

# Product Catalogue

Version 2018.06





**Introduction** This section is a description of some general and important pieces of information about LOGSTOR and its pipe systems.

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- 1.1.0.1 LOGSTOR
- 1.2.0.1 The Product Catalogue
- 1.3.0.1 Quality control and environmental management
- 1.4.0.1 Pipe systems and their field of application

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**LOGSTOR**

LOGSTOR comprises production companies in Denmark, Poland, Sweden, Finland, Romania, China, Dubai and Russia as well as sales companies and service units in all major markets worldwide.

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**Worldwide service**

The fact that LOGSTOR is operating in accordance with the same strict internal and international guidelines everywhere ensures uniform products with high quality as well as uniform guidelines for the installation and use of our products all over the world.

A central management of product data, specifications, marketing, installation instructions and user manuals ensures a uniform understanding and use of our products worldwide.

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**Technical service**

LOGSTOR is a system supplier. Part of the system is Technical service before, during and after the implementation of a project.

LOGSTOR's know-how is to the benefit of all parties on system choice, system optimization, design, training, installation, taking into operation and maintenance. To the benefit of the total economy of the project and of the safety for customers and consumers.

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**Training**

LOGSTOR has an extensive training program for new employees which ensures that our staff will at any time be able to answer questions concerning the use of our products for all purposes where liquids and gases are to be carried from point A to B.

Due to the introduction of new techniques, new environmental demands etc. the traditional, preinsulated pipe system has developed into a rather high-technological product.

It is therefore extremely important to handle this product correctly, not only in order to ensure the best possible economy of the individual products, but also in consideration of the environmental impact on our mutual global future.

LOGSTOR continuously carry out training courses for the people who are to work with the system, comprising decision makers, consulting engineers, contractors, pipe and joint fitters, supervisors, quality controllers, operation staff and of course the employees of LOGSTOR.

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**Development**

LOGSTOR focuses on product and process development on the basis of our products being long-term investment goods and the lowest service life costs being of vital importance to our customers.

LOGSTOR is present where people from the industry meet and decision makers are in search of information on the future energy systems - of benefit to a rational and environmentally friendly exploitation of scarce energy resources.

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## General The Product Catalogue

### Documentation

This catalogue is volume 1 of LOGSTOR's documentation collection which at present consists of:

- Product Catalogue
- Design Manual
- Handling and Installation Manual



### The Product Catalogue

The Product Catalogue is a tool, serving the following purposes:

- Enable decision makers to choose the system and the products suitable for their demands and requirements by reading the general descriptions.
- Enable purchasers, consultants, order managers and customers in general to find general information about a specific product.

All product pages are structured in the same way, which facilitates finding the same kind of information about more products.

Application:	What is the product useful for and under which conditions?
Description:	What does the product look like, which parts does it consist of?
Materials:	Which materials is the product made or composed of?
Component No./measurements:	What component Nos. - which principal measurements?
Accessories:	If the product requires accessories of one kind or another, it is stated here.
References:	Contains references to relevant sections with additional information in this catalogue and the two other manuals.

The three volumes are independent works. Consequently, the numbering of the volumes lacks coherence.

**Use of the  
Product  
Catalogue**

No part of this catalogue may be reproduced for external use without the express written permission of LOGSTOR.

The information/instructions are general. Application and implementation must take place with due respect to local conditions.

Additional/specific information can be achieved from our technicians.

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The information in this document is subject to change without notice.

The latest edition will always be available on [www.logstor.com/Documentation](http://www.logstor.com/Documentation).

LOGSTOR reserves the right to change or improve its products and to make changes in the contents without obligation to notify any person or organization of such changes.

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## Quality control and environmental management

### Introduction

Order processing and production of products take place in accordance with a quality and environment management system, which i.a. contains LOGSTOR's quality and environment policies. The system is administered by the local Quality and Environment Department, which is an independent staff function under the EVP of production and supply.

The Quality Department is authorised to stop production or delivery of products which do not comply with the established specifications.

### Certification ISO 9001

The quality management system is prepared and certified in accordance with ISO 9001:2015.

Example:



### Quality Manual

The quality management system is documented in quality manuals for each company/country. The quality management system includes:

- Policies and objectives
- Organisation charts
- Procedures and instructions for processes, affecting the quality. They cover administrative and production processes e.g. order processing, inspection etc.
- Process and inspection plans

### Inspection routines in the production

The production of the pipe systems is subject to extensive inspection routines.

This ensures the compliance with established standards and specifications and a homogeneous, high production quality, irrespective of the place of origin, which are conditions of a dependable system with a long service time.

The inspection routines are described in the process and inspection plans which include receipt of raw materials and semi-products, qualification test, the production process and finished products.

## Quality control and environmental management

### External inspection

LOGSTOR's preinsulated pipes and fittings are i.a. certified in accordance with the Euroheat & Power, EHP Certification guidelines 001 for quality assessment of district heating by the Swedish District Heating Association.

This means that production processes and products are subjected to type test and control, based on valid EN standards. It is verified at annual inspection visits at which test results are examined and product samples are taken for external testing.



### Documentation for the customers

Steel pipes and fittings, granulate for outer casings, polyol and isocyanate for PUR are ordered with a 3.1 certificate which LOGSTOR files for at least 5 years.

Normally, the customer does not receive documentation of the delivered products. However, the customer may according to a previous arrangement order documentation of delivered pipes and fittings for each order.

### Identification

From the illustration it appears, what the single codes describe.

#### Service pipe:

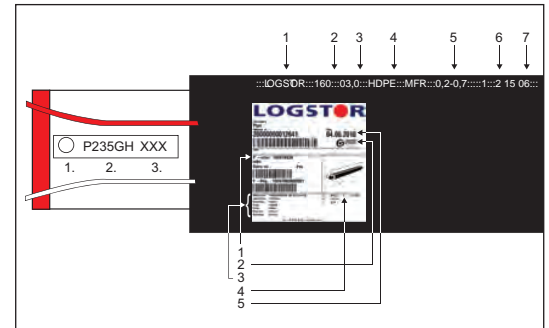
1. Manufacturer's/Supplier's mark (logo)
2. Service pipe quality
3. Coil/charge or production No.

#### Casing:

1. Manufacturer
2. Dimension
3. Wall thickness
4. Material
5. Melt flow rate-tolerance
6. Silo No.
7. Production date: day - week - year

#### Label:

1. Production order No.
2. Marks, approvals etc.
3. Product description. Composition
4. Product description. Dimensions, measurements
5. Production order date.



**Quality control and environmental management**

**Environment  
ISO 14001**

Compliance with environmental requirements, optimization of resource consumption and minimization of environmental strains are ensured by means of an environmental management system, based on the environmental management standard ISO 14001:2015.

Example:



**Reference**

To see all relevant LOGSTOR certificates visit: [www.logstor.com/certificate](http://www.logstor.com/certificate).

**Pipe systems and their field of application**

Pipe system	Service pipe material	Operating pressure, bar	Operating temperature, °C	Peak temperature, °C	Pipe type	Fields of application			Dimensional range ø mm	Surveillance	
						District heating	District cooling	Domestic water			
Bonded pipe system	Steel	16/25	120	140	Single pipe	x	x		26.9-1219	x	
					TwinPipe	x	x		26.9-219.1	x	
FlexPipe	PexFlextra / PexFlex	PEX	6	85	95	Single pipe	x	x		20-110	
						TwinPipe	x	x		20-63	
	SaniFlextra	PEX	10	85	95	Single pipe			x	22-63	
						Double pipe			x	28/22-50/40	
	AluFlextra / AluFlex	Alupex	10	90/95	95/105	Single pipe	x	x		20-32	
						TwinPipe	x	x		16-32	
Double pipe									20/16-26/20		
SteelFlex	Steel	25	120	130	Single pipe	x	x		20-28	x	
CuFlex	Copper	16	120	130	Single pipe	x		x	15-35	x	
					TwinPipe	x		x	18-28	x	
Copper pipe system	Copper	16	120	140	Single pipe	x		x	22-88	x	
					TwinPipe	x		x	22-54	x	
					Double pipe			x	28/22-70/28	x	





## The bonded pipe system

### Overview

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**Introduction** This section contains a description of the preinsulated single pipes which LOGSTOR offers.

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**Contents**

- 2.0.1.1 Material specifications
- 2.0.2.1 District heating pipes - Insulation series 1
- 2.0.3.1 District heating pipes - Insulation series 2
- 2.0.4.1 District heating pipes - Insulation series 3
- 2.0.5.1 District heating pipes - Zebra pipe

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**Alternatives** Pipes in other dimensions and according to other specifications can be delivered as special orders.

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## The bonded pipe system

### Material specifications

#### Application

The pipe system is a complete transmission and distribution system for district heating.

In general the bonded pipe system from LOGSTOR complies with the European standards EN253, EN448, EN488, EN489, EN13941, and EN14419.

All specifications in section 2 of this catalogue are based on:

Service life = min. 30 years.

Max. operating pressure = 25 bar. The pressure class for large T-pieces of standard design may however be lower.

The pipe system fulfills the requirements of EN 253 as well as EN 13941 for continuous operation with hot water at various temperatures up to 120 °C and at individual time intervals with a peak temperature up to 140 °C. The sum of these individual time intervals shall, in average, not exceed 300 hours a year.

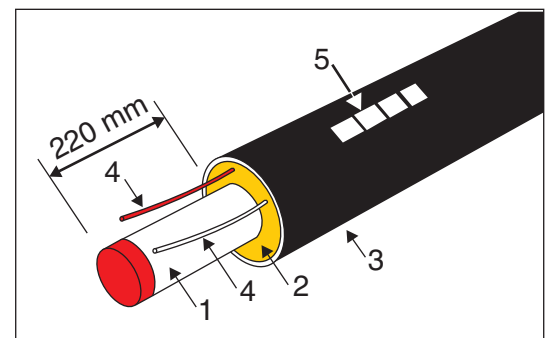
For temperature references which deviate from above standards we can - on request - calculate the estimated service life on the basis of the actual expected temperature set during a year.

Please contact LOGSTOR, if your conditions differ from the limit values in EN 253.

#### Description

A preinsulated pipe consists of:

Pos.	Part	Material
1	Service pipe	Steel
2	Insulation	Polyurethane foam
3	Outer casing	Polyethylene, HDPE
4	Two 1.5 mm <sup>2</sup> copper wires for surveillance	One wire is tinned
5	Pipe label	



#### Production methods

LOGSTOR uses various production methods to manufacture pipes which all comply with EN 253, but still have different application properties.

Traditionally foamed pipes are manufactured by injecting the insulating foam between the service pipe and the outer casing, which is produced in another process. In this process one pipe is manufactured at a time. The process applies to all pipe dimensions.

In the axial conti process pipes are made by casting the insulation onto the service pipe in a moving mould, after which the casing is extruded onto the insulation. The production takes place in a continuous process.

An effective diffusion barrier foil, preventing diffusion of insulating gases is embedded between the insulation and the casing.

Consequently, continuously produced pipes with diffusion barrier foil do not age.

The method is used for pipes with casing dimensions  $\varnothing$  90 -  $\varnothing$  315 mm.

The total heat loss over a 30 years' period is 10-25% lower than that of a corresponding, traditional pipe. The smallest dimensions yield the greatest savings.

In the spiral conti process the insulation is sprayed onto the service pipe or it is cast in a mould around the service pipe, after which the casing is extruded onto the insulation in a spiral movement.

The method applies to casing dimensions  $\varnothing$  355 -  $\varnothing$  1200 mm. They are available with diffusion barrier foil as special products.

## The bonded pipe system

### Material specifications

<b>Steel pipes</b>	<p>Dimensions and tolerances: Standard pipes:</p> <p>Inspection certificate: Bevelling: Surface quality:</p>	<p>According to EN 253 and EN13941. Longitudinally or spirally welded, dimension 26.9 to 60.3 P235TR1, P235TR2 according to EN 10217-1 or P235GH according to EN 10217-2. Dimension <math>\geq</math> 76.1 P235GH according to EN 10217-2 or EN 10217-5. EN 10204 - 3.1 ISO 6761 Prior to foaming the pipe make sure that the surface of the steel pipe is of a quality, which guarantees an optimum adhesion between pipe and insulation.</p>
<b>Insulation</b>	<p>Polyurethane foam: Blowing agent: Thermal conductivity:</p>	<p>Properties: Minimum as required in EN 253. Cyclopentane. - Traditionally manufactured pipes (50°C): 0.027 W/m K.*) - Axial conti pipes (50°C): 0.023 W/m K.*) - Spiral conti pipes (50°C): 0.025 W/m K. *) These lambda values are based on an average of the continuous measurements. The updated values are always included in the calculation program "Calculator". See <a href="http://www.logstor.com/Calculator">www.logstor.com/Calculator</a>.</p>
<b>Outer casing</b>	<p>Polyethylene:</p> <p>Thermal stability:</p> <p>Resistance against crack formation:</p> <p>Internal surface treatment:</p>	<p>HDPE, bimodal (Minimum PE 80, ISO 12162). Properties: Minimum as required in EN 253. All parts are fully weldable within the melt flow index: MFR variation <math>\leq</math> 0.5 g/10 min. Oxydation induction time (OIT): &gt; 20 min. at 210° C. Slow crack formation (notch sensitivity) &gt; 300 h (notch, 4 MPa, 80°C, EN 253). All traditionally produced outer casings are corona-treated during production. This ensures an optimum adhesion between outer casing and insulation. As for conti pipes the adhesion is ensured by a corona-treated PE foil between the casing and the foam.</p>
<b>Finished pipes</b>	<p>Free service pipe end: 220 <math>\pm</math> 10 mm Lengths delivered: 6, 12, and 16 m</p>	

## The bonded pipe system

### Material specifications

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#### Surveillance system

The pipes are supplied with 2 copper wires, embedded in the insulation, Nordic System.

Wires: 1.5 mm<sup>2</sup> copper wires (one is tinned)

Distance to steel pipe: 15 mm

Position in top: ± 3-20 cm from 12 o'clock position

The embedded copper wires are the backbone of the electronic surveillance systems which is available for most of our pipe systems.

See description in section 16 of this catalogue.

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## The bonded pipe system

### District heating pipes - Insulation series 1

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#### Application

Preinsulated pipes of insulation series 1 are used for all common construction works where it is not necessary to make allowance for e.g. extreme outside temperature influences, especially high energy prices etc.

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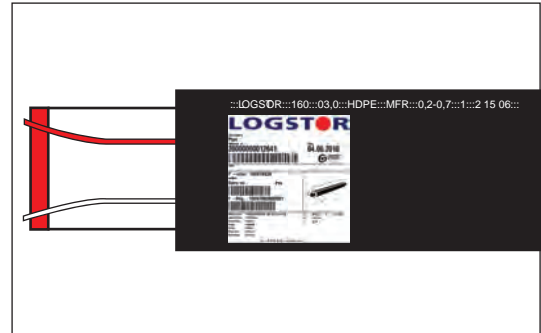
#### Description

A preinsulated pipe of insulation series 1 can be immediately identified by its pipe label, from which other data also appear, see page 1.3.0.2.

All preinsulated pipes are delivered with embedded copper wires for surveillance.

The dimensions  $\varnothing 26.9/90$  -  $\varnothing 219.1/315$  mm are available with diffusion barrier in 12 and 16 m lengths. See page 2.0.1.1.

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## The bonded pipe system

### District heating pipes - Insulation series 1

#### Component overview/data

Component No. 2000

Steel pipe	Outer casing		Pipe	Water content					
	6 m pipe	12 m pipe			16 m pipe				
ø nom.	ø out. mm	Wall thick. mm	ø out. mm	Wall thick. mm	Weight kg/m	l/m			
20	26.9	2.6	90	3.0	x	x		2.9	0.4
25	33.7	2.6	90	3.0	x	x		3.3	0.6
32	42.4	2.6	110	3.0	x	x		4.2	1.1
40	48.3	2.6	110	3.0	x	x		4.6	1.5
50	60.3	2.9	125	3.0	x	x		6.1	2.3
65	76.1	2.9	140	3.0	x	x		7.5	3.9
80	88.9	3.2	160	3.0	x	x		9.4	5.3
100	114.3	3.6	200	3.2	x	x	x	14	9.0
125	139.7	3.6	225	3.4	x	x	x	16	14
150	168.3	4.0	250	3.6	x	x	x	21	20
200	219.1	4.5	315	4.1	x	x	x	31	35
250	273	5.0	400	4.8	x	x	x	45	54
300	323.9	5.6	450	5.2		x	x	58	77
350	355.6	5.6	500	5.6		x	x	66	93
400	406.4	6.3	560	5.7		x	x	81	120
450	457	6.3	630	6.0		x	x	93	160
500	508	6.3	710	6.6		x	x	108	190
600	610	7.1	800	7.8		x	x	142	280
700	711	8.0	900	8.7		x	x	180	380
800	813	8.8	1000	9.4		x	x	230	500
900	914	10.0	1100	10.2		x	x	280	630
1000	1016	11.0	1200	11.0		x	x	340	780
1100	1118	11.0	1300	11.8		x	x	378	943
1200	1219	12.5	1400	12.5		x	x	460	1120

## The bonded pipe system

### District heating pipes - Insulation series 2

**Application**

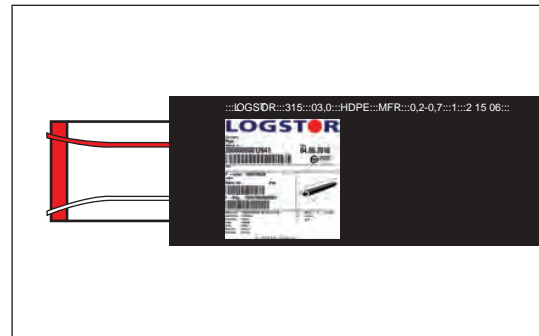
Preinsulated pipes with extra insulation thickness, series 2, are used where there are special temperature conditions such as constant low ambient temperatures, constant high media temperatures, demand for slow cooling at shutdown, high production costs on the energy side etc.

**Description**

A preinsulated pipe of insulation series 2 can be immediately identified by its pipe label, from which other data also appear, see page 1.3.0.2.

All preinsulated pipes are delivered with embedded copper wires for surveillance.

The dimensions  $\varnothing 26.9/110 - \varnothing 168.3/280$  mm are available with diffusion barrier in 12 and 16 m lengths. See page 2.0.1.1.



**Component overview/data**

Component No. 2000

Steel pipe			Outer casing		Pipe			Water content	
$\varnothing$ nom.	$\varnothing$ out. mm	Wall thick. mm	$\varnothing$ out. mm	Wall thick. mm	6 m pipe	12 m pipe	16 m pipe	Weight kg/m	l/m
20	26.9	2.6	110	3.0	x	x		3.3	0.4
25	33.7	2.6	110	3.0	x	x		3.7	0.6
32	42.4	2.6	125	3.0	x	x		4.6	1.1
40	48.3	2.6	125	3.0	x	x		5.0	1.5
50	60.3	2.9	140	3.0	x	x		6.5	2.3
65	76.1	2.9	160	3.0	x	x		8.0	3.9
80	88.9	3.2	180	3.0	x	x		10	5.3
100	114.3	3.6	225	3.4	x	x	x	15	9.0
125	139.7	3.6	250	3.6	x	x	x	18	14
150	168.3	4.0	280	3.9	x	x	x	23	20
200	219.1	4.5	355	4.5	x	x	x	34	35
250	273	5.0	450	5.2	x	x	x	49	54
300	323.9	5.6	500	5.6		x	x	63	77
350	355.6	5.6	560	5.7		x	x	70	93
400	406.4	6.3	630	6.0		x	x	89	120
450	457	6.3	710	6.6		x	x	104	160
500	508	6.3	800	7.2		x	x	120	190
600	610	7.1	900	7.9		x	x	156	280



## The bonded pipe system

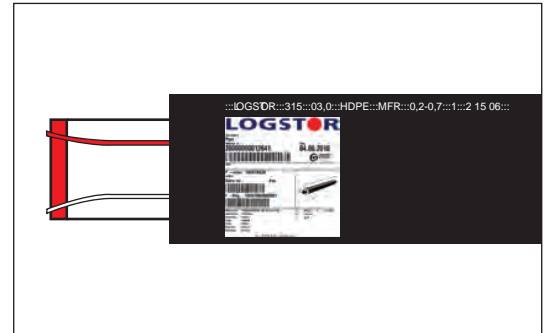
### District heating pipes - Insulation series 3

**Application** Preinsulated pipes with extra much insulation thickness, series 3, are used where there are special temperature conditions such as constant low ambient temperatures, constant high media temperatures, demand for slow cooling at shutdown, high production costs on the energy side etc.

**Description** A preinsulated pipe of insulation series 3 can be immediately identified by its pipe label, from which other data also appear, see page 1.3.0.2.

All preinsulated pipes are delivered with embedded copper wires for surveillance.

The dimensions  $\varnothing$  26.9/125 -  $\varnothing$  168.3/315 mm are available with diffusion barrier in 12 and 16 m lengths. See page 2.0.1.1.



#### Component overview/data

Component No. 2000

Steel pipe			Outer casing		Pipe			Pipe	Water content
$\varnothing$ nom.	$\varnothing$ out. mm	Wall thick. mm	$\varnothing$ out. mm	Wall thick. mm	6 m pipe	12 m pipe	16 m pipe	Weight kg/m	l/m
20	26.9	2.6	125	3.0	x	x		3.7	0.4
25	33.7	2.6	125	3.0	x	x		4.1	0.6
32	42.4	2.6	140	3.0	x	x		5.0	1.1
40	48.3	2.6	140	3.0	x	x		5.4	1.5
50	60.3	2.9	160	3.0	x	x		7.0	2.3
65	76.1	2.9	180	3.0	x	x		8.6	3.9
80	88.9	3.2	200	3.2	x	x		11	5.3
100	114.3	3.6	250	3.6	x	x	x	16	9.0
125	139.7	3.6	280	3.9	x	x	x	19	14
150	168.3	4.0	315	4.1	x	x	x	25	20
200	219.1	4.5	400	4.8	x	x	x	38	35
250	273	5.0	500	5.6	x	x	x	54	54
300	323.9	5.6	560	5.7		x	x	67	77
350	355.6	5.6	630	6.0		x	x	78	93
400	406.4	6.3	710	6.6		x	x	99	120
450	457	6.3	800	7.2		x	x	116	160
500	508	6.3	900	7.9		x	x	136	190

## The bonded pipe system

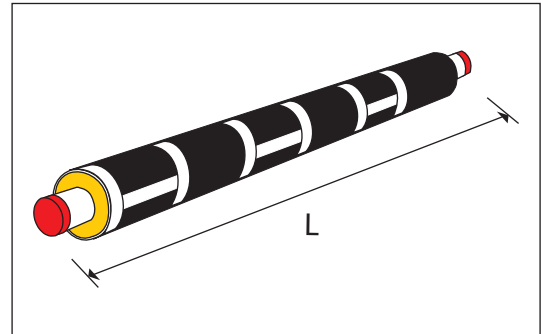
### District heating pipes - Zebra pipe

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**Application** Zebra pipes are used to facilitate the removal of insulation when adjusting pipe lengths.

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**Description** Depending on the length of the pipe the zebra pipe is divided into sections of 0.5 - 1.5 m, marked with transverse tape. Every second section has no adhesion between the insulation and the service pipe. These sections are marked with longitudinal tape.



**Materials** Zebra pipes are produced according to the same specifications as other straight pipes.

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**Component No./ data** Component No. 2490. The zebra pipes, which traditionally are foamed pipes, are available in 12 and 16 m lengths. The dimensions of insulation series 1, 2 and 3 are the same as for straight pipes. Max. steel pipe dimension is  $\varnothing$  508 mm.

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## Expansion and anchoring Overview

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**Introduction** This section is a description of the expansion and anchor elements, employed in connection with one or more of our installation methods.

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<b>Contents</b>	E-Comps	2.1.1
	Foam pads	2.1.2
	Anchors	2.1.3

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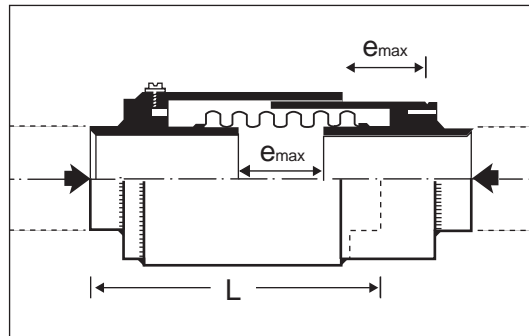
**Expansion and anchoring  
E-Comps**

**Application**

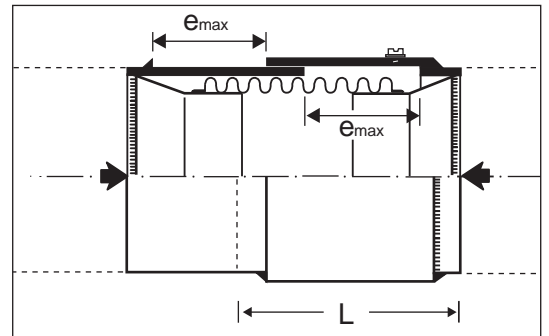
The E-Comp is a compensator which operates only once and is used in connection with the simplified installation method: The E-system in which temperature variations are absorbed as stresses in the steel pipe instead of being converted into expansion movements.

**Description**

E-Comp  $\varnothing$  42.4-139.7 mm



E-Comp  $\varnothing$  168.3-610 mm



E-Comps are designed for a max. operating pressure of 25 bar (37.5 bar test pressure).

**Materials**

The service pipe and skirt of the E-Comp: Like straight steel service pipes  
Bellows: Stainless steel, AISI 321.

**Component No./  
Dimensions**

Component No. 0006

L is the length of the E-Comp in compressed state.

$e_{max}$  is the highest compression length.

E- Comps in major dimensions are made to order.

On request E-Comp can be delivered pre-adjusted via component No. 4150

Steel pipe $\varnothing$ out. mm	L mm	$e_{max}$ mm
42.4	155	40
48.3	160	45
60.3	175	50
76.1	180	65
88.9	185	70
114.3	210	80
139.7	230	95
168.3	230	105
219.1	255	120
273	260	125
323.9	270	135
355.6	325	135
406.4	340	150
457	340	150
508	340	150
610	340	150

## Expansion and anchoring E-Comps

### Accessories

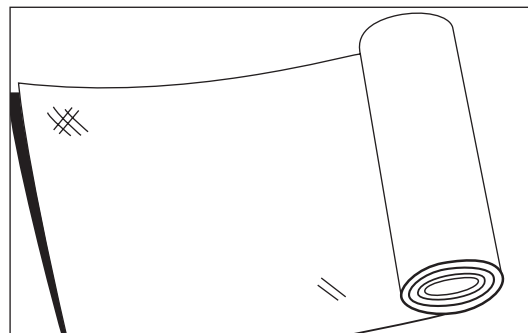
Component No. 1270

Plastic film for pipe sections with E-Comps.

Available in coils.

Foil thickness: 0.1 mm.

Foil thickness in connection with 2500 mm  
and 3000 mm width: 0.15 mm.

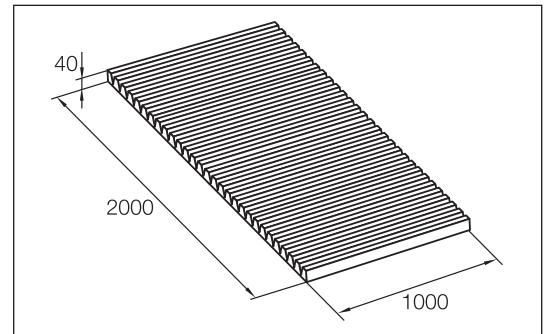


Outer casing ø out. mm	Width mm	Length m
110-160	500	100
200-315	1000	100
355-450	1500	100
500-630	2000	100
710	2500	50
≥ 800	3000	50

## Expansion and anchoring Foam pads

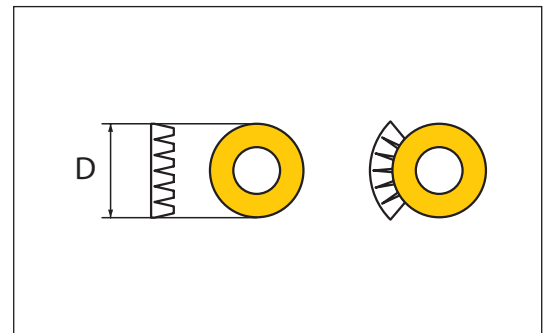
**Application** Foam pads are used for partial absorption/distribution of expansion movements. The application is restricted to first time expansion movements of max. 84 mm and a max. continuous surface temperature of the outer casing of 50° C.

**Description** The foam pads are available in one size which is adjusted to the actual casing diameter.



**Materials** Foam pads are made of:  
Polyethylene foam with closed cells. Non-decomposable.

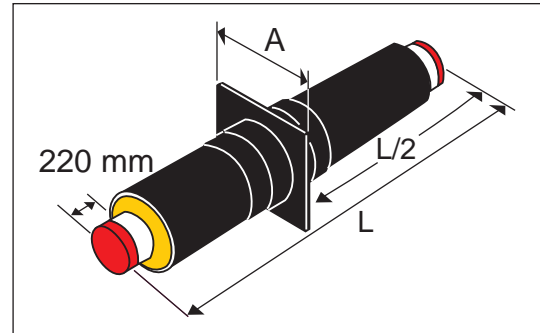
**Component No./  
data** Component No. 7000.  
Product No. 7000 2000 005 001.  
The casing diameter determines the height of the foam pad.



## Expansion and anchoring Anchors

**Application** Preinsulated anchors are used to fix the pipeline for absorption of expansive forces in order to avoid undesirable expansion movements.

**Description** Preinsulated anchor.  
 Max. operating pressure: 25 bar  
 Max. axial tension on the anchor plate corresponding to a differential stress of 150 MPa from the two sides.  
 All preinsulated anchors are delivered with embedded copper wires for surveillance.



**Materials**  
 Pipe part: Like straight pipes: P 235 GH/PUR/PE-HD  
 Flange: Coated steel, S 235 JR.  
 Inner skirt: Stainless steel  
 Preinsulated anchors are produced according to EN 448.

**Component No./ data** Component No. 4000  
 If you consider using anchors in major dimensions or with major stresses, please contact the Technical Department with specific project information.

Steel pipe out. ø mm	Series 1			Series 2			Series 3		
	Casing ø mm	L mm	A mm	Casing out. ø mm	L mm	A mm	Casing out. ø mm	L mm	A mm
26.9	90	2000	140	110	2000	160	125	2000	165
33.7	90	2000	140	110	2000	160	125	2000	165
42.4	110	2000	170	125	2000	200	140	2000	200
48.3	110	2000	170	125	2000	200	140	2000	200
60.3	125	2000	200	140	2000	220	160	2000	220
76.1	140	2000	220	160	2000	235	180	2000	250
88.9	160	2000	235	180	2000	260	200	2000	300
114.3	200	2000	300	225	2000	320	250	2000	340
139.7	225	2000	320	250	2000	370	280	2000	370
168.3	250	2000	370	280	2000	400	315	2000	450
219.1	315	2000	450	355	2000	510	400	2000	525
273.0	400	2500	550	450	2500	600	500	2500	630
323.9	450	2500	600	500	2500	650	560	2500	670
355.6	500	2500	650	560	2500	700	630	2500	710
406.4	560	2500	700	630	2500	740	710	3000	800
457.0	630	2500	740	710	3000	800	800	3000	880
508.0	710	3000	800	800	3000	880	-	-	-
610.0	800	3000	990	-	-	-	-	-	-



## Casing joints, straight Overview

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**Introduction** This section describes the casing joints, developed and approved by LOGSTOR

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<b>Contents</b>	General about casing joints	2.2.1
	Weld joints	
	BandJoint, "small" $\varnothing$ 90-200 mm	2.2.2
	BandJoint, "medium" $\varnothing$ 225-710 mm	2.2.3
	PlateJoint $\varnothing$ 800-1400 mm	2.2.4
	EWJoint, $\varnothing$ 90-1400 mm	2.2.5
	InduconJoint, $\varnothing$ 90-560 mm	2.2.6
	PEX-shrink joints	
	SXJoint, $\varnothing$ 90-450 mm	2.2.7
	SX-WPJoint, $\varnothing$ 90-450 mm	2.2.8
	BXJoint, $\varnothing$ 90-630 mm	2.2.9
	BXSJoint, $\varnothing$ 90-630 mm	2.2.10
	PE-shrink joints	
	B2SJoint, $\varnothing$ 90-1000 mm	2.2.11
	BSJoint, $\varnothing$ 90-560 mm	2.2.12
	Repair joints	
	C2LJoint, $\varnothing$ 90-630 mm	2.2.13
	Casing joints for FlexPipes, including FX-, C2L-, and C2FJoints	See section 3.5

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## Casing joints, straight General

### Casing joints

LOGSTOR can deliver 3 different casing joints dependent on the nature of the project and the customer's present demands and requirements:

- Weld joints, open or closed. For foaming
- Shrink joints, crosslinked. For foaming or insulation shells.
- Shrink joints, PE. For foaming

The 3 casing joints are very sturdy and have been thoroughly tested, so we can vouch for them and are happy to have our name associated with them.

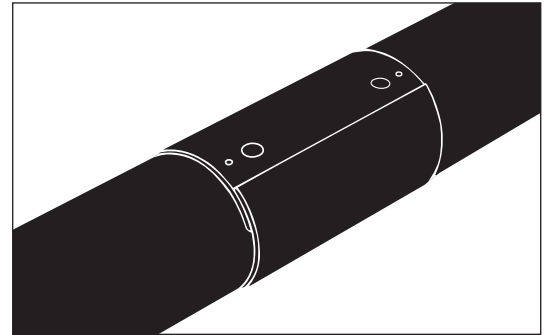
All joint types comply with the requirements in EN 489.

In addition BandJoints, PlateJoints, EWJoints, and InduconJoints also comply with the material requirements in EN 253.

### Weld joints

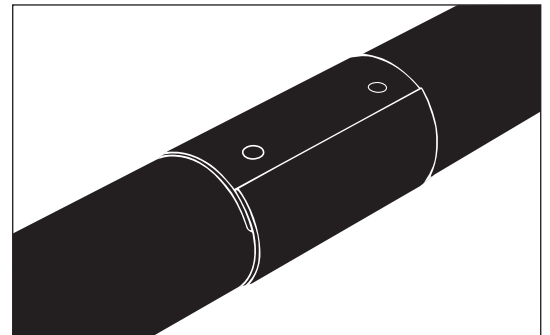
- The BandJoint  
An open joint to be foamed and leakage tested.
  - small  $\varnothing$  90-200 mm
  - medium  $\varnothing$  225-710 mm

Component No. 5610



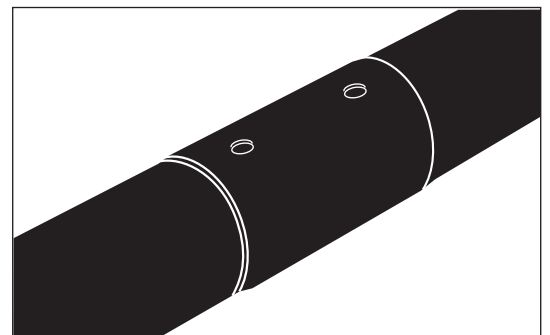
- PlateJoint  
Open casing joint to be foamed and leakage tested.  
 $\varnothing$  780-1400 mm.

Component No. 5612.



- The EWJoint  
A closed, shrinkable joint to be preinstalled, leakage tested and foamed.  
 $\varnothing$  200-1400 mm.

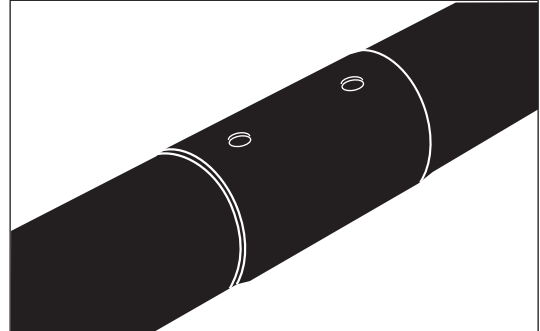
Component No. 5027



## Casing joints, straight General

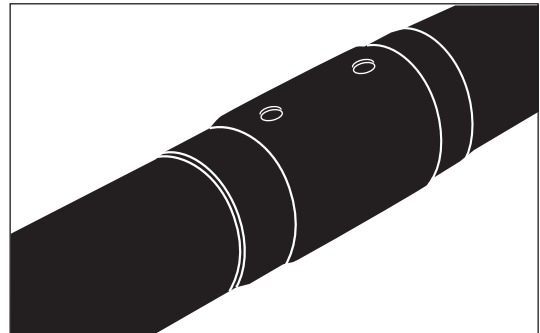
### Weld joints, *continued*

- InduconJoint  
A closed joint to be preinstalled, leakage tested and foamed  
ø 90-560 mm.  
Component No. 5027.

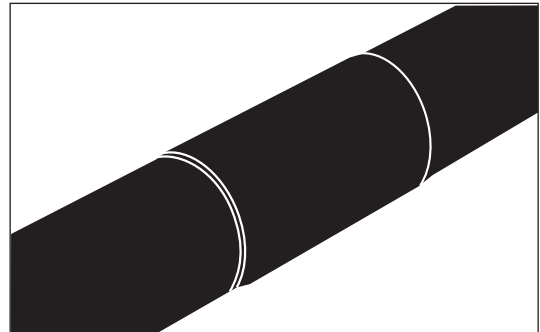


### Shrink joints, crosslinked

- The SXJoint  
A closed joint to be preinstalled, leakage tested and foamed.  
ø 90-450 mm.  
Component No. 5012

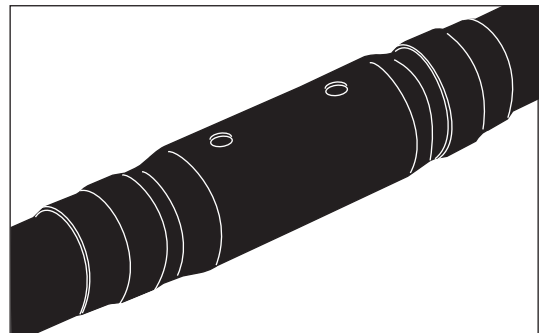


- The BXJoint  
A closed joint to be preinstalled, insulated with shells. Double-sealed.  
ø 90-630 mm.  
Component No. 5022.
- The BXSJoint  
A closed joint to be preinstalled, foamed in wrap. Double-sealed.  
Component No. 5029.



### Shrink joints, PE

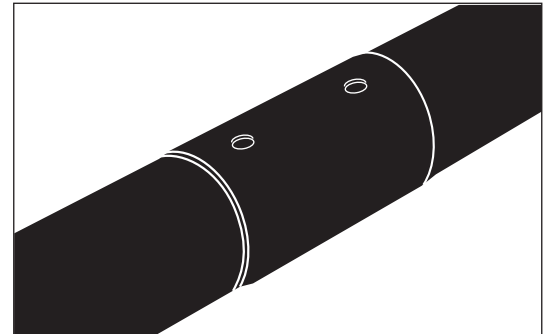
- The B2SJoint  
A closed joint to be preinstalled, leakage tested and foamed. Double-sealed.  
ø 90-1000 mm.  
Component No. 5010.



**Casing joints, straight  
General**

**Shrink joints, PE,  
*continued***

- The BSJoint
- A closed joint to be preinstalled, leakage tested and foamed.
- ø 90-560 mm.
- Component No. 5005.



**Repair joints**

See section 2.2.13.

**What to choose?**

There is a large number of factors which may influence the choice of Casing joints i.a.:

- Dimension
- Soil conditions
- Tradition/experience
- Service time/total economy
- Application of more or less advanced installation tools
- Diffusion tightness

Use us as consultants. We have the experience.

**Fields of applica-  
tion**

When installed correctly, all our joints can be used under all normal soil conditions: sandy and clayey, dry as well as moist.

Weld joints and crosslinked shrink joints are recommended in connection with:

- Groundwater table over the pipes
- Frequent axial movement
- Strongly acid soil, bacterially active dumps and lake or sea deposits.

Weld joints are recommended in connection with:

- Crossing streams or a groundwater table constantly more than 0.5 m over the pipes
- Oil-polluted soil

Contact us, and together we will come up with the best solution.

**Installation  
requirements**

The requirements to fitters and tools differ dependent on the chosen joint type:

<b>Joint type:</b>	<b>Requirements to fitter:</b>	<b>Tools:</b>
Weld joints	Must only be installed by certified fitters	Service car or trailer with special tools
Shrink joints	Can be installed correctly, after short instruction, but good shrinkage requires experience	Simple hand tools + gas burner + plug welder

It is recommended that all fitters have taken a 3-days' basic course at a LOGSTOR Training Centre.

**Casing joints, straight**  
**BandJoint, ø 90-200 mm**

**Application**

The "small" BandJoint is used to assemble pipes with outer casing dimensions from ø 90-200 mm. The joint is assembled by means of fusion welding.

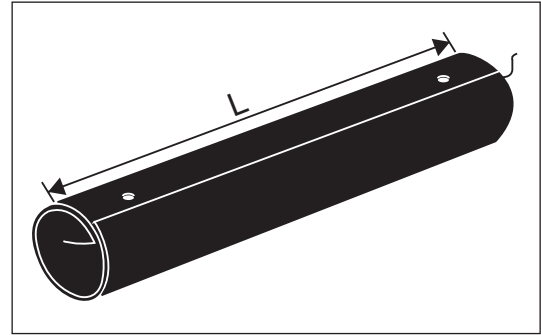
BandJoint cannot be used on FlextraPipes, i.e. flexible pipes with corrugated casing.

**Description**

BandJoint ø 90-200 mm is delivered 2 pcs. packed in protective white PE foil.

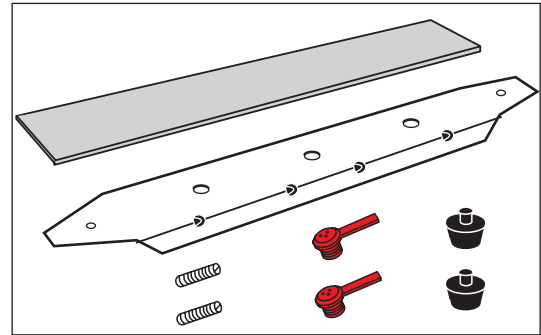
Store the joint vertically.

Max. temperature during transport and storage: 80°C.



Accessories, 1 set contains:

- Depth guard
- Adjusting bolts
- Felt pad
- Venting plugs
- Welding plugs



Joints and accessories are ordered by the piece, but delivered in packages with one or two pieces.

**Materials**

The BandJoint is made of polyethylene, PE with embedded copper wires in the weld zone.

The bolts are made of PPS (polyphenylene sulfide).

**Component overview/data**

Component No. 5610.

The BandJoint ø 90-200 mm is available in 4 different lengths dependent on its function.

There are two joints, covering the range from ø 90-125 mm and ø 140-200 mm.

Lengths marked with grey is for E-Comp

BandJoint types	L mm	ø 90-125 mm	ø 140-200 mm
STD	570	x	x
L	700	x	x
XL	830	x	x
XXL	960	x	x

**Casing joints, straight  
BandJoint, ø 90-200 mm**

**Accessories**

Component No. 5606.

ø 90-200 mm BandJoints are delivered with different sets of accessories dependent on length. One set per length regardless of insulation thickness.

(It may be necessary to shorten the bolts, when installing BandJoints).

When insulating BandJoints, foam packs must also be used.

When ordering, simply state the insulation series and that joints must be delivered including foam packs, then the correct dosage will be delivered automatically.

Accessory package	Casing dimension ø 90-200 mm
STD	x
L	x
XL	x
XXL	x

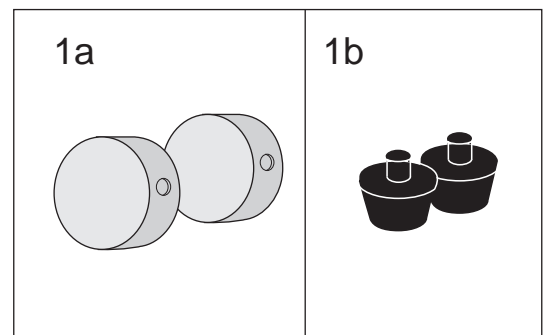
**Extra accessories for  
TwinPipes**

When using BandJoints on TwinPipes, an additional accessories set must be ordered.

Component No. 5606.

The additional accessories set consists of:

- 1 a. Support blocks
- b. Extra welding plugs



Accessories for TwinPipe, BandJoint ø 125-200 mm, component No. 5606:

Product No.		Support block ød, mm	Dimension BandJoint ød, mm		
Length, STD	Length, L		Series 1	Series 2	Series 3
5606 0000 035 090	5606 0000 035 091	35	125-160	140-180	125-180
5606 0000 050 090	5606 0000 050 091	50	200	-	200

## Casing joints, straight BandJoint, $\varnothing$ 225-710 mm

### Application

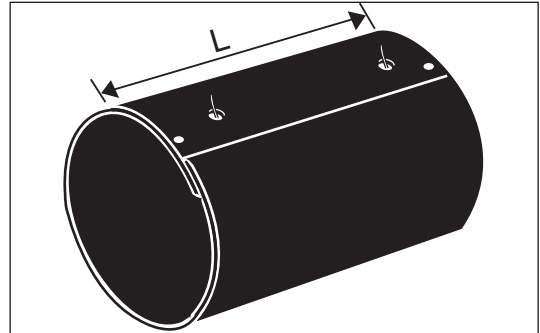
The "medium" BandJoint is used to assemble pipes with outer casing dimension  $\varnothing$  225-710 mm.  
The joint is assembled by means of fusion welding.

### Description

BandJoint  $\varnothing$  225-710 mm is delivered 2 pcs.  
packed in protective white PE foil.

Store the joints vertically.

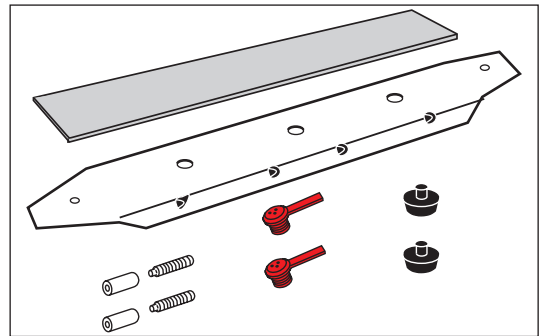
Max. temperature during transport and storage: 80°C.



Accessories, 1 set contains:

- Depth guard
- Adjusting bolts with insulator foot
- Felt pad
- Venting plugs
- Welding plugs

Joints and accessories are ordered by the piece, but delivered in packages with one or two pieces.



### Materials

The BandJoint is made of polyethylene, PE with embedded copper wires in the weld zone.

The bolts are made of steel.



**Casing joints, straight  
BandJoint, ø 225-710 mm**

**Component overview  
Joints and accessories**

BandJoint ø 225-710 mm is available in up to 4 different lengths dependent on its function.

Component No. 5610

Each joint is delivered with an accessory package dependent on length.

Component No. 5606.

Lengths marked with grey is for E-Comp

Outer casing ø out. mm	BandJoint			
	STD	L	XL	XXL
225	x	x	x	x
250	x	x	x	x
280	x	x	x	x
315	x	x	x	x
355	x	x	x	x
400	x	x	x	x
450	x	x	x	x
500	x	x	-	x
560	x	x	-	x
630	x	x	-	x
710	x	x	-	x
Accessories	x	x	x	x

**Component overview  
Extra insulator foot**

Component No. 5606.

In connection with insulating thicknesses higher than 85 mm use an extra long (70 mm) insulator foot for the adjusting bolts.

Available in packages with 25 pcs.

Product No. 5606 0000 010 000.

Pipe dimension ø mm	BandJoint			
	STD	L	XL	XXL
219.1/400	2	3	4	4
273.0/500	2	3	4	4
323.9/560	2	3	4	4
355.6/560	2	3	4	4
406.4/630	2	3	4	4
457.0/710	2	3	4	4
508.0/710	2	3	4	4

**Joint lengths**

In the table the different lengths of the joints are shown.

Outer casing ø out. mm	BandJoint length, mm			
	STD	L	XL	XXL
225-450	590	720	850	980
500-560	590	720	-	980
630-710	660	790	-	1050

## Casing joints, straight BandJoint, ø 225-710 mm

**Accessories**

When insulating the BandJoint, foam packs must also be used.

When ordering, simply state the insulation series and that the joint must be delivered including foam packs, then the correct dosage will be delivered automatically.

**Extra accessories for TwinPipes**

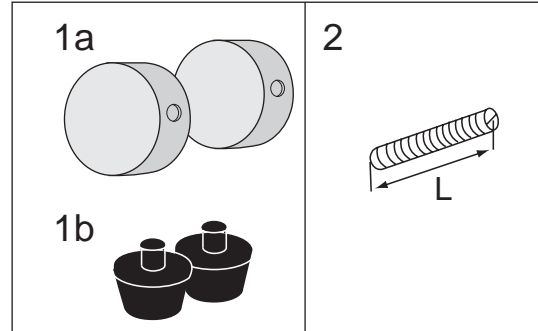
When using BandJoints on TwinPipes, an additional accessories set must be ordered.

Part 1, component No. 5606.

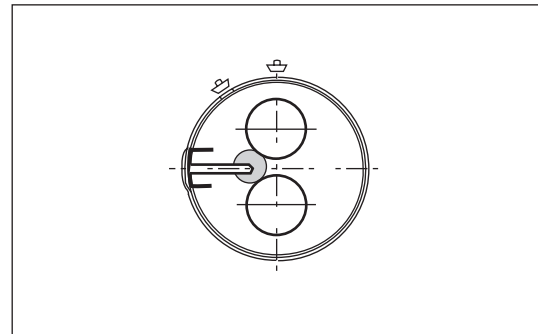
Part 2, component No. 1995

The additional accessories set consists of:

- 1 a. Support blocks
- b. Extra welding plugs
- 2. Bolts with extra length



TwinPipe dimensions requiring a support block and extra long steel bolts



Accessories for TwinPipe, BandJoint ø 225-710 mm.

Component No. 5605:

Dimension, BandJoint ø d mm			Support block ø d, mm	Set per BandJoint	
Series 1	Series 2	Series 3		Length, STD	Length, L
225-250	225-280	250-315	50	5606 0000 050 090	5606 0000 050 091
315-710	355-800	400-900	70	5606 0000 070 090	5606 0000 070 091

Number of extra long bolts:

Dimension, BandJoint ø d, mm			Bolt Product No.	No. per BandJoint pcs.	
Series 1	Series 2	Series 3		Length, STD	Length, L
250	250-355	250-280	1995 0010 002 100	2	3
315	-	315	1995 0010 002 120	2	3
400	-	400	1995 0010 002 150	2	3
450-650	450-500	500-560	1995 0010 002 220	2	3
-	630	-	1995 0010 002 250	2	3
710	-	710	1995 0010 002 300	2	3

## Casing joints, straight PlateJoint, $\varnothing$ 800-1400 mm

### Application

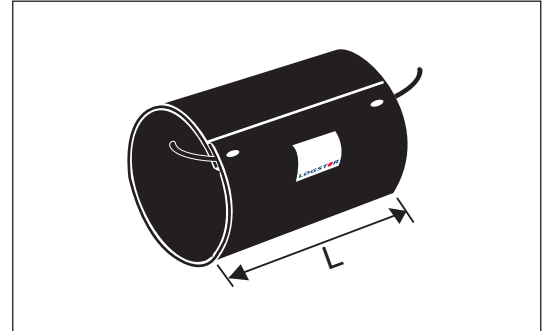
The PlateJoint is used, when assembling pipes with outer casing dimensions  $\varnothing$  800-1400 mm.  
The joint is assembled by means of fusion welding.

### Description

PlateJoint  $\varnothing$  800-1400 mm is delivered wrapped in a white UV resistant protective foil.

Store the joints vertically.

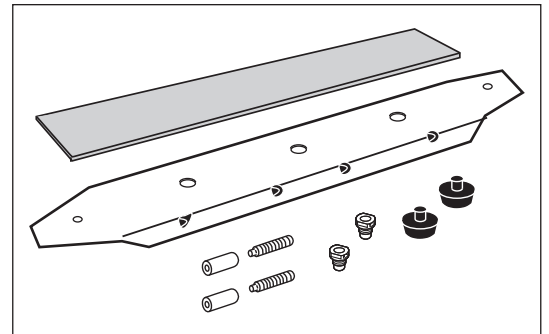
Max. temperature during transport and storage: 80°C



Accessories. 1 set contains:

- Depth guard
- Adjusting bolts with insulator foot
- Felt pad
- Venting plugs
- Welding plugs

Accessories are ordered as single pieces, but delivered in packages with one or two pieces.



### Materials

The PlateJoint is made of polyethylene, PE with embedded lacquered wires in the weld zones.

The bolts are made of steel,

## Casing joints, straight

### PlateJoint, ø 800-1400 mm

#### Component overview/data

PlateJoint ø 800-1400 mm is available in 2 different lengths with accessory package to match.

Component No. 5612.

Accessories set, component No. 5606.

Outer casing ø out. mm	PlateJoint	
	Standard L = 630 mm	E-Comp L = 1020 mm
800	x	x
900	x	x
1000	x	x
1100	x	x
1200	x	x
1300	x	x
1400	x	x
Accessories	x	x

In connection with insulation thicknesses higher than 85 mm on pipes of insulation series 1 and 2 use an extra long (70 mm) insulator foot for the adjusting bolts.

This is available in sets of 4 pcs. each.

Consequently, the figure per joint is in some cases in decimals.

Product No.: 5606 0000 005 000.

Also available with 25 pcs.

Product No.: 5606 0000 010 000.

Pipe dimension ø out. mm	Pcs. per PlateJoint	
	Standard L = 630 mm	E-Comp L = 1020 mm
508.0/800	2	4
508.0/900	2	4
610.0/800	2	4
610.0/900	2	4
711.0/900	2	4
711.0/1000	2	4
813.0/1000	2	4
813.0/1100	2	4
914.0/1100	2	4
914.0/1200	2	4
1016.0/1200	2	4
1016.0/1300	2	4
1118.0/1300	2	4
1118.0/1400	2	4
1219.0/1400	2	4

#### Accessories

When insulating the PlateJoint, foam packs or machine foam must also be used.

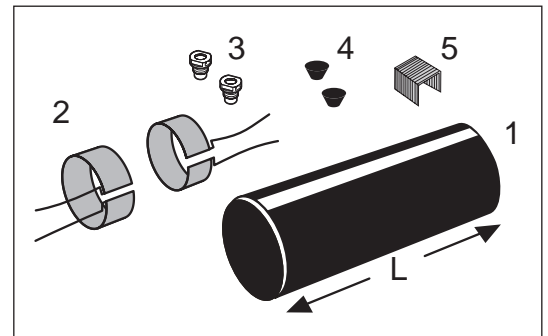
For dimensions for which foam packs are used, simply state the insulation series and that the joint must be delivered including foam packs, then the correct dosage will be delivered automatically.

**Casing joints, straight  
EWJoint, ø 90-1400 mm**

**Application** The EWJoint is used to assemble pipes with outer casing dimensions ø 90-1400 mm.  
Install the joint on the pipes prior to welding.  
The joint is welded onto the outer casing by means of fusion welding.

**Description** The EWJoint set consists of:  
1. PE shrink sleeve  
2. Welding strips  
3. Venting plugs  
4. Welding plugs  
5. Staples for fixing welding strips

The joints are delivered wrapped in white PE foil.  
The accessories 2-4 are delivered separately in a plastic bucket.  
Staples are ordered separately  
Store the sleeve vertically.  
Max. temperature during transportation and storage: 50°C



**Materials**

Shrink sleeve: HDPE  
Welding strips: Expanded metal sheet, electrogalvanized  
Venting plugs: LDPE  
Welding plugs: HDPE

**Component overview/data**

Component No. of EWJoint: 5027  
Component No. of accessories: 5556.  
Product Nos. of staples:  
- outer casing ø 90-406 mm: 9050 0000 031 053  
- outer casing ≥ ø 450 mm: 9050 0000 031 052

Outer casing dimension ø mm	L mm	L, for E-Comp mm
90	700	-
110	700	1050
125	700	1050
140	700	1050
160	700	1050
180	700	1050
200	700	1050
225	700	1050
250	700	1050
280	700	1050
315	700	1050
355	700	1050
400	700	1050

Outer casing imension ø mm	L mm	L, for E-Comp mm
450	700	1300
500	700	1300
560	700	1300
630	750	1300
710	750	1300
800	750	1300
900	750	1300
1000	750	1300
1100	800	1300
1200	800	1300
1300	800	1300
1400	800	1300

## Casing joints, straight EWJoint, ø 90-1400 mm

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### Accessories

When foaming minor dimensions foam packs must be used. Major dimensions are foamed with machine foam.

For dimensions for which foam packs are used, simply state the insulation series and that the joint must be delivered including foam packs, then the correct dosage will be delivered automatically.

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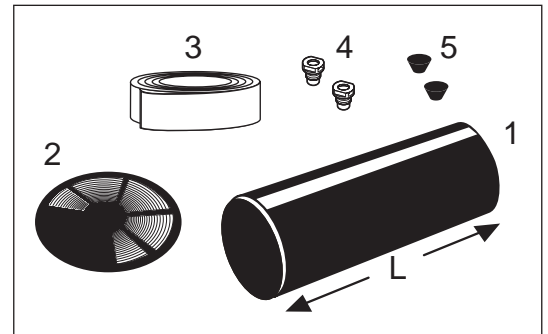
**Casing joints, straight**  
**InduconJoint, ø 90-560 mm**

**Application** InduconJoint is used to assemble pipes with outer casing dimensions ø 90-560 mm. The shrink sleeve is installed on the pipes prior to welding the service pipe together. The sleeve is welded onto the outer casing by means of induction welding.

**Description** The InduconJoint set consists of:

1. PE-shrink sleeve
2. Inducon welding strip in a coil
3. Inducon pressure band in a coil
4. Venting plugs
5. Weld plugs

The shrink sleeve is wrapped in PE-foil on delivery.  
 The accessories, 2-5, are delivered separately.  
 Store the sleeve vertically.  
 Max. temperature during transportation and storage: : 50°C



**Materials**

Sleeve:	HDPE
Inducon welding strip:	Stainless expanded metal
Inducon pressure band:	PTFE-coated glass fibre band
Venting plugs:	LDPE
Weld plugs:	HDPE

**Component overview/data**

Component No. of InduconJoint: 5027.

Product No. of Inducon welding strip 20 mm in a coil of 175 m: 5556 0020 000 175.

Product No. of Inducon pressure band in a coil of 30 m: 9000 0000 041 000.  
 The Inducon pressure band is recyclable.

Product No. of venting plugs in a bag with 25 pcs.: 1220 0000 035 750.

Product No. of weld plugs in a bag with 25 pcs.: 1220 0000 035 002.

Outer casing dimension ø mm	L mm	L, for E-Comp mm
90	700	1050
110	700	1050
125	700	1050
140	700	1050
160	700	1050
180	700	1050
200	700	1050
225	700	1050
250	700	1050
280	700	1050
315	700	1050
355	700	1050
400	700	1050
450	700	1300
500	700	1300
560	700	1300

**Accessories** When foaming minor dimensions foam packs must be used. Major dimensions are foamed with machine foam.

For dimensions for which foam packs are used, simply state the insulation series and that the joint must be delivered including foam packs, then the correct dosage will be delivered automatically.

**Casing joints, straight  
SXJoint, ø 90-450 mm**

**Application**

The shrink joint SX is used for outer casing dimensions ø 90-450 mm.

Install the joints on the pipes prior to welding.

The SXJoint is installed by means of a soft gas flame.

The joint is for foaming and consequently shrinkable at the ends and not in the middle.

Applicable in all non-oil-contaminated soils.

**Description**

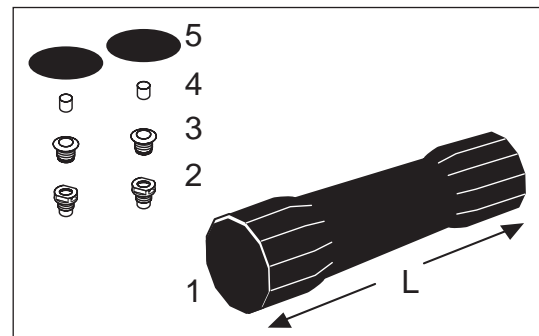
The SXJoint set consists of:

1. Shrink sleeve  
The sleeve ends contain mastic
2. Venting plugs
3. Expansion plugs
4. Wedge plugs
5. Patches

The joint set is wrapped in white PE foil on delivery.

Store the shrink sleeve vertically.

Max. temperature during transportation and storage: 80°C.



**Materials**

Shrink sleeve:	Crosslinked PE (PEX)
Venting plugs:	LDPE
Expansion plugs:	PEX with a butyl mastic ring
Wedge plugs:	PEX
Patches:	PEX with water-resistant hotmelt

**Component overview/data**

Component No. 5012

Outer casing dim. ø mm	Shrinkable to ø mm	L mm
90	77	650
110	90	650
125	110	650
140	125	650
160	140	650
180	160	650
200	180	650
225	200	650
250	225	650
280	250	650
315	280	650
355	315	750
400	355	750
450	400	750



**Casing joints, straight  
SXJoint, ø 90-450 mm**

---

**Accessories**

Foam packs are used for foaming.

When ordering, simply state the insulation series and that the joint must be delivered including foam packs, then the correct dosage will be delivered automatically.

---

**Casing joints, straight  
SX-WPJoint, ø 90-450 mm**

**Application**

The SX-WPJoint is used to join outer casing dimensions ø 90-450 mm.  
The shrink sleeve is installed on the pipes prior to welding the service pipe together.  
The foam hole in the SX-WPJoint is sealed with a weld plug..

**Description**

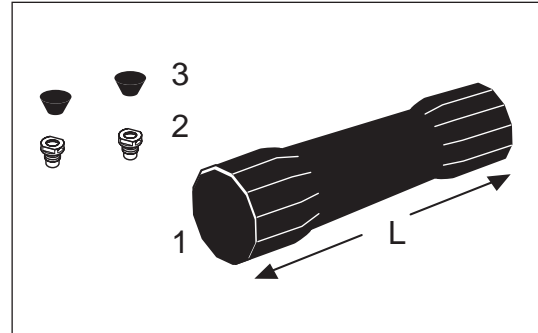
The SX-WPJoint set consists of:

1. PE-shrink sleeve  
(The sleeve ends contain mastic)
2. Venting plugs
3. Weld plugs

The set is wrapped in PE-foil on delivery

Store the shrink sleeve vertically.

Max. temperature during transportation and storage: : 80°C



**Materials**

Sleeve: Cross-linked PE (PEX)  
Venting plugs: LDPE  
Weld plugs: HDPE

**Component overview/data**

Component No. of SX-WPJoint: 5031.

Outer casing dim. ø mm	Shrinkable to ø mm	L mm
90	77	650
110	90	650
125	110	650
140	125	650
160	140	650
180	160	650
200	180	650
225	200	650
250	225	650
280	250	650
315	280	650
355	315	750
400	355	750
450	400	750

**Accessories**

Foam packs are used for foaming.

When ordering, simply state the insulation series and that the joint must be delivered including foam packs, then the correct dosage will be delivered automatically.

**Casing joints, straight  
BXJoint, ø 90-630 mm**

**Application** The shrink joint BX can be used for outer casing dimensions ø 90-630 mm. Install the shrink sleeve on the pipe prior to welding. Reduction with the shrink sleeve is possible with 1 or 2 dimensional offsets dependent on the dimension. PEX shrink joints are installed by shrinking with a soft gas flame.

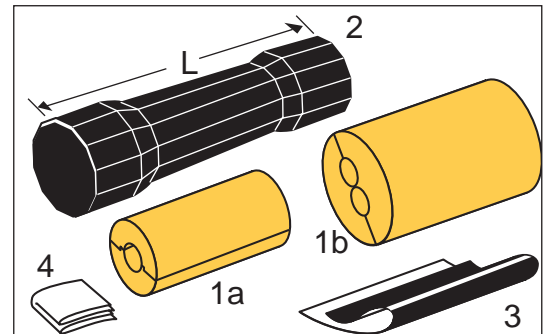
**Description** The BXJoint set consists of:

- 1. Insulation shells:
  - a. single pipe
  - b. TwinPipe
- 2. PEX shrink sleeve
- 3. Shrink film
- 4. Cleaning cloth

The joint set is delivered wrapped in strong white PE foil.

Store the shrink sleeve vertically.

Max. temperature during transportation and storage: 70°C.



**Materials**

Insulation shells:	Polyurethane (PUR)
Shrink sleeve:	Crosslinked PE (PEX) with embedded mastic
Shrink film with mastic:	PEX with PIB-based mastic

**Component overview/data**

Component No. 5022.  
Insulation shells are also available for insulation series 2 and 3.  
For TwinPipes only in series 2.

Outer casing dim. ø mm	Shrinkable to ø mm	L mm
90	77	780
110	77	780
125	90	780
140	110	780
160	125	780
180	140	780
200	160	780
225	180	780
250	200	780
280	225	780
315	250	780
355	315	780
400	355	780
450	400	780
500	450	780
560	500	780
630	560	780

**Accessories** The joint set is delivered complete and ready for installation.

**Casing joints, straight  
BXSJoint, ø 90-630 mm**

**Application**

The shrink joint BXS can be used for outer casing dimensions ø 90-630 mm.

Install the shrink sleeve on the pipe prior to welding.

PEX shrink joints are installed by shrinking with a soft gas flame.

Reduction with the shrink sleeve is possible with 1 or 2 dimensional offsets dependent on the dimension.

**Description**

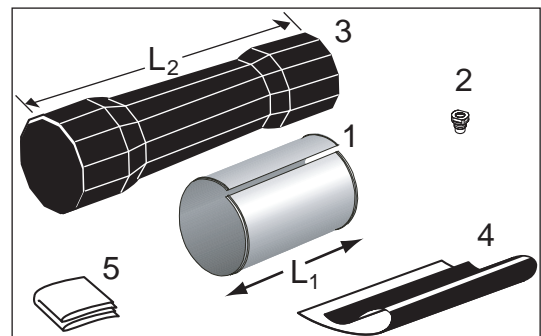
The set for the BXSJoint consists of:

1. Wrap for foaming
2. Venting plug
3. PEX shrink sleeve
4. Shrink film
5. Cleaning cloth

The BXS shrink sleeve and the shrink film are delivered in strong white PE foil.

Store the sleeve vertically.

Max. temperature during transportation and storage: 70°C.



**Materials**

Wrap:	Milled sheet
Shrink sleeve:	Crosslinked PE (PEX) with embedded mastic
Shrink film with mastic:	PEX with PIB-based mastic

**Component overview/data**

Component No. 5029.

Outer casing dim. ø mm	Wrap, L <sub>1</sub> mm	Shrink sleeve, L <sub>2</sub> mm
90	500	780
110	500	780
125	500	780
140	500	780
160	500	780
180	500	780
200	500	780
225	500	780
250	500	780
280	500	780
315	500	780
355	500	780
400	500	780
450	500	780
500	500	780
520	500	780
560	500	780
630	500	780

## Casing joints, straight BXSJoint, ø 90-630 mm

---

### Accessories

When insulating BXSJoints in wrap, foam packs must be used.

When ordering simply state the insulation series and the the joint must be delivered including foam packs, then the correct dosage will be delivered automatically.

---

**Casing joints, straight  
B2SJoint, ø 90-1000 mm**

**Application**

The shrink joint B2S is used for outer casing dimensions ø 90-1000 mm.

Install the joints prior to welding.

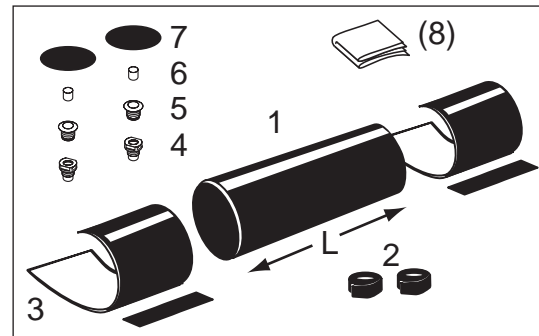
PE shrink joints are installed by means of a soft gas flame.

The B2SJoint is double sealed.

**Description**

The B2SJoint set consists of:

1. Shrink sleeve
2. Sealing tape
3. Shrink collars with closure patches
4. Venting plugs
5. Expansion plugs
6. Wedge plugs
7. Patches
- (8. Cleaning cloth)



Alternatively, items 5, 6, and 7 may be replaced by welding plugs.

The shrink sleeve is delivered, wrapped in white PE foil.

Store the sleeve vertically.

Max. temperature during transportation and storage: 50°C.

**Materials**

- |                     |                             |
|---------------------|-----------------------------|
| Shrink sleeve:      | PE                          |
| Sealing tape:       | PIB mastic                  |
| Open shrink collar: | PEX, type RJS E/A           |
| Venting plugs:      | PE                          |
| Expansion plugs:    | PEX                         |
| Wedge plugs:        | PEX                         |
| Patches:            | PEX with waterproof hotmelt |

**Component overview/data**

Component No. 5010.

Outer casing dim. ø mm	L mm	E-Comp, L, mm
90	700	1050
110	700	1050
125	700	1050
140	700	1050
160	700	1050
180	700	1050
200	700	1050
225	700	1050
250	700	1050
280	700	1050
315	700	1050

Outer casing dim. ø mm	L mm	E-Comp, L, mm
355	700	1050
400	750	1050
450	800	1300
500	800	1300
560	800	1300
630	800	1300
710	800	1300
800	800	1300
900	800	1300
1000	800	1300

## Casing joints, straight B2SJoint, ø 90-1000 mm

---

### Accessories

Foam packs or machine foam are used for foaming.

For dimensions for which foam packs are used, simply state the insulation series and that the joint must be delivered including foam packs, then the correct dosage will be delivered automatically.

---

**Casing joints, straight  
BSJoint, ø 90-560 mm**

**Application**

The shrink joint BS is used for outer casing dimensions ø 90-560 mm.

Install the joints prior to welding.

PE shrink joints are installed by means of a soft gas flame.

Applicable for installation, where the joint is above groundwater table, and in all not heavily, chemically polluted soils.

**Description**

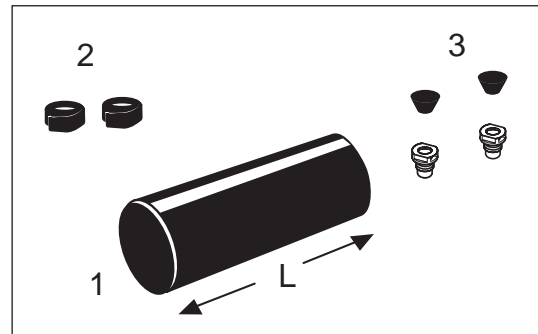
The BSJoint set consists of:

- 1. Shrink sleeve
- 2. Sealing tape
- 3. Venting and welding plugs

The sleeve is delivered wrapped in protective white PE foil.

Store the sleeve vertically.

Max. temperature during transportation and storage: 50°C.



**Materials**

- Shrink sleeve: PE
- Sealing tape: PIB mastic
- Venting plugs: LDPE
- Welding plugs: HDPE

**Component overview/data**

Component No. 5005.

Outer casing dimension ø mm	L mm
90	700
110	700
125	700
140	700
160	700
180	700
200	700
225	700
250	700
280	700
315	700
355	700
400	750
450	800
500	800
560	800



**Casing joints, straight  
BSJoint, ø 90-560 mm**

---

**Accessories**

Foam packs are used for foaming.

When ordering, simply state the insulation series and that the joint must be delivered including foam packs, then the correct dosage will be delivered automatically.

---

## Casing joints, straight

### Repair joints, general

---

#### Description

All open type LOGSTOR joints are suitable for repair and renovation purposes.

This applies to:

- Welded joints: The BandJoint and PlateJoint,  $\varnothing$  90-1400 mm
- Shrink joints: The C2L joint,  $\varnothing$  90-630 mm

The joints are available in various lengths.

If the repair length is longer than the joint, intermediary repair pieces, consisting of outer casing and insulation, are available as special order.

Contact LOGSTOR for further information.

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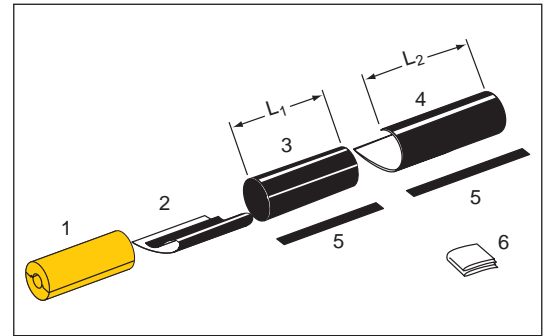
## Casing joints, straight

### Repair joints, type C2L, ø 90-630 mm

**Application** The shrink joint C2L is an open joint for repair purposes on outer casing dimensions ø 90-630 mm.  
As a standard C2L is used with insulation shells. Foaming may however take place in a wrap. In connection with dimensions > 630 mm foaming always carried out in a wrap.

**Description** The C2LJoint set consists of:

1. Insulation shells
2. Shrink film
3. Shrink sleeve  
(to be cut longitudinally prior to installation)
4. Shrink wrap
5. Closure patches
6. Cleaning cloth



The joint set is packed in a protective white PE foil.

Store the sleeve vertically.

Max. temperature during transport and storage : 70°C.

**Materials**

Insulation shells:	Polyurethane (PUR)
Shrink film with mastic:	PEX with PIB-based mastic
Shrink sleeve:	PE
Shrink wrap:	PE
Closure patches:	PEX

**Component overview/data** Component No. 5035.  
Insulation shells are also available for insulation series 2 and 3.  
Dimensions > 630 mm for foaming in wrap are delivered on request.

Outer casing dim. ø mm	L <sub>1</sub> mm	L <sub>2</sub> mm
90	670	900
110	670	900
125	670	900
140	670	900
160	670	900
200	670	900
225	670	900
250	670	900
315	670	900
400	670	900
450	670	900
500	670	900
560	670	900
630	670	900

**Accessories** The joint set is delivered complete and ready for installation.



## Bends Overview

---

### Introduction

This section contains a description of the bend components which are applicable for pre-defined bending angles.

The section also contains an overview of the bend fittings SXBJoint and SXB-WPJoint where the bending angle is determined on site.

---

### Contents

Generally about bends	2.3.1
The bend fittings:	
- SXBJoint	2.3.2
- SXB-WPJoint	2.3.3
- Accessories	2.3.4
Preinsulated bends	2.3.5
Curved pipes	2.3.6

---



## Bends

### General

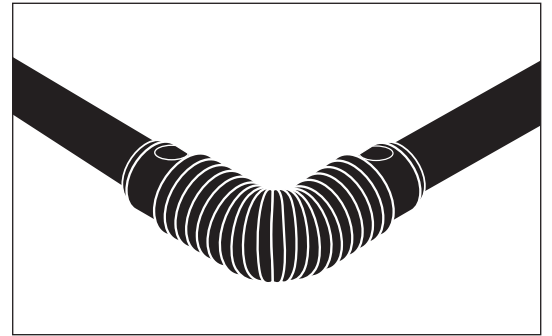
#### Bend types

LOGSTOR can deliver 2 different bend types dependent on dimension, the type of the project and the customer's actual requirements.

#### Bend fittings for foaming

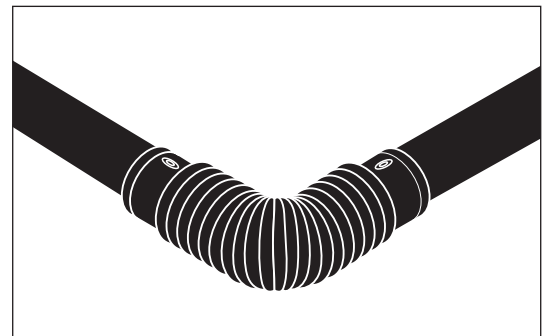
- SXBJoint  
Outer casing dimensions  $\varnothing$  90-315 mm,  
0 - 90°.

Component No. 5208.



- SXB-WPJoint  
Outer casing dimensions  $\varnothing$  90-315 mm,  
0 - 90°.

Component No 5033.

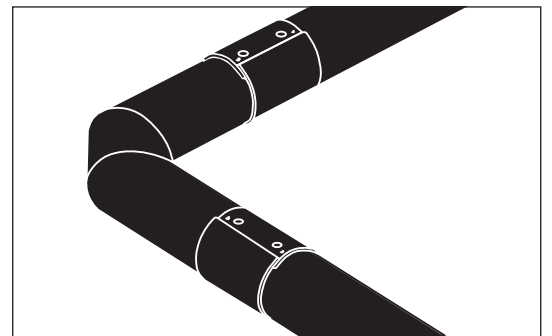


#### Preinsulated bend

- Preinsulated bend  
Steel pipe dimension  $\varnothing$  26.9-1219 mm  
Standard 45° and 90°.

Available to order in steps of 5°.

Component No. 2500.



#### Curved pipe

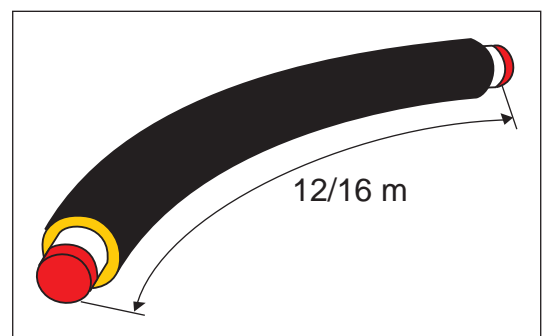
Curved pipes ( $\varnothing$  out. steel pipe):

- On-site curved pipes  $\varnothing$  26.9-88.9 mm

- Factory curved pipes (steps of 1°)  
 $\varnothing$  114.3-610 mm

(See also elastic curves in the Handling and Installation Manual, page 2.3.0.1 as well as Design Manual, section 4.1).

Component No. 2005.



#### Fields of application

Bends and curved pipes can be used under all common installation conditions and for changes of levels, when the stated installation instructions are observed.

## Bends

### General

#### Which type to choose?

There are several factors which may influence the choice of bend type; but one does not exclude the other:

- Dimension
- Expansion conditions
- Soil conditions
- Flexibility
- Optimum utilization of chosen installation methods
- Tradition and experience
- Total economy

Use LOGSTOR as a guide. We have the experience.

#### Individual advantages

Bend type	Characteristics
SXBJoint and SXB-WPJoint	Integrated part of the SXJoint system Flexible degrees, 0-90° Flexible pipe routing Fewer joints Improved total economy
Preinsulated bend	Only straight joints
Curved pipes	Optimum utilization of installation instructions Improved total economy
- On-site curved pipes	Individual adjustment at the trench
- Factory curved pipes	Designed directional change - static safety.



**Bends**

**Bend fitting, SXBJoint, ø 90-315 mm**

**Application**

The SXBJoint is used to join pipes with casing dimension ø 90-315 mm.

After preheating the flexible joints fit directional changes from 0-90°.

The shrinkable ends of the joint can be reduced by one dimensional offset, except for the three large dimensions (ø 180-200, ø 225-250, and ø 280-315) where the joint covers two outer casing dimensions e.g. a ø 180-200 SXBJoint is actually a ø 200 joint and consequently only shrinkable to ø 180 and NOT also to ø 160, see below table.

The joints can be used under all common soil conditions and for all installation methods.

Pay special attention to the stress level in the steel pipe dependent on the actual angle.

**Description**

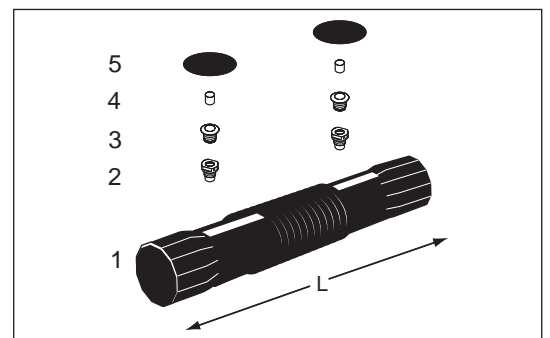
A SXBJoint set consists of:

1. Shrink sleeve with a flexible bending zone.  
The joint ends contain mastic
2. Venting plugs
3. Expansion plugs
4. Wedge plugs
5. Patches

The joint is wrapped in a white PE foil on delivery.

Store the sleeve vertically.

Max. temperature during transportation and storage: 80°C.



**Materials**

A SXBJoint consists of the following materials:

- Sleeve: Cross-linked PE (PEX)
- Venting plugs: LDPE
- Expansion plugs: PEX with a butyl mastic ring
- Wedge plugs: PEX
- Patches: PEX with waterproof hotmelt adhesive.

**Component overview/data**

Component No. 5208.

Product No.	Outer casing ø out. mm	Shrinkable to ø mm		L mm
5208 0090 001 902	90	90	77	815
5208 0110 001 902	110	110	90	865
5208 0125 001 902	125	125	110	865
5208 0140 001 902	140	140	125	865
5208 0160 001 902	160	160	140	865
5208 0180 001 903	180-200	200	180	975
5208 0225 001 902	225-250	250	225	980
5208 0280 001 912	280-315	315	280	1225

**Bends**

**Bend fitting, SXB-WPJoint, ø 90-315 mm**

**Application**

The SXB-WPJoint is used to join pipes with casing dimension ø 90-315 mm.

After preheating the flexible joints fit directional changes from 0-90°.

The shrinkable ends of the joint can be reduced by one dimensional offset, except for the three large dimensions (ø 180-200, ø 225-250, and ø 280-315) where the joint covers two outer casing dimensions e.g. a ø 180-200 SXB-WPJoint is actually a ø 200 joint and consequently only shrinkable to ø 180 and NOT also to ø 160, see below table.

The joints can be used under all common soil conditions and for all installation methods.

Pay special attention to the stress level in the steel pipe dependent on the actual angle.

**Description**

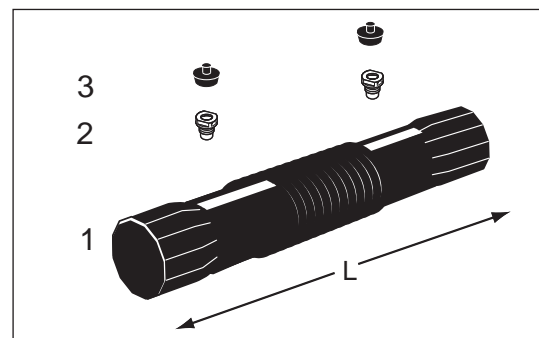
A SXB-WPJoint set consists of:

1. Shrink sleeve with a flexible bending zone.  
The joint ends contain mastic
2. Venting plugs
3. Weld plugs

The joint is wrapped in a white PE foil on delivery.

Store the sleeve vertically.

Max. temperature during transportation and storage: 80°C.



**Materials**

A SXB-WPJoint consists of the following materials:

- Sleeve: Cross-linked PE (PEX)
- Venting plugs: LDPE
- Weld plugs: HDPE

**Component overview/data**

Component No. 5033.

Product No.	Outer casing ø out. mm	Shrinkable to ø mm		L mm
5033 0090 000 000	90	90	77	815
5033 0110 000 000	110	110	90	865
5033 0125 000 000	125	125	110	865
5033 0140 000 000	140	140	125	865
5033 0160 000 000	160	160	140	865
5033 0180 000 000	180-200	200	180	975
5033 0225 000 000	225-250	250	225	980
5033 0280 000 000	280-315	315	280	1225

**Bends**

**Accessories for bend fittings, ø 90-315 mm**

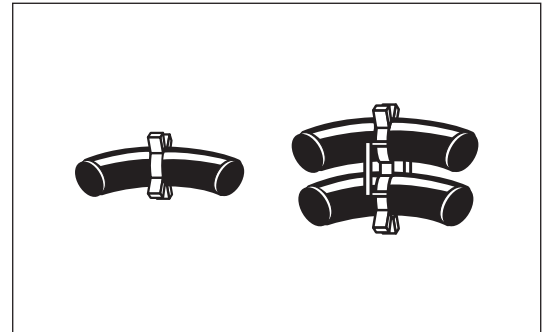
**Accessories**

In addition the following must be used for the installation:

- Weld elbows with a special bending radius, adjusted to the natural curve radius of the SXBJoint and SXB-WPJoint.

Component No. 5252

Due to the centering in the casing joint weld elbows with other radii must not be used.



Series	Dimensions, ød mm											
	26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	
	Radius. mm											
Single pipe												
1	90	90	92.5**	107.5**	135**	140	165	152*	190*	229*	305*	
2	90	90	92.5**	107.5**	135**	140	165	228	190*	310	-	
3	90	90	92.5**	107.5**	135**	140	165	228	330**	310	-	
TwinPipe												
1	140	140	160	160	160	175**	165	305	-	-	-	
2	140	140	160	160	160	175**	275	-	-	-	-	
3	140	150	160	160	160	298	275	-	-	-	-	

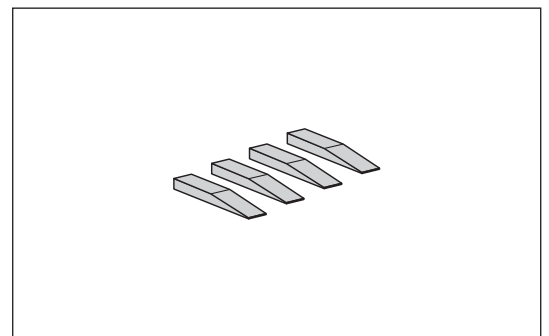
Alternatives: \*) = 1.5xd  
 \*\*) = 2.5xd

**Wooden wedges**

- Large and small wedges for support:

Small wedges  
 Product No. 1997 0000 033 002

Large wedges  
 Product No. 1997 0000 033 003



**Foam packs**

When ordering simply state whether SXB-WPJoint/SXBJoint will be used for single pipe or TwinPipe and the insulation series of the joint (1, 2 or 3) and that the joint must include foam packs, then the correct size will be delivered automatically.

