

The copper pipe system Overview

This section contains specifications and an overview of the pipes and components as well as the accessories and tools forming part of our copper pipe system.					
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	This section contains specifications and an over the accessories and tools forming part of our of Preinsulated copper pipes Soldering fittings and press couplings Casing joints, straight couplings Horizontal directional changes Vertical bends Branches Branch joints Preinsulated branches Transition pipes Other components				



The copper pipe system Preinsulated copper pipes

Application	The copper pipe system and cooling as well as o	n is a complete transmission and distribution system for district heating cold and hot domestic water.					
	All specifications in section 7 of this catalogue are based on: Max. operating pressure = 25 bar Max. temperature difference when applying design rules: $\Delta t = 120^{\circ}C$ Continuous operating temperature = 140°C Max. temperature (short-term) = 150°C Max. external temperature load (casings) = 50°C						
	The copper pipe system	n is applicable for all installation methods, except the E-Comp method.					
	In connection with othe	r conditions please contact LOGSTOR's technicians.					
	As regards corrosion re contact LOGSTOR.	sistance and requirements to the water quality, see Design Manual or					
	Contact local authorities	s for approvals.					
Description	A preinsulated copper p	pipe consists of: 5					
	Pos.Part1Service pipe (1 or 2)2Insulation3Outer casing4Wires for surveillance5Pipe label	Material Copper Polyurethane foam Polyethylene, PE-HD Copper (one is tinned)					
Copper pipes	Type: Dimensions: Material: Copper content: P-content: Ultimate stress: Elongation at break: Hardness: Inspection certificate:	Soft, drawn, seamless pipes designed for capillary soldering In accordance with EN 12449 In accordance with EN 12449 99.85% weight 0.015 - 0.040% weight 210-270 N/mm ² Min. 40% Vicker's hardness, approx. 55 HV EN 10204 - 3.1.B					
Insulation	Polyurethane foam:	Properties: Minimum as required in EN 253 Calculated continuous operating temperature (CCOT): > 140°C for 30 years. Maximum short-term operating temperature: 150°C					
	Blowing agent:	Cyclopentane					
	Insulating property:	Thermal conductivity (50°C): < 0.027 W/mK					



The copper pipe system Preinsulated copper pipes

Outer casing	Polyethylene:	PEHD, bimodal (min. PE 80, ISO 12162) Properties: Minimum as required in EN 253 All parts are fully weldable within the melt flow index: MFR variation \leq 0.5 g/10 min
	Thermal stability:	Calculated continuous surface temperature: $\ge 50^{\circ}$ C for 30 years. Oxydation induction time (OIT): > 30 min at 210° C
	Resistance against crack formation:	Stress crack resistance (notch sensibility): > 3000 h (full notch, 4 MPa, 80°, EN 253/150 16770) Rapid crack propagation (cold sensibility) > 5 bar (0° C, ISO 13477)
	Internal surface treatment:	All outer casings are corona treated during production. This ensures an optimum adhesion between casing and insulation.
Finished pipes	All pipes are as a minimum tion:	n produced according to EN 253, but with a wider field of applica-
	The calculated continuous The maximum short peak The calculated continuous	operating temperature is 140° C for 30 years. operating temperature is 150° C. surface temperature is 50° C for 30 years.
	Free service pipe end: 2 Lengths delivered: 1	20 mm ± 10 mm 2 m
Surveillance system	The copper pipes are deliv Wires: Distance to steel pipe: Position in top:	rered with 2 copper wires, embedded in insulation (Nordic System). 1.5 mm ² copper wires (one is tinned) 15 mm ± 3-20 cm from 12 o'clock position
	The embedded copper wir are available for most of ou	res are the backbone of the electronic surveillance systems which ur pipelines.
	See description in section	16 of this manual.



The copper pipe system Preinsulated copper pipes

Application

n Preinsulated copper pipes are available in three variants for common construction work within district heating and cooling as well as transmission of hot and cold domestic water.

- Single pipe; one service pipe in one casing
- TwinPipe; two service pipes of the same dimension in one casing
- Double pipe; two service pipes with different dimensions in one casing (Primarily hot domestic water with circulation).

All preinsulated copper pipes are 12 m long and supplied with embedded copper wires for surveillance.

