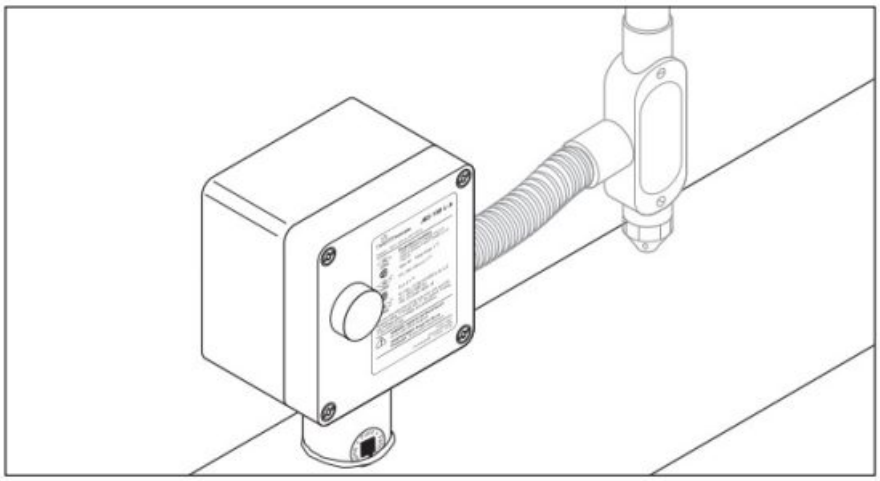
nVent JBS-100-L-A Single-Entry Power Connection with Junction Box Instruction Manual

JBS-100-L-A Single-Entry Power Connection with Junction Box Instruction Manual



Contents

APPROVALS

Hazardous Locations

(1)

Class I, Div. 2, Groups A, B, C, D
Class II, Div. 2, Groups E, F, G
Class III
CLI, ZN1, AEx em II T*(1)
(JBS-100-L-A only) Ex eb mb IIC T* Gb(2)

(2)

IECEx

JBS-100-L-A is IECEx certified for use with:
BTV-CR/BTV-CT: IECEx BAS 20.0011X
QTVR-CT: IECEx BAS 20.0013X
XTV-CT: IECEx BAS 20.0012X
KTV-CT: IECEx BAS 20.0014X
HTV-CT: IECEx PTB 21.0007X
VPL-CT: IECEx BAS 20.0008X

(3)

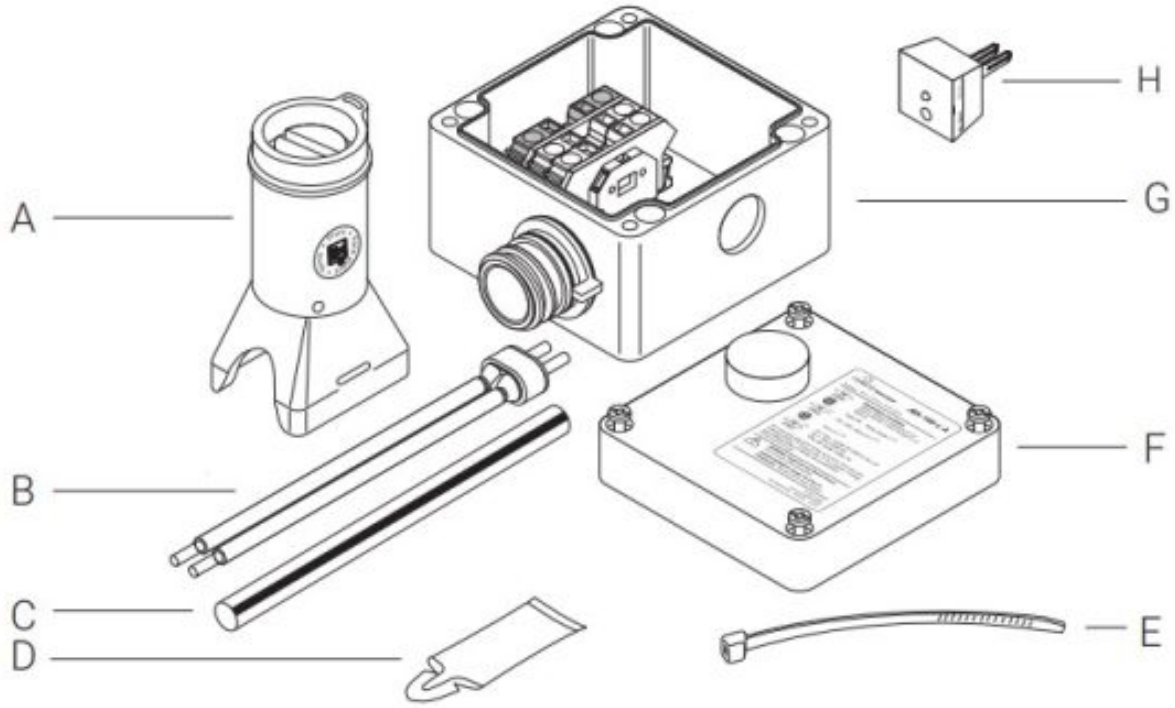
Class I Division 2 (Zone 2**), Groups A, B, C, D
Class I Zone 2 IIC

Ex eb mb IIC T* Gb; Class I Zone 1 AEx eb mb IIC T* Gb
Ex mb tb IIIC T*°C Db; Zone 21 AEx mb tb IIIC T*°C Db

* For system Temperature Code, see heating cable or design documentation

1. Except for VPL, HTV (FM approval only)
2. Except for KTV-CT
3. For HTV-CT only ** Per CE Code Table 18

KIT CONTENTS



Item	Qty	Description
A	1	Stand assembly
B	1	Core sealer
C	1	Green/yellow tube
D	1	Cable lubricant
E	1	Cable tie
F	1	Lid
G	1	Box with terminal blocks
H	1	JBL-100-R plug-in light module

DESCRIPTION

The nVent RAYCHEM JBS-100-L-A is a Type 4X-rated power connection kit. It is designed for use with nVent RAYCHEM BTV-CR, BTV-CT, QTVR-CT, XTV-CT, KTV-CT, HTV-CT, and VPL-CT industrial parallel heating cables. The kit includes a plug-in LED light that indicates when the power is supplied to the heating cable circuit.
This kit may be installed at temperatures as low as –40°F (–40°C). For easier installation store above freezing until just before installation.
For technical support call nVent at (800) 545-6258.

TOOLS REQUIRED

- Wire cutters
- Adjustable pliers

- Utility knife
- Needle nose pliers
- Large slotted screwdriver
- Marker
- Wire stripper (for VPL-CT)
- 1/4 in or smaller flat-blade screwdriver