## Bends

### Preinsulated bend

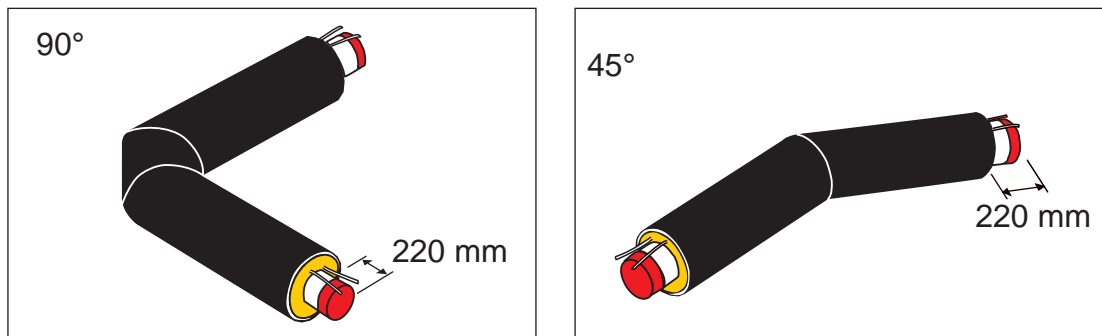
#### Application

Preinsulated bends can be used for directional changes and changes in levels. As a standard available in 45° and 90°. Available to order in steps of 5°.

90° bends can be used for all installation methods ( $R = 2.5 \times d$ ;  $d = \text{ø out. steel pipe}$ ). To 45° certain reservations apply. See page 2.3.5.3.

90° bends with different leg lengths are used, when pre-installation of the casing joint on the bend is required. Pre-install on the longest leg.

#### Description



Preinsulated bends are available for operating pressure = 25 bar.

All preinsulated bends have embedded copper wires for surveillance.

In the 90° bend with different leg lengths the wires are placed in 3 and 9 o'clock position so the bend may be inverted.

#### Materials

All materials are like for straight pipes: Steel/PUR/PE-HD.

Preinsulated bends comply with the requirements in EN 448.

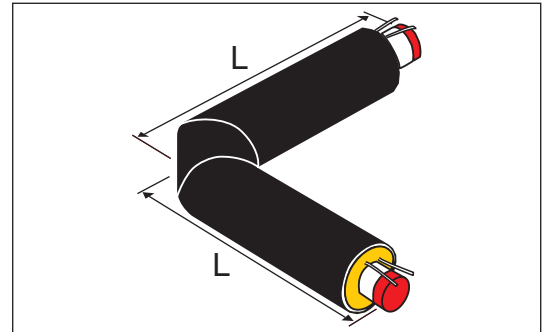
90°: From  $\text{ø } 26.9$  to  $406.4$  and in  $\text{ø } 508$  mm cold-bent steel pipes are used.  $R = 2.5 \times d$  ( $d = \text{ø out. steel pipe}$ ). In  $\text{ø } 457$  mm and from  $\text{ø } 610$  mm weld elbows form part.  $R = 1.5 \times d$

45°: From  $\text{ø } 26.9$  to  $168.3$  mm cold-bent steel pipes are used.  $R = 2.5 \times d$  ( $d = \text{ø out. steel pipe}$ ). From  $219.1$  mm weld elbows form part.  $R = 1.5 \times d$ .

**Bends**  
**Preinsulated bend**

**Component overview**  
**90°, same leg lengths**

90° preinsulated bend with same leg lengths.  
Component No. 2500.  
 $R = 2.5 d$  ( $d = \text{ø out. steel pipe}$ )

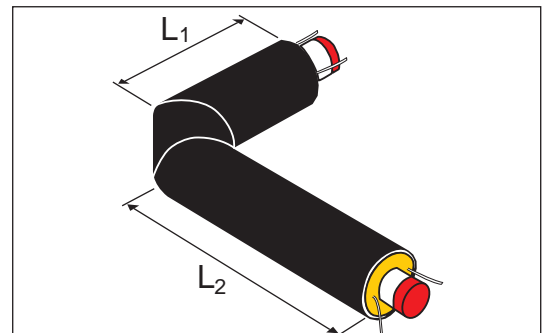


Steel pipe ø out. mm	Outer casing ø out. mm			L mm
	series 1	series 2	series 3	
26.9	90	110	125	1000
33.7	90	110	125	1000
42.4	110	125	140	1000
48.3	110	125	140	1000
60.3	125	140	160	1000
76.1	140	160	180	1000
88.9	160	180	200	1000
114.3	200	225	250	1000
139.7	225	250	280	1000
168.3	250	280	315	1000
219.1	315	355	400	1000
273	400	450	500	1300
323.9	450	500	560	1500
355.6	500	560	630	1600
406.4	560	630	710	1600
457*)	630	710	800	1200
508	710	800	900	1600
610*)	800	900	-	1300

\*)  $R = 1.5 \times d$

**Component overview**  
**90°, different leg lengths**

90° preinsulated bend with different leg lengths.  
Component No. 2500.  
 $R = 2,5 d$  ( $d = \text{ø out. steel pipe}$ )

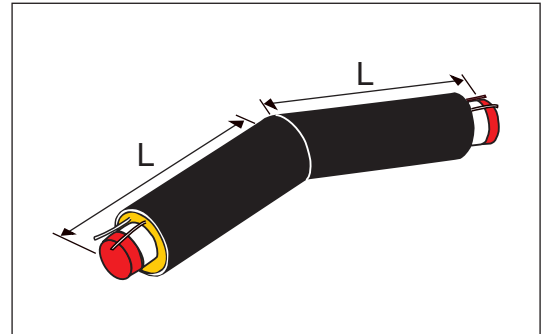


Steel pipe ø out. mm	Outer casing ø out. mm			Leg lgth., mm	
	series 1	series 2	series 3	L <sub>1</sub>	L <sub>2</sub>
26.9	90	110	125	750	1250
33.7	90	110	125	750	1250
42.4	110	125	140	750	1250
48.3	110	125	140	750	1250
60.3	125	140	160	750	1250
76.1	140	160	180	750	1250
88.9	160	180	200	750	1250
114.3	200	225	250	1000	1500
139.7	225	250	280	1000	1500
168.3	250	280	315	1000	1500
219.1	315	355	400	1000	1500

**Bends**  
**Preinsulated bend**

**Component overview**  
**45°**

45° preinsulated bend.  
Component No. 2500



$R = 2.5 \times d$  ( $d = \text{ø out. steel pipe}$ )

Steel pipe ø out. mm	Outer casing ø out. mm			L mm
	series 1	series 2	series 3	
26.9	90	110	125	1000
33.7	90	110	125	1000
42.4	110	125	140	1000
48.3	110	125	140	1000
60.3	125	140	160	1000
76.1	140	160	180	1000
88.9	160	180	200	1000
114.3	200	225	250	1000
139.7	225	250	280	1000
168.3	250	280	315	1000
219.1	315	355	400	1000

$R = 1.5 \times d$  ( $d = \text{ø out. steel pipe}$ )

Steel pipe ø out. mm	Outer casing ø out. mm			L mm
	series 1	series 2	series 3	
273	400	450	500	600
323.9	450	500	560	600
355.6	500	560	630	800
406.4	560	630	710	800
457	630	710	800	800
508	710	800	900	800
610	800	900	-	800

**Other dimensions**

Preinsulated bends are available up to casing pipe dimension ø 1400 mm.

**Bends with other angles**

Angles of 5° steps only.  
Other degree measurements are delivered in return for a surcharge.  
Contact us. We probably have an alternative.

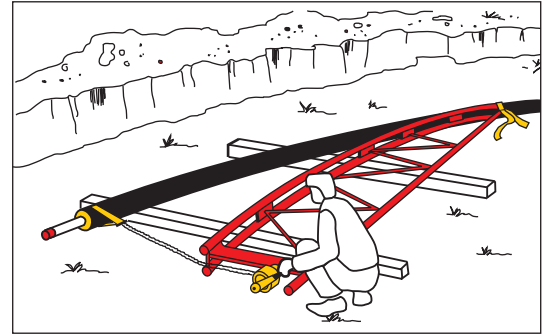
NOTE! When using preinsulated bends with other angles than 90°, it must be ensured through calculation that no harmful bending impacts arises.

**Bends**  
**Curved pipe**

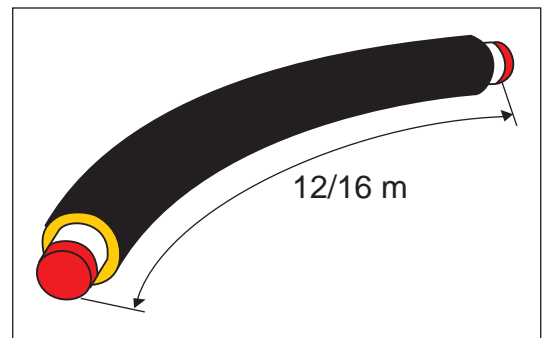
**Application** Curved pipes are curved pipe elements which are used instead of traditional bends. This results in system optimization and improved project economy.

**Description** Curved pipes are divided into 2 dimensional ranges:

- On-site curved pipes, steel pipe  $\varnothing$  26.9-88.9 mm (max. outer casing  $\varnothing$  160 mm)  
Pipes in these dimensions are common straight pipes, which are bent on site with special tools.  
No component No. of its own.  
Tools for on-site curved pipes, see section 17.4 Tools.



- Factory curved pipes, steel pipe  $\varnothing$  114.3-610 mm (+  $\varnothing$  76.1 and 88.9 mm in series 2 and 3))  
Factory curved pipes are made by bending preinsulated pipes of 12 or 16 m in our specially designed production plant.  
Factory curved pipes are available for a 25 bar operating pressure and 334 MPa axial stress.



**Materials** Curved pipes are made of materials according to standard material specification for straight pipes.

If the bending angle is  $> 0.5 \times$  max. for the dimension (see Design Manual, p. 4.2.1.3 Directional changes), the wall thickness is higher as it appears from the table.

Steel pipe $\varnothing$ out. mm	Wall thickness mm
508	7.1
610	8.8

**Bends  
Curved pipe**

**Ordering factory curved pipes**

Component No. 2005.

The following information is needed, when ordering factory curved pipes.

Component No./steel pipe dim./insulation series or outer casing dim./length (12 or 16 m)/ design angle/bending direction (for alarm wires)

Example:

2005/ø 457 mm/series 1 (630 mm)/12 m/12°/left

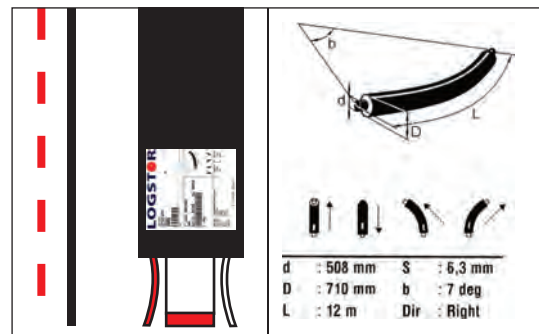
**Definition  
Position of  
surveillance wire**

Factory curved pipes are delivered with embedded copper wires for surveillance. The direction in which the bends must be bent is stated

- up
- down
- left
- right

The direction is defined on the basis of the pipe position where tinned wires = alarm wires are always to the right and bare copper wires to the left.

This refers to the symbols of the surveillance diagram; full-drawn and dotted line respectively.



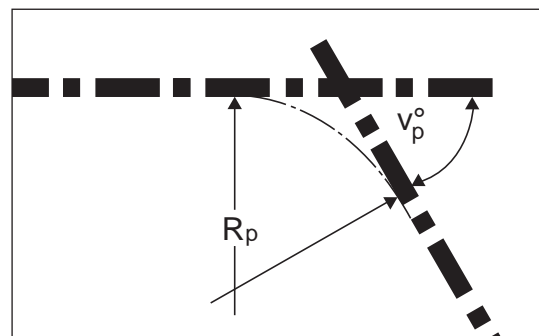
**Definition  
Angles**

Factory curved pipes can be ordered in angles of 1° step. The tolerances are one third of the elastic radius, see table on next page.

When ordering, please state required angle in degrees and length of the factory curved pipe. The factory curved pipe is always delivered with straight ends  $L_1$  which appear from the table. Actual  $R_p$  and segment radius can now be calculated in accordance with the actual angle.

$v_p$  = Design angle  
 $R_p$  = Design radius

Max. bending angle and min. bending radius appear from the table in the Design Manual.





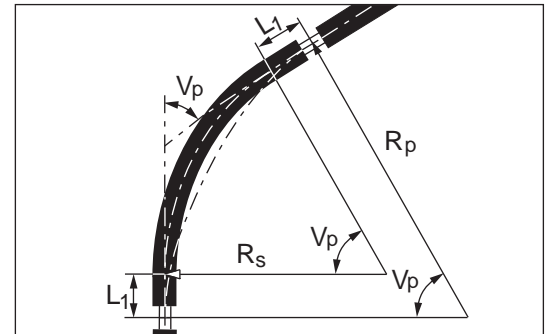
**Bends**  
**Curved pipes**

**Component overview/data**

From the table the maximum bending angle,  $v_p^\circ$ , for curved pipes in 12 m and 16 m length respectively appears.

In addition, the max. bending angle,  $v_p^\circ$  is to be set in relation to the stress level, at which the curved pipe is installed.

- $v_p^\circ$  = Maximal bending angle
- $R_s$  = Segment radius (the bent section)
- $R_p$  = Design radius
- $L_1$  = Length of straight pipe run
- Tol = Tolerance of angle +/-



For further information about curved pipes, see the Design manual, section 4.

Steel pipe ø out. mm	12 m pipe					16 m pipe				
	$v_p^\circ$	$S_r$ m	$R_{p, \text{min.}}$ m	$L_1$ m	Tol $v_p^\circ$	$v_p^\circ$	$S_r$ m	$R_{p, \text{min.}}$ m	$L_1$ m	Tol $v_p^\circ$
114.3 x 3.6	38	16.4	18.1	0.56	3.8	17	37.2	54	2.49	5.1
139.7 x 3.6	43	14.3	16	0.63	3.1	20	31.7	45.9	2.47	4.1
168.3 x 4.0	45	13.4	15.3	0.67	2.6	22	28.9	41.7	2.45	3.5
219.1 x 4.5	41	14.3	16.8	0.89	2.0	20	32	45.9	2.42	2.7
273 x 5.0	36	15.7	19.2	1.02	1.6	18	35.8	51	2.38	2.1
323.9 x 5.6	29	18.9	23.8	1.21	1.4	18	35.9	51	2.36	1.9
355.6 x 5.6	25.5	21.7	27	1.16	1.2	19	34.1	48.3	2.35	1.6
406.4 x 6.3	19	27.4	36.2	1.47	1.1	18	36.1	51	2.34	1.5
457.2 x 6.3	14	37	49.1	1.48	0.9	18	36.1	51	2.33	1.2
508 x 7.1	9	58.9	76.4	1.38	0.8	11	59.5	83.4	2.29	1.1
610 x 8.8	4.8	100	143.3	1.81	0.7	6.7	98.2	136.8	2.28	0.9

For larger dimensions contact LOGSTOR Technical Sales Support.



## Branches Overview

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**Introduction** This section contains a description of the branch components which are used to solve numerous branching jobs.

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<b>Contents</b>	General about branches	2.4.1
	Reinforcement plate at branch joints	2.4.2
	Shrinkable branch joints:	
	SXTJoint	2.4.3
	SXT-WPJoint	2.4.4
	Weldable branch joints:	
	TSJoint	2.4.5
	TS SaddleJoint	2.4.6
	BandJoint branch	2.4.7
	BandJoint branch, vertical	2.4.8
	Hot tapping valve	2.4.9
	Hot tapping joint (accessories for hot tapping valve)	2.4.10
	Preinsulated branches:	
	45° perpendicular preinsulated branch	2.4.11
90° parallel preinsulated branch	2.4.12	
Straight preinsulated branch	2.4.13	
Connection to concrete duct	2.4.14	

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## Branches

### General

#### Branch types

LOGSTOR can deliver a number of different branch types and branch combinations dependent on dimension, the type of the project, and the customer's actual requirements:

- Shrinkable branch joints
- BandJoint branches
- Hot tapping valves in connection with branch joints
- Preinsulated branches
- Branches from concrete duct.

#### Shrinkable branch joints

Due to the flexible part of the branch joints they can be used for 45° perpendicular as well as 90° perpendicular and parallel branching.

##### - SXTJoint

Main pipe: ø 90-315 mm

Branch: ø 90-200 mm

Component No.:

Main pipe: 5207

Branch pipe: 5209

##### - SXT-WPJoint

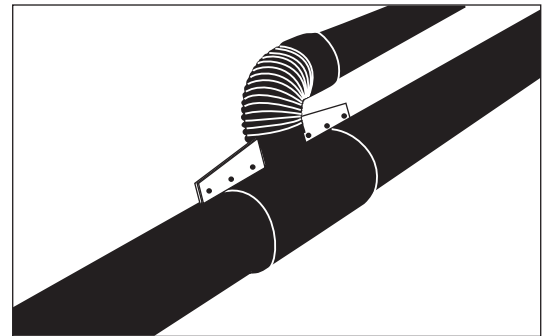
Main pipe: ø 90-315 mm

Branch: ø 90-200 mm

Component No.:

Main pipe: 5210

Branch pipe: 5211



#### Weldable TSJoints

TSJoints are extrusion welded longitudinally.

The ends can be sealed with welding strips or mastic and open collars.

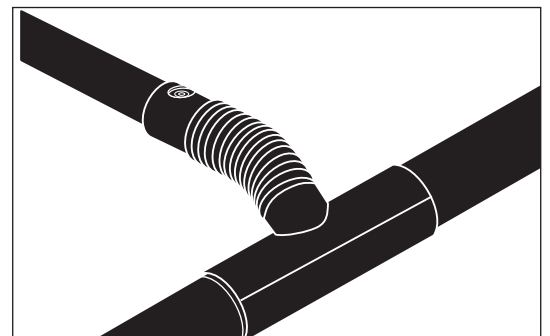
The branch is cross-linked to render it more flexible. It has embedded mastic and is sealed with a long collar.

##### - TSJoint

Main pipe: ø 140-450 mm

Branch: ø 90-160 mm

Component No. 5202



#### Weldable TS SaddleJoints

TS SaddleJoints are extrusion welded onto the main pipe.

The branch is cross-linked to render it more flexible. It has embedded mastic and is sealed with a long collar.

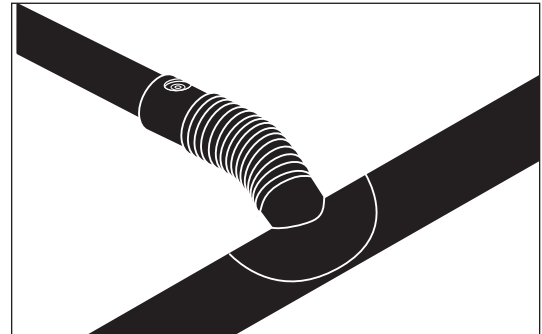
**Branches  
General**

**Weldable  
TS SaddleJoints,  
continued**

**- TS SaddleJoint**

Main pipe:     $\varnothing$  355-560 mm  
Branch:        $\varnothing$  90-160 mm

Component No. 5202



**Weldable  
BandJoints**

BandJoint branches are fully weldable joints.

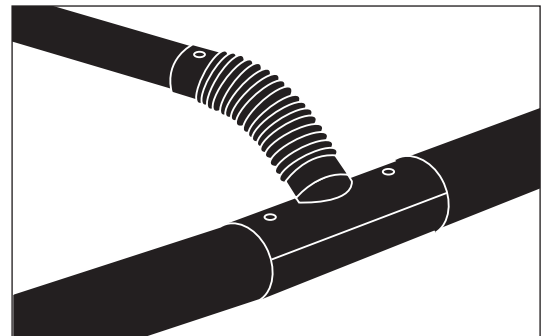
Due to the flexible branch part, BandJoint branches can be used for 45° perpendicular as well as 90° perpendicular and parallel branching.

Perpendicular BandJoint branches are used for venting/draining and as a reference point for the surveillance system.

**- BandJoint branch**

Main pipe:     $\varnothing$  90-315 mm  
Branch:        $\varnothing$  90-140 mm

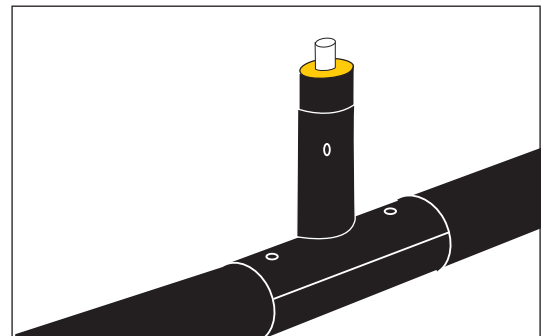
Component No. 5640, type 2.





**- BandJoint branch, perpendicular**

Main pipe:     $\varnothing$  125-710 mm  
Branch:        $\varnothing$  110-225 mm

Component No. 5640, type 4.



**Hot tapping  
valves**

Type	Illustration	Dimension $\varnothing$ mm	Remarks
Danfoss with ball valve		26.9-114.3	Some dimensions are custom-made to LOGSTOR branch joints
Tonisco with stop plate		33.7-219.1	Hot tapping can be carried out with full passage. Hot tapping on major dimensions requires special joint solutions. Please contact LOGSTOR.

**Branches  
General**

**Preinsulated branches**

Preinsulated branches are as a standard available in 45°, 90° parallel or straight (0°) design. In the dimensions range  $\varnothing$  26.9-508.0 mm for main pipes and  $\varnothing$  26.9-508.0 mm for branches both designs are as a standard reinforced in order to withstand an axial stress of 330 MPa. Branches in larger dimensions are subject to individual calculations.

T-pieces are produced in accordance with EN 448.

T-pieces in dimensions DN 25 up to and including DN 400 are produced with hot drawn collars for branching. In a few cases the T-piece is carried out with directly welded branch.

In case the main pipe and the branch of the T-piece have the same dimension, a weld T-piece is used in accordance with EN 10253-2.

For T-pieces with main pipe dimension > DN 400 mm all T-pieces are carried out as directly welded branches.

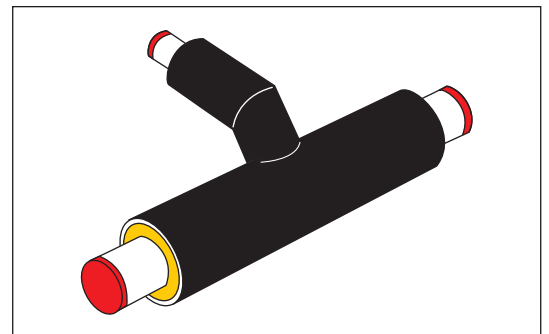
All dimensions are for a 25 bar internal pressure.

Preinsulated branches are always used in connection with straight joints.

**45° preinsulated branch**

Type	Main pipe $\varnothing$ mm	Branch $\varnothing$ mm
Service pipe	26.9-508.0	26.9-508.0
Outer casing:		
Series 1	90-710	90-710
Series 2	110-800	110-800
Series 3	125-900	125-900

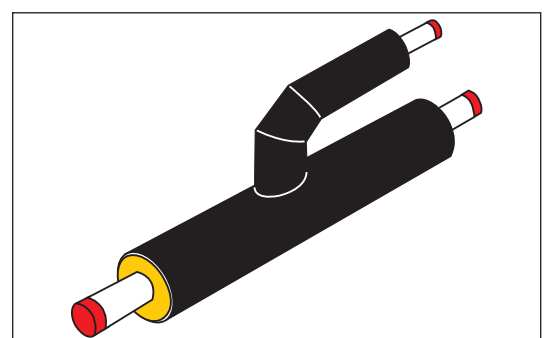
Component No. 3500



**90° preinsulated parallel branch**

Type	Main pipe $\varnothing$ mm	Branch $\varnothing$ mm
Service pipe	26.9-508.0	26.9-508.0
Outer casing:		
Series 1	90-710	90-710
Series 2	110-800	110-800
Series 3	125-900	125-900

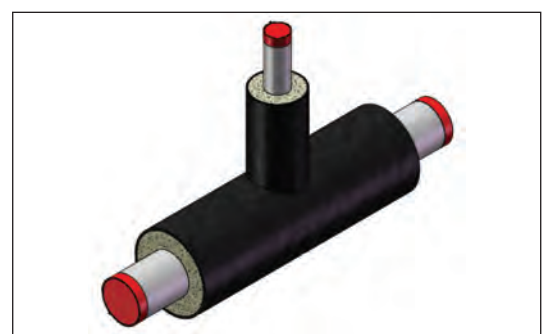
Component No. 3600



**Straight preinsulated branch**

Type	Main pipe $\varnothing$ mm	Branch $\varnothing$ mm
Service pipe	26.9-508.0	26.9-323.9
Outer casing:		
Series 1	90-710	90-710
Series 2	110-800	110-800
Series 3	125-900	125-900

Component No. 3400

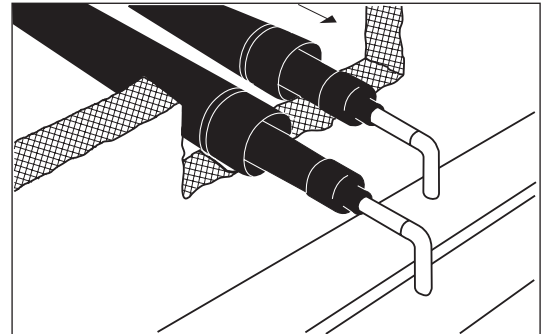


## Branches General

### Branching from concrete duct

- Expansion "branch adaptor":  
For branch with outer casing pipe  
ø 90-450 mm.

Component No. 5900.



### What type to choose?

A number of factors influence the choice of branch type, but one does not exclude the other:

- Dimension
- Expansion conditions
- Soil conditions
- Flexibility
- Optimum utilization of chosen installation method
- Tradition and experience
- Total economy

See also "Joint types, general", page 2.2.1.3.

Use us as a guide. We have the experience.

### Individual advantages

The joint branches; SXT as well as TSJoint, TS SaddleJoint, and BandJoint branches have - in addition to their different material properties - the following advantages:

- Flexible trench choice:  
The main pipe can be installed in whole lengths without cutting for prefabricated branches. Removal of insulation as occasion requires. The main pipe can be put into operation and later branches made without cutting the main pipe, possibly by means of hot tapping. Parallel installation with 90° branch saves additional materials and digging.
  - Considerably less joints and materials:  
1 joint and foaming instead of 3.  
Less welding.
  - Stock product. Faster delivery.
- Hot tapping:
- No interruption when connecting
- Preinsulated branches:
- Advantageous in connection with under-crossing branch pipes
  - Only straight joints; but more crossings, welds, and joints.

### Fields of applica- tion

The branch system can be used under all common installation conditions and at all levels, when the stated installation instructions are observed.

As branch joints are also casing joints, see the section concerned for further information.

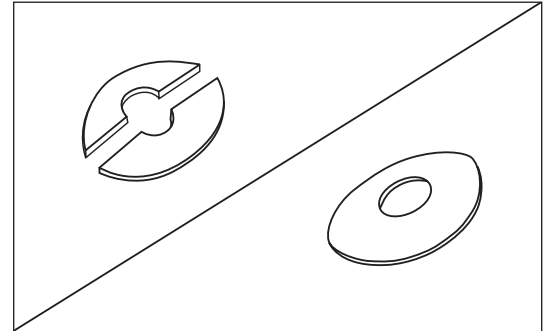


**Branches**

**Reinforcement plate at branch joint**

**Application** In connection with branch joints a number of combinations requires the use of reinforcement plates as a compensation for the cut-out cross section of the main pipe.

**Description** Reinforcement plates are either in 1 part or in 2 parts when the curve of the plate exceeds the centre line of the pipe.



**Materials** Reinforcement plates are made of a weldable steel quality.

**Component overview** Component No. 5426  
 The grey fields only apply to axial stresses < 150 N/mm<sup>2</sup>  
 All other fields apply to axial stresses > 150 N/mm<sup>2</sup>

Branch ø mm Main pipe ø mm	26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1
26.9	x										
33.7	x	x									
42.4	x	x	x								
48.3	x	x	x	x							
60.3	x	x	x	x	x						
76.1	x	x	x	x	x	x					
88.9	x	x	x	x	x	x	x				
114.3	x	x	x	x	x	x	x	x			
139.7	x	x	x	x	x	x	x	x	x		
168.3	x	x	x	x	x	x	x	x	x	x	
219.1		x	x	x	x	x	x	x	x	x	x
273.0			x	x	x	x	x	x	x	x	x
323.9			x	x	x	x	x	x	x	x	x
355.6				x	x	x	x	x	x	x	x
406.4					x	x	x	x	x	x	x
457.0					x	x	x	x	x	x	x
508.0						x	x	x	x	x	x
610.0							x	x	x	x	x

**Alternative** If you want to make your own reinforcement plates, please see section 5.4 in the Handling and installation manual.

**Branches  
SXTJoint**

**Application**

T-joint for foaming. Made of cross-linked PE (PEX) with flanges and bolts in acid-resistant steel, AISI 316 L. The T-joint is shrinkable and the foam holes are sealed with expansion plugs.

The SXTJoint can be used to branch perpendicular to or parallel with the main pipe.

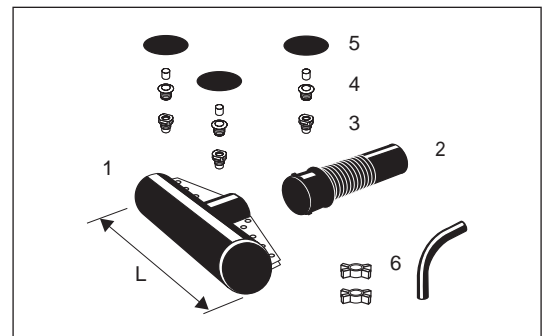
The SXTJoint can be used together with a hot tapping valve.

Installation on branch pipe with corrugated casing requires that the branch be sealed with an extra collar, which is ordered separately.

**Description**

The SXTJoint consists of:

1. Main pipe joint
2. Branch pipe joint
3. Venting plugs
4. Expansion plugs
5. Patches
6. Connecting piece with spacers



Component Nos.: Main pipe joint 5207  
Branch pipe joint 5209

Main pipe D <sub>1</sub> , mm	Branch D <sub>2</sub> , mm						
	90	110	125	140	160	180	200
90	x						
110	x	x					
125	x	x	x				
140	x	x	x	x			
160	x	x	x	x	x		
180	x	x	x	x	x	x	
200	x	x	x	x	x	x	x
225	x	x	x	x	x	x	x
250	x	x	x	x	x	x	x
280	x	x	x	x	x	x	x
315	x	x	x	x	x	x	x

**Connecting piece**

Component No.: 5251

Connect. pc. Ø mm	Radius, mm	
	45°	90°
26.9	140	140
33.7	140	140
42.4	140	140
48.3	140	140
60.3	150	150
76.1	190	190
88.9	222	165
114.3	170	170

**Branches  
SXTJoint**

**Accessories**

Collar for branch with corrugated casing, component No. 5500.  
Order 1 pc. per joint.

To be foamed with foam packs, component No. 0700.

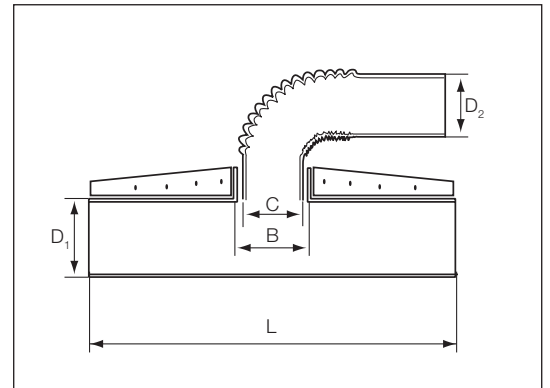
When ordering state insulation series, and that delivery must include foam packs.

Reinforcement plate to reinforce the main pipe, if necessary, component No. 5426.

**Measurements  
and combinations**

The connecting piece of the main pipe fits several branch pipe joints and the branch pipe joint fits several branch dimensions.

The possible combinations appear from below table.



Main pipe joint			Branch pipe joint $D_2$ , mm					
			77-90	90-110	110-125	125-140	140-160	180-200
$D_1$ , mm	B, mm	L, mm	C, mm					
90	115	680	105					
110	135	680	125	125				
125	155	680	144		144			
140	170	680	160		160	160		
160	170	680	160		160	160		
180	190	680	180		180	180	180	
200	170	680	160		160	160		
	230	720					220	220
225	170	680	160		160	160		
	230	720					220	220
250	170	680	160		160	160		
	230	720					220	220
280	170	680	160		160	160		
	230	720					220	220
315	170	680	160		160	160		
	230	720					220	220

**Branches**  
**SXT-WPJoint**

**Application**

T-joint for foaming. Made of cross-linked PE (PEX) with flanges and bolts in acid-resistant steel AISI 316 L. The T-joint is shrinkable and the foam holes are sealed with weld plugs.

The SXT-WPJoint can be used to branch perpendicular to or parallel with the main pipe.

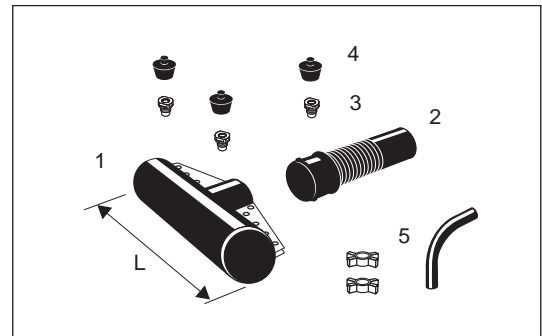
The SXT-WPJoint can be used together with a hot tapping valve.

Installation on branch pipe with corrugated casing requires that the branch be sealed with an extra collar, which is ordered separately.

**Description**

The SXT-WPJoint consists of:

1. Main pipe joint
2. Branch pipe joint
3. Venting plugs
4. Weld plugs
5. Connecting piece with spacers



Component Nos.: Main pipe joint 5210  
Branch pipe joint 5211

Main pipe D <sub>1</sub> , mm	Branch D <sub>2</sub> , mm						
	90	110	125	140	160	180	200
90	x						
110	x	x					
125	x	x	x				
140	x	x	x	x			
160	x	x	x	x	x		
180	x	x	x	x	x	x	
200	x	x	x	x	x	x	x
225	x	x	x	x	x	x	x
250	x	x	x	x	x	x	x
280	x	x	x	x	x	x	x
315	x	x	x	x	x	x	x

**Connecting piece**

Component No. 5251

Connect. pc. Ø mm	Radius, mm	
	45°	90°
26.9	140	140
33.7	140	140
42.4	140	140
48.3	140	140
60.3	150	150
76.1	190	190
88.9	222	165
114.3	170	170

**Branches**  
**SXT-WPJoint**

**Accessories**

Collar for branch with corrugated casing, component No. 5500.  
Order 1 pc. per joint.

To be foamed with foam packs, component No. 0700.

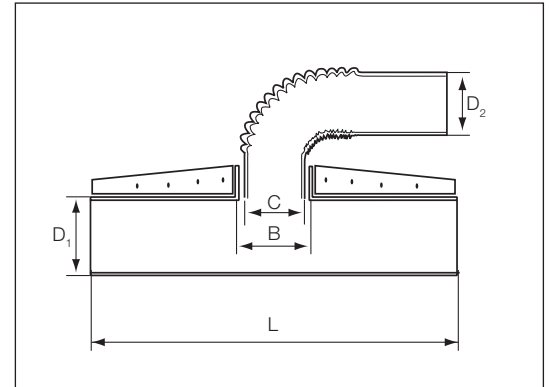
When ordering state insulation series, and that delivery must include foam packs.

Reinforcement plate to reinforce the main pipe, if necessary, component No. 5426.

**Measurements and combinations**

The connecting piece of the main pipe fits several branch pipe joints and the branch pipe joint fits several branch dimensions.

The possible combinations appear from below table.



Main pipe joint			Branch pipe joint $D_2$ , mm					
			77-90	90-110	110-125	125-140	140-160	180-200
$D_1$ , mm	B, mm	L, mm	C, mm					
90	115	680	105					
110	135	680	125	125				
125	155	680	144		144			
140	170	680	160		160	160		
160	170	680	160		160	160		
180	190	680	180		180	180	180	
200	170	680	160		160	160		
	230	720					220	220
225	170	680	160		160	160		
	230	720					220	220
250	170	680	160		160	160		
	230	720					220	220
280	170	680	160		160	160		
	230	720					220	220
315	170	680	160		160	160		
	230	720					220	220

**Branches  
TSJoint**

**Application**

T-joint for foaming, used to branch perpendicular to or parallel with the main pipe. The main pipe is made of weldable PE and the branch of cross-linked PE (PEX). The T-joint is shrinkable.

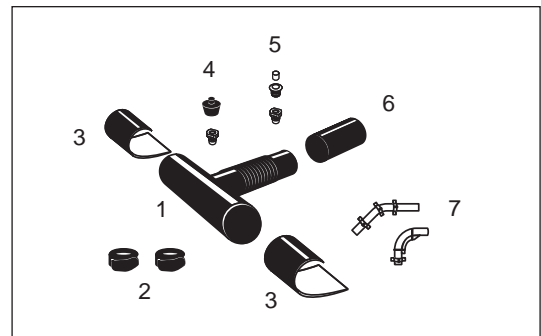
The main pipe is extrusion welded longitudinally and then the ends are shrunk and sealed with mastic tape and open collars or welded with weld strips. The branch is sealed with mastic and a collar. The foam holes are sealed with a weld plug on the main pipe and an expansion plug on the branch.

The TSJoint can be used together with a hot tapping valve.

**Description**

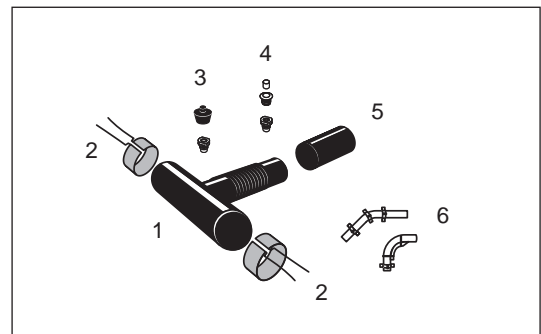
The TSJoint with mastic consists of:

1. T-joint
2. Mastic tape
3. Open collars
4. Venting and weld plugs
5. Venting and expansion plugs
6. Collar
7. 45° or 90° connecting piece



The TSJoint EW consists of:

1. T-joint
2. Weld strips
3. Venting and weld plugs
4. Venting and expansion plugs
5. Collar
6. 45° or 90° connecting piece



Component No. 5202

Branch D <sub>2</sub> , mm	Main pipe D <sub>1</sub> , mm											
	140	160	180	200	225	250	280	315	355	400	450	
90-125	x	x	x	x	x	x	x	x	x	x	x	x
140-160				x	x	x	x	x	x	x	x	x

Length T-joint main pipe = 650 mm

**Branches  
TSJoint**

**Connecting piece** To ensure correct positioning of the branch pipe joint the connecting piece is delivered with spacers, fitting the relevant branch pipe. Outer casing dimension  $D_2$  is therefore to be stated when ordering.

Component No. 5250

Connect. pc Ø mm	For branch casing $D_2$ mm	Radius. mm	
		45°	90°
26.9	90	140	140
	110		
	125		
33.7	90	140	140
	110		
	125		
42.4	110	140	140
	125		
48.3	110	140	140
	125		
60.3	125	150	150

Component No. 5251

Connect. pc Ø mm	For branch casing $D_2$ mm	Radius. mm	
		45°	90°
42.4	140	140	140
48.3	140	140	140
60.3	140	150	150
	160		
76.1	140	190	190
	160		
88.9	160	222	165

**Accessories**

To be foamed with foam packs, component No. 0700.

When ordering state insulation series, and that delivery must include foam packs.

Reinforcement plate to reinforce the main pipe, if necessary, component No. 5426.

**Branches  
TS SaddleJoint**

**Application**

The TS SaddleJoint is used for branching on major main pipes, whose insulation is only partly removed. Can be used for perpendicular or parallel branching.

The saddle is made of weldable PE and the branch of cross-linked PE (PEX) with embedded mastic.

The saddle is extrusion welded onto the main pipe and the branch is shrunk and sealed with a collar.

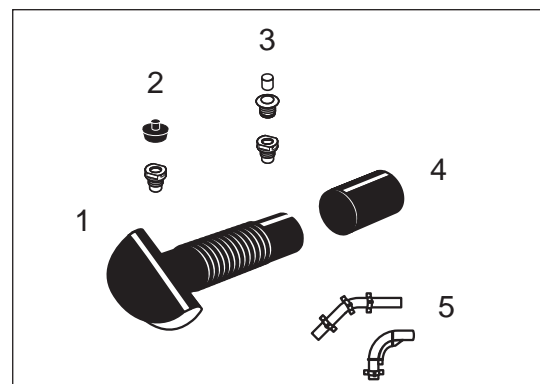
The joint is foamed, and the foam holes sealed with a weld plug on the main pipe and an expansion plug on the branch.

TS SaddleJoint can be used together with a hot tapping valve.

**Description**

The TS SaddleJoint consists of:

1. Saddle-T-joint
2. Venting and weld plugs
3. Venting and expansion plugs
4. Collar
5. 45° or 90° connecting piece



Component No. 5202

Branch D <sub>2</sub> mm	Main pipe D <sub>1</sub> mm	Saddle length mm
90-125	355-560	350
140-160	355-560	450

**Connecting piece**

To ensure correct positioning of the branch pipe joint the connecting piece is delivered with spacers, fitting the relevant branch pipe. Outer casing dimension D<sub>2</sub> is therefore to be stated when ordering.

Component No. 5250

Connect. pc Ø mm	For branch casing D <sub>2</sub> , mm	Radius, mm	
		45°	90°
26,9	90	140	140
	110		
	125		
33,7	90	140	140
	110		
	125		
42,4	110	140	140
	125		
48,3	110	140	140
	125		
60,3	125	150	150

Component No. 5251

Connect. pc. Ø mm	For branch casing D <sub>2</sub> , mm	Radius, mm	
		45°	90°
42,4	140	140	140
48,3	140	140	140
60,3	140	150	150
	160		
76,1	140	190	190
	160		
88,9	160	222	165

**Accessories**

To be foamed with foam packs, component No. 0700.

When ordering state insulation series, and that delivery must include foam packs.



**Branches**  
**BandJoint branch**

**Application**

Use BandJoint branches to establish branches 45° perpendicular to the main pipe and 90° perpendicular to or parallel with the main pipe.

Main pipe dimension: ø 90 - 315 mm.

Branch dimension, straight pipes: ø 90 - 140 mm

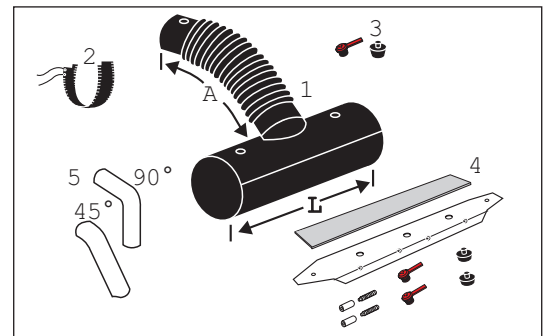
The joint is also available for branching with FlexPipes etc. ø 90 mm. See section 3.5, Joints for FlexPipes.

Applicable for all installation methods.

**Description**

A BandJoint branch set consists of:

1. BandJoint branch with flexible nozzle
2. Welding strip
3. Venting and weld plug for the branch
4. Accessories set is delivered separately.
5. 45° or 90° connecting piece is delivered separately.



**Materials**

The BandJoint branch is made of polyethylene, PE, with embedded welding wires of copper in the weld zone of the main pipe.

The welding strip which is inserted into the flexible nozzle is also made of PE with embedded welding wires of copper on both sides.

The BandJoint branch also complies with the requirements to materials in EN 253.

The connecting piece is made of cold-bent pipes according to EN 448.

Adjusting bolts: ø 90-220 made of PPS  
ø 225-315 made of steel

**Measurements**

The BandJoint branch is available in two versions:

- a standard version "STD" for normal joint installation
- an extra long version "L" for special installation and repair. To be stated on ordering. Contact your LOGSTOR order handler.

Main pipe Casing ø mm	Branch Casing ø mm	STD		L	
		L mm	A mm	L mm	A mm
90-200	90-110	570	600	700	665
90-200	125-140	570	665	700	730
225-315	90-110	590	665	720	730
225-315	125-140	590	730	720	795

**Branches**  
**BandJoint branch**

**Component overview**

BandJoint branch  
Component No. 5640.

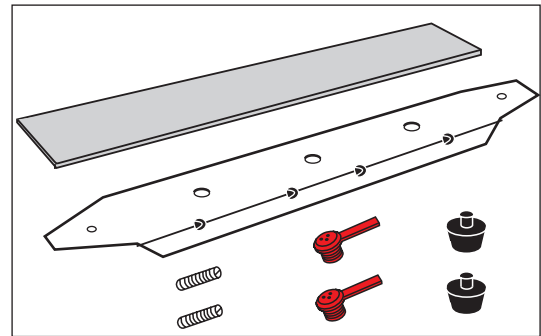
Main pipe ø out. mm	Branch, ø out. mm			
	90	110	125	140
90	x			
110	x	x		
125	x	x	x	
140	x	x	x	x
160	x	x	x	x
180	x	x	x	x
200	x	x	x	x
225	x	x	x	x
250	x	x	x	x
280	x	x	x	x
315	x	x	x	x

**Accessories set**

Accessories set  
Component No. 5606.

- A set contains:
- Depth guard
  - Adjusting bolts
  - Felt pad
  - Venting plugs
  - Welding plugs

Note! Delivered in packages with 1 or 2 sets!

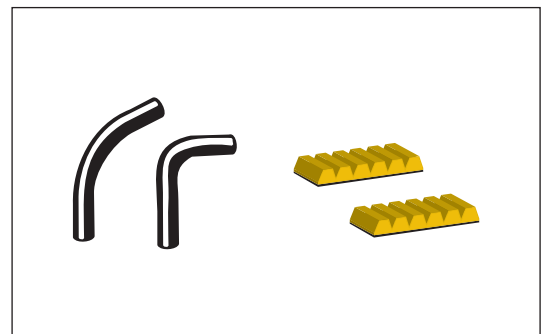


Product No.	Casing joint type	Main pipe, ø out mm	
		90-200	225-315
5606 0090 200 011	STD L = 570	x	
5606 0225 150 011	STD L = 590		x
5606 0090 200 012	L L = 700	x	
5606 0225 150 012	L L = 720		x

**Connecting piece, 45° or 90°**

Connecting piece, 45° or 90°  
Component No. 5253.

Usable with a hot tapping valve.



## Branches

### BandJoint branch

Connecting  
piece,  
45° or 90°,  
*continued*

Product No.	Connecting piece, ø mm	Radius, mm
		45°
5253 0026 000 045	26.9	140
5253 0033 000 045	33.7	140
5253 0042 000 045	42.4	140
5253 0048 000 045	48.3	140
5253 0060 000 045	60.3	150
5253 0076 000 045	76.1	190
		90°
5253 0026 000 090	26.9	140
5253 0033 000 090	33.7	140
5253 0042 000 090	42.4	140
5253 0048 000 090	48.3	140
5253 0060 000 090	60.3	150
5253 0076 000 090	76.1	190

#### Accessories

To insulate joints use foam packs.

When ordering simply state the insulation series and that the joint should be delivered including foam packs, then the correct dosage is automatically delivered.

Please pay attention to, whether the branch combination requires reinforcement of the main pipe or not.

**Branches**

**BandJoint branch, vertical**

**Application**

Straight branch with BandJoint branch is used in connection with branching from TwinPipe to TwinPipe.

Possibly in connection with hot tapping.

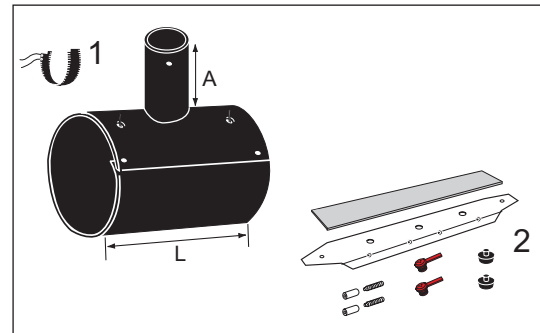
Casing joint dimension: Main pipe  $\varnothing$  125-710 mm

Branch  $\varnothing$  110 - 225 mm

**Description**

A complete branch set consists of:

1. - Branch joint with fixed connecting piece  
 - Welding strips for the connecting piece
2. Accessories set is delivered separately.



The BandJoint branch is available in two versions:

- a standard version "STD" for normal joint installation
- an extra long version "L" for special installation and repair.

Main pipe Outer casing $\varnothing$ mm	STD		L	
	L mm	A mm	L mm	A mm
125-200	700	600	830	665
225-450	720	600	850	665
500-560	720	600	980	665
630-710	790	600	1050	665

**Materials**

The BandJoint branch is made of polyethylene, PE, with embedded welding wires of copper in the welding zone of the main pipe.

The welding wires which are inserted into the connecting pieces are also made of PE with embedded welding wires on both sides.

- Depth guard: Galvanised sheet
- Venting plugs and supporting chokes: Polypropylene
- Welding plugs: PE-HD
- Adjusting bolts:  $\varnothing$  125-200 PPS
- $\varnothing$  225-710 Steel

**Branches**  
**BandJoint branch, vertical**

**Component overview, BandJoint, type STD**

Component No. 5640.  
Welding strips are included.

Main pipe Outer casing ø mm	Branch, outer casing. ø mm						
	110	125	140	160	180	200	225
125	x						
140	x	x					
160	x	x	x				
180	x	x	x	x			
200	x	x	x	x	x		
225	x	x	x	x	x	x	
250	x	x	x	x	x	x	x
280	x	x	x	x	x	x	x
315	x	x	x	x	x	x	x
355	x	x	x	x	x	x	x
400	x	x	x	x	x	x	x
450	x	x	x	x	x	x	x
500	x	x	x	x	x	x	x
560	x	x	x	x	x	x	x
630	x	x	x	x	x	x	x
710	x	x	x	x	x	x	x

**Component overview, BandJoint, type L**

Component No. 5640.  
Welding strips are included.

Main pipe Outer casing ø mm	Branch, outer casing. ø mm						
	110	125	140	160	180	200	225
125	x						
140	x	x					
160	x	x	x				
180	x	x	x	x			
200	x	x	x	x	x		
225	x	x	x	x	x	x	
250	x	x	x	x	x	x	x
280	x	x	x	x	x	x	x
315	x	x	x	x	x	x	x
355	x	x	x	x	x	x	x
400	x	x	x	x	x	x	x
450	x	x	x	x	x	x	x
500	x	x	x	x	x	x	x
560	x	x	x	x	x	x	x
630	x	x	x	x	x	x	x
710	x	x	x	x	x	x	x

**Branches**  
**BandJoint branch, vertical**

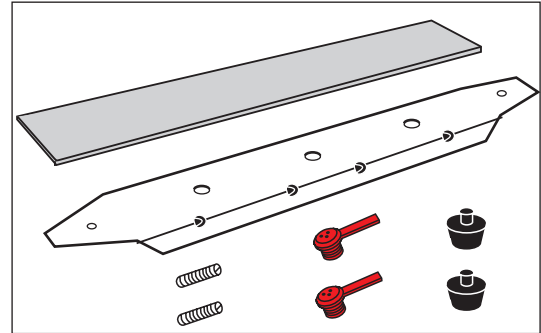
**Accessories set**

Accessories set  
Component No. 5606.

A set contains:

- Depth guard
- Adjusting bolts
- Felt pad
- Venting plugs
- Welding plugs

Note! Delivered in packages with 1 or 2 sets!



Product No.	Casing joint type	Main pipe, ø out. mm			
		125-200	225-450	500-560	630-710
5606 0090 200 012	STD, L = 700	x			
5606 0225 150 012	STD, L = 720		x		x
5606 0225 150 012	STD, L = 790				x
5606 0090 200 013	L, L = 830	x			
5606 0225 150 013	L, L = 850		x		
5606 0225 180 014	L, L = 980			x	x
5606 0225 180 014	L, L = 1050				x

**Accessories**

For insulation of joints use foam packs, which are ordered according to the table in section 15. Remember possible components for installation of alarm wires.

**Branches**

**Hot tapping, ø 26.9-219.1 mm**

**Application**

Hot tapping is used to establish connections in dimensions ø 26.9-219.1 mm on district heating pipelines in operation.

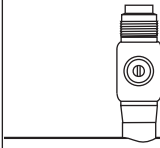
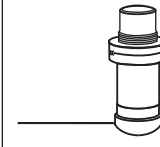
Max. 16 bar. Working pressure after installation = 25 bar.

Hot tapping on dimensions > 114.3 mm requires special casing joint solutions.

Please note that reinforcement of the main pipe may be necessary.

**Types of hot tapping valves**

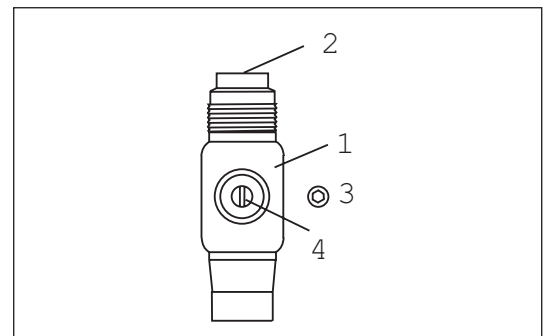
LOGSTOR offers two different types of hot tapping valves:

Type	Illustration	Dimension ø mm	Remarks
Danfoss with ball valve		26.9-114.3	Some dimensions are custom-made to LOGSTOR branch joints
Tonisco with stop plate		33.7-219.1	Hot tapping can be carried out with full passage. Hot tapping on major dimensions may also be carried out, but this requires special joint solutions. Please contact LOGSTOR Service Department.

**Type, Danfoss**

Hot tapping valve for dimensions ø 26.9-114.3 mm.

1. Hot tapping valve
2. Pipe end for direct welding of 90° weld coupling
3. Conic pipe plug with hexagon socket
4. Operating screw with slot, acting as position indicator



**Materials**

Hot tapping valve:	Valve casing:	Steel
	Valve ball:	Stainless steel
	Sealing:	PTFE (Teflon)
Connecting piece:	Weldable steel quality	

**Branches**

**Hot tapping, ø 26.9-219.1 mm**

**Component overview, Danfoss**

Component No. 4280

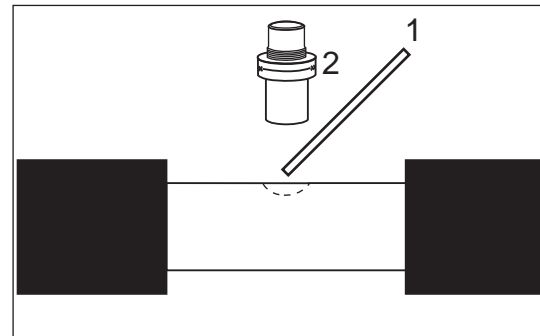
Product No.	Branch ø out. steel pipe
4280 0026 001 002	26.9
4280 0033 001 002	33.7
4280 0042 001 000	42.4
4280 0048 001 002	48.3
4280 0060 001 002	60.3
4280 0076 001 000	76.1
4280 0088 001 000	88.9
4280 0114 001 000	114.3

**Type, Tonisco**

Hot tapping valve for dimensions ø 33.7-219.1 mm:

- 1. Basic rod
- 2. Hot tapping valve with a slot for stop plate

Hot tapping on major dimensions may also be carried out, but this requires special joint solutions.



**Materials**

Valve casing Pipe: St. 37.0 in accordance with DIN 1626  
 Flange: St. 52  
 Wall entry sleeves in core: Nitrile rubber in silicone oil.  
 Basic rod: S235 JR in accordance with EN 10025, part 2.

**Component overview, Tonisco**

The Tonisco hot tapping valve is delivered complete, incl. basic rod.  
 Component No. 4280.

Hot tapping valves in other dimensions are made specially. Contact LOGSTOR.

Product No.	Branch ø out. steel pipe
4280 0026 005 000	26.9
4280 0033 005 000	33.7
4280 0042 005 000	42.4
4280 0048 005 000	48.3
4280 0060 005 000	60.3
4280 0076 005 000	76.1
4280 0088 005 000	88.9
4280 0114 005 000	114.3
4280 0139 005 000	139.7
4280 0168 005 000	168.3
4280 0219 005 000	219.1

**Accessories**

Locksaw for the hot tapping tool is a consumer product (1-2 hot tapings per drill) and must be ordered separately, see section 17, Tools.



## Branches

### Joints for hot tapping

#### Introduction

This is an overview of the joint types which can be used for the bonded pipe system.

The joints are either part of the standard joint systems or made especially for the occasion.

On ordering state that the joint will be used for hot tapping.

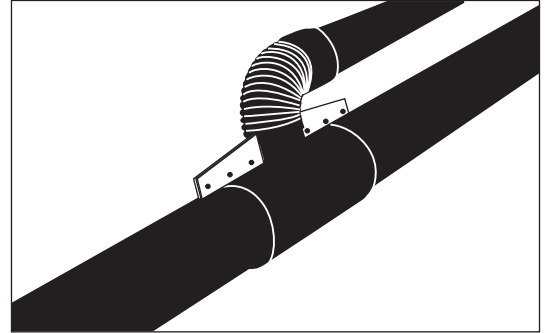
Joints for the FlexPipe systems, see section 3.5.

#### SXTJoint

- SXTJoint for hot tapping
- Dim. main pipe:  $\varnothing$  110-315 mm
- Dim. branch:  $\varnothing$  90-160 mm

Component Nos.:

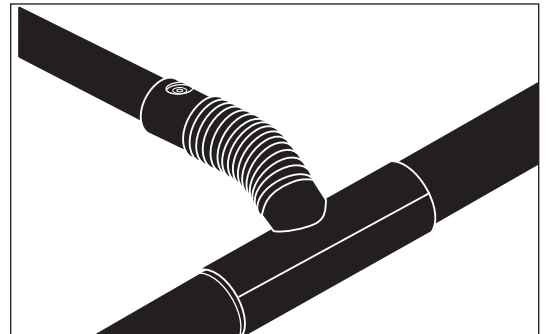
- Main pipe joint: 5207
- Branch joint: 5209



#### TSJoint

- TSJoint for hot tapping
- Dim. main pipe:  $\varnothing$  140-450 mm
- Dim. branch:  $\varnothing$  90-160 mm

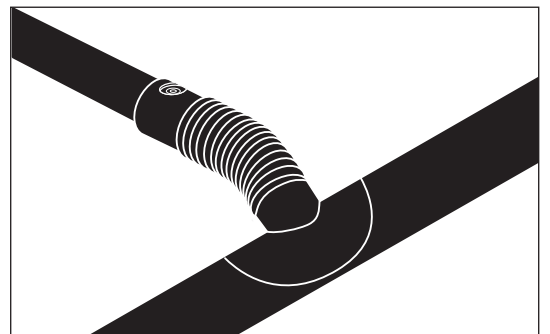
Component No. 5202.



#### TS SaddleJoint

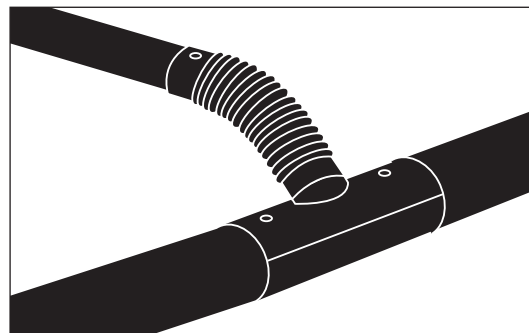
- TS SaddleJoint for hot tapping
- Dim. main pipe:  $\varnothing$  355-560 mm
- Dim. branch:  $\varnothing$  90-160 mm

Component No. 5202.



**Branches  
Joints for hot tapping**

**BandJoint branch** - BandJoint branch for hot tapping  
Dim. main pipe:  $\varnothing$  110-315 mm  
Dim. branch:  $\varnothing$  90-110 mm  
Component No. 5640



## Branches

### 45° preinsulated branch

#### Application

A 45° preinsulated branch is used for perpendicular branching from main pipes in all dimensions - primarily in cases where the more flexible and competitive branch fitting system is not applicable.

Prefabricated branches are also recommended in connection with under-crossing branch pipe.

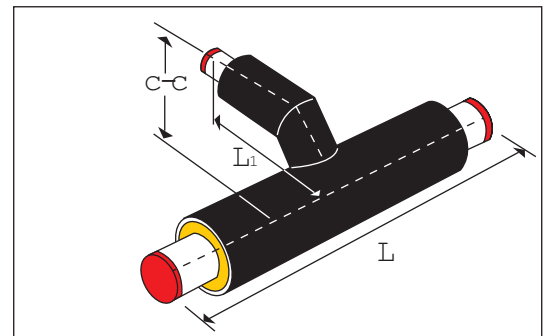
Preinsulated branches are applicable for all installation methods, allowance being made for possible pressure limits. See tables.

Main pipes and branches up to 406.4 mm are supplied in reinforced design in order to resist the axial forces, corresponding to 330 MPa.

Provided the dimension of the main pipe and the branch is the same, the T-piece can resist axial forces, corresponding to 190 MPa.

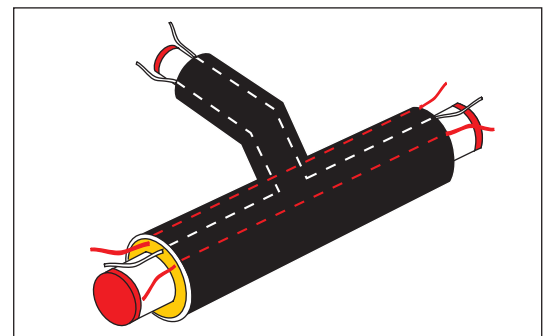
#### Description

All branch combinations can be made with prefabricated branches.  
( $L_1 = \pm 50$  mm)



All prefabricated branches are supplied with 3 embedded wires as it will appear from the illustration.

The middle wire is always for the branch.



Dimensions and measurements appear from the following tables. In case the required dimension does not appear from the tables, please contact LOGSTOR.

In case the main pipe and the branch of the T-piece have the same dimension, a weld T-piece is used in accordance with EN 10253-2.

## Branches

### 45° preinsulated branch

#### Description, *continued*

From this table the wall thicknesses of the main pipes in branches, made by induction heating and collaring, appear.

The wall thicknesses of steel pipes used for branching comply with EN 253.

For dimensions where weld T-pieces are used the wall thickness is in accordance with EN 10253-2.

Main pipe, steel pipe ød, mm	Wall thickness mm
33.7	3.6
42.4	4.0
48.3	4.0
60.3	4.5
76.1	4.5
88.9	5.0
114.3	5.6
139.7	5.6
168.3	6.3
219.1	7.1
273.0	8.0
323.9	8.0
355.6	8.0
406.4	8.0 / 8.8

#### Materials

For preinsulated branches the same material as the one for straight pipes is used, see specification in the pipe section.

Preinsulated branches comply with the requirements in EN 448.

**Branches**  
**45° preinsulated branch**

**45° prefabricated  
branch, series 1,  
main pipe  
ø 26.9-508.0 mm**

Component No. 3500

T-pieces with branch up to and including ø 508.0 mm.

Guaranteed internal pressure = 25 bar (grey = 16 bar)

Main pipe ød, mm		Branch pipe ød, series 1																
		26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	273.0	323.9	355.6	406.4	457.0	508.0
ød/D, mm	L, mm	Length L <sub>1</sub> , mm C-C, mm																
		26.9/90	1000	700														
170																		
33.7/90	1000	700	700															
		170	170															
42.4/110	1000	700	700	700														
		178	178	185														
48.3/110	1000	700	700	700	700													
		178	178	185	185													
60.3/125	1200	700	700	700	700	700												
		185	185	193	193	200												
76.1/140	1200	700	700	700	700	700	700											
		195	195	203	203	210	220											
88.9/160	1200	700	700	700	700	700	700	700										
		205	205	213	213	220	230	240										
114.3/200	1200	700	700	700	700	700	800	800	800									
		228	228	235	235	243	253	263	285									
139.7/225	1200	700	700	700	700	800	800	800	800	900								
		240	240	248	248	255	265	275	298	310								
168.3/250	1200	800	800	800	800	800	800	800	900	900	900							
		255	255	263	263	270	280	290	313	325	340							
219.1/315	1500	800	800	800	800	800	800	800	900	900	900	1000						
		293	293	300	300	308	318	328	350	363	378	415						
273.0/400	1500	800	800	800	800	900	900	900	900	1000	1000	1100	1200					
		340	340	348	348	355	365	375	398	410	425	463	510					
323.9/450	1500	900	900	900	900	900	900	900	1000	1000	1000	1100	1200	1200				
		365	365	373	373	380	390	400	423	435	450	488	535	560				
355.6/500	1500	900	900	900	900	900	900	900	1000	1000	1000	1100	1200	1200	1300			
		395	395	403	403	410	420	430	453	465	480	518	565	590	620			
406.4/560	1600	900	900	900	900	900	1000	1000	1000	1100	1100	1200	1300	1300	1300	1400		
		430	430	438	438	445	455	465	488	500	515	553	600	625	655	690		
457.0/630	2000	1000	1000	1000	1000	1000	1000	1000	1100	1100	1100	1200	1300	1300	1300	1400	1500	
		470	470	478	478	485	495	505	528	540	555	593	640	665	695	730	770	
508.0/710	2000	1000	1000	1000	1000	1000	1000	1100	1100	1100	1200	1200	1300	1300	1400	1400	1500	1500
		515	515	523	523	530	540	550	573	585	600	638	685	710	740	775	815	860

**Branches**

**45° preinsulated branch**

**45° prefabricated  
branch, series 2,  
main pipe  
ø 26.9-508.0 mm**

Component No. 3500

Insulated T-pieces with branches up to ø 508.0 mm.

Guaranteed internal pressure = 25 bar (grey = 16 bar)

Main pipe ød. mm		Branch pipe ød. series 2																
		26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	273.0	323.9	355.6	406.4	457.0	508.0
ød/D. mm	L. mm	Length L <sub>1</sub> , mm C-C. mm																
26.9/110	1000	700																
		170																
33.7/110	1000	700	700															
		170	170															
42.4/125	1000	700	700	700														
		178	178	185														
48.3/125	1000	700	700	700	700													
		178	178	185	185													
60.3/140	1200	700	700	700	700	700												
		185	185	193	193	200												
76.1/160	1200	700	700	700	700	700	700											
		195	195	203	203	210	220											
88.9/180	1200	700	700	700	700	700	700	700										
		205	205	213	213	220	230	240										
114.3/225	1200	700	700	700	700	700	800	800	800									
		228	228	235	235	243	253	263	285									
139.7/250	1200	700	700	700	700	800	800	800	800	900								
		240	240	248	248	255	265	275	298	310								
168.3/280	1200	800	800	800	800	800	800	800	900	900	900							
		255	255	263	263	270	280	290	313	325	340							
219.1/355	1500	800	800	800	800	800	800	800	900	900	900	1000						
		293	293	300	300	308	318	328	350	363	378	415						
273.0/450	1500	800	800	800	800	900	900	900	900	1000	1000	1100	1200					
		340	340	348	348	355	365	375	398	410	425	463	510					
323.9/500	1500	900	900	900	900	900	900	900	1000	1000	1000	1100	1200	1200				
		365	365	373	373	380	390	400	423	435	450	488	535	560				
355.6/560	1500	900	900	900	900	900	900	900	1000	1000	1000	1100	1200	1200	1300			
		395	395	403	403	410	420	430	453	465	480	518	565	590	620			
406.4/630	1600	900	900	900	900	900	1000	1000	1000	1100	1100	1200	1300	1300	1300	1400		
		430	430	438	438	445	455	465	488	500	515	553	600	625	655	690		
457.0/710	2000	1000	1000	1000	1000	1000	1000	1000	1100	1100	1100	1200	1300	1300	1300	1400	1500	
		470	470	478	478	485	495	505	528	540	555	593	640	665	695	730	770	
508.0/800	2000	1000	1000	1000	1000	1000	1000	1100	1100	1100	1200	1200	1300	1300	1400	1400	1500	1500
		515	515	523	523	530	540	550	573	585	600	638	685	710	740	775	815	860

**Branches**

**45° preinsulated branch**

**45° prefabricated  
branch, series 3  
main pipe  
ø 26.9-508.0 mm**

Component No. 3500

Insulated T-pieces with branches up to and including ø 508.0 mm.

Max. internal pressure = 25 bar (grey = min. 16 bar)

Main pipe ød, mm		Branch pipe ød, series 3																
		26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	273.0	323.9	355.6	406.4	457.0	508.0
ød/D, mm	L, mm	Length L <sub>1</sub> , mm C-C, mm																
		26.9/125	1000	700														
190																		
33.7/125	1000	700	700															
		190	190															
42.4/140	1000	700	700	700														
		198	198	205														
48.3/140	1000	700	700	700	700													
		198	198	205	205													
60.3/160	1200	700	700	700	700	700												
		208	208	215	215	225												
76.1/180	1200	700	700	700	700	700	700											
		218	218	225	225	235	245											
88.9/200	1200	700	700	700	700	700	800	800										
		228	228	235	235	245	255	265										
114.3/250	1200	800	800	800	800	800	800	800	900									
		253	253	260	260	270	280	290	315									
139.7/280	1200	800	800	800	800	800	800	800	900	900								
		268	268	275	275	285	295	305	330	345								
168.3/315	1200	800	800	800	800	800	800	800	900	900	900							
		285	285	293	293	303	313	323	348	363	380							
219.1/400	1500	800	800	800	800	800	900	900	900	1000	1000	1100						
		328	328	335	335	345	355	365	390	405	423	465						
273.0/500	1500	900	900	900	900	900	900	900	1000	1000	1000	1100	1200					
		378	378	385	385	395	405	415	440	455	473	515	565					
323.9/560	1500	900	900	900	900	900	900	900	1000	1000	1100	1200	1300	1300				
		408	408	415	415	425	435	445	470	485	503	545	595	625				
355.6/630	1500	900	900	1000	1000	1000	1000	1000	1100	1100	1100	1200	1300	1300	1400			
		443	443	450	450	460	470	480	505	520	538	570	630	660	695			
406.4/710	1600	1000	1000	1000	1000	1000	1000	1000	1100	1100	1100	1200	1300	1300	1400	1400		
		483	483	490	490	500	510	520	545	560	578	620	670	700	735	775		
457.0/800	2000	1000	1000	1000	1000	1000	1100	1100	1100	1200	1200	1300	1400	1400	1400	1500	1500	
		528	528	535	535	545	555	565	590	605	623	665	715	745	780	820	865	
508.0/900	2000	1100	1100	1100	1100	1100	1100	1100	1200	1200	1200	1300	1400	1400	1500	1500	1600	1700
		578	578	585	585	595	605	615	640	655	673	715	765	795	830	870	915	965

## Branches

## 90° parallel preinsulated branch

## Application

A 90° preinsulated branch is used in connection with parallel branching from main pipes in all dimensions. It is primarily used, when the more flexible and competitive branch fittings systems cannot be used for dimensional reasons.

Prefabricated branches are also recommended in connection with under-crossing branch pipe.

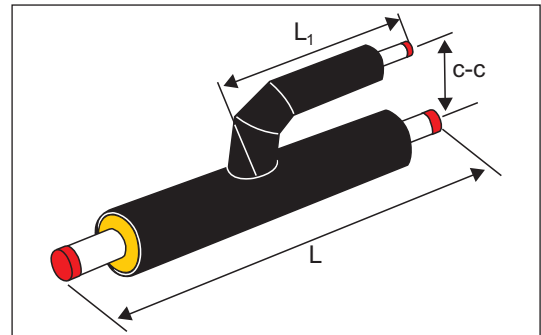
Prefabricated branches are applicable for all installation methods allowance being made for possible pressure limits. See tables.

Main pipes up to 406.4 mm and branches up to 323 mm are supplied in reinforced design in order to resist the axial forces, corresponding to 330 MPa.

Provided the dimension of the main pipe and the branch is the same, the T-piece can resist axial forces, corresponding to 190 MPa.

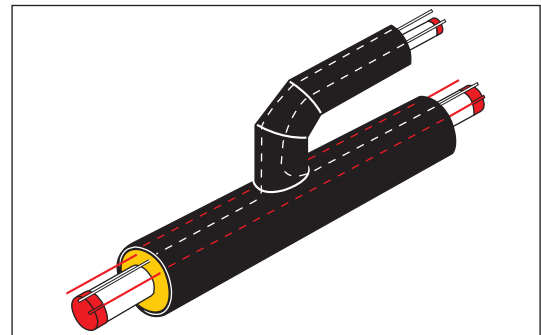
## Description

All branch combinations can in principle be made with prefabricated branches.



All prefabricated branches are supplied with 3 embedded wires - as appears from the illustration.

The middle wire is always for the branch.



Dimensions and measurements appear from the following tables. In case the required dimension does not appear from the tables, please contact LOGSTOR.

In case the main pipe and the branch of the T-piece have the same dimension, a weld T-piece is used in accordance with EN 10253-2



**Branches****90° parallel preinsulated branch****Description,**  
*continued*

From this table the wall thicknesses of the main pipes in branches, made by induction heating and collaring, appear.

The wall thicknesses of steel pipes used for branching comply with EN 253.

For dimensions where weld T-pieces are used the wall thickness is in accordance with EN 10253-2.

Main pipe, steel pipe ød, mm	Wall thickness mm
33.7	3.6
42.4	4.0
48.3	4.0
60.3	4.5
76.1	4.5
88.9	5.0
114.3	5.6
139.7	5.6
168.3	6.3
219.1	7.1
273.0	8.0
323.9	8.0
355.6	8.0
406.4	8.0 / 8.8

**Materials**

For preinsulated branches the same material as the one for straight pipes is used, see specification in the pipe section.

Preinsulated branches comply with the requirements in EN 448.

**Branches**

**90° parallel preinsulated branch**

**90° parallel branch,  
series 1, main pipe  
ø 26.9-508.0 mm**

Component No. 3600

Parallel T-pieces with branches ø 26.9-508.0 mm.

Guaranteed internal pressure = 25 bar (grey = 16 bar)

Main pipe ød, mm		Branch pipe ød, series 1																
		26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	273.0	323.9	355.6	406.4	457.0	508.0
		Length L <sub>1</sub> , mm																
ød/D, mm	L, mm	550	550	550	550	600	600	650	700	700	700	800	800	850	900	1000	1050	1100
		C-C height, mm																
26.9/90	1000	270																
33.7/90	1000	270	270															
42.4/110	1000	278	278	285														
48.3/110	1000	278	278	285	285													
60.3/125	1200	285	285	293	293	300												
76.1/140	1200	295	295	303	303	310	320											
88.9/160	1200	305	305	313	313	320	330	340										
114.3/200	1200	328	328	335	335	343	353	363	406									
139.7/225	1200	340	340	348	347	355	365	375	403	413								
168.3/250	1200	355	355	363	363	370	380	390	415	426	489							
219.1/315	1500	393	393	400	400	408	418	428	450	463	499	626						
273.0/400	1500	440	440	448	447	455	465	475	498	510	545	627	647					
323.9/450	1500	465	465	473	473	480	490	500	523	535	570	653	635	711				
355.6/500	1500	495	495	503	503	510	520	530	560	565	601	697	665	728	852			
406.4/560	1600	530	530	538	538	545	555	565	588	600	636	722	700	753	842	985		
457.0/630	2000	570	570	578	578	585	595	605	628	640	676	757	740	793	872	977	1109	
508.0/710	2000	605	605	613	613	630	640	650	673	685	721	802	785	838	912	1022	1094	1233

**Branches**

**90° parallel preinsulated branch**

**90° parallel branch, series 2, main pipe ø 26.9-508.0 mm** Component No. 3600  
 Parallel T-pieces with branches ø 26.9-508.0 mm.  
 Guaranteed internal pressure = 25 bar (grey = 16 bar)

Main pipe ød, mm		Branch pipe ød, series 2																
		26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	273.0	323.9	355.6	406.4	457.0	508.0
		Length L <sub>1</sub> , mm																
ød/D, mm	L, mm	550	550	550	550	600	600	650	700	700	800	800	850	900	1000	1050	1100	
		C-C height, mm																
26.9/110	1000	270																
33.7/110	1000	270	270															
42.4/125	1000	278	278	285														
48.3/125	1000	278	278	285	285													
60.3/140	1200	285	285	293	293	300												
76.1/160	1200	295	295	303	303	310	320											
88.9/180	1200	305	305	313	313	320	330	340										
114.3/225	1200	328	328	335	335	343	353	363	406									
139.7/250	1200	340	340	348	347	355	365	375	403	413								
168.3/280	1200	355	355	363	363	370	380	390	415	426	489							
219.1/355	1500	393	393	400	400	408	418	428	450	463	499	626						
273.0/450	1500	440	440	448	447	455	465	475	498	510	545	627	647					
323.9/500	1500	465	465	473	473	480	490	500	523	535	570	653	635	711				
355.6/560	1500	495	495	503	503	510	520	530	560	565	601	697	665	728	852			
406.4/630	1600	530	530	538	538	545	555	565	588	600	636	722	700	753	842	985		
457.0/710	2000	570	570	578	578	585	595	605	628	640	676	757	740	793	872	977	1109	
508.0/800	2000	605	605	613	613	630	640	650	673	685	721	802	785	838	912	1022	1094	1233

**Branches**

**90° parallel preinsulated branch**

90° parallel branch, Component No. 3600

series 3, main pipe  
ø 26.9-508.0 mm

Parallel T-pieces with branches ø 26.9-508.0 mm.  
Guaranteed internal pressure = 25 bar (grey = 16 bar)

Main pipe ød, mm		Branch pipe ød, series 3																
		26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	273.0	323.9	355.6	406.4	457.0	508.0
		Length L <sub>1</sub> , mm																
ød/D, mm	L, mm	550	550	550	550	600	600	650	700	700	800	800	850	900	1000	1050	1100	
		C-C height, mm																
26.9/125	1000	285																
33.7/125	1000	285	285															
42.4/140	1000	293	293	300														
48.3/140	1000	293	293	300	300													
60.3/160	1200	303	303	311	311	320												
76.1/180	1200	312	312	320	321	330	340											
88.9/200	1200	322	322	331	330	340	350	360										
114.3/250	1200	348	348	355	355	366	376	386	415									
139.7/280	1200	363	363	371	370	380	390	400	430	440								
168.3/315	1200	380	380	388	388	398	408	418	447	458	489							
219.1/400	1500	423	423	430	430	441	451	461	490	501	529	627						
273.0/500	1500	473	473	480	480	490	500	510	540	550	579	677	660					
323.9/560	1500	503	503	511	510	520	530	540	570	580	609	707	690	751				
355.6/630	1500	538	538	546	546	555	565	575	605	615	644	742	725	792	882			
406.4/710	1600	578	578	586	586	595	605	615	645	655	686	782	765	832	910	995		
457.0/800	2000	623	623	630	630	640	650	660	690	700	729	827	810	877	955	1027	1119	
508.0/900	2000	673	673	680	680	690	700	710	740	750	779	877	860	927	1005	1077	1149	1263

**Branches****Straight preinsulated branch****Application**

A straight preinsulated branch is used for perpendicular branching from main pipes in all dimensions - either horizontal or vertical, i.e. for service valves or reference points in the surveillance system.

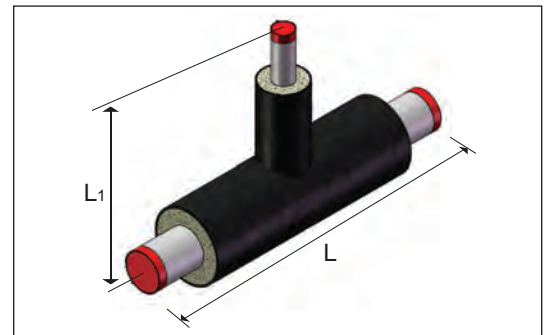
Preinsulated branches are applicable for all installation methods, allowance being made for possible pressure limits. See tables.

Main pipes up to 406.4 mm and branches up to 323 mm are supplied in reinforced design in order to resist the axial forces, corresponding to 330 MPa.

Provided the dimension of the main pipe and the branch is the same, the T-piece can resist axial forces, corresponding to 190 MPa.

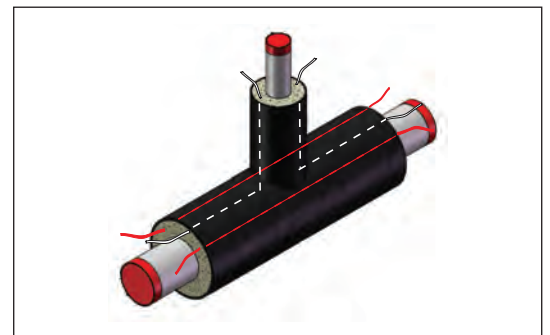
**Description**

All branch combinations can be made with prefabricated branches.



All prefabricated branches are supplied with 3 embedded wires as it will appear from the illustration.

The middle wire is always for the branch.



Dimensions and measurements appear from the following tables. In case the required dimension does not appear from the tables, please contact LOGSTOR.

In case the main pipe and the branch of the T-piece have the same dimension, a weld T-piece is used in accordance with EN 10253-2.

**Branches****Straight preinsulated branch****Description,**  
*continued*

From this table the wall thicknesses of the main pipes in branches, made by induction heating and collaring, appear.

The wall thicknesses of steel pipes used for branching comply with EN 253.

For dimensions where weld T-pieces are used the wall thickness is in accordance with EN 10253-2.

Main pipe, steel pipe ød, mm	Wall thickness mm
33.7	3.6
42.4	4.0
48.3	4.0
60.3	4.5
76.1	4.5
88.9	5.0
114.3	5.6
139.7	5.6
168.3	6.3
219.1	7.1
273.0	8.0
323.9	8.0
355.6	8.0
406.4	8.0 / 8.8

**Materials**

For preinsulated branches the same material as the one for straight pipes is used, see specification in the pipe section.

Preinsulated branches comply with the requirements in EN 448.

**Branches**

**Straight preinsulated branch**

**Straight preinsulated branch, series 1, 2, 3**  
**Main pipe**  
**ø 26.9-508.0 mm**

Component No. 3400  
 Straight T-pieces with branches ø 26.9-323.9 mm.  
 Guaranteed internal pressure = 25 bar (grey = 16 bar)

Main pipe					Branch pipe ød, series 1, 2, and 3													
					26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	273.0	323.9	
ød, mm	Series			L, mm	Length L <sub>i</sub> , mm													
	1	2	3															
26.9	90	110	125	1000	500													
33.7	90	110	125	1000	500	500												
42.4	110	125	140	1000	500	500	500											
48.3	110	125	140	1000	500	500	500	500										
60.3	125	140	160	1200	600	600	600	600	600									
76.1	140	160	180	1200	600	600	600	600	600	600								
88.9	160	180	200	1200	600	600	600	600	600	600	600							
114.3	200	225	250	1200	600	600	600	600	600	600	600	600						
139.7	225	250	280	1200	600	600	600	600	600	600	600	600	600					
168.3	250	280	315	1200	600	600	600	600	600	600	600	600	600	600				
219.1	315	355	400	1500	700	700	700	700	700	700	700	700	700	700	700			
273.0	400	450	500	1500	700	700	700	700	700	700	700	700	700	700	700	700	700	
323.9	450	500	560	1500	800	800	800	800	800	800	800	800	800	800	800	800	800	800
355.6	500	560	630	1500	800	800	800	800	800	800	800	800	800	800	800	800	800	800
406.4	560	630	710	1600	800	800	800	800	800	800	800	800	800	800	800	800	800	800
457.0	630	710	800	2000	900	900	900	900	900	900	900	900	900	900	900	900	900	900
508.0	710	800	900	2000	900	900	900	900	900	900	900	900	900	900	900	900	900	900

**Branches**

**Branching from concrete duct**

**Application**

When pipes are connected to an existing concrete duct as branches, a so-called branch adaptor is used, up to and including outer casing  $\varnothing$  450 mm, which partly ensures a water-proof introduction into the concrete duct, partly allows the branch to follow the expansion of the main pipe in the concrete duct.

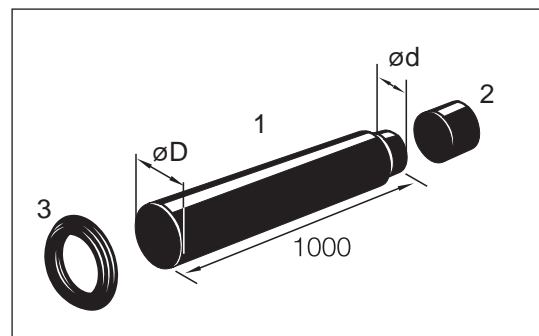
Dimensions larger than  $\varnothing$  140 mm require special entry to the concrete duct. See Design manual.

**Description**

A branch adaptor set consists of:

1. Branch adaptor pipe
2. Shrink sleeve
3. Wall entry sleeve

End-cap is to be ordered separately.



**Materials**

Branch adaptor pipe:	PE-HD
Shrink sleeve:	Crosslinked PE with embedded mastic film
Wall entry sleeve:	NR-SBR rubber

**Component overview/dimensions**

Branch adaptor set for branching with outer casing up to and including  $\varnothing$  450 mm.