Single pipe

Component No. 2000

Copp	er pipe	Oute	r casing
	wall		wall
ø out.	thickness	ø out.	thickness
mm	mm	mm	mm
22	1.0	90	3.0
28	1.2	90	3.0
35	1.5	90	3.0
42	1.5	110	3.0
54	1.5	125	3.0
70	2.0	140	3.0
88	2.5	160	3.0



TwinPipe

Component No. 2090

			-		
С	Copper pipe		Outer casing		Distance
		wall		wall	between
Ø	out.	thick.	ø out.	thick.	pipes
	mm	mm	mm	mm	mm
2	2-22	1.0	125	3.0	10
2	8-28	1.2	140	3.0	10
3	5-35	1.5	140	3.0	10
4	2-42	1.5	160	3.0	10
5	4-54	1.5	200	3.0	10



Double pipe

Component No. 2090

Copper	Copper pipe		asing	Distance
wall		vall wall		between
ø out.	thick.	ø out.	thick.	pipes
mm	mm	mm	mm	mm
28-22	1.2/1.0	110	3.0	6
35-22	1.5/1.0	110	3.0	6
42-22	1.5/1.0	125	3.0	6
54-28	1.5/1.2	140	3.0	6
70-28	2.0/1.2	160	3.0	6





The copper pipe system **Soldering fittings**

Application

To make joints or branches with the copper pipe system LOGSTOR has a number of soldering fittings, of which some are specially made with a major wall thickness in order to ensure components against high axial stresses.

Description

- 1. Straight joint
- 2. Reducing joint
- 3. Steel-copper transition

Special soldering fittings:

4. Saddle pipe piece



Standard soldering fittings:

- 1. 45° or 90° bend
- 2. T-piece
- 3. End joint



Materials

Special soldering fittings:

1, 2, and 4: 3; St/Cu:

EN 12449, Cu-DHP No. CW 024 A Steel part: P235 T1, EN 10217-1 EN 12449, Cu-DHP No. CW 024 A.

Standard soldering fittings:

Product Catalogue · 2012.09



The copper pipe system Soldering fittings

Component overview Special soldering fittings

Corr	nponent	numbers:
0.		

- Straight joint:	1100
- Reducing joint:	1105

- Saddle pipe piece: 1100
- Steel/copper transition: 6880

Copper pipe Dim. ø out. mm	Straight joint	Reducing- joint (for ø mm) *)	Transition steel/copper (std. ø mm)	Saddle pipe piece ø mm branch dimension 18**) 22 28 35 42 54 70					70	
22	х	(15) x	(26,9) x	х						
28	x	(22) x	(33,7) x	x	x					
35	x	(28) x	(42,4) x	x	x	x				
42	x	(32) x	(48,3) x	x	x	x	x			
54	x	(42) x	(60,3) x	x	x	x	x	x		
70	x	(54) x	(76,1) x	x	x	x	x	x	x	
88	x	(70) x	(88,9) x	x	x	x	x	x	x	x

*) One reduction step per pipe length is allowed.

**) Only for branching with CuFlex (see section 3.4)

Component overview Standard soldering fittings

Component numbers:

- 45° and 90° bend: 1110
- End fitting: 1100

T-piece:	 1100

Dim. Copper pipe	45°	90°			T-pieces e	mm branch	dimension	
ø out. mm	bend	bend	End fitting	18 *)	22	28	35	42
22	Х	х	х	Х	Х			
28	х	х	х	х	х	х		
35	х	х	х	х	х	х	х	
42	Х	х	х	х	х	х	х	х
54	Х	×	х					
70	Х	×						
88	Х	x						

*) Only for CuFlex.

Accessories

Soldering material for capillary soldering:

- Copper-phosphorus soldering material with 5% silver content. Packet with 500 g. Product No. 9050 0000 027 010.

To order soldering material separately and not included see "Calculation of soldering material" section 15.3 in the Handling & Installation Manual.



The copper pipe system Press couplings

Application To join pipes and preinsulated components press couplings may be used as an alternative to soldering.

Description

Press coupling for straight joints.

Component No. 6000



Weld coupling, transition from steel to copper.

Component No. 6000



Threaded coupling, house installation. Component No. 6000



Reduction coupling. Component No. 6000





The copper pipe system **Press couplings**

Description, Closed coupling. continued Component No. 6000 **Materials** Press fittings for copper consist of: 1. Base unit: Brass or red brass dependent on the dimension 2. Press ring: Brass 3. Squeezing ring: Brass The base unit of the weld coupling and the closed coupling is made of weldable steel.

