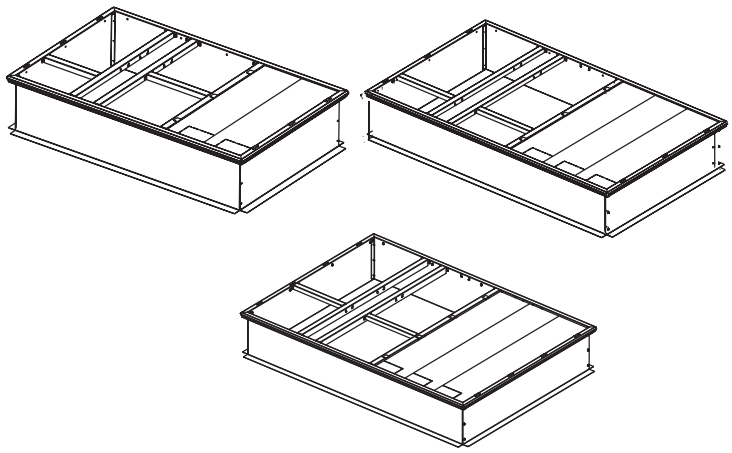
Installation Instructions

Precedent™ Packaged Rooftop Units Roof Curb



Model Number:	Used With:
BAYCURB042*	Precedent™ B and F cabinets (digit 30 = B/F) - T/YHC036E, T/YHC037E, WSC060ED, T/YZC036E, T/YSC036-060G, WSC036-048H, D/WHC036H
BAYCURB043*	Precedent™ C and D cabinets (digit 30 = C/D) - T/YHC047-72E, WSC072-120ED, T/YSC072-120H, T/YHC048-060F, T/YHC072-102F, T/YZC048-120, WSC060-120H, D/WHC048-102H
BAYCURB044*	Precedent™ E cabinets (digit 30 = E) - T/YHC120F, T/YZC120, D/WHC120H

⚠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.

April 2020 **ACC-SVN43N-EN**

Introduction

Read this manual thoroughly before operating or servicing this unit.

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:

⚠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 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 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 Labeling 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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Revision History

Added new W/DHC074-120 models.

Table of Contents

General Information

This manual describes the layout and installation procedures required to properly assemble and install the roof curb.

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 (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. 14 and Figure 23, p. 14.

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. 7, Figure 12, p. 10, or Figure 19, p. 12).*

Roof Opening

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

Roof Support

⚠WARNING

Heavy Objects!

Failure to follow instructions or properly lift unit could result in unit dropping and possibly crushing operator/ technician which could result in death or serious injury. Ensure that all the lifting equipment used is properly rated for the weight of the unit being lifted. Each of the cables (chains or slings), hooks, and shackles used to lift the unit must be capable of supporting the entire weight of the unit. Lifting cables (chains or slings) may not be of the same length. Adjust as necessary for even unit lift. Other lifting arrangements could cause equipment or property damage.

Important: *Refer to weight tables for specific weights within this piece.*

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. 8 for T/YHC036E, T/YHC037E, WSC060ED, T/YZC036E, T/YSC036-060G, WSC036-048H, D/WHC036H units or Figure 14, p. 11 for T/YSC072-120H, T/YHC047-072E, WSC072-120ED, T/YHC048-060F, T/YHC072-102F, T/YZC048-102, WSC060-120H, D/WHC048-102H units or Figure 21, p. 13 for T/YHC120F, T/YZC120, D/WHC120H units.

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

Roof Curb Installation for BAYCURB042*

Precedent B and F Cabinet (digit 30 = B/F)

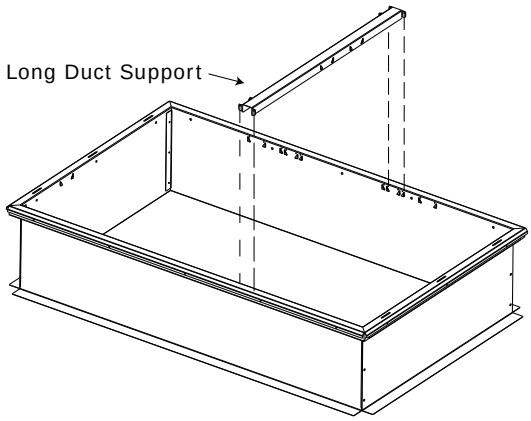
Parts List

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

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.

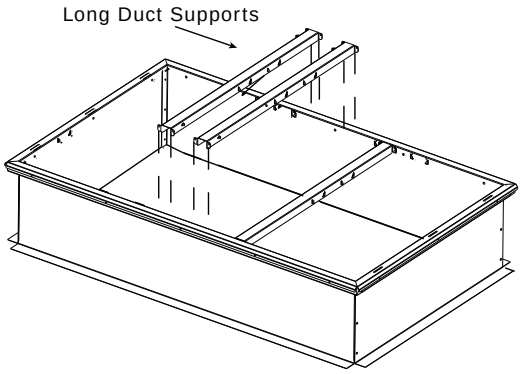
1. Set the two (2) sides and two (2) ends on a flat surface to form a square, with the wood nailers facing the outside. Assembling a long duct support at this point will hold the sides in place while fastening ends.
2. Screw the sides and ends together with the 1/4x5/8 screws provided.
3. Assemble a long (37.42 inch) duct support between the two sides: insert the first duct support 14.6 inch 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



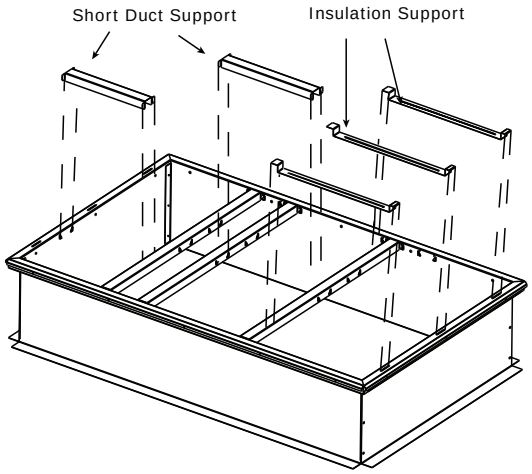
4. Insert the other two long duct supports as shown. See Figure 2, p. 7. Verify the 4.88 inch and 16.75 inch dimensions between long duct supports.

