



## SUBMITTAL DATA

**Project:** Seaside Rehabilitation  
**Mechanical Engineer:** Bennett Engineering  
**Mechanical Contractor:** Johnson and Jordan  
**Date:** October 23, 2014  
**Product:** Energy Recovery Ventilator  
**Specification Section:** 23000  
**Revision:** 00

Tag	Qty	Model / Description	Manufacturer
ERV-1	1	VAM470 / ERV	Daikin AC

### Comments / Notes


Project Name:	Seaside Rehabilitation
Location:	Portland, ME
Engineer:	Bennett Engineering
Submitted to:	Johnson and Jordan
Submitted by:	Briggs Equipment Sales, Inc.
Reference:	Energy Recovery Ventilator

Approval:	
Date:	10/23/2014
Construction:	
Unit #:	ERV-1
Drawing #:	

### Performance

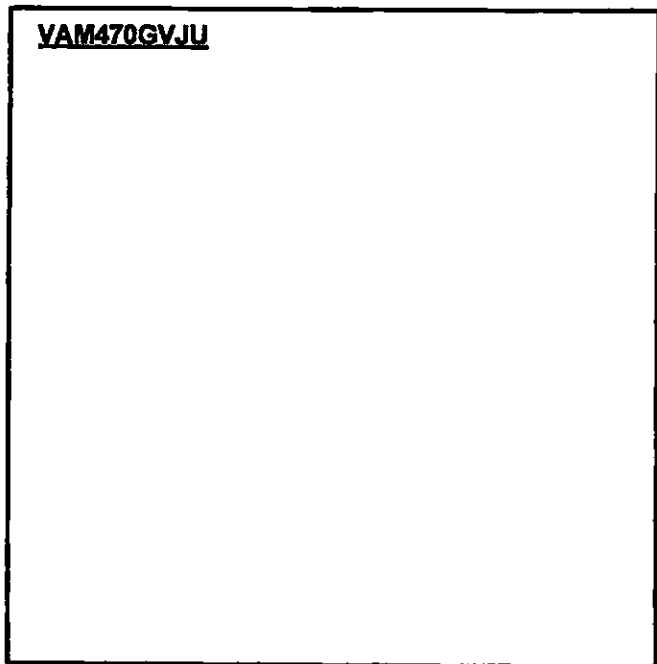
Indoor Unit Model No:	VAM470GVJU
Rated Cooling Capacity (Btu/hr):	N/A
Sensible Capacity (Btu/hr):	N/A
Cooling Input Power (kW):	0.776
Rated Heating Capacity (Btu/hr):	N/A
Heating Input Power (kW):	0.776

Indoor Unit Type:	VAM
Rated Cooling Conditions	Indoor: N/A Ambient: 5 - 122 (80% RH)
Rated Heating Conditions	Indoor: N/A Ambient: 5 - 122 (80% RH)
Rated Piping Length (ft)	N/A
Rated Height Separation (ft)	N/A

### Indoor Unit Details

Power Supply (V/Hz/Ph):	208-230/60/1ph
Power Supply Connections:	L1, L2, Ground
Min. Circuit Amps MCA (A):	3.9
Max. Overcurrent Protection (MOP) (A):	15
Dimensions (HxWxD):	15-1/4x43-11/16x32-3/4
Panel (HxWxD):	N/A
Net Weight (lbs):	121
Net Weight with Panel (lbs):	N/A

Airflow Rate (CFM wet coil)	470/470/390
Moisture Removal (pt/h):	
Gas Pipe Connection (inch):	
Liquid Pipe Connection (inch):	
Condensate Connection (inch):	
Sound Pressure Level (dBA):	42
Sound Power Level (dBA):	35
External Static Pressure/Max (inWg):	0.33 - 0.73
Controller Name:	



(Daikin's products are subject to continuous improvements. Daikin reserves the right to modify product design, specifications and information in this data sheet without notice and without incurring any obligations)

**Project Name:** Seaside Rehabilitation  
**Location:** Portland, ME  
**Engineer:** Bennett Engineering  
**Submitted to:** Johnson and Jordan  
**Submitted by:** Briggs Equipment Sales, Inc.  
**Reference:** Energy Recovery Ventilator

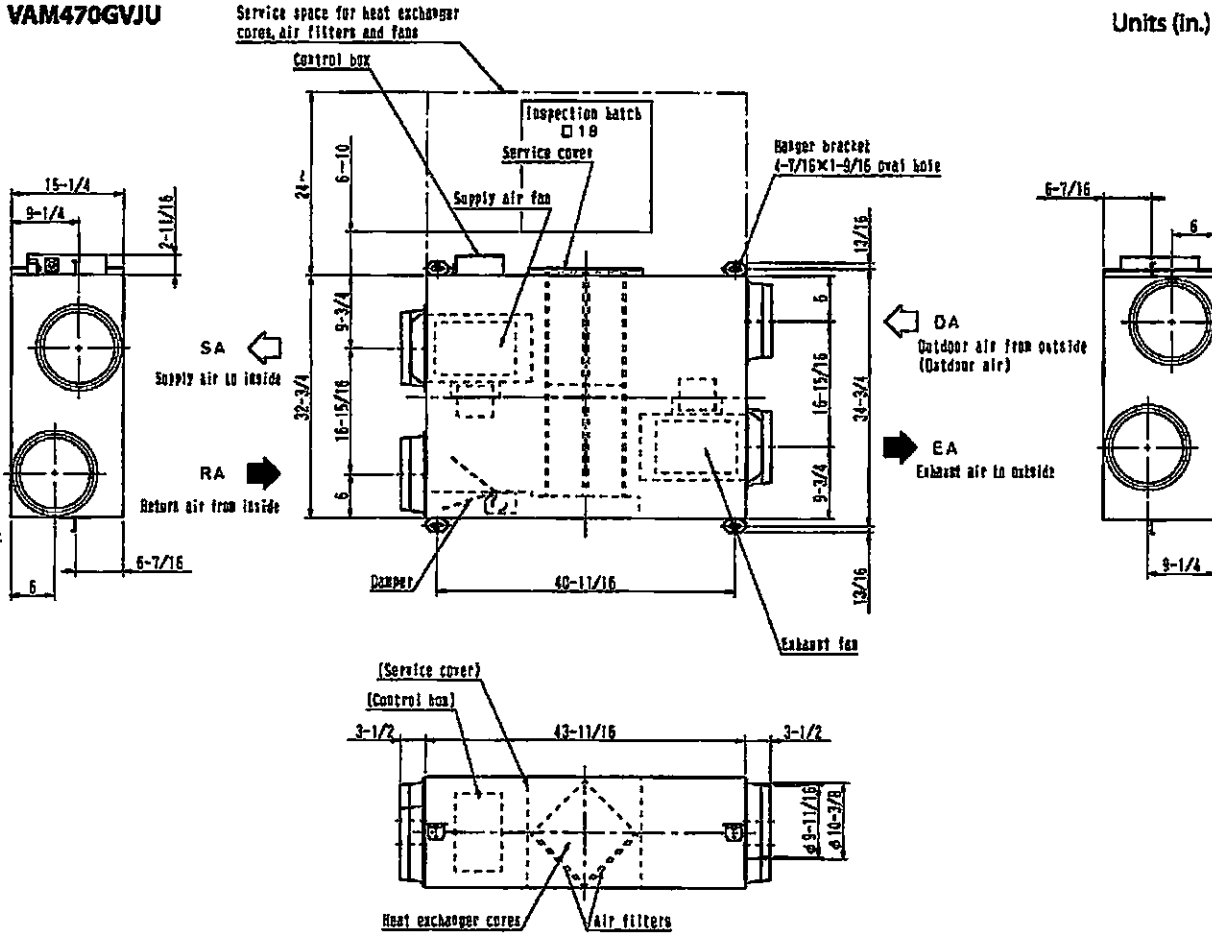
**Approval:**  
**Date:** 10/23/2014  
**Construction:**  
**Unit #:** ERV-1  
**Drawing #:**

## Dimensional Drawing - Indoor Unit

VAM470GVJU

VAM470GVJU

Units (in.)



(Daikin's products are subject to continuous improvements. Daikin reserves the right to modify product design, specifications and information in this data sheet without notice and without incurring any obligations.)