Component

overview

agin coupiing	coupling steel ø mm	coupling 3/4" male	Reduction coupling	Closed coupling
х	(26.9) x	х		(26.9) x
х	(26.9) x	х	(18) x	(26.9) x
х	(33.7) x	x (+1")	(22) x (18) x	(33.7) x
х	(42.4) x			(42.4) x
х	(42.4/48.3) x			
х	(60.3) x			
	x x x x x x x	x (26.9) x x (26.9) x x (33.7) x x (42.4) x x (42.4/48.3) x x (60.3) x	x (26.9) x x x (26.9) x x x (26.9) x x x (33.7) x x (+1") x (42.4) x x (60.3) x	x (26.9) x x x (26.9) x x x (26.9) x x x (33.7) x x (+1") x (42.4) x x (42.4/48.3) x x (60.3) x



The copper pipe system Straight casing joints

Casing joint
typesAll LOGSTOR casing joints for foaming can be used for the copper pipe system, see section
2.2.However, for BandJoints on TwinPipes and double pipes a supplementary set of accessories
are required:
- BandJoint Ø 125-200, see section 2.2.2
- BandJoint Ø 225-630, see section 2.2.3

Foam pack numbers for single pipes, see the relevant casing joints in section 15.

Foam pack numbers for TwinPipes and double pipes, see the relevant casing joints in the TwinPipe section, 15.3.



The copper pipe system Horizontal directional changes

Bend types	There are three possibilities of horizontal direction	onal changes with the copper pipe system :
	- 90° joint bend - On-site curved pipe - 90° preinsulated bend	
SteelJoint, 90°	90° directional change is carried out with a combination of 90° soldering joint and 90° joint bend. See section 2.3.2.	
Alternative	For angles of max. 45° SXBJoints may be used that no harmful bending impacts arise.	as an alternative; it must however be ensured
On site oursed	Ordinany proinculated conner pipes can be	
pipe	bent on site by means of a special tool. (See	
	(Single pipes can also be bent vertically).	
	ø 90 mm	
	ø 90 - 160 mm	



The copper pipe system Horizontal preinsulated bends, 90°

Application	The preinsulated 90° bends in this section are used for directional changes. If preinsulated bends with other degree measures are required, it must be ascertained that no harmful bending impacts arise. 90° bends are applicable for all relevant installation methods.							
Description	Preinsulated horizontal bends are delivered for operating pressure 25 bar. The copper pipes are bent mechanically. All bends have embedded copper wires for surveillance.							
Materials	Copper pipes: Hard copper. EN 12449, Cu-DHP No. CW 024A Other materials as for straight pipes.							
Component overview/ measurements	Single pipe, co Copper pipe ø out. mm 22 28 35 42 54 70 89	mponent No. 2 Outer casing ø mm 90 90 90 110 125 140 160	L mm 1000 1000 1000 1000 1000 1000 1000					
	TwinPipe, com Copper pipe ø out. mm 22-22 28-28 35-35 42-42 54-54	Outer casing Ø mm 125 140 140 160 200	D L mm 1000 1000 1000 1000 1000					

Distance between copper pipes = 10 mm



Component

overview/ measurements, *continued*

The copper pipe system Horizontal preinsulated bends, 90°

Double pipe, component No. 2590

Copper pipe	e, ø out. mm	Outer casing	L
d2	d1	ø mm	mm
28	22	110	1000
35	22	110	1000
42	22	125	1000
54	28	140	1000
70	28	160	1000



Distance between copper pipes = 6 mm



The copper pipe system Vertical bends, 90°

Application	Preinsulated vertical 90° bends are used for vertical directional changes e.g. in connection with terrain offsets or introduction in buildings.				
	As a standard they are available in 90°. If other degree measures are required, it must be ascertained that no harmful bending impacts arise.				
	90° bends are applicable for all relevant installation methods.				
Description	The bends are available for operating pressure: 25 bar.				
	The copper pipes are bent mechanically.				
	All bends are delivered with embedded copper wires for surveillance.				
Materials	Copper pipes: Hard copper. EN 12449, Cu-DHP No. CW 024A.				
	Other materials as for straight pipes.				

