



Bighorn Consulting Engineers

386 Indian Road
Grand Junction, CO 81501
Phone 970-241-8709

December 13, 2019

Project Title: Regional Center Capital Improvements, GJRC Group Home A/C, FY 17-18

State of Colorado Project #2017-030P16

Bid Addendum #1

1. Sheet T1-1: Reference Project Access Notes - the group homes will be occupied during the work and all group homes must be "broom clean" at the end of EVERY day of work.
2. Group home bathrooms are off-limits to the contractor. Contractor is responsible for providing their own toilet facilities during the project, i.e. Porta-Johns if needed.
3. Note that red fire alarm cabling runs throughout the attic space. Contractor needs to be careful while working in the attic and not step on or otherwise damage/break/cut this cabling. Contractor will be responsible for any repairs and that the repair is done per applicable fire alarm codes.
4. Smoke and heat detectors shall be protected from dust. Any detectors present in a work area that will produce dust need to be covered to prevent false alarms and damage to these detectors. This protection will be removed as soon as the work area is cleaned and the contractor is done with their work for that day. At no time will detector dust protection be left in place overnight.
5. Sheet T1-1: Reference Project Bidding notes - Assembly #11 revision. Part of the requirement for each Assembly #1 to 9 will be the removal of the existing attic ductwork in order to install the new system equipment and ductwork. Assembly #11 will include removal of the gas fired furnaces, gas piping, associated electrical, and ductwork in the crawlspace.
6. Flag note 1 on drawings M1-1 thru M1-9 states, "Provide access to the attic via a new opening in the gable wall. Opening to be large enough to provide material and personnel access. At end of project gable opening to be provided with hinged and locking access door painted to match existing gable." Only one location is identified on the contract documents. At the contractor's option, additional openings in other gables for convenience can be used. Provide the same access door at all additional locations.
7. Sheet M1-1 to M1-9 – Condensing unit schedule: Provide heated drain pans at all condensers.
8. Existing openings in the ceilings may, at the contractor's option, be used to the extent possible for construction access, and new grille locations.
9. Sheet M1-1 to M1-9: the 36"x36" ceiling access in the bathroom corridor is not to be installed. Instead, attic access for construction and maintenance is to be through the nearest gable wall as noted above.
10. Sheet M1-1 to M1-9 - Reference bathroom off the family room: Provide ceiling supply grille with 6" round supply duct to serve this bathroom. Supply air to be from the fan coil unit serving the other bathrooms.



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11. Sheet M1-1 to M1-9 – Provide two-foot long strip of electric baseboard heating element in existing mechanical spaces after removal of the furnaces. Derive power from local circuit.
12. Sheet M1-1 to M1-9 – Indoor VRF unit schedules: Provide 2” MERV 13 filter box for each indoor heat pump unit.
13. See revised Bid Form SPB 6.131 Bid Assemblies Form.
14. Airstage-JII VRF indoor and outdoor units as a proposed alternate to the Mitsubishi basis of design is an acceptable manufacturer.



STATE OF COLORADO
OFFICE OF THE STATE ARCHITECT
STATE BUILDINGS PROGRAM

BID ASSEMBLIES FORM

Institution/Agency: Department of Human Services
2017-030P16 / Regional Center Capital Improvements, GJRC Group Home
 Project No./Name: A/C, FY 17-18

Assemblies will not be used if deductible alternates are used and deductible alternates will not be used if assemblies are used.

Assemblies (If Applicable)

Refer to PDF bid document "19071 COLORADO STATE GROUP HOMES – MEP_2019-10-29 (1)" drawing T1-1 for descriptions of Assemblies.

A. No. 1	<u>Elm Group Home</u>	Bid \$	<u> </u>
A. No. 2	<u>Eastbrook Group Home</u>	Bid \$	<u> </u>
A. No. 3	<u>B Road Group Home</u>	Bid \$	<u> </u>
A. No. 4	<u>Cedar Group Home</u>	Bid \$	<u> </u>
A. No. 5	<u>Desert Court Group home</u>	Bid \$	<u> </u>
A. No. 6	<u>Florida Group Home</u>	Bid \$	<u> </u>
A. No. 7	<u>F-1/4 Road Group Home</u>	Bid \$	<u> </u>
A. No. 8	<u>29-1/4 Road Group Home</u>	Bid \$	<u> </u>
A. No. 9	<u>30 Road Group Home</u>	Bid \$	<u> </u>
A. No. 10	<u>Removal of Evaporative Coolers, Water Lines, Electrical Power and Capping of Duct Penetration.</u>	Bid \$	<u> </u>
A. No. 11	<u>Removal of Existing Gas Fired Furnaces, Gas Piping, Associated Electrical and Ductwork in the Crawlspace.</u>	Bid \$	<u> </u>
A. No. 12	<u>Removal of All Existing Floor Registers in the Home. This Will Include Removal of the Floor Grilles and Capping of the Floor Penetration. Patching of the Sub-Floor Material and the Flooring System Will be by Owner.</u>	Bid \$	<u> </u>

Deductive Assemblies (N/A)

~~Refer to specification section _____ for descriptions of the deductive alternates. If the deductive alternates are accepted, the base bid would be modified by the amount entered by the bidder.~~

D.A. No. 1	_____	Deduct \$	_____
D.A. No. 2	_____	Deduct \$	_____
D.A. No. 3	_____	Deduct \$	_____
D.A. No. 4	_____	Deduct \$	_____
D.A. No. 5	_____	Deduct \$	_____
D.A. No. 6	_____	Deduct \$	_____

THE BIDDER:

Company Name

Signature

Date



Project ID: 22338
Project name: 29.25 ROAD
Address: 577 29 1/4 ROAD
GRAND JUNCTION, CO 81501
Project Type: Single Family Res

Mechanical Contractor

Company:
Contact:
Phone:
Address:

Distributor Branch

JOHNSTONE SUPPLY, INC. #274 (17235)
3192 HALL AVENUE
GRAND JUNCTION, CO 81504-6036

,



Project Name : CDHS 29.25 ROAD

Management Number :

Building :

Created by : Scott O'Toole

Company : GSC Northwest

Address : sotoole@gscnw.com

1.Material list

1.1.Material list

Series:VRF system

Model	Quantity	Type
AOU48RLAVM	2	J-II Heat pump
ARUL12TLAV	1	Slim duct(Drain pump internal)
ARUL18TLAV	3	Slim duct(Drain pump internal)
ARUM30TLAV	1	Medium static pressure duct
UTY-RNRUZ2	5	Wired RC(Touch) Z2
UTP-AX090A	1	Separation tube
UTR-H0906L	1	Header

1.2.Material List 2 (Pipe)

Series:VRF system

	Pipe length(ft)			
	1/4	3/8	1/2	5/8
Total	10	135	10	135

1.3.Material List 3 (Calculation of additional charge refrigerant)

