WAUBONSEE COMMUNITY COLLEGE

ADDENDUM 1

Issued 9/8/2021
Total 52 pages

PROJECT: **08-21-002 HVAC Lab VRF Equipment Installation Bid**
BID / TIME DUE: **Wednesday, September 15, 2021 at 2:00 p.m.**

Bidder must acknowledge receipt of this addendum on the bid form.

QUESTIONS

1. Is a armor flex required on the condensate line?
    a. Yes.
2. Do you want a stand to be added to the units in the lab?
    a. Yes.

CLARIFICATIONS

1. On bid form there is a question about the annual cost for the first year of a maintenance program, if offered by the contractor.
    a. This cost is NOT to be included in the base bid and will be treated as an alternate.
2. Electrical conduit run is to be the color green.

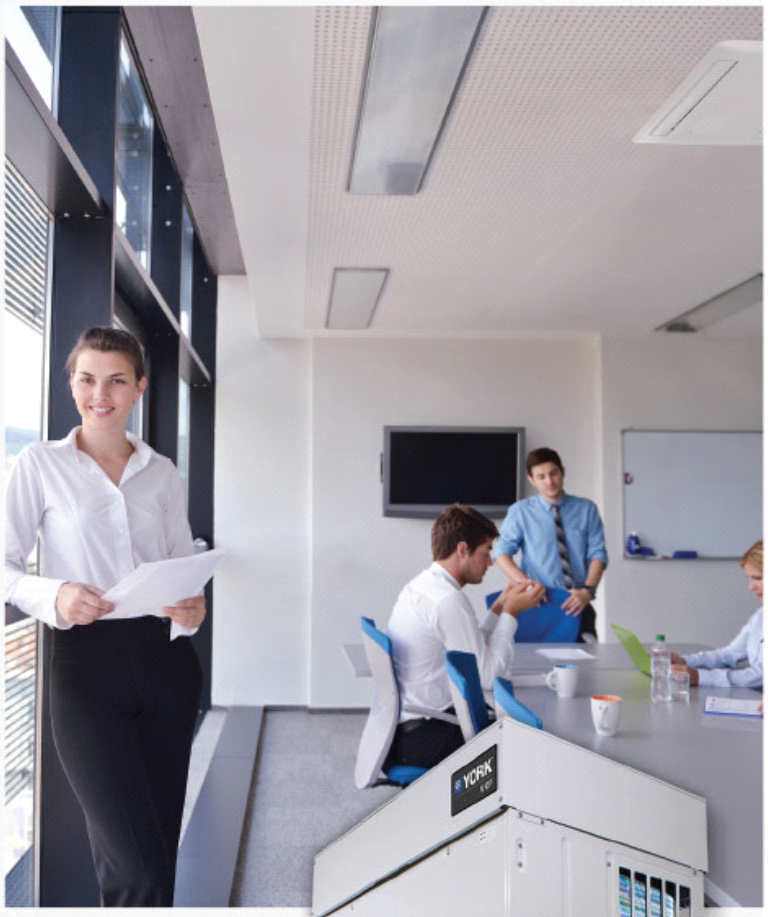
CHANGES

1. ADD 'BEP Utilization and Participation Form' to Bid cover page as part of list of documents to be returned.
2. DELETE 'Variable Refrigerant Flow Systems Selection Software Report' and REPLACE with the 'Variable Refrigerant Flow Systems Selection Software Report' dated 8/19/2021 included with this addendum.
    a. New schematic provided with one more unit for a total of nine (9).

This addendum does not change the bid due date or time.

END OF DOCUMENT

YORK®
VRF



Variable Refrigerant Flow Systems
Selection Software Report

Project Name: Waubonsee Community College
Project Number:
Submitter Name: Eric Veit
Revision: 1

8/19/2021

Equipment Release and Approval Form

The following tables must be completed prior to releasing the equipment for fabrication/shipment. Please initial the column indicating the information contained in this submittal has been verified, or indicate to refer to a marked-up page.

SUBMITTAL VERIFICATION	
	Purchaser Initials:
Electrical voltage and electrical connections are compatible with jobsite requirements.	
Refrigerant Piping Lengths have been verified.	
Unit tag designations are correct.	
Equipment dimensions (length, width, and height) and weights have been verified to comply with jobsite conditions and rigging requirements. Please indicate approval by your initials on all included drawings.	

Important Notes:

1) Actual release cannot commence until this form is signed by the customer and returned to the submitter along with a release notification, want date, and ship to address.
2) Equipment "lead-time" does not start until confirmed release documentation is received, and the order is actually released to the factory.
3) Modifications to equipment configurations after release may impact cost and lead-time.
4) Attached configurations are as shown in the approved equipment submittals or as defined in superseding customer correspondence.
5) It is recommended that systems designed for operation below 14F ambient air temperature in heating mode and/or above 109F in cooling mode not exceed 100% connection ratio or total pipe length of 984ft. If exceed, the system may be at risk for reduced capacity (comfort) and/or shorter equipment lifespan. Consideration should be given to reducing connection ratio by upsizing the outdoor unit or utilizing building diversity for a true "operating" connection ratio and re-design the layout to reduce total pipe length.
6) "Want date" and/or "ship to address" changes made after this document is confirmed may impact cost and lead-time.

Please fill out the following table and refer to the receiving/rigging instructions in this submittal to help ensure a smooth delivery and installation of the equipment.

DELIVERY INFORMATION	
	Please fill out information below:
Contact name for coordinating delivery of equipment with transportation company.	
Contact phone number	
Advance notice required from transportation company prior to delivering equipment (typically 48 hours)	
Ship to address:	
Other special shipping instructions or requirements	

CUSTOMER APPROVAL:

Customer Name: _____

Signature (*) _____

Date: _____

Materials

Part number	Qty / Length	Description
YVAHR144B32S	**1**	**YVAHR144B32S Outdoor unit (YVAHR144B32S) 12 Ton VRF HR OU 208/230V 3PH - Outdoor unit 1**
YIC1008B21S	1	Indoor 1 Room 1 - 0.7 Ton 1-way Cassette IU 208/230V 1PH
CIS01	1	Indoor 1 controller - Simplified Wired Controller
P-AP36CNA	1	Indoor 1 accessory - Air Panel
YIC4015B21S	1	Indoor 2 Room 1 - 1.3 Ton 4-way Cassette IU 208/230V 1PH
CIW01	1	Indoor 2 controller - Wired Controller
P-AP160NA2	1	Indoor 2 accessory - Air Panel
YICS015B21S	1	Indoor 3 Room 1 - 1.3 Ton Ceiling Suspended IU 208/230V 1PH
CIW01	1	Indoor 3 controller - Wired Controller
YIFE006B21S	1	Indoor 4 Room 1 - 0.5 Ton Floor Exposed IU 208/230V 1PH
CIW01	1	Indoor 4 controller - Wired Controller
YIDH015B22S	1	Indoor 5 Room 1 - 1.3 Ton Ducted Hi Static IU 208/230V 1PH Gen II
CIS01	1	Indoor 5 controller - Simplified Wired Controller
YMAHP18B21S	1	Indoor 6 Room 1 - 1.5 Ton Multi-Position AH with DX-Kit IU 208/230V 1PH
CIW01	1	Indoor 6 controller - Wired Controller
TIWM012B22S	1	Indoor 7 Room 1 - 1 Ton Wall Mount IU 208/230V 1PH
CIW01	1	Indoor 7 controller - Wired Controller
YIDS008B21S	1	Indoor 8 Room 1 - 0.7 TN Ducted Slim IU 208/230V 1PH
CIW01	1	Indoor 8 controller - Wired Controller
YIC4048B21S	1	Indoor 9 Room 1 - 4 Ton 4-way Cassette IU 208/230V 1PH
CIW01	1	Indoor 9 controller - Wired Controller
P-AP160NA2	1	Indoor 9 accessory - Air Panel
MW-NP562X3	1	Multi kit - Multi kit
COB08M264B22S	1	Change over box - Change over box
COB04M132B22S	1	Change over box - Change over box
$^{1}/_{2}$	8.01ft	Length of pipe - not provided by manufacturer, provided by others
$^{1}/_{4}$	7.00ft	Length of pipe - not provided by manufacturer, provided by others
$1\ ^{1}/_{8}$	1.00ft	Length of pipe - not provided by manufacturer, provided by others

$^{3}/_{4}$	2.00ft	Length of pipe - not provided by manufacturer, provided by others
$^{3}/_{8}$	3.00ft	Length of pipe - not provided by manufacturer, provided by others
$^{5}/_{8}$	4.00ft	Length of pipe - not provided by manufacturer, provided by others
$^{7}/_{8}$	2.00ft	Length of pipe - not provided by manufacturer, provided by others
Additional refrigerant	16.3lb	Outdoor unit 1 additional refrigerant - R410A - not provided by manufacturer, provided by others

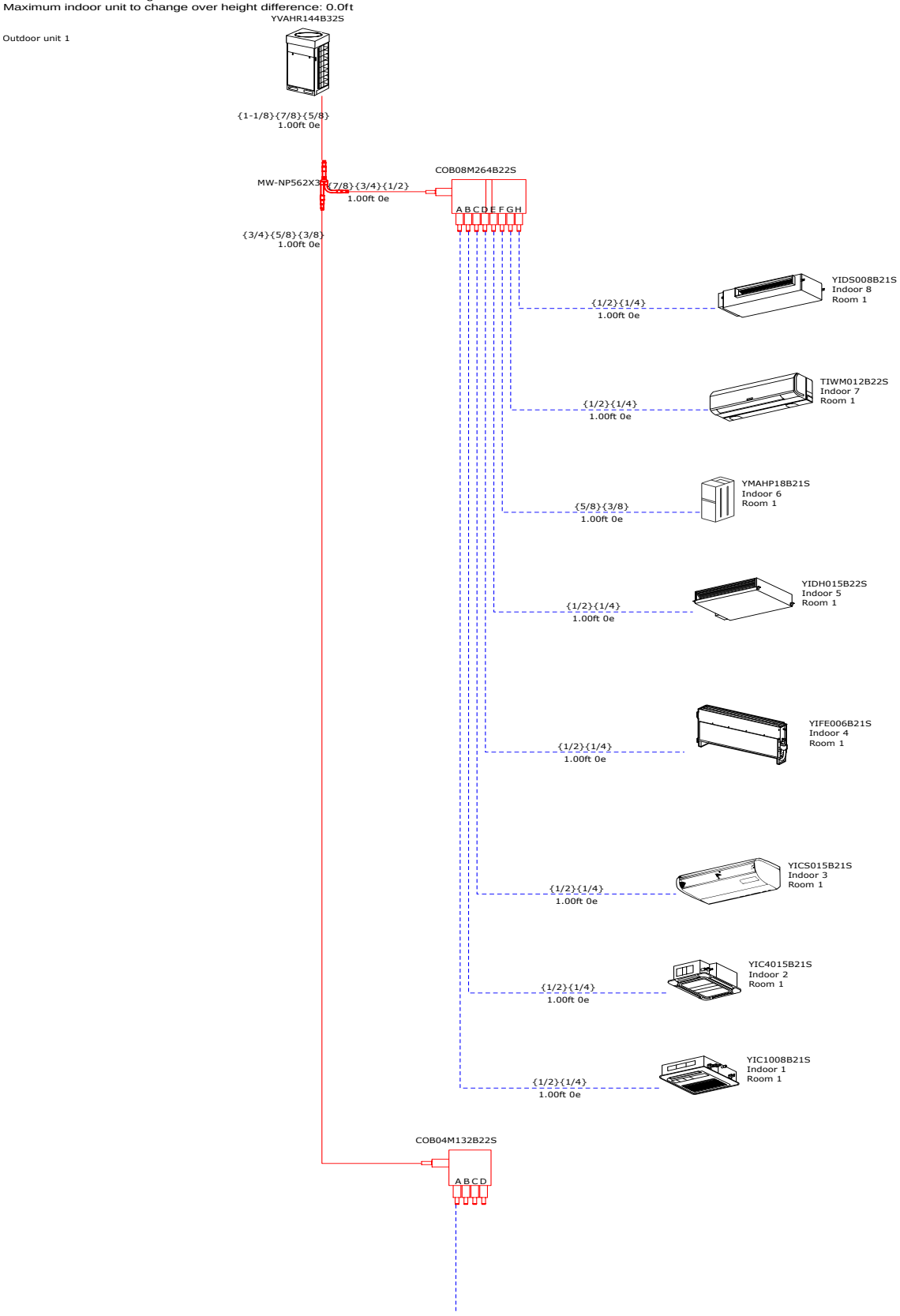
Indoor unit details

Outdoor Unit	Name	Unit Type	Unit	Cooling Dry Bulb Temp (F)	Cooling Wet Bulb Temp (F)	Heating Dry Bulb Temp (F)	Total Cooling Capacity (MBH)	Sensible Cooling Capacity (MBH)	Total Heating Capacity (MBH)	Air Flow (CFM)
Outdoor unit 1 YVAHR144B32S	Indoor 1	1-Way Cassette	YIC1008B21S	80.0	67.0	70.0	8.2	6.5	9.8	335
	Indoor 2	4-Way Cassette	YIC4015B21S	80.0	67.0	70.0	15.4	11.9	18.4	777
	Indoor 3	Ceiling Suspended	YICS015B21S	80.0	67.0	70.0	15.4	12.1	18.4	530
	Indoor 4	Floor Exposed	YIFE006B21S	80.0	67.0	70.0	6.2	4.8	7.4	300
	Indoor 5	High Static Pressure Ducted	YIDH015B22S	80.0	67.0	70.0	15.4	13.1	18.4	512
	Indoor 6	Multi-Position AHU (B - Cabinet)	YMAHP18B21S	80.0	67.0	70.0	18.5	14.8	22.1	674
	Indoor 7	Wall	TIWM012B22S	80.0	67.0	70.0	12.3	9.5	14.7	494
	Indoor 8	Slim Ducted	YIDS008B21S	80.0	67.0	70.0	8.2	6.5	9.8	318
	Indoor 9	4-Way Cassette	YIC4048B21S	80.0	67.0	70.0	49.3	40.6	58.9	1306
Additional refrigerant (lb):		**16.3**				**Total (MBH):**	**149.0**	**119.8**	**178.0**	

Indoor unit type			Duct 3 pipe	Non-duct 3 pipe	Mixed 3 pipe
Outdoor unit 1	YVAHR144B32S		10323665	10323569	10323812
Cooling	Capacity	[Btu/h]	138000.00	138000.00	138000.00
	EER	[Btu/Wh]	11.20	10.90	11.05
	IEER	[Btu/Wh]	21.20	23.90	22.55
Heating	Capacity 47F	[Btu/h]	154000.00	154000.00	154000.00
	COP47F	[W/W]	3.40	3.42	3.41
	Capacity 17F	[Btu/h]	110000.00	110000.00	110000.00
	COP17F	[W/W]	2.15	2.12	2.14
Cooling & Heating	SCHE	[Btu/Wh]	28.10	30.90	29.50

Outdoor unit 1	YVAHR144B32S
Cooling DB (°F)	95.0
Heating DB (°F)	47.0
Heating WB (°F)	43.0
Connection %	101%
Total Cooling MBH	149.0
Sensible Cooling MBH	119.8
Heating MBH	178.0

Total length (liquid): 12.0ft
Max. equivalent length: 3.0ft
Estimated max. equivalent length: 24.6ft
Additional refrigerant charge: 16.3lb
Total refrigerant charge: 39.9lb
Maximum indoor unit height difference: 0.0ft
Maximum indoor unit to change over height difference: 0.0ft



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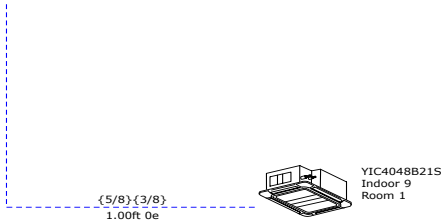
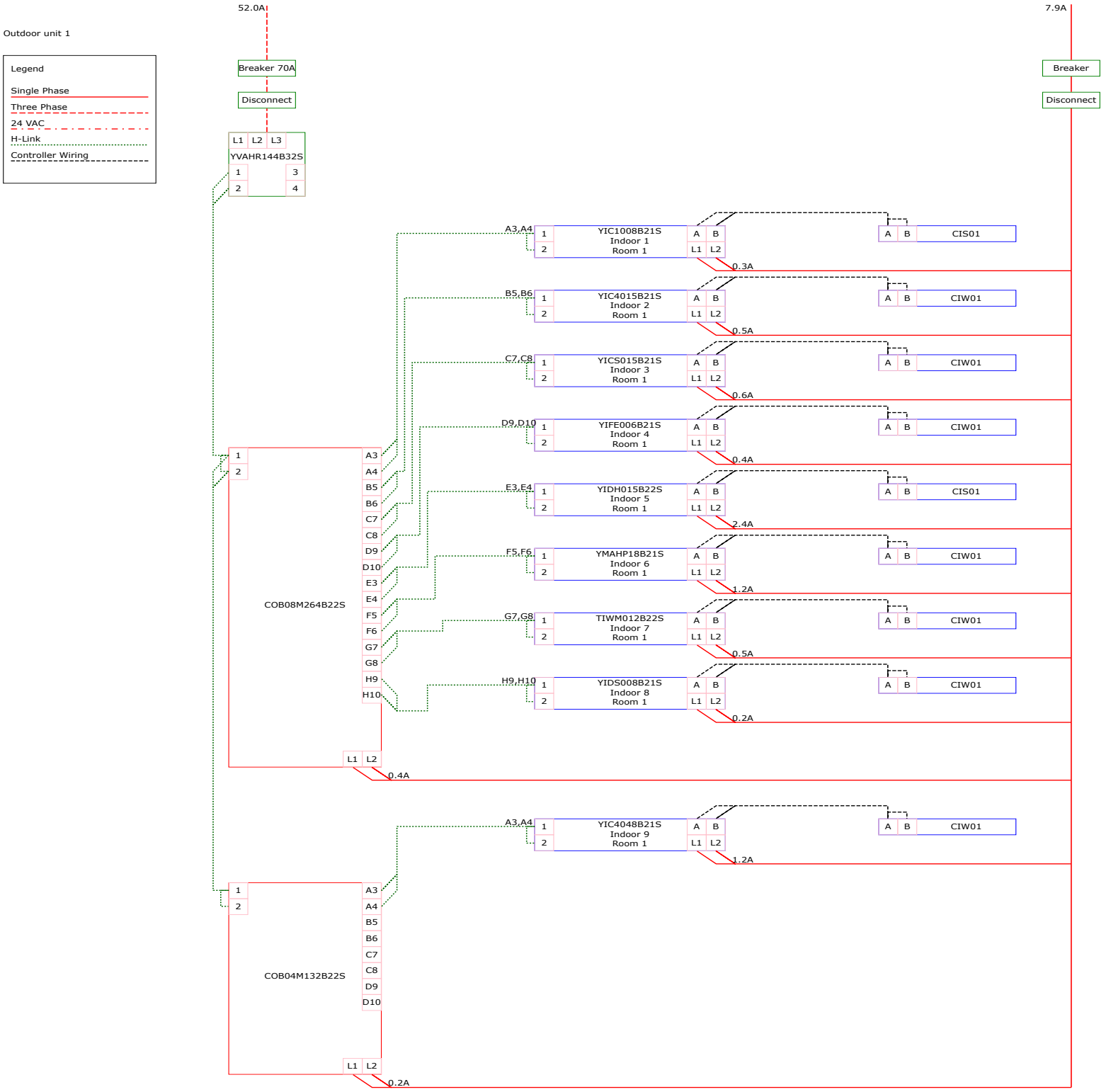


