

# LineBrace Instruction Manual

Models:

# TKL-3K~13K

For Copper Air  
Conditioning Line sets

## TKL Pipe Support (Non-Braze)

### Important:

- Always use a licensed contractor
- This instruction manual is valid only in North America
- Ensure this manual is passed on to relevant personnel
- For inquiries, contact your local supplier

### Note:

This product is designed specifically for copper air conditioning line sets and has not been tested or approved for use in any other application.

Supplied nuts and bolts are metric and designed for LineBrace use only – Do not replace lost or damaged bolts with imperial/standard sizes.

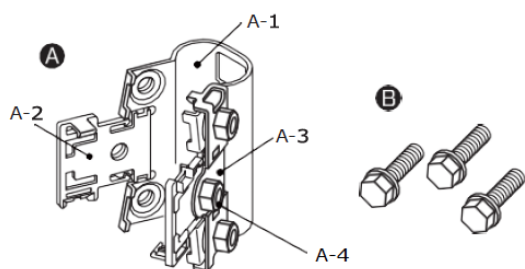
- Failure to follow these instructions increases the risk of hazards to include but not limited to:

<b>Caution</b>	<b>Personal Injury:</b> <ul style="list-style-type: none"> <li>• Always wear appropriate Personal Protective Equipment (PPE) while performing work</li> </ul>
<b>Warning</b>	<b>Property Damage:</b> <ul style="list-style-type: none"> <li>• Follow all applicable codes</li> <li>• Ensure LineBrace is securely mounted as per the installation instructions and site specific requirements</li> </ul>

**Note:** Product performance and functionality may be affected if the following instructions are not followed:

- Thermal expansion must be considered during installation. Expansion loops, offsets, etc. may be required
- Use only dedicated LineBrace bases, bolts, etc. for installation as aftermarket parts/supplies substitutes are not approved
- The stainless clamps **cannot be reused** as they will change shape after first application
- Piping support is required at each floor/level as per equipment manufacturer and/or local code authority
- UV protection of the insulation is required when installed in areas exposed to UV rays to protect from degradation

## Specifications and Parts Descriptions

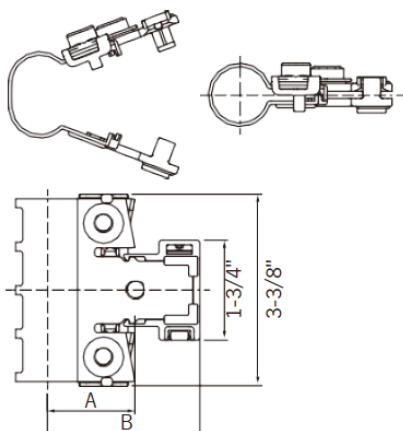


### Details

Symbols	Detail	Material	Quantity
A	LineBrace Main Body Parts		
	A-1: Clamp	304 Stainless	1
	A-2: Spacers	Polycarbonate	2
	A-3: Temporary clamping plate	Polypropylene	1
	A-4: Captive hex nut M8	Stainless	3
B	Hex Bolt M8" x 7/8"	Stainless	3

## Dimensions

Unit: inch



Models	Sizes		
	Compatible pipe sizes	A	B
TKL-3K	3/8"	1-1/4	2-3/8
TKL-4K	1/2"	1-3/8	2-1/2
TKL-5K	5/8"	1-3/8	2-1/2
TKL-6K	3/4"	1-1/2	2-5/8
TKL-7K	7/8"	1-1/2	2-5/8
TKL-9K	1-1/8"	1-5/8	2-7/8
TKL-11K	1-3/8"	1-3/4	2-7/8
TKL-13K	1-5/8"	2	3-1/8

Models	Load Capacities	
	LBS.	(N)
TKL-3K	169	755
TKL-4K	183	814
TKL-5K	319	1421
TKL-6K	339	1510
TKL-7K	368	1642
TKL-9K	449	2002
TKL-11K	542	2414
TKL-13K	652	2907