Component No. 5900

Outer casing	
$\varnothing$ d mm	$\varnothing$ D mm
90	140
110	160
125	180
140	200
160	225
180	250
200	280
225	315
250	355
280	400
315	450
355	500
400	560
450	630



## Valve arrangements Overview

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**Introduction** This section contains a description of the valve arrangements, used in connection with isolating, venting and draining the pipe systems.

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<b>Contents</b>	General	2.5.1
	Isolation valve	2.5.2
	Isolation valve with 1 service valve	2.5.3
	Isolation valve with 2 service valves	2.5.4
	Spindle extension, permanent	2.5.5
	Cover	2.5.6
	Venting/draining	2.5.7
	- On-site made service valve arrangements	
	- Preinsulated service valves	
	Disposable valves	2.5.8

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## Valve arrangements

### General

#### Valve arrangements

The preinsulated isolation valves can be installed at any point in the pipe system and are installed directly in the ground during pipe installation.

Preinsulated isolation valves are applicable to all installation methods.

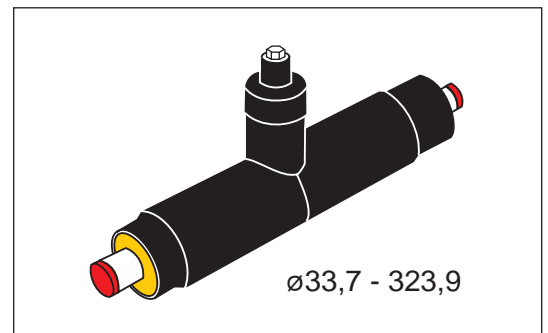
The isolation valve is a maintenance free ball valve, consisting of an all-welded casing and a polished stainless steel ball, fitted with spring loaded teflon seats which make the valve water-tight even at low pressures.

All LOGSTOR standard valves are with reduced passage.

#### Isolation valve

Isolation valve for  $\varnothing$  33.7 - 323.9 mm. Larger dimensions are made to order.

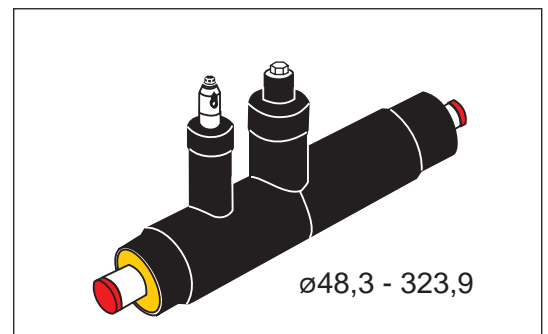
Component No. 4200.



#### Isolation valve with 1 service valve

Isolation valve for  $\varnothing$  48.3 - 323.9 mm. Larger dimensions are made to order.

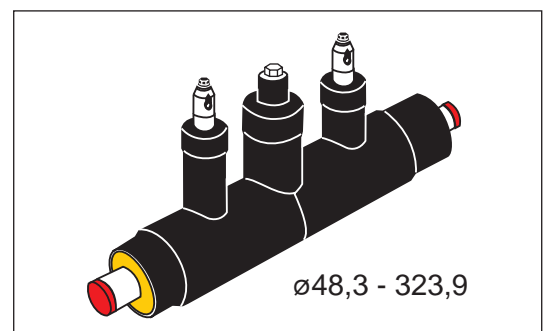
Component No. 4220.



#### Isolation valve with 2 service valves

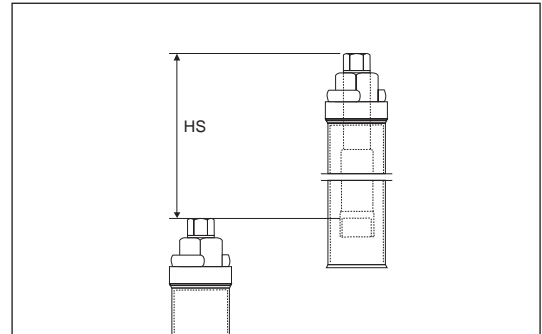
Isolation valve for  $\varnothing$  48.3 - 323.9 mm. Larger dimensions are made to order.

Component No. 4240.

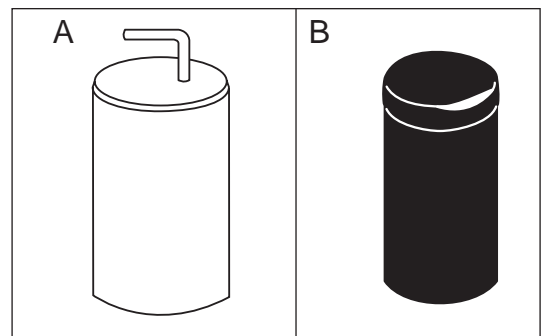


**Valve arrangements  
General**

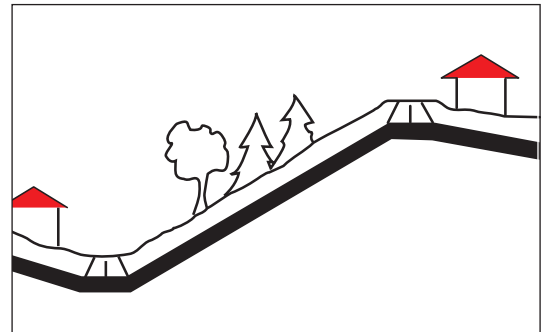
**Extension spindle** Permanent extension spindle for  $\varnothing$  33.7 - 323.9 mm.  
Component No. 4285.



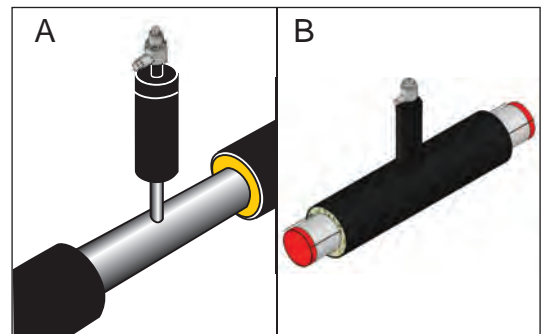
**Covers** Two types of covers are available:  
A. Galvanized metal cover for protection against high groundwater level  
Component No. 4315.  
B. PE-cover for sealing purposes only.  
Component No. 5716.



**Separate venting and draining** There are two different, separate venting and draining possibilities available:



A: Preinsulated connecting piece with service valve for on-site installation.  
Component No. 4270.  
B: Preinsulated branch tee with service valve  
Component No. 3400.



## Valve arrangements

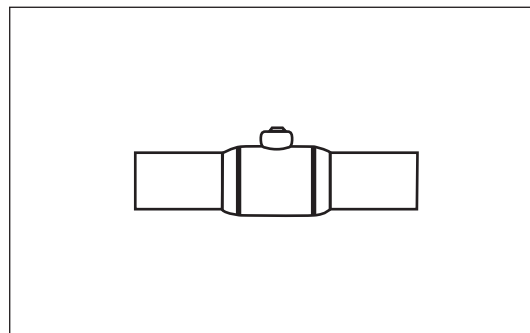
### General

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**Disposable valve**

A disposable valve is used for temporary shut-off of house connections. It is placed in an end fitting.

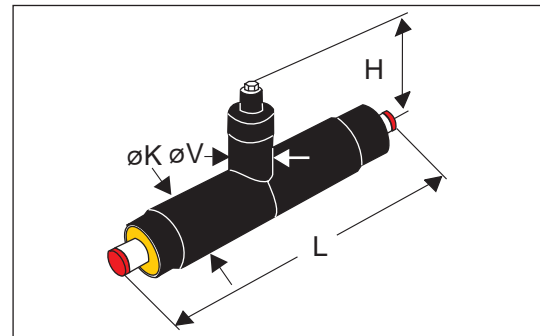
Component No. 0005.



**Valve arrangements**  
**Isolation valve**

**Application** Preinsulated isolation valves can be installed at any point in the pipe system.  
They can be used for all installation methods. Max. axial stress 300 N/mm<sup>2</sup>.  
Working pressure: 25 bar.

**Description** All preinsulated isolation valves have embedded copper wires for surveillance.  
They are available in dimensions  $\varnothing$  33.7 - 323.9 mm. Larger dimensions are made to order.  
For steel dimensions  $\geq$  219.1 mm the valve must be operated by means of a gear. To be ordered separately. See section 17.8, Tools.



**Materials** Preinsulated isolation valves comply with the requirements in EN 488.  
The isolation valve is a ball valve, consisting of an all-welded casing and a polished stainless steel ball, fitted with spring loaded teflon seat.  
The spindle top is made of stainless steel.  
Other materials as for straight pipes.

**Component No./ data** Component No. 4200.

**Isolation valve for series 1 pipes**

Steel pipe $\varnothing$ out. mm	Outer casing $\varnothing$ out. mm	L mm	H mm	$\varnothing$ K mm	$\varnothing$ V mm	NV spindle mm	NV backstop mm
33.7	90	1500	480	125	110	19	
42.4	110	1500	485	125	110	19	
48.3	110	1500	495	125	110	19	
60.3	125	1500	500	140	110	19	
76.1	140	1500	505	160	110	19	
88.9	160	1500	515	200	110	19	
114.3	200	1500	525	225	140	27	70
139.7	225	1500	545	250	140	27	70
168.3	250	1500	565	280	140	27	70
219.1	315	1500	585	355	140	50	90
273.0	400	1500	559	450	200	50	90
323.9	450	1800	610	560	200	50	90

## Valve arrangements

### Isolation valve

Component No./  
data  
Isolation valve  
for series 2 pipes

Component No. 4200.

Steel pipe ø out. mm	Outer casing ø out. mm	L mm	H mm	øK mm	øV mm	NV spindle mm	NV backstop mm
33.7	110	1500	480	125	110	19	
42.4	125	1500	485	125	110	19	
48.3	125	1500	495	125	110	19	
60.3	140	1500	500	140	110	19	
76.1	160	1500	505	180	110	19	
88.9	180	1500	515	200	110	19	
114.3	225	1500	525	250	140	27	70
139.7	250	1500	545	280	140	27	70
168.3	280	1500	565	315	140	27	70
219.1	355	1500	585	355	140	50	90
273.0	450	1500	559	500	200	50	90
323.9	500	1800	610	560	200	50	90

Component No./  
data  
Isolation valve  
for series 3 pipes

Component No. 4200.

Steel pipe ø out. mm	Outer casing ø out. mm	L mm	H mm	øK mm	øV mm	NV spindle mm	NV backstop mm
33.7	125	1500	480	125	110	19	
42.4	140	1500	485	140	110	19	
48.3	140	1500	495	140	110	19	
60.3	160	1500	500	160	110	19	
76.1	180	1500	505	180	110	19	
88.9	200	1500	515	225	110	19	
114.3	250	1500	525	250	140	27	70
139.7	280	1500	545	280	140	27	70
168.3	315	1500	565	315	140	27	70
219.1	400	1500	585	400	140	50	90
273.0	500	1500	559	500	200	50	90
323.9	560	1800	610	630	200	50	90

## Valve arrangements

### Isolation valve with 1 service valve

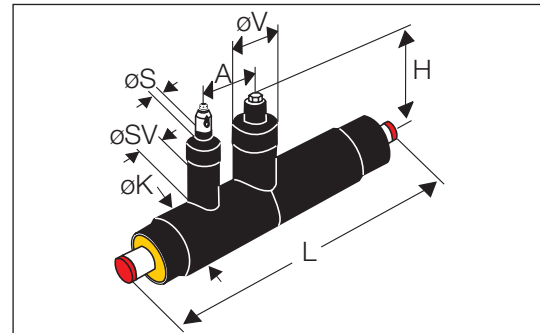
**Application** Preinsulated isolation valve with service valve for venting and draining arrangements can be installed at any point in the pipe system.

They can be used for all installation methods. Max. axial stress 300 N/mm<sup>2</sup>.  
Working pressure: 25 bar.

**Description** All preinsulated isolation valves have embedded copper wires for surveillance.

They are available in dimensions  $\varnothing$  48.3 - 323.9 mm. Larger dimensions are made to order.

For steel dimensions  $\geq$  219.1 mm the valve must be operated by means of a gear. To be ordered separately. See section 17.8, Tools.



**Materials** Preinsulated isolation valves comply with the requirements in EN 488.

The isolation valve is a ball valve, consisting of an all-welded casing and a polished stainless steel ball, fitted with spring loaded teflon seats.

Spindle top and service valves are made of stainless steel.

Other materials as for straight pipes.

**Component No./ data**  
**Isolation valve with 1 service valve for series 1 pipes**

Component No. 4220.

Steel pipe	Outer casing							NV	NV
$\varnothing$ out.	$\varnothing$ out.	L	H	$\varnothing$ K	$\varnothing$ V	A	$\varnothing$ S/ $\varnothing$ SV	spindle	backstop
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
48.3	110	1500	495	125	110	175	42.4/110	19	
60.3	125	1500	500	140	110	175	42.4/110	19	
76.1	140	1500	505	160	110	175	42.4/110	19	
88.9	160	1500	515	200	110	175	42.4/110	19	
114.3	200	1500	525	225	140	175	48.3/125	27	70
139.7	225	1500	545	250	140	175	48.3/125	27	70
168.3	250	1500	565	280	140	175	48.3/125	27	70
219.1	315	2000	585	355	140	250	60.3/140	50	90
273.0	400	2000	559	450	200	330	60.3/140	50	90
323.9	450	2500	610	560	200	350	60.3/140	50	90



## Valve arrangements

### Isolation valve with 1 service valve

**Component No./  
data**  
**Isolation valve  
with 1 service  
valve for Series 2  
pipes**

Component No. 4220.

Steel pipe ø out. mm	Outer casing ø out. mm	L mm	H mm	øK mm	øV mm	A mm	øS/øSV mm	NV spindle mm	NV backstop mm
48.3	125	1500	495	125	110	175	42.4/110	19	
60.3	140	1500	500	140	110	175	42.4/110	19	
76.1	160	1500	505	180	110	175	42.4/110	19	
88.9	180	1500	515	200	110	175	42.4/110	19	
114.3	225	1500	525	250	140	175	48.3/125	27	70
139.7	250	1500	545	280	140	175	48.3/125	27	70
168.3	280	1500	565	315	140	175	48.3/125	27	70
219.1	355	2000	585	355	140	250	60.3/140	50	90
273.0	450	2000	559	500	200	330	60.3/140	50	90
323.9	500	2500	610	560	200	350	60.3/140	50	90

**Component No./  
data**  
**Isolation valve  
with 1 service  
valve for series 3  
pipes**

Component No. 4220.

Steel pipe ø out. mm	Outer casing ø out. mm	L mm	H mm	øK mm	øV mm	A mm	øS/øSV mm	NV spindle mm	NV backstop mm
48.3	140	1500	495	140	110	175	42.4/110	19	
60.3	160	1500	500	160	110	175	42.4/110	19	
76.1	180	1500	505	180	110	175	42.4/110	19	
88.9	200	1500	515	225	110	175	42.4/110	19	
114.3	250	1500	525	250	140	175	48.3/125	27	70
139.7	280	1500	545	280	140	175	48.3/125	27	70
168.3	315	1500	565	315	140	175	48.3/125	27	70
219.1	400	2000	585	400	140	250	60.3/140	50	90
273.0	500	2000	559	500	200	330	60.3/140	50	90
323.9	560	2500	610	630	200	350	60.3/140	50	90

## Valve arrangements

### Isolation valve with 2 service valves

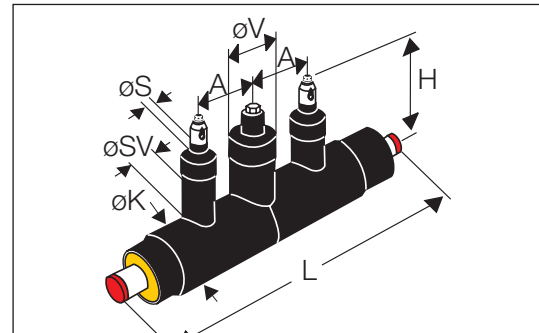
**Application** Preinsulated isolation valve with service valves for venting and draining can be installed at any point in the pipe system.

They can be used for all installation methods. Max. axial stress 300 N/mm<sup>2</sup>.  
Working pressure: 25 bar.

**Description** All preinsulated isolation valves have embedded copper wires for surveillance.

They are available in dimensions  $\varnothing$  48.3 - 323.9 mm. Larger dimensions are made to order.

For steel dimensions  $\geq$  219.1 mm the valve must be operated by means of a gear. To be ordered separately. See section 17.8, Tools.



**Materials** Preinsulated isolation valves comply with the requirements in EN 488.

The isolation valve is a ball valve, consisting of an all-welded casing and a polished stainless steel ball, fitted with spring loaded teflon seats.

Spindle top and service valves are made of stainless steel.

Other materials as for straight pipes.

**Component No./ data**  
**Isolation valve with 2 service valves for series 1 pipes**

Component No. 4240.

Steel pipe $\varnothing$ out. mm	Outer casing $\varnothing$ out. mm	L mm	H mm	$\varnothing$ K mm	$\varnothing$ V mm	A mm	$\varnothing$ S/ $\varnothing$ SV mm	NV spindle mm	NV backstop mm
48.3	110	1500	495	125	110	175	42.4/110	19	
60.3	125	1500	500	140	110	175	42.4/110	19	
76.1	140	1500	505	160	110	175	42.4/110	19	
88.9	160	1500	515	200	110	175	42.4/110	19	
114.3	200	1500	525	225	140	175	48.3/125	27	70
139.7	225	1500	545	250	140	175	48.3/125	27	70
168.3	250	1500	565	280	140	175	48.3/125	27	70
219.1	315	2000	585	355	140	250	60.3/140	50	90
273.0	400	2000	559	450	200	330	60.3/140	50	90
323.9	450	2500	610	560	200	350	60.3/140	50	90

## Valve arrangements

### Isolation valve with 2 service valves

**Component No./  
data**  
**Isolation valve  
with 2 service  
valves for series  
2 pipes**

Component No. 4240.

Steel pipe ø out. mm	Outer casing ø out. mm	L mm	H mm	øK mm	øV mm	A mm	øS/øSV mm	NV spindle mm	NV backstop mm
48.3	125	1500	495	125	110	175	42.4/110	19	
60.3	140	1500	500	140	110	175	42.4/110	19	
76.1	160	1500	505	180	110	175	42.4/110	19	
88.9	180	1500	515	200	110	175	42.4/110	19	
114.3	225	1500	525	250	140	175	48.3/125	27	70
139.7	250	1500	545	280	140	175	48.3/125	27	70
168.3	280	1500	565	315	140	175	48.3/125	27	70
219.1	355	2000	585	355	140	250	60.3/140	50	90
273.0	450	2000	559	500	200	330	60.3/140	50	90
323.9	500	2500	665	560	200	350	60.3/140	50	90

**Component No./  
data**  
**Isolation valve  
with 2 service  
valves for series  
3 pipes**

Component No. 4240.

Steel pipe ø out. mm	Outer casing ø out. mm	L mm	H mm	øK mm	øV mm	A mm	øS/øSV mm	NV spindle mm	NV backstop mm
48.3	140	1500	495	140	110	175	42.4/110	19	
60.3	160	1500	500	160	110	175	42.4/110	19	
76.1	180	1500	505	180	110	175	42.4/110	19	
88.9	200	1500	515	225	110	175	42.4/110	19	
114.3	250	1500	525	250	140	175	48.3/125	27	70
139.7	280	1500	545	280	140	175	48.3/125	27	70
168.3	315	1500	565	315	140	175	48.3/125	27	70
219.1	400	2000	585	400	140	250	60.3/140	50	90
273.0	500	2000	559	500	200	330	60.3/140	50	90
323.9	560	2500	665	630	200	350	60.3/140	50	90

## Valve arrangements

### Permanent spindle extension

#### Application

Spindle extension for installation on installed isolation valves whose spindle should be permanently extended.

It is applicable for LOGSTOR valve arrangements in dimensions  $\varnothing$  26.9 mm up to and incl.  $\varnothing$  323.9 mm.

#### Description

In connection with permanent spindle extension the stop of the valve is repositioned in the extension. The indicator for open/shut is positioned at the top of the extension.

#### Materials

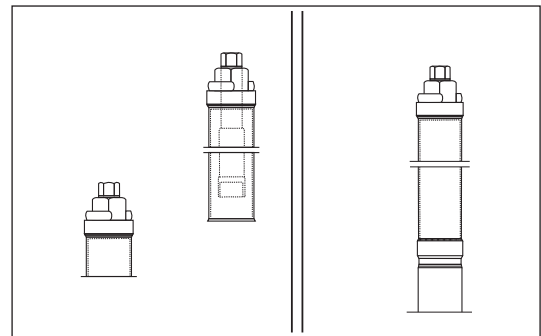
For isolation valves in dimensions  $\varnothing$  33.7 - 323.9 mm the permanent extension arrangement consists of:

1. Spindle
2. Spindle housing
3. Adapter AISI 316
4. Protection cap AISI 316

All parts are made of AISI 316 steel.

The seal is made of rubber (NBR).

The joint is protected by a cross-linked shrink sleeve.



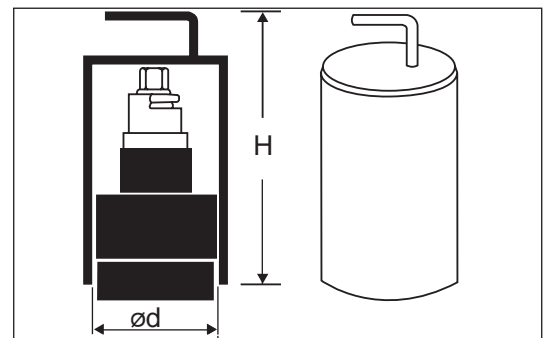
Product No.	Valve $\varnothing$ mm	Dimension (hexagon) mm	Length mm
4285 1000 011 001	33.7 - 88.9	19	1000
4285 0500 011 001	33.7 - 88.9	19	500
4285 1000 012 001	114.3 - 168.3	24	1000
4285 0500 012 001	114.3 - 168.3	27	500
4285 1000 013 001	219.1 - 323.9	50/90	1000
4285 0500 013 001	219.1 - 323.9	50/90	500

**Valve arrangements**  
**Cover**

**Application** The galvanized cover is used in water-logged areas.  
At periodic floodings the cover effectively prevents water from penetrating into the spindle top and the venting/drainage valves and exposing these to corrosion or deposits.

**Description** The cover is not fixed, but simply placed over the spindle top or the venting/drainage arrangement.  
The weight of the cover prevents it from being lifted by floods.

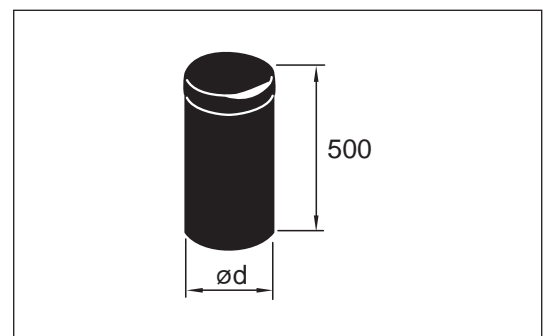
**Materials** The cover is designed as shown in the picture and made of galvanized steel plates with a lifting handle.



**Product No./data**

Product No.	Spindle top ø mm	Vent./drain. arrangement ø mm	ød mm	H mm
4315 0033 021 004	110		132	330
4315 0048 021 004	140	125	160	370
4315 0219 021 004	180	140	210	380

**Alternative** If only sealing is required, a PE sealing cap can be used for the same dimensions.  
Other designs made to order:  
- L = 1000 mm  
- With handle  
- With screw top for dimensions ø 110, 125, and 140 mm



Product No.	Spindle top ø mm	ød mm
5716 0125 005 001	110	125
5716 0160 005 001	140	160
5716 0200 005 001	180	200

## Valve arrangements

### On-site made service valve arrangements

#### Application

A separate venting or draining arrangement can be installed at any point in a pipe system by application of a standard venting/draining component together with a vertical branch joint.

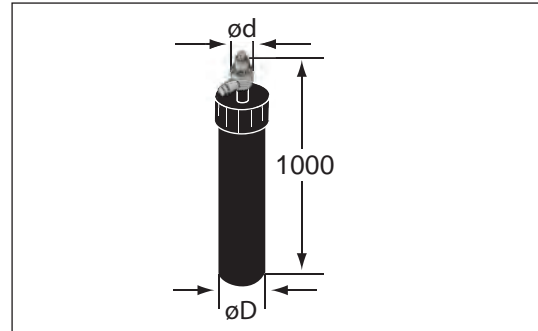
This simplifies the design, saves special components and means less joints.

If the construction is placed in an open inspection chamber, it must be well-drained.

#### Preinsulated connecting piece with service valve

The component consists of a standard preinsulated pipe with a service valve in stainless steel welded onto it.

Sealing has been carried out with PE-end cap.



#### Component overview/ measures

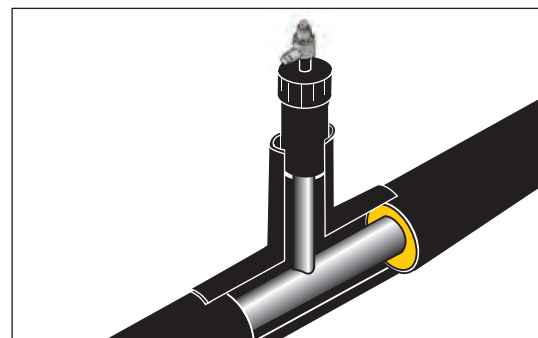
Component No. 4270.

ød	øD
33.7	110
42.4	110
48.3	110
60.3	140

#### Example

The branch is insulated with one of the following two branch joints:

- Vertical BandJoint branch
- Straight PEHD T-joint



## Valve arrangements

### On-site made service valve arrangements

---

**Alternative**

A valve arrangement may also be made of a piece of preinsulated pipe, a loose service valve, and an end cap.

Note! All parts outside the insulation/end cap must be protected against corrosion.

---

## Valve arrangements

### Preinsulated service valve

**Application**

Preinsulated service valves are used for venting or drainage in wanted spots in the pipe system.

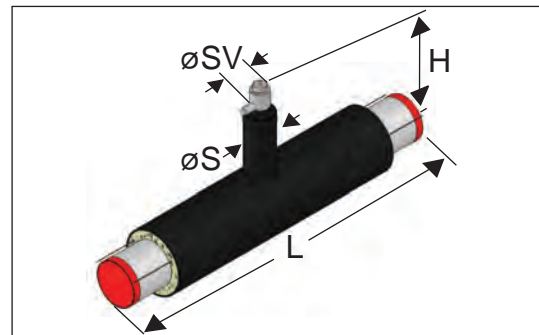
Applicable for all installation methods.

All shown dimension combinations are in reinforced design, allowing axial stress corresponding to 300 MPa.

**Description**

The preinsulated service valves have embedded copper wires for surveillance.

(In branches wires are optional).



**Materials**

Service valves comply with the requirements in EN 448.

Service valve units are made of stainless steel.

Materials of other components like straight pipes.

**Component overview/  
measures**

Component No. 3400.

Steel pipe ø d, mm	Outer casing, ø mm			L, mm	H, mm	øSV/S, mm
	Series 1	Series 2	Series 3			
33.7	90	110	125	1000	520	26.9/110
42.4	110	125	140	1000	525	33.7/110
48.3	110	125	140	1000	528	42.4/110
60.3	125	140	160	1200	536	42.4/110
76.1	140	160	180	1200	544	42.4/110
88.9	160	180	200	1200	551	42.4/110
114.3	200	225	250	1200	567	48.3/110
139.7	225	250	280	1200	582	48.3/110
168.3	250	280	315	1200	597	48.3/110
219.1	315	355	400	1500	624	60.3/140
273.0	400	450	500	1500	652	60.3/140
323.9	450	500	560	1500	677	60.3/140
355.6	500	560	630	1500	693	60.3/140
406.4	560	630	710	1600	718	60.3/140
457.0	630	710	800	2000	727	60.3/140
508.0	710	800	900	2000	752	60.3/140



**Valve arrangements**  
**Disposable valve**

**Application**

Disposable valves are e.g. used in connection with branches and terminations where pipelines will not be extended until later.

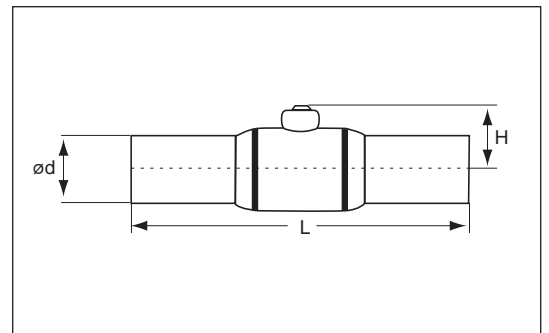
The valve is temporarily covered with a foamed end fitting.

When the pipeline is extended and the valve is opened the spindle is fully welded.

Please have the internal space requirements in mind, when choosing the dimension of the temporary end fitting and the later permanent casing joint.

**Description**

Rustproof ball valve with weld-on ends.



**Materials**

Valve box and weld-on ends: Standard steel like straight pipes  
Balls and valve spindle: Stainless steel AISI 304.

**Component overview/  
measures**

Component No. 0005.

Dimension $\varnothing d$ , mm	Length L, mm	Height H, mm
26.9	230	34
33.7	230	36
42.4	260	46
48.3	260	51
60.3	300	57
76.1	260	70
88.9	270	80
114.3	290	92
139.7	315	140
168.3	340	160
219.1	390	188



**Reductions  
Overview**

---

**Introduction** This section shows, how two successive outer casing dimensions can be joined on site without using special fittings.

---

<b>Contents</b>	General	2.6.1
	Weld reductions	2.6.2
	Reductions with weld joints	2.6.3
	Reductions with shrink joints	2.6.4
	Prefabricated reductions	2.6.5

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## Reductions General

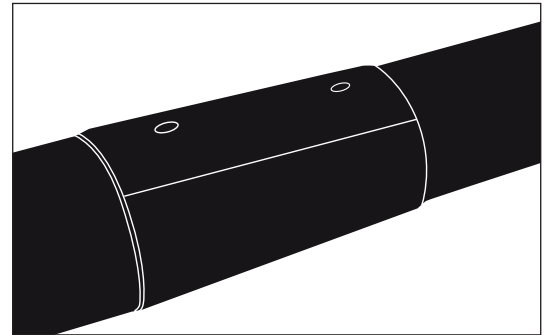
**Reduction types** LOGSTOR has a number of different reduction types either as solutions for joint installations or as preinsulated reductions.

If other lengths are required, please contact LOGSTOR to learn the possibilities

### BandJoints

Reduction with a BandJoint is possible with 1 dimensional offset, but only in some dimensions.

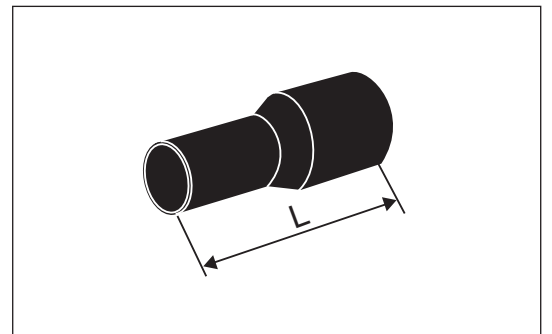
Component No. 5610.



### EWJoints

Reduction with an EW reduction sleeve is possible with 1 or more dimensional offsets.

Component No. 5028



### SXJoint and SX-WPJoint

Reduction with a standard SXJoint and SX-WPJoint is possible with 1 dimensional offset.

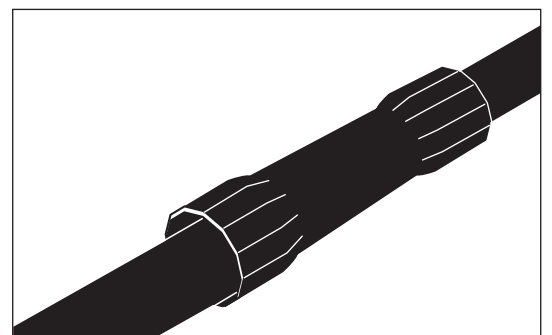
SXJoint: Component No. 5012.

SX-WPJoint: Component No. 5031.

2 offsets are possible with a SX reduction sleeve.

SXJoint: Component No. 5013.

SX-WPJoint: Component No. 5032.



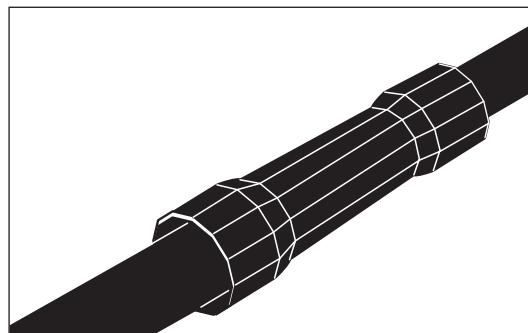
## Reductions General

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### BXJoints

Reduction with a standard BXJoint is possible with 1 and 2 offsets in dimension  $\varnothing 90$ -315 mm and with 1 offset in dimension  $\varnothing 355$ -630 mm.

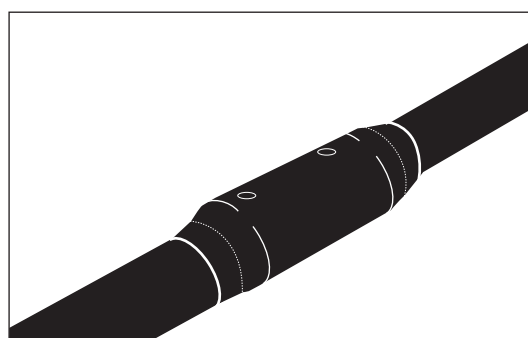
Component No. 5022.



### B2SJoints

Reduction with a B2SJoint is possible with 1 or more dimensional offsets.

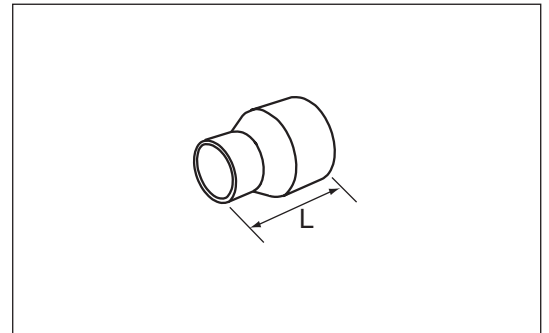
Component No. 5011.



**Reductions**  
**Weld reductions**

**Application** All service pipe reductions must be carried out by means of a steel reduction. Reductions with 1 dimensional offset are applicable to all installation methods. Where 2 offsets are possible, the design instructions must be complied with.

**Weld reduction** Transition between two steel pipe dimensions is made with weld reductions.  
Steel quality according to EN 10253-2



Component No. 1006.

From steel pipe ø mm	To steel pipe ø mm	Length L mm
33.7	26.9	51
42.4	33.7	51
48.3	42.4	64
60.3	48.3	76
76.1	60.3	89
88.9	76.1	89
114.3	88.9	102
139.7	114.3	127
168.3	139.7	140
219.1	168.3	152
273	219.1	178
323.9	273	203
355	323.9	330
406	355	356
457	406	381

## Reductions Weld joints

### Application

Reduction with the weld joints BandJoint, EWJoint, and InduconJoint can be carried out in the dimensions, stated below.

Weld joints must be carried out by fitters, certified by LOGSTOR.

For BandJoints the total non-insulated pipe length, inclusive weld reduction, is 2 x free pipe end = 440 mm.

For EWJoints and InduconJoints the total non-insulated pipe length, inclusive weld reduction, is 2 x length of the weld reduction.

In case of 2 or 3 dimensional offsets, the design instructions must be complied with.

### BandJoints

Possible dimensional offsets with standard BandJoints:

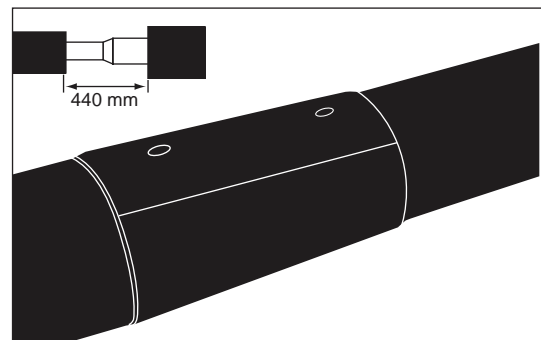
BandJoint, small,  $\varnothing$  90-200 mm:

From $\varnothing$ mm	To $\varnothing$ mm
110	90
125	110
140	125*)
160	140*)
180	160
200	180

\*) Require special joint.

BandJoint, medium,  $\varnothing$  225-520 mm:

From $\varnothing$ mm	To $\varnothing$ mm
250	225
280	250
315	280
520	500



All other reductions can, irrespective of dimension, be carried out with a preinsulated reduction, inserted between two BandJoints.



**Reductions  
Weld joints**

**EWJoints and  
InduconJoints**

Shrink sleeve reduction with EWJoint or InduconJoint.

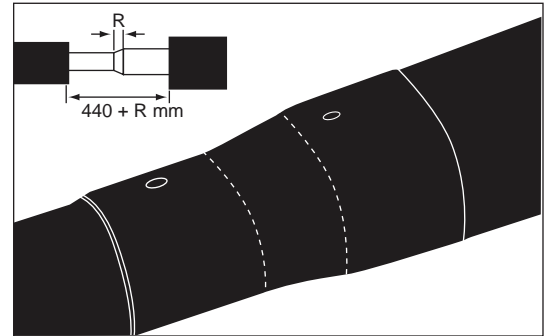
Component No. 5028.

Accessories set:

1. EW welding strips and plugs-,  
Component No. 5556.  
Order 1 set for each dimension. The two sets cover two reductions.
2. Inducon welding strips,  
Component No. 5556.  
Inducon teflon tape,  
Component No. 9000.

Dimensional offsets and lengths:

Also available with 2 or 3 dimensional offsets.



From ø mm	To ø mm	Joint length mm
110	90	800
125	110	800
140	125	800
160	140	800
180	160	800
200	180	900
225	200	900
250	225	900
280	250	900
315	280	900
355	315	900
400	355	1000
450	400	1000
500	450	1000
560	500	1100
630	560	1100
710	630	1200
800	710	1200
900	800	1350
1000	900	1350

**Reductions  
Shrink joints**

**Application**

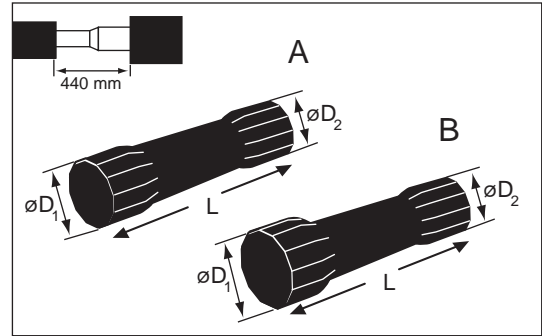
Reduction with the shrink joints SX, SX-WP, BX, and B2S can be carried out in the dimensions, stated below in 1 or 2 dimensional offsets.

In case of 2 offsets the design instructions must be complied with.

**SXJoint reductions**

Reduction with SXJoint can be carried out by means of:

- a. Standard straight SX sleeve  
1 dimensional offset  
Component No. 5012
- b. SXJoint reduction sleeve  
1 or 2 dimensional offsets (see table)  
Component No. 5013

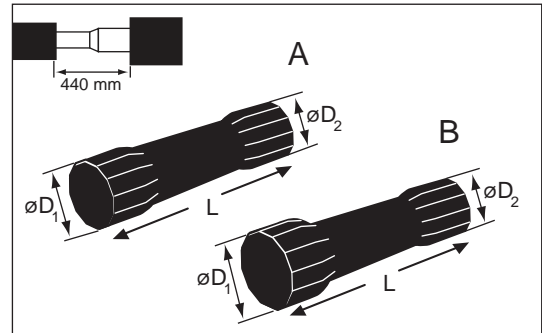


Reduction possibilities				
5012		5013		L mm
$\varnothing D_1 = \varnothing D_2$ From-to	L mm	$\varnothing D_1$ From-to	$\varnothing D_2$ From-to	
90-77	650			
110-90	650	125-90	110-90	650
125-110	650	140-110	125-110	650
140-125	650	160-125	140-125	650
160-140	650	180-140	160-140	650
180-160	650	200-160	180-160	650
200-180	650	225-180	200-180	650
225-200	650	250-200	225-200	660
250-225	650	280-225	250-225	660
280-250	650	315-250	280-250	680
315-280	650	355-280	315-280	720
355-315	750			
400-355	750			
450-400	750			

**SX-WPJoint reductions**

Reduction with SX-WPJoint can be carried out by means of:

- a. Standard straight SX-WP sleeve  
1 dimensional offset  
Component No. 5031
- b. SXJoint reduction sleeve  
1 or 2 dimensional offsets (see table)  
Component No. 5032



**Reductions  
Shrink joints**

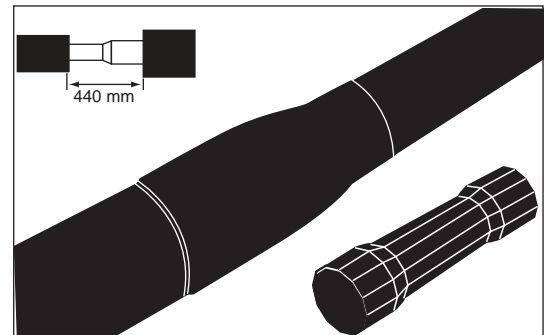
**SX-WPJoint  
reductions,  
continued**

Reduction possibilities				
5031		5032		L mm
$\varnothing D_1 = \varnothing D_2$ From-to	L mm	$\varnothing D_1$ From-to	$\varnothing D_2$ From-to	
90-77	650			
110-90	650	125-90	110-90	650
125-110	650	140-110	125-110	650
140-125	650	160-125	140-125	650
160-140	650	180-140	160-140	650
180-160	650	200-160	180-160	650
200-180	650	225-180	200-180	650
225-200	650	250-200	225-200	660
250-225	650	280-225	250-225	660
280-250	650	315-250	280-250	680
315-280	650	355-280	315-280	720
355-315	750			
400-355	750			
450-400	750			

**BXJoint reduction**

Reduction with BXJoint with insulation half shells.

Component No. 5022.



The joint is applicable for both 1 and 2 dimensional offsets.

2 offsets up to  $\varnothing$  315/280 mm.

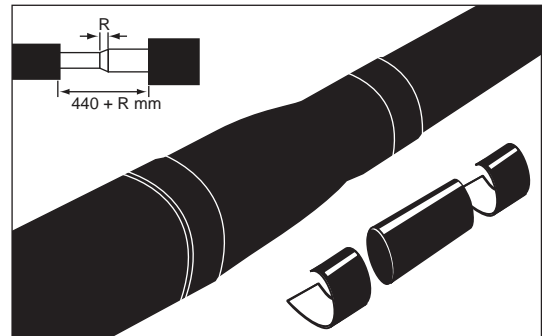
1 offset from  $\varnothing$  355/315 mm.

From $\varnothing$ mm	To $\varnothing$ mm	L mm
110	77	780
125	90	780
140	110	780
160	125	780
180	140	780
200	160	780
225	180	780
250	200	780
280	225	780
315	250	780
355	315	780
400	355	780
450	400	780
500	450	780
560	500	780
630	560	780

**Reductions  
Shrink joints**

**B2SJoint reduction**

B2SJoint reduction for foaming.  
Component No. 5011.



The joint can be used for 1 dimensional offset.

The B2SJoint is also available with 2 or 3 dimensional offsets.

From ø mm	To ø mm	Joint length mm
110	90	800
125	110	800
140	125	800
160	140	800
180	160	800
200	180	900
225	200	900
250	225	900
280	250	900
315	280	900
355	315	900
400	355	1000
450	400	1000
500	450	1000
560	500	1100
630	560	1100
710	630	1200
800	710	1200
900	800	1350
1000	900	1350

**Alternative to longer reduction sleeves**

In the dimensional range ø 90-315 mm a SXB bend joint which is longitudinally adjustable can be used in certain cases.

Shrinkable for 1 dimensional offset.

Component No. 5208.

From ø mm	To ø mm	L mm
90	77	815
110	90	865
125	110	865
140	125	865
160	140	885
200	180	975
250	225	980
315	280	1225

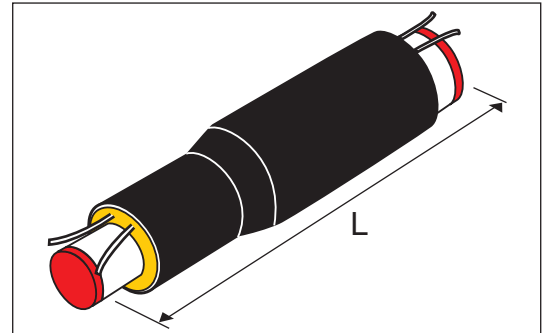
**Reductions**  
**Prefabricated reduction**

**Application** The prefabricated reduction is used for reduction with one or two dimensional offsets.  
Max. operating pressure: 25 bar

1 dimensional offset: max. axial stress 300 N/mm<sup>2</sup>  
2 dimensional offsets: max. axial stress 150 N/mm<sup>2</sup>

**Description** Prefabricated reductions are available with one or two reducing offsets.

All prefabricated reductions are supplied with embedded copper wires for surveillance.



**Materials** Weld reduction: Steel quality: According to EN 10253-2.  
Steel pipe/PUR-foam/PE-HD outer casing like for steel-in-plastic pipes.  
Preinsulated reductions comply with the requirements in EN 448.

**Component overview** Component No. 4900.  
**Insulation series 1** Prefabricated reduction, Series 1 pipes

From dimension ø mm	To dimension ø mm	L, mm
33.7/90	26.9/90	900
42.4/110	26.9/90	900
42.4/110	33.7/90	900
48.3/110	33.7/90	900
48.3/110	42.4/110	900
60.3/125	42.4/110	900
60.3/125	48.3/110	900
76.1/140	48.3/110	1000
76.1/140	60.3/125	1000
88.9/160	60.3/125	1000
88.9/160	76.1/140	1000
114.3/200	76.1/140	1000
114.3/200	88.9/160	1000
139.7/225	88.9/160	1000
139.7/225	114.3/200	1000
168.3/250	114.3/200	1000
168.3/250	139.7/225	1000

From dimension ø mm	To dimension ø mm	L, mm
219.1/315	139.7/225	1100
219.1/315	168.3/250	1100
273.0/400	168.3/250	1500
273.0/400	219.1/315	1500
323.9/450	219.1/315	1500
323.9/450	273.0/400	1500
355.6/500	273.0/400	1500
355.6/500	323.9/450	1500
406.4/560	323.9/450	1500
406.4/560	355.6/500	1500
457.0/630	355.6/500	1500
457.0/630	406.4/560	1500
508.0/710	406.4/560	1500
508.0/710	457.0/630	1500
610.0/800	508.0/710	1500

## Reductions

### Prefabricated reduction

**Component overview**  
**Insulation series**  
**2**

Component No. 4900.  
Prefabricated reduction, Series 2 pipes

From dimension ø mm	To dimension ø mm	L, mm
33.7/110	26.9/110	900
42.4/125	26.9/110	900
42.4/125	33.7/110	900
48.3/125	33.7/110	900
48.3/125	42.4/125	900
60.3/140	42.4/125	900
60.3/140	48.3/125	900
76.1/160	48.3/125	1000
76.1/160	60.3/140	1000
88.9/180	60.3/140	1000
88.9/180	76.1/160	1000
114.3/225	76.1/160	1000
114.3/225	88.9/180	1000
139.7/250	88.9/180	1000
139.7/250	114.3/225	1000

From dimension ø mm	To dimension ø mm	L, mm
168.3/280	114.3/225	1000
168.3/280	139.7/250	1000
219.1/355	139.7/250	1100
219.1/355	168.3/280	1100
273.0/450	168.3/280	1500
273.0/450	219.1/355	1500
323.9/500	219.1/355	1500
323.9/500	273.0/450	1500
355.6/560	273.0/450	1500
355.6/560	323.9/500	1500
406.4/630	323.9/500	1500
406.4/630	355.6/560	1500
457.0/710	355.6/560	1500
457.0/710	406.4/630	1500
508.0/800	406.4/630	1500
508.0/800	457.0/710	1500

**Component overview**  
**Insulation series**  
**3**

Component No. 4900.  
Prefabricated reduction, Series 3 pipes

From dimension ø mm	To dimension ø mm	L, mm
33.7/125	26.9/125	900
42.4/140	26.9/125	900
42.4/140	33.7/125	900
48.3/140	33.7/125	900
48.3/140	42.4/140	900
60.3/160	42.4/140	900
60.3/160	48.3/140	900
76.1/180	48.3/140	1000
76.1/180	60.3/160	1000
88.9/200	60.3/160	1000
88.9/200	76.1/180	1000
114.3/250	76.1/180	1000
114.3/250	88.9/200	1000
139.7/280	88.9/200	1000
139.7/280	114.3/250	1000

From dimension ø mm	To dimension ø mm	L, mm
168.3/315	114.3/250	1000
168.3/315	139.7/280	1000
219.1/400	139.7/280	1100
219.1/400	168.3/315	1100
273.0/500	168.3/315	1500
273.0/500	219.1/400	1500
323.9/560	219.1/400	1500
323.9/520	273.0/500	1500
355.6/630	273.0/500	1500
355.6/630	323.9/560	1500
406.4/710	323.9/560	1500
406.4/710	355.6/630	1500
457.0/800	355.6/630	1500
457.0/800	406.4/710	1500
508.0/900	406.4/710	1500
508.0/900	457.0/800	1500

## Terminations Overview

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**Introduction** This section contains a description of the components which are delivered by LOGSTOR for terminations e.g. in connection with foundations, cellars, house entries and concrete ducts.

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<b>Contents</b>	General	2.7.1
	House entry pipe	2.7.2
	Wall entry sleeve	2.7.3
	End-cap	2.7.4
	End fitting	2.7.5
	Termination pipe	2.7.6

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## Terminations

### General

#### Terminations

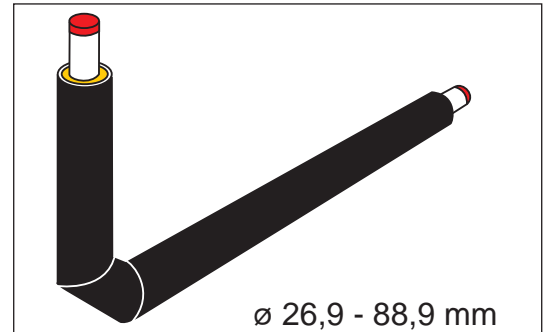
The components for termination e.g. in connection with foundations, cellars, house entries, and concrete ducts ensure a correct position and protection of the insulation under varying installation conditions.

#### House entry pipe

Preinsulated house entry pipe.  
ø 26.9 - ø 88.9 mm.

Component No. 2501.

The preinsulated house entry pipe is used for entry through foundation and floor in one working operation.

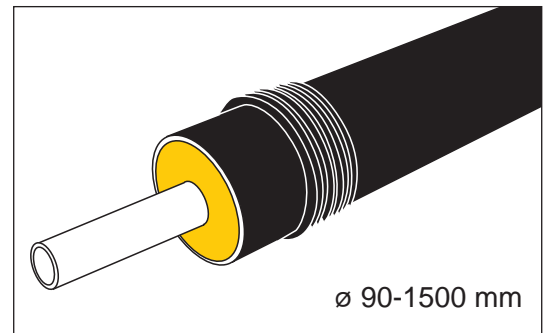


#### Wall entry sleeve

Wall entry sleeve ø 90-1500 mm.

Component No. 5800.

The wall entry sleeve is used for sealing between pipes and recasting in connection with horizontal wall entry.



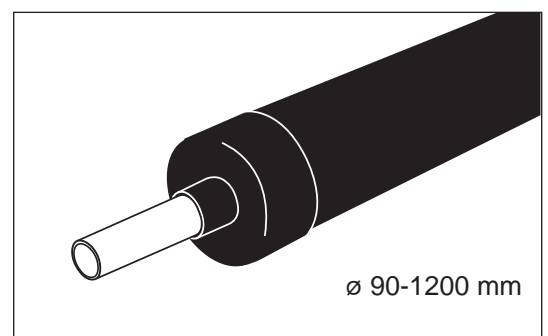
#### End-cap

End-cap ø 90-1200 mm outer casing.

Component No. 5600.

Split end-cap: component No. 5601

The end-cap is used for protection of insulation against water ingress



## Terminations General

### End fitting

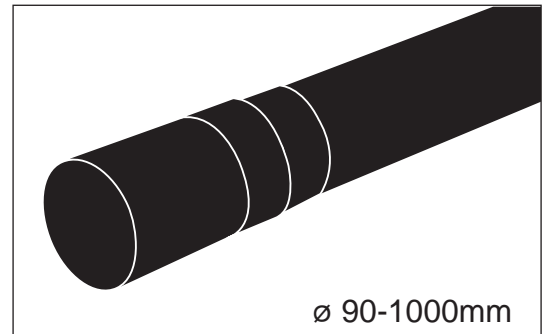
End fitting  $\varnothing$  90-1000 mm.

Component No. 5700.

The end fitting is used for protection of the pipe end in connection with termination in the ground.

Dimensions  $\varnothing$  90-630 mm are delivered with insulation shells.

Dimensions  $\varnothing$  710-1000 mm are delivered for foaming.

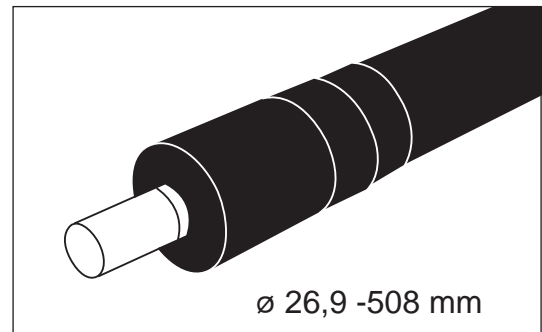


### Termination pipe

Termination pipe  $\varnothing$  26.9 -  $\varnothing$  508 mm in series 1 and 2.

Component No. 1003.

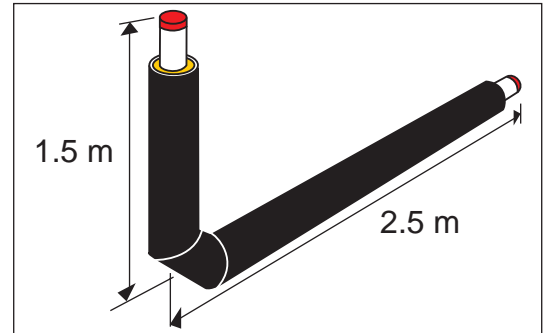
The termination pipe is used for extra protection of the insulation against water ingress (withstands hot water).



**Terminations**  
**House entry pipe**

**Application** Prefabricated house entry pipes facilitate the installation of district heating pipes in buildings without cellars.  
They may also be used as a supplement to preinsulated bends.

**Description** The steel pipe is mechanically bent.  
The tinned copper wires for surveillance are placed inside the bends.



**Materials** Mechanically bent pipes  $R = 2.5 \times d$  ( $d = \text{ø out. steel pipe}$ ) comply with the requirements in EN 448.

**Component overview/data** Component No. 2501.  
Larger dimensions are available as special house entry bends.

Steel pipe ø out., mm	House entry pipe 1.5 x 2.5 m		
	Outer casing, ø mm		
	Series 1	Series 2	Series 3
26.9	90	110	125
33.7	90	110	125
42.4	110	125	140
48.3	110	125	140
60.3	125	140	160
76.1	140	160	180
88.9	160	180	200

## Terminations

### Wall entry sleeve

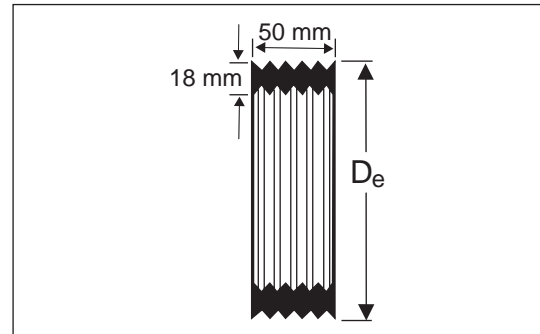
**Application**                      Where pipes are installed through masonry - at wells, footings etc. - wall entry sleeves are installed as a seal against water ingress.

**Description**                      The wall entry sleeves are made of an extremely resistant rubber which, together with a good sealing effect, also allows minor expansion movements at the entry point.

Exposed to groundwater pressure the wall entry sleeves may not be watertight. In such cases please contact LOGSTOR.

Note!  $D_e - 2 \times 18 \text{ mm}$  is smaller than the nominal diameter, so the sleeve fits tightly around the outer casing.

As regards diameter of the hole in the base, see Design p. 9.3.0.1.



**Materials**                              NR-SBR rubber

**Component overview**

Component No. 5800

Outer casing ø out. mm	Outside diameter, $D_e$ approx. ø mm
90	124
110	142
125	158
140	173
160	191
180	209
200	229
225	255
250	281
280	312
315	345
355	385
400	430

Outer casing ø out. mm	Outside diameter, $D_e$ approx. ø mm
450	480
500	530
560	590
630	660
710	740
800	830
900	930
1000	1030
1100	1130
1200	1230
1300	1330
1400	1430
1500	1530

**Terminations**  
**End-cap**

**Application**

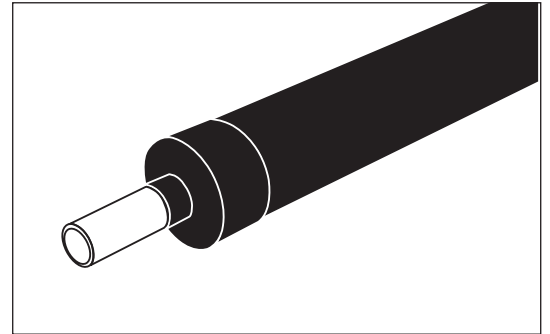
The end-cap is used to seal the pipes in order to prevent moisture from penetrating into the insulation.

End-caps are used in connection with house entries, terminations in chambers, connections to concrete ducts, in cellars etc.

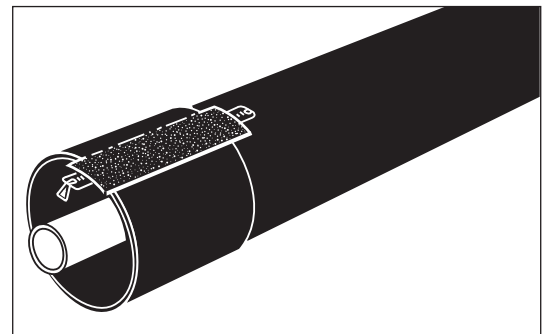
**Description**

Standard end-cap is placed on the pipe end before welding it together with the non-insulated pipes.

The end-cap is heat-shrunk on the service pipe as well as the outer casing.



The split end-cap with zipper is only used when repairing or in connection with subsequent installation. On outer casing dimensions > ø 450 mm it is however used as a standard end-cap and for repairs.



**Materials**

Crosslinked PE with mastic.

**Component overview**  
**Standard end-cap**

The standard end-cap includes ø 26.9-323.9 mm service pipe and ø 90-450 mm outer casing.

A few of the largest dimensions in series 2 and 3 are not included.

Component No. 5600.

Steel pipe ø out. mm	Outer casing ø mm	DHEC No.
26.9 - 33.7	90	2100
26.9 - 42.4	110 - 125	2200
42.4	140	2300
48.3	110 - 140	2300
60.3 - 76.1	125 - 140	2400
60.3 - 88.9	160 - 180	2500
88.9 - 114.3	200	2600
114.3 - 139.7	225	2630
139.7 - 168.3	250	2700
168.3	280	2700
219.1	315	2800
219.1 - 273	355 - 400	2900
323.9	450	3000

## Terminations

### End-cap

**Component  
overview  
Split end-cap**

Component No. 5601.

The split end-cap includes  $\varnothing$  26.9-1016 mm service pipe and  $\varnothing$  90-1200 mm outer casing.

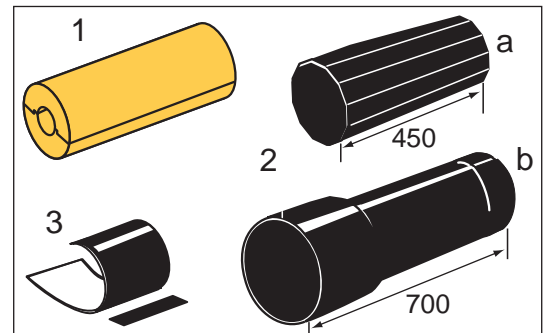
Steel pipe $\varnothing$ out. mm	Outer casing $\varnothing$ mm	CCS-DHEC No.
26.9 - 42.4	90 - 110	110 / 26
48.3 - 60.3	110 - 125	128 / 48
60.3 - 88.9	140 - 160	163 / 60
76.1 - 88.9	180	186 / 70
76.1 - 114.3	200	200 / 76
88.9 - 114.3	225	225 / 89
114.3 - 139.7	225 - 250	250 / 108
139.7 - 168.3	250 - 280	280 / 133
168.3 - 273.0	280 - 315	315 / 168
219.1 - 355.6	355 - 400	400 / 219
273.0 - 508.0	450 - 560	560 / 273
355.6 - 610.0	630 - 710	710 / 355
457.0 - 813.0	800 - 900	900 / 457
610.0 - 1016.0	1000 - 1200	1200 / 610

Terminations

End fitting with insulation shells, ø 90-630 mm

**Application** To terminate a pipe system a PE end fitting is used. Which end fitting to use depends on the dimension.

**Description** An end fitting set consists of:  
 1. Insulation shells  
 2. End fitting:  
     a. ø 90-160 mm, expanded  
     b. ø 180-630 mm, drifted  
 3. Shrink collar PEX with PIB mastic and closure patches



**Materials**

Insulation shells:	Polyurethane (PUR)
End fitting: ø 90-160 mm	Crosslinked and finger-expanded PE
ø 180-630 mm	Drifted PEHD
Shrink collar:	PEX with PIB mastic

**Component overview** Component No. 5700.  
 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.

Casing ø out. mm	Insul. shells ø int/out. mm	Service pipe range ø out. mm	Lengths, mm	
			450	700
90	33/90	26.9-33.7	x	(x)
110	48/110	26.9-48.3	x	(x)
125	60/125	26.9-60.3	x	(x)
140	76/140	26.9-76.1	x	(x)
160	88/160	42.4-88.9	x	(x)
180	114/180	60.3-114.3		x
200	139/200	76.1-139.7		x
225	168/225	88.9-168.3		x
250	168/250	114.3-168.3		x
280	219/280	114.3-219.1		x
315	219/315	139.7-219.1		x
355	219/355	219.1		x
400	323/400	219.1-273.0		x
450	323/450	273.0-323.9		x
500	355/500	273.0-355.0		x
560	406/560	323.9-406.0		x
630	457/630	355.0-457.0		x

**Accessories** In connection with termination with end fitting use weld-on end. See table page 2.7.5.3.

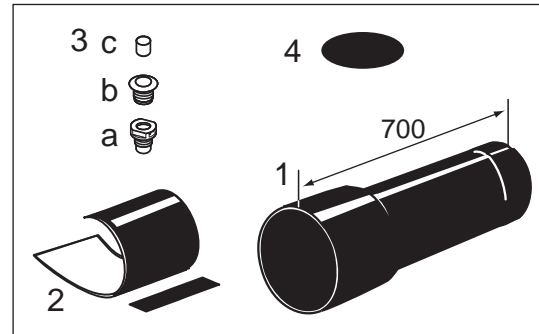
## Terminations

### End fitting for foaming, $\varnothing$ 710-1000 mm

**Application** To terminate a pipe system with a  $\varnothing$  710-1000 mm outer casing PE end fittings for foaming are used.

**Description** An end fitting set consists of:

1. End fitting, drifted
2. Shrink collar PEX with PIB mastic and closure patch
3. a. venting plug, b. expansion plug and c. wedge plug
4. Patch



<b>Materials</b>	End fitting:	Drifted PEHD
	Shrink collar:	PEX with PIB mastic
	Plugs:	a. PE b. and c. PEX
	Patch:	PEX with water-resistant hotmelt

**Component overview** Component No. 5700.

Irrespective of the service pipe dimension the end fitting is ordered according to the outer casing dimension.

For single pipes in smaller dimensions which are to be foamed order the end fitting for TwinPipes which is always foamed.

Outer casing $\varnothing$ out. mm	Service pipe range $\varnothing$ out. mm
710	406.4-508.0
800	457.0-610.0
900	508.0-711.0
1000	610.0-813.0

**Accessories** In connection with termination with end fitting use weld-on end. See table page 2.7.5.3.

Foam packs are used for foaming.

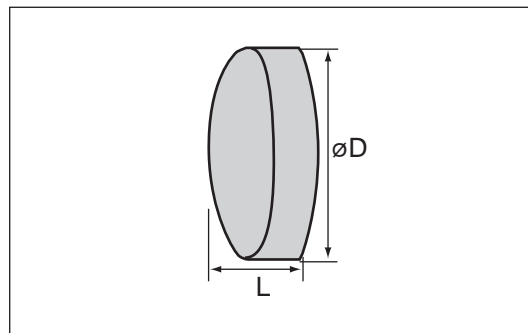
When ordering, simply state that the fitting must be delivered including foam packs, then the correct dosage will be delivered automatically.



**Terminations**  
**End fitting**

**Accessories**

Weld-on end.



**Materials**

Weld-on end:

Steel P 265 GH according to EN 10253-2.

**Component overview/dim.**

Component No. 1008.

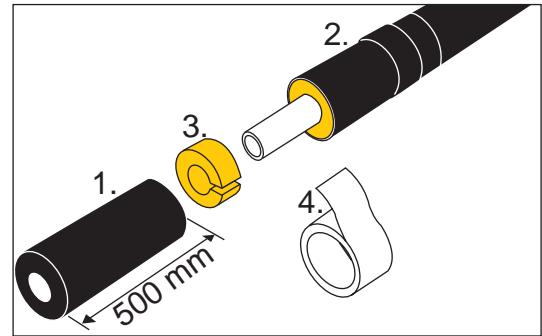
Steel pipe ø out. mm	L mm
26.9	14
33.7	15
42.4	17
48.3	18
60.3	20
76.1	23
88.9	36
114.3	40
139.7	45
168.3	50
219.1	65
273.0	75
323.9	85
355.6	95
406.4	105
457.0	115
508.0	125
610.0	149

**Terminations**  
**Termination pipe**

**Application** Termination pipes are used to prevent moisture from penetrating into the insulation. They are used when pipes are terminated in moist and hot wells, concrete ducts etc.

**Description** The termination pipe consists of:

1. Coated steel pipe
2. Shrink collar
3. Insulation section of mineral wool (ø 26.9-219.1 mm)
4. Grease tape



**Materials** The termination pipe consists of the following materials:

Steel pipe:	Vinyl-bitumen coat
Shrink collar:	Crosslinked PE with mastic
Insulation section:	Mineral wool (only ø 26.9-219.1 mm)
Grease tape:	(To be ordered separately)

**Component overview** Component No. 1003.

Termination pipe, Series 1 pipes

Dimension ø out. mm	Grease tape m
26.9/ 90	4
33.7/ 90	4
42.4/110	4
48.3/110	4
60.3/125	5
76.1/140	6
88.9/160	6
114.3/200	8
139.7/225	9
168.3/250	10
219.1/315	12
273.0/400	15
323.9/450	17
355.6/500	19
406.4/560	20
457.0/630	21
508.0/710	24
610.0/800	30

Termination pipe, Series 2 pipes

Dimension ø out. mm	Grease tape m
26.9/ 110	4
33.7/ 110	4
42.4/ 125	5
48.3/ 125	5
60.3/ 140	6
76.1/160	6
88.9/180	7
114.3/225	9
139.7/250	10
168.3/280	11
219.1/355	14
273.0/450	17
323.9/500	19
355.6/560	20
406.4/630	22
457.0/710	24
508.0/800	27

Not available for Series 3 pipes.

**Accessories** Grease tape (4) must also be used for installation. 10 m roll.

<b>Contents</b>	3.1	PexFlextra
	3.2	SaniFlextra
	3.3	AluFlextra
	3.4	SteelFlex
	3.5	CuFlex
	3.6	Casing joints
	3.7	Terminations
	3.8	Foam packs
	3.9	Tools

---



**Products - PexFlextra**  
**Contents**

---

- 3.1.1 Contents
  - 3.1.2 General
  - 3.1.3 Pipes - corrugated casings
  - 3.1.4 Pipes - smooth casings
  - 3.1.5 Preinsulated fittings
  - 3.1.7 Press couplings, type MP
  - 3.1.10 Press couplings, type JT
  - 3.1.14 Compression couplings
-

## Products - PexFlextra

### General

#### Application

The LOGSTOR flexible PEX system is used within District Heating for distribution and transmission pipelines.

Due to the properties of the PEX service pipe, expansion must not be taken into consideration. The flexibility, low weight, and long lengths make the installation quicker and more inexpensive. PexFlextra is especially suitable for:

- branch pipes without joints
- passage of vegetation and other obstacles
- hilly areas

Continuous operating temperature max.: 85°C

Short-term operating temperature max.: 95°C (max. 100 hours)

Operating pressure max.: 6 bar

PexFlextra can be combined with the other LOGSTOR systems provided that the above temperatures and pressure are observed.

To join PEX service pipes in buried systems press couplings are used. For jointing in buildings, chambers, and cabinets compression couplings can be used.

#### Description

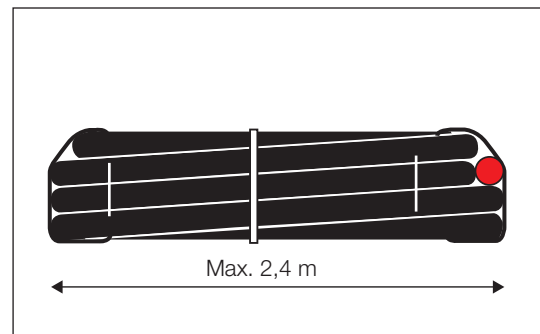
The standard coil length is 100 m.

Fixed lengths can be ordered to measure in lengths of min. 10 m and max. 90 m.

Corrugated casings with D90 and D110 PEXa are, however, as a standard delivered in 30, 50, 70, and 100 m and are usually not delivered in fixed lengths.

Always delivered without free ends.

All pipes are produced in accordance with EN15632-1 and EN15632-2.



#### Materials

Service pipe: PEXa with external EVOH oxygen diffusion barrier, preventing oxygen ingress.

The material complies with the requirements in EN ISO 15875.

Insulation: Polyurethane foam

Blowing agent: Cyclopentane

Average thermal conductivity  $\lambda_{50} = 0.022$  W/mK

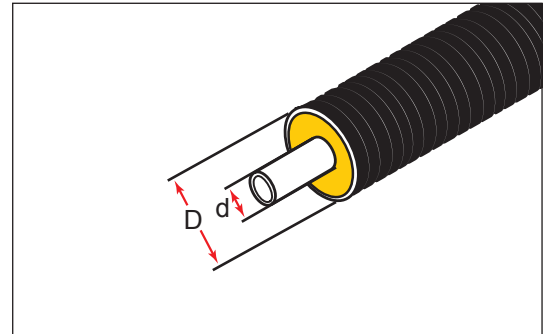
Outer casing:

Smooth, PexFlex: Polyethylene, PE-LD with internal PVDC diffusion barrier.

Corrugated, PexFlextra: Polyethylene, PE-HD with co-extruded EVOH diffusion barrier.

**Products - PexFlextra  
Pipes - corrugated casings**

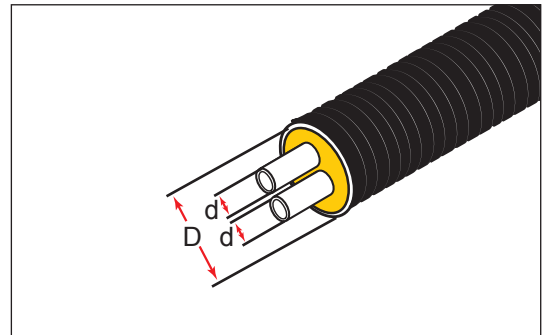
**PexFlextra  
single pipe**



Component No. 2100

PEX service pipe		Series 1			Series 2		
d mm	Wall thickness mm	Outer casing		Weight kg/m	Outer casing		Weight kg/m
		D mm	Wall thickness mm		D mm	Wall thickness mm	
20	2.0				90	1.5	1.2
25	2.3				90	1.5	1.2
32	2.9				90	1.5	1.3
40	3.7	90	1.5	1.4	110	1.5	1.8
50	4.6	110	1.5	2.0	125	1.5	2.3
63	5.8	125	1.5	2.6	140	1.5	3.1
75	6.8	140	1.5	3.4	160	1.5	3.9
90	8.2	160	1.5	4.4	180	1.5	5.0
110	10.0	180	1.5	5.7			

**PexFlextra  
TwinPipe**



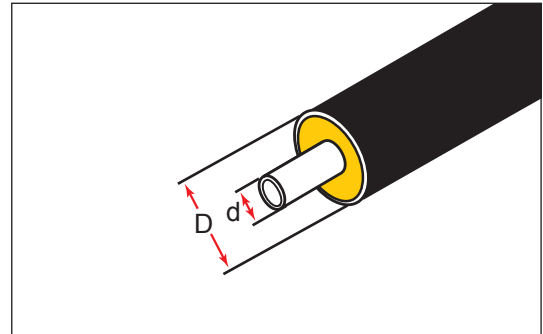
Component No. 2190

PEX service pipe		Series 1			Series 2		
d mm	Wall thickness mm	Outer casing		Weight kg/m	Outer casing		Weight kg/m
		D mm	Wall thickness mm		D mm	Wall thickness mm	
20/20	2.0				110	1.5	1.7
25/25	2.3	110	1.5	1.7	125	1.5	2.1
32/32	2.9	110	1.5	1.9	125	1.5	2.2
40/40	3.7	125	1.5	2.4	140	1.5	3.0
50/50	4.6	160	1.5	3.8	180	1.5	4.4
63/63	5.8	180	1.5	5.0			

Distance between service pipes: 12 mm

**Products - PexFlextra  
Pipes - smooth casings**

**PexFlex  
single pipe**

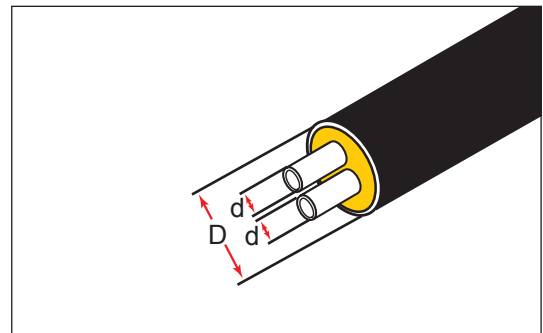


Component No. 2100

PEX service pipe		Series 1			Series 2		
d mm	Wall thickness mm	Outer casing		Weight kg/m	Outer casing		Weight kg/m
		D mm	Wall thickness mm		D mm	Wall thickness mm	
20	2.0				90	2.5	1.2
25	2.3				90	2.5	1.2
32	2.9				90	2.5	1.3
40	3.7	90	2.5	1.4	110	2.5	1.8
50	4.6	110	2.5	2.0	125	2.5	2.3
63	5.8	125	2.5	2.6	140	3.0	3.1
75	6.8	140	3.0	3.4			
90	8.2	160	3.0	4.4			
110*	10	160	3.0	5.1			

\*Series 0

**PexFlex  
TwinPipe**



Komponentnr. 2190

PEX service pipe		Series 1			Series 2		
d mm	Wall thickness mm	Outer casing		Weight kg/m	Outer casing		Weight kg/m
		D mm	Wall thickness mm		D mm	Wall thickness mm	
20/20	2.0	90	2.5	1.3			
25/25	2.3	110	2.5	1.7			
32/32	2.9	110	2.5	1.9	125	2.5	2.2
40/40	3.7	125	2.5	2.4	140	3.0	3.0

Distance between service pipes: 12 mm



**Products - PexFlextra  
Preinsulated fittings**

**General**

For PexFlextra and PexFlex preinsulated fittings with service pipes in PEX can be used.

Preinsulated fittings with PEX service pipe are delivered without free pipe ends. The service pipe must not be shortened.

T-pieces with PEX service pipe are made with press couplings, embedded in the insulation.

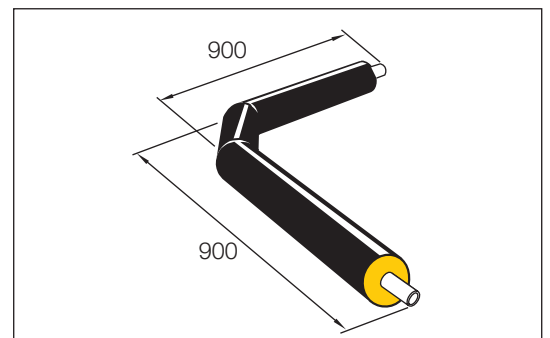
Alternatively, preinsulated fittings with steel service pipe from single pipe or TwinPipe can be used. Press couplings with weld end are bought separately and welded on site.

**90° bend**

Single pipe

Component No. 2500

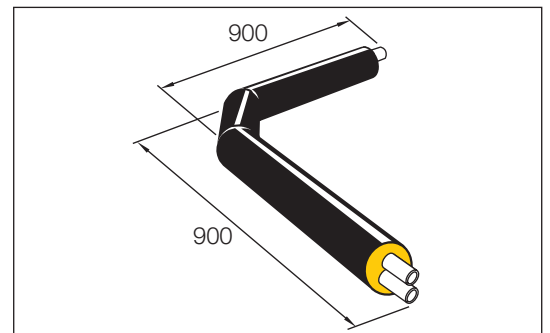
d mm	D mm	
	Series 1	Series 2
20		90
25		90
32		90
40	90	110
50	110	125
63	125	140
75	140	160
90	160	180
110	180	



TwinPipe

Component No. 2590

d mm	D mm	
	Series 1	Series 2
20/20		110
25/25	110	125
32/32	110	125
40/40	125	140
50/50	160	180
63/63	180	

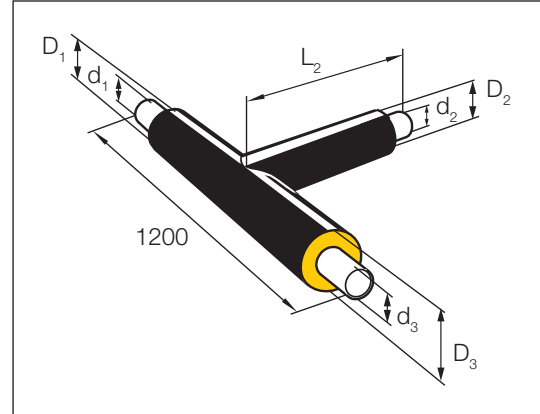


**Products - PexFlextra  
Preinsulated fittings**

**T-piece, straight**

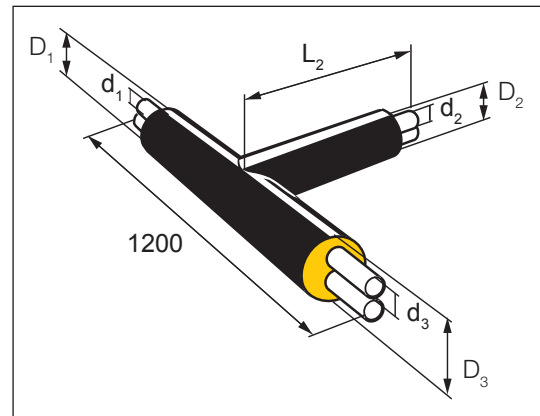
Single pipe  
Component No. 3400

$d_1$	$D_1$	$d_2$	$D_2$	$d_3$	$D_3$	$L_2$
32	90	32	90	25	90	450
40	110	32	90	32	90	500
50	125	40	110	40	110	500
63	140	50	125	50	125	500
75	140	63	125	63	125	500
75	160	63	140	75	160	500
90	180	63	140	63	140	500
90	180	63	140	90	180	500
90	180	90	180	90	180	500
110	180	110	180	110	180	500



TwinPipe  
Component No. 3490

$d_1$	$D_1$	$d_2$	$D_2$	$d_3$	$D_3$	$L_2$
40/40	140	32/32	125	32/32	125	500
50/50	180	40/40	140	40/40	140	500
63/63	180	40/40	140	40/40	140	600
63/63	180	50/50	180	50/50	180	500
63/63	180	25/25	125	63/63	180	600
63/63	180	40/40	140	63/63	180	600



**Products - PexFlextra  
Press couplings, type MP**

**General**

Used to connect PEX service pipes.

Use special tools to install the press coupling, type MP (Multipress), see section 17.5 Tools for FlexPipe.

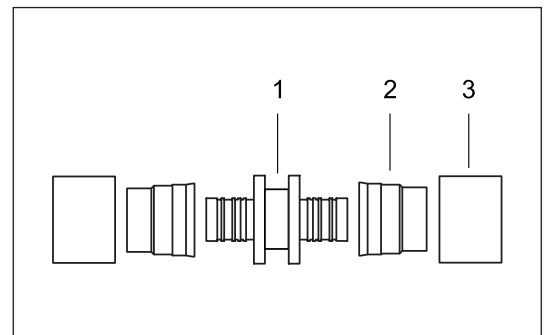
Press coupling are made of brass or red brass.

Weld ends for transition to steel are made in S235JR.

**Press coupling,  
straight**

Press coupling for straight PEX-PEX joints:

1. Supporting bush
2. Squeezing ring
3. Press ring



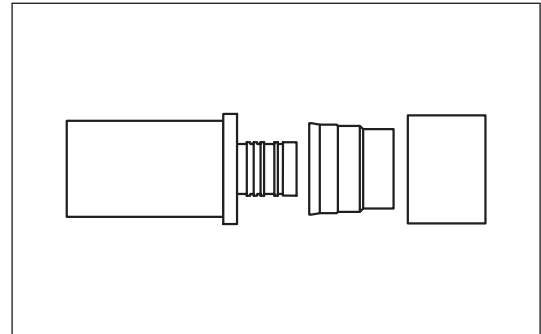
Component No. 6000.

Coupling end 1	Coupling end 2								
	20	25	32	40	50	63	75	90	110
20	x								
25	x	x							
32		x	x						
40			x	x					
50				x	x				
63					x	x			
75						x	x		
90							x	x	
110								x	x

**Products - PexFlextra**  
**Press couplings, type MP**

**Press coupling,  
weld**

Press coupling with weld end for transition to steel pipe.

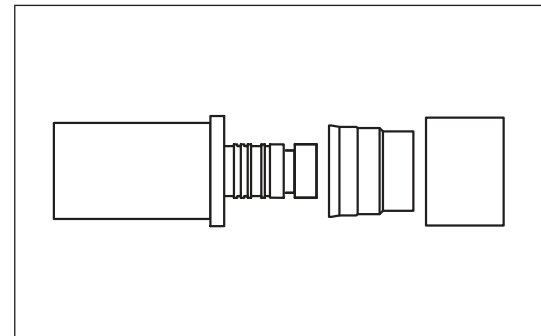


Component No. 6000.

Steel	PEX								
	20	25	32	40	50	63	75	90	110
26.9	x	x							
33.7	x	x	x						
42.4				x					
48.3				x	x				
60.3						x			
76.1							x		
88.9								x	
114.3									x

**Press coupling,  
weld, closed**

Closed press coupling with weld end.



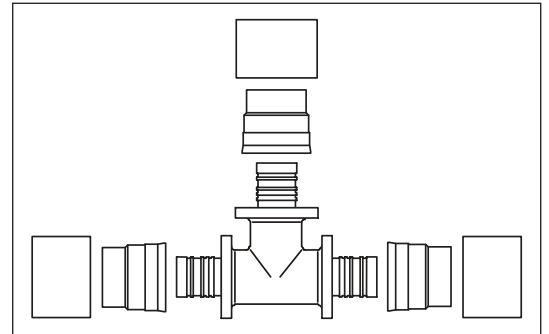
Component No. 6000.

Steel	PEX							
	20	25	32	40	50	63	75	90
26.9	x	x						
33.7			x					
42.4				x				
48.3					x			
60.3						x		
76.1							x	
88.9								x

**Products - PexFlextra  
Press couplings, type MP**

**Press coupling,  
tee**

The base unit of the press coupling is made in one piece.

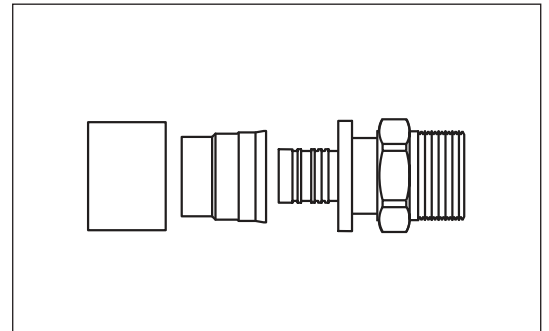


Component No. 6060.

d <sub>1</sub> , mm	d <sub>2</sub> , mm					
	20	25	32	40	50	63
20	x					
25	x	x				
32	x	x	x			
40	x	x	x	x		
50	x	x	x	x	x	
63	x	x	x	x	x	x
75		x	x	x	x	x
90		x	x	x	x	x
110		x	x	x	x	x

**Press coupling,  
male**

Press coupling with male end for termination in a cabinet or a building.



Component No. 6000.

