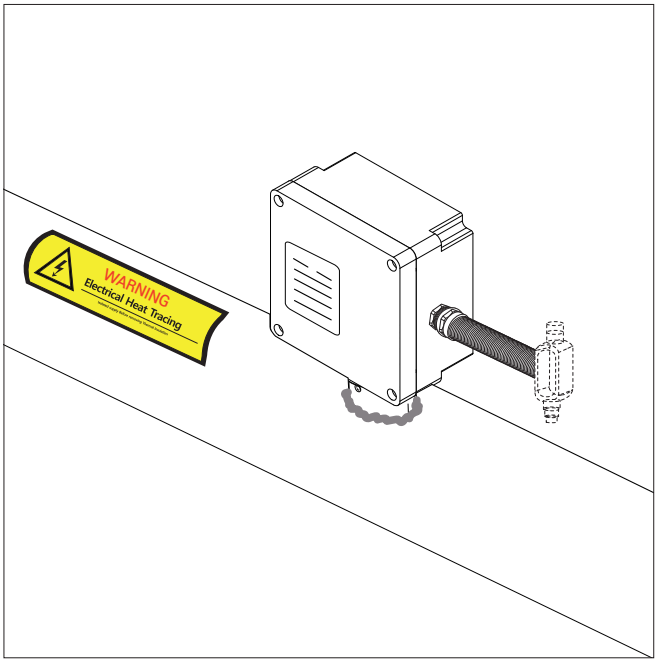
Gaumer Connection Kits
Installation Instructions

GB100M-A / GB100M-E

On-Pipe Multiple Entries Power Connection Kits



Description

- GB100M is an above insulation power connection kit for use with GAUMER GHT-CR, GHT-CT, GHU-CT and GHK-CT self-regulating heating cables.
  - GB100M-A (Power connection kit for North America) has one 3/4" through hole for 3/4"conduit and fittings.
  - GB100M-E (Power connection kit for Europe and Asia) has one M25 through hole for M25 conduit and fittings.
- This kit can be utilized to connect power to a maximum of three heating cables, and can be used for splice, tee, and end termination if the through hole is blocked with a certified plug.
- GB100M employs terminal blocks that accommodate a maximum conductor size of 8AWG(10 mm^2)* for fine-stranded conductors.

  * If a maximum conductor size of 6AWG(16 mm^2) is required, please contact Gaumer Process for larger terminal blocks.

Approvals

『 GB100M-A 』

FM C US APPROVED

FM24US0113X, FM24CA0042X
Hazardous (classified) locations, indoors and outdoors
Class I, Division 2, Groups A, B, C and D T*;
Class II/III, Division 2, Groups E, F and G T*;
Class I, Zone 1, AEx/Ex eb IIC Gb
Zone 21, AEx/Ex tb IIIC T* °C Db
Type 4X, IP66
Ta = -40°C to +55°C

『 GB100M-E 』

FM APPROVED

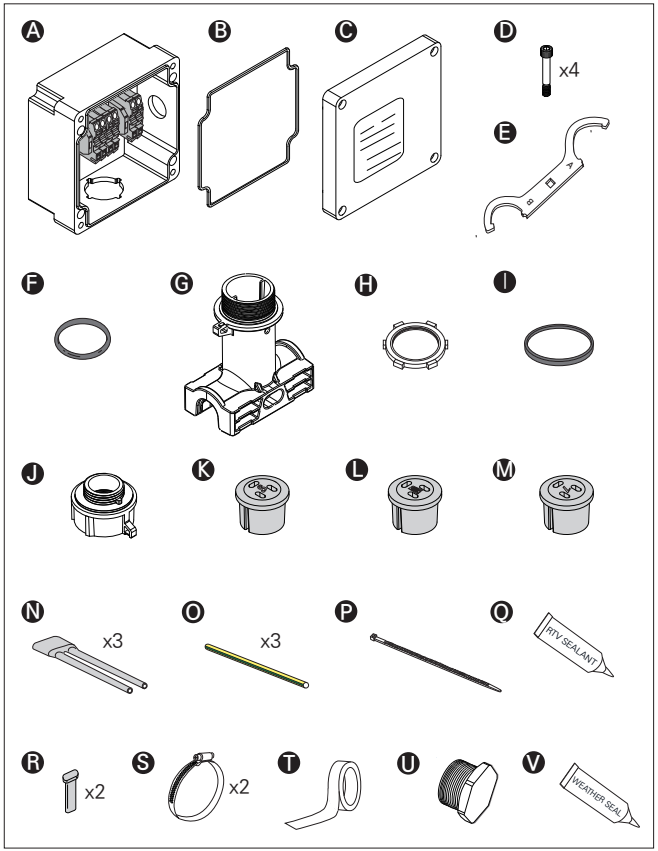
FM24ATEX0018X
II 2 G Ex 60079-30-1 IIC T* Gb;
II 2 D Ex 60079-30-1 IIIC T*°C Db;
II 2 G Ex eb IIC Gb;
II 2 D Ex tb IIIC Db
IP66
Ta = -40°C to +55°C

IEC IECEx

IECEx FMG 24.0017X
Ex eb IIC T* Gb;
Ex tb IIIC T*°C Db

- T* = For T-rating, please refer to cable documentation.

Kit Contents



Item	Description	Qty.
A	Junction Box with terminal blocks	1
B	Box Gasket	1
C	Junction Box Lid	1
D	M6 Bolt	4
E	Wrench	1
F	Stand O-ring	1
G	Junction Box Stand	1
H	Lock Nut	1
I	Square-Ring for Compression Cap	1
J	Compression Cap	1
K	GHU-CT/GHT-CT Grommet (3 holes)	1
L	GHT-CR Grommet (3 holes)	1
M	GHK-CT Grommet (3 holes)	1
N	Core Sealer	3
O	Insulation Tube(Y/G)	3
P	Cable Tie	1
Q	RTV Adhesive	1
R	Grommet plug (for GHT-CR & CT only)	2
S	Pipe Strap (Sold Separately)	2
T	Fixing Tape (Sold Separately)	1
U	Certified Plug (Sold Separately)	1
V	Weather Seal (Sold Separately)	1

Tools Required

- Wire cutters
- Marking pen
- Adjustable pliers
- Needle nose pliers
- Utillity knife
- Large slotted screwdriver
- 3/16" (or 5mm) hex key

Additional Materials Required

- Certified plug if use as splice, tee, or end termination.
- Pipe Strap

GPS-SS02	Pipe up to 2" Outer Diameter
GPS-SS05	Pipe up to 5" Outer Diameter
GPS-SS10	Pipe up to 10" Outer Diameter
GPS-SS18	Pipe up to 18" Outer Diameter
GPS-SS24	Pipe up to 24" Outer Diameter

- For installation on small pipes smaller than 1" (25mm), contact Gaumer Process for small pipe adapter, GSPA.
- Fixing Tape
  - GFT-L98 : Fiberglass Tape low temp; 1/2" * 98ft (30m)
  - GFT-H98 : Fiberglass Tape high temp; 1/2" * 98ft (30m)
  - GAT2/3-L164 : Aluminum tape low temp ; 2" or 3" * 164ft (50m)
- Stand Extension

  For installation with insulation thicker than 3" (76mm), or on very hot pipe, contact Gaumer Process for stand extension, GPSE.

