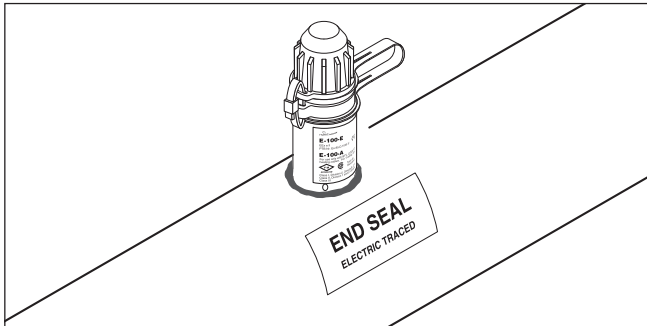




**RAYCHEM**

# E-100-A

## High-Profile End Seal Installation Instructions



### DESCRIPTION

The nVent RAYCHEM E-100-A is a NEMA 4X-rated end seal kit. It is designed for use with RAYCHEM BTV-CR, BTV-CT, QTVR-CT, XTV-CT, KTV-CT, HTV-CT and VPL-CT industrial parallel heating cables. Once installed, the end seal is easily re-entered for maintenance; the heating cable can be accessed without removing the end seal.

This kit may be installed at temperatures as low as -67°F (-55°C). For easier installation store above freezing until just before installation.

For technical support call nVent at (800) 545-6258.

### APPROVALS

Hazardous Locations



Class I, Div. 2, Groups A, B, C, D  
Class II, Div. 2, Groups E, F, G  
Class III

CL I, ZN1, AEx e II T\* <sup>(1)</sup>  
Ex e II T\*



Ex e IIC T\* Gb <sup>(2)</sup>

IECEX

E-100-A is IECEX certified for use with:  
BTV-CR/BTV-CT: IECEX BAS 06.0043X  
QTVR-CT: IECEX BAS 06.0045X  
XTV-CT: IECEX BAS 06.0044X  
KTV-CT: IECEX BAS 06.0046X  
VPL-CT: IECEX BAS 06.0048X



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

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

<sup>(1)</sup> Except VPL, HTV

<sup>(2)</sup> Except KTV-CT, HTV

<sup>(3)</sup> For HTV-CT only \*\* Per CE Code Table 18

### KIT CONTENTS

Item	Qty	Description
A	1	End seal assembly
B	1	Cable lubricant
C	1	End seal label
D	1	Cable tie

### TOOLS REQUIRED

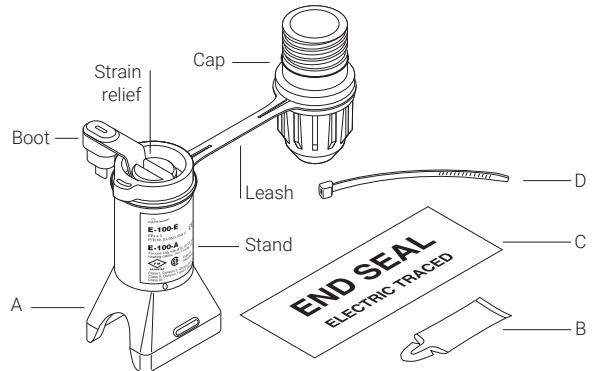
- Wire cutters
- Utility knife
- Slotted screwdriver or nutdriver

### ADDITIONAL MATERIALS REQUIRED

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

### OPTIONAL MATERIALS

- Small pipe adapter for 1 in (25 mm) and smaller pipes:  
Catalog number JBS-SPA P/N E90515-000
- For boot replacement order E-100-BOOT-5/PACK P/N 281053-000



### ⚠ 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 short. They must be properly insulated and kept dry.
- Keep components and heating cable ends dry before and during installation.
- Bus wires will short if they contact each other. Keep bus wires separated.
- Use only fire-resistant insulation materials, such as fiberglass wrap or flame-retardant foam.
- Leave these installation instructions with the user for future use.

### ⚠ CAUTION:

**HEALTH HAZARD:** Prolonged or repeated contact with the sealant in the end seal boot 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:  
(800) 545-6258.

### ⚠ AVERTISSEMENT :

Ce composant électrique doit être installé correctement pour éviter les risques d'incendie ou de chocs électriques. Lire ces avertissements importants et suivre attentivement toutes les instructions d'installation.