Thread	PEX								
	20	25	32	40	50	63	75	90	110
¾"	x	x	x						
1"		x	x						
1¼"			x	x					
1½"					x				
2"						x			
2½"							x		
3"								x	
4"									x

**Products - PexFlextra**  
**Press couplings, type JT**

**General**

Used to connect PEX service pipes.

Use special tools to install the press coupling, type JT (Jentro) see section 17.5 Tools for FlexPipe.

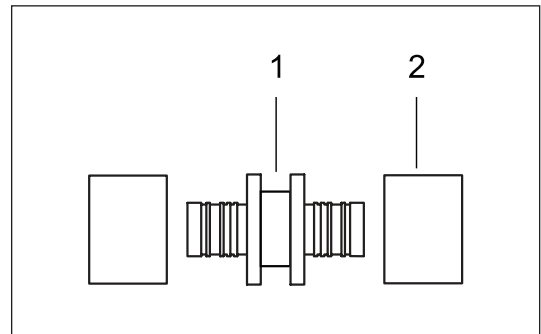
Press couplings are made of brass or red brass.

Weld ends for transition to steel is made in S235JR.

**Press coupling, straight**

Press coupling for straight PEX-PEX connections:

1. Supporting bush
2. Press ring



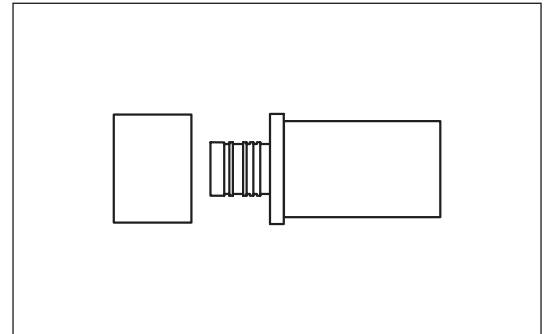
Component No. 6008.

Coupling end 1	Coupling end 2							
	25	32	40	50	63	75	90	110
25	x							
32	x	x						
40	x	x	x					
50		x	x	x				
63		x	x	x	x			
75			x	x	x	x		
90					x	x	x	
110					x	x	x	x

**Products - PexFlextra  
Press couplings, type JT**

**Press coupling,  
weld**

Press coupling with weld end for transition to steel pipe.

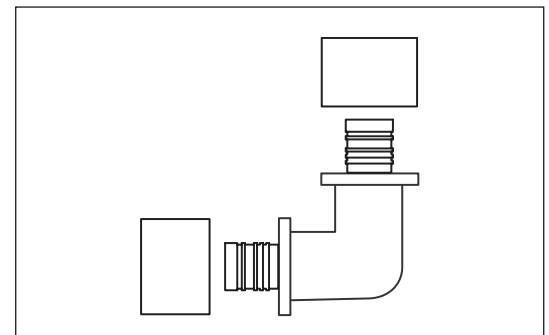


Component No. 6008.

Steel	PEX							
	25	32	40	50	63	75	90	110
26.9	x							
33.7		x						
42.4			x					
48.3				x				
60.3					x			
76.1						x		
88.9							x	
114.3								x

**Press coupling,  
90°**

90° elbow with press coupling in both ends.



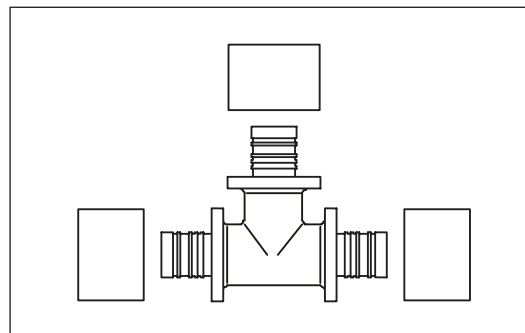
Component No. 6008.

Coupling end 1	Coupling end 2							
	25	32	40	50	63	75	90	110
25	x							
32		x						
40			x					
50				x				
63					x			
75						x		
90							x	
110								x

**Products - PexFlextra  
Press couplings, type JT**

**Press coupling,  
tee**

The base unit of the press coupling is made in one piece.



Component No. 6068.

Main pipe $d_1 - d_3$ mm	Branch $d_2$ , mm							
	25	32	40	50	63	75	90	110
25-25	x	x						
32-32	x	x						
40-40	x	x	x					
50-50	x	x	x	x				
63-63	x	x	x	x	x			
75-75	x	x	x	x	x	x		
90-90	x	x	x	x	x		x	
110-110	x	x	x	x	x			x

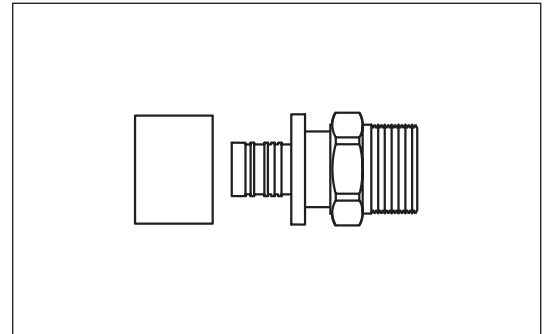
Other combinations of dimensions can be delivered.



**Products - PexFlextra  
Press couplings, type JT**

**Press coupling,  
male**

Press coupling with male thread for termination in a cabinet or a building.



Component No. 6000.

Thread	PEX							
	25	32	40	50	63	75	90	110
3/4"	x	x						
1"	x	x						
1 1/4"			x	x				
1 1/2"				x				
2"					x			
2 1/2"						x		
3"							x	
4"								x

**Products - PexFlextra**  
**Compression couplings**

**General**

Compression couplings are used to connect PEX service pipes.

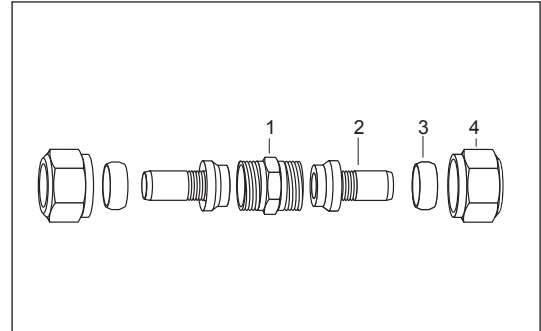
Compression couplings are made of brass or red brass.

**Compression coupling, straight**

Compression coupling for straight PEX-PEX joint.

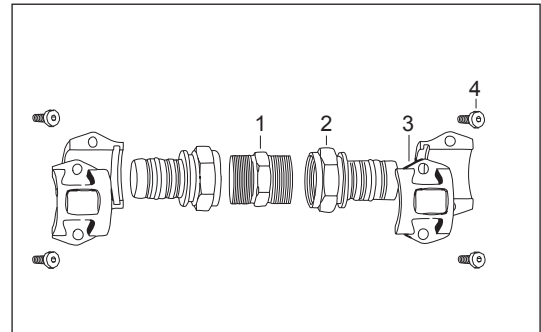
**Ø 20-32 mm**

- 1. Clutch casing
- 2. Supporting bush
- 3. Squeezing ring
- 4. Union nut



**Ø 40-110 mm**

- 1. Clutch casing
- 2. Supporting bush
- 3. Clamp
- 4. Screw



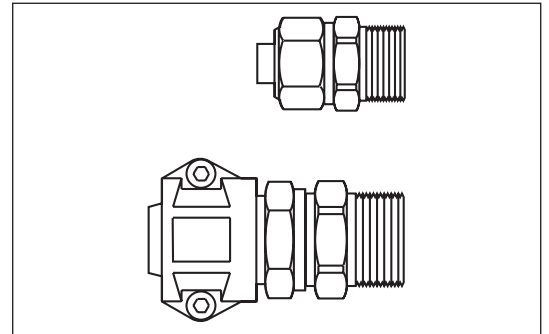
Component No. 6100.

Coupling end 1	Coupling end 2									
	20	25	32	40	50	63	75	90	110	
20	x									
25		x								
32			x							
40			x	x						
50			x	x	x					
63			x	x	x	x				
75							x			
90								x		
110									x	

**Products - PexFlextra  
Compression couplings**

**Compression coupling, male**

Compression coupling with male thread for termination in a cabinet or a building.

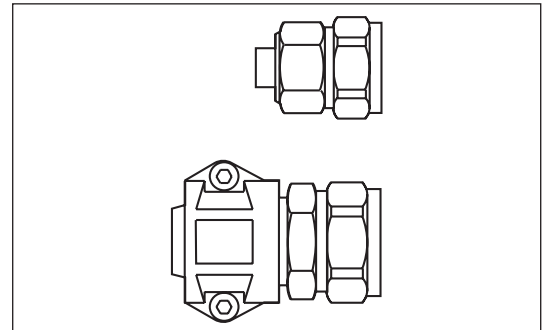


Component No. 6100.

Thread	PEX								
	20	25	32	40	50	63	75	90	110
¾"	x	x							
1"		x	x						
1¼"			x	x					
1 ½"					x				
2"						x	x		
3"								x	x

**Compression coupling, female**

Compression coupling with female thread for termination in a cabinet or a building.

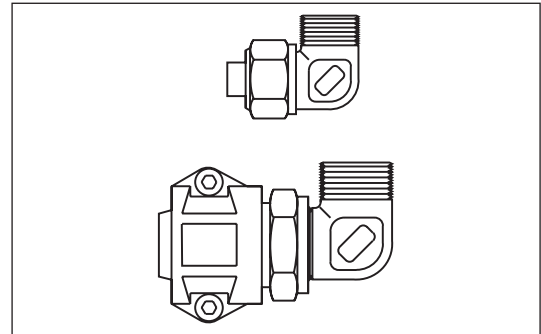


Component No. 6100.

Thread	PEX								
	20	25	32	40	50	63	75	90	110
¾"	x	x							
1"		x	x						
1¼"				x					
1 ½"					x				
2"						x	x		
3"								x	x

**Products - PexFlextra  
Compression couplings**

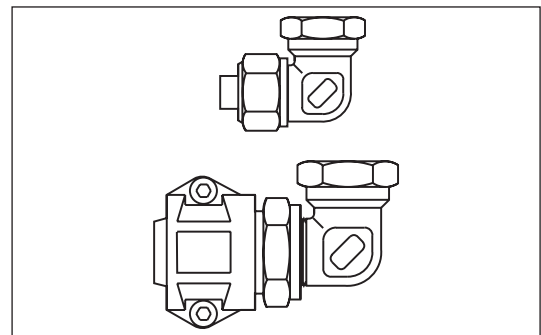
Compression coupling, union elbow, male



Component No. 6100.

Thread	PEX								
	20	25	32	40	50	63	75	90	110
3/4"	x	x							
1"		x	x						
1 1/4"			x	x					
1 1/2"					x				
2"						x	x		
3"								x	x

Compression coupling, union elbow, female

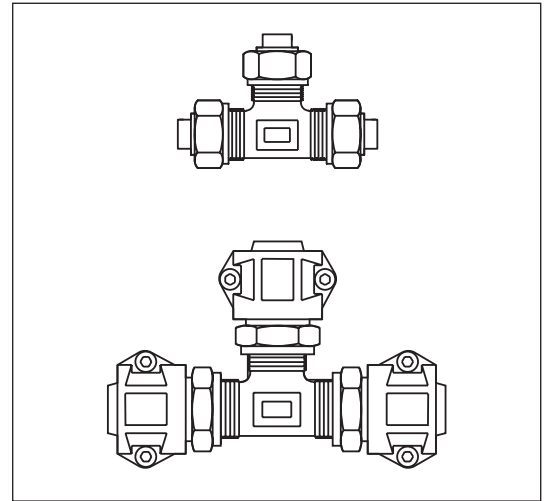


Component No. 6100.

Thread	PEX								
	20	25	32	40	50	63	75	90	110
3/4"	x	x							
1"		x	x						
1 1/4"				x					
1 1/2"					x				
2"						x	x		
3"								x	x

**Products - PexFlextra  
Compression couplings**

Compression  
coupling, tee



Component No. 6160.

d <sub>1</sub> , mm	d <sub>2</sub> , mm								
	20	25	32	40	50	63	75	90	110
20	x								
25	x	x							
32	x	x	x						
40	x	x	x	x					
50	x	x	x	x	x				
63	x	x	x	x	x	x			
75	x	x	x	x	x	x	x	x	x
90		x	x	x	x	x	x	x	x
110		x	x	x	x	x	x	x	x



**Products - SaniFlextra  
Contents**

---

3.2.1	Contents
3.2.2	General
3.2.3	Pipes
3.2.4	Press couplings, type JT
3.2.7	Compression couplings

---

## Products - SaniFlextra

### General

#### Application

LOGSTOR SaniFlextra is used for distribution and transmission pipelines of domestic water.

The flexibility, low weight, and long lengths make the installation quicker and more inexpensive. SaniFlextra is especially suitable for:

- branch pipes without joints
- passage of vegetation and other obstacles
- hilly areas

Continuous operating temperature max.: 85°C

Short-term operating temperature max.: 95°C (max. 100 hours)

Operating pressure max.: 10 bar

Water quality: Neutral, oxygenous water

To join PEX service pipes in buried systems press couplings are used. For jointing in buildings, chambers, and cabinets compression couplings can be used.

#### Description

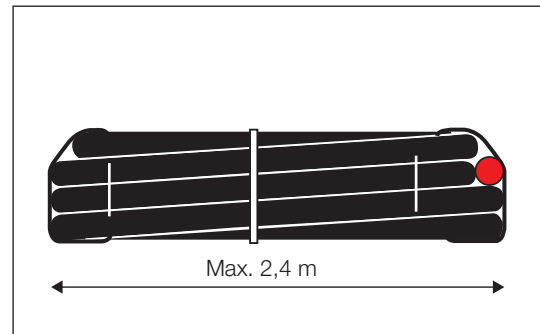
SaniFlextra is produced with a flexible, corrugated outer casing.

The standard coil length is 100 m.

Fixed lengths can be ordered to measure in lengths of min. 10 m and max. 90 m.

Delivered without free ends.

All pipes are produced in accordance with EN15632-1 and EN15632-2.



#### Materials

Service pipe:

Cross-linked polyethylene PEXa in accordance with EN ISO 15875.

The pipes are produced for use within the food and beverage industry (hot and cold domestic water installations), what requires approval.

No common European directives for the hygienic requirements exist today, so approvals are still administered nationally.

It is the responsibility of the owner to ensure that valid local regulations are complied with. If in doubt, please contact your local LOGSTOR contact person.

Insulation:

Polyurethane foam

Blowing agent: CO<sub>2</sub>

Average thermal conductivity  $\lambda_{50} = 0.026$  W/mK

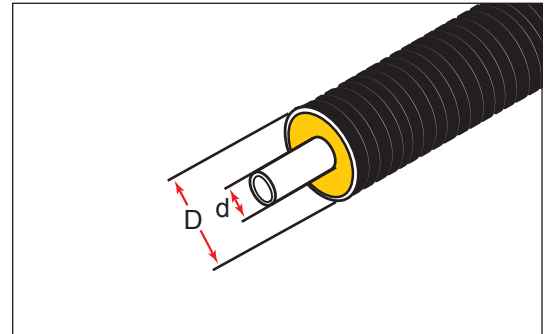
Outer casing:

Polyethylene, PE-HD with co-extruded EVOH diffusion barrier.



**Products - SaniFlextra  
Pipes**

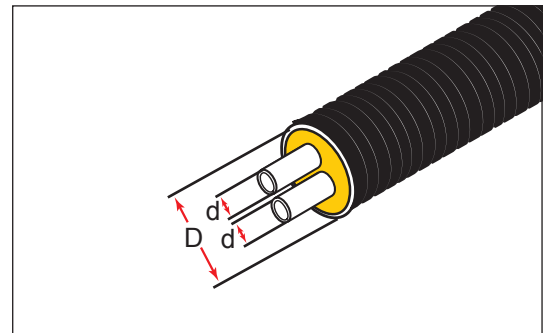
**Single pipe**



Component No. 2100

d mm	Wall thickness mm	Outer casing		Weight kg/m
		D mm	Wall thickness mm	
22	3.0	90	1.5	1.2
28	4.0	90	1.5	1.3
32	4.4	90	1.5	1.4
40	5.5	90	1.5	1.6
50	6.9	110	1.5	2.2
63	8.7	125	1.5	3.0

**Double pipe**



Component No. 2190

d mm	Wall thickness mm	Outer casing		Weight kg/m
		D mm	Wall thickness mm	
28/22	4.0/3.0	110	1.5	1.9
32/22	4.4/3.0	125	1.5	2.3
32/28	4.4/4.0	125	1.5	2.4
40/28	5.5/4.0	140	1.5	3.1
40/32	5.5/4.4	140	1.5	3.1
50/32	6.9/4.4	140	1.5	3.4
50/40	6.9/5.5	160	2.5	4.1

Distance between service pipes: 12 mm

**Products - SaniFlextra  
Press couplings, type JT**

**General**

Used to connect PEX service pipes.

Use special tools to install the press coupling, type JT (Jentro), see section 17.5 Tools for FlexPipe.

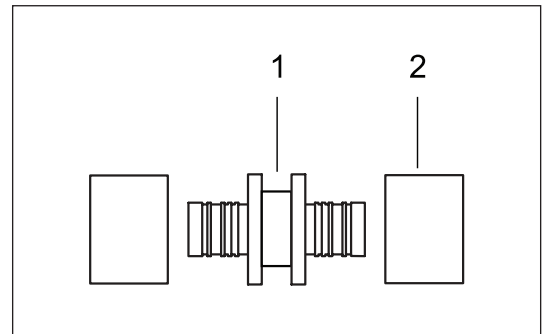
Outer casings are most easily joined with casing joints with insulation shells with flexible cores.

Press coupling are made of brass or red brass.

**Press coupling,  
straight**

Press coupling for straight PEX-PEX connections:

- 1. Supporting bush
- 2. Press ring

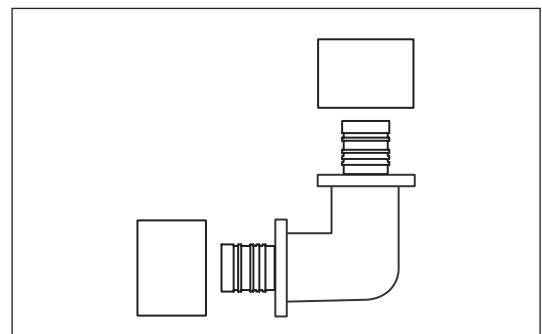


Component No. 6009.

Couping end 1	Couping end 2					
	22	28	32	40	50	63
22	x					
28	x	x				
32		x	x			
40			x	x		
50			x	x	x	
63					x	x

**Press coupling,  
90°**

90° elbow with press coupling in both ends.



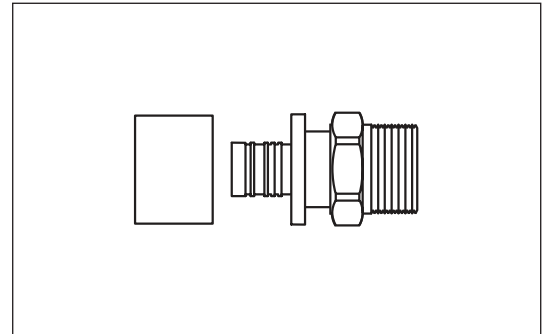
Component No. 6009.

Couping end 1	Couping end 2					
	22	28	32	40	50	63
22	x					
28		x				
32			x			
40				x		
50					x	
63						x

**Products - SaniFlextra  
Press couplings, type JT**

**Press coupling,  
male**

Press coupling with male thread for termination in a cabinet or a building.



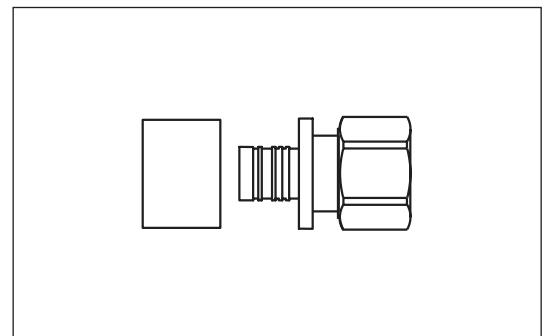
Component No. 6009.

Thread	PEX					
	22	28	32	40	50	63
3/4"	x	x	x			
1"			x			
1 1/4"				x	x	
1 1/2"					x	
2"						x

**Press coupling,  
female**

Component No. 6009.

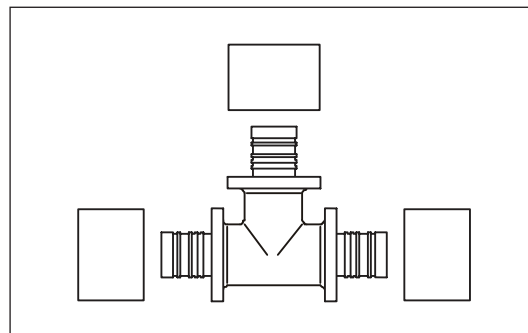
Thread	PEX
3/4"	x
1"	x



## Products - SaniFlextra Press couplings, type JT

### Press coupling, tee

The base unit of the press coupling is made in one piece.



Component No. 6069.

Main pipe $d_1 - d_3$ mm	Branch $d_2$ , mm					
	22	28	32	40	50	63
22-22	x					
28-28	x	x				
32-32	x	x	x			
40-40	x	x	x	x		
50-50	x	x	x	x	x	
63-63	x	x	x	x	x	x

Other combinations of dimensions can be delivered on enquiry.

**Products - SaniFlextra  
Compression couplings**

**General**

Compression couplings are used to connect PEX service pipes.

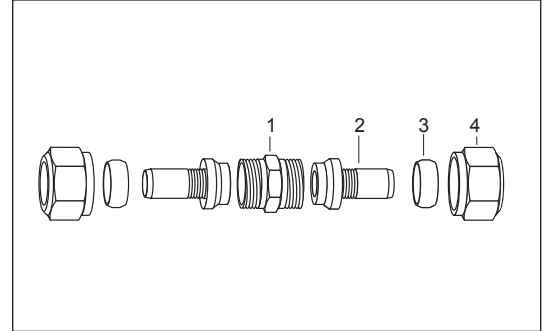
Compression couplings are made of brass or red brass.

**Compression coupling, straight**

Compression coupling for straight PEX-PEX joint.

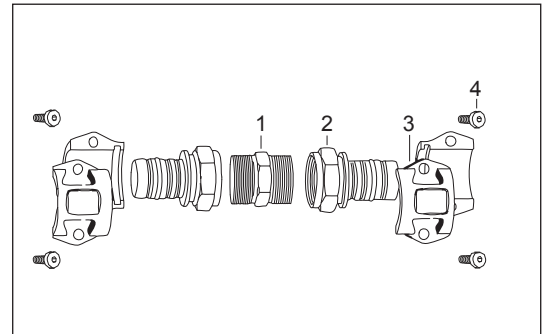
**Ø 22-32 mm**

- 1. Clutch casing
- 2. Supporting bush
- 3. Squeezing ring
- 4. Union nut



**Ø 40-63 mm**

- 1. Clutch casing
- 2. Supporting bush
- 3. Clamp
- 4. Screw



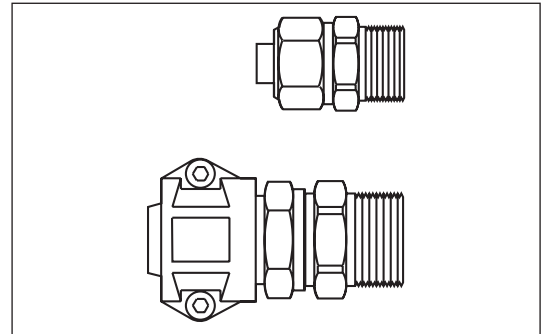
Component No. 6100.

Coupling end 1	Coupling end 2					
	22	28	32	40	50	63
22	x					
28	x	x				
32	x	x	x			
40	x	x	x	x		
50	x	x	x	x	x	
63	x	x	x	x	x	x

**Products - SaniFlextra  
Compression couplings**

**Compression  
coupling, male**

Compression coupling with male thread for termination in a cabinet or a building.

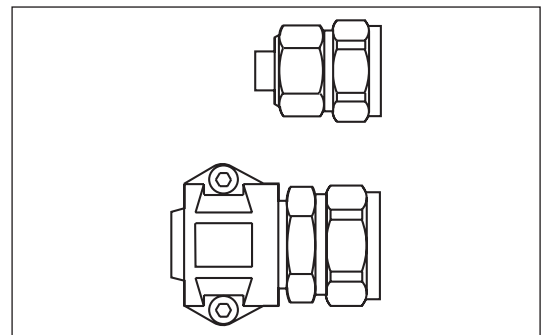


Component No. 6100.

Thread	PEX					
	22	28	32	40	50	63
3/4"	x	x				
1"	x	x	x			
1 1/4"			x	x		
1 1/2"					x	
2"						x

**Compression  
coupling, female**

Compression coupling with female thread for termination in a cabinet or a building.

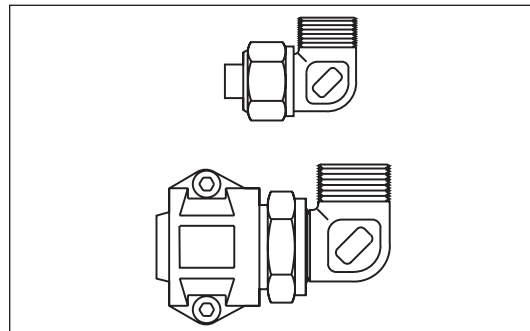


Component No. 6100.

Thread	PEX					
	22	28	32	40	50	63
3/4"	x	x				
1"	x	x	x			
1 1/4"				x		
1 1/2"					x	
2"						x

**Products - SaniFlextra  
Compression couplings**

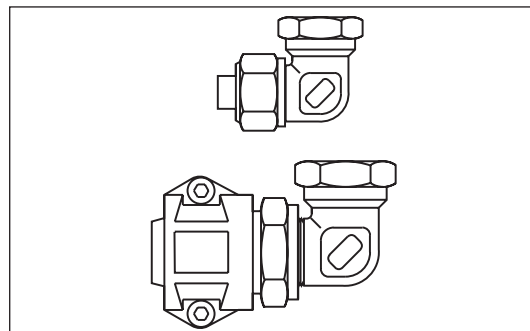
Compression coupling, union elbow, male



Component No. 6100.

Thread	PEX					
	22	28	32	40	50	63
¾"	x	x				
1"	x	x				
1¼"			x	x		
1½"					x	
2"						x

Compression coupling, union elbow, female

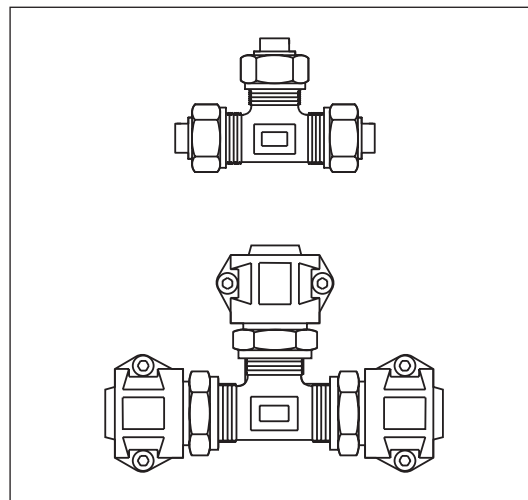


Component No. 6100.

Thread	PEX					
	22	28	32	40	50	63
¾"	x					
1"	x	x				
1¼"			x	x		
1½"					x	
2"						x

**Products - SaniFlextra  
Compression couplings**

Compression  
coupling, tee



Component No. 6160.

d <sub>1</sub> , mm	d <sub>2</sub> , mm					
	22	28	32	40	50	63
22	x					
28	x	x				
32	x	x	x			
40	x	x	x	x		
50	x	x	x	x	x	
63	x	x	x	x	x	x



**Products - AluFlextra**  
**Contents**

---

- 3.3.1 Contents
  - 3.3.2 General
  - 3.3.3 Pipes - corrugated casing
  - 3.3.4 Pipes - smooth casing
  - 3.3.5 Press couplings, type MP
-

## Products - AluFlextra

### General

#### Application

AluFlextra is used within District Heating for distribution and transmission pipelines.

Due to the properties of the AluPEX service pipe, expansion must not be taken into consideration. The flexibility, low weight, and long lengths make the installation quicker and more inexpensive. AluFlextra is especially suitable for:

- branch pipes without joints
- passage of vegetation and other obstacles
- hilly areas

Continuous operating temperature max: 90°C

Short-term operating temperature max: 95°C (max. 100 hours)

Operating pressure max: 10 bar

AluFlextra can be combined with the other LOGSTOR systems provided that the above temperatures and pressure are observed.

AluPEX-service pipes are joined with press couplings.

For pipe systems with AluFlextra preinsulated steel fittings from the bonded pipe system or TwinPipes with press couplings which are welded onto one or more pipe ends can be used. Press couplings with weld end are bought separately and welded on site.

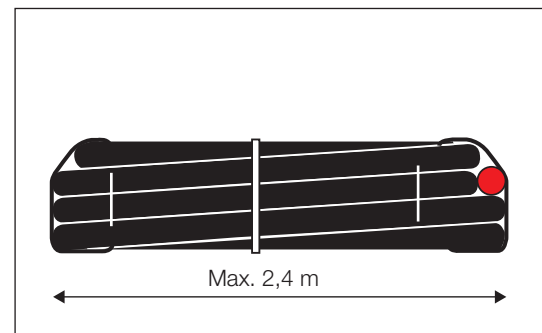
#### Description

The standard coil length is 100 m.

Fixed lengths can be ordered to measure in lengths of min. 10 m and max. 90 m.

Delivered without free ends.

All pipes are produced in accordance with EN15632-1 and EN15632-2.



#### Materials

Service pipe: Multilayer PEX/aluminium/PE-HD or PEX/aluminium/PEX  
The material complies with the requirements in EN ISO 21003-2.

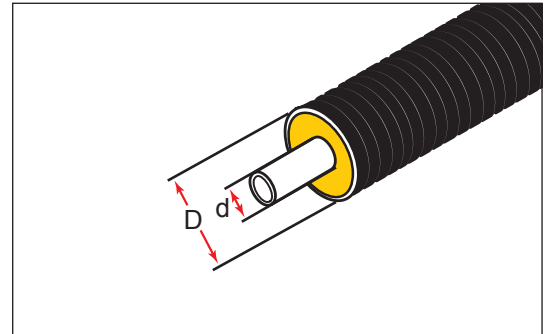
Insulation: Polyurethane foam  
Blowing agent: Cyclopentane  
Average thermal conductivity  $\lambda_{50} = 0.022$  W/mK

Outer casing:  
Smooth, AluFlex: Polyethylene, PE-LD.  
Aluminium diffusion barrier between insulation and outer casing.

Corrugated AluFlextra: Polyethylene, PE-HD with co-extruded EVOH diffusion barrier.

**Products - AluFlextra  
Pipes - corrugated casing**

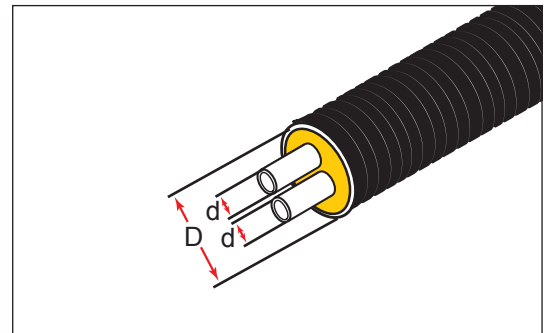
**AluFlextra  
single pipe**



Component No. 2100

Alupex service pipe		Series 1			Series 2			Series 3		
d	Wall thk	Outer casing		Weight kg/m	Outer casing		Weight kg/m	Outer casing		Weight kg/m
mm	mm	D	Wall thk		D	Wall thk		D	Wall thk	
20	2.5				90	1.5	1.3	110	1.5	1.7
26	3.0				90	1.5	1.4	110	1.5	1.7
32	3.0	90	1.5	1.4	110	1.5	1.8	125	1.5	2.2

**AluFlextra  
TwinPipe**



Component No. TwinPipe: 2190  
Double pipe: 2191

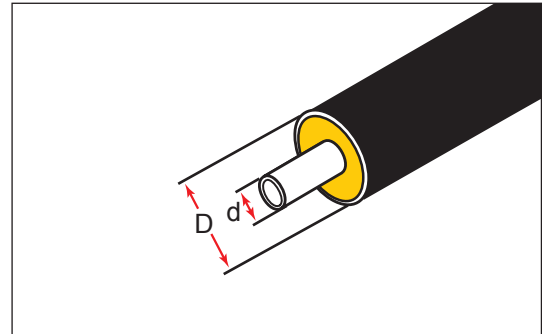
Alupex service pipe		Series 1			Series 2			Series 3		
d	Wall thk	Outer casing		Weight kg/m	Outer casing		Weight kg/m	Outer casing		Weight kg/m
mm	mm	D	Wall thk		D	Wall thk		D	Wall thk	
TwinPipe										
16/16	2.2				110	1.5	1.7	125	1.5	2.1
20/20*	2.5				110	1.5	1.9	125	1.5	2.3
26/26	3.0	110	1.5	2.0	125	1.5	2.4	140	1.5	2.8
32/32	3.0				125	1.5	2.5	140	1.5	3.0
Double pipe										
20/16*	2.5/2.2				110	1.5	1.8	125	1.5	2.1
26/20	3.0/2.5				125	1.5	2.2	140	1.5	2.8

Distance between service pipes: 12 mm.

\* Also available in series 4 with casing diameter 140 mm.

**Products - AluFlextra  
Pipes - smooth casing**

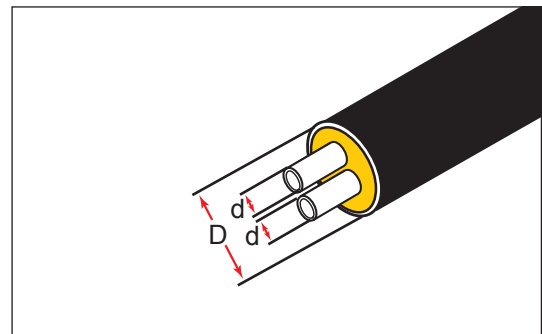
AluFlex  
single pipe



Component No. 2100

Alupex service pipe		Series 1 Outer casing			Series 2 Outer casing		
d mm	Wall thk mm	D mm	Wall thk mm	Weight kg/m	D mm	Wall thk mm	Weight kg/m
20	2.5				90	2.5	1.3
26	3.0				90	2.5	1.4
32	3.0	90	1.5	1.4			

AluFlex  
TwinPipe



Component No. 2190

Alupex service pipe		Series 1 Outer casing			Series 2 Outer casing			Series 3 Outer casing		
d mm	Wall thk mm	D mm	Wall thk mm	Weight kg/m	D mm	Wall thk mm	Weight kg/m	D mm	Wall thk mm	Weight kg/m
16/16	2.2				110	2.5	1.7			
20/20	2.5				110	2.5	1.9	125	2.7	2.3
26/26	3.0	110	2.5	2.0	125	2.7	2.4			
32/32	3.0				125	2.7	2.5			

Distance between service pipes: 12 mm.

**Products - AluFlextra  
Press couplings, type MP**

**General**

Used for permanent jointing of Alupex service pipes.

Use special tools to install the press couplings, type MP (Multipress), see section 17.5 Tools for FlexPipe.

Outer casings are joined with casing joints with insulation shells with flexible cores or casing joints for foaming.

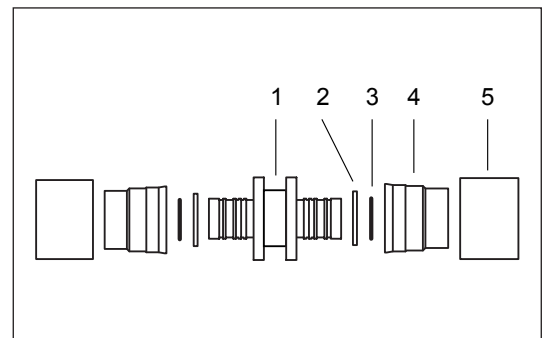
Press coupling are made of brass or red brass.

Weld ends for transition to steel are made in S355J2.

**Press coupling, straight**

Press coupling for straight AluPEX-AluPEX joints:

1. Supporting bush
2. Insulating ring
3. O-ring
4. Squeezing ring
5. Press ring

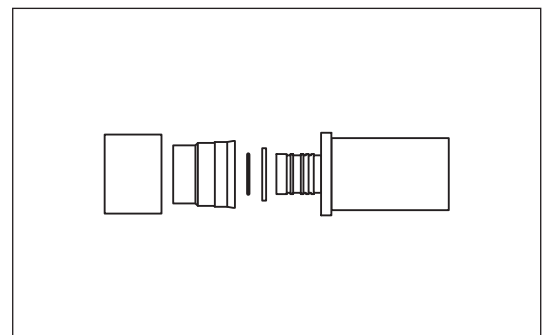


Component No. 6001.

Coupling end 1	Coupling end 2			
	16	20	26	32
16	x			
20	x	x		
26		x	x	
32			x	x

**Press coupling, weld**

Press coupling with weld end for transition to steel pipe.



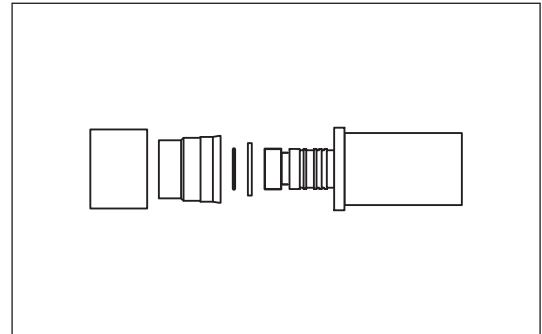
Component No. 6001.

Alupex	Steel	
	26.9	33.7
16	x	
20	x	
26	x	x
32		x

**Products - AluFlextra  
Press couplings, type MP**

**Press coupling,  
weld, closed**

Closed press coupling with weld end.

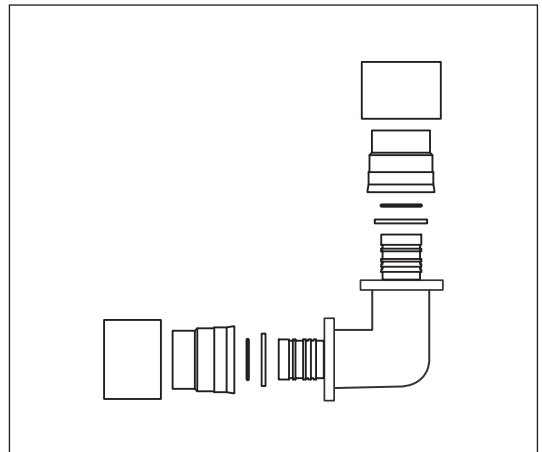


Component No. 6001.

Alupex	Steel	
	26.9	33.7
16	x	
20	x	
26	x	
32		x

**Press coupling,  
90°**

90° elbow with press coupling in both ends.



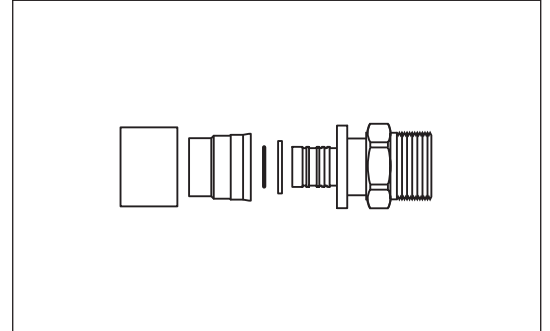
Component No. 6001.

Coupling end 1	Coupling end 2			
	16	20	26	32
16	x			
20		x		
26			x	
32				x

**Products - AluFlextra  
Press couplings, type MP**

**Press coupling,  
male**

Press coupling with male thread for termination in a cabinet or a building.

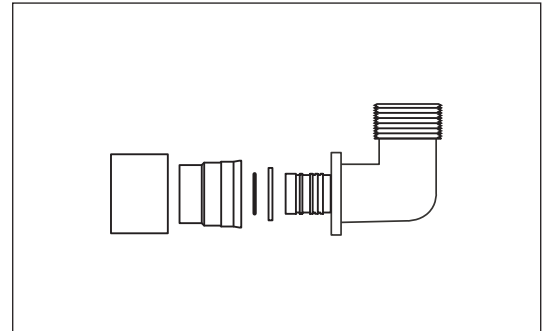


Component No. 6001.

Alupex	Thread		
	1/2"	3/4"	1"
16	x	x	
20		x	
26		x	
32			x

**Press coupling,  
90°, male**

Press coupling with male thread for termination in a cabinet or a building.



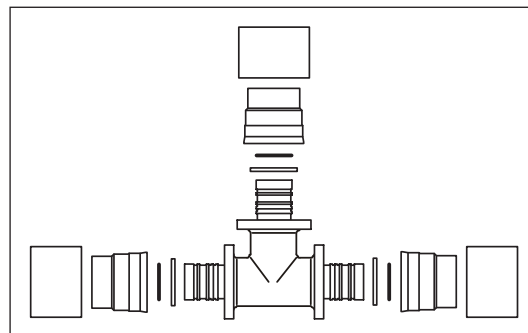
Component No. 6001.

Alupex	Thread		
	1/2"	3/4"	1"
16	x		
20		x	
26		x	
32			x

**Products - AluFlextra**  
**Press couplings, type MP**

**Press coupling,  
tee**

The base unit of the press coupling is made in one piece.



Component No. 6062.

Main pipe $d_1 - d_3$ mm	Branch $d_2$ , mm			
	16	20	26	32
16-16	x	x		
20-20	x	x	x	x
26-20		x	x	x
26-26	x	x	x	x
32-20		x	x	
32-26		x	x	x
32-32	x	x	x	x



**Products - SteelFlex  
Contents**

---

- 3.4.1 Contents
  - 3.4.2 General
  - 3.4.3 Pipes
  - 3.4.4 Weld fittings
-

## Products - SteelFlex General

### Application

SteelFlex is used within District Heating for distribution and transmission pipelines.

The long lengths make SteelFlex especially suitable for:

- branch pipes without joints
- passage of vegetation and other obstacles
- hilly areas

Continuous operating temperature max.: 120°C

Short-term operating temperature max.: 130°C (Max. 100 hours)

Operating pressure max.: 25 bar

SteelFlex can be combined with the other LOGSTOR systems.

The steel service pipes are joined by means of welding. Branches which are at least one dimension smaller than the main pipe can be welded directly onto the main pipe.

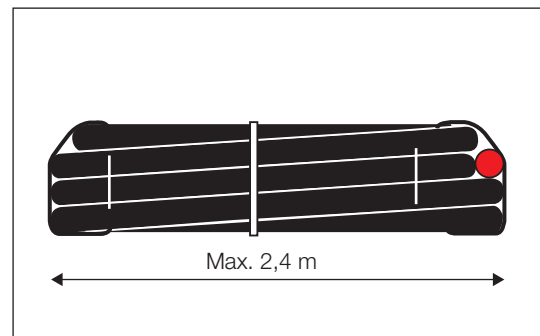
For dimensional changes weld reductions are used.

### Description

The standard coil length is 50 or 100 m.

Always delivered without free ends.

All pipes are produced in accordance with EN15632-4.



### Materials

Service pipe: Welded steel pipe E195 or E155, + N, S2 in accordance with EN 10305-3.

Insulation: Polyurethane foam

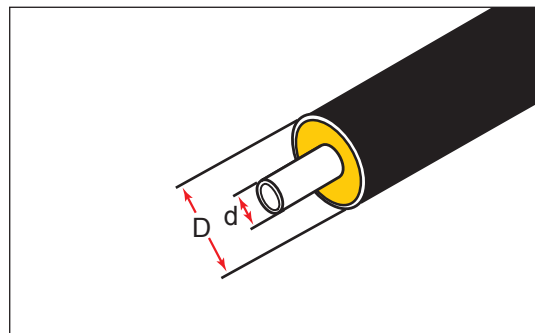
Blowing agent: Cyclopentane

Average thermal conductivity  $\lambda_{50} = 0.022$  W/mK

Outer casing: Polyethylene, PE-LD with internal aluminium diffusion barrier.

**Products - SteelFlex  
Pipes**

Pipes



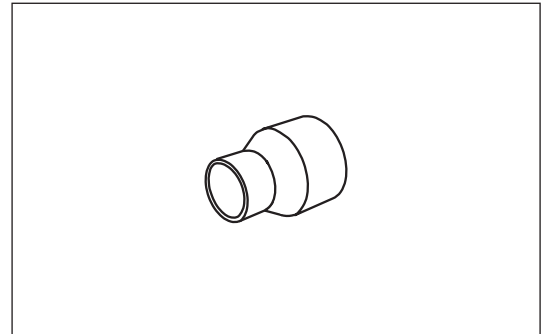
Component No. 2100

Service pipe		Outer casing		Weight kg/m
d mm	Wall thickness mm	D mm	Wall thickness mm	
20	2.0	90	2.5	2.0
28	2.0	90	2.5	2.3

**Products - SteelFlex  
Weld fittings**

**Weld reduction**

For transition between SteelFlex and an ordinary steel pipe.

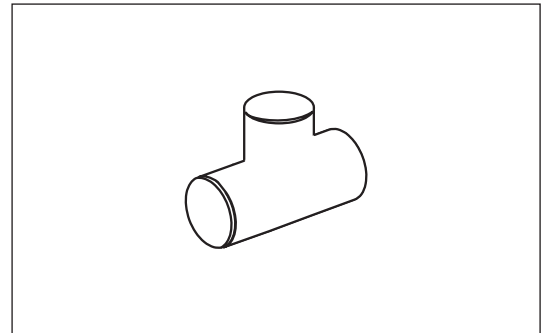


Component No. 1006.

Pipe end 1 Ord. steel pipe	Pipe end 2 SteelFlex	
	20	28
26.9	x	
33.7	x	x

**Weld tee**

Used with weld reductions for branching from SteelFlex to SteelFlex.



Component No. 1007.

Main pipe d <sub>1</sub> mm	Branch d <sub>2</sub> , mm
33.7	33,7
	x

3.5.1	Contents
3.5.2	General
3.5.3	Pipes
3.5.4	Solder joint fittings
3.5.6	Press couplings, type MP

---

## Products - CuFlex

### General

#### Application

CuFlex is used within District Heating for distribution and transmission pipelines.

Due to the properties of the soft copper pipe, allowance must not be made for expansion. The flexibility, low weight, and long lengths make the installation quicker and more inexpensive.

CuFlex is especially suitable for:

- branch pipes without joints
- passage of vegetation and other obstacles
- hilly areas

Continuous operating temperature max.: 120°C

Short-term operating temperature max.: 130°C (Max. 100 hours)

Operating pressure max.: 16 bar

CuFlex can be combined with the other LOGSTOR systems.

As for preinsulated fittings with copper service pipe, see the Product Catalogue section 7 "The copper pipe system".

Copper service pipes are joined with solder joint fittings or press couplings.

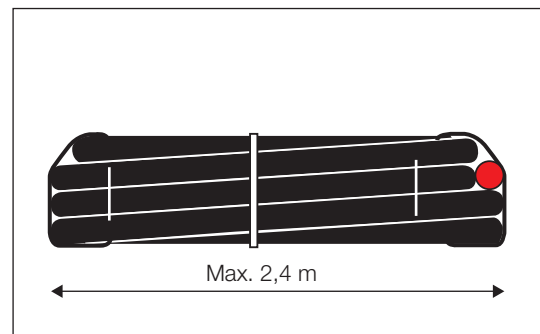
#### Description

The standard coil length is 100 m.

Fixed lengths can be ordered to measure in lengths of min. 10 m and max. 90 m.

Delivered without free ends.

All pipes are produced in accordance with EN15632-4.



#### Materials

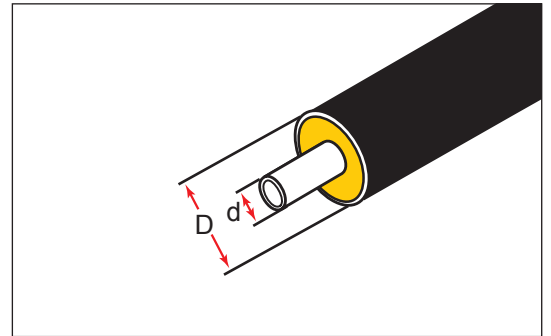
Service pipe: Soft annealed copper Cu-DHP-CV024A-H40 after EN 12449.  
Tolerances after EN 1057.

Insulation: Polyurethane foam  
Blowing agent: Cyclopentane  
Average thermal conductivity  $\lambda_{50} = 0.022$  W/mK

Outer casing: Polyethylene, PE-LD with internal aluminium diffusion barrier.

**Products - CuFlex Pipes**

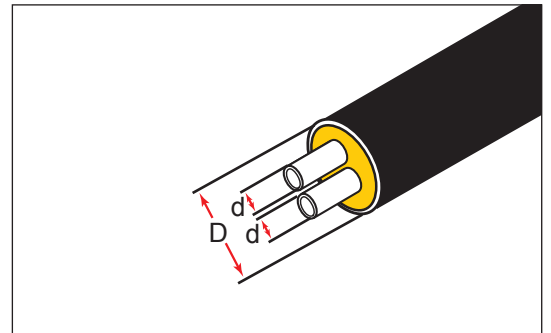
**Single pipe**



Component No. 2100

Service pipe		Series 1 Outer casing			Series 2 Outer casing		
d mm	Wall thk mm	D mm	Wall thk mm	Weight kg/m	D mm	Wall thk mm	Weight kg/m
15	1.0				90	2.5	1.5
18	1.0				90	2.5	1.6
22	1.0				90	2.5	1.7
28	1.2				90	2.5	2.0
35	1.5	90	2.5	2.4	110	2.5	2.8

**TwinPipe**



Component No. 2190

Service pipe		Series 1 Outer casing			Series 2 Outer casing		
d mm	Wall thk mm	D mm	Wall thk mm	Weight kg/m	D mm	Wall thk mm	Weight kg/m
18/18	1.0	90	2.5	2.0	110	2.5	2.4
22/22	1.0	90	2.5	2.2	110	2.5	2.6
28/28	1.2	110	2.5	3.2	125	2.5	3.6

Distance between service pipes: 12 mm

**Products - CuFlex  
Solder joint fittings**

**General**

Solder joint fittings for joining CuFlex service pipes are designed to transfer axial forces, arising in the pipe system.

The solder joint fittings have stop for the max insertion depth.

The material is Cu-DHP after EN 12449.

Dimensions and tolerances are in accordance with EN 1254-1.

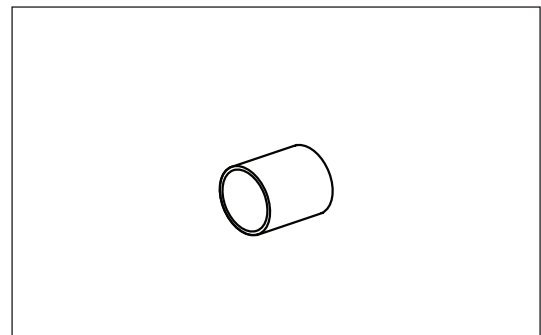
Soldered with silver solder with at least 5% silver. Prior to soldering a calibration mandrel is used to calibrate the copper pipes.

Weld ends are made of P235 TR1/TR2 in accordance with EN 10217-1 or P235GH in accordance with EN 20117-2.

**Solder joint fitting, straight**

Component No. 1100.

d, mm	15	18	22	28	35
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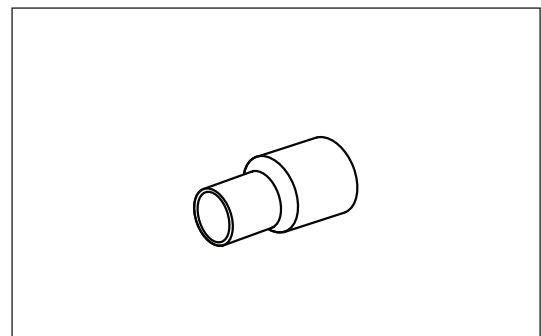


**Solder reduction, male/female**

Never reduce more than a single dimension.

Component No. 1100.

d <sub>1</sub> , mm	18	22	28	35
d <sub>2</sub> , mm	15	18	22	28

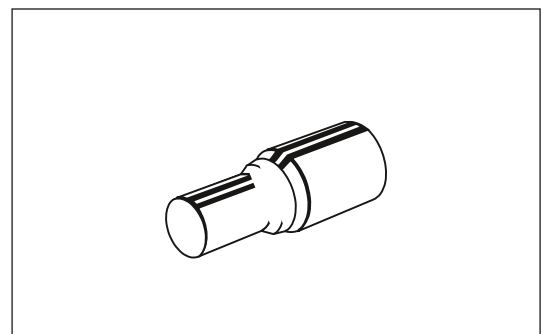


**Transition fitting**

Steel-copper transition fitting is welded onto the steel pipe and soldered on the copper pipe with a straight solder joint fitting.

Component No. 6880.

d <sub>Cu</sub> , mm	15	18	22	28	35
d <sub>St</sub> , mm	26,9	26,9	26,9	33,7	42,4





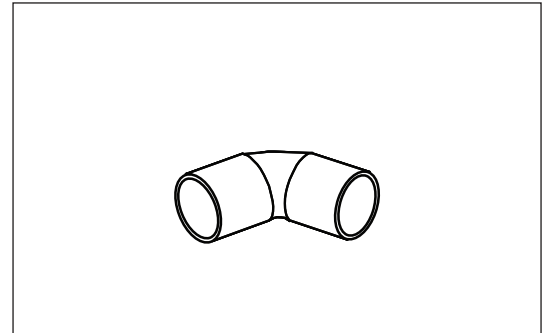
**Products - CuFlex  
Solder joint fittings**

**Solder elbow fitting**

45° and 90° angle.

Component No. 1100.

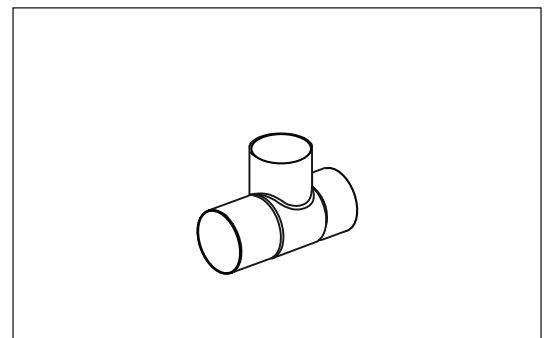
d, mm	15	18	22	28	35
45°	x	x	x	x	x
90°	x	x	x	x	x



**Solder tee fitting**

Component No. 1100.

Main pipe d <sub>1</sub> , mm	Branch d <sub>2</sub> , mm				
	15	18	22	28	35
15	x				
18	x	x			
22	x	x	x		
28	x	x	x	x	
35	x	x	x	x	x

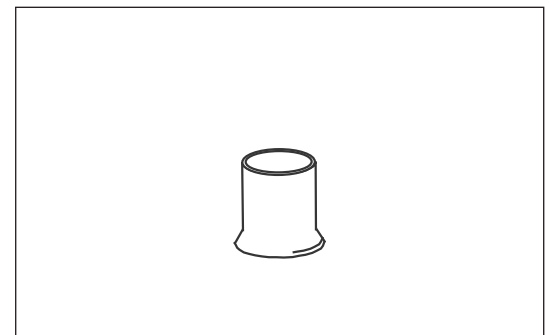


**Saddle pipe piece**

The saddle pipe piece is soldered directly onto the main pipe.

Component No. 1100.

Main pipe d <sub>1</sub> , mm	Branch d <sub>2</sub> , mm			
	15	18	22	28
22	x	x		
28	x	x	x	
35		x	x	x



**Products - CuFlex  
Press couplings, type MP**

**General**

Copper service pipes are connected with press couplings. Use special tools to install the press coupling, see section 17.5 Tools for FlexPipe.

Press coupling are made of brass or red brass.

Weld ends are made in S355J2.

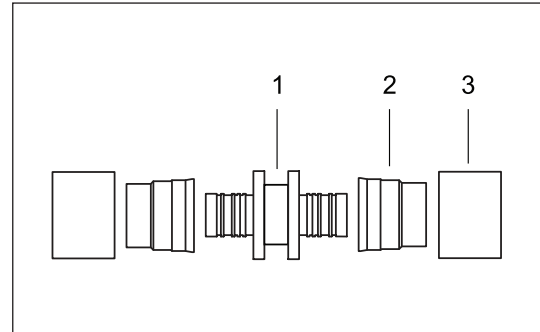
**Press coupling, straight**

Press coupling for straight Cu-Cu joints:

1. Supporting bush
2. Squeezing ring
3. Press ring

Component No. 6000.

Coupling end 1	Coupling end 2				
	15	18	22	28	35
15	x				
18		x			
22		x	x		
28		x	x	x	
35					x

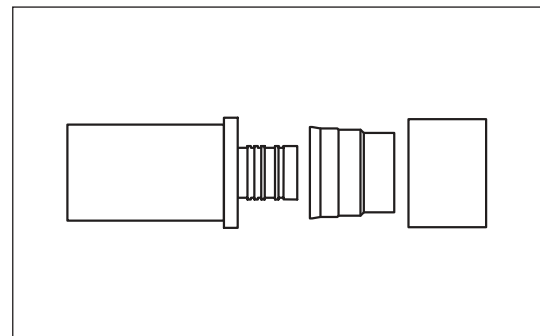


**Press coupling, weld**

Press coupling with weld end for transition to steel pipe.

Component No. 6000.

Steel	Copper				
	15	18	22	28	35
26.9	x	x	x	x	
33.7				x	
42.4					x

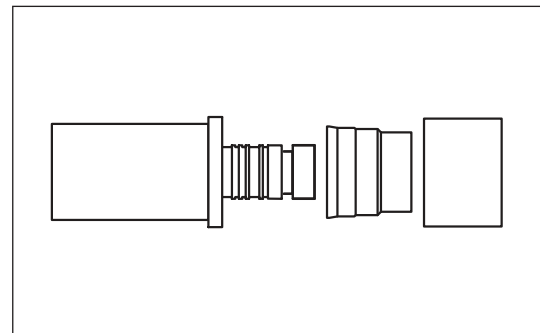


**Press coupling, weld, closed**

Closed press coupling with weld end.

Component No. 6000.

Steel	Copper		
	18	22	28
26.9	x	x	
33.7			x



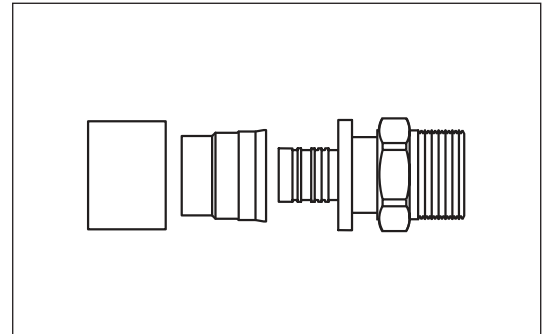
**Products - CuFlex  
Press couplings, type MP**

**Press coupling,  
male**

Press coupling with male thread for termination in a cabinet or a building.

Component No. 6000.

Thread	Copper pipe			
	15	18	22	28
1/2"	x	x	x	
3/4"		x	x	
1"			x	x





3.6.1	Contents
3.6.2	FXJoint
3.6.3	SX-WPJoint
3.6.4	C2LJoint
3.6.5	C2FJoint
3.6.6	T-joint straight
3.6.7	TXJoint
3.6.9	SXT-WPJoint
3.6.11	TSJoint

---

**Products - Casing joints**  
**FXJoint**

**Application**

Shrink sleeve in cross-linked PE with insulation shells in polyurethane (PUR).

PEX or AluPex service pipes are delivered with insulation shells with flexible core to ensure space for the coupling.

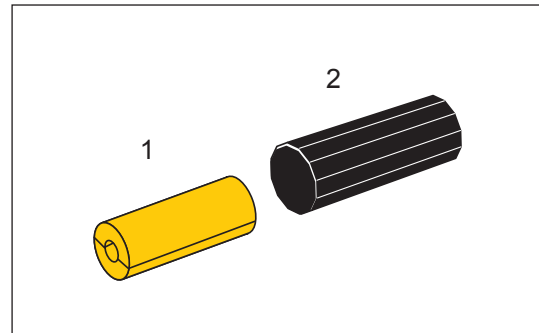
The shrink sleeve can be used for reduction. The dimensional limits appear from below table. Allowing for the insulation shells, order the largest dimension.

Major reductions can be carried out by combining two sleeves – a small and a big one.

**Description**

The FXJoint consists of:

1. Insulation shells
2. Shrink sleeve with integrated mastic



Component No. 5057

Outer casing D, mm				90	110	125	140	160	180
Sleeve dimensional limits, mm				77-125			125-180		
Sleeve length, mm				555			565		
Service pipe, d mm									
PexFlextra	SaniFlextra	AluFlextra	SteelFlex						
20	22	20	20	x					
25	28	26	25	x					
32	32	32	28	x					
40	40			x	x				
50	50				x	x			
63	63					x	x		
75							x	x	
90								x	x
110									x

**Products - Casing joints**  
**SX-WPJoint**

**Application**

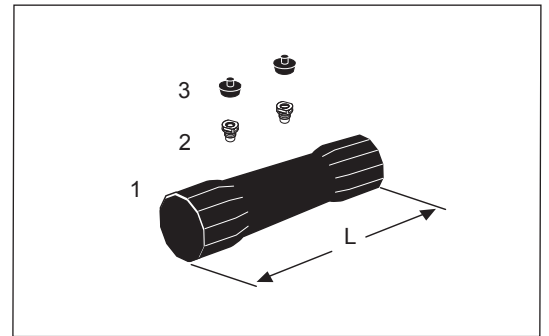
Shrink sleeve in cross-linked PE (PEX) for foaming. The sleeve is shrinkable at the ends and the foam holes are sealed with weld plugs.

Installation on pipes with corrugated casing requires that the sleeve ends be sealed with extra collars, which are ordered separately.

**Description**

The SX-WPJoint consists of:

1. Shrink sleeve with integrated mastic
2. Venting plugs
3. Weld plugs



Component No. 5031

Outer casing D <sub>1</sub> , mm	Outer casing D <sub>2</sub> , mm					
	90	110	125	140	160	180
90	x					
110	x	x				
125		x	x			
140			x	x		
160				x	x	
180					x	x

L = 650 mm

**Accessories**

Collar for corrugated casing, component No. 5500.  
 Order 2 pcs. per joint.

To be foamed with foam packs, component No. 0700.  
 When ordering state insulation series, and that delivery must include foam packs.

**Products - Casing joints**  
**C2LJoint**

**Application**

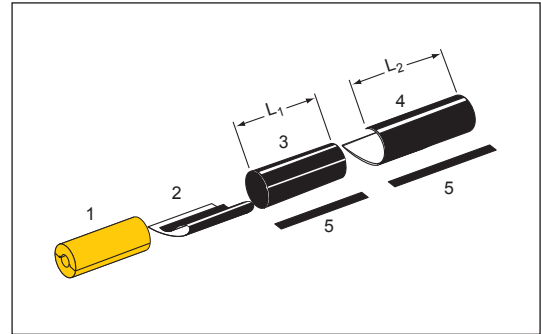
Open shrink sleeve in PE with insulation shells in PUR. Prior to installation the shrink sleeve is cut longitudinally.

I.a. for repair of pipes with SteelFlex service pipe.

**Description**

The C2LJoint consists of:

1. Insulation shell
2. Shrink film
3. Shrink sleeve
4. Shrink wrap
5. Closure patches



Component No. 5035

SteelFlex service pipe d, mm	Outer casing D, mm
20	90
28	90

$L_1 = 650 \text{ mm}$

$L_2 = 900 \text{ mm}$



**Products - Casing joints**  
**C2FJoint**

**Application**

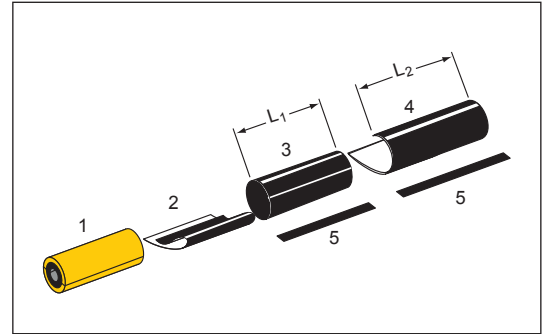
Open shrink sleeve in PE with insulation shells in PUR with flexible core. Prior to installation the shrink sleeve is cut longitudinally.

I.a. for repair of pipes with PEX or AluPex service pipe.

**Description**

The C2FJoint consists of:

1. Insulation shell
2. Shrink film
3. Shrink sleeve
4. Shrink wrap
5. Closure patches



Component No. 5060

Service pipe d, mm			Outer casing D, mm					
PexFlextra	SaniFlextra	AluFlextra	90	110	125	140	160	180
20	22	20	x					
25	28	26	x					
32	32	32	x					
40	40		x	x				
50	50			x	x			
63	63				x	x		
75						x	x	
90							x	x
110								x

$L_1 = 500 \text{ mm}$

$L_2 = 640 \text{ mm}$

**Products - Casing joints**  
**T-joint straight**

**Application**

T-joint straight is used to branch on FlexPipes. Available with insulation shells or for foaming.

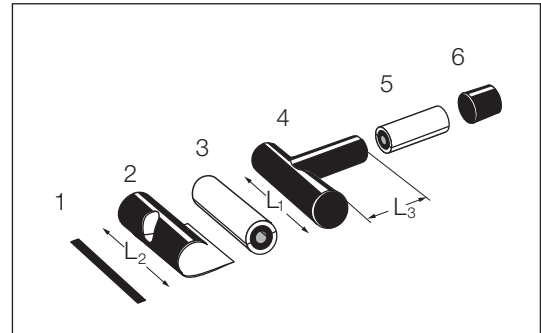
T-joint straight with insulation shells can be used for single pipe FlexPipes with PEX, AluPex or steel service pipe.

T-joint straight for foaming can be used for all FlexPipes.

**Description**

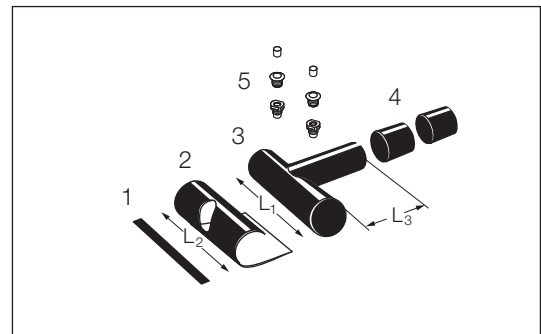
T-joint straight with insulation shells consists of:

1. Closure patch
2. Shrink wrap
3. Insulation shell
4. T-shoe
5. Insulation shell
6. Collar



T-joint straight for foaming consists of:

1. Closure patch
2. Shrink wrap
3. T-shoe
4. Collars
5. Venting and expansion plugs



Component No. 5140

Main pipe D <sub>1</sub> mm	Branch D <sub>2</sub> , mm					
	90	110	125	140	160	180
90	x					
110	x	x				
125	x	x	x			
140	x	x	x	x		
160	x	x	x	x	x	
180	x	x	x	x	x	x

L<sub>1</sub> = 400 mm

L<sub>2</sub> = 650 mm

L<sub>3</sub> = 300 mm

**Accessories**

To be foamed with foam packs, component No. 0700.

When ordering state insulation series, and that delivery must include foam packs.

**Products - Casing joints**  
**TXJoint**

**Application**

T-joint for foaming used to branch perpendicular to the main pipe.

The T-joint is made of PE and the shrink sleeve of cross-linked PE (PEX).

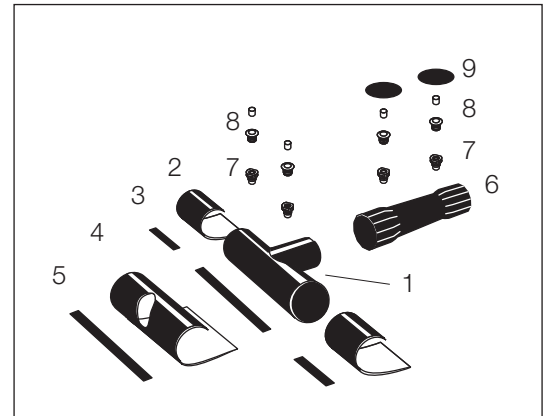
If it is to be used in connection with hot tapping this must be stated when ordering.

Installation on pipes with corrugated casing requires that the branch be sealed with an extra collar, which is ordered separately.

**Description**

The TXJoint consists of:

1. Main pipe joint
2. Open collars
3. Closure patches
4. Shrink wrap
5. Closure patch
6. Shrink sleeve
7. Venting plugs
8. Expansion plugs
9. Patches



Component No. 5191

Main pipe D <sub>1</sub> mm	Branch D <sub>2</sub> , mm					
	90	110	125	140	160	180
125	x	x				
140	x	x	x			
160	x	x	x	x		
180	x	x	x	x	x	
200	x	x	x	x	x	x
225	x	x	x	x	x	x
250	x	x	x	x	x	x
280	x	x	x	x	x	x
315	x	x	x	x	x	x
355	x	x	x	x	x	x
400	x	x	x	x	x	x
450	x	x	x	x	x	x
500	x	x	x	x	x	x
560	x	x	x	x	x	x
630	x	x	x	x	x	x
710	x	x	x	x	x	x

Length of main pipe joint = 600 mm

Length of shrink wrap = 900 mm

Length of shrink sleeve = 650 mm

**Accessories**

Collar for branch with corrugated casing, component No. 5500.

Order 1 pc. per joint.

To be foamed with foam packs, component No. 0700.

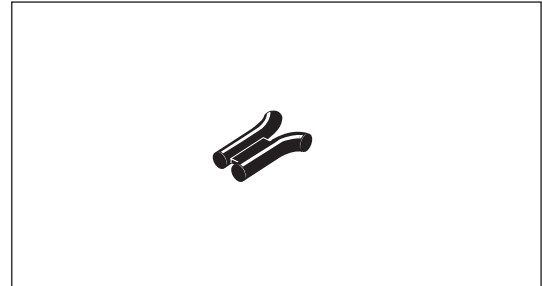
When ordering state insulation series, and that delivery must include foam packs.

**Products - Casing joints**  
**TXJoint**

**Connecting pipe**

Used when branching from TwinPipe to TwinPipe, where the service pipe dimension of the branch is minor than the main pipe.

The connecting pipe ensures the correct distance between the service pipes of the the branch.



Component No. 0262

Main pipe d <sub>1</sub> mm	Branch d <sub>2</sub> ,mm						
	26.9	33.7	42.4	48.3	60.3	76.1	88.9
42.4	x	x					
48.3	x	x	x				
60.3	x	x	x	x			
76.1	x	x	x	x	x		
88.9	x	x	x	x	x	x	
114.3	x	x	x	x	x	x	x
139.7	x	x	x	x	x	x	x
168.3	x	x	x	x	x	x	x
219.1	x	x	x	x	x	x	x

**Products - Casing joints**  
**SXT-WPJoint**

**Application**

T-joint for foaming. Made of cross-linked PE (PEX) with flanges and bolts in acid-resistant steel AISI 316 L. The T-joint is shrinkable and the foam holes are sealed with weld plugs.

The SXT-WPJoint can be used to branch perpendicular to or parallel with the main pipe. The main pipe is not a flexible pipe.

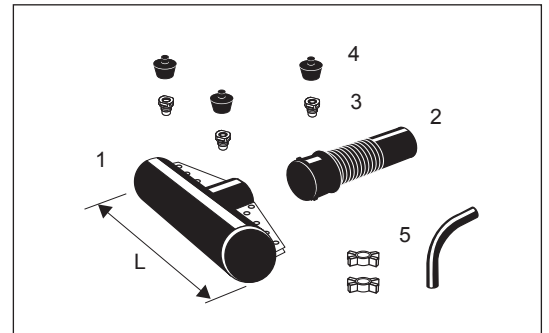
The SXT-WPJoint can be used together with a hot tapping valve.

Installation on branch pipe with corrugated casing requires that the branch be sealed with an extra collar, which is ordered separately.

**Description**

The SXT-WPJoint consists of:

1. Main pipe joint
2. Branch pipe joint
3. Venting plugs
4. Weld plugs
5. Branch pipe piece with spacers



Component Nos.: Main pipe joint 5210  
Branch pipe joint 5211

Main pipe D <sub>1</sub> , mm	Branch D <sub>2</sub> , mm					
	90	110	125	140	160	180
90	x					
110	x	x				
125	x	x	x			
140	x	x	x	x		
160	x	x	x	x	x	
180	x	x	x	x	x	x
200	x	x	x	x	x	x
225	x	x	x	x	x	x
250	x	x	x	x	x	x
280	x	x	x	x	x	x
315	x	x	x	x	x	x

**Branch pipe piece**

Component No. 5251

Branch pipe pc. Ø mm	Radius, mm	
	45°	90°
26.9	140	140
33.7	140	140
42.4	140	140
48.3	140	140
60.3	150	150
76.1	190	190
88.9	222	165
114.3	170	170

**Products - Casing joints**  
**SXT-WPJoint**

**Accessories**

Collar for branch with corrugated casing, component No. 5500.  
Order 1 pc. per joint.

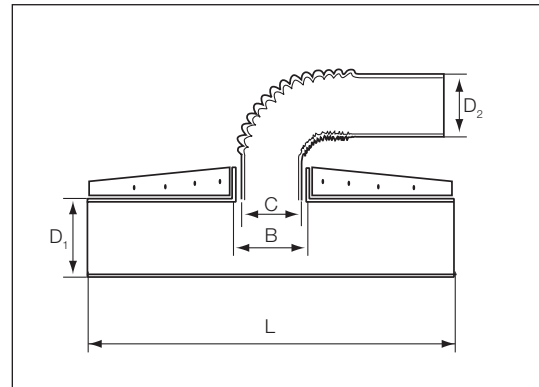
To be foamed with foam packs, component No. 0700.

When ordering state insulation series, and that delivery must include foam packs.

**Measurements and combinations**

The connecting piece of the main pipe fits several branch pipe joints and the branch pipe joint fits several branch dimensions.

The possible combinations appear from below table.



Main pipe joint			Branch pipe joint $D_2$ , mm					
			77-90	90-110	110-125	125-140	140-160	180-200
$D_1$ , mm	B, mm	L, mm	C, mm					
90	115	680	105					
110	135	680	125	125				
125	155	680	144		144			
140	170	680	160		160	160		
160	170	680	160		160	160		
180	190	680	180		180	180	180	
200	170	680	160		160	160		
	230	720					220	220
225	170	680	160		160	160		
	230	720					220	220
250	170	680	160		160	160		
	230	720					220	220
280	170	680	160		160	160		
	230	720					220	220
315	170	680	160		160	160		
	230	720					220	220

**Products - Casing joints**  
**TSJoint**

**Application**

T-joint for foaming, used to branch perpendicular to or parallel with the main pipe. The main pipe is made of weldable PE and the branch of cross-linked PE (PEX). The T-joint is shrinkable.

The main pipe is not a flexible pipe.

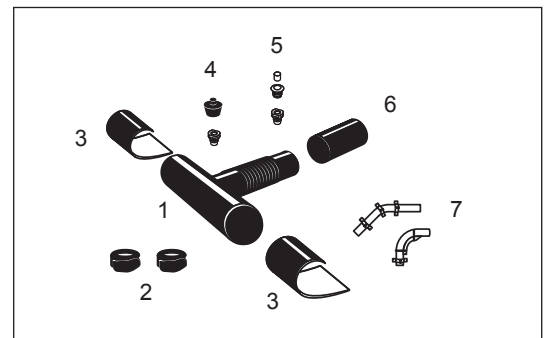
The main pipe is extrusion welded longitudinally and then the ends are shrunk and sealed with mastic tape and open collars or welded with weld strips. The branch is sealed with mastic and a collar. The foam holes are sealed with a weld plug on the main pipe and an expansion plug on the branch.

The TSJoint can be used together with a hot tapping valve.

**Description**

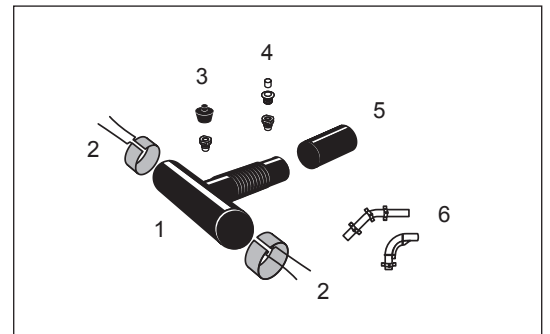
The TSJoint with mastic consists of:

1. T-joint
2. Mastic tape
3. Open collars
4. Venting and weld plugs
5. Venting and expansion plugs
6. Collar
7. 45° or 90° branch pipe piece



The TSJoint EW consists of:

1. T-joint
2. Weld strips
3. Venting and weld plugs
4. Venting and expansion plugs
5. Collar
6. 45° or 90° branch pipe piece



Component No. 5202

Branch D <sub>2</sub> , mm	Main pipe D <sub>1</sub> , mm											
	140	160	180	200	225	250	280	315	355	400	450	
90-125	x	x	x	x	x	x	x	x	x	x	x	x
140-160				x	x	x	x	x	x	x	x	x

Length T-joint main pipe = 650 mm

**Branch pipe piece** To ensure correct positioning of the branch pipe joint the branch pipe piece is delivered with spacers, fitting the relevant branch pipe. Outer casing dimension  $D_2$  is therefore to be stated when ordering.

Component No. 5250

Branch pipe pc. $\varnothing$ mm	For branch outer casing $D_2$ , mm	Radius, mm	
		45°	90°
26.9	90	140	140
	110		
	125		
33.7	90	140	140
	110		
	125		
42.4	110	140	140
	125		
48.3	110	140	140
	125		
60.3	125	150	150

Component No. 5251

Branch pipe pc. $\varnothing$ mm	For branch outer casing $D_2$ , mm	Radius, mm	
		45°	90°
42.4	140	140	140
48.3	140	140	140
60.3	140	150	150
	160		
76.1	140	190	190
	160		
88.9	160	222	165

**Accessories** To be foamed with foam packs, component No. 0700.  
When ordering state insulation series, and that delivery must include foam packs.



**Products - Terminations**  
**Contents**

---

3.7.1	Contents
3.7.2	End fitting
3.7.3	Sealing ring
3.7.4	Inlet pipe
3.7.5	Sealing reduction
3.7.6	Inlet box
3.7.7	Protective cap
3.7.8	End cap
3.7.9	Valves and mountings

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**Products - Terminations**  
**End fitting**

**Application**

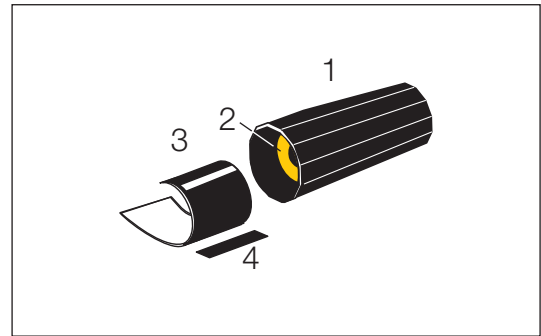
End fitting with closed end for temporary termination in the ground. The outmost part of the end fitting is shrinkable.

End fitting with insulation shells can be used for single pipes, whereas TwinPipes and double pipes must be foamed.

**Description**

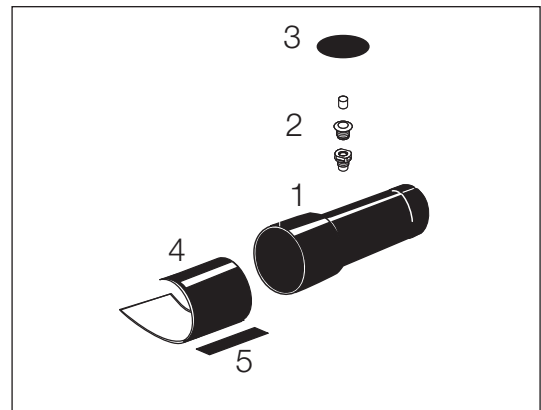
End fitting with insulation shells consists of:

1. Closed shrink sleeve
2. Insulation shells
3. Open collar
4. Closure patch



End fitting for foaming consists of:

1. Closed shrink sleeve
2. Venting and expansion plugs
3. Patch
4. Open collar
5. Closure patch



Component No. 5700

Outer casing D, mm	90	110	125	140	160	180
Fitting length, mm	450	450	450	450	450	700
Foaming + disposable valve	700	700	700	700	700	-

**Accessories**

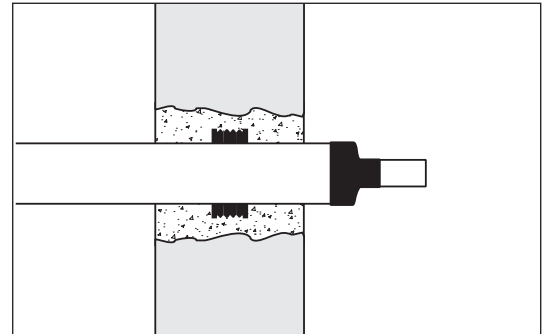
To be foamed with foam packs, component No. 0700.

When ordering state insulation series, and that delivery must include foam packs.

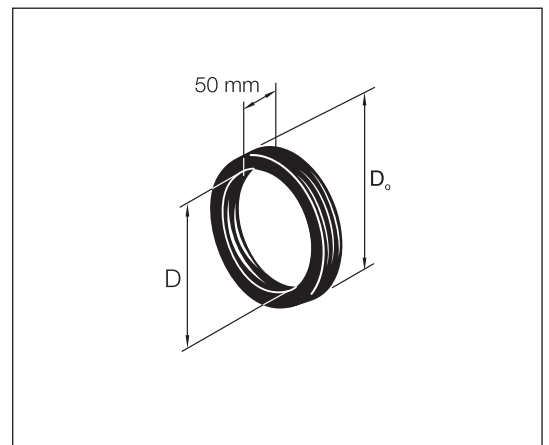
**Products - Terminations**  
**Sealing ring**

**Application**

For sealing in connection with pipe introduction through the base.



**Description**



Component No. 5800

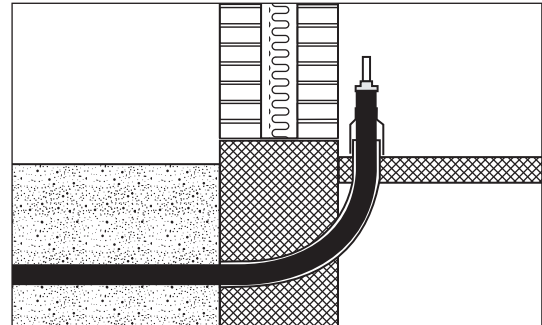
Outer casing D, mm	90	110	125	140	160	180
Outer diameter D <sub>o</sub> , mm	124	142	158	173	191	209

**Products - Terminations**  
**Inlet pipe**

**Application**

For embedding in new constructions to enable later introduction of FlexPipes without disadvantages to the construction.

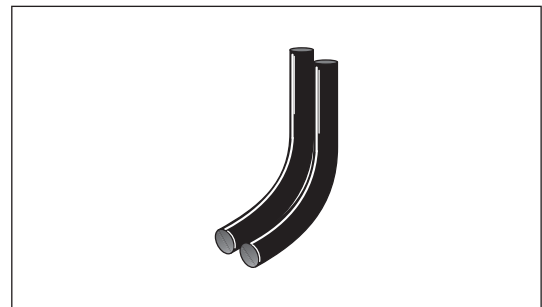
Inlet pipes are made of HDPE.



**Description**

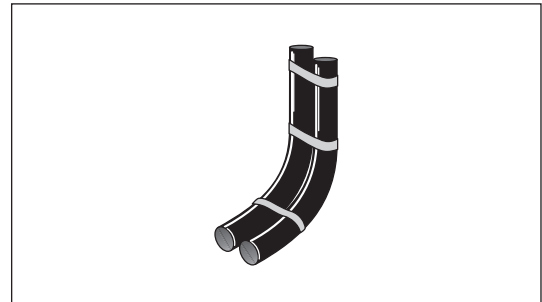
**Double inlet pipe - fix**

The pipes are fixed side by side at a fixed distance of approx. 15 mm.

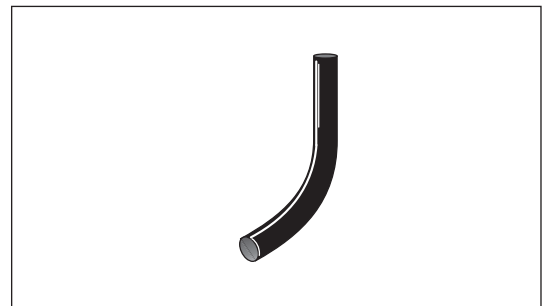


**Double inlet pipe - loose**

The inlet pipes are joined with flexible rubber bands and can therefore be placed at random in relation to each other.