Controller details

H-Link II System 1			Zone	Zone Controller (CIS01)	Indoor 1 - Room 1 (YIC1008B21S) - (Outdoor unit 1) (YIC1008B21S) - (YVAHR144B32S)
			Zone	Zone Controller (CIW01)	Indoor 2 - Room 1 (YIC4015B21S) - (Outdoor unit 1) (YIC4015B21S) - (YVAHR144B32S)
			Zone	Zone Controller (CIW01)	Indoor 3 - Room 1 (YICS015B21S) - (Outdoor unit 1) (YICS015B21S) - (YVAHR144B32S)
			Zone	Zone Controller (CIW01)	Indoor 4 - Room 1 (YIFE006B21S) - (Outdoor unit 1) (YIFE006B21S) - (YVAHR144B32S)
			Zone	Zone Controller (CIS01)	Indoor 5 - Room 1 (YIDH015B22S) - (Outdoor unit 1) (YIDH015B22S) - (YVAHR144B32S)
			Zone	Zone Controller (CIW01)	Indoor 6 - Room 1 (YMAHP18B21S) - (Outdoor unit 1) (YMAHP18B21S) - (YVAHR144B32S)
			Zone	Zone Controller (CIW01)	Indoor 7 - Room 1 (TIWM012B22S) - (Outdoor unit 1) (TIWM012B22S) - (YVAHR144B32S)
			Zone	Zone Controller (CIW01)	Indoor 8 - Room 1 (YIDS008B21S) - (Outdoor unit 1) (YIDS008B21S) - (YVAHR144B32S)
			Zone	Zone Controller (CIW01)	Indoor 9 - Room 1 (YIC4048B21S) - (YVAHR144B32S)

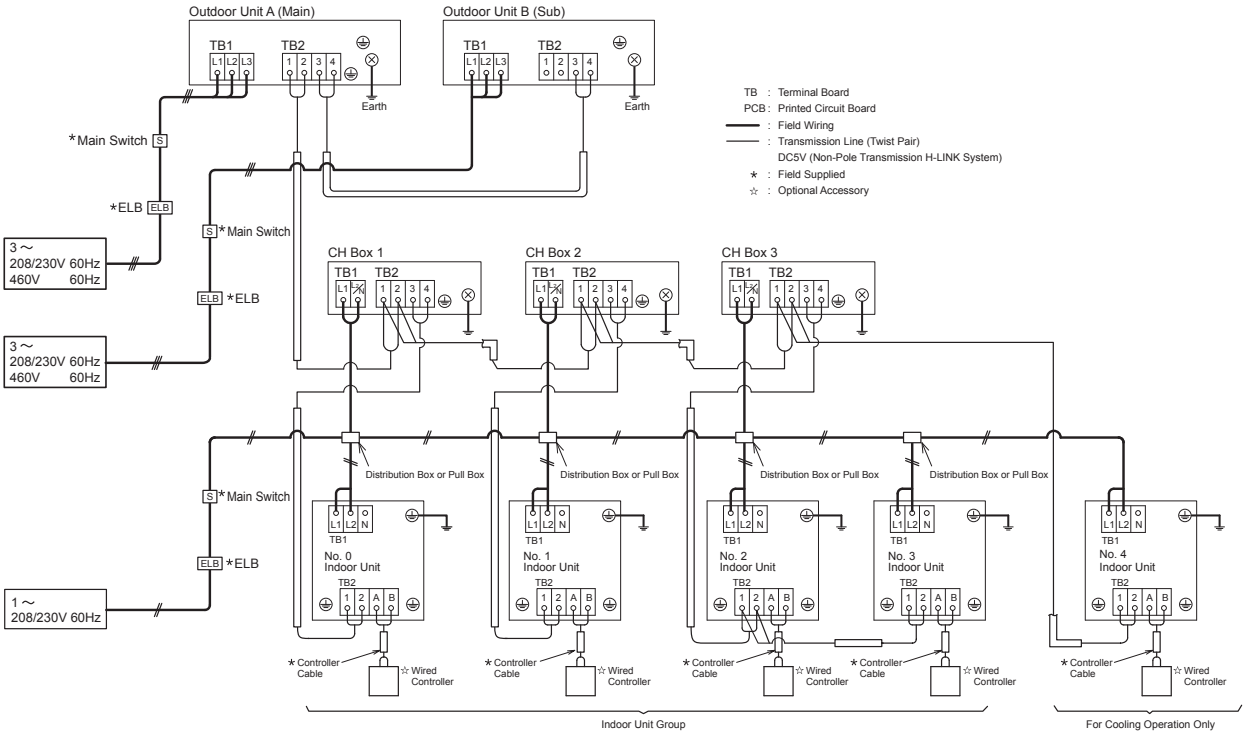

Outdoor unit 1
Legend
Single Phase
Three Phase
24 VAC
H-Link
Controller Wiring
52.0A
Breaker 70A
Disconnect
L1 L2 L3
YVAHR144B32S
7.9A
Breaker
Disconnect
COB08M264B22S
COB04M132B22S
A3,A4
YIC1008B21S
Indoor 1
Room 1
0.3A
CIS01
B5,B6
YIC4015B21S
Indoor 2
Room 1
0.5A
CIW01
C7,C8
YICS015B21S
Indoor 3
Room 1
0.6A
CIW01
D9,D10
YIFE006B21S
Indoor 4
Room 1
0.4A
CIW01
E3,E4
YIDH015B22S
Indoor 5
Room 1
2.4A
CIS01
F5,F6
YMAHP18B21S
Indoor 6
Room 1
1.2A
CIW01
G7,G8
TIWM012B22S
Indoor 7
Room 1
0.5A
CIW01
H9,H10
YIDS008B21S
Indoor 8
Room 1
0.2A
CIW01
0.4A
A3,A4
YIC4048B21S
Indoor 9
Room 1
1.2A
CIW01
0.2A

H-LINK II
The H-LINK transmission system for connection between outdoor and indoor units provides an extended system configuration and improved functions without sacrificing workability and flexibility.

Item	H-LINK II
Max. Number of Refrigerant Groups / System	64
Address Setting Range of Indoor Units / Refrigerant Group	0 to 63
Max. Number of Indoor Units / System	160
Total Number of Devices in the same H-LINK	200
Max. Wiring Length	Total 3,281feet(1,000m)

Control System Device	Outdoor Unit/ Indoor Unit	1 (One) H-LINK II System	
		Outdoor Units (Number of Ref. Groups)	Indoor Units
H-LINK II	H-LINK II	64	160

Instruction for Electrical Wiring Connection (Heat Recovery System)



12 RT (Y,H)VAHR144B32S

(Consists of one (Y,H)VAHR144B32S module.)

FEATURES:

- 6 to 36 Ton capacity system with all Inverter Compressors delivering maximum efficiency at part load conditions, providing comfortable individual zone control
- Large capacity outdoor units (single module up to 16 Ton and double module up to 30 Ton) for increased layout and installation flexibility, space and weight savings, and reduced piping and electrical connections
- Design flexibility with long piping lengths up to 3,280 ft. total and up to 360 ft. vertical distance between Outdoor Units and Indoor Units
- Large connection ratio ranges – up to 150% and down to 55%
- Outstanding ambient air temperature ranges with efficient high capacity operation for:
  - Heating down to -13F
  - Cooling down to -4F (with optional Kit)
  - Simultaneous cooling and heating down to -4F
- Flexible solution with 1-, 4-, 8-, and 12-port Change-over Boxes
- Energy efficient and personal comfort via simultaneous cooling and heating capability
- Maintenance and installation friendly design of Outdoor Unit – all components accessible from the front

ACCESSORIES:

- Piping Kit
- Snow Protection Hood
- Protection Net
- Drain Adapter

Notes

1. Rating Conditions are based on the AHRI 1230 test standard.
2. External static pressure can be changed via DSW setting 0.32 in. W.G. (80Pa).
3. For more details, please refer to Engineering manual “Operation range” section.
4. External static pressure can be changed via DSW setting 0.32in.W.G.(80Pa).

Category			Ton		12RT	
Model (Combination)					(H,Y)VAHR144B32S	
Model (Individual)			Unit A		(H,Y)VAHR144B32S	
			Unit B		-	
			Unit C		-	
Power Supply					208/230V/ 3PH 60Hz	
Capacity[1]	Cooling	Capacity (Nominal)	Btu/h	(kW)	144,000	(42.2)
	Heating	Capacity (Nominal)	Btu/h	(kW)	162,000	(47.5)
Efficiency Ratings[2]	Cooling	Capacity (Rated)	Btu/h	(kW)	138,000	(40.4)
		EER	Btu/Wh	(W/W)	10.9	(3.18)
		IEER	Btu/Wh	(Wh/Wh)	23.9	(6.99)
	Heating High	Capacity (Rated)	Btu/h	(kW)	154,000	(45.1)
		COP	W/W		3.42	
	Heating Low	Capacity	Btu/h	(kW)	110,000	(32.2)
		COP	W/W		2.12	
	Heating&Cooling	SCHE	Btu/Wh		30.90	
Cooling Operating Range	Indoor		°F WB (°C WB)		59(15) ~ 73(23)	
	Outdoor[3]		°F DB (°C DB)		23(-5) ~ 122(50)	
	Outdoor[3] (with Snow Protection Hood)		°F DB (°C DB)		14(-10) ~ 109(43)	
	Outdoor[3] (with Damper Kit)		°F DB (°C DB)		-4(-20) ~ 109(43)	
Heating Operating Range	Indoor		°F DB (°C DB)		59(15) ~ 80(27)	
	Outdoor[3]		°F WB (°C WB)		-13(-25) ~ 59(15)	
Cabinet Color (Munsell Code)			-		2.5Y 8/2	
Outer Dimensions	Height x Width x Depth		in		66-1/4 x 48-5/8 x 30-1/2	
			mm		1681 x 1235 x 765	
Weight	Net		lbs	(kg)	732	(332)
	Gross		lbs	(kg)	776	(352)
Connection Ratio	Standard (Extended)		%		130(150) - 55	
	Max. (Recommended) Indoor Units/System		Q'ty		26 (10)	
Heat Exchanger	Type		-		Multi-Pass Cross- Finned Tube	
	Material		-		Cu-Al (Anti-corrosion)	
Compressor	Type	Inverter 1	-		AA50PHD×2	
		Inverter 2	-		-	
	Motor Output (Pole)		kW (Pole)		6.4(6)×2	
	Start Method		-		inverter	
	Operation Range		%		6 ~ 100	
	Refrigeration Oil Type		-		FVC68D	
Crank Case Heater			W×Q'ty		34.2 (230V) ×6	
Fan	Type		-		Propeller Fan	
	Motor Output (Pole)		kW (Pole)		0.39(8) × 2	
	Quantity		Q'ty		2	
	Airflow Rate		cfm	(m^3/min)	9,037	(256)
	External Static Pressure[4]		in.W.G.	(Pa)	0-0.32	(0-80)
	Drive		-		Direct-drive	
Electrical	Min Circuit Amps		A		58/52	
	Maximum Overcurrent Protective Device		A		70	
	Maximum Fuse Size		A		70	
Sound Pressure Level	Cooling (Night Shift)		dB (A)		65	57
	Heating		dB (A)		65	
Protection Devices	Cycle		-		High pressure switch at 601psi (4.15MPa)	
	Inverter		-		Over-current protection Over-heat protection	
	Compressor		-		Over-heat protection	
	PCB		-		Over-current protection	
Refrigerant	Type		-		R410A	
	Factory Charge Amount		lbs	(kg)	23.6	(10.7)
Refrigeration Oil	Factory Charge Amount		gal/Unit	(L/Unit)	2.1	(7.9)
Defrost Method			-		Reversed Refrigerant Cycle	
Main Refrigerant Piping (Heat Recovery)	Low Pressure Gas Line		in	(mm)	1-1/8	(28.58)
	High/Low Pressure Gas Line		in	(mm)	7/8	(22.2)
	Liquid Line		in	(mm)	5/8	(15.88)

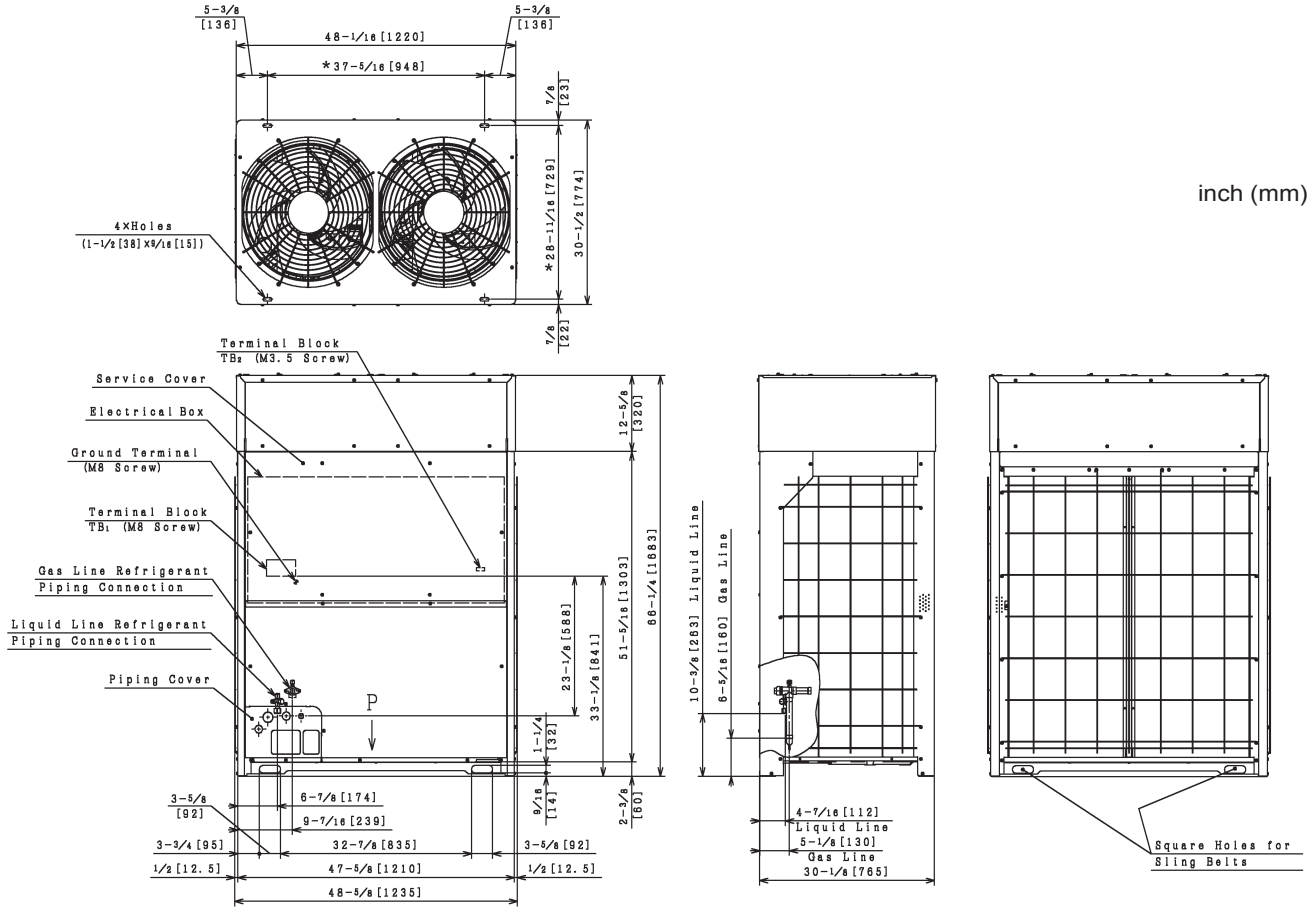
Simultaneous Cooling & Heating Operating Range[3]

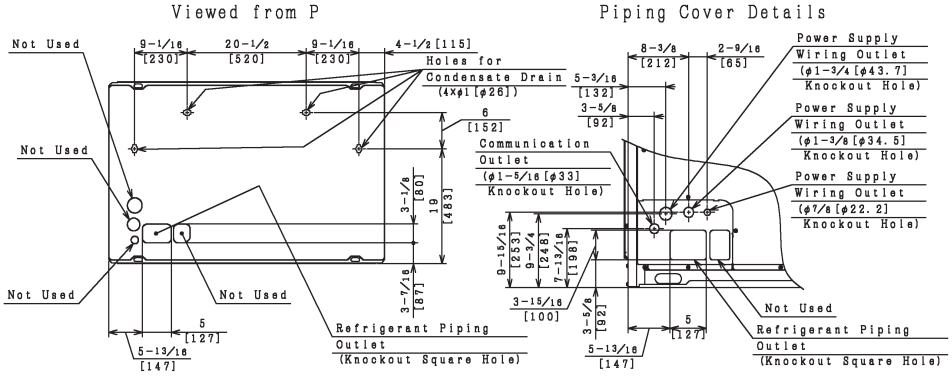
Outdoor temperature			Indoor temperature	
Standard	with Snow Hood	with Damper Kit	Cooling	Heating
22F (-6C)~ 59F (15C) WB	12(-11)~59(15) WB	-6(-21)~59(15) WB	-	59F (15C)~80F (27C) DB
23F (-5C)~75F (24C) DB	14(-10)~75(15) DB	-4(-20)~75(24) DB	22F (-6C)~59F (15C) WB	-

VERSION 201706 - Specification Subject to Change

Heat Recovery Model: (Y,H)VAHR144B32S **System Dimensions**

inch (mm)





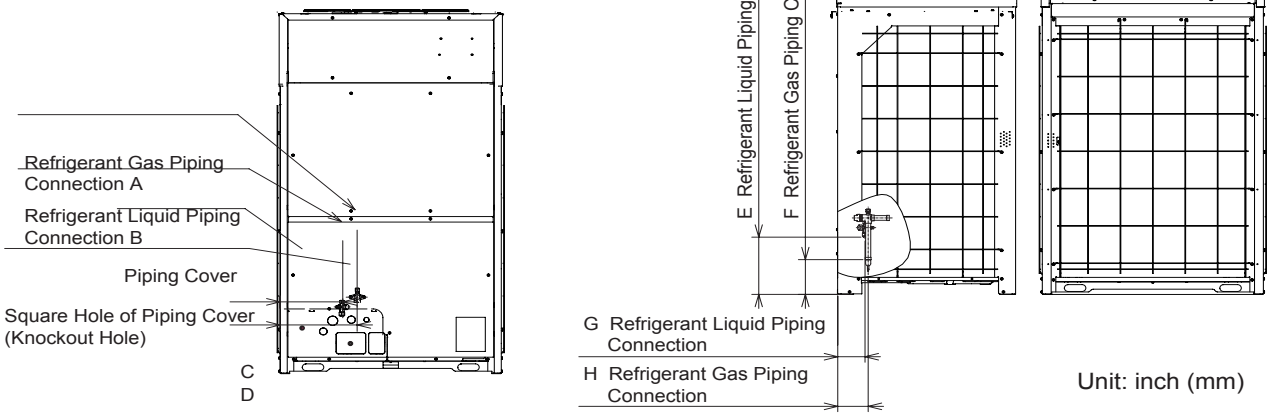
NOTES:

1. Drain water is discharged from the unit during the operation.
   ①Choose a place where well drainage is available. Provide a groove for drain.
   ②Do not provide an upward slope from the unit to avoid reverse flow of the drain.
   Provide a second drainpan under the outdoor unit, to collect drain water securely.
   ③Do not use the drain boss (optional) in a cold area.
   (Drain water in the drain pipe may be frozen and the drain pipe may crack.)
2. The dimensions marked with * indicates the mounting pitch dimension for anchor bolts.

version 201706

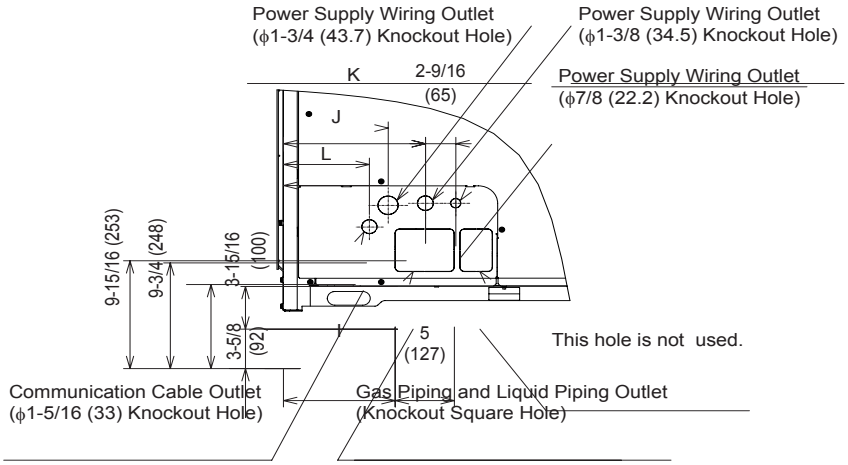
Specifications subject to change

Piping Connection Dimensions



Unit: inch (mm)

