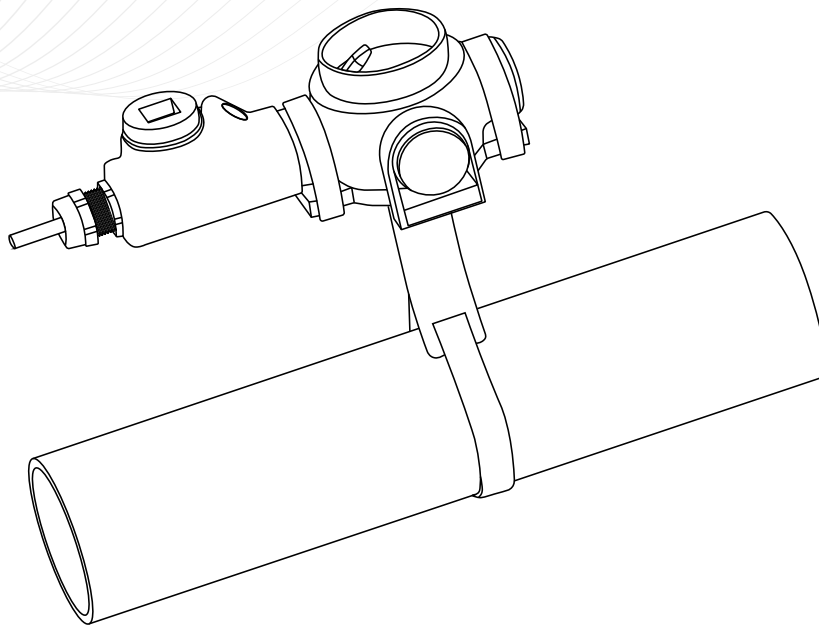




ASSEMBLY INSTRUCTIONS



EL-HAZELECT-ELP

Heater entry kit for parallel trace heaters
type ELP/PFA in Div1 applications

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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.

eltherm Canada Inc. 1155 Appleby Line, Unit E7 Burlington ON L7L 5H9 Canada T.: +1 (289) 812-6631 1 F.: +1 (844) 325-6750 info@eltherm.com	Document: 86430409CA054		Assembly instructions EL-HAZELECT-ELP	
	Author:	Peter Schmidt	Date:	28.11.2024
	Revision: 0	Jonas Schmidt	Date:	28.11.2024

IMPORTANT NOTES AND SAFETY INFORMATION



WARNING

Installation and connections must be made in compliance with NEC, CEC and local wiring regulations and electrical codes.

Component approvals and performance ratings are based on the use of approved eltherm parts and accessories only. Assembly to be performed by personell properly trained, qualified and knowledgeable in Div1 trace heating systems. Agency approvals and national electrical codes require the use of ground-fault protection to be used.



DANGER

Read all hazard warnings on supplied sealing compound containers carefully, avoid physical contact with compound by wearing appropriate safety clothing.

- RETAIN FOR LATER USE



Please follow these instructions for proper and safe use of the EL-HAZELECT-ELP heater entry kit. Please retain these instructions for later reference purposes (for example in the system documentation).

General display conventions

Particularly important points in these instructions are indicated by the following symbols:



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.

PACKAGING LABEL

EL-HAZELECT-ELP [09CA054]



eltherm GmbH Power Termination Kit
EL-HAZELECT-ELP

Item-Nº.: **09CA054** <yyyy-MM-dd>

max. 600V, max. 40W/m, max. 40A

Class I Div 1 Grp A,B,C,D

Class I Div 2 Grp A,B,C,D

Class II Div 1 Grp E,F,G / Class III Div 1



DEKRA 24CAUS 40-144991

Use with eltherm ELP/PFA heaters only.

Refer to installation instructions. Trace heater set -WS

Min. installation temperature -25 °C / -13 °F (USA)

-50 °C / -57 °F (Canada)

eltherm GmbH
Ernst-Heinkel-Straße 6-10
57299 Burbach, Germany
T: +49 (0)2736 4413-0
info@eltherm.com

www.eltherm.com

CAUTION: for industrial use only. Temperature at the point of connection to the branch circuit may exceed 60 °C