Series:VRF system

Refrigerant	lbs
R410A	5.4




2. Indoor unit details

2.1. Table of abbreviations

Name	Local name of the device	HC	Available heating capacity (with defrost compensation)
Model	Device model name	Airflow	Supplied airflow at low and high fan speed
RC C	Rated cooling capacity	ESP	External static pressure
RC H	Rated heating capacity	Sound	Sound pressure low and high
Tmp C	Indoor condition in cooling	MCA	Minimum Circuit Amps
Rq TC	Required cooling capacity	HxWxD	Height x Width x Depth
TC	Available total cooling capacity	Weight	Weight of the device
Rq SC	Required sensible cooling capacity	Dis Tmp C	Discharge temperature at cooling
SC	Available sensible cooling capacity	Dis Tmp H	Discharge temperature at heating
Tmp H	Indoor temperature in heating	HE	Heat exchanger volume
Rq HC	Required heating capacity (with defrost compensation)	Rated	Rated current



2.2. CU-1 (VRF system) – AOU48RLAVM

Name	Model	RC C (kBTU/h)	RC H (kBTU/h)	Tmp C (F/%)	Rq TC (kBTU/h)	TC (kBTU/h)	Rq SC (kBTU/h)	SC (kBTU/h)	Tmp H (F)	Rq HC (kBTU/h)	HC (kBTU/h)
HP-1	ARUL18TLAV	18.0	20.0	80.0/35.6	3.4	14.8	3.4	13.9	70.0	3.4	11.3
HP-2	ARUL12TLAV	12.0	13.5	80.0/35.6	3.4	9.9	3.4	9.0	70.0	3.4	7.7
HP-3	ARUL18TLAV	18.0	20.0	80.0/35.6	3.4	14.8	3.4	13.9	70.0	3.4	11.3

Name	Model	Airflow (cfm)	ESP (WG)	Sound (dB)	Rated (A)	MCA (A)	HxWxD (inch)	Weight (lbs)	Image
HP-1	ARUL18TLAV	High 553.0	0-0.36 0.10	34	0.55	0.76	7-13/16 x 35-7/16 x 24-7/16	49.0	
HP-2	ARUL12TLAV	High 353.0	0-0.36 0.10	30	0.38	0.71	7-13/16 x 27-9/16 x 24-7/16	40.0	
HP-3	ARUL18TLAV	High 553.0	0-0.36 0.10	34	0.55	0.76	7-13/16 x 35-7/16 x 24-7/16	49.0	

2.3. Otdr2 (VRF system) – AOU48RLAVM

Name	Model	RC C (kBTU/h)	RC H (kBTU/h)	Tmp C (F/%)	Rq TC (kBTU/h)	TC (kBTU/h)	Rq SC (kBTU/h)	SC (kBTU/h)	Tmp H (F)	Rq HC (kBTU/h)	HC (kBTU/h)
HP-4	ARUM30TLAV	30.0	34.0	80.0/35.6	3.4	24.4	3.4	20.2	70.0	3.4	19.3
HP-5	ARUL18TLAV	18.0	20.0	80.0/35.6	3.4	14.6	3.4	13.7	70.0	3.4	11.3

Name	Model	Airflow (cfm)	ESP (WG)	Sound (dB)	Rated (A)	MCA (A)	HxWxD (inch)	Weight (lbs)	Image
HP-4	ARUM30TLAV	High 1042.0	0-0.60 0.16	40	1.12	1.4	10-5/16 x 44-11/16 x 27-9/16	86.0	
HP-5	ARUL18TLAV	High 553.0	0-0.36 0.10	34	0.55	0.76	7-13/16 x 35-7/16 x 24-7/16	49.0	

3. Outdoor unit details



3.1. Table of abbreviations

Name	Local name of the device	Tmp H	Outdoor temperature in heating(dry bulb)
Model	Device model name	HC	Heating capacity
EER	Energy efficiency rating at rated capacity	MCA	Minimum Circuit Amps
COP	Coefficient of Performance at rated capacity	MFA	Main fuse (circuit breaker) current
RC C	Rated cooling capacity	HxWxD	Height x Width x Depth
RC H	Rated heating capacity	Weight	Weight of the device
Comb	Combination percentage	Refrig	Standard factory refrigerant charge
Tmp C	Outdoor temperature in cooling(dry bulb)	Rated C	Rated current Cooling
TC	Available total cooling capacity	Rated H	Rated current Heating

3.2. Outdoor unit details

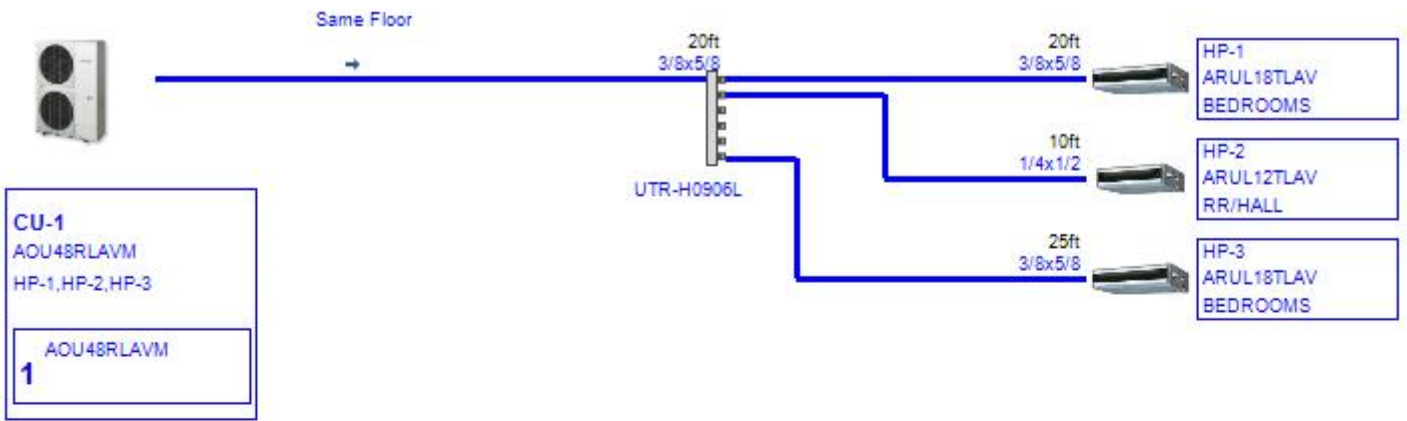
Series:VRF system

Name	Model	EER	COP	Comb (%)	RC C (kBTU/h)	RC H (kBTU/h)	Tmp C (F)	TC (kBTU/h)	Tmp H (F)	HC (kBTU/h)
CU-1	AOU48RLAVM	12.5	3.88	100	48.0	54.0	96.0	39.6	2.0	38.0
Otdr2	AOU48RLAVM	12.5	3.88	100	48.0	54.0	96.0	39.1	2.0	37.9

Name	Model	PS	Rated C (A)	Rated H (A)	MCA (A)	MFA (A)	HxWxD (inch)	Weight (lbs)	Refrig (lbs)	Image
CU-1	AOU48RLAVM	1Phase, 208V, 60Hz	16.38	17.44	33	40	52-1/2x38-3/16x14-9/16	262.0	11.7	
Otdr2	AOU48RLAVM	1Phase, 208V, 60Hz	16.38	17.44	33	40	52-1/2x38-3/16x14-9/16	262.0	11.7	