User Provided Materials

- Conduit, fittings and conduit drain

CAUTION

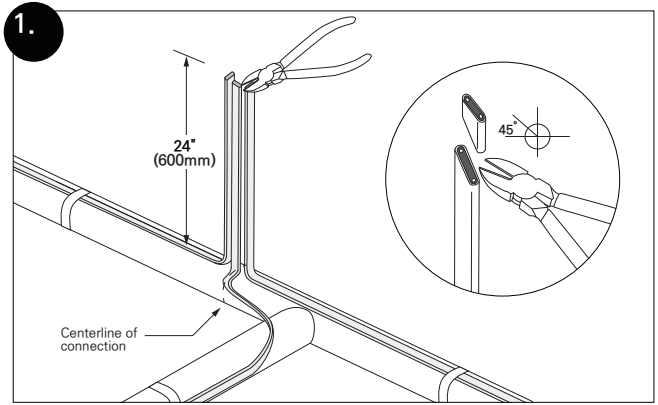
- The minimum installation temperature is -40°F (-40°C). For more convenient installation, we recommend performing the installation at a temperature above freezing. Store the kit at a temperature above freezing until installation.
- Only qualified personnel shall design and install ground fault equipment, circuit breakers, thermal insulation to cover the heating cable on the pipes, and to provide commissioning, service, operation, maintenance, and supervision.
- During installation, it's essential to employ the appropriate personal protective equipment (PPE). If you have further inquiries, do not hesitate to contact Gaumer Process.

WARNING

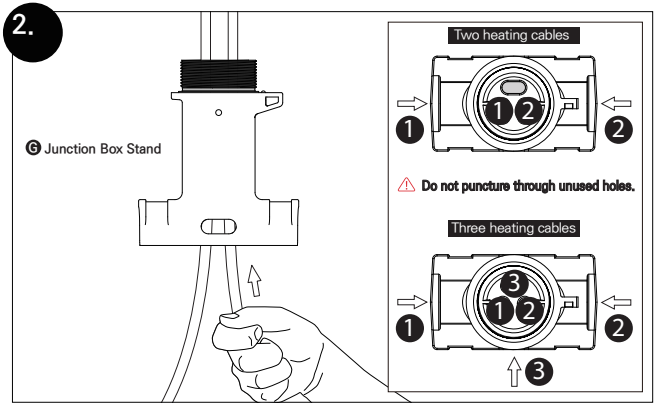
- Gaumer heat-tracing systems must be installed correctly to ensure proper operation and to prevent shocks and fires. Pay attention to warnings and carefully follow applicable installation instructions.
- For two or more heating cables powered by a single circuit, the total length of all heating cables should not exceed the maximum circuit length allowed in the chart published in Gaumer self-regulating heating cables datasheets or design guide. Additionally, the total current of all heating cables should not surpass 80% of the circuit breaker rating.
- ELECTRIC SHOCK OR FIRE HAZARD
  – The installation must comply with Gaumer's requirements and adhere to the guidelines outlined in the National Electrical Code (NEC) and Canadian Electrical Code (CEC), as well as any other relevant national and local codes.
  – Ground-fault equipment protection must be utilized on each heating cable branch circuit.
  – L1 and L2 jumpers on terminal blocks must be removed if the power connection is energized by two power circuits.
- The approvals and performance of the heat tracing systems are based exclusively on the use of Gaumer Process specified parts. It is imperative that parts are not substituted and commonly used electrical tape for insulation of heating cable is not allowed.
- Damaged bus wires have the potential to overheat or cause short circuits. When scoring the jacket or core, it is essential to avoid breaking the bus wire strands.

- Both components and cable ends must be kept dry before and throughout the installation process.
- The potential for bus wires to overheat or short circuit exists if the bus wire strands are broken while preparing the cable for connection. Reuse of grommets or use of the wrong grommet can result in leaks, cracked components, shocks, or fires. Ensure the type or opening size of grommet is correct for the heating cable being installed. A new grommet is recommended whenever the cable has been pulled out of the component.
- Before and during installation or servicing, all power circuits must be de-energized.
- Read the MSDS for RTV and components carefully.
- It is recommneded to use fire-resistant insulation that is compatible with the application and the maximum exposure temperature of the heat tracing system.

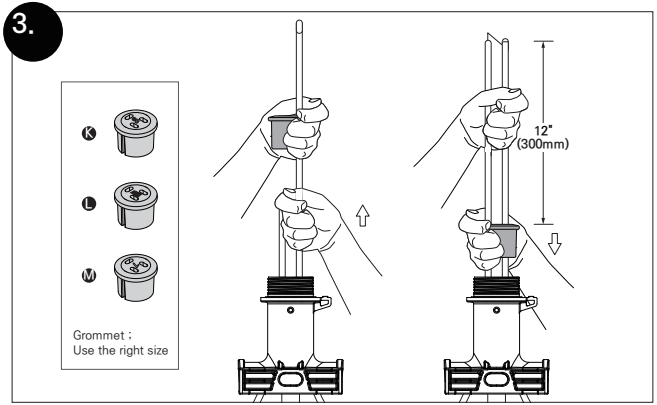
1.


24"
(600mm)
45°
Centerline of
connection

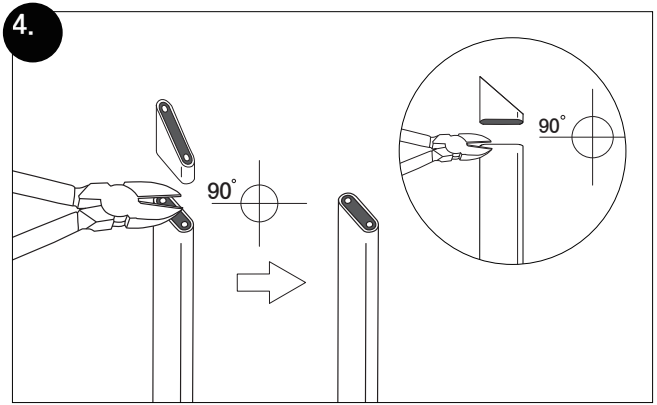
2.


G Junction Box Stand
Two heating cables
1
2
Do not puncture through unused holes.
Three heating cables
3

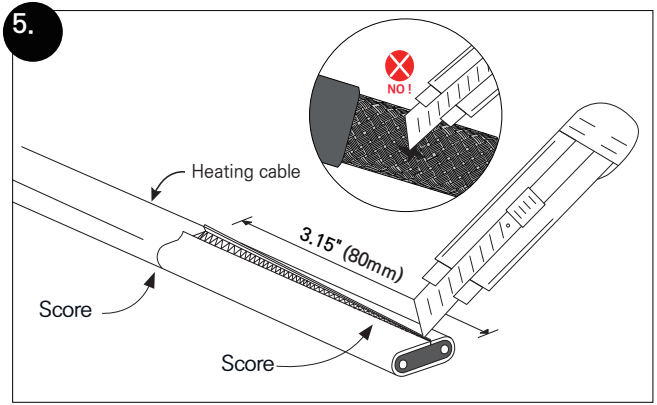
3.