# VERSA-LINE

## Submittal

JVK-S8 11 14  
Versa-Line Slim-Line  
Copper/Aluminum and  
Steel Element Ratings

# Specification

### JVK Slip Jointed Enclosure

#### ENCLOSURE:

- STYLE: Slope Outlet  
OUTLET: Stamped Louvers  
Pencil Proof
- LENGTHS: 2' thru 8' in 6" Increments  
MAT'L:  18 Ga. CRS STD.  
 16 Ga. CRS (Opt'l) ←  
 14 Ga. CRS (Opt'l)
- FINISH:  Prime Finish Std.  
 Baked Enamel (Opt'l) ←  
 16 Ga. Stainless Steel (Opt'l)  
 14 Ga. Aluminum (Opt'l)

#### ACCESSORIES:

- JV Overlapping Type  
All accessories return to the wall at the bottom and have pre-punched holes for fastening to the wall.

#### ELEMENT:

- TYPE:  Cu/Al (Mechanically Expanded)  
LENGTHS: 2'0" thru 12'6" in 1" Increments for 1" & 1-1/4" Cu.  
2' thru 8' in 1" Increments for 3/4" Cu.  
One End Flared, Std.
- TYPE:  IPS Steel (Mechanically Expanded)  
LENGTHS: 2'0" thru 12'6" in 1" Increments  
 NPT Thread both Ends Std.  
 Beveled Ends for Field Weld  
See Catalog for Working Pressures

#### BACKPLATE:

- TYPE:  Partial B/P ←  
LENGTHS: 8' Only  
MAT'L:  20 Ga. Prepainted Std.  
 18 Ga. Galvannealed (Opt'l)
- TYPE:  Full Ht. B/P (Opt'l)  
LENGTHS: 2' thru 8' in 6" Increments  
MAT'L:  20 Ga. Galvannealed (Opt'l)  
 18 Ga. Painted (Opt'l)

#### AIRSEAL:

- 1/8" x 3/8" Closed Cell (Opt'l)

#### BRACKETS:

- Water Brkt w/B.B.  
 Wall Mtd Hngr for 2nd Tier

#### DAMPER:

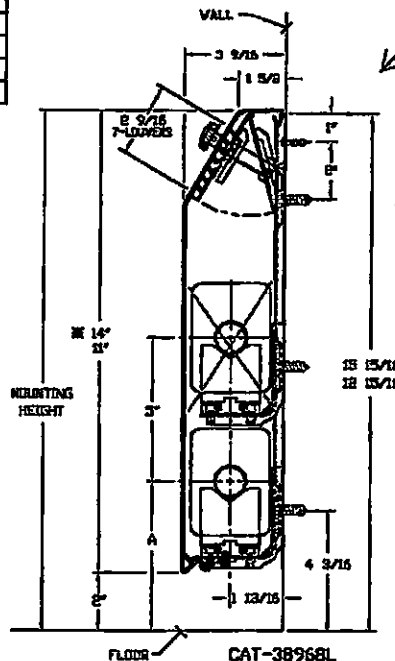
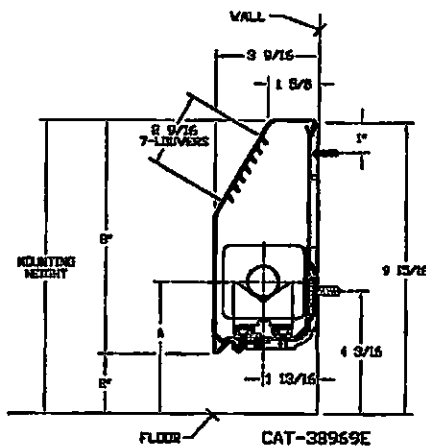
- Damper Blades Factory Installed  
 Knob Damper (Opt'l)  
 Tamper Resistant (Opt'l)

### JVK-S8\* (Water Brackets only)

ELEMENT TUBE SIZE	FIN HEIGHT	CRADLE NO.	A
3/4" COPPER	2-1/2	1	4-5/16
1" COPPER	2-1/2	1	4-1/2
3/4" COPPER	3-3/4	2	5
1" COPPER	3-3/4	2	5-3/16
1-1/4" COPPER	3-3/4	2	5-9/16
1" STEEL	3-3/4	2	5-5/16

Δ Damper available with these elements only.

\*Not recommended for steam applications, consult factory.



### JVK-S11 (1 Row)

### JVK-S11 14 (Water Brackets only)

ELEMENT TUBE SIZE	FIN HEIGHT	CRADLE NO.	A
3/4" COPPER	2-1/2	1	4-5/16
1" COPPER	2-1/2	1	4-1/2
3/4" COPPER	3-3/4	2	5
1" COPPER	3-3/4	2	5-3/16
1-1/4" COPPER	3-3/4	2	5-9/16
1" COPPER	5	3A	5-1/2
1-1/4" COPPER	5	3A	5-11/16
1" STEEL	3-3/4	2	5-5/16
1-1/4" STEEL	3-3/4	2	5-1/2
1" STEEL	5	3A	5-11/16
1-1/4" STEEL	5	3A	5-13/16

Δ 2-tier with damper available with these elements only.



260 North Elm St., Westfield, MA 01085  
(413) 564-5535 Fax: (413) 562-8437  
www.sterlingheat.com

PROJECT: Seaside Rehab DATE: 10/22/14  
LOCATION: Portland, ME  
ARCHITECT: \_\_\_\_\_  
ENGINEER: \_\_\_\_\_  
CONTRACTOR: Johnson & Jordan  
PO NUMBER: \_\_\_\_\_

# STYLE "JVK-S8 11 14" VERSA-LINE SLIM-LINE

## COPPER/ALUMINUM ELEMENT RATINGS

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE	FIN PER FT.	FIN THICKNESS	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)					
									200°	190°	180°	170°	160°	150°
									FACTOR					
								1.00	.86	.78	.69	.61	.53	.45
3/4"	R01	2-1/2" x 2-1/4"	50	.011	8 K*	1	10	820	710	640	570	500	430	370
3/4"	R02	2-1/2" x 2-3/4"	<b>60</b>	<b>.010</b>	"	<b>1</b>	<b>10</b>	<b>950</b>	<b>820</b>	<b>740</b>	<b>660</b>	<b>580</b>	<b>500</b>	<b>430</b>
3/4"	R04	3-3/4" x 2-3/4"	50	.014	"	1	10	1010	870	790	700	620	540	450
1"	R03	2-1/2" x 2-3/4"	55	.011	"	1	10	980	840	760	680	600	520	440
1"	R05	3-3/4" x 2-3/4"	50	.011	"	1	10	1020	880	800	700	620	540	460
1-1/4"	R08	3-3/4" x 2-3/4"	50	.020	"	1	10	1040	890	810	720	630	550	470
3/4"	R01	2-1/2" x 2-1/4"	50	.011	11 K	1	13	880	770	690	610	540	470	400
3/4"	R02	2-1/2" x 2-3/4"	60	.010	"	1	13	1080	930	840	750	680	<b>570</b>	490
3/4"	R04	3-3/4" x 2-3/4"	50	.014	"	1	13	1110	950	870	770	680	590	500
1"	R03	2-1/2" x 2-3/4"	<b>55</b>	<b>.011</b>	"	<b>1</b>	<b>13</b>	<b>1050</b>	<b>900</b>	<b>820</b>	<b>720</b>	<b>640</b>	<b>560</b>	<b>470</b>
1"	R05	3-3/4" x 2-3/4"	50	.011	"	1	13	1120	960	870	770	680	590	500
1"	R07	5" x 2-3/4"	<b>50</b>	<b>.020</b>	"	<b>1</b>	<b>13</b>	<b>1220</b>	<b>1050</b>	<b>950</b>	<b>840</b>	<b>740</b>	<b>650</b>	<b>550</b>
1-1/4"	R08	3-3/4" x 2-3/4"	50	.020	"	1	13	1140	980	890	790	700	600	510
1-1/4"	R10	5" x 2-3/4"	50	.020	"	1	13	1180	1020	930	820	730	630	540
3/4"	R01	2-1/2" x 2-1/4"	50	.011	14 K	1	16	960	830	750	660	590	510	430
3/4"	R02	2-1/2" x 2-3/4"	60	.010	"	1	16	1150	980	900	790	700	610	520
3/4"	R04	3-3/4" x 2-3/4"	50	.014	"	1	16	1200	1030	940	830	730	640	540
1"	R03	2-1/2" x 2-3/4"	55	.011	"	1	16	1180	1010	920	810	720	630	530
1"	R05	3-3/4" x 2-3/4"	50	.011	"	1	16	1220	1050	950	840	740	650	550
1"	R07	5" x 2-3/4"	50	.020	"	1	16	1280	1110	1010	890	780	680	580
1-1/4"	R08	3-3/4" x 2-3/4"	50	.020	"	1	16	1200	1030	940	830	730	640	540
1-1/4"	R10	5" x 2-3/4"	50	.020	"	1	16	1260	1080	980	870	770	670	570
3/4"	R01	2-1/2" x 2-1/4"	50	.011	14 K	2	16	1300	1120	1010	900	790	690	590
3/4"	R02	2-1/2" x 2-3/4"	60	.010	"	2	16	1650	1420	1290	1140	1010	870	740
3/4"	R04	3-3/4" x 2-3/4"	50	.014	"	2	16	1680	1440	1310	1160	1020	890	760
1"	R03	2-1/2" x 2-3/4"	55	.011	"	2	16	1660	1430	1290	1150	1010	880	750
1"	R05	3-3/4" x 2-3/4"	50	.011	"	2	16	1670	1440	1300	1150	1020	890	760
1-1/4"	R08	3-3/4" x 2-3/4"	50	.020	"	2	16	1600	1380	1250	1100	980	850	720

