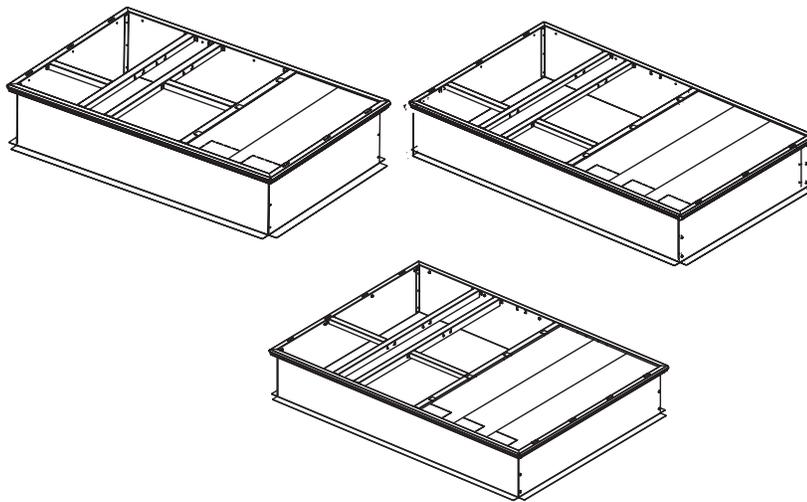


Installation Instructions

Roof Curb Precedent™ Packaged Rooftop Units



Model Numbers:

BAYCURB042A

BAYCURB043A

BAYCURB044A

Used with:

T/YSC036-060E, T/YHC036E, T/YHC037E, WSC036-048E,
WSC060ED

T/YSC072-102E, T/YSC120F, T/YHC047-120E, T/YHC092F, WSC060-
090E, WSC072-120ED

T/YHC092-120E, WSC120E

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

Warnings, Cautions and Notices. Note that warnings, cautions and notices appear at appropriate intervals throughout this manual. Warnings are provided to alert installing contractors to potential hazards that could result in personal injury or death. Cautions are designed to alert personnel to hazardous situations that could result in personal injury, while notices indicate a situation that could result in equipment or property-damage-only accidents. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

ATTENTION: Warnings, Cautions and Notices appear at appropriate sections throughout this literature. Read these carefully.

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

 **CAUTION:** 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 such as HCFCs and HFCs.

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. 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

Personal Protective Equipment (PPE) Required!

Installing/servicing this unit could result in exposure to electrical, mechanical and chemical hazards.

- Before installing/servicing this unit, technicians **MUST** put on all Personal Protective Equipment (PPE) recommended for the work being undertaken. **ALWAYS** refer to appropriate MSDS sheets and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate MSDS sheets and OSHA guidelines for information on allowable personal exposure levels, proper respiratory protection and handling recommendations.
- If there is a risk of arc or flash, technicians **MUST** put on all necessary Personal Protective Equipment (PPE) in accordance with NFPA70E for arc/flash protection **PRIOR** to servicing the unit.

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

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General Information

General

This manual describes the layout and installation procedures required to properly assemble and install the roof curb. Illustrations in [Figure 7, p. 9](#) for T/YSC036-060E, T/YHC036E, T/YHC037E, WSC036-048E, WSC060ED units, or [Figure 14, p. 12](#) for T/YSC072-102E, T/YSC120F, T/YHC047-067E, T/YHC092F, WSC060-090E, WSC120ED units or [Figure 21, p. 16](#) for T/YHC092-120E, WSC120E units, are provided for dimensional data regarding roof opening construction.

Each curb package ships unassembled, along with the required hardware and gasketing material. Roof insulation, cant strips, flashing (if desired), nails, and sheet metal screws must be furnished by the installing contractor.

Important: DO NOT discard EPS foam panels included in this kit. They are used for insulating the condenser section of the roof curb. Follow instructions for installation.

Initial Inspection

Compare the order number on the shipping label with the accessory identification information on the ordering and shipping documents to verify that the correct accessory has been received.

Clearances

The recommended clearances for single-unit installations are illustrated in [Figure 6, p. 8](#) for T/YSC036-060E, T/YHC036E, T/YHC037E, WSC036-048E, WSC060ED units or [Figure 13, p. 12](#) for T/YSC072-102E, T/YSC120F, T/YHC047-067E, T/YHC092F, WSC060-090E, WSC120ED units or [Figure 20, p. 15](#) for T/YHC092-120E, WSC120E units.

These minimum requirements are not only an important consideration when determining unit placement, but they are also essential to ensure adequate serviceability, maximum capacity, and peak operation efficiency.

Any reduction of the unit clearances indicated in these illustrations 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.

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 22, p. 16](#) and [Figure 23, p. 17](#).

When the installation is on an existing building, hoist the shipping container directly onto the roof.

Supply and Return Air Ductwork

All ductwork must be run and attached to the curb before the unit is set into place.

All ductwork must be fabricated and installed by the installing contractor. To ensure proper duct construction and installation, SMACNA recommendations should be closely followed.

Note: All field fabricated panels used must be insulated. (See [Figure 5, p. 8](#), [Figure 12, p. 11](#), or [Figure 19, p. 15](#)).

Roof Opening

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

Roof Support

WARNING **Heavy Objects!**

The roof must be capable of adequately supporting the weight of the rooftop unit as well as that of the curb. If unsure, you MUST contact a structural engineer for guidance. Failure to follow recommendations could result in the roof collapsing which could result in death, serious injury, and property damage.