ADDITIONAL MATERIALS REQUIRED

- Pipe strap
- GT-66 or GS-54 glass cloth tape

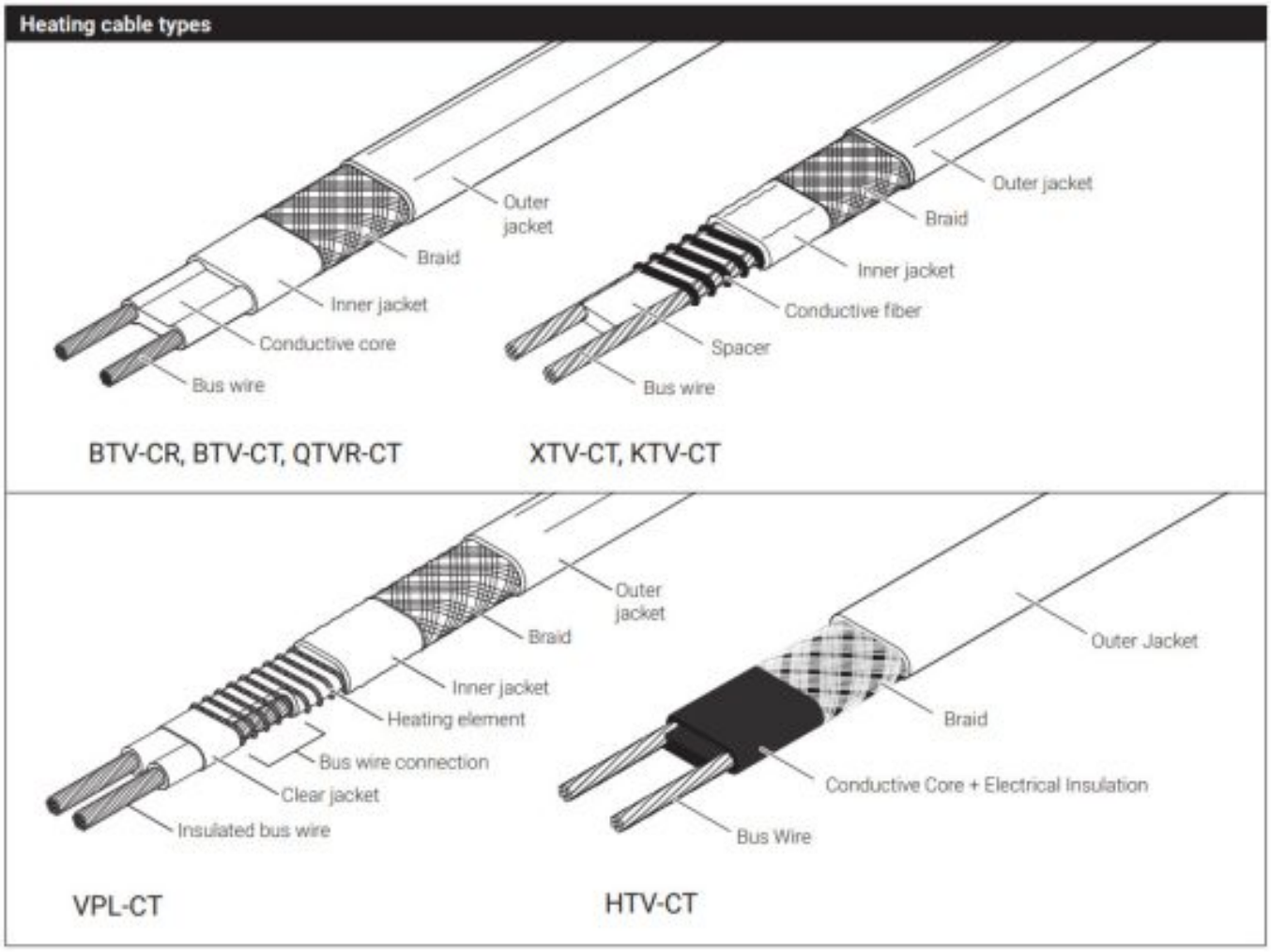
OPTIONAL MATERIALS

- Recommended conduit drain: JB-DRAIN-PLUG-3/4IN P/N 278621-000
- Small pipe adapter for 1 in (25 mm) and smaller pipes: Catalog number JBS-SPA P/N E90515-000

WARNING:
This component is an electrical device that must be installed correctly to ensure proper operation and to prevent shock or fire. Read these important warnings and carefully follow all of the installation instructions.

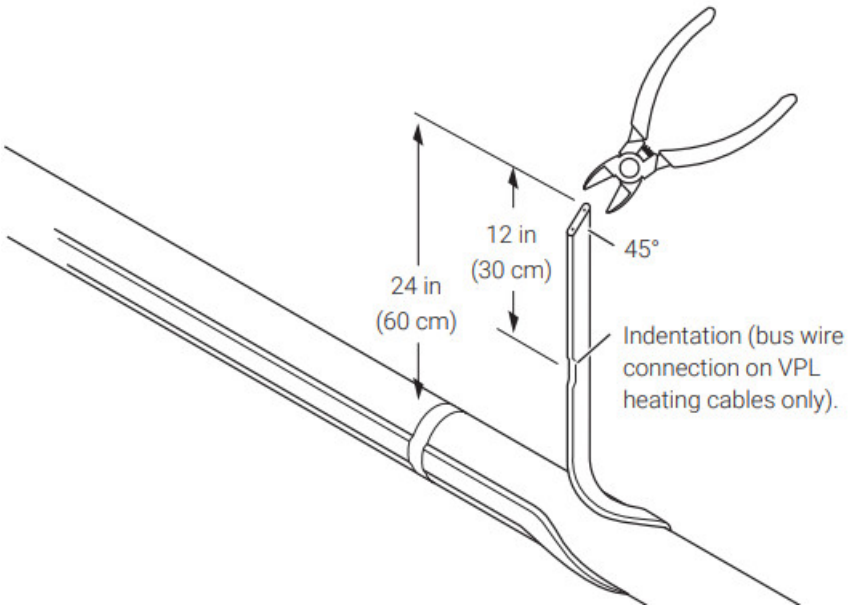
- To minimize the danger of fire from sustained electrical arcing if the heating cable is damaged or improperly installed, and to comply with the requirements of nVent, agency certifications, and national electrical codes, ground-fault equipment protection must be used. Arcing may not be stopped by conventional circuit breakers.
- Component approvals and performance are based on the use of nVent-specified parts only. Do not use substitute parts or vinyl electrical tape.
- The black heating cable core and fibers are conductive and can be short. They must be properly insulated and kept dry.
- Damaged bus wires can overheat or short. Do not break bus wire strands when scoring the jacket or core.
- Keep components and heating cable ends dry before and during installation.
- Use only fire-resistant insulation materials, such as fiberglass wrap and flame-retardant foam.

CAUTION:
HEALTH HAZARD: Prolonged or repeated contact with the sealant in the core sealer may cause skin irritation. Wash hands thoroughly. Overheating or burning the sealant will produce fumes that may cause polymer fume fever. Avoid contamination of cigarettes or tobacco. Consult MSDS VEN 0058 for further information.
CHEMTREC 24-hour emergency telephone: (800) 424-9300
Non-emergency health and safety information: Tel: (800) 545-6258.



1.

- Allow approximately 24 in (60 cm)of heating cable for installation. For VPL, cut cable 12 in (30 cm) from bus indentation.
- Cut off the heating cable end at about 45° for easier insertion.

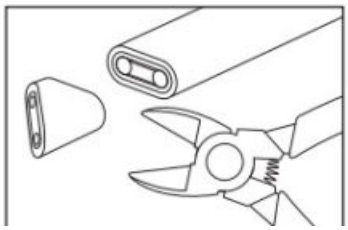


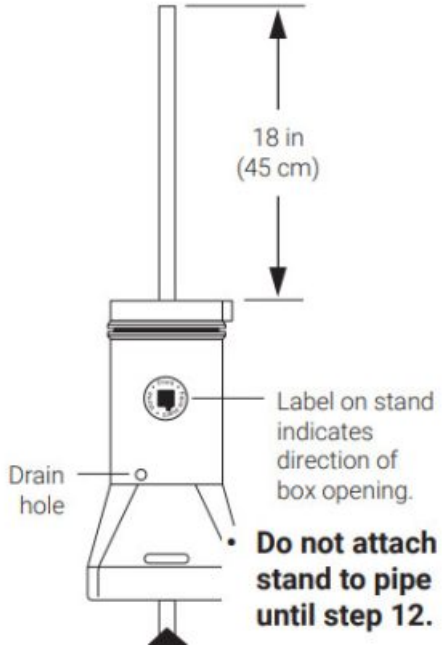
2.

- Optional: If the stand is to be installed on the bottom side of the pipe, knock out the drain hole prior to inserting

the cable.