Figure 2. Step two



5. Locate the position for the short duct support, 10.49 inch 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 inch 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 inch 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. 7.

Figure 4. Step four

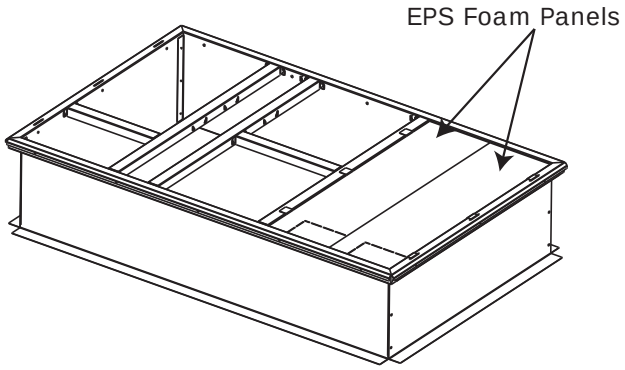


Figure 5. Step five

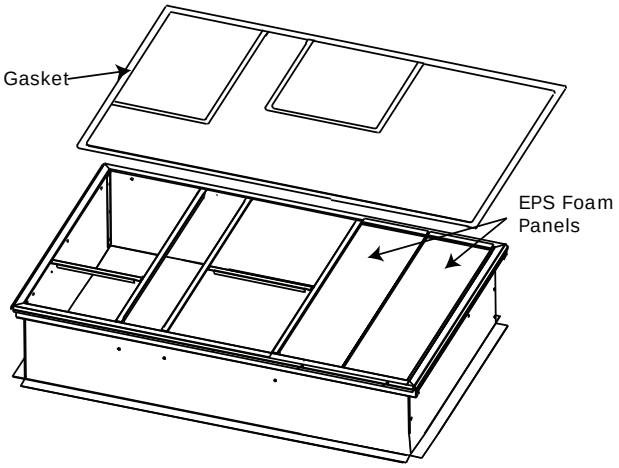


Figure 6. Curb dimensional data BAYCURB042

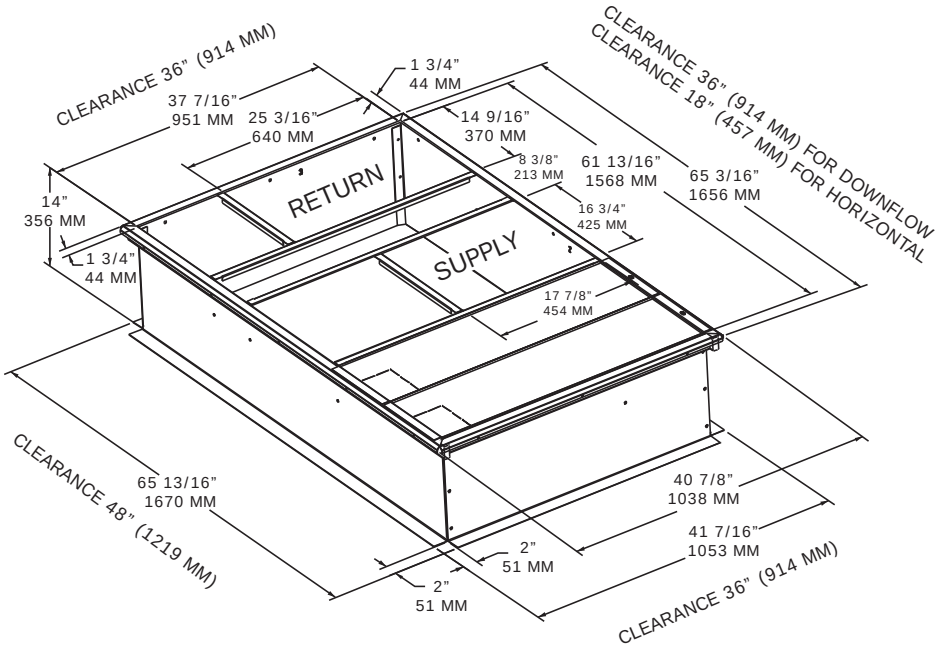
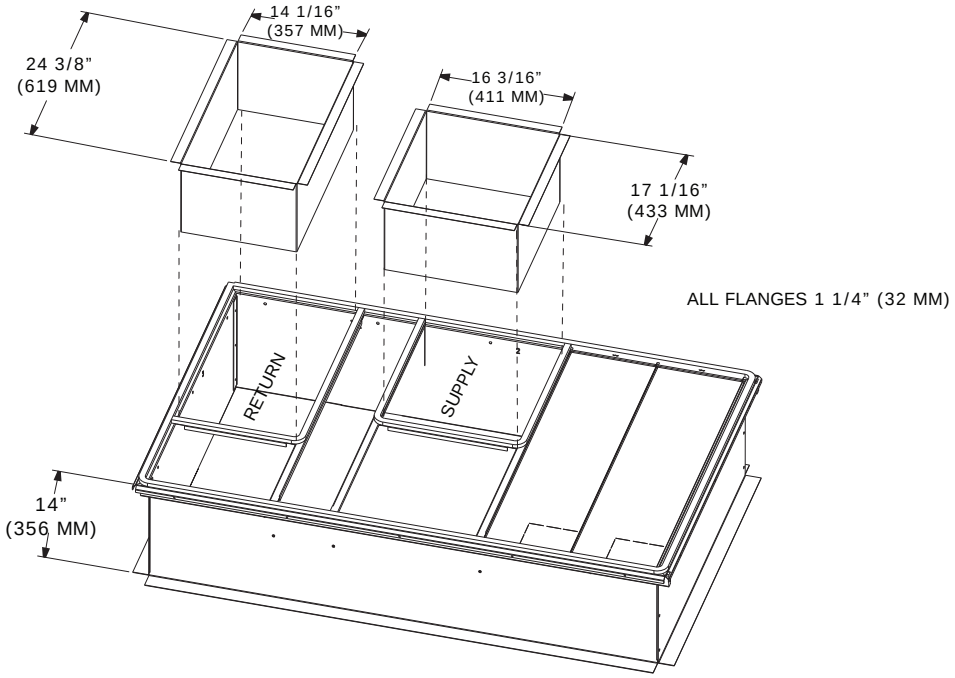