### ■ Mounting location

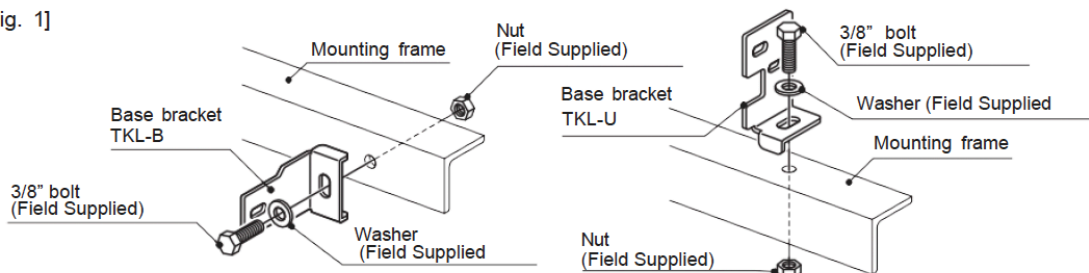
- Locate the center point of the riser to determine the precise position of the LineBrace base bracket
- Select appropriate anchor type to suit mounting surface material
- Refer to local codes or project specifications if necessary

### ■ Mounting the base bracket

- To mount the LineBrace Base Bracket onto a structural angle iron cross member, select the TKL-B, or TKL-U base bracket. (Figure 1)
- To mount the LineBrace Base Bracket onto a flat surface, select the TKL-K base bracket

- Note:**
- Use commercially available, stainless bolts, nuts washers & lock washers, with minimum diameter of 3/8" when attaching the bracket onto the mounting surface. Washers must be used as shown in figure 1 to protect the powder coating on the base bracket
  - Ensure that the surface on which the bracket/s is to be mounted, is structurally sound enough to support the weight of the entire vertical lineset.

[Fig. 1]



※ For selecting a specific LineBrace base bracket (Model: TKL-B, TKL-K, TKL-U), see "Distance L (in) between the center of copper tube and the mounting frame (wall)" described in the Specifications (see page 5).

### ■ Mounting the main body

#### Warning

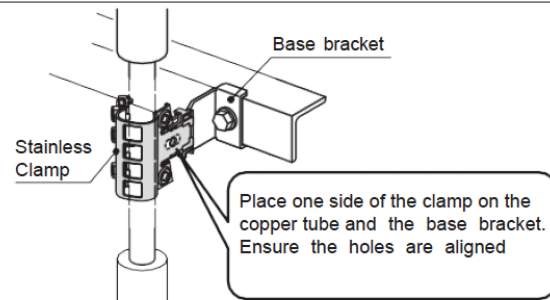
The stainless clamps **cannot be reused** as they have changed shape after first use. Use field supplied stainless bolts to attach base to the mounting surface (See note above).

#### 1. Before mounting

- (1) Align the holes of the stainless clamp and the base bracket

[Fig. 2]

[Fig. 2]

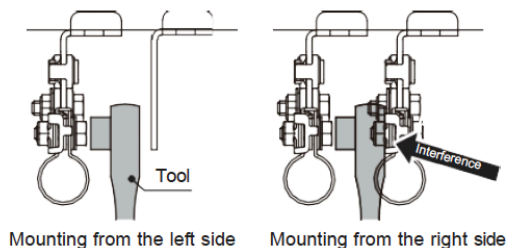


- (2) Ensure clearance is maintained if installing another LineBrace in close proximity.