K
L
M
Grommet ;
Use the right size
12"
(300mm)

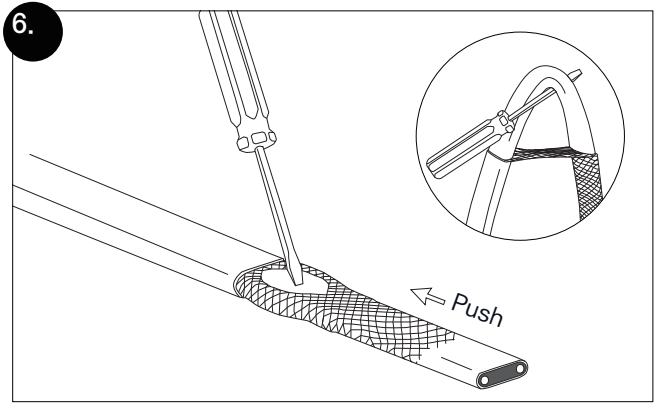
4.


90°
90°

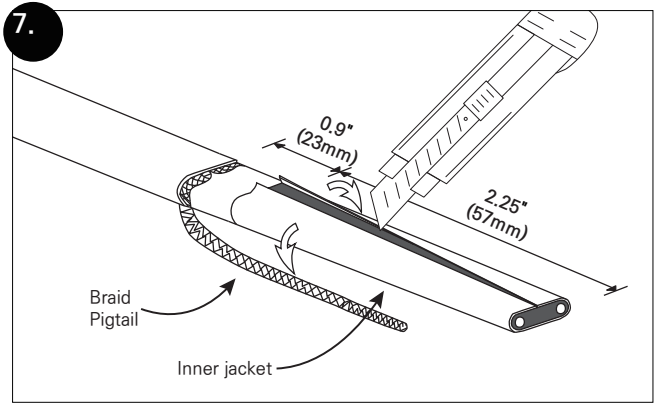
5.


NO !
Heating cable
3.15" (80mm)
Score
Score

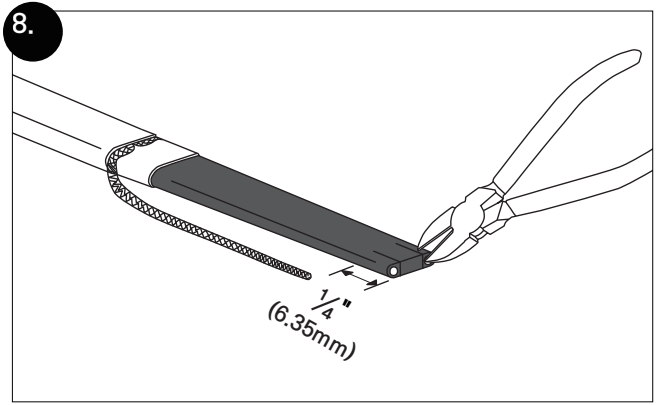
6.


Push

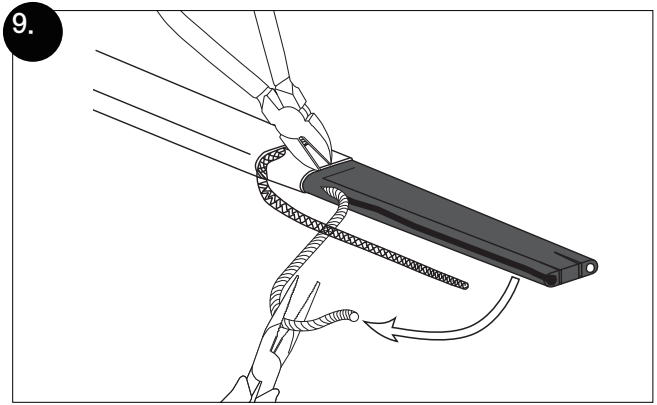
7.


0.9"
(23mm)
2.25"
(57mm)
Braid
Pigtail
Inner jacket

8.


1/4"
(6.35mm)

9.



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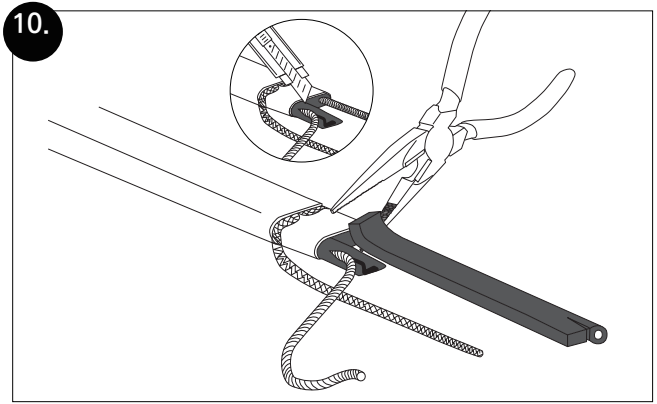
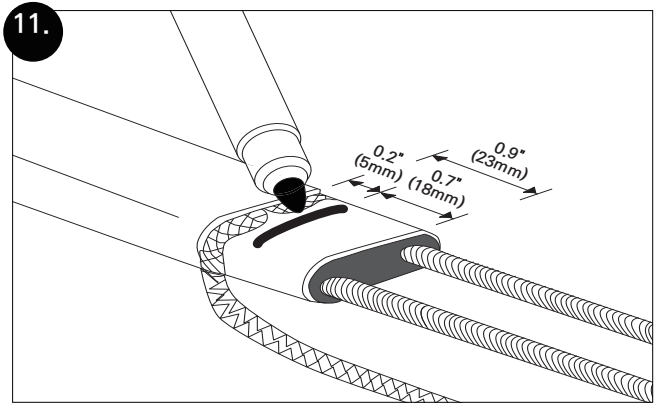
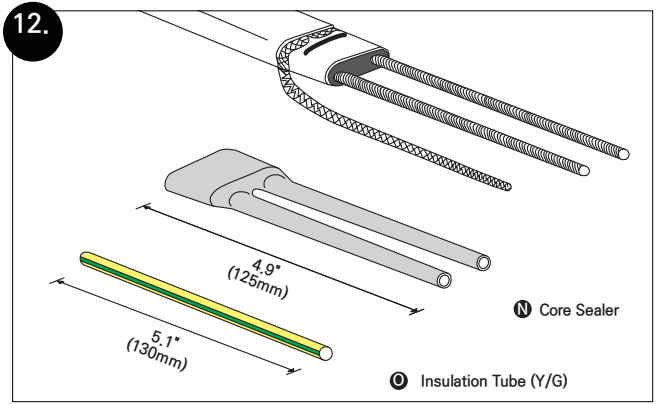


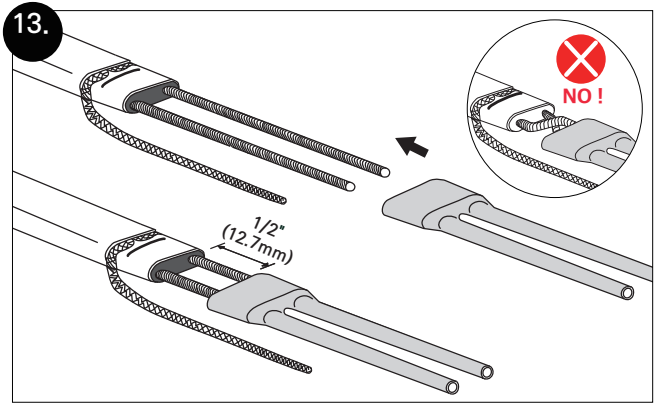
11.


