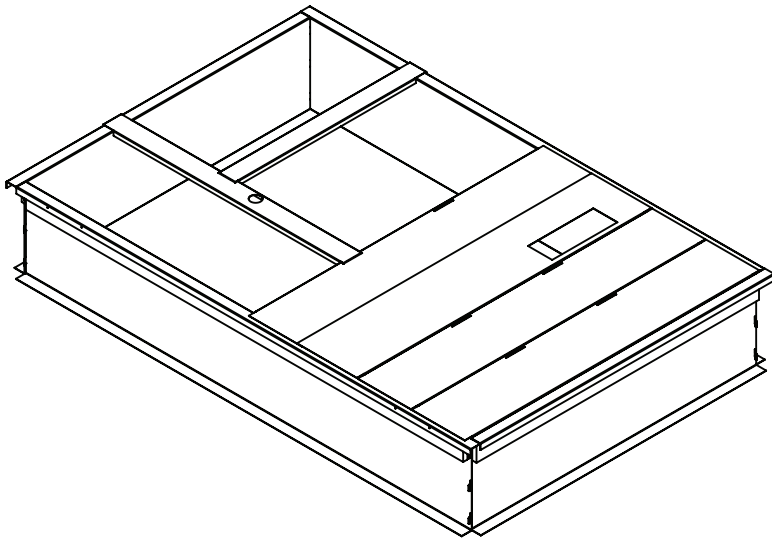


# Installation Guide

## **Roof Curb**

For Medium Foundation Packaged Rooftops

7.5 – 12.5 Tons



**Model Number:** BAYCURB310\*

**Used with:** EBC090-150, GBC090-150

### **▲ SAFETY WARNING**

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

## Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

**NOTICE**

Indicates a situation that could result in equipment or property-damage only accidents.

### Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs and HCFCs such as saturated or unsaturated HFCs and HCFCs.

### Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

## ⚠ WARNING

### Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in **NEC** and your local/state/national electrical codes.

## ⚠ WARNING

### Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

## **⚠ WARNING**

### **Follow EHS Policies!**

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

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## **Unit Inspection**

To protect against loss due to damage incurred in transit, perform inspection immediately upon receipt of the unit.

### **Exterior Inspection**

If the job site inspection reveals damage or material shortages, file a claim with the carrier immediately. Specify the type and extent of the damage on the bill of lading before signing. Notify the appropriate sales representative.

**Important:** Do not proceed with installation of a damaged unit without sales representative's approval.

- Visually inspect the complete exterior for signs of shipping damages to unit or packing material.
- Verify that the nameplate data matches the sales order and bill of lading.
- Verify that the unit is properly equipped and there are no material shortages.
- Verify that the power supply complies with the unit nameplate specifications.

### **Inspection for Concealed Damage**

Visually inspect the components for concealed damage as soon as possible after delivery and before it is stored.

If concealed damage is discovered:

- Notify the carrier's terminal of the damage immediately by phone and by mail.
- Concealed damage must be reported within 15 days.
- Request an immediate, joint inspection of the damage with the carrier and consignee.
- Stop unpacking the unit.
- Do not remove damaged material from receiving location.
- Take photos of the damage, if possible.
- The owner must provide reasonable evidence that the damage did not occur after delivery.

## **Parts List**

- 2 Side rails
- 2 End rails
- 1 Side curb flange
- 1 End curb flange
- 4 Insulated block-off panels
- Gasketing material
- Sheet metal screws

# General Information

This manual describes the layout and installation procedures required to properly assemble and install the roof curb. Illustrations are provided for dimensional data regarding roof opening construction. Each curb package ships un-assembled, along with the required hardware and gasketing material. Roof insulation, cant strips, flashing (if desired) and nails must be furnished by the installing contractor.

## Roof Opening

For safety and sound considerations, do not cut out the entire roof deck within the curb area.

## Roof Support

**⚠ WARNING**

**Risk of Roof Collapsing!**  
 Failure to ensure proper structural roof support could cause the roof to collapse, which could result in death or serious injury and property damage.  
 Confirm with a structural engineer that the roof structure is strong enough to support the combined weight of the roofcurb, the unit, and any accessories.

The roof must be capable of adequately supporting the weight of the rooftop unit and accessories, as well as that of the curb; refer to Figure 2 and Table 1 for specific center-of-gravity and corner weight information. Units may be set either perpendicular or parallel to roof support members. The combined weight of the unit, accessories, and curb should be evenly spaced between a minimum of two (2) supports. Ensure that the curb's position on the roof support

does not interfere with the clearance required for the supply/return ductwork.

