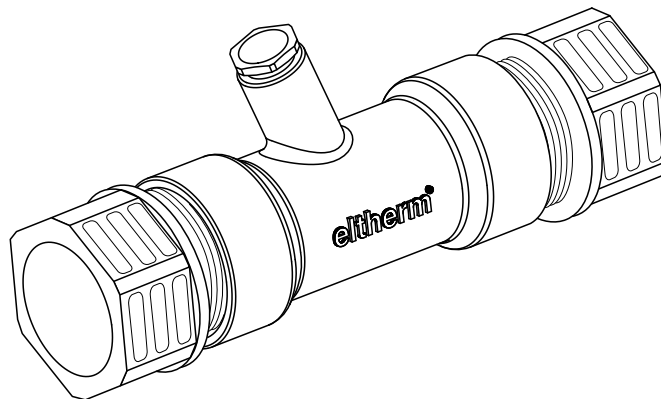


ASSEMBLY INSTRUCTIONS



ELVB-70 & ELVB-71

Installation of ELSR-M-AF/-BAF/-BF Heating Tapes
in water pipes

QAA 078
Rev.02

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IMPORTANT INFORMATION

- RETAIN FOR LATER USE



Please follow these instructions for proper and safe use of the ELVB-70 & ELVB-71 pipe entry system. Please retain these instructions for later reference purposes (for example in the system documentation).

- FOR DISPOSAL



The WEEE logo indicates that this product must not be disposed of with residential waste. Further information about disposal and recycling of old electrical and electronic devices and where to find collection points is available from your local disposal company or from the manufacturer from which you bought the product.



ATTENTION

Refers to a potentially dangerous situation. If it is not prevented, there is a risk of damage or malfunction.



DANGER

Refers to an extremely dangerous situation. If it is not prevented there is risk of death or at least a high risk of serious injuries.



NOTE

Important information and instructions for safe, effective and environmentally compatible usage.



WARNING

Refers to a dangerous situation. If it is not prevented there is risk of injury or at least a high risk of material damage.

Proviso

We reserve the right to make technical changes. Changes, errors or misprints shall not form the basis for any claim to compensation for damages. Comply with the applicable and currently valid standards and regulations for safety-related components and systems.

		Document: 864304091170X		Assembly instructions ELVB-70 & ELVB-71	
		Author:	P. Schmidt	Date:	23.07.2015
		Revision: 02	Detlef Matthes	Date:	28.11.2023



INSTALLATION INSTRUCTIONS FOR ELSR HEATING CABLES IN PIPEWORK



NOTE

The assembly of the connection and end termination of the ELSR-M heating cable is not covered by these installation instructions.
Please observe QAA-058 (ELVB-SRAs-25 assembly instructions) for connecting the heating cable and QAA-180 (EL-ECMF assembly instructions) for terminating the heating cable



ATTENTION

Ensure that the data sheet for the supplied heating cable is available in addition to these instructions. The information in the data sheet is required for safe installation. Installation must therefore not be carried out without the data sheet.

Receipt of Goods

After receipt of the goods check the tape and the accessories and compare with the data on the delivery note to ensure that the correct material was supplied. It is recommended to check and document the insulation resistance of the heating cable as part of the incoming goods inspection.

Storage

The goods have to be stored in a dry place at an ambient temperature of $-20 \dots +60^{\circ}\text{C}$. If a dry storage is impossible, the heating tape has to be closed with an end termination set. This is also necessary if a heating circuit cannot be finished at the end of a shift.

Length of Heating Circuit

The max. allowable length of a heating circuit (according to the corresponding data sheet) for unilateral feed depends on the admissible voltage drop (we recommend not to exceed a voltage drop of 10%) and the utilisation of the circuit Breaker (recommended: 16 A CB with "C" characterisation, utilisation 80%).



ATTENTION

For use in water pipes, the maximum circuit lengths should not exceed 60% of the values given in the data sheet.