Important: Refer to [Figure 24, p. 19](#), [Table 1, p. 17](#), [Table 2, p. 18](#) and [Table 3, p. 18](#) for specific center-of-gravity, corner weight information and accessory weights.

Units may be set either lateral or parallel to the 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 supports does not interfere with the clearance required for the supply/return ductwork. See [Figure 7, p. 9](#) for T/YSC036-060E, T/YHC036E, T/YHC037E, WSC036-048E, WSC060ED units or [Figure 14, p. 12](#) for T/YSC072-102E, T/YSC120F, T/YHC047-067E, T/YHC092F, WSC060-090E, WSC120ED units or [Figure 21, p. 16](#) for T/YHC092-120E and WSC120E units

Note: For convenience, it is suggested that the starting collars for the supply and return ductwork be installed before the curb is placed into position.

Roof Curb Installation for BAYCURB042A

T/YSC036-060E, T/YHC036E, T/YHC037E, WSC036-048E, WSC060ED

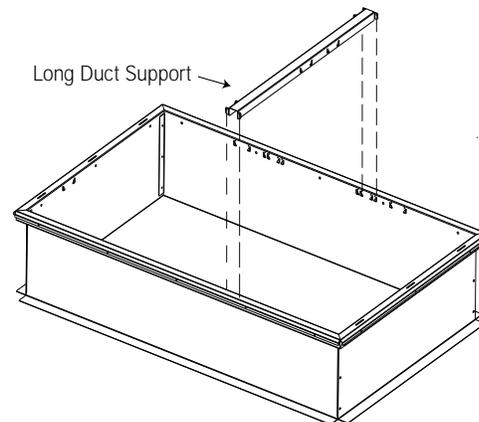
Parts List

- 2 ends
- 2 sides
- 3 long duct supports
- 2 short duct supports
- 3 insulation supports
- 2 sheets of EPS foam insulation
- Gasket
- These instructions

There are more attachment locations (raised triangular shaped corner slots) than actual component attachments; to assemble the roof curb, you will need a tape measure to assure components are in the correct orientation. Locate the correct attachment slots for the internal supports using the dimensions from the diagram.

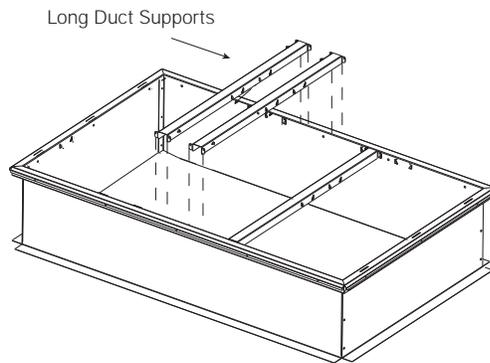
1. Set the two (2) sides and two (2) ends on a flat surface to form a square, with the wood nailers facing the outside. Assembling a long duct support at this point will hold the sides in place while fastening ends.
2. Screw the sides and ends together with the 1/4x5/8 screws provided.
3. Assemble a long (37.42") duct support between the two sides: insert the first duct support 14.6" from either end by inserting the tabs on each end of the duct support into the appropriate triangular shaped slots. See [Figure 1](#).

Figure 1. Step one



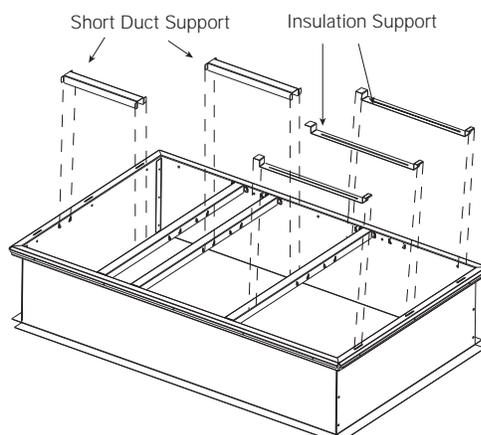
4. Insert the other two long duct supports as shown. See [Figure 2, p. 7](#). Verify the 4.88" and 16.75" dimensions between long duct supports.

Figure 2. Step two



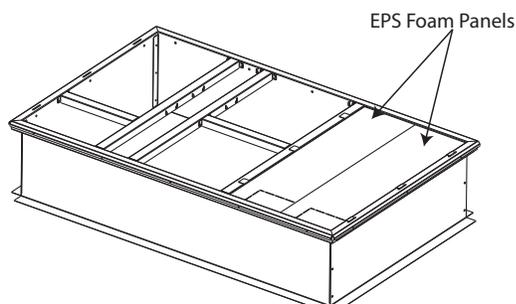
5. Locate the position for the short duct support, 10.49" from the side, that fits between the first long duct support and the end. Insert the support flanges into the appropriate corner catches. Verify the 10.49" dimension. See [Figure 3](#)

Figure 3. Step three



6. Insert the second short duct support between the middle and right long duct supports. Verify the 17.84" dimension from the duct support to the side. See [Figure 3](#).
7. Insert the three (3) insulation supports between the right end and the closest long duct support, being sure to insert the tabs into the slots in the top of the end piece. See [Figure 3](#).
8. Install insulation and gasket. See [Figure 4](#) and [Figure 5, p. 8](#).

