ROOF CURB KIT INSTALLATION INSTRUCTIONS

For Packaged Rooftop Arrangements

ATTENTION

Read these instructions carefully prior to installing this equipment. Check all specifications and make sure the appropriate equipment is being installed. Record the Model number in the space provided. Retain this manual for future reference!

A WARNING Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation instructions thoroughly before installing or servicing this equipment.

RECEIVING INSTRUCTIONS

Inspect the shipment immediately when received to determine if any damage has occurred to the unit during shipment. After the Roof Curb Kit(s) have been unpacked, check for any visible damage to the parts. If any damage is found, the consignee should sign the bill of lading indicating such damage and immediately file claim for the damage with the transportation company.

INSTALLER'S RESPONSIBILITY

Installer Please Note: This equipment has been inspected and shipped free from defects from our factory. Inspect all parts required for each roofcurb kit and ensure all parts are accounted for. It is the installer's responsibility to inspect and correct any problems that may be found.

The following terms are used throughout this manual to bring attention to the presence of potential hazards or to important information concerning the product:

A DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death, serious injury or substantial property damage

A WARNING Indicates an imminently hazardous situation which, if not avoided, could result in serious injury or substantial property damage.

A CAUTION Indicates an imminently hazardous situation which, if not avoided, could result in death, serious injury or substantial property damage.

NOTICE: Used to notify of special instructions on installation, operation or maintenance which are important to equipment but not related to personal injury hazards.

Unless otherwise specified, the following conversions may be used for calculating SI measurements:				
1 foot = 0.305 m	1 inch water column = 0.24 kPa			
1 inch = 25.4 mm	1000 Btu per hour = 0.293 kW			
1 psig = 6.894 kPa	1000 Btu/Cu. Ft. = 37.5 MJ/m ³			
1 pound = 0.435 kg	liter/second = CFM x 0.472			
1 gallon = 3.785 L	meter/second = FPM ÷ 196.8			
1 cubic foot = 0.028	m ³			

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*/11) indiacted that the reaf ourb kit is chipped from the

*(U) indicates that the roof curb kit is shipped from the factory uninsulated.

Roof Curbs for arrangements D and E include an evaporative cooler platform. See pages 22 and 23.

Roof Curbs ship knocked down for ease of handling and storage. The field assembly and mounting of the curb to the roof is the responsibility of the installer. All curbs ship complete with pre-assembled side and end rails, cross member supports, ductwork connector brackets, hardware, optional insulation and gasketing. See Figures 3, 33 and 34 for a complete parts list for your curb. Check to see that all components are included. Refer to Figures 3, 4, 5, 6, 33 and 34 to see if all other field supplied parts are also on hand.

Provide a suitable opening, or two openings, in the roof as suggested per Figures 2 and 4. These return and/or supply air ductwork openings have been calculated to include a one inch clearance on each side of the ductwork. The installer may determine other opening(s) to accept return and/or supply air ducts to suit particular needs.

Figure 1 - Dimensions



Roof Curb RC001, RC002, RC003, RC004, & RC006-Kit No.* CAPACITY W[†] B[†] * - 1 10, 15 26-7/16 30- 3/16 (672) (767) * - 2 20, 25, 50 37-7/16 41-3/16 (951) (1046) 30. 35. 60. 70 48-7/16 52-3/16 - 3 (1230) (605) - 4 40, 80 53-15/16 57-11/16 (1370) (1465)

(Dimensions in parenthesis are in millimeters.)

† Dimensions are in inches.

DIMENSIONAL DATA

Roof Curb Kit No.*	Rooftop (RA) Arrangement	Capacity (CA)	F [†] (inside)	H [†] (outside)	J [†] (inside)
BC001-*	В	10 thru 40	29 - 5/8	71 - 1/8	67 - 3/8
RC001-	Ν	20 or 40	(752)	(1807)	(1711)
BC002-*	D	10 thru 40	29 - 5/8	71 - 1/8	67 - 3/8
NC002-	R	20 or 40	(752)	(1807)	(1711)
BC003-*	В	50 thru 80	29 - 5/8"	97 - 1/8	93 - 3/8
RC003-	С	10 thru 40	(752)	(2467)	(2372)
BC004-*	D	50 thru 80	29 - 5/8"	97 - 1/8	93 - 3/8
RC004-	E	10 thru 40	(752)	(2467)	(2372)
	G	20 thru 40			
RC006-*	т	20 or 40	37 - 3/16	107 - 5/16	103 - 9/16
		20 or 40	(945)	(605)	(2630)

† Dimensions are in inches.

(Dimensions in parenthesis are in millimeters.)