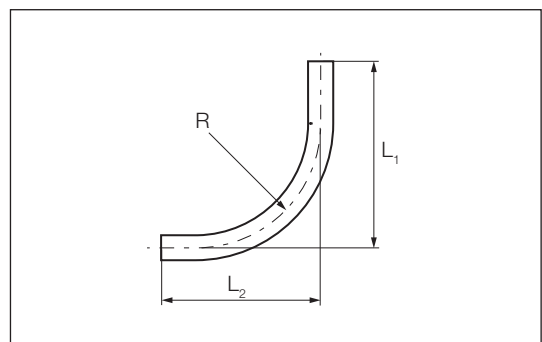


**Single inlet pipe**



Component No. 1236

For outer casing D, mm	90	110	125
Radius R, mm	800	900	1000
L <sub>1</sub>	1050	1250	1350
L <sub>2</sub>	900	1000	1100



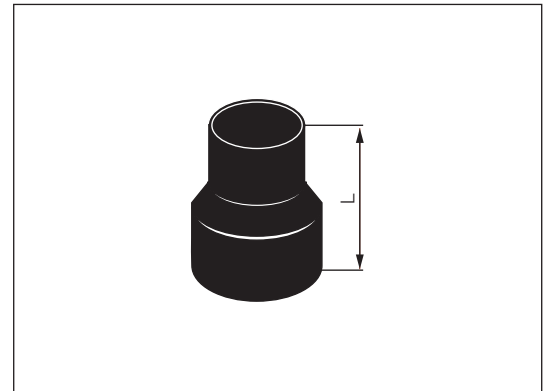
**Products - Terminations**  
**Sealing reduction**

**Application** For sealing between inlet ppe and outer casing.

**Description**

Component No. 1236

For outer casing D, mm	90
L, mm	165



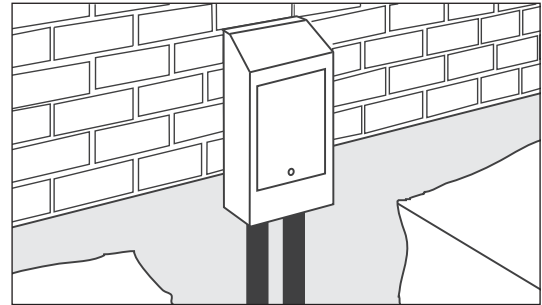
**Products - Terminations**

**Inlet box**

**Application**

For sealing external pipe introduction through wall.

Box type No. 2 enables valve operation through external cover with lock.



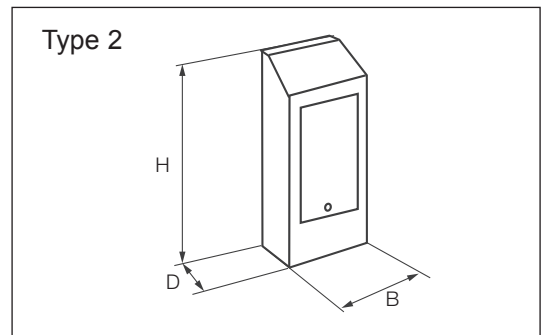
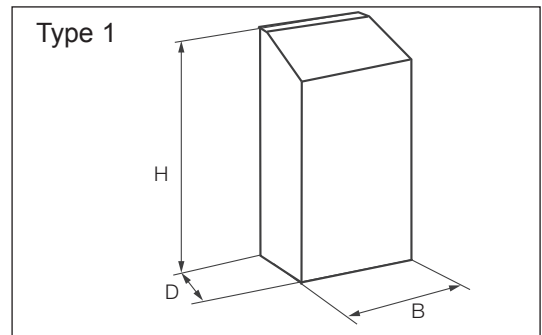
**Description**

Colour: light grey.

Component No. 8900

Type	Product No.	Measurements, mm		
		H	B	D
1	89000800340000	825	350	200
	89001200340000	1200	350	200
2	89000600220000	600	220	150
	89000600290000	600	290	160

Extra cover for type 2 can be ordered:  
Product No. 89000600220010.



**Products - Terminations**  
**Protective cap**

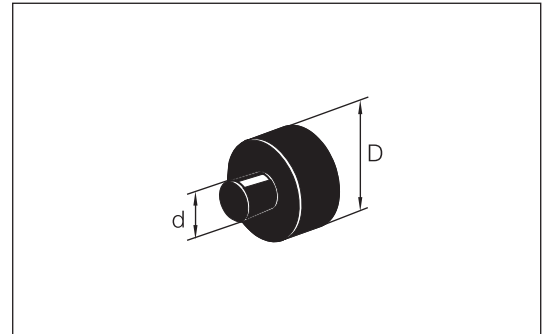
**Application**

For indoor sealing of the insulation end. Applicable on all FlexPipes.

Protective cap for outer casing dimensions 90 mm to 140 mm is delivered with a conical service pipe nozzle which is adjustable on location to the relevant service pipe.

Made of silicone and can be used at temperatures up to 140°C.

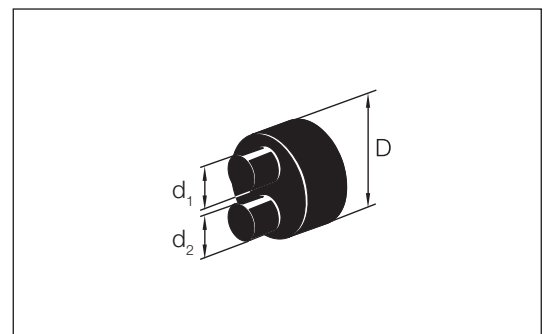
**Single pipe**



Component No. 1230

Service pipe d, mm	Outer casing D, mm					
	90	110	125	140	160	180
16-40	x					
16-50		x				
20-63			x			
50-75				x		
63						
75					x	
90					x	x
110					x	x

**TwinPipe and double pipe**



Component No. 1230

Service pipe d <sub>1</sub> /d <sub>2</sub> , mm	Outer casing D, mm				
	90	110	125	140	160
15-28/15-28	x				
15-32/15-32		x			
16-50/16-50			x		
16-50/16-50				x	
32-50/32-50					x

**Application**

For termination in buildings, inspection chambers, concrete ducts etc. to protect the insulation end against moisture ingress. Applicable on pipes with steel or copper service pipe.

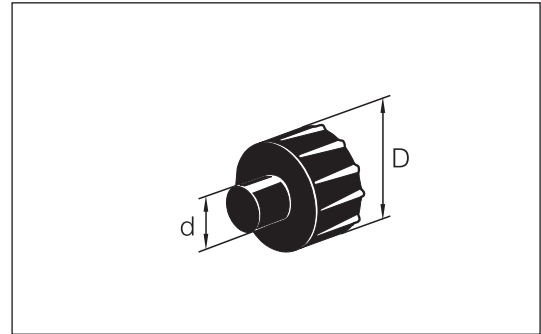
The end cap has embedded mastic and is shrunk onto the service pipe and outer casing.

Made of cross-linked PE (PEX) and can be used at temperatures up to 130°C.

**Single pipe**

Component No. 5600

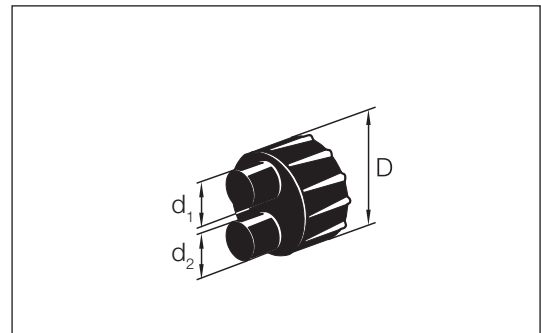
Service pipe d, mm	Outer casing D, mm	
	90	110
12-26	x	
25-40	x	
26-42	x	x



**TwinPipe and double pipe**

Component No. 5600

Service pipe d <sub>1</sub> /d <sub>2</sub> , mm	Outer casing D, mm	
	90-128	125-140
12-22/12-22	x	
28-54/22-42		x

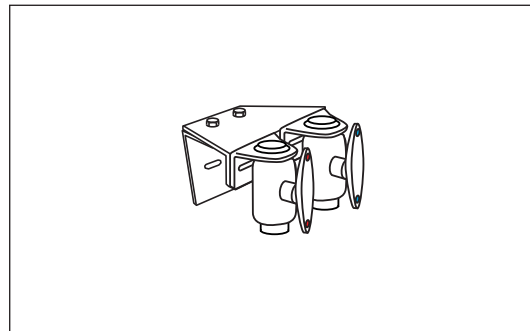




**Products - Terminations  
Valves and mountings**

**Twin valves**

Used in buildings, installed on adjustable wall mountings. The valves are delivered with internal thread at both ends or with internal thread and weld end with red and blue T-handle.



**Danfoss JIP**

Component No. 0005

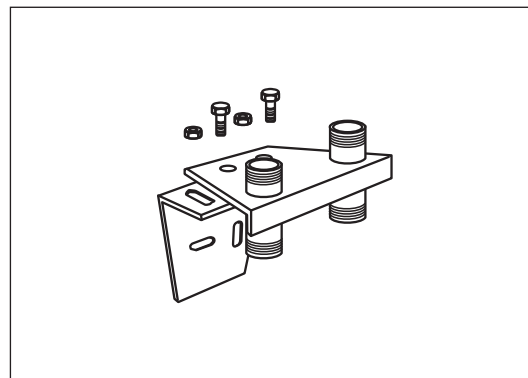
Thread	Rømpar	TwinPipe*	Valve ends	
			Thread/ thread	Weld/ thread
3/4"	x	x	x	x
1"	x	x	x	x
1 1/4"	x	x	x	x

\*For TwinPipes the valves are turned 45° to ensure space to operate the handles

**Products - Terminations**  
**Valves and mountings**

**Mounting**

Mounting for installing valves in buildings.

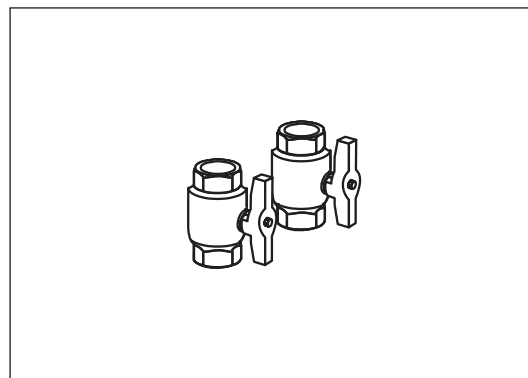


Component No. 4262

Male thread	3/4"	1"	1 1/4"
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**Valve set**

Delivered with red or blue handle.



Component No. 0005

Male thread	3/4"	1"	1 1/4"
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**Products - Foam pack  
Contents**

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3.8.1	Contents
3.8.2	Description
3.8.3	Foam pack sizes
3.8.4	Foam table single pipe - SX-WPJoint
3.8.5	Foam table single pipe - T-joint straight
3.8.6	Foam table single pipe - SXT-WPJoint
3.8.8	Foam table single pipe - TSJoint
3.8.10	Foam table single pipe - End fitting
3.8.11	Foam table TwinPipe - SX-WPJoint
3.8.12	Foam table TwinPipe - T-joint straight
3.8.13	Foam table TwinPipe - TXJoint
3.8.16	Foam table TwinPipe - SXT-WPJoint
3.8.18	Foam table TwinPipe - TSJoint
3.8.20	Foam table TwinPipe - End fitting

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## Products - Foam pack Description

### Application

Foam packs are used to insulate joints.

Foam packs are easy to apply and the fitter does not come into contact with the liquids. After mixing and filling the two foam liquids, an efficient insulation is formed which has the same properties as the rest of the pipe system. Foam packs comply with the requirements to materials in EN 253.

When using more foam packs in one casing joint, all foam packs must be filled into the joint simultaneously.

If more than two foam holes are required per casing joint, an additional plug set must be ordered.

Foam packs have a time limit for use of 12 months counting from the stated production week, provided they are stored correctly.

### Description

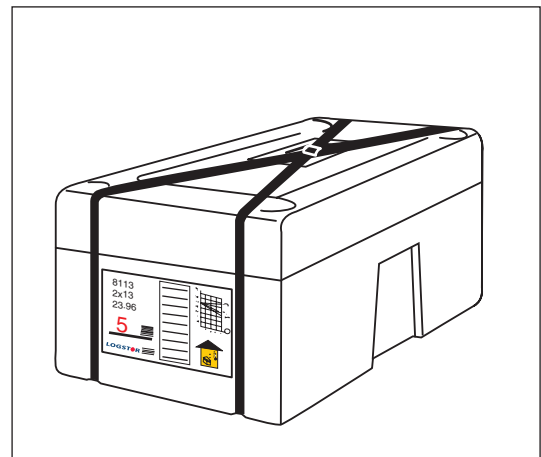
Foam packs are supplied in insulation boxes. The box i.a. contains a foam pack leaflet, from which it appears which foam pack size to use for which casing joint, as well as a leaflet with addresses and safety precautions.

The total weight of the foam packs and the box is max. 20 kg.

Foam packs are not returnable.

Component No. 0700

Foam pack size	No. of packs per box
0	28
0.5	28
1	28
2	27
3	24
4	21
5	20
6	17
7	14
8	12
9	9
10	8
11	6
12	4
13	3



### Materials

The insulation box:

Polystyrene foam (EPS)

Foam pack:

Multi-ply plastic bag with diffusion-tight aluminium foil for liquid A and B (partial)

Liquid A: Isocyanate. MDI

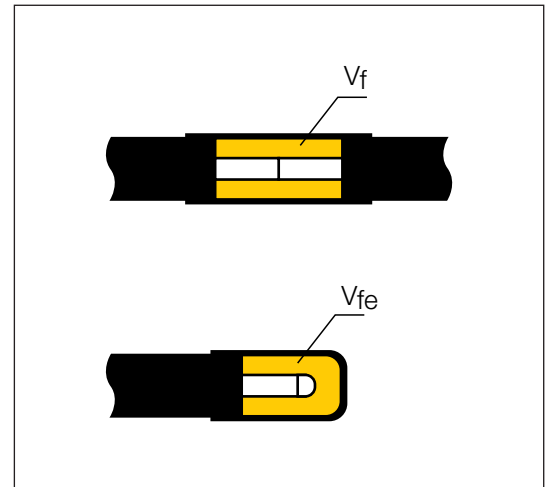
Liquid B: Polyole

**Products - Foam pack**  
**Foam pack sizes**

**Foam volume**

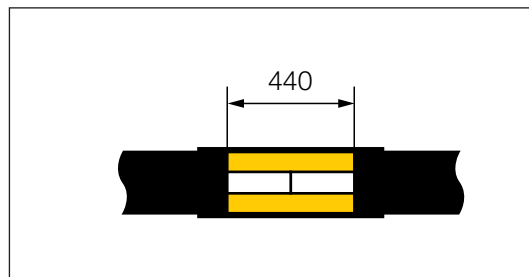
The volume of the cavity to foam decides which foam pack size to choose.

To ensure the quality of the finished insulation the foam volume limits in below table must be observed.



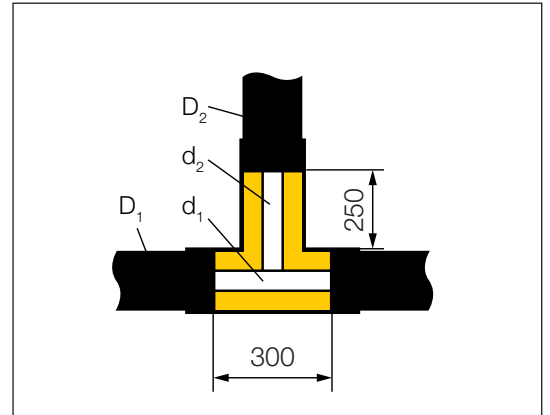
Foam pack No.	Alternative			Foam volume, litre						
				$V_f$			$V_{fe}$			
				min.	max.		min.	max.		
0				1.0	1.5		2.2	2.7		
0.5				1.5	2.6		2.7	4.6		
1				2.6	3.7		4.6	6.7		
2				3.7	4.6		6.7	8.3		
3				4.6	5.8		8.3	10.4		
4	2x1			5.7	6.9		10.4	12.5		
5	1+2	2x2		6.9	8.6		12.5	15.4		
6	2+3	2x3	1+4	8.6	10.6		15.4	19.1		
7	3+4	1+5	2+5	10.5	12.9		19.1	23.2		
8	4+5	2+6	3+6	12.9	15.9		23.2	28.6		
9	5+6	3+7	4+7	15.9	19.4		28.6	35.0		
2x6	5+7	3+8	0+9	17.3	21.9		34.7	38.2		
10	6+7	5+8	2+9	19.8	25.1		38.2	43.7		
11	6+9	3+10	4+10	25.0	32.4		43.7	55.1		
2x9	8+10	5+11	6+11	31.8	41.2		55.1	70.0		
12	8+11			38.0	49.2		70.0	83.6		
10+11	5+12			44.9	58.1		83.6	98.7		
13	2x11	8+12		51.0	65.9		98.7	112.1		
10+12	5+13			57.8	74.9		112.1	127.3		
10+13	2x9+12			70.8	91.6		127.3	155.8		
12+13				89.0	115.1		155.8	195.7		
2x13	11+2x12			101.9	131.9		195.7	224.2		
2x12+13				127.0	164.3		224.2	279.3		
3x13				152.9	197.8		279.3	336.3		
2x12+2x13				177.9	230.2		336.3	391.4		
4x13				203.8	263.8		391.4	448.4		

**Products - Foam pack**  
**Foam table single pipe - SX-WPJoint**



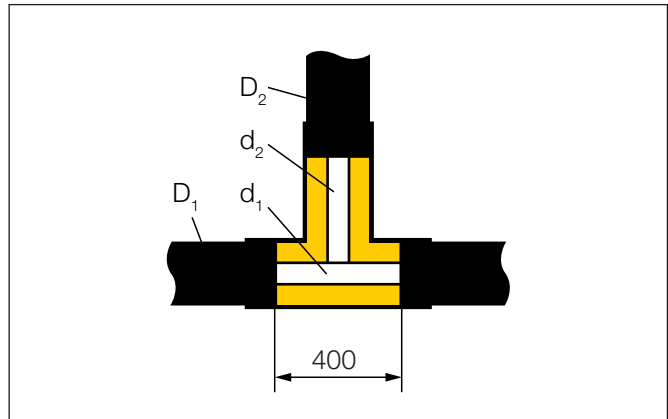
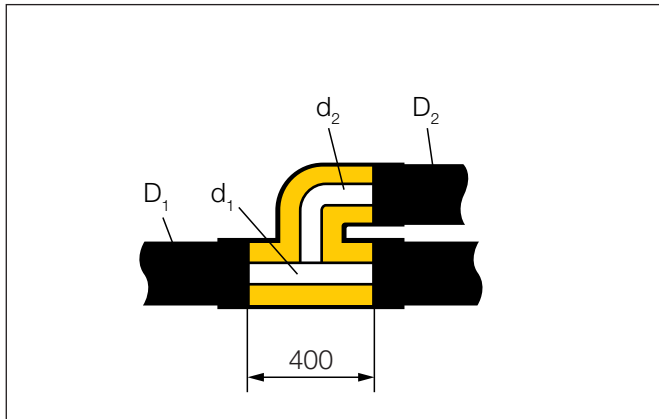
Outer casing D, mm	90	110	125	140	160	180
Service pipe d, mm	Foam pack size					
15-35	1	3				
40	1	3				
50		2	4			
63			3	5		
75				4	6	
90					5	7
110					4	6

**Products - Foam pack**  
**Foam table single pipe - T-joint straight**



Main pipe $d_1$	15-35	40	20-35	40	50	32	50	63	63	75	75	90	110	90	110
Main pipe $D_1$	90	90	110	110	110	125	125	125	140	140	160	160	160	180	180
Branch $d_2$   $D_2$	Foam pack size														
15-22   90	2	2	3	3	2	4	3	3	4	4	5	4	3	5	5
25-28   90	2	2	3	3	2	3	3	3	4	3	5	4	3	5	5
32-35   90	2	1	3	3	2	3	3	3	4	3	5	4	3	5	5
40   90		1		2	2		3	3	4	3	5	4	3	5	5
20   110			4	4	3	4	4	4	5	4	5	5	4	6	5
26   110			4	3	3	4	4	4	5	4	5	5	4	6	5
32   110			4	3	3	4	4	4	5	4	5	5	4	6	5
35-40   110			3	3	3		4	4	4	4	5	5	4	6	5
50   110					3		4	3	4	4	5	5	4	6	5
32   125						5	5	4	5	5	6	5	5	6	6
50   125							4	4	5	5	6	5	5	6	6
63   125								4	5	4	5	5	4	6	5
63   140									5	5	6	5	5	6	6
75   140										5	6	5	5	6	6
75   160											6	6	6	7	6
90   160												6	5	6	6
110   160													5		6
90   180														7	7
110   180															6

**Products - Foam pack**  
**Foam table single pipe - SXT-WPJoint**



**Series 1 Main pipe**

Main pipe $d_1$	26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	
Main pipe $D_1$	90	90	110	110	125	140	160	200	225	250	315	
Branch		Foam pack size										
$d_2$	$D_2$											
15-26	90	4	4	5	5	6	7	8	8	9	9	10
28-35	90		4	5	5	6	7	8	8	9	9	10
40	90			5	5	6	7	7	8	9	9	10
32-35	110			7	7	8	8	9	9	2x6	2x6	11
40	110			7	7	8	8	9	9	2x6	2x6	11
50	110				7	8	8	9	9	2x6	2x6	11
50	125					8	8	9	9	2x6	2x6	11
63	125					7	8	8	9	2x6	2x6	11
63	140						8	9	2x6	10	10	11
75	140						8	9	9	2x6	2x6	11
75	160							4	10	11	11	11
90	160							4	10	10	10	11
110	160								2x6	10	10	11
90	180								2x9	2x9	2x9	12
110	180								11	2x9	2x9	2x9



**Products - Foam pack**  
**Foam table single pipe - SXT-WPJoint**

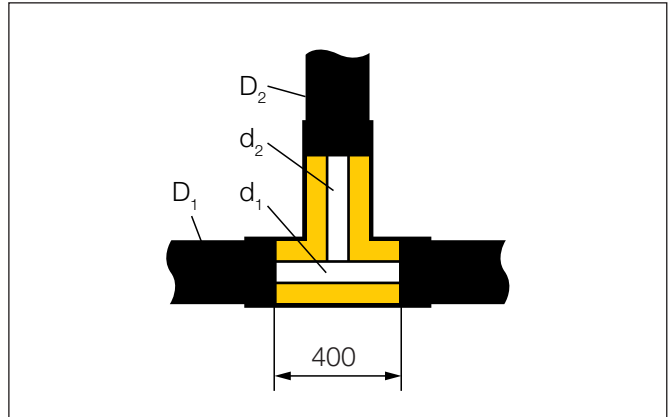
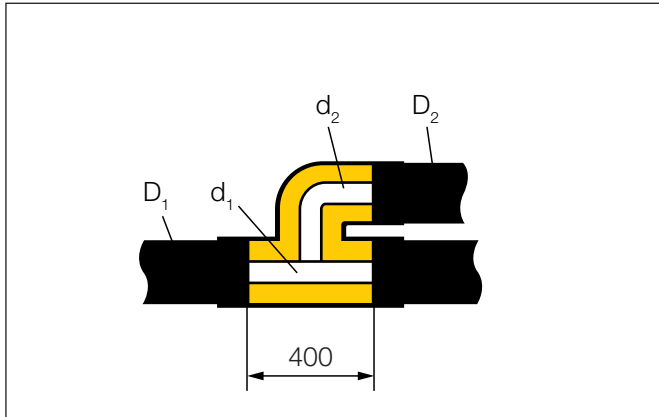
**Series 2 Main pipe**

Main pipe d <sub>1</sub>	26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	
Main pipe D <sub>1</sub>	110	110	125	125	140	160	180	225	250	280	
Branch		Foam pack size									
d <sub>2</sub>	D <sub>2</sub>										
15-26	90	5	5	7	6	7	8	8	2x6	2x6	10
28-35	90		5	6	6	7	8	8	2x6	2x6	10
40	90			6	6	7	8	8	2x6	2x6	10
32-35	110		7	8	8	8	9	9	10	10	11
40	110			8	8	8	9	9	10	10	11
50	110				8	8	9	9	10	10	11
50	125				8	8	9	9	10	10	11
63	125					8	9	9	10	10	10
63	140					9	9	9	10	11	11
75	140						9	9	10	10	11
75	160						5	2x6	11	11	11
90	160							2x6	11	11	11
110	160								10	10	11
90	180							5	2x9	2x9	12
110	180								2x9	2x9	2x9

**Series 3 Main pipe**

Main pipe d <sub>1</sub>	26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	
Main pipe D <sub>1</sub>	125	125	140	140	160	180	200	250	280	315	
Branch		Foam pack size									
d <sub>2</sub>	D <sub>2</sub>										
15-26	90	7	7	8	7	8	9	9	10	11	11
28-35	90		7	7	7	8	9	9	10	11	11
40	90			7	7	8	8	9	10	10	11
32-35	110		8	9	9	9	2x6	2x6	11	11	2x9
40	110			9	8	9	9	2x6	11	11	2x9
50	110				8	9	9	2x6	11	11	2x9
50	125				8	9	9	2x6	11	11	2x9
63	125					9	9	2x6	11	11	11
63	140					9	2x6	2x6	11	11	2x9
75	140						9	2x6	11	11	2x9
75	160						10	10	11	2x9	2x9
90	160							10	11	11	2x9
110	160								11	11	2x9
90	180							2x9	12	12	10+11
110	180								2x9	2x9	12

**Products - Foam pack**  
**Foam table single pipe - TSJoint**



**Series 1 Main pipe**

Main pipe $d_1$	76.1	88.9	114.3	139.7	168.3	219.1	273.0	323.9	
Main pipe $D_1$	140	160	200	225	250	315	400	450	
Branch		Foam pack size							
$d_2$	$D_2$								
15-26	90	8	8	9	2x6	10	11	12	12
28-35	90	8	8	9	2x6	10	11	12	12
40	90	8	8	9	2x6	10	11	12	12
32-35	110	8	8	9	2x6	10	11	12	12
40	110	8	8	9	2x6	10	11	12	12
50	110	8	8	9	2x6	2x6	11	12	12
50	125	8	8	9	2x6	2x6	11	12	12
63	125	7	8	9	9	2x6	11	2x9	12
63	140			11	11	11	2x9	12	10+11
75	140			10	11	11	2x9	12	10+11
75	160			10	11	11	2x9	12	10+11
90	160			10	11	11	2x9	12	10+11
110	160				10	10	11	12	12

**Products - Foam pack**  
**Foam table single pipe - TSJoint**

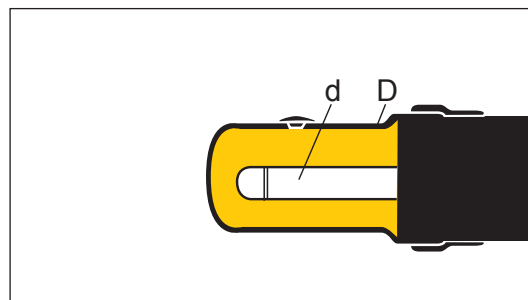
**Series 2 Main pipe**

Main pipe $d_1$		60.3	76.1	88.9	114.3	139.7	168.3	219.1	273.0
Main pipe $D_1$		140	160	180	225	250	280	355	450
Branch		Foam pack size							
$d_2$	$D_2$								
15-26	90	8	9	9	10	11	11	2x9	10+11
28-35	90	8	9	9	10	11	11	2x9	10+11
40	90	8	8	9	10	10	11	2x9	10+11
32-35	110	8	9	9	10	11	11	2x9	10+11
40	110	8	8	9	10	10	11	2x9	10+11
50	110	8	8	9	10	10	11	2x9	10+11
50	125	8	8	9	10	10	11	2x9	10+11
63	125		8	9	2x6	10	11	2x9	10+11
63	140				11	11	2x9	12	13
75	140				11	11	2x9	12	13
75	160				11	11	2x9	12	13
90	160				11	11	11	12	13
110	160					11	11	2x9	10+11

**Series 3 Main pipe**

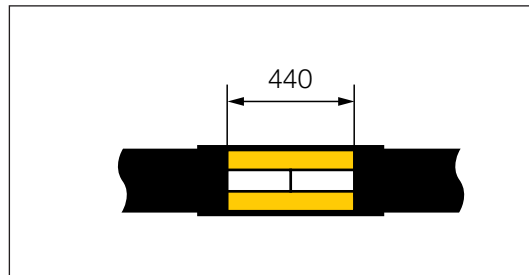
Main pipe $d_1$		42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1
Main pipe $D_1$		140	140	160	180	200	250	280	315	400
Branch		Foam pack size								
$d_2$	$D_2$									
15-26	90	8	8	9	9	2x6	11	11	2x9	10+11
28-35	90	8	8	9	9	2x6	11	11	2x9	10+11
40	90		8	9	9	2x6	11	11	2x9	10+11
32-35	110	8	8	9	9	2x6	11	11	2x9	10+11
40	110		8	9	9	2x6	11	11	2x9	10+11
50	110			9	9	2x6	11	11	2x9	10+11
50	125			9	9	2x6	11	11	2x9	10+11
63	125				9	9	11	11	2x9	12
63	140					11	2x9	2x9	2x9	10+11
75	140					11	2x9	2x9	2x9	10+11
75	160					11	2x9	2x9	2x9	10+11
90	160						11	2x9	2x9	10+11
110	160							11	2x9	10+11

**Products - Foam pack**  
**Foam table single pipe - End fitting**



Outer casing D, mm	90	110	125	140	160	180
Service pipe d, mm	Foam pack size					
15-32	0.5	1	1			
40	0.5	0.5				
50		0.5	1			
63			1	1		
75				0.5	1	
90					0.5	2
110					0.5	0.5

**Products - Foam pack**  
**Foam table TwinPipe - SX-WPJoint**



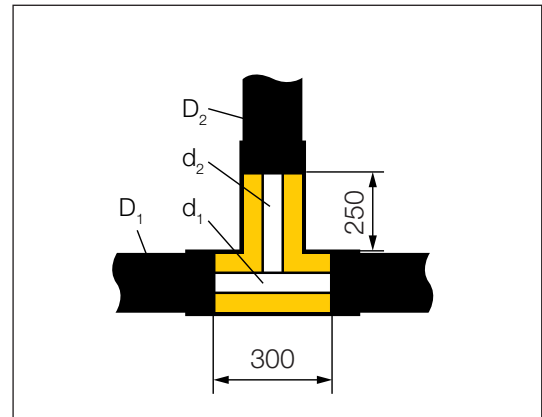
**TwinPipe**

Outer casing D, mm	90	110	125	140	160	180
Service pipe d, mm	Foam pack size					
16/16-32/32	1	3	4	5		
40/40			4	5		
50/50					6	7
63/63						7

**Double pipe**

Outer casing D, mm	110	125	140	160
Service pipe d, mm	Foam pack size			
20/16	3			
26/20		4		
28/22	3			
32/22		4		
32/28		4		
40/28			5	
40/32			5	
50/32			5	
50/40				6

**Products - Foam pack**  
**Foam table TwinPipe - T-joint straight**



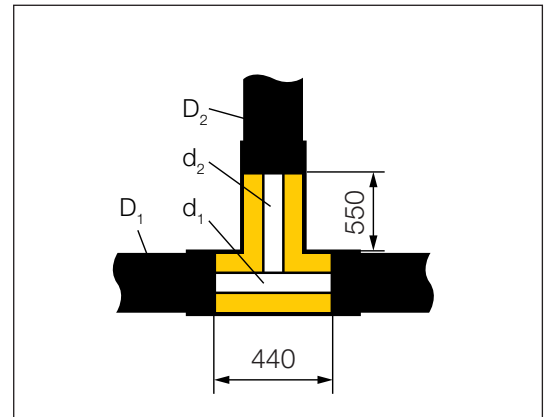
**TwinPipe**

Main pipe $d_1$	2 x 18- 2 x 22	2 x 16- 2 x 22	2 x 25- 2 x 28	2 x 32	2 x 16- 2 x 20	2 x 25- 2 x 32	2 x 40	2 x 20	2 x 26- 2 x 40	2 x 50	2 x 50	2 x 63	
Main pipe $D_1$	90	110	110	110	125	125	125	140	140	160	180	180	
Branch $d_2$	Foam pack size												
$D_2$													
2 x 18 - 2 x 22	90	2	3	3	2	4	3	3	4	4	5	6	5
2 x 16 - 2 x 22	110		4	3	3	4	4	4	5	5	5	6	6
2 x 25 - 2 x 28	110			3	3		4	4		5	5	6	6
2 x 32	110				3		4	4		5	5	6	6
2 x 16 - 2 x 20	125					5	5	5	6	5	6	7	6
2 x 25 - 2 x 26	125						5	5		5	6	6	6
2 x 32	125						5	4		5	6	6	6
2 x 40	125							4		5	5	6	6
2 x 20	140								6	6	6	7	7
2 x 26	140									6	6	7	7
2 x 32	140									6	6	7	6
2 x 40	140									5	6	7	6
2 x 50	160										6	7	7
2 x 50	180											8	7
2 x 63	180												7

**Double pipe**

Branch $d_2$	20/16- 28/22	26/20- 32/28	40/28- 50/32	50/40	
Branch $D_2$	110	125	140	160	
Main pipe $d_1$	Foam pack size				
$D_1$					
20/16-28/22	110	4	4	5	5
26/20-32/28	125		5	5	6
40/28-50/32	140			6	6
50/40	160				7

**Products - Foam pack**  
**Foam table TwinPipe - TXJoint**



**Series 1 Main pipe**

Main pipe $d_1$	2 x 26.9	2 x 33.7	2 x 42.4	2 x 48.3	2 x 60.3	2 x 76.1	2 x 88.9	2 x 114.3	2 x 139.7	2 x 168.3	2 x 219.1	
Main pipe $D_1$	125	140	160	160	200	225	250	315	400	450	560	
Branch		Foam pack size										
$d_2$	$D_2$											
2 x 18	90	7	7	8	8	9	2x6	10	11	10+11	13	10+13
2 x 20	90	7	7	8	8	9	2x6	10	11	10+11	13	10+13
2 x 22	90	7	7	8	8	9	2x6	10	11	10+11	13	10+13
2 x 16	110	8	8	9	8	2x6	10	11	2x9	10+11	13	10+13
2 x 18	110	8	8	9	8	2x6	10	11	2x9	10+11	13	10+13
2 x 20	110	8	8	9	8	2x6	10	11	2x9	10+11	13	10+13
2 x 22	110	8	8	9	8	2x6	10	11	2x9	10+11	13	10+13
2 x 25	110	8	8	9	8	2x6	10	11	2x9	10+11	13	10+13
2 x 26	110	8	8	8	8	2x6	2x6	11	2x9	10+11	13	10+13
2 x 28	110	7	8	8	8	2x6	2x6	10	2x9	10+11	13	10+13
2 x 32	110		8	8	8	9	2x6	10	2x9	10+11	13	10+13
2 x 16	125	8	9	9	9	10	10	11	2x9	10+11	13	10+13
2 x 20	125		9	9	9	2x6	10	11	2x9	10+11	13	10+13
2 x 25	125	8	9	9	9	2x6	10	11	2x9	10+11	13	10+13
2 x 26	125	8	9	9	9	2x6	10	11	2x9	10+11	13	10+13
2 x 28	125	8	9	9	9	2x6	10	11	2x9	10+11	13	10+13
2 x 32	125	8	9	9	9	2x6	10	11	2x9	10+11	13	10+13
2 x 40	125			9	9	2x6	10	11	2x9	10+11	13	10+13
2 x 26	140		9	2x6	2x6	10	11	11	2x9	10+11	10+12	12+13
2 x 32	140		9	2x6	2x6	10	11	11	2x9	10+11	13	12+13
2 x 40	140			2x6	2x6	10	11	11	2x9	10+11	13	12+13
2 x 50	160				10	11	11	11	2x9	13	10+12	12+13
2 x 50	180					11	11	2x9	12	13	10+12	12+13
2 x 63	180					11	11	2x9	12	13	10+12	12+13

**Products - Foam pack  
Foam table TwinPipe - TXJoint**

**Series 2 Main pipe**

Main pipe d <sub>1</sub>	2 x 26.9	2 x 33.7	2 x 42.4	2 x 48.3	2 x 60.3	2 x 76.1	2 x 88.9	2 x 114.3	2 x 139.7	2 x 168.3	2 x 219.1	
Main pipe D <sub>1</sub>	140	160	180	180	225	250	280	355	450	500	630	
Branch		Foam pack size										
d <sub>2</sub>	D <sub>2</sub>											
2 x 18	90	8	8	9	9	10	11	11	12	13	10+13	2x13
2 x 20	90	8	8	9	9	2x6	10	11	12	13	10+13	2x13
2 x 22	90	7	8	9	9	2x6	10	11	12	13	10+13	2x13
2 x 16	110	8	9	9	9	10	11	11	12	10+12	10+13	2x13
2 x 18	110	8	9	9	9	10	11	11	12	10+12	10+13	2x13
2 x 20	110	8	9	9	9	10	11	11	12	10+12	10+13	2x13
2 x 22	110	8	9	9	9	10	11	11	12	10+12	10+13	2x13
2 x 25	110	8	9	9	9	10	11	11	12	10+12	10+13	2x13
2 x 26	110	8	9	9	9	10	11	11	12	10+12	10+13	2x13
2 x 28	110	8	9	9	9	10	11	11	12	10+12	10+13	2x13
2 x 32	110		9	9	9	10	11	11	12	10+12	10+13	2x13
2 x 16	125	9	9	2x6	2x6	11	11	2x9	12	10+12	10+13	2x13
2 x 20	125		9	2x6	2x6	11	11	2x9	12	10+12	10+13	2x13
2 x 25	125	9	9	2x6	2x6	11	11	2x9	12	10+12	10+13	2x13
2 x 26	125	9	9	2x6	2x6	11	11	2x9	12	10+12	10+13	2x13
2 x 28	125	9	9	2x6	2x6	11	11	2x9	12	10+12	10+13	2x13
2 x 32	125	9	9	2x6	2x6	11	11	11	12	10+12	10+13	2x13
2 x 40	125			2x6	9	10	11	11	12	10+12	10+13	2x13
2 x 26	140	9	2x6	10	10	11	11	2x9	10+11	10+12	10+13	2x13
2 x 32	140		2x6	10	10	11	11	2x9	10+11	10+12	10+13	2x13
2 x 40	140			10	2x6	11	11	2x9	12	10+12	10+13	2x13
2 x 50	160				10	11	2x9	2x9	10+11	10+12	10+13	2x13
2 x 50	180				11	2x9	2x9	2x9	10+11	10+13	10+13	2x13
2 x 63	180					11	2x9	2x9	10+11	10+13	10+13	2x13

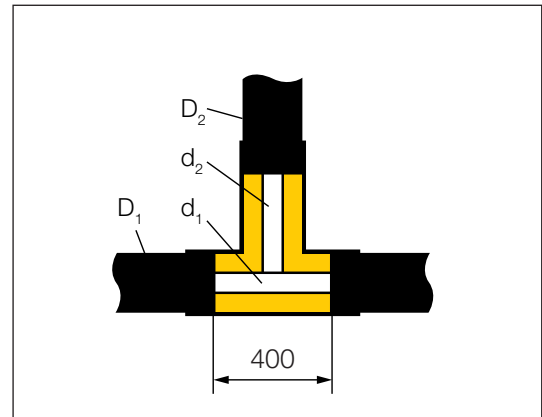


**Products - Foam pack**  
**Foam table TwinPipe - TXJoint**

**Series 3 Main pipe**

Main pipe d <sub>1</sub>	2 x 26.9	2 x 33.7	2 x 42.4	2 x 48.3	2 x 60.3	2 x 76.1	2 x 88.9	2 x 114.3	2 x 139.7	2 x 168.3	2 x 219.1	
Main pipe D <sub>1</sub>	160	180	200	200	250	280	315	400	500	560	710	
Branch		Foam pack size										
d <sub>2</sub>	D <sub>2</sub>											
2 x 18	90	8	9	9	9	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 20	90	8	9	9	9	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 22	90	8	9	9	9	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 16	110	9	9	2x6	2x6	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 18	110	9	9	2x6	2x6	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 20	110	9	9	2x6	2x6	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 22	110	9	9	2x6	2x6	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 25	110	9	9	2x6	2x6	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 26	110	9	9	2x6	2x6	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 28	110	9	9	2x6	2x6	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 32	110		9	2x6	2x6	11	11	2x9	10+11	10+13	12+13	2x12+13
2 x 16	125	9	2x6	10	10	11	2x9	2x9	13	10+13	12+13	2x12+13
2 x 20	125		2x6	10	10	11	2x9	2x9	13	10+13	12+13	2x12+13
2 x 25	125	9	2x6	10	10	11	2x9	2x9	13	10+13	12+13	2x12+13
2 x 26	125	9	2x6	10	10	11	2x9	2x9	13	10+13	12+13	2x12+13
2 x 28	125	9	2x6	10	10	11	2x9	2x9	13	10+13	12+13	2x12+13
2 x 32	125	9	2x6	10	10	11	2x9	2x9	13	10+13	12+13	2x12+13
2 x 40	125			10	2x6	11	2x9	2x9	10+11	10+13	12+13	2x12+13
2 x 26	140	2x6	10	11	11	2x9	2x9	12	13	10+13	12+13	2x12+13
2 x 32	140		10	11	10	2x9	2x9	12	13	10+13	12+13	2x12+13
2 x 40	140			10	10	11	2x9	12	13	10+13	12+13	2x12+13
2 x 50	160				11	2x9	2x9	12	13	10+13	12+13	2x12+13
2 x 50	180				11	2x9	12	12	10+12	12+13	12+13	3x13
2 x 63	180					2x9	2x9	12	13	12+13	12+13	3x13

**Products - Foam pack**  
**Foam table TwinPipe - SXT-WPJoint**



**Series 1 Main pipe**

Main pipe $d_1$	2 x 26.9	2 x 33.7	2 x 42.4	2 x 48.3	2 x 60.3	2 x 76.1	2 x 88.9	2 x 114.3	
Main pipe $D_1$	125	140	160	160	200	225	250	315	
Branch		Foam pack size							
$d_2$	$D_2$								
2 x 16 - 2 x 26	90	6	7	8	8	9	2x6	2x6	11
2 x 16 - 2 x 26	110	8	9	9	9	2x6	10	11	2x9
2 x 28 - 2 x 32	110		8	9	9	2x6	10	10	2x9
2 x 16 - 2 x 26	125	8	9	9	9	2x6	10	11	2x9
2 x 28 - 2 x 32	125		8	9	9	2x6	10	10	2x9
2 x 40	125			9	9	2x6	10	10	2x9
2 x 16 - 2 x 26	140		9	2x6	2x6	10	11	11	2x9
2 x 28 - 2 x 32	140		9	9	9	10	11	11	2x9
2 x 40	140			9	9	2x6	10	11	2x9
2 x 50	160				5	11	11	11	2x9
2 x 50	180					2x9	12	12	10+11
2 x 63	180					2x9	2x9	12	10+11

## Products - Foam pack

### Foam table TwinPipe - SXT-WPJoint

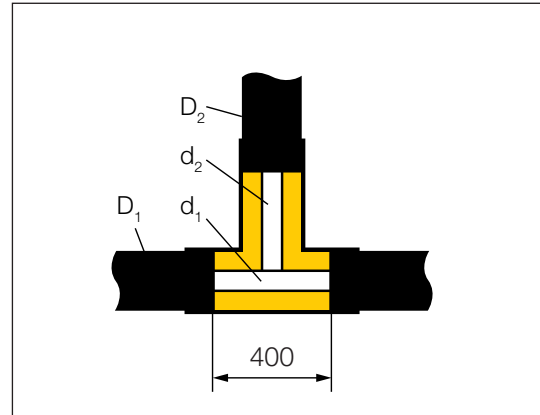
**Series 2 Main pipe**

Main pipe $d_1$		2 x 26.9	2 x 33.7	2 x 42.4	2 x 48.3	2 x 60.3	2 x 76.1	2 x 88.9
Main pipe $D_1$		140	160	180	180	225	250	280
Branch		Foam pack size						
$d_2$	$D_2$							
2 x 16 - 2 x 26	90	7	8	9	9	2x6	10	11
2 x 16 - 2 x 26	110	9	9	2x6	2x6	11	11	11
2 x 28 - 2 x 32	110		9	2x6	9	10	11	11
2 x 16 - 2 x 26	125	9	9	2x6	2x6	11	11	11
2 x 28 - 2 x 32	125		9	2x6	9	10	11	11
2 x 40	125			9	9	10	11	11
2 x 16 - 2 x 26	140	9	2x6	2x6	2x6	11	11	11
2 x 28 - 2 x 32	140		2x6	2x6	2x6	11	11	11
2 x 40	140			2x6	2x6	11	11	11
2 x 50	160				10	11	11	2x9
2 x 50	180				6	12	12	12
2 x 63	180					12	12	12

**Series 3 Main pipe**

Main pipe $d_1$		2 x 26.9	2 x 33.7	2 x 42.4	2 x 48.3	2 x 60.3	2 x 76.1	2 x 88.9
Main pipe $D_1$		160	180	200	200	250	280	315
Branch		Foam pack size						
$d_2$	$D_2$							
2 x 16 - 2 x 26	90	8	9	9	9	10	11	2x9
2 x 16 - 2 x 26	110	8	9	9	9	10	11	2x9
2 x 28 - 2 x 32	110	8	9	9	9	10	11	2x9
2 x 16 - 2 x 26	125	9	2x6	10	10	11	11	2x9
2 x 28 - 2 x 32	125	9	2x6	10	10	11	11	2x9
2 x 40	125	9	2x6	10	10	11	11	2x9
2 x 16 - 2 x 26	140	9	2x6	10	10	11	11	2x9
2 x 28 - 2 x 32	140	9	2x6	10	2x6	11	11	2x9
2 x 40	140	9	2x6	10	2x6	11	11	2x9
2 x 50	160		2x6	10	2x6	11	11	2x9
2 x 50	180		2x6	2x6	2x6	11	11	2x9
2 x 63	180	9	2x6	10	10	11	11	2x9

**Products - Foam pack**  
**Foam table TwinPipe - TSJoint**



**Series 1 Main pipe**

Main pipe $d_1$	2 x 33.7	2 x 42.4	2 x 48.3	2 x 60.3	2 x 76.1	2 x 88.9	2 x 114.3	2 x 139.7	2 x 168.3	
Main pipe $D_1$	140	160	160	200	225	250	315	400	450	
Branch		Foam pack size								
$d_2$	$D_2$									
2 x 16 - 2 x 26	90	8	9	9	2x6	10	11	2x9	10+11	13
2 x 16 - 2 x 26	110	8	9	9	2x6	10	11	2x9	10+11	13
2 x 28 - 2 x 32	110	8	9	9	2x6	10	11	2x9	10+11	13
2 x 16 - 2 x 26	125	8	9	9	2x6	10	11	2x9	10+11	13
2 x 28 - 2 x 32	125	8	9	9	2x6	10	11	2x9	10+11	13
2 x 40	125		8	8	2x6	10	10	2x9	10+11	13
2 x 16 - 2 x 26	140				11	11	2x9	12	13	10+12
2 x 28 - 2 x 32	140				11	11	2x9	12	13	10+12
2 x 40	140				11	11	2x9	12	13	10+12
2 x 50	160				11	11	2x9	12	13	10+12

## Products - Foam pack

### Foam table TwinPipe - TSJoint

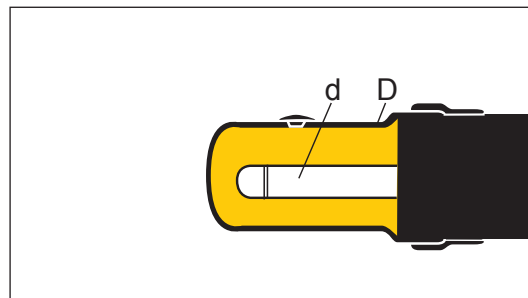
**Series 2 Main pipe**

Main pipe $d_1$		2 x 26.9	2 x 33.7	2 x 42.4	2 x 48.3	2 x 60.3	2 x 76.1	2 x 88.9	2 x 114.3	2 x 139.7
Main pipe $D_1$		140	160	180	180	225	250	280	355	450
Branch		Foam pack size								
$d_2$	$D_2$									
2 x 16 - 2 x 26	90	8	9	9	9	10	11	11	12	10+12
2 x 16 - 2 x 26	110	8	9	9	9	10	11	11	12	10+12
2 x 28 - 2 x 32	110		9	9	9	10	11	11	12	10+12
2 x 16 - 2 x 26	125	8	9	9	9	10	11	11	12	10+12
2 x 28 - 2 x 32	125		9	9	9	10	11	11	12	10+12
2 x 40	125			9	9	10	11	11	12	13
2 x 16 - 2 x 26	140					2x9	2x9	2x9	10+11	10+12
2 x 28 - 2 x 32	140					11	2x9	2x9	10+11	10+12
2 x 40	140					11	2x9	2x9	10+11	10+12
2 x 50	160					11	2x9	2x9	10+11	10+12

**Series 3 Main pipe**

Main pipe $d_1$		2 x 26.9	2 x 33.7	2 x 42.4	2 x 48.3	2 x 60.3	2 x 76.1	2 x 88.9	2 x 114.3	
Main pipe $D_1$		160	180	200	200	250	280	315	400	
Branch		Foam pack size								
$d_2$	$D_2$									
2 x 16 - 2 x 26	90	9	2x6	10	2x6	11	2x9	2x9	10+11	
2 x 16 - 2 x 26	110	9	2x6	10	2x6	11	2x9	2x9	10+11	
2 x 28 - 2 x 32	110		9	2x6	2x6	11	11	2x9	10+11	
2 x 16 - 2 x 26	125	9	2x6	10	2x6	11	2x9	2x9	10+11	
2 x 28 - 2 x 32	125		9	2x6	2x6	11	11	2x9	10+11	
2 x 40	125			2x6	2x6	11	11	2x9	10+11	
2 x 16 - 2 x 26	140			11	11	2x9	2x9	12	13	
2 x 28 - 2 x 32	140			11	11	2x9	2x9	12	13	
2 x 40	140			11	11	2x9	2x9	12	13	
2 x 50	160				11	2x9	2x9	12	13	

**Products - Foam pack**  
**Foam table TwinPipe - End fitting**



Outer casing D, mm	90	110	125	140	160	180
Service pipe d, mm	Foam pack size					
16/16 - 22/22	0.5	1	1	2		
25/25 - 32/32		0.5	1	2		
40/40			0.5	0.5		
50/50 - 63/63					1	2

**Products - Tools  
Contents**

---

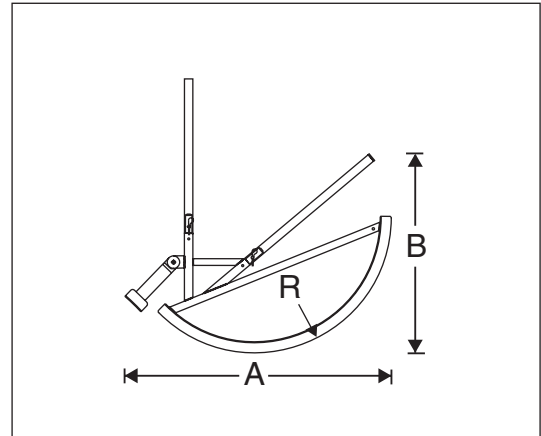
- 3.9.1 Contents
  - 3.9.2 Tools for transport and laying
  - 3.9.3 Tools for shortening and calibration
  - 3.9.4 Stripping tools
  - 3.9.5 Press tool for coupling type MP
  - 3.9.6 Press tool for coupling, type JT
  - 3.9.7 Tools for installing casing joints
  - 3.9.9 Tools for expansion plug
  - 3.9.10 Tools for weld plug
  - 3.9.11 Leakage test equipment
-

**Tools for transport and laying**

**Bending tool**

For bending FlexPipes.  
The two handles can be dismantled.

Casing D, mm	Product No.	A mm	B mm	R mm
90	9050 0000 019 013	1340	695	700



**Pulling tool**

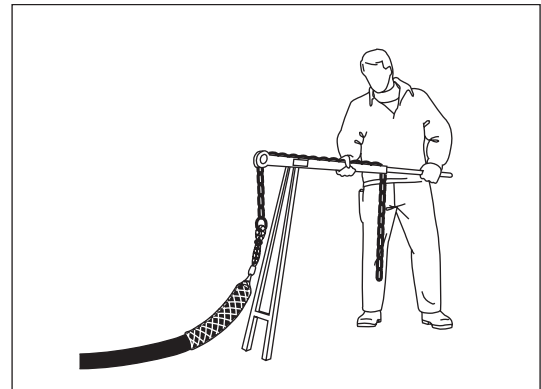
For house entry through inlet pipe embedded in concrete or tilted bore in the base pulling tool and pulling sleeve are used.

Outer casing dimension 90 mm

Product Nos:

Pulling tool: 9050 0000 007 887

Pulling sleeve: 9050 0000 047 001

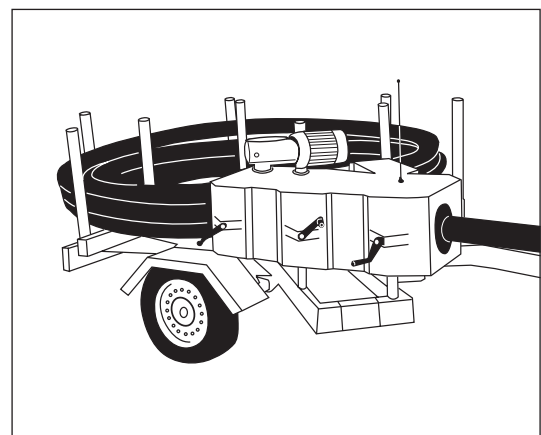


**Transport and uncoiling**

For transport and uncoiling of FlexPipes a FlexPipe wagon with motorized straightener and remote control is offered for rent or sale.

Especially recommended for major dimensions and a higher number of house entries

Contact LOGSTOR..





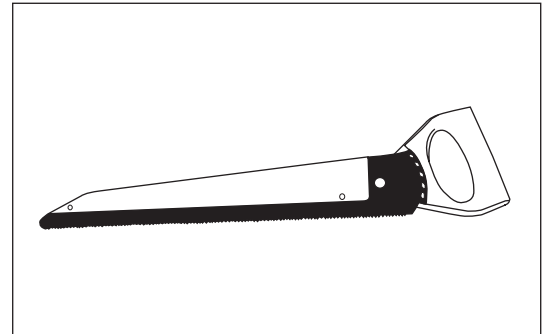
**Tools for shortening and calibration**

**Eclipse saw**

An eclipse saw with depth guard is used to cut outer casings and insulation.

The depth guard prevents that the service pipe and surveillance wires are damaged, when cutting the outer casing.

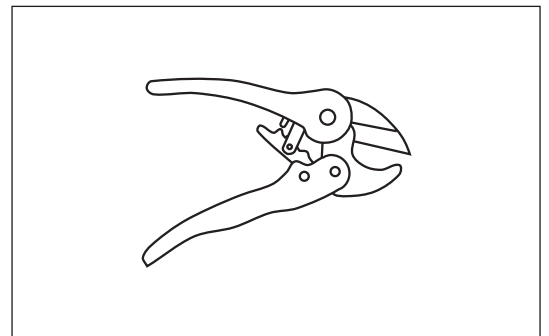
Product No.: 9000 0000 003 002



**PEX scissors**

For perpendicular cutting PEX and Alupex service pipes.

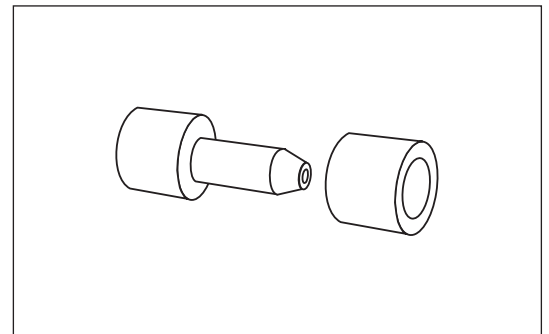
Max diameter pipe mm	Product No.
28	9000 0000 006 001
32	9000 0000 006 002
63	9000 0000 006 003



**Calibration mandrel**

For CuFlex to calibrate copper pipes before soldering.

CuFlex service pipe, d mm	Product No.
15	9050 0000 017 000
18	9050 0000 017 005
22	9050 0000 017 001
28	9050 0000 017 002
35	9050 0000 017 003

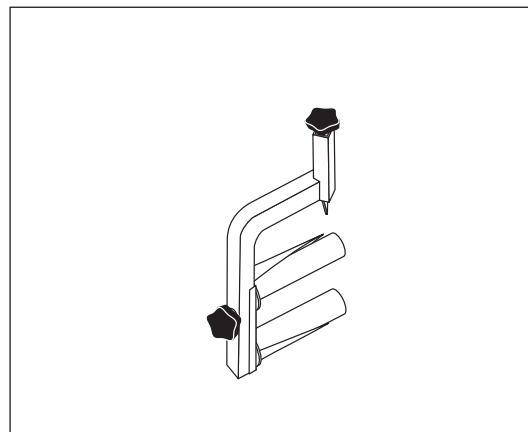


**Products - Tools**  
**Stripping tools**

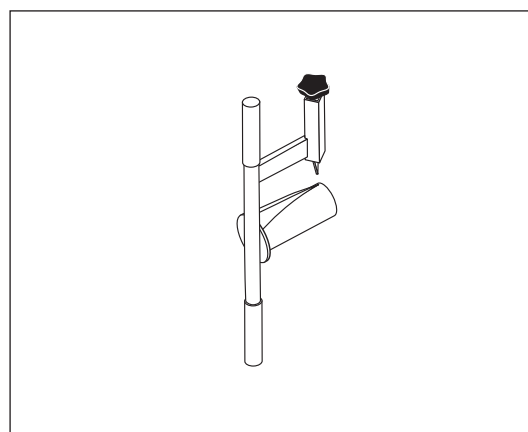
**Application**

For removal of insulation from pipes with PEX and Alupex service pipes to prevent that the service pipe is damaged.

Service pipe	Service pipe, d mm	Product No.
PEX	20-25	9000 0000 006 001
	32-40	9000 0000 006 011
	40-50	9000 0000 006 003
Alupex	16-20	9000 0000 006 020
	26-32	9000 0000 006 021



Service pipe	Service pipe, d mm	Product No.
PEX	63	9000 0000 006 004
	75	9000 0000 006 005
	90	9000 0000 006 006
	110	9000 0000 006 007



**Press tool for coupling type MP****General**

Hydraulic press tool for installing press coupling, type MP (Multipress).

Delivered as a complete set.

To buy or rent please contact LOGSTOR.

**AP63**

For dimension  $\varnothing 16 - \varnothing 63$

**AP110**

For dimension  $\varnothing 63 - \varnothing 110$

**Hydraulic pump**

Used for hydraulic press tool.



## Products - Tools

## Press tool for coupling, type JT

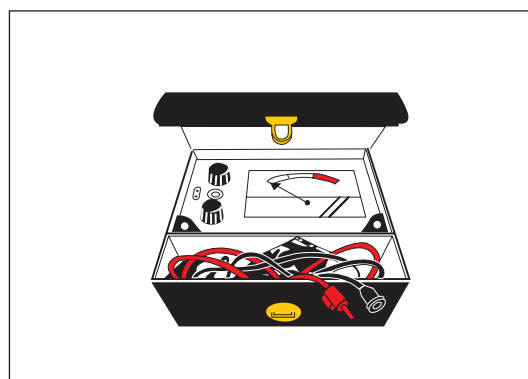
## General

Press tool for installing press coupling, type JT (Jentro).

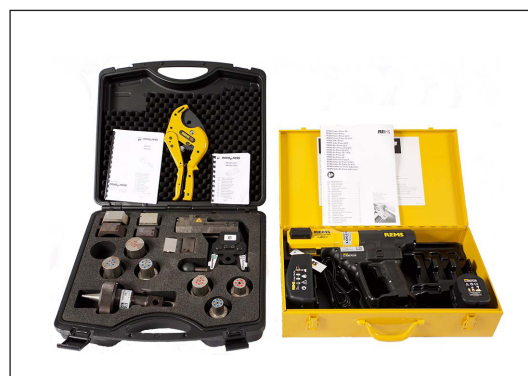
Delivered as a complete set.

To buy or rent please contact LOGSTOR.

## ø25 - ø32 mm



## ø40 - ø63 mm



## ø50 - ø110 mm



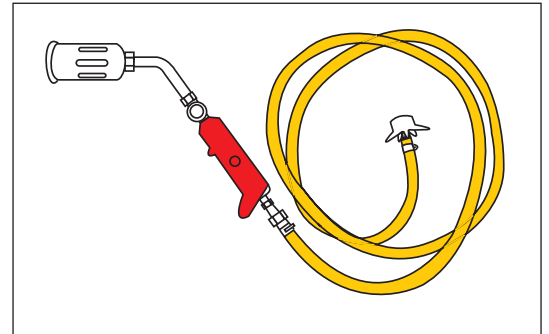
**Products - Tools**  
**Tools for installing casing joints**

**Gas burner set**

For installation of shrink sleeves.

Complete burner set for propane gas with a 10 m hose and a 50 mm burner head.

Hose union	Product No.
for regulator	9000 0000 001 943
with 1/2" thread	9000 0000 001 944



**Spare parts for gas burner set**

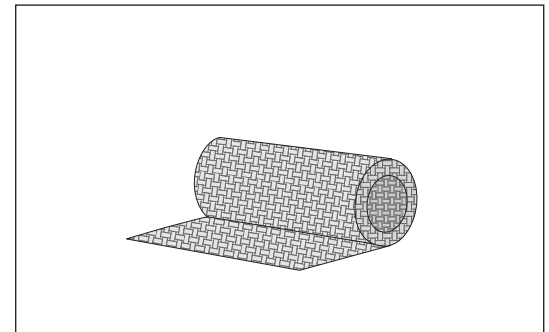
	Product No.
Burner head ø50 mm	9000 0000 010 001
Burner head ø60 mm	9000 0000 010 002
Burner pipe 200 mm	9000 0000 011 000
Burner handle	9000 0000 012 000
Gas hose 10 m	9000 0000 013 000
Hose union for regulator	9000 0000 017 000
Hose union with 1/2" thread	9000 0000 021 000

**Heat shield**

For protecting corrugated casings when shrinking sleeves.

Width: 150mm  
 Length: 1000 mm

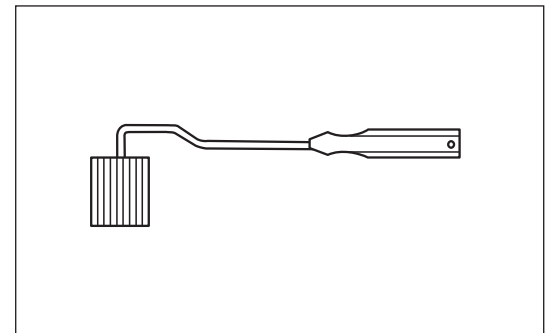
Product No. 9050 0150 031 000.



**Roller**

For compressing overlap on open shrink wraps and collars.

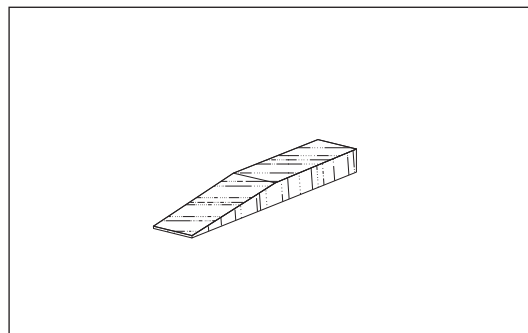
Product No. 9050 0000 008 000.



**Tools for installing casing joints****Wooden wedge**

For centering shrink sleeves during installation.

Delivered in bags with 24 pcs.



Type	Length, mm	Height, mm	Width, mm	Product No.
Small, type A	240	13	22	1997 0000 033 002
Big, type B	345	27	32	1997 0000 033 003

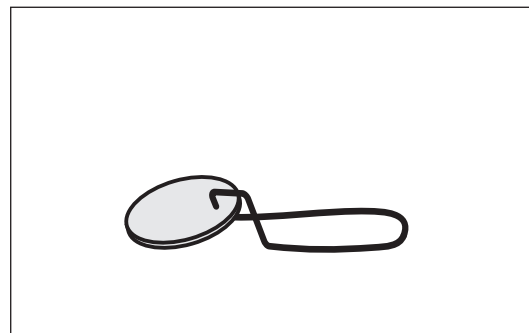
**Products - Tools****Tools for expansion plug**

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**Patch spoon**

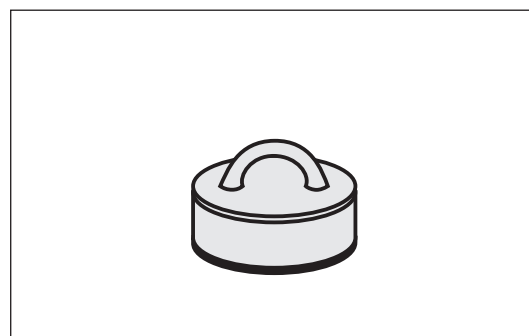
Retaining tool for installation of patch.

Product No. 9050 0000 025 002

**Patch press**

For compressing patch.

Product No. 9050 0000 025 004



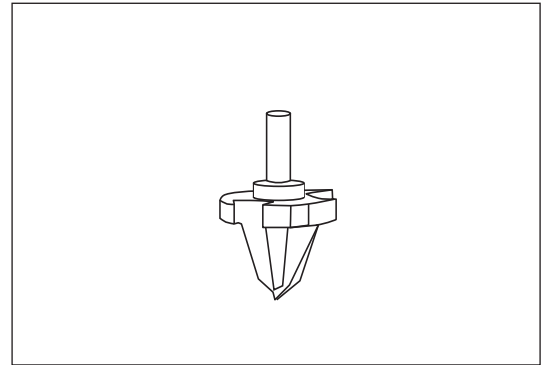
**Products - Tools**  
**Tools for weld plug**

**Conical drill bit**

For drilling the foam hole before installing weld plug.

Hole size	Product No.
ø35 mm	9050 0035 023 001
ø43 mm*	9050 0043 023 001

\* For repair use.

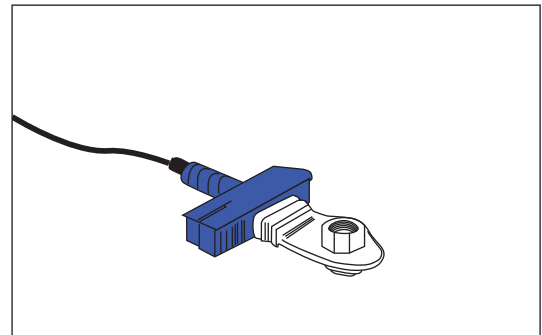


**Socket welder**

Socket welder HHSW-63-W for replaceable cones. Cones are ordered separately.

Delivered in a box.

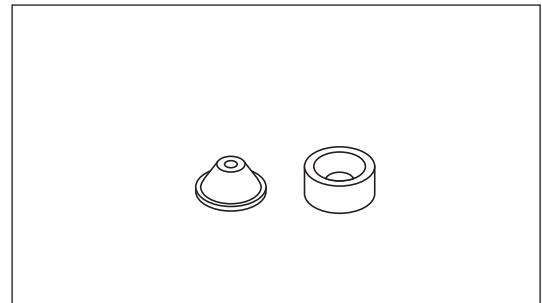
Product No. 9050 0000 023 013.



**Cones for socket welder**

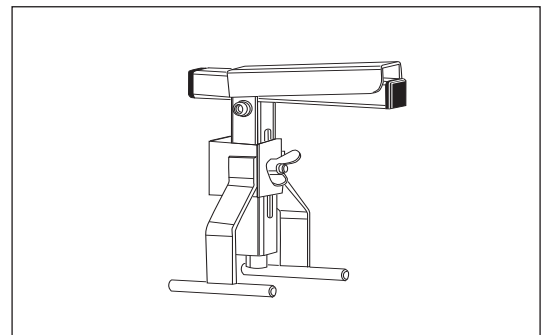
Weld plug size	Product No.
ø35 mm	9050 0000 023 010
ø43 mm*	9050 0000 023 011

\* For repair use.



**Retaining tool for weld plug**

Product No. 9050 0000 025 008





**Leakage test equipment****Hand pump**

Air pump to leakage test casing joints before foaming.

Product Nos. air pumps:

Hole size 24 mm 9050 0000 027 000

Hole size 17.5 mm 9050 0000 027 007

Product Nos. manometer with plug:

Hole size 24 mm 9050 0000 027 001

Hole size 17.5 mm 9050 0000 027 008

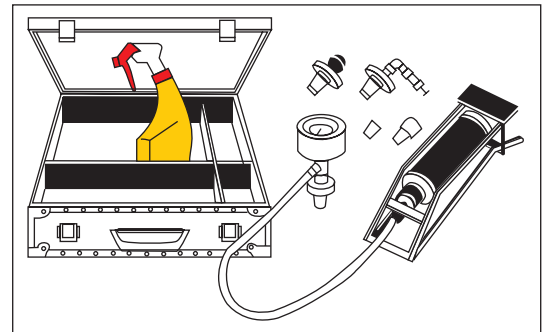
Product Nos. extra plug:

Hole size 24 mm 9050 0000 027 003

Hole size 17.5 mm 9050 0000 027 009

**Foot pump**

Product No. 9050 0000 027 011.





## The TwinPipe system Overview

---

**Introduction** This section describes the technical specifications for TwinPipes and the aids and accessories which are used when installing preinsulated TwinPipes.

---

<b>Contents</b>	Preinsulated TwinPipes	6.1
	Fixing bars	6.2
	Straight casing joints	6.3
	Horizontal bends, incl. curved pipes	6.4
	Vertical bends	6.5
	Branches; Twin - Twin and Twin - Flex, incl. hot tapping	6.6
	Valves and venting	6.7
	Reductions	6.8
	Transition pipes	6.9
	Other components	6.10

---



## TwinPipes

### Preinsulated TwinPipes

#### Application

The TwinPipe system is a complete transmission and distribution system, consisting of straight TwinPipes and TwinFlex(tra)-pipes, for district heating.

In general the TwinPipe system from LOGSTOR complies with the European standards EN253, EN13941, EN15698-1, EN15698-2 og EN14419.

All specifications in section 6 of this manual are based on:

Service life = Min. 30 yearr.

Max. operating pressure = 25 bar.

Main pipe branches are delivered in reinforced design to resist axial forces corresponding to 330 MPa. Provided the dimension of the main pipe and the branch are the same, the T-piece can resist axial forces corresponding to 190 MPa.

Fixing bars for preinsulated TwinPipes and fittings are dimensioned for a temperature difference between the flow and return pipeline of 60 K.

The pipe system fulfills the requirements of EN 253 as well as EN 13941 for continuous operation with hot water at various temperatures up to 120 °C and at individual time intervals with a peak temperature up to 140 °C. The sum of these individual time intervals shall, in average, not exceed 300 hours a year.

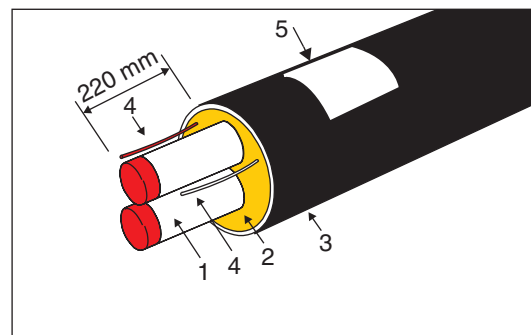
For temperature references which deviate from above standards we can - on request - calculate the estimated service life on the basis of the actual expected temperature set during a year.

Please contact LOGSTOR, if your conditions differ from the limit values in EN 253.

#### Description

A preinsulated TwinPipe consists of:

Pos.	Part	Material
1	Service pipe	Steel
2	Insulation	Polyurethane foam
3	Outer casing	Polyethylene, PE-HD
4	Alarm wire for surveillance	Copper (one is tinned)
5	Pipe label	



#### Production methods

TwinPipes are produced after one of the following two methods:

1. Traditional process - available in outer casing dimension  $\varnothing$  125-710 mm.
2. Axial conti process - available in outer casing dimension  $\varnothing$  125-315 mm.

See page 2.0.1.1.

## TwinPipes

### Preinsulated TwinPipes

<b>Steel pipe</b>	Dimensions and tolerances: Standard pipes:	According to 15698-1, 15698-2, and EN253 Longitudinally welded. Dimension 26.9 to 60.3 P235TR1, P235TR2 after EN 10217-1 or P235GH after EN10217-2.
	Works test certificate: Bevelling: Surface quality:	Dimension $\geq 76.1$ P235GH after EN 10217-2 or EN 10217-5. EN 10204 - 3.1 ISO 6761 Prior to foaming the pipe make sure that the surface of the steel pipe is of a quality, which guarantees an optimum adhesion between pipe and insulation..
<b>Insulation</b>	Polyurethane foam: Blowing agent: Thermal conductivity:	Properties: Minimum as required in EN 253 Cyclopentane - Traditionally manufactured pipes (50°C): 0.027 W/m K. - Axial conti pipes (50°C): 0.023 W/m K. The lambda values are based on an average of the continuous measurements. The updated values are always included in the calculation program "Calculator". See <a href="http://www.logstor.com/Calculator">www.logstor.com/Calculator</a> .
<b>Outer casing</b>	Polyethylene:  Thermal stability: Resistance against crack formation:  Internal surface treatment:	HDPE 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  Oxydation induction time (OIT): $> 20$ min at 210° C Slow crack formation (notch sensitivity): $> 300$ h (notch, 4 MPa, 80°C, EN 253)  All traditionally manufactured outer casings are corona-treated during production. This ensures an optimum adhesion between outer casing and insulation. As for conti pipes the adhesion is ensured by means of a corona-treated PE foil between outer casing and foam.
<b>Finished pipes</b>	Free service pipe end: Lengths, delivered:	220 mm $\pm$ 10 mm 6, 12 and 16 m

## TwinPipes Preinsulated TwinPipes

---

### Surveillance system

The TwinPipes are delivered with 2 copper wires, embedded in the insulation - "Nordic System".

Wires: 1.5 mm<sup>2</sup> copper wires (one is tinned)

Distance to steel pipe: 15 mm

Position in top: ± 3-20 cm from 12 o'clock position

The embedded copper wires are the backbone of the electronic surveillance systems which are available for most of our pipelines.

See description in section 16 of this manual.

---

## TwinPipes

### Preinsulated TwinPipes, series 1, 2, and 3

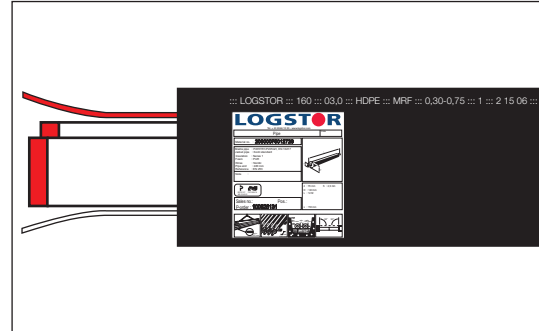
**Application** Preinsulated TwinPipes are used for all common construction works and for systems with reduced trench width.

Applicable for installation methods: Preheating or high axial stress installation.

**Description** A preinsulated TwinPipe series 1, 2 or 3 can be identified by its label, from which other data also appear. See page 1.3.0.2.

In all preinsulated TwinPipes copper wires for surveillance are embedded.

The dimensions  $\varnothing$  125-315 mm in series 1,  $\varnothing$  140-280 mm in series 2, and  $\varnothing$  160-315 mm in series 3 are available with diffusion barrier in 12 m or 16 m length, see page 2.0.1.1.



**Materials** TwinPipes are manufactured according to the same specifications as for other straight pipes.

#### Component overview/Data Series 1

Component No. 2090.

Steel pipe			Outer casing		Distance between steel pipes	Delivered length			Weight kg/m	Water content l/m
$\varnothing$ nom mm	$\varnothing$ out. mm	Wall th. mm	$\varnothing$ out. mm	Wall th. mm		6 m*	12 m	16 m		
20	26.9	2.6	125	3.0	19	x	x		5.2	0.7
25	33.7	2.6	140	3.0	19	x	x		6.5	1.3
32	42.4	2.6	160	3.0	19	x	x		8.1	2.1
40	48.3	2.6	160	3.0	19	x	x		8.8	2.9
50	60.3	2.9	200	3.2	20	x	x		12.4	4.7
65	76.1	2.9	225	3.4	20	x	x		15.4	7.8
80	88.9	3.2	250	3.6	25	x	x		19.5	10.7
100	114.3	3.6	315	4.1	25	x	x	x	28.4	18.0
125	139.7	3.6	400	4.8	30	x	x	x	38.2	27.6
150	168.3	4.0	450	5.2	40	x	x	x	49.4	40.4
200	219.1	4.5	560	6.0	45		x	x	72.5	69.3

\* 6 m TwinPipes are produced traditionally.



**TwinPipes**

**Preinsulated TwinPipes, series 1, 2, and 3**

**Component overview/Data Series 2**

Steel pipe			Outer casing		Distance between steel pipes	Delivered length			Weight kg/m	Water content l/m
ø nom mm	ø out. mm	Wall th. mm	ø out. mm	Wall th. mm		6 m*	12 m	16 m		
20	26.9	2.6	140	3.0	19	x	x		5.7	0.7
25	33.7	2.6	160	3.0	19	x	x		7.1	1.3
32	42.4	2.6	180	3.0	19	x	x		8.7	2.1
40	48.3	2.6	180	3.0	19	x	x		9.4	2.9
50	60.3	2.9	225	3.4	20	x	x		13.4	4.7
65	76.1	2.9	250	3.6	20	x	x		16.7	7.8
80	88.9	3.2	280	3.9	25	x	x		21.0	10.7
100	114.3	3.6	355	4.5	25	x	x	x	31.2	18.0
125	139.7	3.6	450	5.2	30	x	x	x	42.2	27.6
150	168.3	4.0	500	5.6	40	x	x	x	53.8	40.4
200	219.1	4.5	630	6.6	45		x	x	80.4	69.3

\* 6 m TwinPipes are produced traditionally.

**Component overview/Data Series 3**

Steel pipe			Outer casing		Distance between steel pipes	Delivered length			Weight kg/m	Water content l/m
ø nom mm	ø out. mm	Wall th. mm	ø out. mm	Wall th. mm		6 m*	12 m	16 m		
20	26.9	2.6	160	3.0	19	x	x		6.2	0.7
25	33.7	2.6	180	3.0	19	x	x		7.6	1.3
32	42.4	2.6	200	3.0	19	x	x		9.4	2.1
40	48.3	2.6	200	3,2	19	x	x		10.1	2.9
50	60.3	2.9	250	3,6	20	x	x		14.6	4.7
65	76.1	2.9	280	3,9	20	x	x		18.1	7.8
80	88.9	3.2	315	4,1	25	x	x		22.7	10.7
100	114.3	3.6	400	4,8	25	x	x	x	34.1	18.0
125	139.7	3.6	500	5,6	30	x	x	x	46.2	27.6
150	168.3	4.0	560	6,0	40	x	x	x	59.1	40.4
200	219.1	4.5	710	7,2	45		x	x	89.6	69.3

\* 6 m TwinPipes are produced traditionally.

## TwinPipes

### Overview, TwinFlex(tra) pipes

#### Application

Together with the straight TwinPipes the different TwinFlex(tra) pipes form an optimum solution financially as well as economically.

#### Description of TwinFlex(tra) pipe types

All TwinFlex(tra) pipes are available in 100 m lengths or fixed lengths from 10 to 90 m.

PexFlex TwinPipe, PN 6  
Component No. 2190  
See section 3.2.

PEX service pipe ø out. mm	Outer casing, ø out. mm	
	Series 1	Series 2
20/20	90	110
25/25	110	125
32/32	110	125
40/40	125	140
50/50	160*	180*
63/63	180*	

PexFlextra TwinPipe, PN 6  
Component No. 2190

\* Only PexFlextra TwinPipe

AluFlex TwinPipe  
Component No. 2190  
See section 3.3

AluPEX ø out. mm	Outer casing, ø out. mm			
	Series 1	Series 2	Series 3	Series 4
16/16		110	125	
20/20		110	125	140
26/26	110	125	140	
32/32		125	140	

AluFlextra TwinPipe  
Component No. 2190

CuFlex TwinPipe  
Component No. 2190  
See section 3.4

Cu-pipe ø out. mm	Outer casing, ø out. mm	
	Series 1	Series 2
18/18	90	110
22/22	90	110
28/28	110	125

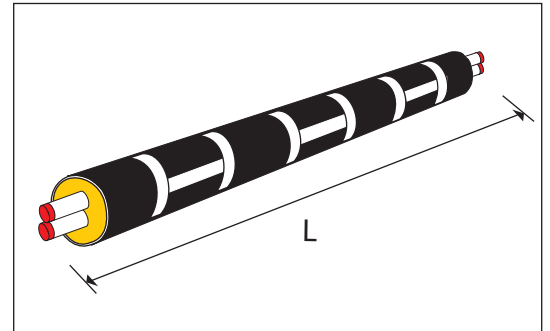
#### Alternative

If required or wanted, branching from straight TwinPipe to Flex single pipe, e.g. to SteelFlex, is also possible.

## TwinPipes Zebra pipe

**Application** Zebra pipes are used to facilitate the removal of insulation when adjusting pipe lengths.

**Description** The zebra pipe is divided into sections of 0.5-1.5 m, marked with transverse tape. Every second section has no adhesion between the insulation and the service pipe. These sections are marked with longitudinal tape.



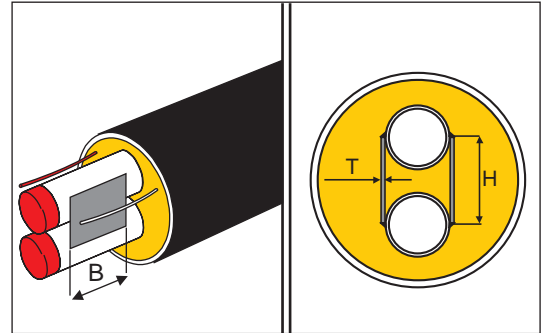
**Materials** Zebra pipes are produced according to the same specifications as other traditionally produced straight pipes.

**Component No./ data** Component No. 2496.  
The pipes are available in 12 and 16 m lengths.  
The dimensions of insulation series 1, 2 and 3 are the same as for straight TwinPipes.

**TwinPipes  
Fixing bars**

**Application** Place fixing bars at the end of straight pipelines when preinsulated fittings with bars are not used.

**Description** The fixing bar is a rectangular steel sheet, welded onto the sides of the pipe end.  
Fixing bars are delivered in bags, containing 2 pcs. each.



**Materials** Fixing bars are made of weldable steel quality.

**Component No./ data** Fixing bars  
Component No. 1998

Product No.	Dim. ø out. mm	Measures, mm		
		B	H	T
1998 0045 022 020	26.9	50	46	4
1998 0052 022 021	33.7	50	53	4
1998 0060 022 022	42.4	50	61	4
1998 0066 022 023	48.3	50	67	4
1998 0080 022 024	60.3	70	80	4
1998 0096 022 025	76.1	90	96	4
1998 0114 022 026	88.9	110	114	6
1998 0139 022 027	114.3	140	139	6
1998 0170 022 028	139.7	170	170	6
1998 0208 022 029	168.3	200	208	6
1998 0264 022 030	219.1	260	264	8

## TwinPipes

### Straight casing joints

---

#### Casing joint types

All LOGSTOR casing joints for foaming can be used for the TwinPipe system, see section 2.2.

In addition the BXJoint can be delivered with special TwinPipe insulation shells, see section 2.2.7.1

However, a supplementary set of accessories must be used for BandJoints:

- BandJoint ø 125 - 200, see section 2.2.2
- BandJoint ø 225 - 710, see section 2.2.3

The foam pack numbers differ from those for single pipes, see section 15.3.

---

## TwinPipes

### Horizontal bends, curved pipes

#### Application

Curved pipes are curved pipe elements which are used instead of traditional bends. This results in system optimization and improved project economy.

Curved pipes for TwinPipes can be used for installation methods: Preheating and high axial stress installation.

#### Description

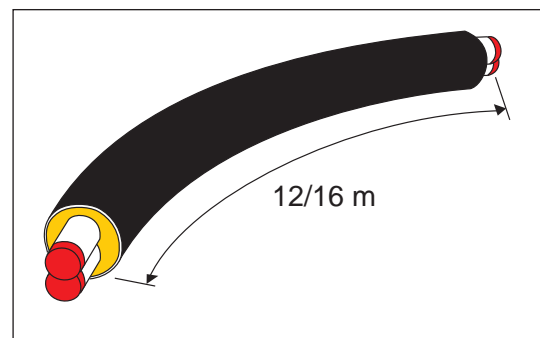
Curved pipes for TwinPipes are delivered for operating pressure 25 bar.

All curved pipes are delivered with embedded copper wires for surveillance.

Curved pipes are available in the following dimensional range:

- Machine curved pipes  $\varnothing$  76.1 - 219.1 mm, series 1, 2, and 3

Machine curved pipes are made by bending 12 and 16 m TwinPipes in our specially designed production plant.



Max. angular displacement per pipe length.

Other values, see Design Manual for TwinPipes, section 4.0.

Steel pipe $\varnothing$ out. mm	12 m $v^\circ$	16 m $v^\circ$
76.1	25	-
88.9	30	10
114.3	38	16
139.7	40	20
168.3	41	24
219.1	45	25

#### Materials

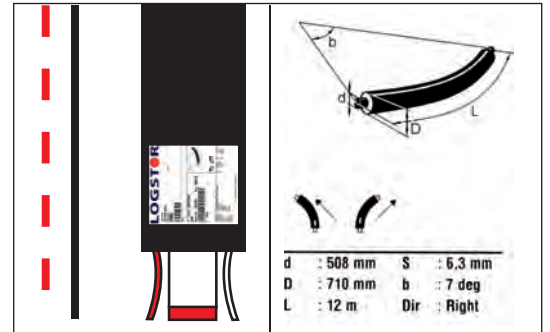
All materials are the same as those for straight TwinPipes: Steel/PUR/PE-HD.