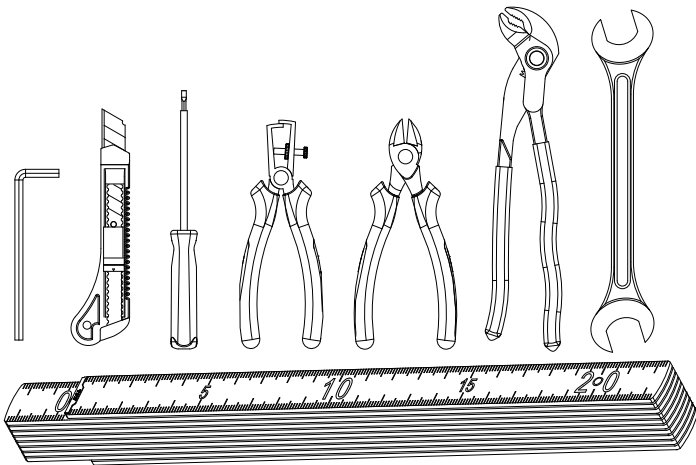
ATTENTION: pour usage industriel seulement. La température au point de connexion au circuit de dérivation peut dépasser 60 °C

864A0709CA054 Packaging label EL-HAZELECT-ELP

DESCRIPTION

The heater entry kit EL-HAZELECT-ELP (09CA054) is designed for use with eltherm’s parallel trace heaters ELP/PFA in Class I Division 1 rated hazardous areas. The kit contains all required parts necessary for assembly and sealing of a single trace heater entry. By fitting the completed kit to a suitable Div1 rated junction box (e.g. Hubbel Killark HKB or GECTT), various configurations (power termination, end termination, splice, T-splice etc.) can be achieved. Please follow these instructions carefully.

RECOMMENDED TOOLS

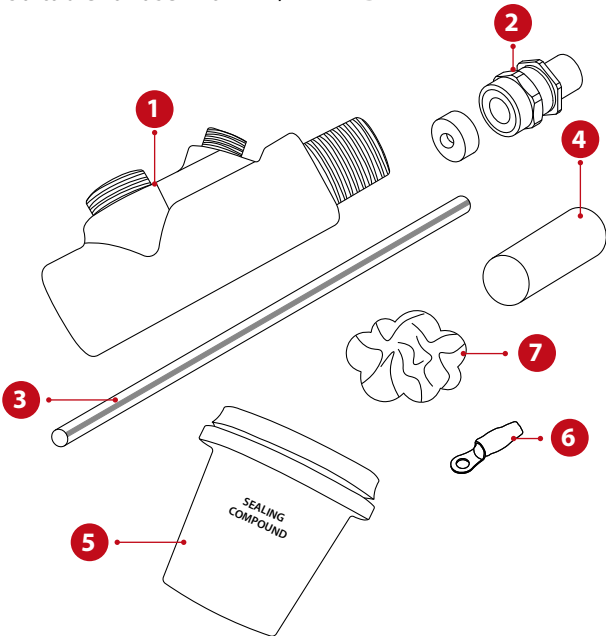


- › Utility knife
- › Needle nose pliers
- › Ruler
- › Marking pen/pencil
- › Insulation Resistance Test Equipment (Megger)
- › Diagonal cutters
- › Standard (slotted) screwdriver
- › 0.109" hex driver
- › 1/4" hex driver
- › 3/8" hex driver
- › pipe wrenches (2)

CONTENTS OF HEATER ENTRY KIT

EL-HAZELECT-ELP [09CA054]

Suitable for use with ELP/PFA in Div1



No.	Type	Quantity
1	Seal fitting c/w nipple (3/4" NPT)	1 unit
2	Cable gland T & B 2237	1 unit
3	Heat shrink Ø3/16" (4.8 mm), 6.3" (160 mm) long	1 unit
4	Silicone sleeve Ø0.16"/0.24" (4/6 mm), 1.18" (30mm) long	1 unit
5	Sealing compound	1 unit
6	Ring terminal	1 unit
7	Packing fiber	1 unit