Component overview/ measurements Single pipe, component No. 2500

Copper pipe	Outer casing	L
ø out. mm	ø mm	mm
22	90	1500
28	90	1500
35	90	1500
42	110	1500
54	125	1500
70	140	1500
88	160	1500



TwinPipe, component No. 2591

Copper pipe	Outer casing	L
ø out. mm	ø mm	mm
18-18	110	1500
22-22	125	1500
28-28	140	1500
35-35	140	1500
42-42	160	1500
54-54	200	1500

Double pipe, component No. 2591

Copper pipe	, ø out. mm	Outer casing	L
d ₂ d ₁		ø mm	mm
28	22	110	1500
35	22	110	1500
42	22	125	1500
54	28	140	1500







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The copper pipe system House entry pipes, 90°

Description The bends are available for operating pressure: 25 bar. The coppor pipes are bent mechanically. All bends are delivered with embedded coppor wires for surveillance. In WinPipe and double pipe house entries the vertical pipes have been turned, so they are parallel with the wall. Matching pipe ends are marked with a colour code. The shown pipe route is the standard. Materials Coppor pipes: Hard copper. EN 12449, Cu-DHP No. CW 024A. Other materials as for straight pipes. Component overview/ measurements Single pipe, component No. 2500 Single pipe, component No. 2500 Copper pipe the other component No. 2500 WinPipe, component No. 2500 Copper pipe content No. 2500 WinPipe, component No. 2500 Component No. 2500 WinPipe, component No. 2500 Component No. 2500 WinPipe, component No. 2500 Component No. 2500 Dubits pipe, component No. 2500 Component No. 2500 WinPipe, component No. 2500 Component No. 2500 Dubits pipe, component No. 2500 Component No. 2500 Dubits pipe, component No. 2501 Component No. 2500 Dubits pipe, component No. 2592 Component No. 2592 Dubits pipe, component No. 2592 Copper pipe component No. 2592 Dubits pipe, component No. 2592 Copper pipe component No. 2592 Dubits pipe, component No. 2592 Copper pipe compipe component No. 2	Application	Preinsulated 90° house entry pipes are used for introduction in buildings without cellar. They are applicable for all relevant installation methods.									
MaterialsCopper pipes: Hard copper, EN 12449, Cu-DHP No. CW 024A. Other materials as for straight pipes.Component overview/ measurementsSingle pipe, component No. 2500Single pipe, component No. 2500 $\frac{1}{22}$ 90 2500x1500 28 28 42 110 2500x1500 260 42 126 126 126 2600x1500 26 89 $I = 1, 4, 4, $	Description	The bends are available for operating pressure: 25 bar. The copper pipes are bent mechanically. All bends are delivered with embedded copper wires for surveillance. In TwinPipe and double pipe house entries the vertical pipes have been turned, so they are parallel with the wall. Matching pipe ends are marked with a colour code. The shown pipe route is the standard.									
Component verview/ measurements Single pipe, component No. 2500 Single pipe, component No. 2500 <u> </u>	Materials	Copper pipes: Other materials	Hard copper. El as for straight	N 12449, Cu-D pipes.	HP No. CW 024A.						
overview/ measurements Copper pipe outr casing outr mm L,xL_ mm 0 outr mm 90 2500x1500 22 90 2500x1500 35 90 2500x1500 42 110 2500x1500 54 125 2500x1500 70 140 2500x1500 89 160 2500x1500 72 22 2500x1500 70 140 2500x1500 89 160 2500x1500 22-22 125 2500x1500 22-22 125 2500x1500 22-22 125 2500x1500 22-28 140 2500x1500 22-28 140 2500x1500 24-24 160 2500x1500 35-35 140 2500x1500 24-54 200 2500x1500 2500x1500 2500x1500 254-54 200 2500x1500 26 22 110 2500x1500 35 22 <th>Component</th> <th>Single pipe, co</th> <th>mponent No. 2</th> <th>500</th> <th></th>	Component	Single pipe, co	mponent No. 2	500							
measurements Copper pipe outr casing L,xL_2 mm 0 out. mm 0 mm mm 22 90 2500x1500 28 90 2500x1500 42 110 2500x1500 54 125 2500x1500 70 140 2500x1500 89 160 2500x1500 89 160 2500x1500 22-22 125 2500x1500 35-35 140 2500x1500 24-24 160 2500x1500 24-24 160 2500x1500 25-44 200 2500x1500 25-2 110 2500x1500 35 22 110 2500x1500 35 22 110 2500x1500 35	overview/		1	 [
$\begin{array}{ c c c c c c } \hline \hline e \ out. mm & e \ mm & mm \\ \hline 22 & 90 & 2500x1500 \\ 28 & 90 & 2500x1500 \\ 35 & 90 & 2500x1500 \\ 35 & 90 & 2500x1500 \\ 54 & 125 & 2500x1500 \\ 54 & 125 & 2500x1500 \\ 70 & 140 & 2500x1500 \\ 89 & 160 & 2500x1500 \\ 29 & 160 & 2500x1500 \\ 20 & 22 & 125 & 2500x1500 \\ 22 & 22 & 125 & 2500x1500 \\ 28 & 28 & 140 & 2500x1500 \\ 28 & 28 & 140 & 2500x1500 \\ 24 & 42 & 160 & 2500x1500 \\ 42 & 42 & 160 & 2500x1500 \\ 42 & 42 & 160 & 2500x1500 \\ 54 & 54 & 200 & 2500x1500 \\ 54 & 54 & 200 & 2500x1500 \\ 54 & 54 & 200 & 2500x1500 \\ 54 & 22 & 110 & 2500x1500 \\ 38 & 21 & 10 & 2500x1500 \\ 38 & 2$	measurements	Copper pipe	Outer casing	$L_1 \times L_2$							