4. Piping Diagrams

4.1. Piping CU-1 (VRF system)



Pipe explanatory notes

aa x bb

aa:Liquid

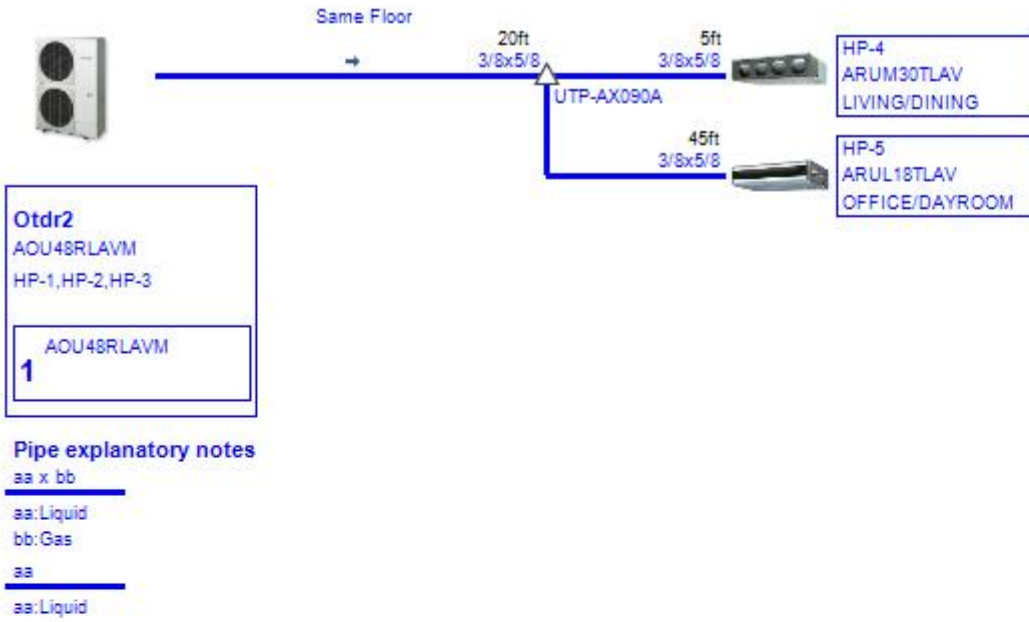
bb:Gas

aa

aa:Liquid

Refrig in OU (factory) R410A(lbs)	11.7	Add Refrig (piping+extra OU) R410A(lbs)	2.7	Total Refrig R410A(lbs)	14.4
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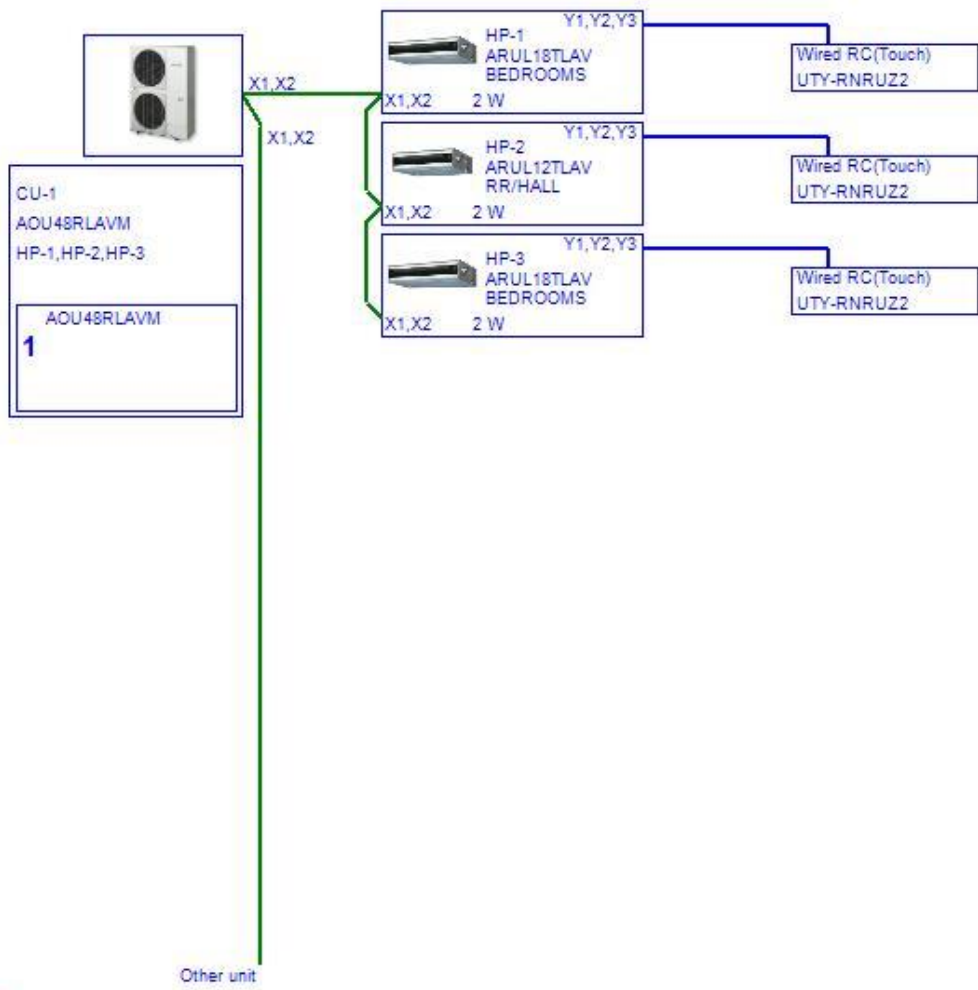
4.2.Piping Otdr2 (VRF system)



Refrig in OU (factory) R410A(lbs)	11.7	Add Refrig (piping+extra OU) R410A(lbs)	2.7	Total Refrig R410A(lbs)	14.4
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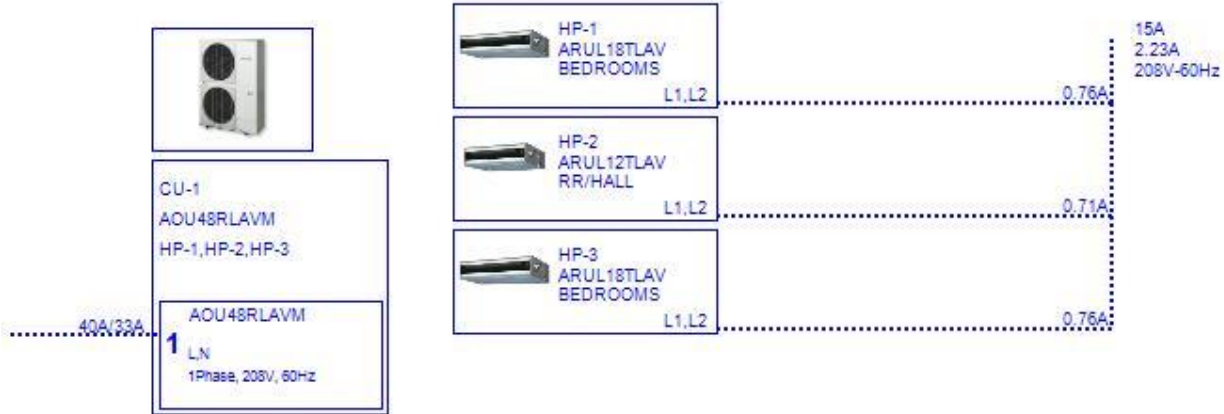
5.Wiring Diagrams