Detail of Piping Cover



Model	Gas	Liquid	A	B	C	D	E	F	G	H	I	J	K	L
72	ϕ7/8 (22.2)	ϕ1/2 (12.7)	ϕ7/8 (22.2)	ϕ3/8 (9.52)	10-3/8 (264)	13-1/16 (331)	10-9/16 (268)	6-7/16 (163)	4-5/8 (117)	5-3/16 (131)	9-7/16 (240)	8-7/8 (225)	12 (305)	7-5/16 (185)
96	ϕ7/8 (22.2)	ϕ1/2 (12.7)	ϕ1 (25.4)	ϕ1/2 (12.7)	6-7/8 (174)	9-7/16 (239)	10-3/8 (263)	6-5/16 (160)	4-7/16 (112)	5-1/8 (130)	5-13/16 (147)	5-3/16 (132)	8-3/8 (212)	3-5/8 (92)
120	ϕ1-1/8 (28.58)	ϕ1/2 (12.7)												
144	ϕ1-1/8 (28.58)	ϕ5/8 (15.88)												
168	ϕ1-1/8 (28.58)	ϕ5/8 (15.88)	ϕ1-1/8 (28.58)	ϕ5/8 (15.88)	6-15/16 (177)	9-7/16 (239)	10-3/16 (259)	6-5/16 (160)	5-3/16 (132)	6 (152)	5-13/16 (147)	5-3/16 (132)	8-3/8 (212)	3-5/8 (92)
192	ϕ1-1/8 (28.58)	ϕ5/8 (15.88)												

Refrigerant Piping Connection and Wiring Outlet

AHRI CERTIFIED® www.ahridirectory.org
Variable Refrigerant Flow (VRF) Multi-Split AC and HP AHRI Standard 1230

c ETL LISTED us Intertek

version 201706

Specifications subject to change

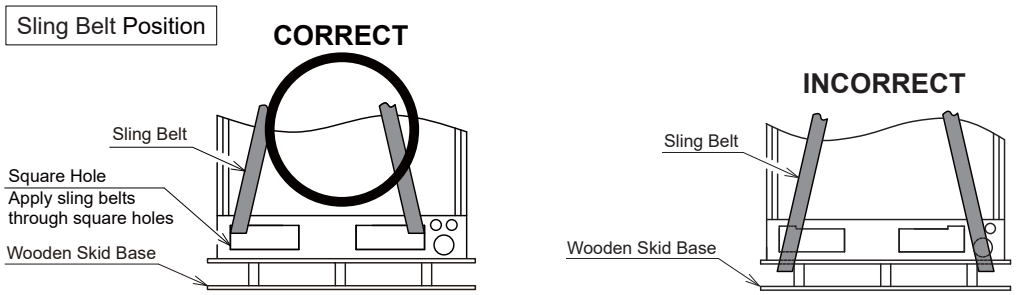
5. Transportation and Installation Work

5.1 Transportation

Transport the product as close to the installation location as practical before unpacking.
When using a crane, hang the unit according to the description of the outdoor unit packing.

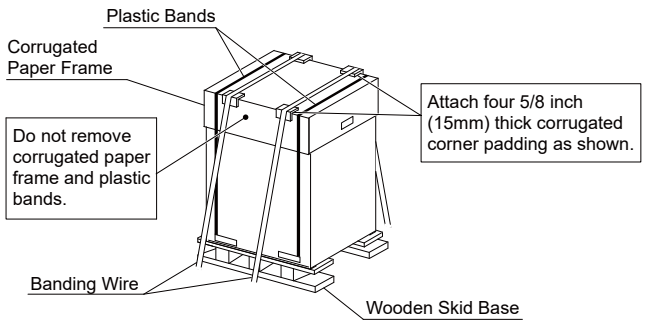
⚠ WARNING

- **Do not hang the unit with the sling belts at the wooden skid base.**



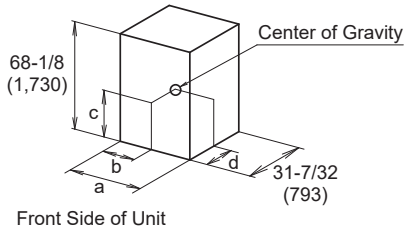
⚠ CAUTION

- **Transportation and Storage:**
  - *** The protective corrugated cardboard is not strong enough to resist rough handling.**
  - *** Secure with two sling belts when hoisting the outdoor unit it with a crane.**
- **Transportation and Banding Wire:**
  - *** To protect the unit, do not remove any packing.**
  - *** Do not stack or place any material on top of the product.**
  - *** Apply banding wire to both sides of the packaged unit as shown at right.**



Take special care when hanging or moving the outdoor unit because its center of mass is off-center and unbalanced. See the diagram below.

- Center of Gravity

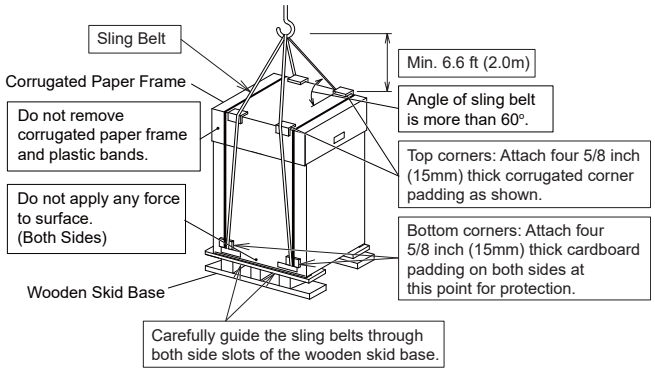


inch (mm)

Voltage Type	Model Type	a	b	c	d
208/230V	72	37-7/8 (962)	18-1/2 (470)	26-25/32 (680)	13-3/8 (340)
	96, 120	48-1/8 (1,222)	20-7/8 (530)	22-27/32 (580)	12 (305)
460V	72	37-7/8 (962)	17-1/8 (435)	24-19/32 (625)	13 (330)
	96, 120	48-1/8 (1,222)	19-11/16 (500)	21-21/32 (550)	11-13/16 (300)

- Hanging Method

(1) Suspend the unit (with wooden skid base) in its packing with two sling belts as shown in Figure 5.1.
(2) Do not use banding wire.
(3) Ensure that the unit is balanced.
(4) Ensure safety while hoisting the unit gently in order not to cause the unit to tip.



lbs (kg)

Voltage Type	Model Type	Net Weight	Gross Weight
208/230V	72	540 (245)	587 (266)
	96	730 (331)	787 (357)
	120	732 (332)	789 (358)
460V	72	606 (275)	653 (296)
	96	796 (361)	853 (387)
	120	798 (362)	856 (388)

Figure 5.1 Hanging Unit on Wooden Skid Base for Transportation

(5) Hang the unit without a wooden skid base with two sling belts as shown in Figure 5.2.

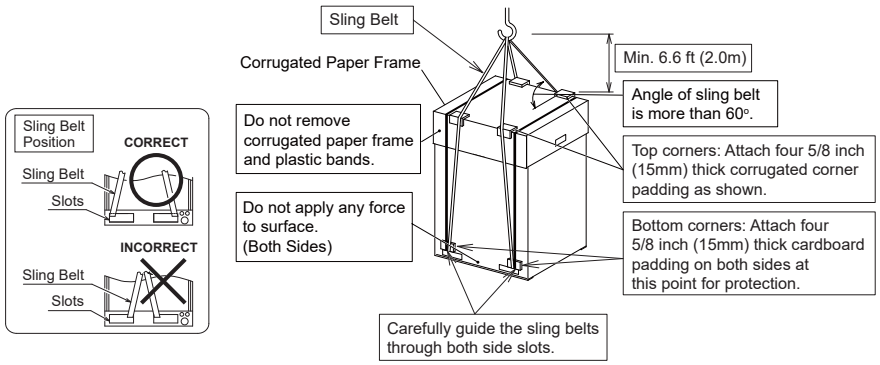
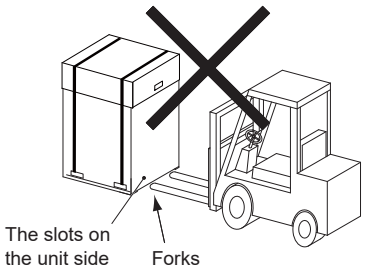
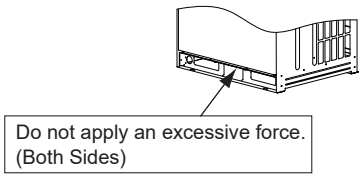


Figure 5.2 Hanging Unit without Wooden Skid Base

When using a forklift, do not insert forks into the slots at the unit side panels. The unit can sustain damage.

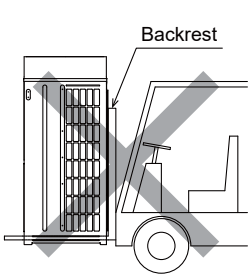


Do not apply excessive force to the squared slots with forks or other materials. The bottom of the unit can become deformed.
* Do not push the bottom base with forks.
* Do not use a roller.

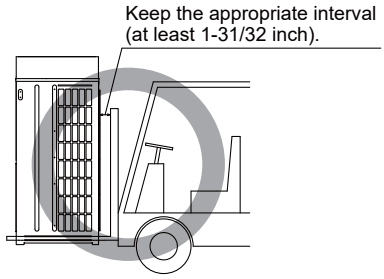


⚠ CAUTION

During transportation, do not allow the backrest of the forklift to come into contact with the unit. Sudden forward movement on the forklift can cause damage to the unit heat exchanger.



Touching to the Unit



Non-Touching to the Unit

NOTE

If transporting after unpacking, protect the unit with corrugated material, styrofoam, bubble pack, or a tarp.

5.2 Handling of Outdoor Unit

⚠ WARNING

Do not place or leave any foreign objects: (cables, tools), inside the outdoor unit or control module and verify that nothing remains there prior to installation and test run. Damage and fire can result due to carelessness.

SUBMITTAL DATA SHEET

1.0 RT TIWM012B22S Non-Ducted Wall Mount Indoor Unit

FEATURES:

- Removable front panel for easy cleaning
- Optional wireless controller and built-in wireless sensor
- Optional condensate pump

ACCESSORY:

- Strainer Kit MSF-NP120A

Model		TIWM012B22S
Indoor Unit Power Supply		AC 1Phase, 208/230V, 60Hz
Nominal Cooling Capacity *1	Btu/h	12,000
	(kW)	(3.5)
Nominal Heating Capacity *1	Btu/h	13,500
	(kW)	(4.0)
Sound Pressure Level *2 (Overall A Scale)	dB	46-40-36-33 12,000
Outer Dimensions		
Height	in.(mm)	11-13/16 (300)
Width	in.(mm)	35-7/16 (900)
Depth	in.(mm)	9-1/16 (230)
Net Weight	lbs(kg)	24 (11)
Refrigerant		R410A
Indoor Fan		
Air Flow Rate (Hi2-Hi-Me-Lo)	cfm (m^3/min.)	494-388-318-265 (14-11-9-7.5)
Motor Nominal Output	W	38
Minimum Circuit Ampacity (MCA)	A	0.5
Maximum Fuse Ampacity (MFA)	A	15
Connections		
Refrigerant Piping		Flare-Nut Connection (with Flare Nuts)
Liquid Line	in.(mm)	1/4 (6.35)
Gas Line	in.(mm)	1/2 (12.70)
Condensate Drain OD	in.(mm)	7/8 (22)

NOTES:

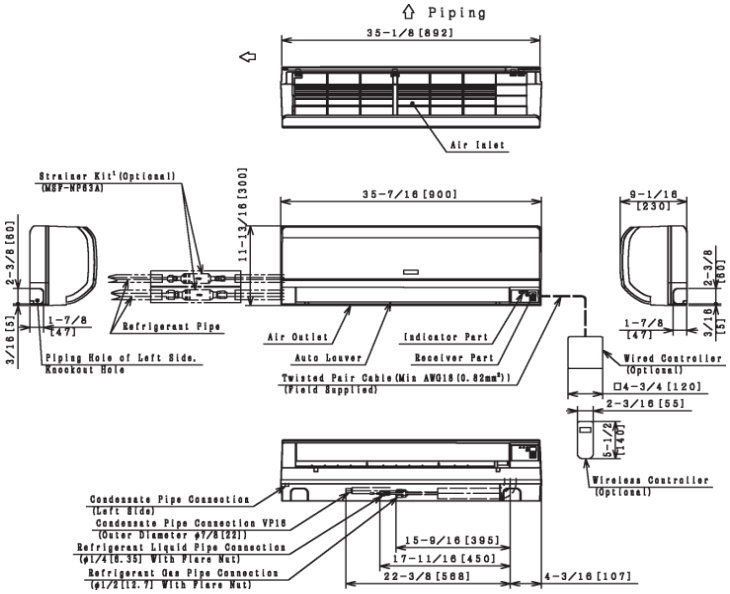
Version 202105

1. Nominal capacity is based on combinations within the VRF system under the following conditions;
   - Cooling: Indoor 80ºF (26.7ºC)DB / 67ºF (19.4ºC)WB, Outdoor: 95ºF (35ºC)DB
   - Heating: Indoor 70ºF (21.1ºC)DB, Outdoor 47ºF (8.3ºC)DB / 43ºF (6.1ºC)WB
2. The sound pressure level is based on the following conditions; 3.3ft (1m) in front of the unit and 3.3ft (1m) below the unit. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

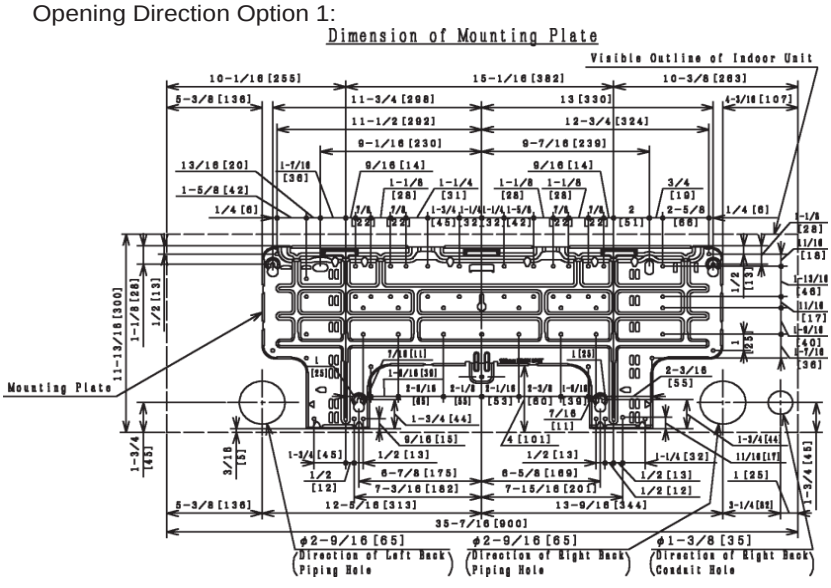
System Dimensions

Non-Ducted Wall Mount Indoor
Unit Model: TIWM012B22S

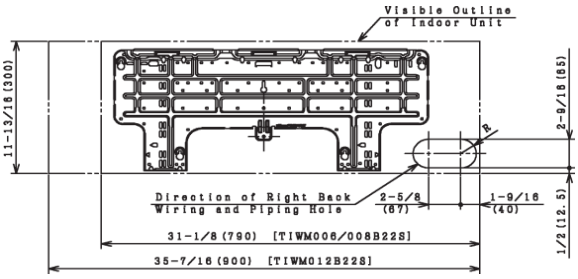
Unit: inch (mm)

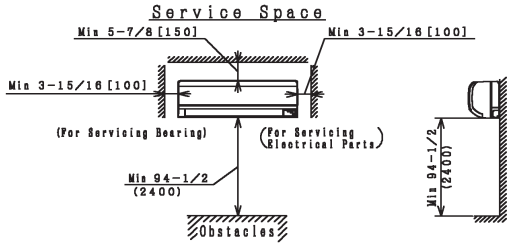


Opening Direction Option 1:



Opening Direction Option 2





NOTES:

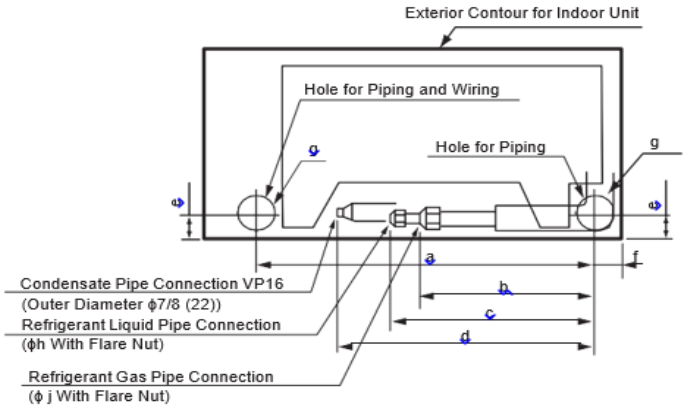
1. Attach strainer kit to refrigerant pipe closest to the unit when integrating wall mount type indoor unit into VRF system.The strainer kit is an option. However, if the installation environment is not clean, then the strainer kit is required.
2. Install condensate piping from either the left or right side of the knockout holes on the unit.
   In case of the left side, mount a condensate hose to condensate pipe connection of the left side.
3. Taking out of refrigerant pipe from the right bottom side and right side of the unit are not available

Version 202105

Piping Connection Dimensions

For the pipe installation embedded in the wall

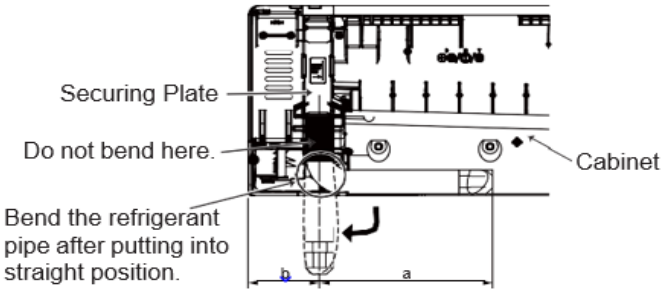
TIWM012B22S

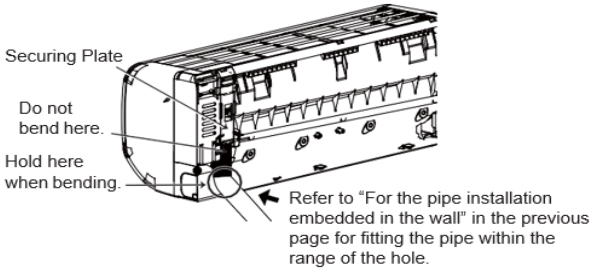


View from Front Side for Indoor Unit

Item	TIWM012B22S
a	25-7/8 (657)
b	15-9/16 (395)
c	17-11/16 (450)
d	22-3/8 (568)
e	1-3/4 (45)
f	4-3/16 (107)
g	2-9/16 (65)
h	1/4 (6.35)
j	1/2 (12.7)

For the rear side installation





Unit: inch (mm)

Item	TIWM012B22S	
	Liquid Piping	Gas Piping
a	17-11/16 (450)	15-9/16 (395)
b	4-3/16 (107)	4-3/16 (107)

Version 202105

0.7 RT (Y,H)IC1008B21S Non-Ducted 1-Way Cassette Indoor Unit

FEATURES:

- Slim and stylish design
- Automatic swing louver distributes
- Airflow evenly for uniform temperature

ACCESSORIES:

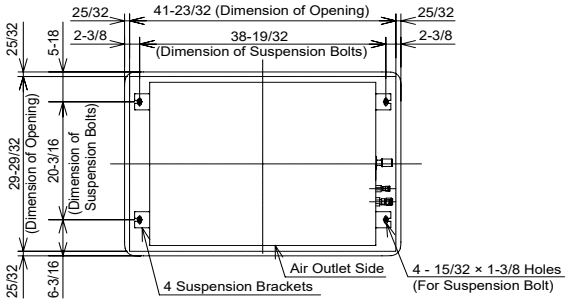
- Panel for 1 way cassette, standard, P-AP36-56CNA
- Anti-bacterial Air Filter, F-56MS-PK2
- Motion Sensor Kit, SOR-NES
- Duct Adapter, PD-100
- Grille for Front Discharge, DG-56SW1
- Air Outlet Shutter Plate, PIS-56LS

Model Name				(Y,H)IC1008B21S	
Schematic Illustration					
Power Supply				208/230V 1PH 60Hz	
Nominal Capacity	Cooling	Btu/h	(kW)	8000	(2.3)
	Heating	Btu/h	(kW)	9000	(2.6)
Power Consumption	Cooling	W		30	
	Heating	W		30	
Dimension	Height	in	(mm)	9-1/4	(235)
	Width	in	(mm)	35-7/16	(900)
	Depth	in	(mm)	27-15/16	(710)
Net Weight		lb	(kg)	55	(25)
Refrigerant		-		R410A	
Refrigerant Piping	Gas Line	in	(φmm)	1/2	(12.7)
	Liquid Line	in	(φmm)	1/4	(6.35)
Min Circuit Amps		A		0.3	
Maximum Fuse Siza		A		15	
Fan Motor Drive		-		DC × 1	
Air Flow Rate	Hi2	cfm	(m3/min)	335	(9.5)
	Hi	cfm	(m3/min)	300	(8.5)
	Me	cfm	(m3/min)	265	(7.5)
	Lo	cfm	(m3/min)	229	(6.5)
Air Filter				Polypropylene (anti-mold	
Sound Pressure Level	Hi2	dB(A)		36	
	Hi	dB(A)		34	
	Me	dB(A)		31	
	Lo	dB(A)		28	
Dimension	Height	in	(mm)	1-3/8	(35)
	Width	in	(mm)	43-5/16	(1100)
	Depth	in	(mm)	31-1/2	(800)
Net Weight		lb	(kg)	10	(4.5)

System Dimensions

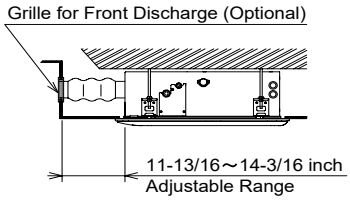
Non-Ducted 1-Way Cassette Indoor Unit
Model: (Y,H)IC1008B21S

(inch)



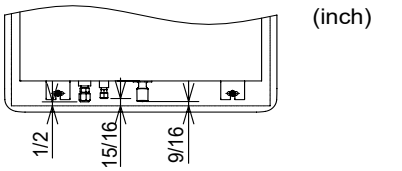
< For a Clipped Ceiling >
In the case of the installation to a clipped ceiling, adjust the distance between the grille for front discharge and the indoor unit as shown in the figure on the right.