Protective Measurements

- Ground fault protection device (30mA) is mandatory
- The metallic braid/screen of the heating tape is to be earthed

Installation Instructions

- Remove any sharp objects from the pipe entry
- Avoid kinks and excessive pull while paying off the tape from the reel
- Do not exceed the minimum bend radius of the tape
- Make sure the cable end is 100% sealed against ingress of water
- The connection and end termination of a heating circuit has to be carried out using original eltherm accessories acc. to the eltherm termination instructions.
- To save energy and to keep process temperatures constant, the application of superior control units is recommended. Please ask our project engineers when in doubt.



WARNING

- To avoid short circuit, do not connect the two bus wires of the heating tape to each other
- Under all circumstances observe the termination and maintenance instructions for the connection and termination of the heating tapes.
- Make sure that the heating tapes are never used at or exposed to temperatures above the nominal exposure temperature ratings.



Test and Commissioning

After the completion of a heating circuit and prior to the installation of the thermal insulation, the following steps have to be taken:

- A visual check of the heating tape regarding possible mechanical damages and/or incorrect installation.
- Insulation resistance test
 - The insulation resistance of each heating circuit is to be measured between each single bus wire and the metal sheath (protection braiding). The measurement values are to be noted.
 - Test voltage: 500 to 2500 VDC
 - Independent of the heating circuit length, the insulation resistance must not be lower than 20 MOhm. In case of a lower insulation resistance, the source of defect has to be determined and eliminated.
 - Check of the function of the heat circuit (only in connection with the required temperature controller and/or limiter).
- Eventual damages must be taken care of immediately. With damages on parts of the tape which are immersed, the heating tape must be replaced completely. Outside the pipe, damaged cable parts might be replaced by cold lead or insertion of another piece of the same type of heating tape, whichever is applicable.
- Repeat the tests after applying the thermal insulation or after pipe work is finished.

Marking

Electrically heated parts have to be identified in reasonable distances with warning labels "Electrical Heating" on the thermal insulation (approx. 5 m distance between each label on pipelines or at least 1 warning label per pipe-branch respectively).

Operation and Maintenance

The local laws and regulations for the use of electrical heating tapes are to be followed. The permissible operating specifications stated in the data sheets (i.e. voltage, amperage, exposure temp., operating temp., IP protection classification) are to be followed accordingly.

- Parallel heating tapes are generally maintenance free, although it is recommended that the heating tapes be checked by qualified personnel in regular intervals for damages and insulation resistance.
- The heating tape has to be protected against damages that may occur during repair work on heated pipework.
- After completion of the repair, the heating circuit will once again need to be tested.
- Damaged heating circuits shall not be operated.
- Temperature control units and control devices are to be checked at least annually by trained workers or authorized persons.