ADDITIONAL / OPTIONAL ITEMS

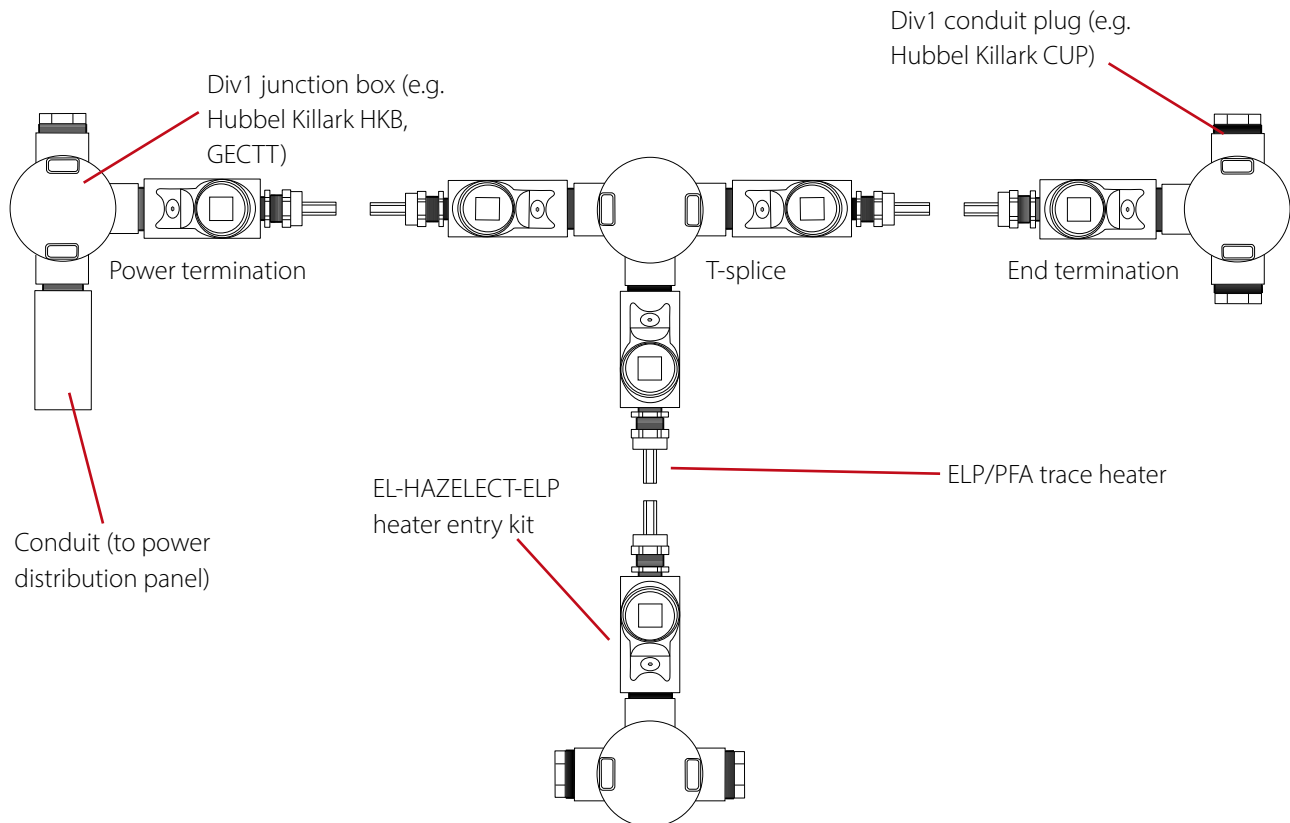
- › Div1 junction box with terminals (recommended rating 40A in order to fully exploit the trace heater capabilities)
- › Conduit plugs
- › Conduit (for power leads only)
- › Mounting bracket for Division 1 junction box
- › Pipe strap and other mounting accessories



WARNING

- Make sure to use appropriate tools for connections of wire and end sleeves
- Assembly steps are to be performed by authorized personnel only
- After assembly perform all tests required by NEC / CEC and local electrical codes!