5.1.Wiring CU-1 (VRF system)



- Transmission line
Size : 0.33mm2(22AWG)
Wire type : LEVEL 4 (NEMA) non-polar 2core, twisted pair solid core diameter 0.65mm
Remarks : LONWORKS® compatible cable
- Remote controller line
Size : 0.33-1.25mm2(22-16AWG)

5.2.Wiring CU-1 (VRF system)



--- : Power line

Outdoor

Breaker/MCA
Diameter

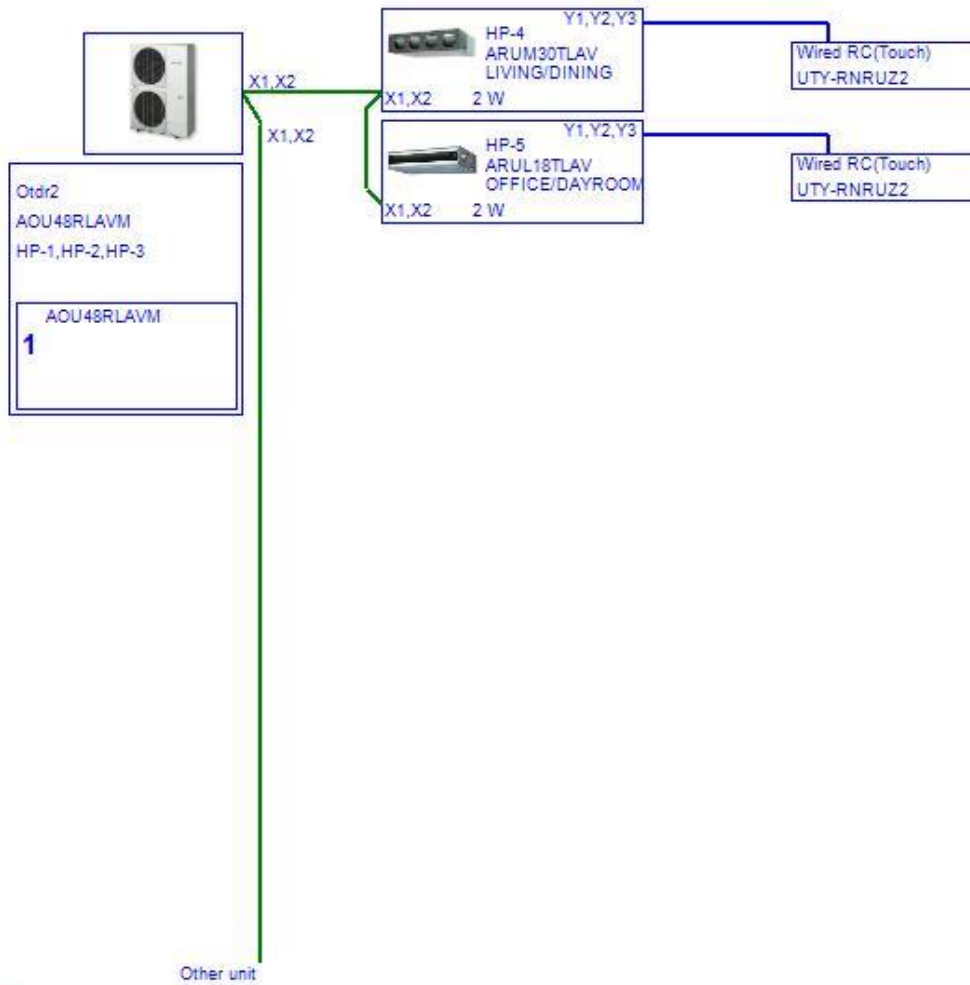
Indoor

MCA
Diameter

Total power line

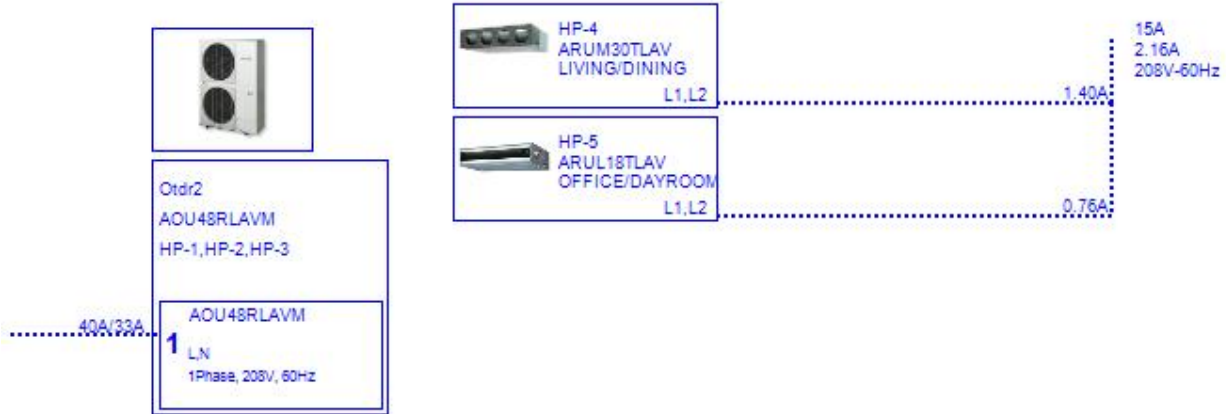
Breaker
MCA
Voltage-Hz

5.3.Wiring Otdr2 (VRF system)



- : Transmission line
Size : 0.33mm2(22AWG)
Wire type : LEVEL 4 (NEMA) non-polar 2core,twisted pair solid core diameter 0.65mm
Remarks : LONWORKS® compatible cable
- : Remote controller line
Size : 0.33-1.25mm2(22-16AWG)

5.4.Wiring Otdr2 (VRF system)



--- : Power line

Outdoor

Breaker/MCA

Diameter

Indoor

MCA

Diameter

Total power line

Breaker

MCA

Voltage-Hz



6.Options

CU-1 (VRF system) - AOU48RLAVM

Name	Model	Type	Qty	Model	Type	Qty
HP-1	UTY-RNRUZ2	Wired RC(Touch) Z2	1			
HP-2	UTY-RNRUZ2	Wired RC(Touch) Z2	1			
HP-3	UTY-RNRUZ2	Wired RC(Touch) Z2	1			

Otdr2 (VRF system) - AOU48RLAVM

Name	Model	Type	Qty	Model	Type	Qty
HP-4	UTY-RNRUZ2	Wired RC(Touch) Z2	1			
HP-5	UTY-RNRUZ2	Wired RC(Touch) Z2	1			