**TwinPipes**  
**Horizontal bends, curved pipes**

**Component No.** On-site curved pipes: No independent component Nos.  
Machine curved pipes: Component No. 2095.

**Definition**  
**Alarm wire position**

Machine curved pipes are delivered with embedded copper wires for surveillance.  
If they are to be used, state in which direction the pipes should be bent: Right or left. The direction is defined by the position of the pipe where tinned wire is always to the right and blank copper wire to the left. This refers to the symbols of the surveillance diagram; full-drawn and dotted line respectively.



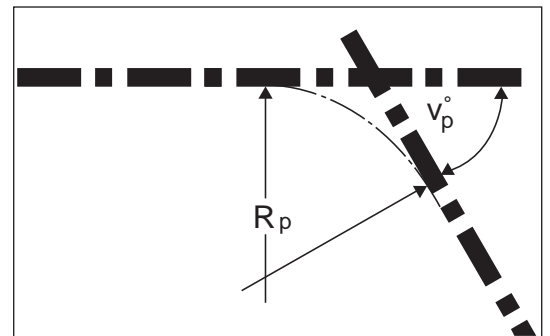
**Definition**  
**Angles**

When ordering, please state required angle in whole degrees on the basis of the centre lines of the trenches.

Tolerances may occur dependent on the dimension of the steel pipes and the variation in yield stress. However, this has no practical significance for the use, as the pipes also have a certain elasticity.

$V_p$  = Design angle  
 $R_p$  = Design radius

Max. bending angle = min. bending radius appears from the table in the Design Manual for TwinPipes.



**TwinPipes**

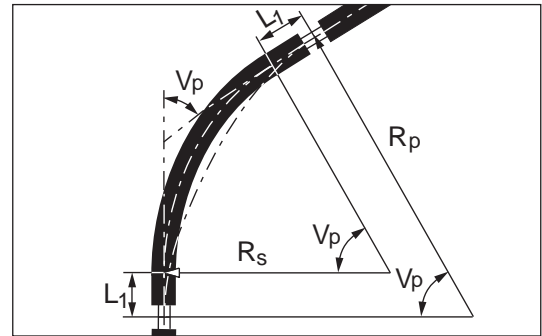
**Horizontal bends, curved pipes**

**Component overview/data**

From the table the maximum bending angle,  $v^{\circ}_p$ , for curved pipes in 12 m and 16 m length respectively appears.

In addition, the max. bending angle,  $v^{\circ}_p$  is to be set in relation to the stress level, at which the curved pipe is installed.

- $v^{\circ}_p$  = Maximal bending angle
- $R_s$  = Segment radius (the bent section)
- $R_p$  = Design radius
- $L_1$  = Length of straight pipe run
- Tol = Tolerance of angle +/-



For further information about curved pipes, see tsee Design Manual for TwinPipes, section 4.0.

Steel pipe ø out. mm	12 m pipe					16 m pipe				
	$v^{\circ}_p$	$R_s$ m	$R_p$ min. m	$L_1$ m	Tol $V^{\circ}$	$v^{\circ}_p$	$R_s$ m	$R_p$ min. m	$L_1$ m	Tol $V^{\circ}$
2 x 76.1	24	25.9	28.6	0.57	4.6	-	-	-	-	-
2 x 88.9	32	19.4	21.5	0.58	4.8	-	-	-	-	-
2 x 114.3	38	16.4	18.1	0.56	3.8	14	45.5	65.6	2.45	5.1
2 x 139.7	39	14.7	16.4	0.63	3.1	20	31.9	45.9	2.44	4.1
2 x 168.3	43	13.6	15.4	0.67	2.6	23	27.8	40.0	2.43	3.5
2 x 219.1	44	13.0	15.3	0.89	2.0	24	26.8	33.6	2.39	2.7

For larger dimensions contact LOGSTOR Technical Sales Support.



## TwinPipes Horizontal bend fittings

### Joint types

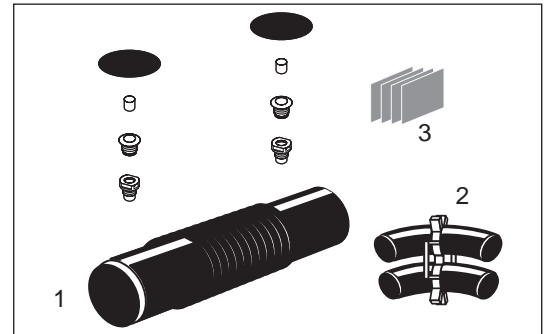
As an alternative to preinsulated bends in the smallest dimensions SXBJoint dimension  $\varnothing$  125-315 mm is recommended.

When using bend fittings with other angles than  $90^\circ$ , it must be ensured through calculation that no harmful bending impacts arises.

### SXBJoints

The solution with the SXBJoint consists of:

1. Joint with flexible bending zone  
Venting, expansion, wedge plugs, and patches
2. 2 SXB steel bends with spacers
3. 4 fixing bars (2 sets)



### Component overview

SXBJoint set (1)

Component No. 5208, see page 2.3.2.1.

SXB steel bends (special) (2)

Component No. 5252, see page 2.3.2.2.

Fixing bar (3)

Component No. 1998, see page 6.2.0.1.

In addition installation requires foam packs, see section 15.3.

**TwinPipes**

**Horizontal preinsulated bends, 90°**

**Application**

Preinsulated horizontal bends for TwinPipes are used for 90° horizontal changes of direction.

Horizontal bends are applicable for installation methods: Preheating and high axial stress installation.

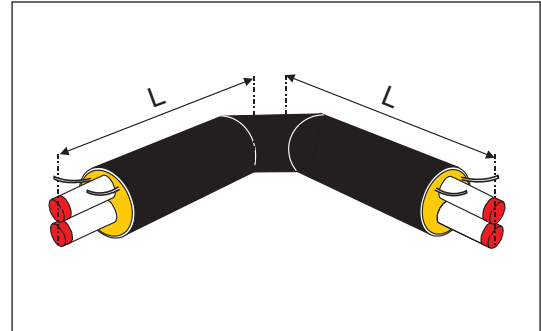
When using preinsulated bends with other angles than 90°, it must be ensured through calculation that no harmful bending impacts arises.

**Description**

Preinsulated horizontal bends are delivered for operating pressure 25 bar.

All bends are delivered with fixing bars at both ends.

All bends have embedded tinned copper wires for surveillance.



**Materials**

All materials are the same as those for straight TwinPipes: Steel/PUR/PE-HD.

Produced on all comparable parameters minimum according to EN 448.

Cold-bent steel pipes are used.

**Component No./  
measures**

Component No. 2590.

Other angles with offsets of 5° are available to order.

Steel pipe ø out. mm	Dimension Outer casing			L mm
	Series 1	Series 2	Series 3	
26.9	125	140	160	1000
33.7	140	160	180	1000
42.4	160	180	200	1000
48.3	160	180	200	1000
60.3	200	225	250	1000
76.1	225	250	280	1000
88.9	250	280	315	1000
114.3	315	355	400	1000
139.7	400	450	500	1000
168.3	450	500	560	1500
219.1	560	630	710	1500

**TwinPipes**  
**Vertical bends**

**Application**

There are two types of preinsulated vertical bends for TwinPipes:

- Vertical bends for directional changes between 5° and 90° at intervals of 5°.
- 90° house entry pipes.

Vertical bends are applicable for installation methods: Preheating and high axial stress installation (see precautions for vertical bends below).

**Description**

Preinsulated vertical bends are available for operating pressure: 25 bar.

All bends are delivered with fixing bars. However, in case of house entry pipes only on the horizontal part.

All bends have embedded tinned copper wires for surveillance.

In house entry pipes the vertical pipes run parallel with the wall.

**Materials**

All materials are the same as those for straight TwinPipes: Steel/PUR/PE-HD.

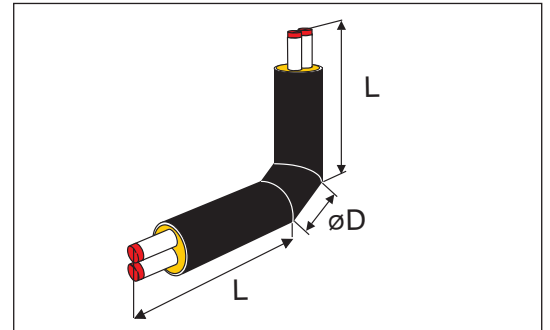
Produced on all comparable parameters minimum according to EN 448.

Dependent on dimension and angle, cold-bent steel pipes or weld elbows are used.

**Vertical bends**

Vertical bends in other angles than 90° are available to order.

However, when using other angles than 90° it must be ensured through calculation that no harmful bending impact arises.



Vertical bends, component No. 2591.

Steel pipe ø out. mm	Outer casing, ø out. mm						L mm
	Series 1	øD	Series 2	øD	Series 3	øD	
26.9	125	140	140	140	160	160	1000
33.7	140	160	160	160	180	180	1000
42.4	160	180	180	180	200	200	1000
48.3	160	180	180	180	200	200	1000
60.3	200	225	225	225	250	250	1000
76.1	225	250	250	250	280	280	1000
88.9	250	280	280	280	315	315	1000
114.3	315	355	355	355	400	400	1000
139.7	400	450	450	450	500	500	1000
168.3	450	500	500	500	560	560	1500
219.1	560	630	630	630	710	710	1500

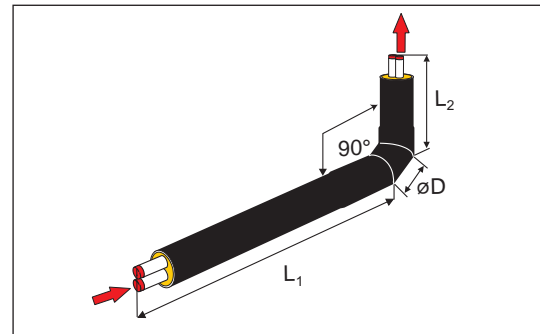
**TwinPipes  
Vertical bends**

**House entry pipes**

House entry pipes are as a standard available with the pipe run shown in the illustration, called type 1. Here the lower horizontal pipe corresponds to the vertical right pipe, see arrows.

As a special product a type 2 is available. Here the lower horizontal pipe corresponds to the vertical left pipe.

Corresponding pipe ends are marked with the same colour code.



House entry pipe, component No. 2592.

Larger dimensions are available to order.

Steel pipe ø out. mm	Dimension						L <sub>2</sub> x L <sub>1</sub> 1500 x 2500 mm	
	Outer casing ø out. mm						Type 1	Type 2*)
	Series 1	øD	Series 2	øD	Series 3	øD		
26.9	125	160	140	160	160	160	x	x
33.7	140	160	160	160	180	180	x	x
42.4	160	200	180	200	200	200	x	x
48.3	160	200	180	200	200	200	x	x
60.3	200	225	225	225	250	250	x	x
76.1	225	280	250	280	280	280	x	x
88.9	250	315	280	315	315	315	x	x

\*) Type 2 is not a standard product

## TwinPipes Overview, branches

### Branch types

For the TwinPipe system LOGSTOR can deliver a number of different branch types and combinations dependent on dimension, kind of project, and the customer's actual wishes:

- From TwinPipe to TwinPipe:
  - Straight BandJoint branch
  - Straight branch, TXJoints
  - Straight branch, SXTJoints
  - Preinsulated branches

From TwinPipe to two single pipes (primarily FlexPipes)

- Straight branches with BandJoint branch
- Straight branches with T- shrink joints

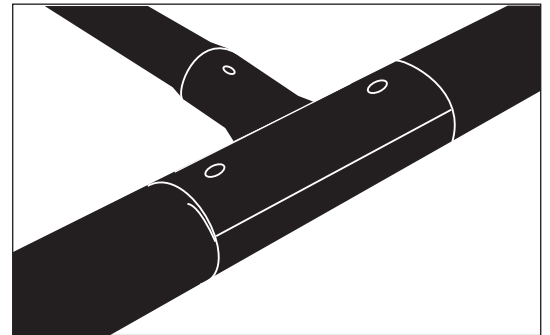
### Straight BandJoint branch

Straight BandJoint branch (Twin - Twin).

Main pipe (outer casing):  
ø 125 - 710 mm

Branch (outer casing):  
ø 90 - 225 mm

Component No. 5640.



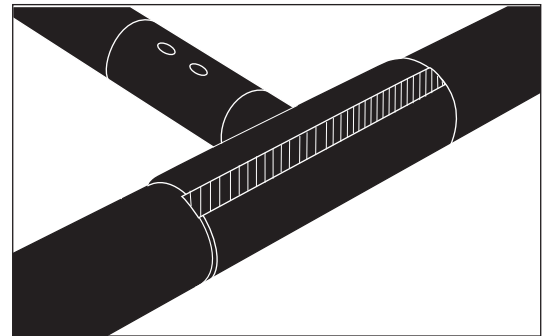
### Straight branch with TXJoint

Straight shrink branch (Twin - Twin).

Main pipe (outer casing):  
ø 125 - 710 mm

Branch (outer casing):  
ø 90 - 280 mm

Component No. 5191.



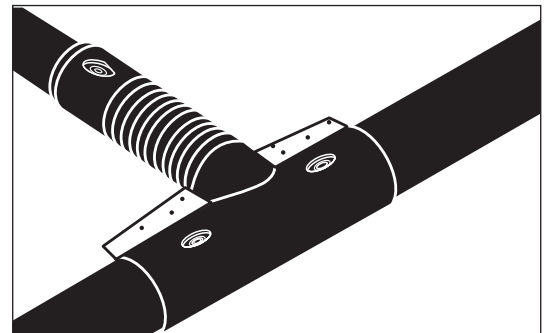
### Straight branch with SXTJoint

Straight shrink joint (Twin - Twin).

Main pipe (outer casing):  
ø 125 - 315 mm

Branch (outer casing):  
ø 90 - 200 mm

Component No. 5209/5207.



## TwinPipes Overview, branches

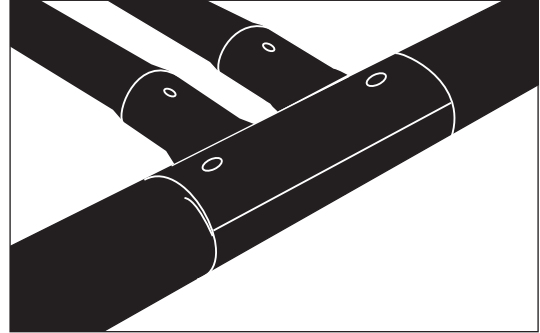
### Straight branch with BandJoint branch

Straight BandJoint branch  
(Twin - single pipe):

Main pipe (outer casing):  
ø 125 - 710 mm

Branch (outer casing):  
ø 90 - 110 mm

Component No. 5640.



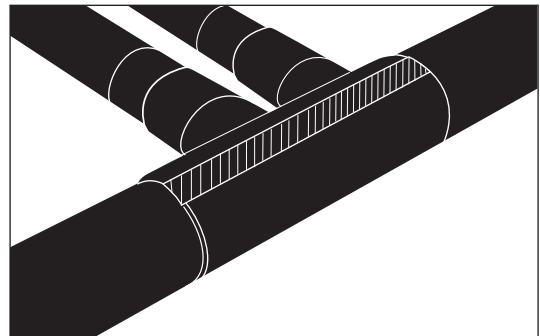
### Straight branch with T-joints dou- ble

Straight T-joint  
(Twin - single pipe):

Main pipe (outer casing):  
ø 125 - 710 mm

Branch (outer casing):  
ø 90 - 110 mm

Component No. 5190

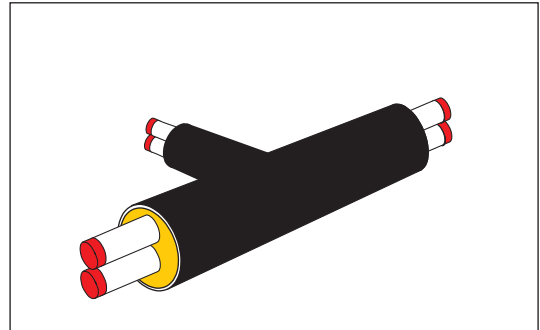


### Preinsulated branch

Preinsulated T-branch for TwinPipes:

- Main pipe: ø 26.9 - 219.1 mm
- Branch: ø 26.9 - 219.1 mm
- In both series 1, 2, and 3

Component No. 3490.



## TwinPipes

### Overview, branches - hot tapping

#### General

All types of branch fittings can be used in connection with hot tapping.

A few joint types require that the connecting piece is oversized or another length in order to make room for the hot tapping valve.

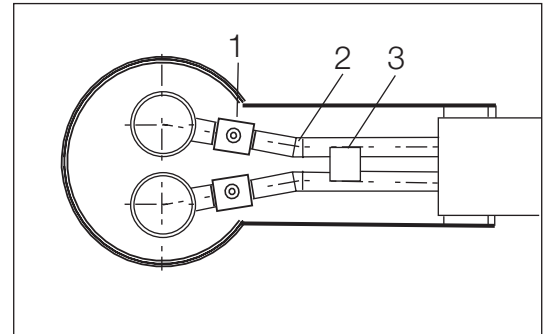
#### Hot tapping TwinPipe - TwinPipe

Hot tapping, carried out with:

1. Hot tapping valve
2. Weld elbow
3. Fixing bars

Primarily used in connection with:

- BandJoints

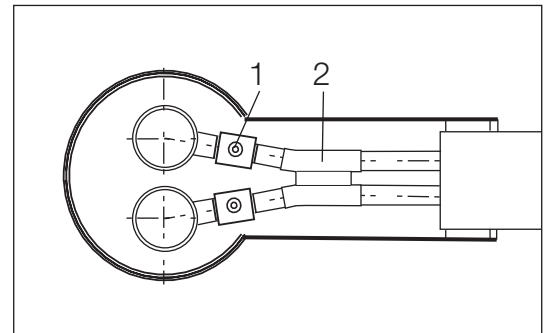


Hot tapping, carried out with:

1. Hot tapping valve
2. Connecting pipe with fixation

Primarily used in connection with:

- shrink joints

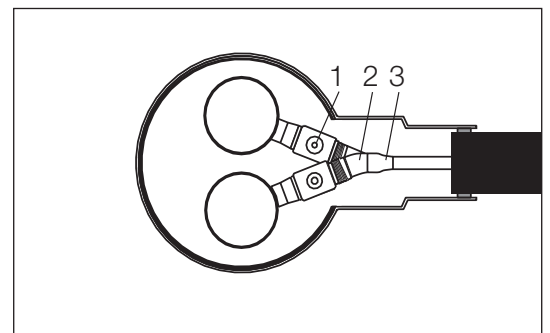


#### Hot tapping TwinPipe - single pipe

Hot tapping, carried out with:

1. Hot tapping valve
2. Weld elbow
3. Weld reduction

Used for all joint types with two connecting branches.



#### Choosing branch type

See advantages and application fields for each branch type on page 2.4.1.4.

In general TwinPipe solutions are carried out on the same level as the main pipe without level change.

## TwinPipes

### Straight BandJoint branch

**Application**

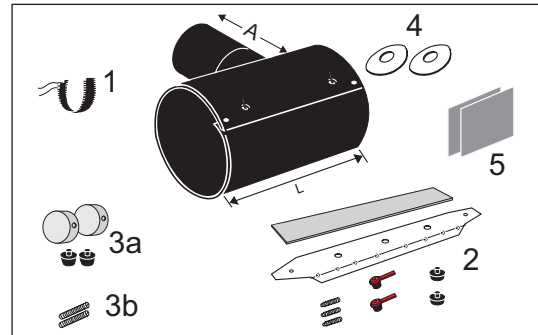
Straight branch with BandJoint branch is used in connection with branching from TwinPipe to TwinPipe.

Casing joint dimension: Main pipe  $\varnothing$  125-710 mm  
 Branch  $\varnothing$  90 - 225 mm

**Description**

A complete branch set consists of:

1. - Branch joint with fixed connecting piece  
 - Welding strips for the connecting piece
2. Accessories set:
  - Depth guard
  - Felt pad
  - Venting plugs
  - Welding plugs
  - Adjusting bolts
3. Additional accessories set:
  - a - Supporting chocks
  - Additional welding plugs
  - b - Extra long bolts  
 (only in dimensions  $\varnothing$  250-710 mm)
4. 2 reinforcement plates (If any. See table p. 2.4.2.1)
5. Fixing bars (set with 2 pcs.)  
 To be used for steel Twin branches



The components under items 1-5 are delivered separately in plastic bags.

The BandJoint branch is available in two versions:

- a standard version, STD, for normal joint installation
- an extra long version, L, for special installation and repair.

Main pipe Outer casing $\varnothing$ mm	STD		L	
	L mm	A mm	L mm	A mm
125-200	570	350	700	415
225-560	590	350	720	415
630-710	660	350	790	415

**Materials**

The BandJoint branch is made of polyethylene, PE, with embedded welding wires of copper in the welding zone of the main pipe.

The welding strips which are inserted into the branch are also made of PE with embedded welding wires on both sides.

- Steel depth guard and reinforcement plates: Weldable steel quality
- Venting plugs and supporting chocks: Polypropylene
- Welding plugs: PE-HD



**TwinPipes  
Straight BandJoint branch**

**Component overview,  
branch joints  
Standard length,  
STD**

Component No. 5640.  
Welding strips are included.

Main pipe Outer casing ø mm	Branch, outer casing, ø mm							
	90	110	125	140	160	180	200	225
125	x	x						
140	x	x	x					
160	x	x	x	x				
180	x	x	x	x	x			
200	x	x	x	x	x	x		
225	x	x	x	x	x	x	x	
250	x	x	x	x	x	x	x	x
280	x	x	x	x	x	x	x	x
315	x	x	x	x	x	x	x	x
355	x	x	x	x	x	x	x	x
400	x	x	x	x	x	x	x	x
450	x	x	x	x	x	x	x	x
560	x	x	x	x	x	x	x	x
630	x	x	x	x	x	x	x	x
710	x	x	x	x	x	x	x	x

**Component overview  
Other components**

Standard accessories:  
- Component No. 5606  
Product No.:  
ø125-200 mm: 5606 0090 200 011  
ø 225-710 mm: 5606 0225 150 011

Additional accessories:  
a. Welding plugs and supporting chockes set  
Component No. 5606.  
Product No.:  
- 35 mm: 5606 0000 035 090  
- 50 mm: 5606 0000 050 090  
- 70 mm: 5606 0000 070 090  
b. Extra long bolts  
Component No. 1995.  
Order **2** pcs. per casing joint.  
Product No.:  
- 100 mm: 1995 0010 002 100  
- 150 mm: 1995 0010 002 150  
- 220 mm: 1995 0010 002 220  
- 250 mm: 1995 0010 002 250

Main pipe Outer casing ø mm	Accessories			
	Standard	Additional a                      b Support. chock ød mm              l mm		
125	x	x	35	
140	x	x	35	
160	x	x	35	
180	x	x	35	
200	x	x	50	
225	x	x	50	
250	x	x	50	100
280	x	x	70	100
315	x	x	70	120
355	x	x	70	100
400	x	x	70	150
450	x	x	70	220
500	x	x	70	220
560	x	x	70	220
630	x	x	70	250
710	x	x	70	250

**Accessories**

Foam packs are used for foaming. Foam pack size, see the table in section 15.3.  
Remember possible components for installation of alarm wires.

**TwinPipes  
Straight BandJoint branch**

**Component overview,  
branch joints  
Extra long, L**

Component No. 5640.  
Welding strips are included.

Main pipe Outer casing ø mm	Branch, outer casing, ø mm							
	90	110	125	140	160	180	200	225
125	x	x						
140	x	x	x					
160	x	x	x	x				
180	x	x	x	x	x			
200	x	x	x	x	x	x		
225	x	x	x	x	x	x	x	
250	x	x	x	x	x	x	x	x
280	x	x	x	x	x	x	x	x
315	x	x	x	x	x	x	x	x
355	x	x	x	x	x	x	x	x
400	x	x	x	x	x	x	x	x
450	x	x	x	x	x	x	x	x
560	x	x	x	x	x	x	x	x
630	x	x	x	x	x	x	x	x
710	x	x	x	x	x	x	x	x

**Component overview  
Other components**

Standard accessories:  
- Component No. 5606  
Product No.:  
- ø 125-200 mm: 5606 0090 200 012  
- ø 225-710 mm: 5606 0225 150 012

Additional accessories:  
a. Welding plugs and supporting chockes set  
Component No. 5606.  
Order **1.5** sets per casing joint.  
Product No.:  
- 35 mm: 5606 0000 035 090  
- 50 mm: 5606 0000 050 090  
- 70 mm: 5606 0000 070 090  
b. Extra long bolts  
Component No. 1995.  
Order **3** pcs. per casing joint.  
Product No.:  
- 100 mm: 1995 0010 002 100  
- 150 mm: 1995 0010 002 150  
- 220 mm: 1995 0010 002 220  
- 250 mm: 1995 0010 002 250

Main pipe Outer casing ø mm	Accessories			
	Standard	Additional		l mm
Sup. chock		a	b	
		ød mm		
125	x	x	35	
140	x	x	35	
160	x	x	35	
180	x	x	35	
200	x	x	50	
225	x	x	50	
250	x	x	50	100
280	x	x	70	100
315	x	x	70	120
355	x	x	70	100
400	x	x	70	150
450	x	x	70	220
500	x	x	70	220
560	x	x	70	220
630	x	x	70	250
710	x	x	70	250

**Accessories**

Foam packs are used for foaming. Foam pack size, see the table in section 15.3.  
Remember possible components for installation of alarm wires.

## TwinPipes

### Straight branches, TXJoint

#### Application

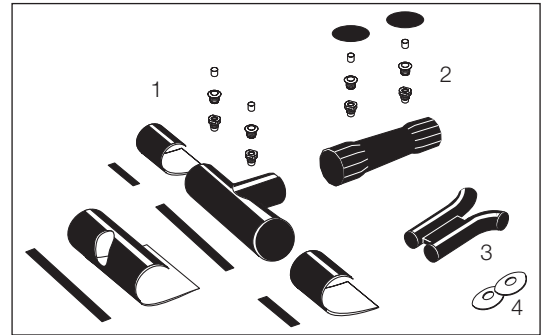
The straight TX-branch is used when branching from TwinPipe to TwinPipe.  
If used in connection with hot tapping state this when ordering.

Casing joint dimension, main pipe:  $\varnothing$  125 - 710 mm  
branch:  $\varnothing$  125 - 280 mm

#### Description

A complete branch set consists of:

1. T-joint
  - Shrink sleeves, shrink wrap and closure strips
2. Shrink joint (SX)
  - Venting, expansion and wedge plugs
  - Patches
3. Connecting pipe (If any)
4. Reinforcement plates (If any. See table p. 2.4.2.1)



#### Materials

The following materials are part of a TX-branch set:

- T-joint	Polyethylene, PE
- Shrink joint	Cross-linked PE (PEX)
- Closure strips	Cross-linked with glass fibre-reinforcement
- Shrink sleeves	PEX with mastic
- Venting plugs	LDPE
- Expansion plugs	PEX with butyl mastic ring
- Wedge plugs	PEX
- Patches	PEX with water-resistant hotmelt adhesive
- Shrink wrap	PEX with mastic
- Connecting pipe	Steel quality in accordance with EN 448

**Twin Pipes  
Straight branches, TXJoint**

**Component overview,  
TXJoint**

Component No. 5191

Main pipe Outer casing ø mm	Branch, outer casing, ø mm									
	90	110	125	140	160	180	200	225	250	280
125	x	x								
140	x	x	x							
160	x	x	x	x						
180	x	x	x	x	x					
200	x	x	x	x	x	x				
225	x	x	x	x	x	x	x			
250	x	x	x	x	x	x	x	x		
280	x	x	x	x	x	x	x	x	x	
315	x	x	x	x	x	x	x	x	x	x
355	x	x	x	x	x	x	x	x	x	x
400	x	x	x	x	x	x	x	x	x	x
450	x	x	x	x	x	x	x	x	x	x
500	x	x	x	x	x	x	x	x	x	x
560	x	x	x	x	x	x	x	x	x	x
630	x	x	x	x	x	x	x	x	x	x
710	x	x	x	x	x	x	x	x	x	x

**Component overview,  
Connecting pipe**

Component No. 0262

Main pipe Steel pipe ø mm	Branch, steel pipe. ø mm						
	26.9	33.7	42.4	48.3	60.3	76.1	88.9
42.4	x	x					
48.3	x	x	x				
60.3	x	x	x	x			
76.1	x	x	x	x	x		
88.9	x	x	x	x	x	x	
114.3	x	x	x	x	x	x	x
139.7	x	x	x	x	x	x	x
168.3	x	x	x	x	x	x	x
219.1	x	x	x	x	x	x	x

**Accessories**

Foam packs are used for foaming. Foam pack size, see the table in section 15.3.

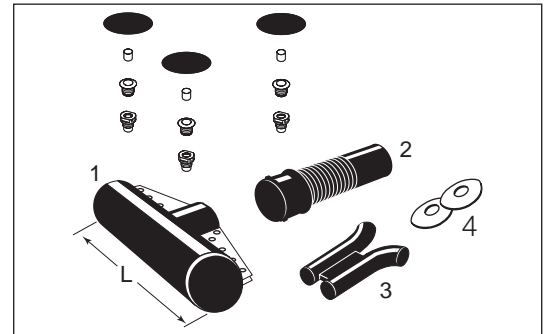
Remember possible components for installation of alarm wires.

**TwinPipes**  
**Straight branches, SXTJoint**

**Application** SXT-branches are used when branching from TwinPipe to TwinPipe.  
 Casing joint dimension, main pipe:  $\varnothing$  125-315 mm  
 branch:  $\varnothing$  90-200 mm

**Description** A complete branch set consists of:

1. Main pipe joint, open
2. Branch pipe joint, flexible  
 Both with venting, expansion and wedge plugs as well as patches
3. Connecting pipe (if any)
4. Reinforcement plates (If any. See table p. 2.4.2.1)



**Materials** The following materials form part of a SXT-branch set:

- Main pipe joint: Cross-linked PE (PEX)  
 Flanges and bolts in acid-resisting steel AISI 316 L/A4
- Branch pipe joint: PEX
- Venting plugs: LDPE
- Expansion plugs: PEX with mastic
- Wedge plugs: PEX
- Patches: PEX with water-resistant hotmelt adhesive
- Connecting pipe: Steel quality in accordance with EN 448

**Measurements** SXT main pipe joint:

Main pipe $\varnothing$ mm	Branch pipe $\varnothing$ mm	Length L, mm
125	90-125	690
140	90-140	690
160	90-160	690
180	90-160	690
200	90-180	690
225	90-200	690
250	90-140	690
250	160-200	700
280	90-140	690
280	160-200	730
315	90-200	730

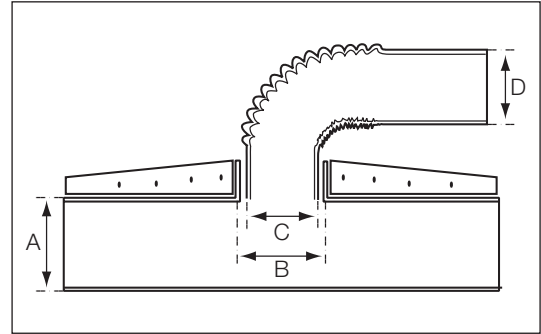
**TwinPipes**  
**Straight branches, SXTJoint**

**Example of joint combinations**

A main pipe joint has a connecting piece (B) which fits several branch pipe joints.

Likewise, the end of the branch pipe joint (D), which is shrunk on to the branch fits one or more dimensions.

(The illustration shows a 90° branch bend, but is of course straight for TwinPipes).



**Component overview**

Component numbers: Main pipe joint 5207  
Branch pipe joint 5209  
Connecting piece 0262

Combinations of main pipe joint and branch pipe joint:

Main pipe A, mm	B measure, mm	C measure, mm	Branch pipe interval, D mm			
125	155	144	77-90	110-125		
140	170	160	77-90	110-125	125-140	
160	170	160	77-90	110-125	125-140	
180	190	180	77-90	110-125	125-140	140-160
200	170	160	77-90	110-125	125-140	
200	230	220	140-160	180-200		
225	170	160	77-90	110-125	125-140	
225	230	220	140-160	180-200		
250	170	160	77-90	110-125	125-140	
250	230	220	140-160	180-200		
280	170	160	77-90	110-125	125-140	
280	230	220	140-160	180-200		
315	170	160	77-90	110-125	125-140	
315	230	220	140-160	180-200		

**Connecting piece**

Main pipe Steel pipe ø mm	Branch, steel pipe, ø mm						
	26.9	33.7	42.4	48.3	60.3	76.1	88.9
42.4	x	x					
48.3	x	x	x				
60.3	x	x	x	x			
76.1	x	x	x	x	x		
88.9	x	x	x	x	x	x	
114.3	x	x	x	x	x	x	x

# TwinPipes

## Straight BandJoint branch

**Application**

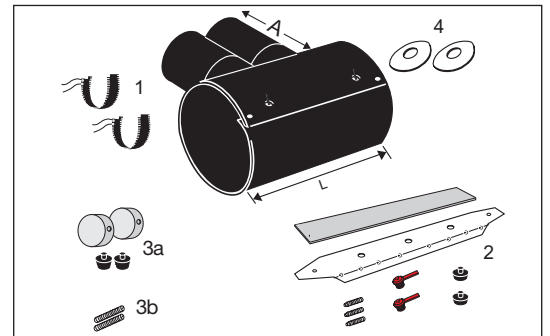
Straight branch with BandJoint branch is used in connection with branching from TwinPipe to single pipe.

Casing joint dimension: Main pipe  $\varnothing$  125-710 mm  
 Branch  $\varnothing$  90 - 110 mm

**Description**

A complete branch set consists of:

1. - Branch joint with two connecting pieces  
 - Welding strips for the connecting pieces
2. Accessories set:
  - Depth guard
  - Felt pad
  - Venting plugs
  - Welding plugs
  - Adjusting bolts
3. Additional accessories set:
  - A - Supporting chock
  - Extra welding plugs
  - B - Special adjusting bolts
4. 2 reinforcement plates (option; only for SteelFlex)



The components under items 1-3 are delivered separately in plastic bags.

The BandJoint branch is available in two versions:

- a standard version, STD, for normal joint installation
- an extra long version, L, for special installation and repair.

Main pipe Outer casing $\varnothing$ mm	STD		L	
	L mm	A mm	L mm	A mm
125-200	700	350	830	415
225-450	720	350	850	415
500-710	720	350	980	415

**Materials**

The BandJoint branch is made of polyethylene, PE, with embedded welding wires of copper in the welding zone of the main pipe.

The welding wires which are inserted into the outlets are also made of PE with embedded welding wires on both sides.

- Steel depth guard and reinforcement plates: Weldable steel quality
- Venting plugs and supporting chokes: Polypropylene
- Welding plugs: PE-HD

**TwinPipes  
Straight BandJoint branch**

**Component overview, joints  
Standard length, STD**

Component No. 5640.  
Welding strips are included.

Main pipe Outer casing ø mm	Branch, outer casing, ø mm	
	90	110
125	x	x
140	x	x
160	x	x
180	x	x
200	x	x
225	x	x
250	x	x
280	x	x
315	x	x
355	x	x
400	x	x
450	x	x
560	x	x
630	x	x
710	x	x

**Component overview, other parts**

Reinforcement plates.  
Only in connection with SteelFlex.  
Component No. 5426.  
Order 2 pcs. per branch.

TwinPipe ø mm	Steel pipe	
	TwinPipe ø mm	SteelFlex ø mm
26.9		20
33.7		20 - 28
42.4		20 - 28
48.3		20 - 28
60.3		20 - 28
76.1		20 - 28
88.9		20 - 28
114.3		20 - 28
139.7		20 - 28
168.3		20 - 28
219.1		20 - 28



**TwinPipes**  
**Straight BandJoint branch**

**Component overview, other parts, *continued***

- Accessories:
- Standard accessories  
Component No. 5606  
Product No.:  
- ø 125-200 mm: 5606 0090 200 011  
- ø 225-710 mm: 5606 0225 150 011
  - Additional accessories:  
a: Supporting chocks and welding plugs,  
Component No. 5606  
Product No.:  
- 35 mm: 5606 0000 035 090  
- 50 mm: 5606 0000 050 090  
- 70 mm: 5606 0000 070 090  
b: Extra long bolts,  
Component No. 1995  
Order **3** pcs. per joint.  
Product No.  
- 100 mm: 1995 0010 002 100  
- 150 mm: 1995 0010 002 150  
- 220 mm: 1995 0010 002 220  
- 250 mm: 1995 0010 002 250

Main pipe Outer casing ø mm	Standard	Accessories	
		Additional a Sup. chock ød mm	b l mm
125	x	x 35	
140	x	x 35	
160	x	x 35	
180	x	x 35	
200	x	x 50	
225	x	x 50	
250	x	x 50	100
280	x	x 70	120
315	x	x 70	120
355	x	x 70	100
400	x	x 70	150
450	x	x 70	220
500	x	x 70	220
560	x	x 70	220
630	x	x 70	250
710	x	x 70	250

**Accessories**

Foam packs are used for foaming. Foam pack size, see the table in section 15.3.  
Remember possible components for installation of alarm wires.

**Component overview, joint Extra long, L**

Component No.: 5640.  
Welding strips for branch are included.

Main pipe Outer casing ø mm	Branch, outer casing ø mm	
	90	110
125	x	x
140	x	x
160	x	x
180	x	x
200	x	x
225	x	x
250	x	x
280	x	x
315	x	x
355	x	x
400	x	x
450	x	x
560	x	x
630	x	x
710	x	x

## TwinPipes Straight BandJoint branch

**Component overview, other parts**

Reinforcement plates.  
Only in connection with SteelFlex.  
Component No. 5426.  
Order 2 pcs. per branch.

Steel pipe	
TwinPipes ø mm	SteelFlex ø mm
26.9	20
33.7	20 - 28
42.4	20 - 28
48.3	20 - 28
60.3	20 - 28
76.1	20 - 28
88.9	20 - 28
114.3	20 - 28
139.7	20 - 28
168.3	20 - 28
219.1	20 - 28

Accessories:

- Standard accessoires  
Component No. 5606  
Product No.:  
- ø 125-200 mm: 5606 0090 200 012  
- ø 225-710 mm: 5606 0225 150 012
- Additional accessories:  
a: Supporting chocks and welding plugs,  
Component No. 5606  
Product No.:  
- 35 mm: 5606 0000 035 090  
- 50 mm: 5606 0000 050 090  
- 70 mm: 5606 0000 070 090
- b: Extra long bolts,  
Component No. 1995  
Order 4 pcs. per joint.  
Product No.:  
- 100 mm: 1995 0010 002 100  
- 150 mm: 1995 0010 002 150  
- 220 mm: 1995 0010 002 220  
- 250 mm: 1995 0010 002 250

Main pipe  Outer casing ø mm	Accessories		
	Standard	Additional a Sup. chock ød mm	b l mm
125	x	x 35	
140	x	x 35	
160	x	x 35	
180	x	x 35	
200	x	x 50	
225	x	x 50	
250	x	x 50	100
280	x	x 70	100
315	x	x 70	120
355	x	x 70	100
400	x	x 70	150
450	x	x 70	220
500	x	x 70	220
560	x	x 70	220
630	x	x 70	250
710	x	x 70	250

**Accessories**

Foam packs are used for foaming. Foam pack size, see the table in section 15.3.  
Remember possible components for installation of alarm wires.

**TwinPipes**  
**Straight branch, T-joints, double**

**Application**

Straight T-joint with two connecting pipes used to branch from TwinPipe to single pipe, primarily FlexPipes.

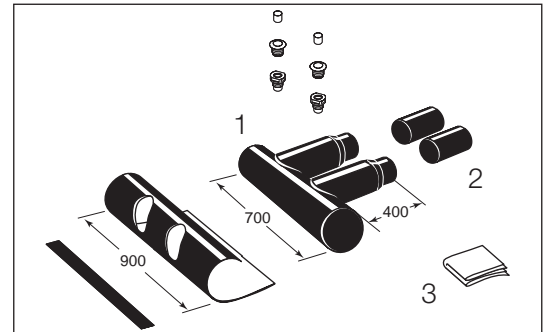
May also be used for hot tapping.

Joint dimension, main pipe:  $\varnothing$  125 - 710 mm  
branch:  $\varnothing$  90 - 110 mm

**Description**

A complete branch set consists of:

1. Branch tee coupling (T-shoe), shrink wrap, closure patch, plug set
2. Shrink sleeves
3. Cleaning cloth



**Materials**

The following materials form part of a T-joint, double branch set:

- T-branch tee coupling: PE
- Shrink wrap and sleeves: PE with mastic
- Closure patch: Cross-linked polyolefin wit glass fibre reinforcement
- Venting plugs: LDPE
- Expansion plugs: PEX with mastic
- Wedge plugs: PEX

**Component overview**

Component No. 5190

Main pipe Outer casing $\varnothing$ mm	Branch - outer casing $\varnothing$ mm	
	90	110
140	x	x
160	x	x
180	x	x
200	x	x
225	x	x
250	x	x
280	x	x
315	x	x
355	x	x
400	x	x
450	x	x
500	x	x
560	x	x
630	x	x
710	x	x

## **TwinPipes**

### **Straight branch, T-joints, double**

---

#### **Accessories**

Foam packs are used for foaming. Foam pack size, see the table in section 15.3.

Remember possible components for installation of alarm wires.

Check whether reinforcement plates are necessary or not, section 2.4.2.

---

**TwinPipes**

**Hot tapping, TwinPipe -TwinPipe**

**Application**

On TwinPipe systems in operation branching with TwinPipes is carried out with a combination of special hot tapping valves and straight branches:

- BandJoint branch, see page 6.6.1.1
- TXJoint, see page 6.6.2.1
- SXTJoint, see page 6.6.3.1

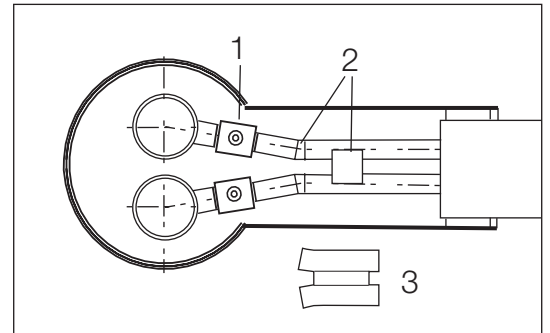
**Description**

For hot tapping the following are used:

1. Hot tapping valves
2. Fixing bar and possibly weld elbows (dependent on dimension)  
Primarily in connection with BandJoints.

Alternative to 2:

3. Connecting pipe with fixation  
Primarily in connection with shrink joints.



**Materials**

**Hot tapping valve**

The hot tapping valve is adjusted to LOGSTOR joints:

- Valve chamber: Steel
- Valve ball: Stainless steel
- Sealing: PTFE (Teflon)

Max. operating pressure: 25 bar

**Component overview, general**

Component numbers:

- Hot tapping valve 4280 2 pcs. per hot tapping
- Fixing bars 1998 1 set (2 pcs.)
- Weld elbow 1005 1 pc. (90° for shortening)
- Connecting pipe 0262 1 pc.

Dim. steel pipe Branch ø mm	Hot tapping valve	Fixing bars	Weld elbow	Alternative Connecting pipe
33.7	x	x	x	x
42.4	x	x	x	x
48.3	x	x	x	x
60.3	x	x	x	x
76.1	x	x	x	x
88.9	x	x	x	x

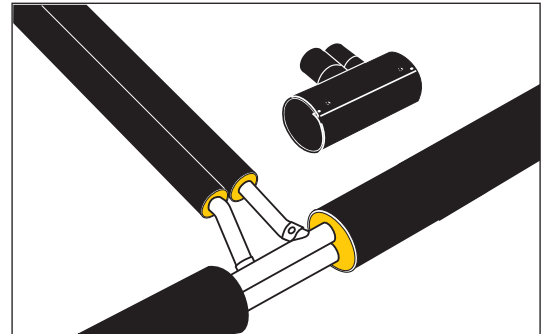
## TwinPipes

### Hot tapping, TwinPipe - FlexPipe

#### Application

On TwinPipe systems in operation branching to FlexPipes can be carried out with a combination of special hot tapping valves and branch tee couplings with two connecting branches:

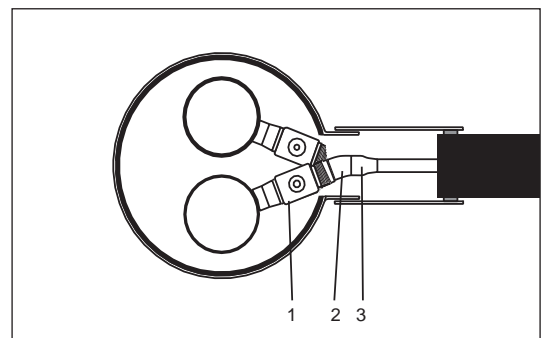
- Straight BandJoint branch, see page 6.6.4.1
- Straight branch, T-shrink joint, see page 6.6.5.1



#### Description

The following components are used for hot tapping:

1. Hot tapping valve
2. Weld elbow
- 3 a. Weld reduction (for SteelFlex)
  - b. Press coupling (for Pex- and AluFlex)
  - c. Steel/Cu connection (for CuFlex)



Not all joint types can be used for all FlexPipe hot tapplings.

However, some are available with extra long branch tee coupling/connecting branch.

#### Materials

The hot tapping valve is adjusted to LOGSTOR joints:

Valve chamber:	Steel
Valve ball:	Stainless steel
Sealing:	PTFE (Teflon)

Max. operating pressure: 25 bar

**TwinPipes**  
**Hot tapping, TwinPipe - FlexPipe**

**Component overview**

Component numbers:

- Hot tapping valve	4280	2 pcs. per hot tapping
- Weld elbow	1005	1 pc. (90° for shortening)
- Weld reduction (SteelFlex)	1006	2 pcs. per hot tapping
- Press coupling (PexFlex)	6000	2 pcs. per hot tapping
- Press coupling (AluFlex)	6001	2 pcs. per hot tapping
- Steel/Cu connection (CuFlex)	6880	2 pcs. per hot tapping

Hot tapping valve and weld elbow:

Dim. hot tapping valve ø mm	Fits dim. FlexPipes ø mm				Weld elbow ø mm
	SteelFlex	PexFlex	AluFlex	CuFlex	
26.9	20	16, 20, 22	16, 20, 26	15, 18, 22	26.9
33.7	25, 28	25, 28, 32	32	28	33.7
42.4		40		35	42.4
48.3		50			48.3

Weld reduction, SteelFlex

Steel pipe, ø out. mm	
From	To
26.9	20
33.7	25
33.7	28

Press couplings, PexFlex

Steel, ø out. mm	PexFlex
From	To
26.9	16
26.9	20
26.9	22
33.7	25
33.7	28
33.7	32
42.4	40
48.3	50

Press couplings, AluFlex

Steel, ø out. mm	AluFlex
From	To
26.9	16
26.9	20
26.9	26
33.7	32

## TwinPipes

### Hot tapping, TwinPipe - FlexPipe

---

**Component overview, continued**

Steel/Cu connection, CuFlex

Steel, ø out. mm From	CuFlex To
26.9	15
26.9	18
26.9	22
33.7	28
42.4	35

---

**Accessories**

For the installation use foam pack.

Order foam pack according to the tables in section 15.3.

Remember possible components for the installation of alarm wires.

---



## TwinPipes Preinsulated branches

### Application

Preinsulated branches are used when branching from TwinPipe to TwinPipe in all TwinPipe dimensions,  $\varnothing$  26.9 - 219.1 mm in insulation series 1, 2, and 3.

The preinsulated branches are reinforced and applicable for installation methods: Preheating and high axial stress installation.

### Description

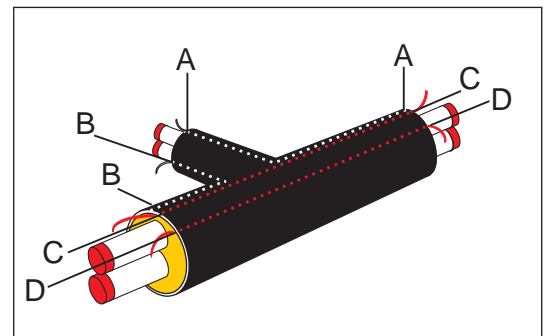
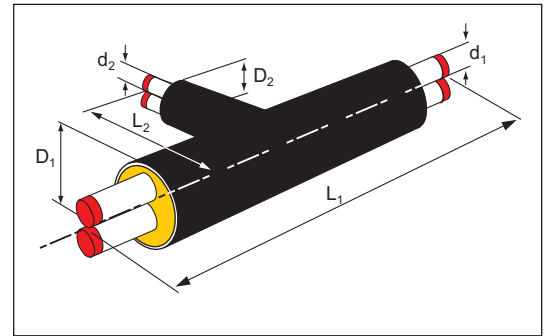
All TwinPipe combinations can be carried out with preinsulated branches.

Additional measurements appear from subsequent tables.

Note! Only the branch pipes are delivered with fixing bars.

If a branch is built in at the end of a pipe run without e.g. prefabricated bend, fixing bars must be welded on to the main pipe of the branch.

All preinsulated TwinPipe branches are delivered with embedded wires for surveillance: 2 tinned wires which are led out through the branch (A and B), and 2 copper wires in the main pipe (C and D).



### Materials

All materials are the same as for straight TwinPipes: Steel/PUR/PE-HD.

Preinsulated branches comply with all comparable requirements in EN 448.

**TwinPipes  
Preinsulated branches**

**Preinsulated  
branch  
TwinPipe,  
series 1**

Component No. 3490.

Main pipe			Branch	d <sub>2</sub>	26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	
d <sub>1</sub>	D <sub>1</sub>	L <sub>1</sub>	D <sub>2</sub>	L <sub>2</sub>												
26.9	125	1100			x											
33.7	140	1100			x	x										
42.4	160	1100			x	x	x									
48.3	160	1100			x	x	x	x								
60.3	200	1200			x	x	x	x	x							
76.1	225	1200			x	x	x	x	x	x						
88.9	250	1300			x	x	x	x	x	x	x					
114.3	315	1300			x	x	x	x	x	x	x	x				
139.7	400	1500			x	x	x	x	x	x	x	x	x			
168.3	450	1600			x	x	x	x	x	x	x	x	x	x		
219.1	560	1700			x	x	x	x	x	x	x	x	x	x	x	x

**Preinsulated  
branch  
TwinPipe,  
series 2**

Component No. 3490.

Main pipe			Branch	d <sub>2</sub>	26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1	
d <sub>1</sub>	D <sub>1</sub>	L <sub>1</sub>	D <sub>2</sub>	L <sub>2</sub>												
26.9	140	1100			x											
33.7	160	1100			x	x										
42.4	180	1100			x	x	x									
48.3	180	1100			x	x	x	x								
60.3	225	1200			x	x	x	x	x							
76.1	250	1200			x	x	x	x	x	x						
88.9	280	1300			x	x	x	x	x	x	x					
114.3	355	1300			x	x	x	x	x	x	x	x				
139.7	450	1500			x	x	x	x	x	x	x	x	x			
168.3	500	1600			x	x	x	x	x	x	x	x	x	x		
219.1	630	1700			x	x	x	x	x	x	x	x	x	x	x	x

**TwinPipes  
Preinsulated branches**

**Preinsulated  
branch  
TwinPipe,  
series 3**

Component No. 3490.

Main pipe			Branch	d <sub>2</sub>	26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7	168.3	219.1
d <sub>1</sub>	D <sub>1</sub>	L <sub>1</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>
d <sub>1</sub>	D <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>	L <sub>2</sub>
26.9	160	1100		x											
33.7	180	1100		x	x										
42.4	200	1100		x	x	x									
48.3	200	1100		x	x	x	x								
60.3	250	1200		x	x	x	x	x							
76.1	280	1200		x	x	x	x	x	x						
88.9	315	1300		x	x	x	x	x	x	x					
114.3	400	1300		x	x	x	x	x	x	x	x				
139.7	500	1500		x	x	x	x	x	x	x	x	x			
168.3	560	1600		x	x	x	x	x	x	x	x	x	x		
219.1	710	1700		x	x	x	x	x	x	x	x	x	x	x	x

**TwinPipes  
Isolation valves**

**Application**

Preinsulated isolation valves for TwinPipes are applicable for pipe sections, which have been installed by preheating and relieved of axial stresses, see Design Manual.

Operating pressure: 25 bar.

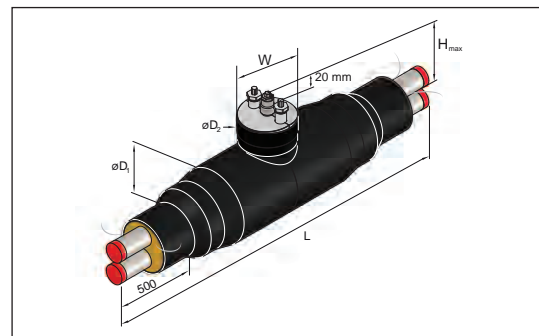
**Description**

All LOGSTOR preinsulated isolation valves for the TwinPipe system have a stainless steel top which the spindles are welded onto.

They are delivered with embedded copper wires for surveillance. These alarm wires are led out through the stainless steel top to a fixed reference point. For the screw cover of the reference point spanner size 27 mm can be used. Alternatively, spanner size 55 mm can be used.

Return spindles and service valves are approx. 20 mm higher than flow spindles and service valves.

The isolation valves have welded fixing bars.



**Materials**

Preinsulated isolation valves comply with comparable requirements in EN 488.

Ball valves: Stainless steel.

Note! The valves are not of high yield stress material.

Stainless steel top: AISI 316

Sealing between stainless steel top and PE-part: Cross-linked shrink sleeve with mastic as a seal.

Other materials as for straight TwinPipes.

**Component overview;  
measurements**

Component No. 4290.

Dimension, ø out. mm			L	øD <sub>1</sub>	øD <sub>2</sub>	H <sub>max</sub>	W	NW spindle	NW backstop
Series 1	Series 2	Series 3	mm	mm	mm	mm	mm	mm	mm
26.9/125	26.9/140	26.9/160	1500	225	225	490	225	19	
33.7/140	33.7/160	33.7/180	1500	225	225	490	225	19	
42.4/160	42.4/180	42.4/200	1800	225	225	495	225	19	
48.3/160	48.3/180	48.3/200	1680	225	225	505	225	19	
60.3/200	60.3/225	60.3/250	1900	250	225	510	225	19	
76.1/225	76.1/250	76.1/280	2080	315	225	515	225	19	
88.9/250	88.9/280	88.9/315	2050	355	250	525	250	19	
114.3/315	114.3/355	114.3/400	2285	450	315	535	315	27	70
139.7/400	139.7/450	139.7/500	2665	500	355	555	355	27	70
168.3/450	168.3/500	168.3/560	2970	560	400	575	400	27	70
219.1/560	219.1/630	219.1/710	2980	710	450	675	450	50	90

**TwinPipes  
Isolation valves****Product numbers**

Product No.	Series 1	Product No.	Series 2	Product No.	Series 3
4290 0026 003 649	26.9/125	4290 0026 003 659	26.9/140	4290 0026 003 669	26.9/160
4290 0033 003 649	33.7/140	4290 0033 003 659	33.7/160	4290 0033 003 669	33.7/180
4290 0042 003 649	42.4/160	4290 0042 003 659	42.4/180	4290 0042 003 669	42.4/200
4290 0048 003 649	48.3/160	4290 0048 003 659	48.3/180	4290 0048 003 669	48.3/200
4290 0060 003 649	60.3/200	4290 0060 003 659	60.3/225	4290 0060 003 669	60.3/250
4290 0076 003 649	76.1/225	4290 0076 003 659	76.1/250	4290 0076 003 669	76.1/280
4290 0088 003 649	88.9/250	4290 0088 003 659	88.9/280	4290 0088 003 669	88.9/315
4290 0114 003 649	114.3/315	4290 0114 003 659	114.3/355	4290 0114 003 669	114.3/400
4290 0139 003 649	139.7/400	4290 0139 003 659	139.7/450	4290 0139 003 669	139.7/500
4290 0168 003 649	168.3/450	4290 0168 003 659	168.3/500	4290 0168 003 669	168.3/560
4290 0219 003 649	219.1/560	4290 0219 003 659	219.1/630	4290 0219 003 669	219.1/710

## TwinPipes

### Isolation valve with 1 service valve

#### Application

Isolation valves with 1 service valve are used, when venting or drainage is required on one side of the valve.

They are applicable for pipe sections, which have been installed by preheating and relieved of axial stresses, see Design Manual.

Operating pressure: 25 bar.

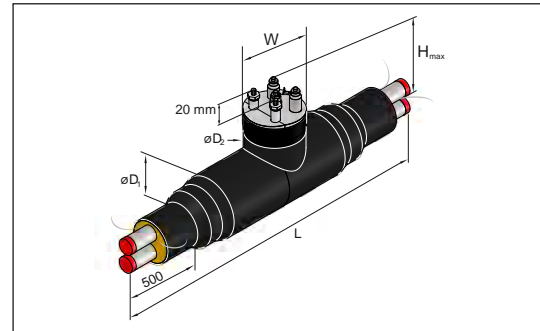
#### Description

All LOGSTOR preinsulated isolation valves with 1 service valve for the TwinPipe system have a stainless steel top which the spindles are welded onto.

They are delivered with embedded copper wires for surveillance. These alarm wires are led out through the stainless steel top to a fixed reference point. For the screw cover of the reference point spanner size 27 mm can be used. Alternatively, spanner size 55 mm can be used.

Return spindles and service valves are approx. 20 mm higher than flow spindles and service valves.

The isolation valves have welded fixing bars.



#### Materials

Preinsulated isolation valves comply with comparable requirements in EN 488.

Ball valves: Stainless steel.

Note! The valves are not of high yield stress material.

Stainless steel top: AISI 316

Sealing between stainless steel top and PE-part: Cross-linked shrink sleeve with mastic as a seal.

Service valves outside the insulation: Stainless steel.

Other materials as for straight TwinPipes.

**TwinPipes**

**Isolation valve with 1 service valve**

**Component overview;  
measurements**

Component No. 4291

Dimension, $\varnothing$ out. mm			L	$\varnothing D_1$	$\varnothing D_2$	Service valve	$H_{max}$	W	NW spindle	NW modhold
Series 1	Series 2	Series 3	mm	mm	mm	$\varnothing$ mm	mm	mm	mm	mm
26.9/125	26.9/140	26.9/160	1550	280	280	26,9	485	280	19	
33.7/140	33.7/160	33.7/180	1600	280	280	26,9	490	280	19	
42.4/160	42.4/180	42.4/200	1900	280	280	33,7	495	280	19	
48.3/160	48.3/180	48.3/200	1800	315	315	42,4	505	315	19	
60.3/200	60.3/225	60.3/250	2000	315	315	42,4	510	315	19	
76.1/225	76.1/250	76.1/280	2200	315	315	42,4	515	315	19	
88.9/250	88.9/280	88.9/315	2200	355	315	42,4	525	315	19	
114.3/315	114.3/355	114.3/400	2500	450	400	48,3	645	400	27	70
139.7/400	139.7/450	139.7/500	2900	500	450	48,3	655	450	27	70
168.3/450	168.3/500	168.3/560	3200	560	450	48,3	665	450	27	70
219.1/560	219.1/630	219.1/710	3200	710	450	60,3	792	450	50	90

**Product numbers**

Product No.	Series 1	Product No.	Series 2	Product No.	Series 3
4291 0026 003 649	26.9/125	4291 0026 003 659	26.9/140	4291 0026 003 669	26.9/160
4291 0033 003 649	33.7/140	4291 0033 003 659	33.7/160	4291 0033 003 669	33.7/180
4291 0042 003 649	42.4/160	4291 0042 003 659	42.4/180	4291 0042 003 669	42.4/200
4291 0048 003 649	48.3/160	4291 0048 003 659	48.3/180	4291 0048 003 669	48.3/200
4291 0060 003 649	60.3/200	4291 0060 003 659	60.3/225	4291 0060 003 669	60.3/250
4291 0076 003 649	76.1/225	4291 0076 003 659	76.1/250	4291 0076 003 669	76.1/280
4291 0088 003 649	88.9/250	4291 0088 003 659	88.9/280	4291 0088 003 669	88.9/315
4291 0114 003 649	114.3/315	4291 0114 003 659	114.3/355	4291 0114 003 669	114.3/400
4291 0139 003 649	139.7/400	4291 0139 003 659	139.7/450	4291 0139 003 669	139.7/500
4291 0168 003 649	168.3/450	4291 0168 003 659	168.3/500	4291 0168 003 669	168.3/560
4291 0219 003 649	219.1/560	4291 0219 003 659	219.1/630	4291 0219 003 669	219.1/710

## TwinPipes

### Isolation valve with 2 service valves

#### Application

Isolation valves with 2 service valves are used, when venting or drainage is required on both sides of the valve.

They are applicable for pipe sections, which have been installed by preheating and relieved of axial stresses, see Design Manual.

Operating pressure: 25 bar.

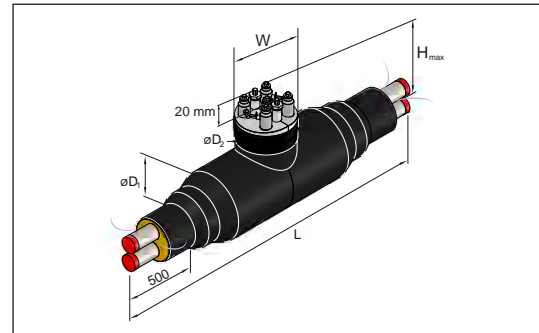
#### Description

All LOGSTOR preinsulated isolation valves with 2 service valves for the TwinPipe system have a stainless steel top which the spindles are welded onto.

They are delivered with embedded copper wires for surveillance. These alarm wires are led out through the stainless steel top to a fixed reference point. For the screw cover of the reference point spanner size 27 mm can be used. Alternatively, spanner size 55 mm can be used.

Return spindles and service valves are approx. 20 mm higher than flow spindles and service valves.

The isolation valves have welded fixing bars.



#### Materials

Preinsulated isolation valves comply with comparable requirements in EN 488.

Ball valves: Stainless steel.

Note! The valves are not of high yield stress material.

Stainless steel top: AISI 316

Sealing between stainless steel top and PE-part: Cross-linked shrink sleeve with mastic as a seal.

Service valves outside the insulation: Stainless steel.

Other materials as for straight TwinPipes.



**TwinPipes**  
**Isolation valve with 2 service valves**

**Component overview;  
measurements**

Component No. 4292

Dimension, ø out. mm			L mm	øD <sub>1</sub> mm	øD <sub>2</sub> mm	Service valve ø mm	H <sub>max</sub> mm	W mm	NW spindle mm	NW backstop mm
Series 1	Series 2	Series 3								
26.9/125	26.9/140	26.9/160	1550	280	280	26,9	485	280	19	
33.7/140	33.7/160	33.7/180	1600	280	280	26,9	490	280	19	
42.4/160	42.4/180	42.4/200	1900	280	280	33,7	495	280	19	
48.3/160	48.3/180	48.3/200	1800	315	315	42,4	505	315	19	
60.3/200	60.3/225	60.3/250	2000	315	315	42,4	510	315	19	
76.1/225	76.1/250	76.1/280	2200	355	355	42,4	515	355	19	
88.9/250	88.9/280	88.9/315	2200	400	355	42,4	525	355	19	
114.3/315	114.3/355	114.3/400	2500	500	400	48,3	645	400	27	70
139.7/400	139.7/450	139.7/500	2900	560	450	48,3	655	450	27	70
168.3/450	168.3/500	168.3/560	3200	560	450	48,3	665	450	27	70
219.1/560	219.1/630	219.1/710	3200	800	450	60,3	792	450	50	90

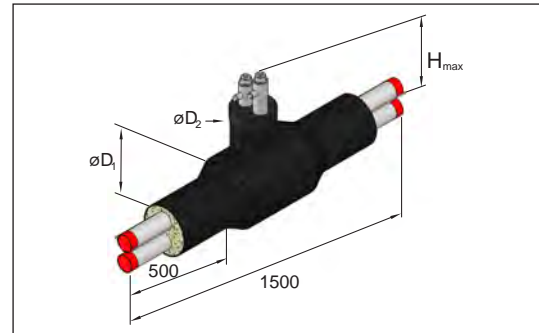
**Product numbers**

Product No.	Series 1	Product No.	Series 2	Product No.	Series 3
4292 0026 003 649	26.9/125	4292 0026 003 659	26.9/140	4292 0026 003 669	26.9/160
4292 0033 003 649	33.7/140	4292 0033 003 659	33.7/160	4292 0033 003 669	33.7/180
4292 0042 003 649	42.4/160	4292 0042 003 659	42.4/180	4292 0042 003 669	42.4/200
4292 0048 003 649	48.3/160	4292 0048 003 659	48.3/180	4292 0048 003 669	48.3/200
4292 0060 003 649	60.3/200	4292 0060 003 659	60.3/225	4292 0060 003 669	60.3/250
4292 0076 003 649	76.1/225	4292 0076 003 659	76.1/250	4292 0076 003 669	76.1/280
4292 0088 003 649	88.9/250	4292 0088 003 659	88.9/280	4292 0088 003 669	88.9/315
4292 0114 003 649	114.3/315	4292 0114 003 659	114.3/355	4292 0114 003 669	114.3/400
4292 0139 003 649	139.7/400	4292 0139 003 659	139.7/450	4292 0139 003 669	139.7/500
4292 0168 003 649	168.3/450	4292 0168 003 659	168.3/500	4292 0168 003 669	168.3/560
4292 0219 003 649	219.1/560	4292 0219 003 659	219.1/630	4292 0219 003 669	219.1/710

**TwinPipes  
Service valves**

**Application** Preinsulated service valves are used for venting or drainage in wanted areas of the pipe section.  
They are applicable for installation methods: Preheating and high axial stress installation.  
Operating pressure: 25 bar.

**Description** All preinsulated isolation valves have embedded copper wires for surveillance.  
Note! There are no welded fixing bars.  
If components are installed at the end of a pipe section without e.g. a preinsulated bend, fixing bars must be welded on.  
Service valves are available in series 1 and 2.



**Materials** Service valves comply with comparable requirements in EN 488.  
Ball valves: Stainless steel.  
Other materials as for straight TwinPipes.

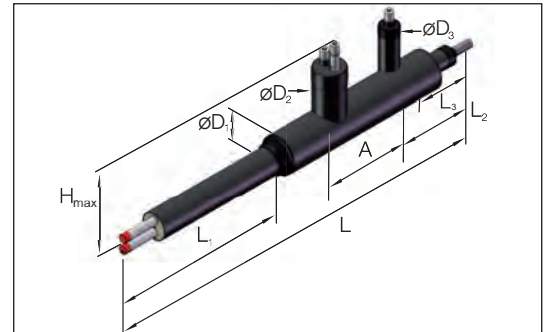
**Component overview; measurements** Component No. 3790

Dimension. ø out. mm		L mm	øD <sub>1</sub> mm	øD <sub>2</sub> mm	Service valve ø mm	H <sub>max</sub> mm
Series 1	Series 2					
26.9/125	26.9/140	1500	225	140	26.9	460
33.7/140	33.7/160	1500	225	140	26.9	445
42.4/160	42.4/180	1500	250	160	33.7	455
48.3/160	48.3/180	1500	280	180	42.4	455
60.3/200	60.3/225	1500	280	180	42.4	470
76.1/225	76.1/250	1500	315	180	42.4	490
88.9/250	88.9/280	1500	315	180	42.4	505
114.3/315	114.3/355	1500	400	225	48.3	530
139.7/400	139.7/450	1500	500	225	48.3	560
168.3/450	168.3/500	1500	560	250	48.3	595
219.1/560	219.1/630	1500	630	280	60.3	735

**TwinPipes  
Drainage valves**

**Application** Preinsulated drainage valves are used where a permanent draining possibility is wanted, e.g. for an inspection chamber.  
They are usually installed on a short house connection.  
Operating pressure: 25 bar.

**Description** All preinsulated drainage valves have embedded copper wires for surveillance.  
In the TwinPipe-part there are welded fixing bars.  
Drainage valves are available in series 1 and 2.



**Materials** Drainage valves comply with comparable requirements in EN 488.  
Ball valves: Stainless steel.  
The single pipe end is sealed against water ingress in the isolation foam. The steel pipe is made of stainless steel (L<sub>3</sub>). It is sealed against water ingress in the ball valve.

**Component overview;** Component No. 4295

**measurements**

Dimension. ø out. mm		L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	A	øD <sub>1</sub>	øD <sub>2</sub>	øD <sub>3</sub>	H <sub>max</sub>
Series 1	Series 2	mm	mm	mm	mm	mm	mm	mm	mm	mm
26.9/125	26.9/140	2500	1020	644	350	460	180	160	110	480
33.7/140	33.7/160	2500	1020	665	350	450	180	160	110	480
42.4/160	42.4/180	2500	1020	570	350	460	225	180	110	485
48.3/160	48.3/180	2500	1020	569	350	460	225	180	110	495
60.3/200	60.3/225	2650	1030	687	350	480	250	180	110	500
76.1/225	76.1/250	2700	1030	713	350	470	315	200	110	505
88.9/250	88.9/280	2700	1030	546	350	570	355	200	110	515
114.3/315	114.3/355	2800	1030	517	350	610	450	250	140	595

**TwinPipes  
Preinsulated reductions**

**Application**

Preinsulated reductions for TwinPipes are used for reduction with one or two dimensional off-sets.

Operating pressure: 25 bar.

1 dimensional offset: max. axial stress 300 N/mm<sup>2</sup>  
applicable to installation methods: Preheating and high axial stress installation

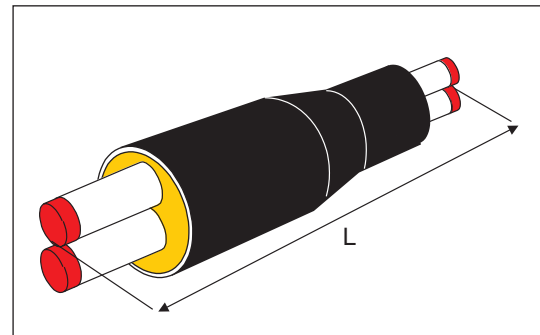
2 dimensional offsets: max. axial stress 150 N/mm<sup>2</sup>  
applicable to the installation method preheating

See principles for single pipes: Design Manual.

**Description**

All preinsulated TwinPipe reductions are supplied with embedded copper wires for surveillance.

There are also welded fixing bars.



**Materials**

Preinsulated reductions comply with comparable requirements in EN 448.

Weld reduction: Steel quality in accordance with EN 10253-2.

Other materials as for straight TwinPipes.

**Component  
overview;  
measurements**

Component No. 4990

1 reductional offset

Series 1

Series 2

From dimension ø out. mm	To dimension ø out. mm	L mm
33.7/140	26.9/125	1100
42.4/160	33.7/140	1100
48.3/160	42.4/160	1100
60.3/200	48.3/160	1200
76.1/225	60.3/200	1200
88.9/250	76.1/225	1200
114.3/315	88.9/250	1200
139.7/400	114.3/315	1500
168.3/450	139.7/400	1500
219.1/560	168.3/450	1500

From dimension ø out. mm	To dimension ø out. mm	L mm
33.7/160	26.9/140	1100
42.4/180	33.7/160	1100
48.3/180	42.4/180	1100
60.3/225	48.3/180	1200
76.1/250	60.3/225	1200
88.9/280	76.1/250	1200
114.3/355	88.9/280	1200
139.7/450	114.3/355	1500
168.3/500	139.7/450	1500
219.1/630	168.3/500	1500

**TwinPipes  
Preinsulated reductions**

**Component  
overview;  
measurements  
*continued***

Series 3

From dimension ø out. mm	To dimension ø out. mm	L mm
33.7/180	26.9/160	1100
42.4/200	33.7/180	1100
48.3/200	42.4/200	1100
60.3/250	48.3/200	1200
76.1/280	60.3/250	1200
88.9/315	76.1/280	1200
114.3/400	88.9/315	1200
139.7/500	114.3/400	1500
168.3/560	139.7/500	1500
219.1/710	168.3/560	1500

2 reductional offsets

Series 1

From dimension ø out. mm	To dimension ø out. mm	L mm
42.4/160	26.9/125	1100
48.3/160	33.7/140	1100
60.3/200	42.4/160	1200
76.1/225	48.3/160	1200
88.9/250	60.3/200	1200
114.3/315	76.1/225	1200
139.7/400	88.9/250	1500
168.3/450	114.3/315	1500
219.1/560	139.7/400	1500

Series 2

From dimension ø out. mm	To dimension ø out. mm	L mm
42.4/180	26.9/140	1100
48.3/180	33.7/160	1100
60.3/225	42.4/180	1200
76.1/250	48.3/180	1200
88.9/280	60.3/225	1200
114.3/355	76.1/250	1200
139.7/450	88.9/280	1500
168.3/500	114.3/355	1500
219.1/630	139.7/450	1500

Series 3

From dimension ø out. mm	To dimension ø out. mm	L mm
42.4/200	26.9/160	1100
48.3/200	33.7/180	1100
60.3/250	42.4/200	1200
76.1/280	48.3/200	1200
88.9/315	60.3/250	1200
114.3/400	76.1/280	1200
139.7/500	88.9/315	1500
168.3/560	114.3/400	1500
219.1/710	139.7/500	1500

**TwinPipes**

**Alternative reduction solutions**

**Application**

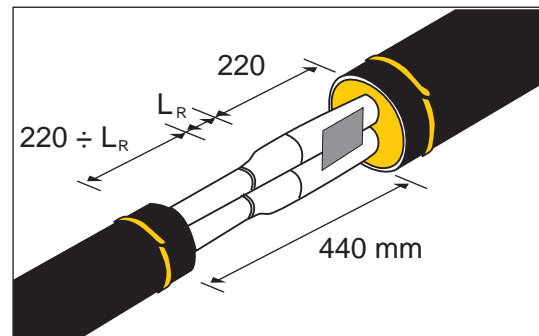
For minor TwinPipe dimensions solutions with LOGSTOR casing joints are available e.g.:

- SXJoint for reduction
- BXJoint for reduction (for foaming in wrap)
- B2SJoint for reduction
- EWJoint

The possible combinations are however subject to limitations, see the tables section 2.6.

**Description**

When making reductions with casing joints eccentric weld reductions must be used and fixing bars welded onto the largest dimension.



**Materials**

Weld reduction: Steel quality according to EN 10253-2.

Fixing bars: Weldable steel quality.

**Component overview**

Fixing bars, component No. 1998, see page 6.2.0.1.

Weld reduction, eccentric, component No. 1006

1 dimensional offset		2 dimensional offset	
From ø mm	To ø mm	From ø mm	To ø mm
33.7	26.9	-	-
42.4	33.7	42.4	26.9
48.3	42.4	48.3	33.7
60.3	48.3	60.3	42.4
76.1	60.3	76.1	48.3
88.9	76.1	88.9	60.3
114.3	88.9	114.3	76.1
139.7	114.3	139.7	88.9
168.3	139.7	168.3	114.3
219.1	168.3	219.1	139.7

## TwinPipes

### Transition pipe, Twin - single pipe, Merge pipe

#### Application

Merge pipes are used in connection with straight transition from a single pipe system to a TwinPipe system of insulation series 1, 2 or 3.

As the flow pipe is always placed at the bottom, the merge pipe is available in a "type 1" as well as a "type 2" version.

They are applicable for the installation methods preheating and high axial stress installation, but must be placed on a relieved section.

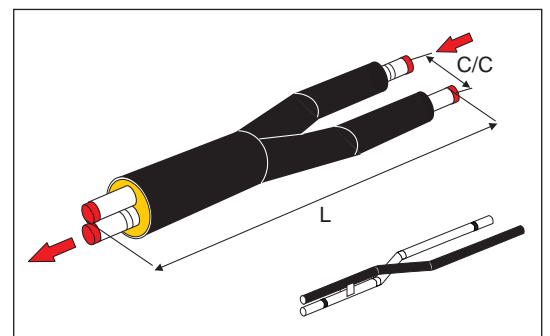
Max. operating pressure: 25 bar.

#### Description

Preinsulated straight merge pipes are delivered with welded fixing bars.

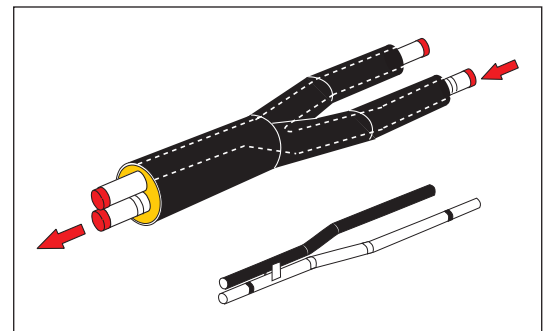
Type 1 and type 2 are defined by viewing the merge pipe from the single pipe end perspective.

The illustration shows the "type 2" model.



All merge pipes have 3 embedded copper wires for surveillance.

From the illustration the "type 1" model and the wire position appear.



#### Materials

The materials of merge pipes comply with comparable requirements in EN 448.

All materials are as for straight TwinPipes.

**TwinPipes**

**Transition pipe, Twin - single pipe, Merge pipe**

**Component overview; measurements**

Component No. 3071

Type 1

Series 1		Series 2		Series 3		L mm	C/C mm
Twin out. ø mm	Single out. ø mm	Twin out. ø mm	Single out. ø mm	Twin out. ø mm	Single out. ø mm		
26.9/125	26.9/90	26.9/140	26.9/110	26.9/160	26.9/125	2309	275
33.7/140	33.7/90	33.7/160	33.7/110	33.7/180	33.7/125	2348	275
42.4/160	42.4/110	42.4/180	42.4/125	42.4/200	42.4/140	2386	290
48.3/160	48.3/110	48.3/180	48.3/125	48.3/200	48.3/140	2376	290
60.3/200	60.3/125	60.3/225	60.3/140	60.3/250	60.3/160	2428	325
76.1/225	76.1/140	76.1/250	76.1/160	76.1/280	76.1/180	2442	350
88.9/250	88.9/160	88.9/280	88.9/180	88.9/315	88.9/200	2485	390
114.3/315	114.3/200	114.3/355	114.3/225	114.3/400	114.3/250	2601	480
139.7/400	139.7/225	139.7/450	139.7/250	139.7/500	139.7/280	2874	580
168.3/450	168.3/250	168.3/500	168.3/280	168.3/560	168.3/315	2947	640
219.1/560	219.1/315	219.1/630	219.1/355	219.1/710	219.1/400	3149	790

Type 2

Series 1		Series 2		Series 3		L mm	C/C mm
Twin out. ø mm	Single out. ø mm	Twin out. ø mm	Single out. ø mm	Twin out. ø mm	Single out. ø mm		
26.9/125	26.9/90	26.9/140	26.9/110	26.9/160	26.9/125	2309	275
33.7/140	33.7/90	33.7/160	33.7/110	33.7/180	33.7/125	2348	275
42.4/160	42.4/110	42.4/180	42.4/125	42.4/200	42.4/140	2386	290
48.3/160	48.3/110	48.3/180	48.3/125	48.3/200	48.3/140	2376	290
60.3/200	60.3/125	60.3/225	60.3/140	60.3/250	60.3/160	2428	325
76.1/225	76.1/140	76.1/250	76.1/160	76.1/280	76.1/180	2442	350
88.9/250	88.9/160	88.9/280	88.9/180	88.9/315	88.9/200	2485	390
114.3/315	114.3/200	114.3/355	114.3/225	114.3/400	114.3/250	2601	480
139.7/400	139.7/225	139.7/450	139.7/250	139.7/500	139.7/280	2874	580
168.3/450	168.3/250	168.3/500	168.3/280	168.3/560	168.3/315	2947	640
219.1/560	219.1/315	219.1/630	219.1/355	219.1/710	219.1/400	3149	790



**TwinPipes**

**Transition pipe, Twin - single pipe, Transition bend**

**Application**

Transition bends are used for perpendicular transition from a single pipe system to a TwinPipe system of insulation series 1, 2 or 3.

As the flow pipe is always placed at the bottom, the transition bend is available in a "type 1" as well as a "type 2" version.

They are applicable for the installation methods preheating and high axial stress installation, but must be placed on a relieved section.

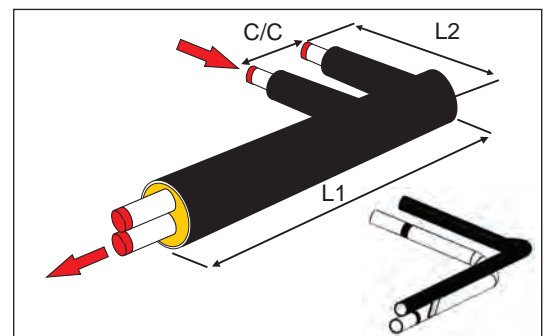
Max. operating pressure: 25 bar.

**Description**

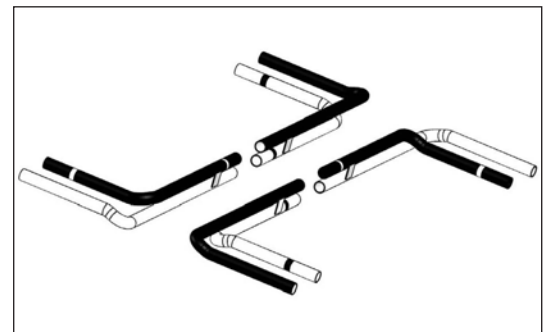
Transition bends are delivered with welded fixing bars.

"Type 1" and "type 2" are defined by viewing it from the single pipe end perspective.

The illustration shows the "type 2" model.

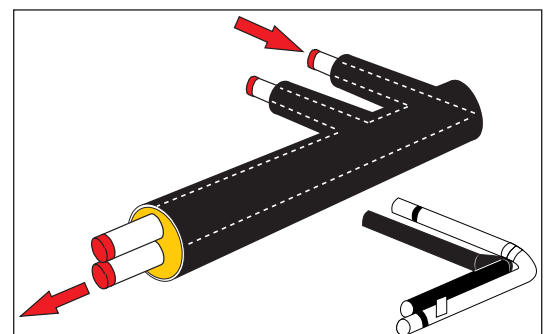


Other possible applications for "type 2".

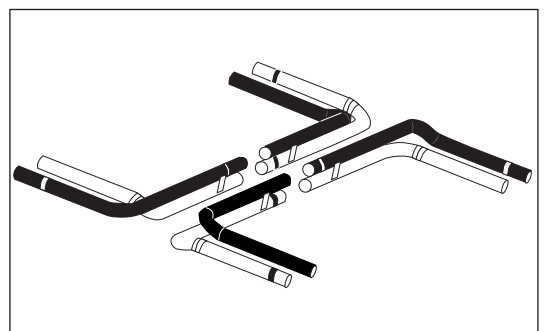


All transition bends have 3 embedded copper wires for surveillance.

From the illustration the "type 1" model and the wire position appear.



Other possible applications for "type 1".



**TwinPipes**

**Transition pipe, Twin - single pipe, Transition bend**

**Materials**

Transition bends comply with comparable requirements in EN 448.

All materials are as for straight TwinPipes.

**Component overview; measurements**

Component No. 3072

Type 1

Series 1		Series 2		Series 3		L <sub>1</sub> mm	L <sub>2</sub> mm	C/C mm
Twin out. ø mm	Single out. ø mm	Twin out. ø mm	Single out. ø mm	Twin out. ø mm	Single out. ø mm			
26.9/125	26.9/90	26.9/140	26.9/110	26.9/160	26.9/125	1500	1100	265
33.7/140	33.7/90	33.7/160	33.7/110	33.7/180	33.7/125	1500	1100	265
42.4/160	42.4/110	42.4/180	42.4/125	42.4/200	42.4/140	1500	1100	280
48.3/160	48.3/110	48.3/180	48.3/125	48.3/200	48.3/140	1500	1100	280
60.3/200	60.3/125	60.3/225	60.3/140	60.3/250	60.3/160	1600	1200	295
76.1/225	76.1/140	76.1/250	76.1/160	76.1/280	76.1/180	1600	1200	315
88.9/250	88.9/160	88.9/280	88.9/180	88.9/315	88.9/200	1600	1200	335
114.3/315	114.3/200	114.3/355	114.3/225	114.3/400	114.3/250	1800	1200	430
139.7/400	139.7/225	139.7/450	139.7/250	139.7/500	139.7/280	1800	1400	460
168.3/450	168.3/250	168.3/500	168.3/280	168.3/560	168.3/315	2000	1400	535
219.1/560	219.1/315	219.1/630	219.1/355	219.1/710	219.1/400	2200	1600	615

Type 2

Series 1		Series 2		Series 3		L <sub>1</sub> mm	L <sub>2</sub> mm	C/C mm
Twin out. ø mm	Single out. ø mm	Twin out. ø mm	Single out. ø mm	Twin out. ø mm	Single out. ø mm			
26.9/125	26.9/90	26.9/140	26.9/110	26.9/160	26.9/125	1500	1100	265
33.7/140	33.7/90	33.7/160	33.7/110	33.7/180	33.7/125	1500	1100	265
42.4/160	42.4/110	42.4/180	42.4/125	42.4/200	42.4/140	1500	1100	280
48.3/160	48.3/110	48.3/180	48.3/125	48.3/200	48.3/140	1500	1100	280
60.3/200	60.3/125	60.3/225	60.3/140	60.3/250	60.3/160	1600	1200	295
76.1/225	76.1/140	76.1/250	76.1/160	76.1/280	76.1/180	1600	1200	315
88.9/250	88.9/160	88.9/280	88.9/180	88.9/315	88.9/200	1600	1200	335
114.3/315	114.3/200	114.3/355	114.3/225	114.3/400	114.3/250	1800	1200	430
139.7/400	139.7/225	139.7/450	139.7/250	139.7/500	139.7/280	1800	1400	460
168.3/450	168.3/250	168.3/500	168.3/280	168.3/560	168.3/315	2000	1400	535
219.1/560	219.1/315	219.1/630	219.1/355	219.1/710	219.1/400	2200	1600	615

**TwinPipes**  
**Other components**

**General**

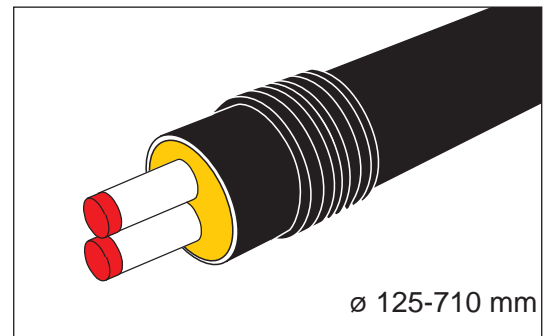
For the TwinPipe system a number of other products which are described in this section are offered.