SYSTEM OVERVIEW

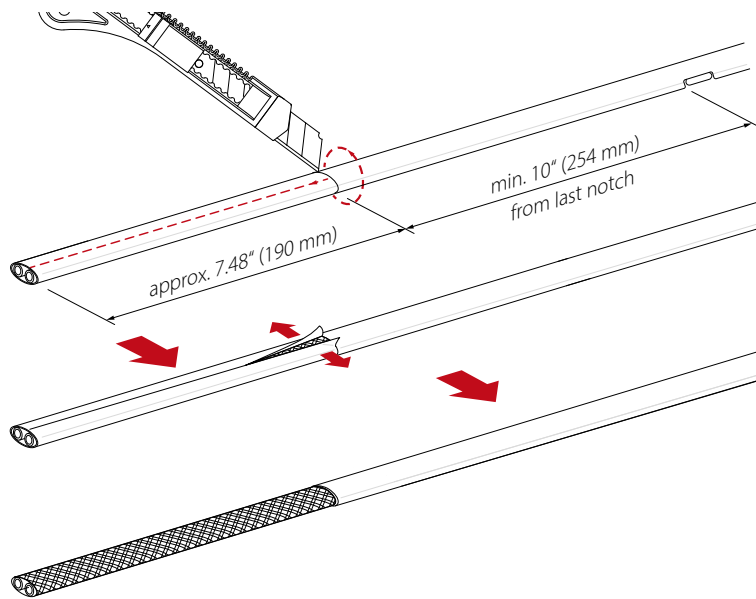


INSTRUCTIONS

- Unpack and inspect parts kit for completeness. Verify that components are suitable for Div1. Examine all components for possible handling or shipping damage. Damaged components must not be used!
Repeat those steps with the trace heaters and measure trace heater insulation resistance (test voltage min. 500 VDC, preferably 2500 VDC to be applied between braid and conductors, insulation resistance ≥ 20 MOhm).
- Choose position of Div1 junction box (not included) and associated mounting accessories.
- Loosely position junction box to mounting bracket.
- Thread male nipple (supplied with sealing fitting, item 1) into $\frac{3}{4}$ " NPT junction box entry.
- Thread the sealing fitting into the other side of the male adaptor (nipple) and tighten using wrenches.
- Repeat steps 4 and 5 for any other heater entry kit to be fitted to that junction box (e.g. when making a multiple power connection, a splice or a T-splice)
- Remove the threaded section of the cable gland (item 4) and thread into sealing fitting
- Slide the metal end cap, metal ring and sealing grommet of cable gland over the trace heater. Position sealing grommet approx. 8 1/2" from trace heater end. Connect trace heater to terminals (see section „ELECTRICAL CONNECTION“)

TRACE HEATER TERMINATION INSTRUCTIONS

1.

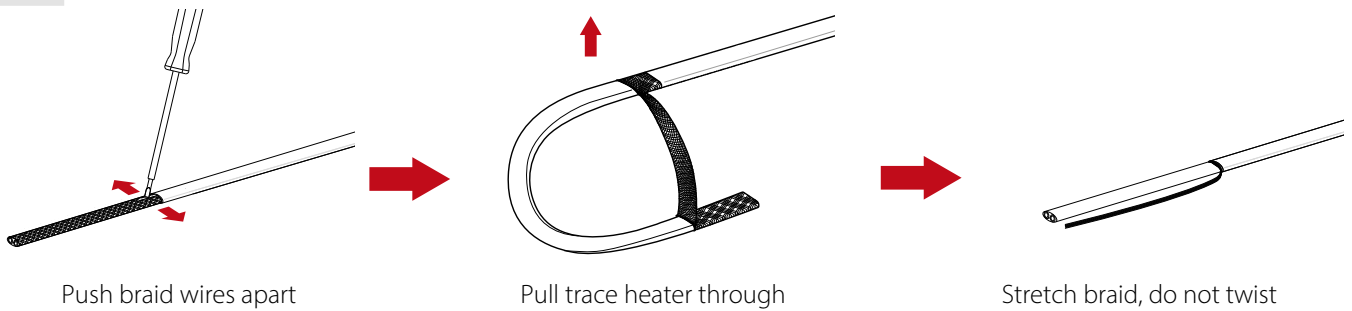


ATTENTION

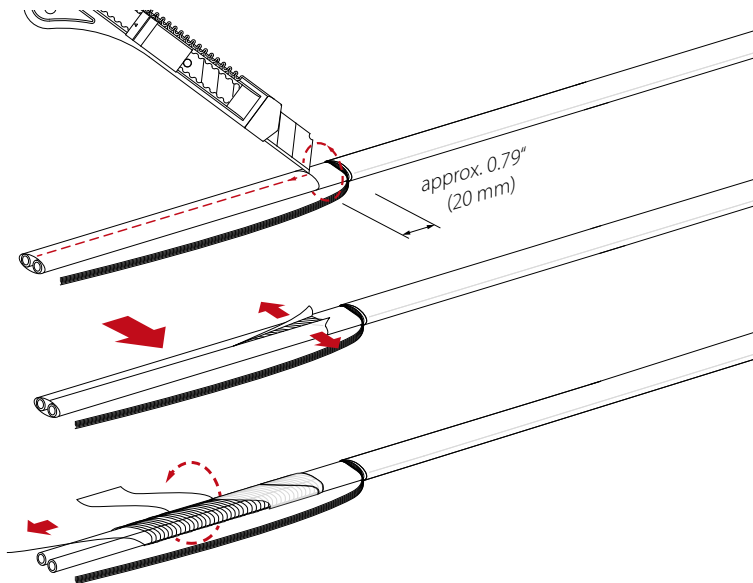
Do not damage the protective braid!