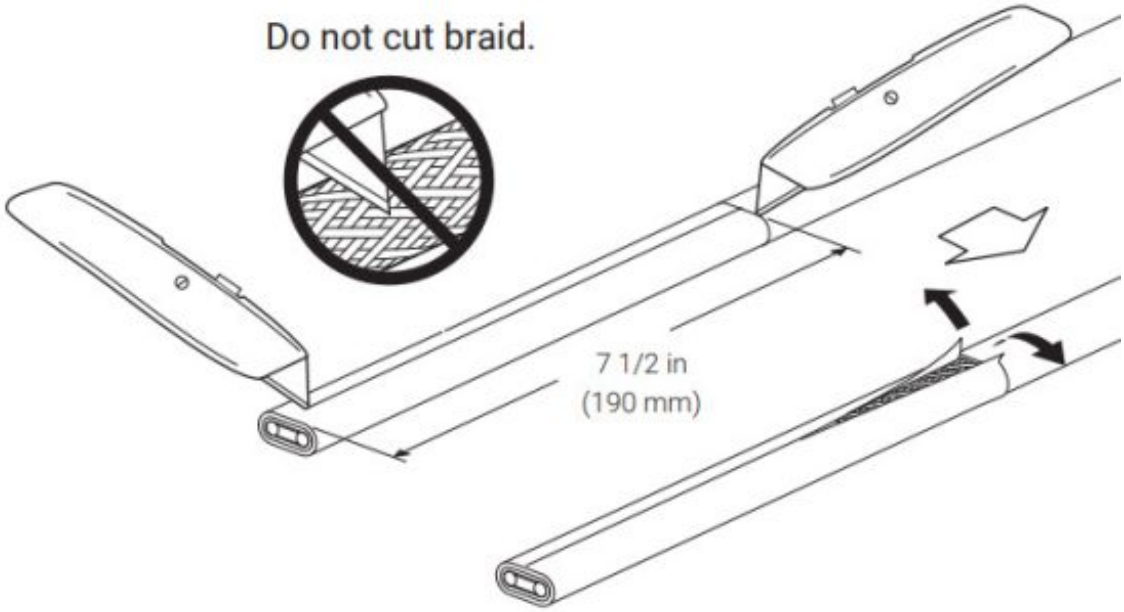
- With the label on the stand facing the desired direction of the box opening, push 18 in (45 cm) of heating cable through the stand. Use cable lubricant if needed.
- Square off cable end with 90° cut.





3.

- Lightly score the outer jacket around and down as shown.
- Bend heating cable to break jacket at the score, then peel off jacket.



4.

Go to Step 5A

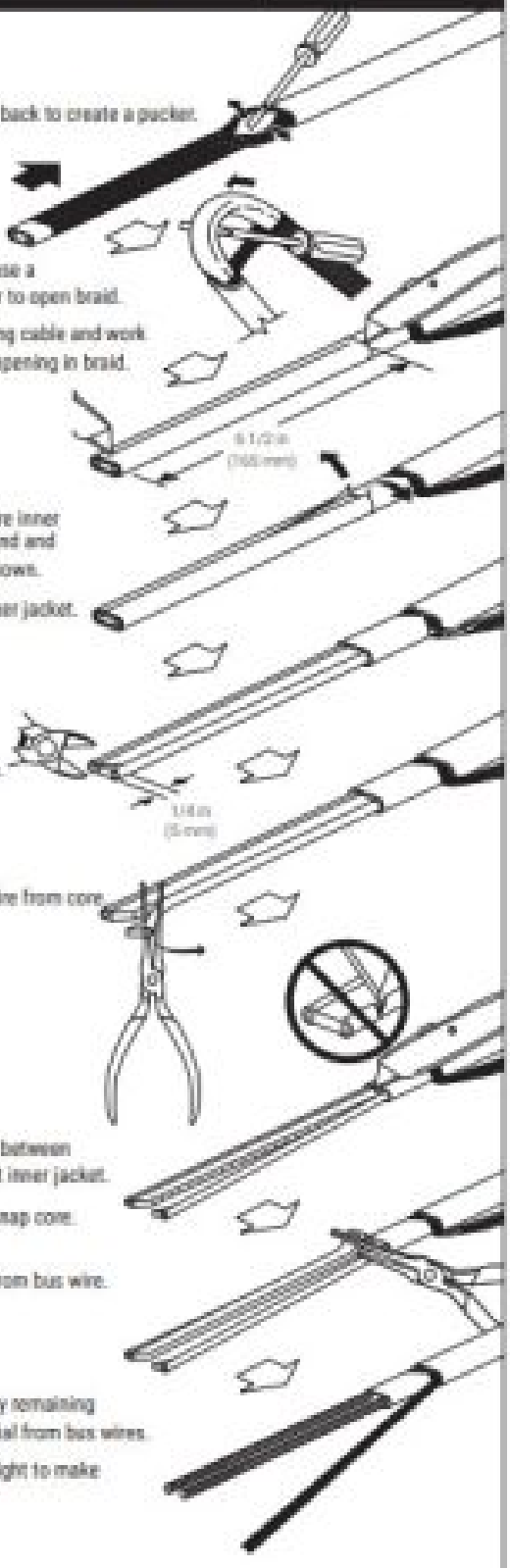
Go to Step 5B

Go to Step 5C

Go to Step 5D

5A

STV and QTVR

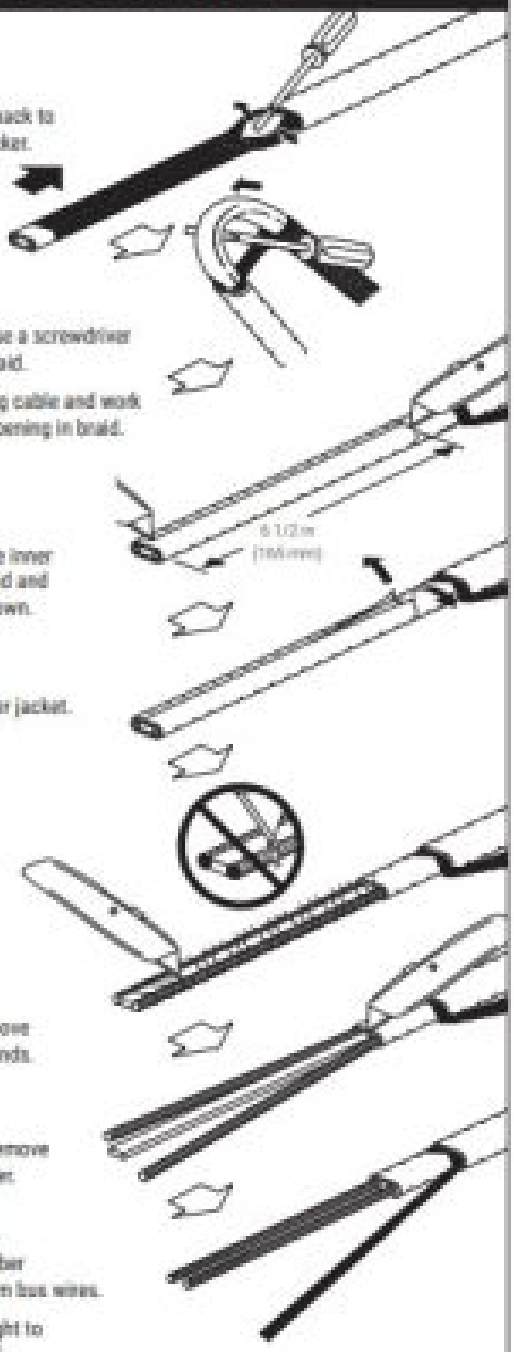


- Push braid back to create a pucker.
- At pucker use a screwdriver to open braid.
- Bend heating cable and work it through opening in braid.
- Lightly score inner jacket around and down as shown.
- Peel off inner jacket.
- Notch core.
- Peel bus wire from core.
- Score core between buswires at inner jacket.
- Bend and snap core.
- Peel core from bus wire.
- Remove any remaining core material from bus wires.
- Pull braid tight to make pigtail.