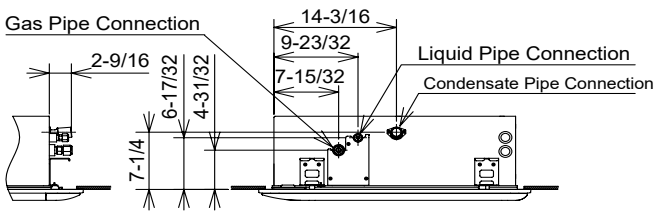
NOTE:
Details of installing method of the optional parts for the grille for front discharge and the air outlet shutter plate are listed in each "Installation Manual".



Piping Connection Dimensions

(inch)





(Y,H)IC4015B21S Non-Ducted 4-Way Cassette Indoor Unit

FEATURES:

- Optional motion and radiant heat sensors for shut-off and activation in response to room occupancy.
- Multiple fan speed settings
- Optional fresh air kit available
- Four air volume settings with Ultra Hi for higher ceilings
- 4-way airflow standard but can be configured for 2-way or 3-way
- Integrated condensate pumps included in all units
- Uniform panel sizing
- Optional lift mechanism allows panel to be lowered for convenient service access

ACCESSORIES:

- Panel for 4 way cassette, standard, P-AP160NA2
- Panel for 4 way cassette, with motion and radiant sensors, P-AP160NAE1
- Duct Adapter, PD-75A
- Fresh Air Inlet Kit, OACI-160K3
- Filter Box, B-160H3
- T-Tube Connecting Kit, TKCI-160K
- Air Outlet Shutter Plate, PI-160LS2
- Anti-bacterial Air Filter, F-(71)(160)M-K2

NOTES:

1. Nominal capacity is based on combinations within the VRF system and the following conditions:
   Cooling Operation Conditions
   Indoor Air Inlet Temperature: 80F DB (26.7 °C DB)
   67F WB (19.4 °C WB)
   Outdoor Air Inlet Temperature: 95F DB (35.0 °C DB)

   Heating Operation Conditions
   Indoor Air Inlet Temperature: 70F DB (21.1 °C DB)
   47F WB (8.3 °C WB)
   Outdoor Air Inlet Temperature: 43F DB (6.1 °C DB)
   Piping Length: 24.6 ft (7.5 m)
   Piping Lift: 0 ft (0 m)

2. Sound Pressure level is based on conditions:
   4.9 ft (1.5m) beneath the unit.

Indoor Unit Type		4-Way Cassette
Model		(H,Y)IC4015B21S
Indoor Unit Power Supply	--	AC 1Phase, 208/230V, 60Hz
Nominal Cooling Capacity*1	Btu/h (kW)	15,000 (4.4)
Nominal Heating Capacity*1	Btu/h (kW)	17,000 (5.0)
Sound Pressure Level*2 (Overall A Scale)	dB	37-32-30-27
Outer Dimensions		
Height	in.(mm)	9-3/4 (248)
Width	in.(mm)	33-1/16 (840)
Depth	in.(mm)	33-1/16 (840)
Net Weight	lbs(kg)	46 (21)
Refrigerant	--	R410A
Indoor Fan	--	Multi-Blade Centrifugal Fan
Number/Unit	--	1
Outer Diameter	ϕ in (mm)	19-9/32 (490)
Nominal Air Flow (Hi2-Hi-Me-Lo)	cfm (m^3/min)	777-600-494-388 (22-17-14-11)
Indoor Fan Motor	--	Drip-Proof Type Enclosure
Starting Method	--	DC Motor
Nominal Output	W	57
Electrical Data		
Min Circuit Amps	A	0.5
Maximum Fuse Size	A	15
Connections	--	Flare-nut Connection (with Flare Nuts)
Refrigerant Piping		
Liquid Line	in.(mm)	1/4 (6.35)
Gas Line	in.(mm)	1/2 (12.70)
Condensate Drain	--	VP25
OD	in.(mm)	1-1/4 (32)
ID	in.(mm)	31/32 (25)

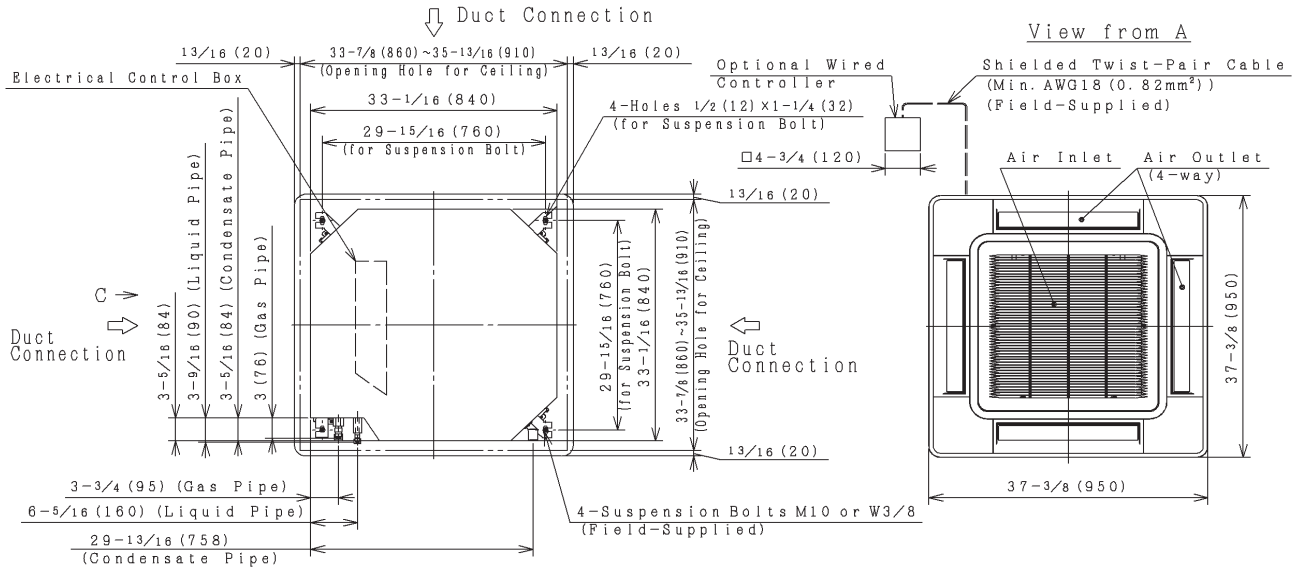
Adaptable Panel Model		P-AP160NA2 (without Motion and Radiation Sensors)	P-AP160NAE1 (with Motion and Radiation Sensors)
Color	--	Neutral White	
Outer Dimensions			
Height	in.(mm)	1-9/16 (40)	1-9/16 (40)
Width	in.(mm)	37-13/32 (950)	37-13/32 (950)
Depth	in.(mm)	37-13/32 (950)	37-13/32 (950)
Net Weight	lbs(kg)	14 (6.5)	14 (6.5)

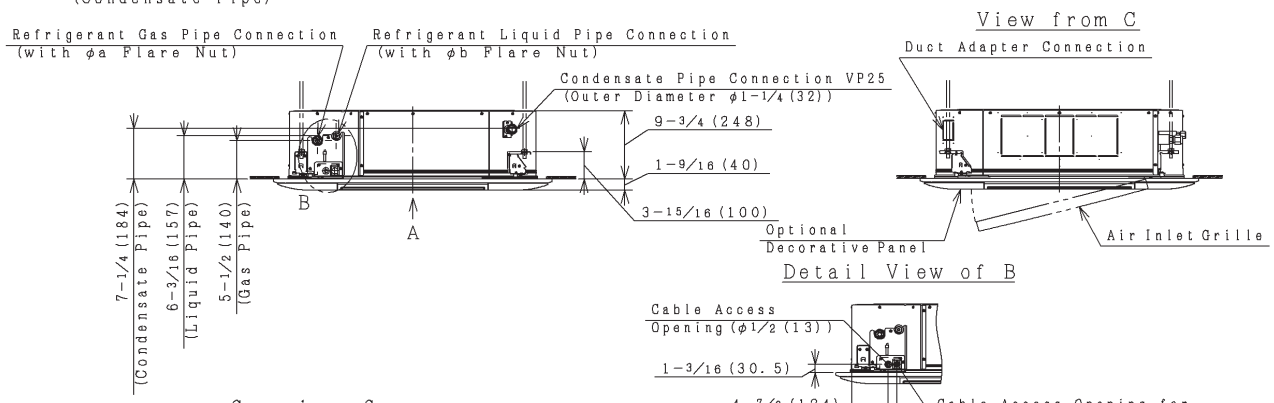
VERSION 201709
Specifications subject to change.

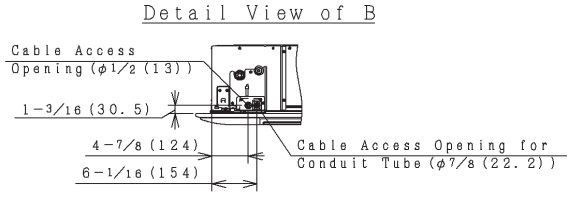
System Dimensions

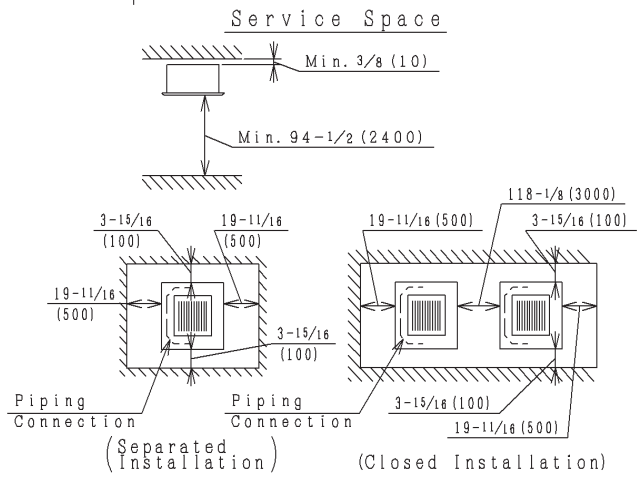
Model: (Y,H)IC4015B21S with Decorative Panel P-AP160NA2

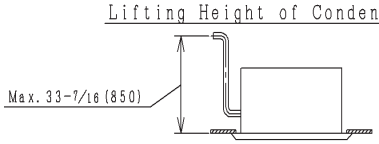
Unit: inch (mm)











Model \ Dimension	a	b
(H,Y)IC4008B21S	1/2 (12.7)	1/4 (6.35)
(H,Y)IC4012B21S	1/2 (12.7)	1/4 (6.35)
(H,Y)IC4015B21S	1/2 (12.7)	1/4 (6.35)
(H,Y)IC4018B21S	5/8 (15.88)	3/8 (9.52)

NOTE:
Distance between the wall and decorative edge must be a minimum of 59-1/16 inch (1500mm) to prevent short circuiting.

version 201709
Specifications subject to change

(Y,H)IC4048B21S Non-Ducted 4-Way Cassette Indoor Unit

FEATURES:

- Optional motion and radiant heat sensors for shut-off and activation in response to room occupancy.
- Multiple fan speed settings
- Optional fresh air kit available
- Four air volume settings with Ultra Hi for higher ceilings
- 4-way airflow standard but can be configured for 2-way or 3-way
- Integrated condensate pumps included in all units
- Uniform panel sizing
- Optional lift mechanism allows panel to be lowered for convenient service access

ACCESSORIES:

- Panel for 4 way cassette, standard, P-AP160NA2
- Panel for 4 way cassette, with motion and radiant sensors, P-AP160NAE1
- Duct Adapter, PD-75A
- Fresh Air Inlet Kit, OACI-160K3
- Filter Box, B-160H3
- T-Tube Connecting Kit, TKCI-160K
- Air Outlet Shutter Plate, PI-160LS2
- Anti-bacterial Air Filter, F-(71)(160)M-K2

NOTES:

1. Nominal capacity is based on combinations within the VRF system and the following conditions:
   Cooling Operation Conditions
   Indoor Air Inlet Temperature: 80F DB (26.7 °C DB)
   67F WB (19.4 °C WB)
   Outdoor Air Inlet Temperature: 95F DB (35.0 °C DB)

   Heating Operation Conditions
   Indoor Air Inlet Temperature: 70F DB (21.1 °C DB)
   47F WB (8.3 °C WB)
   Outdoor Air Inlet Temperature: 43F DB (6.1 °C DB)
   Piping Length: 24.6 ft (7.5 m)
   Piping Lift: 0 ft (0 m)

2. Sound Pressure level is based on conditions:
   4.9 ft (1.5m) beneath the unit.

Indoor Unit Type		4-Way Cassette
Model		(H,Y)IC4048B21S
Indoor Unit Power Supply	--	AC 1Phase, 208/230V, 60Hz
Nominal Cooling Capacity*1	Btu/h (kW)	48,000 (14.1)
Nominal Heating Capacity*1	Btu/h (kW)	54,000 (15.8)
Sound Pressure Level*2 (Overall A Scale)	dB	48-46-41-37
Outer Dimensions		
Height	in.(mm)	11-23/32 (298)
Width	in.(mm)	33-1/16 (840)
Depth	in.(mm)	33-1/16 (840)
Net Weight	lbs(kg)	57 (26)
Refrigerant	--	R410A
Indoor Fan	--	Multi-Blade Centrifugal Fan
Number/Unit	--	1
Outer Diameter	ϕ in (mm)	19-9/32 (490)
Nominal Air Flow (Hi2-Hi-Me-Lo)	cfm (m^3/min)	1306-1236-988-777 (37-35-28-22)
Indoor Fan Motor	--	Drip-Proof Type Enclosure
Starting Method	--	DC Motor
Nominal Output	W	127
Electrical Data		
Min Circuit Amps	A	1.2
Maximum Fuse Size	A	15
Connections	--	Flare-nut Connection (with Flare Nuts)
Refrigerant Piping		
Liquid Line	in.(mm)	3/8 (9.52)
Gas Line	in.(mm)	5/8 (15.88)
Condensate Drain	--	VP25
OD	in.(mm)	1-1/4 (32)
ID	in.(mm)	31/32 (25)

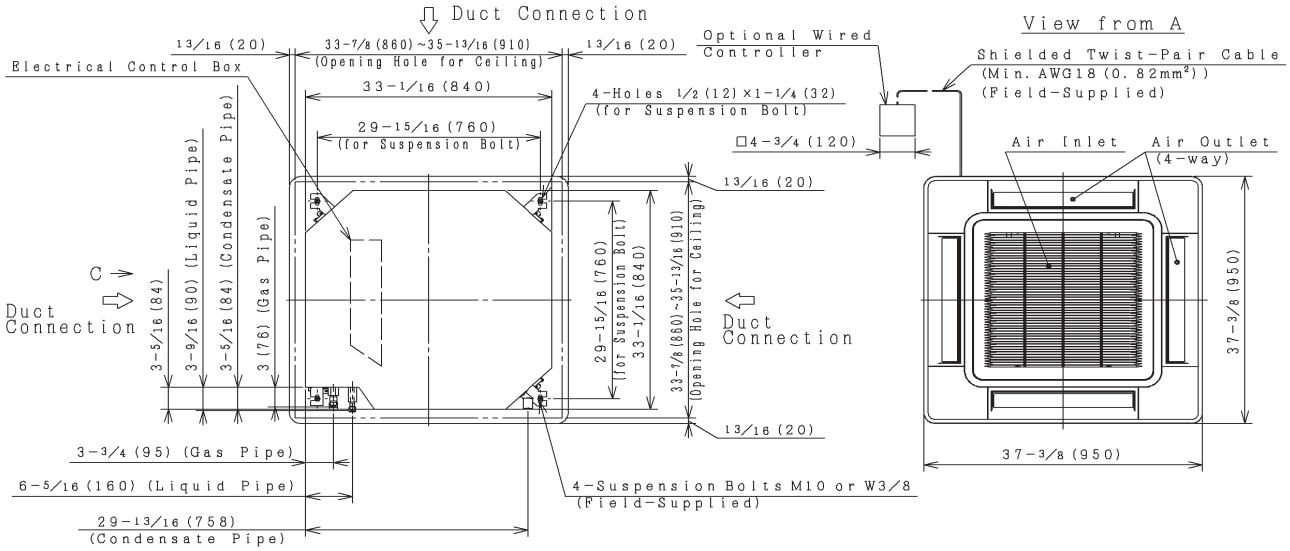
Adaptable Panel Model		P-AP160NA2 (without Motion and Radiation Sensors)	P-AP160NAE1 (with Motion and Radiation Sensors)
Color	--	Neutral White	
Outer Dimensions			
Height	in.(mm)	1-9/16 (40)	1-9/16 (40)
Width	in.(mm)	37-13/32 (950)	37-13/32 (950)
Depth	in.(mm)	37-13/32 (950)	37-13/32 (950)
Net Weight	lbs(kg)	14 (6.5)	14 (6.5)

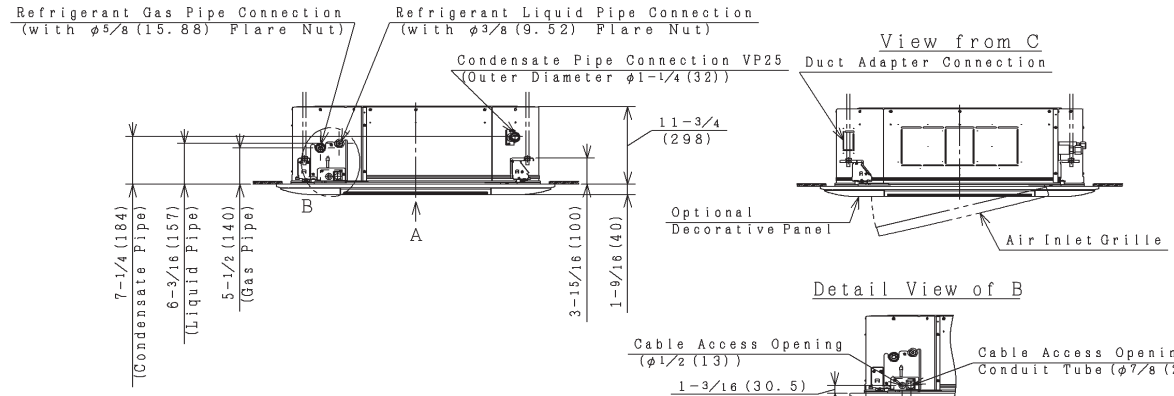
VERSION 201709
Specifications subject to change.

