



**KAN-therm**  
**MULTISYSTEM**

**> 35** | years of experience  
on the installation  
market



**KAN-therm**  
**Inox**

**NOBLE MATERIAL**  
**GIGA POSSIBILITIES**

Install the **future**

## 1 SYSTEM **KAN-therm** Inox

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# 1 SYSTEM KAN-therm Inox

## 1.1 General information

KAN-therm Inox is complete, state-of-the-art installation system consisting of precise pipes and fittings manufactured out of high quality stainless steel. Assembly bases on the "Press" technique, in which fittings are radially pressed over the pipe. Special pressure seals (O-Rings) provide tightness of joints. O-Rings are made of high quality synthetic rubber resistant to high temperatures. A three-angle type "M" pressing system, guarantees reliable, uninterrupted operation of the system. Inox system is used in indoor installations (new and renovated) in housing estates, public buildings and industrial facilities.

KAN-therm Inox system is characterized by:

- easy and quick assembly, without the use of open flame,
- large scope of diameters of pipes and fittings, from 15 to 108 mm,
- broad working temperature tolerance: from -35 °C to 110 °C,
- resistance to high pressure, up to 16 bar,
- low pressure drops in pipes and fittings,
- possibility of connecting with plastic KAN-therm systems,
- low weight of pipes and fittings,
- resistance to mechanical loads,
- no fire threat during assembly and use (reaction to fire class A),
- esthetic value of installations,
- signaling of mistakenly not-pressed joints in the installation.

## 1.2 System KAN-therm Inox

### Pipes and fittings – characteristics

Pipes (precise, thin-walled with longitudinal seam out of) are made of thin-walled alloy steel, chromium-nickel-molybdenum X2CrNiMo 17 12 2 No. 1.4404, AISI 316L.

Fittings are made of chromium-nickel-molybdenum steel No. 1.4404, AISI 316L. Molybdenum content (2-2,5%) determines the pipe's high resistance to corrosion. According to Directive EU 98, inclusion of nickel in the alloy does not result in exceeding the permissible values of nickel content in potable water  $\leq$  (0,02 mg/l).

Fittings are offered with pressed ends and O-Ring seals, or with pressed and threaded ends with female or male threads, according to EN 10226-1.

### Physical properties of 1.4404 KAN-therm Inox pipes

Property	Symbol	Unit	Value	Remarks
Linear elongation coefficient	$\alpha$	mm/m $\times$ K	0,0165	$\Delta t = 1$ K
Thermal conductivity	$\lambda$	W/m $\times$ K	15	
Minimal bending radius	$R_{\min}$		$3,5 \times D_e$	max. diameter 28 mm
Internal wall roughness	k	mm	0,0015	

### Pipe diameters, lengths, weight and capacity

Scope of diameters  $\varnothing 15$  to  $\varnothing 108$  mm for wall thickness from 1,0 to 2 mm. Pipe length 6 m or 3 m +/- 50 mm, end-capped.

### Dimensions, weight by unit, water capacity of standard KAN-therm Inox pipes (1.4404)

DN	External diameter $\times$ Wall thickness	Wall thickness	Internal diameter	Weight by unit	Length of the bar	Capacity by unit
	mm $\times$ mm	mm	mm	kg/m	m	l/m
12	15 $\times$ 1,0	1,0	13,0	0,352	6 or 3	0,133
15	18 $\times$ 1,0	1,0	16,0	0,427	6 or 3	0,201
20	22 $\times$ 1,2	1,2	19,6	0,627	6 or 3	0,302
25	28 $\times$ 1,2	1,2	25,6	0,808	6 or 3	0,515
32	35 $\times$ 1,5	1,5	32,0	1,263	6 or 3	0,804
40	42 $\times$ 1,5	1,5	39,0	1,527	6 or 3	1,195
50	54 $\times$ 1,5	1,5	51,0	1,979	6 or 3	2,042
65	76,1 $\times$ 2,0	2,0	72,1	3,725	6 or 3	4,080
80	88,9 $\times$ 2,0	2,0	84,9	4,368	6 or 3	5,660
100	108 $\times$ 2,0	2,0	104,0	5,328	6 or 3	8,490

The scope of application of the KAN-therm Inox installation in the construction industry is determined by the applicable standards - permissible operating pressure up to 16 bar, medium: water and maximum temperature 110 °C:

### Scope of use

- heating installations,
- hot and cold tap water installations,
- treated water installations (desalinated, softened, decarbonated, deionized, demineralized and distilled),
- open and closed heating systems (water, glycol),
- open and closed chilled water installations (max. dissolved chloride contents 250 mg/l),
- compressed air installations (details in "compressed air installations in KAN-therm in KAN's Guidebook"),
- condensate installations applying the condensation technique for gas fuels (pH 3.5 to 5.2),
- technological installations in the industry.

The use of KAN-therm Inox pipes and fittings outside the scope of indoor water supply and heating installations, e.g. for media of non-typical chemical contents should be consulted with KAN's Technical Support Department (available questionnaire); Please provide i. a. the chemical content of the medium, maximum temperature and operating pressure, as well as ambient temperature in the questionnaire.



Exemplary KAN-therm Inox installation

## 1.3 Sealants – O-Rings

KAN-therm Inox pressed fittings are, by standard, equipped with O-Rings made of ethylene-propylene EPDM rubber observing the requirements of EN 681-1. Working parameters and scopes of use are presented in the table.

Material	Color	Working parameters	Use
<b>EPDM ethylene-propylene rubber</b>	black	<ul style="list-style-type: none"> <li>■ max working pressure: 16 bar</li> <li>■ working temperature: -20 °C to +110 °C</li> </ul>	installations: <ul style="list-style-type: none"> <li>■ potable water</li> <li>■ hot water</li> <li>■ central heating</li> <li>■ conditioned water</li> <li>■ glycol solutions*</li> <li>■ compressed air (with no oil**)</li> </ul>

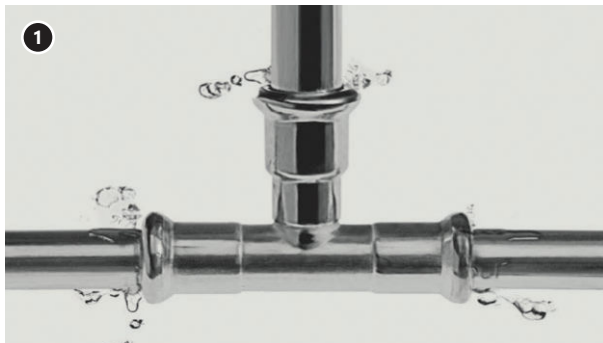
\* The use of antifreeze solutions based on propylene glycol and solutions based on ethylene glycol with a concentration of up to 50% is permitted; however, ethylene glycol solutions require the system manufacturer's approval.

\*\* Maximum concentration of synthetic oils up to 5 mg/m<sup>3</sup>; mineral oils not allowed.

EPDM O-rings are compatible with glycol solutions (ethylene and propylene). The use of a specific ethylene glycol solution requires the written approval of the installation system manufacturer.

In order to facilitate mounting, while use of lubricant proves necessary, use water or soap. Do not cover O-Rings with grease, oil or fat. These substances might damage the joints. This also refers to contact with some types of paint used to cover pipes and fittings. When standard EPDM O-Rings are used, only water-based paints are allowed.

KAN-therm Inox fittings up to 54 mm are equipped with special LBP O-Rings which guarantees fast detection of not-pressed joints in the installation during the preliminary stage of connecting to water supply (LBP function – Leak Before Press). Such joints are signaled by water leaks at a point of connection. This useful function results from the unique structure of O-Rings. To ensure a fully functional and tight joint, after locating the leak, just press the joint.



1. O-Ring action with the LBP function of leakage detection

## 1.4 Durability, resistance to corrosion

Installation technology distinguishes various types of corrosion: chemical, electrochemical, internal or external, spot corrosion, corrosion produced by stray currents, etc. Such phenomena may be caused by specific physical and chemical factors related to the quality of installation materials, parameters of conducted media, external conditions, as well as the structure of the installation. Below, we present a few guidelines to be taken into account when designing, assembling and using KAN-therm Inox installations in order to avoid undesirable corrosive phenomena in metal installations.

The probability of occurrence of metal corrosion caused by stray currents (direct current passing through the pipeline material to the ground, disrupting the natural insulation layers, such as walls, pipe shields, etc.) is very small. This phenomenon is additionally reduced by introducing equipotential connections to the installation.