\*Not recommended for steam applications, consult factory.

Note: Copper tube furnished flared one end standard.

## STEEL ELEMENT RATINGS

I.P.S. SIZE	CATALOG DESIGNATION	FIN SIZE	FIN PER FT.	FIN THICKNESS	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)					
									200°	190°	180°	170°	160°	150°
									FACTOR					
								1.00	.88	.78	.69	.61	.53	.45
1"	R11	3-3/4" x 2-3/4"	40	.024	8 K*	1	10	920	790	720	630	560	490	410
1"	R11	5" x 2-3/4"	40	.024	11 K	1	13	1020	880	800	700	620	540	460
1"	R15	5" x 2-3/4"	50	.024	"	1	13	1170	1010	910	810	710	620	530
1-1/4"	R16	5" x 2-3/4"	50	.024	"	1	13	1190	1020	930	820	730	630	540
1"	R11	3-3/4" x 2-3/4"	40	.024	14 K	1	16	1100	950	860	760	670	580	500
1"	R15	5" x 2-3/4"	50	.024	"	1	16	1170	1010	910	810	710	620	530
1-1/4"	R16	5" x 2-3/4"	50	.024	"	1	16	1180	1020	930	820	730	630	540
1"	R11	3-3/4" x 2-3/4"	40	.024	14 K	2	16	1520	1310	1190	1050	930	810	680

\*Not recommended for steam applications, consult factory.

- Notes: 1) Steel fin furnished as .024 thick, painted black.  
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.  
 3) The ends can be provided chamfered for field welded fittings when specified.

► **Bold, italicized units are**  **rated** ◀

# INSTALLATION INSTRUCTIONS

## VERSA-LINE COMMERCIAL FINNED-TUBE RADIATION JVK-RD, S, T

### Not Recommend For Steam Applications.

1. Determine quantities of enclosure and accessories required per wall or run. If installation is wall-to-wall, run backplate to within  $\frac{1}{2}$ " of adjoining wall(s). If run ends with end cap, extend backplate beyond end of required enclosure 1-1/2" for 3" end and 6" for 8-3/8" end.
2. Mount backplate (full or partial) to wall at prescribed height (Refer to Submittal Drawing) making sure that it is straight and level. If valve compartments are being used, make sure that an equivalent amount of backplate is installed.
- 3A. **Hot Water Systems:** Water brackets are used to support the enclosure and a single tier of element. Water brackets do not provide pitch for the element. If a second tier (row) of element is to be installed, a wall mounted hanger will need to be installed adjacent to the water bracket so that the center line of the second element tube is 5" for S style enclosure (6" for RD and T style enclosure) above the bottom element center line. Install two (2) water brackets per enclosure length up to 6'-0" of length. Three (3) water brackets per cover 6'-6" up to 8'-0" of length. Valve compartments should have a minimum of one (1) bracket (Accessories do not require brackets). Insert top of the bracket into "V" bend of backplate (Full or Partial) and insert onto horizontal flange of the Partial backplate. Secure brackets to wall using fasteners (as specified) by others. Supply/Return Pipe hangers (if required) can be mounted to the wall adjacent to the water bracket (every other one). Consult submittal sheet for conditions that will not allow a Supply/Return Pipe Hanger.
- 3B. **Steam Systems (Two Pipe): Not Recommend For Steam Applications.**

Bracket mounted hangers used to support the element(s) are not available for this product. A wall mounted hanger will be required to support and pitch the element. These will have to be installed so that the supply end of the element will be the highest point and pitch down at a rate of  $\frac{1}{2}$  inch per 20 foot run. Check length of longest run to insure that the element will not interfere with the sloped surface of the enclosure.

4. Lay out heating element as required. Place slide cradle onto the bottom of element at each bracket location. The element cradle has two legs that angle out slightly. Position the legs between the fins so there is tension against the legs. This holds the cradle in position. Check submittal drawing for correct position of element fin. **For copper tube elements, flush the loop or series with system water after soldering to neutralize the remaining flux material and prevent corrosive action and resulting pinhole leaks.**
5. The enclosure can now be installed unless damper assembly is required (see damper installation sheet packed with damper blades). Start enclosure at left end of run, working clockwise. The enclosure back bend mounts directly into the "V" bend of backplate. Firmly push next piece of cover into slip joint tabs of piece on left until run is completed. Secure bottom of enclosure into brackets. Tighten the post-loc clamps to secure the enclosure.
6. Install overlapping accessories as indicated on room schedule. All accessories are overlapping. Valve Compartments are installed the same as enclosure. The top back bend is slipped between the wall and the backplate. The accessory bottom returns to the wall and is secured with fasteners by others.

### MAINTENANCE

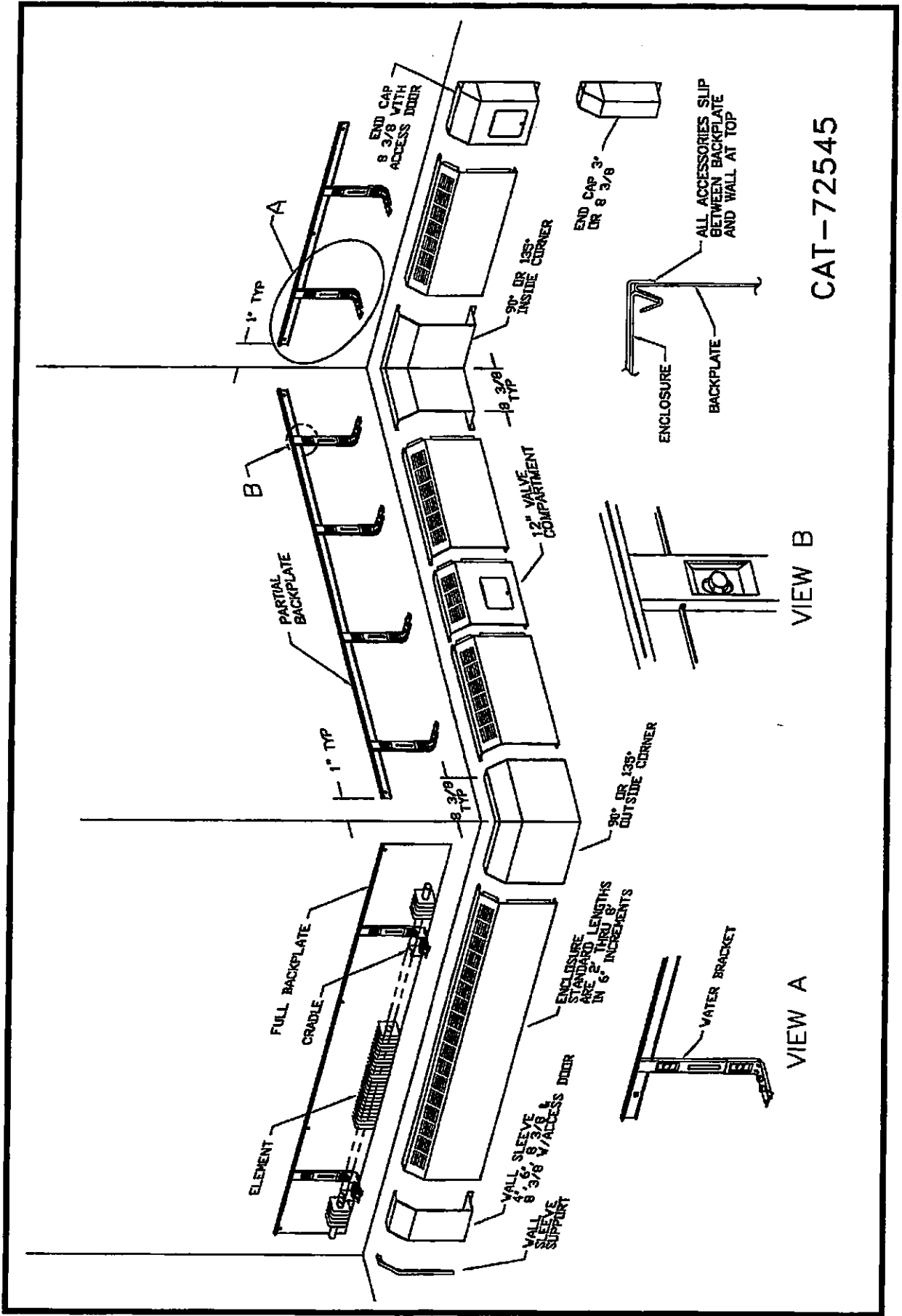
Before each heating season, remove accessories and enclosure panel to inspect finned tube elements for accumulation of dust or other debris that may accumulate and block airflow between fins. Remove dust and debris from coil fins with a vacuum cleaner or compressed air. Inspect for leaks or areas of corrosion. It should not be required, but if necessary, place a drop of lubricant (machine oil) onto each ball bearing (where applicable) located in the water brackets or bracket mounted hangers. Replace cover and accessories.