Figure 4. Step four



Installation

BAYCURB042A

Figure 5. Step five

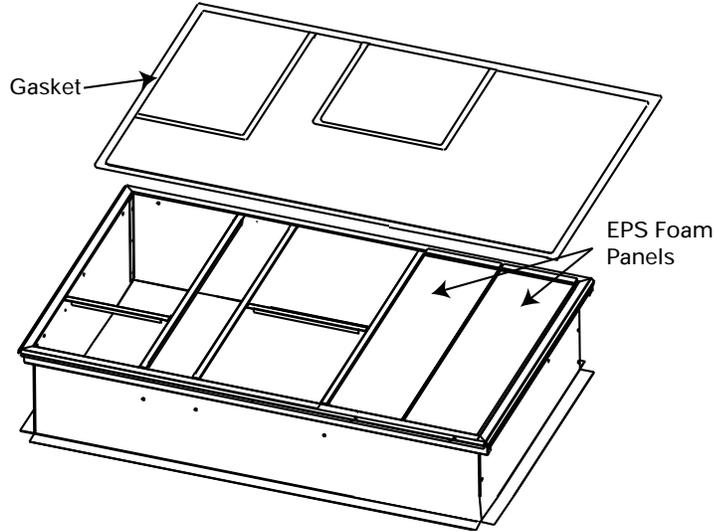


Figure 6. Curb dimensional data T/YSC036-060E, T/YHC036E, T/YHC037E, WSC036-060ED

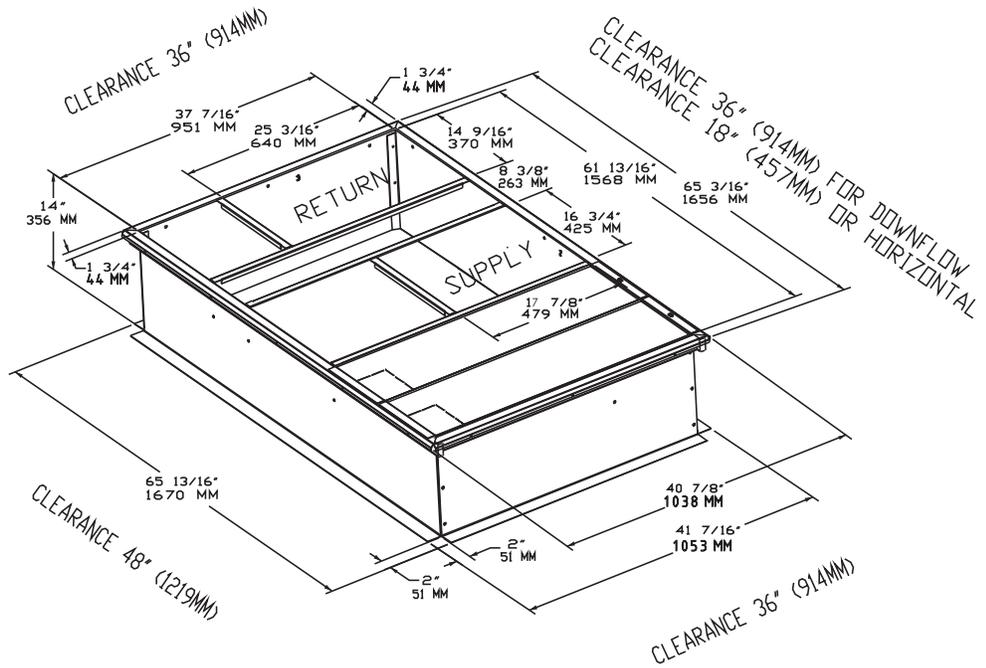
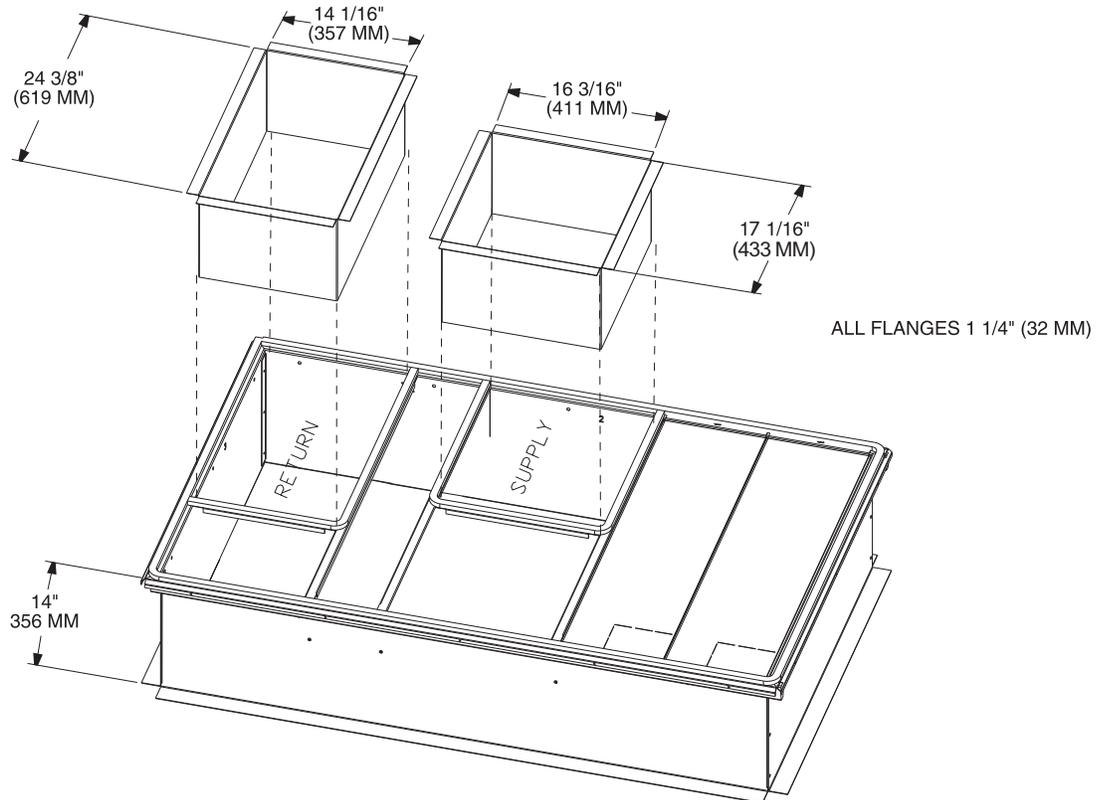