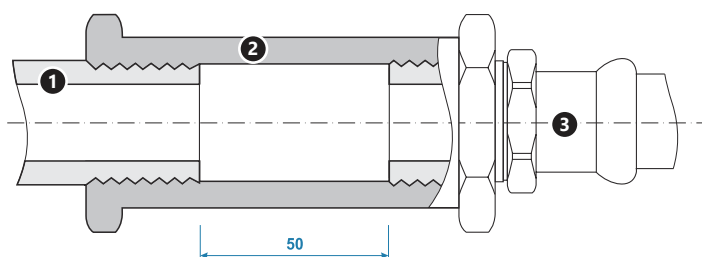
### Internal corrosion

KAN-therm Inox pipes and fittings are perfect for transporting potable water (both cold and hot). They may also be used with treated water (softened, deionized, distilled), even water with conductivity below 0,1  $\mu\text{S}/\text{cm}$ .

Stainless steel is resistant to nearly all components of the media transported in installations. Pay special attention to chlorides dissolved in water (halogens), since their action depends on their concentration and temperature (max 250 mg/l at 20 °C). No elements should be subjected to contact with highly concentrated ions of dissolved chlorides in temperatures above 50 °C. This is why you should:

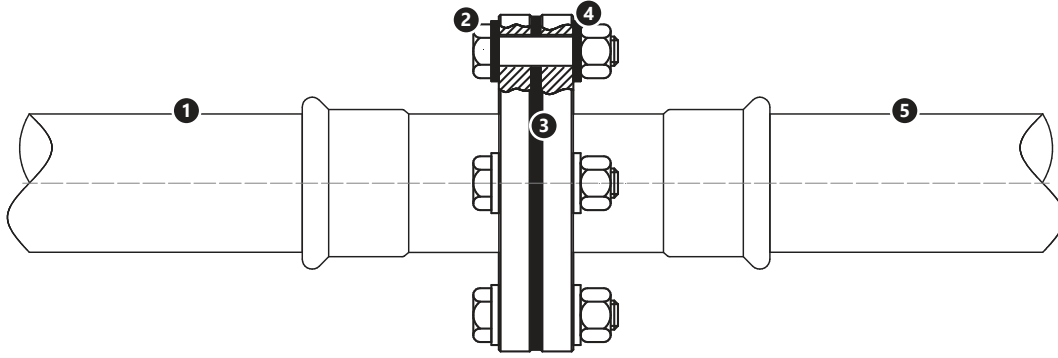
- avoid sealants containing halogens which could dissolve in water (use plastic sealing tape, e.g. PARALIQ PM 35),
- avoid contact with oxygenated water with high chloride content (potable water with up to 0,6 mg/l chlorine content does not cause any adverse phenomena, the maximum permitted chlorine content in potable water is 0,3 mg/l). Water installations in the Inox system may be disinfected with a chlorine solution on the condition that its concentration in water does not exceed 1,34 mg/l, and that the installation is flushed twice after disinfection,
- local water heating by increased pipe wall temperature (e.g. heating cables in water supply installations) may lead to the precipitation of sediments on the internal surface of pipes, including chloride ions, which increase the risk of pit corrosion. In such case, the temperature of pipe wall should not exceed 60 °C permanently. Periodic (max 1 hour a day) water heating up to 70 °C for the purpose of thermal disinfection is permissible.

Direct connections of stainless steel elements with zinc-plated steel (fixtures, fittings) may result in contact corrosion of zinc-plated steel. Therefore, a bronze or brass element (e.g. coupling) of at least 50 mm must be used.



Principle of connecting KAN-therm Inox elements with zinc-plated steel  
1. Steel pipe zinc-plated  
2. Bronze or brass  
3. Fitting with a KAN-therm Inox thread

It is also acceptable to make separable flange connections:



**Case I:**

1. KAN-therm Inox system,
2. stainless steel flange bolt and nut
3. elastomer or fibre sealing
4. metal washer with plastic casing
5. Traditional carbon steel system.

**Case II:**

1. KAN-therm Inox system,
2. stainless steel flange bolt and nut
3. elastomer or fibre sealing
4. metal washer with plastic casing
5. Traditional copper system.



**Remember that all of the above flange connections use bolts and nuts joining flanges made of stainless steel.**

In water supply systems, remember of the liquid flow direction (the more corrosion-resistant metal should be placed behind the less corrosion-resistant metal, when looking in the direction of flow). That rule does not apply to closed liquid circuits.

In KAN-therm Inox system, the is a possibility of using other materials (with intermediate elements, such as threaded or collar joints) depends on the type of installation.

## External corrosion

Situations, in which Inox installations are exposed to external corrosion, are rather rare in indoor installations in the construction industry.

External corrosion of KAN-therm Inox system elements may occur only when pipes or fittings are located in humid environment containing or producing chlorine compounds or other halides. Corrosive processes are intensified in temperatures above 50 °C.

In addition, elements of the KAN-therm Inox system can be installed and operated in environments with a corrosivity class no higher than C3 according to EN ISO 12944-2.

Therefore, in situations:

- contact with building components (e.g. mortar, insulation) emitting chlorine compounds,
- environment containing chlorine or its compounds in gaseous form or water containing salt (brine) or other halogen compounds,
- the use of the KAN-therm Inox system in an environment with a corrosivity class of C4 and higher, it is necessary to use full, watertight and non-absorbent waterproofing made of material with a closed cell structure that does not emit chlorides and halides.

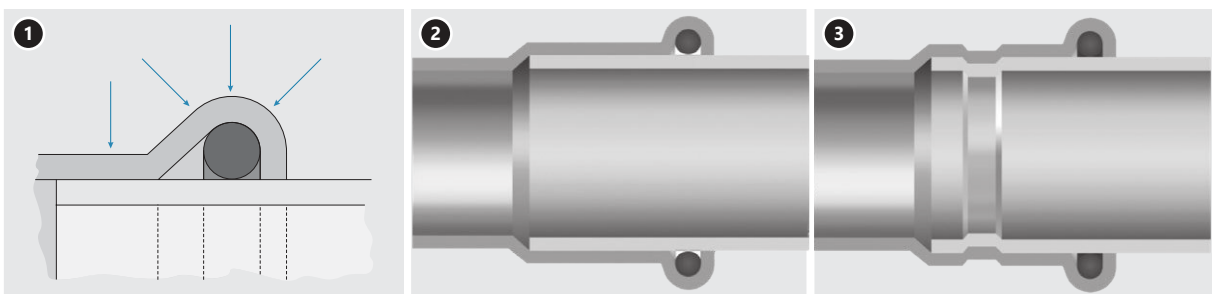
If there is a risk of mechanical damage to the external insulations then these must be adequately protected, for example, with protective steel coating.

Pay attention that content of dissolved chlorine ions in insulating materials used for KAN-therm Inox elements should not exceed 0,05%.

## 1.5 Technique of Press joints

KAN-therm Inox system is based on the "Press" technique of executing joints, utilizing M-profiled jaws. This technique allows:

- applying three-angle pressure on the O-Ring, which ensures its correct deformation and adhesion to the pipe surface,
- fully enclosing the inner space, in which the O-Ring is settled – through screwing the edge of the fitting onto the surface of the pipe, which prevents pollutions from penetrating the interior of the fitting. Such structure serves as a natural mechanic shield to the seal and reinforcement to the joint,
- controlling the state of the joint through the structure of the O-Ring socket in the vicinity of the fitting edge.



1. Pressure directions in a "Press" joint
2. Cross-section of a joint before pressing
3. Cross-section of the joint after pressing

## Tools

In order to ensure a correct, water-tight connection, use proper tools. We suggest the use of cutters, deburrers and press machines as well as jaws offered by the KAN-therm system. There is a possibility of using other tools recommended by KAN (see table below).

To perform connections in KAN-therm Inox, use tools available in KAN-therm system offer - see the table below.

