 1 and next the compensation arm length Az from Table 2.



A - flexible arm length
PP – sliding support (allows only axial movement of a pipeline)
PS – fixed point (prevents any movement of a pipeline)
L – initial length of pipeline
ΔL - pipeline elongation
S – width of the U-shape compensator

In case a fixed point PS lies on a section, which is the compensator width S, to determine the size of a compensator, take for its substitute length Lz the greater value from L1 and L2: Lz = the greater value of L1 and L2 and for this length you determine the substitute elongation ΔLz, and next the compensation arm length Az according to the rule and tables under point 2.
The width S of a compensator shall allow a free movement of the sections L1 and L2 taking into account an eventual pipe insulation thickness and conditions of assembly.

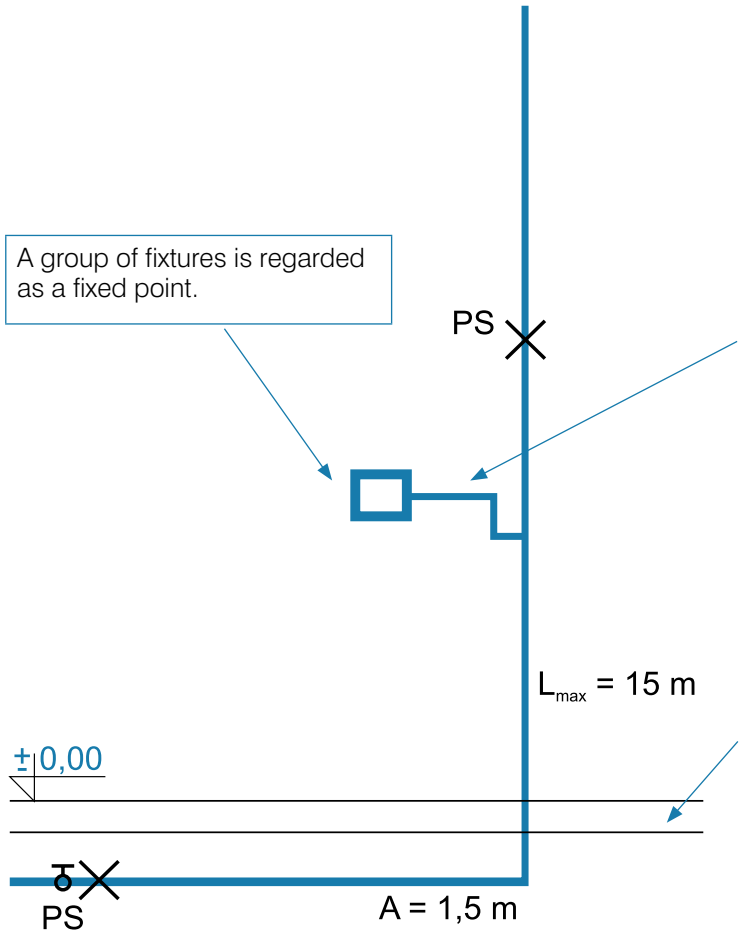
$$S \geq 2\times g_{ins} + \Delta L1 + \Delta L2 + S_{min}$$

g_{ins} - insulation thickness
ΔL1, ΔL2 – elongation of sections L1 and L2
S_{min} - minimum length resulting form mounting of elbows or bending pipes.
Strive to minimise the width S and when the width S is above 10% of the value of L1 or L2 a U-compensator with its fixed point in the middle shall be determined as a Z-type compensator taking into account the width Z and the greater value from L1 and L2.
The minimum allowed pipe bending radius $R_{min} = 5xD_z$ (bending a pipe of an external diameter more than 32 mm is not recommended) (D_z = pipe external diameter).

System **KAN-therm** Press – Assembly and rules for compensation of the thermal elongation

- Do not install fixtures on pipelines at compensation arms and also do not block pipeline movements, e.g. against sliding supports. It is best to use mounted fixtures as fixed points thus a pipeline does not support the weight of fixtures or transfer forces occurring at opening or closing valves,
- by all means a pipeline section must be provided with the compensation of elongations,
- in case pipelines are connected at the right angle to steel tubes, the point of connection shall be regarded as a point preventing movements along the axis of a pipeline of multi-layer pipes – a fixed point for a steel pipeline by mounting pipe clamps on a pipeline made of multi-layer pipes is inadmissible. In the event a steel pipeline at a point of connection of multi-layer pipes can elongate substantially the section of connection of multi-layer pipes must be made as an elastic arm by placing a sliding support at a right place (a fixed point is inadmissible), and the length of that arm shall be determined according to the elongation ΔL of a steel pipeline using Table 2,
- in case a multi-layer pipeline is joined with a steel pipeline determine a compensating elastic arm taking into account the elongation of this section resulting from the sum of elongations of both pipelines,
- at a point, where a pipeline of multi-layer pipes connects with a steel pipeline, we recommend a fixed point on a steel pipeline (this should be foreseen when planning a steel pipeline compensation),
- riser sections in shafts should be free to expand thermally. In case compensation arms in riser branches are not possible, it is recommend to use for these branches elastic PE-Xc or PE-RT pipes,
- water meters and heat meters (and fixtures) mounted on pipelines must be fixed to walls (pipelines should not transfer their weight or forces generated by operating fixtures) thus being mounted as fixed points.

System **KAN-therm** Press – Example of compensating risers and branches



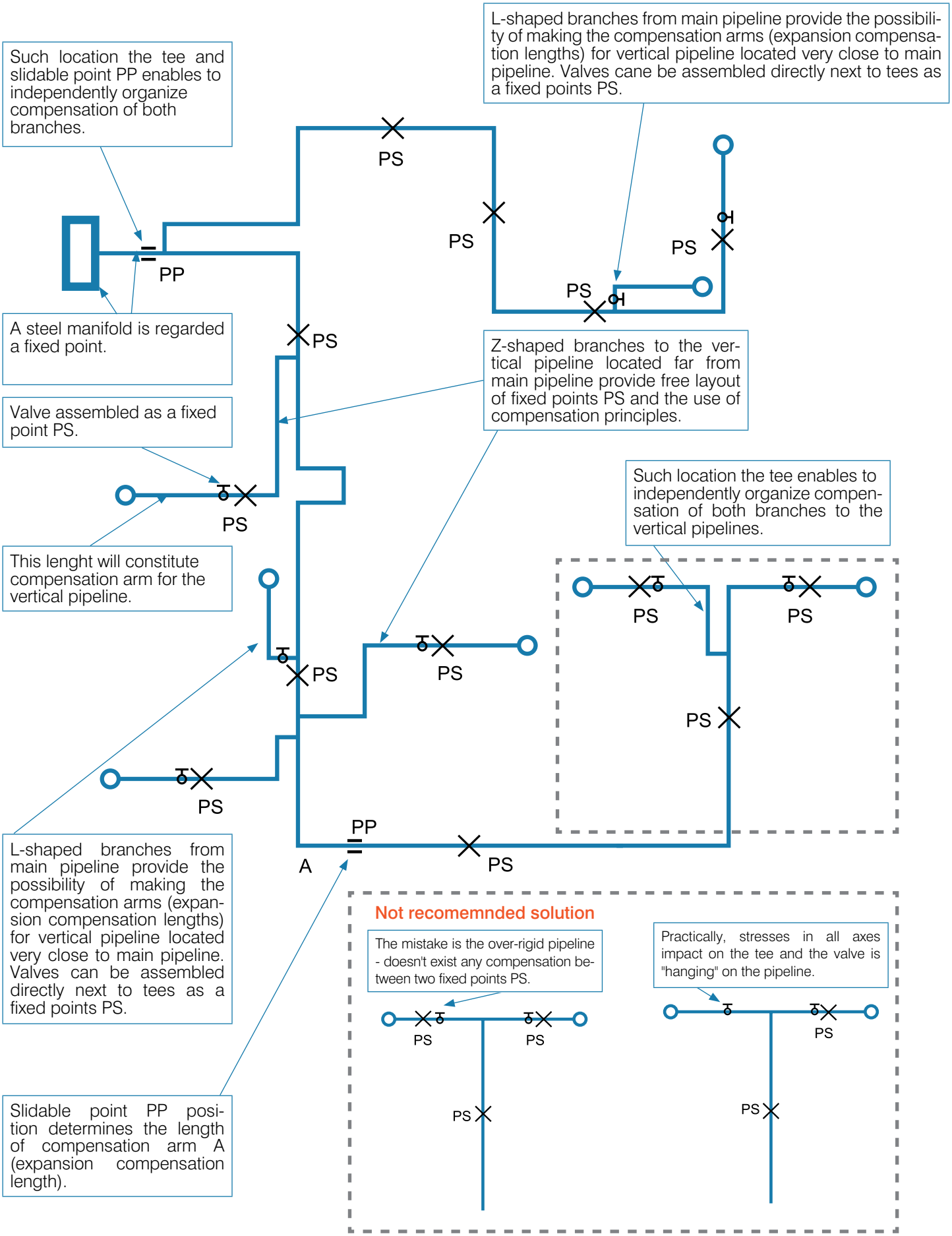
Using the compensation arm at vertical pipeline base A=1,5 m and placing a fixed point FP halfway the vertical pipeline height, vertical pipeline heigth can reach 30 m high (for pipes up to dia 63 mm).
A higher vertical pipeline can be taken if a higher thermal elongation of a segment above fixed point FP is allowed and compensation arm length A is increased.

It is recommended to make a Z-type compensation on the branch. A required length of compensation arm on the branch should be maintained. If it is impossible, then use elastic pipes, e.g. PE-RT and PE-Xc as a branch.

A pipline lenght of 15 m at a temperature increase of 80°C will elongate for 30 mm. A 30 mm elongation requires compensation arm. A that is 1,5 m long for a pipe 63 mm in diameter.

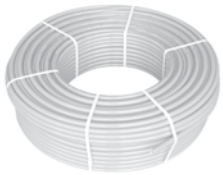
Passages in floors should enable the pipeline to move lengthwise and crosswise so to take over deformation caused by thermal elongations of vertical pipeline an thermal elongation of length A which consistiute the compensation arm (expansion compensation length) for vertical pipeline.

System **KAN-therm** Press - Example of compensating elongations of main routes and it's branches



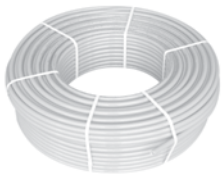
KAN-therm multilayer pipe PE-RT/Al/PE-HD Multi Universal designed for central heating, hot and cold water systems as well as for underfloor heating systems;operating pressure max. 10 bar

Size	Pipe length in coil/on palette	Code
** Ø14×2	200/3000	0.9414
Ø16×2	200/3000	0.9416
Ø20×2	100/1500	0.9420
Ø25×2,5	50/750	0.9425
Ø26×3	50/600	0.9426
Ø32×3	50/600	0.9432
Ø40×3,5	25/300	0.9440



KAN-therm multilayer pipe PE-RT/Al/PE-RT Multi Universal designed for central heating, hot and cold water systems as well as for underfloor heating systems;operating pressure max. 10 bar

Size	Pipe length in coil/on palette	Code
Ø14×2	200/3000	0.9614
Ø16×2	200/3000	0.9616
Ø20×2	100/1500	0.9620



KAN-therm multilayer pipe PE-RT/Al/PE-RT Multi Universal designed for central heating, hot and cold water systems as well as for underfloor heating systems;operating pressure max. 10 bar - in 6 mm thermal insulation

NEW

Size	Pipe length in coil/on palette	Code
Ø16×2 czerwona	50	0.9616-6C
Ø16×2 niebieska	50	0.9616-6N
Ø20×2 czerwona	50	0.9620-6C
Ø20×2 niebieska	50	0.9620-6N

KAN-therm multilayer pipe PE-RT/Al/PE-HD Multi Universal designed for central heating, hot and cold water systems as well as for underfloor heating systems;operating pressure max. 10 bar - in 6 mm thermal insulation

NEW

Size	Pipe length in coil/on palette	Code
Ø25×2,5 czerwona	50	0.9425-6C
Ø25×2,5 niebieska	50	0.9425-6N

KAN-therm multilayer pipe PE-RT/Al/PE-HD Multi Universal designed for central heating, hot and cold water systems as well as for underfloor heating systems;operating pressure max. 10 bar

Size	Pipe length in coil/on palette	Code
Ø32×3	5/50	0.9532
Ø40×3,5	5/50	0.9540

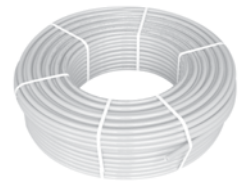
KAN-therm multilayer pipe PE-Xc/Al/PE-Xc Multi Universal (PN12 series) designed for central heating, hot and cold water systems as well as for underfloor heating systems;operating pressure max. 10 bar

Size	Pipe length in coil/on palette	Code
Ø50×4	5/20	0.9550
Ø63×4,5	5/20	0.9563

KAN-therm pipe PE-Xc acc. to DIN 16892/93 with EVOH layer acc. to DIN 4726 for radiator and underfloor heating up to 6 bar

Size	Pipe length in coil/on palette	Code
Ø16×2	200/3000	0.2146
Ø20×2	200/3000	K-150005
Ø25×2,3	50/1000	K-100023

PE-Xc pipes may only be connected with **KAN-therm** Press LBP fittings.



KAN-therm pipe PE-RT with EVOH layer acc. to DIN 4726 for radiator and underfloor heating up to 6 bar

Size	Pipe length in coil/on palette	Code
Ø16×2	200/3000	0.2176
Ø20×2	200/3000	K-100305

PE-RT pipes may only be connected with **KAN-therm** Press LBP fittings.

KAN-therm Press straight male connector

Size	Pipe length in coil/on palette	Code
Ø16×2 G½"	20/200	K-900000
Ø20×2 G½"	10/120	K-900001
Ø20×2 G¾"	10/120	K-900002
Ø25×2,5 G½"	5/50	K-080070
Ø25×2,5 G¾"	5/50	K-900003
Ø25×2,5 G1"	5/50	K-900004
Ø26×3 G½"	5/50	K-080069
Ø26×3 G¾"	5/50	K-080064
Ø26×3 G1"	5/50	9024.65
Ø32×3 G1"	5/40	K-900005
Ø32×3 G1¼"	5/40	K-900006
Ø40×3,5 G1"	2/20	K-080068
Ø40×3,5 G1¼"	2/20	K-900007
Ø40×3,5 G1½"	2/20	K-900008
Ø50×4 G1½"	2/20	K-900009
Ø63×4,5 G2"	1/10	K-900010

KAN-therm Press straight female connector

Size	Pcs. in one bag/box	Code
Ø16×2 G½"	20/160	K-900100
Ø20×2 G½"	10/120	K-900101
Ø20×2 G¾"	10/80	K-900102
Ø25×2,5 G¾"	5/50	K-080125
Ø25×2,5 G1"	5/40	K-900103
Ø26×3 G¾"	5/50	K-080089
Ø26×3 G1"	5/40	9024.88
Ø32×3 G1"	5/40	K-080126
Ø32×3 G1¼"	5/40	K-900104
Ø40×3,5 G1"	2/20	K-080096
Ø40×3,5 G1¼"	2/20	K-080097
Ø40×3,5 G1½"	2/20	K-900105

KAN-therm złączka PPSU Press z pierścieniem zaprasowywanym z gwintem wewnętrznym

NEW

Size	Pcs. in one bag/box	Code
Ø16×2 G½"	10/120	K-070253

KAN-therm Press Compression fitting

Size	Pcs. in one bag/box	Code
Ø16×2/Ø15	10/150	K-900381
Ø20×2/Ø22	10/80	K-900382
Ø25×2,5/Ø22	5/50	K-900383

Caution:
złączka może współpracować z miedzianymi systemami zaciskowymi oraz Systemem KAN-therm Steel i Inox.

KAN-therm Press compression elbow

NEW

Size	Pcs. in one bag/box	Code
** Ø16×2/Ø15	10/120	K-080551

KAN-therm Press transition fitting Push × Press

Size	Pcs. in one bag/box	Code
Ø14×2/Ø16×2	20/160	K-902716
Ø18×2/Ø16×2	20/160	K-902717
Ø18×2,5/Ø16×2	20/160	K-902718

** on request

Nowe złączki Press LBP w średnicach 16-40 mm dostępne po wyczerpaniu elementów w wykonaniu dotychczasowym

KAN-therm Press PPSU coupling

Size	Pcs. in one bag/box	Code
Ø16×2/Ø16×2	20/200	K-900250
Ø20×2/Ø20×2	10/150	K-900251
Ø25×2,5/Ø25×2,5	5/60	K-900252
Ø26×3/Ø26×3	5/60	K-070072

KAN-therm Press reducing coupling

Size	Pcs. in one bag/box	Code
* Ø16×2/Ø16×2	20/200	K-900200
* Ø20×2/Ø20×2	20/160	K-900201
* Ø25×2,5/Ø25×2,5	10/60	K-900202
Ø26×3/Ø26×3	5/60	9024.72
Ø32×3/Ø32×3	5/40	K-900203
Ø40×3,5/Ø40×3,5	2/20	K-900204
Ø50×4/Ø50×4	2/20	K-900205
Ø63×4,5/Ø63×4,5	1/5	K-900206

KAN-therm Press PPSU reducing coupling

Size	Pcs. in one bag/box	Code
Ø20×2/Ø16×2	20/160	K-900350
Ø25×2,5/Ø16×2	5/70	K-900351
Ø26×3/Ø16×2	5/70	K-070066
Ø25×2,5/Ø20×2	5/70	K-900352
Ø26×3/Ø20×2	5/70	K-070076

KAN-therm Press straight coupling

Size	Pcs. in one bag/box	Code
* Ø20×2/Ø16×2	20/200	K-900300
* Ø25×2,5/Ø16×2	10/100	K-900301
* Ø25×2,5/Ø20×2	10/100	K-900302
Ø26×3/Ø16×2	10/80	9024.66
Ø26×3/Ø20×2	10/80	9024.76
Ø32×3/Ø16×2	5/40	K-080128
Ø32×3/Ø20×2	5/40	K-900310
Ø32×3/Ø25×2,5	5/40	K-900303
Ø32×3/Ø26×3	5/40	9024.67
Ø40×3,5/Ø20×2	2/30	K-080090
Ø40×3,5/Ø25×2,5	2/30	K-900313
Ø40×3,5/Ø26×3	2/30	K-080092
Ø40×3,5/Ø32×3	2/20	K-900304
Ø50×4/Ø32×3	2/20	K-900305
Ø50×4/Ø40×3,5	2/20	K-900306
Ø63×4,5/Ø40×3,5	1/10	K-900307
Ø63×4,5/Ø50×4	1/10	K-900308

New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm Press male branch tee

Size	Pcs. in one bag/box	Code
Ø16×2/G½"/Ø16×2	5/60	K-903000
Ø20×2/G½"/Ø20×2	5/50	K-083004
Ø20×2/G¾"/Ø20×2	5/50	K-903001
Ø25×2,5/G¾"/Ø25×2,5	2/30	K-080129
Ø25×2,5/G1"/Ø25×2,5	2/30	K-903002
Ø26×3/G¾"/Ø26×3	2/30	K-080130
Ø26×3/G1"/Ø26×3	2/30	K-083003
Ø32×3/G1"/Ø32x3	2/20	K-903003
Ø40×3,5/G1"/Ø40×3,5	1/10	K-903007
Ø50×4/G1"/Ø50×4	1/10	9050.110
Ø63×4,5/G1"/Ø63×4,5	-/5	9063.110

KAN-therm Press male branch reducing tee

Size	Pcs. in one bag/box	Code
Ø50×4/G1"/Ø40×3,5	1/10	9050.120
Ø63×4,5/G1"/Ø50×4	-/5	9063.120

KAN-therm brass fitting adapter female 1" × male ¾"

Size	Pcs. in one bag/box	Code
G1"×G¾"	5/60	9032.02

KAN-therm Press female branch reducing tee

Size	Pcs. in one bag/box	Code
Ø16×2/G½"/Ø16×2	5/60	K-904000
Ø20×2/G½"/Ø20×2	5/50	K-904001
Ø20×2/G¾"/Ø20×2	5/50	K-904003
Ø25×2,5/G½"/Ø25×2,5	2/30	K-080166
Ø26×3/G½"/Ø26×3	2/30	K-080167
Ø25×2,5/G¾"/Ø25×2,5	2/30	K-904002
Ø26×3/G¾"/Ø26×3	2/30	K-084004

** on request

New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm Press PPSU tee

Size	Pcs. in one bag/box	Code
Ø16×2/Ø16×2/Ø16×2	10/80	K-900500
Ø20×2/Ø20×2/Ø20×2	5/50	K-900501
Ø25×2,5/Ø25×2,5/Ø25×2,5	2/30	K-900502
Ø26×3/Ø26×3/Ø26×3	2/30	9024.54
Ø32×3/Ø32×3/Ø32×3	2/20	K-900503
Ø40×3,5/Ø40×3,5/Ø40×3,5	1/10	K-900504
Ø50×4/Ø50×4/Ø50×4	1/6	9050.100
Ø63×4,5/Ø63×4,5/Ø63×4,5	-/3	9063.100
Ø16×2/Ø20×2/Ø16×2	5/60	K-900607
Ø20×2/Ø16×2/Ø16×2	10/60	K-900600
Ø20×2/Ø16×2/Ø20×2	5/50	K-900601
Ø20×2/Ø20×2/Ø16×2	5/50	K-900606
Ø20×2/Ø25×2,5/Ø20×2	2/30	K-900608
Ø25×2,5/Ø20×2/Ø16×2	5/50	K-070618
Ø25×2,5/Ø16×2/Ø20×2	5/50	K-900602
Ø25×2,5/Ø16×2/Ø25×2,5	2/30	K-900603
Ø25×2,5/Ø20×2/Ø20×2	2/30	K-900604
Ø25×2,5/Ø20×2/Ø25×2,5	2/30	K-900605
Ø25×2,5/Ø32×3/Ø25×2,5	2/20	K-070026
Ø26×3/Ø16×2/Ø20×2	5/50	9024.950
Ø26×3/Ø16×2/Ø26×3	2/30	9024.940
Ø26×3/Ø20×2/Ø16×2	5/50	K-070619
Ø26×3/Ø20×2/Ø20×2	2/30	9024.61
Ø26×3/Ø20×2/Ø26×3	2/30	9024.600
Ø26×3/Ø32×3/Ø26×3	2/20	K-070027
Ø32×3/Ø16×2/Ø32×3	2/20	K-900609
Ø32×3/Ø20×2/Ø25×2,5	2/20	K-900610
Ø32×3/Ø20×2/Ø26×3	2/20	9024.970
Ø32×3/Ø20×2/Ø32×3	2/20	K-900611
Ø32×3/Ø25×2,5/Ø25×2,5	2/20	K-900612
Ø32×3/Ø25×2,5/Ø32×3	2/20	K-900613
Ø32×3/Ø26×3/Ø26×3	2/20	9024.630
Ø32×3/Ø26×3/Ø32×3	2/20	9024.620
Ø32×3/Ø32×3/Ø20×2	2/20	K-070615
Ø32×3/Ø32×3/Ø25×2,5	2/20	K-070616
Ø32×3/Ø32×3/Ø26×3	2/20	K-070617
Ø40×3,5/Ø20×2/Ø32×3	1/12	K-900616
Ø40×3,5/Ø20×2/Ø40×3,5	2/12	K-900614
Ø40×3,5/Ø25×2,5/Ø32×3	2/12	K-900617
Ø40×3,5/Ø25×2,5/Ø40×3,5	2/12	K-900615
Ø40×3,5/Ø26×3/Ø32×3	2/12	9040.140
Ø40×3,5/Ø26×3/Ø40×3,5	2/12	9040.120
Ø40×3,5/Ø32×3/Ø32×3	2/12	K-900618
Ø40×3,5/Ø32×3/Ø40×3,5	1/10	K-900619
Ø40×3,5/40×3,5/32×3	1/10	K-071012

New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm Press brass reducing tee

NEW

Size	Pcs. in one bag/box	Code
Ø50×4/Ø20×2/Ø50×4	1/10	K-081101
Ø50×4/Ø25×2,5/Ø40×3,5	1/10	K-081105
Ø50×4/Ø25×2,5/Ø50×4	1/10	K-081102
Ø50×4/Ø26×3/Ø40×3,5	1/10	K-081115
Ø50×4/Ø26×3/Ø50×4	1/10	K-081116
Ø50×4/Ø32×3/Ø40×3,5	1/10	K-081103
Ø50×4/Ø32×3/Ø50×4	1/10	K-081104
Ø50×4/Ø40×3,5/Ø40×3,5	1/10	K-081107
Ø50×4/Ø40×3,5/Ø50×4	1/8	K-081106
Ø63×4,5/Ø20×2/Ø63×4,5	1/5	K-081108
Ø63×4,5/Ø25×2,5/Ø63×4,5	1/5	K-081109
Ø63×4,5/Ø26×3/Ø63×4,5	1/5	K-081117
Ø63×4,5/Ø32×3/Ø50×4	1/5	K-081110
Ø63×4,5/Ø32×3/Ø63×4,5	1/5	K-081111
Ø63×4,5/Ø40×3,5/Ø50×4	1/5	K-081112
Ø63×4,5/Ø50×4/Ø50×4	1/5	K-081114
Ø63×4,5/Ø50×4/Ø63×4,5	1/5	K-081113

KAN-therm Crossing pair single Press

Size	Pcs. in one bag/box	Code
Ø16×2/Ø16×2/Ø16×2	1/6	K-900650
Ø16×2/Ø16×2/Ø20×2	1/6	K-900651
Ø20×2/Ø16×2/Ø16×2	1/6	K-900652
Ø20×2/Ø20×2/Ø20×2	1/6	K-900654
Ø20×2/Ø16×2/Ø20×2	1/6	K-900653

Caution:
Elements in nickel plated version

KAN-therm Press PPSU 90° elbow

Size	Pcs. in one bag/box	Code
Ø16×2/Ø16×2	15/150	K-900400
Ø20×2/Ø20×2	10/80	K-900401
Ø25×2,5/Ø25×2,5	5/40	K-900402
Ø26×3/Ø26×3	5/40	9024.49
Ø32×3/Ø32×3	2/30	K-900403
Ø40×3,5/Ø40×3,5	2/20	K-900404
Ø50×4/Ø50×4	2/10	K-900405
Ø63×4,5/Ø63×4,5	-/5	K-900406

** on request

New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm Press male branch elbow 90°

Size	Pcs. in one bag/box	Code
Ø16×2/ G½"	10/120	K-901000
Ø20×2/G½	10/100	K-081025
Ø20×2/G¾"	10/100	K-901001
Ø25×2,5/G¾"	5/40	K-080160
Ø25×2,5/G1"	5/40	K-901002
Ø26×3/G¾"	5/40	K-080161
Ø26×3/G1"	5/40	K-081003
Ø32×3/G1"	2/30	K-901003
Ø40×3,5/G1¼"	2/20	K-080163

KAN-therm Press female branch elbow 90°

Size	Pcs. in one bag/box	Code
Ø16×2/G½"	10/120	K-902000
Ø20×2/G½"	10/100	K-902001
Ø20×2/G¾"	10/60	K-902002
Ø25×2,5/G¾"	5/30	K-902003
Ø25×2,5/G1"	5/30	K-080172
Ø26×3/G¾"	5/30	K-082004
Ø26×3/G1"	5/30	K-080173
Ø32×3/G1"	2/30	K-080174
Ø40×3,5/G1¼"	2/20	K-080164

KAN-therm Press PPSU elbow 45°

Size	Pcs. in one bag/box	Code
Ø32×3/Ø32×3	2/30	K-900410
Ø40×3,5/Ø40×3,5	2/20	K-900411
Ø50×4/Ø50×4	1/10	K-900412
Ø63×4,5/Ø63×4,5	-/5	K-900413

New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm PPSU Press wallplate elbow, with short plastic plug

Size	Pcs. in one bag/box	Code
Ø16×2/G½"	5/50	K-905000
Ø20×2/G½"	5/50	K-905001

Caution:
Press Wallplate elbow is sold with steel sleeve, fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
Use only bow with sealing compound.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g R½'').

KAN-therm PPSU Press wallplate elbow with nuts, (applicable for dry plaster)

Size	Pcs. in one bag/box	Code
Ø16×2/G½"	2/20	K-085068

Caution:
Press Wallplate elbow is sold with steel sleeve and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
Use only bow with sealing compound.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g R½'').

KAN-therm wallplate elbow, with short plastic plug

Size	Pcs. in one bag/box	Code
Ø16×2/G½"	5/40	K-905002
Ø20×2/G½"	5/40	K-905023

Caution:
Press Wallplate elbow is sold with steel sleeve, fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
Use only bow with sealing compound.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g R½'').

** on request

New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm Press wallplate angle tee, with short plastic plug

Size	Pcs. in one bag/box	Code
Ø16×2/G½"	5/40	K-905003
Ø20×2/G½"	5/40	K-085104

Caution:
Press Wallplate elbow is sold with steel sleeve, fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
Use only bow with sealing compound.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g R½'').

KAN-therm Press LBP wallplate angle tee directly fixed with shor plastic plug

Size	Pcs. in one bag/box	Code
Ø16×2/G½"	5/50	K-085071
Ø20×2/G½	5/40	K-085072

Caution:
Press Wallplate elbow is sold with steel sleeve and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
Use only bow with sealing compound.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g R½'').

NEW

KAN-therm osłona akustyczna, gumowa do podejść do baterii z uszami

Size	Pcs. in one bag/box	Code
Ø16-20	5/25	K-085030

Caution:
Stosować wyłącznie z podejściami do baterii z uszami: K-905022, K-085069, K-085070.

KAN-therm Press wallplate elbow, directly fixed

Size	Pcs. in one bag/box	Code
Ø16×2/G½"	5/50	K-905022
Ø20×2/G½"	5/50	K-085069

Caution:
Press Wallplate elbow is sold with steel sleeve and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
Use only bow with sealing compound.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g R½'').

New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm Press wallplate elbow, directly fixed - without plug

Size	Pcs. in one bag/box	Code
Ø20×2/G¾"	5/50	K-085070
Ø25×2,5/G¾"	2/30	K-905026
Ø26×3/G¾"	2/30	K-085027

Caution:
Press Wallplate elbow is sold with steel sleeve.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
Use only bow with sealing compound.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g R½'').

KAN-therm Press flat wallplate elbow

Size	Pcs. in one bag/box	Code
Ø20×2/G½"	5/50	K-905005

Caution:
Press Wallplate elbow is sold with steel sleeve, fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
Use only bow with sealing compound.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g R½'').

KAN-therm Press LBP wallplate tee with nuts (applicable for dry plaster)

Size	Pcs. in one bag/box	Code
Ø16×2/G½"/Ø16×2	2/20	K-084010
Ø20×2/G½"/Ø16×2	2/20	K-084020
Ø20×2/G½"/Ø20×2	2/20	K-084030

Caution:
Press Wallplate tee is sold with steel sleeve and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.
Sealing compounds like adhesives which are chemical aggressive should not be used.
Use only bow with sealing compound.
It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½'') with non-system elements with male pipe conical thread (e.g R½'').

** on request

New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm Press transition fitting Press × Press

Size	Pcs. in one bag/box	Code
** Ø16×2/Ø12	20/160	K-080380
Ø16×2/Ø15	20/160	K-900344
Ø20×2/Ø22	10/120	K-900345
Ø25×2,5/Ø22	5/60	K-900342
Ø25×2,5/Ø28	5/60	K-080384
Ø26×3/Ø22	5/60	K-080386
Ø26×3/Ø28	5/60	K-080385

Caution:
The fitting can be used with system Copper Press and System KAN-therm Steel & Inox

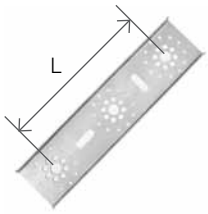
KAN-therm plastic mounting plate

Size	Pcs. in one bag/box	Code
Single	20/200	6090.050
Double (L=150mm)	10/70	6090.060
Double (L=80mm)	20/120	6090.070
Double (L=50mm)	15/150	6090.080

Used for mounting wallplates

NEW

KAN-therm metal mounting plate



Size	Pcs./packing	Code
Double (L=80, 150mm)	3/42	6090.13

Caution: Mounting plate allows for fixing standard and directly fixed wallplate elbows.
Mounting plate includes screws for directly fixed wallplate elbows (6 pcs.)

KAN-therm metal mounting plate

Size	Pcs./packing	Code
Double (L=50, 80, 150mm)	120	6090.09
Double (L=50mm)	150	6090.10

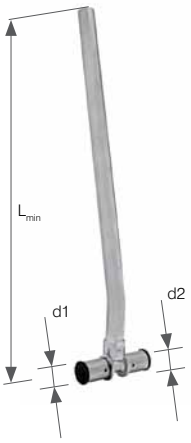
Used for mounting wallplates

** on request
New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm Press tee for radiator connection with dia 15 copper pipe L=300 mm, nickel plated

Size d1/d2	Pcs./packing	Code
Ø16×2/Ø16×2	40	K-901930
Ø20×2/Ø20×2	30	K-901931
Ø20×2/Ø16×2 left	30	K-901932
Ø20×2/Ø16×2 right	30	K-901933

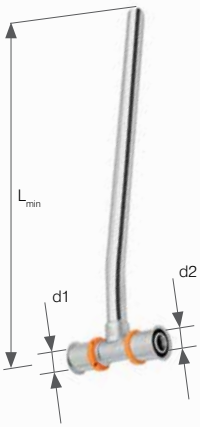
Use RH and LH reduction tees to connect radiators. RH tee identification: looking at bigger diameter the copper pipe bow should be at the right side.



KAN-therm Press tee for radiator connection with dia 15 copper pipe L=750 mm, nickel plated

**	Ø16×2/Ø16×2	25	K-901934
**	Ø20×2/Ø20×2	20	K-901935
**	Ø20×2/Ø16×2 left	20	K-901936
**	Ø20×2/Ø16×2 right	20	K-901937

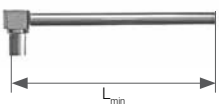
Use RH and LH reduction tees to connect radiators. RH tee identification: looking at bigger diameter the copper pipe bow should be at the right side.
Possibilities of connection fittings with nickel plated tubes with all kinds of fittings are described in the technical part of the catalog - “Screw connections “.

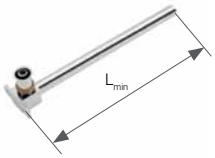


KAN-therm Press fixed elbow for radiator connection with dia 15 copper pipe, nickel plated

Size	Pcs./packing	Code
Ø16×2 L_{min} = 210 mm	40	K-901700
Ø16×2 L_{min} = 300 mm	40	K-901701
** Ø16×2 L_{min} = 750 mm	25	K-901810

Possibilities of connection fittings with nickel plated tubes with all kinds of fittings are described in the technical part of the catalog - “Screw connections”.





KAN-therm Press double fixed elbow for radiator connection with dia 15 copper pipe, nickel plated

Size	Pcs./packing	Code
Ø16×2 L_{min} = 200 mm	15	K-901800
Ø16×2 L_{min} = 300 mm	10	K-901801

Possibilities of connection fittings with nickel plated tubes with all kinds of fittings are described in the technical part of the catalog - “Screw connections”.

** on request

KAN-therm Press LBP half union with flat rubber gasket

Size	Pcs. in one bag/box	Code
Ø16×G½"	10/120	K-080250
Ø16×G¾"	10/120	K-080251
Ø20×G¾"	10/80	K-080253
Ø20×G1"	5/60	K-080252
Ø25×G¾"	5/60	K-080114
Ø25×G1"	5/60	K-080255
Ø25×G1¼"	5/50	K-080254
Ø26×G¾"	5/60	K-080108
Ø26×G1"	5/60	K-080109
Ø26×G1¼"	5/50	K-080110
Ø32×G1"	5/50	K-080107
Ø32×G1¼"	5/40	K-080257
Ø32×G1½"	5/40	K-080256
Ø40×G1½"	2/30	K-080258
Ø40×G2"	2/30	K-080259

Caution:
Do not apply for manifold connections.

KAN-therm Press eurocone adapter

Size	Pcs. in one bag/box	Code
Ø32 G1"	5/50	K-900111

KAN-therm Press eurocone adapter

Press LBP Fitting

Size	Pcs. in one bag/box	Code
Ø16 G¾"	10/120	K-900112

KAN-therm Press stop end

Size	Pcs. in one bag/box	Code
Ø16×2	20/300	K-609032
Ø20×2	20/200	K-609033
Ø25×2,5	10/120	K-609034
Ø26×3	10/120	K-609062
Ø32×3	5/50	K-609035

** on request
New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm Press steel sleeve - service part

Size	Pcs. in one bag/box	Code
** Ø16	50/500	9024.37
** Ø20	50/300	9024.38
** Ø25	20/200	9030.39
** Ø26	20/200	9024.39
** Ø32	10/100	9024.400
** Ø40	5/60	9024.410
** Ø50	5/20	9050.200
** Ø63	1/15	9063.200

Caution:
Sleeve is a service part. Press fittings are solid with sleeves in a set by plastic fixing cup.

** on request

New Press LBP fittings in diameters 16-40 mm available after old construction stock ends

KAN-therm plastic plug for pressure test - short - service part

Size	Pcs. in one bag/box	Code
G½"	20/300	6095.33

It may be repeatedly use (has O-Ring seal) and should be used for all KAN-therm wallplate elbows and wallplate tees.
Plastic short plug is used only to make the pressure test and it cannot be use to blank off the installation permanently.

KAN-therm nut M8 - service part for wallplate elbow

Size	Pcs. in one bag/box	Code
M8	100/3000	6096.03

KAN-therm mounting bolt - service part

Pcs. in one bag/box	Code
100/2000	6096.03

KAN-therm adapter for multilayer pipe (fixed ring)

Size	Pcs. in one bag/box	Code
Ø14 G½"	20/200	9012.060
Ø14 G¾"	15/150	9012.60
Ø16 G½"	20/200	9012.00
Ø16 G¾"	10/120	9012.080
Ø20 G¾"	10/120	9012.020
Ø20 G1"	5/80	9012.100
Ø25 G1"	10/80	9026.330
Ø26 G1"	10/80	9012.040

** on request

KAN-therm eurocone adapter for PE-Xc & PE-RT pipes

Size	Pcs. in one bag/box	Code
Ø16 G¾"	15/150	9006.57
Ø20 G¾"	15/150	K-601705

KAN-therm eurocone adapter for multilayer pipe

Size	Pcs. in one bag/box	Code
Ø16 G½"	20/200	9012.00N
Ø16 G¾"	15/150	9012.08N
Ø20 G¾"	10/120	9012.02N

Caution:
It can be used also with KAN-therm nipple, or KAN-therm male tee and male elbow.

KAN-therm compression ring for eurocone adapter - service part

Size	Pcs. in one bag/box	Code
** Ø16	100	9012.00NP
** Ø20	100	9012.02NP

Caution:
Compression ring is also the service part for straight male connector.

KAN-therm straight male connector

Size	Pcs. in one bag/box	Code
Ø16×2 G½"	10/150	9025.01
Ø16×2 G¾"	10/80	9025.04

Caution:
The fitting is designed to be fixed directly into the manifold beem – connection sealing is provided by the O-Ring seal.

** on request

KAN-therm manual press tool

Code
ZAPR02

Caution:
Used for pipe connections with Ø16, Ø20, Ø25, Ø26 mm.

KAN-therm press jaw

	Size	Code
	Ø16	ZAPR16R
	Ø20	ZAPR20R
	Ø25	ZAPR25R
	Ø26	ZAPR26R
	Ø32	ZAPRE32
	Ø40	ZAPRE40
**	Ø50	ZAPRE50
**	Ø63	ZAPRE63

KAN-therm pipe cutter for cutting multilayer pipes Ø14-32

Pcs./packing	Code
1/20	RS1435

KAN-therm replacement blade for pipe cutter for cutting multilayer pipes Ø14-32

	Code
**	RSM1435

** on request

KAN-therm pipe roll-cutters for diameter up to 63

	Code
	2519950

KAN-therm blade for roll-cutters for cutting multilayer pipes Ø16-63 - service element

	Code
**	290016

KAN-therm calibration and internal bevelling tool for multilayer pipes

Size	Code
** Ø14	KL14
Ø16	KL16
Ø20	KL20
Ø25/Ø26	KL26

KAN-therm calibration and internal bevelling universal tool for multilayer pipes

Size	Code
Ø16/Ø20/Ø25-26	KL162026
Ø25-26/Ø32/Ø40	KL263240
** Ø50/Ø63	KL5063

KAN-therm case for manual tools

Size	Code
**	002.001.000

Price comprises only case price, without equipment. May contain manual press tool, press jaws: ZAPR16R, ZAPR20R, ZAPR25R or ZAPR26R, pipe cutter RS1435, calibration tools KL16, KL20, KL26, KL162026.

** on request

KAN-therm battery press tool “mini” - case set

	Code
	KPPMINI

It consists of the following items:
- battery press tool AFP101 - 1 pcs.
- battery charger - 1 pcs.
- battery 3,0 Ah - 2 pcs.
- press jaw U16 - 1 pcs.
- press jaw U20 - 1 pcs.
- press jaw U25 - 1 pcs.
- press jaw U32 - 1 pcs.
- case - 1 pcs.t.

KAN-therm manual press tools - case set

	Code
	KPPZ/M

It consists of the following items
- manual press tool; ZAPR02,
- press jaw; ZAPR16R,
- press jaw; ZAPR20R,
- press jaw; ZAPR25R (code kpl.: KPPZ/M25), or Ø26 for press tool; ZAPR26R (code kpl.: KPPZ/M),
- pipe cutter; RS1435,
- calibration and internal bevelling universal tool for multilayer pipes Ø16/Ø20/Ø25-26; KL162026,
- case for manual tools; 002.001.000..

KAN-therm electric 220V press machine with case

	Code
 	KPPZ/M

Caution:
Electric 230 V press machine is solid with a case in a set.
The set doesn’t include jaws and other tools.

KAN-therm rechargable battery press machine

	Code
 	ZAPRAK

Caution:
Battery press machine is solid with a case in a set.
The set doesn’t include jaws and other tools.

** on request

KAN-therm external bending spring for multilayer pipes

Size	Code
** Ø14	SZ-1410
Ø16	SZ-1612
Ø20	SZ-2016
Ø25-26	SZ-2620

KAN-therm internal bending spring for multilayer pipes

Size	Code
** Ø14	SZ-1410
Ø16	SZ-1612
Ø20	SZ-2016
Ø25-26	SZ-2620

KAN-therm special spanner for eurocone adapters

Size	Code
** 30 mm	K-501900

The spanner intended for eurocone adapter G¾" montage.