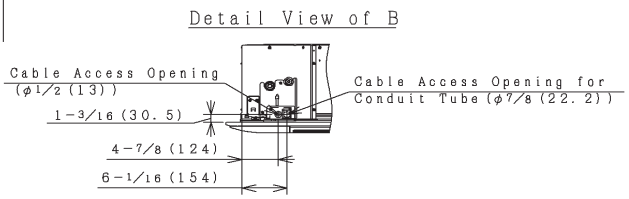
System Dimensions

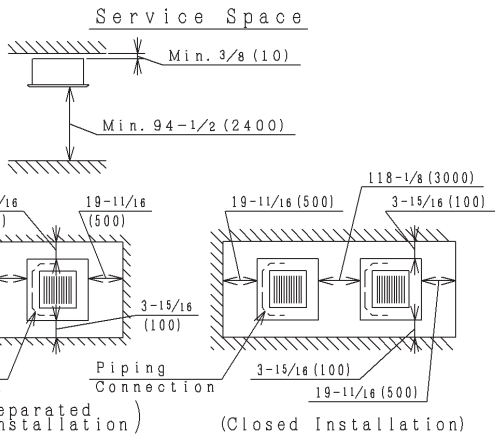
Model: (Y,H)IC4048B21S with Decorative Panel P-AP160NAE1

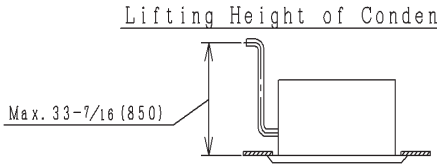
Unit: inch (mm)











Specifications subject to change. version 201709

NOTES:

1. Distance between the wall and decorative edge must be a minimum of 59-1/16 inch (1500mm) to prevent short circuiting.
2. In case the position of the corner panel with motion and radiation sensors is changed from the initial position, then the setting on the wired controller must be changed.

1.3 RT (Y,H)ICS015B21S Ceiling Suspended

FEATURES:

- Motion sensor for improved energy efficiency
- New fan runner for high efficiency and low noise
- Flexible installation for high ceilings

ACCESSORIES:

- Anti-vacterial Air Filter, F-(56)(90)(160)MP-K1
- Filter Box, B-(56)(90)(160)MP-K1
- IR Receiver Kit, CSIRK01
- Motion Sensor Kit, SOR-NE P
- Duct Adapter, PD- 100
- Condensate Pump Kit, DUPC-(63)(160)K1

Model		(H,Y)ICS015B21S
Indoor Unit Power Supply		AC 1Phase, 208/230V, 60Hz
Nominal Cooling Capacity *1	Btu/h (kW)	15,000 (4.4)
Nominal Heating Capacity *1	Btu/h (kW)	17,000 (5.0)
Sound Pressure Level (Overall A Scale)	dB	33-35-31-28
Outer Dimensions		
Height	in. (mm)	9-1/4 (235)
Width	in. (mm)	37-13/16 (960)
Depth	in. (mm)	27-3/16 (690)
Net Weight	lbs (kg)	59 (27)
Refrigerant		R410A
Indoor Fan		
Air Flow Rate (Hi2-Hi-Me-Lo)	cfm (m^3/min)	530-459-388-318 (15-13-11-9)
External Pressure	in.W.G (Pa)	0.0 (0)
Motor Nominal Output	W	50
Connections		
Refrigerant Piping		Flare-Nut Connection (with Flare Nuts)
Liquid Line	in. (mm)	1/4 (6.35)
Gas Line	in. (mm)	1/2 (12.70)
Condensate Drain		VP25
OD	in. (mm)	1-1/4 (32)
ID	in. (mm)	31/32 (25)

NOTES:
*1. Nominal capacity is based on combinations within the VRF system under the following conditions:

Cooling Operation Conditions
- Indoor Air Inlet Temperature: 80°F DB (26.7°C DB) / 67°F WB (19.4°C WB)
- Outdoor Air Inlet Temperature: 95°F DB (35.0°C DB)

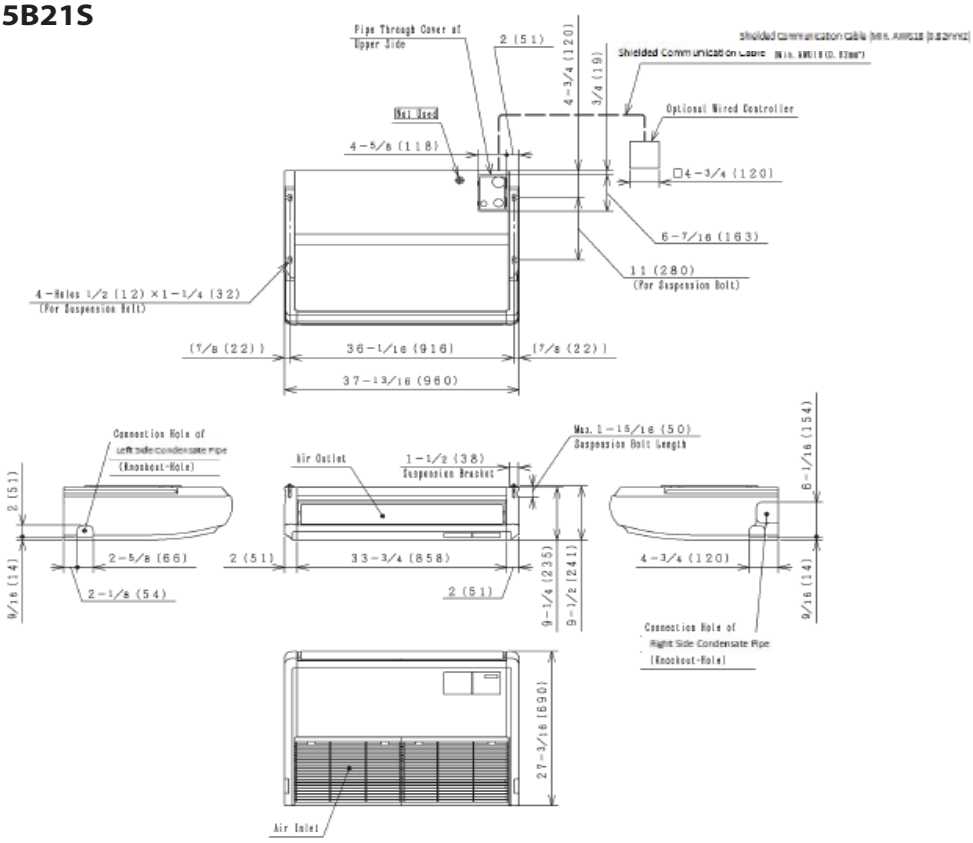
Heating Operation Conditions
- Indoor Air Inlet Temperature: 70°F DB (21.1°C DB)
- Outdoor Air Inlet Temperature: 47°F DB (8.3°C DB) / 43°F WB (6.1°C WB)

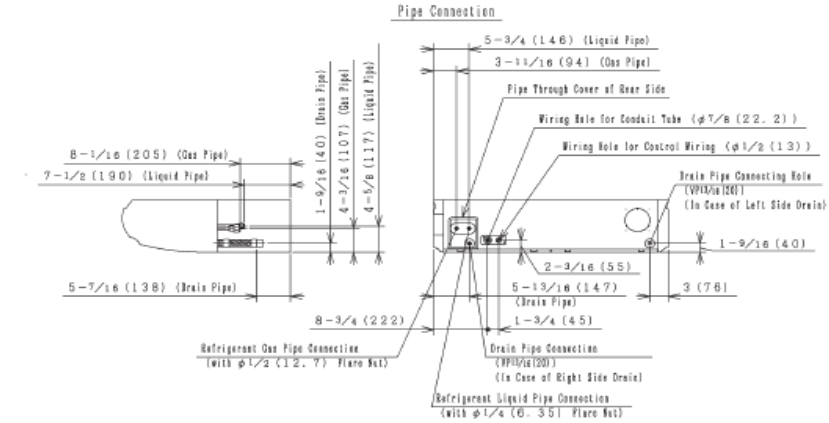
Piping Length: 24 ft. 7-3/16 in. (7.5m) Piping Lift: 0ft. (0m)

System Dimensions

Ceiling Suspended

Model: (Y,H) ICS015B21S





(Y,H)IDH015B22S

Ducted High Static Indoor Unit

FEATURES:

- High-efficiency DC fan motor
- Multiple fan speed settings
- Up to .8 in WG static pressure
- Bottom access for easy service and troubleshooting
- Built-in condensate pump

ACCESSORIES:

- Long-life Filter
- Filter Box for Long-life Filter
- Motion Sensor Kit
- Relay and 3-pin Connector Kit
- 3-pin Connector Cable
- IR Receiver Kit
- Remote Sensor

Model		(Y,H)IDH015B22S
Indoor Unit Power Supply		AC 1Phase, 208/230V, 60Hz
Nominal Cooling Capacity [1]	Btu/h (kW)	15,000 (4.4)
Nominal Heating Capacity [1]	Btu/h (kW)	17,000 (5.0)
Sound Pressure Level [2] (Overall A Scale) (Hi2-Hi-Me-Lo)	dB	41-38-35-32
Outer Dimensions		
Height	in. (mm)	11-13/16 (300)
Width	in. (mm)	27-9/16 (700)
Depth	in. (mm)	31-1/2 (800)
Net Weight	lbs. (kg)	64 (29)
Refrigerant		R410A
Indoor Fan		
Airflow Rate (Hi2-Hi-Me-Lo)	cfm (m^3/min)	512-459-388-335 (14.5-13-11-9.5)
External Pressure [3]	in.W.G (Pa)	0.2 (0.4-0.8) (50 (100-200))
Motor Nominal Output	W	157
Electrical Data	--	
Min Circuit Amps	A	2.4
Maximum Fuse Size	A	15
Connections		Flare-Nut Connection (with Flare Nuts)
Refrigerant Piping		
Liquid Line	in. (mm)	1/4 (6.35)
Gas Line	in. (mm)	1/2 (12.7)
Condensate Drain		VP25
OD	in. (mm)	1-1/4 (32)
ID	in. (mm)	31/32 (25)

NOTES:

1. Nominal capacity is based on combinations within the VRF system and conditions, as follows:

   Cooling Operation Conditions

   Indoor Air Inlet Temperature:
   80F DB (26.7 °C DB)
   67F WB (19.4 °C WB)

   Outdoor Air Inlet Temperature:
   95F DB (35.0 °C DB)

   Heating Operation Conditions

   Indoor Air Inlet Temperature:
   70F DB (21.1 °C DB)
   47F WB (8.3 °C WB)

   Outdoor Air Inlet Temperature: 43F DB (6.1 °C DB)
   Piping Length: 24.6 ft (7.5 m)
   Piping Lift: 0 ft (0 m)

2. Sound Pressure level is based on conditions:
   4.9 ft (1.5m) beneath the unit.
   The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

3. The data for external pressure 3 indicates Standard Pressure Setting (High Pressure Setting 1 - High Pressure Setting 2) values when a filter is not used. The sound pressure level is based on the Standard Pressure Setting.

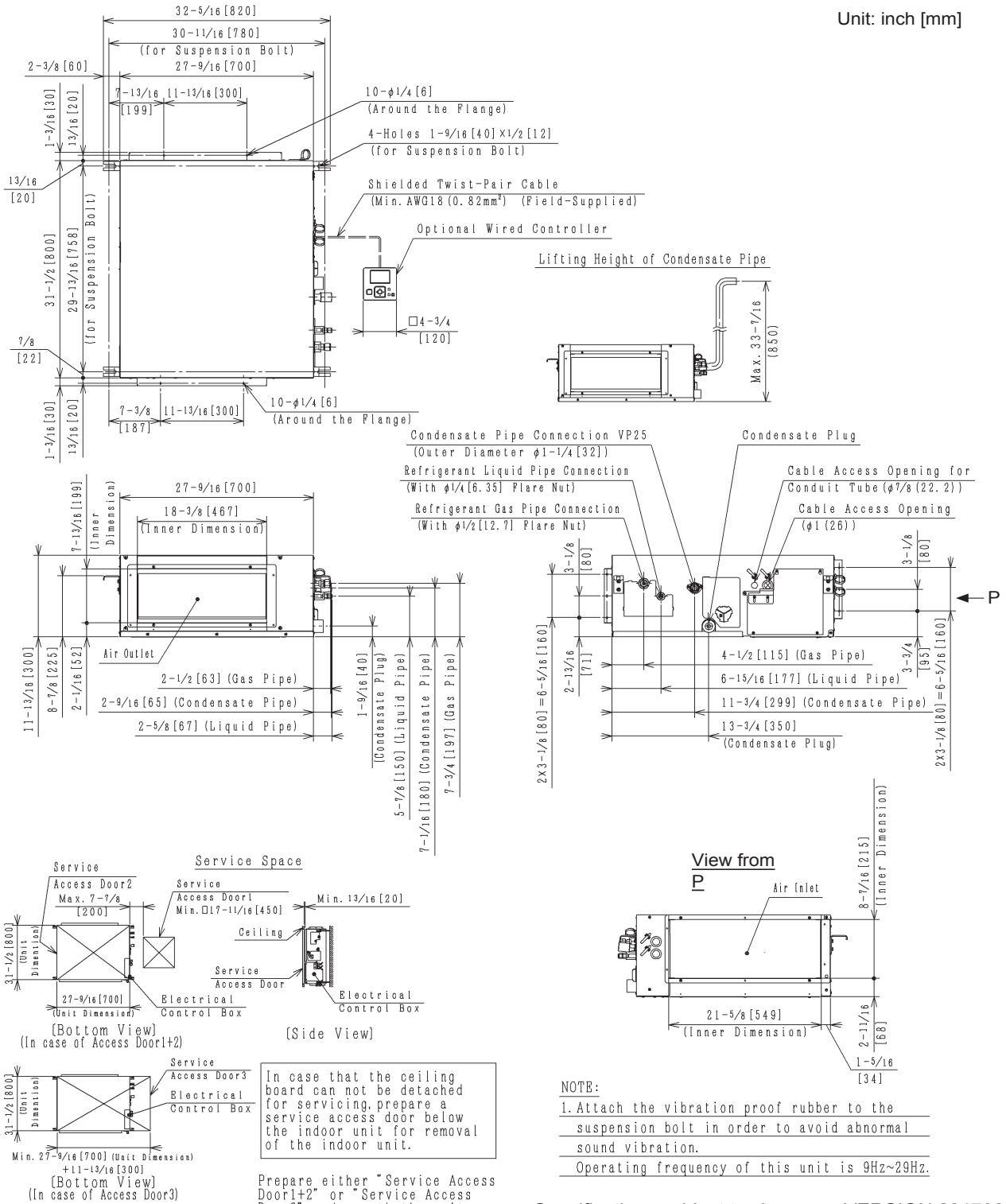
Version 201706

Specifications subject to change.

Ducted High Static Indoor Unit Model: (Y,H)IDH015B22S

System Dimensions

Unit: inch [mm]



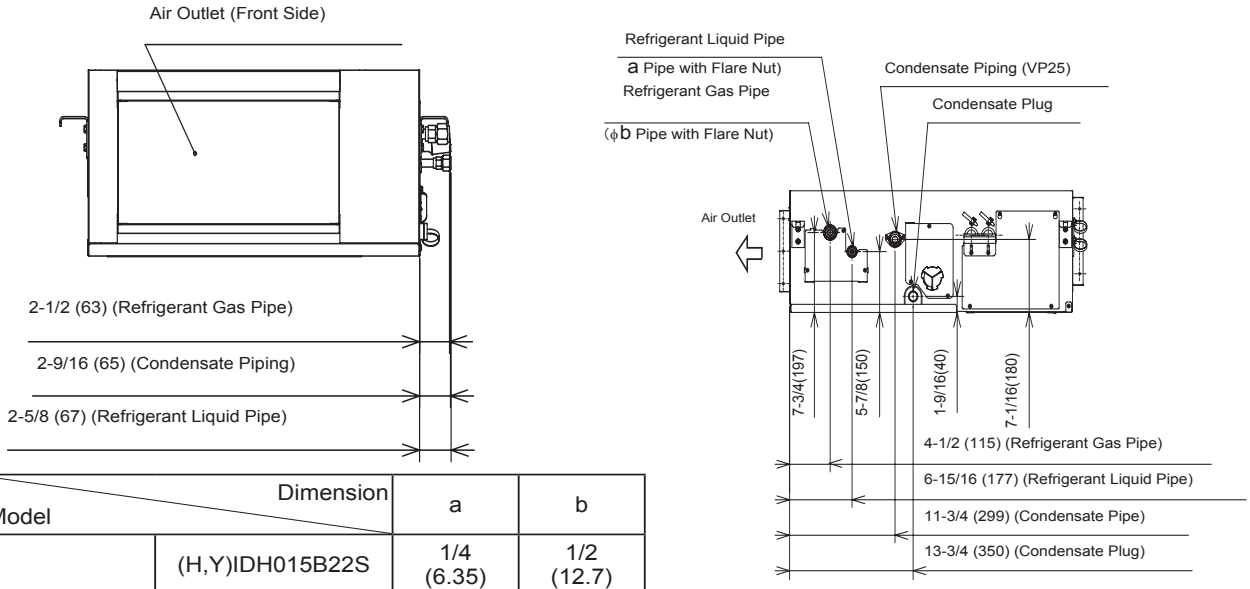
NOTE:
1. Attach the vibration proof rubber to the suspension bolt in order to avoid abnormal sound vibration.
Operating frequency of this unit is 9Hz~29Hz.