- Pour réduire le danger d'incendie causé par un arc électrique entretenu, si le câble chauffant est endommagé ou mal installé, et pour respecter les exigences de nVent et celles des codes applicables, il est impératif d'utiliser une protection par disjoncteur différentiel. Les disjoncteurs ordinaires ne sont pas toujours capables de supprimer les arcs électriques.
- Les approbations et les performances des composants sont basées sur l'utilisation des pièces nVent spécifiées seulement. N'utilisez pas de pièces de rechange ou de ruban isolant en vinyle.

- Le noyau et les fibres du câble chauffant noir sont conducteurs et peuvent provoquer un court-circuit. Ils doivent être correctement isolés et gardés à sec.
- Les fils omnibus endommagés peuvent surchauffer ou subir un court-circuit.
- Ne brisez jamais les fils omnibus lorsque vous incisez la gaine ou le noyau.
- Maintenez les composants et les extrémités des câbles chauffants secs avant et pendant l'installation.
- Les fils omnibus peuvent provoquer un court-circuit s'ils se touchent. Les garder à l'écart les uns des autres
- N'utilisez que des matériaux isolants ininflammables, par exemple une gaine de fibre de verre ou de la mousse ignifuge.
- Laissez ces instructions d'installation à l'utilisateur pour qu'il puisse les consulter.

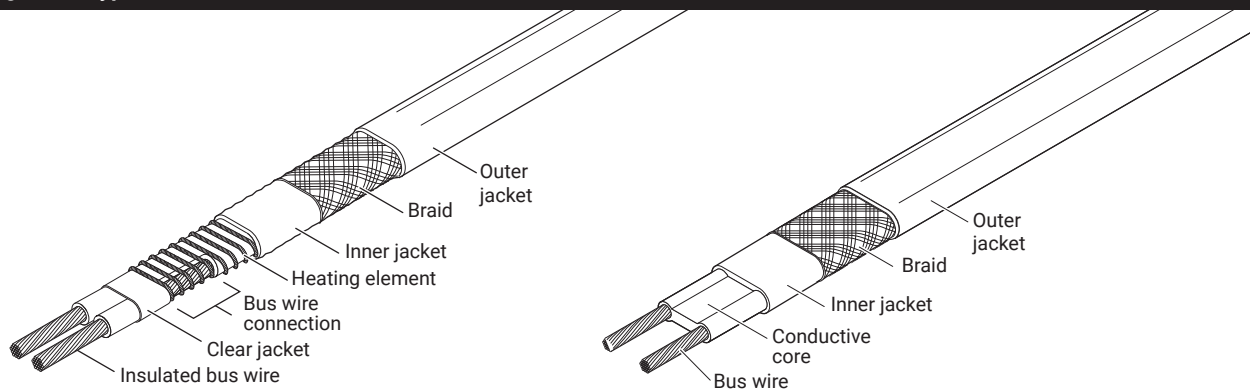
### ⚠ MISE EN GARDE :

**MISE EN GARDE: DANGER POUR LA SANTÉ :** Le contact prolongé ou répété avec le produit d'étanchéité du noyau peut provoquer une irritation de la peau. Lavez-vous les mains soigneusement. La surchauffe et la combustion du produit d'étanchéité produira des vapeurs qui peuvent causer la fièvre des vapeurs de polymères. Évitez la contamination des cigarettes ou du tabac. Consultez la fiche technique santé-sécurité (FTSS) VEN 0058 pour obtenir de plus amples informations.