Figure 7. Curb dimensional data BAYCURB042



Roof Curb Installation for BAYCURB043*

Precedent C and D Cabinet (digit 30 = C/D)

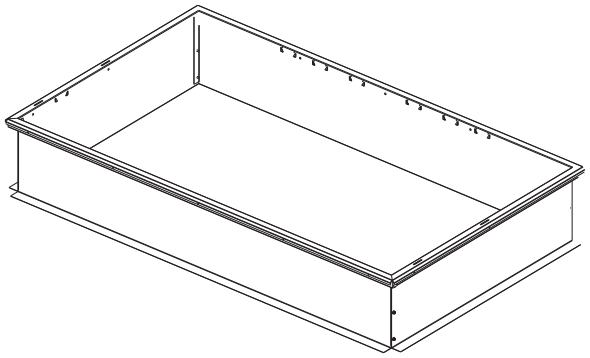
Parts List

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

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.

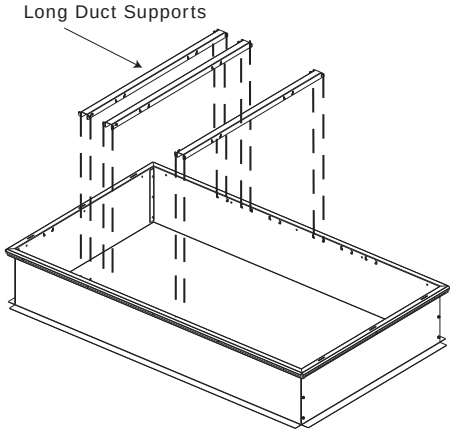
1. Set the two (2) sides and two (2) ends on a flat surface to form a square, with the wood nailers facing the outside. See Figure 8. Assembling a long duct support at this point will hold the sides in place while fastening ends.

Figure 8. Step one



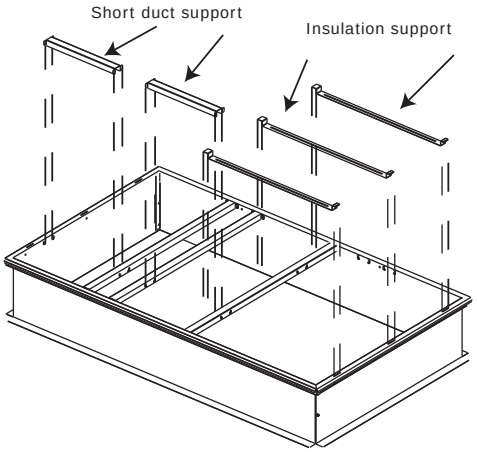
2. Screw the sides and ends together with the 1/4x5/8 screws provided.
3. Assemble a long (46.18 inch) duct support between the two sides (Return section): insert the first duct support 18.25 inch from either end by inserting the tabs on each end of the duct support into the appropriate triangular shaped slots. See Figure 9.

Figure 9. Step two



4. Insert the other two long duct supports as shown on the top view (Supply Section).See Figure 9. Verify the 5.18 inch and 18.5 inch dimensions between long duct supports.
5. At 10.25 inch 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 10.25 inch dimension. See Figure 10, p. 9.

Figure 10. Step three



6. Insert the second short duct support between the middle and right long duct supports. Verify the 10.25 inch 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

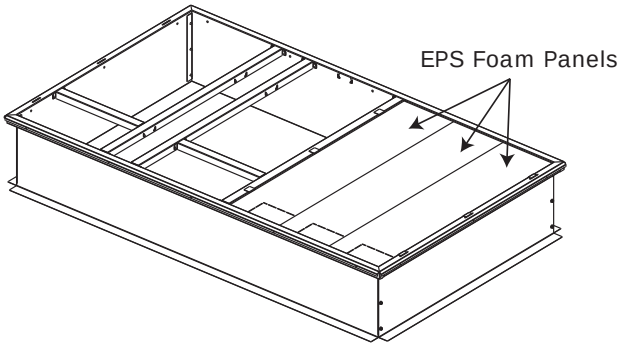
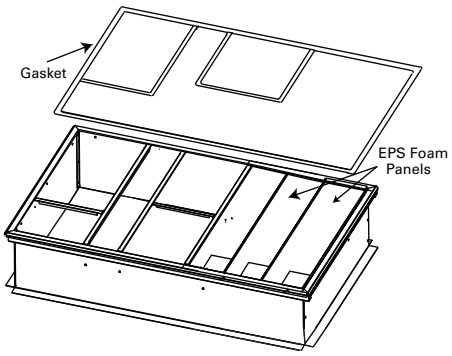