7.Piping / Branch kit / Header details

7.1.Branch kit details

Series:VRF system

Name	Model	UTP-AX090A
CU-1	AOU48RLAVM	0
Otdr2	AOU48RLAVM	1

7.2.Header details

Series:VRF system

Name	Model	UTR-H0906L	UTR-H0908L	UTR-H1806L	UTR-H1808L	UTP-J0906A
CU-1	AOU48RLAVM	1	0	0	0	0
Otdr2	AOU48RLAVM	0	0	0	0	0

Name	Model	UTP-J0908A	UTP-J1806A	UTP-J1808A
CU-1	AOU48RLAVM	0	0	0
Otdr2	AOU48RLAVM	0	0	0

7.3.Piping details

Series:VRF system

Name	Model	1/4	3/8	1/2	5/8
CU-1	AOU48RLAVM	10	65	10	65
Otdr2	AOU48RLAVM	0	70	0	70

Name	Refrig in OU (factory) R410A(lbs)	Add Refrig (piping+extra OU) R410A(lbs)	Total Refrig R410A(lbs)
CU-1	11.7	2.7	14.4
Otdr2	11.7	2.7	14.4

7.4.Branch box details

7.5.RB details

7.6.DX Kit details



8. User option

8.1.8. User options (Project)

8.2.8. User options (Refrigerant)



9.Room list

9.1.Room list

9.2.Room-indoor list



10.Group List

There are some differences between a calculated result and specification.

Submittal Data: UTR H0906L

Separation Tube

Header 6 Connections / Total Capacity Less Than 96.5 MBH

Job Name: _____

Date: _____

Location: _____

Approval: _____

Engineer: _____

Construction: _____

Submitted to: _____

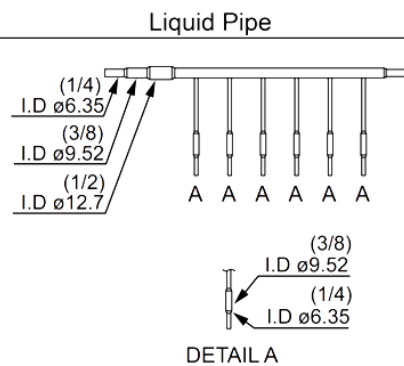
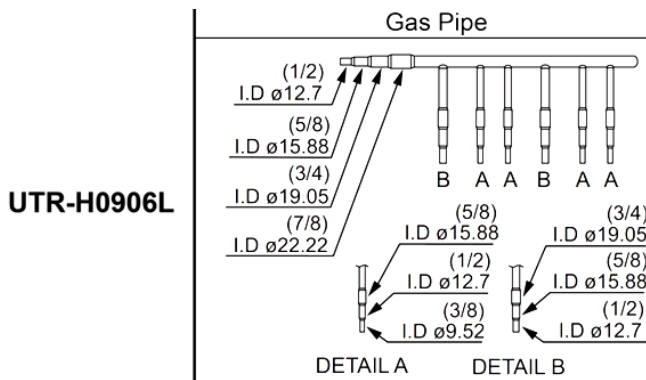
Unit #: _____

Submitted by: _____

Drawing #: _____

Reference: _____

	Gas Pipe	Liquid Pipe		Closed Pipe
UTR-H0906L				
	Insulation	Closed Pipe Insulation	Binder	$\varnothing 6.35$ (1/4) 4 pcs $\varnothing 9.52$ (3/8) 2 pcs $\varnothing 12.7$ (1/2) 2 pcs
	Large 1 pcs			
	Small 1 pcs	6 pcs	10 pcs	





Submittal ARUL12TLAV

**Slim Duct (12,000 BTU) Indoor Unit
For Heat-recovery/Heat-pump Airstage VRF System**

Job Name _____
Location _____
Engineer _____
Submitted To _____
Submitted By _____
Reference _____

Date _____
Approval _____
Construction _____
Unit No _____
Drawing No _____

FEATURES

- Quiet 3-speed fan
- Slim design require small height clearance 9-3/4"
- Adjustable Static pressure from 0 to 0.36 in.WG
- Built-in high-lift drain pump
- Flexible air intake connection (Back or bottom)
- Built-in intake air filter
- Optional Auto louver grille
- Very low power usage
- Auxiliary heat operation capability



STATIC PRESSURE

Static Pressure Range - in.WG [Pa]	0 to 0.36 [0 to 90]
Standard Static Pressure - in.WG [Pa]	0.10 [25]

CAPACITY

Capacity - Cooling - Btu/h [kW]	12,000 [3.5]
Capacity - Heating - Btu/h [kW]	13,500 [4]

PIPING ACCESSORIES

UTP-AX090A	Separation Tube - 2-Pipe - 90 MBH or Less
UTP-AX180A	Separation Tube - 2-Pipe - 91 to 180 MBH
UTP-AX567A	Separation Tube - 2-Pipe - 180 MBH or More

ELECTRICAL

Power Source	208 / 230V, 1-Phase, 60Hz
Available Voltage Range - VAC	187 to 253
Input Power - W	54
Full Load Amps - FLA - A	0.57
Max Circuit Breaker - A	15
Minimum Circuit Ampacity - MCA - A	0.71
Fuse - A (V)	5 (250)

CONTROLLER

UTY-RNRU	Individual Touch Panel Controller (Wired Remote)
UTY-RNKU	Wired Remote Control
UTY-RSKU	Simple Remote (WITH Master Control) (1/16 units)
UTY-RHKU	Simple Remote (WITHOUT Master Control) (1/16 units)
UTY-LNHU	Wireless Remote Controller (requires IR Receiver)
UTY-DCGY	Central Remote Controller (100 units)
UTY-DTGYZ1	Touch Panel Controller with Internet (400 units)
UTY-APGX	System Controller (1600 units)
UTY-ALGX	System Controller Lite - (400 units)

FAN

Fan Type	2X (Sirocco)
Airflow Rate - High - CFM [m ³ /h]	353 [600]
Airflow Rate - Medium - CFM [m ³ /h]	300 [510]
Airflow Rate - Low - CFM [m ³ /h]	265 [450]

ACCESSORIES

UTB-YWC	IR Reciever for Duct (Use with Wireless Remote UTY-LNHU)
UTD-GXSA-W	Auto Louver Grille for Slim Duct
UTY-TEKX	External Switch Controller
UTY-XSZX	Remote Sensor for ducted units

SOUND PRESSURE

Sound Pressure Level - dB(A)	24/27/30
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WIRING

Communication Cable	LonWorks (Fujitsu Pink Cable. See AE Bulletin 009)
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WEIGHT AND DIMENSIONS

Enclosure - Net Weight - lbs [kg]	40 [18]
Enclosure - Gross Weight - lbs [kg]	51 [23]
Dimensions - Net (H x W x D) - in [mm]	7-13/16 x 27-9/16 x 24-7/16 [198 x 700 x 620]
Dimensions - Gross (H x W x D) - in [mm]	10-7/8 x 38-1/8 x 30-3/8 [276 x 968 x 772]

PIPING

Connection Pipe Diameter - Liquid (Flare) - in [mm]	ø 1/4 [6.35]
Connection Pipe Diameter - Gas (Flare) - in [mm]	ø 1/2 [12.70]
Connection Pipe Diameter - Drain (ID; OD) - in [mm]	ø 3/4 [19]
Drain-Pump	Built-in
Drain-Pump Lift - in [mm]	33 7/16 [850]

ETL

E.T.L.	91987
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TEMPERATURE SETTINGS

Operating Temp. Cooling (DB) - °F [°C]	64 to 90 [18 to 32]
Operating Temp. Heating (DB) - °F [°C]	50 to 86 [10 to 30]

Note: Specifications are based on the following conditions:
 Cooling: Indoor temperature of 80°F (26.7°C) DB/67°F (19.4°C) WB, and outdoor temperature of 95°F (35°C) DB/75°F (23.9°C) WB.
 Heating: Indoor temperature of 70°F (21.1°C) DB/60°F (15.6°C) WB, and outdoor temperature of 47°F (8.3°C) DB/43°F (6.1°C) WB.
 Pipe length: 25ft. (7.5m), Height difference: 0ft. (0m) (Outdoor unit – indoor unit).