NA = Not Applicable

(RA) = Rooftop Arrangement

(CA) = Capacity

1 lb. = 0.453 kg

Roof Curb Kit No.*	Rooftop (RA) Arrangement	Capacity (CA)	Roof C * - 1	urb Kit * - 2	Suffix * - 3	
RC001-*	В	10 thru 40		400	454	101
RC001-	Ν	20 or 40	115	133	151	161
RC002-*	D	10 thru 40	145	100	101	191
RC002-	R	20 or 40	145 163		181	191
RC003-*	В	50 thru 80	450	100	400	400
RC003-	С	10 thru 40	150	168	186	196
RC004-*	D	50 thru 80	100	100	010	000
RC004-	E	10 thru 40	180	198	216	226
	G	20 thru 40				
RC006-*	т	20 or 40	NA	179	197	207
	U	20 or 40				

Approximate Roof Curb Kit Weights

A WARNING To avoid any property damage or personal injury, it is the installers responsibility to make sure that the installation will not impair the function of this curb, or the unit to be installed.

All curbs must be mounted on level areas. The roof must be suitable to support the weight of both the curb and the unit to be mounted. The enclosed area of the roof curb must comply to required clearances to combustible materials. If the roof construction is made of combustible materials, the enclosed roof curb area must meet the following requirements:

- 1. Ventilate this area.
- 2. Leave area open (however, this may elevate higher sound levels.)
- 3. Cover this area with non-combustible material, which utilizes an "R" value of 5.0 minimum.

Position and assemble the curb, referring to Figures 1 thru 8, 17 and 18 and the following procedure:

- All hardware used for these assembly procedures is included with your curb, and should be used. **Do not** tighten any hardware until the curb is completely level and square, and installed in a suitable position on the roof, with proper alignment to the roof/unit opening(s).
- 2. Position and install the end and side curb rail subassemblies, aligning around the roof opening location(s).
- 3. Position and install the inner cross brace(s) and ductwork brackets as shown.
- 4. Secure the roof curb to the roof decking.
- 5. Install the field supplied flashing/materials.
- 6. Apply the gasketing (included with the kit) on the top flanges/surfaces on the curb as shown

AWARNING To avoid any property damage or personal injury, it is the installer's responsibility that the roof curb and unit must be completely sealed, preventing any water or air leakage/ damage.



Figure 2 - Roof Opening Specifications

Figure 3 - Roof Curb Kit Assembly*

* The roof curb and destined unit must be sealed completely to prevent any water or air leakages (also see Figure 8). Refer to Figures 33 and 34 for Ductwork Mounting Bracket Assembly.



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Figure 4 - Roof Curb application (Also refer to Figures 2, 5 and 6)

Figure 5 - Detail D



Figure 6 - Detail E



Figure 7 - Curb Specifications



Figure 8 - Unit/Curb Rail Assembly



For Field Installations: These Cross Brace/Curb Adaptors (two adaptors ship with each rooftop unit) must be repositioned when the unit is mounted on a curb or platform (one for each end). Simply remove the screws, turn the piece over (end for end) and secure in place using the holes/hardware provided. All joints and seams must be sealed completely to prevent leaks.

> Replacement Hardware Kit: Part No. RCHK-12346

Roof Curbs for arrangements D and E include an evaporative cooler platform. See pages 22 and 23.

Roof Curbs ship knocked down for ease of handling and storage. the field assembly and mounting of the curb to the roof is the responsibility of the installer. All curbs ship complete with pre-assembled side and end rails, cross member supports, ductwork connector brackets, hardware, insulation and gasketing. See Figures 11, 33 and 34 for a complete parts list for your curb. check to see that all components are included. Refer to Figures 11 thru 18 to see if all other field supplied parts are also on hand. Provide a suitable opening, or two openings, in the roof as suggested per Figures 10 and 12. these return and/or supply air ductwork openings have been calculated to include a one inch clearance on each side of the ductwork. The installer may determine other opening(s) to accept return and/or supply air ducts to suit particular needs.

Figure 9 - Dimensions



Roof Curb	RC005, RC007	7, RC008, RC009	, & RC0010-*
Kit No.*	CAPACITY	W [†]	B [†]
* - 1	10, 15	26- 7/16	30- 3/16
		(672)	(767)
* - 2	20, 25, 50	37- 7/16	41- 3/16
		(951)	(1046)
* - 3	30, 35, 60, 70	48- 7/16	52- 3/16
		(1230)	(605)
* - 4	40, 80	53-15/16	57-11/16
		(1370)	(1465)

† Dimensions are in inches.

(Dimensions in parenthesis are in millimeters.)