Téléphone en cas d'urgence 24 heures sur 24 de CHEMTREC : (800) 424-9300

Renseignements non urgents en matière de santé et de sécurité : (800) 545-6258

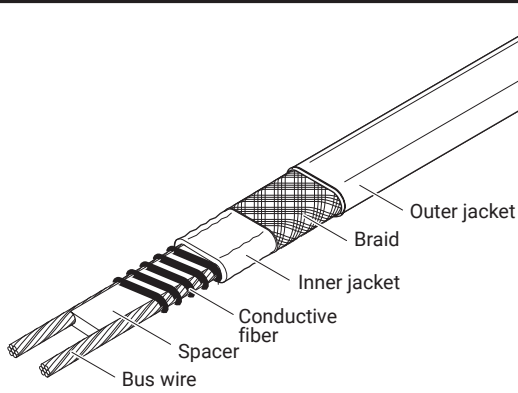
### Heating Cable Types



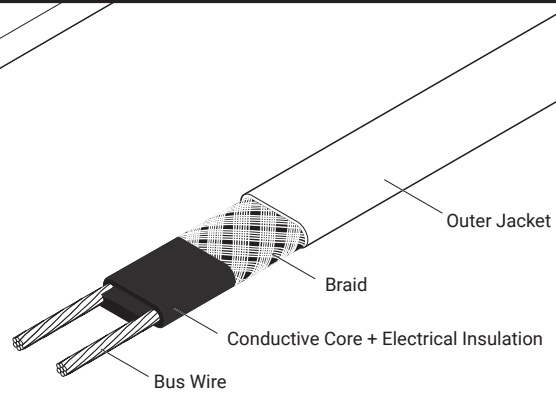
VPL

BTV-CR, BTV-CT, QTVR-CT

## Heating Cable Types



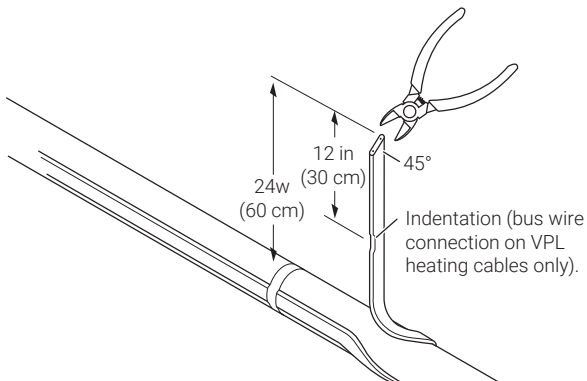
**XTV-CT, KTV-CT**



**HTV-CT**

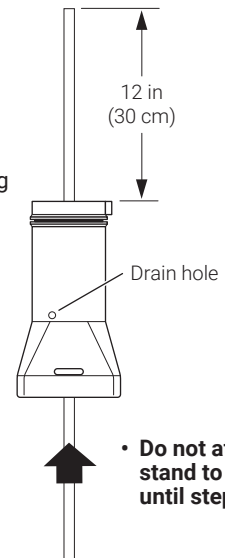
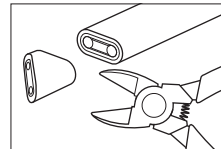
**1**

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



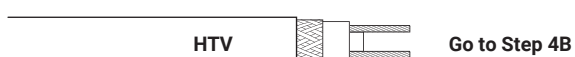
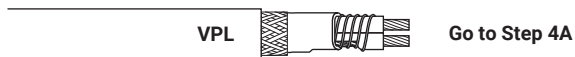
**2**

- Optional: If stand is to be installed on bottom side of pipe, knock out drain hole prior to inserting cable.
- Push 12 in (30 cm) of heating cable through stand. Use cable lubricant if needed.
- Square off cable end with 90° cut.



**3**

- Determine heating cable type and continue as shown.



**4A**

VPL

- Lightly score outer jacket around and down as shown. 1 1/8 in (28 mm)
- Bend heating cable to break jacket at the score, then peel off jacket.
- Remove all exposed braid.
- Lightly score inner jacket around and down as shown. 1/2 in (13 mm)
- Bend heating cable to break jacket at the score then peel off jacket.
- Un-wind heating element, cut and remove as shown.
- Lightly score and remove clear jacket.
- Cut one bus wire. 1/4 in (6 mm)

**Go to Step 5**

**4B**

BTV and QTVR

XTV, KTV

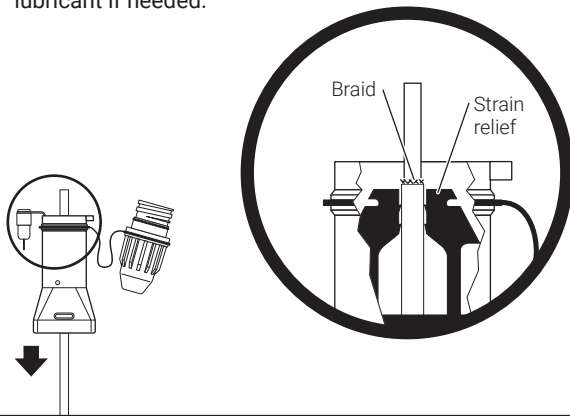
HTV

- Lightly score outer jacket around and down as shown. 1 1/4 in (32 mm)
- Bend heating cable to break jacket at the score, then peel off jacket.
- Remove all exposed braid.