Carefully remove the outer jacket using utility knife

2.

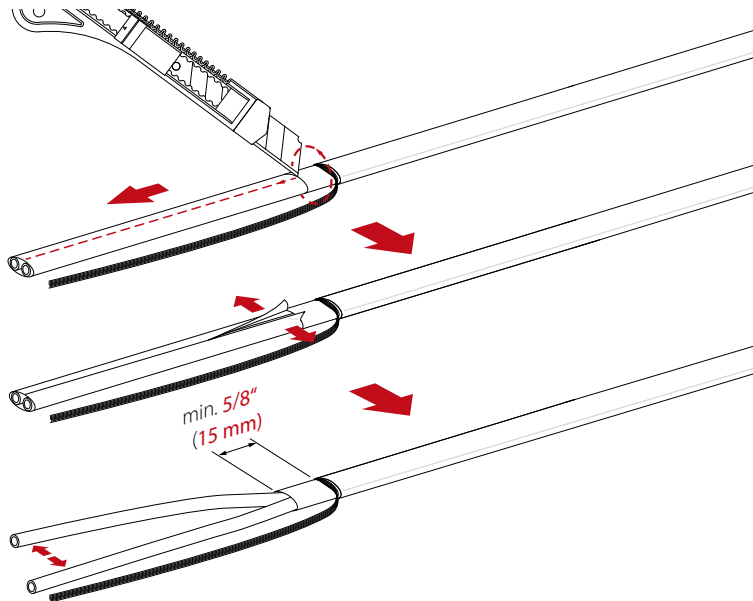


3.



Remove inner insulation and white foil, unwind and cut heater wire.

4.



Expose and separate the bus wire.



DANGER

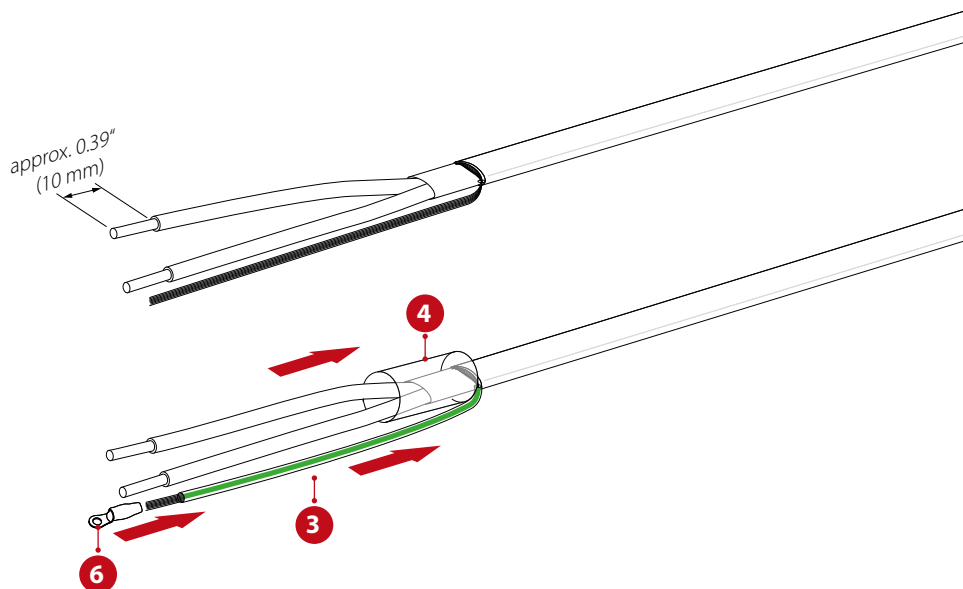
The 5/8" (15 mm) must be kept as **minimum creeping distance!**



ATTENTION

- Make sure not to damage the insulation of the separated bus wires.
- Keep heater wire away from protection braid!

5.