Producer	Press type		Diameter [mm]	Jaws/collars		Adapter		Type of KAN-therm system	
	Description	Code		Description	Code	Description	Code	Inox	
KAN-therm	AC 3000 DC 4000	1936267239 1936267238	15	M	1936267249	-	-	+	
			18	M	1936267250	-	-	+	
			22	M	1936267251	-	-	+	
			28	M	1936267252	-	-	+	
			35	M	1936267253	-	-	+	
			42	M	1936267283			+	
			54	M	1936267284	ZBS1	1936267285	+	
	NOVOPRESS	ACO203XL EFF203 <sup>1)</sup>	1948267181 1948267210	15 <sup>1)</sup>	[J] M	1948267135	-	-	+
				18 <sup>1)</sup>	[J] M	1948267137	-	-	+
				22 <sup>1)</sup>	[J] M	1948267139	-	-	+
				28 <sup>1)</sup>	[J] M	1948267141	-	-	+
				35 <sup>1)</sup>	[J] M	1948267143	-	-	+
				35 <sup>1)</sup>	HP Snap On	1948267124			+
				42 <sup>1)</sup>	M Snap On	1948267119			+
42 <sup>1)</sup>				HP Snap On	1948267126	ZB203	1948267000	+	
54 <sup>1)</sup>				M Snap On	1948267121			+	
66,7				M Snap On	1948267089			-	
76,1		M Snap On	1948267145	ZB221	1948267005	+			
88,9		M Snap On	1948267044			+			
108		M Snap On	1948267038	ZB221 ZB222	1948267005 1948267007	+			
ACO102 * ACO103		1948055007 1948055008	15	[J] M	1948267093	-	-	+	
			18	[J] M	1948267095	-	-	+	
			22	[J] M	1942121002	-	-	+	
			28	[J] M	1948267097	-	-	+	
	35		[J] M	1942121004	-	-	+		
ECO301 *	1948267163 *	15	[J] M	1948267085	-	-	+		
		18	[J] M	1948267087	-	-	+		
		22	[J] M	1944267008	-	-	+		
		28	[J] M	1944267011	-	-	+		
		35	HP Snap On	1948267124			+		
		42	HP Snap On	1948267126	ZB 303	1948267166	+		
		54	HP Snap On	1948267128			+		
		66,7	M Snap On	1948267089	ZB 323	1948267009	+		
ACO401 * ACO403	1948267151 1948267209	76,1	HP Snap On	1948267100	-	-	+		
		88,9	HP Snap On	1948267102	-	-	+		
		108	HP Snap On	1948267098	-	-	+		
REMS Power-Press SE Akku-Press Power-Press ACC	1936267160 1936267152 1936267219	15	[J] M	1948267048	-	-	+		
		18	[J] M	1948267052	-	-	+		
		22	[J] M	1948267056	-	-	+		
		28	[J] M	1948267061	-	-	+		
		35	[J] M	1948267065	-	-	+		

Producer	Press type		Diameter [mm]	Jaws/collars		Adapter		Type of KAN-therm system
	Description	Code		Description	Code	Description	Code	Inox
KLAUKE	KAN-therm Mini	1936055008	15	M	1936267278	-	-	+
			18	M	1936267279	-	-	+
			22	M	1936267280	-	-	+
			28	M	1936267282	-	-	+

[J] - two segment jaw, other elements are collars / slings and may require cooperation with an adapter.

1) Limited diameter range - use selected press jaws

\* The tools are not available in KAN-therm Inox offer.

Other commonly available tool models on the market can also be used for the installation of the KAN-therm Inox system; see the table below:

Size	Producer	Press type	Jaws/collars
15–35 mm	Novopress	<ul style="list-style-type: none"> <li>■ ACO102 (12 V)</li> <li>■ ACO103 (12 V)</li> </ul>	<ul style="list-style-type: none"> <li>■ PB1 jaws 15–35 mm</li> </ul>
15–54 mm	Novopress	<ul style="list-style-type: none"> <li>■ ACO 203 (18 V)</li> <li>■ EFP 201/202 (230 V)</li> <li>■ EFP 203 (230 V)</li> </ul>	<ul style="list-style-type: none"> <li>■ PB2 jaws 15–35 mm</li> <li>■ Collars and adapters 35–54 mm: <ul style="list-style-type: none"> <li>• collars: HP35, 42 and 54 (with adapter ZB 201/ZB 203)</li> <li>• Snap On collars: HP35, 42 and 54 (with adapter ZB 201)</li> <li>• Snap On collars: HP35, HP42 and HP54 (with adapter ZB 203)</li> </ul> </li> </ul>
15–108 mm	Novopress	<ul style="list-style-type: none"> <li>■ ECO 3 Pressmax (230 V)</li> <li>■ ECO 301 (230 V)</li> </ul>	<ul style="list-style-type: none"> <li>■ PB3 jaws: 15–28 mm</li> <li>■ Collars and adapters (ZB 302/ZB 303) 35–54 mm: <ul style="list-style-type: none"> <li>• collars: HP35, 42 and 54 (with adapter ZB 302/ZB 303)</li> <li>• Sling On collars: HP42 and HP54 (with adapter ZB 302)</li> <li>• Snap On collars: HP35, HP42 and HP54 (with adapter ZB 303)</li> </ul> </li> <li>■ Collars and adapters 76,1–108 mm: <ul style="list-style-type: none"> <li>• collars M66,7–88,9 mm (adapter ZB 323)</li> <li>• Snap On collar M 108 mm (two adapters required: ZB 323 and ZB 324)</li> <li>• Sling On collars M 76,1–88,9 mm (adapter ZB321)</li> <li>• Sling On collars M108 (two adapters required: ZB321 and ZB322)</li> </ul> </li> </ul> <p><b>IMPORTANT:</b> Press in two stages (108 mm).</p>
76,1–108 mm	Novopress	<ul style="list-style-type: none"> <li>■ ACO 401 (18 V)</li> <li>■ ACO 403 (18 V)</li> </ul>	<ul style="list-style-type: none"> <li>■ Snap On collars HP76,1–108 mm</li> </ul>
15–22 mm	Klauke	<ul style="list-style-type: none"> <li>■ MAP215 "Klauke Mini" (18 V)</li> </ul>	<ul style="list-style-type: none"> <li>■ Mini Klauke jaws: 15–22 mm</li> </ul>
15–35 mm	Klauke	<ul style="list-style-type: none"> <li>■ MAP219 "Klauke Mini" (18 V)</li> </ul>	<ul style="list-style-type: none"> <li>■ Mini Klauke jaws: 15–35 mm</li> </ul>
15–35 mm	Klauke	<ul style="list-style-type: none"> <li>■ Klauke UAP332</li> </ul>	<ul style="list-style-type: none"> <li>■ Jaws: 15–35 mm</li> </ul>
15–108 mm	Klauke	<ul style="list-style-type: none"> <li>■ UAP432 (18V)</li> </ul>	<ul style="list-style-type: none"> <li>■ Jaws: 15–35 mm (KSP3)</li> <li>■ Collars and adapters: 42–54 mm (KSP3)</li> <li>■ Collars and adapters: 76,1–168 mm (LP–KSP3)</li> </ul>
76–108 mm	Klauke	<ul style="list-style-type: none"> <li>■ UAP100120 (18 V)</li> </ul>	<ul style="list-style-type: none"> <li>■ Collars: 66,7–108 mm (KSP3)</li> </ul>
15–35 mm	Hilti	<ul style="list-style-type: none"> <li>■ NPR 019 IE-A22</li> </ul>	<ul style="list-style-type: none"> <li>■ NPR PM jaws: 15-35 mm</li> </ul>
15–54 mm	Hilti	<ul style="list-style-type: none"> <li>■ NPR 032 IE-A22</li> </ul>	<ul style="list-style-type: none"> <li>■ NPR PS jaws: 15-35 mm</li> <li>■ NPR PR collars: 42-54 mm</li> </ul>
15–108 mm	Hilti	<ul style="list-style-type: none"> <li>■ NPR 032 PE-A22</li> </ul>	<ul style="list-style-type: none"> <li>■ NPR-PS jaws: 15-35 mm</li> <li>■ NPR PR jaws with adapter 42-88,9 mm (with NPR PA3 adapter), 108 mm (with NPR PA3+NPR PA4 adapter)</li> </ul> <p><b>IMPORTANT:</b> press in two stages (108 mm)</p>
15–108 mm	Hilti	<ul style="list-style-type: none"> <li>■ M18HPT XL</li> </ul>	<ul style="list-style-type: none"> <li>■ Jaws: 15-108 mm</li> </ul>
15–35 mm	Milwaukee	<ul style="list-style-type: none"> <li>■ M12 HPT-202C</li> </ul>	<ul style="list-style-type: none"> <li>■ J12 jaws: 15-35 mm</li> </ul>
15–54 mm	Milwaukee	<ul style="list-style-type: none"> <li>■ M18 HPT-202C</li> </ul>	<ul style="list-style-type: none"> <li>■ J18 jaws: 15-35 mm</li> <li>■ RJ collars: 42-54 mm (with RJA adapter)</li> </ul>
15–35 mm	REMS	<ul style="list-style-type: none"> <li>■ Mini Press ACC (14 V)</li> <li>■ Mini Press ACC (22 V)</li> </ul>	<ul style="list-style-type: none"> <li>■ REMS Mini Press jaws: 15–35 mm*</li> </ul>