Figure 12. Step five



8. Install three pieces of foam insulation and gasket. See Figure 12.

Figure 13. Curb dimensional data — BAYCURB043

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.*

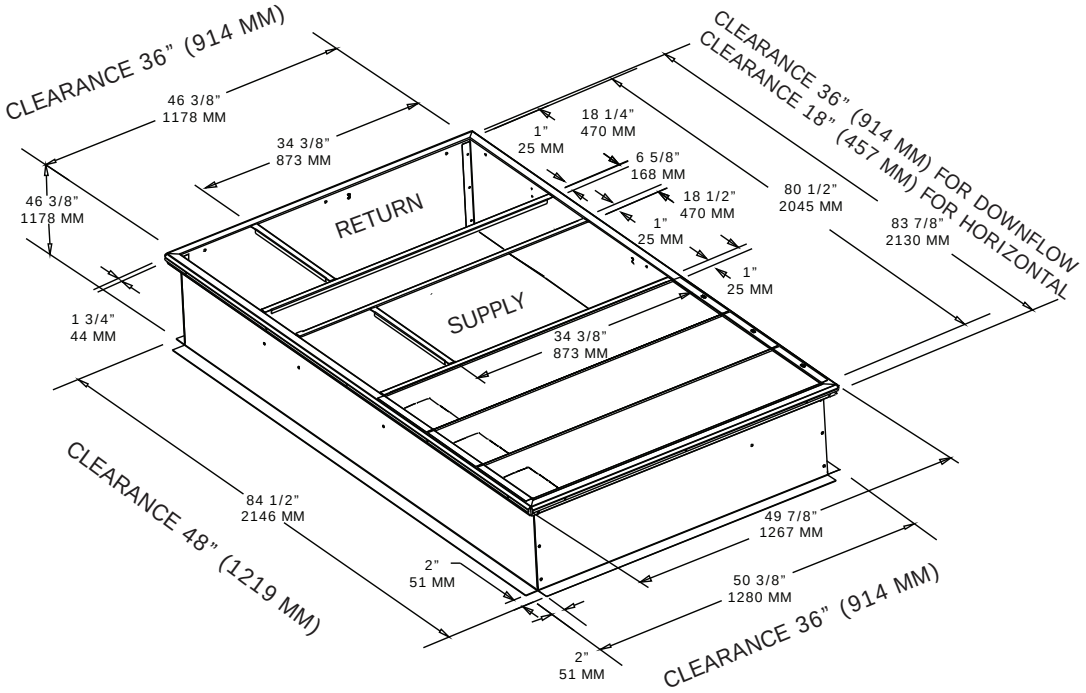
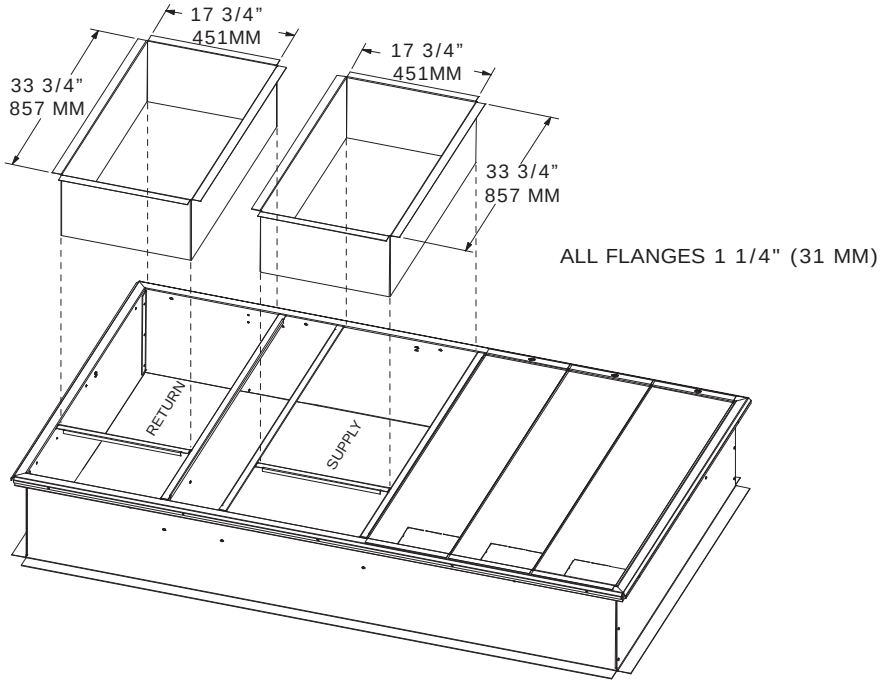


Figure 14. Curb dimensional data — BAYCURB043



Roof Curb Installation for BAYCURB044*

Precedent E Cabinet (digit 30 = E)

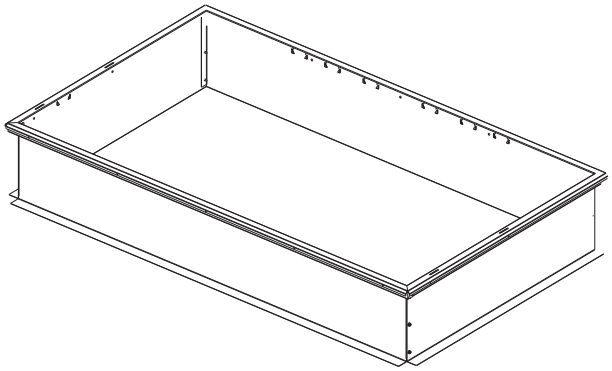
Parts List

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

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.

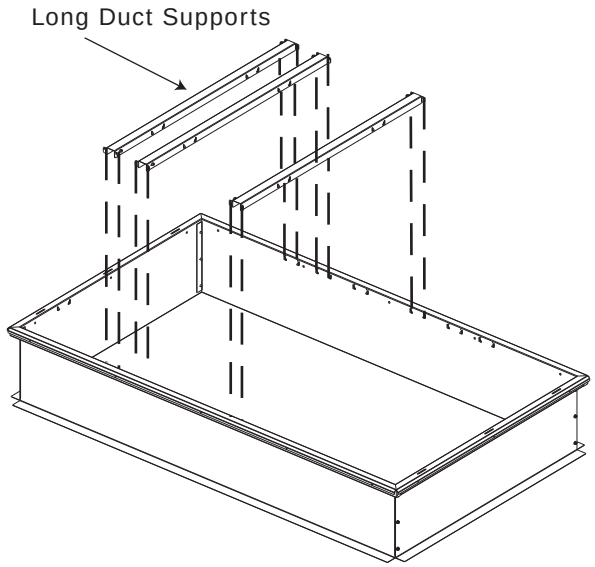
1. Set the two (2) sides and two (2) ends on a flat surface to form a square, with the wood nailers facing the outside (see Figure 15). Assembling a long duct support at this point will hold the sides in place while fastening ends.