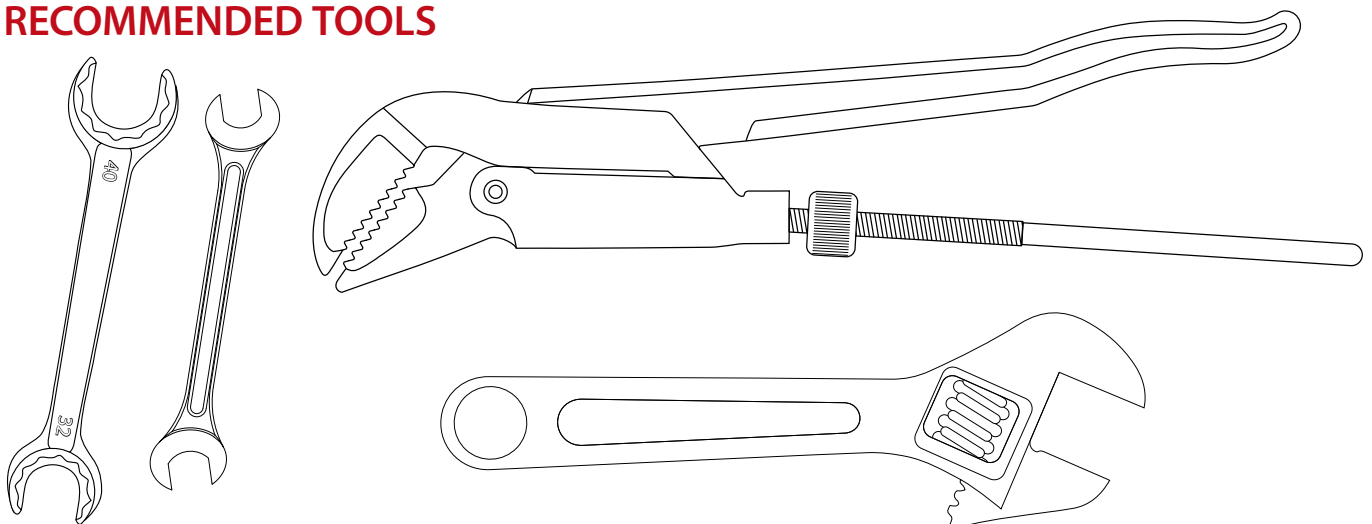
SAFETY INSTRUCTIONS



ATTENTION

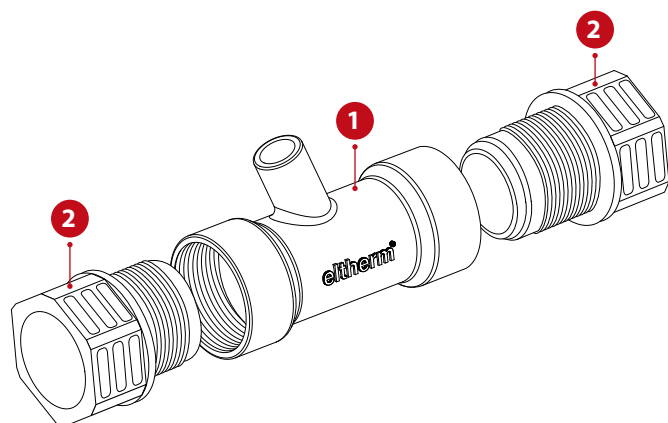
- Work may only be carried out by authorised specialist personnel!
- The appropriate tool for the cable cross-section and the respective sleeve must be used for the connections.
- After installation, a visual inspection must be carried out to ensure that the connections are properly seated and tight.
- After completing the work, the insulation resistance must be checked!

RECOMMENDED TOOLS



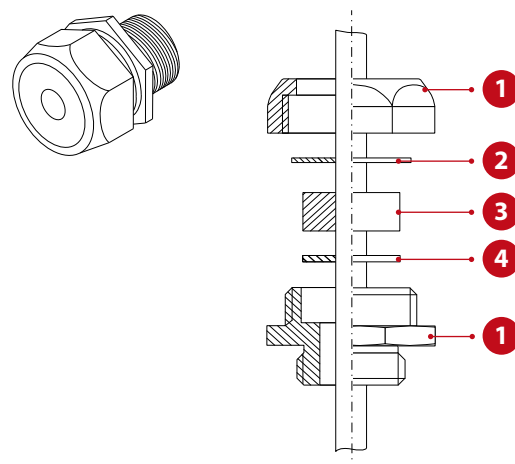
CONTENTS CONNECTION SET

ELVB-71 (Y-piece 32mm; brass, art. no. 0911704)



Nº.	Type	Units
1	Y - entering guide for ELSR-M; brass	1 Unit
2	Solderless tube fitting for plastic pipes Ø32	1 Unit

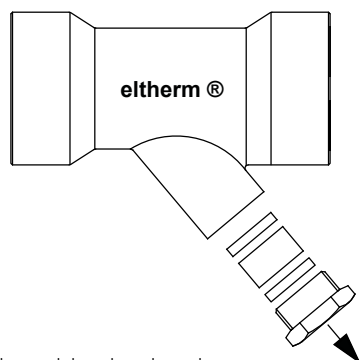
ELVB-70 (3/4" cable gland; brass, art. no. 0911703)



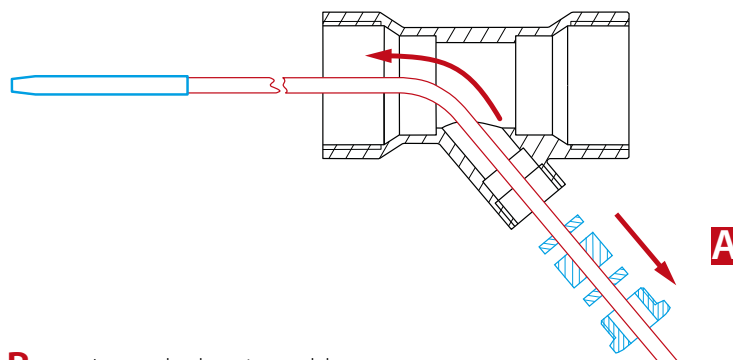
Nº.	Type	Units
1	Cable gland 3/4"; brass	1 Unit
2	Washer 24/8,4x2	1 Unit
3	EPMD gasket Ø25x10, 5x7 mm	1 Unit
4	Washer 30/8,5x1,5	1 Unit