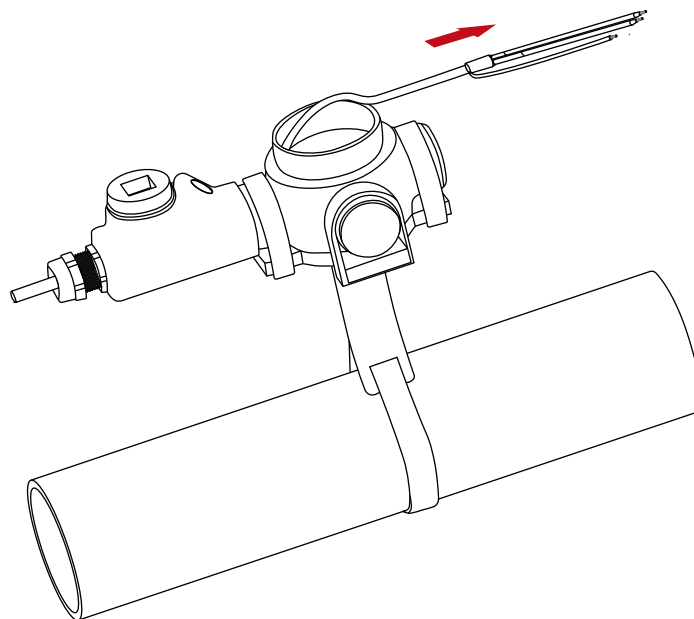
Remove 0.39" (10 mm) of insulation from the bus wire. Push the heat-shrink tubing gn/ye (3) and silicone sleeve (5) up to the braid and shrink them. Attach ring terminal (6) to end of twisted braid.

6.

Measure and document trace heater insulation resistance (test voltage min. 500 VDC, preferably 2500 VDC to be applied between braid and conductors, insulation resistance ≥ 20 MOhm)

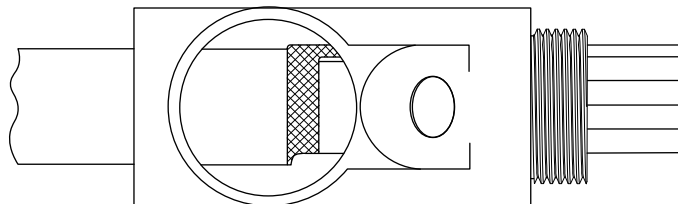
SEAL FITTING AND JUNCTION BOX FINAL ASSEMBLY INSTRUCTIONS

1.



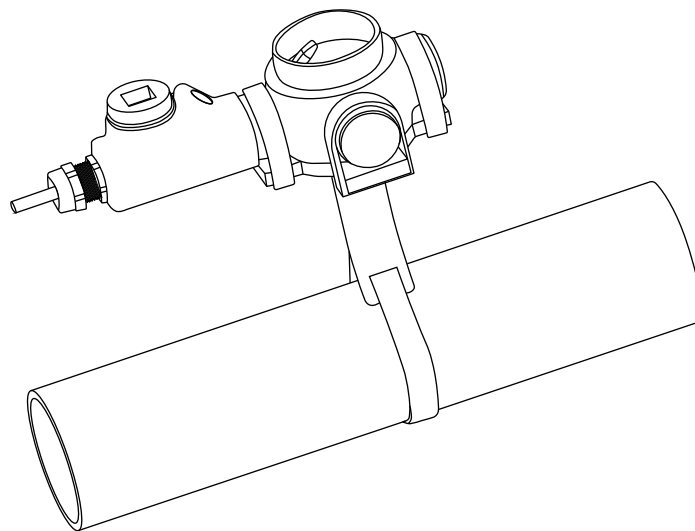
Remove junction box cover (loosen fastening screw on cover if required). Pull trace heater with assembled power connection through seal fitting assembly and junction box cable entry. Slide the assembly forward until the sealing grommet of the cable gland meets entry fitting of sealing gland (do NOT tighten). Only one trace heater permitted per seal fitting.

2.



Remove the two plugs on the seal fitting using the appropriate drive ratched and hex tools. The trace heater should now be clearly visible in the fitting. If necessary, carefully pull trace heater trough assembly until the end of the outer jacket of heater is centered in sealing fitting. Slide cable gland compression ring and metal end cap forward and thread the cable gland fitting into the sealing fitting entry and carefully tighten.

3.