** on request

SYSTEM
KAN-therm

SYSTEM **KAN-therm** PP

ISO 9001

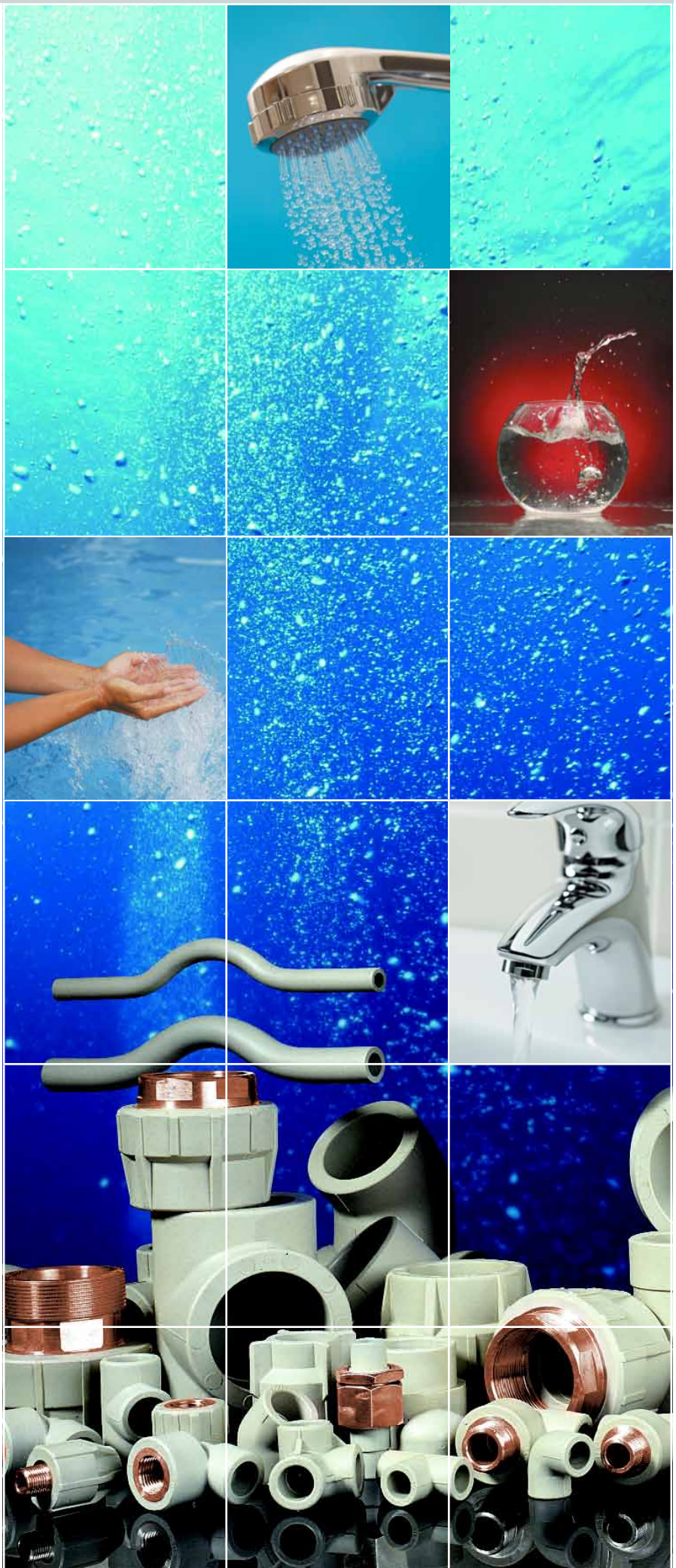
TECHNOLOGY
OF SUCCESS

Contents

Page

Introduction

System **KAN-therm** PP is a complete installation system consisting of pipes and fittings made of polypropylene PP-R (type3). The system is widely used in construction, particularly in water supply systems.
The elements of the system are connected by socket welding (thermal polyfusion) with the use of electric welders. Welding technique through a homogeneous combination provides outstanding tightness and mechanical strength of the installation.



The material

The plastic used in the production of pipes and fittings of the System **KAN-therm** PP is the high quality random polypropylene copolymer (PP-R) which used to be marked as Type 3.

System **KAN-therm** PP is characterised by a number of advantages:
- high microbiological and physiological inertness of products
- high chemical resistance,
- resistance to material corrosion,
- low thermal conductivity,
- low specific mass,
- resistance to scale accumulation,
- dampening of flow vibrations and noises,
- mechanical strength,
- homogeneity of connections,
- high operation durability.

The scope of uses

The installation System **KAN-therm** PP, due to its material properties, has a wide range of use:

- cold (20°C/1.0 MPa) and hot (60°C/1.0 MPa) water in residential buildings in hospitals, hotels, office buildings, schools,
- central heating systems (temp. up to 90°C, working pressure up to 0.6 MPa),
- compressed air systems,
- balneological installations,
- installations in agriculture and gardening,
- industrial pipelines, e.g. for transporting of aggressive media and food substances,
- naval installations.

The scope of applications includes new installations, as well as repairs, modernisations and replacements.

Sanitary systems installation

System **KAN-therm** PP installations, thanks to the special properties of PP-R polypropylene (physiological and microbiological inertness, resistance to corrosion, to scale accumulation, vibration resistance, high thermal insulation of pipes), they are widely used especially in water supply systems, in particular in the installation of risers and horizontal pipes.

This refers to both cold and hot water installations - in residential buildings, hospitals, hotels, office buildings, schools, on ships, etc.

System **KAN-therm** PP installations are indispensable in the replacement of old, corroded water supply installations. Due to the specific technique of connection, thermal polyfusion, i.e. welding, tightness and durability of the installation is guaranteed.

Elements of the system

System **KAN-therm** PP includes the following elements:

- PP-R pipes in the form of straight sections, uniform and compound,
- uniform PP-R fittings,
- „adaptor" couplings with metal threads,
- sleeves for flange connections, pipe joint connections,
- expansion bends, wallplates, ball valves,
- fixing elements,
- tools for cutting, machining and welding.

Pipes

Pipe types

KAN-therm PP System features four pipe types which differ in wall thickness and structure (compound pipes):

- uniform pipes PN 10 (20 -110 mm),
- uniform pipes PN 16 (20 -110 mm),
- uniform pipes PN 20 (16 -110 mm),
- compound pipes PN 16 Stabi Al (20 –75 mm),
- compound pipes PN 20 Stabi Al (16 -110 mm).
- compound pipes PN16 Glass (20-110mm)

Dimension (range) and pressure classification of PP-R pipes

S - pipe dimension series in accordance with ISO 4065
S = (D-s)/2s
SDR - standard dimension ratio
SDR = 2×S+1 = D/s
D - nominal external tube diameter
s - nominal tube wall thickness
PN - pipe pressure range

S	SDR	PN
5	11	10
3,2	7,4	16
2,5	6	20

PN10 pipes (S5/SDR11)						
Dimensions	Ext. diameter D	Wall thick. s	Int. diameter d	Unit volume	Unit mass	
[mm]	[mm]	[mm]	[mm]	[l/m]	[kg/m]	
20 × 1,9	20	1,9	16,2	0,206	0,107	Uniform, thin-walled pipes, for cold water.
25 × 2,3	25	2,3	20,4	0,327	0,164	Diameter range from 20×1,9 to 110×10,0 mm.
32 × 2,9	32	2,9	26,2	0,531	0,267	
40 × 3,7	40	3,7	32,6	0,834	0,412	**Used in installations:** for cold utility water, with the working pressure of 10 bar and calculation temperature of 20°C.
50 × 4,6	50	4,6	40,8	1,307	0,638	
63 × 5,8	63	5,8	51,4	2,075	1,010	
75 × 6,8	75	6,8	61,4	2,941	1,420	4 m sections.
90 × 8,2	90	8,2	73,6	4,254	2,030	
110 × 10,0	110	10,0	90,0	6,362	3,010	

PN16 pipes (S3,2/SDR7,4)						
Dimensions	Ext. diameter D	Wall thick. s	Int. diameter d	Unit volume	Unit mass	
[mm]	[mm]	[mm]	[mm]	[l/m]	[kg/m]	
20 × 2,8	20	2,8	14,4	0,163	0,148	Uniform pipes.
25 × 3,5	25	3,5	18,0	0,254	0,230	Diameter range from 20×2,8 mm to 110×15,1 mm.
32 × 4,4	32	4,4	23,2	0,415	0,370	
40 × 5,5	40	5,5	29,0	0,615	0,575	**Used in installations:** for cold and hot utility water, with the working pressure of 8 bar and calculation temperature of up to 60°C.
50 × 6,9	50	6,9	36,2	1,029	0,896	
63 × 8,6	63	8,6	45,8	1,633	1,410	
75 × 10,3	75	10,3	54,4	2,307	2,010	4 m sections.
90 × 12,3	90	12,3	65,4	3,358	2,870	
110 × 15,1	110	15,1	79,8	4,999	4,300	

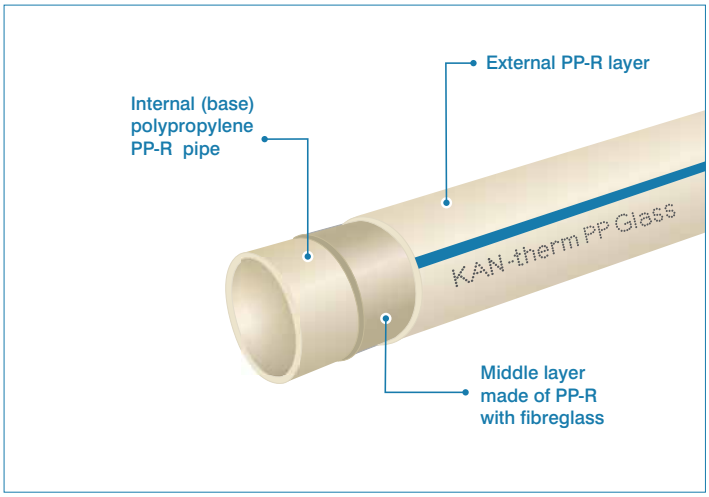
PN20 pipes(S2,5/SDR6)						
Dimensions	Ext. diameter D	Wall thick. s	Int. diameter d	Unit volume	Unit mass	
[mm]	[mm]	[mm]	[mm]	[l/m]	[kg/m]	
16 × 2,7	16	2,7	10,6	0,088	0,110	Uniform, thick-walled, universal pipes.
20 × 3,4	20	3,4	13,2	0,137	0,172	Diameter range from 16×2,7 to 110×18,4 mm.
25 × 4,2	25	4,2	16,6	0,216	0,266	Used in installations: for cold and hot utility water, with the working pressure of 10 bar and calculation temperature of up to 60°C, and in heating systems (6 bar/80°C, tmax=90°C).
32 × 5,4	32	5,4	21,2	0,353	0,434	
40 × 6,7	40	6,7	26,6	0,556	0,671	
50 × 8,3	50	8,3	33,4	0,866	1,050	
63 × 10,5	63	10,5	42,0	1,385	1,650	
75 × 12,5	75	12,5	50,0	1,963	2,340	4 m sections.
90 × 15,0	90	15,0	60,0	2,827	3,360	
110 × 18,3	110	18,3	73,4	4,208	5,040	

PN 16 pipes Stabi Al						
Dimensions	Ext. diameter D	Wall thick. s	Int. diameter d	Unit volume	Unit mass	
[mm]	[mm]	[mm]	[mm]	[l/m]	[kg/m]	
20×2,8	20 (21,7)	2,8	14,4	0,163	0,194	Compound pipes, stabilize, protected by Al foil. Diameter range from 20×2,8 to 75×10,3 mm.
25×3,5	25 (26,7)	3,5	18	0,254	0,292	**Used in installations:** for cold and hot utility water, with the working pressure of 10 bar and calculation temperature of up to 60°C, and in heating systems (6 bar/80°C, tmax=90°C).
32×4,4	32 (33,7)	4,4	23,2	0,415	0,462	
40×5,5	40 (41,6)	5,5	29	0,615	0,682	4 m sections.
50×6,9	50 (51,6)	6,9	36,2	1,029	1,003	
63×8,6	63 (64,5)	8,6	45,8	1,633	1,540	* external outer diameter of the tube with Al foil and protection layer
75×10,3	75 (76,5)	10,3	54,4	2,307	2,590	

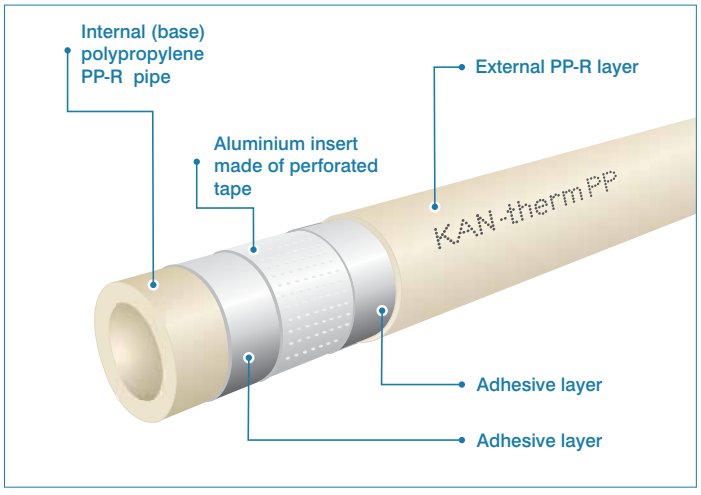
PN 20 pipes Stabi Al						
Dimensions	Ext. diameter D	Wall thick. s	Int. diameter d	Unit volume	Unit mass	Compound, stabilized pipes, reinforced with aluminium film. Diameter range from 16×2,7 to 110×15,1 mm. Used in installations: for hot utility water, with the working pressure of 10 bar and calculation temperature of up to 60°C, and in heating systems (6 bar/80°C, tmax=90°C). 4 m sections. * in brackets: internal diameter of the pipe with Al film and protective layer
[mm]	[mm]	[mm]	[mm]	[l/m]	[kg/m]	
16 × 2,7	16 (17,8)*	2,7	10,6	0,088	0,160	
20 × 3,4	20 (21,8)*	3,4	13,2	0,137	0,218	
25 × 4,2	25 (26,9)*	4,2	16,6	0,216	0,328	
32 × 5,4	32 (33,9)*	5,4	21,2	0,353	0,520	
40 × 6,7	40 (41,9)*	6,7	26,6	0,556	0,770	
50 × 8,3	50 (51,9)*	8,3	33,4	0,866	1,159	
63 × 10,5	63 (64,9)*	10,5	42,0	1,385	1,770	
75 × 12,5	75 (76,9)*	12,5	50,0	1,963	2,780	
90 × 15,0	90 (92)*	15,0	60,0	2,830	3,590	
110 × 18,3	110 (112)*	18,3	73,4	4,210	5,340	

PN 16 pipes Glass						
Dimensions	Ext. diameter D	Wall thick. s	Int. diameter d	Unit volume	Unit mass	Compound, fibreglass reinforced pipes. Diameter range from 20×2,8 to 110×15,1 mm. Used in installations: for hot utility water, with the working pressure of 10 bar and operating temperature of up to 60°C, and in heating systems (6 bar/80°C, tmax=90°C). 4 m sections.
[mm]	[mm]	[mm]	[mm]	[l/m]	[kg/m]	
20 × 2,8	20	2,8	14,4	0,163	0,160	
25 × 3,5	25	3,5	18,0	0,254	0,250	
32 × 4,4	32	4,4	23,2	0,415	0,430	
40 × 5,5	40	5,5	29,0	0,615	0,650	
50 × 6,9	50	6,9	36,2	1,029	1,000	
63 × 8,6	63	8,6	45,8	1,633	1,520	
75 × 10,3	75	10,3	54,4	2,307	2,200	
90 × 12,3	90	12,3	65,4	3,358	3,110	
110 × 15,1	110	15,1	79,8	4,999	4,610	

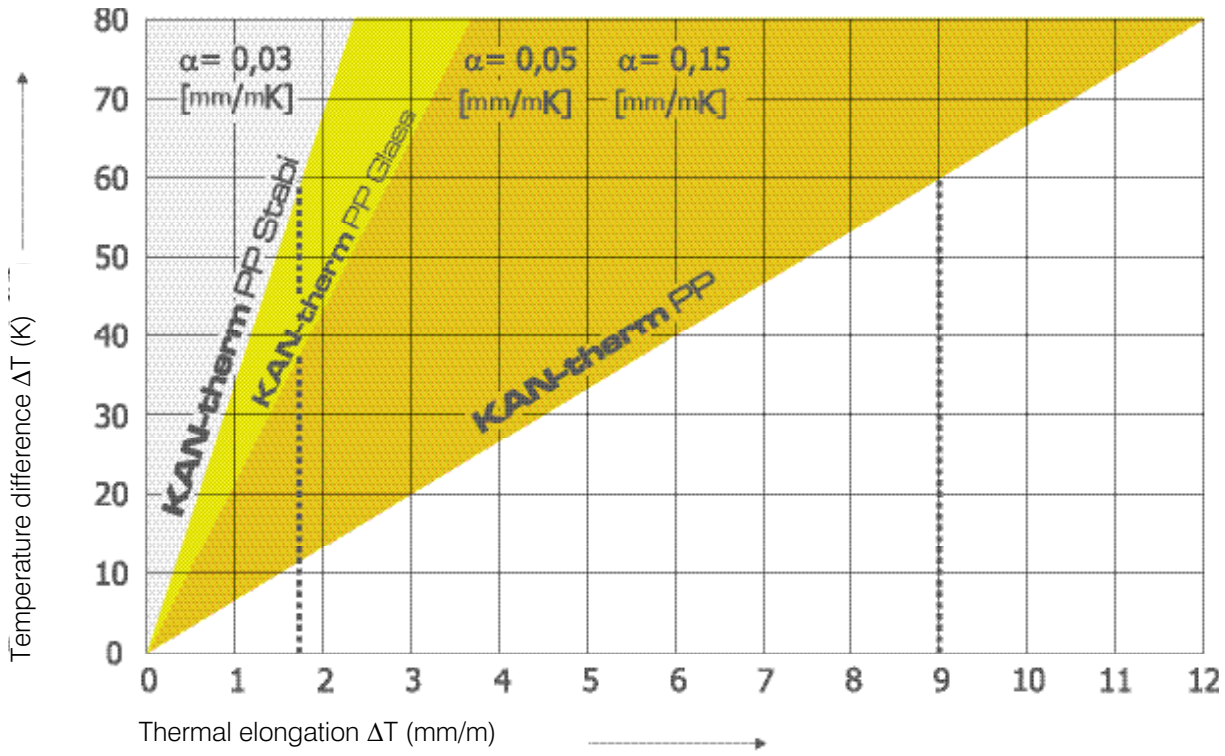
Compound pipes Glass



Compound pipes Stabi



Thermal elongation



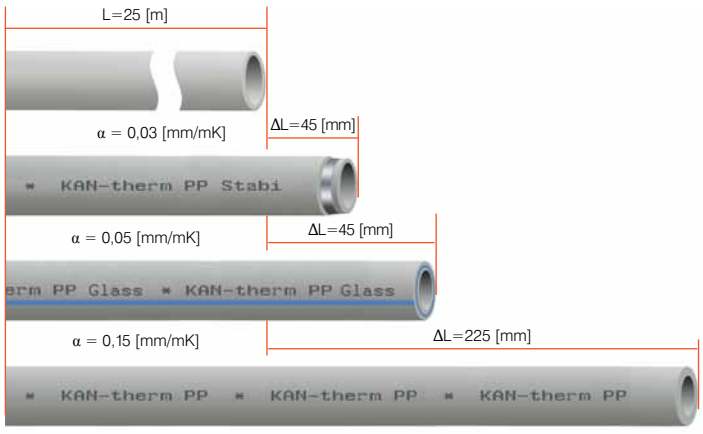
Every pipeline, when exposed to temperature difference ΔT, undergoes elongation (or shortening) by the ΔL value. This amount is calculated with the below formula:

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

α - thermal linear elongation coefficient [mm/mK]
L - pipeline section length [m]
ΔT - temperature difference during installation and use [K]

Example:

Elongation of a 25 m section of a uniform pipe **KAN-therm** PP and a **KAN-therm** PP Stabi pipe and PP Glass pipes with a temperature difference of 60°C.



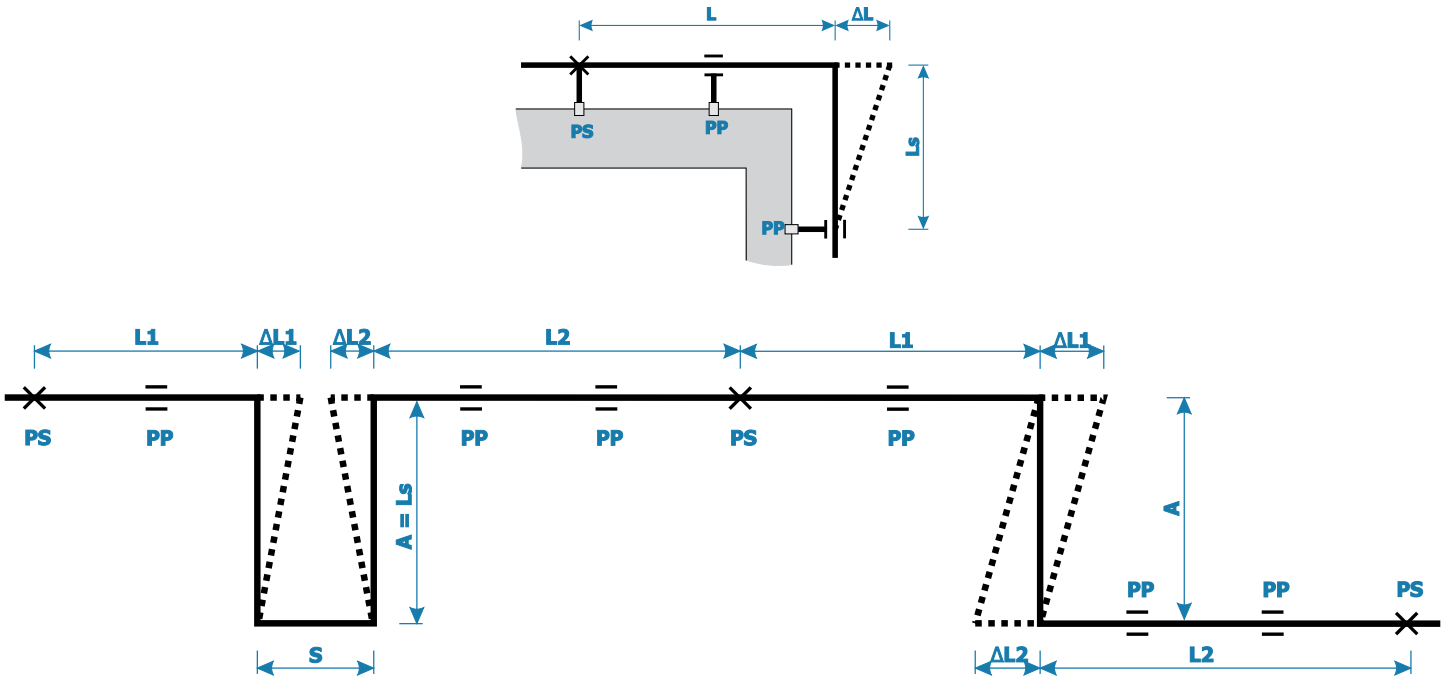
- pipe **KAN-therm** PP Stabi
  ΔL = 0,03×25×60 = 45 [mm]
- pipe **KAN-therm** PP Glass
  ΔL = 0,05×25×60 = 75 [mm]
- pipe **KAN-therm** PP
  ΔL = 0,15×25×60 = 225 [mm]

Compensators

In order to eliminate linear elongation effects (uncontrolled movements of pipelines and their deformation), compensation solutions with different structures are sued (flexible arm, U- and Z-shape compensators).

$$L_s = K \times \sqrt{Dz \times \Delta L}$$

Ls - flexible arm's length [mm]
K - material coefficient = 20
Dz - external diameter of the pipe [mm]
ΔL - elongation of the pipe-line length [mm]


L
ΔL
PS
PP
Ls
PP
L1
ΔL1
ΔL2
L2
L1
ΔL1
PS
PP
PP
PP
PS
PP
A = Ls
A
PP
PP
PS
S
ΔL2
L2


1


2


3


4


5


6

Connection technique

Mechanical preparation

1. Cutting the pipes with shears.
2. Removing of the aluminium foil with a coarse file (only for compound Stabi pipes).
3. Marking of the welding depth.

Welding

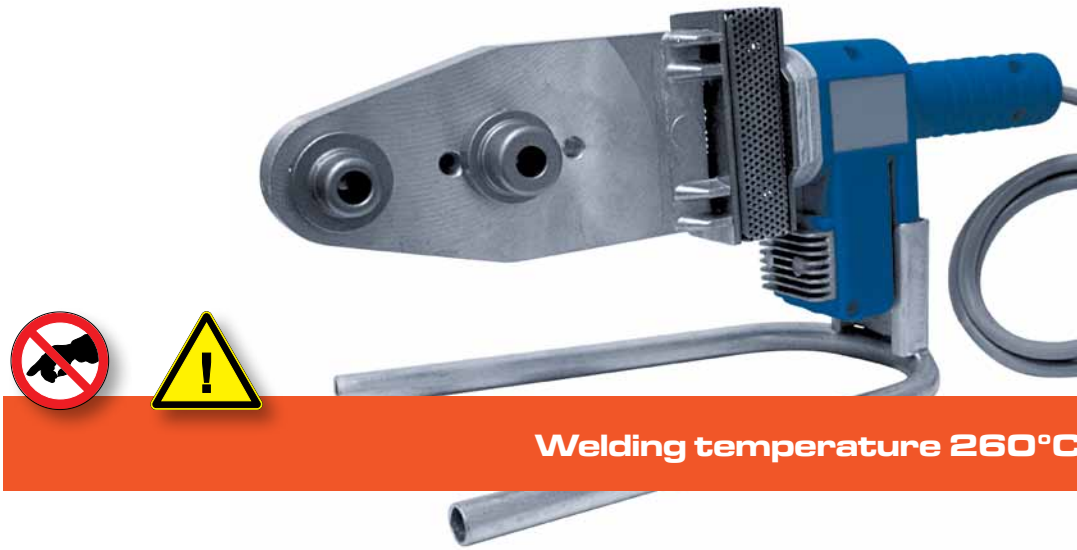
4. Heating of the pipe and the connector. Parameters:
   - welding depth,
   - welding time.

5. Connecting of the elements. Parameters:
   - joining time.

6. Holding and cooling of the joint. Parameters:
   - cooling time.

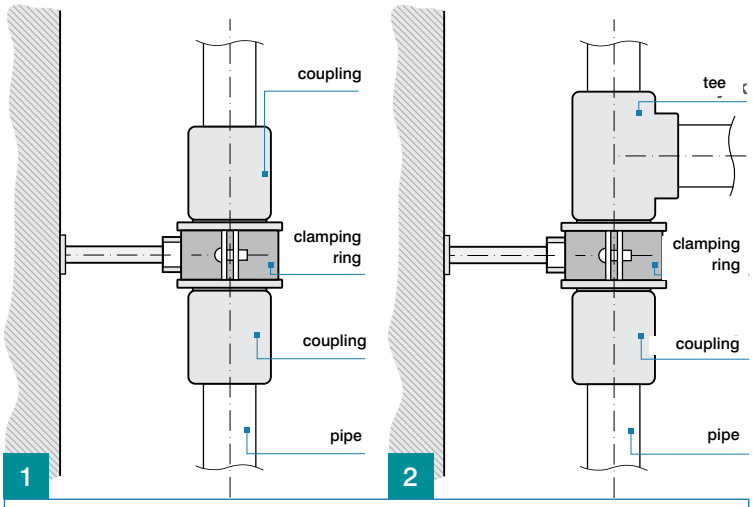
Welding parameters				
Ext. pipe diameter.	Welding depth	Heating time	Joining time	Cooling time
[mm]	[mm]	[sek.]	[sek.]	[min.]
16	13,0	5	4	2
20	14,0	5	4	2
25	15,0	7	4	2
32	16,0	8	6	4
40	18,0	12	6	4
50	20,0	18	6	4
63	24,0	24	8	6
75	26,0	30	10	8
90	29,0	40	10	8
110	32,5	50	10	8

The heating time of thin-walled pipes (PN 10) **is reduced by half** (the heating time for fittings remains unchanged). The heating time at external temperatures below +5°C should be increased by 50%.



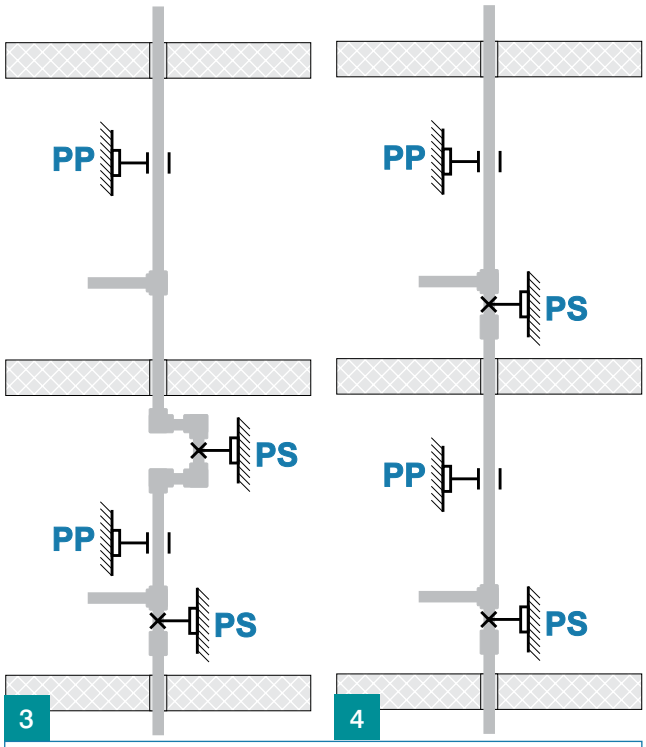
Welding temperature 260°C

Installation procedures



Fixed installation points - installation examples (Fig. 1 and 2)

Installation made of pipes:
KAN-therm PP System PN16, PN20



Examples of installation of hot water risers depending on pipe types (Fig. 3 and 4)

Installation made of pipes:
KAN-therm PP Stabi System
PP - slidable point
PS - fixed point

T [°C]	External pipe diameter D [mm]									
	16	20	25	32	40	50	63	75	90	110
	Distance between fixing points [cm]									
20	50	60	70	90	100	120	140	150	160	180
30	50	60	70	90	100	120	140	150	160	180
40	50	60	65	80	90	110	130	140	150	170
50	50	60	65	80	90	110	130	140	150	170
60	50	55	60	75	85	100	115	125	140	160
70	50	50	60	70	80	95	105	115	125	140

Maximum distances between supports for **KAN-therm** PP System uniform pipes

depending on the diameter and medium temperature.

For vertical pipeline sections, the distance between the supports can be increased byabout 30%.

T [°C]	External pipe diameter D [mm]									
	16	20	25	32	40	50	63	75	90	110
	Distance between fixing points [cm]									
20	100	120	130	150	170	190	210	220	230	250
30	100	120	130	150	170	190	210	220	230	240
40	100	110	120	140	160	180	200	210	220	230
50	100	110	120	140	160	180	200	210	220	210
60	80	100	110	130	150	170	190	200	210	200
70	70	90	100	120	140	160	180	190	200	200

Maximum distances between supports for **KAN-therm** Stabi Al System pipes

depending on the diameter and medium temperature.

For vertical pipeline sections, the distance between the supports can be increased by about 30%.

Temperature difference	External pipe diameter D [mm]								
	20	25	32	40	50	63	75	90	110
0	120	140	160	180	205	230	245	260	290
20	90	105	120	135	155	175	185	195	215
30	90	105	120	135	155	175	185	195	210
40	85	95	110	125	145	165	175	185	200
50	85	95	110	125	145	165	175	185	190
60	80	90	105	120	135	155	165	175	180
70	70	80	95	110	130	145	155	165	170

Maximum distances between supports for **KAN-therm** System PP Glass pipes depending on the diameter and medium temperature.

For vertical pipeline sections, the distance between the supports can be increased by about 30%.

Tools - safety

**All tools must be applied and used in accordance with their purpose and the manufacturer's instructions.
Use for other purposes or in other areas are considered to be inconsistent with the intended use.
Intended use also requires compliance with the instructions, conditions of inspection and maintenance and relevant safety regulations in their current version.
All works done with tools, which do not meet the application compatible with the intended purpose may result in damage to tools, accessories and pipes.
The consequence may be the leak and / or damage**

KAN-therm pipe PN10

Size D	kg/m	Straight length/ Pcs. in one box [m]	Code
20×1,9	0,107	4/200	04000120
25×2,3	0,164	4/160	04000125
32×2,9	0,267	4/80	04000132
40×3,7	0,412	4/60	04000140
50×4,6	0,638	4/40	04000150
63×5,8	1,01	4/24	04000163
75×6,8	1,42	4/20	04000175
90×8,2	2,03	4/12	04000190
110×10,0	3,01	4/4	04000111

KAN-therm pipe PN16

Size D	kg/m	Straight length/ Pcs. in one box [m]	Code
20×2,8	0,148	4/160	04000220
25×3,5	0,230	4/100	04000225
32×4,4	0,376	4/60	04000232
40×5,5	0,583	4/40	04000240
50×6,9	0,894	4/28	04000250
63×8,6	1,42	4/16	04000263
75×10,3	2,02	4/12	04000275
90×12,3	2,91	4/8	04000290
110×15,1	4,32	4/4	04000211

KAN-therm pipe PN20

Size D	kg/m	Straight length/ Pcs. in one box [m]	Code
16×2,7	0,110	4/200	04000316
20×3,4	0,172	4/160	04000320
25×4,2	0,266	4/100	04000325
32×5,4	0,434	4/60	04000332
40×6,7	0,671	4/40	04000340
50×8,3	1,05	4/28	04000350
63×10,5	1,65	4/16	04000363
75×12,5	2,34	4/12	04000375
90×15,0	3,36	4/8	04000390
110×18,3	5,34	4/4	04000311

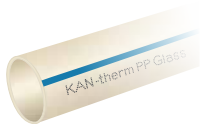
KAN-therm pipe PN16 Stabi Al

Size D	kg/m	Straight length/ Pcs. in one box [m]	Code
20×2,8	0,237	4/100	03800020
25×3,5	0,344	4/80	03800025
32×4,4	0,516	4/40	03800032
40×5,5	0,774	4/28	03800040
50×6,9	1,167	4/20	03800050
63×8,6	1,755	4/12	03800063
75×10,3	2,472	4/8	03800075

KAN-therm pipe PN20 Stabi Al

Size D	kg/m	Straight length/ Pcs. in one box [m]	Code
16×2,7	0,160	4/160	03900016
20×3,4	0,218	4/100	03900020
25×4,2	0,328	4/80	03900025
32×5,4	0,520	4/40	03900032
40×6,7	0,770	4/28	03900040
50×8,3	1,159	4/20	03900050
63×10,5	1,770	4/12	03900063
75×12,5	2,510	4/8	03900075
90×15,0	3,240	4/4	03900090
110×18,3	4,885	4/4	03900011

KAN-therm pipe PN16 Glass



Size D	kg/m	Straight length/ Pcs. in one box [m]	Code
20×2,8	0,160	4/100	03810020
25×3,5	0,250	4/80	03810025
32×4,4	0,430	4/40	03810032
40×5,5	0,650	4/28	03810040
50×6,9	1,000	4/20	03810050
63×8,6	1,520	4/12	03810063
* 75×10,3	2,200	4/8	03810075
* 90×12,3	3,110	4/8	03810090
* 110×15,1	4,610	4/4	03810011

KAN-therm loop compensation

Size D	Straight length/ Pcs. in one box [m]	Code
16	20	04101016
20	20	04101020
25	15	04101025
32	10	04101032

KAN-therm crossover

Size D	Pcs./packing	Code
16	200	04102016
20	150	04102020
25	100	04102025
32	60	04102032

KAN-therm straight coupling

Size D	Pcs./packing	Code
16	80/1360	04103016
20	100/700	04103020
25	50/550	04103025
32	40/280	04103032
40	30/180	04103040
50	-/110	04103050
63	-/60	04103063
75	-/45	04103075
90	-/24	04103090
110	-/16	04103011

KAN-therm reducer

Size D	d	Pcs./packing	Code
20	16	100/1200	04108020
25	16	50/1100	04108025
25	20	100/900	04108026
32	20	80/640	04108032
32	25	80/560	04108033
40	20	50/400	04108040
40	25	50/350	04108041
40	32	50/300	04108042
50	32	30/180	04108050
50	40	30/150	04108051
63	32	-/100	04108063
63	40	-/100	04108064
63	50	-/100	04108065
75	50	-/80	04108075
75	63	-/50	04108076
90	50	-/48	04108090
90	63	-/45	04108091
90	75	-/40	04108092
110	90	-/27	04108011

*avaible soon

KAN-therm straight female connector

Size D	Rp	Pcs./packing	Code
16	½"	20/200	04103116
20	½"	20/180	04103120
20	¾"	30/150	04103121
25	½"	20/160	04103125
25	¾"	30/150	04103126

KAN-therm straight female connector

Size D	Rp	Pcs./packing	Code
32	1"	100	04103132
40	1¼"	60	04103140
50	1½"	35	04103150
63	2"	18	04103163
75	2½"	12	04103175
90	3"	8	04103190

Caution:
spanner can be used within the element

KAN-therm straight male connector

Size D	R	Pcs./packing	Code
16	½"	20/160	04103216
20	½"	20/160	04103220
20	¾"	30/120	04103221
25	½"	20/140	04103225
25	¾"	30/120	04103226

KAN-therm straight male connector

Size D	R	Pcs./packing	Code
32	1"	80	04103232
40	1¼"	50	04103240
50	1½"	36	04103250
63	2"	18	04103263
75	2½"	10	04103275
90	3"	6	04103290

Caution:
spanner can be used within the element

KAN-therm elbow 90°

Size D	Pcs./packing	Code
16	50/900	04104016
20	100/500	04104020
25	50/350	04104025
32	20/200	04104032
40	20/120	04104040
50	60	04104050
63	32	04104063
75	20	04104075
90	12	04104090
110	8	04104011

KAN-therm nipple elbow 90°

Size D	Pcs./packing	Code
16	50/1000	04104216
20	100/600	04104220
25	50/400	04104225

KAN-therm elbow 45°

Size D	Pcs./packing	Code
16	50/950	04104316
20	100/700	04104320
25	50/400	04104325
32	40/200	04104332
40	20/140	04104340
50	-/80	04104350
63	-/40	04104363
75	-/25	04104375
90	-/14	04104390

KAN-therm nipple elbow 45°

Size D	Pcs./packing	Code
16	50/1050	04104116
20	100/700	04104120
25	50/450	04104125

** on request

KAN-therm wallplate elbow

Size D	Rp	Pcs./packing	Code
16	½"	20/140	04104416
20	½"	20/140	04104420
25	½"	20/120	04104425

KAN-therm male elbow 90°

Size D	R	Pcs./packing	Code
16	½"	20/140	04104516
20	½"	30/90	04104520
20	¾"	30/90	04104521
25	½"	20/120	04104525
25	¾"	30/90	04104526
32	¾"	30/60	04104532

KAN-therm elbow with female thread

Size D	Rp	Pcs./packing	Code
16	½"	20/180	04104616
20	½"	20/140	04104620
20	¾"	30/120	04104621
25	½"	30/120	04104625
25	¾"	30/120	04104626
32	¾"	30/90	04104632

KAN-therm reducing tee

Size d1	d2	Pcs./packing	Code
20	16	20/380	04105020
25	16	20/260	04105025
25	20	20/240	04105026
32	16	20/140	04105032
32	20	20/140	04105033
32	25	20/140	04105034
40	20	20/80	04105040
40	25	15/90	04105041
40	32	-/90	04105042
50	20	-/60	04105050
50	25	-/65	04105051
50	32	-/60	04105052
50	40	-/50	04105053
63	32	-/30	04105063
63	40	-/22	04105064
63	50	-/22	04105065
75	40	-/17	04105075
90	50	-/12	04105090
90	63	-/10	04105091
90	75	-/12	04105092

KAN-therm tee

Size D	Pcs./packing	Code
16	40/640	04105116
20	80/400	04105120
25	20/240	04105125
32	20/140	04105132
40	15/75	04105140
50	-/50	04105150
63	-/24	04105163
75	-/15	04105175
90	-/10	04105190
110	-/8	04105111

KAN-therm corner tee

Size D	Pcs./packing	Code
20	40/360	04105416

KAN-therm four way fitting

Size D	Pcs./packing	Code
16	80/480	04106016
20	40/320	04106020

KAN-therm tee with male thread

Size D	R	Pcs./packing	Code
20	½”	20/120	04105316

KAN-therm tee with female thread

Size D	Rp	Pcs./packing	Code
16	½"	20/140	04105216
20	½"	20/120	04105220
20	¾"	30/90	04105221
25	½"	20/180	04105225
25	¾"	30/180	04105226
32	¾"	15/60	04105232

KAN-therm straight union with gasket

Side D	G	Pcs./packing	Code
20	¾”	20/200	04107020

KAN-therm half union

Side D	Rp	Pcs./packing	Code
16	¾"	50/300	04107116
20	¾"	50/400	04107120
25	1”	20/100	04107125

KAN-therm straight union

Side D	R	Pcs./packing	Code
16	½"	20/200	04107216
20	½"	20/200	04107220
20	¾"	20/200	04107221
25	¾"	20/100	04107225
25	1”	20/100	04107226

KAN-therm flange 110

Version	Pcs./packing	Code
without groove (K)	20	04109011
with groove (K)	20	04109012

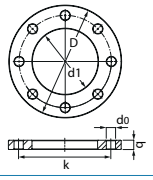
Caution:
suitable for flanges acc. to PN16 wg PN-EN 1092-1:2010

KAN-therm steel flange PN16

NEW

size	Dn	holes	Pcs./packing	Code
110	100/110	8	1	04109014

D: 220
d1: 128
b: 18
k: 180
d0: 18



** on request

KAN-therm stop end

Size D	Pcs./packing	Code
16	100/1000	04110016
20	200/1000	04110020
25	100/700	04110025
32	50/500	04110032
40	50/250	04110040
50	-/170	04110050
63	-/80	04110063
75	-/50	04110075
90	-/30	04110090
110	-/20	04110011

KAN-therm ball valve

Size	Pcs./packing	Code
20	10/90	04111220
25	10/50	04111225
32	5/25	04111232
40	5/15	04111240
50	2/10	04111250
63	2/8	04111263
75	1/5	04111275

KAN-therm pipe clamp

Size	Pcs./packing	Code
16	20/1000	04111016
20	20/800	04111020
25	20/700	04111025
32	20/440	04111032
40	20/300	04111040
50	20/240	04111050
63	20/120	04111063
75	20/100	04111075
90	-/60	04111090

Notice: Use only for uniform pipes.
For Stabi pipes use clamps with rubber insert.

KAN-therm single pipe clamp with rubber dumper - double-sided lock with metric thread

Size (d) [mm]	Pcs./packing	Code
15-18	100	UP-G16
20-23	100	UP-G20
25-28	100	UP-G25
32-36	50	UP-G32
40-44	50	UP-G40
47-52	50	UP-G50
57-63	50	UP-G63
75	25	UP-G75
** 90	25	UP-G90
** 110	25	UP-G110

Single pipe clamp with rubber dumper contains the closing screws and extension anchor.

KAN-therm double pipe clamp with ruber dumper - double-sided lock with metric thread

Size (d) [mm]	Pcs./packing	Code
16	50	UD-G16
20	50	UD-G20
25	50	UD-G25
32	50	UD-G32

Double pipe clamp with rubber dumper contains the closing screws and extension anchor.