Size	Producer	Press type	Jaws/collars
15–54 mm	REMS	<ul style="list-style-type: none"> <li>■ Powerpress 2000 (230 V)</li> <li>■ Powerpress E (230 V)</li> <li>■ Powerpress ACC (230 V)</li> <li>■ Accu-Press (12 V)</li> <li>■ Accu-Press ACC (12 V)</li> </ul>	<ul style="list-style-type: none"> <li>■ REMS jaws: 15–35 mm* (4G)</li> <li>■ Collars and adapter: 42–54 mm (PR3-S)</li> </ul>
15–108 mm	REMS	<ul style="list-style-type: none"> <li>■ Power-Press XL ACC</li> </ul>	<ul style="list-style-type: none"> <li>■ REMS jaws: 15–35 mm (2G)</li> <li>■ Collars and adapter: 42 mm (PR-3S + Z2)</li> <li>■ Collars and adapter: 54 mm (PR-3S + Z2)</li> <li>■ Collars and adapter: XP66,7 mm (PR-3S + Z6 XL)</li> <li>■ Collars and adapter: 76,1–108 mm (PR-3S + Z6 XL)</li> </ul>
15–54 mm	Rothenberger	<ul style="list-style-type: none"> <li>■ Romax AC ECO</li> <li>■ Romax 3000 Akku</li> <li>■ Romax 3000 AC</li> <li>■ Romax 4000</li> </ul>	<ul style="list-style-type: none"> <li>■ KAN-therm jaws M15–35 mm</li> <li>■ KAN-therm collars M42–54 with adapter (ZBS1)</li> </ul>
15–35 mm	Ridgid	<ul style="list-style-type: none"> <li>■ RP 219</li> <li>■ RP 240</li> <li>■ RP 241</li> </ul>	<ul style="list-style-type: none"> <li>■ Ridgid jaws: M15–35 mm</li> </ul>
15–35 mm	Ridgid	<ul style="list-style-type: none"> <li>■ RP 350</li> <li>■ RP 350</li> </ul>	<ul style="list-style-type: none"> <li>■ Ridgid jaws: M15–35 mm</li> </ul>
15–108 mm	Ridgid	<ul style="list-style-type: none"> <li>■ RP 352-XL</li> </ul>	<ul style="list-style-type: none"> <li>■ Ridgid jaws: M15–35 mm</li> <li>■ Ridgid collars and adapter: 76,1–108 mm</li> </ul>

\* only 18 and 28 mm forks marked as "108" (Q1 2008) or newer allowed

Utilization of other press tools requires consultation with the manufacturer of the installation system each time.



### Tools – work safety

**Before starting any works, make sure you read the instruction manual and learn the principles of safe work. All tools must be used according to their dedication and the manufacturer's instruction manual. During the use of tools, one must observe the terms of regular inspections and all applicable safety regulations. Using tools against their designed use may lead to their damage or to the damage of their accessories and pipes. It may also lead to the occurrence of leakages in installation joints.**

### KAN-therm tools:

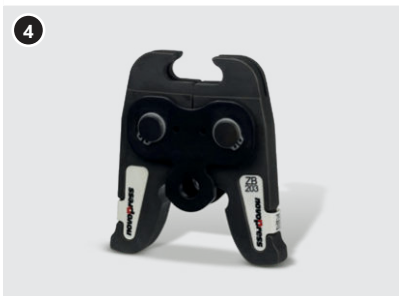


1. Electric press KAN-therm AC 3000
2. Battery-powered press KAN-therm DC 4000
3. KAN-therm M15–35 mm jaws
4. M42-54 mm collar
5. ZBS1 42-54 mm adapter

**NOVOPRESS tools:**



1. Battery-powered press ACO203XL
2. PB2 M15-35 mm jaws
3. M 35-108 Snap On collar
4. ZB203 adapter
5. ZB221, ZB222 adapters



1. Electric press EFP203
2. PB2 M15-35 mm jaws
3. M 35-54 Snap On collar
4. ZB203 adapter



1. Battery-powered press ACO 102\*
2. Battery-powered press ACO 103
3. M15-35 mm jaws

\*The tools are not available in KAN-therm offer.



1. Electric press ECO 301\*
  2. M15–28 mm jaws
  3. M 35-66,7 Snap On collar
  4. ZB 303 adapter
  5. ZB 323 adapter
- \*The tools are not available in KAN-therm offer.



1. Battery-powered press ACO 401\*/ACO 403
  2. HP 76,1,-108 Snap On collar
- \*The tools are not available in KAN-therm offer.

## REMS tools:



1. Electric press Power-Press ACC
2. Battery-powered press Akku-Press
3. Electric press Power-Press SE
4. M15–35 mm jaws

## KLAUKE tools:



1. Battery-powered press KAN-therm Mini
2. SBM M 15–28 mm jaws

## Preparation of pipes for pressing



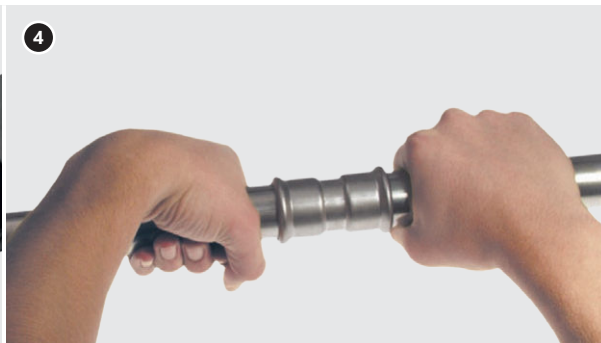
### 1. Cutting pipes

Cut pipes perpendicularly to the axis using a roll pipe cutter (breaking incompletely cut pipe sections is prohibited). You may also use other tools, such as hand saws and electric saws designed for stainless steel, provided that the cut is made perpendicularly and the edges of the pipe are not chipped. Do not use torches or cutting discs for pipe cutting, which can generate significant amounts of heat, angle grinders, etc.



### 2. Chamfering

Use a manual chamfer (for diameters 76,1–108 – a semi-round steel file) to chamfer the internal and external edge of the pipe, removing all chips, which could potentially damage the O-Ring during assembly.



### 3. Inspection

Prior to assembly, visually inspect the presence and condition of the O-Ring. Check, if there are no chips or metal shavings or other pollutions on the pipe and the fitting, which could damage the seal during installation. Make sure if the distance between neighboring fittings is above the permissible ( $d_{min}$ ).

### 4. Mounting the pipe and the joint

To achieve the correct strength of a joint, ensure a proper depth A (tab. 1, fig. 1) of inserting the pipe into the fitting. Before pressing, insert the pipe into the fitting up to the marked depth (slight rotation permissible). Do not use lubricants, greases or fats when mounting the pipe (water or a soap solution is permissible – recommended for pressure tests conducted with compressed air).



### 5. Marking the depth of the mount

In order to ensure the correct durability of your joint, maintain proper depth A (table on page 19) of mount of the pipe inside the fitting. When mounting multiple joints at the same time (sliding pipes into fittings), before pressing next joints, inspect the pipe insertion depth. To do this, just check if the pipe is inserted into the fitting as far as possible.

To facilitate the identification of the pipe insertion depth in the fitting, use a simple technique of marking with a marker. It consists in sliding the pipe into the fitting as far as possible and then making a mark on the pipe, right next to the very edge of the fitting socket. After pressing, this mark must still be visible right at the edge of the fitting.

You can also use special patterns to mark the sliding depth without checking it with the fitting.

**Note: The patterns to mark the sliding depth are not part of the basic system offer.**



### 6. Pressing joints

Before starting any works, read all suitable instruction manuals and verify the proper operation of your tools. Use press tools and jaws recommended by KAN.