Figure 7. Curb dimensional data T/YSC036-060E, T/YHC036E, T/YHC037E, WSC036-060ED



Roof Curb Installation for BAYCURB043A

T/YSC072-102E, T/YSC120F, T/YHC047-072E, T/YHC092F, WSC060-090E, WSC120ED

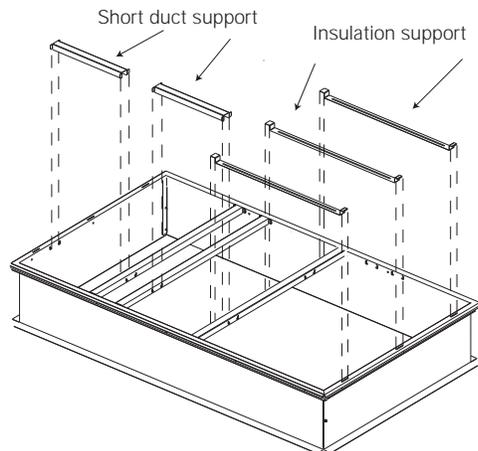
Parts List

- 2 ends
- 2 sides
- 3 long duct supports
- 2 short duct supports
- 3 insulation supports
- 3 sheets of EPS foam insulation
- Gasket
- These instructions

There are more attachment locations (raised triangular shaped corner slots) than actual component attachments, so to assemble the roof curb, you will need a tape measure to assure components are in the correct orientation. Use the dimensions from the diagram to locate the correct attachment slots for the internal supports.

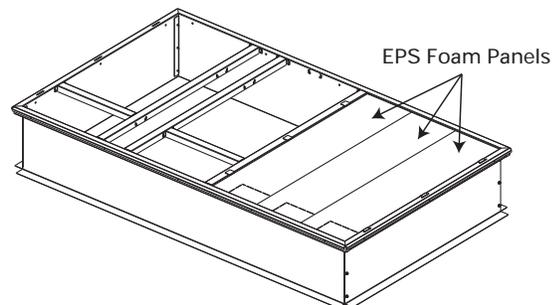
1. Set the two (2) sides and two (2) ends on a flat surface to form a square, with the wood nailers facing the outside. See [Figure 8](#). Assembling a long duct support at this point will hold the sides in place while fastening ends.

Figure 10. Step three



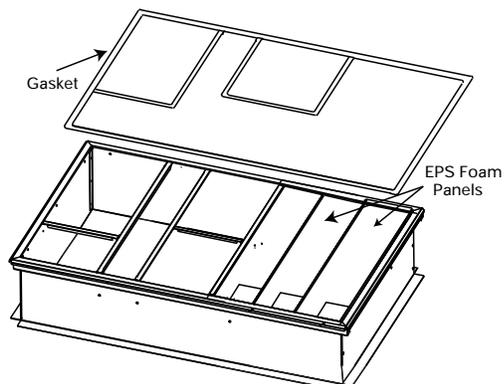
6. Insert the second short duct support between the middle and right long duct supports. Verify the 10.25" dimension from the duct support to the side (in line with previously assembled short duct support). See [Figure 10](#).
7. Insert the three (3) insulation supports between the right end and the closest long duct support, being sure to insert the tabs into the slots in the top of the end piece. See [Figure 11](#).

Figure 11. Step four



8. Install three pieces of foam insulation and gasket. See [Figure 12](#).

Figure 12. Step five



Roof Curb Installation for BAYCURB044A

T/YHC092-120E, WSC120E

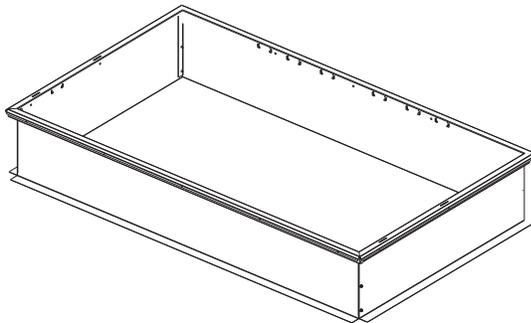
Parts List

- 2 ends
- 2 sides
- 3 long duct supports
- 2 short duct supports
- 4 insulation supports
- 3 sheets of EPS foam insulation
- Gasket
- These instructions

There are more attachment locations (raised triangular shaped corner slots) than actual component attachments, so to assemble the roof curb, you will need a tape measure to assure components are in the correct orientation. Use the dimensions from the diagram to locate the correct attachment slots for the internal supports.