0.2"
(5mm)
0.7"
(18mm)
0.9"
(23mm)

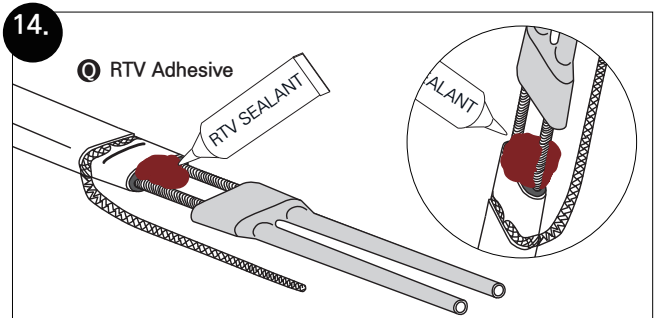
12.


4.9"
(125mm)
5.1"
(130mm)
N Core Sealer
O Insulation Tube (Y/G)

13.

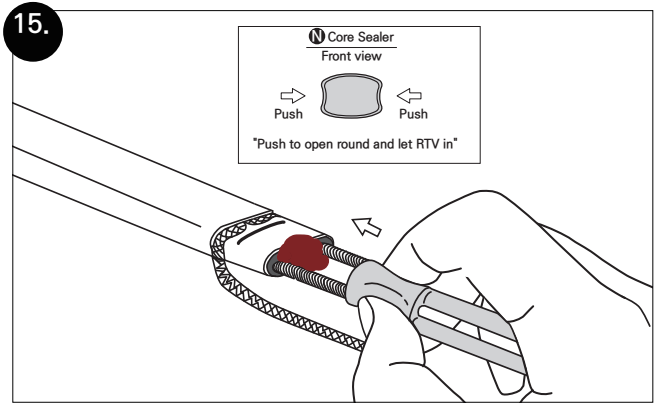


14.

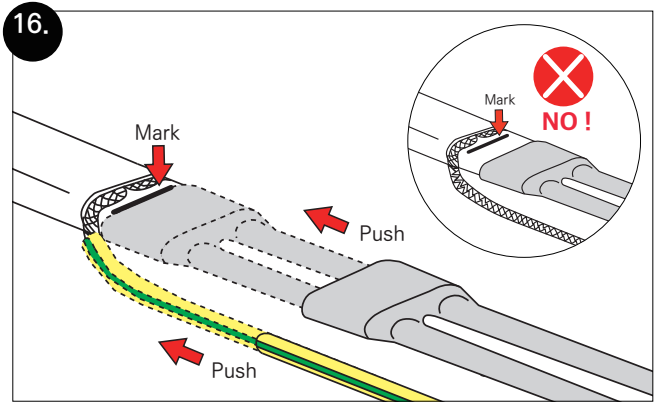


During installation, it's essential to employ the appropriate personal protective equipment (PPE).

15.

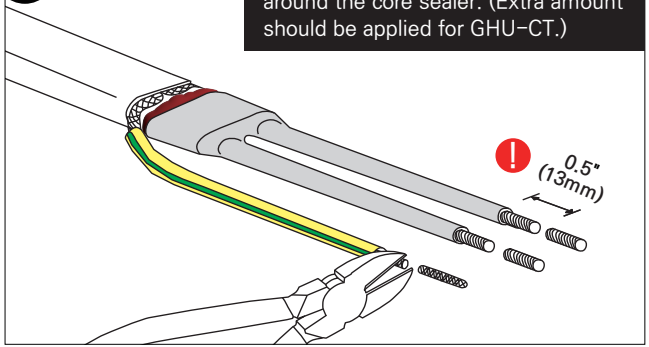


16.

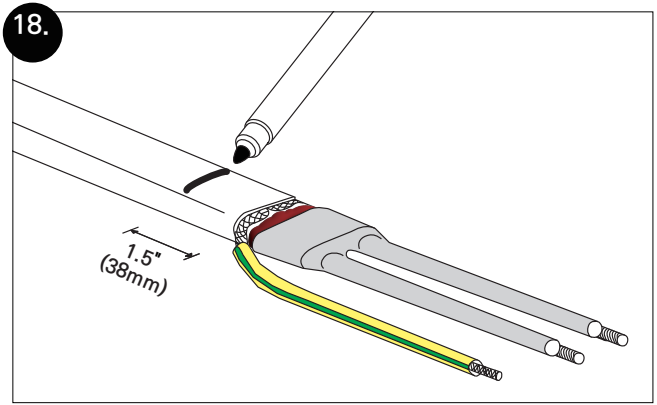


17.

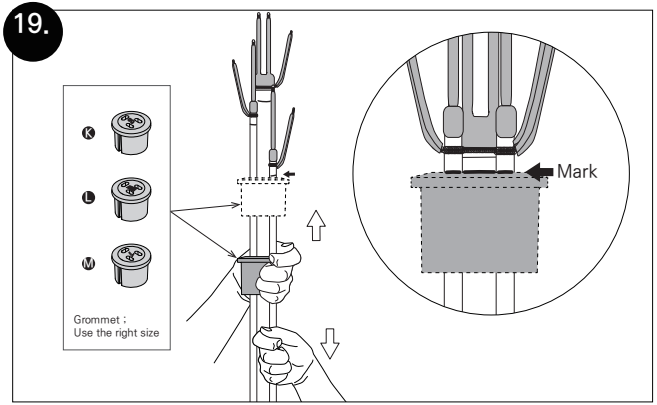
NOTE : RTV adhesive should ooze out around the core sealer. (Extra amount should be applied for GHU-CT.)



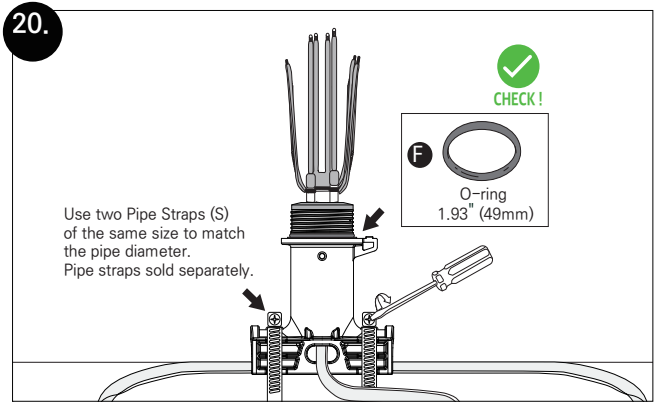
18.



19.



20.



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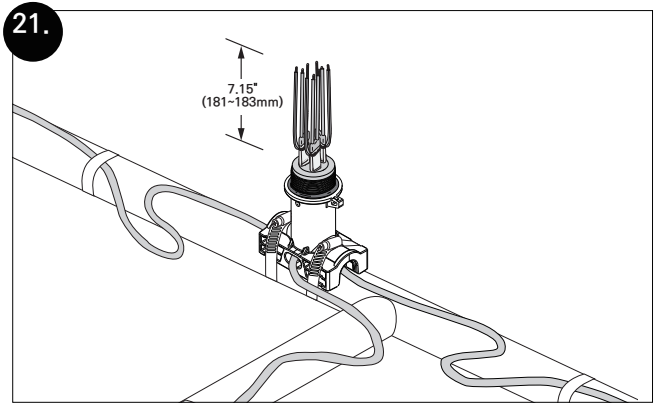
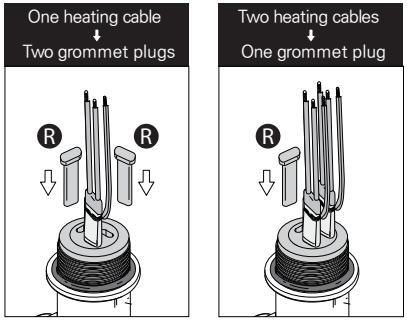


21A.