KAN-therm plastic mounting plate

Size D	Pcs./packing	Code
16-40	30/150	04111000

KAN-therm coarse file for Stabi Al pipe

Size	Code
16/20	04212016
20/25	04212020
25/32	04212025
32/40	04212032
50	04212050
63	04212063
75	04212075
90	04212090
110	04212011

KAN-therm coarse file blade

**	any	04210000

KAN-therm pipe cutters

Size	Code
cutter 16-40 mm	04212200

KAN-therm roll-cutters

Size	Code
roll-cutters for PP pipes 50-110 mm	04212201

KAN-therm welding machine

Size, power	Code
16-50 mm, 800 W	04212100
63-110 mm, 1600 W	04212101

Notice: Every set includes: electric welding machine, welding machine's stand, metal box, set of inserts (depending on the diameter)..

KAN-therm long mounting screw for welding machine - servis element

**	04212104

KAN-therm welder inserts

Size	Code
16	04212316
20	04212320
25	04212325
32	04212332
40	04212340
50	04212350
63	04212363
75	04212375
90	04212390
110	04212311

** on request

SYSTEM
KAN-therm

SYSTEM **KAN-therm** – manifolds, cabinets and supplementary elements

ISO 9001

TECHNOLOGY
OF SUCCESS

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KAN-therm nipple

Size	Pcs. in one bag/box	Code
G½"	20/300	6032.22
G½"*	20/300	6032.22C
G¾"	10/150	6033.22
G1"	10/100	6034.22

*nickel-plated nipple

Nipples are special designed for connection to unions of pipes PE-Xc and PE-RT, PE-RT/Al/PE-HD and PE-RT/Al/PE-RT and nuts for copper pipes).

KAN-therm nipple reducer

Size	Pcs. in one bag/box	Code
G½"×G⅜"	20/300	702
G¾"×G½"	10/150	6033.42
G1"×G¾"	10/100	6034.42

Nipples are special designed for connection to unions of pipes PE-Xc and PE-RT, PE-RT/Al/PE-HD and PE-RT/Al/PE-RT and nuts for copper pipes.

KAN-therm male elbow

Size	Pcs. in one bag/box	Code
G½"	20/200	9012.20
G¾"	10/120	9012.22

It can be used with eurocone adapter for pipes PE-RT and PE-Xc or PE-RT/Al/PE-HD and PE-RT/Al/PE-RT.

KAN-therm male-female elbow

Size	Pcs. in one bag/box	Code
G½"	10/150	9012.24
G¾"	10/80	9012.26
G1"	5/50	9012.28

It can be used with eurocone adapter for pipes PE-RT and PE-Xc or PE-RT/Al/PE-HD and PE-RT/Al/PE-RT.
Don't join them with conical external thread (e.g. R½'').

KAN-therm male tee

Size	Pcs. in one bag/box	Code		
G½"	10/120	9012.30	7,41	A
G¾"	5/70	9012.32	12,51	A
G1"	5/40	9012.34	20,71	A

It can be used with eurocone adapter for pipes PE-RT and PE-Xc or PE-RT/Al/PE-HD and PE-RT/Al/PE-RT

** on request

KAN-therm male - female - male tee

Size	Pcs. in one bag/box	Code
G¾"×G½"×G¾"	5/70	9012.36
G1"×G½"×G1"	5/40	9012.38
G1"×G¾"×G1"	5/40	9012.40

Caution:
It can be used with eurocone adapter for pipes PE-RT and PE-Xc or PE-RT/Al/PE-HD and PE-RT/Al/PE-RT.
Don't join them with conical external thread (e.g. R½'').

KAN-therm brass adaptor female - male thread

Size	Pcs. in one bag/box	Code
G1"×G¾"	5/60	9032.02

KAN-therm elbow male-female, directly fixed, with short plastic plug

Size	Pcs. in one bag/box	Code
G1"×G¾"	5/60	9017.160

It can be used with eurocone adapter for pipes PE-RT and PE-Xc or PE-RT/Al/PE-HD and PE-RT/Al/PE-RT.
Don't join them with conical external thread (e.g. R½'').
Wallplate angle tee is sold with fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently

KAN-therm wallplate elbow, with short plastic plug

Size	Pcs. in one bag/box	Code
G½"	5/70	9017.180

It can be used with eurocone adapter for pipes PE-RT and PE-Xc or PE-RT/Al/PE-HD and PE-RT/Al/PE-RT.
Don't join them with conical external thread (e.g. R½'').
Wallplate angle tee is sold with fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.

KAN-therm wallplate straight tee, with short plastic plug

Size	Pcs. in one bag/box	Code
G½"	5/60	9017.200

It can be used with eurocone adapter for pipes PE-RT and PE-Xc or PE-RT/Al/PE-HD and PE-RT/Al/PE-RT.
Don't join them with conical external thread (e.g. R½'').
Wallplate angle tee is sold with fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.

KAN-therm wallplate angle tee, with short plastic plug

Size	Pcs. in one bag/box	Code
G½"	5/60	9017.220

Caution:
It can be used with eurocone adapter for pipes PE-RT and PE-Xc or PE-RT/Al/PE-HD and PE-RT/Al/PE-RT.
Don't join them with conical external thread (e.g. R½'').
Wallplate angle tee is sold with fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.

KAN-therm plastic plug for pressure test - short - service part

Size	Pcs. in one bag/box	Code
G½"	20/300	6095.33

Caution:
It may be repeatedly use (has O-Ring seal) and should be used for all **KAN-therm** wallplate elbows and wallplate tees.
Plastic short plug is used only to make the pressure test and it cannot be use to blank off the installation permanently.

KAN-therm mounting bolt - service part

Size	Pcs. in one bag/box	Code
	100/2000	K-505100

Caution:
Use for wallplate elbow and tee to fix to the mounting plate.

KAN-therm wall male elbow for radiator connection with dia 15 copper pipe, nickel plated

Size	Pcs. in one bag/box	Code
G¾" (MN) L = ~220	20	9016.22
G½" (MN) L = ~100	70	4400.30

(MN) - brass fitting, nickel plated

On request. It can be used with eurocone adapter, adapter for pipes PE-RT and PE-Xc, PE-RT/Al/PE-HD or PE-RT/Al/PE-RT. All types of the possible connections of the **KAN-therm** fittings with dia 15 copper pipes nickel plated with all types of the sanitary fittings are described in the technical part of the catalogue of products – " Assembling the screw fittings"..

** on request

KAN-therm eurocone adapter for copper pipe G¾”

Size	Pcs. in one bag/box	Code
Ø15 G¾”	15/150	9023.08

It can be used for male screw fittings and compact valves.

KAN-therm eurocone adapter for copper pipe G½”

Size	Pcs. in one bag/box	Code
Ø15 G½”	20/300	K-609010

It can be used for nipples and male screw fittings.

KAN-therm compression set for copper pipe Ø15

Size	Pcs. in one bag/box	Code
G½”	20/300	729202W

Compression coupling works with **KAN** fittings, thermostatic valves of Honeywell, Herz, Heimeier, Danfoss and also with screw fittings with female thread 2 G½”.

KAN-therm straight female nipple body, nickel plated

Size	Pcs. in one bag/box	Code
G½”×G½”	20/300	9001.35

Use with compression set for connection the copper pipe to the female body of thermostatic valves or female VK radiator connection. Don’t join them with conical external thread (e.g. R½”).

KAN-therm single and double cap for copper pipe Cu Ø15

Size	Pcs. in one bag/box	Code
** Ø15	10/150	9016.34
** Ø15 (fixed)	2/50	9016.35

On request:
1. Caps for pessure tests (for tee or elbow for radiator connection with dia 15 copper pipe) - may be repeatedly use.
2. Double cap can be used if distance between connections is 50 mm, e.g. for VK radiators.
3. It may be repeatedly use.

** on request

KAN-therm straight male/female union connector

Size	Pcs. in one bag/box	Code
G⅜"	100	4911.00
G½"	100	4912.00
G¾"	60	4913.00
G1"	30	4914.00

Male fitting with conical external thread. Not to connect with female system fittings.

KAN-therm elbow male/female union connector

Size	Pcs. in one bag/box	Code
G½"	70	4917.00
G¾"	40	4918.00
G1"	25	4919.00

Male fitting with conical external thread. Not to connect with female system fittings.

KAN-therm female elbow

Size	Pcs. in one bag/box	Code
G½"	10/100	9001.88
G¾"	5/50	9001.87
G1"	-/50	4930.00
** G1¼"	-/20	4931.00

Don't join them with conical external thread (e.g. R½'').

KAN-therm female tee

Size	Pcs. in one bag/box	Code
G½"	5/70	9001.85
G¾"	5/50	9001.84
G1"	-/30	4932.00
** G1¼"	-/20	4933.00

Don't join them with conical external thread (e.g. R½'').

** on request

KAN-therm female coupling

Size	Pcs. in one bag/box	Code
G½"	20/200	90N
G¾"	10/120	91N
G1"	10/80	4950.00
** G1¼"	5/50	4951.00

Caution:
Don't join them with conical external thread (e.g. R½'').

KAN-therm female, reducing coupling

Size	Pcs. in one bag/box	Code
G¾"×G½"	10/120	9850

Caution:
Don't join them with conical external thread (e.g. R½'').

KAN-therm male-female extension

Size	Pcs. in one bag/box	Code
G½" short	10/150	0200.12
G½" long	10/100	0200.12d
** G¾" short	10/100	6038.32

Caution:
Short extension: 30 mm, long extension: 45 mm.
Don't join them with conical external thread (e.g. R½'').

KAN-therm reducer

Size	Pcs. in one bag/box	Code
G½"×G⅜"	20/400	6036.52
G½"×G¼"	20/400	22
G¾"×G½"	20/200	6037.52
G1"×G¾"	10/120	6038.52
G1"×G½"	10/200	4940.00
** G1¼"×G¾"	10/100	4941.00
** G1¼"×G1"	10/100	4942.00

Caution:
Don't join them with conical external thread (e.g. R½'')

** on request

KAN-therm female cap

Size	Pcs. in one bag/box	Code
G½"	20/500	6095.22
** G¾"	20/300	6095.23
** G1"	10/150	6095.24

KAN-therm female wallplate elbow, with short plastic plug

Size	Pcs. in one bag/box	Code
G½"	5/70	9017.100

Caution:
To fix the wallplate elbow to the wall use the mountig plates. Don't join them with conical external thread (e.g. R½").
To apply to water installations (possibility to fix to the wall with mounting plates). Battery connections can be used in central heating systems in connections of a radiator with wall outputs (by pipes in a wall chase) by angle valve. Don't connect them with conical external threads (e.g. R½).
Female wallplate elbow is sold with fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.

KAN-therm male-female wallplate elbow, directly fixed, with short plastic plug

Size	Pcs. in one bag/box	Code
G½"	5/60	9017.120

Caution:
For wall mounting using expansion anchors. Don't join them with conical external thread (e.g. R½").
Montage directly on the wall using special stud. It is not allowed to connect brass fittings with female pipe cylindrical thread (e.g. G½") with non-system elements with male pipe conical thread (e.g. R½").
Male-female wallplate elbow, directly fixed is sold with fixing bolt and short plastic plug in a set.
Plastic short plug is used to make a pressure test only and it shouldn't be used to blank off the installation permanently.

KAN-therm plastic plug for pressure test - short - service part

Size	Pcs. in one bag/box	Code
G½"	20/300	6095.33

Caution:
It may be repeatedly use (has O-Ring seal) and should be used for all **KAN-therm** wallplate elbows and wallplate tees.
Plastic short plug is used only to make the pressure test and it cannot be use to blank off the installation permanently.

KAN-therm mounting bolt - service part

	Pcs. in one bag/box.	Code
	100/2000	K-505100

Use for wallplate elbow and tee to fix to the mounting plate.

** on request

KAN-therm 1” manifold type 81 without accessor

Number of heating circuits	Dimensions (H×W×D)	Code
2	326×100×80	81020
3	326×150×80	81030
4	326×200×80	81040
5	326×250×80	81050
6	326×300×80	81060
7	326×350×80	81070
8	326×400×80	81080
9	326×450×80	81090
10	326×500×80	81100
** 11	326×550×80	81110
** 12	326×600×80	81120

Manifold outputs with internal thread G½'' and 50mm distance between each one.

KAN-therm 1” manifold type 61 with eurocone nipples

Number of heating circuits	Dimensions (H×W×D)	Code
2	326×100×80	61020
3	326×150×80	61030
4	326×200×80	61040
5	326×250×80	61050
6	326×300×80	61060
7	326×350×80	61070
8	326×400×80	61080
9	326×450×80	61090
10	326×500×80	61100
** 11	326×550×80	61110
** 12	326×600×80	61120

Manifold mate with eurocone adapters G¾''. Manifold output has a 50mm distance between each one.

KAN-therm 1” manifold type 74 with open-close valve

Number of heating circuits	Dimensions (H×W×D)	Code
2	326×100×80	74020
3	326×150×80	74030
4	326×200×80	74040
5	326×250×80	74050
6	326×300×80	74060
7	326×350×80	74070
8	326×400×80	74080
9	326×450×80	74090
10	326×500×80	74100
** 11	326×550×80	74110
** 12	326×600×80	74120

Open-close valves bulit in the lower and upper body of manifold, it's possible to close every circuit.
Manifold mate with eurocone adapters G¾''. Manifold output has a 50mm distance between each one.

** on request

KAN-therm steel manifold 1¼" for central heating (series 10)

NEW

Number of heating circuits	Dimensions (H×W×D)	Code
2	325×136×90	S10020
3	325×186×90	S10030
4	325×236×90	S10040
5	325×286×90	S10050
6	325×336×90	S10060
7	325×386×90	S10070
8	325×436×90	S10080
9	325×486×90	S10090
10	325×536×90	S10100
11	325×586×90	S10110
12	325×636×90	S10120

Caution:
Manifold is suitable only for closed, presurised heating systems. Beams with female thread G1".
Circuits with female thread G½" with 50 mm spacing.

KAN-therm steel manifold 1¼" for central heating with nipples (series 20)

NEW

Number of heating circuits	Dimensions (H×W×D)	Code
2	325×136×90	S20020
3	325×186×90	S20030
4	325×236×90	S20040
5	325×286×90	S20050
6	325×336×90	S20060
7	325×386×90	S20070
8	325×436×90	S20080
9	325×486×90	S20090
10	325×536×90	S20100
11	325×586×90	S20110
12	325×636×90	S20120

Caution:
Manifold is suitable only for closed, presurised heating systems. Beams with female thread G1".
Manifold mate with eurocone adapters G¾". Manifold output has a 50mm distance between each one.

KAN-therm 1¼" manifold type 91 with eurocone nipples

Number of heating circuits	Dimensions (H×W×D)	Code
** 2	297×117×80	91020
** 3	297×167×80	91030
** 4	297×217×80	91040
** 5	297×267×80	91050
** 6	297×317×80	91060
** 7	297×367×80	91070
** 8	297×417×80	91080
** 9	297×467×80	91090
** 10	297×517×80	91100
** 11	297×567×80	91110
** 12	297×617×80	91120

Manifold type 91 union connector 1¼"×1" code 91000 or 1¼"×¾" code 91001 should be used.
Manifold mate with eurocone adapters G¾". Manifold output has a 50mm distance between each one.

** on request

KAN-therm manifold type 91 union connector

Size	Pcs. in one bag/box	Code
** 1¼"×1"	10/60	91000
** 1¼"×¾"	10/70	91001

Use half-union connectror for manifold 91 series.

KAN-therm 1" manifold body for utility water systems (type 1) with air vent hole

Size		Pcs. in one bag/box	Code
** 2	100	1/10	1.02
** 3	150	1/10	1.03
** 4	200	1/10	1.04
** 5	250	1/10	1.05
** 6	300	1/10	1.06
** 7	350	1/10	1.07
** 8	400	1/10	1.08
** 9	450	1/10	1.09
** 10	500	1/10	1.10
** 11	550	1/10	1.11
** 12	600	1/10	1.12

It has outputs for individual circuits with female thread G½'', manifold inputs G1", hole in upper part for automatic air vent.
Manifold outputs has a 50 mm distance between each one.

KAN-therm 1" manifold body for utility water systems (type 2) without air vent hole

Number of heating circuits	Dimensions	Pcs./packing	Code
** 2	100	1/10	2.02
** 3	150	1/10	2.03
** 4	200	1/10	2.04
** 5	250	1/10	2.05
** 6	300	1/10	2.06
** 7	350	1/10	2.07
** 8	400	1/10	2.08
** 9	450	1/10	2.09
** 10	500	1/10	2.10
** 11	550	1/10	2.11
** 12	600	1/10	2.12

It has outputs for individual circuits with female thread G½'', manifold inputs G1".
Manifold outputs has a 50 mm distance between each one.

KAN-therm bracket for manifold

Pcs./packing	Code
**	50	5309

** on request

KAN-therm nipple for manifold with O-Ring

Size	Pcs. in one bag/box	Code
G¾"×G½"	20/200	P06
G¾"×G½"	20/200	P09
G½"×G½"	20/300	P10

Nipple P05 used with eurocone adapters G¾".
Nipple P06 used with eurocone adapters G¾".
Nipple P10 used with eurocone adapters G½".

KAN-therm reducer

Size	Pcs./packing	Code
G1"×G½"	10/120	4.12
G1"×G¾"	10/120	4.13

Caution:
It contains O-Ring, code U28.

KAN-therm new male plug with hex socket

Size	Pcs. in one bag/box	Code
G½"	20/300	6095.34

It contains O-Ring.

KAN-therm male plug

Size	Pcs./packing	Code
** G½"	20/300	6095.35
** G¾"	20/300	6095.32
G1"	10/150	6095.43

Code 6095.32, 6095.43 contains O-Ring, code U28; others without O-Ring.

KAN-therm O-Ring - service part

Size	Pcs./packing	Code
** 18,3×2,4	100	U18
** 17×2	100	U17
** 24×2	100	U24
** 28×3	100	U28

Use O-Ring, code U18 for manifold nipples, code P06 and P10.
Use O-Ring, code U17 for plug, code 6095.34.
Use O-Ring, code U24 for plug, code 6095.32.
Use O-Ring, code U28 for plug, code 6095.43 and female nipple 4.12 and 4.13

** on request

KAN-therm coupling for manifolds

Size	Pcs. in one bag/box	Code
G1”	10/100	R543

For manifold to extend it by one more circuit.

KAN-therm male-female terminal with special seal

Size	Pcs. in one bag/box	Code
G1”×G½”×G½”	5/70	R542

For manifold to extend it by one more circuit.

KAN-therm valve set, straight

Size	Sets in one bag/box	Code
G1”×G1”	1/20	K-600400

Set of valves with screw connection for manifolds of **KAN-therm** System fixed on a 1” profile without any additional sealing.
For manifold with side supply connection.

KAN-therm valve set, angle

Size	Sets in one bag/box	Code
G1”×G1”	1/20	K-600500

Set of valves with screw connection and elbows for manifolds of **KAN-therm** System fixed on a 1” profile without any additional sealing.
For manifolds supplied from floor.

** on request

KAN-therm male terminal with automatic air vent and drain

Size	Pcs. in one bag/box	Code
G1”	1/50	R5541

Used for 1” manifold 51A, 55A, 71A, 75A series.

KAN-therm manual air vent

Size	Pcs. in one bag/box	Code
G½”	50/500	5322

KAN-therm manual drain and air vent

Size	Pcs./packing	Code
G½”	25	10612

Used for 1” manifold 51A, 55A, 71A, 75A series.

KAN-therm manual drain and air vent

Size	Pcs./packing	Code
G½”	25/100	1305.11

Used for 1” manifold 51A, 55A, 71A, 75A series.

KAN-therm automatic air vent with stop valve

Size	Pcs./packing	Code
G½”	1/100	0.52071

Caution:
Stop valve makes possible to remove air vent without draining the system.

** on request

KAN-therm wall-mounted cabinet SWNE type, for manifolds without mixing unit

Type	Dimensions (H×W×D)	Number of heating circuits	Pcs./ packing	Code
SWNE-4	585×350×110	4	48	1100Z
SWNE-6	585×450×110	6	36	1110Z
SWNE-8	585×550×110	8	32	1120Z
SWNE-10	585×650×110	10	26	1130Z
SWNE-13	585×800×110	13	24	1140Z

Features:
- removable painted body,
- removable back wall for easy installation of manifold and system parts,
- four mounting holes in a back wall for extension anchors,
- universal lock,
- white colour, RAL 9016.

Cheaper non-painted cabinets SWNE on request.

KAN-therm wall-mounted cabinet SWN type, for manifolds without mixing unit

Type	Dimensions (H×W×D)	Number of heating circuits	Pcs./ packing	Code
SWN-4	630×350×110	4	39	1100S
SWN-6	630×450×110	6	34	1110S
SWN-8	630×550×110	8	26	1120S
SWN-10	630×650×110	10	21	1130S
SWN-13	630×800×110	13	16	1140S

Features:
- removable screwed front body crosspiece for easy installation,
- four mounting holes in a back wall for extension anchors,
- universal lock,
- white colour, RAL 9016..

Cheaper non-painted cabinets SWN on request.

KAN-therm wall-mounted cabinet SWNU type, for manifolds without/with mixing unit

Type	Dimensions (H×W×D)	Number of heating circuits	Pcs./ packing	Code
SWNU-8/3*	630×580×140	8/3	22	1200S
SWNU-10/7*	630×780×140	10/7	17	1210S
SWNU-13/10*	630×930×140	13/10	12	1220S

*SWNU 8/3 - (8 heating circuits without mixing system / 3 heating circuits with mixing system).
*SWNU 10/7 - (10 heating circuits without mixing system / 7 heating circuits with mixing system).
*SWNU 13/10 - (13 heating circuits without mixing system / 10 heating circuits with mixing system).

Features:
- removable screwed front body crosspiece for easy installation,
- four mounting holes in a back wall for extension anchors,
- universal lock,
- white colour, RAL 9016.

Cheaper non-painted cabinets SWNU on request.

KAN-therm in wall -mounting cabinet SWPG type, to cover by ceramic tile, for manifolds without/with mixing unit

Type	Dimensions (H×W×D)	Number of heating circuits	Pcs./ packing	Code
** SWPG-4	450×350×110-165	4	40	1300G
** SWPG-6	450×450×110-165	6	24	1310G
** SWPG-8/3*	450×580×110-165	8/3	20	1320G
** SWPG-10/7*	450×780×110-165	10/7	16	1330G
** SWPG-13/10*	450×930×110-165	13/10	10	1340G

*SWPG 8/3 - (8 heating circuits without mixing system / 3 heating circuits with mixing system).
*SWPG 10/7 - (10 heating circuits without mixing system / 7 heating circuits with mixing system).
*SWPG 13/10 - (13 heating circuits without mixing system / 10 heating circuits with mixing system).
**External cabinet body dimensions (min. installation recess dimensions).

Features:
- wall cavity depth adjusted from 110 to 165 mm,
- cabinet door fixed with magnets,
- can be covered with glaze or other material.

** on request

KAN-therm in wall -mounting cabinet SWPSE type with 45° frame for manifolds without/with mixing unit

Type	Dimensions (H×W×D)	Number of heating circuits	Pcs./ packing	Code
SWPSE-4	560-660×350×110-165	4	42	1300Z
SWPSE-6	560-660×450×110-165	6	34	1310Z
SWPSE-8/3*	560-660×580×110-165	8/3	24	1320Z
SWPSE-10/7*	560-660×780×110-165	10/7	20	1330Z
SWPSE-13/10*	560-660×930×110-165	13/10	17	1340Z

*SWPSE 8/3 - (8 heating circuits without mixing system / 3 heating circuits with mixing system).
*SWPSE 10/7 - (10 heating circuits without mixing system / 7 heating circuits with mixing system).
*SWPSE 13/10 - (13 heating circuits without mixing system / 10 heating circuits with mixing system).
External cabinet body dimensions (min. installation recess dimensions).

Features:
- cabinet height adjustment from 560 to 660 mm,
- front panel height adjustment using masking part from 525 to 560 mm,
- wall cavity depth adjusted from 110 to 165 mm,
- universal lock,
- white colour, RAL 9016,
- shutter type cabinet sides,
- 45° front panel edge angle provides good flush.

Cheaper non-painted cabinets SWPSE on request

KAN-therm in wall -mounting cabinet SWPS type with 45° frame for manifolds without/with mixing unit

Type	Dimensions (H×W×D)	Number of heating circuits	Pcs./ packing	Code
SWPS-4	680-780×350×110-165	4	34	1300S
SWPS-6	680-780×450×110-165	6	27	1310S
SWPS-8/3*	680-780×580×110-165	8/3	20	1320S
SWPS-10/7*	680-780×780×110-165	10/7	17	1330S
SWPS-13/10*	680-780×930×110-165	13/10	14	1340S

*SWPS 8/3 - (8 heating circuits without mixing system / 3 heating circuits with mixing system).
*SWPS 10/7 - (10 heating circuits without mixing system / 7 heating circuits with mixing system).
*SWPS 13/10 - (13 heating circuits without mixing system / 10 heating circuits with mixing system).
**External cabinet body dimensions (min. installation recess dimensions).

Features:
- cabinet height adjustment from 680 to 780 mm,
- frame height adjustment using masking part from 570 to 625 mm,
- wall cavity depth adjusted from 110 to 165 mm,
- universal lock,
- white colour, RAL 9016,
- shutter type cabinet sides,
- 45° front panel edge angle provides good flush

90° front panel edge angle for above types (on request) as well as cheaper non-painted cabinets SWPS on request.

KAN-therm cabinet front panel RAMS type with 45° frame for manifolds without/with mixing unit

Type	Dimensions (H×W×D)	Number of heating circuits	Pcs./ packing	Code
RAMSE-4	525-560×350	4	40	1600Z
RAMSE-6	525-560×450	6	40	1610Z
RAMSE-8/3*	525-560×580	8/3	36	1620Z
RAMSE-10/7*	525-560×780	10/7	26	1630Z
RAMSE-13/10*	525-560×930	13/10	20	1640Z

*RAMS 8/3 - (8 heating circuits without mixing system / 3 heating circuits with mixing system).
*RAMS 10/7 - (10 heating circuits without mixing system / 7 heating circuits with mixing system).
*RAMS 13/10 - (13 heating circuits without mixing system / 10 heating circuits with mixing system).
**Recess assembly dimensions.

Features:
- front can be used directly for recess masking purpose without mounting of SWPS and SWPSE cabinets,
- mounting lugs, 150 mm long, for direct front panel installation,
- fastening extension anchors,
- panel height adjustment using masking part from 570 to 625 mm,
- universal lock,
- white colour, RAL 9016,
- 45° front panel edge angle provides good flush.

2 pcs. in one packing.
Cheaper non-painted front RAMS on request.

** on request

KAN-therm ramka RAMS lakierowana, z wygięciem krawędzi pod kątem 45°

Type	Dimensions (H×W×D)	Number of heating circuits	Pcs./ packing	Code
** RAMS-4	570-625×350	4	40	1600S
** RAMS-6	570-625×450	6	40	1610S
** RAMS-8/3*	570-625×580	8/3	36	1620S
** RAMS-10/7*	570-625×780	10/7	26	1630S
** RAMS-13/10*	570-625×930	13/10	20	1640S

*RAMSE 8/3 - (8 heating circuits without mixing system / 3 heating circuits with mixing system).
*RAMSE 10/7 - (10 heating circuits without mixing system / 7 heating circuits with mixing system).
*RAMSE 13/10 - (13 heating circuits without mixing system / 10 heating circuits with mixing system).
**Recess assembly dimensions.

Features:
- front can be used directly for recess masking purpose without mounting of SWPS and SWPSE cabinets,
- mounting lugs, 150 mm long, for direct front panel installation,
- fastening extension anchors,
- panel height adjustment using masking part from 570 to 625 mm,
- universal lock,
- white colour, RAL 9016,
- 45° front panel edge angle provides good flush.

2 pcs. in one packing.

Cheaper non-painted front RAMS on request.

KAN-therm lock & key

	Pcs. in one bag/box	Code
	any	85/834

Features:
- many key combinations,
- can be used for all type of **KAN** cabinets and front panels.

** on request

KAN-therm corrugated (protection) pipe - red

Size	External diameter [mm]	Q-ty in coil	Code
Ø12-14	23	100	1904C
Ø16-18	25	50	1900C
Ø20	28	50	1906C
Ø25-26	35	50	1901C
Ø32	43	50	1908C
Ø40	50	25	1910C

Apply for hot and cold water system and central heating, as a protecting pipe, in the case of embedding the system in concrete.

KAN-therm corrugated (protection) pipe - blue

Size	External diameter [mm]	Q-ty in coil	Code
Ø12-14	23	100	1904N
Ø16-18	25	50	1900N
Ø20	28	50	1906N
Ø25-26	35	50	1901N
Ø32	43	50	1908N
Ø40	50	25	1910N

Apply for hot and cold water system and central heating, as a protecting pipe, in the case of embedding the system in concrete

KAN-therm plastic mounting plate

Version	Pcs./packing	Code
Single	20/200	6090.050
Double (L=150mm)	10/70	6090.060
Double (L=80mm)	20/120	6090.070
Double (L=50mm)	15/150	6090.080

Used for mounted wallplates.

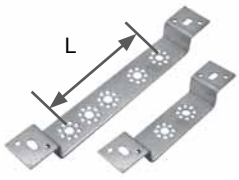
KAN-therm metal mounting plate

Version	Pcs./packing	Code
Double (L=80, 150mm)	3/42	6090.13

Caution: Mounting plate allows for fixing standard and directly fixed wallplate elbows.
Mounting plate includes screws for directly fixed wallplate elbows (6szt.)

KAN-therm metal mounting plate

Version	Pcs./packing	Code
Double (L=50, 80, 150mm)	120	6090.09
Double (L=50mm)	150	6090.10



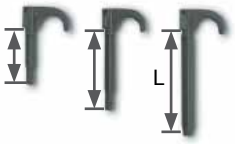
KAN-therm mounting bolt - service part

	Pcs. in one bag/box	Code
	100/2000	K-505100

Use for wallplate elbow and tee to fix to the mounting plate.

** on request

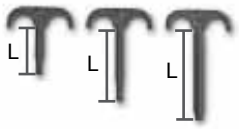
KAN-therm single plastic pipe hook



Dimensions with corrugated tube/ without corrugated tube	Pcs. in one bag/box.	Code
Ø12-20/12-26 (L=48mm, Ø8mm)	100/5000	0.8048
Ø12-20/12-26 (L=77mm, Ø8mm)	100/4000	8051
Ø12-20/12-26 (L=100mm, Ø10mm)	100/3000	8053
Ø12-20/12-26 (L=80mm, Ø10mm)	200/1600	1851N
Ø12-20/12-26 (L=80mm, Ø10mm)	100/4000	1851W

Use in case of pipe in corrugated (protection) pipe.
In the brackets are presented drill diameters, which should be use to make a hole to fix the hook.

KAN-therm double plastic pipe hook



Dimensions with corrugated tube/ without corrugated tube	Pcs. in one bag/box.	Code
Ø12-20/12-26 (L=48mm, Ø8mm)	100/3000	0.8049
Ø12-20/12-26 (L=77mm, Ø8mm)	100/2400	8052
Ø12-20/12-26 (L=100mm, Ø10mm)	100/2000	8054
Ø12-20/12-26 (L=80mm, Ø10mm)	200/800	1951N
Ø12-20/12-26 (L=80mm, Ø10mm)	100/2000	1951W

Use in case of pipe in corrugated (protection) pipe.
In the brackets are presented drill diameters, which should be use to make a hole to fix the hook.

KAN-therm snap-in pipe clip with extension anchor and spacer

Size of PE-Xc or PE-RT	Pcs. in one bag/box	Code
** Ø16-18 single	100	1730
** Ø16-18 double	100	1630U

Use directly on pipe (without corrugated pipe).

KAN-therm masking Ø15

Size	Pcs./packing	Code
single	100	2215
double	50	2220

Used for masking of floor outgoing pipes.

** on request

KAN-therm double metal floor clip for pipe in protecting tube

Dimensions with corrugated tube/ without corrugated tube	Pcs. in one bag/box	Code
Ø12-18/16-26	50/1000	276
Ø16-32/25-40	40/800	278

Use only in case of pipe in corrugated (protection) pipe.

KAN-therm plastic bend support

Dimensions with corrugated tube/ without corrugated tube	Pcs. in one bag/box	Code
Ø none /14-18	50/200	8058
Ø12-14/20	80	8059
Ø12-18/25	80	8060

KAN-therm metal bend support

Dimensions with corrugated tube	Pcs. /packing	Code
Ø25-26	50	265
Ø12-18	120	267

KAN-therm slip lock elbow

Size	Pcs./packing	Code
Ø14-18	100	8008

Used for pipe connection to a radiator (to set in concrete).

KAN-therm plastic protection for slip lock elbow

Size	Pcs./packing	Code
Ø14-18	100	0.8050

Used as a mask or protection for pipes PE-Xc or PE-RT connected to a radiator.

** on request

KAN-therm plastic plug for pressure test - short - service part

Size	Pcs. in one bag/box	Code
G½"	20/300	6095.33

It may be repeatedly use (has O-Ring seal) and should be used for all **KAN-therm** wallplate elbows and wallplate tees.
Plastic short plug is used only to make the pressure test and it cannot be use to blank off the installation permanently.

KAN-therm plastic plug for pressure test - long

Size	Pcs./packing	Code
G½"	20	2100C
** G¾"	20	2110C

It may be repeatedly use (has O-Ring seal) and should be used for all **KAN-therm** wallplate elbows and wallplate tees.

KAN-therm plastic plug for pressure test - long

Size	Pcs./packing	Code
G½"	20	2100N
** G¾"	20	2110N

It may be repeatedly use (has O-Ring seal) and should be used for all **KAN-therm** wallplate elbows and wallplate tees.

KAN-therm anti-freezing agent

Version	Litres/packing	Code
** -20°C	20	0.1008
** -25°C	20	0.1009
** -35°C	20	0.1010

Used for central heating, air conditioning, cooling and solar systems.

** on request

SYSTEM
KAN-therm

SYSTEM **KAN-therm** Steel

ISO 9001

TECHNOLOGY
OF SUCCESS

Contents

Page

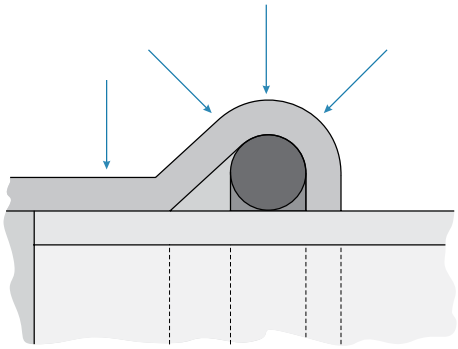
System **KAN-therm** Steel is a system made of carbon steel pipes and fittings of diameters 12 to 108 mm. Pipes and fittings produced of high quality carbon steel covered with thin zinc layer which protects external surface agains corrosion.

System **KAN-therm** Steel – modern connection technology

"Press" technology used in System **KAN-therm** Steel enables to make fast and reliable connections by pressing fittings using widely available press tools, and to eliminate twisting and welding of individual elements. The system permits a very quick assembly even when using pipes and fittings in large diameters.
System **KAN-therm** Steel pipes and fittings are made of thin-walled steel, which significantly decreases weight of individual elements and facilitates system assembly.
Connecting elements in "press" technology allows to obtain connections with minimized pipe section narrowing, which significantly decreases waste of system pressure and creates excellent hydraulic conditions.

System **KAN-therm** Steel – long-lasting connection technology

Connection leak tightness in System **KAN-therm** Steel is provided by special O-Ring seals and a three-point crimping profile „M".



System **KAN-therm** Steel – application possibilities

- closed water heating installation (cannot be used for potable water installations),
- closed cooling water systems.

System **KAN-therm** Steel – advantages

- quick and reliable system assembly without welding and twisting,
- wide range of pipe and fitting diameters up to 108 mm,
- wide range of operating temperatures: from -20°C to 120°C,
- high operating pressure up to 16 bar,
- compatible with plastic systems **KAN-therm** Press and Push,
- lightweight pipes and fittings,
- system high aesthetics,
- resistance to mechanical damage.

System **KAN-therm** Steel – fitting assembly

1. Pipe cutting

Pipes should be cut perpendicular to their axes using pipe roll-cutter (full cut, with no breaking off nicked pipe segments). Using other tools is permissible provided the cut is perpendicular and cut edges are not damaged (no breaking off, no material decrements or other deformations of pipe section). Tools that emit a lot of heat, e.g. a flame torch, an angle grinder, etc., cannot be used.

2. Beveling

Using a hand operated stripping tool (for 76,1-108mm half-rounded steel file), bevel outside and inside the tip of the cut pipe, and remove all file dust that can damage an O-Ring during assembly. Stripping tool may also be mounted on electric machines (for instance electric drill).

3. Marking the insertion depth of the pipe in the fitting

In order to obtain proper connection strength it is necessary to keep the correct insertion depth (Tab.1, Drw.1) of the pipe in the fitting (it should be slid home). To make sure the pipe is properly slid into the fitting during pressing, mark the required insertion depth with a pen marker. After the connection have been made, the marking should be visible just next to edge of the fitting. Also, there are special markers for marking the insertion depth.

4. Control

Before assembly, check visually that there is an O-Ring in the fitting, whether it is not damaged, and whether there are no file dust or any other sharp objects which can cause damage to the O-Ring during assembly. In order to proper assembling it is necessary to check the minimal allowed distance between the fittings according to Table 1.

5. Pipe and fitting assembly

Before making the connection, axially insert the pipe into the fitting to a marked depth (To make the assembly easier it is possible to slightly twist the pipe in relation to the fitting).

Using any kinds of oils, lubricating oils and fats in order to make the montage of the pipe into the fitting easier is not allowed (it is allowed to use only water or spoiled soap - recommended in case of pressure test by air) In the case of making many connections (inserting pipes into fittings and pressing) it is very important to watch the pipe insertion depth. To do so watch previously made markings on pipes near fitting edges.

6. Making a press connection

Before the beginning of the process of making the press connection, please check the efficiency of tools. Recommended is the usage of pressing machine and jaws provided by the **System KAN-therm**. Always choose the suitable size of the jaw to the diameter of executing connection.

The jaw should be placed on the fitting in the way, which will ensure that the grooves in the jaw will cover the space, where are the O-Rings placed (raised parts of the fitting). After start of pressing, the process takes place automatically and cannot be stopped. If for some reasons the process of the pressing will be aborted, the connection need to be disassembled (cut out) and then the new connection should be executed one more time in correct way. If the contractors have different machines and jaws than those supplied by **KAN**, every use of them must be consulted with the **KAN** company individually.

6.1. Making a press connection in range 76,1-108

6.1a. Preparing the jaw

To make a press connection of the three biggest dimensions of the Steel and Inox (76,1; 88,9; 108) a special jaws should be used (tetramerous) and the Klauke pressing machine. The jaw after release should be unlocked by removing the special bolt.

6.1b. Locking the jaw

Unlocked jaw need to be put on the fitting. The jaw has special groove, where the fitting edge need to be placed.

Notice: The label on the jaw should be always at the pipe side (see picture).

6.1c. Assembling jaw on the fitting

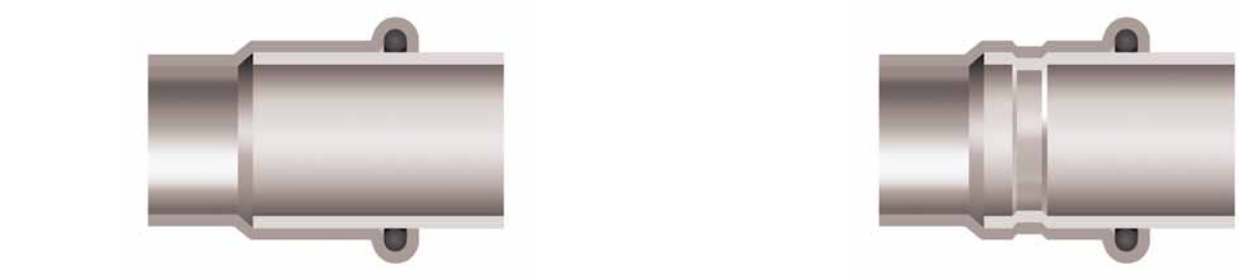
After the correct assembling the jaw onto the fitting, the jaw need be to locked using the special bolt. At this moment the jaw is ready to do the connection.

6.1d. Assembling the machine to the jaw

The machine need to be connected with the jaw in the way how it is shown on the picture. The arms of the machine have to be slip in up to the end. Maximal slip in is marked on the arm of the machine. Now, the machine is ready to be started.

6.1e. Making a connection

The time of the full press connection is about 1 min. After the start of pressing, the process takes place automatically and cannot be stopped. If, for some reasons the process of the pressing will be aborted, the connection need to be disassembled (cut out) and then the new connection should be executed one more time in correct way. After the connection is finished, the machine will automatically back to the previous position. The arms of the machine need to be move out form the jaw. To remove the jaw from the fitting, the jaw need to be unlocked. The jaws should be stored in the locked box.



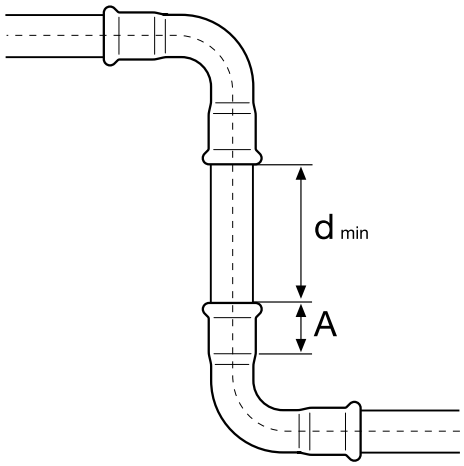
Pic. 5 Press conection before and after press

Mounting distance

Table 1. Pipe insertion depth in the fitting and minimum distance between pressed fittings

Ø [mm]	A [mm]	d_{min} [mm]
12	17	10
15	20	10
18	20	10
22	21	10
28	23	10
35	26	10
42	30	20
54	35	20
76,1	52,5/55*	55
88,9	60/63*	65
108	74/77*	80

*concerning the new design of fittings

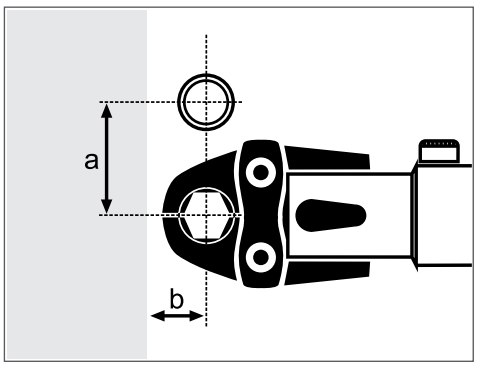


Pic. 1
A - Pipe insertion depth in the fitting,
d_{min} - minimum distance between fittings allowing for press correctness

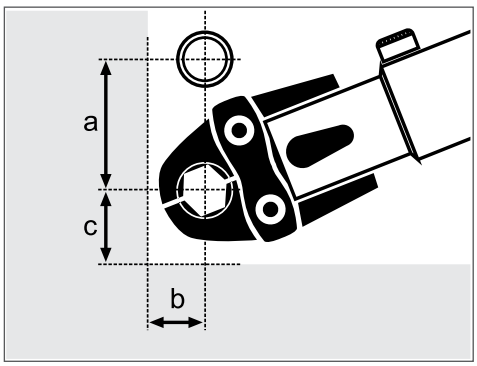
Table 2. Minimum assembly distances

Ø [mm]	Рис. 2		Рис. 3		
	a [mm]	b [mm]	a [mm]	b [mm]	c [mm]
12/15	56	20	75	25	28
18	60	20	75	25	28
22	65	25	80	31	35
28	75	25	80	31	35
35	75	30	80	31	44
42	140/115*	60/75*	140/115*	60/75*	75
54	140/120*	60/85*	140/120*	60/85*	85
76,1	140*	110*	165*	115*	115
88,9	150*	120*	185*	125*	125
108	170*	140*	200*	135*	135

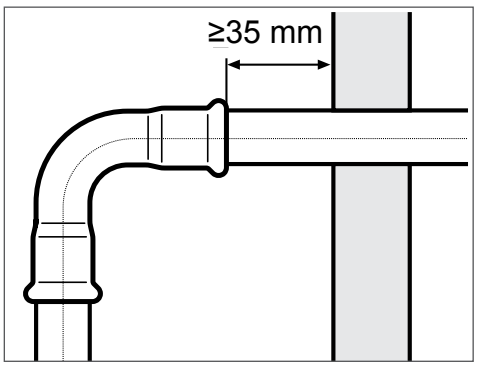
*applies to four-part pressing jaws



Pic. 2



Pic. 3



Pic. 4

System **KAN-therm** Steel - tool

Tools for diameters of 12 -54 mm.