INSTALLATION

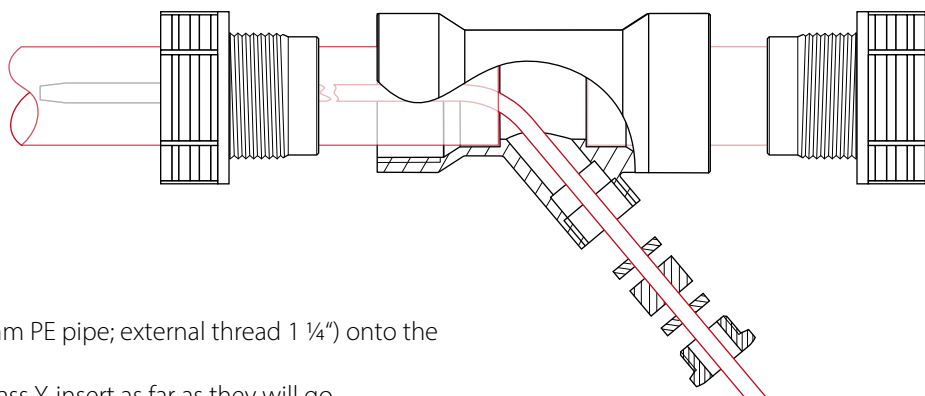
Pipe system: Plastic material (PE) ELVB-71



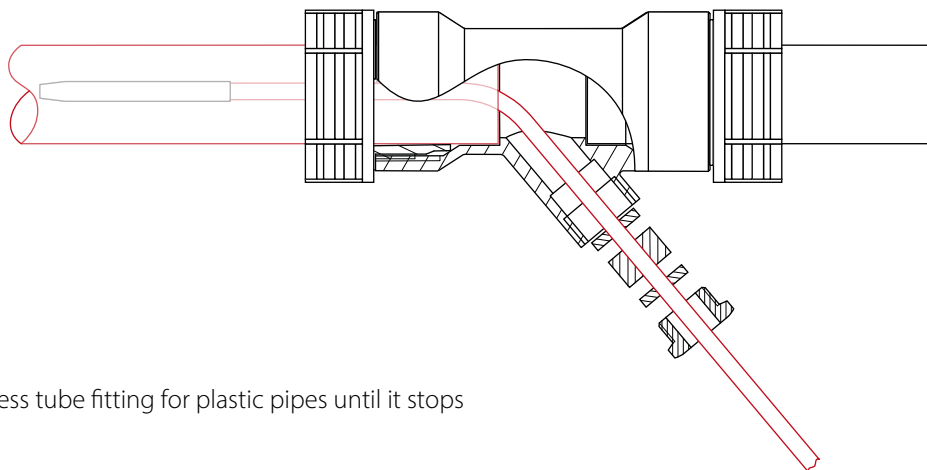
A Remove the cable gland and onto the end of the cable (observe the (observe the assembly sequence!))



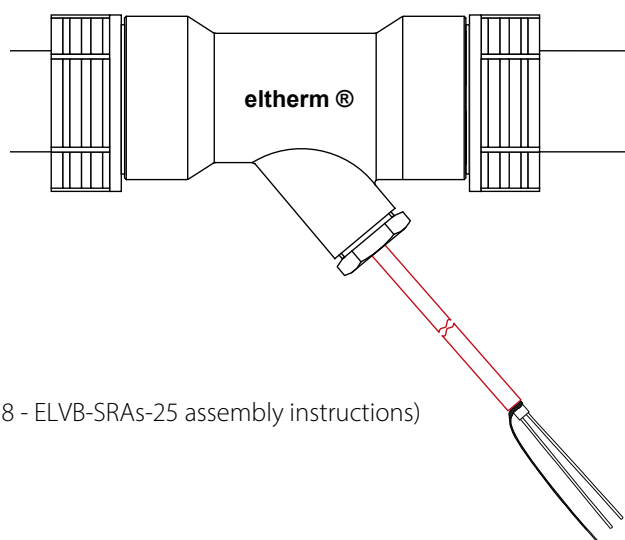
B • Insert the heating cable.
Make the end termination (see QAA-180 (EL-ECMF assembly instructions))