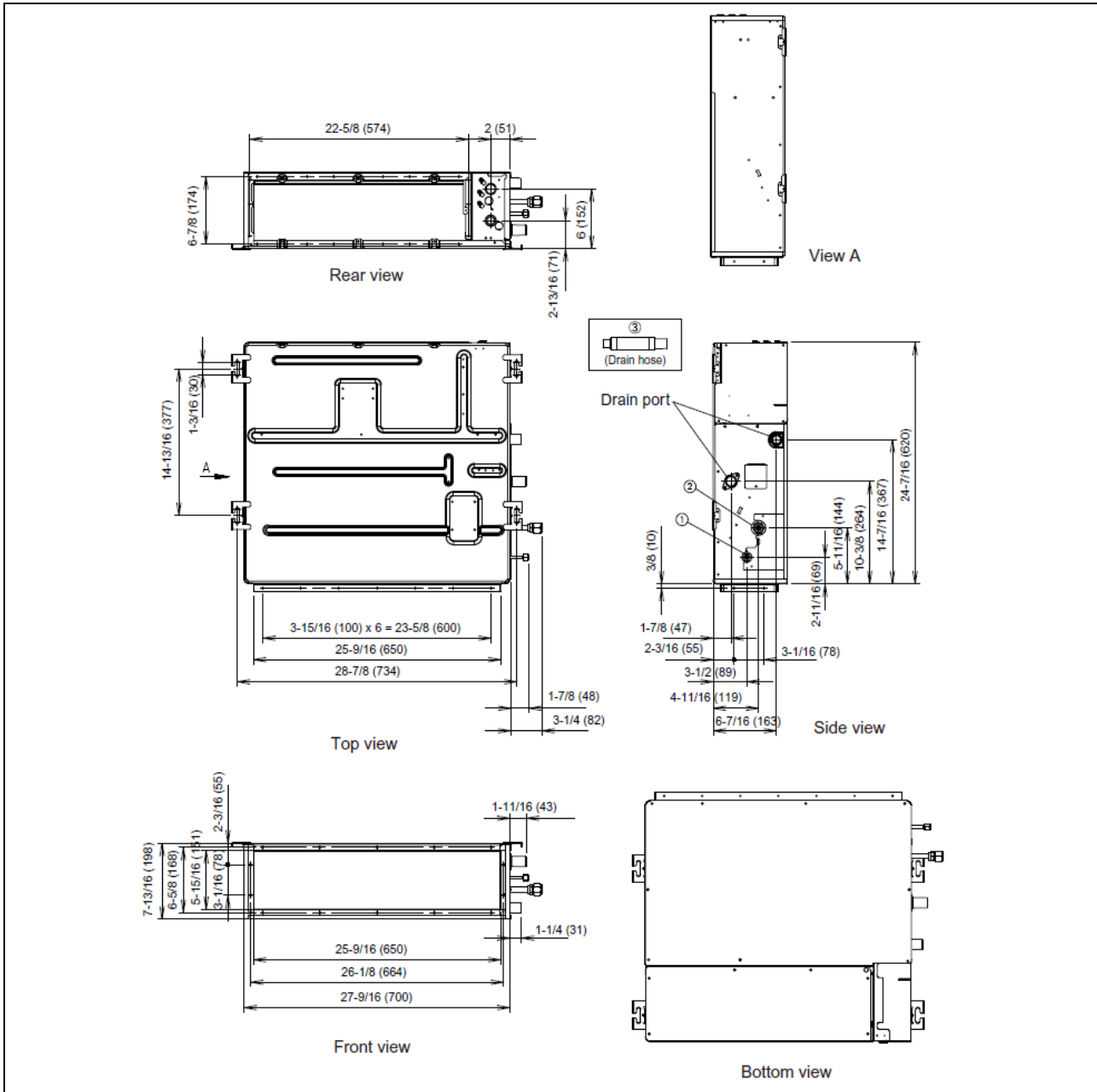
Fujitsu general America, Inc.
 353 Route 52 West
 Fairfield, NJ 07004
 Toll Free: (888) 888-3424
 Fax: (973) 836-0453
 www.airstagevrf.com

Submittal ARUL12TLAV

Slim Duct (12,000 BTU) Indoor Unit
For Heat-recovery/Heat-pump Airstage VRF System

DIMENSIONS

Unit: In. (mm)



Fujitsu general America, Inc.
 353 Route 52 West
 Fairfield, NJ 07004
 Toll Free: (888) 888-3424
 Fax: (973) 836-0453
 www.airstagevrf.com

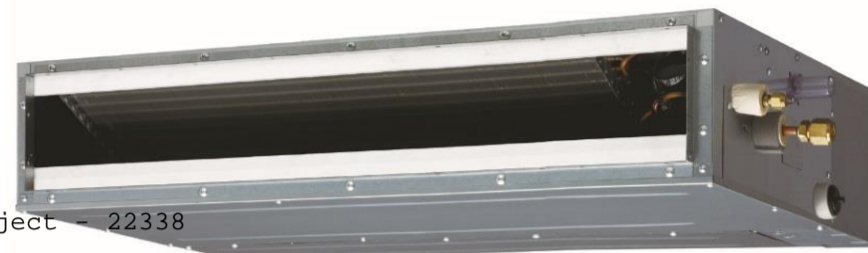
Slim Duct (18,000 BTU) Indoor Unit For Heat-recovery/Heat-pump Airstage VRF System

Job Name _____
 Location _____
 Engineer _____
 Submitted To _____
 Submitted By _____
 Reference _____

Date _____
 Approval _____
 Construction _____
 Unit No _____
 Drawing No _____

FEATURES

- Quiet 3-speed fan
- Slim design require small height clearance 9-3/4"
- Adjustable Static pressure from 0 to 0.36 in.WG
- Built-in high-lift drain pump
- Flexible air intake connection (Back or bottom)
- Built-in intake air filter
- Optional Auto louver grille
- Very low power usage
- Auxiliary heat operation capability
- 10 year Extended Warranty on parts and compressor. See Warranty Statement.