⚠ GHT series require Grommet Plugs (R) in unused entries.
GHU and GHK DO NOT require Grommet Plugs (R).



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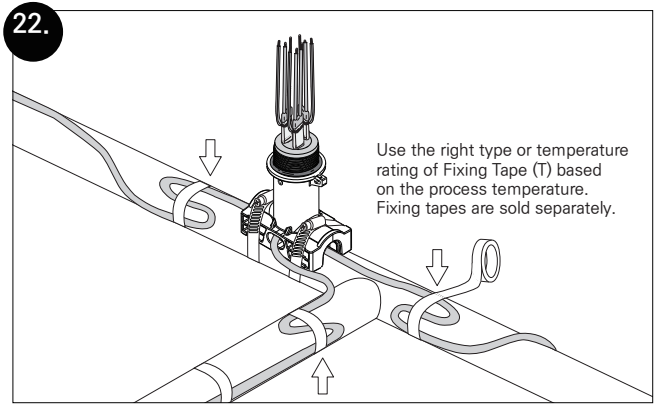

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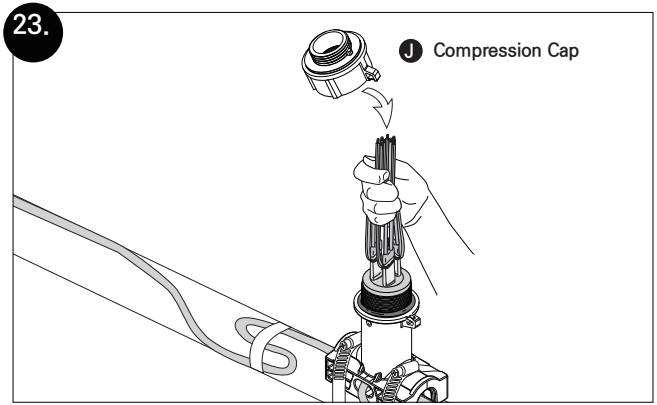
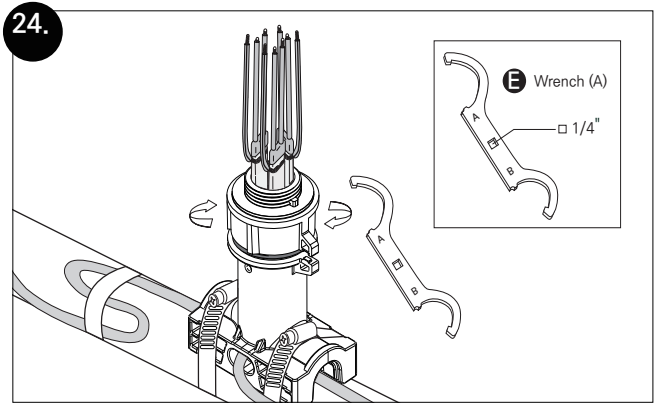
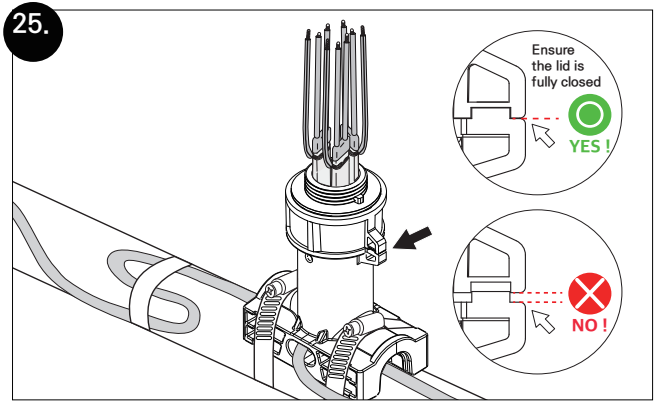


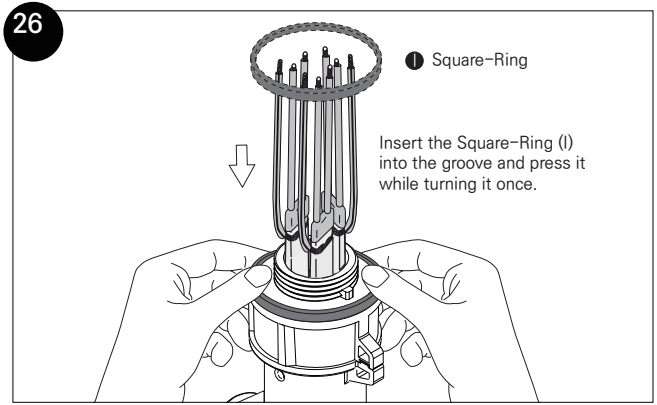
24.


E Wrench (A)
□ 1/4"

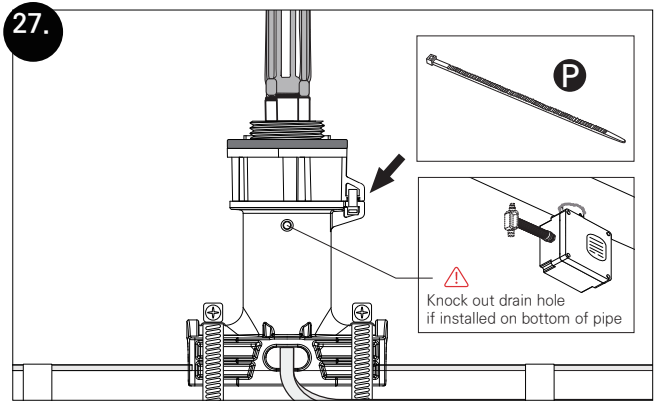
25.


Ensure
the lid is
fully closed
YES !
NO !

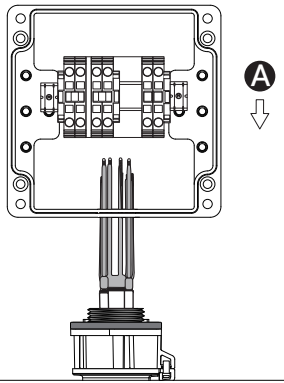
26


I Square-Ring
Insert the Square-Ring (I)
into the groove and press it
while turning it once.

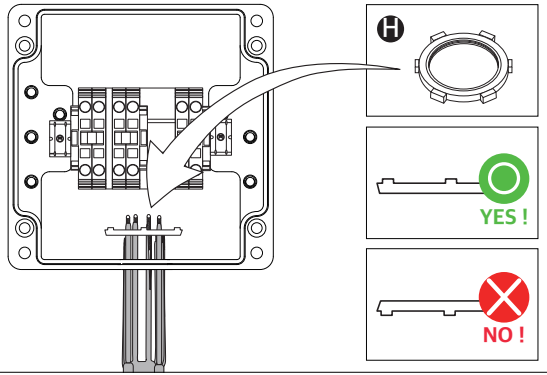
27.