Select the size of your press jaw basing on the diameter of the joint. Place the jaws on the joint so that its notch embraces the protruding part of the fitting (the space where the O-Ring is located). After starting the press, the process takes place automatically and cannot be stopped. If, for any reason, the process of pressing is stopped, the joint needs to be disassembled (cut off) and a new one needs to be executed. If the installer has press tools and jaws not supplied by the KAN-therm, the possibility of using them should be consulted with KAN's Technical Department.



#### 7. Pressing 76,1–108 mm joints - preparing the jaws

To press the biggest diameters (76,1; 88,9; 108), use a special, four-part jaw (collar). After taking the jaws out of the box, unlock it. Next, open the jaws.

8. Mount the opened jaws on the fitting. The jaws are equipped with a special notch, which fits the collar on the fitting.

**Notice: A label with the size of the jaws (visible on the figure) should be always located at the side of the pipe.**

9. After the jaw is properly located on the fitting, it should be secured again by pressing the pin as far as possible (Klauke collars) or checking the alignment of the markers (Novopress collars). At this moment, the jaws are ready to be connected to the press machine.



#### 10. Connecting the press machine to the jaws

Connect the press tool to the collar. It is absolutely necessary to ensure that the press tool is connected to the collar in accordance with the instructions attached to the specific tool.

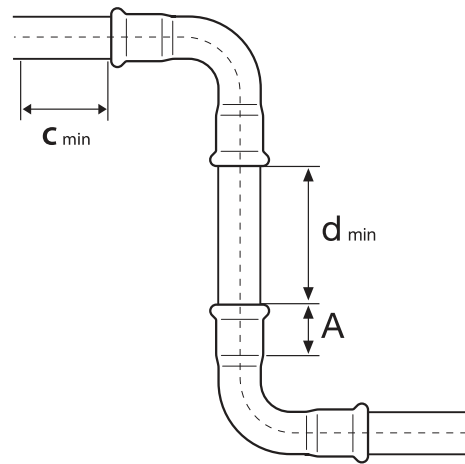
A press machine connected this way may be started for the purpose of executing a fully pressed joint.

#### 11. Pressing

The full time of executing one pressed joint is c.a. 1 min. (applies to diameters: 76,1–108 mm). After starting the press, the process takes place automatically and cannot be stopped. If, for any reason, the process of pressing is stopped, the joint needs to be disassembled (cut off) and a new one needs to be executed. After executing the pressed joint, the press machine will automatically return to its primary position. After that, remove the arms of the press machine from the jaws. To remove the collar from the fitting, unlock it again and then unfold it. Klauke collars should be stored in the suitcases in a secured condition - locked.

## Pipe insertion depth in the fitting and minimum distance between pressed fittings

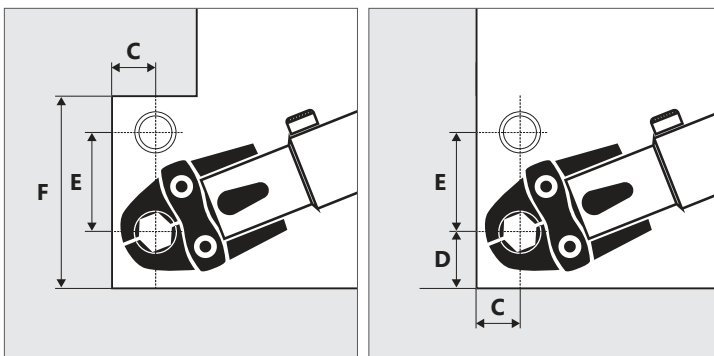
Ø [mm]	A [mm]	d <sub>min</sub> [mm]	C <sub>min</sub> [mm]
15	20	10	35
18	20	10	35
22	21	10	35
28	23	10	35
35	26	10	35
42	30	20	35
54	35	20	35
76,1	53	20	75
88,9	60	20	75
108	71	20	75



- A – Pipe insertion depth in the fitting,
- d<sub>min</sub> – minimum distance between fittings allowing press correctness
- C<sub>min</sub> – minimal distance of fitting from wall

## Minimal assembly distances

Ø [mm]	C [mm]	D [mm]	E [mm]	F [mm]
<b>Jaws</b>				
15	20	28	75	130
18	25	28	75	131
22-28	31	35	80	150
35	31	44	80	170
<b>Collars</b>				
42	75	75	115	265
54	85	85	120	290
76,1	110	110	140	350
88,9	120	120	150	390
108	140	140	170	450



## Pipe bending

If there is a need, KAN-therm Inox pipes may be bent "cold", provided that the minimal bending radius  $R_{\min}$  is observed:

$$R_{\min} = 3,5 \times D_e$$

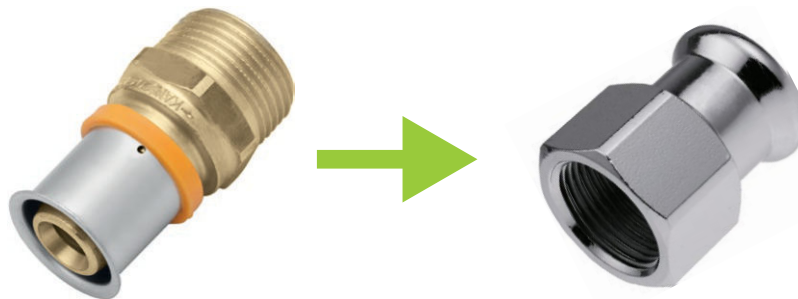
$D_e$  – external diameter of the pipe

Do not bend the pipes "hot", due to the vulnerability of pipes processed this way to corrosion resulting from a change in the crystal structure of their material.

Use manual benders to bend the pipe. These may be electric or hydraulic. Do not "cold" bend pipes with diameters exceeding Ø35 mm (use ready-made bends and elbows 90° and 45° supplied as part of the KAN-therm system).

Do not weld or solder KAN-therm Inox pipes, since this process changes the structure of material, which might lead to corrosion.

## Threaded fittings, connecting with other KAN-therm systems



The principle of connecting brass fittings with KAN-therm Inox joints

KAN-therm Inox system offer a wide selection of fittings with male and female threads. Since fittings with male threads are equipped with cone threads (pipe), in threaded joints with brass shape fittings, you can only use male threads for brass joints, sealed with e.g. a small amount of tow. It is suggested that the threaded (screwed) joint is executed before pressing the joint, so that no additional load is applied on the pressed joint. Do not use standard PTFE tape or any other solutions containing halides (e.g. chlorides) to seal threads in KAN-therm Inox installations.

Threaded fittings with other fixtures and threaded elements outside the system KAN-therm offer should be made in line with EN 10226 (ISO 7-1) and EN ISO 228 depending on the thread type.

## 1.6 Flange connections



Table of Inox flange connections

Code	Size	Amount of screws/nuts	Bolt size	Bolt class	Nut class	Amount of washers	Flange	Flat seal
1609091019	15 DN15 PN16	4	M12	8.8	8	8	DN15	DN12 EPDM
1609091020	18 DN15 PN16	4	M12	8.8	8	8	DN15	DN15 EPDM
1609091021	22 DN20 PN16	4	M12	8.8	8	8	DN20	DN20 EPDM
1609091022	28 DN25 PN16	4	M12	8.8	8	8	DN25	DN25 EPDM
1609091023	35 DN32 PN16	4	M16	8.8	8	8	DN32	DN32 EPDM
1609091024	42 DN40 PN16	4	M16	8.8	8	8	DN40	DN40 EPDM
1609091025	54 DN50 PN16	4	M16	8.8	8	8	DN50	DN50 EPDM
1609091026	76,1 DN65 PN16	4	M16	8.8	8	8	DN65	DN65 EPDM
1609091027	88,9 DN80 PN16	8	M16	8.8	8	16	DN80	DN80 EPDM
1609091028	108 DN100 PN16	8	M16	8.8	8	16	DN100	DN100 EPDM

## 1.7 Operational notes

### Equipotential bonding

Every finished metal installation has to be provided with connections equalizing electrical potentials, i.e. grounded in order to prevent stray currents and occurrence of contact corrosion.

According to regulations in force, the connections of grounding conductors have to be made by welding or by threaded clamps and the connections to the pipelines must be made with screw clamps. In order to make the correct equipotential bonding, it is necessary to:

1. Get information on the applied electric shock protection solution (grounding method) in the building object.
2. Connect the equalizing conduit to the pipe with the appropriate clamp. In order to eliminate the risk of contact corrosion, the clamp must be selected according to the type of pipe.
3. Make the serial connections of all individual pipelines branches with a use of potentials equalization conduits and connect them to the main grounding collecting bar of the building object.