## Clearances

The recommended clearances for single-unit installation are illustrated in Figure 1. These minimum requirements are not only an important consideration when determining unit placement, but are also essential to ensure adequate serviceability, maximum capacity, and peak operating efficiency. Any reduction of the unit clearances indicated in this illustration may result in condenser coil starvation, or the recirculation of warm condenser air. Actual clearances which appear to be inadequate should be reviewed with a local sales engineer.

**Note:** Unit weights are maximum valve of horizontal and downflow configuration, with oversized motor and largest heater installed in units.

Figure 1. Roof curb dimensions

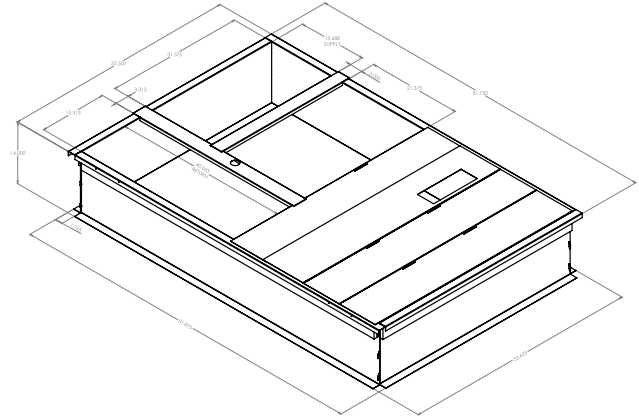


Table 1. Maximum unit and corner weights (lb) and center of gravity dimensions (in.)

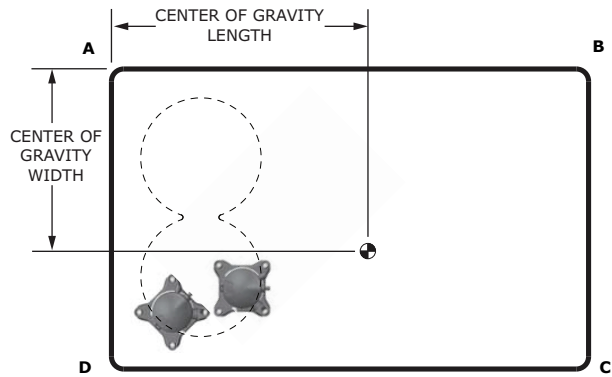
Tons	Unit Model No.	Weights (lb) <sup>(a), (b)</sup>		Corner Weights <sup>(c)</sup>				Center of Gravity (in.)	
		Shipping	Net	A	B	C	D	Length	Width
7.5	GBC090A	1080	1003	215	235	255	298	42	24.8
	EBC090A	997	920	197	179	258	286	46.3	24.1
8.5	GBC102A	—	—	—	—	—	—	—	—
	EBC102A	—	—	—	—	—	—	—	—
10	GBC120A	1232	1157	239	224	335	359	45.5	23.5
	EBC120A	1144	1069	222	206	309	332	45.7	23.6
12.5	GBC150A	—	—	—	—	—	—	—	—
	EBC150A	—	—	—	—	—	—	—	—

<sup>(a)</sup> Weights are approximate. Horizontal and downflow unit and corner weights may vary slightly.

<sup>(b)</sup> Weights do not include additional factory or field installed options/accessories.

<sup>(c)</sup> Corner weights are given for information only. 7.5–12.5 ton models must be supported continuously by a curb or equivalent frame support.

**Figure 2. Center of gravity/corner weights**



**Table 2. Curbs weight (net lbs.)**

Curb	Weights
BAYCURB310*	110

# Installation

Read the entire manual carefully to become familiar with the roof curb installation procedures. If the roof curb will be mounted on a new building, it can be assembled at any convenient location and installed as soon as the roof support members are in place. As a general rule, the curb should be placed directly on the roof support members. Use tack welding or other suitable fastening method to secure the roof curb in place. The curb can also be mounted on a roof deck. In this case, additional nailing plates must be provided directly below the flanges of the curb to give further support, and to minimize vibration. See Figure 5 and Figure 6.

## Curb Installation

1. Pre-assemble the curb as shown in Figure 3 and Figure 4.
2. Set the curb in the proper position around the roof opening.
3. The curb must be leveled to ensure proper flow of condensate from the unit. The maximum pitch of the roofcurb down from the access side of the unit (See Figure 1) is 1/16 inch per foot. To check the flatness of the curb, stretch lines diagonally between opposite corners of the assembled curb. The distance between the lines (at their point of intersection) should not exceed 1/4 inch. If the lines touch, reverse them (place the top line on the bottom and the bottom line on top), and recheck the point of intersection. Shim under the curb as necessary.
4. Check the curb assembly for squareness by measuring diagonally between opposite corners of the curb. The distance indicated by these measurements should be the same.
5. Fasten the curb to the roof support members, or roof deck. See Figure 5 and Figure 6.
6. Bring the roof material up to the curb as shown in Figure 5 and Figure 6. Place a piece of rigid insulation around the curb and fasten it (from the inside), with nails.
7. Install cant strips as shown in Figure 5 of either 4" by 4" wood (cut diagonally in half), or other suitable material. With the cant strips in place, bring the roofing felts up to the top of the curb nailing strips. Push the felts up under the lip of the curb and nail them tightly into position. Note: Any pipes or electrical conduits which extend through the roof must be flashed with a sleeve and roof flange extending a minimum of 8 inches above the roof surface.
8. The roof curb installation is now complete and ready for ductwork and unit installation.