**Go to Step 5**

5

- Pull heating cable back through bottom of end seal stand until braid is just visible above strain relief. Use cable lubricant if needed.



6

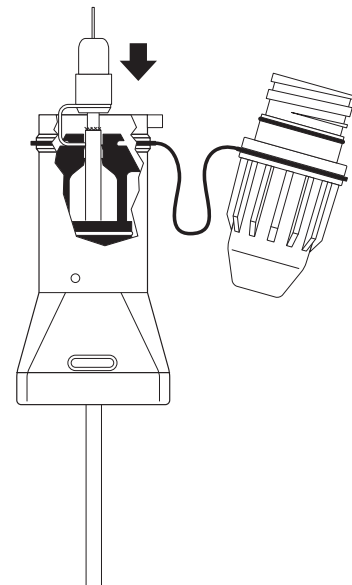
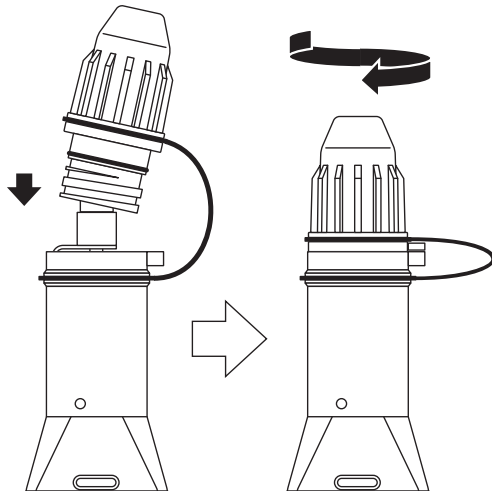
**CAUTION: Health Hazard. Wash hands after contact with sealant. Consult material safety data sheet VEN 0058.**

**AVERTISSEMENT: risque pour la santé. Se laver les mains après tout contact avec le produit d'étanchéité. Consulter la fiche de données de sécurité VEN 0058.**

- Push boot onto the end of the heating cable until it bottoms out.

7

- Install cap; tighten until the slot on the cap and the slot on the stand align.

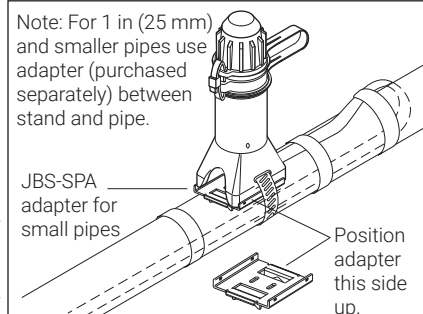
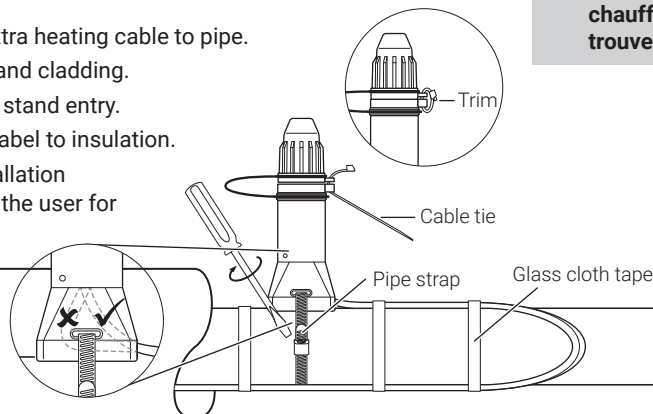


8

- Fasten end seal to pipe with strap. Do not pinch heating cable.
- Install cable tie.
- Loop and tape extra heating cable to pipe.
- Apply insulation and cladding.
- Weather-seal the stand entry.
- Fasten end seal label to insulation.
- Leave these installation instructions with the user for future reference.