Figure 15. Step one



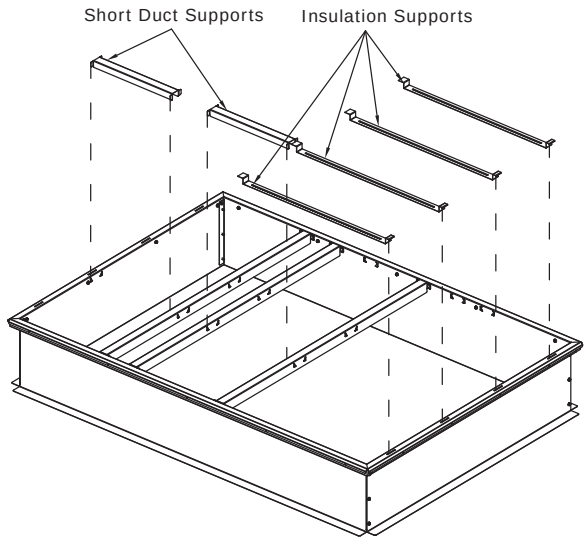
2. Screw the sides and ends together with the 1/4x5/8 screws provided.
3. Assemble a long (56.42 inches) duct support between the two sides (Return section): insert the first duct support 18.46 inches from either end by inserting the tabs on each end of the duct support into the appropriate triangular shaped slots (see Figure 16, p. 12).

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 inch and 18.45 inch dimensions between long duct supports.
5. At 20.25 inch 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 inch 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 inch 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. 12 and Figure 19, p. 12.