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# GENERAL LAYOUT



CAT-72545

VIEW B

VIEW A

## SUBMITTAL DATA

**Project:** Seaside Rehabilitation  
**Mechanical Engineer:** Bennett Engineering  
**Mechanical Contractor:** Johnson and Jordan  
**Date:** October 23, 2014  
**Product:** VRV System  
**Specification Section:** 23000  
**Revision:** 00

Tag	Qty	Model / Description	Manufacturer
SCU-1	1	RXYQ72TTJU / Heat Pump	Daikin AC
SAC-1a, 1b, 1c, 1d	4	FXZQ18MVJU9 Ceiling Cassettes	Daikn AC

### Comments / Notes

<i>Note: SCU-1 is submitted with a VRV-4 unit. It has virtually the identical performance to the Specified VRV-3 unit. Detailed differences are shown on page 6 of 19.</i>





Produced on 10/23/2014 with Xpress Selection V6.7.5 - database Central\_USA 9.7.4

*Project name* Seaside Rehabilitation  
*Contractor* Johnson and Jordan  
*Engineer* Bennett Engineering  
*Reference* Heat Pump

Selection parameters of the indoor units can be found under the chapter Indoor unit details  
Selection parameters of the outdoor units can be found under the chapter Outdoor unit details  
Only the data published in the data book are correct. This program uses close approximations of these data.

## 1. Material List

Model	Qty	Description
RXYQ72TTJU	1	Heat pump VRV-IV (208-230V)
FXZQ18MVJU9	4	VRV Z - 4-Way Discharge Ceiling Mounted Cassette (2' x 2')
KHRP26A22T	2	REFNET branch piping kit
KHRP26A33T	1	REFNET branch piping kit
BRC1E72	1	Navigation Remote Controller
BYFQ60B8W1U	4	Decoration panel - All FXZQ
Piping 1/4"	44.0ft	For Reference Only, Piping Not Included
Piping 3/8"	72.0ft	For Reference Only, Piping Not Included
Piping 1/2"	44.0ft	For Reference Only, Piping Not Included
Piping 5/8"	29.0ft	For Reference Only, Piping Not Included
Piping 3/4"	43.0ft	For Reference Only, Piping Not Included



## 2. Indoor Unit Details

### 2.1. Table of Abbreviations

Name	Logical name of the device
FCU	Device model name
Tmp C	Indoor conditions in cooling (dry bulb temp. / wet bulb temp.)
Rq TC	Required total cooling capacity
TC	Available total cooling capacity
Rq SC	Required sensible cooling capacity
SC	Available sensible cooling capacity
Tmp H	Indoor temperature in heating
Rq HC	Required heating capacity
HC	Available heating capacity
Suct	Suction temperature
Disch	Discharge temperature
Airflow	Supplied airflow
Sound	Sound pressure low and high
PS	Power supply (voltage and phases)
MCA	Minimum Circuit Amps
Fuses	Fuses
WxdxD	WidthxHeightxDepth
Wght	Weight of the device



## 2.2. SCU-1 - RXYQ72TTJU

Actual capacity data at conditions and connection ratio (100%) as entered

Name	FCU	Tmp C	Rq TC	TC	Rq SC	SC	Tmp H	Rq HC	HC
		°F	BTU/h	BTU/h	BTU/h	BTU/h	°F	BTU/h	BTU/h
SAC-1D	FXZQ18MVJU9	80.0 / 67.0	n/a	18003	n/a	12710	68.0	n/a	21000
SAC-1C	FXZQ18MVJU9	80.0 / 67.0	n/a	18003	n/a	12710	68.0	n/a	21000
SAC-1B	FXZQ18MVJU9	80.0 / 67.0	n/a	18003	n/a	12710	68.0	n/a	21000
SAC-1A	FXZQ18MVJU9	80.0 / 67.0	n/a	18003	n/a	12710	68.0	n/a	21000

The sum of the required indoor unit capacities is 72012BTU/h for cooling and 84000BTU/h for heating. However, the outdoor unit selection uses reduced load values for cooling of 64811BTU/h (= -10%) and for heating of 58800BTU/h (= -30%).

Be aware that unrealistic reductions may lead to reduced comfort levels, different noise levels or increased wear and tear.

### Discharge temperature

Name	Condition 1			Condition 2		
	Suct	Disch	Airflow	Suct	Disch	Airflow
	°F	°F	cfm	°F	°F	cfm
SAC-1D	64.4	92.5	494	68.0	96.5	494
SAC-1C	64.4	92.5	494	68.0	96.5	494
SAC-1B	64.4	92.5	494	68.0	96.5	494
SAC-1A	64.4	92.5	494	68.0	96.5	494

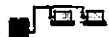
Condition 1: The discharge temperature is calculated for an ambient temperature of 5.0°F and a room temperature of 64.4°F, as specified in the Preferences window. It also uses the maximum connection ratio of the installation and the corresponding fan speed of the indoor units.

Condition 2: The discharge temperature is calculated using the design ambient temperature 5.0°F, a room temperature of 68.0°F and an operational connection ratio of maximum 130%.

The analysis of the suction and discharge temperature values may help in preventing a cold draft and to ensure a thermal comfort level.

Please consider installing a central control/management device to enable a dual set point.

Name	Sound	PS	MCA	Fuses	WxHxD	Wght
	dBA		A		inch	
SAC-1D	34-41	230V 1ph	0.9	15A	22.6x11.3x22.6	42
SAC-1C	34-41	230V 1ph	0.9	15A	22.6x11.3x22.6	42
SAC-1B	34-41	230V 1ph	0.9	15A	22.6x11.3x22.6	42
SAC-1A	34-41	230V 1ph	0.9	15A	22.6x11.3x22.6	42



Outdoor unit placed 10.0ft below the indoor units.

The minimum connection ratio for this height difference is 50%.