Airstage Project - 22338



STATIC PRESSURE

Static Pressure Range - in.WG [Pa]	0 to 0.36 [0 to 90]
Standard Static Pressure - in.WG [Pa]	0.10 [25]

CAPACITY

Capacity - Cooling - Btu/h [kW]	18,000 [5.3]
Capacity - Heating - Btu/h [kW]	20,000 [5.9]

PIPING ACCESSORIES

UTP-AX090A	Separation Tube - 2-Pipe - 90 MBH or Less
UTP-AX180A	Separation Tube - 2-Pipe - 91 to 180 MBH
UTP-AX567A	Separation Tube - 2-Pipe - 180 MBH or More

ELECTRICAL

Power Source	208 / 230V, 1-Phase, 60Hz
Available Voltage Range - VAC	187 to 253
Input Power - W	83
Full Load Amps - FLA - A	0.61
Max Circuit Breaker - A	15
Minimum Circuit Ampacity - MCA - A	0.76
Fuse - A (V)	5 (250)

CONTROLLER

UTY-RNRU22	Individual Touch Panel Controller (Wired Remote)
UTY-RSRY	Simple Remote (WITH Master Control) 2-Wire
UTY-RHRY	Simple Remote (WITHOUT Master Control) 2-Wire
UTY-RHKU	Simple Remote (WITHOUT Master Control) (1/16 units)
UTY-LNHU	Wireless Remote Controller (requires IR Receiver)
UTY-DCGY	Central Remote Controller (100 units)
UTY-DTGYZ1	Touch Panel Controller with Internet (400 units)

FAN

Fan Type	3X (Sirocco)
Airflow Rate - High - CFM [m³/h]	553 [940]
Airflow Rate - Medium - CFM [m³/h]	494 [840]
Airflow Rate - Low - CFM [m³/h]	441 [750]

ACCESSORIES

#N/A	#N/A
UTD-GXSB-W	Auto Louver Grille for Slim Duct
UTY-TEKX	External Switch Controller. Use with 3-Wire remotes only.
UTY-XSZX	Remote Sensor for ducted units

SOUND PRESSURE

Sound Pressure Level - dB(A)	28/32/34
------------------------------	----------

WIRING

Communication Cable	LonWorks (Fujitsu Pink Cable. See AE Bulletin 009)
---------------------	--

WEIGHT AND DIMENSIONS

Enclosure - Net Weight - lbs [kg]	49 [22]
Enclosure - Gross Weight - lbs [kg]	60 [27]
Dimensions - Net (H x W x D) - in [mm]	7-13/16 x 35-7/16 x 24-7/16 [198 x 900 x 620]
Dimensions - Gross (H x W x D) - in [mm]	10-7/8 x 46 x 30-3/8 [276 x 1,168 x 772]

PIPING

Connection Pipe Diameter - Liquid (Flare) - in [mm]	ø 3/8 [9.52]
Connection Pipe Diameter - Gas (Flare) - in [mm]	ø 5/8 [15.88]
Connection Pipe Diameter - Drain (ID; OD) - in [mm]	ø 3/4 [19]
Drain-Pump	Built-in
Drain-Pump Lift - in [mm]	33 7/16 [850]

ETL

E.T.L.	91987
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TEMPERATURE SETTINGS

Operating Temp. Cooling (DB) - °F [°C]	64 to 90 [18 to 32]
Operating Temp. Heating (DB) - °F [°C]	50 to 86 [10 to 30]

Note: Specifications are based on the following conditions:
 Cooling: Indoor temperature of 80°F (26.7°C) DB/67°F (19.4°C) WB, and outdoor temperature of 95°F (35°C) DB/75°F (23.9°C) WB. Heating: Indoor temperature of 70°F (21.1°C) DB/60°F (15.6°C) WB, and outdoor temperature of 47°F (8.3°C) DB/43°F (6.1°C) WB. Pipe length: 25ft. (7.5m), Height difference: 0ft. (0m) (Outdoor unit - indoor unit).

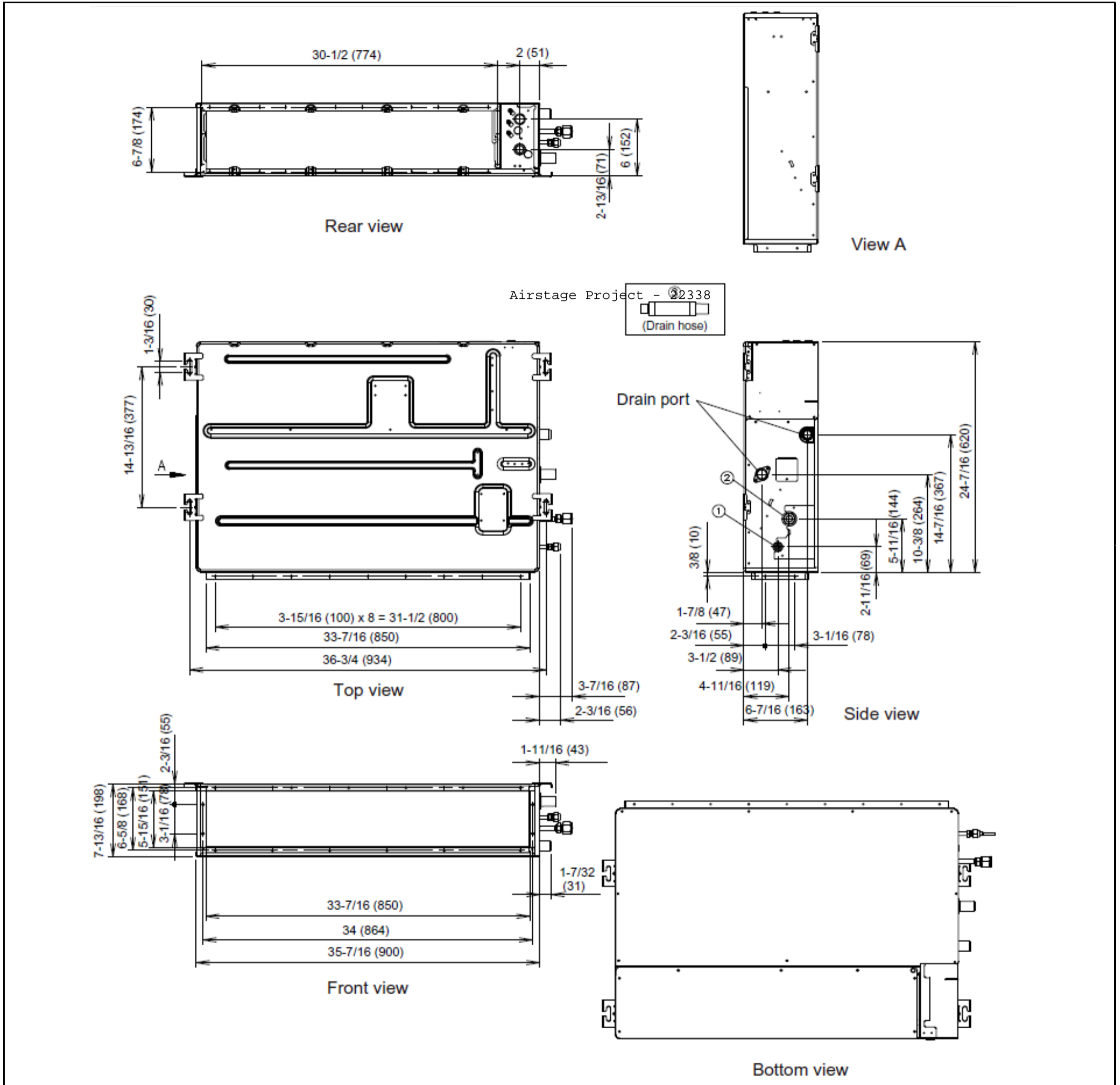


Fujitsu General America, Inc.
 353 Route 46 West
 Fairfield, NJ 07004
 Toll Free: (888) 888-3424
 Fax: (973) 836-0453
 www.airstagevrf.com