P
Knock out drain hole
if installed on bottom of pipe

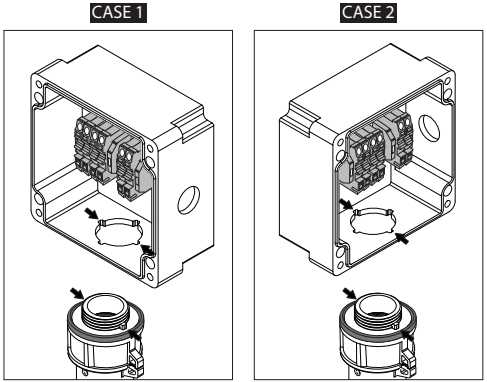
28.



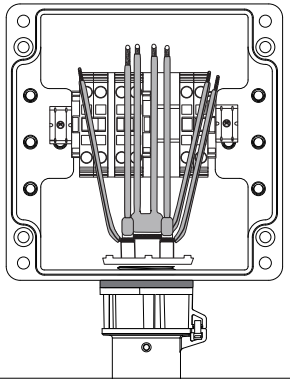
29.



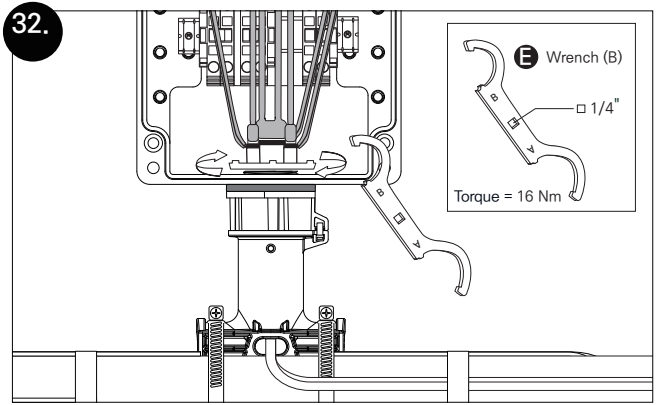
30.



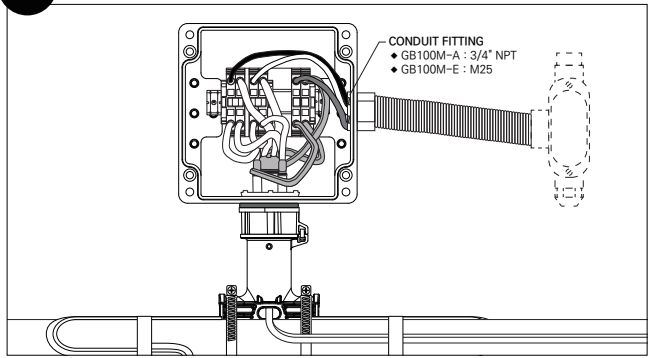
31.



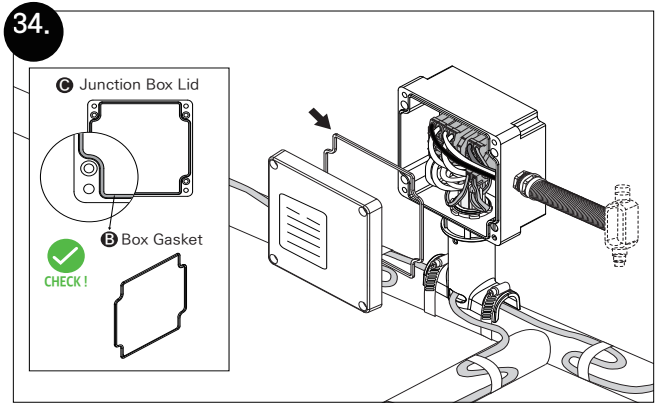
32.



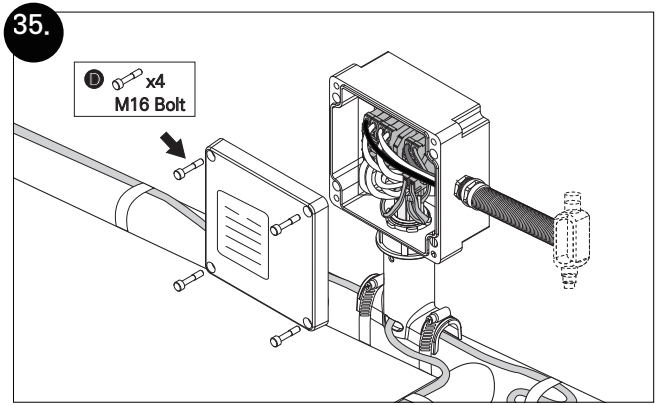
33. Power Connection



34.



35.



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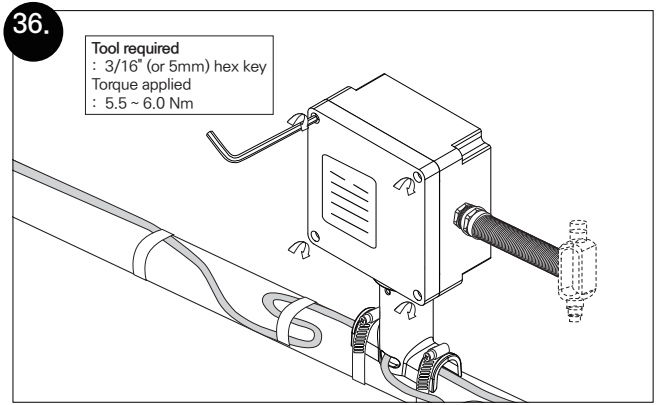

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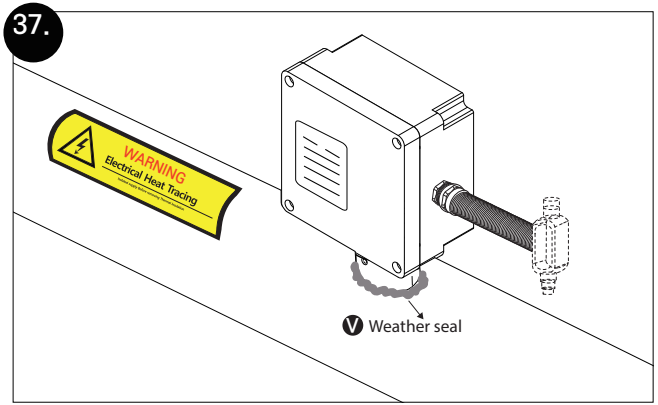
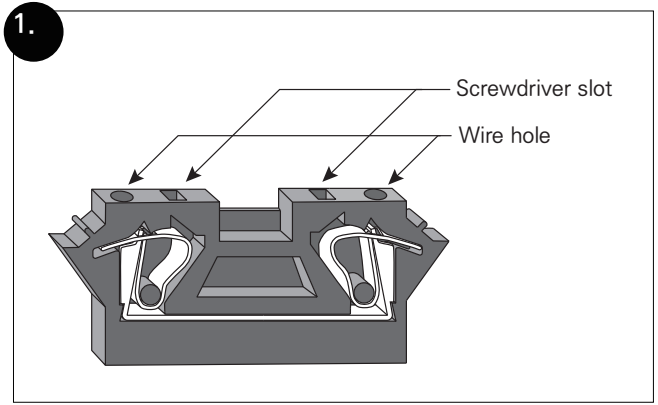
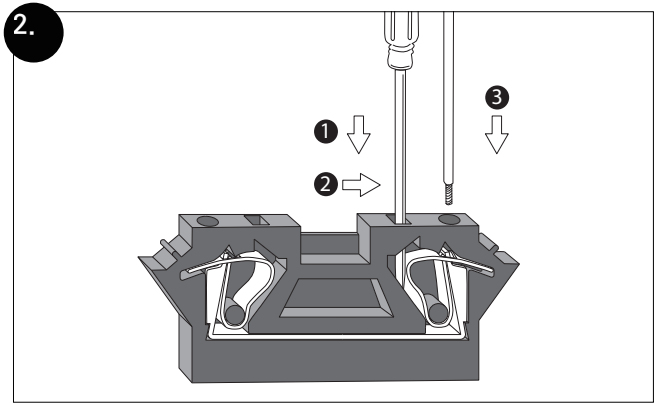


Terminal Blocks

1.