### 3. Outdoor Unit Details

#### 3.1. Table of Abbreviations

Name	Logical name of the device
Model	Device model name
Comb	Connection ratio
Tmp C	Outdoor temperature in cooling
CC	Available cooling capacity
Rq CC	Required cooling capacity
Tmp H	Outdoor conditions in heating (dry bulb temp. / wet bulb temp.)
HC	Available heating capacity (integrated heating capacity)
Rq HC	Required heating capacity
Piping	Largest distance from indoor unit to outdoor unit
Bse Refr	Standard factory refrigerant charge (5m actual piping length) excluding extra refrigerant charge For calculation of extra refrigerant charge refer to the databook
Ex Refr	Extra refrigerant charge
PS	Power supply (voltage and phases)
MCA	Minimum Circuit Amps
MFA	Maximum Fuse Amps
Run Amps	Running Amps
St Curr	Starting current
Fuses	Fuses
WxHxD	WidthxHeightxDepth
Wght	Weight of the device
EER	EER value at nominal conditions
IEER	IEER value at nominal conditions
COP 47°F	COP value at nominal conditions and ambient temperature of 47°F
COP 17°F	COP value at nominal conditions and ambient temperature of 17°F



### 3.2. Outdoor Details

Name	Model	Comb	Tmp C	CC	Rq CC	Tmp H	HC	Rq HC	Piping	Base Refr	Ex Refr
		%	°F	BTU/h	BTU/h	°F	BTU/h	BTU/h	ft	lbs	lbs
SCU-1	RXYQ72TTJU	100	89.6	71883	64811BTU/h	5.0 / 4.0	61013	58800BTU/h	97.5	13.0	3.5

Name	Model	PS	MCA	MFA	Run Amps	St Curr	Fuses	WxHxD	Wght
			A	A	A	A		inch	lbs
SCU-1	RXYQ72TTJU	230V 3ph	27.6	35	15.7		35A	36.7x66.7x30.2	437

Name	Non-ducted			
	EER	IEER	COP 47°F	COP 17°F
SCU-1	14.1	25.8	4.0	2.65

### Detailed Differences Submitted VRV-IV vs Specified VRV-III

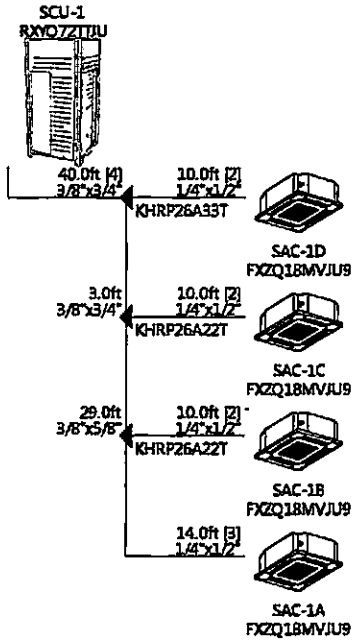
SAC-1  
 Cooling BTUH Same  
 Heating BTUH -123 BTUH  
 Base Refrigerant -3.5 lbs  
 Ex Refrigerant -2.2 lbs  
 MCA -2.4 amps  
 Fuse Size Same  
 Run Amps -1.5 amps  
 EER Same  
 IEER Same  
 COP Same



## 4. Piping Diagrams

Pipes marked with \* in the diagrams must be connected to the device with a reducing joint.

### 4.1. Piping SCU-1



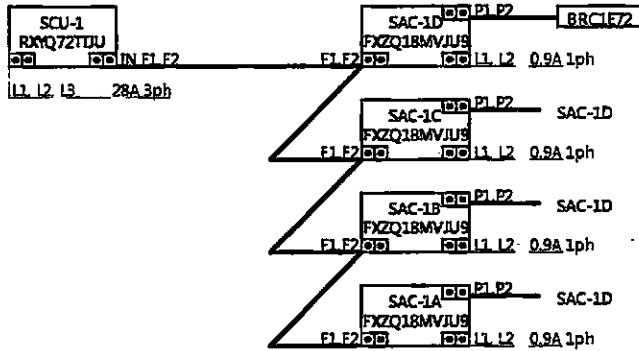


## 5. Wiring Diagrams

P1P2 = Please select the cable type and size in accordance with the databook.

F1F2 = Please select the cable type and size in accordance with the databook.

### 5.1. Wiring SCU-1





## 6. Device Options

### 6.1. Indoor Unit Options

Model	Description	Used by		
BYFQ80B8W1U	Decoration panel - All FXZQ	SAC-1D [FXZQ18MVJU9]	SAC-1C [FXZQ18MVJU9]	SAC-1B [FXZQ18MVJU9]
		SAC-1A [FXZQ18MVJU9]		





# Submittal Data Sheet

**Project Name:** Seaside Rehabilitation  
**Location:** Portland, ME  
**Engineer:** Bennett Engineering  
**Submitted to:** Johnson and Jordan  
**Submitted by:** Briggs Equipment Sales, Inc.  
**Reference:** Heat Pump

**Approval:** \_\_\_\_\_  
**Date:** 10/23/2014  
**Construction:** \_\_\_\_\_  
**Unit #:** (Qty 1) SCU-1  
**Drawing #:** \_\_\_\_\_

### Performance

**Outdoor Unit Model No:** RXYQ72TTJU  
**Type:** \_\_\_\_\_  
**Rated Cooling Capacity (Btu/hr):** 69000  
**Nom Cooling Capacity (Btu/hr):** 72000  
**Cooling Input Power (kW):** 4.62  
**SEER:** N/A  
**IEER:** 25.8  
**Rated Heating Capacity (Btu/hr):** 77000  
**Nom Heating Capacity (Btu/hr):** 81000  
**Heating Input Power (kW):** 5.46  
**Heating COP (Btu/hr / Btu/hr):** 4.0  
**HSPF:** N/A  
**Heating COP 17F (Btu/hr / Btu/hr):** 2.65

**Condensing Unit Type:** 6-Ton VRV-IV Heat Pump

### Unit Combination:

**Rated Cooling Conditions:** Indoor: 80°F DB/67°F WB  
 Outdoor: 95°F DB/75°F WB  
**Rated Heating Conditions:** Indoor: 70°F DB/60°F WB  
 Outdoor: 47°F DB/43°F WB  
**Rated Piping Length (ft):** 50 / 25  
**Rated Height Difference (ft):** 0

### Condensing Unit Details

**Power Supply (V/Hz/Ph):** 208-230/60/3ph  
**Power Supply Connections:** L1, L2, L3 Ground  
**Min. Circuit Amps MCA (A):** 27.6  
**Max. Overcurrent Protection (MOP)(A):** 35  
**Max. Starting Current MSC(A):** N/A  
**Rated Load Amps RLA (A):** 15.7  
**Dimensions Height (Inch):** 66-11/16  
**Dimensions Width (Inch):** 36-11/16  
**Dimensions Depth (Inch):** 30-3/16  
**Net Weight (lbs):** 435

**Compressor Type:** Inverter  
**Capacity Control Range (%):** 20 - 100  
**Capacity Index Limit:** 36 - 93.6 (130%)  
**Airflow Rate (CFM):** 5544  
**Gas Pipe Connection (inch):** 3/4  
**Liquid Pipe Connection (inch):** 3/8  
**H/L Pressure Connection (inch):** \_\_\_\_\_  
**H/L Equalizing Connection (inch):** \_\_\_\_\_  
**Sound Pressure Level (dBA):** 58  
**Sound Power Level (dBA):** \_\_\_\_\_  
**Max. No. of Indoor Units:** 12

### System Details

**Refrigerant Type:** R-410A  
**Holding Refrigerant Charge (lbs):** 13  
**Additional Charge (lbs/ft):** install data  
**Pre-charge Piping (Length ft):** -  
**Max. Pipe Length (Total ft):** 540 ft  
**Max. Pipe Length (Vertical ft):** 164 ft (295 ft) / 295 ft  
**Max Height Separation (Ind to Ind ft):** \_\_\_\_\_

**Cooling Operation Range (°F):** 23 - 110  
**Cooling Range w/Baffle (°F):** \_\_\_\_\_  
**Heating Operation Range (°F):** (-4) - 60  
**Heating Range w/Baffle (°F):** \_\_\_\_\_