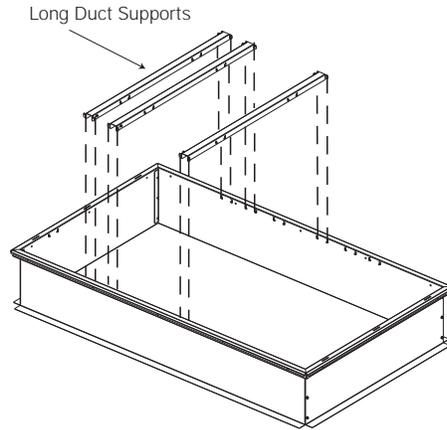
1. Set the two (2) sides and two (2) ends on a flat surface to form a square, with the wood nailers facing the outside (see [Figure 15](#)). Assembling a long duct support at this point will hold the sides in place while fastening ends.

Figure 15. Step one



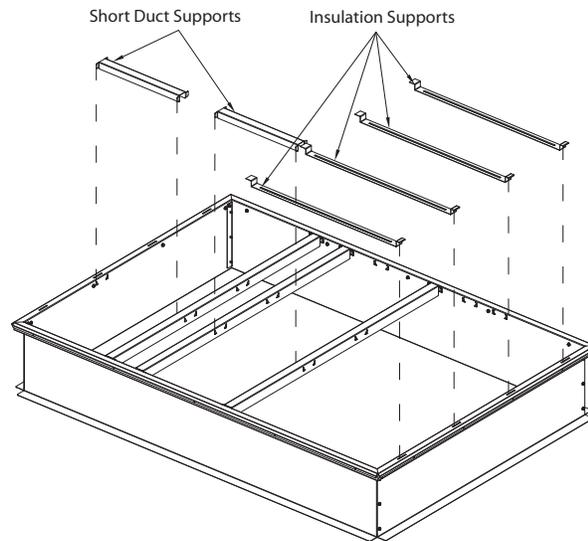
2. Screw the sides and ends together with the 1/4x5/8 screws provided.
3. Assemble a long (56.42") duct support between the two sides (Return section): insert the first duct support 18.46 inches from either end by inserting the tabs on each end of the duct support into the appropriate triangular shaped slots (see [Figure 16, p. 14](#)).

Figure 16. Step two



4. Insert the other two long duct supports as shown on the top view (Supply Section). See [Figure 16](#). Verify the 5.10" and 18.45" dimensions between long duct supports.
5. At 20.25" from the side, locate the position for the short duct support that fits between the first long duct support and the end. Insert the support flanges into the appropriate corner catches. Verify the 20.25" dimension (see [Figure 17](#)).

Figure 17. Step three



6. Insert the second short duct support between the middle and right long duct supports. Verify the 20.25" dimension from the duct support to the side (in line with previously assembled short duct support). See [Figure 17](#).
7. Insert the four (4) insulation supports between the right end and the closest long duct support, being sure to insert the tabs into the slots in the top of the end piece. See [Figure 17](#).
8. Install three pieces of foam insulation and gasket. See [Figure 18, p. 15](#) and [Figure 19, p. 15](#).