C • Solderless tube fitting (for 32 mm PE pipe; external thread 1 1/4") onto the DN32 PE pipe on both sides
• Push both PE pipes into the brass Y-insert as far as they will go.

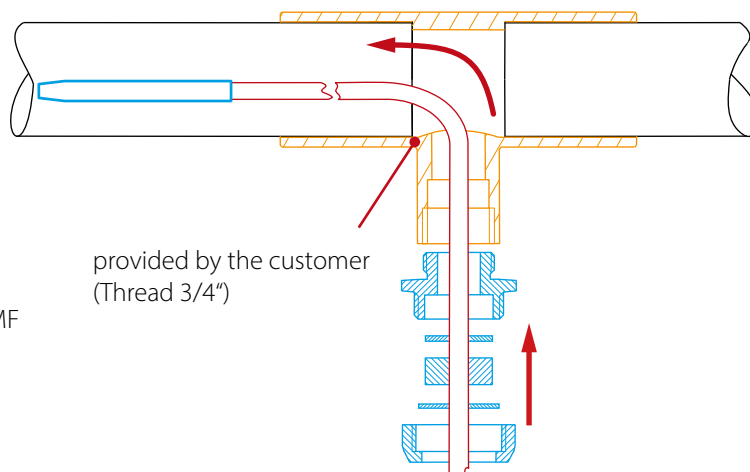


D Tighten solderless tube fitting for plastic pipes until it stops

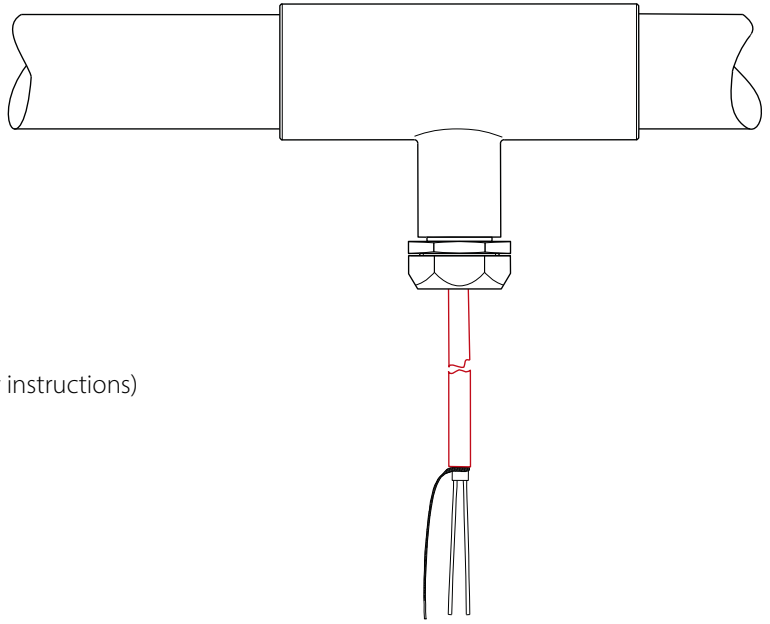


- E**
- Cable gland tighten until it stops
 - Make the connection (see QAA-058 - ELVB-SRAs-25 assembly instructions)

Pipe system: Cu / stainless steel ELVB-70 (Cable gland 3/4"; brass, art. no. 0911703)



- A**
- Attach ELVB-70 to the toggle end (observe the sequence!)
 - Make the end termination (see QAA 180 EL-ECMF assembly instructions)
 - Insert the heating cable.



- B**
- Cable gland tighten up attack
 - Make the connection
(see QAA-058 - ELVB-SRAs-25 assembly instructions)