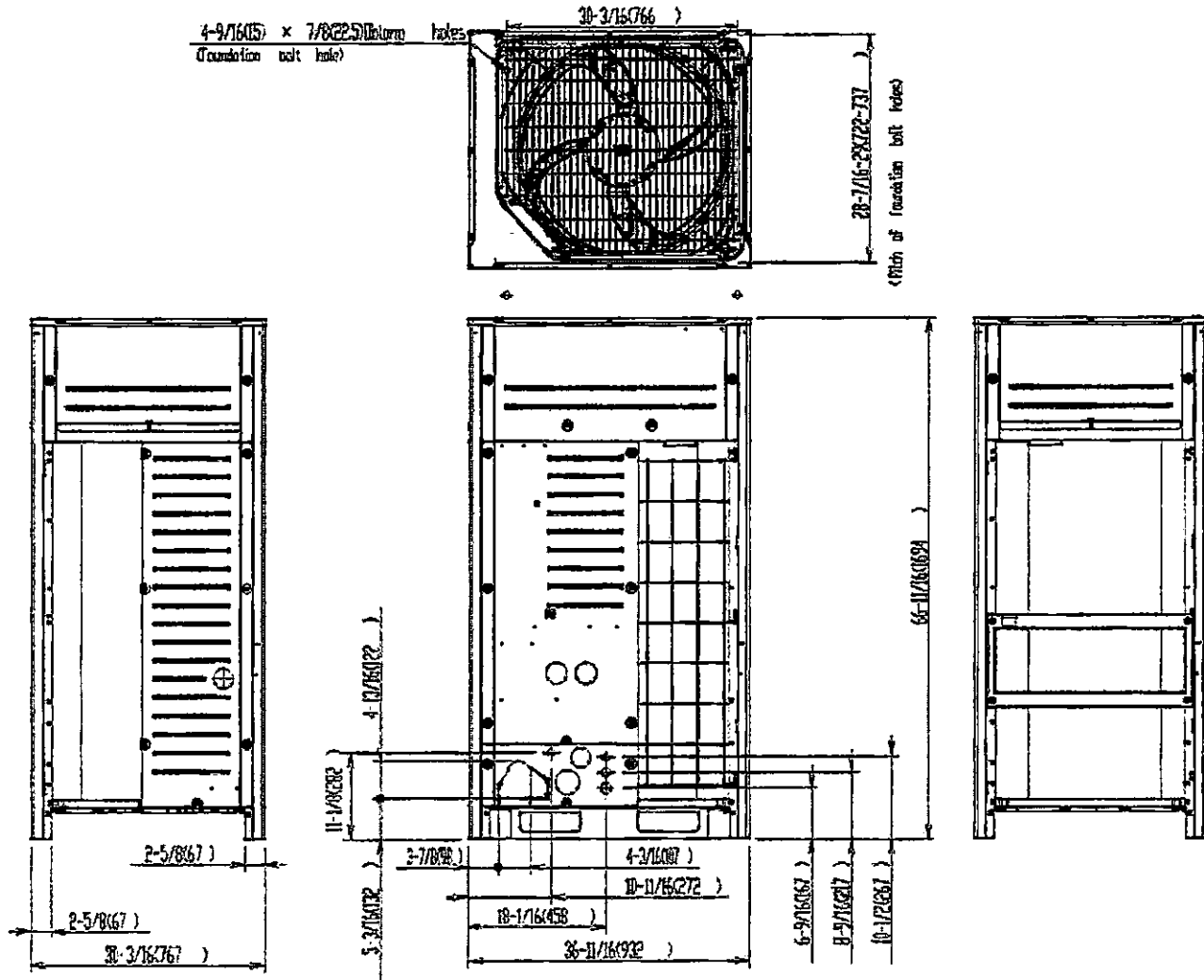
(Daikin's products are subject to continuous improvements. Daikin reserves the right to modify product design, specifications and information in this data sheet without notice and without incurring any obligations)

**Project Name:** Seaside Rehabilitation  
**Location:** Portland, ME  
**Engineer:** Bennett Engineering  
**Submitted to:** Johnson and Jordan  
**Submitted by:** Briggs Equipment Sales, Inc.  
**Reference:** Heat Pump

**Approval:** \_\_\_\_\_  
**Date:** 10/23/2014  
**Construction:** \_\_\_\_\_  
**Unit #:** (Qty 1) SCU-1  
**Drawing #:** \_\_\_\_\_

**Dimensional Drawing - Condensing Unit**

RXYQ72TTJU



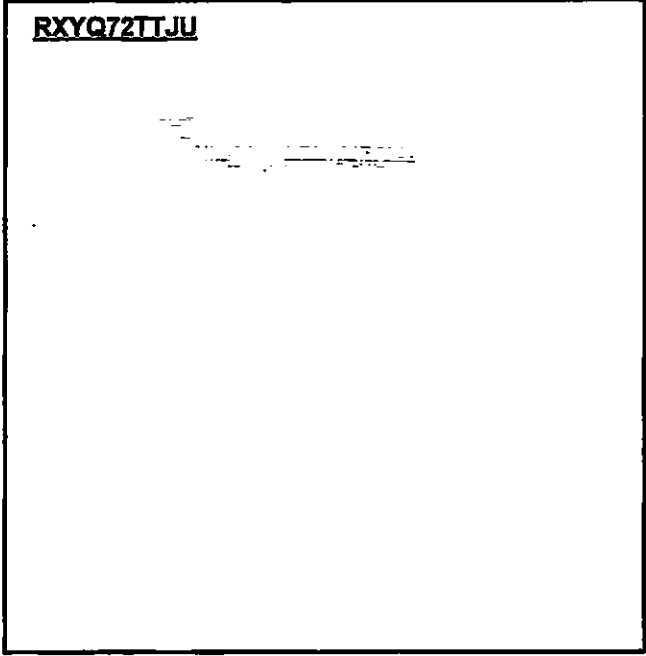
(Daikin's products are subject to continuous improvements. Daikin reserves the right to modify product design, specifications and information in this data sheet without notice and without incurring any obligations)



# Submittal Data Sheet

**Project Name:** Seaside Rehabilitation  
**Location:** Portland, ME  
**Engineer:** Bennett Engineering  
**Submitted to:** Johnson and Jordan  
**Submitted by:** Briggs Equipment Sales, Inc.  
**Reference:** Heat Pump

**Approval:**  
**Date:** 10/23/2014  
**Construction:**  
**Unit #:** (Qty 1) SCU-1  
**Drawing #:**



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# Submittal Data Sheet

**Project Name:** Seaside Rehabilitation  
**Location:** Portland, ME  
**Engineer:** Bennett Engineering  
**Submitted to:** Johnson and Jordan  
**Submitted by:** Briggs Equipment Sales, Inc.  
**Reference:** Heat Pump

**Approval:**  
**Date:** 10/23/2014  
**Construction:**  
**Unit #:** (Qty 4) SAC-1a, 1b, 1c, 1d  
**Drawing #:**

### Performance

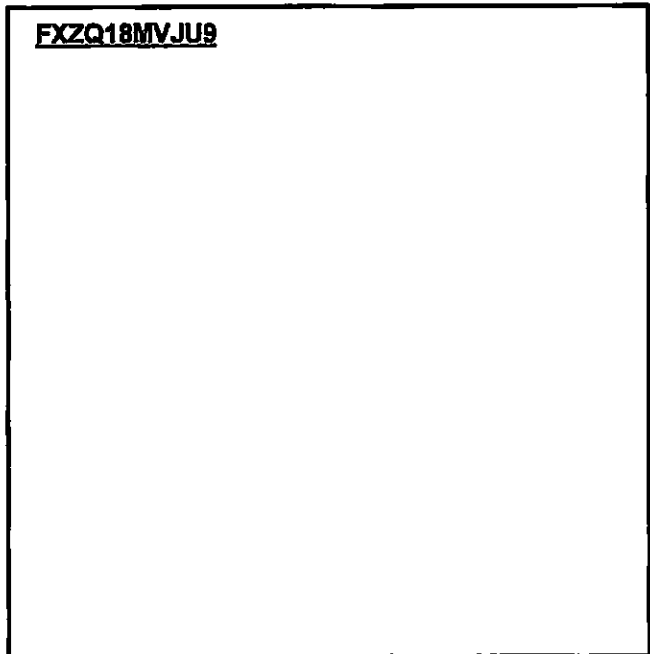
**Indoor Unit Model No:** FXZQ18MVJU9  
**Rated Cooling Capacity (Btu/hr):** 18000  
**Sensible Capacity (Btu/hr):** 13300  
**Cooling Input Power (kW):** 0.128  
**Rated Heating Capacity (Btu/hr):** 21000  
**Heating Input Power (kW):** 0.122