For further information about application fields, technical specifications, ordering etc. contact LOGSTOR.

**Wall entry sleeves**

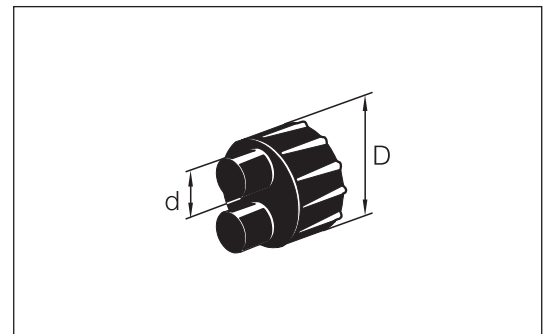
For sealing between outer casing and the surrounding concrete in connection with termination in wall, wall entry sleeves for all TwinPipe dimensions are available.  
(Also see section 2.7.3)

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.



Component No. 5600

Steel pipe ø mm	Outer casing ø mm	No.
26.9 - 33.7	125 - 140	DHEC 3280
33.7 - 42.4	160 - 180	DHEC 3350-02
42.4 - 48.3	180	DHEC 3350-03
60.3 - 76.1	200 - 225	C SS 2-90
76.1 - 88.9	225 - 250	C SS 2-100

**TwinPipes**  
**Other components**

**End fittings**

To terminate TwinPipe-sections end fittings for foaming are available.

The uttermost part of the fitting is shrinkable.

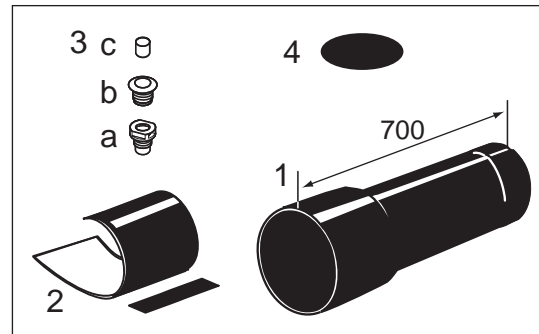
An end fittings set consists of:

1. End fitting
2. Shrink sleeve, PEX with mastic and closure patch
3. Venting, expansion and wedge plugs (If 1000 mm length, order 2 sets for two venting holes)
4. Patch

Specifications, see 2.7.5.2.

Component No. 5700

L = 1000 mm is required for the marked dimensions, if a disposable valve is used.



Outer casing ø mm	L, mm	
	700	1000
125	x	
140	x	
160	x	
180	x	
200	x	x
225	x	x
250	x	x
280	x	x
315	x	x
355	x	x
400	x	x
450	x	x
500	x	x
560	x	x
630	x	x
710	x	x

**Accessories**

In connection with termination with end fittings use weld-on ends, see table page 2.7.5.3.

Foam packs for foaming, see page 15.3.6.1.

## The copper pipe system

### Overview

---

**Introduction** 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.

---

<b>Contents</b>	Preinsulated copper pipes	7.1
	Soldering fittings and press couplings	7.2
	Casing joints, straight couplings	7.3
	Horizontal directional changes	7.4
	Vertical bends	7.5
	Branches	7.6
	Branch joints	7.6.1
	Preinsulated branches	7.6.2
	Transition pipes	7.7
	Other components	7.8

---



## The copper pipe system

### Preinsulated copper pipes

#### Application

The copper pipe system is a complete transmission and distribution system for district heating and cooling as well as 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:  $\Delta t = 120^{\circ}\text{C}$

Continuous operating temperature =  $140^{\circ}\text{C}$

Max. temperature (short-term) =  $150^{\circ}\text{C}$

Max. external temperature load (casings) =  $50^{\circ}\text{C}$

The copper pipe system is applicable for all installation methods, except the E-Comp method.

In connection with other conditions please contact LOGSTOR's technicians.

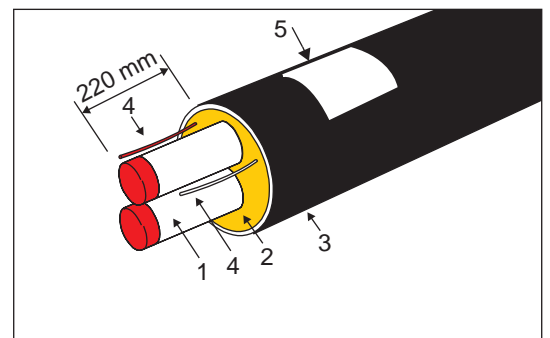
As regards corrosion resistance and requirements to the water quality, see Design Manual or contact LOGSTOR.

Contact local authorities for approvals.

#### Description

A preinsulated copper pipe consists of:

Pos.	Part	Material
1	Service pipe (1 or 2)	Copper
2	Insulation	Polyurethane foam
3	Outer casing	Polyethylene, PE-HD
4	Wires for surveillance	Copper (one is tinned)
5	Pipe label	



#### Copper pipes

Type:	Soft, drawn, seamless pipes designed for capillary soldering
Dimensions:	In accordance with EN 12449
Material:	In accordance with EN 12449
Copper content:	99.85% weight
P-content:	0.015 - 0.040% weight
Ultimate stress:	210-270 N/mm <sup>2</sup>
Elongation at break:	Min. 40%
Hardness:	Vicker's hardness, approx. 55 HV
Inspection certificate:	EN 10204 - 3.1.B

#### Insulation

Polyurethane foam:	Properties: Minimum as required in EN 253 Calculated continuous operating temperature (CCOT): $> 140^{\circ}\text{C}$ for 30 years. Maximum short-term operating temperature: $150^{\circ}\text{C}$
Blowing agent:	Cyclopentane
Insulating property:	Thermal conductivity ( $50^{\circ}\text{C}$ ): $< 0.027 \text{ W/mK}$

## The copper pipe system

### Preinsulated copper pipes

---

<b>Outer casing</b>	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: $\geq 50^\circ$ C for 30 years. Oxydation induction time (OIT): $> 30$ min at $210^\circ$ C
	Resistance against crack formation:	Stress crack resistance (notch sensibility): $> 3000$ h (full notch, 4 MPa, $80^\circ$ , EN 253/150 16770) Rapid crack propagation (cold sensibility) $> 5$ bar ( $0^\circ$ C, ISO 13477)
	Internal surface treatment:	All outer casings are corona treated during production. This ensures an optimum adhesion between casing and insulation.

---

<b>Finished pipes</b>	All pipes are as a minimum produced according to EN 253, but with a wider field of application:
	The calculated continuous operating temperature is $140^\circ$ C for 30 years. The maximum short peak operating temperature is $150^\circ$ C. The calculated continuous surface temperature is $50^\circ$ C for 30 years.
	Free service pipe end: 220 mm $\pm$ 10 mm Lengths delivered: 12 m

---

<b>Surveillance system</b>	The copper pipes are delivered with 2 copper wires, embedded in insulation (Nordic System). Wires: 1.5 mm <sup>2</sup> copper wires (one is tinned) Distance to steel pipe: 15 mm Position in top: $\pm 3$ -20 cm from 12 o'clock position
	The embedded copper wires are the backbone of the electronic surveillance systems which are available for most of our pipelines.
	See description in section 16 of this manual.

---



## The copper pipe system

### Preinsulated copper pipes

**Application**

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.

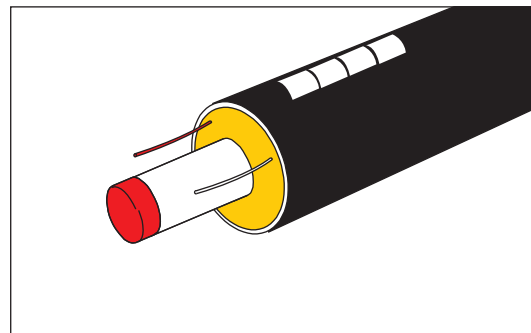
- Single pipe; one service pipe in one casing
- TwinPipe; two service pipes of the same dimension in one casing
- Double pipe; two service pipes with different dimensions in one casing (Primarily hot domestic water with circulation).

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

**Single pipe**

Component No. 2000

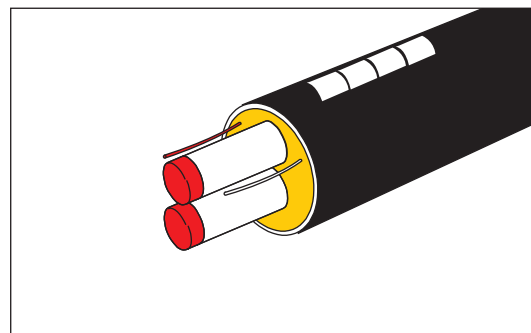
Copper pipe		Outer casing	
ø out.	wall thickness	ø out.	wall thickness
mm	mm	mm	mm
22	1.0	90	3.0
28	1.2	90	3.0
35	1.5	90	3.0
42	1.5	110	3.0
54	1.5	125	3.0
70	2.0	140	3.0
88	2.5	160	3.0



**TwinPipe**

Component No. 2090

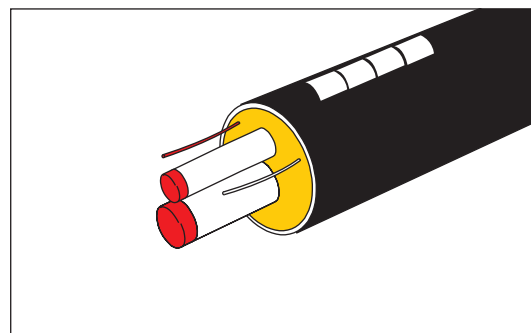
Copper pipe		Outer casing		Distance between pipes
ø out.	thick.	ø out.	thick.	
mm	mm	mm	mm	
22-22	1.0	125	3.0	10
28-28	1.2	140	3.0	10
35-35	1.5	140	3.0	10
42-42	1.5	160	3.0	10
54-54	1.5	200	3.0	10



**Double pipe**

Component No. 2090

Copper pipe		Outer casing		Distance between pipes
ø out.	thick.	ø out.	thick.	
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

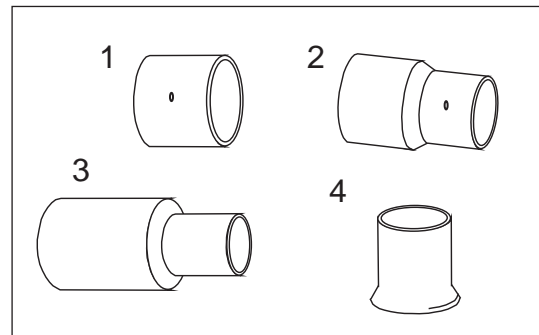
#### Application

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

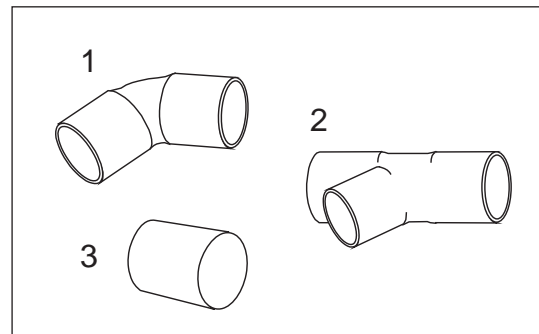
Special soldering fittings:

1. Straight joint
2. Reducing joint
3. Steel-copper transition
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
Standard soldering fittings:		EN 12449, Cu-DHP No. CW 024 A.

**The copper pipe system**  
**Soldering fittings**

**Component overview**  
**Special soldering fittings**

Component numbers:  
 - 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
22	x	(15) x	(26,9) x	x						
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 ø out. mm	45° bend	90° bend	End fitting	T-pieces ø mm branch dimension				
				18 *)	22	28	35	42
22	x	x	x	x	x			
28	x	x	x	x	x	x		
35	x	x	x	x	x	x	x	
42	x	x	x	x	x	x	x	x
54	x	x	x					
70	x	x						
88	x	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

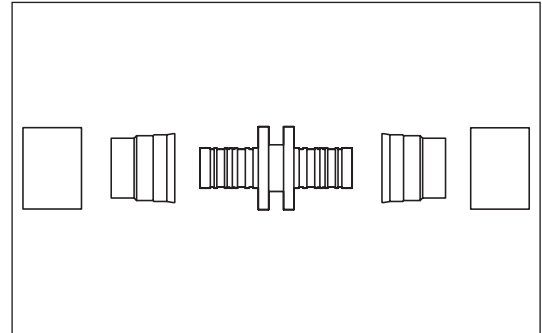
**Application**

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

**Description**

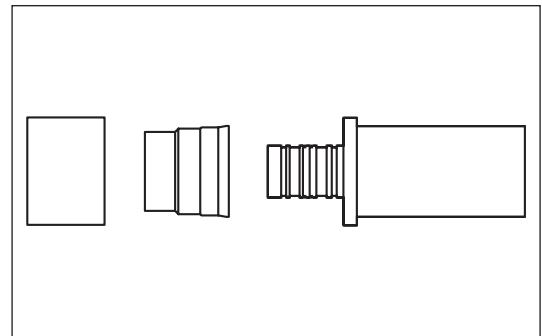
Press coupling for straight joints.

Component No. 6000



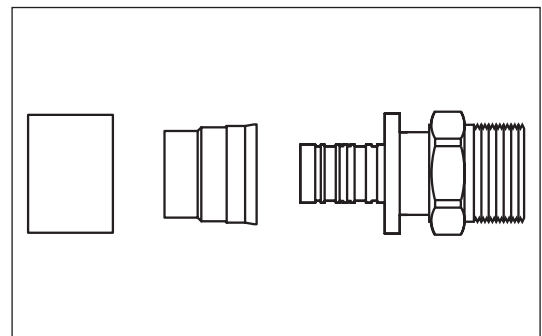
Weld coupling, transition from steel to copper.

Component No. 6000



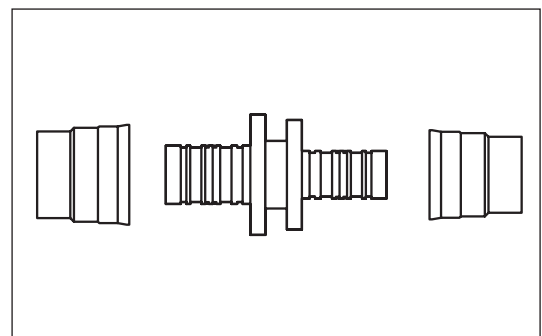
Threaded coupling, house installation.

Component No. 6000



Reduction coupling.

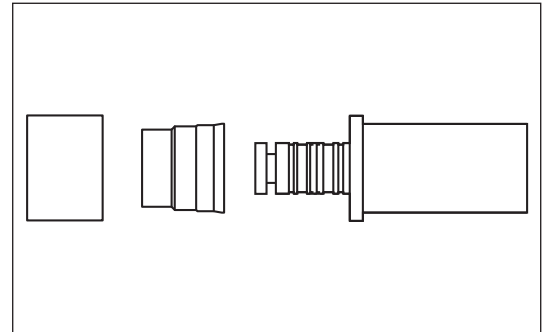
Component No. 6000



**The copper pipe system  
Press couplings**

**Description,  
*continued***

Closed coupling.  
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**

Copper pipe ø out. mm	Straight coupling	Weld coupling steel ø mm	Threaded coupling 3/4" male	Reduction coupling	Closed coupling
18	x	(26.9) x	x		(26.9) x
22	x	(26.9) x	x	(18) x	(26.9) x
28	x	(33.7) x	x (+1")	(22) x (18) x	(33.7) x
35	x	(42.4) x			(42.4) x
42	x	(42.4/48.3) x			
54	x	(60.3) x			

## The copper pipe system

### Straight casing joints

---

#### Casing joint types

All 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.

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## The copper pipe system

### Horizontal directional changes

#### Bend types

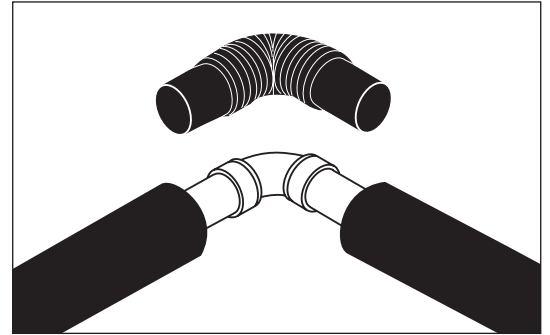
There are three possibilities of horizontal directional changes with the copper pipe system :

- 90° joint bend
- On-site curved pipe
- 90° preinsulated bend

#### 90° joint bend

90° directional change is carried out with a combination of 90° soldering joint and 90° joint bend.

See section 2.3.2.



#### Alternative

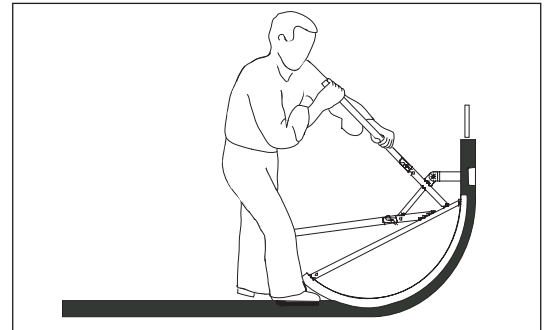
For angles of max. 45° SXBJoints may be used as an alternative; it must however be ensured that no harmful bending impacts arise.

#### On-site curved pipe

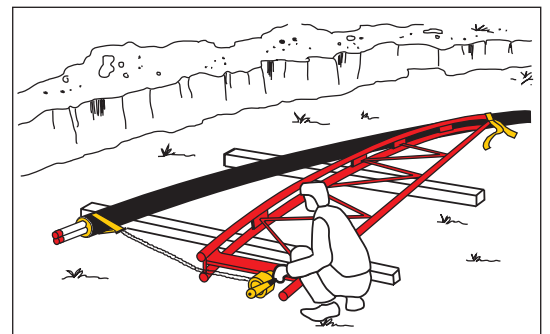
Ordinary preinsulated copper pipes can be bent on site by means of a special tool. (See section 17.6.5)

(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**

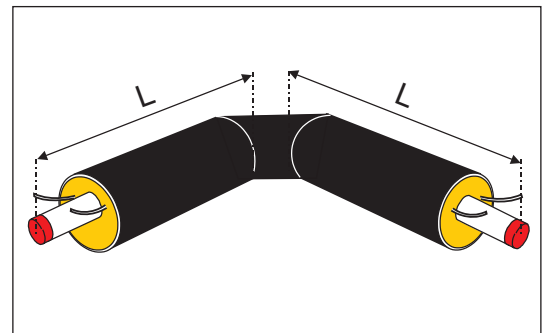
Copper pipes: Hard copper. EN 12449, Cu-DHP No. CW 024A

Other materials as for straight pipes.

**Component overview/  
measurements**

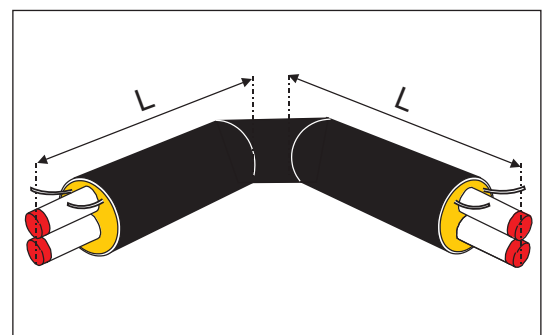
Single pipe, component No. 2500

Copper pipe ø out. mm	Outer casing ø mm	L mm
22	90	1000
28	90	1000
35	90	1000
42	110	1000
54	125	1000
70	140	1000
89	160	1000



TwinPipe, component No. 2590

Copper pipe ø out. mm	Outer casing ø mm	L mm
22-22	125	1000
28-28	140	1000
35-35	140	1000
42-42	160	1000
54-54	200	1000



Distance between copper pipes = 10 mm



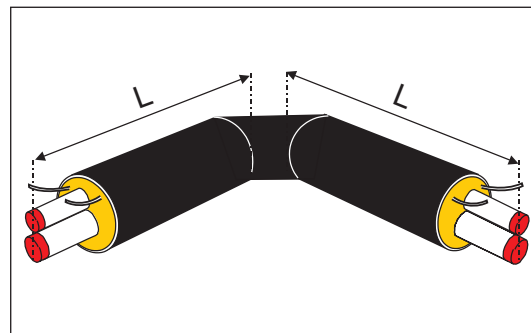
## The copper pipe system

### Horizontal preinsulated bends, 90°

Component  
overview/  
measurements,  
*continued*

Double pipe, component No. 2590

Copper pipe, 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**

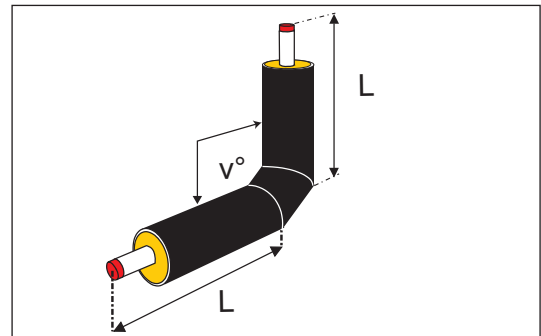
Copper pipes: Hard copper. EN 12449, Cu-DHP No. CW 024A.

Other materials as for straight pipes.

**Component overview/  
measurements**

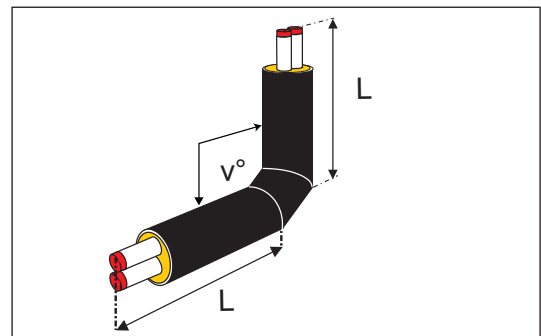
Single pipe, component No. 2500

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



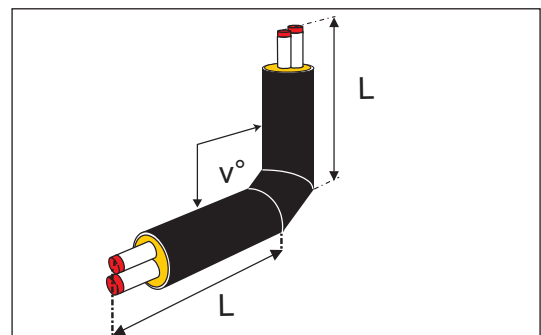
TwinPipe, component No. 2591

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



**The copper pipe system**  
**House entry pipes, 90°**

**Application** Preinsulated 90° house entry pipes are used for introduction in buildings without cellar.  
They are applicable for all relevant installation methods.

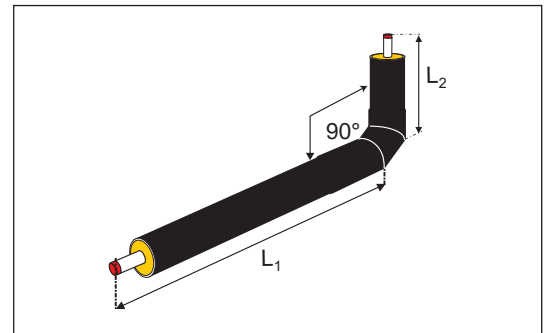
**Description** The bends are available for operating pressure: 25 bar.  
The copper pipes are bent mechanically.  
All bends are delivered with embedded copper wires for surveillance.  
In TwinPipe and double pipe house entries the vertical pipes have been turned, so they are parallel with the wall.  
Matching pipe ends are marked with a colour code.  
The shown pipe route is the standard.

**Materials** Copper pipes: Hard copper. EN 12449, Cu-DHP No. CW 024A.  
Other materials as for straight pipes.

**Component overview/ measurements**

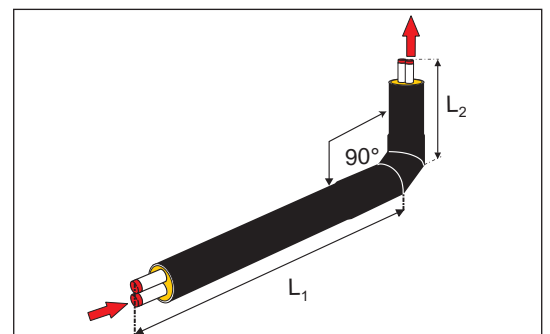
Single pipe, component No. 2500

Copper pipe ø out. mm	Outer casing ø mm	L <sub>1</sub> xL <sub>2</sub> mm
22	90	2500x1500
28	90	2500x1500
35	90	2500x1500
42	110	2500x1500
54	125	2500x1500
70	140	2500x1500
89	160	2500x1500



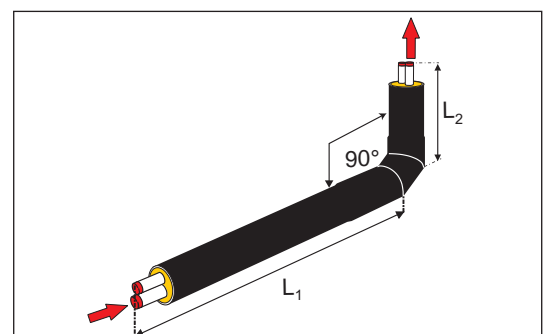
TwinPipe, component No. 2592

Copper pipe ø out. mm	Outer casing ø mm	L <sub>1</sub> xL <sub>2</sub> mm
18-18	110	2500x1500
22-22	125	2500x1500
28-28	140	2500x1500
35-35	140	2500x1500
42-42	160	2500x1500
54-54	200	2500x1500



Double pipe, component No. 2592

Copper pipe, ø out. mm		Outer casing ø mm	L <sub>1</sub> xL <sub>2</sub> mm
d <sub>2</sub>	d <sub>1</sub>		
28	22	110	2500x1500
35	22	110	2500x1500
42	22	125	2500x1500
54	28	140	2500x1500



## The copper pipe system Overview, branches

### Branch types

For the copper pipe system LOGSTOR can deliver a number of different branch types and combinations dependent on dimension, kind of project, and the customer's actual wishes:

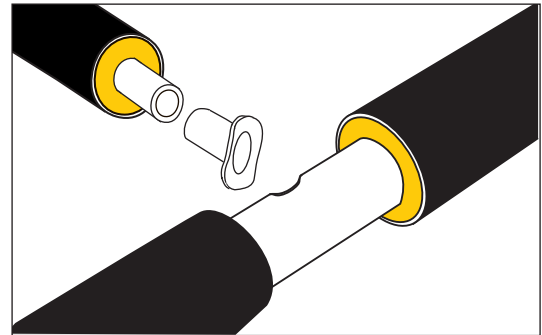
- From single pipe to single pipe, TwinPipe to TwinPipe, double pipe to double pipe:
  - BandJoint branch, straight
  - TXJoint, straight branch
  - SXTJoint, straight branch
- From TwinPipe to two single pipes (primarily FlexPipes)
  - BandJoint, straight branch with two branches
  - Straight branch with T-shrink joints
- Preinsulated branches

### Connection of branch pipe

Connection with saddle pipe piece:

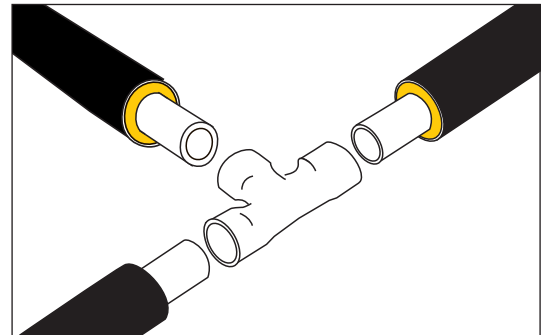
- Dimension Cu-pipe, main pipe:  
28 - 88 mm
- Dimension Cu-pipe, branch:  
22 - 70 mm

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



## The copper pipe system

### Overview, branch joints

#### BandJoint branch, straight

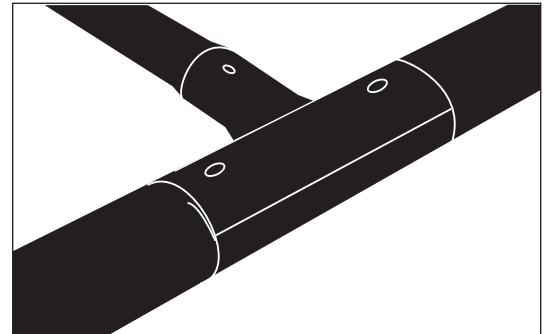
Straight BandJoint branch.

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

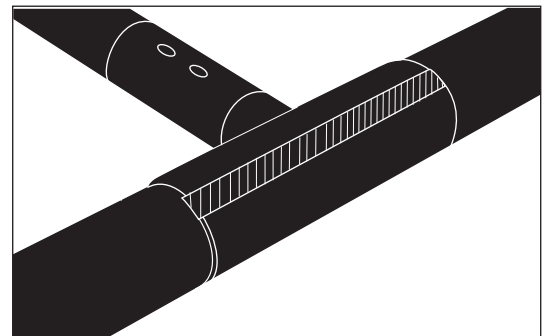
Straight shrink branch (Twin - Twin).

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

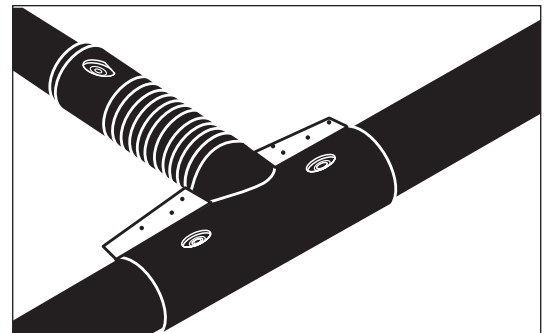
Straight shrink joint (Twin - Twin).

Main pipe (outer casing):  
ø 90 - 200 mm

Branch (outer casing):  
ø 90 - 160 mm

Component No. 5207.

Description see 6.6.3.1.



#### BandJoint Straight branch joint with two branches

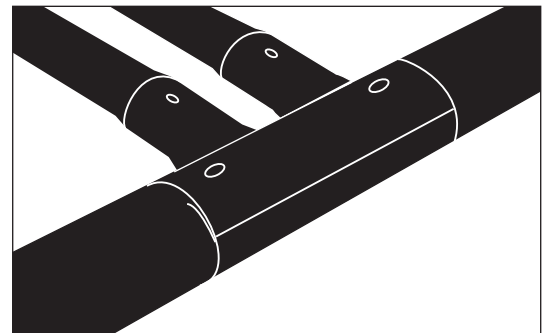
Straight branch with BandJoint branch  
(Twin - single pipe):

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):

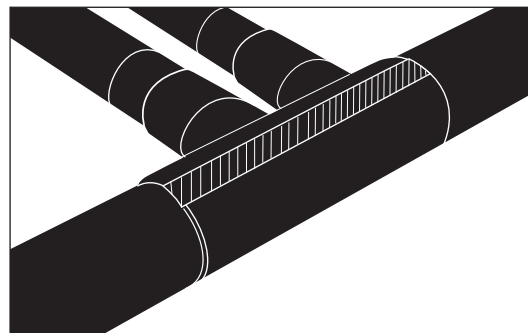
Main pipe (outer casing):  
ø 140 - 200 mm

Branch (outer casing):  
ø 77-110 mm

Component No. 5190.

Description see 6.6.5.1.

---



## The copper pipe system

### Overview, preinsulated branches

**Application** Preinsulated branches are an alternative to branch joints.

There are two types of branches:

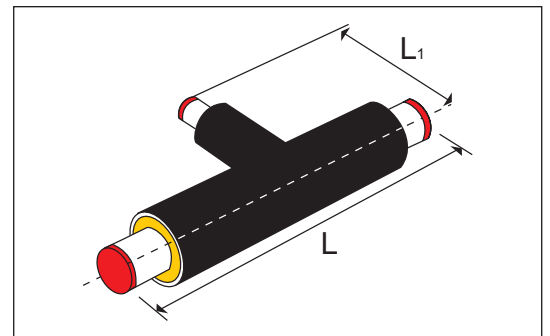
- Straight, horizontal branches in single, Twin and double version
- 45° perpendicular branches in single, Twin and double version

**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.



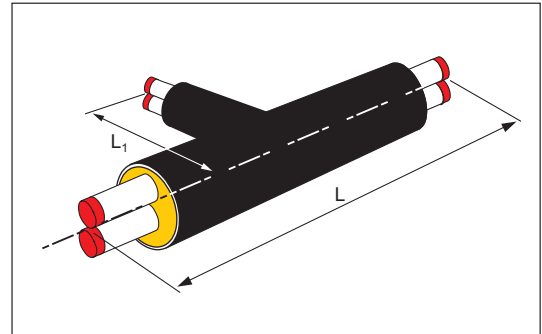
Main pipe ø d, mm			Branch pipe ø d, series 1						
			22	28	35	42	54	70	88
ø d, mm	Series 1	L, mm	Length L1, mm = 700 mm						
22	90	1150	X	-	-	-	-	-	-
28	90	1150	X	X	-	-	-	-	-
35	90	1150	X	X	X	-	-	-	-
42	110	1150	X	X	X	X	-	-	-
54	125	1150	X	X	X	X	X	-	-
70	140	1150	X	X	X	X	X	X	-
88	160	1150	X	X	X	X	X	X	X

## The copper pipe system Overview, preinsulated branches

Component overview/  
Straight branches  
*continued*

Straight branch for TwinPipes.

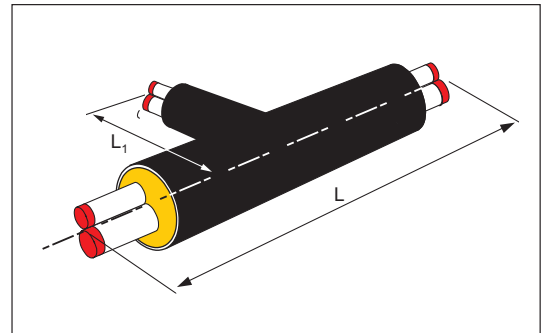
Component No. 3490.



Main pipe ø d, mm			Branch pipe ø d, series 1				
			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	X	-	-	-	-
28-28	140	1150	X	X	-	-	-
35-35	140	1150	X	X	X	-	-
42-42	160	1150	X	X	X	-	-
54-54	200	1150	X	X	X	X	X

Straight branch for double pipe.

Component No. 3490.



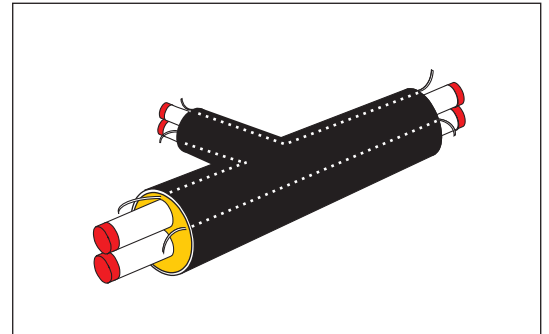
Main pipe ø d, mm			Branch pipe ø d, series 1					
			22-15	28-22	35-22	42-22	54-28	70-28
ø d, mm	Series 1	L, mm	Length L1, mm = 700 mm					
22-15	90	1150	X	-	-	-	-	-
28-22	90	1150	X	X	-	-	-	-
35-22	90	1150	X	X	X	-	-	-
42-22	110	1150	X	X	X	X	-	-
54-28	125	1150	X	X	X	X	X	-
70-28	140	1150	X	X	X	X	X	X



## The copper pipe system Overview, preinsulated branches

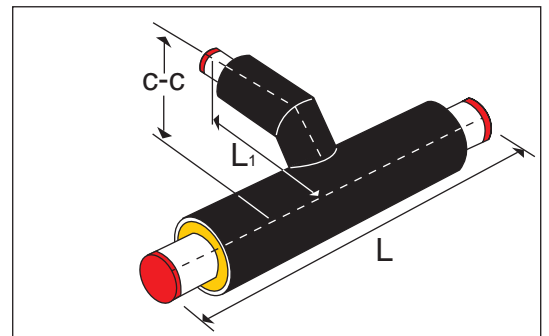
**Alarm wires.  
Straight branches**

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.



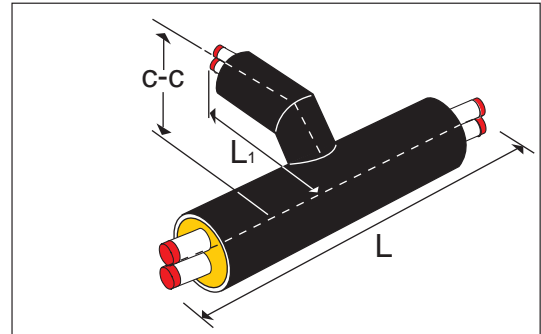
Main pipe ø d, mm			Branch pipe ø d, series 1						
			22	28	35	42	54	70	88
ø d, mm	Series 1	L, mm	Length L1, mm = 1000 mm C-C, mm						
22	90	1150	155	155	155	165	175	180	190
28	90	1150	155	155	155	165	175	180	190
35	90	1150	165	165	165	175	185	190	200
42	110	1150	175	175	175	185	190	200	200
54	125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

## The copper pipe system Overview, preinsulated branches

Component overview./  
45° branches,  
continued

45° branch for TwinPipes.

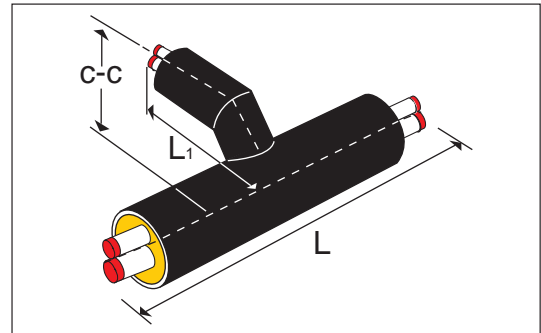
Component No. 3090.



Main pipe ø d, mm			Branch pipe ø d, series 1				
			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.



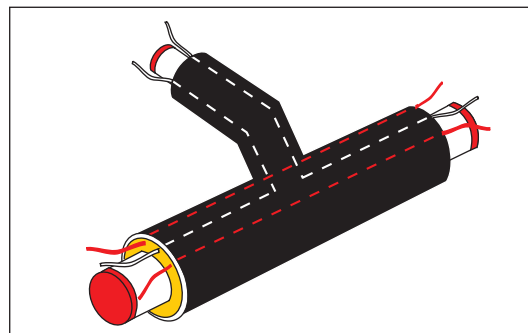
Main pipe ø d, mm			Branch pipe ø d, series 1					
			22-15	28-22	35-22	42-22	54-28	70-28
ø d, mm	Series 1	L, mm	Length L1, mm = 1000 mm, C-C, mm					
22-15	90	1150	155	-	-	-	-	-
28-22	90	1150	155	155	-	-	-	-
35-22	90	1150	155	155	155	-	-	-
42-22	110	1150	165	165	165	175	-	-
54-28	125	1150	175	175	175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

## The copper pipe system Overview, preinsulated branches

---

### Alarm wires. 45° branches

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



## 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.

As the flow pipe is always placed at the bottom, the transition is available in a “type 1” as well as a “type 2” version dependent on the flow direction, see illustrations below.

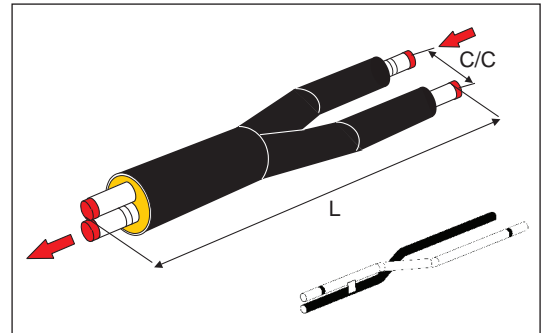
They are applicable for all relevant installation methods.

Max. operating pressure: 25 bar.

**Description**

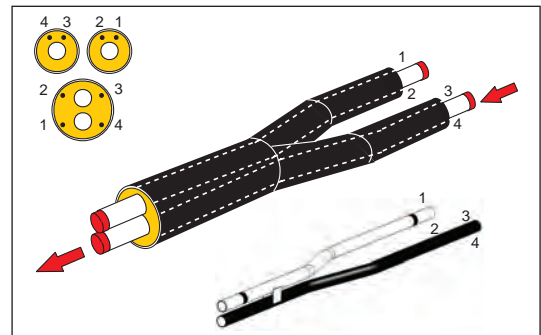
Preinsulated straight transition pipes are available for all TwinPipe dimensions.

The illustration shows the “type 2” version.



All preinsulated transitions have 4 embedded copper wires for surveillance.

From the illustration the “type 1” version and the alarm wire position appear.



**Materials**

Copper pipes: Hard copper      EN 12449, Cu-DHP No CW 024A.

Other materials as for straight pipes.

**Component No./ data**

Transition, Twin - single pipe

Component No. 3071.

When ordering specify type 1 or 2.

Dimension		Type		L mm	C/C mm
Twin ø out. mm	Single ø out. mm	1	2		
22/125	22/90	x	x	1700	245
28/140	28/90	x	x	1700	245
35/140	35/90	x	x	1700	245
42/160	42/110	x	x	1800	260
54/200	54/125	x	x	1800	260

**The copper pipe system  
Other components**

**General**

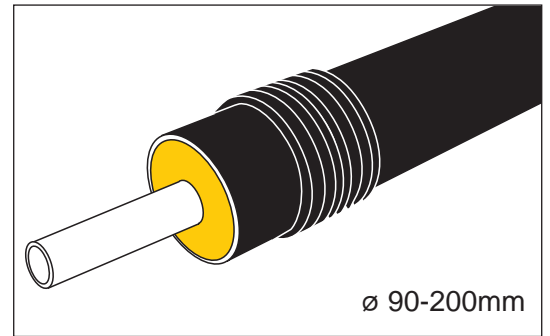
For the copper pipe system a number of other products which are described in this section are offered.

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

**Wall entry sleeves**

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.

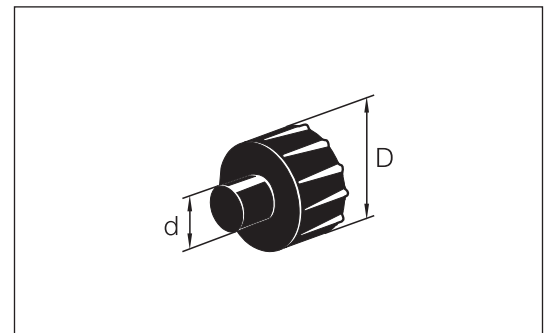


**End cap**

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).

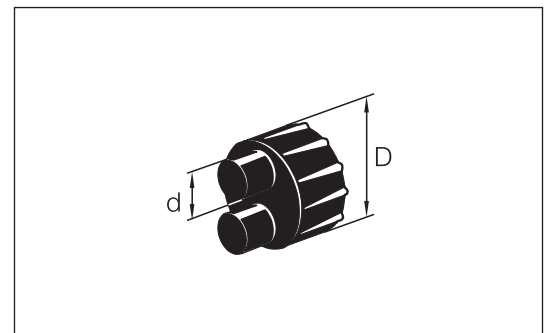
Shrinkable end cap for single pipe.  
Component No. 5600

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

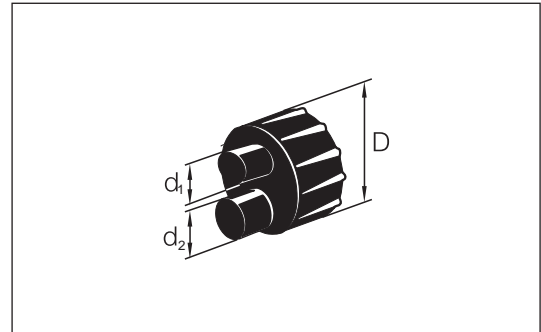


## The copper pipe system Other components

**End cap,  
continued**

Shrinkable end cap for double pipe.  
Component No. 5600

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



**End fitting**

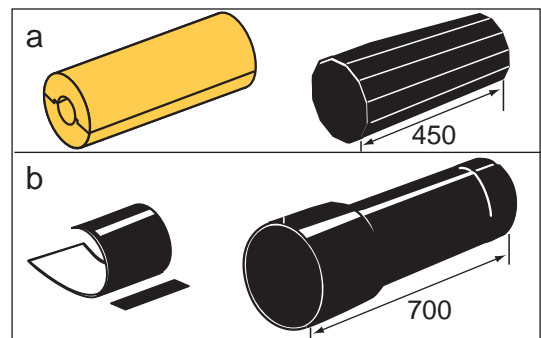
To terminate a pipe system a PE end fitting is used.

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

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

## Insulating joints

### Overview

#### Introduction

Joints in the pipe system are best insulated with our foam packs. It is an easy-to-apply method according to which a two-component foam liquid, after mixing and filling, forms an effective insulation with the same properties as in the rest of the pipe system.

#### Contents

General about foam packs	15.1
Foam pack Nos., alternative use	15.2.0
Foam pack Nos., Single pipe system	
- BandJoint, small *)	15.2.1
- BandJoint, medium *)	15.2.2
- PlateJoint	15.2.3
- EWJoint and InduconJoint	15.2.4
- SX- and SX-WPJoint system	15.2.5
- B2SJoint and BSJoint	15.2.6
- TSJoint and TS SaddleJoint	15.2.7
- End fitting	15.2.8
Foam pack Nos., TwinPipe system	15.3
- BandJoint *)	15.3.1
- SX- and SX-WPJoint system	15.3.2
- EWJoint and B2SJoint	15.3.3
- BXSJoint	15.3.4
- TX branch tee coupling	15.3.5
- T-joint, double	15.3.6
- End fittings	15.3.7
Foam pack Nos., Copper pipe system	15.4
Foam pack Nos., Foaming in alu wrap-round	15.5
Other insulation methods	15.6
- Can foam **)	15.6.1
- Machine foam	15.6.2
*) Including BandJoint branch	
**) Not approved in all countries	





## Foam pack General

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### Application

Foam packs are used to insulate joints in the pipe systems.

It is an easy-to-apply method according to which a two-component foam liquid, after mixing and filling, forms an effective insulation with the same properties as in the rest of the pipe system.

Foam packs can be used to foam casing joints without the fitter coming into contact with the liquids.

Foam packs which are stored in accordance with stated rules have a time limit for use of 12 months counting from the stated production week.

Foam packs comply with the requirements to materials in EN 253.

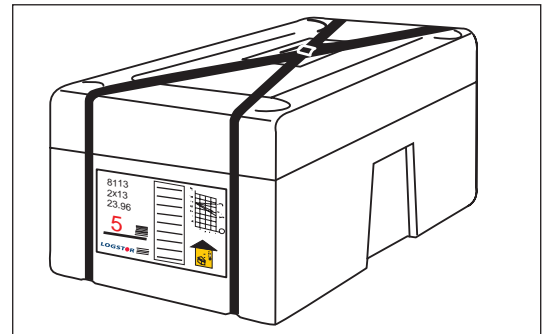
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### Description

Foam packs are supplied in pre-dosed packings, whose quantities of foam liquids and ratio of mixture are controlled by the automatic filling process in the factory.

Foam packs are supplied in insulation boxes with information about contents and storage.

The box i.a. contains a foam pack leaflet, from which it appears which foam pack size to use for which joint, as well as a leaflet with addresses and safety precautions.



### Materials

The following materials are included in the delivery of foam packs:

The insulation box:	Polystyrene foam (EPS)
Foam pack:	Multi-ply plastic bag with diffusion-tight aluminium foil for liquid A and B (partial)
	Liquid A: Isocyanate, MDI
	Liquid B: Polyole

---

**Foam pack  
General**

**Component  
overview/data**

Component No. 0700.

Foam pack cartons

Foam packs cannot be returned.

If several foam packs are required, please make sure the foam is filled into the casing joint at the same time.

If more than two foam holes are required per casing joint, additional plug sets must be ordered.

The total weight of foam packs and polystyrene box is max. 20 kg.

Product Nos.	Foam pack Nos.	Nos. each box
0700 0000 108 100	0	28
0700 0000 108 114	0.5	28
0700 0000 108 101	1	28
0700 0000 108 102	2	27
0700 0000 108 103	3	24
0700 0000 108 104	4	21
0700 0000 108 105	5	20
0700 0000 108 106	6	17
0700 0000 108 107	7	14
0700 0000 108 108	8	12
0700 0000 108 109	9	9
0700 0000 108 110	10	8
0700 0000 108 111	11	6
0700 0000 108 112	12	4
0700 0000 108 113	13	3

**Foam pack**

**Alternative foam pack number**

**Alternative application**

If the foam pack size, appearing from the joint, is not available, it can be replaced by a combination of other packs.

Foam pack No.	Can be replaced by foam pack No.		
1			
2			
3			
4	2x1		
5	1+2	2x2	
6	2+3	2x3	1+4
7	3+4	1+5	2+5
8	4+5	2+6	3+6
9	5+6	3+7	4+7
2x6	5+7	3+8	0+9
10	6+7	5+8	2+9
11	6+9	3+10	4+10
2x9	8+10	5+11	6+11
12	8+11		
10+11	5+12		
13	2x11	8+12	

**Foam pack**

**Foam pack numbers for BandJoint, small**

**Series 1 pipes  
ø 90-200 mm  
Straight joints**

The list below details which foam pack numbers to use for the different Series 1 pipes.

Joint type	Dimension outer casing, ø mm					
	90	110	125	140	160	200
BandJoint, STD	1	2	2	3	4	6
BandJoint, L	1	3	4	4	6	7
BandJoint, XL	2	4	5	5	7	8
BandJoint, XXL	3	5	6	6	7	9

**Series 1 pipes  
ø 90-200 mm  
BandJoint branch**

The list below details which foam pack numbers to use for the different Series 1 pipes.

Length of main pipe casing L mm/ø branch mm	Dimension, main pipe outer casing ø mm					
	90	110	125	140	160	200
570/90	5	6	6	6	7	8
570/110		6	7	7	8	9
570/125			8	8	8	9
570/140				8	9	10
Repair joint:						
700/90	6	7	7	7	8	9
700/110		7	7	8	8	10
700/125			9	9	9	10
700/140				9	10	10

**Series 2 pipes  
ø 110-180 mm  
Straight joints**

The list below details which foam pack numbers to use for the different Series 2 pipes.

Joint type	Dimension outer casing, ø mm				
	110	125	140	160	180
BandJoint, STD	2	3	4	5	6
BandJoint, L	3	4	5	6	7
BandJoint, X	4	5	6	7	8
BandJoint, XL	5	6	7	8	9

**Foam pack**

**Foam pack numbers for BandJoint, small**

**Series 2 pipes  
ø 110-180 mm  
BandJoint branch**

The list below details which foam pack numbers to use for the different series 2 pipes.

Length of main pipe casing L mm/ø branch mm	Dimension, main pipe outer casing ø mm				
	110	125	140	160	180
570/90	6	6	7	7	8
570/110	7	7	8	8	8
570/125		8	8	8	9
570/140			8	9	10
Repair joint:					
700/90	7	7	8	8	9
700/110	8	8	8	9	9
700/125		9	9	9	10
700/140			10	10	10

**Series 3 pipes  
ø 125-200 mm**

The list below details which foam pack numbers to use for the different series 3 pipes.

Joint type	Dimension outer casing ø mm				
	125	140	160	180	200
BandJoint, STD	3	4	5	6	7
BandJoint, L	5	6	7	7	8
BandJoint, XL	6	6	8	8	9
BandJoint, XXL	6	7	8	9	10

**Series 3 pipes  
ø 125-200 mm  
BandJoint branch**

The list below details which foam pack numbers to use for the different series 3 pipes.

Length of main pipe casing L mm/ø branch mm	Dimension, main pipe outer casing ø mm				
	125	140	160	180	200
570/90	7	7	8	8	9
570/110	7	8	8	9	9
570/125	8	8	9	9	10
570/140		9	9	10	10
Repair joint:					
700/90	8	8	9	9	10
700/110	8	9	9	10	10
700/125	9	9	10	10	10
700/140		10	10	10	11

**Foam pack**  
**Foam pack numbers for BandJoint, medium**

**Series 1 pipes**  
**ø 225-710 mm**  
**Straight joints**

The list below details which foam pack numbers to use for the different series 1 pipes.

Joint type	Dimension outer casing, ø mm								
	225	250	315	400	450	500	560	630	710
BandJoint, STD	7	8	9	11	2x9	12	10+11	10+12	12+13
BandJoint, L	8	9	10	12	12	13	10+12	12+13	2x13
BandJoint, XL	9	2x6	11	10+11	13				
BandJoint, XXL	2x6	10	2x9	13	10+12	10+13	12+13	2x12+13	3x13

**Series 1 pipes**  
**ø 225-315 mm**  
**BandJoint branch**

This list details which foam pack numbers to use for the different series 1 pipes.

Length of main pipe casing L mm/ø branch mm	Dimension, main pipe outer casing ø mm		
	225	250	315
590/90	9	9	10
590/110	9	9	10
590/125	10	10	11
590/140	10	10	11
Repair joint:			
720/90	10	10	11
720/110	10	10	11
720/125	10	11	2x9
720/140	11	11	2x9

**Series 2 pipes**  
**ø 225-710 mm**  
**Straight joints**

The list below details which foam pack numbers to use for the different series 2 pipes.

Joint type	Dimension outer casing, ø mm								
	225	250	280	355	450	500	560	630	710
BandJoint, STD	8	9	9	11	12	10+11	10+12	10+13	12+13
BandJoint, L	9	2x6	10	2x9	13	10+12	10+13	12+13	2x12+13
BandJoint, XL	2x6	11	11	12	10+13	10+13			
BandJoint, XXL	11	11	2x9	10+11	10+13	12+13	2x12+13	3x13	2x12+2x13

**Foam pack**

**Foam pack numbers for BandJoint, medium**

**Series 2 pipes**  
**ø 225-280 mm**  
**BandJoint branch**

This list details which foam pack numbers to use for the different Series 2 pipes.

Length of main pipe casing L mm/ø branch mm	Dimension, main pipe outer casing ø mm		
	225	250	280
590/90	9	10	10
590/110	10	10	11
590/125	10	10	11
590/140	11	11	11
Repair joint:			
720/90	10	11	11
720/110	11	11	11
720/125	11	11	2x9
720/140	11	2x9	2x9

**Series 3 pipe**  
**ø 250-710 mm**  
**Straight joints**

The list below details which foam pack numbers to use for the different series 3 pipes.

Jointtype	Dimension outer casing, ø mm							
	250	280	315	400	500	560	630	710
BandJoint, STD	9	2x6	11	12	13	10+13	12+13	2x13
BandJoint, L	10	11	2x9	10+11	10+13	12+13	2x13	2x12+13
BandJoint, XL	11	2x9	2x9	10+12				
BandJoint, XXL	2x9	2x9	12	10+13	2x13	2x12+13	3x13	4x13

**Series 3 pipes**  
**ø 250-315 mm**  
**BandJoint branches**

The table details which foam pack numbers to use for the different series 3 pipes.

Length of main pipe casing L mm/ø branch mm	Dimension, main pipe outer casing ø mm		
	250	280	315
590/90	10	11	11
590/110	11	11	11
590/125	11	11	2x9
590/140	11	11	2x9
Repair joint:			
720/90	11	2x9	2x9
720/110	11	2x9	2x9
720/125	2x9	2x9	12
720/140	2x9	2x9	12

**Foam pack****Foam pack numbers for PlateJoint****Series 1 pipes**  
**ø 780-1200 mm**

The list below details which foam pack numbers to use for the different series 1 pipes.

Joint type	Dimension, outer casing, ø mm				
	800 (610)	900 (711)	1000 (813)	1100 (914)	1200 (1016)
PlateJoint L = 630	12+13	12+13	2x12+13	2x12+13	3x13
PlateJoint L = 1020	2x12+13	3x13	2x12+2x13	4x13	



## Foam pack

## Foam pack numbers for EWJoint and InduconJoint

## EWJoints and InduconJoints

The list below details which foam pack numbers to use for the EWJoint and InduconJoint for the different series 1, 2, and 3 pipes. In case of larger dimensions, please contact LOGSTOR.

Series 1		Series 2		Series 3	
Dim. outer casing ø mm	Foam pack No.	Dim. outer casing ø mm	Foam pack No.	Dim. outer casing ø mm	Foam pack No.
90	1				
110	3	110	3		
125	4	125	4	125	4
140	4	140	5	140	5
160	5	160	6	160	6
200	7	180	7	180	7
225	8	225	9	200	8
250	9	250	9	250	10
315	10	280	10	280	10
400	2x9	355	2x9	315	11
450	12	450	10+11	400	12
500	13	500	10+12	500	10+13
560	13	560	10+13	560	10+13
630	10+13	630	12+13	630	12+13
710	12+13	710	2x13	710	2x12+13
800	12+13	800	2x12+13	800	3x13
900	2x13	900	3x13		
1000	2x12+13				
1100	3x13				
1200	3x13				
1300	2x12+2x13				
1400	2x12+2x13				

## EWJoints and InduconJoints for E-Comps

Series 1		Series 2		Series 3	
Dim. outer casing ø mm	Foam pack No.	Dim. outer casing ø mm	Foam pack No.	Dim. outer casing ø mm	Foam pack No.
110	4				
125	5	125	5		
140	5	140	6	140	6
160	7	160	7	160	8
200	9	180	8	180	8
225	9	225	10	200	9
250	10	250	11	250	11
315	2x9	280	11	280	2x9
400	10+11	355	10+11	315	12
450	13	450	10+13	400	10+12
500	12+13	500	12+13	500	2x13
560	12+13	560	2x13	560	2x13
630	2x13	630	2x12+13	630	3x13
710	2x12+13	710	3x13	710	2x12+2x13
800	3x13	800	4x13		

**Foam pack**

**Foam pack numbers for the SX and SX-WPJoint system**

**Series 1 pipes**

Joint type	Dimension, main pipe, outer casing ø mm										
	90	110	125	140	160	200	225	250	315	400	450
Straight joint	1	3	3	4	5	7	8	9	10	2x9	12
Reduction joint*)	←	1	2	3	4	6	7	7	9	-	11
SXB bend joint	4	5	5	6	7	11	11	10	12		
SXT branch, outer casing ø mm:											
90	5	5	6	7	7	8	9	9	10		
110		6	7	8	8	9	2x6	2x6	11		
125			7	8	8	9	2x6	2x6	11		
140				8	9	9	2x6	2x6	11		
160						10	11	11	11		
200						2x9	2x9	2x9	2x9		

\*) From stated dimension to the next smaller dimension.  
Foam pack numbers for SXT also apply to hot tapping.

**Series 2 pipes**

Joint type	Dimension, main pipe, outer casing ø mm									
	110	125	140	160	180	225	250	280	355	450
Straight joint	3	4	5	6	7	9	9	10	2x9	10+11
Reduction joint*)	1	3	4	5	5	8	8	9	11	
SXB bend joint	5	6	7	8	11	2x9	11	13		
SXT branch, outer casing ø mm:										
110	7	8	9	9	9	10	10	11		
125		8	8	9	9	10	10	11		
140			9	9	9	10	11	11		
160					2x6	11	11	11		
180						2x9	2x9	12		

\*) From stated dimension to the next smaller dimension.  
Foam pack numbers for SXT also apply to hot tapping.

**Series 3 pipes**

Joint type	Dimension, main pipe, outer casing ø mm								
	125	140	160	180	200	250	280	315	400
Straight joint	4	5	6	7	8	2x6	11	11	12
Reduction joint*)	3	4	5	6	7	9	10	10	2x9
SXB -bend joint	6	7	8	11	11	2x9	10+12	13	
SXT-branch, outer casing ø mm:									
125	8	9	2x6	2x6	2x6	11	11	2x9	
140		9	2x6	2x6	10	11	11	2x9	
160				10	11	11	2x9	2x9	
180					2x9	12	12	10+11	
200					2x9	12	12	10+11	

\*) From stated dimension to the next smaller dimension.  
Foam pack numbers for SXT also apply to hot tapping.

## Foam pack

## Foam pack numbers for B2SJoint and BSJoint

B2SJoint and  
BSJoint

B2SJoints take over dimensionally, when the dimensions of SXJoints stop, i.e. from  $\varnothing$  500 mm and larger.

BSJoints range from  $\varnothing$  90 to 560 mm.

Series 1		Series 2		Series 3	
Dim. outer casing $\varnothing$ mm	Foam pack No.	Dim. outer casing $\varnothing$ mm	Foam pack No.	Dim. outer casing $\varnothing$ mm	Foam pack No.
90	1				
110	3	110	3		
125	4	125	4	125	4
140	4	140	5	140	5
160	5	160	6	160	6
200	7	180	7	180	7
225	8	225	9	200	8
250	9	250	9	250	2x6
315	10	280	2x6	280	10
400	2x9	355	2x9	315	11
450	12	450	10+11	400	12
500	13	500	10+12	500	10+13
560	13	560	10+13	560	10+13
630	10+13	630	12+13	630	12+13
710	12+13	710	2x13	710	2x12+13
800	12+13	800	2x12+13	800	3x13
900	2x13	900	3x13		
1000	2x12+13				

B2SJoint and  
BSJoint for  
E-Comps

Series 1		Series 2		Series 3	
Dim. outer casing $\varnothing$ mm	Foam pack No.	Dim. outer casing $\varnothing$ mm	Foam pack No.	Dim. outer casing $\varnothing$ mm	Foam pack No.
110	4				
125	5	125	5		
140	5	140	6	140	6
160	7	160	7	160	8
200	9	180	8	180	8
225	9	225	10	200	9
250	10	250	11	250	11
315	2x9	280	11	280	2x9
400	10+11	355	10+11	315	12
450	13	450	10+13	400	10+12
500	12+13	500	12+13	500	2x13
560	12+13	560	2x13	560	2x12+13
630	2x12+13	630	2x12+13	630	3x13
710	3x13	710	2x12+2x13	710	4x13
800	3x13	800	4x13		
900	4x13				

**Foam pack**

**Foam pack numbers for TSJoint and TS SaddleJoint**

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**TSJoint**                      TSJoint for branching is insulated with foam packs on the main pipe and the branch.

**TSJoint, series 1**

Branch ø mm	Dimension, outer casing ø mm							
	140	160	200	225	250	315	400	450
90-125	8	8	9	2x6	10	11	12	12

**TSJoint, series 2**

Branch ø mm	Dimension, outer casing ø mm							
	140	160	180	225	250	280	355	450
90-125	8	9	9	10	11	11	2x9	10+11

**TSJoint, series 3**

Branch ø mm	Dimension, outer casing ø mm							
	140	160	180	200	250	280	315	400
90-125	8	9	9	2x6	11	11	2x9	10+11

**TS SaddleJoint,  
series 1**

Branch ø mm	Dimension, outer casing ø mm				
	400	450	500	560	630
90-125	8	8	9	9	9

**TS SaddleJoint,  
series 2**

Branch ø mm	Dimension, outer casing ø mm				
	355	450	500	560	630
90-125	8	9	9	9	2x6

**TS SaddleJoint,  
series 3**

Branch ø mm	Dimension, outer casing ø mm			
	400	500	560	630
90-125	9	2x6	2x6	10

**Foam pack****Foam pack numbers for end fittings****End fitting**

Series 1		Series 2		Series 3	
Dim. outer casing ø mm	Foam pack No.	Dim. outer casing ø mm	Foam pack No.	Dim. outer casing ø mm	Foam pack No.
710	10+12	710	10+13	710	12+13
800	10+13	800	12+13	800	2x13
900	12+13	900	2x13	900	2x12+13
1000	12+13				

**Foam pack, TwinPipe system  
Foam pack numbers for BandJoints**

**Series 1 pipes  
ø 125-560 mm**

The list below details which foam pack numbers to use for the different series 1 pipes.

Joint type	Main pipe, outer casing ø mm									
	125	140	160	200	225	250	315	400	450	560
BandJoint, STD	3	4	5	7	8	9	11	12	10+11	10+13
BandJoint, L	4	5	7	8	9	10	2x9	10+11	10+12	12+13
Straight BandJoint branch Twin-Twin										
90	5	5	6	8	9	10	11	12	10+11	10+13
110	5	6	7	8	9	10	11	12	10+11	10+13
125	6	6	7	8	9	10	11	12	10+11	10+13
140		7	7	9	9	10	11	12	10+11	10+13
160			8	9	9	10	11	10+11	13	10+13
200				9	10	10	2x9	10+11	13	10+13
225					10	11	2x9	10+11	13	10+13
Straight BandJoint branch with two connect- ing pieces. Twin-single										
90	7	7	8	9	10	11	2x9	13	10+12	12+13
110	7	8	9	10	10	11	2x9	13	10+13	12+13

**Series 2 pipes  
ø 140-630 mm**

The list below details which foam pack numbers to use for the different series 2 pipes.

Joint type	Main pipe, outer casing ø mm									
	140	160	180	225	250	280	355	450	500	630
BandJoint, STD	4	6	6	8	9	10	2x9	13	10+12	12+13
BandJoint, L	6	7	8	10	10	11	12	10+13	10+13	2x12+13
Straight BandJoint branch Twin-Twin										
110	6	7	8	9	10	11	2x9	13	10+12	12+13
125	6	7	8	9	10	11	2x9	13	10+12	12+13
140	7	8	8	10	10	11	12	13	10+13	2x13
160		8	9	10	10	11	12	13	10+13	2x13
180			9	10	11	11	12	10+12	10+13	2x13
225				11	11	11	12	10+12	10+13	2x13
Straight BandJoint branch with two connect- ing pieces. Twin-single										
90	8	8	9	10	11	2x9	10+11	10+13	12+13	2x12+13
110	8	9	9	11	11	2x9	10+11	10+13	12+13	2x12+13

## Foam pack, TwinPipe system

### Foam pack numbers for BandJoints

#### Series 3 pipes ø 160-710 mm

The list below details which foam pack numbers to use for the different series 3 pipes.

Joint type	Main pipe, outer casing ø mm									
	160	180	200	250	280	315	400	500	560	710
BandJoint, STD	6	7	8	10	10	11	12	10+13	12+13	2x12+13
BandJoint, L	7	8	9	11	11	2x9	13	12+13	2x13	3x13
Straight BandJoint branch Twin-Twin										
125	7	8	9	10	11	2x9	10+11	10+13	12+13	2x12+13
140	8	8	9	10	11	2x9	10+11	10+13	12+13	2x12+13
160	8	9	9	11	11	2x9	10+11	10+13	12+13	2x12+13
180		9	10	11	11	2x9	10+11	10+13	12+13	2x12+13
200			10	11	11	2x9	10+11	10+13	12+13	2x12+13
Straight BandJoint branch with two connect- ing pieces. Twin-single										
110	9	10	10	11	2x9	12	10+12	12+13	2x13	2x12+2x13

**Foam pack, TwinPipe system**  
**Foam pack numbers for the SX and SX-WPJoint system**

**Series 1 pipes**  
**ø 125-450 mm**

The list below details which foam pack numbers to use for the different series 1 pipes.

Joint type	Main pipe, outer casing ø mm								
	125	140	160	200	225	250	315	400	450
SX straight joint	4	5	6	8	9	10	11	10+11	13
Reduction joint *)	3	4	5	7	8	9	11	2x9	12
SXB bend joint	6	7	8	11	2x9	11	13		
SXT straight branch tee coupling for outer casing, ø mm									
90	7	8	8	9	2x6	10	11		
110	8	9	9	2x6	10	11	2x9		
125	8	9	9	2x6	10	11	2x9		
140		9	2x6	10	11	11	2x9		
160				11	11	11	2x9		
200					12	12	10+11		

\*) From stated dimension to the next smaller dimension.

**Series 2 pipes**  
**ø 140-450 mm**

The list below details which foam pack numbers to use for the different series 2 pipes.

Dimension main pipe	Main pipe, outer casing ø mm							
	140	160	180	225	250	280	355	450
SX straight joint	5	6	7	9	10	11	2x9	13
Reduction joint *)	4	5	6	8	9	10	11	10+11
SXB bend joint	7	8	11	2x9	2x9	10+12		
SXT straight branch tee coupling for outer casing, ø mm								
110	9	9	2x6	11	11	11		
125	9	9	2x6	11	11	11		
140	9	2x6	10	11	11	2x9		
160			11	11	2x9	2x9		
180				12	12	10+11		

\*) From stated dimension to the next smaller dimension.



## Foam pack, TwinPipe system

### Foam pack numbers for the SX and SX-WPJoint system

#### Series 3 pipes ø 160-400 mm

The list below details which foam pack numbers to use for the different series 3 pipes.

Dimension Main pipe	Main pipe, outer casing ø mm						
	160	180	200	250	280	315	400
SX straight joint	6	7	8	10	11	2x9	10+11
Reduction joint *)	5	6	7	9	10	11	10+11
SXB bend joint	9	2x9	2x9	2x9	10+12	10+12	
SXT straight branch tee coupling for outer casing, ø mm							
110	9	2x6	10	11	11	2x9	
125	9	2x6	10	11	11	2x9	
140	2x6	10	11	11	2x9	2x9	
160		11	11	2x9	2x9	12	
180			12	12	10+11	10+11	
200				12	10+11	10+11	

\*) From stated dimension to the next smaller dimension.

## Foam pack, TwinPipe system

### Foam pack numbers for EW-, BS- and B2SJoint

#### Series 1 pipes ø 125-560 mm

The list below details which foam pack numbers to use for the different series 1 pipes.

Joint type	Main pipe, outer casing ø mm									
	125	140	160	200	225	250	315	400	450	560
EWJoint	4	5	6	8	9	10	11	10+11	13	10+13
B2SJoint	4	5	6	8	9	10	11	10+11	13	10+13
BSJoint	4	5	6	8	9	10	11	10+11	13	10+13

#### Series 2 pipes ø 140-630 mm

The list below details which foam pack numbers to use for the different series 2 pipes.

Joint type	Main pipe, outer casing ø mm									
	140	160	180	225	250	280	355	450	500	630
EWJoint	5	6	7	9	10	11	2x9	13	10+13	2x13
B2SJoint	5	6	7	9	10	11	2x9	13	10+13	2x13
BSJoint	5	6	7	9	10	11	2x9	13	10+13	

#### Series 3 pipes ø 160-710 mm

The list below details which foam pack numbers to use for the different series 3 pipes.

Joint type	Main pipe, outer casing ø mm									
	160	180	200	250	280	315	400	500	560	710
EWJoint	7	8	8	10	11	2x9	10+11	10+13	12+13	2x12+13
B2SJoint	7	8	8	10	11	2x9	10+11	10+13	12+13	2x12+13
BSJoint	7	8	8	10	11	2x9	10+11	10+13		

## Foam pack, TwinPipe system

### Foam pack numbers for BXSJoint

#### Series 1 pipes ø 125-560 mm

The list below details which foam pack numbers to use for the different series 1 pipes

Main pipe, outer casing ø mm									
125	140	160	200	225	250	315	400	450	560
3	4	5	7	8	9	11	12	10+11	10+13

#### Series 2 pipes ø 140-630 mm

The list below details which foam pack numbers to use for the different series 2 pipes.

Main pipe, outer casing ø mm									
140	160	180	225	250	280	355	450	500	630
4	6	6	8	9	10	2x9	13	10+12	12+13

#### Series 3 pipes ø 160-560 mm

The list below details which foam pack numbers to use for the different series 3 pipes.

Main pipe, outer casing ø mm								
160	180	200	250	280	315	400	500	560
6	7	8	2x6	10	11	12	10+13	12+13

**Foam pack, TwinPipe system**  
**Foam pack numbers for TXJoint**

**Series 1 pipes**  
**ø 125-560 mm**

The below list for the TXJoint including the SXJoint details which foam pack numbers to use for the different series 1 pipes.

Branch pipe, ø out. mm	Main pipe, outer casing ø mm									
	125	140	160	200	225	250	315	400	450	560
110	7	8	8	9	10	10	2x9	10+11	13	10+13
125		8	9	10	10	11	2x9	10+11	13	10+13
140			9	10	10	11	2x9	10+11	13	10+13
160				10	11	11	2x9	10+11	13	12+13
200					11	2x9	12	13	10+12	12+13
225						2x9	12	13	10+12	12+13
250							10+11	10+12	10+13	12+13

**Series 2 pipes**  
**ø 140-630 mm**

The below list for the TXJoint including the SXJoint details which foam pack numbers to use for the different series 2 pipes.

Branch pipe, ø out. mm	Main pipe, outer casing ø mm									
	140	160	180	225	250	280	355	450	500	630
125	8	9	9	10	11	11	12	10+12	10+13	2x13
140		9	10	11	11	2x9	12	10+12	10+13	2x13
160			10	11	11	2x9	10+11	10+12	10+13	2x13
180				11	2x9	2x9	10+11	10+13	10+13	2x13
225					12	12	13	10+13	12+13	2x12+13
250						10+11	13	10+13	12+13	2x12+13
280							10+12	12+13	12+13	2x12+13

**Series 3 pipes**  
**ø 160-710 mm**

The below list for the TXJoint, including the SXJoint, details which foam pack numbers to use for the different series 3 pipes.

Branch pipe, ø out. mm	Main pipe, outer casing ø mm									
	160	180	200	250	280	315	400	500	560	710
125	8	9	10	11	11	2x9	10+11	10+13	12+13	2x12+13
140	9	10	10	11	2x9	2x9	13	10+13	12+13	2x12+13
160		10	11	2x9	2x9	12	13	10+13	12+13	2x12+13
180			11	2x9	2x9	12	13	12+13	12+13	3x13
200				2x9	12	12	10+12	12+13	12+13	3x13
250					10+11	13	10+13	12+13	2x13	3x13
280						13	10+13	12+13	2x13	3x13

## Foam pack, TwinPipe system

### Foam pack numbers for T-joint, double

#### Series 1 pipes ø 125-560 mm

The list below details which foam pack numbers to use for the different series 1 pipes.

Branch, ø mm	Main pipe, outer casing ø mm									
	125	140	160	200	225	250	315	400	450	560
90	7	8	8	9	10	10	11	12	10+11	10+13
110	8	8	9	10	10	10	2x9	10+11	10+11	10+13

#### Series 2 pipes ø 140-630 mm

The list below details which foam pack numbers to use for the different series 2 pipes.

Branch, ø mm	Main pipe, outer casing ø mm									
	140	160	180	225	250	280	355	450	500	630
90	8	8	9	10	10	11	2x9	13	10+12	12+13
110	8	9	9	10	11	11	12	13	10+12	12+13

#### Series 3 pipes ø 160-710 mm

The list below details which foam pack numbers to use for the different series 3 pipes.

Branch, ø mm	Main pipe, outer casing ø mm									
	160	180	200	250	280	315	400	500	560	710
90	8	8	9	10	10	11	2x9	13	10+12	12+13
110	8	9	9	10	11	11	12	13	10+12	12+13

## Foam pack, TwinPipe system

### Foam pack numbers for end fittings

#### Series 1 pipes ø 125-560 mm

The list below details which foam pack numbers to use for the different Series 1 end fittings.

TwinPipe, ø. out mm	125	140	160	200	225	250	315	400	450	560
Foam pack No.	1	2	3	6	7	8	10	2x9	12	13

#### Series 2 pipes ø 140-630 mm

The list below details which foam pack numbers to use for the different Series 2 end fittings.

TwinPipe, ø. out mm	140	160	180	225	250	280	355	450	500	630
Foam pack No.	2	4	5	7	8	9	11	12	10+11	10+13

#### Series 3 pipes 160-710 mm

The list below details which foam pack numbers to use for the different Series 3 end fittings.

TwinPipe, ø out. mm	160	180	200	250	280	315	400	500	560	710
Foam pack No.	4	5	7	8	9	11	11	12	10+11	10+13

**Copper pipe system  
Foam pack**

---

**Application**

Foam packs are used for all types of copper pipe joints.

Whether the joints is on single pipes, TwinPipes or double pipes, foam quantities for insulation series 1 corresponding to the respective joint and pipe type are used.

---

**Foam pack****Foam pack numbers for foaming in alu wrap-round**

---

**Application**

When foaming in alu wrap-rounds prior to joint installation foam pack numbers, corresponding to BandJoints (sections 15.2.1-2).

---



**Foam pack****Other insulation methods, general**

---

**Introduction**

LOGSTOR always recommends the use of foam packs to insulate joints, because the security of correct foaming is high.

However, there may be customers' requirements and markets for which alternative insulation methods are relevant.

The alternatives recommended by LOGSTOR are described in the following; however it is essential to make sure that

- local environmental and safety requirements are complied with (responsibility of the employer)
  - approved liquids are used
  - fitters/operators comply with the instructions for foaming
- 

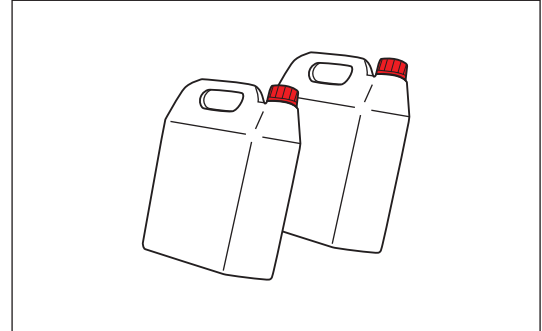
**Contents**

- |                |        |
|----------------|--------|
| - Can foam     | 15.6.1 |
| - Machine foam | 15.6.2 |
-

## Foam pack Insulating joints - can foam

### Application

The can foam - containing the 2 foam liquids, isocyanate and polyol - are apportioned and mixed in open cans.



### Description

Can foam is delivered with the same requirements to strength and insulation properties as the ones to foam pack.

As dosage is often made without LOGSTOR's participation, LOGSTOR makes no guarantees.

Please note! Can foam is not environmentally approved in all countries.

### Product Nos.

Can foam is available in 10 l cans.

Liquid A, isocyanate, MDI product No. 0700 0000 007 002.

Liquid B, polyole product No. 0700 0000 007 008.

Can foam is not returnable!

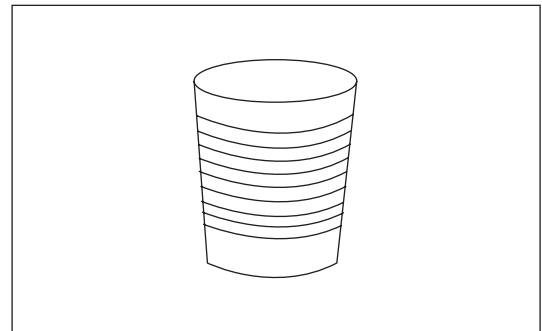
### Mixing cup

For minor quantities of foam 2 l mixing cups with volume marking are delivered:

Product No. 1L 1998 0000 036 564.

Product No. 2L 1998 0000 036 565.

In connection with major foam quantities 10 l buckets etc. are used.

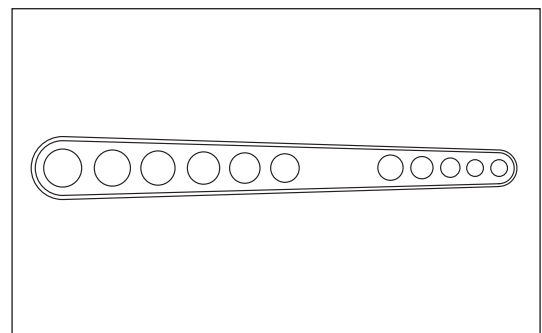


### Mixing stick

Use a mixing stick to mix the liquids.

Product No. 1998 0000 036 563.

For major jobs use the whisk for the drilling machine.



**Foam pack  
Insulating joints - can foam**

---

**Foam quantities**

As to volume liquid A (isocyanate) is mixed in the relation 1.0:1 and liquid B (polyol) in the relation 1.4:1.

(A change in the foam recipe may change this).

E.g.: A joint requires a total of 4.8 l foam liquids, i.e. 2.0 l liquid A and 2.8 l liquid B are measured.

Regarding the total foam quantities contact LOGTOR's technicians.

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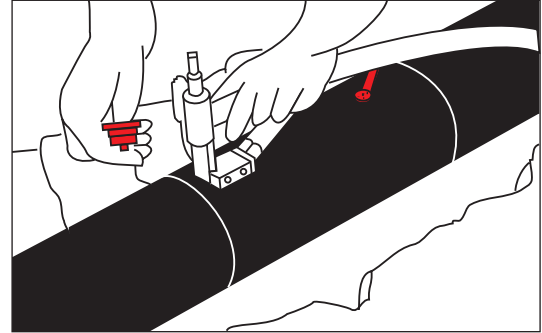
## Foam pack Insulating joints - machine foam

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### Application

When foaming joints it is advantageous to use machine foam when large foam quantities will be filled e.g. into large transmission lines

However, the application of machine foam requires passable space along the trench.



---

### Description

Foam liquids for machine foam, delivered in accordance with LOGSTOR's specifications, comply with the required strength and insulation properties like the foam pack does.

If LOGSTOR is not involved in the installation work, LOGSTOR does not give any guarantee for correct dosage and implementation.

---

### Materials

Polyol and isocyanate must be purchased according to LOGSTOR's specifications and from recommended suppliers.

For further information contact your local LOGSTOR representative.

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## LOGSTOR Detect Overview

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**Introduction** This section describes the applied measuring principles and the components which form part of the LOGSTOR Detect concept for surveillance of district heating pipe systems.

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<b>Contents</b>	System description	16.1
	Measuring principles	16.2
	Overview, equipment	16.3
	Resistance measuring	16.3.1
	Impedance measuring	16.3.2
	Surveillance software	16.3.3
	Chamber surveillance	16.4
	Components list	
	Wire installation	16.5
	Other components	16.6

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**LOGSTOR Detect  
System description**

**Application**

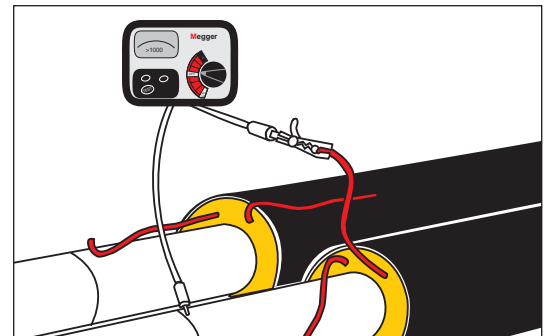
The LOGSTOR Detect concept for preinsulated pipes makes constant surveillance of the pipe network possible by means of the 2 embedded alarm wires.

Consequently, damages on the outer casing or moisture from service pipe or casing joints will be detected in due time, before corrosion damages on the service pipe or severe moisture damages to the insulation appear.

There are three phases in the service life of a pipe network where the advantages of the LOGSTOR Detect concept are obvious.

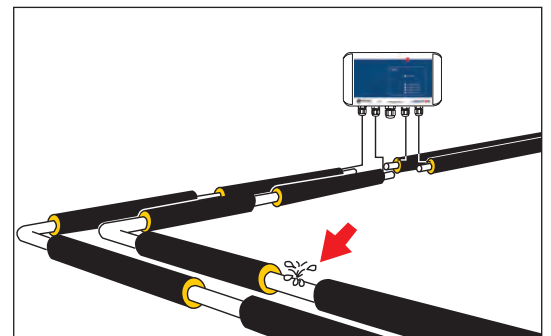
**1. Construction phase**

The system can be used as an active part of the quality assurance procedure and form the basis of a hand-over, when the system is put into operation.



**2. Guarantee period**

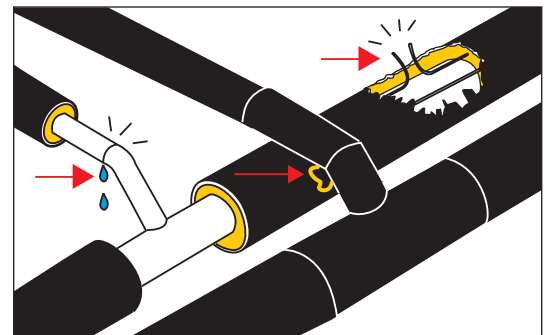
Most malfunctions which may arise can be detected within the guarantee period of the involved parties. In any case an early detection results in less inconveniences and much fewer costs.



**3. Operating period**

A LOGSTOR Detect setup working well makes it possible to detect and repair damages which arise suddenly, e.g. excavation damages, and to maintain the system systematically, so the operating costs are minimal throughout the entire service life of the system.

The entire pipe network can only be maintained systematically in one way: To be able to “see” under ground by means of an integrated surveillance system.



**LOGSTOR Detect  
System description**

**System choice**

More or less advanced systems for surveillance of a preinsulated pipe system can be chosen dependent on the size and type of the systems and the requirements to documentation.

Together with the advanced XTool graphic software the detectors X1L and X4 offer a variety of surveillance levels, handled either by the user or by LOGSTOR.

The systems may either be passive or active systems.

**Passive system  
with reference  
points**

A passive system is understood as:

A system in which the alarm wires are accessible in buildings or reference points along the pipeline etc., from where the state of the systems can be checked manually at suitable intervals where either the pipeline owner himself or LOGSTOR as part of a service contract measures the system.