[Fig. 3]

[Fig. 3]

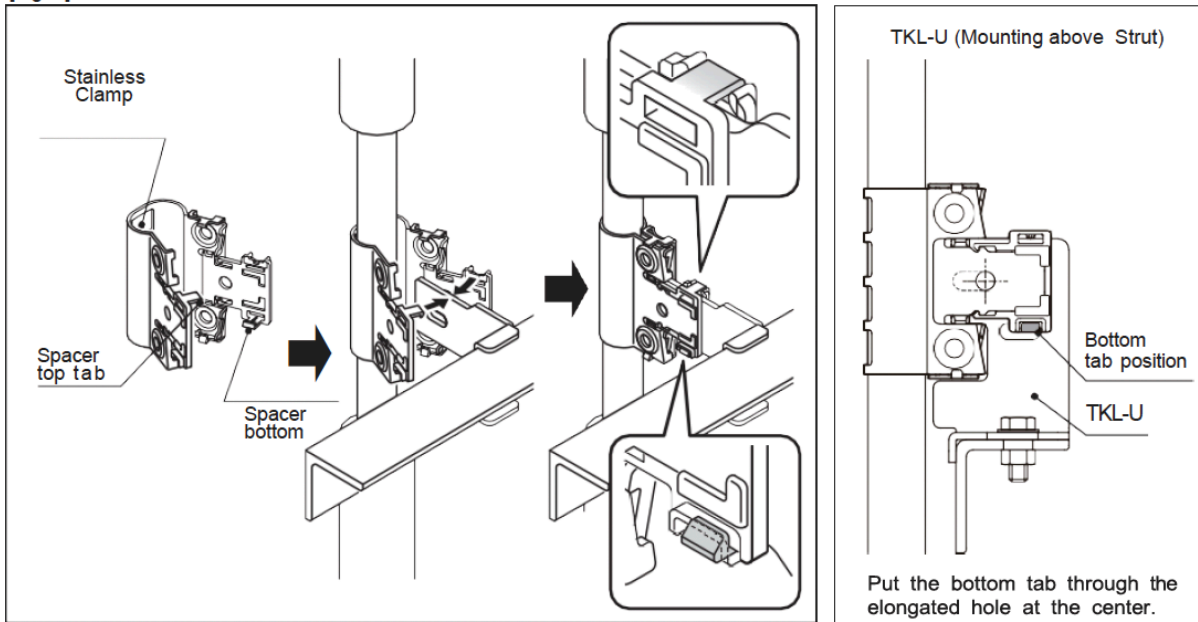
Example



## 2. Preliminary Mounting

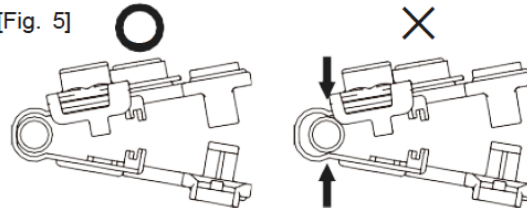
Press the stainless steel clamp onto the copper pipe by hand. Squeeze the gray spacers until they click together then adjust up or down accordingly. [Fig. 4]

[Fig. 4]



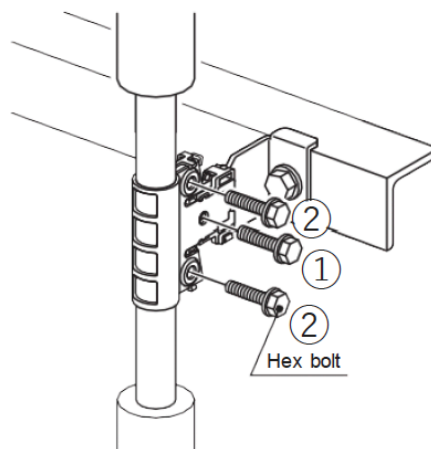
Note: When closing the clamp, ensure the copper pipe is fully seated inside clamp [Fig. 5]

[Fig. 5]



## 3. Tightening the bolts

- ①. Insert supplied stainless steel bolts. Starting from the center position, incrementally tighten in a clockwise fashion to 9.2 FT.LB. (Minimum) torque.