**Indoor Unit Type:** 2' x 2' 4 Way Cassette  
**Rated Cooling Conditions:** Indoor: 80°F DB/67°F WB  
 Ambient: 95°F DB/75°F WB  
**Rated Heating Conditions:** Indoor: 70°F DB/60°F WB  
 Ambient: 47°F DB/43°F WB  
**Rated Piping Length (ft):** 25  
**Rated Height Separation (ft):** 0

### Indoor Unit Details

**Power Supply (V/Hz/Ph):** 208-230/60/1ph  
**Power Supply Connections:** L1, L2, Ground  
**Min. Circuit Amps MCA (A):** 0.9  
**Max. Overcurrent Protection (MOP) (A):** 15  
**Dimensions (HxWxD):** 11 1/4x22 5/8x22 5/8  
**Panel (HxWxD):** 2 5/32x27 9/16x27 9/16  
**Net Weight (lbs):** 42  
**Net Weight with Panel (lbs):** 48

**Airflow Rate (CFM wet coil):** 495/353  
**Moisture Removal (pt/h):**  
**Gas Pipe Connection (inch):** 1/2  
**Liquid Pipe Connection (inch):** 1/4  
**Condensate Connection (inch):** 1-1/32  
**Sound Pressure Level (dBA):** 41  
**Sound Power Level (dBA):**  
**External Static Pressure/Max (inWg):** 0 / 0  
**Controller Name:**



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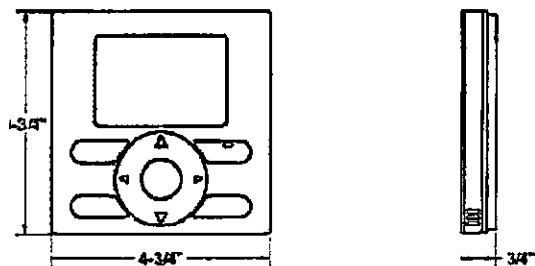
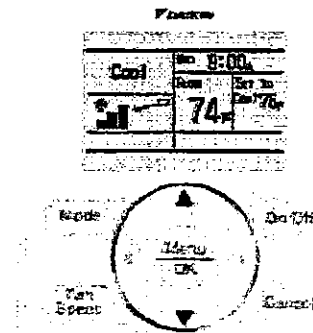
# Submission Data Sheet

## BRC1E72 - New Navigation Controller

Project Name:	Seaside Rehabilitation	Approval:	
Location:	Portland, ME	Date:	10/23/2014
Engineer:	Bennett Engineering	Construction:	
Submitted to:	Johnson and Jordan	Unit #:	All Units Controlled by Single Controller
Submitted by:	Briggs Equipment Sales, Inc.	Drawing #:	
Reference:	Heat Recovery		

For use with the following VRV indoor unit models: FXAQ, FXDQ, FXFQ, FXHQ, FXLQ, FXMQ, FXMQ\_MF, FXNQ, FXSQ, FXTQ, FXZQ  
 For use with the following Daikin SkyAir indoor unit models: FAQ, FBQ, FCQ, FHQ, FTQ

Model	BRC1E72
Description	New Navigation Remote Controller
Maximum Indoor Units	16
Communication Wire	18AWG-2, No polarity Stranded, Non-shielded
Total Wiring Length	1,640 ft (500 m)
Communication Protocol	Daikin Proprietary P1P2 protocol
Power	16VDC supplied by indoor unit (1.58VA maximum)
Comfort Setpoint Range	60 to 90 °F (16 to 32 °C)
Setback Setpoint Range	40 to 95 °F (5 to 35 °C)
Operating Temp Range	14 to 122 °F (-10 to 50 °C)
Operating Humidity Range	75% or less (w/o condensation)
Dimensions (WxHxD)	4.72x4.72x0.75 inch (120x120x19 mm)
Weight (Mass)	0.42 lb (0.19 kg)



### Features / Benefits:

- Up to 16 indoor units are controllable in one group
- Can be combined with a secondary controller for dual operation
- Backlit LCD display in English, French, or Spanish
- Temperature sensor with configurable offset
- Display of Temperature and Setpoint in 1°F / °C Increments
- Three display modes Detailed, Standard and Simple
- Dual setpoints (Individual cooling and heating setpoints) with minimum setpoint differential or Single setpoint (occupied period)
- Setpoint range limits for Cooling and Heating
- Independent cool/heat setback setpoints (unoccupied period)
- Auto changeover mode can automatically change to cool/heat mode at setpoint +/-1° F (can be configured from 1 to 4° F using field settings) with a guard timer for 15, 30, 60 or 90 min. Surely change at another +/-1° F (can be configured from 1 to 4° F using field settings) ignoring the guard timer.
- Built in 7, 5+2, 5+1+1, and 1 (Everyday) schedule with up to 5 actions per day with independent cool/heat or setback setpoints
- Automatic adjustment for Daylight Savings Time (DST)
- 48 hour clock/calendar backup (in case of power failure)
- Constantly monitors the system for malfunctions with immediate display of fault location and condition
- Prohibit buttons on remote controller
- Limit selectable operation modes
- Display can be configured not to show setpoint when unit is Off. Display Off, instead of mode when unit is off. Fan speed display removable.
- Backwards compatible

Daikin AC (Americas), Inc., 1645 Wallace Drive, Suite 110, Carrollton, TX 75006

Daikin AC Controls Engineering Department Generated Submittal Data

[www.daikinac.com](http://www.daikinac.com)

(Daikin's products are subject to continuous improvements. Daikin reserves the right to modify product design, specifications and information in this data sheet without notice and without incurring any obligations)





May 2012 Form

**STANDARD LIMITED WARRANTY  
DAIKIN AC PRODUCTS**  
(Applies to VRVIII, VRV-WIII, VRVIII-S Products Only)

Daikin AC (Americas), Inc. ("Daikin AC") warrants to the customer who is the original owner and user of the Daikin AC products specified above ("Customer") that under normal use and maintenance for comfort cooling and conditioning applications such products (the "Products") will be free from defects in material or workmanship. This warranty applies to parts only and is limited in duration to one (1) year from the earlier to occur of (a) the date of original installation, whether or not actual use begins on that date, or (b) eighteen (18) months from the date of shipment by Daikin AC. Customer must present proof of the original date of receipt and of installation of the Product in order to establish the effective date of this warranty. Otherwise the effective date will be deemed to be the date of manufacture plus sixty (60) days. Repaired or replacement parts are warranted for the balance of the warranty period applicable to the original part following the date on which the repaired or replacement part is provided to the Customer.

**EXTENDED WARRANTY**

For its compressors only, Daikin AC provides the above warranty (which is applicable to parts only) for a seven (7) year period. This extended warranty for compressors is limited in duration to seven (7) years from the earlier to occur of (a) the date of original installation, whether or not actual use begins on that date, or (b) eighteen (18) months from the date of shipment by Daikin AC, and applies to the compressor and compressor parts only. The effective date of this extended warranty shall be established as above.

**NO LABOR WARRANTY**

The above warranties (hereinafter, the "Warranty") apply with respect to parts only and not labor. Accordingly, subject to the conditions and limitations set forth herein, the Warranty entitles the Customer to receive, at the option of Daikin AC only, a repaired or replacement part and does not entitle Customer to installation thereof.

**LIMITATIONS AND EXCLUSIONS**

1. Daikin AC's obligations under this Warranty and the sole remedy for its breach are limited to repair of any part or parts of its Daikin AC Products which prove to be defective during the Warranty period or, in its sole discretion, replacement of such Products. All returns of defective parts or Products must include the Product model number and serial number, and must be made through an authorized Daikin AC distributor or arranged through Daikin AC Technical Service. Authorized returns must be shipped prepaid. Repaired or replacement parts will be shipped by Daikin AC F.O.B. shipping point.



2. Except to the limited extent expressly permitted herein, the Warranty provided herein does not cover charges for labor or other costs incurred in the troubleshooting, repair, removal, installation, service or handling of parts or complete Products. Daikin AC is not responsible for any other charges involved in replacement of defective parts or the complete Product, including but not limited to labor costs, refrigerant, and freight charges.

3. All claims under the Warranty must be made within ninety (90) days from the date of discovery of the defect. Failure to notify Daikin AC of a warranted defect within ninety (90) days of its discovery voids Daikin AC's Warranty obligations. The Warranty is not transferable.