Go to Step 6

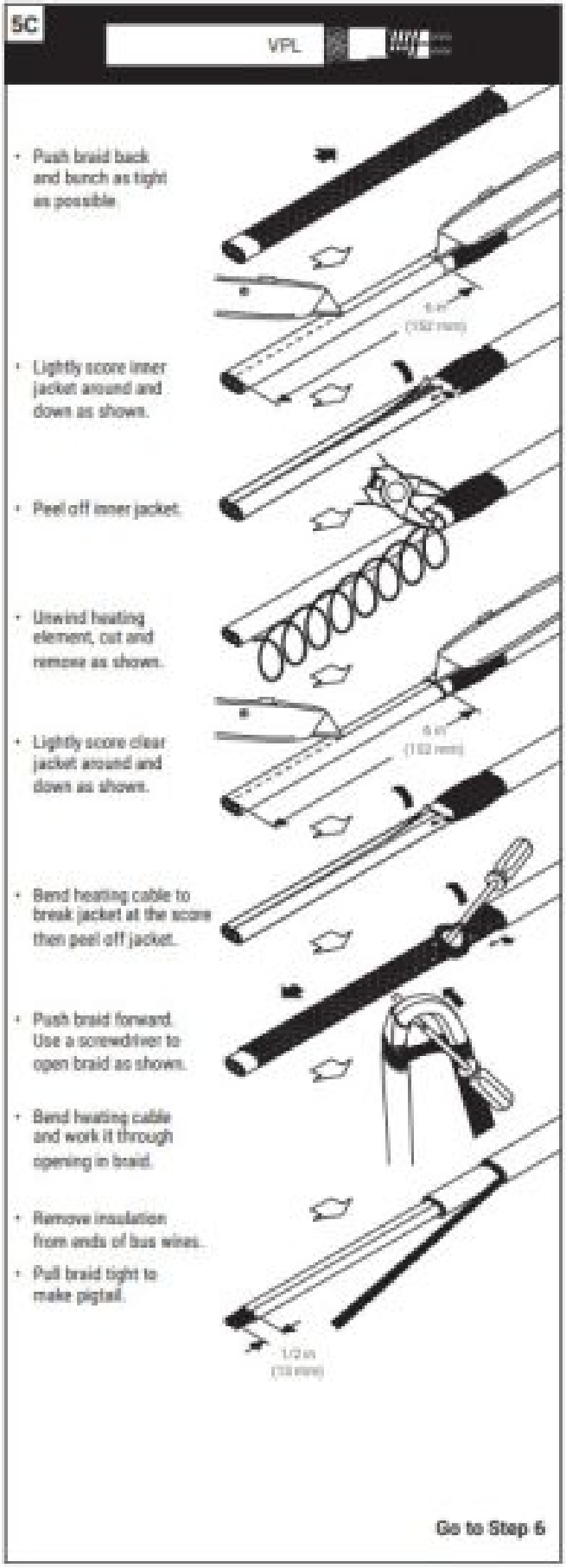
5B

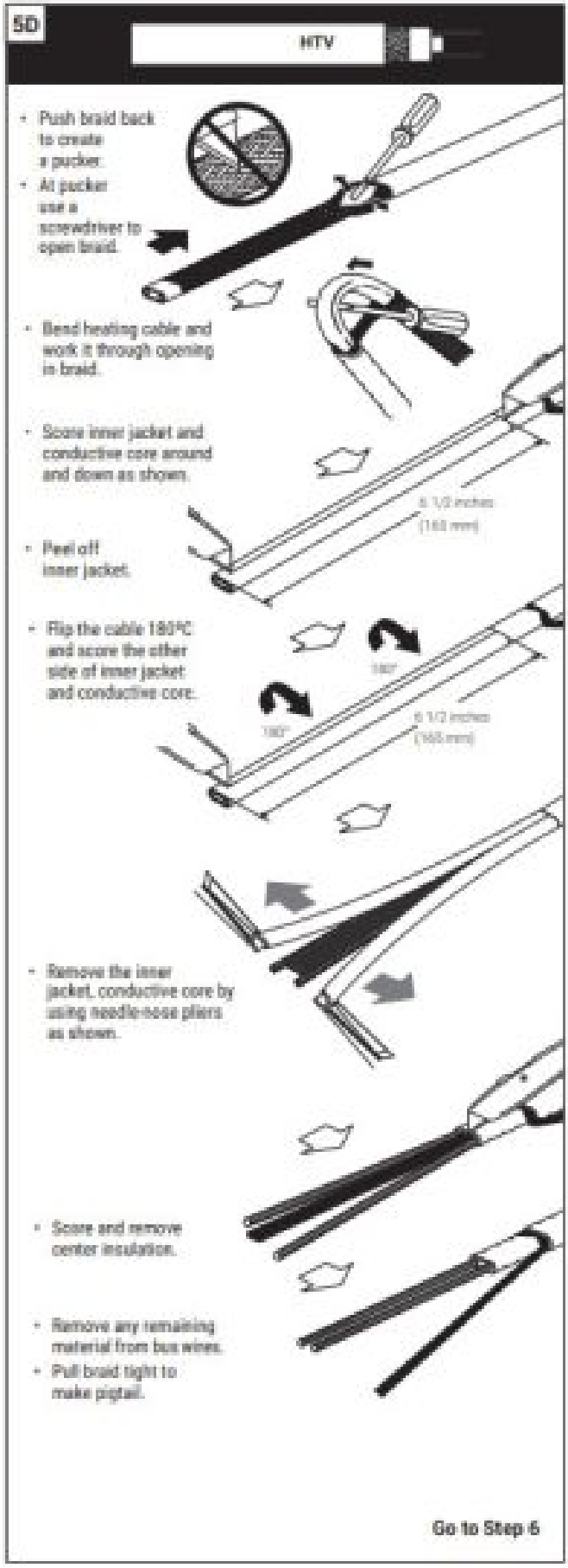
XTV and KTV



- Push braid back to create a pucker.
- At pucker use a screwdriver to open braid.
- Bend heating cable and work it through opening in braid.
- Lightly score inner jacket around and down as shown.
- Peel off inner jacket.
- Cut and remove all fiber strands.
- Score and remove center spacer.
- Remove any remaining fiber material from bus wires.
- Pull braid tight to make pigtail.

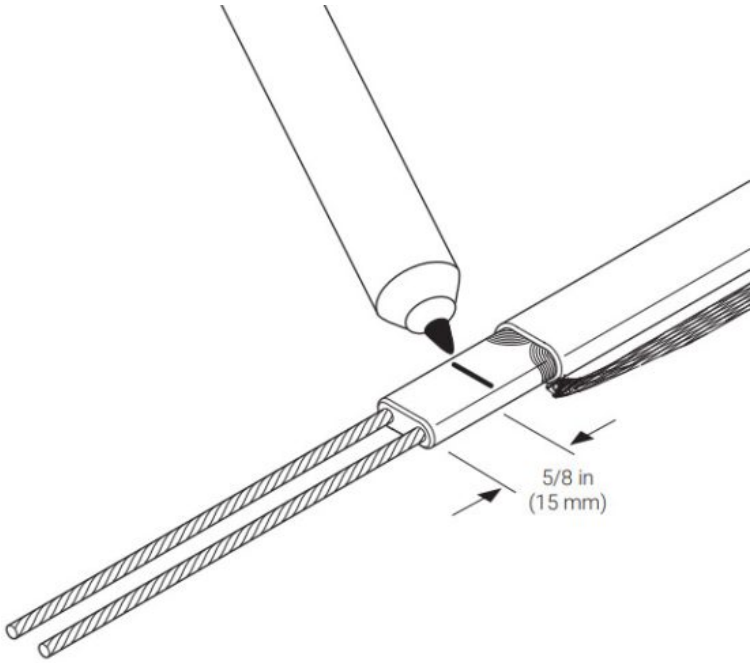
Go to Step 6





6.