Tools for diameters of 76,1 -108 mm.

Tools - safety

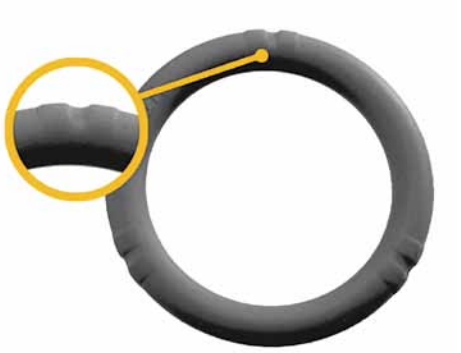
All tools must be applied and used in accordance with their purpose and the manufacturer's instructions.
Use for other purposes or in other areas are considered to be inconsistent with the intended use.
Intended use also requires compliance with the instructions, conditions of inspection and maintenance and relevant safety regulations in their current version.
All works done with tools, which do not meet the application compatible with the intended purpose may result in damage to tools, accessories and pipes. The consequence may be the leak and / or damage.

System **KAN-therm** Steel - O-Ring LBP

LBP O-Rings shows the unpressed connections - „unpressed untight". (LBP - **l**eak **b**efore **p**ressing). Thanks to the special grooves LBP O-Rings assure the optimum inspection of the connections during pressure test. Connections not pressed are untight and from this regard easy to locate. In diameters 76,1 - 108 mm LBP function is provided by fittings construction (noozle ovalization).

The activity of O-Rings with the function of signallings not pressed connections (LBP).

O-Rings with the function of signallings not pressed connections (LBP).



System **KAN-therm** Steel – detailed information

Pipes and fittings - material

Carbon steel RSt 34-2 (1.0034 acc. DIN EN 10305-3), pipes externaly zinc coated (Fe/Zn 88), zinc layer thickness 8-15 µm.

O-Rings

O-Ring	Properties and work parameters	Application
EPDM (butyl rubber) 	■ color: black ■ max. operating pressure: 16 bar ■ operating temperature: -35°C to 135°C ■ short duration: 150°C	■ potable water ■ hot water ■ treated water (softened, decalcified, ■ distilled, with glycol) ■ compressed air (dry)
FPM / Viton (fluorine rubber) 	■ color: green ■ max. operating pressure: 16 bar ■ operating temperature: -30°C to 200°C ■ short duration: 230°C	■ solar systems ■ compressed air ■ fuel oil ■ vegetable fat ■ engine fuels **Caution!!** Not suitable for hot water applications

Fittings come with standard EPDM O-Rings.
For special applications, Viton O-Rings are delivered separately.
In case of exchanging the standard EPDM to the VITON O-Rings, it is not allowed to use again the dismounted O-Rings.
Areas of aplication that are outside the elementary scope of the closed heating installations, should be always consulted with the company KAN.

System **KAN-therm** Steel – elongation and thermal conductivity data

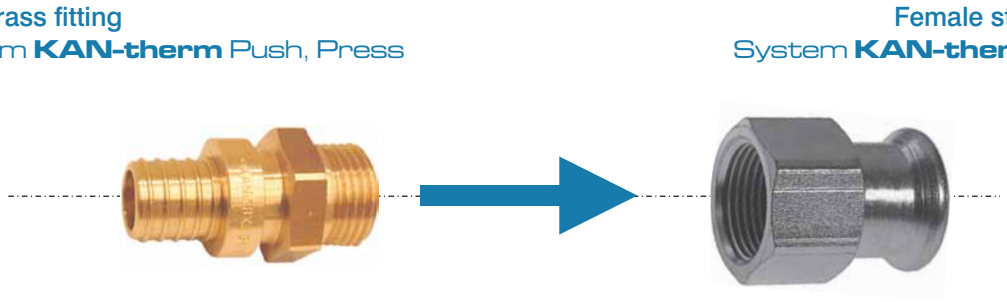
Material	Linear elongation coefficient	Elongation of 4 m segment at 60°C	Thermal conductivity
	[mm/(m×K)]	[mm]	[W/(m²×K)]
Steel	0,0108	2,59	58

System **KAN-therm** Steel – guidelines for applications

- **KAN-therm** Steel pipes cannot be bent when warm. Cold bending is permissible provided the minimum bending radius is kept (R=3.5×dz). Do not expose pipe external surface to prolonged direct moisture during storage and use.
- Pipes over ∅28 mm should not be bent.
- Use ready-made pipe bends or 90° and 45° elbows offered by System **KAN-therm** Steel.
- It is not allowed to cut pipes using tools which emit a lot of heat, e.g. flame torches or grinders.
  To cut **KAN-therm** Steel pipes use only pipe cutters (hand operated and mechanical).
- Systems filled with water should not be emptied. In the case a system has to be emptied after a pressure test, it is advised to perform pressure tests using compressed air.
- When **KAN-therm** Steel system is concealed in building elements, pipes and fittings should be tightly insulated, allowing for compensation of thermal elongation and building chemicals protection.
- If pipes and fittings of System **KAN-therm** Steel may contact with water or other corrosive environment it is necessary to use tight anti-corrosion protection. The thickness of used insulation should make possible free thermal movement of installation – compensation.
- In the case of transporting chemical substances the possible use of **KAN-therm** Steel pipes should be consulted with **KAN** Technical Department.
- System **KAN-therm** Steel installations require potential equalization.

Screw connections and joining with other KAN-therm Systems

System KAN-therm Steel offers the wide range of male and female threaded fittings. Because in the Steel and Inox fittings threads are the cone-shaped , to make a connections with KAN-therm Push and Press brass fittings, use only male threads with the small quantity of tow at the brass side. To not stress the press connection, it is advised to make a screw connection before the press one.



Pic. 6 Correct screw connection.

Elements of the System KAN-therm Steel can be assembled (through the screw or flanged connections) with elements made of others materials (see the table below).

Possibility of connections for Systems KAN-therm Steel and Inox with other materials					
type of installation		Pipes/Fittings			
		Copper	Bronze/Brass	Carbon steel	Stainless steel
Steel	closed	yes	yes	yes	yes
	open	no	no	no	no
Inox	closed	yes	yes	yes	yes
	open	yes	yes	no	yes

Remember, that connecting directly the elements made of the stainless steel with the elements made of zinc plated carbon steel (eg. pipes) can lead to corrosion. This process can be eliminated by using the plastic inserts or independent metal inserts (bronze, brass) with minimal length of 50 mm (eg. using the brass ball valve).

System KAN-therm Steel - pipeline assembly

Maximum distances between attachment points are presented in Table 3.

Table 3 Maximum distances between pipeline attachment points

Pipe diameter [mm]	Distance between attachment points [m]
12	1,00
15	1,25
18	1,50
22	2,00
28	2,25
35	2,75
42	3,00
54	3,50
76,1	4,25
88,9	4,75
108	5,00

Attachment points can be done as:

- slidable points PP - slidable points should enable free axial motion of the pipeline (caused by thermal motions), that is why they shouldn't be fixed next to the fittings (minimal distance from fitting flange must be higher than maximum elongated of pipeline). The slidable point can be made as "unscrewed" metal clamps with rubber pads.

- fixed points PS - to make fixed point, the metal clamp with rubber pad should be used, it should enables precise and reliability stabilization of the pipe on the whole circuit. The metal clump should be maximally tighten on the pipe,
- attachment points preventing the pipeline from moving downwards; used if the pipeline movement on compensation arm length was blocked by required PP position.

System **KAN-therm** Steel - fixed (PS) and slidable (PP) points

- fixed points should prevent any movement of pipelines and should be fixed next to fittings (at both sides of a fitting, e.g. coupling, tee connection),
- fixed or slidable points cannot be fixed directly onto fittings,
- when fixing PSs near tee connections make sure that clamps blocking the pipeline are not fixed onto branches of smaller diameters than one dimension in relation to the pipeline (forces induced by large diameter pipes can damage small diameters),
- PPs enable only axial motion of the pipeline (they should be treated as fixed points for perpendicular direction to the pipeline axis) and should be made by clamps,
- PPs should not be fixed next to fittings because this may block thermal motions of the pipeline,
- remember that PPs prevent the pipeline from moving transverse to its axis and that is why their position may determine compensation arms length.

System **KAN-therm** Steel - elongation compensation

Along with water temperature rise Δt, pipelines become elongated by ΔL value. Thermal elongation ΔL causes pipeline deformation on expansion compensation length A. Expansion compensation length A should not cause excessive stresses in the pipeline and depends on the pipeline external diameter, thermal elongation (ΔL), and a linear expansion coefficient for a given material. Elongations (ΔL) in function of pipe length (L) and temperature rise (Δt) are presented in Table 4:

Table 4 Total length elongation ΔL [mm] – System **KAN-therm** Steel

L [m]	Δt [°C]									
	10	20	30	40	50	60	70	80	90	100
1	0,16	0,32	0,48	0,64	0,80	0,96	1,12	1,28	1,44	1,60
2	0,32	0,64	0,96	1,28	1,60	1,92	2,24	2,56	2,88	3,20
3	0,48	0,96	1,44	1,92	2,40	2,88	3,36	3,84	4,32	4,80
4	0,64	1,28	1,92	2,56	3,20	3,84	4,48	5,12	5,76	6,40
5	0,80	1,60	2,40	3,20	4,00	4,80	5,60	6,40	7,20	8,00
6	0,96	1,92	2,88	3,84	4,80	5,76	6,72	7,68	8,64	9,60
7	1,12	2,24	3,36	4,48	5,60	6,72	7,84	8,96	10,08	11,20
8	1,28	2,56	3,84	5,12	6,40	7,68	8,96	10,24	11,52	12,80
9	1,44	2,88	4,32	5,76	7,20	8,64	10,08	11,52	12,96	14,40
10	1,60	3,20	4,80	6,40	8,00	9,60	11,20	12,80	14,40	16,00
12	1,92	3,84	5,76	7,68	9,60	11,52	13,44	15,36	17,28	19,20
14	2,24	4,48	6,72	8,96	11,20	13,44	15,68	17,92	20,16	22,40
16	2,56	5,12	7,68	10,24	12,80	15,36	17,92	20,48	23,04	25,60
18	2,88	5,76	8,64	11,52	14,40	17,28	20,16	23,04	25,92	28,80
20	3,20	6,40	9,60	12,80	16,00	19,20	22,40	25,60	28,80	32,00

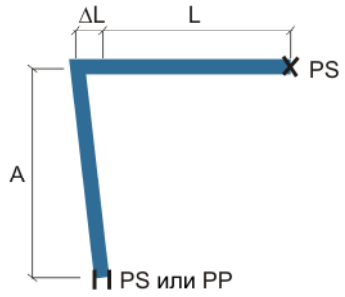
System KAN-therm Steel - „L", „Z", and „U" compensator selection

Table 5 Required expansion compensation length A [mm] for KAN-therm Steel System

Elongation values ΔL [mm]	Pipe external diameters d_z [mm]										
	12	15	18	22	28	35	42	54	76,1	88,9	108
	Required expansion compensation length A [mm]										
2	220	246	270	298	337	376	412	468	555	600	661
4	311	349	382	422	476	532	583	661	785	849	935
6	382	427	468	517	583	652	714	810	962	1039	1146
8	441	493	540	597	673	753	825	935	1110	1200	1323
10	493	551	604	667	753	842	922	1046	1241	1342	1479
12	540	604	661	731	825	922	1010	1146	1360	1470	1620
14	583	652	714	790	891	996	1091	1237	1469	1588	1750
16	624	697	764	844	952	1065	1167	1323	1570	1697	1871
18	661	739	810	895	1010	1129	1237	1403	1665	1800	1984
20	697	779	854	944	1065	1191	1304	1479	1756	1897	2091
22	731	817	895	990	1117	1249	1368	1551	1841	1990	2193
24	764	854	935	1034	1167	1304	1429	1620	1923	2079	2291
26	795	889	973	1076	1214	1357	1487	1686	2002	2163	2385
28	825	922	1010	1117	1260	1409	1543	1750	2077	2245	2475
30	854	955	1046	1156	1304	1458	1597	1811	2150	2324	2561
32	882	986	1080	1194	1347	1506	1650	1871	2221	2400	2645
34	909	1016	1113	1231	1388	1552	1700	1928	2289	2474	2727

Table 5 presents required expansion compensation length A for different thermal elongation values ΔL and pipe external diameters (d_z).
Rules for selection of different types of compensators are given below:

„L" type compensator"



A - expansion compensation length;

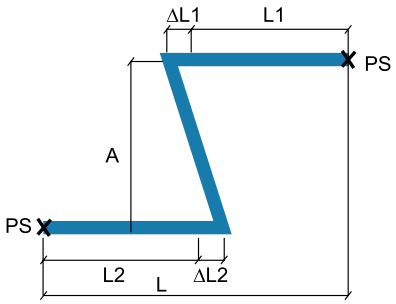
PS - fixed point (prevents the pipeline from moving);

L - pipeline initial length;

ΔL - pipeline thermal elongation.

For compensation arm A dimensioning, a substitute length Lz = L is taken, and for Lz length the thermal elongation value ΔL is determined from Tab. 4. Next, the expansion compensation length A is determined on the basis of Tab. 5.

„Z" type compensator



A - expansion compensation length;

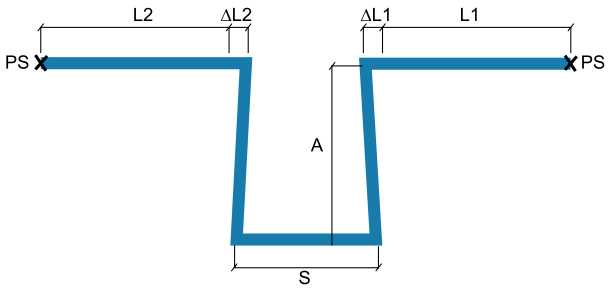
PS - fixed point (prevents the pipeline from moving);

L - pipeline initial length;

ΔL - pipeline thermal elongation.

For compensation arm A dimensioning, L1 and L2 sum is taken as a substitute length Lz = L1+L2, and for Lz length a substitute ΔL is determined on the basis of Tab. 4. Next, the expansion compensation length A is determined on the basis of Tab. 5.

„U" type compensator



A - expansion compensation length;

PS - fixed point (prevents the pipeline from moving);

L - pipeline initial length;

ΔL - pipeline thermal elongation.

S - U type compensator width

If a fixed point is placed within compensator width W, then for compensation arm A dimensioning, L1 and L2 bigger value is taken as a substitute length Lz = max (L1, L2), and for Lz length a substitute ΔL is determined on the basis of Tab. 4. Next, the expansion compensation length A is determined on the basis of Tab. 5.
Compensator width W = A/2.

System **KAN-therm** Steel - pressure drops

Coefficient of local pressure drops ζ and equivalent length for fluid flow through fittings are presented in Table 6.

Table 6. Coefficient of local pressure drops ζ and equivalent length for fittings

									
Ø15 - 54 mm									
Analytical direct method									
ζ	1,5	0,7	0,5	0,5	0,4	0,9	1,3	1,5	3,0
Method of equivalent length [m]									
15	0,90	0,40	0,30	0,30	0,25	0,50	0,70	0,90	1,80
18	1,10	0,50	0,40	0,40	0,30	0,65	0,90	1,10	2,30
22	1,40	0,60	0,50	0,50	0,40	0,80	1,20	1,40	2,80
28	1,90	0,90	0,60	0,60	0,50	1,10	1,50	1,90	3,80
35	2,50	1,20	0,80	0,80	0,70	1,50	2,10	2,50	5,00
42	3,10	1,40	1,00	1,00	0,90	1,80	2,60	3,10	6,20
54	4,00	1,80	1,30	1,30	1,10	2,30	3,30	4,00	8,00
Ø64 - 76,1 - 88,9 - 108 мм									
Analytical direct method									
ζ	1,3	0,6	0,4	0,5	0,1	1,0	1,3	1,5	3,0
Method of equivalent length [m]									
76,1	6,10	2,80	1,90	2,40	0,50	4,70	6,10	7,10	14,20
88,9	7,80	3,60	2,40	3,00	0,60	6,00	7,80	9,00	18,00
108	10,60	4,90	3,30	4,10	0,80	8,20	10,60	12,30	24,60

Tables 7 and 8 present linear pressure drops R [Pa/m] caused by pipe wall friction, in function of flow rate Vs [l/s] and flow velocity [m/s] at temperatures of 20°C (Tab. 7) and 60°C (Tab. 8).
Table 9 presents linear pressure drops R [Pa/m] for water at a temperature of 80°C power Q at a temperature drop Δt 20°C, or in a function of water flow mi [kg/s].

Vs [l/s]	12×1,2		15×1,2		18×1,2		22×1,5		28×1,5		35×1,5		42×1,5		54×1,5		76,1×2		88,9×2		108×2	
	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]
0,07	0,97	337	0,56	114	0,37	48	0,25	22	0,14	7	0,09	3	0,06	1								
0,14	1,94	5482	1,12	1464	0,73	524	0,49	204	0,29	55	0,17	17	0,12	7	0,07	2						
0,15	2,08	6210	1,21	1655	0,79	591	0,53	230	0,31	62	0,19	19	0,13	8	0,07	2						
0,20	2,77	10481	1,61	2770	1,05	984	0,71	381	0,41	103	0,25	32	0,17	12	0,10	4						
0,21			1,69	3024	1,10	1073	0,74	415	0,43	112	0,26	35	0,18	14	0,10	4						
0,24			1,93	3849	1,26	1362	0,85	526	0,49	141	0,30	44	0,20	17	0,12	5	0,06	1				
0,25			2,01	4144	1,31	1465	0,88	565	0,51	152	0,31	47	0,21	18	0,12	5	0,06	1				
0,33			2,65	6873	1,73	2415	1,17	927	0,67	247	0,41	76	0,28	30	0,16	8	0,08	2				
0,40					2,10	3424	1,41	1309	0,82	347	0,50	106	0,34	41	0,20	12	0,10	2	0,07	1		
0,50					2,62	5148	1,77	1960	1,02	517	0,62	158	0,42	61	0,25	17	0,12	3	0,09	2		
0,60							2,12	2730	1,22	717	0,75	218	0,50	84	0,29	23	0,15	5	0,11	2		
0,70							2,47	3620	1,43	947	0,87	287	0,59	111	0,34	31	0,17	6	0,12	3	0,08	1
0,80									1,63	1206	1,00	364	0,67	140	0,39	39	0,20	7	0,14	3	0,09	1
0,90									1,84	1494	1,12	450	0,75	173	0,44	48	0,22	9	0,16	4	0,11	2
1,00									2,04	1811	1,25	544	0,84	209	0,49	57	0,25	11	0,18	5	0,12	2
1,10									2,24	2155	1,37	646	0,92	248	0,54	68	0,27	13	0,19	6	0,13	2
1,20											1,49	756	1,01	290	0,59	79	0,29	15	0,21	7	0,14	3
1,30											1,62	875	1,09	335	0,64	92	0,32	17	0,23	8	0,15	3
1,40											1,74	1001	1,17	382	0,69	105	0,34	20	0,25	9	0,17	3
1,50											1,87	1135	1,26	433	0,74	118	0,37	22	0,27	10	0,18	4
1,60											1,99	1277	1,34	487	0,78	133	0,39	25	0,28	12	0,19	4
1,70											2,12	1428	1,43	543	0,83	148	0,42	28	0,30	13	0,20	5
1,80													1,51	603	0,88	164	0,44	31	0,32	14	0,21	5
1,90													1,59	665	0,93	181	0,47	34	0,34	16	0,22	6
2,00													1,68	731	0,98	198	0,49	37	0,35	17	0,24	6
2,10													1,76	799	1,03	217	0,52	41	0,37	19	0,25	7
2,20													1,84	869	1,08	236	0,54	44	0,39	20	0,26	8
2,30													1,93	943	1,13	255	0,56	48	0,41	22	0,27	8
2,40													2,01	1020	1,18	276	0,59	52	0,42	24	0,28	9
2,50															1,23	297	0,61	56	0,44	25	0,29	10
2,60															1,27	319	0,64	60	0,46	27	0,31	10
2,70															1,32	342	0,66	64	0,48	29	0,32	11
2,80															1,37	365	0,69	68	0,50	31	0,33	12
2,90															1,42	389	0,71	73	0,51	33	0,34	12
3,00															1,47	414	0,74	77	0,53	35	0,35	13
3,10															1,52	439	0,76	82	0,55	37	0,37	14
3,20															1,57	465	0,79	87	0,57	39	0,38	15
3,30															1,62	492	0,81	92	0,58	42	0,39	16
3,40															1,67	520	0,83	97	0,60	44	0,40	17
3,50															1,72	548	0,86	102	0,62	46	0,41	17
3,60															1,77	577	0,88	107	0,64	49	0,42	18
3,70															1,81	607	0,91	113	0,65	51	0,44	19
3,80															1,86	637	0,93	118	0,67	54	0,45	20
3,90															1,91	668	0,96	124	0,69	56	0,46	21
4,00															1,96	700	0,98	130	0,71	59	0,47	22
4,10															2,01	733	1,01	136	0,73	62	0,48	23
4,20																	1,03	142	0,74	64	0,50	24
4,30																	1,05	148	0,76	67	0,51	25
4,40																	1,08	154	0,78	70	0,52	26
4,50																	1,10	161	0,80	73	0,53	27
4,60																	1,13	167	0,81	76	0,54	28
4,70																	1,15	174	0,83	79	0,55	30
4,80																	1,18	181	0,85	82	0,57	31
4,90																	1,20	188	0,87	85	0,58	32
5,00																	1,23	195	0,88	88	0,59	33
5,50																	1,35	231	0,97	105	0,65	39
6,00																	1,47	271	1,06	123	0,71	46
6,50																	1,59	314	1,15	142	0,77	53
7,00																	1,72	360	1,24	162	0,83	61
7,50																	1,84	408	1,33	184	0,88	69
8,00																	1,96	460	1,42	207	0,94	77
8,50																	2,09	514	1,50	231	1,00	86
9,00																			1,59	257	1,06	96
9,50																			1,68	284	1,12	106
10,00																			1,77	312	1,18	116
10,50																			1,86	341	1,24	127
11,00																			1,95	372	1,30	138
11,50																			2,03	403	1,36	150
12,00																					1,42	162
12,50																					1,47	174
13,00																					1,53	187
13,50																					1,59	201
14,00																					1,65	215
14,50																					1,71	229
15,00																					1,77	244
15,50																					1,83	259
16,00																					1,89	275
16,50																					1,95	291
17,00																					2,00	307
17,50																					2,06	324
18,00																					2,12	341

Tab. 7 Linear pressure drops R for water at a temperature of 20°C

Vs [l/s]	12×1,2		15×1,2		18×1,2		22×1,5		28×1,5		35×1,5		42×1,5		54×1,5		76,1×2		88,9×2		108×2	
	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]
0,07	0,97	160	0,57	54	0,37	23	0,24	9	0,15	3	0,09	1										
0,14	1,94	4 891	1,14	1276	0,75	449	0,47	149	0,29	46	0,18	14	0,12	6	0,07	2						
0,15	2,08	5 561	1,22	1448	0,80	509	0,51	168	0,31	52	0,19	16	0,13	6	0,07	2						
0,20	2,77	9 524	1,63	2457	1,06	858	0,67	282	0,41	87	0,25	27	0,17	10	0,10	3						
0,21			1,71	2690	1,12	938	0,71	308	0,44	95	0,27	29	0,18	11	0,10	3						
0,24			1,96	3446	1,28	1198	0,81	392	0,50	120	0,30	37	0,20	14	0,12	4	0,06	1				
0,25			2,04	3718	1,33	1292	0,84	422	0,52	129	0,32	39	0,21	15	0,12	4	0,06	1				
0,33			2,69	6250	1,76	2157	1,11	700	0,68	213	0,42	65	0,28	25	0,16	7	0,08	1				
0,40					2,13	3086	1,35	996	0,83	302	0,51	91	0,34	35	0,20	10	0,10	2	0,07	1		
0,50					2,66	4688	1,69	1505	1,04	454	0,63	136	0,43	52	0,25	14	0,12	3	0,09	1		
0,60							2,02	2114	1,24	635	0,76	190	0,51	72	0,30	20	0,15	4	0,11	2		
0,70							2,36	2820	1,45	843	0,89	251	0,60	96	0,35	26	0,17	5	0,13	2	0,08	1
0,80									1,66	1080	1,01	320	0,68	122	0,40	33	0,20	6	0,14	3	0,10	1
0,90									1,86	1345	1,14	398	0,77	151	0,45	41	0,22	8	0,16	4	0,11	1
1,00									2,07	1638	1,26	483	0,85	183	0,50	50	0,25	9	0,18	4	0,12	2
1,10									2,28	1958	1,39	576	0,94	218	0,55	59	0,27	11	0,20	5	0,13	2
1,20											1,52	677	1,02	256	0,60	69	0,30	13	0,22	6	0,14	2
1,30											1,64	786	1,11	296	0,65	80	0,32	15	0,23	7	0,16	3
1,40											1,77	902	1,19	340	0,70	91	0,35	17	0,25	8	0,17	3
1,50											1,90	1026	1,28	386	0,75	104	0,37	19	0,27	9	0,18	3
1,60											2,02	1157	1,36	435	0,80	117	0,40	22	0,29	10	0,19	4
1,70											2,15	1297	1,45	487	0,85	130	0,42	24	0,31	11	0,20	4
1,80													1,53	541	0,90	145	0,45	27	0,32	12	0,22	5
1,90													1,62	598	0,95	160	0,47	30	0,34	13	0,23	5
2,00													1,70	658	1,00	176	0,50	33	0,36	15	0,24	6
2,10													1,79	721	1,05	192	0,52	36	0,38	16	0,25	6
2,20													1,87	787	1,10	209	0,55	39	0,40	18	0,26	7
2,30													1,96	855	1,15	227	0,57	42	0,41	19	0,28	7
2,40													2,04	926	1,20	246	0,60	45	0,43	20	0,29	8
2,50															1,24	265	0,62	49	0,45	22	0,30	8
2,60															1,29	285	0,65	52	0,47	24	0,31	9
2,70															1,34	306	0,67	56	0,49	25	0,32	10
2,80															1,39	327	0,70	60	0,50	27	0,34	10
2,90															1,44	349	0,72	64	0,52	29	0,35	11
3,00															1,49	372	0,75	68	0,54	31	0,36	11
3,10															1,54	395	0,77	72	0,56	33	0,37	12
3,20															1,59	420	0,80	77	0,57	35	0,38	13
3,30															1,64	444	0,82	81	0,59	37	0,40	14
3,40															1,69	470	0,85	86	0,61	39	0,41	14
3,50															1,74	496	0,87	90	0,63	41	0,42	15
3,60															1,79	523	0,90	95	0,65	43	0,43	16
3,70															1,84	550	0,92	100	0,66	45	0,44	17
3,80															1,89	578	0,95	105	0,68	47	0,46	18
3,90															1,94	607	0,97	110	0,70	50	0,47	18
4,00															1,99	637	1,00	115	0,72	52	0,48	19
4,10															2,04	667	1,02	121	0,74	54	0,49	20
4,20																	1,05	126	0,75	57	0,50	21
4,30																	1,07	132	0,77	59	0,51	22
4,40																	1,10	138	0,79	62	0,53	23
4,50																	1,12	144	0,81	64	0,54	24
4,60																	1,15	149	0,83	67	0,55	25
4,70																	1,17	156	0,84	70	0,56	26
4,80																	1,20	162	0,86	73	0,57	27
4,90																	1,22	168	0,88	75	0,59	28
5,00																	1,25	174	0,90	78	0,60	29
5,50																	1,37	208	0,99	93	0,66	35
6,00																	1,49	245	1,08	110	0,72	41
6,50																	1,62	284	1,17	127	0,78	47
7,00																	1,74	327	1,26	146	0,84	54
7,50																	1,87	372	1,35	166	0,90	61
8,00																	1,99	420	1,44	187	0,96	69
8,50																	2,12	470	1,53	209	1,02	77
9,00																			1,62	233	1,08	86
9,50																			1,71	258	1,14	95
10,00																			1,80	284	1,20	104
10,50																			1,89	311	1,26	114
11,00																			1,98	339	1,32	124
11,50																			2,07	369	1,38	135
12,00																					1,44	146
12,50																					1,50	158
13,00																					1,56	170
13,50																					1,62	182
14,00																					1,68	195
14,50																					1,74	209
15,00																					1,80	222
15,50																					1,86	236
16,00																					1,92	251
16,50																					1,98	266
17,00																					2,04	281
17,50																					2,10	297
18,00																					2,16	313

Tab. 8 Linear pressure drops R for water at a temperature of 60°C

Q [W]	mi [kg/s]	12×1,2		15×1,2		18×1,2		22×1,5		28×1,5		35×1,5		42×1,5		54×1,5		76,1×2		88,9×2		108×2	
		w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]
500	0,01	0,08	10	0,05	4	0,03	1																
1000	0,01	0,17	56	0,10	16	0,06	6	0,04	1														
1500	0,02	0,25	111	0,15	31	0,10	11	0,06	5	0,04	1												
2000	0,02	0,34	182	0,20	50	0,13	18	0,09	7	0,05	2												
2500	0,03	0,42	267	0,25	74	0,16	27	0,11	11	0,06	3	0,04	1										
3000	0,04	0,51	366	0,30	101	0,19	37	0,13	15	0,07	4	0,05	1										
3500	0,04	0,59	478	0,34	132	0,22	48	0,15	19	0,09	5	0,05	2										
4000	0,05	0,68	603	0,39	166	0,26	61	0,17	24	0,10	7	0,06	2	0,04	1								
4500	0,05	0,76	741	0,44	204	0,29	74	0,19	29	0,11	8	0,07	3	0,05	1								
5000	0,06	0,85	891	0,49	245	0,32	89	0,22	35	0,12	10	0,08	3	0,05	1								
6000	0,07	1,02	1 226	0,59	337	0,38	122	0,26	48	0,15	13	0,09	4	0,06	2								
7000	0,08			0,69	441	0,45	160	0,30	63	0,17	17	0,11	5	0,07	2								
8000	0,10			0,79	558	0,51	202	0,35	79	0,20	22	0,12	7	0,08	3								
9000	0,11			0,89	686	0,58	248	0,39	97	0,22	26	0,14	8	0,09	3	0,05	1						
10000	0,12					0,64	299	0,43	117	0,25	32	0,15	10	0,10	4	0,06	1						
12000	0,14					0,77	412	0,52	161	0,30	44	0,18	14	0,12	5	0,07	1						
14000	0,17					0,90	541	0,61	211	0,35	57	0,21	18	0,14	7	0,08	2						
16000	0,19							0,69	267	0,40	72	0,24	22	0,16	9	0,10	2						
18000	0,22							0,78	329	0,45	89	0,27	28	0,18	11	0,11	3						
20000	0,24							0,87	397	0,50	107	0,30	33	0,21	13	0,12	4						
25000	0,30							1,08	589	0,62	159	0,38	49	0,26	19	0,15	5	0,08	1				
30000	0,36									0,75	220	0,46	68	0,31	26	0,18	7	0,09	1				
35000	0,42									0,87	289	0,53	89	0,36	35	0,21	10	0,11	2	0,08	1		
40000	0,48									1,00	366	0,61	113	0,41	44	0,24	12	0,12	2	0,09	1		
45000	0,54									1,12	452	0,69	139	0,46	54	0,27	15	0,14	3	0,10	1		
50000	0,60									1,25	546	0,76	168	0,51	65	0,30	18	0,15	3	0,11	2		
60000	0,72											0,91	232	0,62	90	0,36	25	0,18	5	0,13	2	0,09	1
70000	0,84											1,07	305	0,72	118	0,42	33	0,21	6	0,15	3	0,10	1
80000	0,96											1,22	388	0,82	150	0,48	42	0,24	8	0,17	4	0,12	1
90000	1,08											1,37	479	0,92	186	0,54	51	0,27	10	0,19	5	0,13	2
100000	1,20													1,03	224	0,60	62	0,30	12	0,22	5	0,14	2
120000	1,44													1,23	311	0,72	86	0,36	16	0,26	8	0,17	3
140000	1,68													1,44	410	0,84	113	0,42	22	0,30	10	0,20	4
160000	1,92													1,64	522	0,96	144	0,48	27	0,35	13	0,23	5
180000	2,16															1,08	178	0,54	34	0,39	15	0,26	6
200000	2,40															1,20	215	0,60	41	0,43	19	0,29	7
220000	2,65															1,32	255	0,66	48	0,48	22	0,32	8
240000	2,89															1,44	299	0,72	57	0,52	26	0,35	10
260000	3,13															1,56	345	0,78	65	0,56	30	0,38	11
280000	3,37															1,68	395	0,84	75	0,61	34	0,40	13
300000	3,61															1,80	447	0,90	85	0,65	39	0,43	15
350000	4,21																	1,05	112	0,76	51	0,51	19
400000	4,81																	1,20	142	0,87	65	0,58	24
450000	5,41																	1,35	176	0,97	80	0,65	30
500000	6,01																	1,50	213	1,08	97	0,72	37
550000	6,61																	1,65	253	1,19	115	0,79	44
600000	7,21																	1,80	297	1,30	135	0,87	51
650000	7,82																	1,95	343	1,41	156	0,94	59
700000	8,42																	2,10	393	1,52	179	1,01	67
750000	9,02																	2,25	445	1,62	203	1,08	76
800000	9,62																			1,73	228	1,15	86
850000	10,22																			1,84	254	1,23	96
900000	10,82																			1,95	282	1,30	106
950000	11,42																			2,06	311	1,37	117
1000000	12,02																			2,17	342	1,44	129
1050000	12,63																			2,27	374	1,52	140
1100000	13,23																			2,38	407	1,59	153
1150000	13,83																			2,49	441	1,66	166
1200000	14,43																					1,73	179
1250000	15,03																					1,80	193
1300000	15,63																					1,88	207
1350000	16,23																					1,95	222
1400000	16,83																					2,02	237
1450000	17,44																					2,09	253
1500000	18,04																					2,17	269
1550000	18,64																					2,24	286
1600000	19,24																					2,31	303
1650000	19,84																					2,38	320
1700000	20,44																					2,45	338
1750000	21,04																					2,53	356
1800000	21,64																					2,60	375
1850000	22,25																					2,67	394
1900000	22,85																					2,74	414
1950000	23,45																					2,82	434
2000000	24,05																					2,89	455

Tab. 9 Linear pressure drops R for water at a temperature of 80°C in a function of power Q transported at a temperature drop Δt 20°C or in a function of water flow mi

KAN-therm press carbon steel pipe, zinc coated

Size	Pcs	Pipe meters in package	Code
** 12×1,2	bar 6m	6/840	620459.4
15×1,2	bar 6m	6/840	620460.5
18×1,2	bar 6m	6/450	620461.6
22×1,5	bar 6m	6/360	620462.7
28×1,5	bar 6m	6/300	620463.8
35×1,5	bar 6m	6/180	620464.9
42×1,5	bar 6m	6/150	620465.1
54×1,5	bar 6m	6/90	620466.0
76,1×2	bar 6m	6/222	620480.3
88,9×2	bar 6m	6/222	620481.4
108×2	bar 6m	6/114	620482.5

KAN-therm press male connector

Size	Pcs./packing	Code
** 12×R⅜	10/200	620226.2
15×R⅜	10/200	620227.3
15×R½	10/200	620228.4
15×R¾	20/160	6302806
18×R½	10/160	620229.5
18×R¾	10/100	620230.6
22×R½	10/70	6241015
22×R¾	10/100	6240135
22×R1	10/60	6241026
28×R¾	10/60	6249852
28×R1	10/60	6240146
35×R1¼	10/40	6240157
42×R1½	4/24	6240168
54×R2	4/12	6240179
76,1×R2½	2/26	6302823
88,9×R3	2/20	6302825
108×R4	2/12	6302827

KAN-therm press male union connector

Size	Pcs./packing	Code
15×R½	2/50	620719.0
18×R½	2/50	6207036
22×R¾	2/40	6240916
28×R1	2/30	6240927
35×R1¼	2/20	6240938
42×R1½	2/16	6240949
54×R2	2/10	6240951

KAN-therm press female union connector (for VK radiators)

Size	Pcs./packing	Code
15×G¾	10/100	620816.9
18×G¾	10/100	620817.1

NEW

KAN-therm press half union

Size	Pcs./packing	Code
** 15×G¾	10/120	6340521
** 18×G¾	10/100	6340532
** 22×G1	10/60	6340554
** 28×G1¼	10/40	6340565
** 35×G1½	4/32	6340576
** 42×G1¾	4/12	6340587
** 54×G2⅛	4/8	6340598

KAN-therm press female union connector

Size	Pcs./packing	Code
15×Rp½	2/50	6208906
18×Rp½	2/60	6208917
22×Rp¾	2/40	6208928
28×Rp1	2/30	6208939
35×Rp1¼	2/16	6208941
42×Rp1½	2/12	6208950
54×Rp2	2/4	6208961

KAN-therm press female connector

Size	Pcs./packing	Code
** 12×Rp½	10/130	620236.1
15×Rp½	10/130	620237.2
18×Rp½	10/120	620238.3
18×Rp¾	10/80	620239.4
22×Rp½	20/100	6302708
22×Rp¾	10/100	6240102
22×Rp1	20/100	6302715
28×Rp½	10/60	6240113
28×Rp¾	10/60	6249830
28×Rp1	10/60	6240124
35×Rp1¼	10/30	6241004
42×Rp1½	4/42	6302721
54×Rp2	4/32	6302723

KAN-therm press nipple female connector

Size	Pcs./packing	Code
** 12×Rp⅜	10/200	620987.4
** 12×Rp½	10/200	620242.7
15×Rp½	10/200	620243.8
18×Rp½	10/160	620244.9
18×Rp¾	10/100	620245.1
22×Rp½	10/70	6240960
22×Rp¾	10/100	6240971

** on request

size and directions in [mm]

KAN-therm press coupling

Size	Pcs./packing	Code
** 12×12	10/140	620135.1
15×15	10/140	620136.0
18×18	10/140	620137.1
22×22	10/80	6240003
28×28	10/60	6240014
35×35	10/40	6240025
42×42	4/24	6240036
54×54	4/16	6240047
76,1×76,1	2/-	6206200
76,1×76,1	4/40	6206200N
88,9×88,9	2/-	6206211
108×108	2/-	6206222

KAN-therm press reducing coupling

Size	Pcs./packing	Code
22×15	10/140	620112.9
** 28×22	10/80	6241131

KAN-therm press slip coupling

Size	Pcs./packing	Code
** 12×12	10/60	620143.7
15×15	10/60	620144.8
18×18	10/60	620145.9
22×22	10/60	6240058
28×28	10/40	6240069
35×35	10/20	6240071
42×42	4/16	6240080
54×54	4/8	6240091
76,1×76,1	2/-	6206233
88,9×88,9	2/-	6206244
108×108	2/-	6206255

KAN-therm press 90° elbow

Size	Pcs./packing	Code
** 12×12	10/150	620154.7
15×15	10/150	620155.8
18×18	10/90	620156.9
22×22	10/60	6240181
28×28	10/30	6240190
35×35	10/10	6240201
42×42	2/16	6240212
54×54	2/8	6240223
76,1×76,1	2/-	6208004
76,1×76,1	2/20	6208004N
88,9×88,9	2/-	6208048
88,9×88,9	2/14	6208048N
108×108	2/-	6208059

KAN-therm press nipple 90° elbow

Size	Pcs./packing	Code
** 12×12	10/120	620162.4
15×15	10/120	620163.5
18×18	10/80	620164.6
22×22	10/60	6240410
28×28	10/30	6240421
35×35	10/10	6240432
42×42	2/8	6240443
54×54	2/6	6240454
76,1×76,1	2/-	6208061
88,9×88,9	4/-	6208070
108×108	4/-	6208081

KAN-therm press 45° elbow

Size	Pcs./packing	Code
15×15	10/150	620170.1
18×18	10/120	620171.2
22×22	10/70	6240511
28×28	10/40	6240520
35×35	5/25	6240531
42×42	2/16	6240542
54×54	2/8	6240553
76,1×76,1	4/-	6208125
88,9×88,9	4/-	6208136
108×108	2/-	6208147

KAN-therm press nipple 45° elbow

Size	Pcs./packing	Code
15×15	10/150	620177.8
18×18	10/120	620178.9
22×22	10/60	6240465
28×28	10/40	6240476
35×35	5/25	6240487
42×42	4/16	6240498
54×54	2/8	6240509
76,1×76,1	2/-	6208092
88,9×88,9	2/-	6208103
108×108	2/-	6208114

KAN-therm press tee

Size	Pcs./packing	Code
** 12×12×12	10/80	620248.2
15×15×15	10/80	620249.3
18×18×18	10/70	620250.4
22×22×22	10/40	6240564
28×28×28	10/30	6240575
35×35×35	5/15	6240586
42×42×42	4/8	6240597
54×54×54	2/6	6240608
76,1×76,1×76,1	2/-	6206442
76,1×76,1×76,1	2/24	6206442N
88,9×88,9×88,9	2/-	6206453
108×108×108	2/-	6206464

** on request

size and directions in [mm]