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		ø out. mm	ø mm	mm	90°						
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		22	90	2500x1500							
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		28	90	2500x1500	, i i i i i i i i i i i i i i i i i i i						
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		35	90	2500x1500							
54 125 2500x1500 70 140 2500x1500 89 160 2500x1500 TwinPipe, component No. 2592		42	110	2500x1500	L						
70 140 2500x1500 89 160 2500x1500 TwinPipe, component No. 2592 $\boxed{0 \text{ out. mm}}$ 0 mm mm 18-18 110 2500x1500 22-22 125 2500x1500 28-28 140 2500x1500 28-28 140 2500x1500 35-35 140 2500x1500 24-24 160 2500x1500 24-54 200 2500x1500 Double pipe, component No. 2592 Double pipe, component No. 2592 $\frac{0}{2}$ $\frac{d}{10}$ $\frac{\sigma}{mm}$ $mm}{mm}$ 28 22 110 2500x1500 35 22 110 2500x1500 35 <td< th=""><th></th><th>54</th><th>125</th><th>2500x1500</th><th></th></td<>		54	125	2500x1500							
89 160 2500x1500 TwinPipe, component No. 2592 $\overline{0 \text{ out. mm}}$ $\overline{0 \text{ mm}}$ $\overline{14.4L_2}$ $\overline{0 \text{ out. mm}}$ $\overline{0 \text{ mm}}$ $\overline{100}$ 2500x1500 22-22 125 2500x1500 28-28 140 2500x1500 28-28 140 2500x1500 35-35 140 2500x1500 42-42 160 2500x1500 54-54 200 2500x1500 Double pipe, component No. 2592 Duble pipe, component No. 2592 $\overline{\frac{1}{28}$ 22 110 2500x1500 35 24 140 2500x1500 36 22 125 2500x1500 36 22 125 25		70	140	2500x1500							
TwinPipe, component No. 2592 		89	160	2500x1500							
$ \frac{\boxed{Copper pipe} Outer casing L_x L_2}{0 \text{ out. mm}} e \text{ mm} mm} \\ \hline 18-18 110 2500x1500 \\ 22-22 125 2500x1500 \\ 28-28 140 2500x1500 \\ 35-35 140 2500x1500 \\ 42-42 160 2500x1500 \\ 54-54 200 2500x1500 \\ \hline 54-54 200 2500x1500 \\ \hline \\ \\ \\ \hline \\ \\ \\ \hline \\ \\ \\ \\ \hline \\ \\ \\ \\ \hline \\ \\ \\ \\ \\ \hline \\$		TwinPipe, component No. 2592									
$\frac{ c_{1}c_{2}c_{2}c_{2}c_{3}c_{4}c_{4}c_{4}c_{4}c_{4}c_{4}c_{4}c_{4$		Copper pipe	Outer casing								
$\frac{1}{18\cdot18} + \frac{1}{110} + \frac{1}{2500\times1500} + \frac{1}{22\cdot22} + \frac{1}{125} + \frac{1}{2500\times1500} + \frac{1}{22\cdot22} + \frac{1}{125} + \frac{1}{2500\times1500} + \frac{1}{22\cdot242} + \frac{1}{160} + \frac{1}{2500\times1500} + \frac{1}{2500\times1500} + \frac{1}{2500\times1500} + \frac{1}{2500\times1500} + \frac{1}{2500\times1500} + \frac{1}{28} + \frac{1}{22} + \frac{1}{110} + \frac{1}{2500\times1500} + \frac{1}{2500\times1500} + \frac{1}{28} + \frac{1}{22} + \frac{1}{110} + \frac{1}{2500\times1500} + \frac{1}{2500\times1500} + \frac{1}{22} + \frac{1}{22} + \frac{1}{125} + \frac{1}{2500\times1500} + \frac{1}{2500\times1500} + \frac{1}{2500\times1500} + \frac{1}{28} + \frac{1}{28} + \frac{1}{40} + \frac{1}{2500\times1500} + \frac{1}$			a mm	mm							
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		18-18	110	2500x1500	90°						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		22-22	125	2500×1500							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		28-28	140	2500x1500							
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		35-35	140	2500x1500							
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		42-42	160	2500x1500	L ₁						
Copper pipe, ø out. mm Outer casing $L_1 \times L_2$ d_2 d_1 ø mm 28 22 110 2500x1500 35 22 42 22 54 28 140		54-54	200	2500x1500							
Double pipe, component No. 2592		04 04	200	2000/1000							
$ \begin{array}{ c c c c c } \hline Copper pipe, \\ \emptyset \ out. \ mm \\ \hline \\ d_2 & d_1 & \emptyset \ mm & mm \\ \hline \\ 28 & 22 & 110 & 2500x1500 \\ \hline \\ 35 & 22 & 110 & 2500x1500 \\ \hline \\ 42 & 22 & 125 & 2500x1500 \\ \hline \\ 54 & 28 & 140 & 2500x1500 \\ \hline \\ \end{array} \right) \\ \hline \\ L_1 \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $		Double pipe, c	omponent No. 2	2592							
d ₂ d ₁ ø mm mm 28 22 110 2500x1500 35 22 110 2500x1500 42 22 125 2500x1500 54 28 140 2500x1500		Copper pipe, ø out. mm	Outer casing	L ₁ xL ₂							
28 22 110 2500x1500 35 22 110 2500x1500 42 22 125 2500x1500 54 28 140 2500x1500		d ₂ d ₁	ø mm	mm	90°						
35 22 110 2500x1500 42 22 125 2500x1500 54 28 140 2500x1500		28 22	110	2500x1500							
42 22 125 2500x1500 54 28 140 2500x1500		35 22	110	2500x1500							
54 28 140 2500x1500		42 22	125	2500x1500							
		54 28	140	2500x1500							