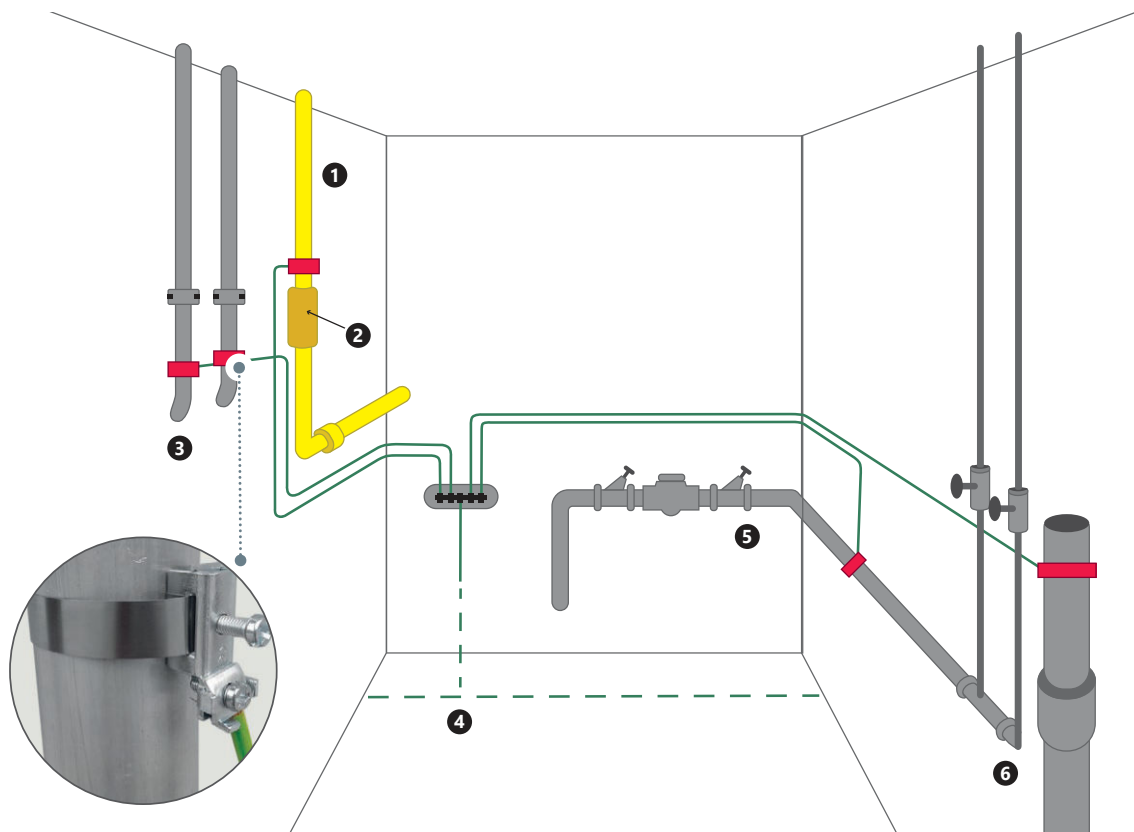


#### Attention!

**Remove the insulation, paintwork and dirt from the pipe in clamp assembly places.**

The length of the electrical conduits from the piping system to the grounding collecting bar of the potential equalization system should be as short as possible.

Calculations of the electrical potentials equalization system in the building object must be performed by person with appropriate qualifications.



1. Gas
2. Insulation liner
3. Central heating
4. Foundation grounding
5. Water
6. Sewer

## 1.8 Transport and storage

- Elements of the KAN-therm Inox must be stored separately from other metal elements such as carbon steel.
- Do not store elements of the system directly on the ground (e.g. on soil or concrete).
- Do not store elements of the system in the vicinity of chemical solutions.
- Pipe bundles should be stored and transported on wooden pallets (avoid direct contact with other steel elements, e.g. pipe stands).
- During transport, loading and unloading, be extra careful not to scratch or damage the pipes or fittings – do not: throw, drag or bend them.
- Rooms designed for storing elements of the system must be dry.
- During their storage, assembly and use, pipe surfaces must not be exposed to long-term, direct contact with water or humidity.



Detailed information about storage and transport of components can be found at [en.kan-therm.com](http://en.kan-therm.com).

# SYSTEM KAN-therm Inox - assortment

## Pipes



### Stainless steel pipe 1.4404 - bar

GROUP: H

	Size [mm]	*	Code			UM
<b>N</b>	15×1,0		<b>1629194088</b>	6	1014	m
<b>N</b>	18×1,0		<b>1629194089</b>	6	1014	m
<b>N</b>	22×1,2		<b>1629194090</b>	6	762	m
<b>N</b>	28×1,2		<b>1629194091</b>	6	546	m
<b>N</b>	35×1,5		<b>1629194092</b>	6	546	m
<b>N</b>	42×1,5		<b>1629194093</b>	6	546	m
<b>N</b>	54×1,5		<b>1629194094</b>	6	366	m
<b>N</b>	76,1×2,0		<b>1629194095</b>	6	114	m
<b>N</b>	88,9×2,0		<b>1629194096</b>	6	114	m
<b>N</b>	108×2,0		<b>1629194097</b>	6	114	m

**Note:**

Operating pressure depends on the type of transported medium, diameter range and tools used to make connections:

■ 12-108 mm up to 25 bar (Novopress tools with jaws and collars with HP profile) - only in installations filled with water,

■ 12-108 mm up to 16 bar (tools with jaws with M profile). Not applicable to compressed air systems - refer to the "Designer and Contractor Guidebook" for operating conditions.

## Connectors

### Female connector



### GROUP: G

Size [mm]	*	Code			UM
15 Rp $\frac{1}{2}$ "		1609042041	20	200	pc.
15 Rp $\frac{3}{4}$ "		1609042042	20	200	pc.
18 Rp $\frac{1}{2}$ "		1609042043	20	200	pc.
18 Rp $\frac{3}{4}$ "		1609042044	20	200	pc.
22 Rp $\frac{1}{2}$ "		1609042045	20	160	pc.
22 Rp $\frac{3}{4}$ "		1609042046	20	160	pc.
22 Rp1"		1609042047	20	140	pc.
28 Rp $\frac{3}{4}$ "		1609042048	20	120	pc.
28 Rp1"		1609042049	20	120	pc.
28 Rp1 $\frac{1}{4}$ "		1609042050	20	120	pc.
35 Rp1"		1609042051	10	80	pc.
35 Rp1 $\frac{1}{4}$ "		1609042052	10	80	pc.
35 Rp1 $\frac{1}{2}$ "		1609042053	10	80	pc.
42 Rp1 $\frac{1}{4}$ "		1609042054	4	52	pc.
42 Rp1 $\frac{1}{2}$ "		1609042055	4	52	pc.
54 Rp1 $\frac{1}{2}$ "		1609042056	4	32	pc.
54 Rp2"		1609042057	4	32	pc.



### Male connector

### GROUP: G

Size [mm]	*	Code			UM
15 R $\frac{1}{2}$ "		1609045059	20	200	pc.
15 R $\frac{3}{4}$ "		1609045060	20	200	pc.
18 R $\frac{1}{2}$ "		1609045061	20	200	pc.
18 R $\frac{3}{4}$ "		1609045062	20	200	pc.
22 R $\frac{1}{2}$ "		1609045063	20	200	pc.
22 R $\frac{3}{4}$ "		1609045064	20	200	pc.
22 R1"		1609045065	20	200	pc.
28 R $\frac{3}{4}$ "		1609045066	20	120	pc.
28 R1"		1609045067	20	120	pc.
28 R1 $\frac{1}{4}$ "		1609045068	20	120	pc.
35 R1"		1609045069	10	80	pc.
35 R1 $\frac{1}{4}$ "		1609045070	10	80	pc.
35 R1 $\frac{1}{2}$ "		1609045071	10	80	pc.
42 R1 $\frac{1}{4}$ "		1609045072	4	52	pc.
42 R1 $\frac{1}{2}$ "		1609045073	4	52	pc.
54 R1 $\frac{1}{2}$ "		1609045074	4	36	pc.
54 R2"		1609045075	4	36	pc.
76 R2 $\frac{1}{2}$ "		1609045076	1	1	pc.
88,9 R3"		1609045077	1	1	pc.



 coil 
  bar 
  pipes in tube 
  bag 
  carton box 
  pallet 
  new 
  available soon

\* custom-made - lead time max 4 weeks | \*\* availability as agreed | \*\*\* while stock lasts



### Coupling Inox/Groove

GROUP: G

Size [mm]	*	Code			UM
28 / 33,7		<b>1609042058</b>	20	80	pc.
35 / 42,4		<b>1609042059</b>	10	50	pc.
42 / 48,3		<b>1609042060</b>	4	40	
54 / 60,3		<b>1609042061</b>	4	24	pc.
76,1 / 76,1		<b>1609042062</b>	1	1	pc.
88,9 / 88,9		<b>1609042063</b>	1	1	pc.