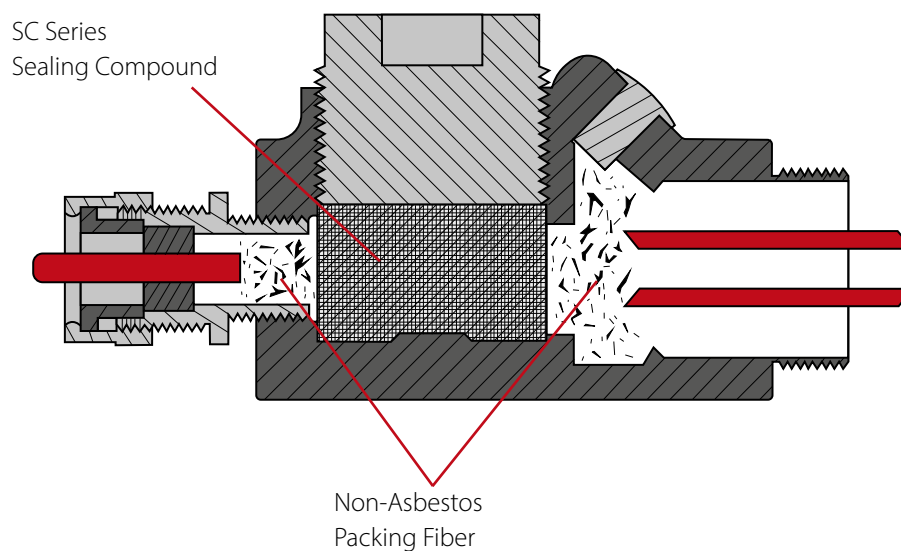
Mount junction box and seal fitting assembly to pipe, using appropriate mounting hardware (brackets and straps). Re-inspect position of trace heater assembly prior to proceeding to sealing fitting assembly.

SEALING COMPOUND PROCEDURE

1.

Make sure the insulation resistance of the prepared trace heater has been measured before proceeding to step 2

2.



Place packing fibre (item 8) around trace heater on both sides building a dam around the trace heater as shown above.

3.

Mix sealing compound as per seal fitting compound instructions (provided on item 5)

4.

Slowly pour sealing compound into seal fitting, making sure to cover the trace heater completely (do not overfill). For details refer to seal fitting instructions provided with item 1.

5.

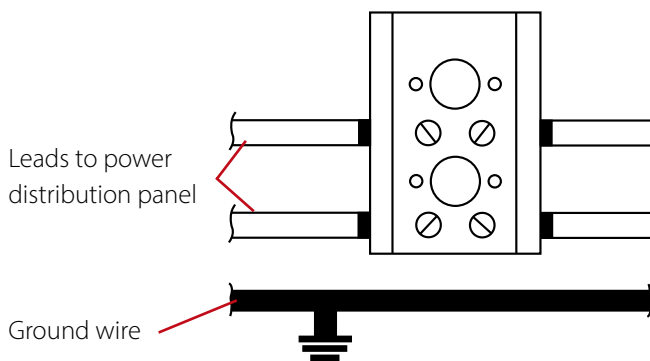
Install plugs and let compound properly set as per sealing compound instructions.

ELECTRICAL CONNECTION OF DIFFERENT CONFIGURATIONS

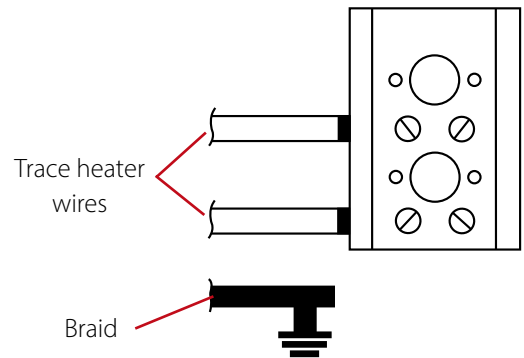
i NOTE

Terminals are part of chosen junction box.