Approximate Roof Curb Kit Weights

Roof Curb Kit No.*	Rooftop (RA) Arrangement	Capacity (CA)	Roof (* - 1	Curb Kir * - 2	t Suffix * - 3	No * * - 4
	G	50 thru 80				
RC005-*	J	20 thru 40	192	210	228	238
RC005-	к	10 thru 40				
	w	20 or 40				
RC007-*	С	50 thru 80	NA	197	217	227
RC008-*	E	50 thru 80	NA	227	247	257
	G	12				
RC009-*	J & K	50 thru 80	310	338	366	381
	L	10 thru 40				
RC010-*	J	12	NA	375	403	418
RC010-	L	50 thru 80				

DIMENSIONAL DATA

Roof Curb Kit No.*	Rooftop (RA) Arrangement	Capacity (CA)	F [†] (inside)	H [†] (outside)	J [†] (inside)
	G	50 thru 80			
BC005-*	J	20 thru 40	37 - 1/8	133 - 1/4	129 - 1/2
HC005-	к	10 thru 40	(943)	(3385)	(3289)
	w	20 or 40			
RC007-*	С	50 thru 80	30 - 7/8	123	119 - 1/4
RC008-*	E	50 thru 80	(765)	(3124)	(3029)
	G	12	37 - 5/16	159 - 5/16	155 - 9/16
RC009-*	J & K	50 thru 80	(948)	(4046)	(3951)
	L	10 thru 40			
RC010-*	J	12	36 - 15/16	185 - 5/16	181 - 9/16
	L	50 thru 80	(938)	(4707)	(4612)

† Dimensions are in inches.

(Dimensions in parenthesis are in millimeters.)

NA = Not Applicable

(RA) = Rooftop Arrangement

(CA) = Capacity 1 lb. = 0.453 kg **AWARNING** Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation instructions thoroughly before installing or servicing this equipment.

A WARNING To avoid any property damage or personal injury, it is the installers responsibility to make sure that the installation will not impair the function of this curb, or the unit to be installed.

All curbs must be mounted on level areas. The roof must be suitable to support the weight of both the curb and the unit to be mounted. The enclosed area of the roof curb must comply to required clearances to combustible materials. If the roof construction is made of combustible materials, the enclosed roof curb area must meet the following requirements:

- 1. Ventilate this area.
- 2. Leave area open (however, this may elevate higher sound levels.)
- 3. Cover this area with non-combustible material, which utilizes an "R" value of 5.0 minimum.

Position and assemble the curb, referring to Figures 9 thru 18 and the following procedure:

- All hardware used for these assembly procedures is included with your curb, and should be used. **Do not** tighten any hardware until the curb is completely level and square, and installed in a suitable position on the roof, with proper alignment to the roof/unit opening(s).
- 2. Position and install the end and side curb rail subassemblies, aligning around the roof opening location(s).
- 3. Position and install the inner cross brace(s) and ductwork brackets as shown.
- 4. Secure the roof curb to the roof decking.
- 5. Install the field supplied flashing/materials.
- 6. Apply the gasketing (included with the kit) on the top flanges/surfaces on the curb as shown

AWARNING To avoid any property damage or personal injury, it is the installer's responsibility that the roof curb and unit must be completely sealed, preventing any water or air leakage/ damage.



Figure 10 - Roof Opening Specifications

Figure 3 - Roof Curb Kit Assembly*

* The roof curb and destined unit must be sealed completely to prevent any water or air leakages (also see Figure 16). Refer to Figures 33 and 34 for Ductwork Mounting Bracket Assembly.





Figure 12 - Roof Curb Application (Also refer to Figures 10, 13 and 14)

Figure 13 - Detail D



Figure 14 - Detail E



Figure 15 - Curb Specifications



Figure 16 - Unit/Curb Rail Assembly



For Field Installations: These Cross Brace/Curb Adaptors (two adaptors ship with each rooftop unit) must be repositioned when the unit is mounted on a curb or platform (one for each end). Simply remove the screws, turn the piece over (end for end) and secure in place using the holes/hardware provided. All joints and seams must be sealed completely to prevent leaks.



(U) RC011, (U)RC012

Roof Curb for arrangement D include an evaporative cooler platform. See pages 22 and 23.

Roof Curbs ship knocked down for ease of handling and storage. The field assembly and mounting of the curb to the roof is the responsibility of the installer. all kits ship complete with pre-assembled side and end rails, cross member supports, ductwork connector brackets, hardware, insulation and gasketing. See Figure 19, 33 and 34 for a complete parts list for your kit. Check to see that all components of the kit are included. Refer to Figures 17 thru 23, 31 and 32 to see if all other field supplied parts are also on hand. Provide a suitable opening in the roof as suggested per Figure 18 and 20. The return air opening has been calculated to include a one inch clearance on each side of the ductwork. The installer may determine the opening to accept a return air duct to suit particular needs.