A passive system may always be upgraded to an active system.

	Resistance measuring	Impedance measuring
Detection of water from the outside	OK	OK
Detection of water in the pipe with low conductivity (< 10µS)	-	OK
Detection of water in the pipe with conductivity > 10µS)	OK	OK
Cable connection/outlet	Installation cable	Coaxial cable
Periodic measuring	Megger	Portable pulse reflectometer
Measuring faults, if any	Portable pulse reflectometer	Portable pulse reflectometer



**LOGSTOR Detect  
System description**

**An active system  
Continuous sur-  
veillance**

An active system is understood as:

A system in which the alarm wires are continuously checked by a surveillance unit. In case of fault the unit either emits a light or a sound and can possibly send data to a central surveillance unit.

**Detector X1L** in various modifications (see product description) is used for the resistance measurement system. The surveillance software XTool can be employed to handle the communication to a central PC unit and to illustrate data graphically.

**Detector X4** which can show the distance to a fault, if any, in a display is used for the impedance measuring system. The surveillance software XTool can be used to handle the communication to a central PC unit and to illustrate data graphically.

	Detector X1L	Detector X4
Number of channels	4	4
Wiring	Loop	"open" wire or loop
Surveillance section	4 x 7000 m wire	4 x 5000 m wire
Measuring faults, if any	Portable pulse reflectometer	Fault position, stated on the display
Power supply	110/230 VAC	110/230 VAC
Communication:		
LAN	OK	OK
GPRS	As type X1L-G	OK
Administration of data, reports, alarm via SMS/E-mail	XTool	XTool

## LOGSTOR Detect Service solutions

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### Service solution levels

LOGSTOR's range of surveillance systems covers everything from a full-service solution to simply supplying and installing the systems.

#### **Level 5 – The full service solution**

LOGSTOR handles everything: Delivery, installation and hosting of the surveillance units and software, surveillance of the pipe system, analysis of the measurement results, repair recommendations, data storage and backup, software updates, hotline support, etc.

X1L or X4 surveillance units and XTool software are used for surveillance of the heating plant's pipe system, and all information are stored on LOGSTOR's password-protected database server.

#### **Level 4 – Hosting solution**

This solution is very similar to Level 5 – the only difference being that the heating plant itself handles the surveillance of the pipe system, analyses the measurement results and assesses the need for repairs.

#### **Level 3 – Detector solution with XTool software**

LOGSTOR supplies the X1L or X4 surveillance units for the pipe system and the XTool software for installation on the heating plant's own server. The heating plant then handles the actual surveillance, analysis, maintenance, etc. of both the surveillance system and the pipe system.

#### **Level 2 – Detector solution without XTool software**

LOGSTOR supplies the surveillance unit X1L for the pipe system – without the central surveillance function.

#### **Level 1 – Reference point solution**

The simplest method for surveillance of the pipe system runs directly on the alarm wires. At regular intervals, service technicians from LOGSTOR or the heating plant itself check the system using a portable measuring instrument.

Heating plants can choose the entire surveillance concept or selected parts of it, dependent on the size and type of the pipe system, and on the degree of documentation required.

All surveillance systems that, as a minimum, are based on Level 1 can be upgraded to the more advanced solutions at any time.

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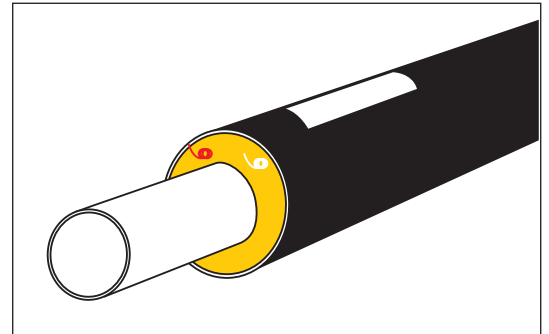
## LOGSTOR Detect Measuring principles

### Alarm wires

For surveillance pipes and preinsulated components are supplied with 2 non-insulated copper wires (1.5 mm<sup>2</sup>) integrated in the insulation. (Nordic system)

To ensure correct wiring during installation, one wire is tinned and has a silver-grey surface, while the other wire has a clean copper surface.

Other types of wire for other surveillance systems are available to order.



### Resistance surveillance

Detector X1L is used for resistance surveillance.

Resistance surveillance is an effective means to detect external ingress of moisture or internal water from weld leaks, where the district heating water has a conductivity of > 10 mikrosiemens.

Furthermore, LOGSTOR detectors have an integrated function to ensure that the surveillance system is intact at all times. A signal is transmitted, if the electric circuit is disrupted, e.g. if an alarm wire is broken.

The detector has a relay exit for remote transmission of the signal.

Moisture, short circuit or wire faults are located by means of a pulse reflectometer, which enables accurate measuring of the first fault occurring in the section, even if there is more than one fault in the section.

### Pulse surveillance

Detector X4 is used for pulse surveillance

The system operates in the way that an electric TDR pulse is reflected by an accumulation of moisture, a short circuit or a broken wire. (TDR = Time-Domain Reflectometry).

The method is not based on the ohmic resistance and therefore is just as sensitive to moisture with low as well as high conductivity. Consequently, it is recommended especially for pipe systems with very clean water (low conductivity < 10 µS).

The measuring principle is that the built-in TDR pulse reflectometer generates an initial curve as a reference for later comparison and fault location on the basis of the chosen acceptance criteria, when the system is put into operation.

Any changes outside the limit value will hereafter release an alarm, stating the type and location of the fault.

**LOGSTOR Detect  
Resistance measuring**

**Detector X1L**

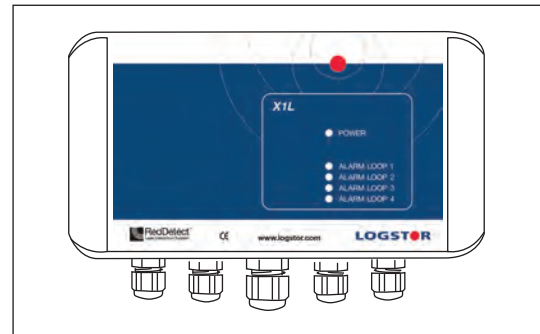
For resistance measuring the detector, type X1L is used.




X1L is available in 3 designs dependent on the pipe system and the requirements to the surveillance.

It must be installed indoors in a dry and frost free environment.

Standard properties:

- 4 circuits (exits/channels), each with a range of 7000 m on alarm wires, which are always in loop (3500 m pipe)
- Can emit a visual as well as an acoustic signal, if the detection level is exceeded
- Is factory-set to a detection level of 300 kΩ
- The level can be adjusted from 1 kΩ to 1 MΩ
- Enclosure class: IP 67
- Ready for connection to 110/230 V by means of a transformer



Type	Properties	Accessories
X1L	Standard as described above	Transformer  To be ordered separately
X1L-G	Like X1L, but with a built-in GPRS unit	Antenna  To be ordered separately
X1L-BG	Like X1L-G, but with lithium battery instead of transformer. Includes surveillance of the battery voltage.	Like X1L-G + Battery
XTool	Graphic software See section 16.3.3.1	XTool  To be ordered separately

**LOGSTOR Detect  
Resistance measuring**

**Detector X1L,  
continued**

Product numbers:

- X1L	8000 0000 007 016
- X1L-G	8000 0000 007 018
- X1L-BG	8000 0000 007 026
- Transformer	8000 0000 007 021
- Battery	8000 0000 007 022
- Antenna	8000 0000 007 020
- XTool, see section 16.3.3.1	

**Terminal box  
Type 1517**

Used in systems with resistance measuring to establish easily accessible reference points for control measuring and fault location.

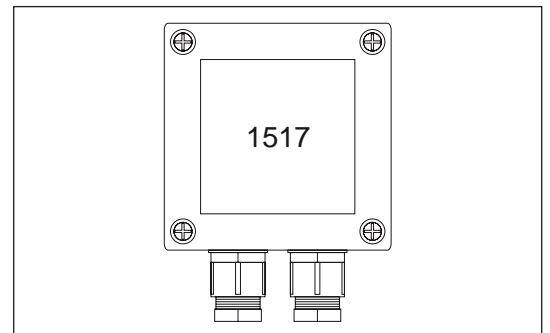
Product No.: 8011 0000 001 517.

For the purpose of possible subsequent fault location on long straight pipe runs, accessible reference points are established with a terminal box or wire outlet. Such points should be placed to provide the best possible division of the pipe section.

Connection to pipes via installation cables.

The terminal box is also used for establishing a reference point in a weatherproof cabinet.

LOGSTOR recommends that the wire length between two reference points does not exceed the lengths in the table.



Pipe type	Branched network Max. m	Transmission pipeline max. m
Single	500	1000
Twin	400	800

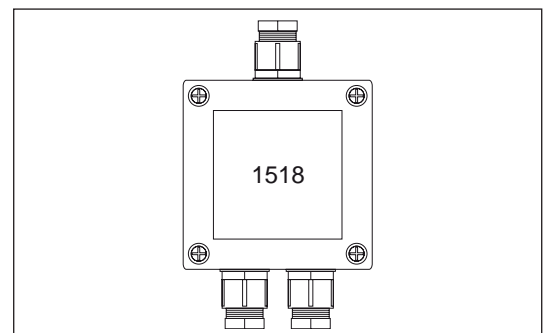
**Coupling box  
Type 1518**

Is used to connect the alarm wires in a pair of pipes to Detector X1L.

Product No.: 8011 0000 001 518

Installation cables are used at all exits.

It is also applicable in buildings, cellars and the like to connect cables from one pair of pipes to another.



## LOGSTOR Detect Resistance measuring

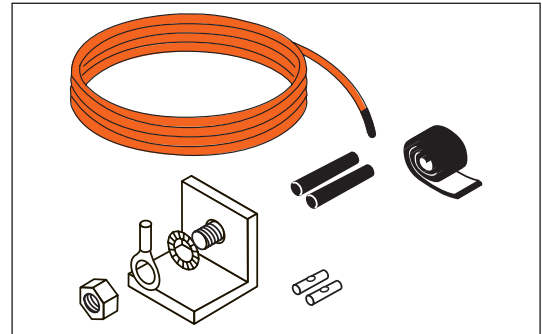
### Cable outlet in end-cap

Product No. 9000 0000 024 000.

Used to lead the alarm wires in a pipe out under an end-cap.

Is supplied in sets containing:

- Earth connection
- 2 m installation cable (5 x 0,75 mm<sup>2</sup>)
- Crimp connectors, mastic, shrink hose



### Cable take-off in the casing

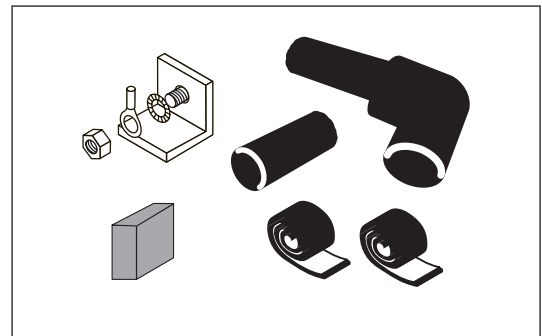
Product No. 8000 0000 005 047.

The cable take-off is welded with a conic tool in the casing close to a joint.

The cable take-off consists of:

- Earth connection
- An HDPE cable foot with conic weld end
- Mastic and shrink hose for sealing against the cable
- Supporting chock

Installation cable is ordered separately.



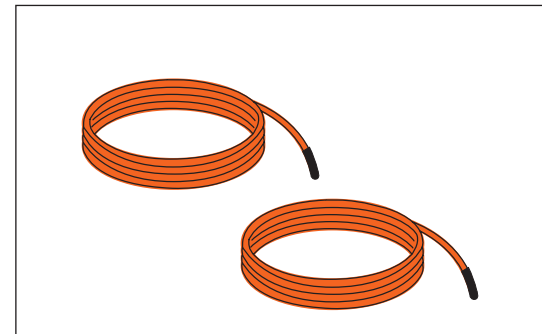
### Installation cable

Product No. 8100 0000 057 005.

A 5-conductor installation cable (5 x 0.75 mm<sup>2</sup>) with heat-resistant insulation.

Used to connect alarm wires in a buried pipe with a terminal box in a weatherproof cabinet or pipe ends in buildings with a terminal box or a connection.

Available in coils of 2 x 10 m.

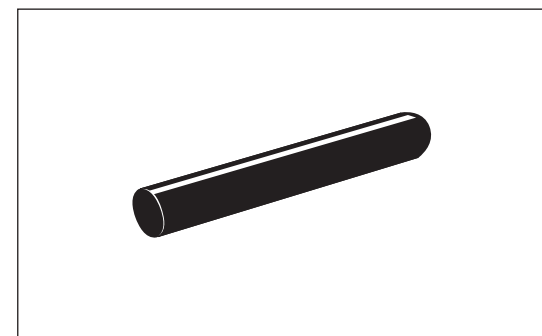


### Cable end cap

Product No. 1210 0008 028 026.

Available in bags with 30 pcs.

Used to protect the cable ends against moisture.



**LOGSTOR Detect  
Resistance measuring**

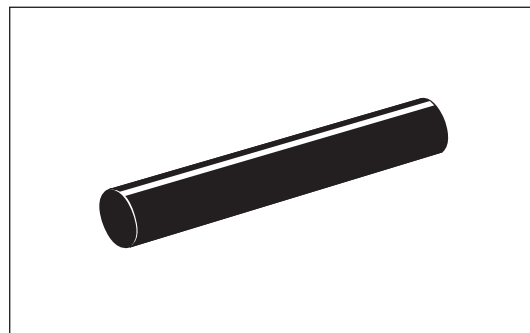
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**Shrink hose**

Product No. 8000 0000 002 008.

Package of 50 pcs.

Used to insulate alarm wires in cable outlet/  
take-off.



## LOGSTOR Detect Impedance measuring

### Detector X4

For impedance measuring the detector, type X4 is used.

Product No. 8000 0000 007 013

Delivered installed in a detector cabinet.



Standard properties:

- X4 has a built-in transformer, 110/230 V
- 4 circuits (exits/channels), each with a range of 5000 m on alarm wires. That equals 5000 m pipe, provided that a single wire - not a loop - has been used from the measurement box to the end of the surveilled section.
- The connected pipe section to be measured is surveilled at preset intervals by the built-in TDR pulse reflectometer
- Measuring accuracy: < 1 m
- Enclosure class: IP 65
- Measuring range: 1 k $\Omega$  to 50 M $\Omega$
- All data are stored in the memory
- If a fault is detected, a curve of the ongoing course is automatically generated. This curve can be transmitted to the surveillance computer
- Standard network connection: LAN
- X4 communicates via a GPRS modem (to be purchased separately) or via broadband
- The LCD display i.a. shows:
  - Wire resistance,  $\Omega$
  - Alarm signal
  - Date, time
  - Error voltage

### Accessories

#### Transient protection

The transient protection QTS 37 is recommended for protection against overvoltage from the power supply network.

Product No. 8000 0000 007 019





## LOGSTOR Detect Impedance measuring

### Accessories, *continued*

#### Antenna

Antenna is used for wireless signal transmission.

Product No. 8000 0000 007 020



#### GPRS modem

For connection of Detector X4 to GPRS this modem must be used.

Product No. 8000 0000 007 011



#### MultiBox C2

MultiBox C2 is used for take-off of non-insulated wires from the pipes and connection with coaxial cables to Detector X4.

Product No. 8000 0000 007 007



#### Coaxial cables in connection with MultiBox C2

MultiBox C2 and Detector X4 are connected to 93  $\Omega$  coaxial cables by means of a BNC connector.

0.5 m lengths are used together with MultiBox C2 for loop in buildings.



**LOGSTOR Detect  
Impedance measuring**

**Coaxial cables in connection with MultiBox C2, continued**

To be used in dry chambers, buildings etc.  
The cables are delivered in sets of 2 pieces with blue and red markings respectively for identification of the connected wire.

Length L, m	Product Nos.
2.5	8100 0000 007 010
5	8100 0000 007 011
10	8100 0000 007 012
0.5	8100 0000 007 013

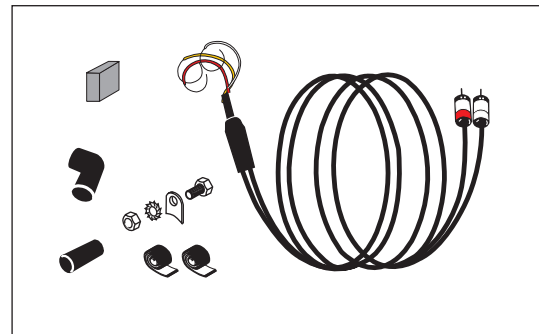
**Cable take-off at outer casing  
For closed welding mirror**

Weld the cable take-off for the two 125 Ω coaxial cables onto the outer casing near a casing joint by means of a closed welding mirror.

Product No.: 8010 0000 018 030

Cable length, 9 m (measured electrically at 10 m).

- A cable take-off consists of:
- Earth connection
  - A HDPE outlet with conic weld end
  - Twin coaxial cable with UHF connector and conic plug with alarm wire outlet
  - Mastic and shrink hose for sealing against the cable
  - Supporting chock



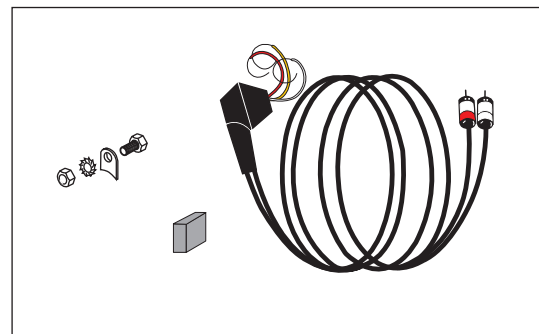
**Cable take-off at outer casing  
For opening, welding mirror**

Weld the cable take-off for the two 125 Ω coaxial cables onto the outer casing near a casing joint by means of a welding mirror which can be opened.

Product No.: 8010 0000 018 015

Cable length, 9 m (measured electrically at 10 m).

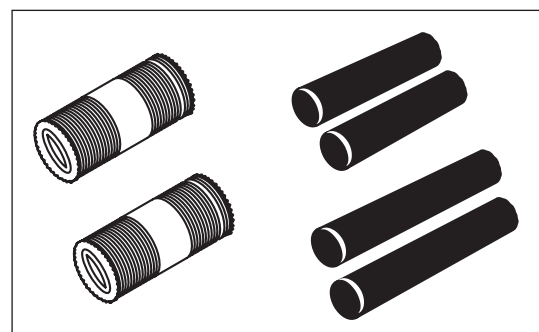
It is delivered with earth connection and supporting chock.



**Connecting link**

Connect coaxial cables with connecting links.  
Product No.: 8000 0000 013 000.

Connection link, incl. shrink hose.  
Product No. 8000 0000 012 000.

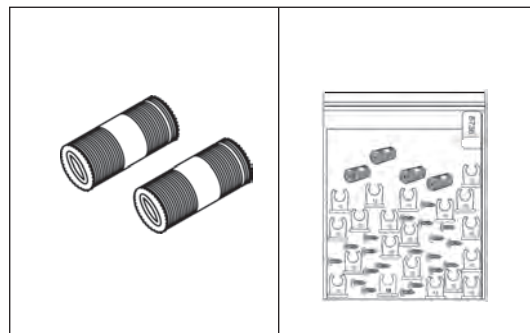


## LOGSTOR Detect Impedance measuring

### Connecting link, *continued*

Installation set for weatherproof cabinet:  
For joints in cabinet etc. sets with connecting  
links and cable clamps are available.

Product No.: 8000 0000 013 001



## LOGSTOR Detect Surveillance software - XTool

### Application

The RedDetect™ XTool is a graphic surveillance program for handling communication between the surveillance units of a preinsulated pipe system and a central database server (SQL).

### Functions and characteristics

- XTool can coordinate and handle information from all surveillance units in the RedDetect™ system
- XTool compares the incoming impedance and resistance measurements with the predefined reference curves, and detects even the smallest irregularities in the pipe system.
- Graphic documentation of each pipe section:
  - Type of fault
  - Cause of fault
  - History of the fault
  - Distance to the fault
  - Dynamic printing of documentation from XTool
- The history is stored in the database, partly as documentation and partly for subsequent follow-up
- All data are protected
- Guarantee of permanent surveillance
- Can compare impedance and resistance measurements
- Automatic troubleshooting and alarm generation
- Valuable documentation system. Can be used to import:
  - Surveillance diagrams
  - Measurement reports
  - Images
  - The GPS co-ordinates of the surveillance units
- Wireless upgrades
- Compatible with future forms of communication



## LOGSTOR Detect Surveillance software - XTool

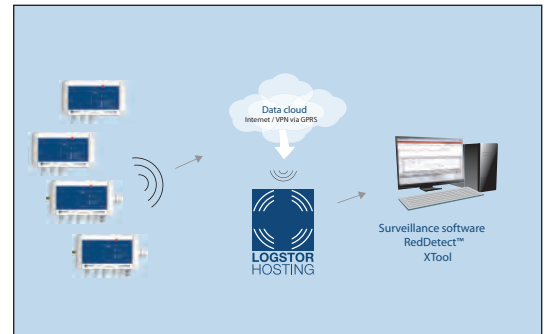
### Communication and LOGSTOR hosting

The communication between XTool and the surveillance units takes place via wireless transmission (GPRS), LAN or fiber cable.

Using the XTool software, LOGSTOR can provide heating plants and energy companies with a hosting service in the form of a password-protected database for the relevant programs, the surveillance functions and the accumulated history.

Proactive surveillance ensures a longer service life and improves supply assurance in any district heating pipe system. When a digital and GPRS-based surveillance program is installed, all information concerning the condition of the pipe system can be sent via a wireless connection from the surveillance units to a central computer. Here, the information is analysed immediately and alarms can then be issued by e-mail or SMS if necessary. This makes it possible to take action before damage occurs.

The system is prepared for future communication.



**LOGSTOR Detect  
Surveillance of chambers**

**Detector A1e**




For surveillance of chambers, low-lying areas etc. Detector A1e is used.

The unit has 12 separate entry points and can i.a. register:

- moisture
- temperature
- water level
- velocity of incoming water
- pressure and temperature in the insulated pipes



In addition A1e has the same functions as X1L for resistance measuring alarm wires in preinsulated pipe systems. For this purpose A1e has two circuits with a range of 7000 m each (3500 m pipes in loop).

Type	Properties	Accessories
A1e	Standard as described above	Transformer  To be ordered separately
A1e-G	Like A1e, but with a built-in GPRS unit	Antenna  To be ordered separately
A1e-BG	Like A1e-G, but with lithium battery instead of transformer. Includes surveillance of the battery voltage.	Like A1e-G + Battery
XTool	Graphic software See section 16.3.3.1	XTool  To be ordered separately

Product numbers:

- A1e 8000 0000 007 027
- A1e-G 8000 0000 007 030
- A1e-BG 8000 0000 007 029
- Transformer 8000 0000 007 021
- Battery 8000 0000 007 022
- Antenna 8000 0000 007 020
- XTool, see section 16.3.3.1

## LOGSTOR Detect Components list, wire installation

### Components for wire installation

When ordering a pipe system with surveillance the wire installation components, marked with \*), are delivered in the number which the concerned system requires.

List of components and tools for wire installation:

Component/Tool	Product Nos.
Diagonal cutter	1998 0000 032 066
Cleaning cloth (10 pcs.)	1998 0000 002 002
Tin solder, coil	8000 0000 003 033
Crimp connector for single wire (100 pcs.) *)	8000 0000 002 044
Crimping tool	9000 0000 029 001
Installation wire (tinned, 25 m)	8100 0000 002 003
Soldering iron set, gas	9050 0000 040 001
Gas cartridge	9000 0000 019 002
Soldering iron, electricity	9050 0000 040 000
Wire holders (50 pcs.) *)	1220 0000 003 006
Coil of crepe tape ( m *)	8000 0000 026 000
Flex (50 pcs.)	8010 0000 018 008
Megger MIT 320	8000 0000 011 000
Portable pulse reflectometer	8000 0000 003 037

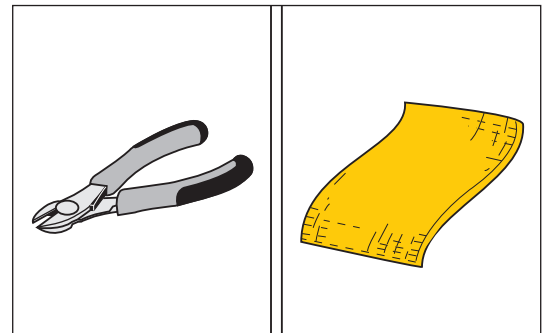
### Diagonal cutter and cleaning cloth

Shorten the wires to the correct length with a diagonal cutter.

Product No.: 1998 0000 032 066

Clean the wire ends with a synthetic cleaning cloth.

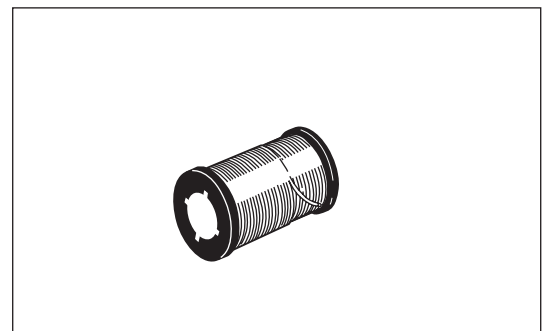
Product No.: 1998 0000 002 002



### Tin solder

Tin solder (ø 2 mm) with resinous flux.

Product No.: 8000 0000 003 033



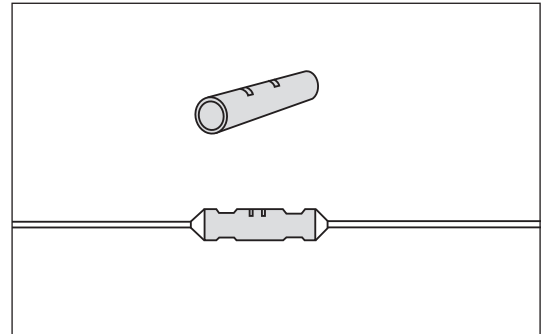
## LOGSTOR Detect

### Components list, wire installation

#### Crimp connector

Use a crimp connector with centre stop to connect 2 Nordic wires. The connector is both crimped and soldered.

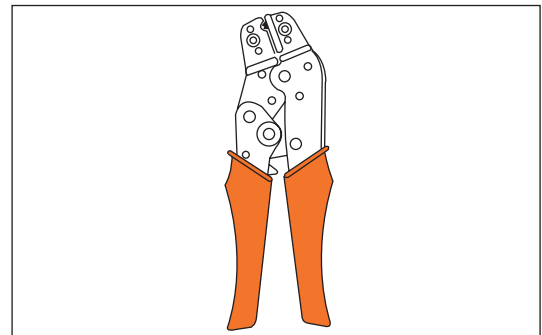
Product No.: 8000 000 002 044.



#### Crimping tool

Use the ratchet crimping tool, recommended by LOGSTOR, to press the crimp connectors for Nordic and HDW alarm wires.

Product No.: 9000 0000 029 001.



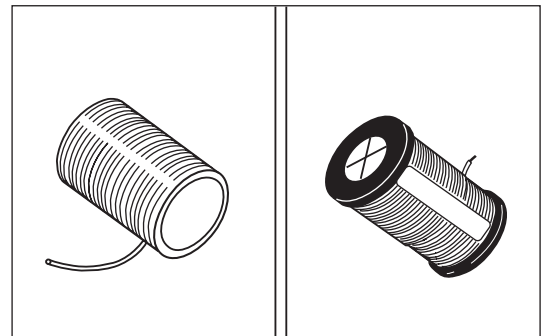
#### Installation wire

Carry out common wire extension at bends and branches with uninsulated installation wire, 1.5 mm<sup>2</sup> (tinned). L = 25 m.

Product No.: 8100 0000 002 003.

At e.g. branches silicone-insulated installation wire can be used. It is available with white insulation in coils of 100 m.

Product No.: 8100 0000 052 001.



#### Soldering irons

For common soldering a gas soldering iron consisting of a gas cylinder and a gas torch is recommended.

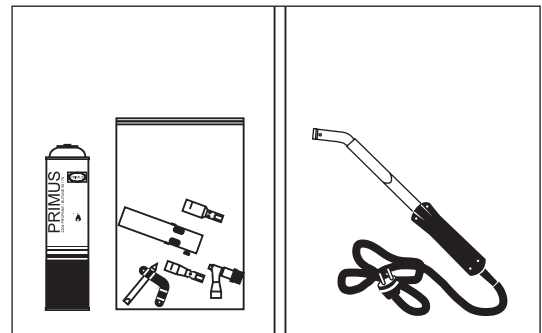
Product Nos.:

Gas cylinder 9000 0000 019 002.

Gas torch 9050 0000 040 001.

An electric soldering iron is recommended to solder e.g. close to the insulation foam.

Product No.: 9050 0000 040 000.



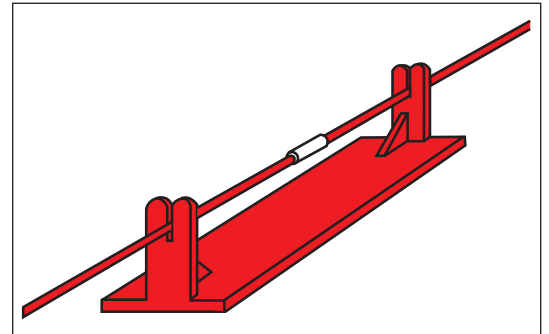


## LOGSTOR Detect Components list, wire installation

### Wire holders

Install the alarm wires in wire holders, 6 pcs. per normal joint (50 pcs. in a bag).

Product No.: 1220 0000 003 006.

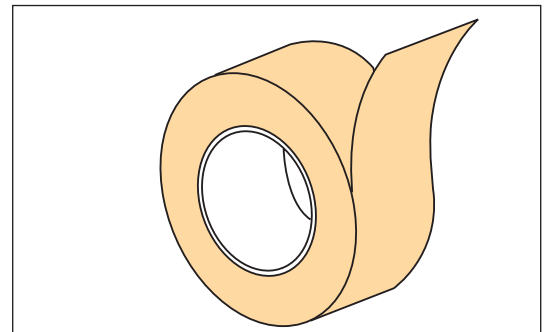


### Crepe tape

Fix wire holders to the service pipe with crepe tape (rolls of 50 m).

Heat-resistant crepe tape,  
Product No.: 8000 0000 026 000.

Do not use other types (e.g. PVC).

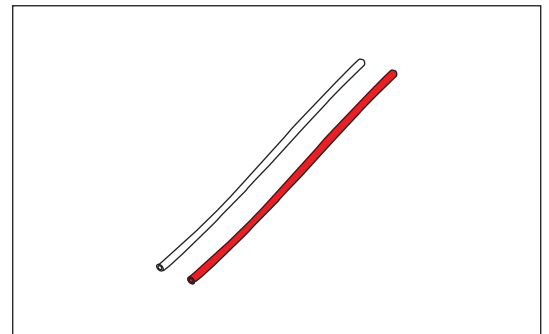


### Insulating sleeves

Use insulating sleeves to insulate the surveillance wires at e.g. terminations, connections, branches and the like.

Product No.: 8010 0000 018 008

Available in bags with 50 pcs. (25 red ones and 25 white ones).



### Check instrument (megger)

Check the wire installation continuously with the megger which can check the circuit and insulation resistance.

The megger can also measure systems with felt in the joints.

Megger MIT 320:

Product No.: 8000 0000 011 000.

MIT 320



## LOGSTOR Detect Components list, wire installation

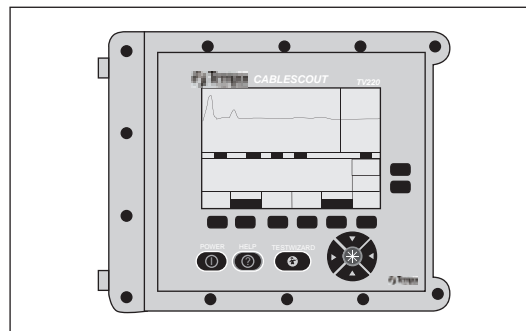
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### Pulse reflectometer

The portable pulse reflectometer is used alone or together with the LOGSTOR detectors to locate faults on pipes and alarm wires.

LOGSTOR offers the pulse reflectometer TEMPO TV 220.

Product No.: 8000 0000 003 037



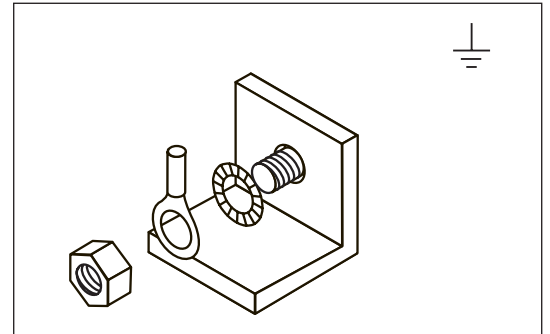
## LOGSTOR Detect Components list, other components

### Earth connection for installation cables

Weld this type of earth connections on the service pipe where cable connections and jumper cables with installation cables must be installed.

These earth connections are part of the cable set, but can be ordered separately.

Product No.: 8000 0000 003 019.

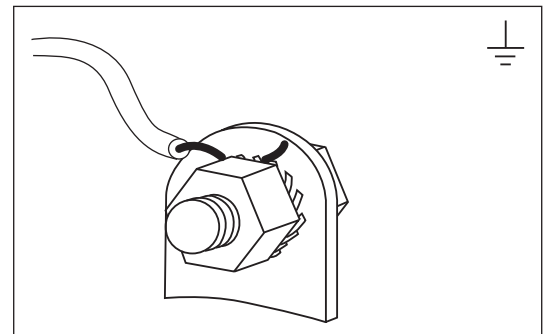


### Earth connection for coaxial cables

This type of earth connections is used when there are coaxial cables in the joints.

It is supplied in bags with 10 earth connections and 5 bolt sets.

Product No.: 8010 0000 018 094.



### Detector cabinet

For installation and protection of detectors and other components like transient protections, transformers, GPRS modems, antennas, heating elements, temperature gauges etc.

Enclosure class: IP 67.

Product No. 8000 0000 007 010

Including detector X3

Product No. 8000 0000 007 023

Including detector X4

Product No. 8000 0000 007 013



### Weatherproof cabinets

Two kinds of lockable weatherproof cabinets are available for installation of components and surveillance equipment

They are made of fibre glass with a sliding foot made of steel for installation in the soil or in concrete.

The wide cabinet is recommended for installation of Detector X1L-B.

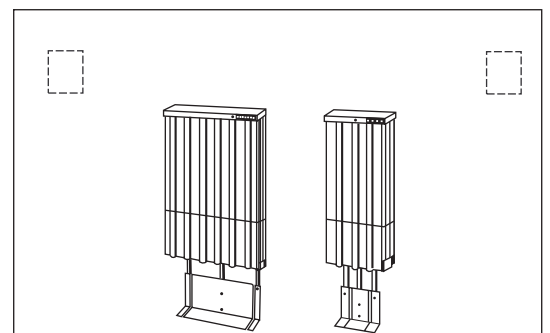
Measurements: H x W x D = 628 x 574 x 215 mm

Product No.: 8900 0600 220 003.

The narrow cabinet is recommended for reference points.

Measurements: H x W x D = 628 x 303 x 155 mm.

Product No.: 8900 0600 220 002.





<b>Contents</b>	17.1.0.1	Laying - FlexPipes
	17.2.0.1	Laying - steel pipes
	17.3.0.1	Tools for E-Comp
	17.4.0.1	Hot tapping tool
	17.5.0.1	Tools for shortening and calibration
	17.6.0.1	Stripping tools
	17.7.0.1	Press tool for coupling, type MP
	17.8.0.1	Press tool for coupling, type JT
	17.9.0.1	Welding machines for weld joints
	17.10.0.1	Tool boxes for weld joints
	17.11.0.1	Installation equipment for BandJoint
	17.12.0.1	Installation equipment for EWJoint
	17.13.0.1	Tools for shrink joints
	17.14.0.1	Tools for expansion plugs
	17.15.0.1	Tools for weld plugs
	17.16.0.1	Leakage test equipment
	17.17.0.1	Tools for LOGSTOR Detect
	17.18.0.1	Operating tools for valves

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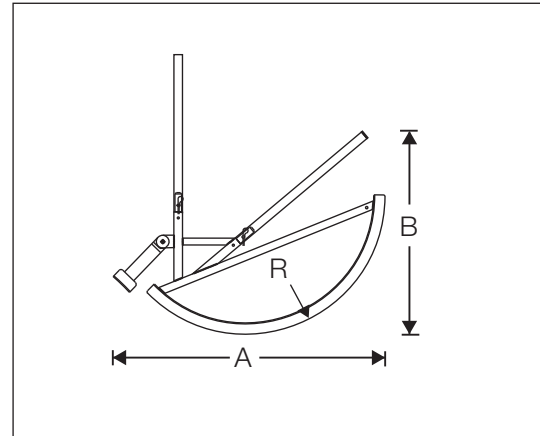


**Tools**  
**Laying - FlexPipes**

**Bending tool**

For bending FlexPipes.  
The two handles can be dismantled.

Casing D, mm	Product No.	A mm	B mm	R mm
90	9050 0000 019 013	1340	695	700



**Pulling tool**

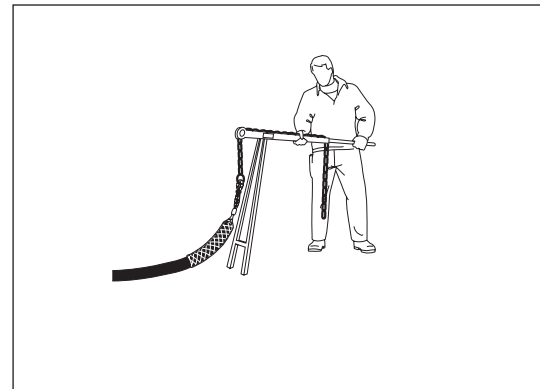
For house entry with FlexPipe through inlet pipe embedded in concrete or tilted bore in the base pulling tool and pulling sleeve are used.

Outer casing dimension 90 mm

Product Nos:

Pulling tool: 9050 0000 007 887

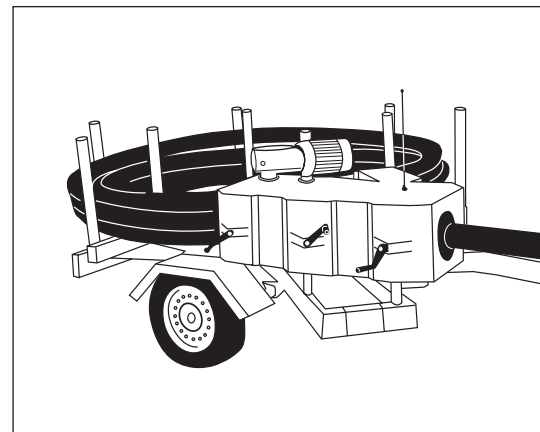
Pulling sleeve: 9050 0000 047 001



**Transport and uncoiling**

For transport and uncoiling major dimensions and a high number of house entries the FlexPipe wagon with motorized straightener and remote control is recommended.

For supplier details please contact LOGSTOR..



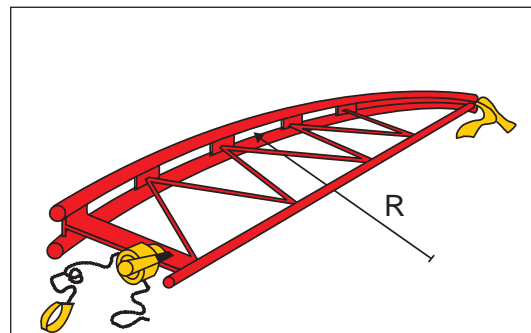
## Tools

### Laying - steel pipes

#### Bending tool

For bending steel pipes into on-site made curves.

Tool No.	Primary range of application ø mm	Radius m	Product No.
1	26.9	2.9	9050 0000 019 001
2	33.7-42.4	3.8	9050 0000 019 002
3	48.3-60.3	5.1	9050 0000 019 003
4	76.1-88.9	6.5	9050 0000 019 004



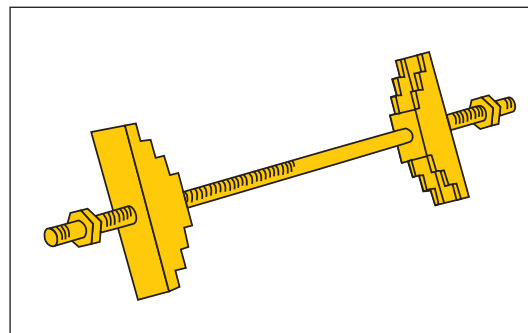


## Tools

### Tools for E-Comp

**Compression tool** For compressing E-Comp prior to welding it into the pipe system.

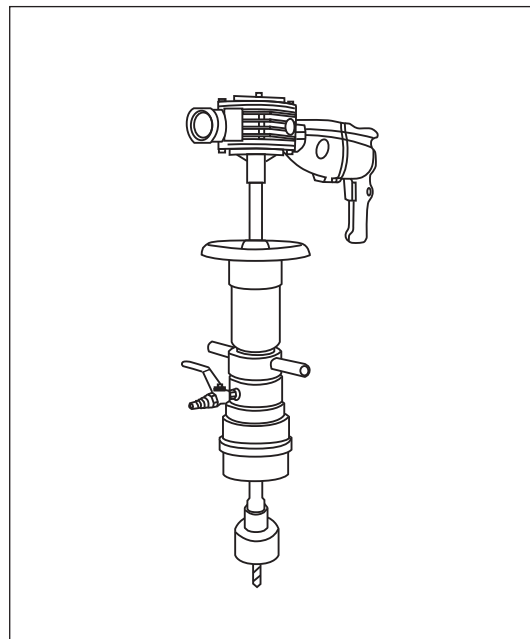
Steel pipe dimension mm	Product No.
48,3-168,3	9050 0000 044 000
219,1-323,9	9050 0000 044 001



**Tools**  
**Hot tapping tool****Hot tapping tool**

Available for dimensions DN 20-100 mm.

To buy or hire please contact LOGSTOR.



**Tools for shortening and calibration**

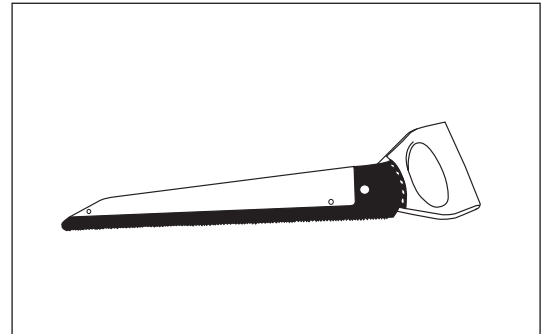
**Eclipse saw**

An eclipse saw with depth guard is used to cut outer casings and insulation.

The depth guard prevents that the service pipe and surveillance wires are damaged, when cutting the outer casing.

To shorten insulation shells the eclipse saw is used without depth guard.

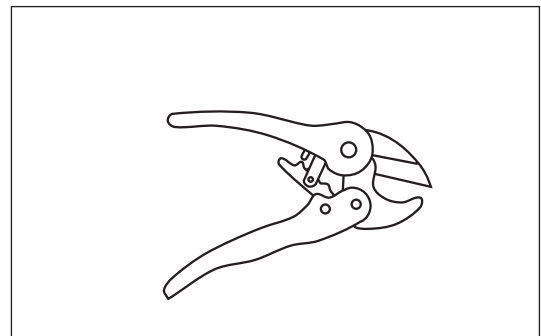
Product No.: 9000 0000 003 002



**PEX scissors**

For perpendicular cutting PEX and Alupex service pipes.

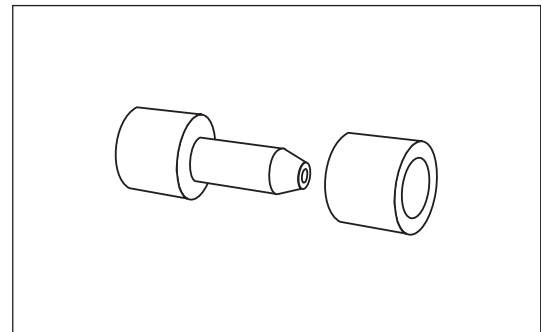
Max diameter pipe mm	Product No.
28	9000 0000 006 001
32	9000 0000 006 002
63	9000 0000 006 003



**Calibration mandrel**

For CuFlex to calibrate copper pipes before soldering.

CuFlex service pipe, d mm	Product No.
15	9050 0000 017 000
18	9050 0000 017 005
22	9050 0000 017 001
28	9050 0000 017 002
35	9050 0000 017 003
42	9050 0000 017 004
54	9050 0000 017 006
70	9050 0000 017 007
88.9	9050 0000 017 008
108	9050 0000 017 009

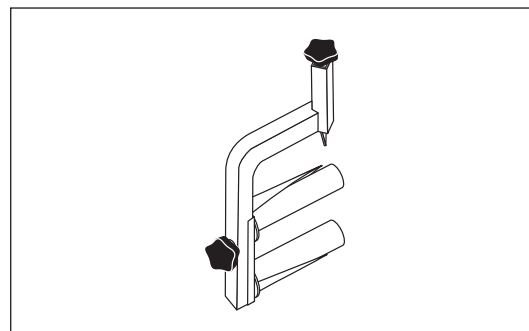


**Tools**  
**Stripping tools**

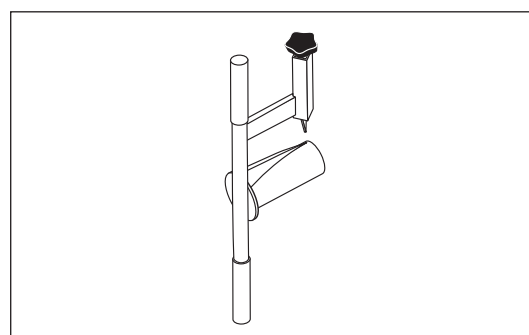
**Stripping tools**

For removal of insulation from single pipes with PEX and Alupex service pipes to prevent that the service pipe is damaged.

Service pipe	Service pipe, d mm	Product No.
PEX	20-25	9000 0000 006 001
	32-40	9000 0000 006 011
	40-50	9000 0000 006 003
Alupex	16-20	9000 0000 006 020
	26-32	9000 0000 006 021



Service pipe	Service pipe, d mm	Product No.
PEX	63	9000 0000 006 004
	75	9000 0000 006 005
	90	9000 0000 006 006
	110	9000 0000 006 007



**Press tool for coupling, type MP**

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**General**

Hydraulic press tool for installing press coupling, type MP (Multipress).

Delivered as a complete set.

To buy or hire please contact LOGSTOR.

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**AP63**

For dimension  $\varnothing 16 - \varnothing 63$

**AP110**

For dimension  $\varnothing 63 - \varnothing 110$

**Hydraulic pump**

Used for hydraulic press tool.



## Tools

**Press tool for coupling, type JT****General**

Press tool for installing press coupling, type JT (Jentro).

Delivered as a complete set.

To buy or hire please contact LOGSTOR.

**ø25 - ø32 mm****ø40 - ø63 mm****ø50 - ø110 mm**

## Welding machines for weld joints

### General

To buy or hire installation equipment for LOGSTOR weld joints please contact LOGSTOR.

### Weld trailer

Contains generator, air compressor, high-pressure hose, 400V + 230V cables and accessories.

- L 4.5m x W 2.1m x H 2.1 m
- Total weight: 2,000 kg
- Power: 16A, 400V - 20 kWh



### WeldMaster

Contains 2 sets weld cables, drawbar, and transport wheels, hand-held computer (PDA). Applicable for all LOGSTOR weld joints.

- L 750 x W 380 x H 560 mm
- Total weight: 107 kg
- Mains voltage: 3 x 230/400 V AC +/- 4% 50 Hz
- Mains connection: 5-pole 16 A CEE plug (3 phase, neutral, earth)



### EW Welder

- L 650 x W 280 x H 640 mm
- Total weight: 40 kg
- Mains voltage: 3 x 230/400 V AC +/- 4% 50 Hz
- Mains connection: 5-pole 16 A CEE plug (3 phase, neutral, earth)



**Tool boxes for weld joints**

**General**

To buy or hire installation equipment for LOGSTOR weld joints please contact LOGSTOR.

**BandJoint**

**Basic set**

Contains hand tools necessary to install BandJoints in dimensions up to and including  $\varnothing 710$  mm.



**Additional tools**

Additional tools for installing PlateJoint in dimensions  $\geq \varnothing 800$  mm.

To be used together with the basic set.



**EWJoint**

Hand tools necessary to install EWJoints.



**Extrusion welding**

Milling guide and extrusion guide for longitudinal extrusion welding.





## Installation equipment for BandJoint

### General

To install BandJoints two pressure bands and a pressure rail are used. To buy or hire installation equipment for weld joints please contact LOGSTOR.

### Pressure band ø90 - 200 mm

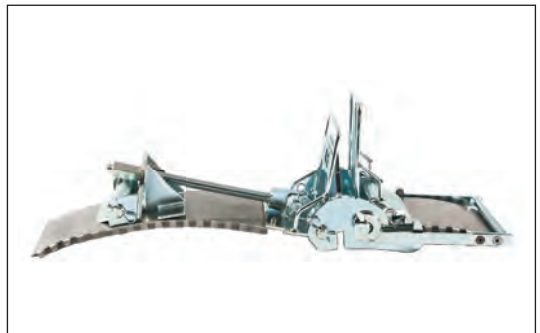


### Pressure band ø225 - 800 mm



### Pressure band ø800-1400 mm

Handles for pressure bands and straps.



Pressure bands and straps.



**Installation equipment for BandJoint****Pressure rail  
ø90 - 200 mm**

Standard:  
Fits casing joint length 570 mm.

Long:  
For E-Comp and repairs.  
Fits casing joint length 830 mm.

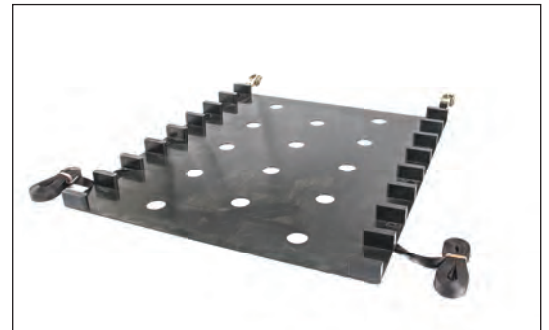
**Pressure rail  
ø225 - 1400 mm**

Standard:  
Fits casing joint lengths 590 mm and  
660 mm.

Long:  
For E-Comp and repairs.  
Fits casing joint lengths 850 mm, 980 mm  
and 1050 mm.

**Guiding tool**

Auxiliary tool facilitating the installation of  
BandJoints in large dimensions  
( $\geq \text{ø}630$  mm).

**Squeeze ring for  
branch**

For BandJoint-branch in dimensions  
ø 90-225 mm



## Installation equipment for EWJoint

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**General**

To buy or hire installation equipment for weld joints please contact LOGSTOR.

---

**EW band**

Pressure band to install EWJoint in dimensions  $\varnothing 90$ -1400 mm.

One size per dimension.

**EW tightening clamp**

Tightening clamp for EW band.

Small for  $\varnothing 90$ -560 mm

Big for  $\varnothing 90$ -1400 mm

**EW multi tool**

Pressure band for more dimensions:

- $\varnothing 140$ -160 mm
- $\varnothing 180$ -200 mm
- $\varnothing 225$ -280 mm
- $\varnothing 315$ -400 mm
- $\varnothing 450$ -560 mm
- $\varnothing 630$ -800 mm



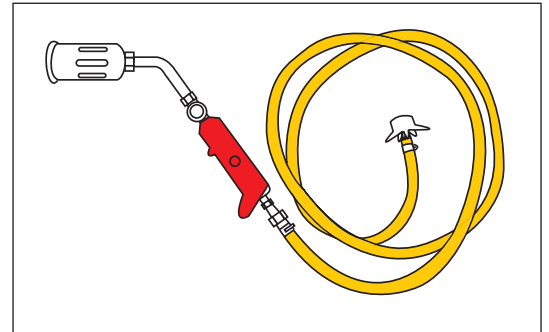
**Tools**  
**Tools for shrink joints**

**Gas burner set**

For installation of shrink sleeve.

Complete burner set for propane gas with a 10 m hose and a 50 mm burner head.

Hose union	Product No.
for regulator	9000 0000 001 943
with 1/2" thread	9000 0000 001 944



**Spare parts for gas burner set**

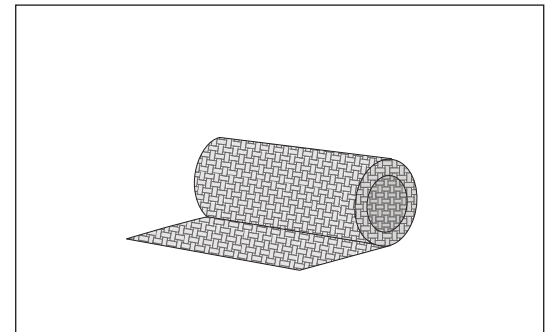
	Product No.
Burner head ø50 mm	9000 0000 010 001
Burner head ø60 mm	9000 0000 010 002
Burner pipe 200 mm	9000 0000 011 000
Burner handle	9000 0000 012 000
Gas hose 10 m	9000 0000 013 000
Hose union for regulator	9000 0000 017 000
Hose union with 1/2" thread	9000 0000 021 000

**Heat shield**

For protecting corrugated casings when shrinking sleeves.

Width: 150mm  
Length: 1000 mm

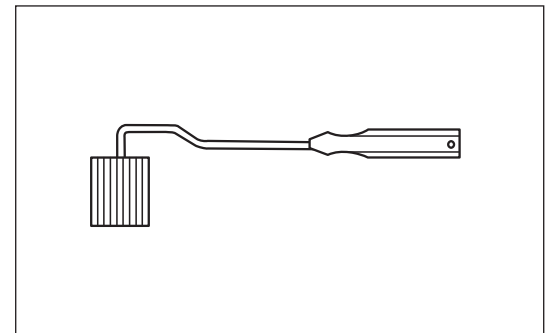
Product No. 9050 0150 031 000.



**Roller**

For compressing overlap on open shrink wraps and collars.

Product No. 9050 0000 008 000



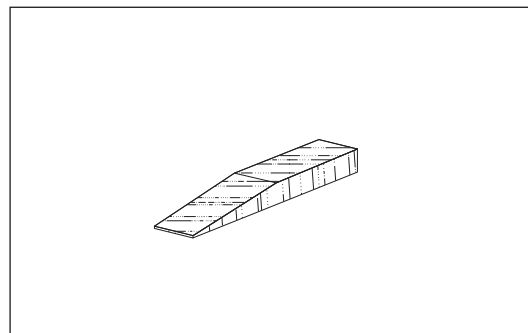
## Tools

## Tools for shrink joints

**Wooden wedge**

For centering shrink sleeves during installation.

Delivered in bags with 24 pcs.



Type	Length, mm	Height, mm	Width, mm	Product No.
Small, type A	240	13	22	1997 0000 033 002
Big, type B	345	27	32	1997 0000 033 003

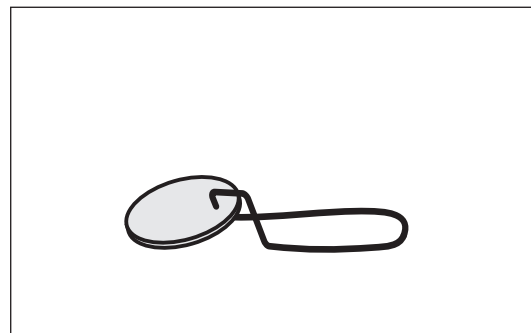
**Tools****Tools for expansion plugs**

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**Patch spoon**

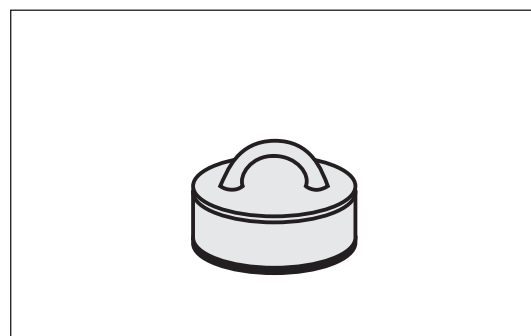
Retaining tool for installation of patch.

Product No. 9050 0000 025 002

**Patch press**

For compressing patch.

Product No. 9050 0000 025 004



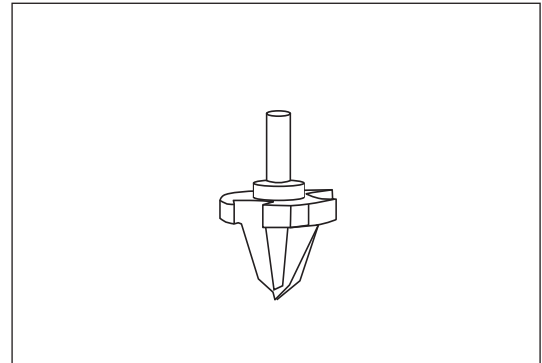
**Tools**  
**Tools for weld plugs**

**Conical drill bit**

For drilling the foam hole before installing weld plug.

Hole size	Product No.
ø35 mm	9050 0035 023 001
ø43 mm*	9050 0043 023 001

\* For repair use.

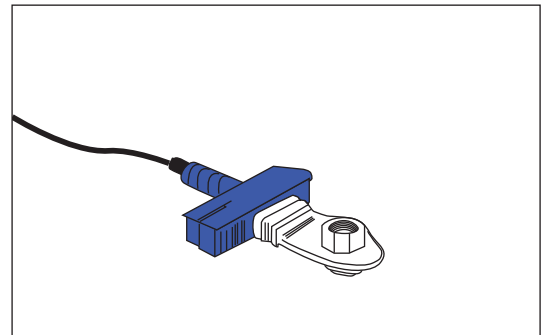


**Socket welder**

Socket welder HHSW-63-W for replaceable cones. Cones are ordered separately.

Delivered in a box.

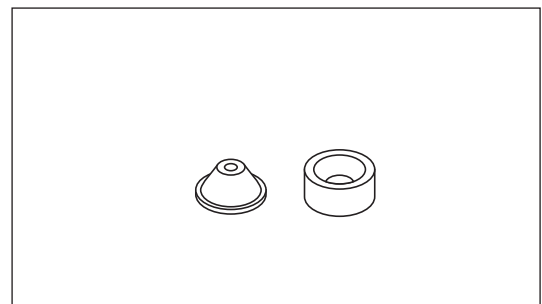
Product No. 9050 0000 023 013.



**Cones for socket welder**

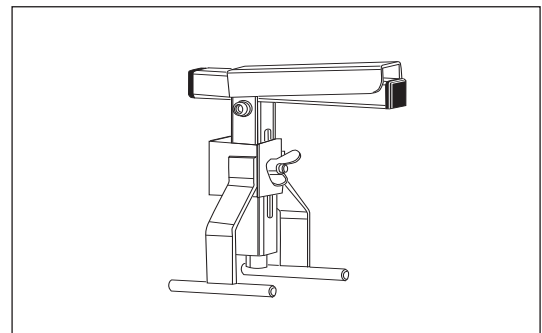
Weld plug size	Product No.
ø35 mm	9050 0000 023 010
ø43 mm*	9050 0000 023 011

\* For repair use.



**Retaining tool for weld plug**

Plug No. 9050 0000 025 008



**Leakage test equipment****Hand pump**

Air pump to leakage test casing joints before foaming.

Product Nos. air pumps:

Hole size 24 mm 9050 0000 027 000

Hole size 17.5 mm 9050 0000 027 007

Product Nos. manometer with plug:

Hole size 24 mm 9050 000 027 001

Hole size 17.5 mm 9050 0000 027 008

Product Nos. extra plug:

Hole size 24 mm 9050 0000 027 003

Hole size 17.5 mm 9050 0000 027 009





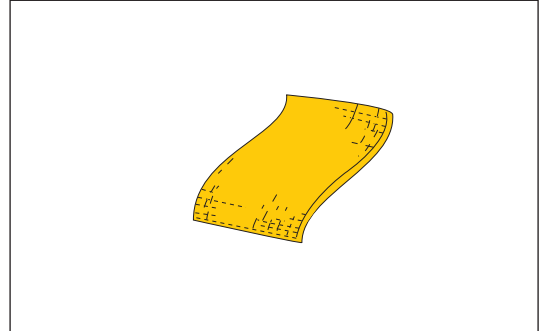
## Tools for LOGSTOR Detect

**Synthetic cloth**

For cleaning wire ends before connection and soldering.

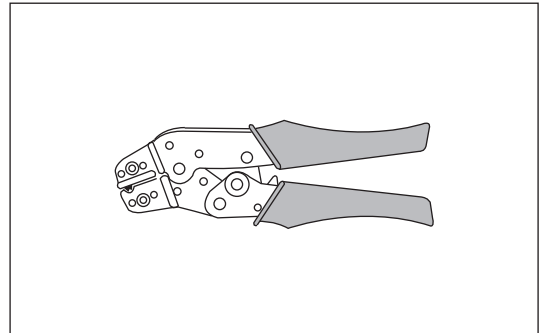
Delivered in packages of 10 pcs.

Product No. 1998 0000 002 002 (10 pcs.)

**Crimping pliers**

Special pliers to compress crimp connectors for connection of copper wires.

Product No. 9000 0000 029 001

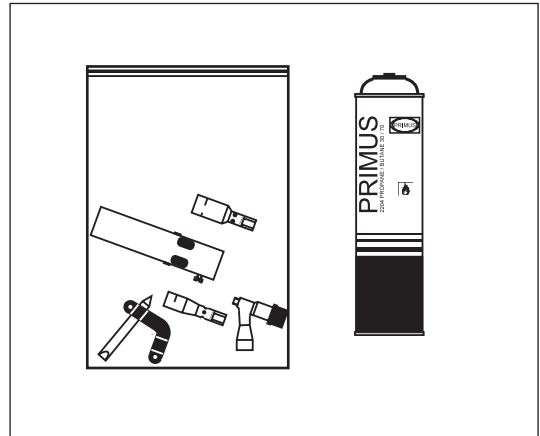
**Gas soldering iron**

For soldering copper wires after connection with crimp connector.

Product No. 9050 0000 040 001

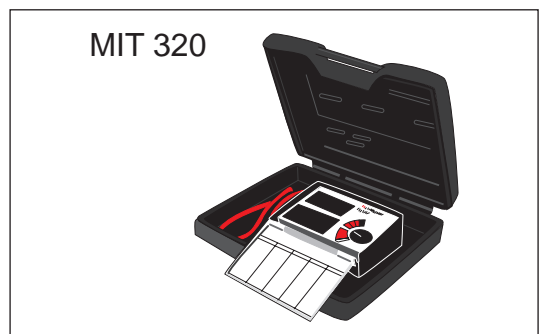
**Extra gas cartridge**

Product No. 9050 0000 019 002

**Megger**

For checking the copper wires.

The megger can be used for low as well as high ohmic systems with or without felt in the joints.



## Tools

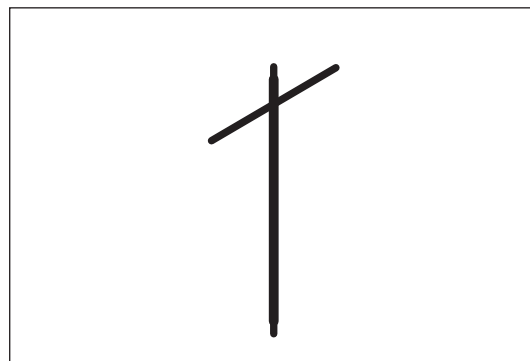
## Operating tools for valves

## Tee key

For operating ball valves  
ø 33.7 - 168.3 mm.

Key width: 19 mm and 27 mm  
Length 1 m.

Product No. 4300 0000 004 001



## Portable gear

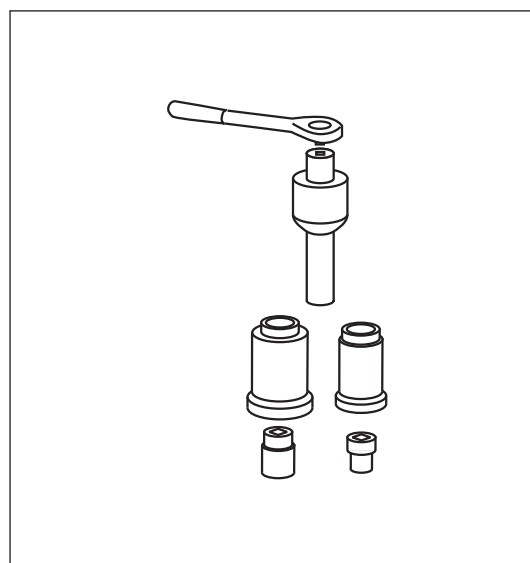
For operating ball valves  
ø 114.3 - 323.3 mm.

Delivered as a set in a carrying case.

Hexagon key widths: 27 mm and 50 mm

Backstop key widths: 70 mm and 90 mm

Product No. 4300 0000 010 003



**Accessories  
Overview**

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**Introduction** This section primarily describes the products which are normally delivered together with or as part of other products.

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<b>Contents</b>	Plugs	18.1
	Sealing tape, shrink joint	18.2
	Shrink materials	18.3
	Tape, miscellaneous	18.4
	Warning tape	18.5
	Foaming	18.6
	Heat shield	18.7

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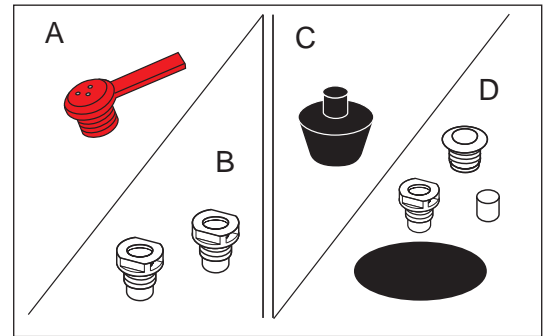
**Accessories  
Plugs**

**Introduction**

This section contains a list of the venting and sealing plugs, included in the joint systems. They are normally included in a joint supply, but may be ordered separately as a supplement or as regards welding plugs e.g. as a means of repair of minor damages to the outer casing.

**Description**

- A) Loose venting plug for BandJoints and PlateJoints:  
ø 17 mm.
- B) Loose venting plug for EW-, B2S-, BS-, and SXJoints
- C) Welding plug:  
ø 35 or 43 mm.
- D) Expansion plug, wedge plug and patch  
incl. venting plug for SXJoints



**Materials**

Venting plug for BandJoints and PlateJoints:	PP
Venting plug for EW-, B2S-, BS- and SXJoints:	LDPE
Welding plug:	HDPE
Expansion plug:	PEX with a ring of butyl mastic
Wedge plug:	PEX
Patch:	PEX with water-resistant hotmelt

**Product No.**

- Venting plugs:
  - A: 25 pcs. in bag, product No. 1220 0000 035 750
  - B: 50 pcs. in bag, product No. 1220 0000 020 009
- Welding plugs:
  - C: ø 35 mm, t = 12.5 mm, 25 pcs. in a bag, product No. 1220 0000 035 002
  - ø 43 mm, t = 12.5 mm, 50 pcs. in a bag, product No. 1220 0000 043 014
  - ø 43 mm, t = 22.5 mm, 25 pcs. in a bag, product No. 1220 0000 043 005
- Expansion plug, wedge plug patch  
incl. venting plug:
  - D: 1 set in a bag, product No. 1220 0000 010 005

## Accessories

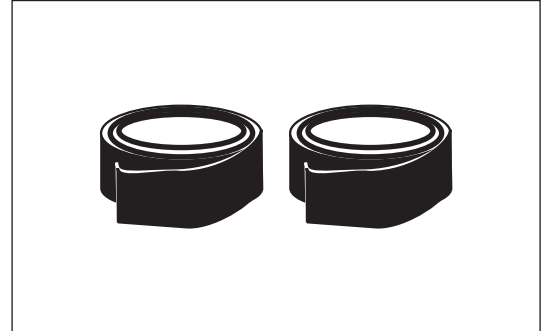
### Sealing tape

#### Application

Sealing tape is used to seal between a casing joint and the outer casing in connection with the shrink joints B2S and BS as well as the T-joint TSJoint.

#### Description

Sealing strip is delivered together with the casing joint in a packing with 2 pcs. for the casing joint in question.



#### Materials

-

#### Component overview/ measurements

Component No. 5435

Cross section 40 x 1.0 mm

Product No.	Outer casing ø out. mm	Sealing tape l mm
5435 0090 008 010	90	320
5435 0110 008 010	110	380
5435 0125 008 010	125	430
5435 0140 008 010	140	480
5435 0160 008 010	160	540
5435 0180 008 010	180	600
5435 0200 008 010	200	665
5435 0225 008 010	225	745
5435 0250 008 010	250	830
5435 0280 008 010	280	920
5435 0315 008 010	315	1020
5435 0355 008 010	355	1170

Cross section 40 x 3.0 mm

Product No.	Outer casing ø out. mm	Sealing tape l mm
5435 0400 008 020	400	1310
5435 0450 008 020	450	1495
5435 0500 008 020	500	1655
5435 0520 008 020	520	1720
5435 0560 008 020	560	1855
5435 0630 008 020	630	2080
5435 0710 008 020	710	2335
5435 0780 008 020	780	2560
5435 0800 008 020	800	2615
5435 0900 008 020	900	2925
5435 1000 008 020	1000	3275

N.B! The tables are only necessary in case of subsequent ordering.

Sealing tape is also available in coils:

Product No.	Dimension mm	Length m
3435 0040 008 104	40 x 1.0	30
3430 0040 003 000	40 x 3.0	30

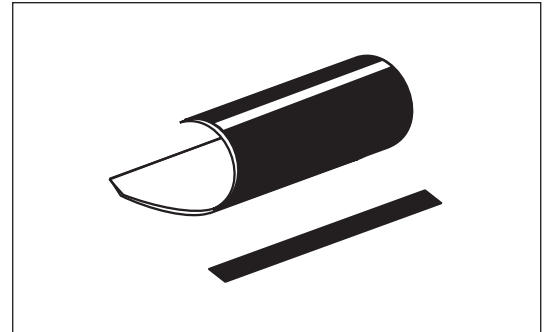
**Accessories**  
**Shrink materials**

**Application** For jointing, post-installation, and repairs a number of shrink materials for various purposes are delivered.

**Shrink wrap** A shrink wrap is an open joint which can be used for open shrink collars.

The shrink wrap is with mastic and hotmelt.

The shrink wrap is delivered cut to measure for the dimension with 2 bevelled corners in order to ensure sealing against outer casing and casing joint.



Is delivered with closure patch.

Shrinkability: 25%

Component No. 5400

From the table it appears which widths are used as open collars for different outer casing dimensions.

Dimensionan range for outer casing, mm	Shrink wrap Width, mm
77-355	155
400-710	230
780 + 1400	300

The shrink wrap is available in 3 widths incl. closure patch.

Width, wrap, mm	155	230	300
Width, closure patch, mm	100	150	200
Length, closure patch, mm	153	228	298

Shrink wrap is also available in coils of 30 m.

Product No.	Width, mm
5500 0155 017 010	155
5500 0230 017 010	230
5500 0300 017 010	300

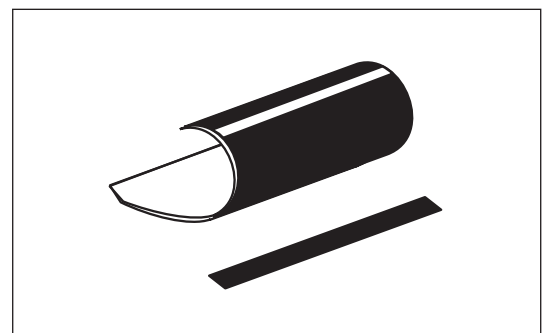
To fix the shrink wrap during shrinkage a closure patch is used which fits the width of the shrink wrap.

Product No.	Closure patch, mm	Shrink wrap, Width, mm
5505 0100 000 153	100 x 153	155
5505 0150 000 228	150 x 228	230
5500 0200 000 298	200 x 298	300

Component No. 5505

**Shrink wrap for repairs**

Shrink wrap in widths, used for repairs and sealing joints of e.g. C2LJoint is delivered with closure patch.



The shrink wrap is delivered cut to measure for the dimension with 2 bevelled corners in order to ensure sealing against outer casing at the overlap.

**Accessories**  
**Shrink materials**

**Shrink wrap for repairs, continued**

Component No. 5400  
Shrink wrap is available in the following widths incl. closure patch.

Width, shrink wrap, mm	640	900
Width, closure patch, mm	100	100
Length, closure patch, mm	638	898

Shrink wrap is also available in coils.  
Component No. 5500.

Product No.	Width, mm	Length, m
5500 0640 003 010	640	30
5500 0900 003 010	900	15

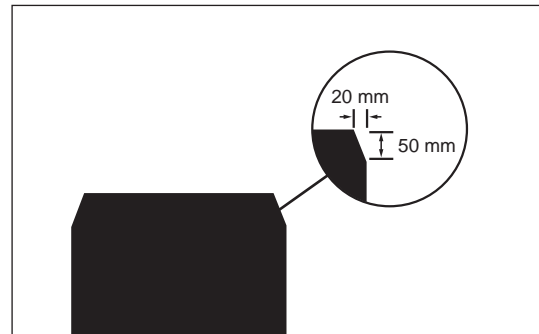
To fix the shrink wrap during shrinkage a closure patch is used which fits the width of the shrink wrap.

Product No.	Closure patch, mm	Shrink wrap, Width, mm
5505 0100 002 638	100 x 638	680
5505 0100 002 898	100 x 898	900

Component No. 5505

From the table the cutting lengths for the shrink wrap appears.

For correct installation 2 corners must be bevelled.



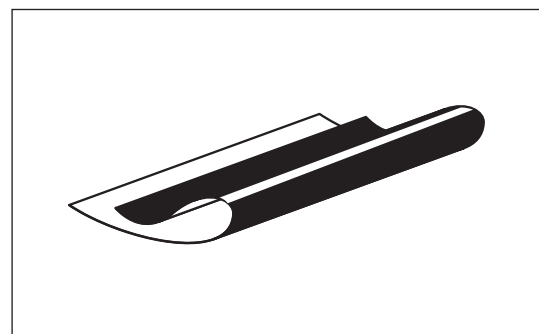
Outer casing ø out. mm	Wrap l mm	Outer casing ø out. mm	Wrap l mm
77	350	315	1150
90	390	355	1340
110	460	400	1440
125	510	450	1600
140	560	500	1780
160	620	560	2000
180	690	630	2200
200	760	710	2450
225	850	800	2800
250	940	900	3100
280	1040	1000	3400

**Shrink film**

A shrink film is used for the first seal of outer casing joints.

Must always be covered by a wrap or a casing joint.

Shrinkability: 20%





**Accessories**  
**Shrink materials**

**Shrink film,  
continued**

Width of shrink film:  
300 mm free end = 400 mm  
440 mm free end = 550 mm  
  
Closure patch is not used for shrink film.

Component overview:

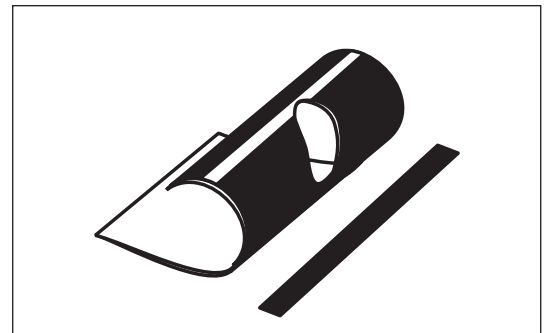
Outer casing ø out. mm	Film l mm	Outer casing ø out. mm	Film l mm
77	340	315	1140
90	380	355	1265
110	445	400	1400
125	520	450	1560
140	560	500	1720
160	630	560	1960
180	690	630	2180
200	750	710	2430
225	830	800	2710
250	910	900	3030
280	1000	1000	3340

Shrink film is also available in coils.

Product No.	Width, mm	Length, m
5500 0400 001 300	400	30
5500 0550 001 300	550	30

**Shrink wrap for  
T-joint**

Shrink wrap for T-joint is with mastic.  
The shrink wrap is delivered cut to measure for the dimension and with a hole for one or two branches.  
  
Two corners are bevelled to ensure sealing against the outer casing and the T-joint.  
  
Is delivered with closure patch.  
  
Shrinkability: 30%.



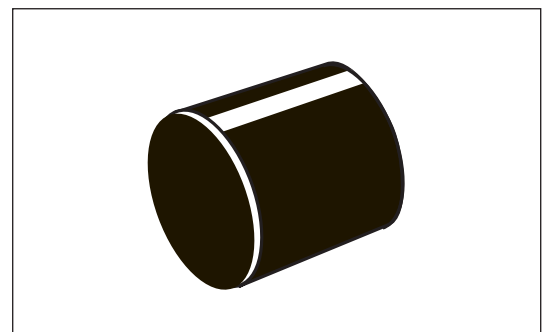
Component No. 5405.  
  
Shrink wrap for T-joint is available in 2 widths dependent on the length of the base pipe of the T-joint.  
  
Ordered to measurements and with hole(s) for one or two branches.

Component overview:

Width, shrink wrap, mm	650	900
Width, T-joint, mm	400	600-700
Length, closure patch, mm	100 x 648	100 x 898

**Shrink collar**

A shrink collar is used to seal joints of outer casings.  
  
Shrink collars are with mastic.



**Accessories**  
**Shrink materials**

**Shrink collar,  
continued**

Sleeve length:  
 ø 77-315 mm = 150 mm  
 ø 355-560 mm = 225 mm

Component overview:

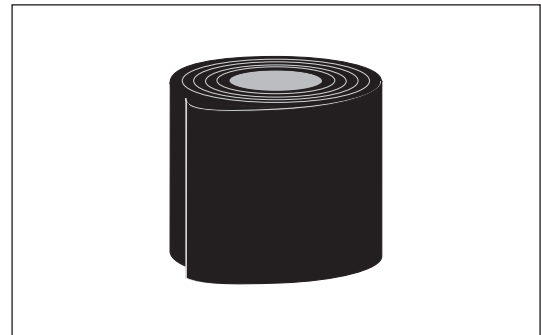
Product No.	Outer casing ø out. mm	Shrinkability from/to mm	Product No.	Outer casing ø out. mm	Shrinkability from/to mm
5500 0095 010 150	77	95/65	5500 0290 010 150	250	290/185
5500 0115 010 150	90	115/80	5500 0330 010 150	280	330/210
5500 0130 010 150	110	130/90	5500 0370 010 150	315	370/235
5500 0155 010 150	125	155/100	5500 0395 010 150	355	395/250
5500 0170 010 150	140	170/110	5500 0450 010 150	400	450/285
5500 0190 010 150	160	190/125	5500 0505 010 150	450	505/315
5500 0210 010 150	180	210/135	5500 0555 010 150	500	555/350
5500 0225 010 150	200	225/145	5500 0625 010 150	560	625/385
5500 0260 010 150	225	260/165	5500 0775 010 150	630	775/480

**Shrink tape**

Shrink tape repairing Flex PE-casing.

Wind minimum 2 layers of shrink tape around the flexible outer casing and shrink them onto the outer casing.

Measurements: L = 10 m



Tape is available in two variants.

Product No.	Type	Width, mm	Shrinkability
5514 0100 002 010	NW 1230	100	30%
5514 0150 002 010		150	
5514 0100 001 010	NW 1250	100	50%
5514 0400 001 010		400	

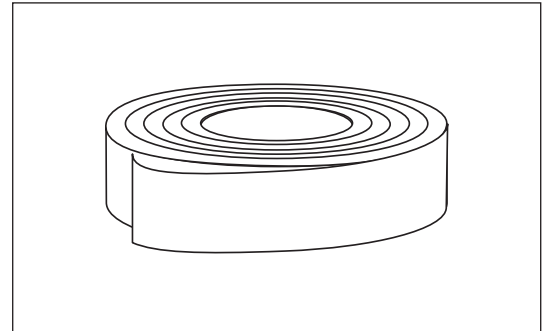
**Accessories**  
**Tape**

**Application** For casing joint installation and corrosion protection a number of type types for various purposes are available.

**Linen tape** Linen tape is used to secure the insulation shells when installing casing joints.

Measurements: B = 38 mm  
L = 10 m

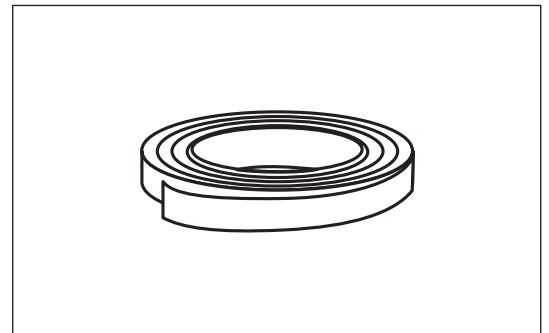
Product No. 7100 0038 001 000



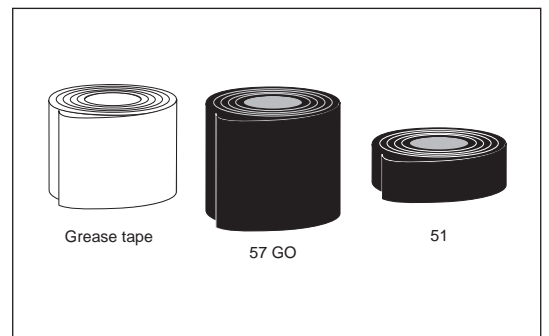
**Filament tape** Filament tape is used to secure the casing joint during installation.

Measurements: B = 25 mm  
L = 50 m

Product No. 7100 0025 003 000



**Anti-corrosion tape** There are 3 types of anti-corrosion tape.



Product No.	Application	Type	Measurements
5520 0150 002 020	Repair of smooth and corrugated outer casing without use of gas burner. The 57 GO tape is self vulcanizing.	Nitto 57 GO/C	150 mm x 2 mm x 2 m
5520 0150 002 100		Nitto 57 GO/CA	150 mm x 2 mm x 10 m
5520 0450 002 100		Nitto 57 GO/cA	450 mm x 2 mm x 10 m
5520 0050 001 305	Used on the outside of Nitto "57 GO" to protect against corrosion	Nitto 51	50 mm x 30,5 m
5620 0100 001 305		Nitto 51	100 mm x 30,5 m
4000 0100 036 010	Used to protect steel pipes e.g. when using 2 wall entry sleeves in connection with a house entry	Denso - FEU or Densyl TDC	100 mm x 10 m

## Accessories

### Warning tape

#### Application

Uncoil the warning tape over the pipes e.g. on the compressed, minimum 10 cm thick sand layer which must cover the pipes

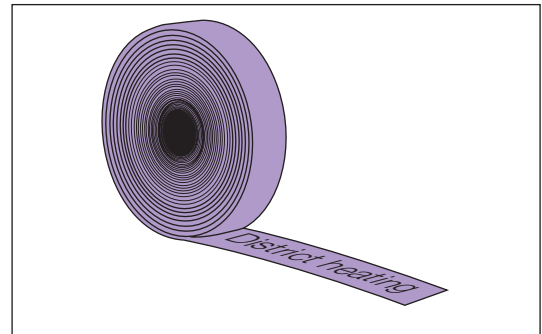
Two types of warning tape are available:

- a narrow one for small pipe dimensions (possibly a tape over each pipe)
- a wider tape in net shape for major dimensions

#### Description

Warning tape with text.

Colour: Violet



Product No.	Width, mm	Length, m	Text
7150 0050 002 000	50	500	District Heating

#### Material

Soft plastic.

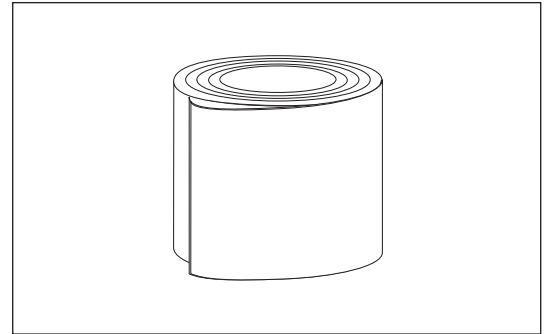
**Accessories**  
**Foaming**

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**Application** For foaming at service pipe temperatures  $< +5\text{ }^{\circ}\text{C}$  or  $> +50\text{ }^{\circ}\text{C}$  a layer of PUR-foam around the service pipe can be before foaming.

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**Description** 5 mm thick cross-linked polyethylene foam.



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**Material** Cross-linked polyethylene foam with closed cells.

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**Product No.** Product No. 9000 0000 023 156.  
W x L = 420 mm x 25 m

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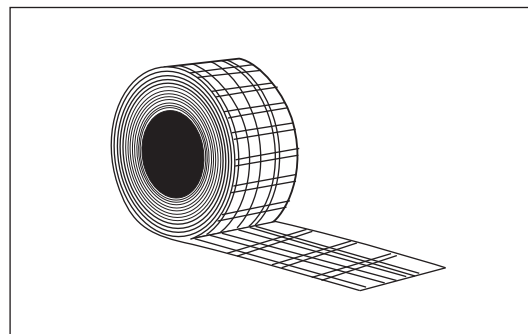
**Accessories****Heat shield**

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**Application** For protection of the outer casing against heat when shrinking casing joint on FlextraPipes.

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**Description** Prior to shrinking the heat shield is wrapped around the outer casing against the casing joint end.



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**Material** Fibreglass-woven band.

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**Product No.** Product No. 9050 0150 031 000.  
H x W x L = 3 x 150 x 100 mm

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