KAN-therm press reducing tee

Size	Pcs./packing	Code
** 12×15×12	10/80	620276.8
** 15×12×15	10/80	620256.1
15×18×15	10/80	620277.9
15×18×15	20/100	620277.9N
15×22×15	10/60	620278.1
15×22×15	20/80	620278.1N
** 18×12×18	10/70	620257.0
18×15×18	10/70	620258.1
18×22×18	10/70	620279.0
18×22×18	20/80	620279.0N
** 22×12×22	10/50	620259.2
22×15×22	10/50	620260.3
22×18×22	10/50	620261.4
22×28×22	10/40	6240718
22×28×22	20/60	6240718N
28×15×28	10/30	620262.5
28×18×28	10/30	620263.6
28×22×28	10/30	6240729
35×15×35	10/20	620265.8
35×18×35	10/20	620266.9
35×22×35	5/20	6240731
35×28×35	10/20	6240740
42×22×42	4/12	6240751
42×28×42	4/12	6240762
42×35×42	4/12	6240773
54×22×54	2/8	6240784
54×28×54	2/8	6240795
54×35×54	2/8	6240806
54×42×54	2/8	6240817
76,1×22×76,1	2/14	6303371
76,1×28×76,1	2/14	6303373
76,1×35×76,1	2/14	6303375
76,1×42×76,1	2/14	6303377
76,1×54×76,1	2/-	6206475
76,1×54×76,1	2/12	6206475N
88,9×22×88,9	2/14	6303379
88,9×28×88,9	2/14	6303381
88,9×35×88,9	2/14	6303383
88,9×42×88,9	2/12	6303385
88,9×54×88,9	2/12	6303387
88,9×76,1×88,9	2/-	6206486
108×22×108	2/12	6303389
108×28×108	2/12	6303391
108×35×108	2/12	6303393
108×42×108	2/12	6303395
108×54×108	2/12	6303397
108×76,1×108	2/10	6303399
108×88,9×108	2/-	6206497
108×88,9×108	2/10	6206497N

** on request

size and directions in [mm]

KAN-therm press reducing tee

Size	Pcs./packing	Code
22×15×15	10/50	620673.9
22×22×15	10/50	620674.1

KAN-therm press pipe crosss

Size	Pcs./packing	Code
15×15×15×15	5/50	620288.9
18×15×18×15	5/50	620289.1
22×15×22×15	10/30	620290.0
22×18×22×18	10/30	620291.1
28×15×28×15	10/30	620713.5
28×18×28×18	10/30	620714.6
28×22×28×22	10/20	6240828

NEW

KAN-therm press crossing

Size	Pcs./packing	Code
** 35×35×35×35	2/8	
** 42×42×42×42	2/8	
** 54×54×54×54	2/4	
** 35×28×35×28	2/14	
** 42×28×42×28	2/8	
** 54×28×54×28	2/4	

KAN-therm press crossing pair single

Size	Pcs./packing	Code
** 18×Ø12	10	620685.1
** 22×Ø12	10	620687.1
** 28×Ø12	10	620689.3
15×Ø15	10	620684.9
18×Ø15	10	620686.0
22×Ø15	10	620688.2
28×Ø15	8	620690.4

** on request

size and directions in [mm]

KAN-therm press crossing pair double

Size	Pcs./packing	Code
** 12×Ø12	8	620675.0
** 15×Ø12	8	620676.1
** 18×Ø12	8	620678.3
** 28×Ø12	8	620681.6
15×Ø15	8	620677.2
18×Ø15	8	620679.4
22×Ø15	6	620680.5
28×Ø15	6	620682.7
35×Ø15	6	620683.8

KAN-therm press nipple reducer

Size	Pcs./packing	Code
** 15×12	10/200	620211.9
** 18×12	10/200	620212.1
** 22×12	10/140	620214.1
18×15	10/200	620213.0
22×15	10/140	620215.2
22×18	10/120	620216.3
28×15	10/70	620217.4
28×18	10/100	620218.5
28×22	10/80	6240234
35×15	10/80	6303516
35×18	10/80	6303518
35×22	10/50	6240245
35×28	10/60	6240256
42×22	4/24	6246651
42×28	5/30	6240267
42×35	4/24	6240278
54×18	4/16	620667.3
54×22	4/16	6240289
54×28	4/16	6240291
54×35	10/30	6240300
54×42	4/16	6240993
76,1×42	2/-	6206387
76,1x42	4/38	6206387N
76,1×54	2/-	6206398
76,1x54	4/38	6206398N
88,9×54	2/-	6206409
88,9×76,1	2/-	6206411
88,9x76,1	4/38	6206411N
108×76,1	2/-	6206420
108×88,9	2/-	6206431

KAN-therm press male elbow

Size	Pcs./packing	Code
** 12×R⅜	10/150	620197.6
15×R⅜	10/150	620198.7
15×R½	10/150	620199.8
18×R½	10/100	620200.9
22×R¾	10/60	6240366
28×R1	10/30	6240377
35×R1¼	10/10	6240388
42×R1½	4/12	6240399
54×R2	2/8	6240401

** on request

size and directions in [mm]

KAN-therm press male elbow - short

Size	Pcs./packing	Code
** 12×R⅜	10/100	620206.4
15×R⅜	10/100	620207.5
15×R½	10/100	620208.6
18×R½	10/100	620209.7
22×R¾	10/60	6240982

KAN-therm press female elbow

Size	Pcs./packing	Code
22×Rp½	10/30	6249577
22×Rp¾	10/30	6240964
28×Rp½	5/30	6241169
28×Rp¾	5/30	6241171
28×Rp1	5/30	6249588
35×Rp½	5/10	6241180
35×Rp¾	5/10	6241061
35×Rp1	5/10	6249599

NEW

KAN-therm press female elbow - short

Size	Pcs./packing	Code
22xRp½	10/50	6341038
28xRp½	5/30	6341049
35xRp½	5/10	6341051

NEW

KAN-therm press female tee

Size	Pcs./packing	Code
15×Rp½×15	10/80	620281.2
18×Rp½×18	10/50	620282.3
18×Rp¾×18	10/50	620984.1
22×Rp½×22	10/50	6240619
22×Rp¾×22	10/40	6240621
28×Rp½×28	10/30	6240630
28×Rp¾×28	10/30	6240641
28×Rp1×28	10/30	6249601
35×Rp½×35	10/20	6240652
35×Rp¾×35	10/20	6240663
35×Rp1×35	10/20	6249610
42×Rp½×42	4/16	6240674
42×Rp¾×42	4/16	6240685
42×Rp1×42	4/16	6249621
54×Rp½×54	2/8	6240696
54×Rp¾×54	2/8	6240707
54×Rp1×54	2/8	6241070
76,1×Rp¾×76,1	2/-	6206508
88,9×Rp¾×88,9	1/-	6206519
108×Rp¾×108	1/-	6206521

** on request

size and directions in [mm]

KAN-therm crossover

Size	Pcs./packing	Code		
** 12×12	10/80	620192.1	na zapytanie	I
15×15	10/80	620193.2	10,21	I
18×18	10/60	620194.3	11,15	I
22×22	10/50	6240883	12,81	I
28×28	10/20	6240894	15,80	I

KAN-therm bend 90°

Size	Pcs./packing	Code
** 12×12	10/80	620184.4
15×15	10/80	620185.5
18×18	10/60	620186.6
22×22	10/40	6240839
28×28	10/20	6240841
35×35	4/8	6240850
42×42	2/4	6240861
54×54	2/2	6240872

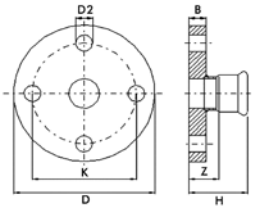
KAN-therm press cup

Size	Pcs./packing	Code
15	20/80	620295.5
18	20/300	620296.6
22	10/240	6240311
28	10/130	6240322
35	5/75	6240333
42	4/48	6240344
54	4/32	6240355
76,1	4/-	6206915
88,9	4/-	6206926
108	4/-	6206937

KAN-therm press flange PN16

Size			Pcs./packing	Code
76,1	65	4	4	620659.6
76,1	65	4	1	620659.6N
88,9	80	8	2	620660.7
108	100	8	2	620661.8

Kod	Z	D	D2	H	K	B
620659.6	79	185	18	134	145	18
620659.6N	79	185	18	134	145	18
620660.7	78	200	18	141	160	20
620661.8	88	220	18	166	188	20



** on request

size and directions in [mm]

KAN-therm LBP EPDM O-Ring

Size	Pcs./packing	Code
** 12	20/600	622220.5
15	20/600	6222216
18	20/500	6222227
22	20/500	6222238
28	20/400	6222249
35	20/400	6222251
42	20/300	6222260
54	20/300	6222271

The LBP EPDM O-Rings can be used in System KAN-therm Steel and Inox.

KAN-therm LBP FDM O-Ring

Size	Pcs./packing	Code
** 15	20/600	6119401
18	20/500	6119410
22	20/500	6119421
28	20/400	6119432
35	20/400	6119443
42	20/300	6119454
54	20/300	6119465
54	20/300	6222271

The LBP EPDM O-Rings can be used in System KAN-therm Steel and Inox.

KAN-therm EPDM O-Ring

Size	Pcs./packing	Code
76,1	5/100	620801.5
88,9	5/100	620802.6
108	5/50	620803.7

KAN-therm FPM Viton O-Ring

Size	Pcs./packing	Code
76,1	5/100	611937.7
88,9	5/100	611938.8
108	5/50	611939.9

The LBP EPDM O-Rings can be used in System KAN-therm Steel and Inox.

** on request

size and directions in [mm]

KAN-therm cutter for steel pipes

Size	Pcs./packing	Code
12-54 mm	any	113000
35-108 mm	any	113100

KAN-therm wheel for cutter for steel pipes - service element

	any	341614

KAN-therm electric cutter

Size	Pcs./packing	Code
22-108 mm	any	845000

KAN-therm wheel for electric cutter for steel pipes - service element

	any	8405050

KAN-therm stripping tool -drill set

Size	Pcs./packing	Code
12-54 mm	any	113835

KAN-therm electric press tool 230V - Power Press E Basic Pack

Size	Pcs./packing	Code
12-54 mm	any	ZAPR01

KAN-therm rechargeable press tool - Aku Press

Size	Pcs./packing	Code
12-54 mm	any	ZAPRAK

** on request

size and directions in [mm]

KAN-therm M profile press jaws for Power and Aku Press

Size	Pcs./packing	Code
15	any	570110
18	any	570120
22	any	570130
28	any	570140
35	any	570150
42	any	570160
54	any	570170

KAN-therm rechargeable press tool UAP-100

Size	Pcs./packing	Code
76,1-108 mm	any	UAP100

KAN-therm press jaws for UAP-100

Size	Pcs./packing	Code
76,1	any	BP761M
88,9	any	BP889M
108	any	BP108M

** on request

size and directions in [mm]

SYSTEM
KAN-therm

SYSTEM **KAN-therm** Inox

ISO 9001

TECHNOLOGY
OF SUCCESS

Contents

Page

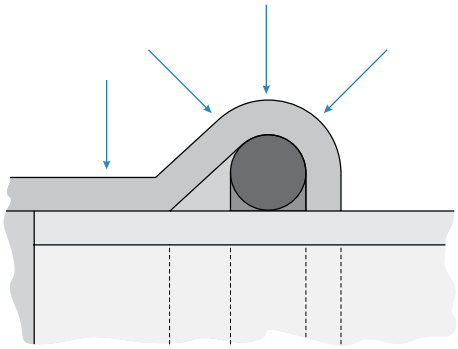
System **KAN-therm** Inox is a system made of stainless steel pipes and fittings in diameters 15 to 168,3 mm. The use of stainless steel enables to design long-lasting and failure-free systems for transporting highly corrosive media.

System **KAN-therm** Inox - modern connection technology

«Press" technology used in System **KAN-therm** Inox enables to make fast and reliable connections by pressing fittings using widely available press tools, eliminating twisting and welding of individual elements. The system permits a very quick assembly even when using pipes and fittings in large diameters.
System **KAN-therm** Inox pipes and fittings are made of thin-walled steel, which significantly decreases weight of individual elements and facilitates system assembly.
Connecting elements in „press" technology allows to obtain connections of minimized pipe section narrowing, which significantly decreases waste of system pressure and creates excellent hydraulic conditions.

System **KAN-therm** Inox - long-lasting connection technology

Connection leak tightness in System **KAN-therm** Inox is provided by special O-Ring seals and a three-point „M" type jaw.



System **KAN-therm** Inox - application possibilities

- central heating, hot and cold potable water systems (Attention!!! 1.4301 steel type pipes are not suitable for potable water installations),
- fire protection systems,
- industrial systems,
- compressed air systems,
- cooling water systems,
- heat pumps.

System **KAN-therm** Inox - advantages

- quick and reliable system assembly without welding and twisting,
- wide range of pipe and fitting diameters up to 168 mm,
- wide range of working temperatures: from -35°C to 135°C,
- high pressure resistance up to 16 bar,
- compatible with plastic systems **KAN-therm** Press and Push,
- lightweight pipes and fittings,
- system high aesthetics,
- resistance to mechanical damage.

System **KAN-therm** Inox – fitting assembly

1. Pipe cutting

Pipes should be cut perpendicular to their axes using pipe roll-cutter (full cut, with no breaking off nicked pipe segments). Using other tools is permissible provided the cut is perpendicular and cut edges are not damaged (no breaking off, no material decrements or other deformations of pipe section). Tools that emit a lot of heat, e.g. a flame torch, an angle grinder, etc., cannot be used.

2. Beveling

Using a hand operated stripping tool (for 76,1-108 mm half-rounded steel file), bevel outside and inside the tip of the cut pipe, and remove all file dust that can damage an O-Ring during assembly. Stripping tool may also be mounted on electric machines (for instance electric drill).

3. Marking the insertion depth of the pipe into the fitting

In order to obtain proper connection strength it is necessary to keep the correct insertion depth (Tab.1) of the pipe in the fitting (it should be slid home). To make sure the pipe is properly slid in the fitting during pressing, mark the required insertion depth with a pen marker on the pipe. After the connection have been made, the marking should be visible just next to edge of the fitting. Also, there are special markers for marking the insertion depth (no fitting check-in).

4. Control

Before assembly, check visually that there is an O-Ring in the fitting, whether it is not damaged, and whether there are no file dust or any other sharp objects which can cause damage to the O-Ring during assembly. In order to proper assembling it is necessary to check the minimal allowed distance between the fittings according to Table1.

5. Pipe and fitting assembly

Before making the connection, axially insert the pipe into the fitting to a marked depth (To make the assembly easier it is possible to slightly twist the pipe in relation to the fitting). Using any kinds of oils, lubricating oils and fats in order to make the montage of the pipe into the fitting easier is not allowed (it is allowed to use only water or spoiled soap - recommended in case of pressure test by air). In the case of making many connections (inserting pipes into fittings and pressing) it is very important to watch the pipe insertion depth. To do so, watch previously made markings on pipes near fitting edges.

6. Making a press connection

Before the beginning of the process of making the press connection, please check the efficiency of tools. Usage of pressing machine and jaws provided by the System **KAN-therm** is recommended. Always choose the suitable size of the jaw according to the diameter of executing connection. The jaw should be placed on the fitting in the way, which will ensure that the grooves in the jaw will cover the space, where are the O-Rings placed (raised parts of the fitting). After the start of pressing, the process takes place automatically and cannot be stopped. If, for some reasons the process of the pressing will be aborted, the connection need to be disassembled (cut out) and then the new connection should be executed one more time in correct way. If the contractors have different machines and jaws than those supplied by **KAN**, every use of them must be consulted with the **KAN** company individually.

6.1. Making a press connection in range 76,1-108

6.1a. Preparing the jaw

To perform press in the three the biggest dimensions of the Steel and Inox (76,1; 88,9; 108) a special jaws should be used (tetramerous) and the Klauke pressing machine. The jaw after release should be unlocked by removing the special bolt.

6.1b. Locking the jaw

Unlocked jaw need to be put on the fitting. The jaw has special groove, where the fitting edge needs to be placed.
Notice: The label on the jaw should be always at the pipe side (see picture).

6.1c. Assembling jaw on the fitting

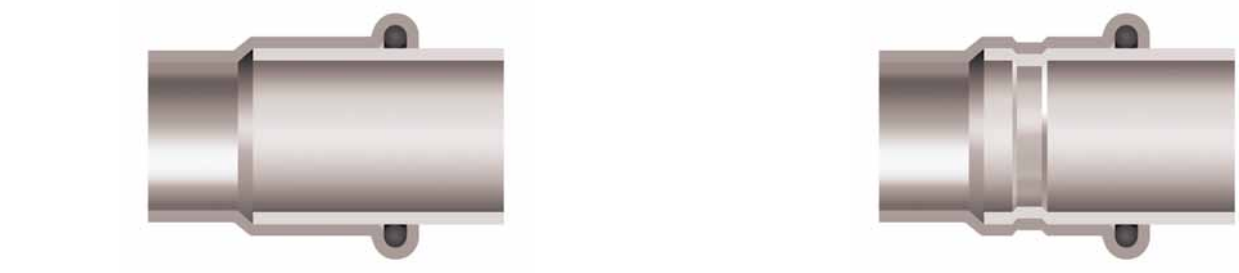
After the correct assembling the jaw onto the fitting, the jaw need to be locked using the special bolt. At this moment the jaw is ready to do the connection.

6.1d. Assembling the machine to the jaw

The machine need to be connected with the jaw in the way how it is shown on the picture. The arms of the machine have to be slip in up to the end. Maximal slip in is marked on the arm of the machine. Now, the machine is ready to be started.

6.1e. Making a connection

The time of the full press connection is about 1 min. After the start of pressing, the process takes place automatically and cannot be stopped. If, from some reasons the process of the pressing will be aborted, the connection need to be disassembled (cut out) and then the new connection should be executed one more time in correct way. After the connection is finished, the machine will automatically back to the previous position. The arms of the machine need to be move out form the jaw. To remove the jaw from the fitting, the jaw need to be unlocked. The jaws should be stored in the locked box.



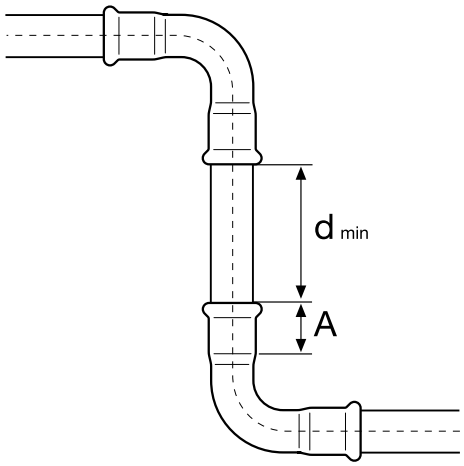
Pic. 5 Press conection before and after press

Mounting distance

Table 1 Pipe insertion depth into the fitting and minimum distance between pressed fittings

Ø [mm]	A [mm]	d_{min} [mm]
15	20	10
18	20	10
22	21	10
28	23	10
35	26	10
42	30	20
54	35	20
76	55*	55
88	63*	65
108	77*	80
139	100*	32
168	121*	37

*concerning the new design of fittings

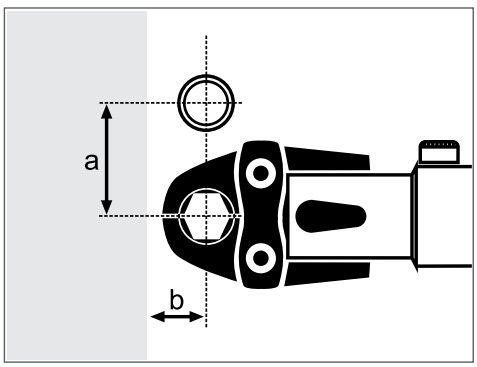


Pic. 1A.
A - Pipe insertion depth into the fitting,
d_{min} - minimum distance between fittings allowing for press correctness

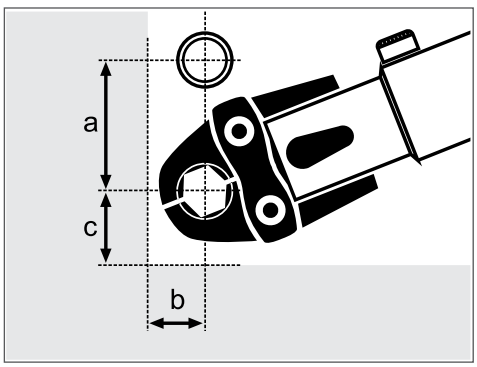
Table 2 Minimum assembly distances

Ø [mm]	Pic. 2		Pic. 3		
	a [mm]	b [mm]	a [mm]	b [mm]	c [mm]
15	56	20	75	25	28
18	60	20	75	25	28
22	65	25	80	31	35
28	75	25	80	31	35
35	75	30	80	31	44
42	140/115*	60/75*	140/115*	60/75*	75
54	140/120*	60/85*	140/120*	60/85*	85
76	140*	110*	165*	115*	115
88	150*	120*	185*	125*	125
108	170*	140*	200*	135*	135
139	290*	230*	290*	230*	230*
168	330*	260*	330*	260*	260*

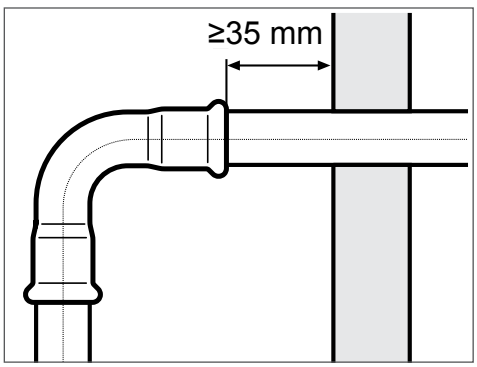
*applies to four-part pressing jaws



Pic. 2



Pic. 3



Pic. 4

System **KAN-therm** Inox – tools

Tools for diameters of 15 -54 mm.

Tools for diameters of 76,1 -108 mm.

For connecting **KAN-therm** Inox Giga Size 139,7 mm and 168,3 mm elements, company **KAN** delivers apriopriate tools directly to the building site.

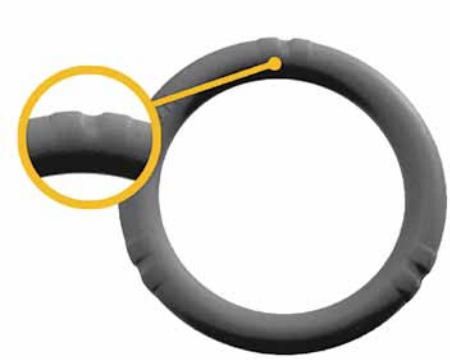
Tools – Safety

All tools must be applied and used in accordance with their purpose and the manufacturer's instructions.
Use for other purposes or in other areas are considered to be inconsistent with the intended use.
Intended use also requires compliance with the instructions, conditions of inspection and maintenance and relevant safety regulations in their current version.
All works done with tools, which do not meet the application compatible with the intended purpose may result in damage to tools, accessories and pipes.
The consequence may be the leak and / or damage.

System **KAN-therm** Inox – O-Rings LBP

LBP O-Rings shows the unpressed connections - „unpressed untight". (LBP - **l**eak **b**efore **p**ressing). Thanks to the special grooves O-Rings LBP assure the optimum inspection of the connections during pressure test. Connections not pressed are untight and from this regard easy to locate. In diameters 76,1 - 168,3 mm LBP function is achieved by fittings noozle ovalization.

The activity O-Rings with the function of signallings not pressed connections (LBP).



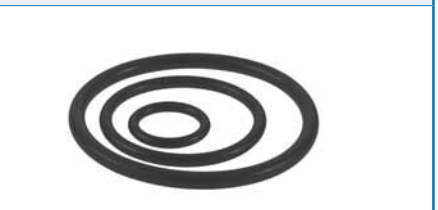
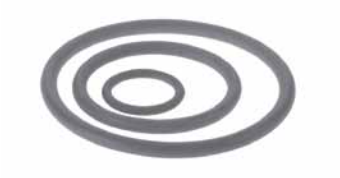
O-Rings with the function of signallings not pressed connections (LBP).

System **KAN-therm** Inox – detailed information

Pipes and fittings - material

- Cro-Nickel-Moly corrosion resistant steel - X5CrNiMo 17122 no.1.4401 acc. to DIN-EN 10088, pipes acc. to DIN-EN 17455, acc. to AISI 316.
- Cro-Nickel-Moly corrosion resistant steel - X2CrNiMo17-12-2, no.1.4404 acc. to DIN-EN 10088, pipes acc. to DIN-EN 10312, acc. to AISI 316L.
- Cro-Nickel corrosion resistant steel - X5CrNi18-10 no. 1.4301 acc. to DIN-EN 10088, pipes acc. to DIN-EN 10312, acc. to AISI 304.

O-Rings

O-Ring	Properties and work parameters	Application
EPDM (butyl rubber)) 	■ color: black ■ max. operating pressure: 16 bar ■ operating temperature: -35°C to 135°C ■ short duration: 150°C	■ potable water ■ hot water ■ treated water (softened, decalcified, distilled, with glycol) ■ compressed air (with no oil content)
FPM / Viton (fluorine rubber) 	■ color: green ■ max. operating pressure: 16 bar ■ operating temperature: -30°C to 200°C ■ short duration: 230°C	■ solar systems ■ compressed air ■ fuel oil ■ vegetable fat ■ engine fuels **Caution!!** Not suitable for hot water installations.
FPM / Viton (fluorine rubber)) *NEW* 	■ color: gray ■ max. operating pressure: 5 bar ■ operating temperature: -20°C to 150°C ■ short duration: 180°C	■ isteam installations ■ steam installations 15 - 54 mm

Fittings come with standard EPDM O-Rings.
For special applications Viton O-Rings are delivered separately.
In case of exchanging the standard O-Rings EPDM to the VITON one it is not allowed to use again the dismounted O-Rings.
Areas of aplication that are outside the elementary scope of the closed heating installations, should be always consulted with the company KAN.

System **KAN-therm** Inox – elongation and thermal conductivity data

Material	Linear elongation coefficient	Elongation of 4 m segment at 60°C	Thermal conductivity
	[mm/(м×K)]	[mm]	[Вт/(м²×K)]
Inox	0,0166	3,98	15

System **KAN-therm** Inox – recommendations

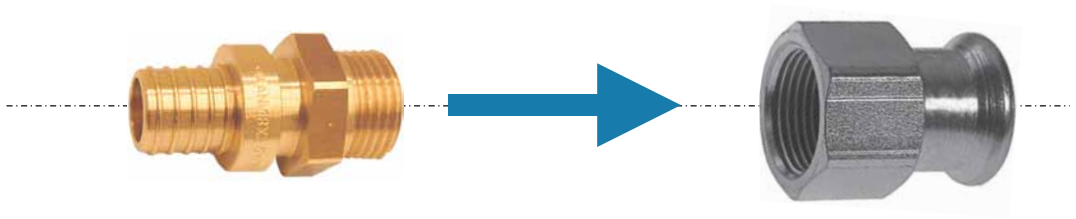
- System **KAN-therm** Inox pipes made of stainless steel 1.4404 and 1.4301 can not be used in installations that will be exposed to additional loads (such as hanging on the pipes, devastation, etc.).
- **KAN-therm** Inox steel pipes cannot be bent when warm. Cold bending is permissible provided the minimum bending radius is kept (R=3.5×dz). Do not expose pipe external surface to prolonged direct moisture during storage and use.
- Pipes over ⌀ 28 mm should not be bent. **ATTENTION!!!** - it's not recommended to bend System **KAN-therm** Inox pipes (also with mechanical benders) made of stainless steel type 1.4404 and 1.4301.
- Use ready-made pipe bends or 90° and 45° elbows offered by System **KAN-therm** Inox.
- It is not allowed to cut pipes using tools which emit a lot of heat, e.g. flame torches or grinders. To cut **KAN-therm** Inox pipes use only pipe cutters (hand operated and mechanical).
- When **KAN-therm** Inox pipes are concealed in walls, pipes should be insulated because of thermal elongation compensation and construction chemicals.
- In the case of using external heat sources (e.g. heating cables) heating a pipe wall, the pipe wall temperature should not exceed 60°C.
- General content of chlorides in water cannot exceed 250 mg/l. In the case of transporting chemical substances the possible use of **KAN-therm** Inox pipes should be consulted with **KAN** Technical Department.
- System **KAN-therm** Inox installations require potential equalization.

Screw connections and joining with other **KAN-therm** Systems

System **KAN-therm** Steel offers the wide range of male and female threaded fittings. Because in the Steel and Inox fittings threads are the cone-shaped , to make a connections with **KAN-therm** Push and Press brass fittings, use only male threads with the small quantity of tow at the brass side. To not stress the press connection, it is advised to make a screw connection before the press one. For thread's sealing in **KAN-therm** Inox installations the PTFE tapes (Teflon) cannot be used as the other detergents containing halids (eg. chlorides).

Male brass fitting
System **KAN-therm** Push, Press

Female steel fitting
System **KAN-therm** Inox



Pic. 6 Correct screw connection

Elements of the System **KAN-therm** Steel can be assembled (through the screw or flanged connections) with elements made of others materials (see the table below).

Possibility of connections for Systems KAN-therm Steel and Inox with other materials					
type of installation		Pipes/Fittings			
		Copper	Bronze/Brass	Carbon steel	Stainless steel
Steel	closed	yes	yes	yes	yes
	open	no	no	no	no
Inox	closed	yes	yes	yes	yes
	open	yes	yes	no	yes

Remember, that connecting directly the elements made from the stainless steel with the elements made of carbon steel Zink plated (eg. pipes) can lead to corrosion. This process can be eliminated by using the plastic inserts or independent metal inserts (bronze, brass) with minimal length of 50 mm (eg. using the brass ball valve).

System **KAN-therm** Inox - pipeline assembly

Maximum distances between attachment points are presented in Table 3.

Table 3 Maximum distances between pipeline attachment points

Pipe diameter [mm]	Distance between attachment points [m]
15	1,25
18	1,50
22	2,00
28	2,25
35	2,75
42	3,00
54	3,50
76,1	4,25
88,9	4,75
108	5,00
139	5,00
168	5,00

Attachment points can be done as:

- slidable points PP - slidable points should enable free axial motion of the pipeline (caused by thermal motions), that is why they shouldn't be fixed next to the fittings (minimal distance from fitting flange must be higher than maximum elongated of pipeline). The slidable point can be made as "unscrewed" metal clamps with rubber pads,
- fixed points PS - to make fixed point, the metal clamp with rubber pad should be used, it should enables precise and reliability stabilization of the pipe on the whole circuit. The metal clump should be maximally tighten on the pipe,
- attachment points preventing the pipeline from moving downwards; used if the pipeline movement on compensation arm length was blocked by required PP position.

System **KAN-therm** Inox - fixed (PS) and slidable (PP) points

- fixed points should prevent any movement of pipelines and should be fixed next to fittings (at both sides of a fitting, e.g. coupling, tee connection),
- fixed or slidable points cannot be fixed directly onto fittings,
- when fixing PSs near tee connections make sure that clamps blocking the pipeline are not fixed onto branches of smaller diameters than one dimension in relation to the pipeline (forces induced by large diameter pipes can damage small diameters),
- PPs enable only axial motion of the pipeline (they should be treated as fixed points for perpendicular direction to the pipeline axis) and should be made by clamps,
- PPs should not be fixed next to fittings because this may block thermal motions of the pipeline,
- remember that PPs prevent the pipeline from moving transverse to its axis and that is why their position may determine compensation arms length.

System **KAN-therm** Inox - elongation compensation

Along with water temperature rise Δt, pipelines become elongated by ΔL value. Thermal elongation ΔL causes pipeline deformation on expansion compensation length A. Expansion compensation length A should not cause excessive stresses in the pipeline and depends on the pipeline external diameter, thermal elongation (ΔL), and a linear expansion coefficient for a given material. Elongations (ΔL) in function of pipe length (L) and temperature rise (Δt) are presented in Table 4:

Table 4 Total length elongation ΔL [mm] – System **KAN-therm** Inox

L [m]	Δt [°C]									
	10	20	30	40	50	60	70	80	90	100
1	0,17	0,33	0,50	0,66	0,83	1,00	1,16	1,33	1,49	1,66
2	0,33	0,66	1,00	1,33	1,66	1,99	2,32	2,66	2,99	3,32
3	0,50	1,00	1,49	1,99	2,49	2,99	3,49	3,98	4,48	4,98
4	0,66	1,33	1,99	2,66	3,32	3,98	4,65	5,31	5,98	6,64
5	0,83	1,66	2,49	3,32	4,15	4,98	5,81	6,64	7,47	8,30
6	1,00	1,99	2,99	3,98	4,98	5,98	6,97	7,97	8,96	9,96
7	1,16	2,32	3,49	4,65	5,81	6,97	8,13	9,30	10,46	11,62
8	1,33	2,66	3,98	5,31	6,64	7,97	9,30	10,62	11,95	13,28
9	1,49	2,99	4,48	5,98	7,47	8,96	10,46	11,95	13,45	14,94
10	1,66	3,32	4,98	6,64	8,30	9,96	11,62	13,28	14,94	16,60
12	1,99	3,98	5,98	7,97	9,96	11,95	13,94	15,94	17,93	19,92
14	2,32	4,65	6,97	9,30	11,62	13,94	16,27	18,59	20,92	23,24
16	2,66	5,31	7,97	10,62	13,28	15,94	18,59	21,25	23,90	26,56
18	2,99	5,98	8,96	11,95	14,94	17,93	20,92	23,90	26,89	29,88
20	3,32	6,64	9,96	13,28	16,60	19,92	23,24	26,56	29,88	33,20

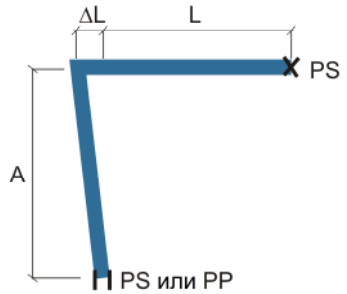
System **KAN-therm** Inox – „L", „Z", and „U" compensator selection

Table 5 Required expansion compensation length A [mm] for System **KAN-therm** Inox

Elongation values ΔL [mm]	Pipe external diameters d_z [mm]											
	12	15	18	22	28	35	42	54	64	76,1	88,9	108
	Required expansion compensation length A [mm]											
2	246	270	298	337	376	412	468	555	600	661	753	826
4	349	382	422	476	532	583	661	785	849	935	1064	1168
6	427	468	517	583	652	714	810	962	1039	1146	1303	1431
8	493	540	597	673	753	825	935	1110	1200	1323	1505	1652
10	551	604	667	753	842	922	1046	1241	1342	1479	1683	1846
12	604	661	731	825	922	1010	1146	1360	1470	1620	1843	2022
14	652	714	790	891	996	1091	1237	1469	1588	1750	1990	2185
16	697	764	844	952	1065	1167	1323	1570	1697	1871	2128	2336
18	739	810	895	1010	1129	1237	1403	1665	1800	1984	2257	2477
20	779	854	944	1065	1191	1304	1479	1756	1897	2091	2379	2611
22	817	895	990	1117	1249	1368	1551	1841	1990	2193	2495	2738
24	854	935	1034	1167	1304	1429	1620	1923	2079	2291	2606	2860
26	889	973	1076	1214	1357	1487	1686	2002	2163	2385	2712	2977
28	922	1010	1117	1260	1409	1543	1750	2077	2245	2475	2815	3090
30	955	1046	1156	1304	1458	1597	1811	2150	2324	2561	2914	3198
32	986	1080	1194	1347	1506	1650	1871	2221	2400	2645	3009	3302
34	1016	1113	1231	1388	1552	1700	1928	2289	2474	2727	3102	3404

Table 5 presents required expansion compensation length A for different thermal elongation values ΔL and pipe external diameters (dz). Rules for selection of different types of compensators are given below.

„L" type compensator



A - expansion compensation length;

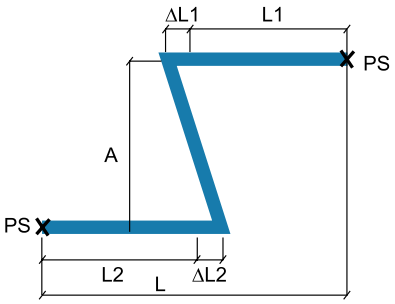
PS - fixed point (prevents the pipeline from moving);

L - pipeline initial length;

ΔL - pipeline thermal elongation.

For compensation arm A dimensioning, a substitute length Lz = L is taken, and for Lz length the thermal elongation value ΔL is determined from Tab. 4. Next, the expansion compensation length A is determined on the basis of Tab. 5.

„Z" type compensator



A - expansion compensation length

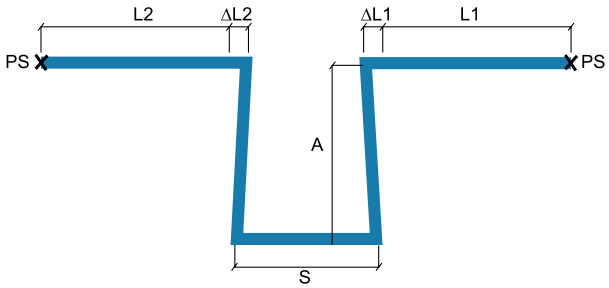
PS - fixed point (prevents the pipeline from moving);

L - pipeline initial length;

ΔL - pipeline thermal elongation.

For compensation arm A dimensioning, L1 and L2 sum is taken as a substitute length Lz = L1+L2, and for Lz length a substitute ΔL is determined on the basis of Tab. 4. Next, the expansion compensation length A is determined on the basis of Tab. 5..

„U" type compensator



A - expansion compensation length;

PS - fixed point (prevents the pipeline from moving)

L - pipeline initial length

ΔL - pipeline thermal elongation

S - U type compensator width

If a fixed point is placed within compensator width W, then for compensation arm A dimensioning, L1 and L2 bigger value is taken as a substitute length Lz = max (L1, L2), and for Lz length a substitute ΔL is determined on the basis of Tab. 4. Next, the expansion compensation length A is determined on the basis of Tab. 5.
Compensator width W = A/2.

System **KAN-therm** Inox - pressure drop

Coefficient of local pressure drops ζ and equivalent length for fittings are presented in Table 6.