Figure 3. Curb rail assembly

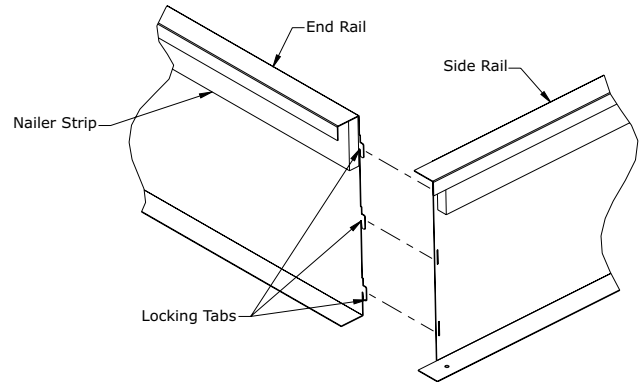


Figure 4. Installing gasket material

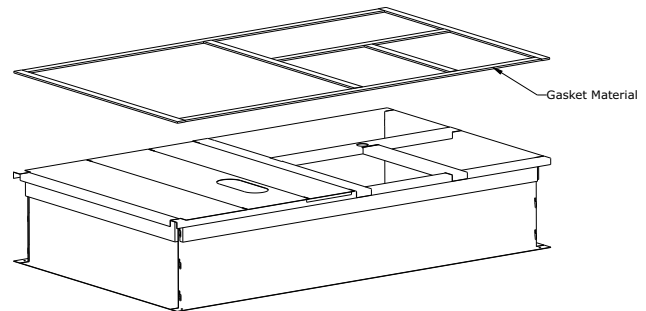
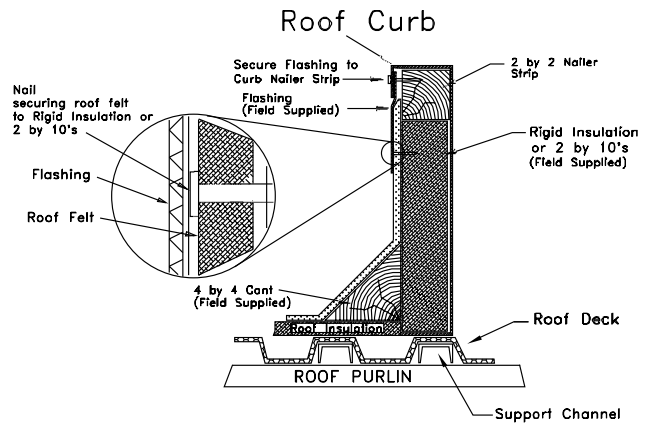
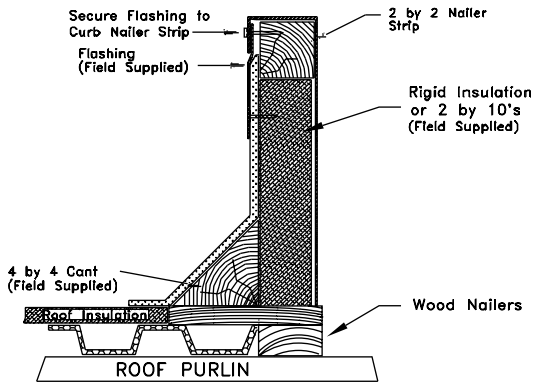


Figure 5. Typical installation on new construction



**Figure 6. Typical installation on existing construction**



## Supply and Return Air Ductwork

- When flexible duct is not desired, metal or fiberboard duct may be installed.
- The metal or fiberboard duct must conform to all

local building codes.

- The duct must be hung from the curb flanges inside the curb walls.

**Important:** Duct work must be hung from the curb flanges. It must not be installed over the top edges of the curb.

- When the duct is fabricated it should be large enough to cover the openings for the return and supply sides of the unit, but the flanges must be narrow enough to slide down inside the curb.

**Important:** All duct work that attaches to the curb, must be in place and secured before the unit is set.

- To ensure proper duct construction and installation, SMACNA recommendations should be closely followed.

**Note:** All field fabricated panels used must be insulated.

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