Figure 18. Step four

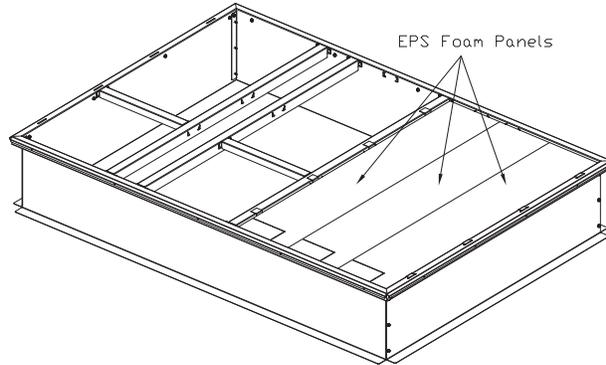


Figure 19. Step five

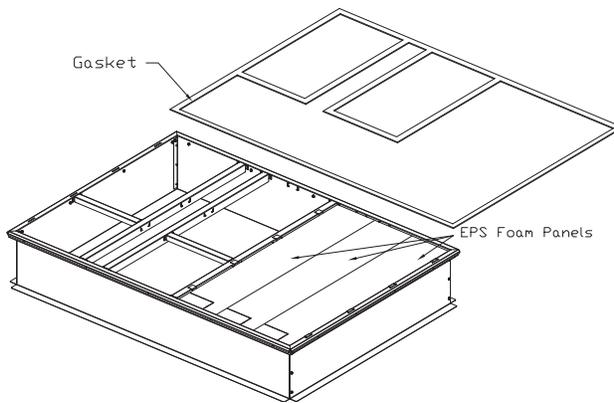
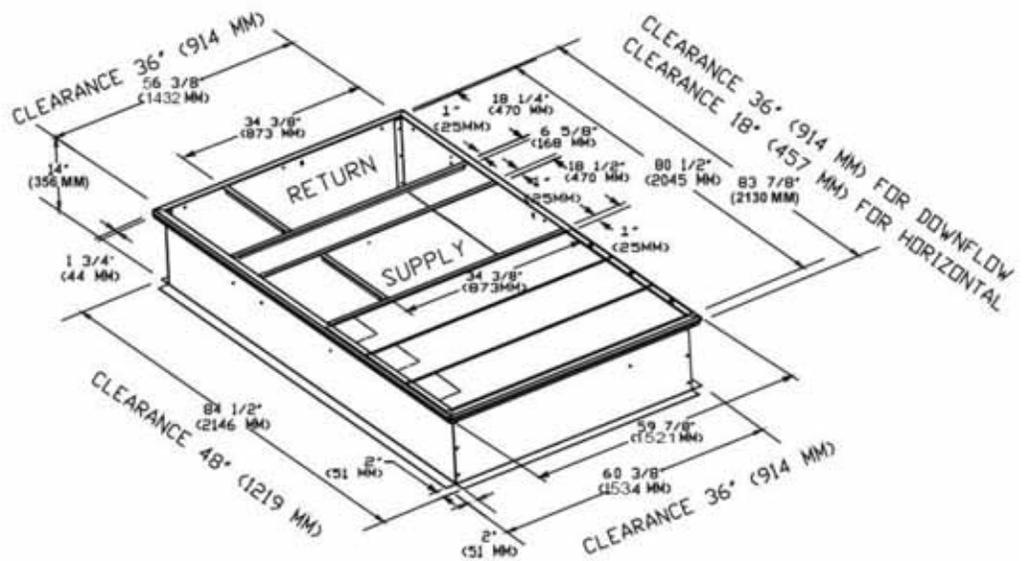


Figure 20. Curb dimensional data — T/YHC092-120E,WSC120E



Installation

BAYCURB044A

Note: Curb plenum drops/duct inserts were designed and tested to hold 250 lbs. Please ensure that duct drops are supported per local building codes.