Table 6 Coefficient of local pressure drops ζ and equivalent length for fittings

									
Ø15 - 54 mm									
Analytical direct method									
ζ	1,5	0,7	0,5	0,5	0,4	0,9	1,3	1,5	3,0
Method of equivalent length [m]									
15	0,90	0,40	0,30	0,30	0,25	0,50	0,70	0,90	1,80
18	1,10	0,50	0,40	0,40	0,30	0,65	0,90	1,10	2,30
22	1,40	0,60	0,50	0,50	0,40	0,80	1,20	1,40	2,80
28	1,90	0,90	0,60	0,60	0,50	1,10	1,50	1,90	3,80
35	2,50	1,20	0,80	0,80	0,70	1,50	2,10	2,50	5,00
42	3,10	1,40	1,00	1,00	0,90	1,80	2,60	3,10	6,20
54	4,00	1,80	1,30	1,30	1,10	2,30	3,30	4,00	8,00
Ø64 - 76,1 - 88,9 - 108 mm									
Analytical direct method									
ζ	1,3	0,6	0,4	0,5	0,1	1,0	1,3	1,5	3,0
Method of equivalent length [m]									
76,1	6,10	2,80	1,90	2,40	0,50	4,70	6,10	7,10	14,20
88,9	7,80	3,60	2,40	3,00	0,60	6,00	7,80	9,00	18,00
108	10,60	4,90	3,30	4,10	0,80	8,20	10,60	12,30	24,60
139	-	4,75	3,49	-	2,93	5,87	9,08	10,34	20,96
168	-	5,72	4,21	-	3,53	7,07	10,94	12,45	25,25

Vs [l/s]	15×1		18×1		22×1,2		28×1,2		35×1,5		42×1,5		54×1,5		76,1×2		88,9×2		108×2		139,7×2,6		168,3×2,6	
	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]
0,07	0,53	100	0,35	44	0,23	19	0,14	7	0,09	3	0,06	1												
0,14	1,06	1259	0,70	464	0,46	176	0,27	49	0,17	17	0,12	7	0,07	2										
0,15	1,13	1423	0,75	524	0,50	198	0,29	56	0,19	19	0,13	8	0,07	2										
0,20	1,51	2379	1,00	871	0,66	328	0,39	92	0,25	32	0,17	12	0,10	4										
0,21	1,58	2597	1,05	950	0,70	358	0,41	100	0,26	35	0,18	14	0,10	4										
0,24	1,81	3304	1,20	1205	0,80	453	0,47	126	0,30	44	0,20	17	0,12	5	0,06	1								
0,25	1,89	3558	1,25	1296	0,83	487	0,49	135	0,31	47	0,21	18	0,12	5	0,06	1								
0,33	2,49	5895	1,64	2135	1,10	798	0,64	220	0,41	76	0,28	30	0,16	8	0,08	2								
0,40			1,99	3025	1,33	1126	0,78	310	0,50	106	0,34	41	0,20	12	0,10	2	0,07	1						
0,50			2,49	4545	1,66	1684	0,97	461	0,62	158	0,42	61	0,25	17	0,12	3	0,09	2						
0,60					1,99	2345	1,17	639	0,75	218	0,50	84	0,29	23	0,15	5	0,11	2						
0,70					2,32	3107	1,36	844	0,87	287	0,59	111	0,34	31	0,17	6	0,12	3	0,08	1				
0,80							1,56	1074	1,00	364	0,67	140	0,39	39	0,20	7	0,14	3	0,09	1				
0,90							1,75	1331	1,12	450	0,75	173	0,44	48	0,22	9	0,16	4	0,11	2				
1,00							1,95	1612	1,25	544	0,84	209	0,49	57	0,25	11	0,18	5	0,12	2	0,07	1		
1,10							2,14	1919	1,37	646	0,92	248	0,54	68	0,27	13	0,19	6	0,13	2	0,08	1		
1,20									1,49	756	1,01	290	0,59	79	0,29	15	0,21	7	0,14	3	0,09	1		
1,30									1,62	875	1,09	335	0,64	92	0,32	17	0,23	8	0,15	3	0,09	1		
1,40									1,74	1001	1,17	382	0,69	105	0,34	20	0,25	9	0,17	3	0,10	1		
1,50									1,87	1135	1,26	433	0,74	118	0,37	22	0,27	10	0,18	4	0,11	1		
1,60									1,99	1277	1,34	487	0,78	133	0,39	25	0,28	12	0,19	4	0,11	1	0,08	1
1,70									2,12	1428	1,43	543	0,83	148	0,42	28	0,30	13	0,20	5	0,12	1	0,08	1
1,80											1,51	603	0,88	164	0,44	31	0,32	14	0,21	5	0,13	2	0,09	1
1,90											1,59	665	0,93	181	0,47	34	0,34	16	0,22	6	0,14	2	0,09	1
2,00											1,68	731	0,98	198	0,49	37	0,35	17	0,24	6	0,14	2	0,10	1
2,10											1,76	799	1,03	217	0,52	41	0,37	19	0,25	7	0,15	2	0,10	1
2,20											1,84	869	1,08	236	0,54	44	0,39	20	0,26	8	0,16	2	0,11	1
2,30											1,93	943	1,13	255	0,56	48	0,41	22	0,27	8	0,16	3	0,11	1
2,40											2,01	1020	1,18	276	0,59	52	0,42	24	0,28	9	0,17	3	0,12	1
2,50													1,23	297	0,61	56	0,44	25	0,29	10	0,18	3	0,12	1
2,60													1,27	319	0,64	60	0,46	27	0,31	10	0,19	3	0,12	1
2,70													1,32	342	0,66	64	0,48	29	0,32	11	0,19	3	0,13	1
2,80													1,37	365	0,69	68	0,50	31	0,33	12	0,20	4	0,13	1
2,90													1,42	389	0,71	73	0,51	33	0,34	12	0,21	4	0,14	1
3,00													1,47	414	0,74	77	0,53	35	0,35	13	0,21	4	0,14	2
3,10													1,52	439	0,76	82	0,55	37	0,37	14	0,22	4	0,15	2
3,20													1,57	465	0,79	87	0,57	39	0,38	15	0,23	5	0,15	2
3,30													1,62	492	0,81	92	0,58	42	0,39	16	0,24	5	0,16	2
3,40													1,67	520	0,83	97	0,60	44	0,40	17	0,24	5	0,16	2
3,50													1,72	548	0,86	102	0,62	46	0,41	17	0,25	5	0,17	2
3,60													1,77	577	0,88	107	0,64	49	0,42	18	0,26	6	0,17	2
3,70													1,81	607	0,91	113	0,65	51	0,44	19	0,26	6	0,18	2
3,80													1,86	637	0,93	118	0,67	54	0,45	20	0,27	6	0,18	2
3,90													1,91	668	0,96	124	0,69	56	0,46	21	0,28	6	0,19	2
4,00													1,96	700	0,98	130	0,71	59	0,47	22	0,29	7	0,19	3
4,10													2,01	733	1,01	136	0,73	62	0,48	23	0,29	7	0,20	3
4,20															1,03	142	0,74	64	0,50	24	0,30	7	0,20	3
4,30															1,05	148	0,76	67	0,51	25	0,31	8	0,21	3
4,40															1,08	154	0,78	70	0,52	26	0,31	8	0,21	3
4,50															1,10	161	0,80	73	0,53	27	0,32	8	0,22	3
4,60															1,13	167	0,81	76	0,54	28	0,33	9	0,22	3
4,70															1,15	174	0,83	79	0,55	30	0,34	9	0,23	3
4,80															1,18	181	0,85	82	0,57	31	0,34	9	0,23	4
4,90															1,20	188	0,87	85	0,58	32	0,35	10	0,23	4
5,00															1,23	195	0,88	88	0,59	33	0,36	10	0,24	4
5,50															1,35	231	0,97	105	0,65	39	0,39	12	0,26	5
6,00															1,47	271	1,06	123	0,71	46	0,43	14	0,29	5
6,50															1,59	314	1,15	142	0,77	53	0,47	16	0,31	6
7,00															1,72	360	1,24	162	0,83	61	0,50	18	0,34	7
7,50															1,84	408	1,33	184	0,88	69	0,54	21	0,36	8
8,00															1,96	460	1,42	207	0,94	77	0,57	23	0,38	9
8,50															2,09	514	1,50	231	1,00	86	0,61	26	0,41	10
9,00																	1,59	257	1,06	96	0,64	29	0,43	11
9,50																	1,68	284	1,12	106	0,68	32	0,46	12
10,00																	1,77	312	1,18	116	0,72	35	0,48	13
10,50																	1,86	341	1,24	127	0,75	38	0,50	14
11,00																	1,95	372	1,30	138	0,79	41	0,53	16
11,50																	2,03	403	1,36	150	0,82	45	0,55	17
12,00																			1,42	162	0,86	48	0,58	18
12,50																			1,47	174	0,89	52	0,60	20
13,00																			1,53	187	0,93	56	0,62	21
13,50																			1,59	201	0,97	60	0,65	23
14,00																			1,65	215	1,00	64	0,67	24
14,50																			1,71	229	1,04	68	0,70	26
15,00																			1,77	244	1,07	72	0,72	27
15,50																			1,83	259	1,11	77	0,74	29
16,00																			1,89	275	1,15	81	0,77	31
16,50																			1,95	291	1,18	86	0,79	33
17,00																			2,00	307	1,22	91	0,82	34
17,50																			2,06	324	1,25	96	0,84	36
18,00																			2,12	341	1,29	101	0,86	38

Tab. 7 Linear pressure drops R for water at a temperature of 20°C

Vs [l/s]	15×1		18×1		22×1,2		28×1,2		35×1,5		42×1,5		54×1,5		76,1×2		88,9×2		108×2		139,7×2,6		168,3×2,6	
	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]
0,07	0,54	47	0,35	21	0,24	9	0,14	3	0,09	14	0,06	1												
0,14	1,07	1095	0,71	397	0,47	149	0,28	41	0,18	16	0,12	6	0,07	2										
0,15	1,15	1242	0,76	450	0,51	168	0,30	47	0,19	27	0,13	6	0,07	2										
0,20	1,53	2106	1,01	758	0,67	282	0,40	77	0,25	29	0,17	10	0,10	3										
0,21	1,61	2304	1,06	829	0,71	308	0,41	84	0,27	37	0,18	11	0,10	3										
0,24	1,84	2950	1,21	1058	0,81	392	0,47	107	0,30	39	0,20	14	0,12	4										
0,25	1,92	3183	1,26	1140	0,84	422	0,49	115	0,32	65	0,21	15	0,12	4	0,06	1								
0,33	2,53	5345	1,67	1903	1,11	700	0,65	190	0,42	91	0,28	25	0,16	7	0,08	1								
0,40			2,02	2720	1,35	996	0,79	269	0,51	136	0,34	35	0,20	10	0,10	2	0,07	1						
0,50			2,53	4131	1,69	1505	0,99	404	0,63	190	0,43	52	0,25	14	0,12	3	0,09	1						
0,60					2,02	2114	1,19	565	0,76	251	0,51	72	0,30	20	0,15	4	0,11	2						
0,70					2,36	2820	1,38	750	0,89	320	0,60	96	0,35	26	0,17	5	0,13	2	0,08	1				
0,80							1,58	961	1,01	398	0,68	122	0,40	33	0,20	6	0,14	3	0,10	1				
0,90							1,78	1196	1,14	483	0,77	151	0,45	41	0,22	8	0,16	4	0,11	1				
1,00							1,98	1456	1,26	576	0,85	183	0,50	50	0,25	9	0,18	4	0,12	2	0,08	1		
1,10							2,17	1740	1,39	677	0,94	218	0,55	59	0,27	11	0,20	5	0,13	2	0,09	1		
1,20									1,52	786	1,02	256	0,60	69	0,30	13	0,22	6	0,14	2	0,09	1		
1,30									1,64	902	1,11	296	0,65	80	0,32	15	0,23	7	0,16	3	0,10	1		
1,40									1,77	1026	1,19	340	0,70	91	0,35	17	0,25	8	0,17	3	0,11	1		
1,50									1,90	1157	1,28	386	0,75	104	0,37	19	0,27	9	0,18	3	0,11	1		
1,60									2,02	1297	1,36	435	0,80	117	0,40	22	0,29	10	0,19	4	0,12	1	0,09	1
1,70									2,15	1428	1,45	487	0,85	130	0,42	24	0,31	11	0,20	4	0,13	1	0,09	1
1,80											1,53	541	0,90	145	0,45	27	0,32	12	0,22	5	0,14	1	0,10	1
1,90											1,62	598	0,95	160	0,47	30	0,34	13	0,23	5	0,14	2	0,10	1
2,00											1,70	658	1,00	176	0,50	33	0,36	15	0,24	6	0,15	2	0,11	1
2,10											1,79	721	1,05	192	0,52	36	0,38	16	0,25	6	0,16	2	0,11	1
2,20											1,87	787	1,10	209	0,55	39	0,40	18	0,26	7	0,16	2	0,12	1
2,30											1,96	855	1,15	227	0,57	42	0,41	19	0,28	7	0,17	2	0,12	1
2,40											2,04	926	1,20	246	0,60	45	0,43	20	0,29	8	0,18	2	0,13	1
2,50													1,24	265	0,62	49	0,45	22	0,30	8	0,19	3	0,13	1
2,60													1,29	285	0,65	52	0,47	24	0,31	9	0,19	3	0,14	1
2,70													1,34	306	0,67	56	0,49	25	0,32	10	0,20	3	0,14	1
2,80													1,39	327	0,70	60	0,50	27	0,34	10	0,21	3	0,15	1
2,90													1,44	349	0,72	64	0,52	29	0,35	11	0,21	3	0,15	1
3,00													1,49	372	0,75	68	0,54	31	0,36	11	0,22	4	0,16	1
3,10													1,54	395	0,77	72	0,56	33	0,37	12	0,23	4	0,16	2
3,20													1,59	420	0,80	77	0,57	35	0,38	13	0,24	4	0,17	2
3,30													1,64	444	0,82	81	0,59	37	0,40	14	0,24	4	0,17	2
3,40													1,69	470	0,85	86	0,61	39	0,41	14	0,25	4	0,18	2
3,50													1,74	496	0,87	90	0,63	41	0,42	15	0,26	5	0,18	2
3,60													1,79	523	0,90	95	0,65	43	0,43	16	0,26	5	0,19	2
3,70													1,84	550	0,92	100	0,66	45	0,44	17	0,27	5	0,19	2
3,80													1,89	578	0,95	105	0,68	47	0,46	18	0,28	5	0,19	2
3,90													1,94	607	0,97	110	0,70	50	0,47	18	0,29	6	0,20	2
4,00													1,99	637	1,00	115	0,72	52	0,48	19	0,29	6	0,20	2
4,10													2,04	667	1,02	121	0,74	54	0,49	20	0,30	6	0,21	3
4,20															1,05	126	0,75	57	0,50	21	0,31	6	0,21	3
4,30															1,07	132	0,77	59	0,51	22	0,31	7	0,22	3
4,40															1,10	138	0,79	62	0,53	23	0,32	7	0,22	3
4,50															1,12	144	0,81	64	0,54	24	0,33	7	0,23	3
4,60															1,15	149	0,83	67	0,55	25	0,34	7	0,23	3
4,70															1,17	156	0,84	70	0,56	26	0,34	8	0,24	3
4,80															1,20	162	0,86	73	0,57	27	0,35	8	0,24	3
4,90															1,22	168	0,88	75	0,59	28	0,36	8	0,27	4
5,00															1,25	174	0,90	78	0,60	29	0,39	10	0,29	5
5,50															1,37	208	0,99	93	0,66	35	0,43	12	0,32	5
6,00															1,49	245	1,08	110	0,72	41	0,47	13	0,34	6
6,50															1,62	284	1,17	127	0,78	47	0,50	15	0,37	7
7,00															1,74	327	1,26	146	0,84	54	0,54	17	0,39	8
7,50															1,87	372	1,35	166	0,90	61	0,57	20	0,41	9
8,00															1,99	420	1,44	187	0,96	69	0,61	22	0,44	10
8,50															2,12	470	1,53	209	1,02	77	0,64	24	0,46	11
9,00															2,09	514	1,62	233	1,08	86	0,68	27	0,49	12
9,50																	1,71	258	1,14	95	0,72	30	0,51	13
10,00																	1,80	284	1,20	104	0,75	32	0,54	14
10,50																	1,89	311	1,26	114	0,79	35	0,56	15
11,00																	1,98	339	1,32	124	0,82	38	0,58	16
11,50																	2,07	369	1,38	135	0,86	41	0,61	17
12,00																			1,44	146	0,89	45	0,63	19
12,50																			1,50	158	0,93	48	0,66	20
13,00																			1,56	170	0,97	51	0,68	21
13,50																			1,62	182	1,00	55	0,71	23
14,00																			1,68	195	1,04	59	0,73	24
14,50																			1,74	209	1,07	63	0,75	26
15,00																			1,80	222	1,11	66	0,78	27
15,50																			1,86	236	1,15	71	0,80	29
16,00																			1,92	251	1,18	75	0,83	31
16,50																			1,98	266	1,22	79	0,85	32
17,00																			2,04	281	1,25	83	0,88	34
17,50																			2,10	297	1,29	88	0,84	36
18,00																			2,16	313	1,29	101	0,86	38

Tab. 8 Linear pressure drops R for water at a temperature of 60°C

Q [W]	mi [kg/s]	15×1		18×1		22×1,2		28×1,2		35×1,5		42×1,5		54×1,5		76,1×2		88,9×2		108×2		139,7×2,6		168,3×2,6	
		w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]	w [m/s]	R [Pa/m]
500	0,01	0,05	3	0,03	1																				
1000	0,01	0,09	13	0,06	5	0,04	1																		
1500	0,02	0,14	27	0,09	10	0,06	4	0,04	1																
2000	0,02	0,18	44	0,12	16	0,08	6	0,05	2																
2500	0,03	0,23	64	0,15	24	0,10	9	0,06	3	0,04	1														
3000	0,04	0,28	87	0,18	33	0,12	13	0,07	4	0,05	1														
3500	0,04	0,32	114	0,21	43	0,14	16	0,08	5	0,05	2														
4000	0,05	0,37	143	0,24	54	0,16	21	0,10	6	0,06	2	0,04	1												
4500	0,05	0,42	176	0,27	66	0,18	25	0,11	7	0,07	3	0,05	1												
5000	0,06	0,46	211	0,30	79	0,20	30	0,12	9	0,08	3	0,05	1												
6000	0,07	0,55	290	0,37	108	0,24	41	0,14	12	0,09	4	0,06	2												
7000	0,08	0,65	380	0,43	142	0,28	54	0,17	15	0,11	5	0,07	2												
8000	0,10	0,74	481	0,49	179	0,33	68	0,19	19	0,12	7	0,08	3												
9000	0,11	0,83	591	0,55	220	0,37	84	0,21	24	0,14	8	0,09	3	0,05	1										
10000	0,12			0,61	265	0,41	101	0,24	28	0,15	10	0,10	4	0,06	1										
12000	0,14			0,73	365	0,49	139	0,29	39	0,18	14	0,12	5	0,07	1										
14000	0,17			0,85	479	0,57	182	0,33	51	0,21	18	0,14	7	0,08	2										
16000	0,19					0,65	231	0,38	65	0,24	22	0,16	9	0,10	2										
18000	0,22					0,73	284	0,43	80	0,27	28	0,18	11	0,11	3										
20000	0,24					0,81	342	0,48	96	0,30	33	0,21	13	0,12	4										
25000	0,30					1,02	508	0,60	142	0,38	49	0,26	19	0,15	5	0,08	1								
30000	0,36							0,71	196	0,46	68	0,31	26	0,18	7	0,09	1								
35000	0,42							0,83	258	0,53	89	0,36	35	0,21	10	0,11	2	0,08	1						
40000	0,48							0,95	327	0,61	113	0,41	44	0,24	12	0,12	2	0,09	1						
45000	0,54							1,07	404	0,69	139	0,46	54	0,27	15	0,14	3	0,10	1						
50000	0,60							1,19	487	0,76	168	0,51	65	0,30	18	0,15	3	0,11	2						
60000	0,72									0,91	232	0,62	90	0,36	25	0,18	5	0,13	2	0,09	1				
70000	0,84									1,07	305	0,72	118	0,42	33	0,21	6	0,15	3	0,10	1				
80000	0,96									1,22	388	0,82	150	0,48	42	0,24	8	0,17	4	0,12	1				
90000	1,08									1,37	479	0,92	186	0,54	51	0,27	10	0,19	5	0,13	2	0,08	1		
100000	1,20											1,03	224	0,60	62	0,30	12	0,22	5	0,14	2	0,09	1		
120000	1,44											1,23	311	0,72	86	0,36	16	0,26	8	0,17	3	0,10	1		
140000	1,68											1,44	410	0,84	113	0,42	22	0,30	10	0,20	4	0,12	1		
160000	1,92											1,64	522	0,96	144	0,48	27	0,35	13	0,23	5	0,14	1	0,09	1
180000	2,16													1,08	178	0,54	34	0,39	15	0,26	6	0,16	2	0,11	1
200000	2,40													1,20	215	0,60	41	0,43	19	0,29	7	0,17	2	0,12	1
220000	2,65													1,32	255	0,66	48	0,48	22	0,32	8	0,19	2	0,13	1
240000	2,89													1,44	299	0,72	57	0,52	26	0,35	10	0,21	3	0,14	1
260000	3,13													1,56	345	0,78	65	0,56	30	0,38	11	0,22	3	0,15	1
280000	3,37													1,68	395	0,84	75	0,61	34	0,40	13	0,24	4	0,16	1
300000	3,61													1,80	447	0,90	85	0,65	39	0,43	15	0,26	4	0,18	2
350000	4,21															1,05	112	0,76	51	0,51	19	0,30	6	0,21	2
400000	4,81															1,20	142	0,87	65	0,58	24	0,35	7	0,23	3
450000	5,41															1,35	176	0,97	80	0,65	30	0,39	9	0,26	3
500000	6,01															1,50	213	1,08	97	0,72	37	0,43	11	0,29	4
550000	6,61															1,65	253	1,19	115	0,79	44	0,47	13	0,32	5
600000	7,21															1,80	297	1,30	135	0,87	51	0,52	15	0,35	6
650000	7,82															1,95	343	1,41	156	0,94	59	0,56	17	0,38	7
700000	8,42															2,10	393	1,52	179	1,01	67	0,60	20	0,41	8
750000	9,02															2,25	445	1,62	203	1,08	76	0,65	22	0,44	9
800000	9,62																	1,73	228	1,15	86	0,69	25	0,47	10
850000	10,22																	1,84	254	1,23	96	0,73	28	0,50	11
900000	10,82																	1,95	282	1,30	106	0,78	31	0,53	12
950000	11,42																	2,06	311	1,37	117	0,82	34	0,56	13
1000000	12,02																	2,17	342	1,44	129	0,86	37	0,59	15
1050000	12,63																	2,27	374	1,52	140	0,91	41	0,62	16
1100000	13,23																	2,38	407	1,59	153	0,95	44	0,65	18
1150000	13,83																	2,49	441	1,66	166	0,99	48	0,68	19
1200000	14,43																			1,73	179	1,04	52	0,70	21
1250000	15,03																			1,80	193	1,08	56	0,73	22
1300000	15,63																			1,88	207	1,12	60	0,76	24
1350000	16,23																			1,95	222	1,17	64	0,79	25
1400000	16,83																			2,02	237	1,21	69	0,82	27
1450000	17,44																			2,09	253	1,25	73	0,85	29
1500000	18,04																			2,17	269	1,29	78	0,88	31
1550000	18,64																			2,24	286	1,34	83	0,91	33
1600000	19,24																			2,31	303	1,38	88	0,94	35
1650000	19,84																			2,38	320	1,42	93	0,97	37
1700000	20,44																			2,45	338	1,47	98	1,00	39
1750000	21,04																			2,53	356	1,51	103	1,03	41
1800000	21,64																			2,60	375	1,55	108	1,06	43
1850000	22,25																			2,67	394	1,60	114	1,09	45
1900000	22,85																			2,74	414	1,64	120	1,12	47
1950000	23,45																			2,82	434	1,68	126	1,14	50
2000000	24,05																			2,89	455	1,73	131	1,17	52

Tab. 9 Linear pressure drop R for water at a temperature of 80°C in a function of power Q transported at a temperature drop t 20°C or in a function of water flow mi

KAN-therm stainless steel pipe - 1.4401

Size	Pcs.	Pipe meters in package	Code
15×1,0	bar 6m	840	611791.4
18×1,0	bar 6m	450	611792.5
22×1,2	bar 6m	360	611793.6
28×1,2	bar 6m	300	611794.7
35×1,5	bar 6m	180	611795.8
42×1,5	bar 6m	150	611796.9
54×1,5	bar 6m	90	611797.1
76,1×2	bar 6m	168	611798.0
88,9×2	bar 6m	136	611799.1
108×2	bar 6m	108	611800.2

KAN-therm press stainless steel pipe - 1.4404

NEW

Size	Pcs.	Pipe meters in package	Code
** 139,7×2,6	bar 6m	108	6310100
** 168,3×2,6	bar 6m	84	6310101

KAN-therm press stainless steel pipe - 1.4404 - thin-walled

Size	Pcs.	Pipe meters in package	Code
15×0,6	bar 6m	5/845	6111506
18×0,7	bar 6m	5/845	6111807
22×0,7	bar 6m	5/635	6112207
28×0,8	bar 6m	5/455	6112808
35×1,0	bar 6m	5/455	6113510
42×1,2	bar 6m	5/395	6114212
54×1,2	bar 6m	5/185	6115412

KAN-therm press stainless steel pipe - 1.4301 - thin-walled

Size	Pcs.	Pipe meters in package	Code
15×0,6	bar 6m	5/845	6121506
18×0,7	bar 6m	5/845	6121807
22×0,7	bar 6m	5/635	6122207
28×0,8	bar 6m	5/455	6122808
35×1,0	bar 6m	5/455	6123501
42×1,2	bar 6m	5/395	6124212
54×1,2	bar 6m	5/185	6125412

Attention: not suitable for portable water installations

** on request

size and directions in [mm]

KAN-therm press male connector

Size	Pcs./packing	Code
15×R½	10/200	6190580
15×R¾	10/80	6190591
18×R½	10/160	6190602
18×R¾	10/100	6190613
22×R½	10/70	6190635
22×R¾	10/100	6190646
22×R1	10/60	6190624
28×R¾	10/50	6190679
28×R1	10/60	6190657
28×R1¼	10/30	6190668
35×R1	10/40	6190681
35×R1¼	5/40	6190701
35×R1½	10/20	6190690
42×R1¼	4/12	6190723
42×R1½	4/24	6190712
54×R1½	4/16	6190734
54×R2	4/12	6190745
76,1×R2½	2/-	620475.9
88,9×R3	2/-	620476.1

KAN-therm press union connector

Size	Pcs./packing	Code
15×R½	2/50	6192120
15×R¾	2/60	6192131
18×R½	2/60	6192142
18×R¾	2/60	6192153
22×R½	2/40	6192164
22×R¾	2/40	6192175
22×R1	2/30	6192186
28×R1	2/30	6192197
35×R1¼	2/16	6192208
42×R1½	2/12	6192219
54×R2	2/4	6192296

KAN-therm press female connector

Size	Pcs./packing	Code
15×Rp½	10/130	6190415
15×Rp¾	10/90	6190426
18×Rp½	10/120	6190437
18×Rp¾	10/80	6190448
22×Rp½	10/100	6190461
22×Rp¾	10/100	6190470
22×Rp1	10/60	6190459
28×Rp¾	10/40	6190503
28×Rp1	10/60	6190481
28×Rp1¼	10/30	6190492
35×Rp1	10/20	6190514
35×Rp1¼	10/30	6190536
35×Rp1½	10/20	6190525
42×Rp1¼	4/12	6190558
42×Rp1½	4/24	6190547
54×Rp1½	4/12	6190569
54×Rp2	4/12	6190571

** on request

size and directions in [mm]

KAN-therm press female union connector

Size	Pcs./packing	Code
15×Rp½	2/60	6192021
15×Rp¾	2/40	6192032
18×Rp½	2/40	6192043
18×Rp¾	2/40	6192054
22×Rp¾	2/40	6192065
22×Rp1	2/30	6192076
28×Rp1	2/26	6192087
35×Rp1¼	1/20	6192098
42×Rp1½	2/8	6192109
54×Rp2	2/4	6192111

KAN-therm press half union connector (with flat gasket)

Size	Pcs./packing	Code
15×G¾"	10/120	6191735
18×G¾"	10/100	6191746
22×G1"	10/60	6191757
28×G1¼"	10/40	6191768
35×G1½"	4/32	6191779
42×G1¾"	4/12	6191781
54×G2⅜"	4/8	6191790

KAN-therm press coupling

NEW

Size	Pcs./packing	Code
15×15	10/140	6190943
18×18	10/140	6190954
22×22	10/80	6190965
28×28	10/60	6190976
35×35	5/40	6190987
42×42	4/24	6190998
54×54	4/16	6191009
76,1×76,1	4/-	620415.4
88,9×88,9	4/-	620416.5
108×108	4/-	620417.6
KAN-therm press coupling		
** 139,7×139,7	1	6310001
** 168,3×168,3	1	6310011

KAN-therm press slip coupling

Size	Pcs./packing	Code
15×15	10/140	6191284
18×18	10/100	6191295
22×22	10/60	6191306
28×28	10/40	6191317
35×35	5/20	6191328
42×42	4/16	6191339
54×54	2/8	6191341
76,1×76,1	2/-	620428.6
88,9×88,9	2/-	620429.7
108×108	2/-	620430.8

** on request

size and directions in [mm]

NEW

KAN-therm press 90° elbow

Size	Pcs./packing	Code
15×15	10/150	6190206
18×18	10/90	6190217
22×22	10/60	6190228
28×28	5/30	6190239
35×35	5/20	6190241
42×42	2/8	6190250
54×54	2/8	6190261
76,1×76,1	2/-	6230004
88,9×88,9	2/-	6230015
108×108	1/-	6230026
KAN-therm elbow press		
** 139,7×139,7	1	6310002
** 168,3×168,3	1	6310012

KAN-therm press nipple 90° elbow

Size	Pcs./packing	Code
15×15	10/120	6190349
18×18	10/60	6190351
22×22	5/60	6190360
28×28	5/30	6190371
35×35	5/10	6190382
42×42	2/8	6190393
54×54	2/6	6190404
76,1×76,1	1/-	6230037
88,9×88,9	1/-	6230048
108×108	1/-	6230059

NEW

KAN-therm press 45° elbow

Size	Pcs./packing	Code
15×15	10/150	6190041
18×18	10/120	6190052
22×22	10/70	6190063
28×28	10/40	6190074
35×35	5/25	6190085
42×42	2/16	6190096
54×54	2/8	6190107
76,1×76,1	2/-	6230061
88,9×88,9	2/-	6230070
108×108	2/-	6230081
KAN-therm press 45° elbow		
** 139,7×139,7	1	6310003
** 168,3×168,3	1	6310013

KAN-therm press nipple 45° elbow

Size	Pcs./packing	Code
15×15	10/150	6190118
18×18	10/120	6190129
22×22	10/60	6190131
28×28	10/40	6190140
35×35	5/25	6190151
42×42	4/16	6190162
54×54	2/8	6190173
76,1×76,1	2/-	6230092
88,9×88,9	2/-	6230103
108×108	2/-	6230114

** on request

size and directions in [mm]

KAN-therm press tee

NEW

Size	Pcs./packing	Code
15×15×15	10/80	6191350
18×18×18	10/40	6191372
22×22×22	10/40	6191405
28×28×28	5/25	6191449
35×35×35	5/15	6191493
42×42×42	4/8	6191537
54×54×54	2/6	6191581
76,1×76,1×76,1	2/-	620431.9
88,9×88,9×88,9	2/-	620432.1
108×108×108	2/-	620433.0
KAN-therm press tee		
** 139,7×139,7×139,7	1	6310004
** 168,3×168,3×168,3	1	6310014

KAN-therm press reducing tee

NEW

Size	Pcs./packing	Code
18×15×18	10/60	6191361
22×15×22	10/50	6191383
22×18×22	10/50	6191394
28×15×28	5/30	6191416
28×18×28	10/30	6191427
28×22×28	5/30	6191438
35×15×35	5/20	6191451
35×18×35	5/20	6191460
35×22×35	5/20	6191471
35×28×35	5/20	6191482
42×22×42	4/12	6191504
42×28×42	4/12	6191515
42×35×42	4/12	6191526
54×22×54	2/8	6191548
54×28×54	2/8	6191559
54×35×54	2/8	6191561
54×42×54	2/8	6191570
76,1×22×76,1	2/-	620434.1
76,1×28×76,1	2/-	620435.2
76,1×35×76,1	2/-	620436.3
76,1×42×76,1	2/-	620437.4
76,1×54×76,1	2/-	620438.5
88,9×22×88,9	2/-	620439.6
88,9×28×88,9	2/-	620440.7
88,9×35×88,9	2/-	620441.8
88,9×42×88,9	2/-	620442.9
88,9×54×88,9	2/-	620443.1
88,9×76,1×88,9	2/-	620444.0
108×22×108	2/-	620445.1
108×28×108	2/-	620446.2
108×35×108	2/-	620447.3
108×42×108	2/-	620448.4
108×54×108	2/-	620449.5
108×76,1×108	2/-	620450.6
108×88,9×108	2/-	620451.7
KAN-therm press reducing tee		
** 139,7×76,1×139,7	1	6310007
** 139,7×88,9×139,7	1	6310006
** 139,7×108×139,7	1	6310005
** 168,3×76,1×168,3	1	6310018
** 168,3×88,9×168,3	1	6310017
** 168,3×108×168,3	1	6310016
** 168,3×139,7×168,3	1	6310015

** on request

size and directions in [mm]

NEW

KAN-therm press nipple reducer

Size	Pcs./packing	Code
18×15	10/200	6191121
22×15	10/140	6191130
22×18	10/120	6191141
28×15	10/70	6191152
28×18	10/100	6191163
28×22	10/80	6191174
35×15	5/50	6192221
35×18	5/50	6191185
35×22	5/50	6191196
35×28	5/60	6191207
42×15	5/30	6192230
42×18	5/30	6192241
42×22	4/24	6191218
42×28	4/24	6191229
42×35	4/24	6191231
54×15	4/16	6192252
54×18	4/16	6192263
54×22	4/16	6191240
54×28	4/16	6191251
54×35	4/16	6191262
54×42	4/16	6191273
76,1×42	2/-	620421.1
76,1×54	2/-	620422.0
88,9×54	2/-	620423.1
88,9×76,1	2/-	620424.2
108×54	2/-	620425.3
108×76,1	2/-	620426.4
108×88,9	2/-	620427.5

KAN-therm press nipple reducer

Size	Pcs./packing	Code
** 139,7×88,9	1	6310009
** 139,7×108	1	6310008
** 168,3×88,9	1	6310021
** 168,3×108	1	6310020
** 168,3×139,7	1	6310019

KAN-therm press male elbow

Size	Pcs./packing	Code
15×R½	10/80	6190877
18×R½	10/80	6190888
22×R¾	10/60	6190899
28×R1	10/30	6190901
35×R1¼	5/20	6190910
42×R1½	2/16	6190921
54×R2	2/8	6190932

KAN-therm press female elbow

Size	Pcs./packing	Code
15×Rp½	10/80	6190822
18×Rp½	10/90	6190833
22×Rp½	10/50	6198456
22×Rp¾	10/50	6190844
28×Rp½	10/30	6198467
28×Rp¾	10/30	6198478
28×Rp1	10/30	6190855
35×Rp½	5/10	6198489
35×Rp¾	5/10	6198491
35×Rp1	5/10	6198500
35×Rp1¼	5/10	6190866

** on request

size and directions in [mm]

KAN-therm press nipple female elbow

Size	Pcs./packing	Code
15×Rp½ short	10/40	6192274

KAN-therm press female tee

Size	Pcs./packing	Code
15×Rp½×15	10/70	6191592
18×Rp½×18	10/50	6191603
18×Rp¾×18	10/50	6191614
22×Rp½×22	10/40	6191625
22×Rp¾×22	10/40	6191636
28×Rp½×28	5/30	6191647
28×Rp¾×28	10/30	6191658
28×Rp1×28	10/30	6198599
35×Rp½×35	5/20	6191669
35×Rp¾×35	5/20	6191671
35×Rp1×35	10/20	6198601
42×Rp½×42	4/16	6191680
42×Rp¾×42	4/12	6191691
42×Rp1×42	4/16	6198610
54×Rp½×54	2/8	6191702
54×Rp¾×54	2/8	6191724
54×Rp1×54	2/6	6198621
54×Rp2×54	2/6	6191713
76,1×Rp¾×76,1	2/-	620452.8
76,1×Rp2×76,1	2/-	620455.0
88,9×Rp¾×88,9	2/-	620453.9
88,9×Rp2×88,9	2/-	620456.1
108×Rp¾×108	2/-	620454.1
108×Rp2×108	2/-	620457.2

KAN-therm press short wallplate elbow

Size	Pcs./packing	Code
15×Rp½	10/90	6191801
18×Rp½	10/90	6191812
22×Rp¾	10/50	6191823

KAN-therm press long wallplate elbow

Size	Pcs./packing	Code
15×Rp½	20/40	6191999
18×Rp½	20/40	6192001
22×Rp¾	10/40	6192010

** on request

size and directions in [mm]

KAN-therm press cup

Size	Pcs./packing	Code
15	20/80	6191011
18	20/300	6191020
22	10/150	6191031
28	10/130	6191042
35	5/75	6191053
42	4/48	6191064
54	4/24	6191075
76,1	4/-	620418.7
88,9	4/-	620419.8
108	4/-	620420.9

KAN-therm crossover

Size	Pcs./packing	Code
15×15	10/80	6191086
18×18	10/50	6191097
22×22	10/50	6191108
28×28	10/20	6191119

KAN-therm bend 15°

Size	Pcs./packing	Code
28×28	10/40	6190008
35×35	5/15	6190019
42×42	2/20	6191834
54×54	2/10	6191845

KAN-therm bend 30°

Size	Pcs./packing	Code
28×28	10/40	6190021
35×35	4/12	6190030
42×42	2/20	6191856
54×54	2/8	6191867

KAN-therm bend 60°

Size	Pcs./packing	Code
28×28	5/30	6190184
35×35	4/12	6190195
42×42	5/5	6191878
54×54	2/6	6191889

KAN-therm bend 90°

Size	Pcs./packing	Code
15×15	10/70	6190272
18×18	10/50	6190283
22×22	10/30	6190294
28×28	5/20	6190305
35×35	4/8	6190316
42×42	2/4	6190327
54×54	2/2	6190338

** on request

size and directions in [mm]

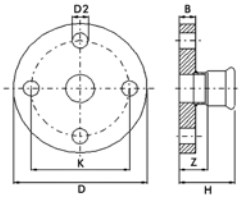
KAN-therm press flange PN16

NEW

Size			Pcs./packing	Code
15	15	4	1/15	6190756
18	15	4	1/15	6190767
22	20	4	1/12	6190778
28	25	4	1/12	6190789
35	32	4	1/6	6190791
42	40	4	1/4	6190800
54	50	4	1/2	6190811
76,1	65	4	4/-	620412.1
88,9	80	8	2/-	620413.2
108	100	8	2/-	620414.3

KAN-therm press flange PN16

** 139,7	125	8	1	6310010
** 168,3	150	8	1	6310022



Kod	Z	D	D2	H	K	B
6190756	34	95	14	54	65	11
6190767	40	95	14	60	65	11
6190778	42,5	105	14	63,5	75	12
6190789	48	115	14	71	85	14
6190791	53	140	18	79	100	15
6190800	61	150	18	91	110	16
6190811	77	165	18	112	125	18
620412.1	71	185	18	126	145	18
620413.2	84	200	18	147	160	20
620414.3	90	220	18	167	180	20
6310010	46	250	18	144	210	25
6310022	53	285	22	171	240	26

KAN-therm press flange connector

Size	Pcs./packing	Code
15×1⅛	20/100	6191891
15×1½	20/100	6191900
18×1¼	20/100	6191911
18×1½	20/100	6191922
22×1¼	20/80	6191933
22×1½	20/80	6191944
28×1½	20/80	6191955
35×2	10/30	6191966
42×2¼	10/30	6191977
54×2¾	5/20	6191988

** on request

size and directions in [mm]

KAN-therm LBP EPDM O-Ring

Size	Pcs./packing	Code
15	20/600	6222216
18	20/500	6222227
22	20/500	6222238
28	20/400	6222249
35	20/400	6222251
42	20/300	6222260
54	20/300	6222271

LBP EPDM O-Rings can be used in System KAN-therm Steel and Inox.

KAN-therm LBP FPM Viton O-Ring

Size	Pcs./packing	Code
15	20/600	6119401
18	20/500	6119410
22	20/500	6119421
28	20/400	6119432
35	20/400	6119443
42	20/300	6119454
54	20/300	6119465

Caution:
LBP EPDM O-Rings can be used in System KAN-therm Steel and Inox.
Caution:
Not suitable for hot water installations.

KAN-therm EPDM O-Ring

Size	Pcs./packing	Code
76,1	5/100	620801.5
88,9	5/100	620802.6
108	5/50	620803.7

KAN-therm FPM Viton O-Ring

Size	Pcs./packing	Code
76,1	5/100	611937.7
88,9	5/100	611938.8
108	5/50	611939.9

Caution:
Not suitable for hot water installations.

NEW

KAN-therm LBP Viton O-Ring grey

Size	Pcs./packing	Code
15	20/600	6119784
18	20/500	6119795
22	20/500	6119806
28	20/400	6119817
35	20/400	6119828
42	20/300	6119839
54	20/300	6119841

Caution: use for water steam installtion.

** on request

size and directions in [mm]

KAN-therm cutter for steel pipes

Size	Pcs./packing	Code
12-54 mm	any	113000
35-108 mm	any	113100

KAN-therm wheel for cutter for steel pipes - service element

	any	341614

KAN-therm electric cutter

Size	Pcs./packing	Code
22-108 mm	any	845000

KAN-therm wheel for electric cutter for steel pipes - service element

	any	8405050

KAN-therm stripping tool - drill set

Size	Pcs./packing	Code
12-54 mm	any	113835

KAN-therm electric press tool 230V - Power Press E Basic Pack

Size	Pcs./packing	Code
12-54 mm	any	ZAPR01

KAN-therm rechargeable press tool - Aku Press

Size	Pcs./packing	Code
12-54 mm	any	ZAPRAK

** on request

size and directions in [mm]

KAN-therm M profile press jaws for Power and Aku Press

Size	Pcs./packing	Code
15	any	570110
18	any	570120
22	any	570130
28	any	570140
35	any	570150
42	any	570160
54	any	570170

KAN-therm rechargeable press tool UAP-100

Size	Pcs./packing	Code
76,1-108 mm	any	UAP100

KAN-therm press jaws for UAP-100

Size	Pcs./packing	Code
76,1	any	BP761M
88,9	any	BP889M
108	any	BP108M

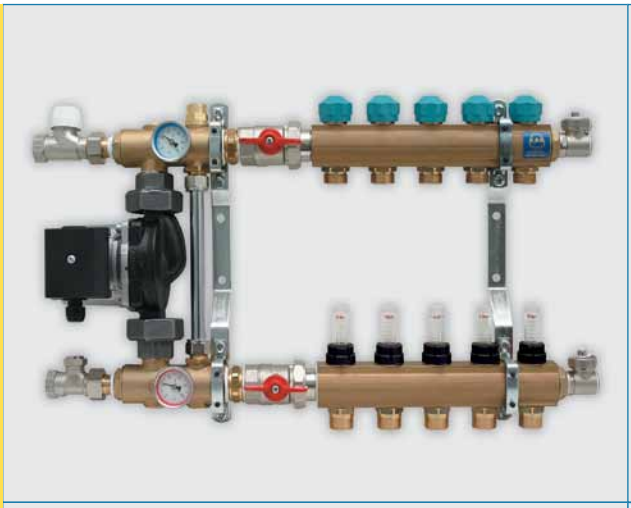
** on request

size and directions in [mm]

SYSTEM
KAN-therm

Underfloor heating of the SYSTEM **KAN-therm**

ISO 9001



TECHNOLOGY
OF SUCCESS

Contents

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The **KAN** Company, manufacturer of the **KAN-therm** systems for many years promotes modern and user-friendly surface heating installations. The design of a System **KAN-therm** surface heating is very simple. Thanks to a rich selection of design solutions, wide assortment of system elements (manifolds, installation cabinets and automation elements) you can precisely select a heating system depending on the local conditions.

Among surface heating systems we offer:
- heating of surfaces in contact with open air (sports field pitches, stadium pitches, transport routes, garage drives/ramps, external stairs and terraces),
- floor, ceiling and wall type heating inside buildings.

For heating inside buildings different designs of surface heaters can be chosen depending on construction conditions, the use of a building etc.
- sports halls with elastic floors,
- wooden structure floors with an air void,
- poured structures of a floor heating – laid by a so-called wet method,
- structures of a floor heating laid by a dry method – especially useful for an overhaul or adaptation of buildings.

Advantages of a System **KAN-therm** floor heating:
- best temperature distribution in a room,
- energy saving,
- possible cooperation with cost-effective heat sources, e.g. heat pumps and condensing boilers,
- maximum use of the space surface,
- system friendly for allergists,
- in summer the system can cool spaces,
- high quality and reliability,
- competitive price,
- fast and easy assembly,
- rich selection of system designs,
- quiet run, no vibration,
- resistance against corrosion
- materials do not cover in limestone,
- environment friendly materials.

The **KAN** Company supplies also computer programmes aiding to design floor heating systems:
- **KAN** co-Graf for designing heating systems with an option for designing a floor heating,
- **KAN** Quick Floor – an Internet programme for a quick calculation of a floor heating based on the PN-EN1264 standard with an option of listing materials,
- **KAN** ozc as an addition for calculating heat losses in buildings and individual spaces. All programmes are available at **www.kan.com.pl**

Basic information

A floor heating is directly immersed in a poured on layer of screed (floor leveller). Thus a heater is made, which in fact is a floor itself.
This kind of heating is very popular and can be successfully used in one-family houses and high standard apartment buildings. The floor heating system has turned out to be the best solution to maintain the best warmth comfort in the building industry, e.g.:

- churches,
- public buildings (sports halls, exhibition halls),
- industrial buildings.

Wet laid floor heating – pipes embedded in a cast screed.

Warmth comfort

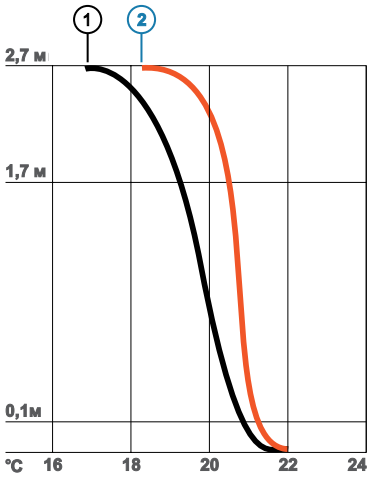
A floor heating is a heating system, where the most of the heat is given up by radiation. The heat flux is conducted by the pipe, then thru the concrete layer as the heating plate, and next thru the flooring and is given up to the environment.

The floor temperature is raised thus it is not a cold barrier (does not cool feet) and does not negatively affect the wind chill (the resultant of the air temperature, wall temperature and floor temperature in a room), which decides on the warmth comfort.

Therefore the air temperature in a room of 20°C provides the same thermal comfort as 21°C - 21°C, achieved with traditional heaters and convectors. The human body does not feel variations of the room temperature by 1°C.

With the floor heating a heat distribution almost ideal for the human is achieved.

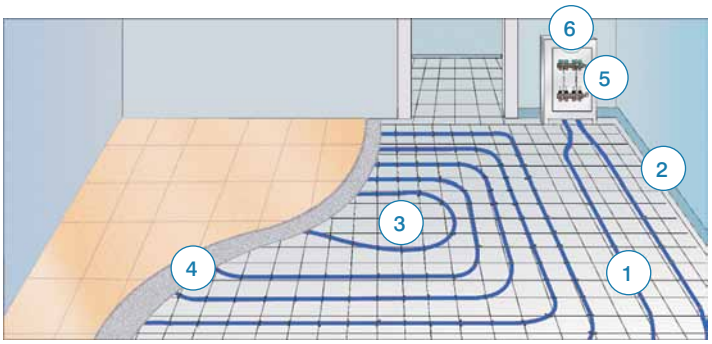
What's important with a floor heating is the reduced air convection as compared to radiators (convection type), which can raise dust.



1 ideal temperature distribution

2 temperature distribution with floor heating

KAN-therm System floor heating - elements



1. Heat pipes
2. Edge insulation
3. Thermal and and damp-proof insulation
4. Heating screed
5. Manifold for floor heating
6. Installation box

KAN-therm System floor heating - pipes

Plastic pipes laid and fixed to Styrofoam sheets are the heating element of the System **KAN-therm**. The **KAN-therm** System for floor and wall heating offers a very wide assortment of pipes both in terms of diameters and types. This allows selecting a best technical and cost-effective solution to satisfy all customers' requirements.
For construction of a **KAN-therm** floor heating two kinds of plastic pipes can be used: PE-Xc and PE-RT with an antidiffusion barrier or multi-layer PE-RT/Al/PE-HD pipes or PE-RT/Al/PE-RT pipes with an aluminium insert. Depending on the required heat capacity of a floor heating system we use pipes of a diameter between ∅12 and 26 mm. For wall heating system we use ∅12 – 14 mm pipes covered with a special plaster are used.