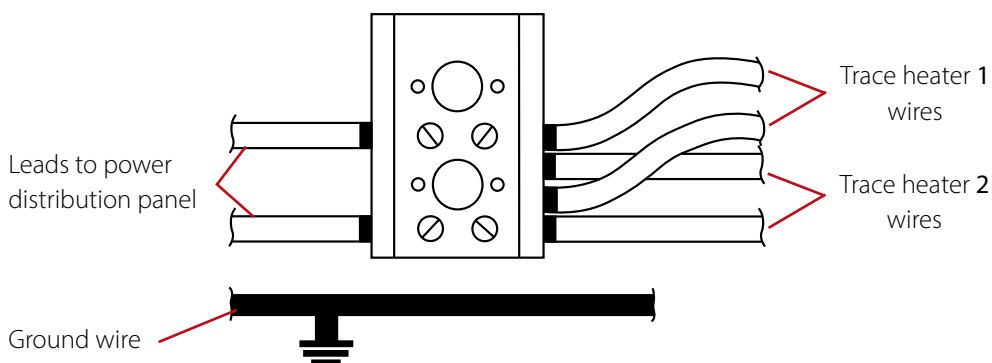
Power Termination



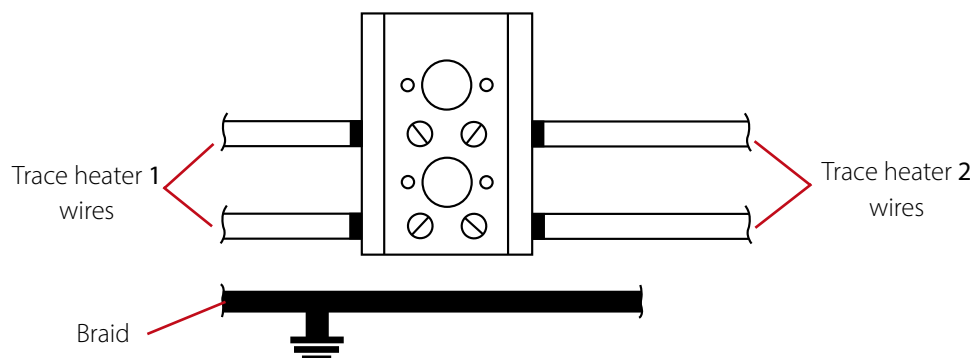
End Termination



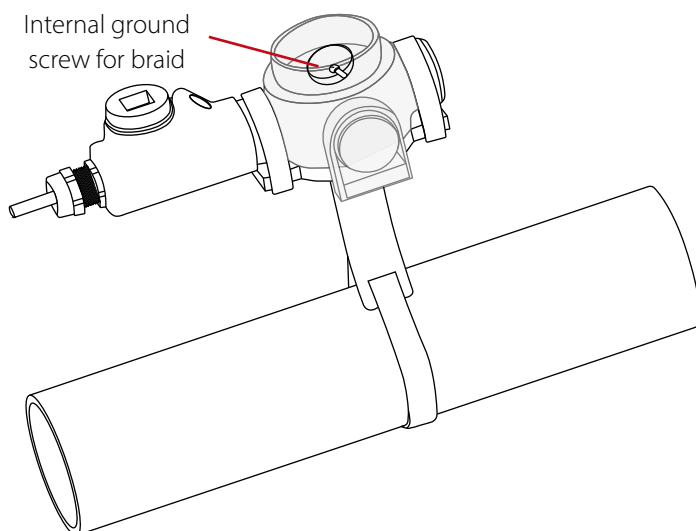
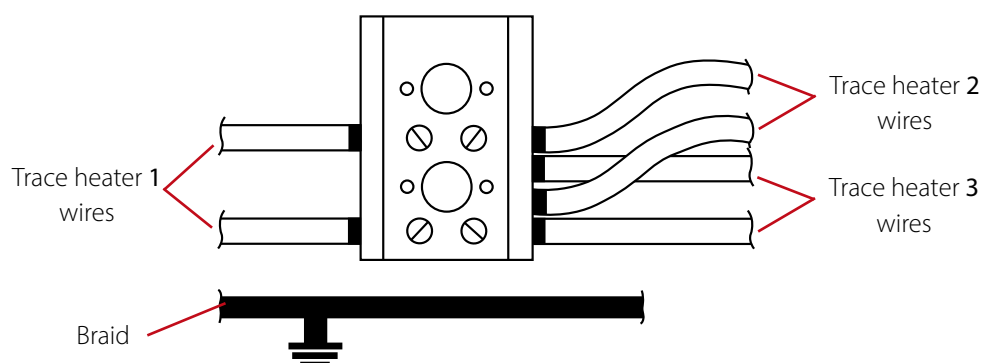
Multiple Power Connection



Splice



T-Splice



ATTENTION

Each braid has to be connected to the internal ground screw of the Div1 junction box

ADDITIONAL TEST AFTER THERMAL INSULATION

Refer to trace heater operating manual QAA 181-A



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