Specifications subject to change VERSION 201706

Piping Connections

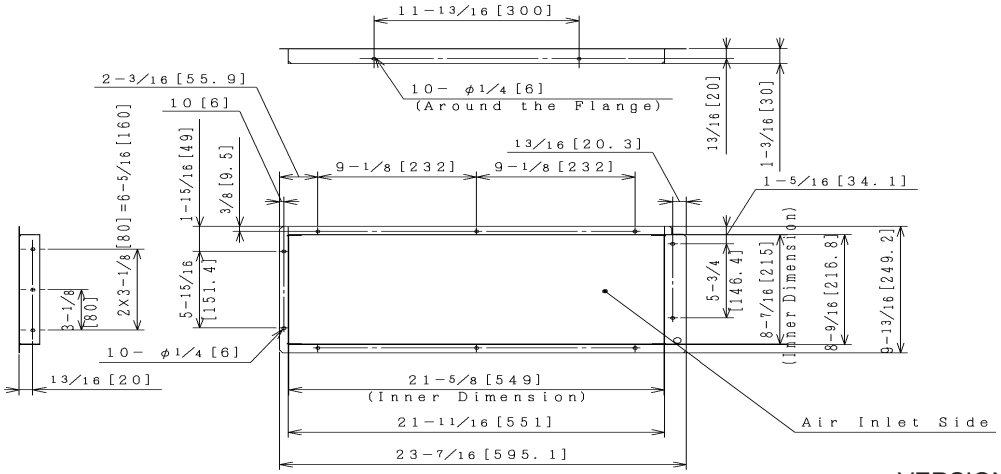
Ducted High Static Indoor Unit Model: (Y,H)IDH015B22S

Unit: inch (mm)



Model \ Dimension		a	b
High Static Type	(H,Y)IDH015B22S	1/4 (6.35)	1/2 (12.7)
	(H,Y)IDH018B22S (H,Y)IDH024B22S (H,Y)IDH027B22S (H,Y)IDH030B22S (H,Y)IDH036B22S (H,Y)IDH048B22S (H,Y)IDH054B22S	3/8 (9.53)	5/8 (15.88)

Air Filter Dimensions



VERSION 201706

Specifications subject to change

0.7 RT (Y,H)IDS008B21S Ducted Slim Indoor Unit

FEATURES:

- High-efficiency DC fan motor
- Multiple fan speed settings
- Up to .20 WG static pressure
- Bottom access for easy service and troubleshooting
- Built-in condensate pump

ACCESSORIES:

- Relay and 3 Pin Connector Kit PSC-5RA
- 3 Pin Connector Cable PCC-1A R1
- Air Filter KW-PP5Q for Model (H,Y) IDS006 - 012B21S
- Air Filter KW-PP6Q for Model (H,Y) IDS015 - 018B21S

Ton				0.7RT	
Model Name				(Y,H)IDS008B21S	
Power Supply				208/230V 1PH 60Hz	
Nominal Capacity	Cooling	Btu/h	(kW)	8000	(2.3)
	Heating	Btu/h	(kW)	9000	(2.6)
Dimension	Height	in	(mm)	7-9/16	(192)
	Width	in	(mm)	35-3/4	(908)
	Depth	in	(mm)	17-19/32	(447)
Net Weight		lb	(kg)	44	(20)
Refrigerant		–		R410A	
Refrigerant Piping	Gas Line	in	(φmm)	1/2	(12.7)
	Liquid Line	in	(φmm)	1/4	(6.35)
Fan Motor Drive		–		DC × 1	
Air Flow Rate	Hi2	cfm	(m3/min)	318	(9)
	Hi	cfm	(m3/min)	289	(8.2)
	Me	cfm	(m3/min)	244	(6.9)
	Lo	cfm	(m3/min)	205	(5.8)
Sound Pressure Level	Hi2	dB(A)		32	
	Hi	dB(A)		30	
	Me	dB(A)		29	
	Lo	dB(A)		27	
Static Pressure	High Pressure	in WG	(Pa)	0.12	(30)
	Standard	in WG	(Pa)	0.04	(10)
	Low Pressure	in WG	(Pa)	0.00	(0)

NOTES:

*1. Nominal capacity is based on combinations within the VRF system and the following:

Cooling Operation Conditions
- Indoor Air Inlet Temperature: 80°F DB (26.7°C DB) 67°F WB (19.4°C WB)
- Outdoor Air Inlet Temperature: 95°F DB (35.0°C DB)

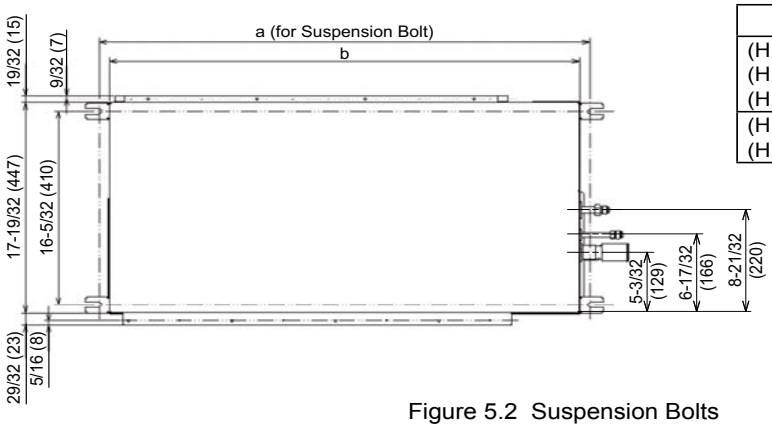
Heating Operation Conditions
- Indoor Air Inlet Temperature: 70°F DB (21.1°C DB)
- Outdoor Air Inlet Temperature: 47°F DB (8.3°C DB) 43°F WB (6.1°C WB)
- Piping Length: 24 ft. 7-3/16 in. (7.5m)
- Piping Lift: 0 ft. (0m)

*2. The sound pressure level is based on the following.
4.9 ft. (1.5m) beneath the unit.
With Discharge Duct 6.6 ft. (2.0m) and Return Duct 3.3 ft. (1.0m)
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

*3. The data for external pressure *3) indicates “Standard Pressure Setting (High Pressure Setting - Low Pressure Setting)” values when a filter is not used. The sound pressure level is based on the Standard Pressure Setting.

System Dimensions

Ducted Slim Indoor Unit
Model: (Y,H)IDS008B21S



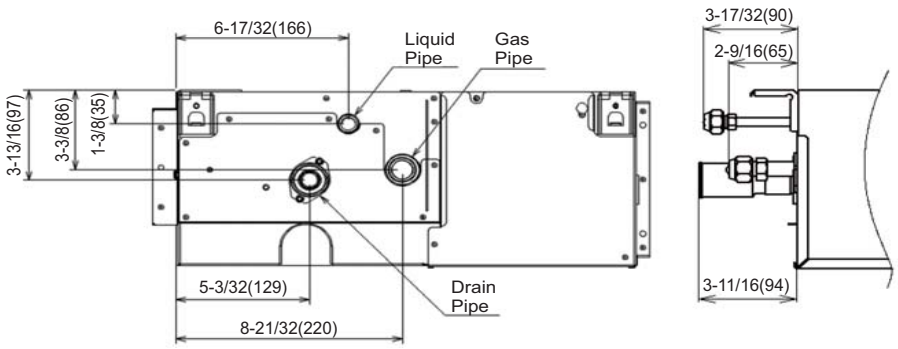
Unit: inch (mm)

Model	a	b
(H,Y)IDS006B21S (H,Y)IDS008B21S (H,Y)IDS012B21S	37-5/16 (948)	35-3/4 (908)
(H,Y)IDS015B21S (H,Y)IDS018B21S	47-15/16 (1,218)	46-3/8 (1,178)

Figure 5.2 Suspension Bolts

Piping Connection Dimensions

Unit: inch (mm)



Submittal Data Sheet

0.5 RT (Y, H) IFE006B21S Floor Exposed

FEATURES

- 8.7 in (220mm) depth preserves room space
- 24.8 in height leaves ample window space
- Ideal for perimeter zone air conditions

Model		(H,Y)IFE006B21S
Indoor Unit Power Supply		AC 1Phase, 208/230V, 60Hz
Nominal Cooling Capacity *1	Btu/h (kW)	6,000 (1.8)
Nominal Heating Capacity *1	Btu/h (kW)	6,700 (2.0)
Sound Pressure Level *2 (Overall A Scale)	dB	39-33-29
Outer Dimensions		
Height	in. (mm)	24-13/16 (630)
Width	in. (mm)	41-1/8 (1045)
Depth	in. (mm)	8-11/16 (220)
Net Weight	lbs (kg)	61 (28)
Refrigerant		R410A
Indoor Fan		
Air Flow Rate (Hi-Me-Lo)	cfm (m^3/min)	300-247-212 (8.5-7-6)
External Pressure	in.W.G (Pa)	0.0 (0)
Motor Nominal Output	W	20
Min Circuit Amps	A	0.4
Maximum Fuse Amps	A	15
Connections		
Refrigerant Piping		Flare-Nut Connection (with Flare Nuts)
Liquid Line	in. (mm)	1/4 (6.35)
Gas Line	in. (mm)	1/2 (12.70)
Condensate Drain		VP25
OD	in. (mm)	1-1/4 (32)
ID	in. (mm)	31/32 (25)

NOTES:

*1. Nominal capacity is based on combinations within the VRF system under the following conditions:

Cooling Operation Conditions

Indoor Air Inlet Temperature: 80°F DB (26.7°C DB)
67°F WB (19.4°C WB)
Outdoor Air Inlet Temperatur 95°F DB (35.0°C DB)

Heating Operation Conditions

Indoor Air Inlet Temperature: 70°F DB (21.1°C DB)
Outdoor Air Inlet Temperatur 47°F DB (8.3°C DB)
43°F WB (6.1°C WB)
Piping Length: 24 ft. 7-3/16 in. (7.5m) Piping Lift: 0ft. (0m)

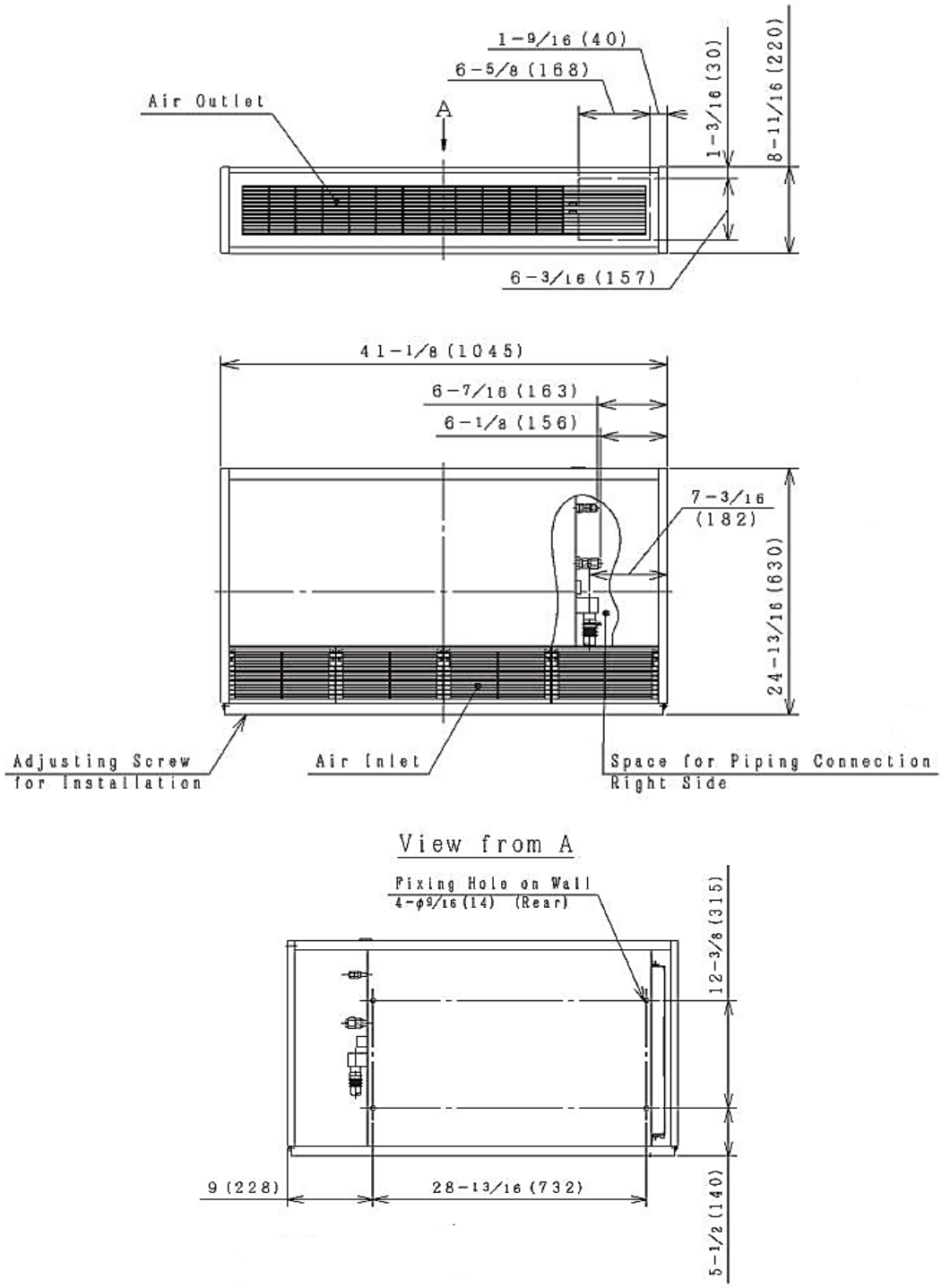
*2. Sound pressure level is based on the following conditions.
4.9 ft. (1.5m) beneath the units.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

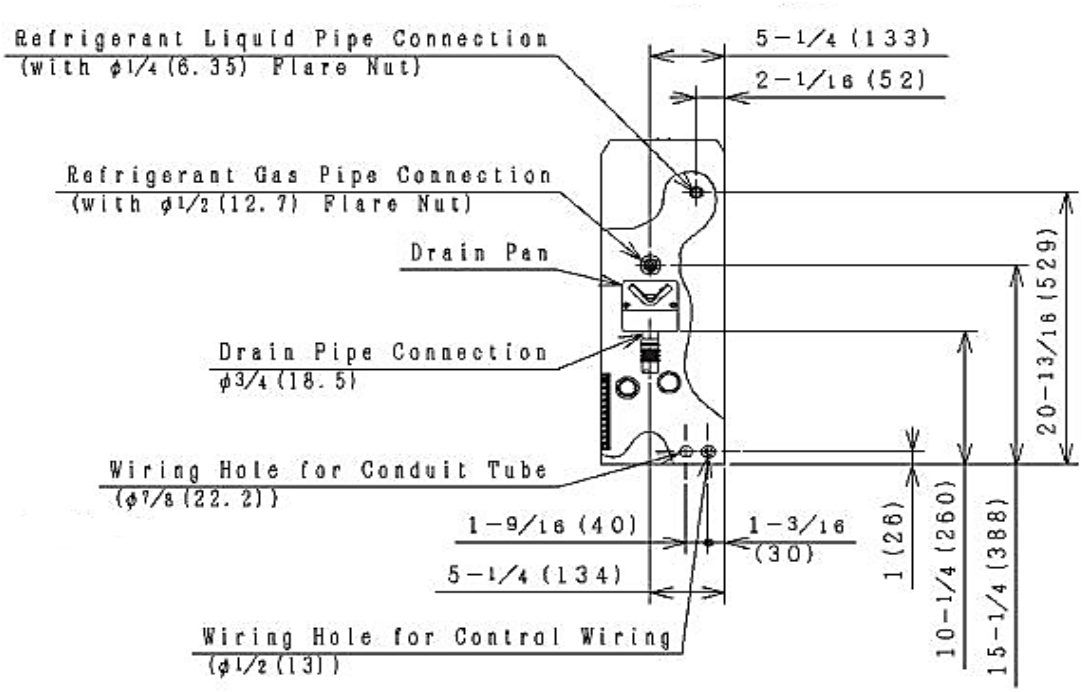
System Dimensions

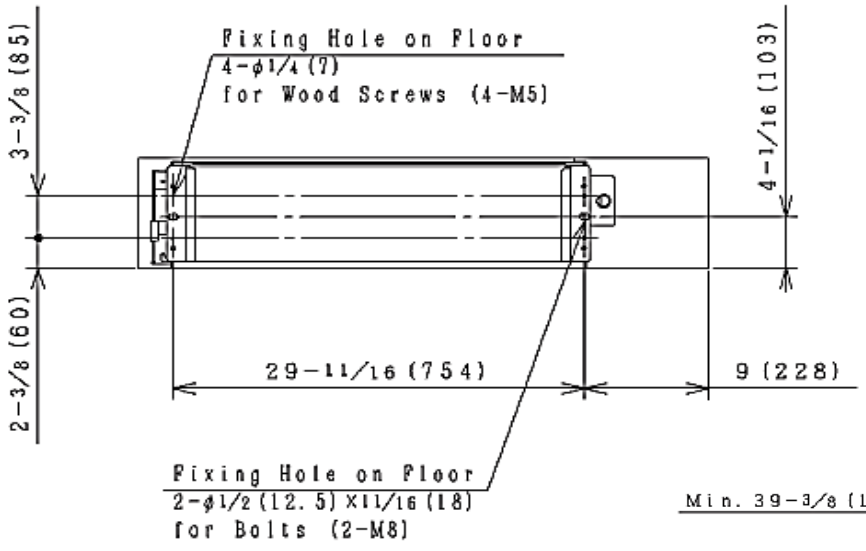
Floor Exposed

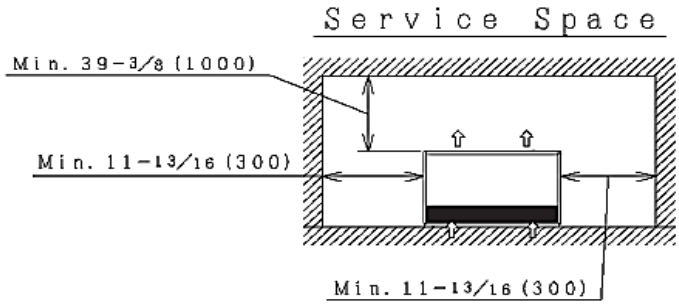
inch (mm)

Model: (Y, H) IFE006B21S




Refrigerant Liquid Pipe Connection
(with φ1/4 (6.35) Flare Nut)
Refrigerant Gas Pipe Connection
(with φ1/2 (12.7) Flare Nut)
Drain Pan
Drain Pipe Connection
φ3/4 (18.5)
Wiring Hole for Conduit Tube
(φ7/8 (22.2))
Wiring Hole for Control Wiring
(φ1/2 (13))
5-1/4 (133)
2-1/16 (52)
20-13/16 (529)
1-9/16 (40)
1-3/16 (30)
5-1/4 (134)
1 (26)
10-1/4 (260)
15-1/4 (388)


Fixing Hole on Floor
4-φ1/4 (7)
for Wood Screws (4-M5)
3-3/8 (85)
4-1/16 (103)
2-3/8 (60)
29-11/16 (754)
9 (228)
Fixing Hole on Floor
2-φ1/2 (12.5) x11/16 (18)
for Bolts (2-M8)


Service Space
Min. 39-3/8 (1000)
Min. 11-13/16 (300)
Min. 11-13/16 (300)

Intertek

Submittal Data Sheet

(Y, H)MAHPB21S (1.5 to 5 ton)** **Multi position Air Handler for VRF systems**

FEATURES

DX kit - The DX kit (Control box and EEV box) provides easy installation to convert the AP air handler to part of the VRF system. No brazing is required to install the DX kit.

RC^2 - Rigid Case Construction interior endoskeleton for structural support, smooth side, and locks in insulation.

Powder-painted - G30 galvanized steel case provides a coated edge that resists corrosion and rust creep.

MaxAlloy^{TM} Coil - Long life aluminum coils built to deliver lasting performance, efficiency and reliability.

Quality Construction - Structural components are made of aluminum or G90 galvanized steel to prevent corrosion.

Improved Insulation Design - Single piece with no external screws to reduce thermal transmission paths and prevent sweating. Foil faced insulation for ease of cleaning.

Case Depth - These models have 20.5" casing which provides ease of access to attic and tight applications.

Thermoset Drain Pan - Positive slope for drainage to reduce potential for mold or contaminants.

Factory Sealed - Achieves 2% or less total airflow leakage rate at duct leakage test conditions in positive and negative pressure for system airflow verification.

Enhanced Filter Rack - All models have integrated internal filter racks provided for use with 1" thick standard size filters.

Electric Heat Kits - 6HK series of field installed electric heat kits are available for installation-friendly and easy service applications.

Blowers - All models use direct-drive, multi-speed PSC motors.

ACCESSORIES

- DX Kit (Required)
- Electric Heater (optional)

CLEARANCES (Air handler)

Front	24"
Rear	0"*
Sides	0"*

* 0 Clearance allowed with or without Electric Heater.