Pipe in coil

Uncoiler for pipe coils

Pipe on a drum and a drum stand

Pipes are available in coils 100-600 m depending on the pipe diameter. Uncoiling pipes from coils 600 m allows you to form heating coils fast and easy without turning them around their axis. Turning pipes around their axis causes tensions and a tendency of a pipe to separate from a substrate therefore forces to make it fast to the substrate must be greater.

PEX70 pipes

Due to such a design between a PE-Xc pipe and a protective PE-pipe there is a layer of air, which reduces the amount of heat given up. PEX70 pipes can be used to lay a floor heating connected to a radiator installation, where the supply water temperature does not exceed 70°C. PEX70 pipes are delivered in coils.

KAN-therm System floor heating – edge and damp-proof insulation

Materials for damp proof insulation:

- PE foil in rolls,
- metalized or laminated foil on Tacker plates,
- PS-foil on Profil plates.

Edge insulation.

- reduces heat losses through walls;
- constitutes dilatation of concrete heating panel from outer walls and structural components,
- laid up to concrete layer high (in case of ceramic floor covering, also ceramic covering should has dilatation from walls and structural components).

Materials of edge insulation:

Wall tape with incision

Wall tape with incision and apron

KAN-therm System floor heating – thermal insulation

Requirements for thermal insulation to PN-EN 1264:

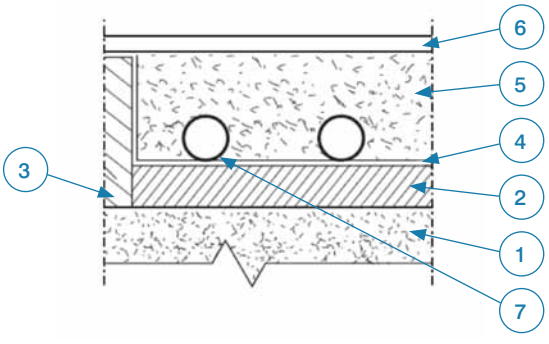
- R = 0,75 [m²K/W] - required insulation thermal resistance above a heated space,
- R = 1,25 [m²K/W] - required insulation thermal resistance above a not heated space or on the ground Tz ≥ 0°C,
- R = 2,00 [м²K/Вт] - required insulation thermal resistance on the ground (-5°C ≥ Tz ≥ -15°C).

Material for thermal insulation:

- Styrofoam sheets Tacker with a metalised or laminated foil 20, 30, 35 and 50 mm thick,
- Styrofoam sheets Profil – 2 and 4 thickness 11 and 30 mm,
- Styrofoam sheets TBS – thickness 25 mm.

When you lay Styrofoam on a bitumen substrate use a separating PE-foil.

KAN-therm System floor heating – heating plate design



1. floor slab design
2. thermal insulation
3. Edge tape
4. damp proof insulation (foil)
5. concrete screed
6. sheet flooring
7. Pipe

For detailed requirements for heating plates (screeds) see instructions delivered by **KAN** company.

KAN-therm System floor heating - manifolds

The basic adjustment of a floor heating consists in equalisation of flow resistance thru individual loops to ensure an even water flow distribution.

This regulation can be done with:

- regulation valves on their lower beam of 51A and 71A manifolds,

Manifold series 51A

Manifold series 71A

- regulation and measuring valves (flow meters) on the bottom beam of 55A and 75A series manifolds,

Manifold series 55A

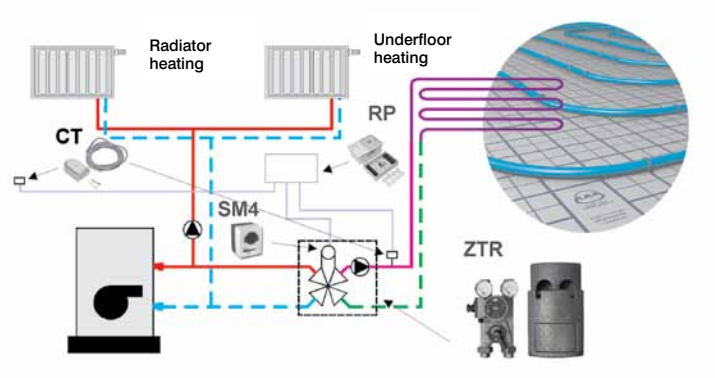
Manifold series 75A

KAN-therm System - mixing systems

Surface heating is a system operating on low parameters. The max supply temperature shall not exceed 55°C. Therefore in case of supplying a surface heating from the same source as traditional radiators local or central mixing sets shall be used.

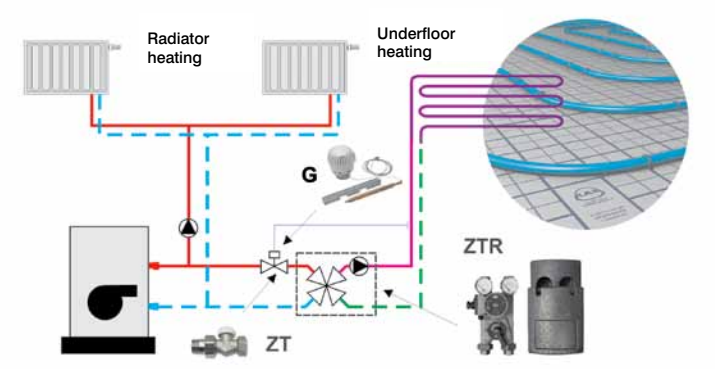
Central mixing sets: are used in case a surface heating is planned on a number of building stories. These sets are usually installed in a boiler room, close to a boiler:

- with automatic control



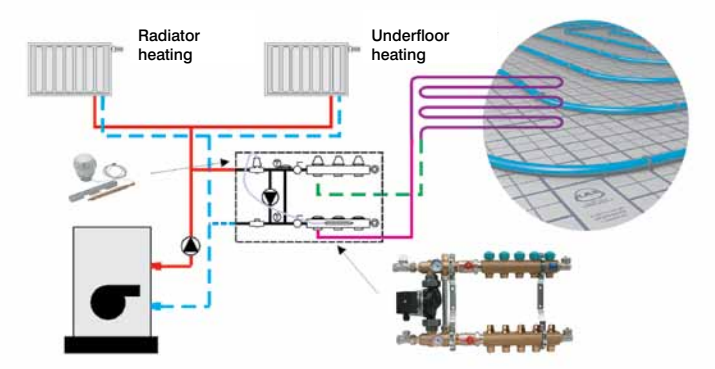
A **KAN** Bloc (ZTR) mixer provided additionally with an actuator, weather regulator (RP) and temperature sensors adjusts the system automatically, e.g. as a function of the external temperature.

- with semi-automatic control



A **KAN** Bloc (ZTR) mixer with a 4-way valve provided additionally with a thermostatic valve (ZT), adjusts a system semi-automatically

Local mixing units: are used in case a surface heating is planned within one storey. These sets shall be installed in installation boxes, close that a heating installation cabinets, near the underfloor heating system.



A 73A and 77A series manifold connected directly to a heating system operates as a local mixing system. A thermostatic head with a capillary tube serves as a protection against a possible temperature rise. It can be adjusted "down" from 55°C

CAUTION!!!

do not use with low temperature heat sources.

KAN-therm System floor heating - installation cabinets

Manifolds for surface heating shall be mounted in special installation cabinets available in three versions: surface –mounted, embedded and clad with glazed tiles.

Due to the design of cabinets for floor heating manifolds can be mounted with or without a mixing device. In cabinets there is also room for electrical terminal blocks. Terminal blocks are attached by screws, which enter into special holes in a mounting strip in the upper part of a box. The Table 1 below allows a fast selection of boxes depending on the manifold type, basic equipment and the way of connection.

Tab. 1 Selection of installation boxes for floor heating depending on the type of manifold and basic equipment

Cabinet type	Code	Height [mm]	Width [mm]	Depth [mm]	Number of circuits		
					OP Manifold	OP + Set-P/Set-K Manifold	Manifold OP with a mixing system
SWN-OP - 10/3	1100-OP	710	580	140	2-10	2-7/2-6	2-3
SWN-OP - 11/7	1110-OP	710	780	140	11-13	8-11/7-10	4-7
SWN-OP - 15/10	1120-OP	710	930	140	14-15	12-14/11-13	8-10
SWPG-OP - 10/3	1300G-OP	710	580	110-165	2-10	2-7/2-6	2-3
SWPG-OP - 11/7	1310G-OP	710	780	110-165	11-13	8-11/7-10	4-7
SWPG-OP - 15/10	1320G-OP	710	930	110-165	14-15	12-14/11-13	8-10
SWP-OP - 10/3	1300-OP	750-850	580	110-165	2-10	2-7/2-6	2-3
SWP-OP - 11/7	1310-OP	750-850	780	110-165	11-13	8-11/7-10	4-7
SWP-OP - 15/10	1320-OP	750-850	930	110-165	14-15	12-14/11-13	8-10

OP manifold - manifold series 51A, 55A, 71A and 75A for floor heating,
OP + Set-P/Set-K manifold - manifold series 51A, 55A, 71A and 75A for floor heating with Set-K angle valves or straight valves type Set-P (2-7/2-6 – number of circuits with Set-K valves/number of circuits with Set-P valves),
OP manifold with a mixing unit - manifold series 73A and 77A with a mixing unit

Design of floor heaters - pipe fastening system

KAN-therm Tacker System

- System **KAN-therm** delivers insulation plates with a metalised or laminated plate with an overprint every 5 cm

- Use plates Tacker EPS 100 038 (PS20) for standard floor slab loads up to 3.5 kN/m2 in residential or office buildings.
- Plates Tacker EPS 200 036 (PS30) shall be used for higher floor slab loads up to 5.0 kN/m2, e.g. conference rooms or lecture rooms.
- Tacker EPS T-30 dB plates shall be used in sound-proof rooms; e.g. recording studios.

The foil glued onto plates serves as a damp proof insulation to DIN 18560 and can be overlapped, thus plates ca be laid tight.

To seal places, where plates join, use adhesive tape dispensed from a hand feeder.

Pipes are fixed to Tacker plates with staples driven with a tacking tool. For 20 mm thick Styrofoam plates use short staples driven with a tacking tool for short staples.

Thanks to an overprinted grid it is easy to lay pipes at a determined spacing. You can use ∅14×2, 16×2, 18×2, 20×2 mm pipes spaced every 10-30 cm.

Pipes can be fastened to Styrofoam sheets of the Tacker type also using Rail strips provided with an adhesive tape or with NET nets with clamps (see: System **KAN-therm** Rail and NET).

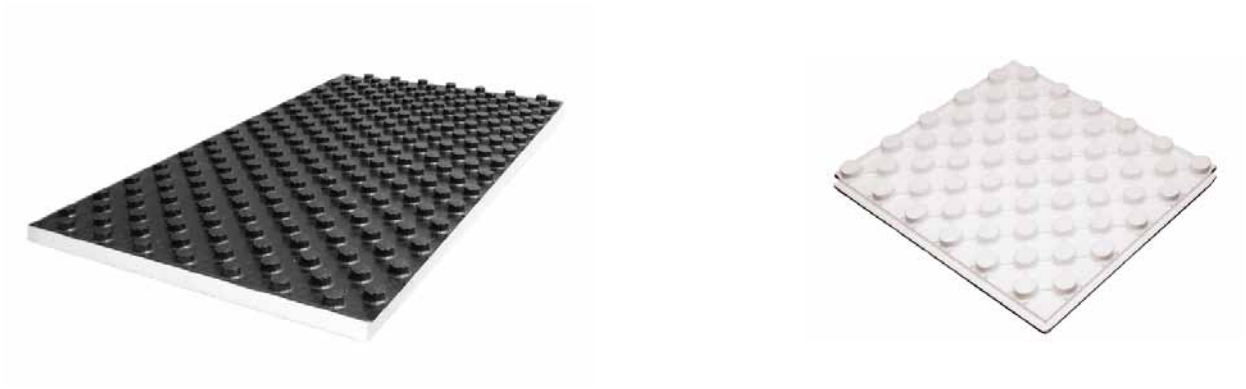
When laying Tacker plates with a foil observe requirements from the EN 1264 standard regarding the minimum heat resistance of a floor-ceiling assembly with the floor heating. In case of floors on the ground and floor slabs in contact with atmospheric air under the EPS system plates there should be an additional insulation. For requirements and versions of using multi-layer system plates type EPS with an additional foil see Table 2.

Tab.2 System **KAN-therm** Tacker – Minimum requirements for insulation according to the PN-EN 1264 standard

Required insulation thickness above a heated room R=0,75 [m²K/W] (PN-EN 1264)			
floor heating system	Additional insulation	Insulation resistance	Insulation thickness [mm]
System Tacker 30 mm	-	R=0,775	30
System Tacker 20 mm	foamed polystyrene EPS100 (PS20) 20mm	R=0,875	40
Required insulation thickness above an unheated room or on the ground (Tz ≥ 0°C) R=1,25 [m²K/W] (PN-EN 1264)			
floor heating system	Additional insulation	Insulation resistance	Insulation thickness [mm]
System Tacker 50 mm	-	R=1,250	50
System Tacker 30 mm	Styrofoam EPS100 (PS20) 20mm	R=1,250	50
System Tacker 20 mm	Styrofoam EPS100 (PS20)40mm	R=1,375	60
Required insulation thickness in case of the contact with air (-5°C ≥ Tz ≥ -15°C) R=2,00 [m²K/W] (PN-EN 1264)			
floor heating system	Additional insulation	Insulation resistance	Insulation thickness [mm]
System Tacker 50 mm	Styrofoam EPS100 (PS20) 30mm	R=2,000	80
System Tacker 30 mm	Styrofoam EPS100 (PS20) 50mm	R=2,000	80
System Tacker 20 mm	Styrofoam EPS100 (PS20) 70mm	R=2,129	90

KAN-therm Profil System

KAN-therm System provides Profil system boards where pipes are fastened by pushing in roll formed upper part of the board. PE-Xc, PE-RT pipes can be applied of diameters ∅16×2, 18×2 mm or PE-RT/Al/PE-HD and PE-RT/Al/PE-RT ∅16×2. possible spacing amounts to 5-30 cm every 5 cm.



Profil foamed polystyrene boards

Profil **foamed polystyrene boards**

- Profil1 **30 mm** – foamed polystyrene board with PS foil 30 mm thick and dimensions 0.8×1.4 m. Height of the board with roll formed part is 50 mm, and permissible load 50.0 kN/m². Profil1 board meets requirements for floors between heated rooms R=0,75 m²/k/W.
- Profil2 **11 mm** – foamed polystyrene board with PS foil 11 mm thick and dimensions 0.8×1.4 m. Height of the board with roll formed part is 31 mm, and permissible load 5,0 kN/m².
- Profil3 – PS foil without foamed polystyrene board 1 mm thick and dimensions 0.8×1.4 m. Height of the PS foil with roll formed part is 20 mm.
- Profil4 **20 mm** – foamed polystyrene without PS foil 20 mm thick and dimensions 0.8×0.96 m. Height of the board with roll formed part is 45 mm.

When laying Profil1, Profil2 and Profil4 boards apply PN-EN 1264 norm regarding minimum thermal resistance of floor with underfloor heating. Requirements and application variants of Profil boards are given in Tab. 3.

Tab.3 **KAN-therm** Profil System - minimum requirements for insulation according to PN-EN 1264 norm			
Required insulation thickness above heated room R=0,75 [m²K/W] (PN-EN 1264)			
Underfloor heating system	Additional insulation	Insulation resistance	Insulation thickness [mm]
System Profil 1 30 mm	-	R=0,750	30
System Profil 2 11 mm	foamed polystyrene EPS100 (PS20) 20 mm	R=0,810	31
System Profil 4 20 mm	foamed polystyrene EPS100 (PS20) 20 mm	R=1,000	40
Required insulation thickness above not heated room or on the ground (Tz ≥ 0°C) R=1,25 [m²K/W] (PN-EN 1264)			
Underfloor heating system	Additional insulation	Insulation resistance	Insulation thickness [mm]
System Profil 1 30 mm	foamed polystyrene EPS100 (PS20) 20 mm	R=1,250	50
System Profil 2 11 mm	foamed polystyrene EPS100 (PS20) 40 mm	R=1,310	51
System Profil 4 20 mm	foamed polystyrene EPS100 (PS20) 30 mm	R=1,250	50
Required insulation thickness in case of contact with external air of temperature (-5°C ≥ Tz ≥ -15°C) R=2,00 [m²K/W] (PN-EN 1264)температуре (-5°C ≥ Тнар ≥ -15°C) R=2,00 [м²K/Вт] (PN-EN 1264)			
Underfloor heating system	Additional insulation	Insulation resistance	Insulation thickness [mm]
System Profil 1 30 mm	foamed polystyrene EPS100 (PS20) 50 mm	R=2,000	80
System Profil 2 11 mm	foamed polystyrene EPS100 (PS20) 70 mm	R=2,060	81
System Profil 4 20 mm	foamed polystyrene EPS100 (PS20) 60 mm	R=2,000	80

System **KAN-therm** TBS

System **KAN-therm** TBS underfloor heating is made using "dry" method, i.e. after laying the underfloor heating system, it is covered with dry „jointless" floor (special floor panels).
Assembly of the system of pipe laying can take place only on totally dry and leveled floor surfaces. After laying TBS boards and pipes the system is covered with PE foil for protection and to avoid possible sounds of structure thermal movements.
Next, covering board of jointless floor 35-45 mm thick is laid. All information on covering boards (permitted loads) should be obtained from the producer of covering boards.

System **KAN-therm** includes:

- insulation board, insulation profiled board TBS 25 mm EPS200 (PS30) with dimensions 0.5×1.0 m;
- insulation board, complementary TBS 25 mm EPS200 (PS30) with dimensions 0.5×1.0 m,
- straight metal lamel TBS with dimensions 1.0×0.12 m;
- PE foil in rolls.

TBS board

Metal lamel

PE foil

System **KAN-therm** TBS allows to lay PE-RT, PE-Xc or PE-RT/Al/PE-HD and PE-RT/Al/PE-RT pipes of diameters ∅16×2 mm with 167 - 250 - 333 mm spacing. Because of pipe thermal expansion, straight pipe section should not be longer than 10 m and it is recommended to use PE-RT/Al/PE-HD or PE-RT/Al/PE-RT pipes.

Metal lamel is pushed in laid roll formed TBS boards and then pipe is pushed in such a way that it is inside the metal lamel. The metal lamel has lateral incisions, which facilitates easy adjustment of its length by breaking, every 250 mm. The edge of the metal lamel should end approx. 50 mm before the beginning of pipes direction change (avoiding friction of pipes against the lamel as a result of thermal expansion).

When laying roll formed TBS boards take into consideration planned coil shape; meander shape is recommended. Complementary insulation board TBS is used in situations when basic boards profile precludes pipes from accessing the manifold (pipe density). In such situations a required profile is cut out by a TBS cutter in complementary board.

TBS cutter

TBS cutter tip

When laying TBS boards comply with requirements of PN-EN 1264 regarding minimum thermal resistance of floor with underfloor heating. Requirements and variants of TBS boards application are given in Table 4.

Tab.4 **KAN-therm** TBS System - minimum requirements for insulation according to PN-EN 1264 norm

Required insulation thickness above heated room R=0,75 [m²K/W] (PN-EN 1264)			
Underfloor heating system	Additional insulation	Insulation resistance	Insulation thickness [mm]
System TBS 25 mm	foamed polystyrene EPS100 (PS20) 20 mm	R=1,210	45
Required insulation thickness above not heated room or on the ground (Tz ≥ 0°C) R=1,25 [m²K/W] (PN-EN 1264)			
Underfloor heating system	Additional insulation	Insulation resistance	Insulation thickness [mm]
System TBS 25 mm	foamed polystyrene EPS100 (PS20) 30mm	R=1,460	55
Required insulation thickness in case of contact with external air of temperature (-5°C ≥ Tz ≥ -15°C) R=2,00 [m²K/W] (PN-EN 1264)			
Underfloor heating system	Additional insulation	Insulation resistance	Insulation thickness [mm]
System TBS 25 mm	foamed polystyrene EPS100 (PS20) 60 mm	R=2,210	85

System **KAN-therm** Rail

The basic element of **KAN-therm** Rail System are mounting rail for pipe fastening. PE-Xc, PE-RT and PE-RT/Al/PE-HD or PE-RT/Al/PE-RT pipes of diameters ∅12×2, ∅14×2, ∅16×2, ∅18×2, ∅20×2, ∅25, ∅26 mm. Pipes can be laid with 10-30 cm spacing, every 5 cm.

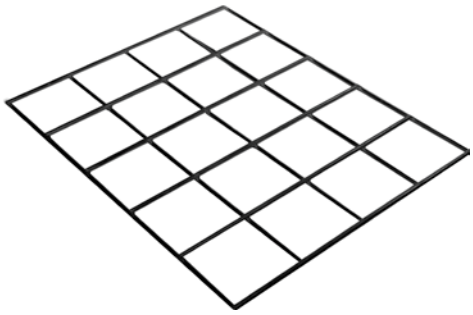
Mounting rails are equipped with adhesive tape and can be fastened to foamed polystyrene boards Tacker or directly to the base.
Applying pipes of ∅12×2 and ∅14×2 mm in diameter fastened to mounting rails works perfectly in wall heating designs where pipes mounted in walls are covered with a layer of special plaster.

System **KAN-therm** NET

System **KAN-therm** NET is a system of pipe laying on wire nets, available in the following assortment:

- PE foil 2.0 m×50 m×0.8 mm,
- 3 mm wire net 1.2 m×2.1 m and mesh spacing 150×150 mm,
- fastening bands for tying nets,
- PE fastening peg 80 mm - ∅8 mm for foil fastening,
- pipe fastening grips ∅16-18 mm and ∅20mm.

PE foil, dimension: 2,0 m×50 m×0,8 mm



NET steel wire net is made of steel wire 3 mm thick, mesh size - 150×150 mm.

Fastening band for connecting NET nets

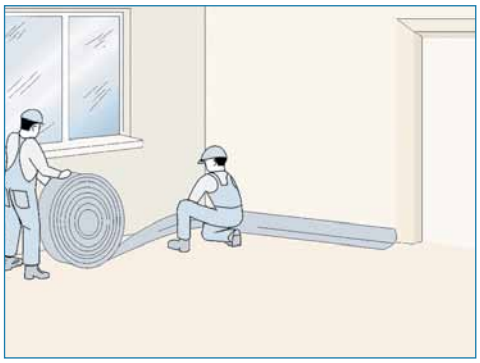
Peg for foil fastening size: 80 mm - ∅8 mm

Grip for fastening pipes on NET net ∅16-18 mm and ∅20 mm

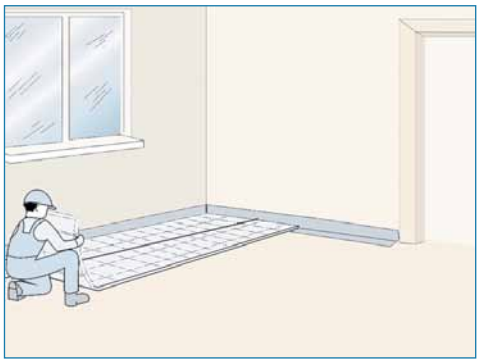
On thermal insulation made of EPS 100 038 boards or EPS 200 036 moisture insulation made of PE foil is laid and then wire nets. On wire nets with given spacing pipe grips are mounted (on the wire or crossing of wires) in which pipes are pushed. Spacing between pipe and insulation layer is 17 mm.

System **KAN-therm** NET can be successfully applied in order to fasten pipes to Tacker foamed polystyrene boards with metalized foil or laminated foil. In such cases do not use additional foil.

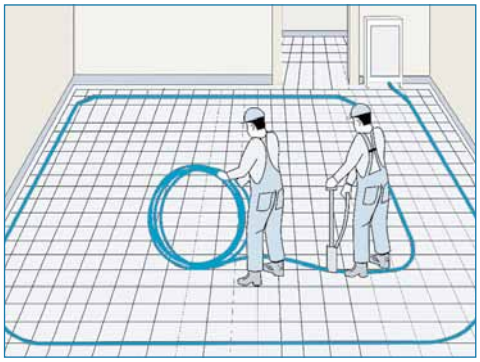
KAN-therm System floor heating - Assembly



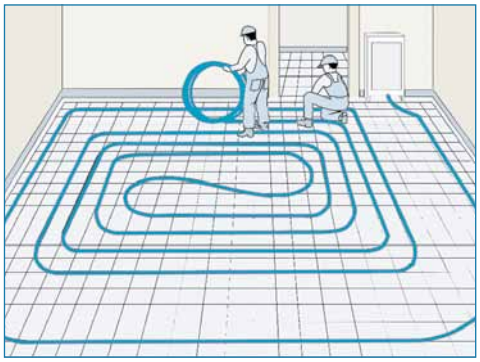
Deploy the wall edge tape



Spread the Styrofoam with PE-foil on top of it.



Connect the supply pipe to the manifold, lay at a required spacing (doubled), fasten pipes with staples at right places



Lay the outlet pipe „backwards“ between the supply pipe coils.

For detailed information on the assembly of System **KAN-therm** floor heating and on the start-up of the system see:

- “Laying the System **KAN-therm** by the Wet Method”,

“System **KAN-therm** – „Designers and Contractors Guide”.

KAN-therm System – Automatic control of heating systems

Presently the automatic control even the most simple one counts as an indispensable element of heating systems (mounted in single family houses, blocks of apartments, public houses and industrial buildings) and as well of all types of external surface heating.

Diversity of technical solutions for the heating technology and in first line solutions of very commonly used mixed heating systems, e.g. a surface heating combined with a conventional radiator heating, despite many advantages, without proper control elements, can lead to a substantial discomfort. Usually overheating, underheating or not a uniform temperature in individual spaces causes this discomfort.

Without a correctly configured automatic control controlling individual heating systems can cause significant heat losses (over-heated rooms), therefore an increase in the operation cost of a heating system.

System **KAN-therm** offer of surface heating automatic control allows to optimise a heating system depending on local requirements by selection of appropriate devices, elements etc.

There are two versions of the **KAN-therm** surface heating automatic control available:

- terminal blocks and thermostats – version Basic

- terminal blocks, extension modules, thermostats and complementing elements – version Premium

Basic or Premium automatic control elements are available as a conductor version or a wireless version (radio).

Terminal blocks Basic

With the Basic 230V or 24V terminal block as a version with or without a pumping module you can connect thermostats and actuators at one place (e.g. in an installation cabinet above a manifold). It is possible to connect max. 6 thermostats and 6 actuators.

A terminal block with a pumping module allows connecting a circulation pump included in a series 73A or 77A manifold and a pump group K-803000, K-803001, K-803002.The terminal block acts as a heater.

The pumping module stops a pump in case all floor heating actuators are shut down by a thermostat because a required temperature in a room has been reached. A pump is restarted when at least one actuator opens.

24V terminal blocks are delivered without a power converter.

The Basic terminal block for heating and cooling with a pumping module in a 230V and 24V version allows to connect thermostats and actuators at one place in an installation cabinet above a manifold). Maximally you can connect 6 thermostats and 6 actuators.

As a standard function a terminal block heats, however, by using special thermostats it can cool.
Both versions (230V and 24V) are equipped with a pump module.

The 230 V terminal blocks is delivered without a power cord and the 24V version without a power converter.

With the Basic 230V terminal block for wireless thermostats 868 MHz, 2 or 6 channels, you can connect all actuators and wireless thermostats. To a 2-channel strip you can connect max. 2 thermostats and 4 actuators, while to a 6-channel strip you can connect max. 6 thermostats and 12 actuators.
Both terminal blocks versions (2 and 6 channels) are provided with a pump module.

In order to increase the reach of a radio signal, as an option, an external aerial may be connected.

As a standard function a terminal blocks heats, however, by using special thermostats it can cool.
A strip is supplied without the power cord.

Terminal blocks - Premium

The Premium terminal block - version 230V and 24V - allows to connect thermostats and actuators at one place (e.g. in a box above a manifold). At the most you can connect 6 thermostats and 14 actuators. A strip can be extended by additional extension modules (e.g. an actuator extension module or a thermostat extension module etc.)

As a standard function a 230V and 24V it carries out a heating function. However, a 24V version using a heating/cooling extension module and special thermostats can serve for cooling.

A 230V version is supplied without the power cord and a 24V is provided with a built in power converter.

With the Premium 24V terminal block for wireless thermostats 868 MHz, you can connect wireless thermostats and actuators at one place (e.g. in an installation box a above manifolds).

At the most you can connect 6 wireless thermostats and 13 actuators.

Terminal blockj can be extended by additional extending modules (e.g. an actuator extending module, thermostat extending module etc.).

As a standard a 24V terminal block serves for heating. However, using a heating/cooling extesion module and special thermostats it can serve for cooling.

Extension modules for Premium terminal block

All the above presented extension modules can be combined only with Premium terminal blocks!!!

With a heating/cooling 24V extension module a terminal block can carry out the cooling function. Combined with a heating/cooling module an terminal block can be heating or cooling as well.

With an extension pump module 230V or 24V you can turn on and off a heating system circulation pump (e.g. in 73A, 77A manifolds or **KAN-therm** pump groups), so save electric power.
A module can also control other electric device – e.g. an electric heater.

The electric control can be realised by an individual selected thermostat or by all thermostats.

With a 230V or 24V extension module for thermostats an extension of a control system by two additional room thermostats, with each of these controlling max. 4 actuators, is possible.

With an extension module for actuators 230V or 24V you can extend the control system by additional actuators. This module allows connecting max. 8 additional actuators. By configuration of the module settings actuators can be assigned to one or more room thermostats connected to an terminal block.

An extending control module with a 24h-clock integrated with an terminal block, actuators and room thermostats provides a comfortable energy-saving temperature control system for individual spaces. With a 2-channel digital clock one can individually program a required heating time in assigned heating zones

Room thermostats Basic

Electronic, room thermostat Basic with a diode, 230 or 24V, for an individual temperature control in a room.
A LED under the thermostat housing signalises the operation status of the heating installation – when ON, the system is active.

The electronic, room thermostat type Basic, wireless, 868 MHz cooperating with the Basic terminal block for wireless thermostats is a remote, wireless temperature control system controlling the room temperature. A LED under the thermostat housing signalises the operation status of the heating installation – when ON, the system is active

Electronic, room thermostat Basic for heating and cooling, 230 or 24V, for an individual temperature control in a room. It may operate in heating and cooling installations thanks to Basic heating / cooling terminal block.
.

Room thermostats Premium

Electronic, room thermostat model Premium, 230 or 24 V - for an individual temperature control in a room. The thermostat can be wall-mounted only on an additional mounting plate for Premium thermostats – this plate is not included in the thermostat set, it must be ordered extra. To avoid damage to the thermostat when mounting it (construction work) we recommend to first mount the plate (without the thermostat) – the thermostat is mounted on the plate in a special seat only with the construction work completed.

The electronic programmable thermostat Premium, 230 or 24 V, controls individually the room temperature. With the thermostat you can manually reduce the temperature (switch). The thermostat is provided with a clock automatically reducing the room temperature – the clock can control one or a group of thermostats. The thermostat can be wall-mounted only on an additional mounting plate for Premium thermostats – this plate is not included in the thermostat set, it must be ordered extra. To avoid damage to the thermostat when mounting it (construction work) we recommend to first mount the plate (without the thermostat) – the thermostat is on the plate in a special seat only with the construction work completed.

An electronic thermostat Premium for heating and cooling serves for individual regulation of the room temperature. The thermostat can control heating or cooling. It is provided with a switch for cost-effective operation of the system: ON, OFF or AUTO. The thermostat can be wall-mounted only on an additional mounting plate for Premium thermostats – this plate is not included in the thermostat set, it must be ordered extra. To avoid damage to the thermostat when mounting it (construction work) we recommend to first mount the plate (without the thermostat) – the thermostat is mounted on the plate in a special seat only with the construction work completed.

The electronic thermostat Premium 868 MHz controls individually the room temperature. Cooperating with the Premium 24V terminal block and with 24V actuators it is a remote, wireless temperature control system controlling the room temperature. The thermostat is provided with a selector to select the mode of operation: DAY, NIGHT or AUTO. The thermostat can be wall-mounted only on an additional mounting plate for Premium thermostats – this plate is not included in the thermostat set, it must be ordered extra To avoid a damage to the thermostat when mounting it (construction work) we recommend to first mount the plate (without the thermostat) – the thermostat is mounted on the plate in a special seat only with the construction work completed.

With a wall-mounted mounting plate for Premium thermostats they can be wall-mounted. The plate is equipped with a connection block to connect electric wires (for lead controlled thermostats) and a special seat to mount the thermostat in it. To avoid damage to the thermostat during its mounting it is recommended to do it only with the construction work complete.

Week thermostats

A wireless week thermostat is an electronic room thermostat to control a water heating and surface cooling. It cooperates with terminal blocks Basic 868 MHz.

The thermostat is provided with a modern safe data transmission system.

The thermostat comprises a radio 868 MHz transmitter to transmit data of the actual temperature and the target temperature data to Basic terminal block it cooperates with thus providing an energy control system and saving energy consumed by the system.

The regulator is equipped with functions for switching over the operation mode: DAY, NIGHT, AUTO, a clock and a timer to individually program the operation times.

A week thermostat with a floor sensor 230 V allows to individually adjust the room temperature. The thermostat can be week-programmed. It is provided with a floor temperature sensor. It has an option of a manual or automatic control. It can cooperate with 230V Basic or Premium terminal blocks.

A 230V or 24V week thermostat can individually adjust the room temperature. The thermostat is provided with a week programming function and can adjust the system in a manual or automatic mode. The thermostat can cooperate with a Basic 230V or 24V terminal block.

Additional elements

A controller of open space surface ice formation with a sensor of snow and ice cooperating with a heating system protects from ice formation and snow accumulation on traffic courses (external stairs, sidewalks, parking places, drives etc.).

A snow and ice sensor is available with a 6 or 20 m long cord.

A digital, 2-channel, 230 V, control clock Basic serves for programming a temperature control system in a given room in cooperation with Basic terminal blocks depending on the time thus individual wishes for temperature changes can be satisfied.
Temperature reduction during absence or at night improves the energy-saving of a system reducing the cost of operating a heating system.

A 230V – 24V voltage power converter for the terminal block Basic – an additional element for the 24V version Basic terminal blocks.

External aerial for the wireless terminal block Premium - 868 MHZ – as a complementing element for wireless terminal blocks Premium, used in case of problems with a too short reach of radio signals along a path: a room thermostat - terminal block.

Electric actuator 230V (NC type) mounted at cut-off valves in **KAN-therm** manifolds for floor heating series 71A, 75A, 51A, 55A, 73A, 77A and in **KAN-therm** pump groups.

Actuators are mounted at valves with the help of adapters M28x1,5 or M30x1,5 (depending on the manifold type).

An M28×1,5 adapter for electric actuators

- (red) – used for valves on the upper beam of a 71A, 75A, 73A or 77 manifold.

An M30×1,5 adapater for electric actuators

- (grey) – used for thermostatic valves e.g. on the manifold supply with a mixing system 73A and 77A.

Automatic control – configuration of devices

For best configuration of automatic devices please read the Table below:

Conformity of module selection	 Terminal block Premium 230V **K 800 300**	 Terminal block Premium 24V **K 800 301**	 Terminal block Premium wireless **K 800 900**	 Terminal block Basic **K 800 304**	 Terminal block Basic 230V with pump module **K 800 305**	 Terminal block Basic **K 800 306**
 Room thermostat Premium 230V **K 800 002**	■			■	■	
 Room thermostat Premium 24V **K 800 003**		■				■
 Room thermostat Premium 24V **K 800 210**	■			■	■	
 Room thermostat programmable Premium 24V **K 800 211**		■				■
 Room thermostat Premium 24V Heating/cooling **K 800 102**		■[1]				■
 Room thermostat Premium 24V Heating/cooling **K 800 800**			■[2]			
 Heating/cooling Module Premium **K 800 702**		■	■			
 Heating/cooling Module Premium **K 800 400**	■				integrated	
 Pump module Premium 24V **K 800 401**		■	■			
 Actuators module Premium 230V **K 800 600**	■					
 Actuators module Premium 24 B **K 800 601**		■				
 Thermostats module Premium 230 B **K 800 700**	■					
 Thermostats module Premium 24 B **K 800 701**		■				
 Control module with 24h clock Premium 230 B/24 B **K 800 500**	■	■	■			
 Power converter Basic 24V **K 800 310**	■	■		■	■	■
 Room thermostat Basic 230 B **K 800 100**	■			■	■	
 Room thermostat Basic 24 B **K 800 101**		■				■
 Room thermostat Basic 230 B Heating/cooling **K 800 035**						
 Room thermostat Basic 24 B Heating/cooling **K 800 036**						
 Room thermostat Basic Funk LCD **K 800 152/153**			■[2]			

■[1] Heating and cooling only in connection with the heating and cooling module
■[2] Heating and cooling in connection with the heating and cooling module

 Terminal block Basic 24 B with pump module **K 800 307**	 Terminal block Basic 230 B Heating/cooling **K 800 030**	 Terminal block Basic 24 B Heating/cooling **K 800 031**	 Terminal block Basic wireless 868 MHz 6-circuit **K 802 100**	 Terminal block Basic беспроводная 868 MHz 2-circuit **K 802 000**	Conformity of module selection	
					Room thermostat Premium 230 B **K 800 002**	
■					Room thermostat Premium 24 B **K 800 003**	
					Room thermostat programmable Premium 230 B **K 800 210**	
■					Room thermostat programmable Premium 24 B **K 800 211**	
■		■			Room thermostat Premium 24 B Heating/cooling **K 800 102**	
			■	■	Room thermostat Premium wireless 868 MHz **K 800 800**	
	integrated	integrated	integrated	integrated	Heating/cooling Module Premium **K 800 702**	
			integrated	integrated	Pump module Premium 230V **K 800 400**	
integrated					Pump module Premium 24 V **K 800 401**	
					Pump module Premium 24V **K 800 600**	
					Thermostats module Premium 24 V **K 800 601**	
					Thermostats module Premium 230 V **K 800 700**	
					Thermostats module Premium 24 V **K 800 701**	
					Control module with 24-h clock Premium 230 V/24 V **K 800 500**	
■	■				Power converter Basic 230 V-24 V **K 800 150/151**	
					Room thermostat Basic 230 V **K 800 100**	
■					Room thermostat Basic 24 V **K 800 101**	
	■				Room thermostat Basic 230 V Heating/cooling **K 800 035**	
		■			Room thermostat Basic 24 V Heating/cooling **K 800 036**	
			■[3]	■[3]	Room thermostat Basic Funk LCD **K 800 152/153**	

■[1] Heating and cooling only in connection with the heating and cooling module
■[2] Heating and cooling in connection with the heating and cooling module

KAN-therm pipe PE-RT with EVOH layer for underfloor heating, class 4/6 bars, T_{max} 70°

Size	Pipe length in coil/on palette	Code
Ø16×2	200/3000	0.2176OP
Ø16×2	600/1800	0.2176OP 600M
Ø18×2	200/3000	0.2178OP
Ø18×2	600/1800	0.2178OP 600M

KAN-therm pipe PE-Xc acc. to DIN 16892/93 with EVOH layer acc. to DIN 4726

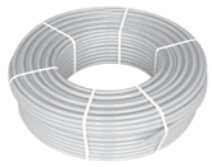
Size	Pipe length in coil/on palette	Code
Ø12×2	200/4000	0.2144
Ø14×2	200/4000	0.2145
Ø16×2	200/3000	0.2146
Ø18×2	200/3000	0.2148
** Ø20×2	200/3000	K-100005
Ø25×3,5	50/1000	0.9127

Operating parameters T_{work}80°C (Tmax - maximum 90°C, T_{mal} - malfunction 100°C), pressure 6 bar, for central heating and underfloor heating systems.

KAN-therm pipe PE-RT with EVOH layer acc. to DIN 4726

Size	Pipe length in coil/on palette	Code
Ø12×2	200/4000	0.2174
Ø14×2	200/4000	0.2175
Ø16×2	200/3000	0.2176
Ø18×2	200/3000	0.2178
** Ø20×2***	200/3000	K-100305
Ø25×3,5	50/1000	0.9226

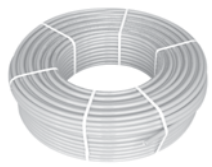
Operating parameters T_{work}80°C (Tmax - maximum 90°C, T_{mal} - malfunction 100°C), pressure 6 bar, for central heating and underfloor heating systems.
*** for underfloor heating installations up to 6 bar (T_{work}=60°C) and central heating installations up to 4 bar (T_{work}=80°C)



KAN-therm multilayer pipe PE-RT/Al/PE-HD Multi Universal (PN12 series) designed for central heating, hot and cold water systems as well as for floor heating systems; operating pressure max. 10 bar

Size	Pipe length in coil/on palette	Code
Ø14×2 (do 10 bar)	200/3000	0.9414
Ø16×2 (do 10 bar)	200/3000	0.9416
Ø20×2 (do 10 bar)	100/1500	0.9420
Ø25×2,5 (do 10 bar)	50/750	0.9425
Ø26×3 (do 10 bar)	50/600	0.9426

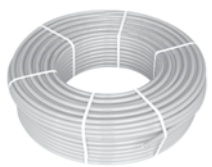
Operating parameters T_{work}90°C (T_{max} - maximum 95°C, T_{mal} - malfunction 100°C), pressure 10 bar, for central heating and underfloor heating systems.



KAN-therm multilayer pipe PE-RT/Al/PE-RT Multi Universal (PN12 series) designed for central heating, hot and cold water systems as well as for floor heating systems; operating pressure max. 10 bar

Size	Pipe length in coil/on palette	Code
Ø14×2	200/3000	0.9614
Ø16×2	200/3000	0.9616
Ø20×2	100/1500	0.9620

Operating parameters T_{work}90°C (T_{max} - maximum 95°C, T_{mal} - malfunction 100°C), pressure 10 bar, for central heating and underfloor heating systems.

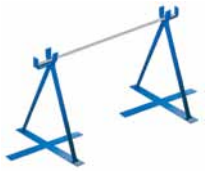


** on request

KAN-therm PEX70 - PE-Xc pipe in protection pipe for underfloor heating system up to 70°C

Size	Pipe length in coil/on palette	Code
** Ø12×2	75/any	K-100200N

KAN-therm reel stand



Size	Code
*	K-100500

KAN-therm coil stand for pipes

Size	Code
	K-100600

KAN-therm coupling

Size	Pcs. in one bag/box	Code
** Ø12×2	10/120	9014.16
Ø14×2	10/120	9014.13
Ø16×2	10/150	9014.14
Ø18×2	10/120	981
** Ø20×2	10/100	K-101205
** Ø25×3,5	5/60	9014.19

The coupling is used for repair purposes (pipe damage, e.g. boring) and for joining long pipe sections.