## INSTALLING THE INSULATION SLEEVE

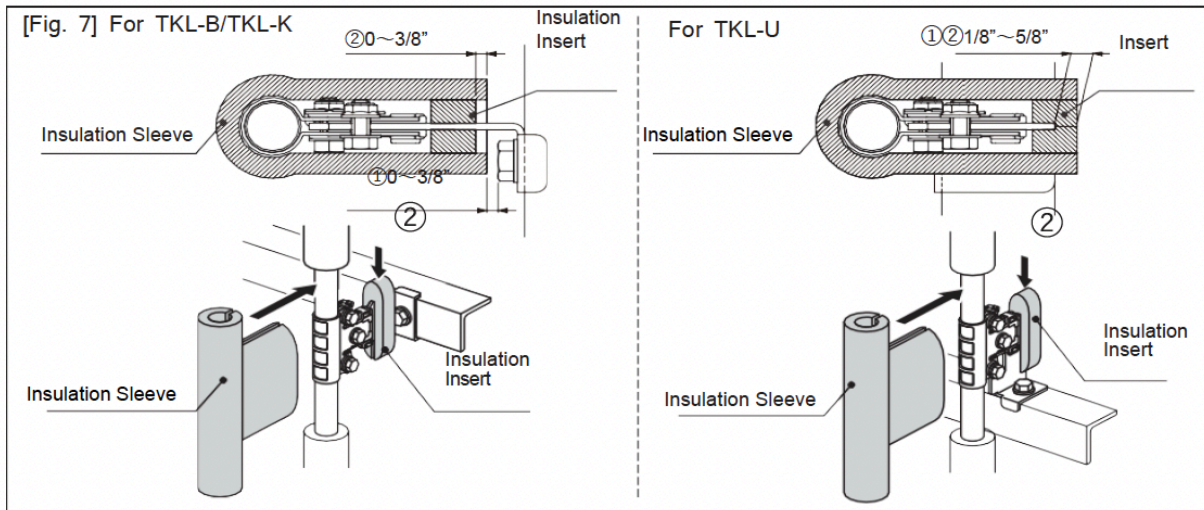
To prevent condensation, the LineBrace insulation sleeve (Model: TKL-SH, TKL-DH) must be installed.

1. Remove 9" of lineset insulation centered on the clamp to allow installation of the insulation sleeve. (See figure 7 for TKL-B & TKL-K base brackets and figure 7A for TKL-U base brackets)

### Note:

A required insulation insert is supplied with insulation sleeves TKL6-DH - TKL14-DH to seal the gap where the sleeve meets the base bracket. (Figure 7 & 7A).

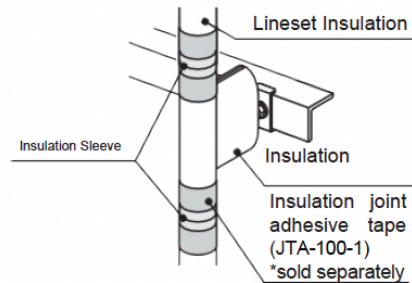
- Not required and not supplied for TKL3-DH - TKL5-DH insulation sleeves.)



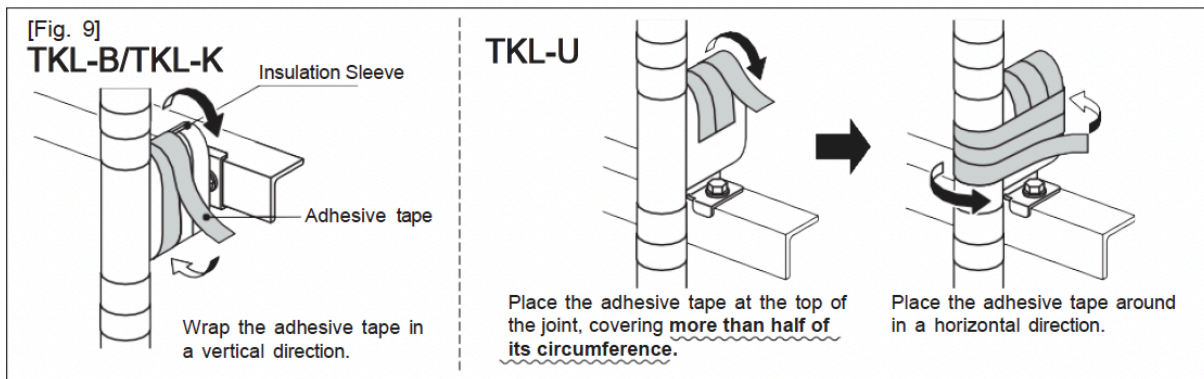
2. Applying insulation joint adhesive tape (Model: JTA-100-1):