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

**ATTENTION: Pour éviter de pincer le câble chauffant, assurez-vous que le câble ne se trouve pas sous la sangle du tuyau.**



**END SEAL**  
ELECTRIC TRACED

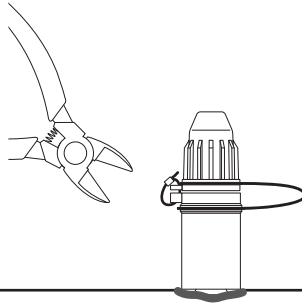
## E-100-A Re-entry Instructions

**A**

**⚠ WARNING: Shock Hazard. Conductors will be exposed. Re-entry should only be performed by qualified personnel. Follow standard electrical lockout procedures before opening end seal.**

**⚠ AVERTISSEMENT: Risque d'électrocution. Les conducteurs seront exposés. L'opération pour les passer de nouveau à l'intérieur doit être effectuée seulement par du personnel qualifié. Suivre les procédures de verrouillage électrique standard avant d'ouvrir l'embout d'étanchéité.**

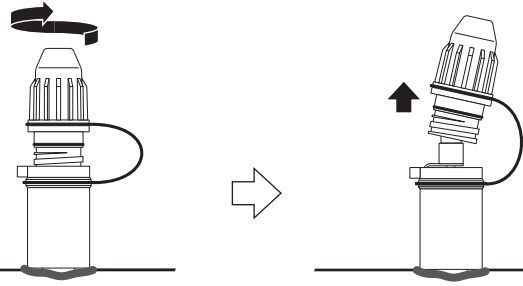
- Turn off power.
- Clip cable tie and remove.



**END SEAL**  
ELECTRIC TRACED

**B**

- Unscrew cap from end seal stand.



**END SEAL**  
ELECTRIC TRACED

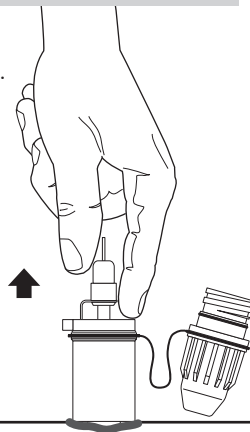
**END SEAL**  
ELECTRIC TRACED

**C**

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

**⚠ AVERTISSEMENT: risque pour la santé. Se laver les mains après tout contact avec le produit d'étanchéité. Consulter la fiche de données de sécurité VEN 0058.**

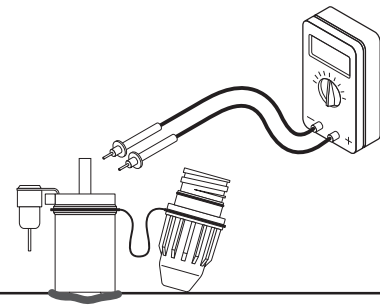
- Grab black ring and remove boot.



**END SEAL**  
ELECTRIC TRACED

**D**

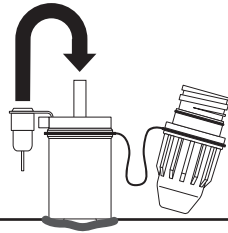
- Test as required.
- Refer to Industrial Heat-Tracing Installation and Maintenance Manual (H57274) for test procedures.



**END SEAL**  
ELECTRIC TRACED

**E**

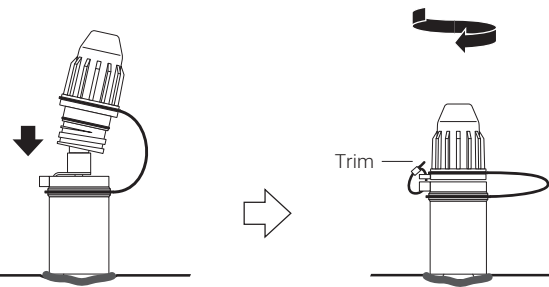
- Inspect boot. If boot is damaged or sealant appears dry or missing, replace boot. For replacement boots, order kit E-100-BOOT-5/PACK. Otherwise, re-install boot.



**END SEAL**  
ELECTRIC TRACED

**F**

- Install cap; tighten until the slot on the cap and the slot on the stand align.
- Install new cable tie.



**END SEAL**  
ELECTRIC TRACED

**END SEAL**  
ELECTRIC TRACED

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

**⚠ AVERTISSEMENT- Risque d'explosion. La substitution de composants peut rendre ce matériel inacceptable pour les emplacements de classe 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.**

**⚠ AVERTISSEMENT - Risque d'explosion. Ne pas débrancher l'appareil à moins d'avoir coupé l'alimentation électrique ou à moins qu'il ne s'agisse d'un emplacement non dangereux**

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