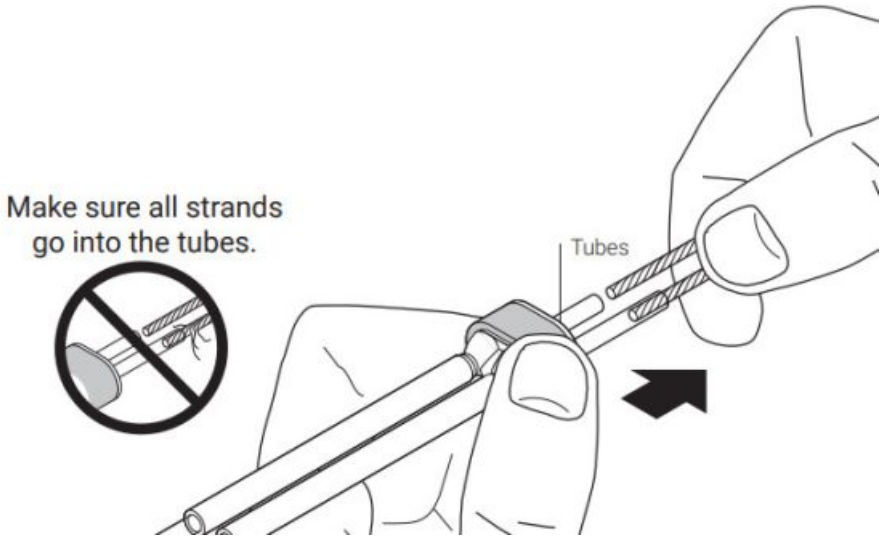
- Mark the jacket as shown.



7.

CAUTION: Health Hazard.
Wash hands after contact with sealant. Consult material safety data sheet VEN 0058.

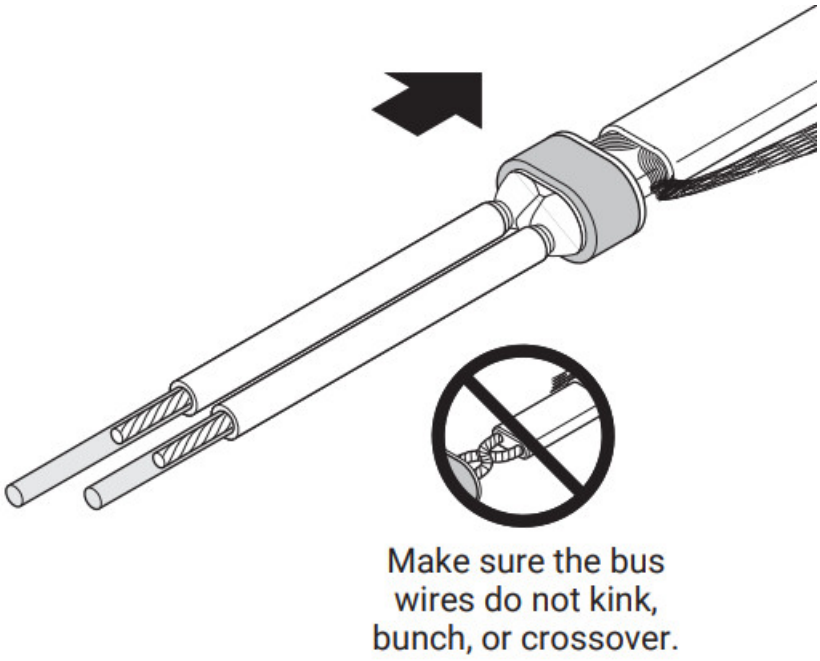
- If needed, re-twist and straighten bus wires, then insert them into the guide tubes as shown.



8.

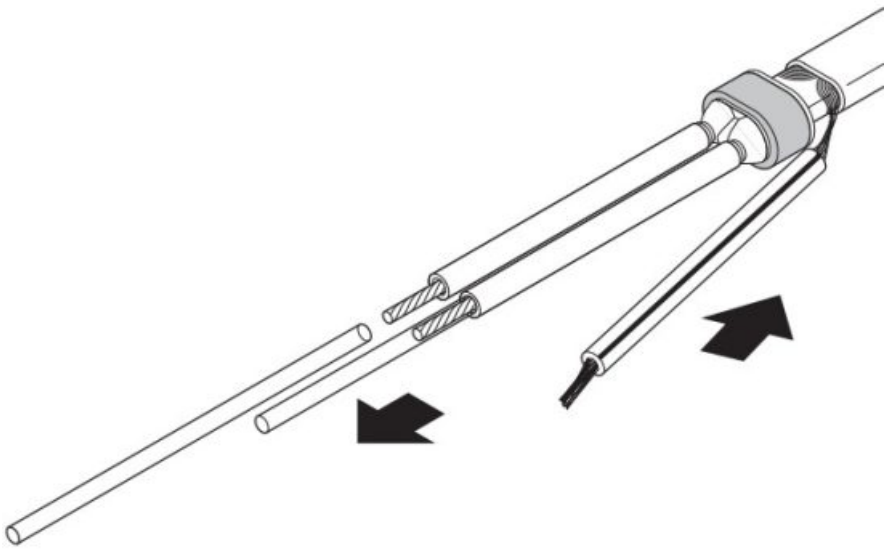
- Push core sealer onto the heating cable to the mark made in step 6.

  Note: Extra force may be required for larger cables or at lower temperatures.



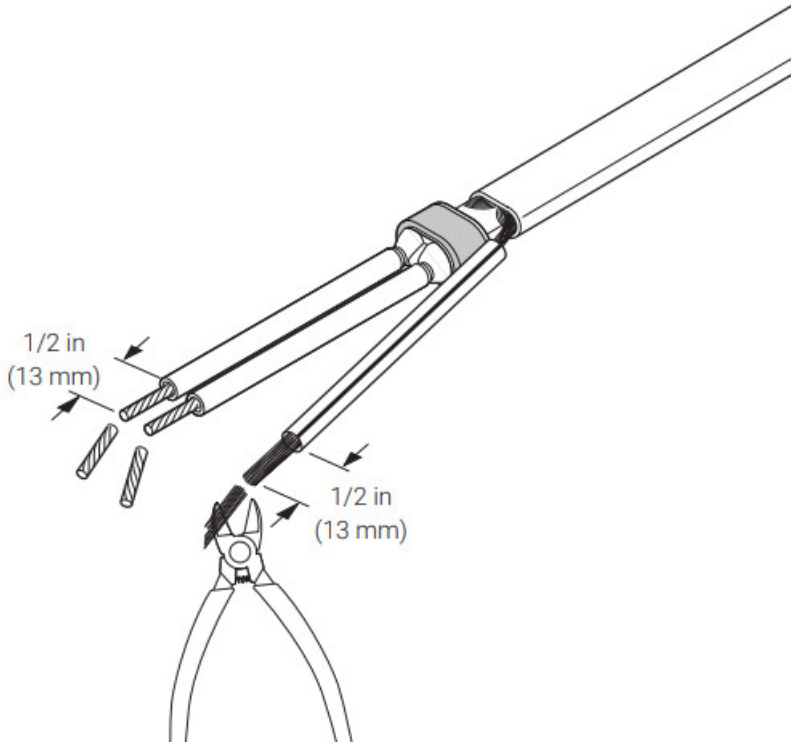
9.