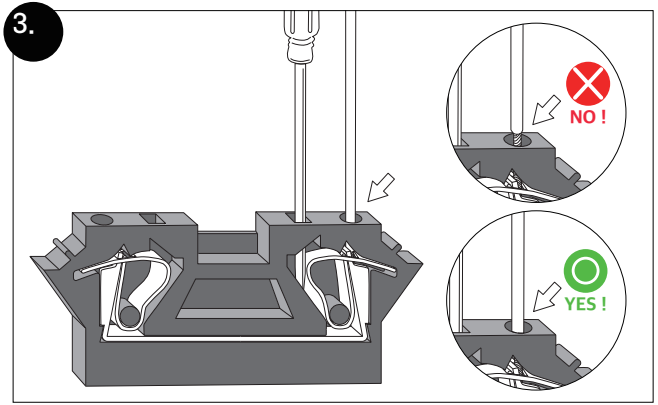


2.



Terminal Blocks

3.



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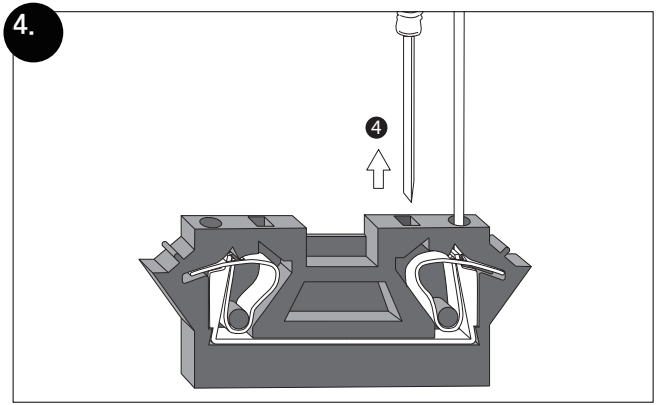
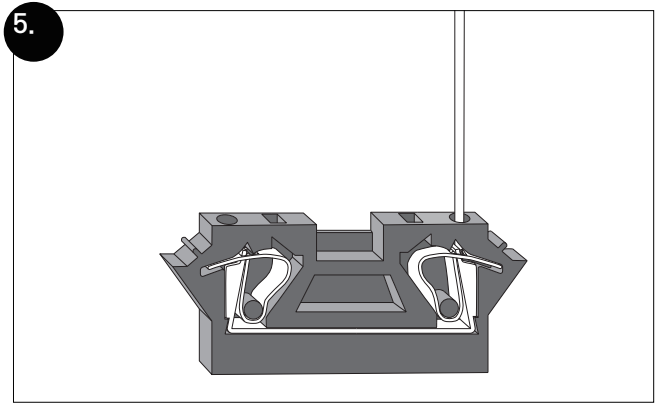


Terminal Blocks

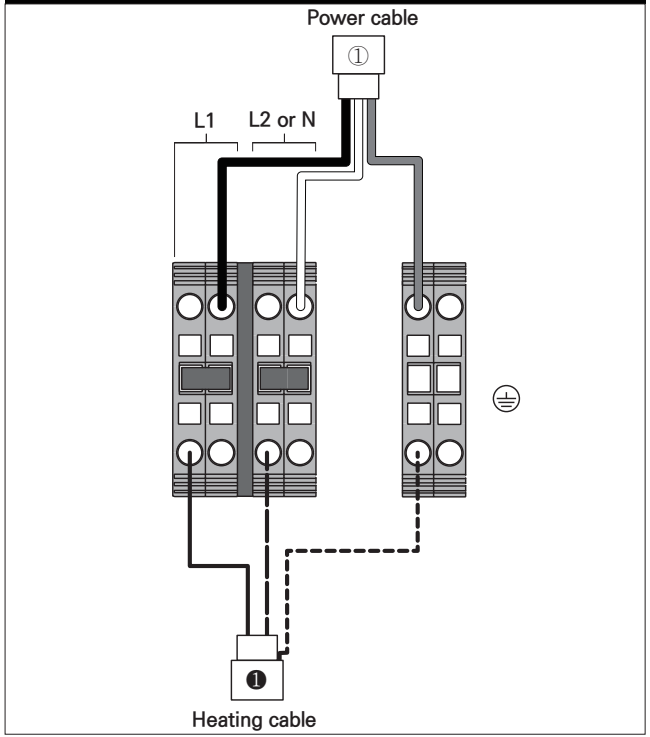
5.



Terminal Blocks (Wire Diagram)

1A. Power Connection

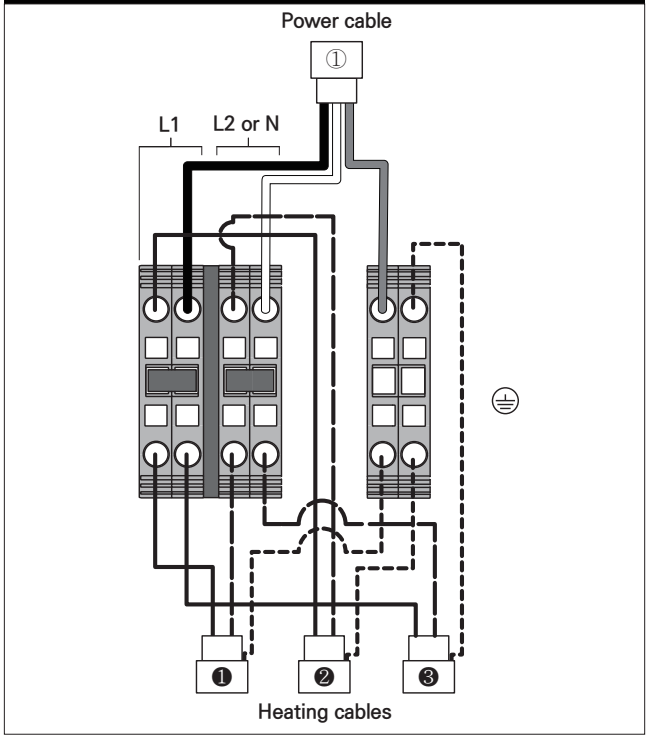
One heating cable



Terminal Blocks (Wire Diagram)