4. The Warranty will be void and of no effect, and Daikin AC will have no liability to anyone, if: (a) the Product has been operated outside its designated output capacity (heating, cooling, airflow); (b) the Product has been subjected to misuse, abuse, negligence, accident, improper or inadequate maintenance, corrosive environments (containing e.g. chlorine, fluoride or any other damaging chemicals), environments containing airborne contaminants (silicone, aluminum oxide, etc.), or excessive thermal shock; (c) VRV-WII product or any water source Product has been exposed to contaminants, corrosive agents, chemicals or minerals from the water supply source or otherwise; (d) modifications, repairs or service are made to the Product by unauthorized or unqualified persons ; (e) the Product is not installed, operated or maintained and serviced in compliance with the printed instructions and recommendations of Daikin AC; (f) the Product is not installed, commissioned, operated and serviced in compliance with Daikin AC's recommended procedures and with applicable building, mechanical, plumbing and electrical codes and in accordance with best industry standards and practice; (g) the serial number of the Product has been altered, defaced, or removed; (h) mishandling by Customer or any third party has occurred; (i) lightning, fluctuations in electrical power or acts of God have occurred; (j) problems arise from normal wear and tear, improper matching or application of Product or components, or lost refrigerant; or (k) the Product has not been paid for in full by the Customer, including applicable taxes and interest; (l) the Product has not been purchased from an authorized Daikin AC distributor or sales representative (an "Authorized Seller") or from a contractor who has purchased the Product from an Authorized Seller; or (m) the Product has been purchased on the internet from a source not expressly authorized by Daikin AC to sell that Product to such a purchaser in such purchaser's location; or (n) the Product has been purchased from any source or in any manner not expressly authorized by Daikin AC or not consistent with Daikin AC policies and procedures.

5. The Warranty is for repair or replacement of parts or Products only. Except to that limited extent, Daikin AC will not under any circumstances be liable for any loss, cost, damage, or expense of any kind arising out of a breach of this Warranty or otherwise. Without intending to limit the foregoing sentence, it is specifically provided as follows: DAIKIN AC

SHALL NOT BE LIABLE FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY, SPECIAL, OR PUNITIVE DAMAGES, OR FOR ANY LOSS OF REVENUE, PROFIT OR USE, ARISING OUT OF A BREACH OF THIS WARRANTY (INCLUDING BUT NOT LIMITED TO DAMAGE RESULTING FROM CONDENSATE LEAKAGE) OR IN CONNECTION WITH THE SALE, MAINTENANCE, USE, OPERATION, SERVICING OR REPAIR OF ANY DAIKIN AC PRODUCT. IN NO EVENT WILL DAIKIN AC BE LIABLE FOR ANY AMOUNT GREATER THAN THE PURCHASE PRICE OF A DEFECTIVE PRODUCT.

6. The extended Warranty for compressors shall be valid only if all of the following conditions have been met:

- \* Vacuum drying at commissioning was carried out as per Daikin AC's guidelines.
- \* All brazing of pipe-work was performed with nitrogen flow in pipe to eliminate oxidation.
- \* Correct refrigerant charge was weighed in at time of commissioning.
- \* Correct refrigerant charge was present at time of breakdown (no leaks).
- \* Installation of equipment and pipe-work was completed as per Daikin AC's guidelines (service space, piping limits, use of a Daikin AC supplied REFNET<sup>®</sup> (i.e. refrigerant piping adapters and fittings), location, etc.)
- \* Equipment was operating within Daikin AC's recommended temperature limits.

7. The Warranty applies only when the Product remains at the site of the original installation and only to Product installed within the continental United States, Alaska, and Hawaii and only if Customer establishes by clear and convincing evidence that all of the conditions of this limited Warranty have been met.

8. THIS WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY FOR DAIKIN AC PRODUCTS, AND IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, IN LAW OR IN FACT. DAIKIN AC SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR USE OR PURPOSE OR OF NON-INFRINGEMENT, OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING OR OF PERFORMANCE OR USAGE OF TRADE. NO PERSON OR ENTITY IS AUTHORIZED TO BIND DAIKIN AC TO ANY OTHER WARRANTY, OBLIGATION OR LIABILITY FOR ANY DAIKIN AC PRODUCT. ACCEPTANCE, INSTALLATION, OPERATION OR USE OF THE DAIKIN AC PRODUCT FOR WHICH THIS WARRANTY IS ISSUED WILL CONSTITUTE ACCEPTANCE OF THE TERMS HEREOF.

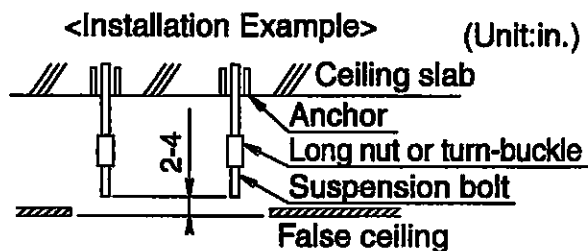


9. SOME JURISDICTIONS MAY NOT ALLOW THE EXCLUSION OR LIMITATION OF INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR OF ANY EXPRESS OR IMPLIED WARRANTIES, SO TO SUCH EXTENT THE ABOVE EXCLUSIONS MAY NOT APPLY TO CERTAIN CUSTOMERS. THIS LIMITED WARRANTY PROVIDED BY DAIKIN AC GIVES CUSTOMERS SPECIFIC LEGAL RIGHTS, AND CUSTOMERS MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. The disclaimers of liability included in this Warranty shall remain in effect and shall continue to be enforceable in the event that any remedy herein shall fail of its essential purpose.

10. No one is authorized by Daikin AC to modify this Warranty in any respect or to create for Daikin AC any other obligation or liability in connection with the Product unless done so in a written agreement bearing the handwritten signature of the President or a Vice President of Daikin AC. Customer agrees that any purported change by Daikin AC shall be null and void unless the President or a Vice President of Daikin AC shall have expressly so agreed to such change in writing.

\* REFNET<sup>®</sup> is a registered trademark of Daikin Industries Ltd.

- (3) Install the suspension bolts.**  
 (Use either an M8 – M10 size bolt or the equivalent)  
 Use a hole-in anchor for existing ceilings, and a sunken insert, sunken anchor or other field supplied parts for new ceilings to reinforce the ceiling to bear the weight of the unit.  
 Adjust clearance (2 – 4 in.) from the ceiling before proceeding further.



**Fig. 6**

**NOTE**

- All the above parts are field supplied.

**5. INDOOR UNIT INSTALLATION**

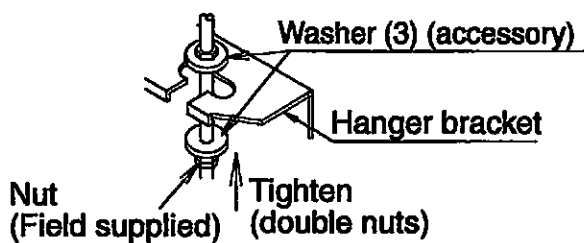
Installing optional accessories (except for the decoration panel) before installing the Indoor unit is easier. For existing ceilings, install Fresh air Intake kit and branch duct before installing the unit.

As for the parts to be used for installation work, be sure to use the provided accessories and specified parts designated by Daikin.

**(1) For new ceilings**

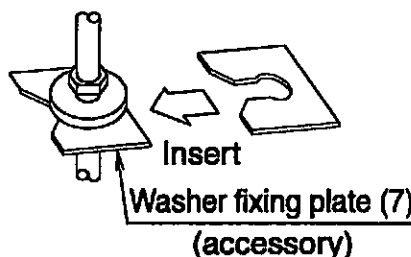
**(1-1) Install the indoor unit temporarily.**

- Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer (3) from the upper and lower sides of the hanger bracket.  
 The washer fixing plate (7) will prevent the washer from falling.



[Securing the hanger bracket]

**Fig. 7**



[Securing the washer]

**Fig. 8**

**(1-2) Refer to the paper pattern for installation (5) for ceiling opening dimension.**

Consult the builder or carpenter for details.

- The center of the ceiling opening is indicated on the paper pattern for installation.  
 The center of the unit is indicated on the paper pattern for installation.
- Fix the paper pattern to the unit with screws (6) (x4).