- Remove the guide tubes and dispose of them in a plastic bag.



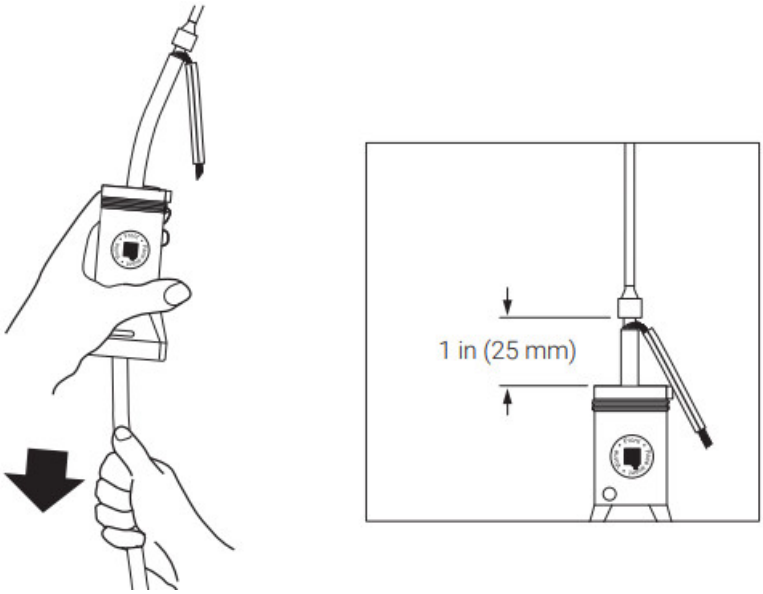
10.

- Slip the green/yellow tube onto the braid.
  Heat-shrinking is not required.
- Trim bus wires and braid.



11.

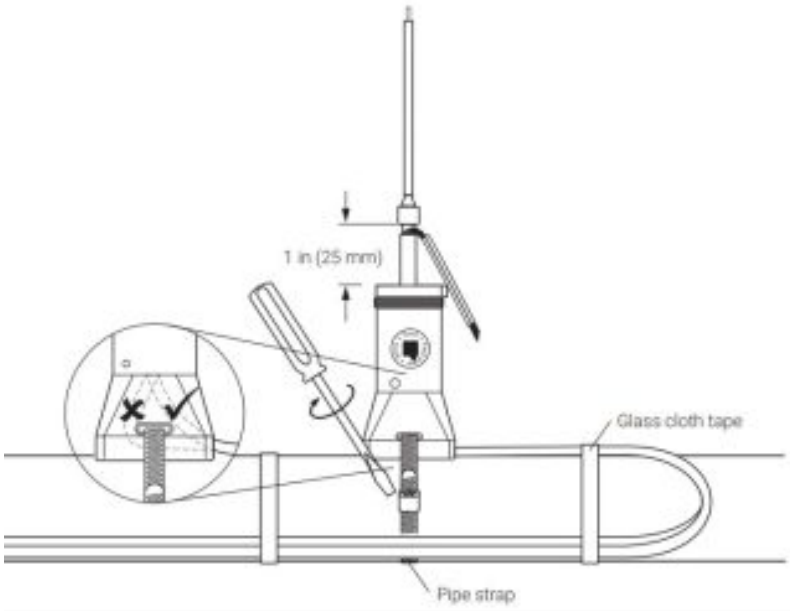
- Pull the heating cable back into a stand so 1 in (25 mm) is exposed as shown. Use cable lubricant if needed.

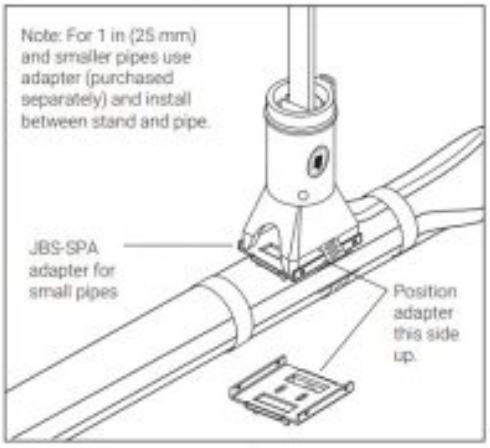


12.

- Fasten stand to pipe with the label facing the desired direction of the box opening. Do not pinch the heating cable.
- Loop and tape the extra heating cable to the pipe.

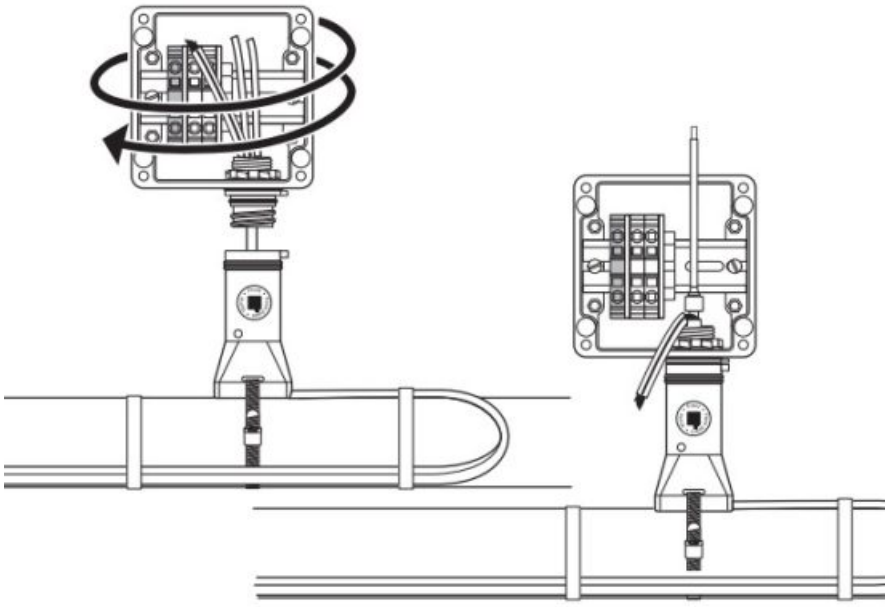
⚠**CAUTION:** To avoid pinching the heating cable, be sure the cable is not under the pipe strap.





13.

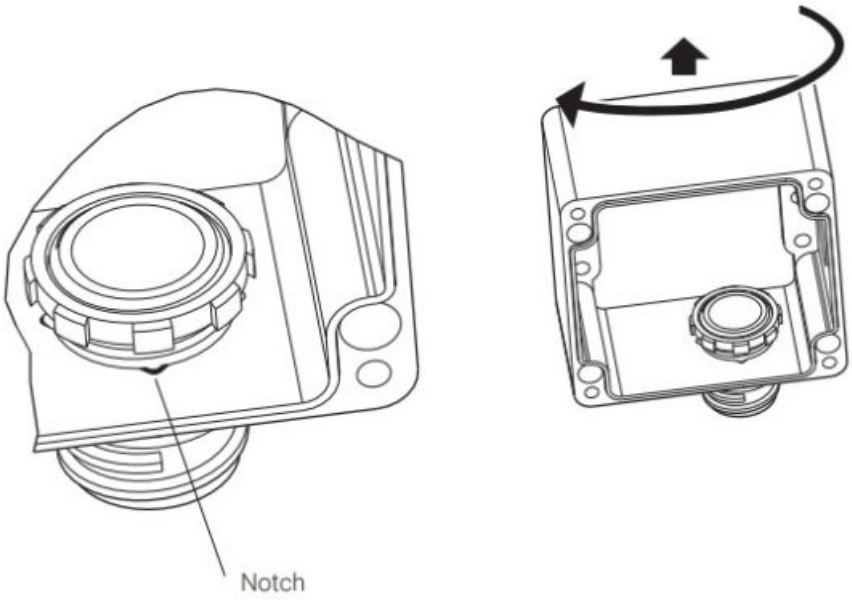
- Screw the box onto the stand until it stops. Do not overtighten.