- Clean and remove all dust & debris from the surfaces where the adhesive tape is to be applied.
- Apply model JTA-100-1 around both joints where the insulation sleeve meets the pipe insulation, overlapping at least 1". (Figure 8) Ensure there are no air gaps and tape has full contact with the surfaces of both the sleeve and pipe insulation to provide good adhesion.

[Fig. 8]



3. Place adhesive tape (Model: HF, HV, HR) around the joints of the insulation as seen in [Fig. 9]



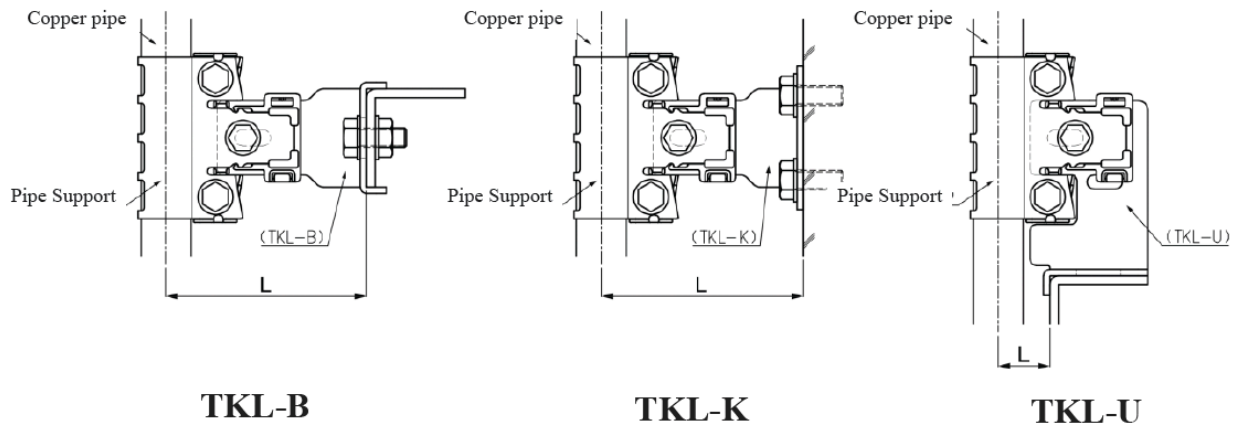
## Mounting procedure

### ■ LineBrace Application

- **Note:**
- The split design is flexible and allows for retrofit applications
  - Modifications to existing pipe support may be required to ensure proper piping alignment
  - Distances from the mounting surface to the center of the piping must be aligned
  - Failure to ensure correct alignment may result in damage to the LineBrace, refrigerant piping or both

See figure 6 below for details:

**Figure 6**



Distance L between the center of copper piping riser and the base bracket (wall) (Inches)