### Female union

GROUP: G

Size [mm]	*	Code			UM
15 Rp½"		<b>1609271040</b>	20	140	pc.
15 Rp¾"		<b>1609271041</b>	20	140	pc.
18 Rp½"		<b>1609271042</b>	20	120	pc.
18 Rp¾"		<b>1609271043</b>	20	120	pc.
22 Rp¾"		<b>1609271044</b>	20	80	pc.
22 Rp1"		<b>1609271045</b>	20	80	pc.
28 Rp1"		<b>1609271046</b>	20	50	pc.
35 Rp1¼"		<b>1609271047</b>	10	40	pc.
42 Rp1½"		<b>1609271048</b>	4	28	pc.
54 Rp2"		<b>1609271049</b>	2	24	pc.



### Male union

GROUP: G

Size [mm]	*	Code			UM
15 R½"		<b>1609272028</b>	20	140	pc.
15 R¾"		<b>1609272029</b>	20	140	pc.
18 R½"		<b>1609272030</b>	20	120	pc.
18 R¾"		<b>1609272031</b>	20	120	pc.
22 R¾"		<b>1609272032</b>	20	80	pc.
22 R1"		<b>1609272033</b>	20	80	pc.
28 R1"		<b>1609272034</b>	20	50	pc.
35 R1¼"		<b>1609272035</b>	10	40	pc.
42 R1½"		<b>1609272036</b>	4	28	pc.
54 R2"		<b>1609272037</b>	2	24	pc.

coil 
 bar 
 pipes in tube 
 bag 
 carton box 
 pallet 
 **N** new 
 available soon

\* custom-made - lead time max 4 weeks | \*\* availability as agreed | \*\*\* while stock lasts

## Union



GROUP: G

Size [mm]	*	Code			UM
15		1609271050	20	140	pc.
18		1609271051	20	140	pc.
22		1609271052	20	120	pc.
28		1609271053	20	50	pc.
35		1609271054	10	40	pc.
42		1609271055	4	28	pc.
54		1609271056	2	24	pc.



## Female half union with flat sealing

GROUP: G

Size [mm]	*	Code			UM
15 G $\frac{3}{4}$ "		1609271035	20	200	pc.
18 G $\frac{3}{4}$ "		1609271036	20	200	pc.
22 G1"		1609271037	20	200	pc.
28 G1 $\frac{1}{4}$ "		1609271038	20	120	pc.
35 G1 $\frac{1}{2}$ "		1609271039	10	80	pc.



## Straight coupling


GROUP: G

Size [mm]	*	Code			UM
15		1609245030	20	400	pc.
18		1609245031	20	300	pc.
22		1609245032	20	200	pc.
28		1609245033	20	160	pc.
35		1609245034	10	100	pc.
42		1609245035	4	60	pc.
54		1609245036	4	40	pc.
76,1		1609245037	1	1	pc.
88,9		1609245038	1	1	pc.
108		1609245039	1	1	pc.



## Slip coupling

GROUP: G

Size [mm]	*	Code			UM
15		1609080018	20	300	pc.
18		1609080019	20	200	pc.
22		1609080020	20	200	pc.
28		1609080021	20	100	pc.
35		1609080022	10	50	pc.
42		1609080023	4	40	pc.
54		1609080024	4	24	pc.
76,1		1609080025	1	1	pc.
88,9		1609080026	1	1	pc.
108		1609080027	1	1	pc.



 coil 
  bar 
  pipes in tube 
  bag 
  carton box 
  pallet 
  new 
  available soon

\* custom-made - lead time max 4 weeks | \*\* availability as agreed | \*\*\* while stock lasts



### Elbow 90°

GROUP: G

Size [mm]	*	Code			UM
15		1609068196	20	300	pc.
18		1609068197	20	200	pc.
22		1609068198	20	160	pc.
28		1609068199	10	80	pc.
35		1609068200	10	50	pc.
42		1609068201	4	32	pc.
54		1609068202	2	20	pc.
76,1		1609068203	1	1	pc.
88,9		1609068204	1	1	pc.
108		1609068205	1	1	pc.



### Plain end elbow 90°

GROUP: G

Size [mm]	*	Code			UM
15		1609068206	20	300	pc.
18		1609068207	20	200	pc.
22		1609068208	20	160	pc.
28		1609068209	10	80	pc.
35		1609068210	10	50	pc.
42		1609068211	4	32	pc.
54		1609068212	2	20	pc.
76,1		1609068213	1	1	pc.
88,9		1609068214	1	1	pc.
108		1609068215	1	1	pc.



### Elbow 45°

GROUP: G


Size [mm]	*	Code			UM
15		1609068216	20	300	pc.
18		1609068217	20	200	pc.
22		1609068218	20	160	pc.
28		1609068219	10	80	pc.
35		1609068220	10	50	pc.
42		1609068221	4	32	pc.
54		1609068222	2	20	pc.
76,1		1609068223	1	1	pc.
88,9		1609068224	1	1	pc.
108		1609068225	1	1	pc.

coil 
 bar 
 pipes in tube 
 bag 
 carton box 
 pallet 
 new 
 available soon

\* custom-made - lead time max 4 weeks | \*\* availability as agreed | \*\*\* while stock lasts

## Plain end elbow 45°



GROUP: G

Size [mm]	*	Code			UM
15		1609068226	20	300	pc.
18		1609068227	20	200	pc.
22		1609068228	20	160	pc.
28		1609068229	10	80	pc.
35		1609068230	10	50	pc.
42		1609068231	4	32	pc.
54		1609068232	2	20	pc.
76,1		1609068233	1	1	pc.
88,9		1609068234	1	1	pc.
108		1609068235	1	1	pc.



## Tee

GROUP: G

Size [mm]	*	Code			UM
15		1609257065	20	200	pc.
18		1609257066	20	200	pc.
22		1609257067	20	120	pc.
28		1609257068	10	80	pc.
35		1609257069	10	50	pc.
42		1609257070	4	24	pc.
54		1609257071	2	16	pc.
76,1		1609257072	1	1	pc.
88,9		1609257073	1	1	pc.
108		1609257074	1	1	pc.





 coil 
  bar 
  pipes in tube 
  bag 
  carton box 
  pallet 
  new 
  available soon

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## Female tee

GROUP: G



Size [mm]	*	Code			UM
15 Rp½"		<b>1609260089</b>	20	200	pc.
18 Rp½"		<b>1609260090</b>	20	120	pc.
18 Rp¾"		<b>1609260091</b>	20	120	pc.
22 Rp½"		<b>1609260092</b>	20	120	pc.
22 Rp¾"		<b>1609260093</b>	20	120	pc.
28 Rp½"		<b>1609260094</b>	10	80	pc.
28 Rp¾"		<b>1609260095</b>	10	80	pc.
28 Rp1"		<b>1609260096</b>	10	80	pc.
35 Rp½"		<b>1609260097</b>	10	50	pc.
35 Rp¾"		<b>1609260098</b>	10	50	pc.
42 Rp½"		<b>1609260099</b>	4	32	pc.
42 Rp¾"		<b>1609260100</b>	4	32	pc.
54 Rp½"		<b>1609260101</b>	2	20	pc.
54 Rp¾"		<b>1609260102</b>	2	20	pc.
54 Rp2"		<b>1609260103</b>	2	20	pc.
76,1 Rp¾"		<b>1609260104</b>	1	1	pc.
76,1 Rp2"		<b>1609260105</b>	1	1	pc.
88,9 Rp¾"		<b>1609260106</b>	1	1	pc.
88,9 Rp2"		<b>1609260107</b>	1	1	pc.
108 Rp¾"		<b>1609260108</b>	1	1	pc.
108 Rp2"		<b>1609260109</b>	1	1	pc.