14.

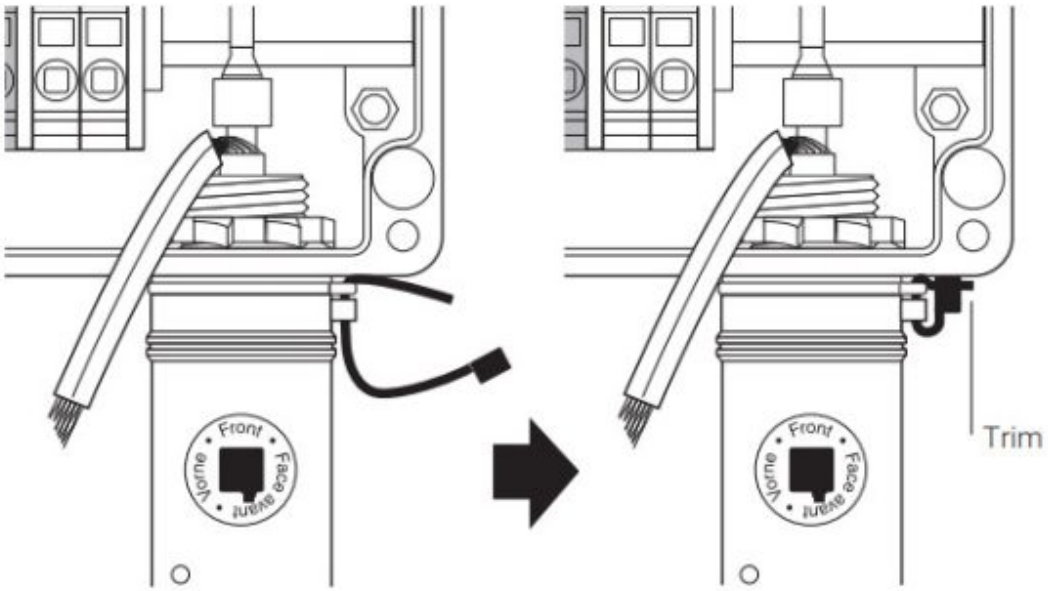
(Optional) To change the direction of box opening:

- Loosen locknut using adjustable pliers.
- Lift box and rotate. Make sure the tab on the threaded piece fits into one of the four notches in the box.
- Tighten locknut.



15.

- Insert cable tie through slots on stand and box, and tighten firmly to prevent box rotation.

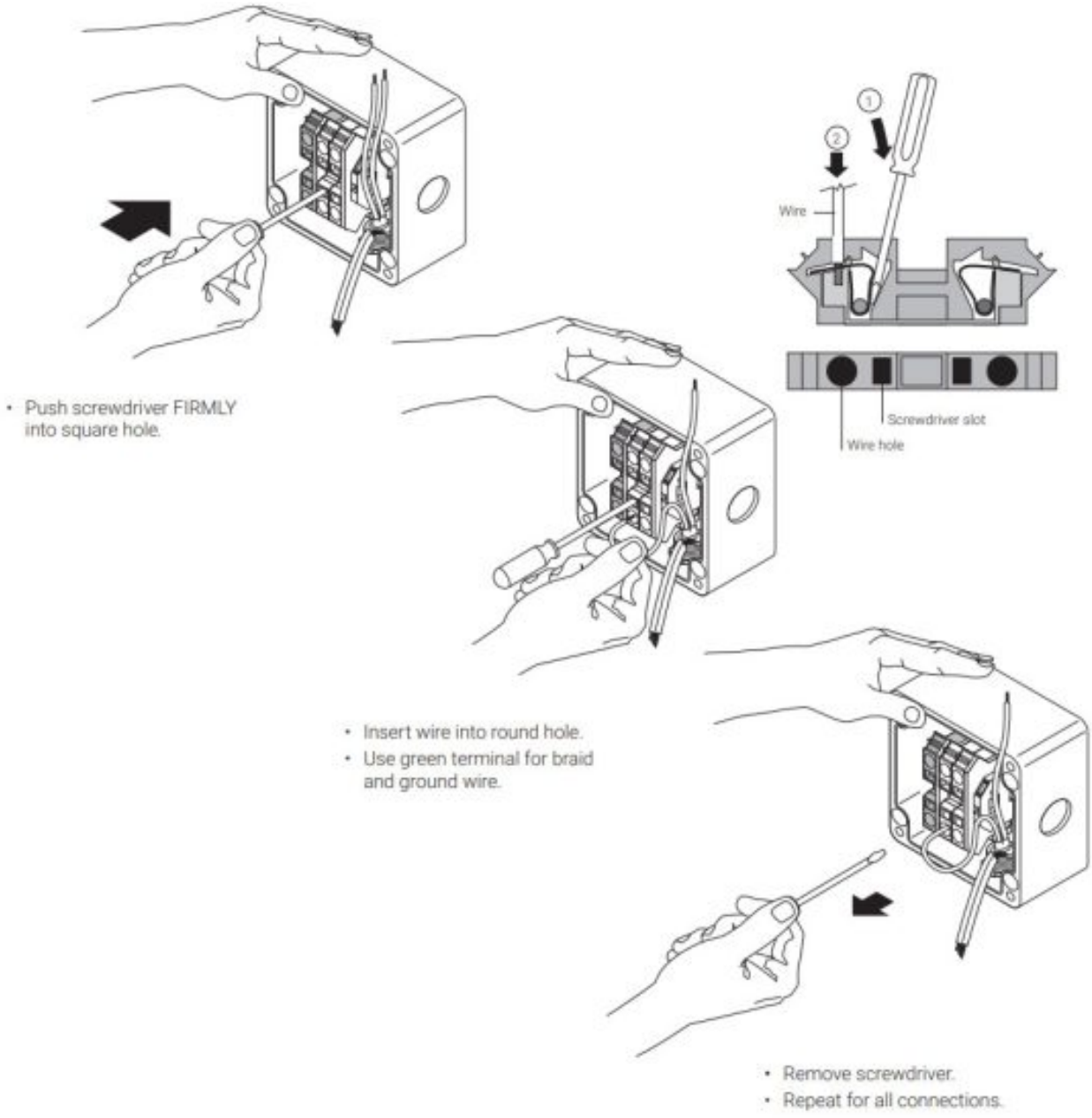


16.

This kit uses spring clamp-style terminals.