Figure 21. Curb dimensional data — T/YHC092-120E,WSC120E

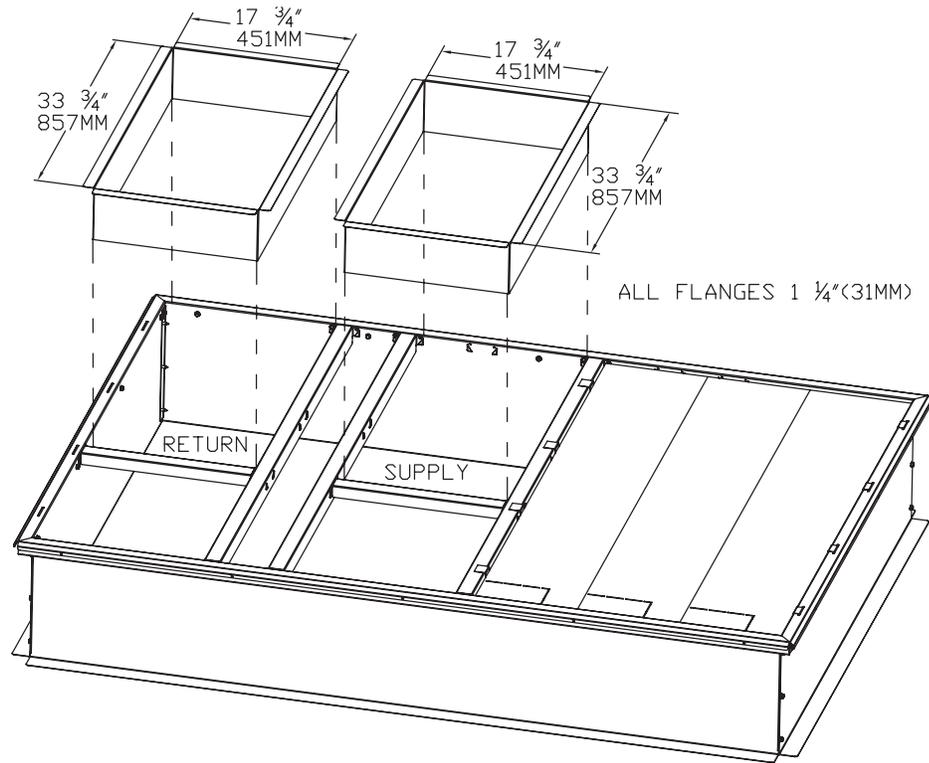


Figure 22. Roof construction

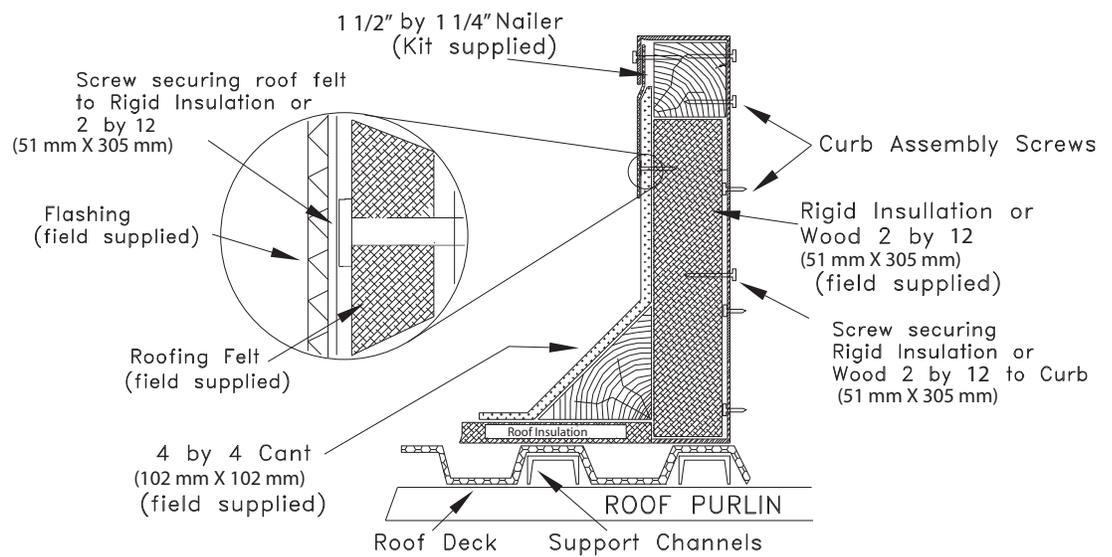


Figure 23. Existing roof construction

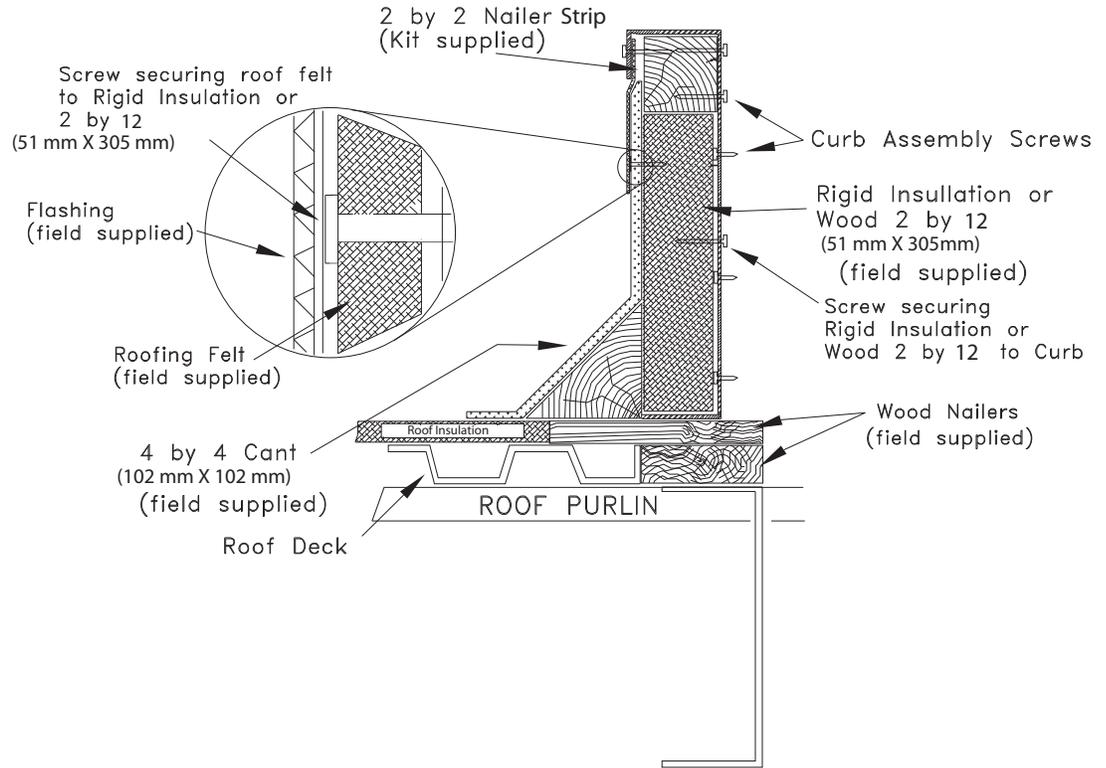


Table 1. Cooling corner weights and center of gravity

Unit Model	Shipping Weight (lbs)	Net Weight (lbs)	Corner Weight				Center of Grav.	
			A	B	C	D	Length	Width
TSC036E	555	481	157	122	95	107	31	19
TSC048E	586	511	167	129	101	114	31	19
TSC060E	636	561	183	142	111	125	31	19
TSC072E	815	720	231	187	135	167	40	22
TSC090E	834	739	235	196	140	168	40	22
TSC092E	1009	866	358	147	252	109	41	22
TSC102E	1048	905	359	161	265	120	42	23
TSC120F	1058	960	320	218	233	189	40	24
THC036E/THC037E	614	544	163	144	111	125	33	19
THC047E/THC048E	787	692	220	178	132	163	40	23
THC060E/THC067E	841	746	241	193	139	173	39	22
THC072E	915	818	252	224	161	181	42	22
THC092E	1445	1228	347	330	269	283	49	28
THC092F	1026	928	315	209	224	180	40	24
THC102E	1472	1255	359	335	271	290	48	28
THC120E	1462	1245	353	332	271	288	48	28

Note: Corner weights are given for information only. Unit is to be supported continuously by a curb or equivalent frame support.