Figure 17 - Dimensions



DIMENSIONAL DATA

			RC011 and	d RC012 - *	
Kit No.*	CAPACITY	W [†]	B [†]	F [†]	H [†]
* -2	20	37- 7/16 (951)	41- 3/16 (1046)	41 - 1/2 (1054)	45 - 1/4 (1149)
* - 4	40	53-15/16 (1370)	57-11/16 (1465)	41 - 1/2 (1054)	45 - 1/4 (1149)

† Dimensions are in inches.

(Dimensions in parenthesis are in millimeters.)

	/				(,	
Roof Curb Kit No.*	Rooftop (RA) Arrangement	Capacity (CA)	* - 1	Roof Curb Kit * - 2	Suffix No * - 3	* - 4
RC011-*	М	20 or 40	NA	85	NA	112
RC012- *	Р	20 or 40	NA	115	NA	142

APPROXIMATE ROOF CURB KIT WEIGHTS (LBS.)

NA=Not Applicable

1 lb. = 0.453 Kg

(RA) = Rooftop Arrangement

(CA) = Capacity

(U) RC011, (U)RC012

A WARNING To avoid any property damage or personal injury, it is the installers responsibility to make sure that the installation will not impair the function of this curb, or the unit to be installed.

All curbs must be mounted on level areas. The roof must be suitable to support the weight of both the curb and the unit to be mounted. The enclosed area of the roof curb must comply to required clearances to combustible materials. If the roof construction is made of combustible materials, the enclosed roof curb area must meet the following requirements:

- 1. Ventilate this area.
- 2. Leave area open (however, this may elevate higher sound levels.)
- 3. Cover this area with non-combustible material, which utilizes an "R" value of 5.0 minimum.

Position and assemble the curb, referring to Figures 17 thru 23, 33 and 34 Use the following procedure:

- All hardware used for these assembly procedures is included with your curb, and should be used. **Do not** tighten any hardware until the curb is completely level and square, and installed in a suitable position on the roof, with proper alignment to the roof/unit opening(s).
- 2. Position and install the end and side curb rail subassemblies, aligning around the roof opening location(s).
- 3. Position and install the inner cross brace(s) and ductwork brackets as shown.
- 4. Secure the roof curb to the roof decking.
- 5. Install the field supplied flashing/materials.
- 6. Apply the gasketing (included with the kit) on the top flanges/surfaces on the curb as shown

AWARNING To avoid any property damage or personal injury, it is the installer's responsibility that the roof curb and unit must be completely sealed, preventing any water or air leakage/ damage.



Figure 18 - Roof Opening Specifications

Figure 19 - Roof Curb Kit Assembly*

* The roof curb and destined unit must be sealed completely to prevent any water or air leakages (also see Figure 23). Refer to Figure 33 for Ductwork Mounting Bracket Assembly.









Figure 20 - Roof Curb Kit Application (Also refer to Figures 18, 19 and 21)

Figure 21 - Return Air Ductwork Connections



Figure 22 - Curb Specifications



Figure 23 - Unit/Curb Rail Assembly



For Field Installations: These Cross Brace/Curb Adaptors (two adaptors ship with each rooftop unit) must be repositioned when the unit is mounted on a curb or platform (one for each end). Simply remove the screws, turn the piece over (end for end) and secure in place using the holes/hardware provided. All joints and seams must be sealed completely to prevent leaks.



(U) RC013

Roof Curbs ship knocked down for ease of handling and storage. The field assembly and mounting of the curb to the roof is the responsibility of the installer. All kits ship complete with pre-assembled side and end rails, cross member supports, hardware, insulation and gasketing. See Figures 26 and 33 for a complete parts list for your curb. Check to see that all components are included. Refer to Figurs 26 thru 33 to see if all other field supplied parts are also on hand.

Provide a suitable opening in the roof as suggested per Figures 25 and 27. The return air opening has been calculated to include a one inch clearance on each side of the ductwork. The installer may determine the opening to accept a return air duct to suit particular needs.



Figure 24 - Dimensions

DIMENSIONAL DATA			
For use with air handler "AH" Arrangement "S"			

			RC0	13 - *	
Kit No.*	CAPACITY	w [†]	B [†]	F [†]	H
* -2	20	37- 7/16 (951)	41- 3/16 (1046)	38 - 1/8 (968)	81 - 7/16 (2069)
* - 4	40	53-15/16 (1370)	57-11/16 (1465)	38 - 1/8 (968)	81 - 7/16 (2069)

† Dimensions are in inches.