Multi position Air Handler Compatibility Chart

DX-Kit and Air Handler Combined Model	DX-Kit	Air Handler Model
(H, Y) MAHP18B21S	EXV-018E	AP18BX21
(H, Y) MAHP24B21S	EXV-024E	AP24BX21
(H, Y) MAHP30B21S	EXV-030E	AP30BX21
(H, Y) MAHP36B21S	EXV-036E	AP36BX21
(H, Y) MAHP36C21S	EXV-036E	AP36CX21
(H, Y) MAHP48C21S	EXV-048E	AP48CX21
(H, Y) MAHP48D21S	EXV-048E	AP48DX21
(H, Y) MAHP60C21S	EXV-060E	AP60CX21
(H, Y) MAHP60D21S	EXV-060E	AP60DX21

Project Name: Waubonsee Community College
Project Number:
Submitter Name: Eric Veit
Revision: 1

Multi position Air Handler Model		(Y, H)MAHP18B21S	(Y, H)MAHP24B21S	(Y, H)MAHP30B21S	(Y, H)MAHP36B21S	(Y, H)MAHP36C21S	(Y, H)MAHP48C21S	(Y, H)MAHP48D21S	(Y, H)MAHP60C21S	(Y, H)MAHP60D21S
AP handler Model		AP18BX21	AP24BX21	AP30BX21	AP36BX21	AP36CX21	AP48CX21	AP48DX21	AP60CX21	AP60DX21
Indoor Unit Power Supply	-	AC 1 Phase, 208/230V, 60Hz								
Nominal Cooling Capacity *1	Btu/h (kW)	18,000 (5.3)	24,000 (7.0)	30,000 (8.8)	36,000 (10.5)	36,000 (10.5)	48,000 (14.1)	48,000 (14.1)	60,000 (17.6)	60,000 (17.6)
Nominal Heating Capacity *1	Btu/h (kW)	20,000 (5.9)	27,000 (7.9)	34,000 (10.0)	40,000 (11.7)	40,000 (11.7)	54,000 (15.8)	54,000 (15.8)	64,000 (18.8)	64,000 (18.8)
Outer Dimensions Height	in. (mm)	41 (1041)	41 (1041)	47-1/2 (1207)	47-1/2 (1207)	51-1/2 (1308)	51-1/2 (1308)	55-1/2 (1410)	55-3/4 (1416)	55-1/2 (1410)
Width	in. (mm)	17-1/2 (445)	17-1/2 (445)	17-1/2 (445)	17-1/2 (445)	21 (533)	21 (533)	24-1/2 (622)	21 (533)	24-1/2 (622)
Depth	in. (mm)	12-7/8 (327)	12-7/8 (327)	19-1/2 (495)	19-1/2 (495)	22-5/8 (575)	22-5/8 (575)	26-5/8 (676)	26-7/8 (683)	26-5/8 (676)
Net Weight	lbs (kg)	85 (39)	87 (40)	113 (51)	113 (51)	114 (52)	150 (68)	153 (69)	146 (66)	170 (77)
Refrigerant	-	R410A								
Indoor Fan Air Flow Rate *2 (Hi-Lo)	cfm (m^3/min)	674-490 (19-14)	763-593 (22-17)	874-685 (25-19)	1155-1036 (33-29)	1186-974 (34-28)	1451-1233 (41-35)	1451-1233 (41-35)	1743-1661 (49-47)	1743-1661 (49-47)
External Pressure *2 (Hi-Lo)	in.W.G (Pa)	0.4 (99)	0.7 (174)	0.7 (174)	0.7 (174)	0.7 (174)	0.7 (174)	0.7 (174)	0.4 (99)	0.4 (99)
Refrigerant Piping Liquid Line	in. (mm)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)
Gas Line*3	in. (mm)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	3/4 (19.05)	3/4 (19.05)
Condensate Drain OD	in. (mm)	1-1/16 (26.7)	1-1/16 (26.7)	1-1/16 (26.7)	1-1/16 (26.7)	1-1/16 (26.7)	1-1/16 (26.7)	1-1/16 (26.7)	1-1/16 (26.7)	1-1/16 (26.7)
ID	in. (mm)	13/16 (20.9)	13/16 (20.9)	13/16 (20.9)	13/16 (20.9)	13/16 (20.9)	13/16 (20.9)	13/16 (20.9)	13/16 (20.9)	13/16 (20.9)

Project Name: Waubonsee Community College
Project Number:
Submitter Name: Eric Veit
Revision: 1

Multi position Air Handler Model		(Y, H)MAHP18B21S	(Y, H)MAHP24B21S	(Y, H)MAHP30B21S	(Y, H)MAHP36B21S (Y, H)MAHP36C21S	(Y, H)MAHP48C21S (Y, H)MAHP48D21S	(Y, H)MAHP60C21S (Y, H)MAHP60D21S
Adaptable DX-Kit Model		EXV-018E	EXV-024E	EXV-030E	EXV-036E	EXV-048E	EXV-060E
Control Box Part							
Power Supply	-	AC 1 Phase, 208/230V, 60Hz					
Outer Dimensions							
Height	in. (mm)	3-3/16 (81.0)	3-3/16 (81.0)	3-3/16 (81.0)	3-3/16 (81.0)	3-3/16 (81.0)	3-3/16 (81.0)
Width	in. (mm)	12-9/16 (319.6)	12-9/16 (319.6)	12-9/16 (319.6)	12-9/16 (319.6)	12-9/16 (319.6)	12-9/16 (319.6)
Depth	in. (mm)	7-3/8 (187.2)	7-3/8 (187.2)	7-3/8 (187.2)	7-3/8 (187.2)	7-3/8 (187.2)	7-3/8 (187.2)
Net Weight	lbs. (kg)	6.57 (2.98)	6.57 (2.98)	6.57 (2.98)	6.57 (2.98)	6.57 (2.98)	6.57 (2.98)
Expansion Valve Box Part							
Power Supply	-	DC 12V					
Outer Dimensions							
Height	in. (mm)	4-5/16 (109)	4-5/16 (109)	4-5/16 (109)	4-5/16 (109)	4-5/16 (109)	4-5/16 (109)
Width	in. (mm)	17-1/16 (433)	17-1/16 (433)	17-1/16 (433)	17-1/16 (433)	17-1/16 (433)	17-1/16 (433)
Depth	in. (mm)	5-5/16 (151)	5-5/16 (151)	5-5/16 (151)	5-5/16 (151)	5-5/16 (151)	5-5/16 (151)
Net Weight	lbs. (kg)	8.84 (4.01)	8.84 (4.01)	8.84 (4.01)	8.84 (4.01)	8.84 (4.01)	11.05 (4.01)
Refrigerant	-	R410A					
Refrigerant Piping							
Liquid Line In	in. (mm)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)
Liquid Line Out	in. (mm)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)

Notes:

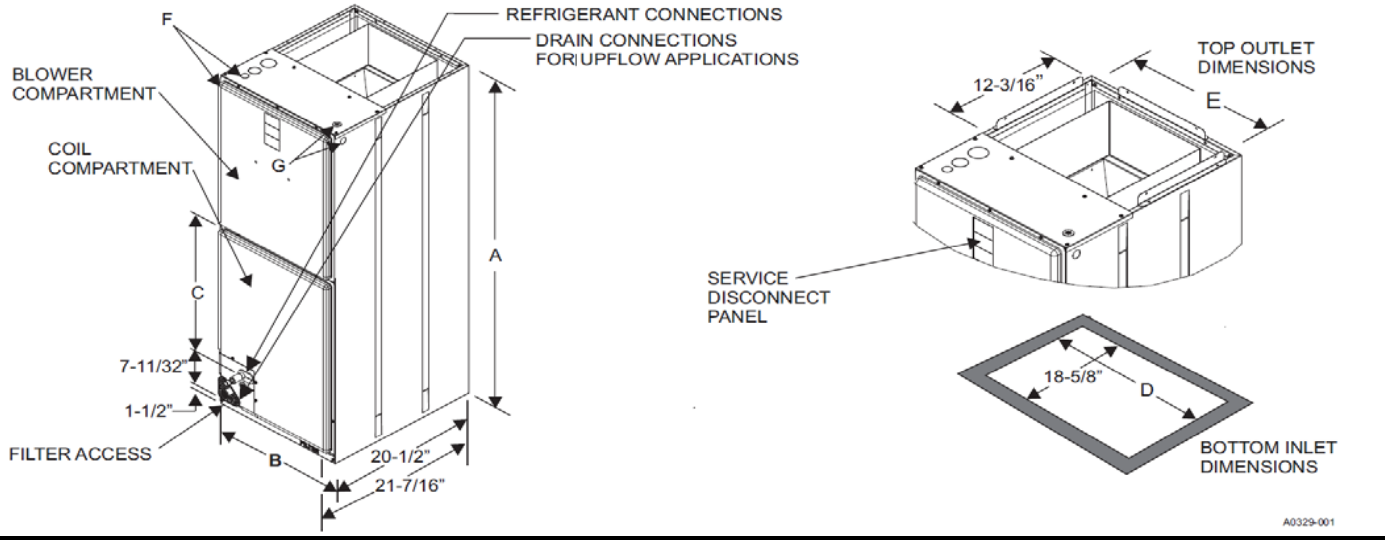
1. Nominal capacity is based on combination with VRF system and following conditions:
   Cooling Operation Conditions
   Indoor Air Inlet Temperature: 80 F DB (26.7°C DB)
   67F WB (19.4°C WB)
   Outdoor Air Inlet Temperature: 95 F DB (35.0°C DB)
   Piping Length: 24.6ft (7.5m); Piping Lift: 0ft (0m)
   Heating Operation Conditions
   Indoor Air Inlet Temperature: 70 F DB (21.1°C DB)
   Outdoor Air Inlet Temperature: 47 F DB (8.3°C DB)
   43F WB (6.1°C WB)
2. Hi and Lo setting on the wired controller. (Hi = VAH'S High tap and Lo = VAH's Medium tap)
3. Gas line attached with reducer (accessory of DX-Ki.

Electrical Data – Cooling only

Models	Motor FLA[1]	Minimum Circuit Ampacity
18B (208/230V)	1.1	1.23/1.4
24B (208/230V)	1.4	1.67/1.8
30B (208/230V)	2.3	2.49/2.9
36B (208/230V)	2.6	2.85/3.3
36C (208/230V)	2.2	2.34/2.8
48C/48D (208/230V)	2.9	2.43/3.6
60C/60D (208/230V)	4.1	3.25/3.6

1. FLA = Full Load Amps.

DIMENSIONS & DUCT CONNECTION DIMENSIONS



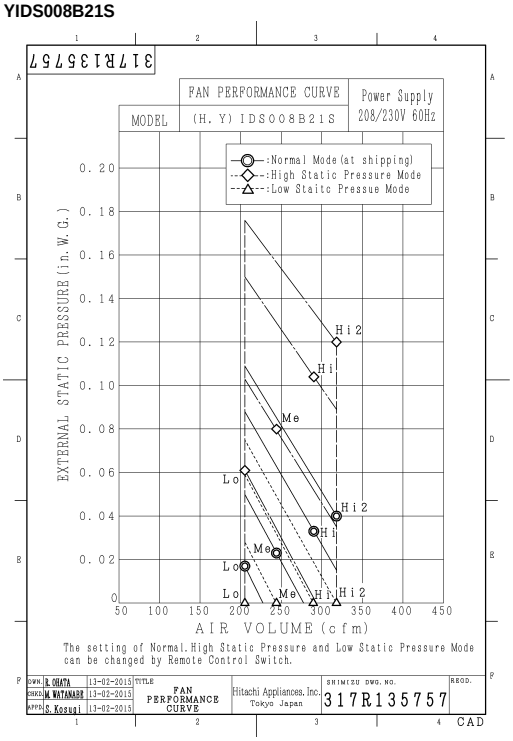
DIMENSIONS

Models	Dimensions[1]					Wiring Knockouts[2]		Refrigerant Connections Line Size	
	A	B	C	D	E	F	G		
	Height	Width				Power (Conduit)	Control (Conduit)	Liquid	Vapor
AP18BX21	41	17-1/2	12-7/8	14-1/4	16-1/2	7/8 (1/2) 1-3/8 (1) 1-23/32 (1-1/4)	7/8 (1/2)	3/8	3/4 7/8
AP24BX21	41	17-1/2	12-7/8	14-1/4	16-1/2				
AP30BX21	47-1/2	17-1/2	19-1/2	14-1/4	16-1/2				
AP36BX21	47-1/2	17-1/2	19-1/2	14-1/4	16-1/2				
AP36CX21	51-1/2	21	22-5/8	17-3/4	20				
AP48CX21	51-1/2	21	22-5/8	17-3/4	20				
AP48DX21	55-1/2	24-1/2	26-5/8	21-1/4	23-1/2				
AP60CX21	55-3/4	21	26-7/8	17-3/4	20				
AP60DX21	55-1/2	24-1/2	26-5/8	21-1/4	23-1/2				

1. All dimensions are in inches.
2. Knockout size (conduit size in parentheses).

Fan curve data

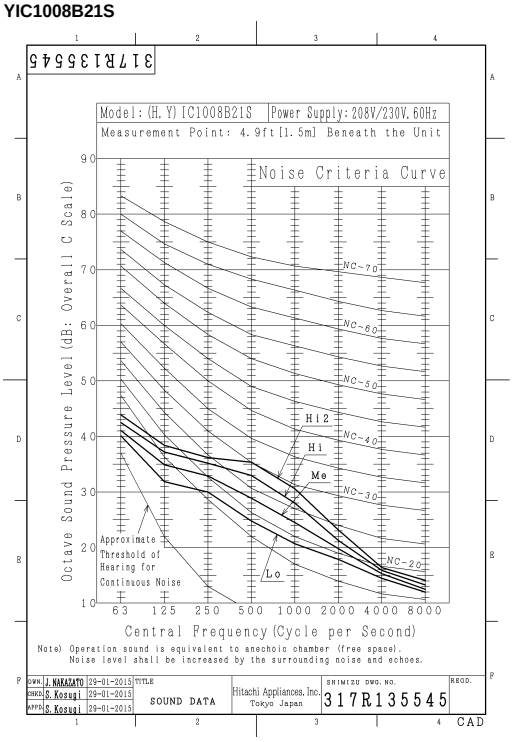
YIDS008B21S



Outdoor unit sound data

Indoor unit sound data

YIC1008B21S



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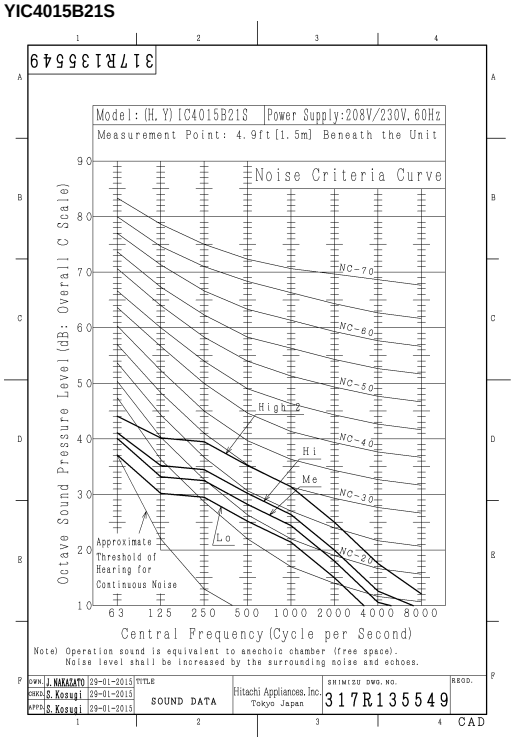

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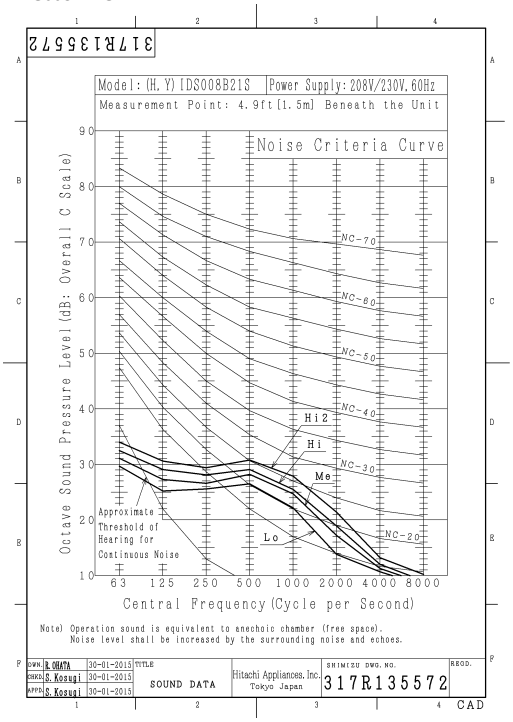


4 port (Y,H) COB04M132B22S Multiple Port Change-over Box

FEATURES:

- Extended range of Change-over Box offerings with single, 4, 8, and 12 port options
- Ultimate flexibility – Choose multi- port or single-port Change-over Boxes to customize your design
- Reduced electrical and mechanical installation costs
- No drain or condensate consideratio n required

Type			Multiple Branch
Model			COB04M132B22S
Power Supply			AC 1Phase, 208/230V, 60Hz
Power Consumption		W	11.2
Number of Branches (for Indoor Unit)			4
Single Unit Per Branch	Maximum Total Capacity of All Connected Indoor Units	MBH	≦132
	Indoor Units Per ranch	MBH	≦96 [1]
Multiple Units Per Branch	Maximum Number of Connected Indoor Units Per Branch	-	6
	Maximum Total Capacity of All Connected Indoor Units	MBH	≦114
	Maximum Total Capacity of Connected Indoor Units Per Branch	MBH	≦41
Outer Dimensions	Height	in. (mm)	10-1/4 (260)
	Width	in. (mm)	11-15/16 (303)
	Depth	in. (mm)	13-7/8 (352)
Net Weight		lbs. (kg)	31 (14)
Refrigerant		-	R410A
Minimum Circuit Ampacity		A	0.2
Recommended Fuse/Breaker Size		A	15
Maximum Fuse Size		A	15
Refrigerant Piping (from Outdoor Unit)	Gas Line (High/Low Pressure)	in. (mm)	7/8 (22.2)
	Gas Line (Low Pressure)	in. (mm)	1 [2] (25.4) [2]
	Liquid Line	in. (mm)	1/2 (12.7)
Refrigerant Piping (from Indoor Unit)	Gas Line	in. (mm)	5/8 (15.88)
	Liquid Line	in. (mm)	3/8 (9.53)

NOTES:

3. In case of 60, 72 or 96 type indoor unit connection:

   Only single unit per branch is allowed to be connected.

   Up to two 60, 72 or 96 type indoor units can be connected to the change-over box within the "Maximum Total Capacity of All Connected Indoor Units" shown in above table.

   Make sure to increase the pipe connection size by using the appropriate accessory pipe.