1A. Power Connection

Two or three heating cables

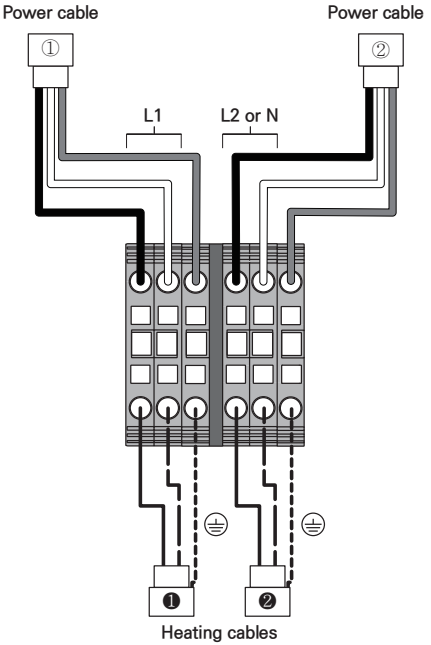


Terminal Blocks (Wire Diagram)

1B. Power Connection – Two independent circuits

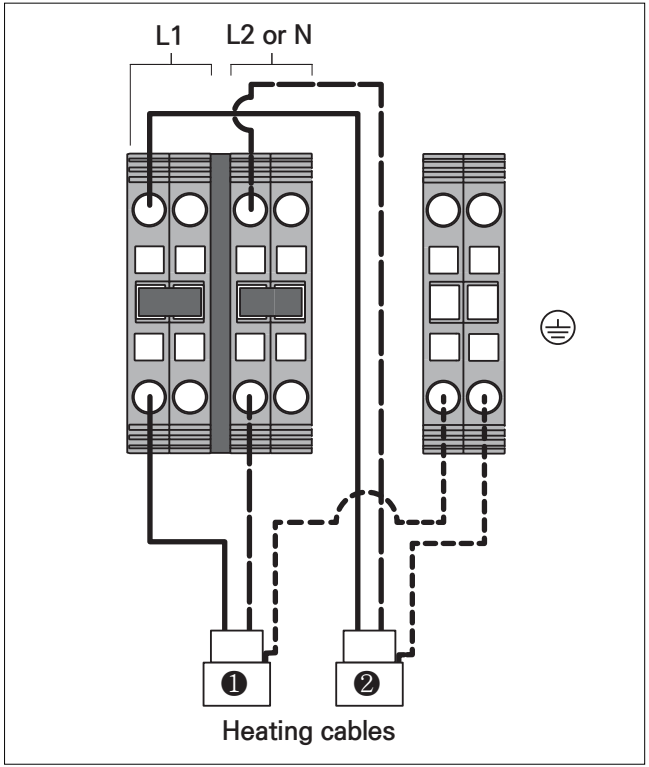
Two heating cables

* Contact Gaumer Process to purchase GB100M-A-2P(-E-2P) enclosure with two power cable entry through holes for this power connection.



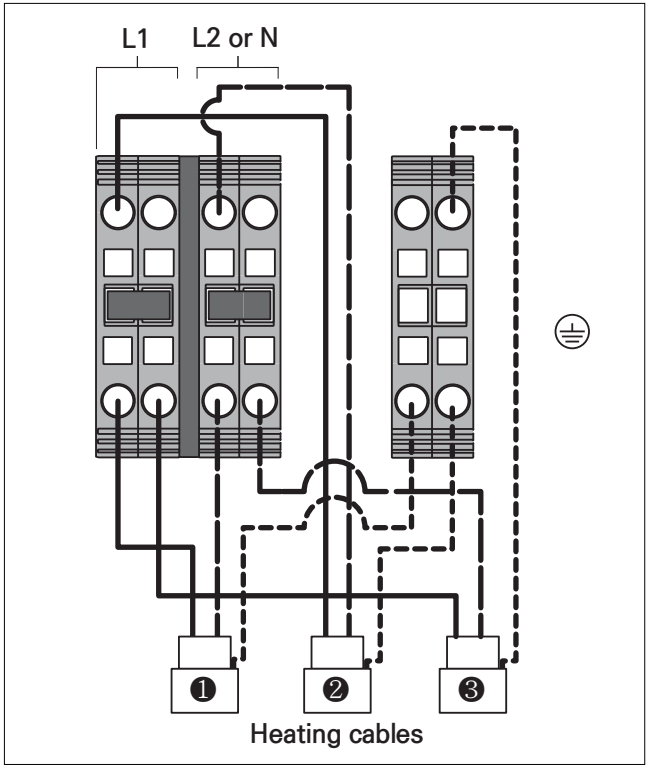
Terminal Blocks (Wire Diagram)

2A. Splice Connection



Terminal Blocks (Wire Diagram)

2B. Tee Connection

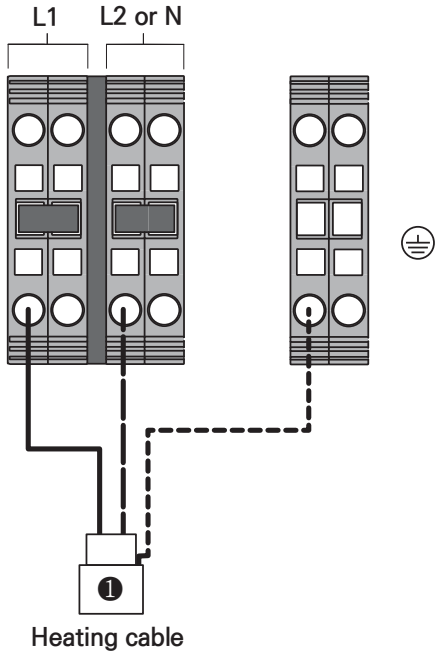


Terminal Blocks (Wire Diagram)

3. End Termination

One heating cable

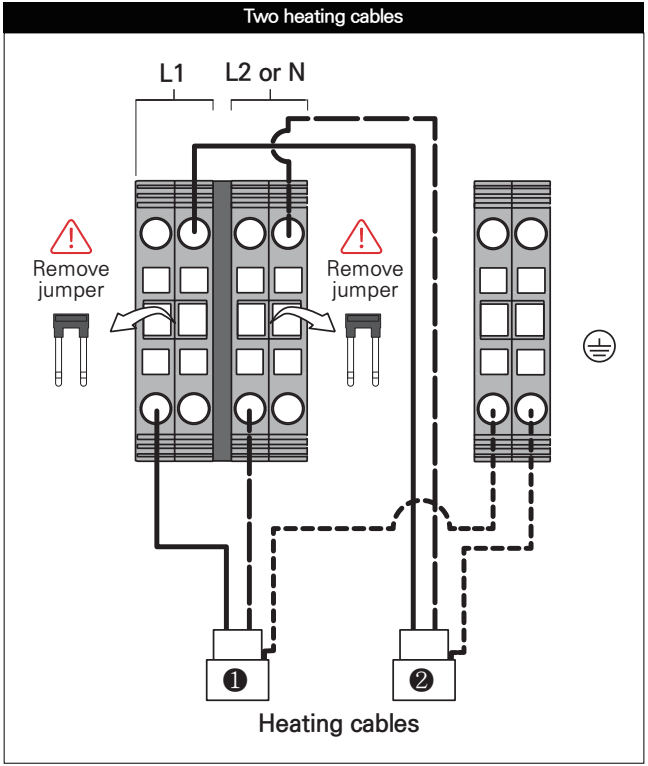
* For one heating cable end termination, do not remove jumper.



Terminal Blocks (Wire Diagram)

3. End Termination

Two heating cables



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