(Dimensions in parenthesis are in millimeters.)

Approximate Roof	Curb Kit Weights
Roof Curb Kit No.	Lb.s
RC013-2	140
RC013-4	168

(U) RC013

A WARNING To avoid any property damage or personal injury, it is the installers responsibility to make sure that the installation will not impair the function of this curb, or the unit to be installed.

All curbs must be mounted on level areas. The roof must be suitable to support the weight of both the curb and the unit to be mounted. The enclosed area of the roof curb must comply to required clearances to combustible materials. If the roof construction is made of combustible materials, the enclosed roof curb area must meet the following requirements:

- 1. Ventilate this area.
- 2. Leave area open (however, this may elevate higher sound levels.)
- 3. Cover this area with non-combustible material, which utilizes an "R" value of 5.0 minimum.

Position and assemble the curb, referring to Figures 1 thru 8, 17 and 18 and the following procedure:

- All hardware used for these assembly procedures is included with your curb, and should be used. **Do not** tighten any hardware until the curb is completely level and square, and installed in a suitable position on the roof, with proper alignment to the roof/unit opening(s).
- Position and install the end and side curb rail subassemblies, aligning around the roof opening location(s).
- 3. Position and install the inner cross brace(s) and ductwork brackets as shown.
- 4. Secure the roof curb to the roof decking.
- 5. Install the field supplied flashing/materials.
- 6. Apply the gasketing (included with the kit) on the top flanges/surfaces on the curb as shown

AWARNING To avoid any property damage or personal injury, it is the installer's responsibility that the roof curb and unit must be completely sealed, preventing any water or air leakage/ damage.



Figure 25 - Roof Opening Specifications

FIGURE 26 - ROOF CURB KIT ASSEMBLY*

* The roof curb and destined unit must be sealed completely to prevent any water or air leakages (also see Figure 30) Refer to Figure 33 for Ductwork Mounting Bracket Assembly.



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Figure 28 - Return Air Ductwork Connections



Figure 29 - Curb Specifications



Figure 30 - Unit/Curb Rail Assembly



For Field Installations: These Cross Brace/Curb Adaptors (two adaptors ship with each rooftop unit) must be repositioned when the unit is mounted on a curb or platform (one for each end). Simply remove the screws, turn the piece over (end for end) and secure in place using the holes/hardware provided. All joints and seams must be sealed completely to prevent leaks.

> **Replacement Hardware Kit:** Part No. RCHK-13

Module Size

One size platform fits all Evaporative Cooler Modules, unit capacities 10 through 80.

This platform is shipped knocked down for ease of handling and storage. The field assembly and mounting of the platform to the roof is the responsibility of the installer. This platform ships complete with two adjustable platform rails and hardware. See the figures for a complete parts list for your platform. Check to see that all components of the platform are included.

Approximate Roof Curb Kit Weights

Roof Curb Kit No.	Capacities (CA)	Weight (Lbs.)*
RC015-1	10/15	30
RC015-2	20/25/50	30
RC015-3	30/35/60/70	30
RC015-4	40/80	30
*1 Lb. = 0.453 kg		

Figure 31 - Installation



Replacement Hardware Kit: Part No. RCHK-15

(U) RC015

A WARNING To avoid any property damage or personal injury, it is the installers responsibility to make sure that the installation will not impair the function of this curb, or the unit to be installed.

All platforms must be mounted on level areas. The roof must be suitable to support the weight of both the platform and the unit to be mounted.

Position and assemble the platform, referring to Figures 2 and 3, and the following procedure:

 All hardware used for these assembly procedures is included with your platform, and should be used. **Do not** tighten any hardware until the platform is completely level and square, and installed in a suitable position on the roof, with proper alignment to the roof/unit.

- 2. Position and install the platform rails.
- 3. Secure the platform to the roof decking.
- 4. Follow all installation instructions with any other unit that may be used for this installation.

▲ WARNING To avoid any property damage or personal injury, it is the installer's responsibility that the roof curb and unit must be completely sealed, preventing any water or air leakage/ damage.

- 1 Evaporative Cooler Assembly
- 2 Platform Curb
- 3 1/4-20 "keps" nut (8 required)
- 4 1/4-20 x 5/8 lg. hex head bolt (8 required)

Figure 32 - Evaporative Platform Curb to Rooftop Arrangement Installation



Figure 33 - Return Air Ductwork Mounting Bracket Assembly - RC016



Figure 34 - Supply Air Ductwork Mounting Bracket Assembly - RC017, RC018



SUPPLY PLENUM AREA