Figure 18. Step four

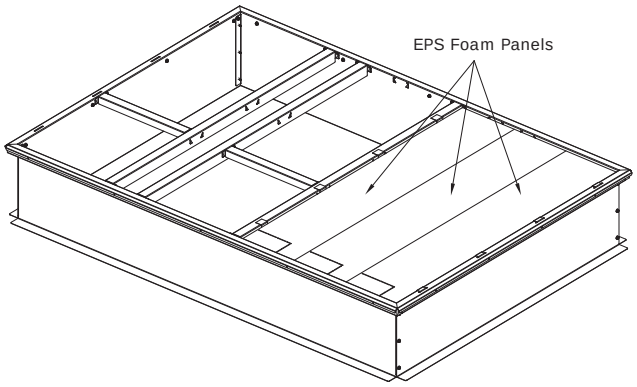


Figure 19. Step five

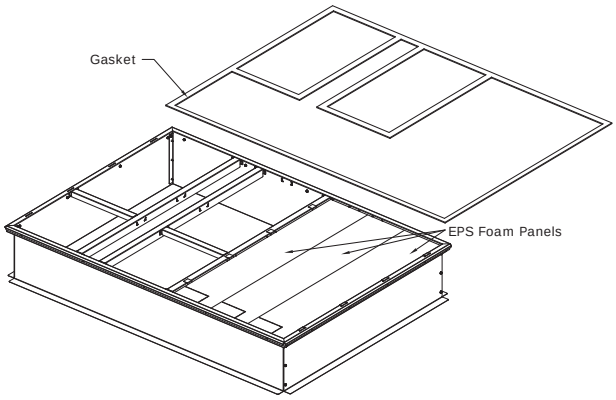


Figure 20. Curb dimensional data — BAYCURB044

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.*

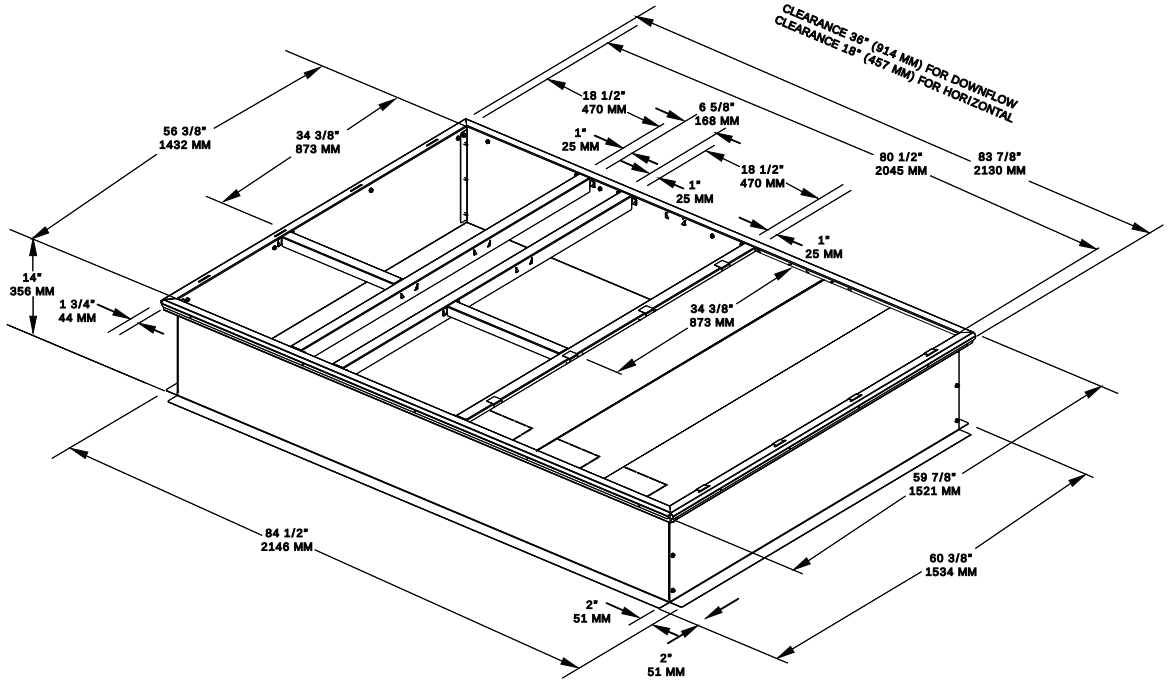


Figure 21. Curb dimensional data — BAYCURB044

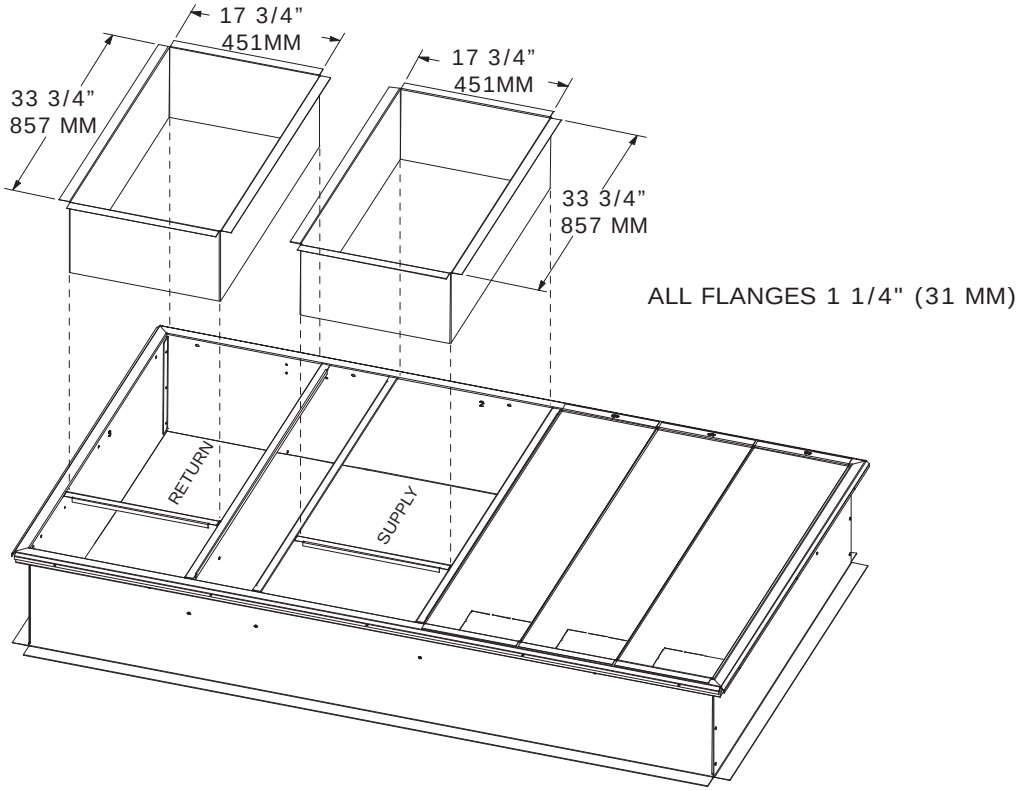


Figure 22. Roof construction

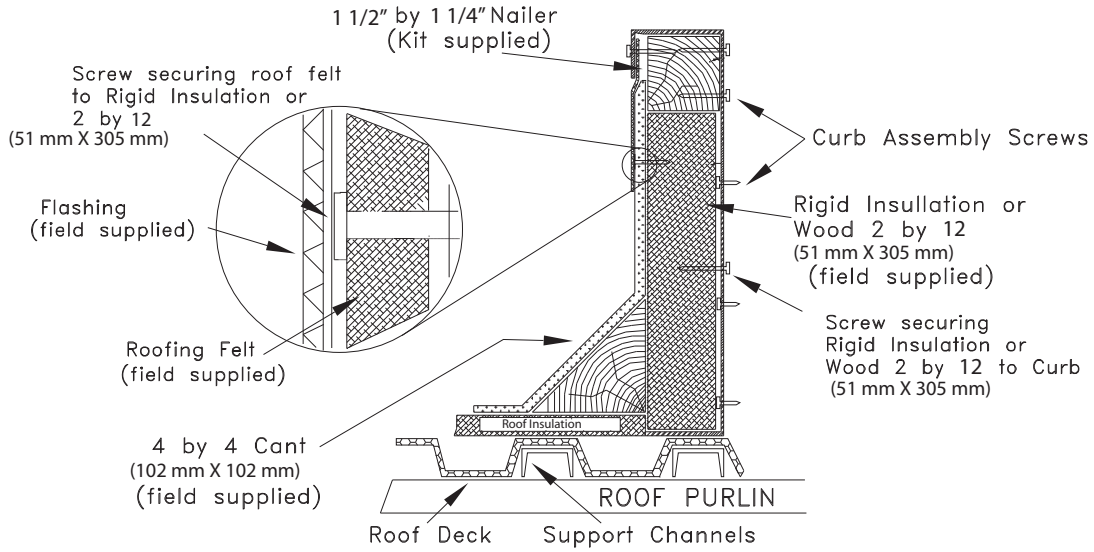
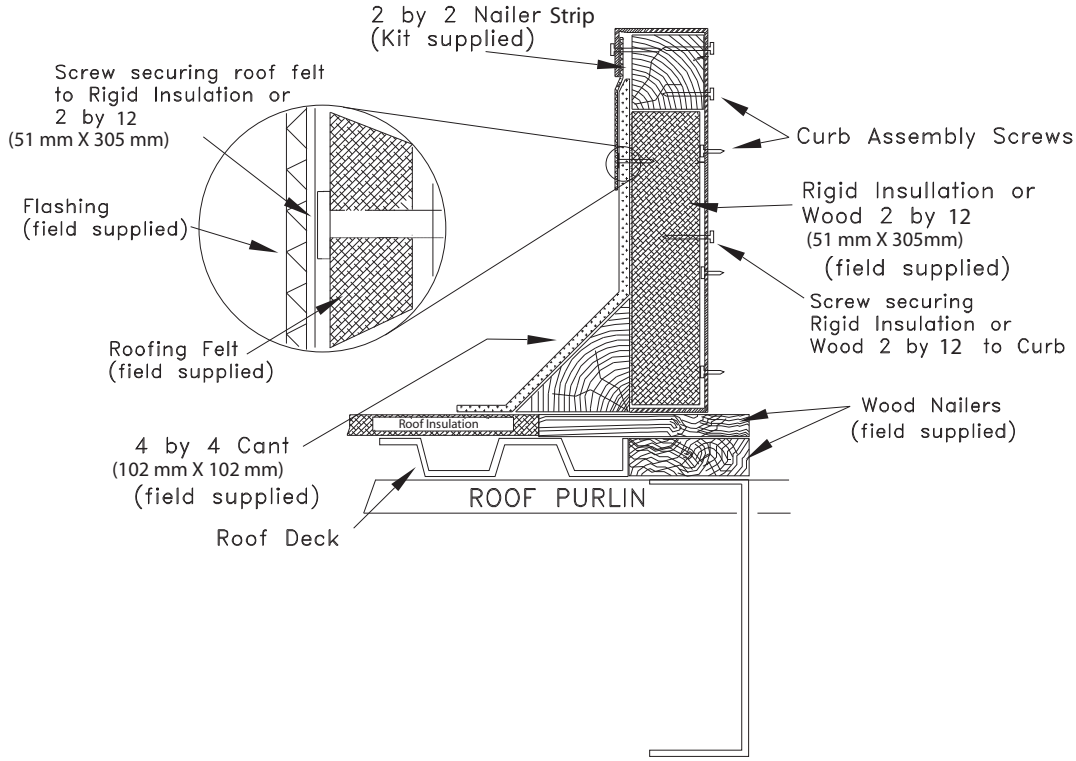