KAN-therm Push coupling

Size	Pcs. in one bag/box	Code
** Ø12×2/Ø12×2	50/700	9014.610
Ø14×2/Ø14×2 (P)	20/200	9019.23
* Ø14×2/Ø14×2	50/500	9006.06
Ø18×2/Ø18×2 (P)	20/160	9019.24
* Ø18×2/Ø18×2	20/300	9001.86
Ø25×3,5/Ø25×3,5 (P)	10/100	9019.28
* Ø25×3,5/Ø25×3,5	10/100	9006.10

P) - PPSU fitting

Caution:
Tools for assembly Push connectors available in chapter System **KAN-therm** - Tools for Push connections.

** on request
* till stock ends

KAN-therm Push **sliding sleeve**

Size	Pcs. in one bag/box	Code
** Ø12×2A	50/700	9014.490
Ø14×2A	50/700	9006.01
Ø18×2A/Ø18×2,5A	50/500	9001.80
Ø25×3,5A	20/200	9006.78

Size with A letter means use of sleeve for pipes PE-Xc or PE-RT with EVOH layer only.
When assembling Push connections use assembly tools for PE-RT and PE-Xc pipes with appropriate inserts (purchase or rental of tools available in **KAN** branches).

Tools used to montage the Push couplings are presented in System **KAN-therm** - tools for Push connections chapter,

KAN-therm Press PPSU **coupling**

Size	Pcs. in one bag/box	Code
Ø16×2/Ø16×2	20/200	K-900250
Ø20×2/Ø20×2	10/150	K-900251
Ø25×2,5/Ø25×2,5	5/60	K-900252

Tools used to montage the Press couplings are presented in System **KAN-therm** - tools for Press connections chapter,

KAN-therm connections chapter,

Size	Pcs. in one bag/box	Code
Ø16×2/Ø16×2	20/200	K-900200
Ø20×2/Ø20×2	20/160	K-900201
Ø25×2,5/Ø25×2,5	10/60	K-900202
Ø26×3/Ø26×3	10/60	9024.72

Tools used to montage the Prees couplings are presented in System **KAN-therm** - tools for Press connections chapter,

KAN-therm cutter for Ø12-32 PE-Xc i PE-RT

Size	Pcs. in one bag/box	Code
	1/25	0.2125

** on request

KAN-therm replacement blade for cutter for Ø12-32 pipes PE-Xc and PE-RT

	Code
**	0.2125-O

KAN-therm pipe cutter for cutting multilayer pipes Ø14-32

Pcs. in one wor./kart	Code
1/20	RS1435

KAN-therm replacement blade for pipe cutter for cutting multilayer pipes Ø14-32

	Code
**	RSM1435

KAN-therm calibration and internal bevelling tool for multilayer pipes

Size	Code
** Ø14	KL14
Ø16	KL16
Ø20	KL20
Ø25/Ø26	KL26

KAN-therm calibration and internal bevelling universal tool for multilayer pipes

Size	Code
Ø16/Ø20/Ø25-26	KL162026

KAN-therm internal bending spring for multilayer pipes

Size	Code
** Ø14	SW-1410
Ø16	SW-1612
Ø20	SW-2016
Ø25-26	SW-2620

KAN-therm external bending spring for multilayer pipes

Size	Code
** Ø14	SZ-1410
Ø16	SZ-1612
Ø20	SZ-2016
Ø25-26	SZ-2620

** on request

KAN-therm Tacker foamed polystyrene board EPS100 038 (PS20) with foil

	Version	Size	Thickness	Pcs.	Code
	with metalized foil	1×5,00 m	30 mm	sheet 5,00 m²	720N
	with metalized foil	1×5,00 m	20 mm	sheet 5,00 m²	726N
	with laminated foil	1×5,00 m	30 mm	sheet 5,00 m²	725
	with laminated foil	1×5,00 m	50 mm	sheet 5,00 m²	727

KAN-therm Tacker foamed polystyrene board EPS200 036 (PS30) with foil - hard

	Version	Size	Thickness	Pcs.	Code
**	with metalized foil	1×5,00 m	30 mm	sheet 5,00 m²	728N

KAN-therm Tacker foamed polystyrene board EPS T-30 dB with foil - elastic (sound absorbing)

	Version	Size	Thickness	Pcs.	Code
**	with metalized foil	1×5,00 m	35-3 mm	sheet 5,00 m²	729N

KAN-therm tacker tool

Code
2214

Caution:
For clamping pipes with clips Code 22022, 22022N, 22022B on Tacker styroboards 30 and 50 mm.

KAN-therm welded tacker clips

Size	Pcs. in one package/box	Code
Ø14-18	25/875	22022B

KAN-therm tacker clip for fastening pipes on foamed polystyrene boards

Size		Code
Ø14-18	100/3000	22022
Ø14-18	200/3000	22022N

KAN-therm tacker tool for short clips

Size	Code
**	K-200501

Applied for fastening pipes using tacker short clip code K-200601 on Tacker system boards 15 mm thick.

KAN-therm tacker short clip for fastening pipes on foamed polystyrene boards

	Size		Code
**	Ø14-18	50/any	K-200601
**	Ø14-20	1000/any	K-200602

KAN-therm adhesive tape with KAN logo

Size	Code
	K-200700

For protecting foamed polystyrene boards with foil.

** on request

** KAN-therm adhesive tape hand feeder

	Code
	K-200800

KAN-therm mounting rail for pipe fastening

	Size	Amount of m in coil	Code
	Ø16 - length 2m	2/40	0.1023
	Ø17-18 - length 2m	2/40	0.1025
*	Ø12 - length 3m	any	K-201100
*	Ø14 - length 3m	any	K-201101
*	Ø20 - length 3m	any	K-201105
**	Ø25 - length 3m	any	K-201106

KAN-therm mounting rail for pipe fastening

	Size	Amount of m in coil	Code
	Ø12-17 - length 0,2 m	any	K-201117
	Ø12-22 - length 1m	any	K-201120

* stock-out goods
** on request

** KAN-therm Profil1 foamed polystyrene board EPS T-24 dB with PS foil - elastic (sound absorbing)

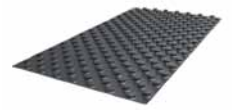
Version	Size	Thickness	Pcs.	Code
Profil1 (with foil PS)	0,8×1,40 m	30-2 mm	sheet 1,12 m² (6 pcs. in box)	K-300300

Total board thickness with roll formed part is 50 mm.

KAN-therm Profil2 foamed polystyrene board EPS100 038 (PS20) whit PS foil - hard

Version	Size	Thickness	Pcs.	Code
Profil2 (with foil PS)	0,8×1,40 m	11 mm	sheet 1,12 m² (13 pcs. in box)	K-300100

Total board thickness with roll formed part is31mm.



** KAN-therm profiled PS foil (polystyrene) Profil3

Version	Size	Thickness	Pcs.	Code
Profil3 (with foil PS)	0,8×1,40 m	1 mm	sheet 1,12 m²	K-300200

Total board thickness with roll formed part is 20mm.

KAN-therm Profil4 foamed polystyrene board EPS100 038 (PS20) whitout foil - hard

Version	Size	Thickness	Pcs.	Code
Profil1 (without foil PS)	0,8×0,96 m	20 mm	sheet 0,768 m²	722

Total board thickness with roll formed part is 45mm.

* stock-out goods
** on request

KAN-therm TBS foamed polystyrene board EPS200 036 (PS30) - hard

Version	Size	Thickness	Pcs.	Code
TBS	0,5×1,0 m	25 mm	sheet 0,50 m²/ 20pcs.	K-400000

KAN-therm TBS metal shape

Version	Size	Thickness	Pcs.	Code
	1,0×0,12 m		1/40	K-400100

KAN-therm TBS complementary foamed polystyrene board EPS200 036 (PS30) - hard

Version	Size	Thickness	Pcs./packing	Code
** TBS complementary	0,5×1,0 m	25 mm	sheet 0,50 m² /20pcs.	K-400200

KAN-therm PE foil

Size	Thickness	Amount of m² in one package	Code
2,0×50 m	0,2 mm	100	K-500200

Apply as system covering before laying dry jointless floor.

KAN-therm TBS cutter tip

Pcs./packing	Code
1	K-400300

Caution:
TBS cutter is suitable for cutting grooves for pipes Ø16 mm in TBS styroboards.

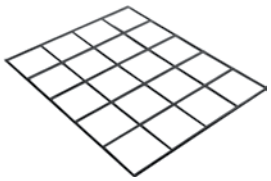
KAN-therm TBS cutter tip

Pcs./packing	Code
1	K-400400

** on request

KAN-therm NET steel wire net

Size	Amount of m² in one package	Code
1,2 m×2,1 m	2,52	K-500300



Caution:
Net is made of 3 mm steel wire. Spacing - 150×150 mm.

KAN-therm grip for fastening pipes on NET net

Size	Amount of m² in one package	Code
Ø16-18 mm	1000	K-500600
** Ø20 mm	1000	K-500601

KAN-therm plastic band for fastening pipes on NET net

Size	Amount of m² in one package	Code
**	100	K-500401

KAN-therm fastening band for connecting NET nets

Size	Amount of m² in one package	Code
**	100	K-500400

KAN-therm PE foil

Size		Amount of m² in one package	Code
2,0×50 m	0,2 mm	100	K-500200

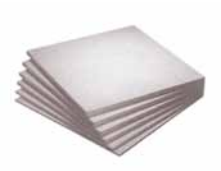
Caution:
Apply as moisture insulation beneath NET net.

KAN-therm PE foil mounting peg

Size	Pcs./packing	Code
Ø8 mm	100	K-500500

** on request

KAN-therm complementary foamed polystyrene board EPS100 038 (PS 20)



Thickness/Size	Pcs. / m² in one package	Code
** 20 mm / 0,5×1,0 m	24 / 12	K-511100
** 30 mm / 0,5×1,0 m	16 / 8	K-511101
** 40 mm / 0,5×1,0 m	12 / 6	K-511102
** 50 mm / 0,5×1,0 m	9 / 4,5	K-511103

KAN-therm PIR foam system board

Thickness/Size	Pcs. / m² in one package	Code
** 30 mm / 0,6×1,2 m	10 / 7,20	K-510100
** 40 mm / 0,6×1,2 m	10 / 7,20	K-510101
** 50 mm / 0,6×1,2 m	8 / 5,76	K-510102
** 60 mm / 0,6×1,2 m	7 / 5,04	K-510103
** 70 mm / 0,6×1,2 m	6 / 4,32	K-510104
** 80 mm / 0,6×1,2 m	5 / 3,60	K-510105

KAN-therm corrugated (protection) pipe - red

Size	External diameter [mm]	Q-ty in coil	Code
Ø12-14	23	100	1904C
Ø16-18	25	50	1900C
Ø20	28	50	1906C
Ø25-26	35	50	1901C
Ø32	43	50	1908C
Ø40	50	25	1910C

Apply for hot and cold water system and central heating, as a protecting pipe, in the case of embedding the system in concrete

KAN-therm corrugated (protection) pipe - blue

Size	External diameter [mm]	Q-ty in coil	Code
Ø12-14	23	100	1904N
Ø16-18	25	50	1900N
Ø20	28	50	1906N
Ø25-26	35	50	1901N
Ø32	43	50	1908N
Ø40	50	25	1910N

Apply for hot and cold water system and central heating, as a protecting pipe, in the case of embedding the system in concrete

KAN-therm concrete additive: BETOKAN

Size	Amount of kg in one package	Code
BETOKAN	10	0.1007
BETOKAN	5	0.1006

Apply for underfloor heating to improve concrete strength.

KAN-therm concrete additive: BETOKAN Plus

Size	Amount of m² in one package	Code
BETOKAN Plus	10	K-500900

Apply for underfloor heating to improve concrete strength.
Allows to reduce floor thickness to 4.5 cm above insulation.

** on request

KAN-therm anti-freezing agent

Version	Litres/packing	Code
** -20°C	20	0.1008
** -25°C	20	0.1009
** -35°C	20	0.1010

Used for central heating, air conditioning, cooling and solar systems.

KAN-therm wall tape with incision

Size	Amount of m in coil	Code
8×150 - with incision	25	0.1022
8×150 - with apron	25	0.1021

Apply to insulate underfloor heating boards from walls.

KAN-therm dilatation tape with fastening strip

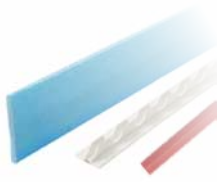
Size	Amount of m in coil	Code
10×150	25	0.1026

Apply for expanding underfloor heating boards. Pipes going through the expansion shape should also be laid in a corrugated (protection) pipe.

KAN-therm dilatation set

Name of element	Amount of m in coil	Code
foam PE	foam PE	K-501001
rail	rail	K-501000
Size	**Amount of m in coil**	**Code**
corrugated (protection) pipe 0,4m	10	K-501002

* increased strength corrugated (protection) pipe with incision



** on request

KAN-therm manifold 1” for underfloor heating with flowmeters (55A series)

Number of heating circuits	Size (H×W×D)	Code
2	326×100×80	51020A
3	326×150×80	51030A
4	326×200×80	51040A
5	326×250×80	51050A
6	326×300×80	51060A
7	326×350×80	51070A
8	326×400×80	51080A
9	326×450×80	51090A
10	326×500×80	51100A
** 11	326×550×80	51110A
** 12	326×600×80	51120A

The manifold is compatible with eurocone adapter (for PE-Xc and PE-RT) G¾” and adapter for multilayer pipe (fixed ring) G¾” (see p. ?).
Manifold outputs has a 50mm distance between each one.

KAN-therm reducer

Size	Pcs. in one bag/box	Code
G1"×G½"	10/120	4.12
G1"×G¾"	10/120	4.13

It contains O-Ring, code U28.

KAN-therm male plug

Size	Pcs. in one bag/box	Code
G1”	10/150	6095.43

Code 6095.43 contains O-Ring, code U28; others without O-Ring.

KAN-therm manifold 1” for underfloor heating with control valves (lower manifold body) and servomotor valves (upper manifold body) (71A series)

Number of heating circuits	Size (H×W×D)	Code
2	326×100×80	71020A
3	326×150×80	71030A
4	326×200×80	71040A
5	326×250×80	71050A
6	326×300×80	71060A
7	326×350×80	71070A
8	326×400×80	71080A
9	326×450×80	71090A
10	326×500×80	71100A
11	326×550×80	71110A
12	326×600×80	71120A

The manifold is compatible with eurocone adapter (for PE-Xc and PE-RT) G¾” and adapter for multilayer pipe (fixed ring) G¾”.
Manifold outputs has a 50mm distance between each one.

** on request

KAN-therm reducer

Size	Pcs. in one bag/box	Code
G1"×G½"	10/120	4.12
G1"×G¾"	10/120	4.13

Caution:
Reducer Code 4.12 and 4.13 contains O-Ring Code U28.

KAN-therm male plug

Size	Pcs. in one bag/box	Code
G1"	10/150	6095.43

Code 6095.43 contains O-Ring, code U28; others without O-Ring.

KAN-therm Manifold 1" for underfloor heating with servomotor valves (upper mainfold body) and flowmeter valves (lower mainfold body) (75 series)

Number of heating circuits	Size (H×W×D)	Code
2	326×100×80	75020A
3	326×150×80	75030A
4	326×200×80	75040A
5	326×250×80	75050A
6	326×300×80	75060A
7	326×350×80	75070A
8	326×400×80	75080A
9	326×450×80	75090A
10	326×500×80	75100A
11	326×550×80	75110A
12	326×600×80	75120A

The manifold is compatible with eurocone adapter (for PE-Xc and PE-RT) G¾" and adapter for multilayer pipe (fixed ring) G¾".
Manifold outputs has a 50mm distance between each one.

KAN-therm servomotor (NC)

Typ	Pcs. in one bag/box	Code
230V	1	K-600700
24V	1	K-600701

KAN-therm servomotor adapter

Typ	Pcs. in one bag/box	Code
Adapter M28×1,5	20/300	K-600703

Use adapter M28×1.5 for valves in manifolds 71A, 73A, 75A and 77A series of KAN-therm System together with servomotors K-600700 and K-600701.

** on request

KAN-therm valve set, straight

Size	Ilość kpl. w bag/box	Code	Cena zł/kpl.
G1"×G1"	1/20	K-600400	

Set of valves with screw connection for manifolds of System **KAN-therm** fixed on a 1" profile without any additional sealing.
For manifold with side supply connection.

KAN-therm valve set, angular

Size	Ilość kpl. w bag/box	Code	Cena zł/kpl.
G1"×G1"	1/20	K-600500	

Set of valves with screw connection and elbows for manifolds of System **KAN-therm** fixed on a 1" profile without any additional sealing.
For manifolds supplied from floor.

KAN-therm brass handle for manifold

Size	Pcs. in one bag/box	Code
M28×1,5	10/150	6095.28
M30×1,5	10/150	6095.30

Apply the element for thermostatic valves to cut-off each circuit flow:
M28×1,5 - in manifolds 71, 75, 73A and 77A series.
M30×1,5 - in manifolds 73A and 77A series on pump unit connection.

KAN-therm extension element with flowmeter

Size	Pcs. in one bag/box	Code
G1" L=50mm	1/20	752

Apply the element for manifolds 55A, 75A using nipple 1" to extend manifold by one more circuit.

KAN-therm extension element with control valve

Size	Pcs. in one bag/box	Code
G1" L=50mm	1/20	512

Apply the element for manifolds 55A, 75A using nipple 1" to extend manifold by one more circuit.

** on request

KAN-therm extension element with servomotor cut-off valve

Size	Pcs. in one bag/box	Code
G1” L=50mm	1/20	712

Apply the element for manifolds 55A, 75A using nipple 1” to extend manifold by one more circuit.

KAN-therm coupling for manifolds

Size	Pcs. in one bag/box	Code
G1”	10/100	R543

For manifold to extend it by one more circuit.

KAN-therm male-female terminal with special seal

Size	Pcs. in one bag/box	Code
G1”×G½”×G½”	5/70	R542

For manifold to extend it by one more circuit.

KAN-therm new male plug with hex socket

Size	Pcs. in one bag/box	Code
G½”	20/300	6095.34

It contains O-Ring.

KAN-therm male terminal with automatic air vent and drain

Size	Pcs. in one bag/box	Code
G1”	1/50	R5541

Suitable for 1” manifold 51A, 55A, 71A, 75A series.

KAN-therm manual air vent valve

Size	Pcs. in one bag/box	Code
G½”	50/500	5322

** on request

KAN-therm plastic male air vent and drain valve

Size	Pcs. in one bag/box	Code
G½"	25	10612

G½" 25 10612
Suitable for 1" manifold 51A, 55A, 71A, 75A series.

KAN-therm male air vent and drain valve

Size	Pcs. in one bag/box	Code
G½"	25/100	1305.11

Suitable for 1" manifold 51A, 55A, 71A, 75A series.

KAN-therm automatic air vent with stop valve

Size	Pcs. in one bag/box	Code
G½"	1/100	0.52071

Stop valve makes possible to remove air vent without draining the system.

KAN-therm flowmeter with thermometer

Size	Pcs. in one bag/box	Code
** G¾"×G¾" L = 8 cm	any	K-601501

Apply to control flow through heating circuit.

KAN-therm termometr tarczowy 100°C

Color	Pcs./packing	Code
** red	1	K-601400
** blue	1	K-601401

** on request

KAN-therm manifold 1” for underfloor heating with mixing unit (73A series)

Number of heating circuits	Size (H×W×D)	Code
2	410×451×123	7302A
3	410×501×123	7303A
4	410×551×123	7304A
5	410×601×123	7305A
6	410×651×123	7306A
7	410×701×123	7307A
8	410×751×123	7308A
9	410×801×123	7309A
10	410×851×123	7310A

1. Individual circuits of underfloor heating are controlled by electric servomotors code K-600700 and K-600701.
Assemble servomotors on upper manifold body using adapters M28×1.5.
In the case of controlling temperature with one thermostat placed in characteristic room, for controlling use the thermostatic valve build in mixing unit and fix the servomotor on thermostatic valve by adapter M30×1.5.
2. Manifold is compatible with eurocone adapter (for PE-Xc and PE-RT) G¾” and adapter for multilayer pipe (fixed ring) G¾”.
Manifold outputs has a 50mm distance between each one.

Caution:
Not suitable for a low parameter heating sources

KAN-therm manifold 1” for underfloor heating with mixing unit and flowmeters (77A series)

Number of heating circuits	Size ((H×W×D))	Code
2	410×451×123	7702A
3	410×501×123	7703A
4	410×551×123	7704A
5	410×601×123	7705A
6	410×651×123	7706A
7	410×701×123	7707A
8	410×751×123	7708A
9	410×801×123	7709A
10	410×851×123	7710A

1. Individual circuits of underfloor heating are controlled by electric servomotors code K-600700 and K-600701.
Assemble servomotors on upper manifold body using adapters M28×1.5.
In the case of controlling temperature with one thermostat placed in characteristic room, for controlling use the thermostatic valve build in mixing unit and fix the servomotor on thermostatic valve by adapter M30×1.5.
2. Manifold is compatible with eurocone adapter (for PE-Xc and PE-RT) G¾” and adapter for multilayer pipe (fixed ring) G¾”.
Manifold outputs has a 50mm distance between each one.

Caution:
Not suitable for a low parameter heating sources

KAN-therm pump group

NEW

Type	Pcs./packing	Code
25/4	1	K-803000
25/6	1	K-803001

Caution:
Not suitable for a low parameter heating sources

** on request

NEW

KAN-therm electronic pump group

Pcs./packing	Code
1	K-803002

Caution:
Not suitable for a low parameter heating sources

KAN-therm thermostatic valve - for the mainfold 73A and 77A series

Size	Pcs./packing	Code
Rp ½"	1	V2000DUB15

Caution:
Service element for manifolds series 73A & 77A and pump group.
Within M30x1,5 (grey) adapter, servomotor and room thermostat it may be used for temperature control of whole heating zone.
Within thermostatic head and four way valve it performes as half automatic underfloor heating controller.

KAN-therm reversing value - for the mainfold 73A and 77A series

Size	Pcs./packing	Code
Rp ½"	1	V2420D0015

Caution:
Service element for manifolds series 73A & 77A and pump group.
It enables medium temperature control.

KAN-therm theromstatic head with the pad sensor for the manifold 73A and 77A series

Size	Pcs./packing	Code
M30x1,5	1	K-600800

The element designed for manifold 73A and 77A - it protects against exceeding temperature in the system, and shhould be fixed on the termostatic valve build in mixing unit, the pad sensor should be placed on the lower body of manifold.

KAN-therm servomotor (NC)

Type	Pcs./packing	Code
230V	1	K-600700
24V	1	K-600701

KAN-therm servomotor adapter

Size	Pcs. in one box	Code
Adapter M28×1,5	20/300	K-600703
Adapter M30×1,5	20/300	K-600702

Use adapter M28×1.5 for valves mounted in manifoldsi 71A, 73A, 75A i 77A System **KAN-therm** wraz servomotors K-600700 and K-600701

** on request

KAN-therm eurocone adapter (nickel plated nut)

Size	Pcs. in one bag/box	Code
Ø12×2 G½"	15/300	9012.91
Ø12×2 G¾"	15/150	9012.92
Ø14×2 G½"	15/300	9003.47
Ø14×2 G¾"	15/150	9006.56
Ø16×2 G¾"	15/150	9006.57
Ø18×2 G¾"	15/150	9006.59
** Ø18×2,5 G¾"	15/150	9006.48
Ø20×2 G¾"	15/150	K-601705
Ø25×3,5 G1"	10/80	9003.67

It enables connections with manifolds with male nipples and fittings.

KAN-therm compression ring - service part for screw fittings

Size	Pcs. in one bag/box	Code
** Ø12	100/1000	9012.913
** Ø14	100/1000	9006.95
** Ø16	100/1000	9006.97
** Ø18	100/1000	9001.96
** Ø25	50/500	9001.92

KAN-therm special spanner for eurocone adapters

Size	Code
** 30 mm	K-501900

The spanner intended for eurocone adapter G¾" montage.

KAN-thermadapter for multilayer pipe (fixed ring)

Size	Pcs. in one bag/box	Code
Ø14 G½"	20/200	9012.060
Ø14 G¾"	15/150	9012.60
Ø16 G½"	20/200	9012.00
Ø16 G¾"	10/120	9012.080
Ø20 G¾"	10/120	9012.020
Ø20 G1"	5/80	9012.100
Ø25 G1"	10/80	9026.330
Ø26 G1"	10/80	9012.040

All elements detiled above are avaiable in nickel plated version (on request).

KAN-therm eurocone adapter for multilayer pipe

Size	Pcs. in one bag/box	Code
Ø16 G½"	20/200	9012.00N
Ø16 G¾"	15/150	9012.08N
Ø20 G¾"	10/120	9012.02N

It may be used with **KAN-therm** nipple, or **KAN-therm** male tee or male elbow.

KAN-therm compression ring for eurocone adapter - service part

Size	Pcs. in one bag/box	Code
** Ø16	100	9012.00NP
** Ø20	100	9012.02NP

Compression ring is also the service part for straight male connector.

KAN-therm straight male connector

Size	Pcs. in one bag/box	Code
Ø16×2 G½"	10/150	9025.01
Ø16×2 G¾"	10/80	9025.04

The fitting is designed to be fixed directly into the manifold beem – connection sealing is provided by the O-Ring seal.

** on request

KAN-therm surface mounted cabinet SWN-OP for manifolds without/with mixing units

Type	Number of heating circuits (without/with mixing unit)	Dimensions (H×W×D)	Pcs./pack	Code
SWN-OP 10/3	710×580×140	10/3	20	1100-OP
SWN-OP 11/7	710×780×140	11/7	14	1110-OP
SWN-OP 15/10	710×930×140	15/10	11	1120-OP

Table with cabinets SWN-OP

Cabinet type	Code	Height [mm]	Width [mm]	Depth [mm]	Number of circuits		
					manifold OP	manifold OP + Set-P/Set-K	manifold OP with mixing unit
SWN-OP - 10/3	1100-OP	710	580	140	2-10	2-7/2-6	2-3
SWN-OP - 11/7	1110-OP	710	780	140	11-13	8-11/7-10	4-7
SWN-OP - 15/10	1120-OP	710	930	140	14-15	12-14/11-13	8-10

KAN-therm in wall -mounted cabinet SWPG-OP type, to cover by ceramic tile, for manifolds without/with mixing unit

Type	Number of heating circuits (without/with mixing unit)	Dimensions (H×W×D)	Pcs./pack	Code
** SWPG-OP 10/3	570×580×110-165	10/3	20	1300G-OP
** SWPG-OP 11/7	570×780×110-165	11/7	16	1310G-OP
** SWPG-OP 15/10	570×930×110-165	15/10	10	1320G-OP

Table with cabinet choice SWPG-OP

Cabinet type	Code	Height [mm]	Width [mm]	Depth [mm]	Number of circuits		
					manifold OP	manifold OP + Set-P/Set-K	manifold OP with mixing unit
SWPG-OP - 10/3	1300G-OP	570	580	110-165	2-10	2-7/2-6	2-3
SWPG-OP - 11/7	1310G-OP	570	780	110-165	11-13	8-11/7-10	4-7
SWPG-OP - 15/10	1320G-OP	570	930	110-165	14-15	12-14/11-13	8-10

KAN-therm in wall -mounted cabinet SWP-OP type for manifolds without/with mixing unit

Type	Number of heating circuits (without/with mixing unit)	Dimensions (H×W×D)	Pcs./pack	Code
SWP-OP 10/3	750-850×580×110-165	10/3	20	1300-OP
SWP-OP 11/7	750-850×780×110-165	11/7	17	1310-OP
SWP-OP 15/10	750-850×930×110-165	15/10	14	1320-OP

Table with cabinet choice SWP-OP

Cabinet type	Code	Height [mm]	Width [mm]	Depth [mm]	Number of circuits		
					manifold OP	manifold OP + Set-P/Set-K	manifold OP with mixing unit
SWP-OP - 10/3	1300-OP	750-850	580	110-165	2-10	2-7/2-6	2-3
SWP-OP - 11/7	1310-OP	750-850	780	110-165	11-13	8-11/7-10	4-7
SWP-OP - 15/10	1320-OP	750-850	930	110-165	14-15	12-14/11-13	8-10

** on request

KAN-therm electronic room thermostat with led indicator

Typ	Pcs./packing	Code
230V	1	K-800100
24V	1	K-800101

The thermostat is compatible with servomotors code K-600700 and K-600701 by means of strips code B2012, B2022, B4012, B4022.

KAN-therm electronic room thermostat heating/cooling

Typ	Pcs. in one bag/box	Code
230V	1	K-800036
24V	1	K-800035

KAN-therm bimetallic room thermostat

Typ	Pcs. in one bag/box	Code
230V	1/25	0.6106
230V/24V	1/25	0.6107

The thermostat is compatible with servomotors code K-600700 and K-600701 by means of strips code B2012, B2022, B4012, B4022.

KAN-therm week controller

	Pcs./packing	Code
	1	K-800201

KAN-therm wireless room thermostat

	Pcs./packing	Code
**	1	RD50112CF

** on request

NEW

KAN-therm week controller with floor temperature sensor

	Pcs. in one bag/box	Code
	1	TH232-AF-230

NEW

KAN-therm wireless room thermostat 868 MHz Basic

	Pcs. in one bag/box	Code
	1	K-802200

KAN-therm terminal block for underfloor heating 230V

	Pcs. in one bag/box	Code
230V	1	B2012
230V with pump module	1	B2022

The terminal block is applied to connect servomotors with thermostats 230V.
Additionally, the terminal block with pump module turns off the pump when all servomotors are closed.

KAN-therm terminal block for underfloor heating 24V

	Pcs. in one bag/box	Code
24V	1	B4012
24V with pump module	1	B4022

The terminal block is applied to connect servomotors with thermostats 24V.
Additionally, the terminal block with pump module turns off the pump when all servomotors are closed.
The 24V terminal block has no transformer

NEW

KAN-therm terminal block heating/cooling with pump module Basic 230V (without power cord)

	Pcs. in one bag/box	Code
	1	K-800030

** on request

KAN-therm terminal block heating/cooling with pump module Basic 24V (without power adapter)

NEW

Pcs. in one bag/box	Code
1	K-800031

KAN-therm terminal block for wireless thermostats 868 MHz Basic - 6 channels (without power cord) 230V

NEW

Pcs. in one bag/box	Code
1	K-802100

KAN-therm terminal block for wireless thermostats 868 MHz Basic - 2 channels (without power cord) 230V

NEW

Pcs. in one bag/box	Code
1	K-802000

KAN-therm electronic room thermostat Premium 230V 1,8W

NEW

Pcs. in one bag/box	Code
1	K-800002

Caution:
for mounting „Premium" thermostats it is necessary to buy mounting plate Code K-801000.

KAN-therm electronic room thermostat Premium 24V 1,8W

NEW

Pcs. in one bag/box	Code
1	K-800003

Caution:
for mounting „Premium" thermostats it is necessary to buy mounting plate Code K-801000.

** on request

NEW

KAN-therm programmable room thermostat Premium 230V 1,8W

Pcs./pack bag/box	Code
1	K-800210

Caution:
for mounting „Premium" thermostats it is necessary to buy mounting plate Code K-801000.

NEW

KAN-therm programmable room thermostat Premium 24V 1,8W

Pcs. in one bag/box	Code
1	K-800211

Caution:
for mounting „Premium" thermostats it is necessary to buy mounting plate Code K-801000.

NEW

KAN-therm room thermostat heating/cooling Premium 24V

Pcs. in one bag/box	Code
1	K-800102

Caution:
for mounting „Premium" thermostats it is necessary to buy mounting plate Code K-801000.

NEW

KAN-therm mounting plate for Premium thermostats

Pcs. in one bag/box	Code
1	K-801000

NEW

KAN-therm wireless room thermostat 868 MHz Premium

Pcs. in one bag/box	Code
1	K-800800

Caution:
for mounting „Premium" thermostats it is necessary to buy mounting plate Code K-801000.

** on request

KAN-therm terminal block Premium 230V

NEW

Pcs. in one bag/box	Code
1	K-800300

KAN-therm terminal block Premium 24V

NEW

Pcs. in one bag/box	Code
1	K-800301

KAN-therm terminal block for wireless room thermostat 868 MHz Premium 24V

NEW

Pcs. in one bag/box	Code
1	K-800900

KAN-therm external aerial for wireless Premium 868 MHz terminal block

NEW

Pcs. in one bag/box	Code
1	K-800902

KAN-therm heating/cooling extention module for Premium 24V terminal block

NEW

Pcs. in one bag/box	Code
1	K-800702

KAN-therm pump extention module for Premium 230V terminal block

NEW

Pcs. in one bag/box	Code
1	K-800400

** on request

NEW

KAN-therm pump extention module for Premium 24V terminal block

Pcs. in one bag/box	Code
1	K-800401

NEW

KAN-therm thermostats extention module for Premium 230V terminal block

Pcs. in one bag/box	Code
1	K-800700

NEW

KAN-therm thermostats extention module for Premium 24V terminal block

Pcs. in one bag/box	Code
1	K-800701

NEW

KAN-therm servomotor extention module for Premium 230V terminal block

Pcs. in one bag/box	Code
1	K-800600

NEW

KAN-therm servomotor extention module for Premium 24V terminal block

Pcs. in one bag/box	Code
1	K-800601

** on request

KAN-therm timer extention module for Premium 230/24V terminal block

NEW

Pcs. in one bag/box	Code
1	K-800500

KAN-therm power adapter 230V -24V for Basic terminal block

NEW

Pcs. in one bag/box	Code
1	K-800310

KAN-therm electronic 2 channel timer module Basic 230V

NEW

Pcs. in one bag/box	Code
1	K-800510

KAN-therm underfloor heating unit with valve, thermostatic head and vent

Pcs. in one bag/box	Code
1	K-801300

** on request

KAN-therm four-way H 6 valve 1” with by-pass

	Pcs./packing	Code
**	1	014001

Valve for manual control - a constituent of mixing unit (code 060200). To H 6 valve a set union connectors can be purchased (as shown in the picture) code 014070 consisting of 2 female bodies with 2 nuts and 2 seals.

KAN-therm mixing unit with four-way valve - **KAN**-Bloc

Version	Pcs./packing	Code
** T-40 U35	1	010302
** T-40 U55	1	010304

Set for manual control (constant value). For automatic control SM4 servomotor is required (code 004002) controlled by weather controller. Instead of weather controller, boiler automatics can be used (if it has possibility to control additional mixing circuit).

KAN-therm SM 4 servomotor

	Pcs./packing	Code
**	1	004002

The servomotor allows to use automatic control of mixing unit with four-way valve **KAN**-Bloc with weather controller, or using boiler automatics (boiler automatics has to have possibility to control an addittional mixing circuit).

KAN-therm whether controller indented for on wall assembly

	Pcs./packing	Code
**	1	002187N

Apply for controlling mixing unit code 060200 and mixing unit with four way valve **KAN**-Bloc with SM4 servomotor (code 004002). The controller set includes external temperature sensor (APS), supply temperature pad sensor (VFAS), controlling mounting plate (assembly on wall).

KAN-therm room temperature sensor with remote control and LCD screen

	Pcs./packing	Code
**	1	002160N

Room temperature sensor is provided as an additional equipment for weather week controller code 002187N.

** on request

KAN-therm pump thermal switch

	Pcs./packing	Code
**	1	K-801800

KAN-therm ice cover controller

NEW

	Pcs./packing	Code
**	1	K-802302

KAN-therm snow and ice sensor with 6m cord

NEW

	Pcs./packing	Code
	1	K-802301

Caution:
Snow and ice sensor cooperates with ice cover controller Code K-802302.

KAN-therm snow and ice sensor with 20m cord

NEW

	Pcs./packing	Code
	1	K-802303

Caution:
Snow and ice sensor cooperates with ice cover controller Code K-802302.

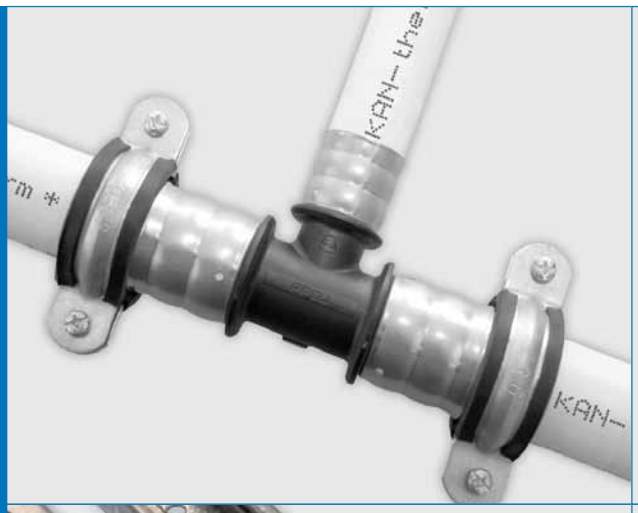
** on request

** on request

SYSTEM
KAN-therm

SYSTEM **KAN-therm** – fastening systems

ISO 9001



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KAN-therm single pipe clamp with insulation

Size (d) [mm]	Pcs./packing	Code
15-18	100	UP-G16
20-23	100	UP-G20
25-28	100	UP-G25
32-36	50	UP-G32
40-44	50	UP-G40
47-52	50	UP-G50
54	50	UP-G60
57-63	50	UP-G63
76,1	25	UP-G75
88,9	25	UP-G90
108	25	UP-G110

Single pipe clamp with insulation contains the closing screws and extension anchor.

KAN-therm double pipe clamp with insulation

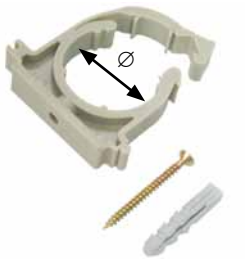
Size (d) [mm]	Pcs./packing	Code
15-18	50	UD-G16
20-23	50	UD-G20
25-28	50	UD-G25
32-36	50	UD-G32

Double pipe clamp with insulation contains the closing screws and extension anchor.

KAN-therm new plastic hinged pipe clip

Size (d) [mm]	Pcs./packing	Code
Ø16	any	8019950A
Ø20	any	8020950A
Ø25	any	8021950A
Ø32	any	8022950A
Ø40	any	8023950A
Ø50	any	8024950A
Ø63	any	8025950A

Use as a slide support only.

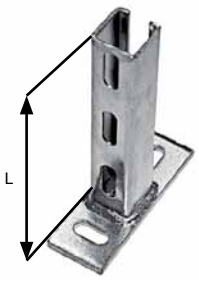


KAN-therm mounting profile L = 2000 mm

Size (d) [mm]	Pcs./packing	Code
Type A, profile thickness 2 mm		
** 30×30	any	SZ-O-A 2000
Type C, profile thickness 1,5 mm		
** 30×16	any	SZ-O-C 2000

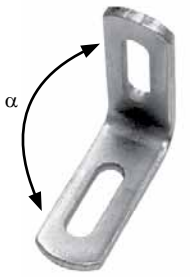
** on request

KAN-therm mounting profile with cross fixing end



Size (L) [mm]	Pcs./packing	Code
Type A, profile thickness 2 mm		
** 150	any	SS-O-A 150
** 300	any	SS-O-A 300
Type C, profile thickness 1,5 mm		
** 312	any	SS-O-C 300

KAN-therm angular fitting for mounting profiles A and C



Size (L) [mm]	Pcs./packing	Code
** a=90°	any	KT-O-A 90
** a=135°	any	KT-O-135-A

KAN-therm cross fixing end for profiles A and C

Size	Pcs./packing	Code
** a=90°	any	ST-O-A

KAN-therm straight connector for mounting profile A

	Pcs./packing	Code
**	any	LS-O-A

** on request

KAN-therm adjustable bracket

Size	Pcs./packing	Code
**	any	W-P

KAN-therm shaped connectors for profiles A and C

Size	Pcs./packing	Code
** X2	any	KSZTALTKA X2
** X5	any	KSZTALTKA X5
** X6	any	KSZTALTKA X6
** X7	any	KSZTALTKA X7

KAN-therm screw set with hammer head bolt for mounting profiles A and C

Size	Pcs./packing	Code
** M6	any	ES-O-AM6
** M8	any	ES-O-AM8
** M10	any	ES-O-AM10

KAN-therm rectangle nut for profiles A and C

Size	Pcs./packing	Code
** M6	any	NS-P-AM6
** M8	any	NS-P-AM8
** M10	any	NS-P-AM10

KAN-therm round washer for profiles A and C

Size	Pcs./packing	Code
** M6	any	PD-6
** M8	any	PD-8
** M10	any	PD-10

** on request

KAN-therm rubber plug for A and C profiles

typ A

typ C

Size	Pcs./packing	Code		
** A	any	Z-S-A	0,90	A
** C	any	Z-S-C	0,96	A

KAN-therm double thread screw

Size	Pcs./packing	Code
** M6, Ø6, L=60 mm	any	WK 6x60
** M8, Ø8, L=70 mm	any	WK 8x70
** M10, Ø10, L=100 mm	any	WK 10x100K

KAN-therm double thread screw

Size	Pcs./packing	Code
** M6, Ø6, L=100 mm	any	WK 6x100
** M6, Ø6, L=120 mm	any	WK 6x120
** M8, Ø8, L=100 mm	any	WK 8x100
** M8, Ø8, L=120 mm	any	WK 8x120
** M10, Ø10, L=100 mm	any	WK 10x100
** M10, Ø10, L=120 mm	any	WK 10x120

KAN-therm hexagon head screw for plastic extension anchor

Size	Pcs./packing	Code
** Ø8, L=60 mm	any	WK 8x60 DR
** Ø8, L=70 mm	any	WK 8x70 DR

KAN-therm plastic extension anchor

Size	Pcs./packing	Code
** Ø10, L=50 mm (screw size Ø6)	any	KR-10
** Ø12, L=60 mm (screw size Ø8)	any	KR-12
** Ø14, L=70 mm (screw size Ø10)	any	KR-14

** on request

KAN-therm double thread screw for steel extension anchor

Size	Pcs./packing	Code
** Ø10, L=32 mm (screw size Ø6)	any	KR-M-6x32
** Ø12, L=39 mm (screw size Ø8)	any	KR-M-8x39
** Ø14, L=60 mm (screw size Ø10)	any	KR-M-10x60

KAN-therm steel extension anchor

Size	Pcs./packing	Code
** M6, L=30 mm (screw size Ø8)	any	TRS-M6
** M8, L=30 mm (screw size Ø10)	any	TRS-M8
** M10, L=40 mm (screw size Ø12)	any	TRS-M10

KAN-therm thread bar L = 1000 mm

Size	Pcs./packing	Code
** M6, L=1000 mm	any	M6x1000
** M8, L=1000 mm	any	M8x1000
** M10, L=1000 mm	any	M10x1000

KAN-therm hexagon head bolt

Size	Pcs./packing	Code
** M8, L=40 mm	any	105-M8x40
** M8, L=80 mm	any	105-M8x80
** M10, L=50 mm	any	105-M10x50
** M10, L=80 mm	any	105-M10x80

KAN-therm beam clamp

Size	Pcs./packing	Code
** M8, hmax=14 mm	any	WKH-M8
** M10, hmax=14 mm	any	WKH-M10

Caution:
h_{max} - thickness of section wall.

KAN-therm hexagon nut

Size	Pcs./packing	Code
** M6	any	144-M6
** M8	any	144-M8
** M10	any	144-M10

** on request

SYSTEM
KAN-therm

Additional information

ISO 9001

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