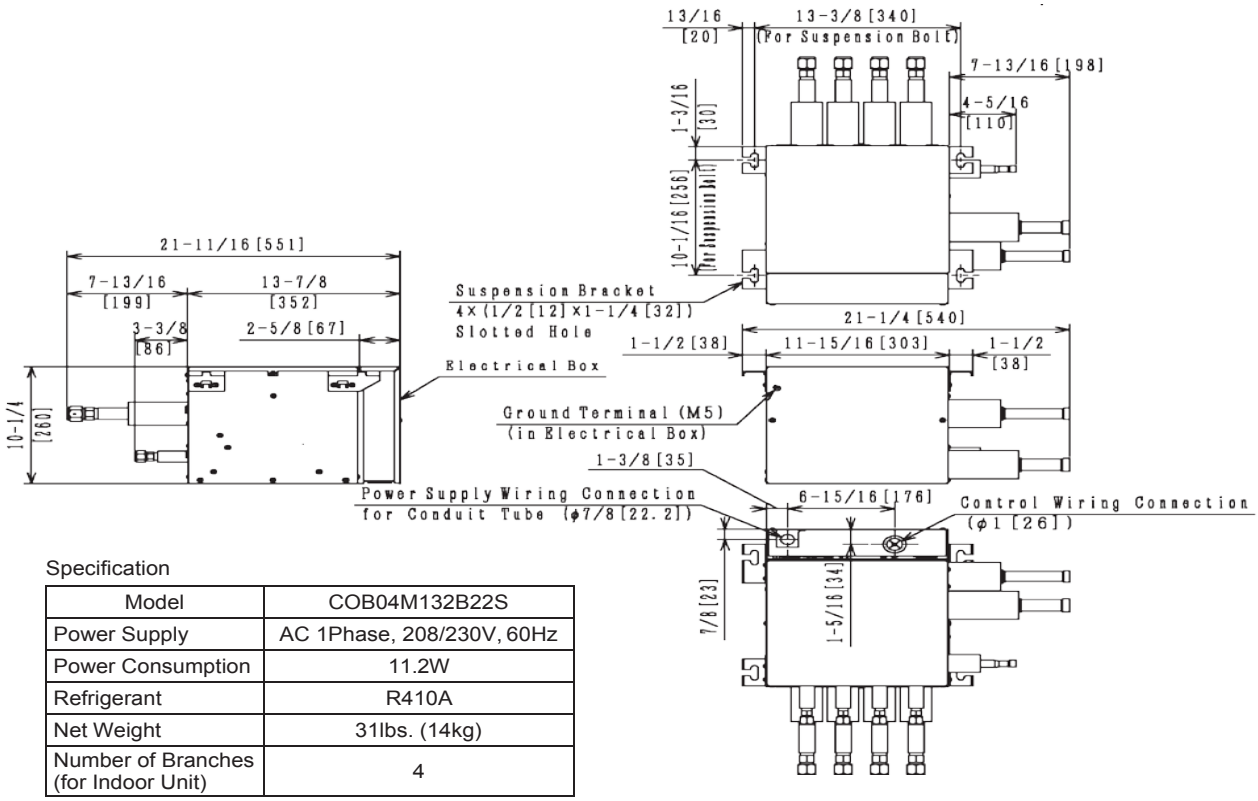
4. Apply reducer (accessory pipe) for changing the pipe size to φ7/8 inch (22.2mm) for field pipe

Specifications subject to change

version 201705

COB04M132B22S

System Dimensions

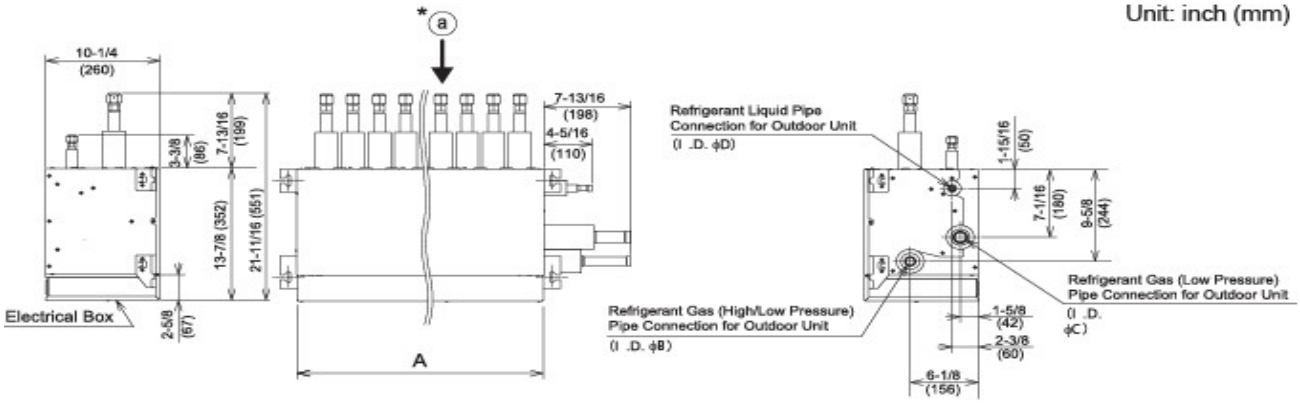


Specification

Model	COB04M132B22S
Power Supply	AC 1Phase, 208/230V, 60Hz
Power Consumption	11.2W
Refrigerant	R410A
Net Weight	31lbs. (14kg)
Number of Branches (for Indoor Unit)	4

Piping Connection Dimensions

Unit: inch (mm)



Model \ Dimension	A	B	C	D
COB04M132B22S	11-15/16 (303)	7/8 (22.2)	1 (25.4) [1]	1/2 (12.7)
COB08M264B22S	21-3/8 (543)	7/8 (22.2)	1-1/8 (28.6)	1/2 (12.7)
COB12M264B22S	30-13/16 (783)	1 (25.4) [2]	1-1/8 (28.6)	5/8 (15.88)

1. Ensure to apply reducer (accessory pipe) for changing the pipe size to φ7/8 inch (22.2mm) for field pipe connection.
2. Ensure to apply reducer (accessory pipe) for changing the pipe size to φ1-1/8 inch (28.6mm) for field pipe connection.

Specifications subject to change

version 201705

8 port (Y,H) COB04M264B22S Multiple Port Change-over Box

FEATURES:

- Extended range of Change-over Box offerings with single, 4, 8, and 12 port options
- Ultimate flexibility – Choose multi- port or single-port Change-over Boxes to customize your design
- Reduced electrical and mechanical installation costs
- No drain or condensate consideratio n required

Type			Multiple Branch
Model			COB08M264B22S
Power Supply			AC 1Phase, 208/230V, 60Hz
Power Consumption		W	22.4
Number of Branches (for Indoor Unit)			8
Single Unit Per Branch	Maximum Total Capacity of All Connected Indoor Units	MBH	≦264
	Indoor Units Per ranch	MBH	≦96 [1]
Multiple Units Per Branch	Maximum Number of Connected Indoor Units Per Branch	-	6
	Maximum Total Capacity of All Connected Indoor Units	MBH	≦216
	Maximum Total Capacity of Connected Indoor Units Per Branch	MBH	≦41
Outer Dimensions	Height	in. (mm)	10-1/4 (260)
	Width	in. (mm)	21-3/8 (543)
	Depth	in. (mm)	13-7/8 (352)
Net Weight		lbs. (kg)	56 (25)
Refrigerant		-	R410A
Minimum Circuit Ampacity		A	0.4
Recommended Fuse/Breaker Size		A	15
Maximum Fuse Size		A	15
Refrigerant Piping (from Outdoor Unit)	Gas Line (High/Low Pressure)	in. (mm)	7/8 (22.2)
	Gas Line (Low Pressure)	in. (mm)	1-1/8 (28.58)
	Liquid Line	in. (mm)	1/2 (12.7)
Refrigerant Piping (from Indoor Unit)	Gas Line	in. (mm)	5/8 (15.88)
	Liquid Line	in. (mm)	3/8 (9.53)

NOTE:

1. In case of 60, 72 or 96 type indoor unit connection:

Only single unit per branch is allowed to be connected.

Up to two 60, 72 or 96 type indoor units can be connected to the change-over box within the "Maximum Total Capacity of All Connected Indoor Units" as shown in table.

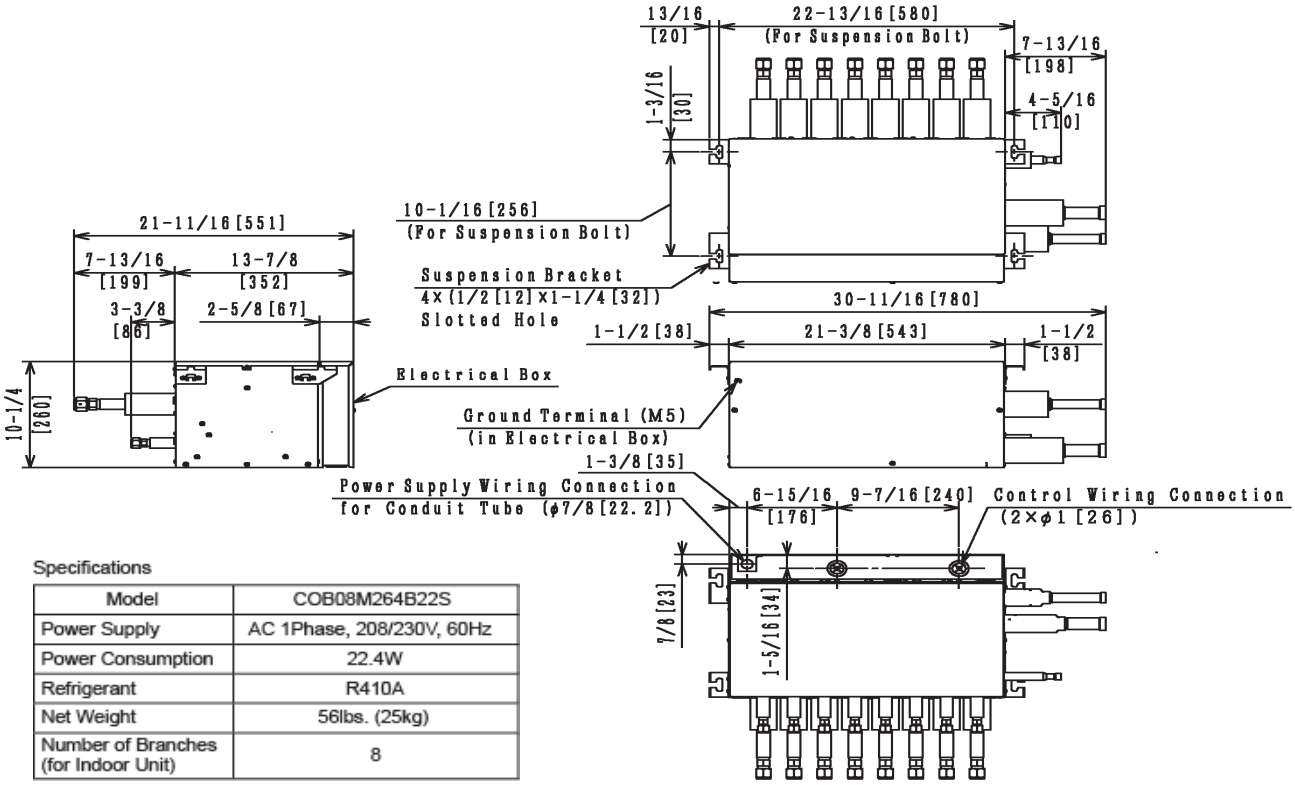
Be sure to increase the pipe connection size by using the appropriate accessory pipe.

Specifications subject to change

version 201705

COB08M264B22S

System Dimensions

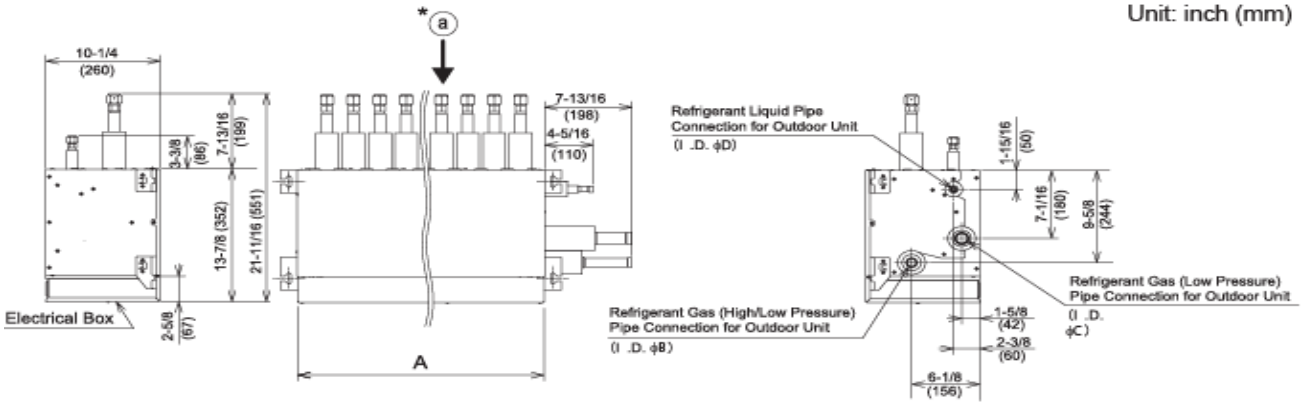


Specifications

Model	COB08M264B22S
Power Supply	AC 1Phase, 208/230V, 60Hz
Power Consumption	22.4W
Refrigerant	R410A
Net Weight	56lbs. (25kg)
Number of Branches (for Indoor Unit)	8

Piping Connection Dimensions

Unit: inch (mm)



Model \ Dimension	A	B	C	D
COB04M132B22S	11-15/16 (303)	7/8 (22.2)	1 (25.4) [1]	1/2 (12.7)
COB08M264B22S	21-3/8 (543)	7/8 (22.2)	1-1/8 (28.6)	1/2 (12.7)
COB12M264B22S	30-13/16 (783)	1 (25.4) [2]	1-1/8 (28.6)	5/8 (15.88)

1. Ensure to apply reducer (accessory pipe) for changing the pipe size to ϕ7/8 inch (22.2mm) for field pipe connection.
2. Ensure to apply reducer (accessory pipe) for changing the pipe size to ϕ1-1/8 inch (28.6mm) for field pipe connection.

Specifications subject to change

version 201705

Submittal Data Sheet

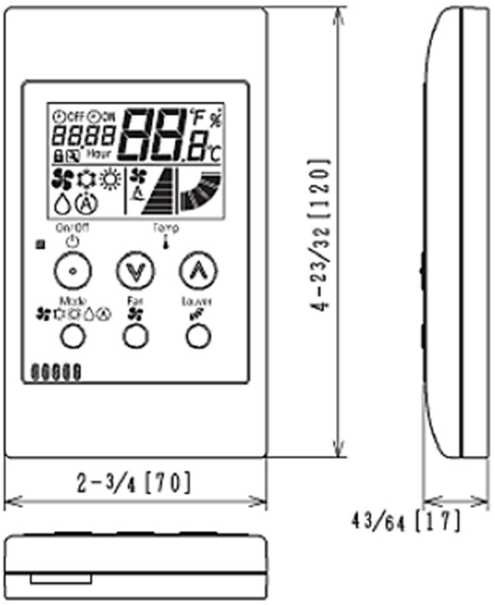
CIS01 **Simplified Wired Zone Controller**

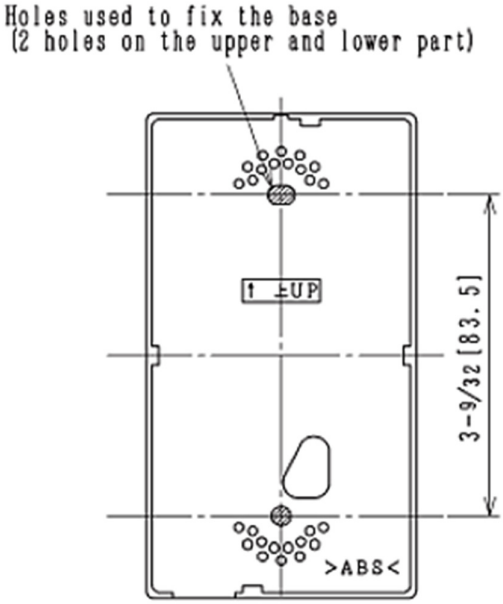
Model Number	CIS01
Model Type	Simplified Wired Controller
Control Functions	On/Off
	Mode
	Temperature
	Fan Speed
	Louver Angle
	Automatic Reset of Temp. Setpoint
	Temperature Setpoint Limit

FEATURES AND BENEFITS

- Backlit display
- Built-in thermistor
- Controls 1 to 16 indoor units (same setting)
- Error code diagnosis
- Adjustable fan speed
- Louver control
- Small size for discreet applications
- Typically used in hotels, offices and restaurants

Wiring Specifications	
Type	2-Conductor, Stranded Copper
Size	AWG 22 to AWG 18
Max. total Length	98 ft. 4-13/16 in. (30m)





Submittal Data Sheet

CIW01 **Wired Zone Controller**

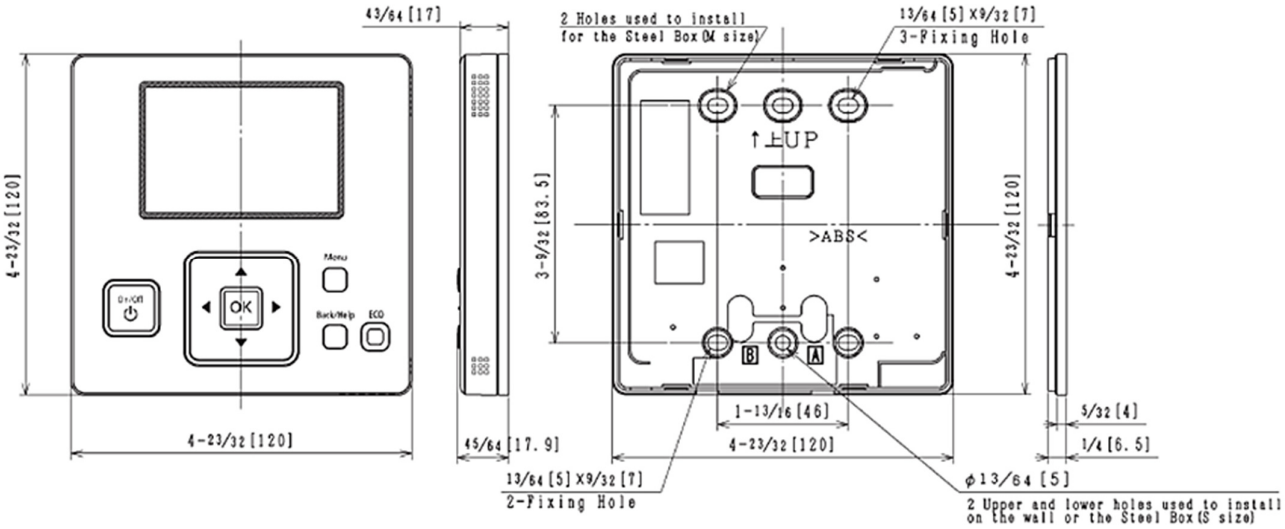
FEATURES AND BENEFITS

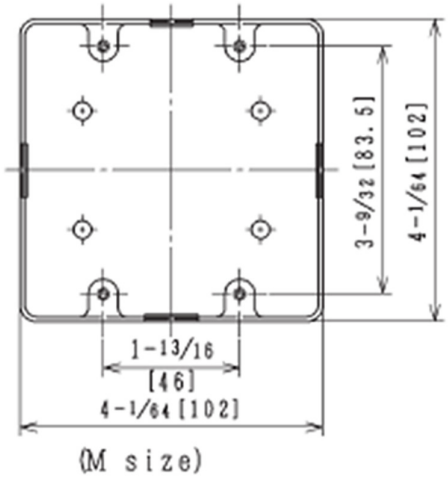
- Backlit display
- Built-in thermistor
- Standard wall controller
- Controls temperature, mode, fan speed
- Seven-day timer with multiple setpoints
- Controls up to 16 indoor units
- Built-in 23-hour timer
- Room name and service company name programmable
- Help menus and error code diagnosis
- Large LCD display permits users to see the operating conditions and settings
- The timer can be set at half-hour intervals
- Monitors the operating conditions in the system and an alarm is issued if a problem occurs
- A “self-diagnosis function” checks for problems on printed boards in indoor and outdoor units
- Temperature range limit
- Individual function lockout. (mode, temperature, fan speed)

Model Number	CIW01
Model Type	Wired Controller
Control Functions	On/Off
	Mode
	Temperature
	Fan Speed
	Louver Angle
	Automatic Reset of Temp. Setpoint
	Temperature Setpoint Limit
	Individual Function Lockout
	On/Off Timer
	Weekly Schedule
	Holiday Off
	Filter Sign Reset
	Power Saving Operation
	Noise Reduction Schedule
	Individual Louver Control
	Adjusting Date/Time
	Daylight Saving Time
	Display Adjustment
	Multiple Language Support
	Temperature Unit (°F/°C)
	Priority Setting (Main/Sub Function)

Wiring Specifications	
Type	2-Conductor, Stranded Copper
Size	AWG 22 to AWG 18
Max. total Length	98 ft. 4-13/16 in. (30m)

CIW01


43/64 [17]
2 Holes used to install for the Steel Box(M size)
13/64 [5] X9/32 [7] 3-Fixing Hole
↑上UP
>ABS<
4-23/32 [120]
3-9/32 [83.5]
4-23/32 [120]
1-13/16 [46]
4-23/32 [120]
45/64 [17.9]
5/32 [4]
1/4 [6.5]
13/64 [5] X9/32 [7] 2-Fixing Hole
φ13/64 [5] 2 Upper and lower holes used to install on the wall or the Steel Box(S size)
OK
Menu
Back/Help
ECO


3-9/32 [83.5]
4-1/64 [102]
1-13/16
[46]
4-1/64 [102]
(M size)