Models	TKL-B60 TKL-K60	TKL-B70 TKL-K70	TKL-B80 TKL-K80	TKL-B90 TKL-K90	TKL-B100 TKL-K100	TKL-U00 Insulation cover	TKL-U00 Insulation cover TKL-DH
TKL-3K	2-7/8" ~ 3-3/8	~ 3-5/8	~ 4	~ 4-1/2	~ 4-7/8	3/4 ~ 1-1/8	1-1/8
TKL- 4K	3 ~ 3-3/8	~ 3-3/4	~ 4-1/4	~ 4-5/8	~ 5	3/4 ~ 1-1/4	1-1/4
TKL- 5K	3-1/8 ~ 3-1/2	~ 3-7/8	~ 4-1/4	~ 4-5/8	~ 5	7/8 ~ 1-1/4	1-1/4
TKL- 6K	3-1/8 ~ 3-5/8	~ 4	~ 4-3/8	~ 4-3/4	~ 5-1/8	1 ~ 1-3/8	1-3/8
TKL- 7K	3-1/4 ~ 3-5/8	~ 4	~ 4-3/8	~ 4-3/4	~ 5-1/8	1 ~ 1-3/8	1-3/8
TKL- 9K	3-3/8 ~ 3-3/4	~ 4-1/8	~ 4-1/2	~ 5	~ 5-3/8	1-1/8 ~ 1-1/2	1-1/2
TKL-11K	3-1/2 ~ 3-7/8	~ 4-1/4	~ 4-5/8	~ 5	~ 5-1/2	1-1/4 ~ 1-5/8	1-5/8
TKL-13K	3-5/8 ~ 4	~ 4-3/8	~ 4-7/8	~ 5-1/4	~ 5-5/8	1-1/2 ~ 1-7/8	1-7/8

- These are recommendations for piping support based on factory tests
- Always check with the local code authority for specifics or requirements that are more stringent



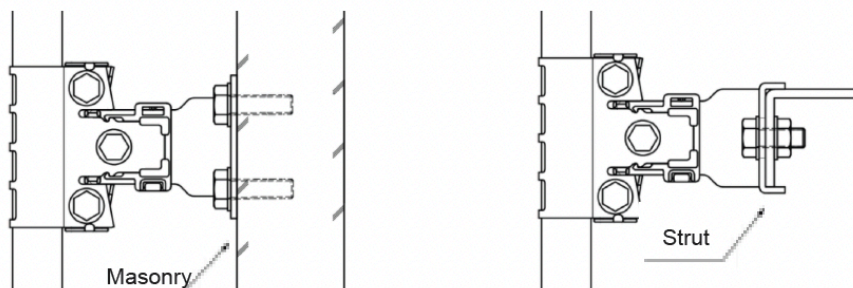
## ■ LineBrace Mounting Support

- **Note:**
- Substrate and anchors must bear the weight of the piping
  - If mounting the LineBrace to field-supplied strut, ensure the load capacity of the strut can support the weight of all related piping components
  - Ensure all anchors and mounting hardware are designed for the substrate in which it is to be mounted i.e. masonry anchors, lag bolts, screws, etc.

See figure 7 below for examples:

[Fig. 7]

Examples Only

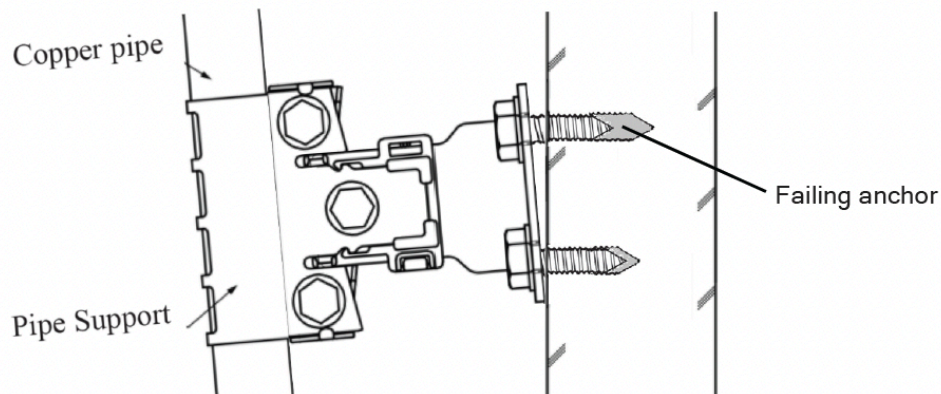


## WARNING!

Failure to mount into a stable substrate may lead to catastrophic failure

See figure 8:

[Fig. 8]



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INABA DENKI SANGYO CO.,LTD.

INABA DENKO COMPANY

See the following website for more information;  
<https://www.inaba-denko.com/en/>  
(up-to-date & technical information, etc.)