Installation

Table 2. Gas heating corner weight and center of gravity

Unit Model	Shipping Weight (lbs)	Net Weight (lbs)	Corner Wt. (lbs)				Center of Gravity (In.)	
			A	B	C	D	Length	Width
YSC036E	607	532	165	137	95	134	31	19
YSC048E	638	563	175	145	101	142	31	19
YSC060E	688	613	190	158	110	155	31	19
YSC072E	891	796	251	212	152	181	41	22
YSC090E	916	821	256	222	159	183	41	22
YSC092E	1059	916	370	160	265	121	41	22
YSC102E	1096	953	371	173	277	132	42	23
YSC120F	1156	1058	345	242	258	213	41	23
YHC036E/YHC037	676	606	178	162	126	139	33	19
YHC047/YHC048E	858	763	238	200	148	176	40	23
YHC060E/YHC067E	917	822	261	218	156	187	40	22
YHC072E	997	900	274	250	180	196	42	22
YHC092E	1552	1335	373	368	295	299	50	28
YHC092F	1124	1026	340	233	249	204	41	23
YHC102E	1579	1362	385	374	297	306	49	28
YHC120E	1589	1372	384	378	302	308	49	28

Note: Corner weights are given for information only. Unit is to be supported continuously by a curb or equivalent frame support.

Table 3. Heat pump corner weight and center of gravity

Unit Model	Shipping Weight (lbs)	Net Weight (lbs)	Corner Wt. (lbs)				Center of Gravity (In.)	
			A	B	C	D	Length	Width
WSC036E	589	514	177	107	113	117	29	20
WSC048E	600	525	181	109	115	119	29	20
WSC060ED	667	562	169	140	96	157	37	24
WSC060E	825	682	228	177	114	163	38	24
WSC072E	835	740	235	196	140	168	40	22
WSC090E	902	804	255	217	153	180	41	22
WSC120ED	1124	986	332	255	173	226	977	547
WSC120E	1431	1219	355	333	257	274	48	28

Note: Corner weights are given for information only. Unit is to be supported continuously by a curb or equivalent frame support.

Figure 24. Center of gravity

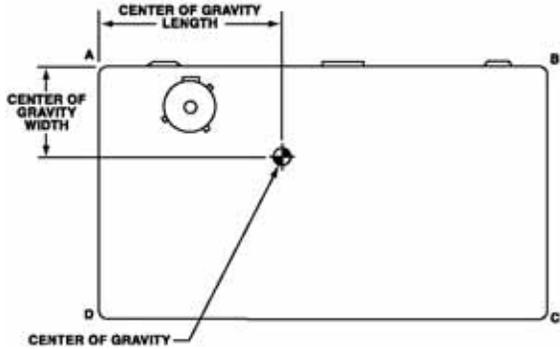


Figure 25. Center of gravity

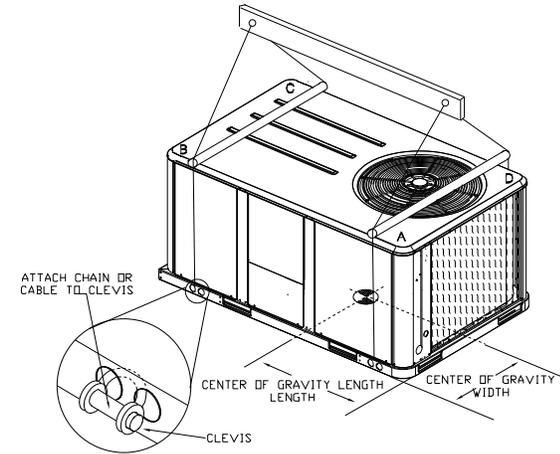


Table 1. Factory installed options (FIOPS) / accessory net weights (lbs)^{a,b}

Option/Accessory Description	Net Weights				
	T/YHC036E, T/YHC037E T/YSC036E- 060E WSC036E-048E, WSC060ED	T/YHC047-067E WSC060E	T/YHC072E T/YSC072-102E WSC072-090E	T/YSC120F, T/YHC092F, WSC120ED	T/YHC092-120E WSC120E
460 V IDM Transformer ^(c)	29	29	--	--	--
Barometric Relief	7	10	10	10	10
Belt Drive Motor (3 phase only)	31	31	--	--	--
Powered Convenience Outlet	38	38	38	38	50
Economizer	26	36	36	36	36
Electric Heat ^(d)	15	30	30	40	40
Coil Guard	12	20	20	20	30
Hinged Doors	10	12	12	12	12
Manual Outside Air Damper	16	26	26	26	26
Motorized Outside Air Damper	20	30	30	30	30
Novar Control	8	8	8	8	8
Oversize Motor	5	8	8	--	--
Powered Exhaust	--	80	80	80	80
Reheat Coil	15	25	--	--	53
Roofcurb	61	78	78	78	89
Smoke Detector, Return	7	7	7	7	7
Smoke Detector, Supply	5	5	5	5	5
Stainless Steel Heat Exchanger ^(e)	4	6	6	6	6
Through the Base Electrical	8	13	13	13	13
Through the Base Gas	5	5	5	5	5
Unit Mounted Circuit Breaker	5	5	5	5	5
Unit Mounted Disconnect	5	5	5	5	5

- (a) Weights for options not listed are < 5 lbs.
- (b) Net weight should be added to unit weight when ordering factory-installed accessories.
- (c) Apply weight with all 460V units with the Standard Direct Drive Motor.
- (d) Applicable to Cooling and Heat Pump units only.
- (e) Applicable to Gas / Electric units only.

The manufacturer optimizes the performance of homes and buildings around the world. A business of Ingersoll Rand, the leader in creating and sustaining safe, comfortable and energy efficient environments, the manufacturer offers a broad portfolio of advanced controls and HVAC systems, comprehensive building services, and parts. For more information, visit www.IRICO.com.

The manufacturer has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.