Figure 23. Existing roof construction



Weights and Center of Gravity

Table 1. Maximum unit and corner weights (lbs) and center of gravity dimensions (in.) - cooling models

	Unit	Maximum Model Weights[a]		Corner Weights[b]				Center of Gravity (in.)	
Tons	Model No.	Shipping	Net	A	B	C	D	Length	Width
3	TSC036G	537	431	201	155	25	50	29	8
3	TZC036E	628	553	133	183	61	176	32	18
4	TSC048G	557	452	213	159	27	53	29	8
4	TZC048F	777	682	176	238	112	156	39	22
5	TSC060G	603	498	218	140	50	90	27	12
5	TZC060E	873	778	181	274	102	221	39	22
6	TSC072H	762	667	218	186	131	132	44	21
7.5	TSC090H	772	679	186	217	106	170	34	22
7.5	TSC092H	940	797	249	235	163	149	46	21
8.5	TSC102H	938	837	273	222	183	159	47	22
10	TSC120H	1058	960	320	218	233	189	40	24
3	THC036E	555	481	157	122	95	107	31	19
3	THC037E	614	544	163	144	111	125	33	19
4	THC048E/THC047E	787	692	220	178	132	163	40	23
4	THC048F	737	642	208	177	128	130	44	22
5	THC060E/THC067E	841	746	241	193	139	173	39	22
5	THC060F	774	679	219	189	135	137	43	21
6	THC072E	943	845	274	172	186	213	41	24
6	THC072F	883	740	228	219	155	138	47	21
6	THC074F	1016	918	309	207	223	178	40	24
7.5	THC092F	1026	928	315	209	224	180	40	24
8.5	THC102F	1035	937	316	212	227	181	49	24
10	THC120F	1326	1132	326	326	258	222	53	27

Note: Unit is to be supported continuously by a curb or equivalent frame support.

(a) Weights are approximate.
(b) Corner weights are given for information only.

Table 2. Maximum unit and corner weights (lbs) and center of gravity dimensions (in.) - gas/electric models

	Unit	Maximum Model Weights[a]		Corner Weights[b]				Center of Gravity (in.)	
Tons	Model No.	Shipping	Net	A	B	C	D	Length	Width
3	YSC036G	577	472	193	178	45	55	33	9
3	YZC036E	690	615	154	196	73	192	33	19
4	YSC048G	598	492	205	183	46	58	33	9
4	YZC048F	848	753	196	258	126	173	40	23
5	YSC060G	627	522	214	193	52	63	33	10
5	YZC060E	949	854	200	293	121	240	40	23
6	YSC072H	805	710	222	217	121	150	41	22
7.5	YSC090H	853	760	206	237	127	190	36	22
7.5	YSC092H	990	847	265	249	173	160	46	21
8.5	YSC102H	986	885	285	234	195	171	47	22
10	YSC120H	1156	1058	345	242	258	213	41	23
3	YHC036E	607	532	165	137	95	134	31	19
3	YHC037E	676	606	178	162	126	139	33	19
4	YHC047E/YHC048E	858	763	238	200	148	176	40	23

Table 2. Maximum unit and corner weights (lbs) and center of gravity dimensions (in.) - gas/electric models (continued)

	Unit	Maximum Model Weights[a]		Corner Weights[b]				Center of Gravity (in.)	
Tons	Model No.	Shipping	Net	A	B	C	D	Length	Width
4	YHC048F	806	711	226	199	144	143	44	22
5	YHC060E/YHC067E	917	822	261	218	156	187	40	22
5	YHC060F	850	755	239	214	152	151	44	21
6	YHC072E	1025	927	296	198	205	228	41	24
6	YHC072F	965	822	250	245	174	153	47	21
6	YHC074F	1114	1016	334	231	248	202	41	23
7.5	YHC092F	1124	1026	340	233	249	204	41	23
8.5	YHC102F	1133	1035	341	236	253	205	49	23
10	YHC120F	1453	1259	356	371	289	242	54	27

Note: Unit is to be supported continuously by a curb or equivalent frame support.

(a) Weights are approximate.
(b) Corner weights are given for information only.

Table 3. Maximum unit and corner weights (lbs) and center of gravity dimensions (in.)