 coil 
  bar 
  pipes in tube 
  bag 
  carton box 
  pallet 
  new 
  available soon

\* custom-made - lead time max 4 weeks | \*\* availability as agreed | \*\*\* while stock lasts

## Reducing tee

## GROUP: G

Size [mm]	*	Code			UM
18 / 15 / 18		1609257075	20	200	pc.
22 / 15 / 22		1609257076	20	120	pc.
22 / 18 / 22		1609257077	20	120	pc.
28 / 15 / 28		1609257078	10	100	pc.
28 / 18 / 28		1609257079	10	100	pc.
28 / 22 / 28		1609257080	10	100	pc.
35 / 15 / 35		1609257081	10	50	pc.
35 / 18 / 35		1609257082	10	50	pc.
35 / 22 / 35		1609257083	10	50	pc.
35 / 28 / 35		1609257084	10	50	pc.
42 / 22 / 42		1609257085	4	32	pc.
42 / 28 / 42		1609257086	4	32	pc.
42 / 35 / 42		1609257087	4	32	pc.
54 / 22 / 54		1609257088	2	20	pc.
54 / 28 / 54		1609257089	2	20	pc.
54 / 35 / 54		1609257090	2	20	pc.
54 / 42 / 54		1609257091	2	20	pc.
76,1 / 22 / 76,1		1609257092	1	1	pc.
76,1 / 28 / 76,1		1609257093	1	1	pc.
76,1 / 35 / 76,1		1609257094	1	1	pc.
76,1 / 42 / 76,1		1609257095	1	1	pc.
76,1 / 54 / 76,1		1609260075	1	1	pc.
88,9 / 22 / 88,9		1609260076	1	1	pc.
88,9 / 28 / 88,9		1609260077	1	1	pc.
88,9 / 35 / 88,9		1609260078	1	1	pc.
88,9 / 42 / 88,9		1609260079	1	1	pc.
88,9 / 54 / 88,9		1609260080	1	1	pc.
88,9 / 76,1 / 88,9		1609260081	1	1	pc.
108 / 22 / 108		1609260082	1	1	pc.
108 / 28 / 108		1609260083	1	1	pc.
108 / 35 / 108		1609260084	1	1	pc.
108 / 42 / 108		1609260085	1	1	pc.
108 / 54 / 108		1609260086	1	1	pc.
108 / 76,1 / 108		1609260087	1	1	pc.
108 / 88,9 / 108		1609260088	1	1	pc.



 coil 
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### Plain end reducer

GROUP: G

Size [mm]	*	Code			UM
18 / 15		1609221068	20	320	pc.
22 / 15		1609221069	20	300	pc.
22 / 18		1609221070	20	300	pc.
28 / 15		1609221071	20	200	pc.
28 / 18		1609221072	20	200	pc.
28 / 22		1609221073	20	200	pc.
35 / 15		1609221074	10	120	pc.
35 / 18		1609221075	10	120	pc.
35 / 22		1609221076	10	120	pc.
35 / 28		1609221077	10	120	pc.
42 / 15		1609221078	4	56	pc.
42 / 18		1609221079	4	56	pc.
42 / 22		1609221080	4	56	pc.
42 / 28		1609221081	4	56	pc.
42 / 35		1609221082	4	56	pc.
54 / 15		1609221083	4	52	pc.
54 / 18		1609221084	4	52	pc.
54 / 22		1609221085	4	52	pc.
54 / 28		1609221086	4	52	pc.
54 / 35		1609221087	4	52	pc.
54 / 42		1609221088	4	52	pc.
76,1 / 42		1609221089	1	1	pc.
76,1 / 54		1609221090	1	1	pc.
88,9 / 54		1609221091	1	1	pc.
88,9 / 76,1		1609221092	1	1	pc.
108 / 54		1609221093	1	1	pc.
108 / 76,1		1609221094	1	1	pc.
108 / 88,9		1609221095	1	1	pc.



### Female elbow 90°

GROUP: G

Size [mm]	*	Code			UM
15 Rp½"		1609068236	20	140	pc.
18 Rp½"		1609068237	20	140	pc.
22 Rp¾"		1609068238	10	100	pc.
28 Rp1"		1609068239	10	80	pc.
35 Rp1¼"		1609068240	10	50	pc.

 coil 
  bar 
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### Male elbow 90°

GROUP: G

Size [mm]	*	Code			UM
15 R1/2"		1609070018	20	140	pc.
18 R1/2"		1609070019	20	140	pc.
22 R3/4"		1609070020	10	100	pc.
28 R1"		1609070021	10	80	pc.
35 R1 1/4"		1609070022	10	50	pc.
42 R1 1/2"		1609070023	2	36	pc.
54 R2"		1609070024	2	30	pc.



### Female directly fixed wallplate elbow - L = 44 mm

GROUP: G

Size [mm]	*	Code			UM
15 Rp1/2"		1609285017	20	200	pc.



### Female directly fixed wallplate elbow - L = 44 mm

GROUP: G

Size [mm]	*	Code			UM
18 Rp1/2"		1609285018	20	120	pc.



### Female directly fixed wallplate elbow - L = 52 mm

GROUP: G

Size [mm]	*	Code			UM
22 Rp3/4"		1609285019	20	100	pc.



### Crossover

GROUP: G

Size [mm]	*	Code			UM
15		1609178004	20	120	pc.
18		1609178005	20	120	pc.
22		1609178006	20	100	pc.
28		1609178007	10	100	pc.



 coil 
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### Bend 15°

GROUP: G

Size [mm]	*	Code			UM
28		1609011030	10	80	pc.
35		1609011031	10	50	pc.
42		1609011032	4	32	pc.
54		1609011033	2	20	pc.



### Bend 30°

GROUP: G

Size [mm]	*	Code			UM
28		1609011034	10	80	pc.
35		1609011035	10	50	pc.
42		1609011036	4	32	pc.
54		1609011037	2	20	pc.



### Bend 60°

GROUP: G

Size [mm]	*	Code			UM
28		1609011038	10	80	pc.
35		1609011039	10	50	pc.
42		1609011040	4	32	pc.
54		1609011041	2	20	pc.



### Bend 90°

GROUP: G

Size [mm]	*	Code			UM
15		1609011042	20	160	pc.
18		1609011043	20	160	pc.
22		1609011044	10	140	pc.
28		1609011045	10	50	pc.
35		1609011046	4	24	pc.
42		1609011047	2	16	pc.
54		1609011048	2	8	pc.



### Stop end

GROUP: G



Size [mm]	*	Code			UM
15		1609250030	20	400	pc.
18		1609250031	10	300	pc.
22		1609250032	10	200	pc.
28		1609250033	10	160	pc.
35		1609250034	10	100	pc.
42		1609250035	4	60	pc.
54		1609250036	4	40	pc.
76,1		1609250037	1	1	pc.
88,9		1609250038	1	1	pc.
108		1609250039	1	1	pc.

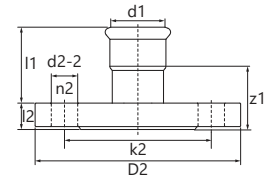
coil 
 bar 
 pipes in tube 
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 pallet 
 new 
 available soon

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## Flange PN16

GROUP: G

Size [mm]	*	Code			UM
15		1609091019	1	1	pc.
18		1609091020	1	1	pc.
22		1609091021	1	1	pc.
28		1609091022	1	1	pc.
35		1609091023	1	1	pc.
42		1609091024	1	1	pc.
54		1609091025	1	1	pc.
76,1		1609091026	1	1	pc.
88,9		1609091027	1	1	pc.
108		1609091028	1	1	pc.



**Note:**

Complete the flat gasket yourself.

Code	Size	l1	l2	z1	k2	D2	d2-2	n2
1609091019	15 DN15 PN16	31	14	25	65	95	14	4
1609091020	18 DN15 PN16	33	14	27	65	95	14	4
1609091021	22 DN20 PN16	36	16	31	75	105	14	4
1609091022	28 DN25 PN16	40	16	34	85	115	14	4
1609091023	35 DN32 PN16	48	18	40	100	140	18	4
1609091024	42 DN40 PN16	56	18	44	110	150	18	4
1609091025	54 DN50 PN16	67	18	51	125	165	18	4
1609091026	76,1 DN65 PN16	112	20	78	145	185	18	4
1609091027	88,9 DN80 PN16	126	20	91	160	200	18	8
1609091028	108 DN100 PN16	149	20	100	180	220	18	8









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