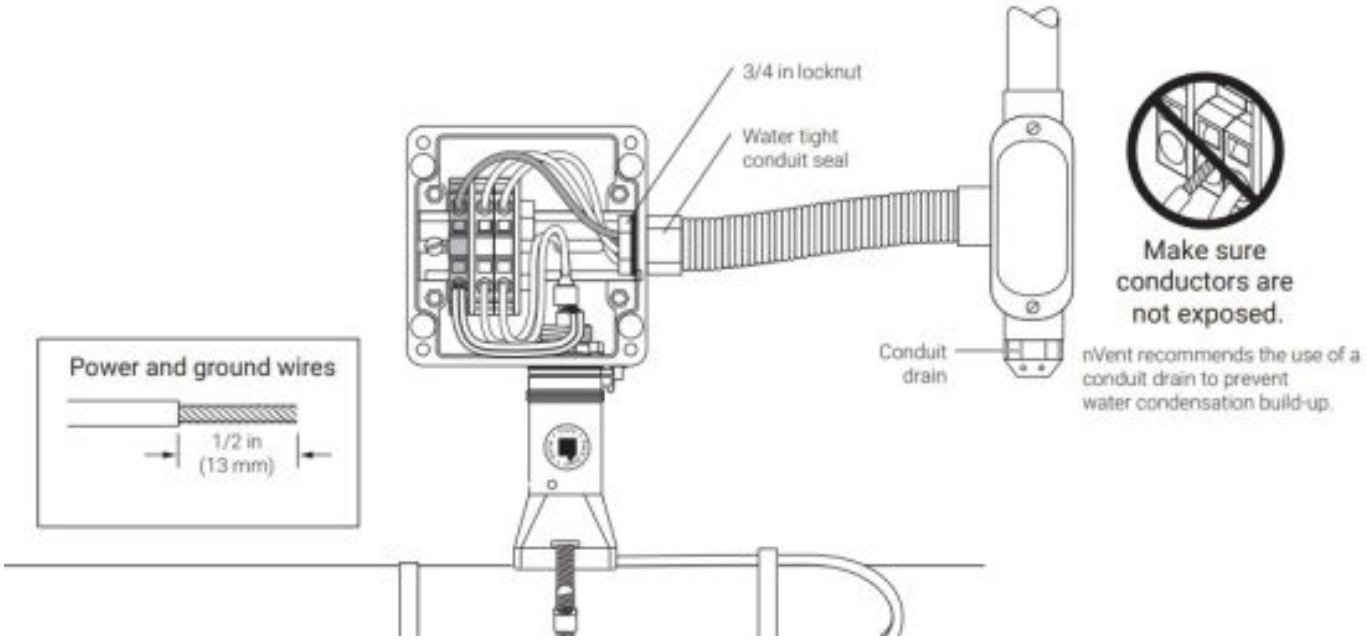
Terminals use a steel spring to clamp the wire to provide improved vibration resistance, reduced maintenance, and faster installation.

To connect wires, firmly insert a slotted screwdriver into the square hole (1 2) to open the spring. When fully inserted, the screwdriver will lock into place, allowing you to remove your hand and insert the wire into the round hole (1 2). Remove the screwdriver to clamp the wire. The wire is held securely against the bus bar for low contact resistance over time without the need to periodically retighten screws.



17.

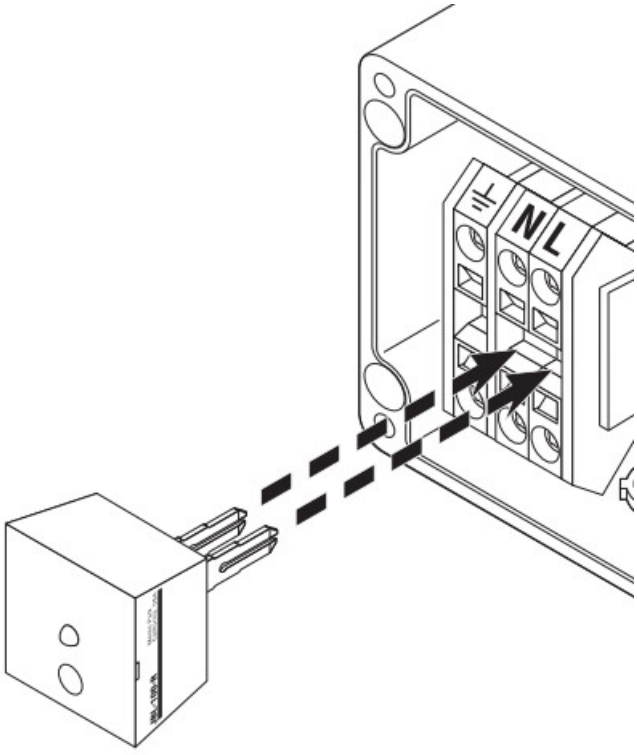
- Install conduit and fittings as shown. To minimize loosening due to pipe vibration, use a flexible conduit.
- Pull in power and ground wires, strip off 1/2 in (13 mm) of insulation, and terminate.



18.

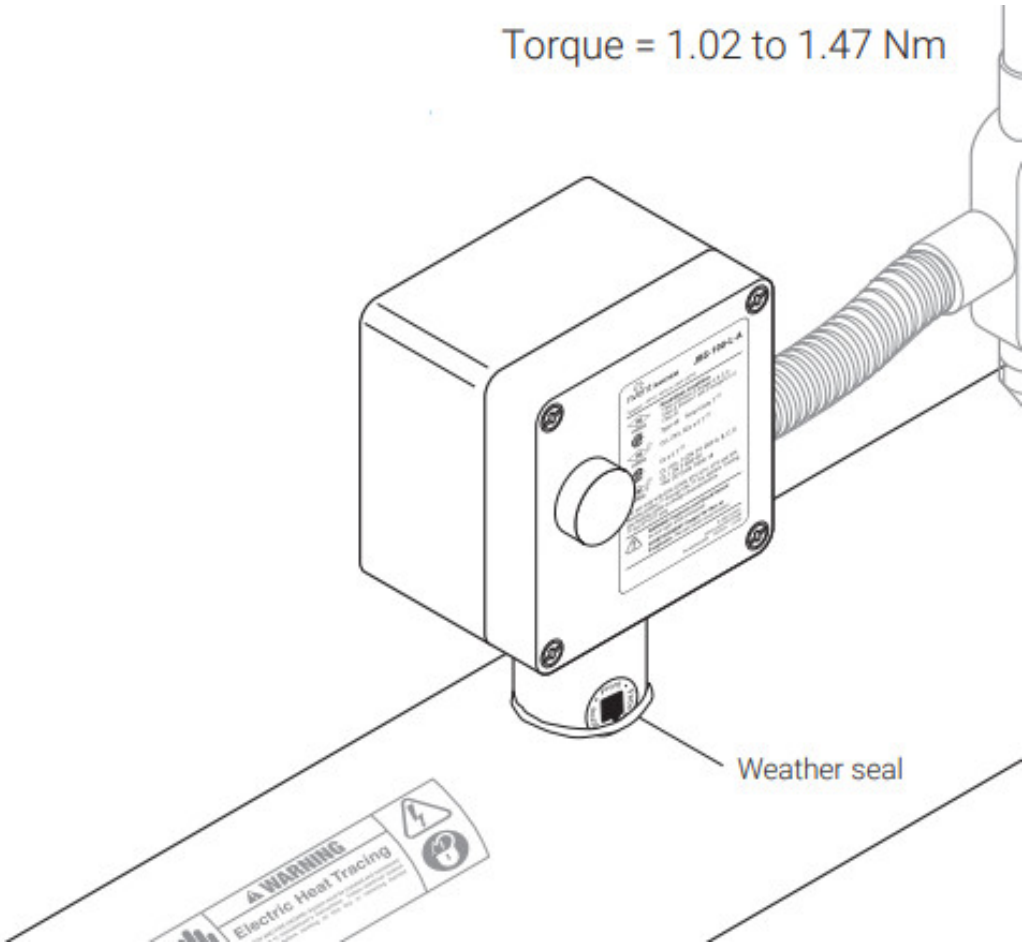
- Plugin the light module in the terminal blocks marked L and N as shown.

(For simplicity the connected wires in the terminal blocks are not shown in this step.)



19.

- Install lid.
- Apply insulation and cladding.
- Weather-seal the standing entry
- Leave these instructions with the end-user for future reference.



WARNING: Explosion Hazard- Substitution of Components May Impair Suitability for Class I Division 2 (Zone 2)

WARNING: Explosion Hazard- Do Not Disconnect Equipment Unless Power has been Switched Off or The Area is Known to be Non-Hazardous.

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Documents / Resources

	nVent JBS-100-L-A Single-Entry Power Connection with Junction Box [pdf] Instruction Manual JBS-100-L-A, Single-Entry Power Connection with Junction Box

References

- Electrical Heat Tracing | Heat Tracing | nVent RAYCHEM