The copper pipe system Overview, branches

For the copper pipe system LOGSTOR can deliver a number of different branch types and Branch types combinations dependent on dimension, kind of project, and the customer's actual wishes: - From single pipe to single pipe, TwinPipe to TwinPipe, double pipe to double pipe: · BandJoint branch, straight · TXJoint, straight branch · SXTJoint, straight branch - From TwinPipe to two single pipes (primarily FlexPipes) · BandJoint, straight branch with two branches · Straight branch with T-shrink joints - Preinsulated branches Connection of Connection with saddle pipe piece: branch pipe - Dimension Cu-pipe, main pipe: 28 - 88 mm - Dimension Cu-pipe, branch: 22 - 70 mm Note! Branches must always be at least one dimension smaller than the main pipe. Connection with soldering-T: - Dimension Cu-pipe, main pipe: 22 - 42 mm - Dimension Cu-pipe, branch: 22 - 42 mm



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The copper pipe system Overview, branch joints

BandJoint branch, straight	Straight BandJoint branch. Main pipe (outer casing): ø 90 - 200 mm Branch (outer casing): ø 90 - 160 mm Component No. 5640. Description see 6.6.1.1.	
TXJoint, straight branch	Straight shrink branch (Twin - Twin). Main pipe (outer casing): ø 125 - 200 mm Branch (outer casing): ø 90 - 140 mm	
	Component No. 5191. Description see 6.6.2.1.	
SXTJoint, straight joint	Straight shrink joint (Twin - Twin). Main pipe (outer casing): ø 90 - 200 mm Branch (outer casing): ø90 - 160 mm Component No. 5207. Description see 6.6.3.1.	
BandJoint Straight branch joint with two branches	Straight branch with BandJoint branch (Twin - single pipe): Main pipe (outer casing): ø 125 - 200 mm Branch (outer casing): ø 77 - 110 mm Component No. 5640. Description see 6.6.4.1.	