	Unit	Maximum Model Weights[a]		Corner Weights[b]				Center of Gravity (in.)	
Tons	Model No.	Shipping	Net	A	B	C	D	Length	Width
3	WSC036H	612	507	144	122	110	130	32	21
4	WSC048H	645	540	165	131	108	136	31	20
5	WSC060H	777	682	228	177	114	163	38	22
6	WSC072H	835	740	235	196	140	168	40	22
7.5	WSC090H	902	804	255	217	153	180	41	22
7.5	WSC092H	894	796	252	204	163	177	41	23
8.5	WSC102H	927	829	286	183	195	164	40	23
10	WSC120H	948	850	303	170	218	159	40	24
3	WHC036H	619	514	142	120	111	142	31	22
4	WHC048H	768	673	222	175	114	162	38	22
5	WHC060H	773	678	225	176	114	162	38	22
6	WHC074H	927	829	193	295	65	276	38	22
7.5	WHC092H	927	829	193	295	65	276	38	22
8.5	WHC102H	953	855	199	306	67	283	39	22
10	WHC120H	1433	1228	357	343	259	269	49	27
3	DHC036H	658	553	145	137	125	145	33	22
4	DHC048H	845	750	234	192	146	178	40	23
5	DHC060H	849	754	235	193	147	179	40	23
6	DHC074H	990	892	216	324	69	283	39	21
7.5	DHC092H	1004	906	218	330	70	288	39	21
8.5	DHC102H	1016	918	220	336	70	292	39	21
10	DHC120H	1499	1294	402	313	290	289	47	28

(a) Weights are approximate.
(b) Corner weights are given for information only.

Figure 24. Center of gravity

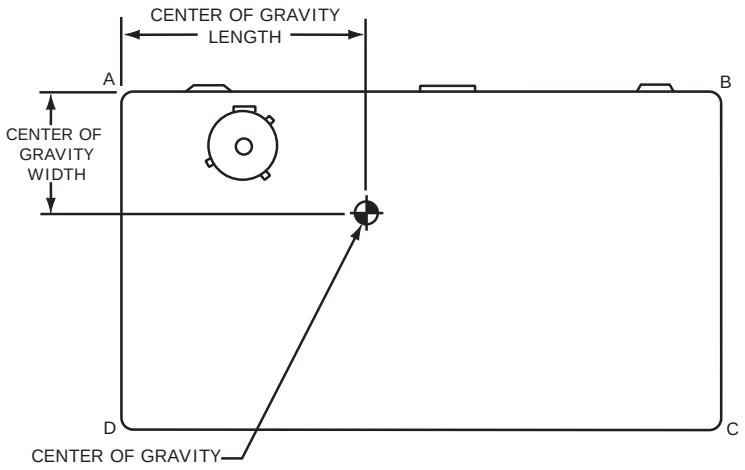


Figure 25. Center of gravity

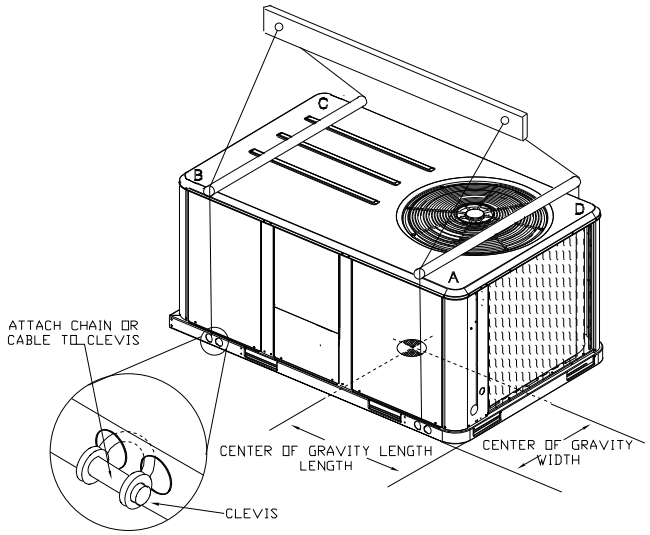


Table 4. Factory installed options (fiops)/accessory net weights (lbs) [a],[b]

	Net Weights					
Option/Accessory Description	**T/YHC036E, T/YHC037E, WSC060ED, T/YZC036E**	**T/YHC048-060F, T/YHC047-067E T/YZC048F, T/YZC060E, T/YZC048-060, WSC060H, D/WHC048-060H**	**T/YSC072-102H, T/YHC072E, T/YHC072F, WSC072-102H**	**T/YSC120H, T/YHC074F, T/YHC092-102F, WSC120H, D/WHC074-102H, WSC120ED, T/YZC072-102**	**D/WHC120H, T/YHC120F, T/YZC120**	**TSC036-060G WSC036-048H, D/WHC036H**
460V IDM Transformer[c]	29	29[d]	—	—	—	29
Barometric Relief	7	10	10	10	10	7
Belt Drive Motor (3 phase only)	31	31	—	—	—	—
Powered Convenience Outlet	38	38	38	38	50	38
Economizer	26	36	36	36	36	26
Low Leak Economizer	68	93	93	93	93	68
Electric Heat[e]	15	30	30	44	50	15
Coil Guard	12	20	20	20	30	12
Hinged Doors	10	12	12	12	12	10
Manual Outside Air Damper	16	26	26	26	26	16
Motorized Outside Air Damper	20	30	30	30	30	20
Novar Control	8	8	8	8	8	—
Oversize Motor	5	8	8	—	—	8
Powered Exhaust	40	80	80	80	80	40
Reheat Coil	15	25	15	20[f]	53	—
Roof Curb	61	78	78	78	89	61
Smoke Detector, Return	7	7	7	7	7	7
Smoke Detector, Supply	5	5	5	5	5	5
Stainless Steel Heat Exchanger[g]	4	6	6	6	6	4
Through-the-Base Electrical	8	13	13	13	13	8
Through-the-Base Gas(g)	5	5	5	5	5	5
Unit Mounted Circuit Breaker	5	5	5	5	5	5
Unit Mounted Disconnect	5	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) T/YZC048F, T/YZC060E weight for 460V IDM transformer = 39 lbs.
(e) Applicable to cooling and heat pump units only (Digit 1, T or W).
(f) Reheat weight for this value only applicable to 7.5 and 8.5 Tons high efficiency “F” models.
(g) Applicable to gas/electric units only (digit 1, Y or D).

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