The copper pipe system Overview, branch joints

Straight branch T-joint, double Straight T-joint branch (Twin - single pipe): Main pipe (outer casing): ø 140 - 200 mm

Branch (outer casing): ø 77-110 mm

Component No. 5190.

Description see 6.6.5.1.





Application	Preinsulated branches are an alternative to branch joints.					
	There are two types of branches: - Straight, horizontal branches in single, Twin and double version - 45° perpendicular branches in single, Twin and double version					
Description	The branches are available for operating pressure 25 bar. They are applicable for all relevant installation methods. All branches are delivered with embedded copper wires for surveillance. (See illustrations below for the individual types).					
Materials	Copper pipes: Hard copper. EN 12449, Cu-DHP No. CW 024A. Other materials as for straight pipes.					
Component overview/ Straight branches	Straight branch for single pipes. Component No. 3400.					

Main pipe		Branch pipe ø d, series 1							
ø d, mm			22	28	35	42	54	70	88
ø d, mm	Series 1	L, mm			Length	L1, mm = 7	'00 mm		
22	90	1150	Х	-	-	-	-	-	-
28	90	1150	Х	Х	-	-	-	-	-
35	90	1150	Х	Х	Х	-	-	-	-
42	110	1150	Х	Х	Х	Х	-	-	-
54	125	1150	Х	Х	Х	Х	Х	-	-
70	140	1150	Х	Х	Х	Х	Х	Х	-
88	160	1150	Х	Х	Х	Х	Х	Х	Х



Component overview/ Straight branches *continued* Straight branch for TwinPipes. Component No. 3490.



Main pipe			Branch pipe ø d, series 1				
ø d, mm			22-22	28-28	35-35	42-42	54-54
ø d, mm	Series 1	L, mm	Length L1, mm = 700 mm				
22-22	125	1150	Х	-	-	-	-
28-28	140	1150	Х	Х	-	-	-
35-35	140	1150	Х	Х	Х	-	-
42-42	160	1150	Х	Х	Х	-	-
54-54	200	1150	Х	Х	Х	Х	Х

Straight branch for double pipe.

Component No. 3490.



Main pipe		Branch pipe ø d, series 1						
ø d, mm			22-15	28-22	35-22	42-22	54-28	70-28
ø d, mm	Series 1	L, mm	Length L1, mm = 700 mm					
22-15	90	1150	Х	-	-	-	-	-
28-22	90	1150	Х	Х	-	-	-	-
35-22	90	1150	Х	Х	Х	-	-	-
42-22	110	1150	Х	Х	Х	Х	-	-
54-28	125	1150	Х	Х	Х	Х	Х	-
70-28	140	1150	Х	Х	Х	Х	Х	Х



Alarm wires. Straight branches The alarm wires are placed in single, Twin and double pipes as shown in the illustration.



Component overview./ 45° branches 45° branch for single pipes. Component No. 3000.



Main pipe		Branch pipe ø d, series 1							
ø d, mm			22	28	35	42	54	70	88
ø d, mm	Series 1	L, mm	Length L1, mm = 1000 mm C-C, mm						
22	90	1150	155	155	155	165	175	180	190
28	90	1150	155	155	155	165	175	180	190
35	90	1150	165	165	165	175	185	190	200
42	110	1150	175	175	175	185	190	200	200
54	125	1150	180	180	180	190	200	205	215
70	140	1150	190	190	190	200	210	215	225
88	160	1150	190	190	190	200	210	215	225



Component overview./ 45° branches, *continued* 45° branch for TwinPipes. Component No. 3090.



Main pipe		Branch pipe ø d, series 1					
ø d, mm			22-22	28-28	35-35	42-42	54-54
ø d, mm	Series 1	L, mm	Length L1, mm = 1000 mm C-C, mm				
22-22	125	1150	190	-	-	-	-
28-28	140	1150	200	205	-	-	-
35-35	140	1150	200	205	205	-	-
42-42	160	1150	210	215	215	225	-
54-54	200	1150	225	235	235	245	265

45° branch for double pipes.

Component No. 3090.



Main pipe		Branch pipe ø d, series 1						
ø d, mm			22-15	28-22	35-22	42-22	54-28	70-28
ø d, mm	Series 1	L, mm	Length L1, mm = 1000 mm, C-C, mm					
22-15	90	1150	155	-	-	-	-	-
28-22	90	1150	155	155	-	-	-	-
35-22	90	1150	155	155	155	-	-	-
42-22	110	1150	165	165	165	175	-	-
54-28	125	1150	175	175	175	185	190	-
70-28	140	1150	180	180	180	190	200	205



The alarm wires are placed in single, Twin and double pipes as shown in the illustration.

Alarm wires. 45° branches





The copper pipe system Transition pipe, Twin - single pipe

Application	Preinsulated transition pipe is used in connection with straight transition from a single pipe system to a TwinPipe system.				pe		
	As the flow pipe is always placed at the bottom as a "type 2" version dependent on the flow dire	, the transiti ection, see i	on is availa Ilustrations	able in below	a "typ /.	oe 1" a	as well
	They are applicable for all relevant installation m	ethods.					
	Max. operating pressure: 25 bar.						
Description	Preinsulated straight transition pipes are available for all TwinPipe dimensions.						C/C
	The illustration shows the "type 2" version.						
					L		
	All preinsulated transitions have 4 embed- ded copper wires for surveillance.					1	
	From the illustration the "type 1" version and the alarm wire position appear.					1	34
Materials	Copper pipes: Hard copper EN 12449, Cu	-DHP No C	W 024A.				
	Other materials as for straight pipes.						
Component No./	Transition. Twin - single pipe	Dime	nsion	Tyr	ne		
data	Component No. 3071	Twin	Single	1.71	00	L	C/C
	When ordering appoint type 1 or 2	ø out. mm	ø out. mm	1	2	mm	mm
	when ordening specify type 1 of 2.	22/125	22/90	х	х	1700	245
		28/140	28/90	х	х	1700	245
		35/140	35/90	х	Х	1700	245
		42/160	42/110	Х	Х	1800	260
		54/200	54/125	Х	Х	1800	260





The copper pipe system Other components

For the copper pipe system a number of other products which are described in this section are offered.

For further information about application fields, technical specifications see the various references.

Wall entry sleeves

General

For sealing between outer casing and the surrounding concrete in connection with termination in wall, wall entry sleeves for all copper pipe dimensions are available. (Also see section 2.7.3)

Component No. 5800.



End cap End caps are used to protect the foam ends against moisture ingress. Applicable for a max. service pipe temperature of 100°C. (Also see section 2.7.4).

Shrinkable end cap for single pipe. Component No. 5600

Service pipe	Outer casing	DHEC
ø out. mm	ø out. mm	No.
22-28-35	90	2100
42	110	2200
54	125	2300
70	140	2400
88	160	2500



Shrinkable end cap for TwinPipe. Component No. 5600

Service pipe	Outer casing	DHEC
ø out. mm	ø out. mm	No.
22-22	125	3350-P604
28-28	140	3280
35-35	145	3280
42-42	160	3350-02
54-54	200	3350-02





The copper pipe system Other components

End cap, continued

Shrinkable end cap for double pipe. Component No. 5600

Service pipe	Outer casing	DHEC
ø out. mm	ø out. mm	No.
22-28	110	3250-P604
22-35	110	-
22-42	125	3280
28-54	140	3280
28-70	160	-



End fitting

To terminate a pipe system a PE end fitting is used.

Component No. 5700.

Type a: For single pipes

Type b: For TwinPipes and double pipes. To be foamed

Also see specifications in section 2.7.5. End fitting for single pipes.

Irrespective of the service pipe dimension the end fitting is ordered according to the outer casing dimension. This means, that sometimes there will be a little gap between the service pipe and the insulation shell. This is of no practical importance.

700 mm end fittings are always used in connection with temporary, disposable valves.

(x) = not standard delivery.

End fittings for TwinPipes and double pipes.

Component No. 5700.

See foam pack table section 15.



Casing	Insul. shells	Service pipe	Length	s, mm
ø out.	ø int/out.	range	450	700
mm	mm	ø out. mm	400	100
90	33/90	22-35	х	(x)
110	48/110	42	х	(x)
125	60/125	54	х	(x)
140	75/140	70	х	(x)
160	88/160	88	х	(x)

Casing ø out. mm	L = 700 mm
110	х
125	х
140	х
160	Х
200	Х