Slim Duct (18,000 BTU) Indoor Unit
For Heat-recovery/Heat-pump Airstage VRF System

DIMENSIONS

Unit: In. (mm)



Fujitsu General America, Inc.
 353 Route 46 West
 Fairfield, NJ 07004
 Toll Free: (888) 888-3424
 Fax: (973) 836-0453
 www.airstagevrf.com



Submittal ARUM30TLAV

**Medium Static Pressure Duct (30,000 BTU) Indoor Unit
For Heat-recovery/Heat-pump Airstage VRF System**

Job Name _____
Location _____
Engineer _____
Submitted To _____
Submitted By _____
Reference _____

Date _____
Approval _____
Construction _____
Unit No _____
Drawing No _____

FEATURES

- Quiet 3-speed fan
- Slim design require Small height clearance 10-1/4"
- Adjustable Static pressure from 0.12 to 0.6 in.WG
- Flexible air intake connection (Back or bottom)
- Very low power usage
- Dual direction drain piping
- Auxiliary heat operation capability
- 10 Year warranty on parts and compressor. See Warranty Statement for details.



STATIC PRESSURE

Static Pressure Range - in.WG [Pa] 0 to 0.60 [0 to 150]
 Standard Static Pressure - in.WG [Pa] 0.16 [40]

CAPACITY

Capacity - Cooling - Btu/h [kW] 30,000 [8.8]
 Capacity - Heating - Btu/h [kW] 34,000 [10]

PIPING ACCESSORIES

UTP-AX090A Separation Tube - 2-Pipe - 90 MBH or Less
 UTP-AX180A Separation Tube - 2-Pipe - 91 to 180 MBH
 UTP-AX567A Separation Tube - 2-Pipe - 180 MBH or More

ELECTRICAL

Power Source 208 / 230V, 1-Phase, 60Hz
 Available Voltage Range - VAC 187 to 253
 Input Power - W 190
 Full Load Amps - FLA - A 1.12
 Max Circuit Breaker - A 15
 Minimum Circuit Ampacity - MCA - A 1.4
 Fuse - A (V) 5 (250)

CONTROLLER

UTY-RNRUZ1 Individual Touch Panel Controller (Wired Remote)
 UTY-RNKU Wired Remote Control
 UTY-RSKU Simple Remote (WITH Master Control) (1/16 units)
 UTY-RHKU Simple Remote (WITHOUT Master Control) (1/16 units)
 UTY-LNHU Wireless Remote Controller (requires IR Receiver)
 UTY-DCGY Central Remote Controller (100 units)
 UTY-DTGYZ1 Touch Panel Controller with Internet (400 units)
 UTY-APGX System Controller (1600 units)
 UTY-ALGX System Controller Lite - (400 units)

FAN

Fan Type 2X (Sirocco)
 Airflow Rate - High - CFM [m³/h] 1,042 [1,770]
 Airflow Rate - Medium - CFM [m³/h] 812 [1,380]
 Airflow Rate - Low - CFM [m³/h] 589 [1,000]

ACCESSORIES

UTB-YWC IR Reciever for Duct (Use with Wireless Remote UTY-LNHU)
 UTD-LF25NA Long Life Filter
 UTD-SF045T Flange (Square) for Duct IU
 UTD-RF204 Flange (Round) for Duct IU
 UTZ-PU1NBA Drain Pump Kit - For Medium Static Ducted Units
 UTY-TEKX External Switch Controller. Use with 3-Wire remotes only.
 UTY-XSZX Remote Sensor for ducted units

SOUND PRESSURE

Sound Pressure Level - dB(A) 28/33/40

WIRING

Communication Cable LonWorks (Fujitsu Pink Cable. See AE Bulletin 009)

WEIGHT AND DIMENSIONS

Enclosure - Net Weight - lbs [kg] 86 [39]
 Enclosure - Gross Weight - lbs [kg] 104 [47]
 Dimensions - Net (H x W x D) - in [mm] 10-5/16 x 44-11/16 x 27-9/16
 [270 x 1,135 x 700]
 Dimensions - Gross (H x W x D) - in [mm] 11-13/16 x 51-15/16 x 31-1/8
 [300 x 1,320 x 790]

PIPING

Connection Pipe Diameter - Liquid (Flare) - in [mm] ø 3/8 [9.52]
 Connection Pipe Diameter - Gas (Flare) - in [mm] ø 5/8 [15.88]
 Connection Pipe Diameter - Drain (ID; OD) - in [mm] ø 3/4 [19]
 Drain-Pump Optional

ETL

E.T.L. 91987

TEMPERATURE SETTINGS

Operating Temp. Cooling (DB) - °F [°C] 64 to 90 [18 to 32]
 Operating Temp. Heating (DB) - °F [°C] 50 to 86 [10 to 30]

Note: Specifications are based on the following conditions:
 Cooling: Indoor temperature of 80°F (26.7°C) DB/67°F (19.4°C) WB, and outdoor temperature of 95°F (35°C) DB/75°F (23.9°C) WB.
 Heating: Indoor temperature of 70°F (21.1°C) DB/60°F (15.6°C) WB, and outdoor temperature of 47°F (8.3°C) DB/43°F (6.1°C) WB.
 Pipe length: 25ft. (7.5m), Height difference: 0ft. (0m) (Outdoor unit – indoor unit).



**4 Ton Heat Pump Outdoor Unit - 208/230 VAC, 1-Phase, 60Hz
AOU48RLAVM**

Job Name _____
 Location _____
 Engineer _____
 Submitted To _____
 Submitted By _____
 Reference _____

Date _____
 Approval _____
 Construction _____
 Unit No _____
 Drawing No _____

- Energy efficient Single-Phase VRF
- Inverter driven dual rotary compressor
- High power dual DC fan motor.
- Large Blue fin heat-exchanger
- 10 Year warranty on parts and compressor. See Warranty Statement for details.
- Optional: Internet, BACnet, LonWorks, or Modbus communication.



Airstage Project - 22338



CAPACITY	
Nominal Cooling Capacity - BTU/h [kW]	48,000 [14.07]
Nominal Heating Capacity - BTU/h [kW]	54,000 [15.83]
Nominal Tonnage - Ton(s)	4
Maximum Connectable Indoor Units	8
Connectable Capacity	50% to 130%
Cooling Power Input - kW	3.73
Heating Power Input - kW	3.97

OPERATING TEMPERATURES	
Operating Temp. Cooling (DB) - °F [°C]	23 to 115 [-5 to 46]
Operating Temp. Heating (DB) - °F [°C]	-4 to 70 [-20 to 21]

ELECTRICAL	
Electrical Power Requirements	208/230 VAC, 1-Phase, 60Hz
Voltage Range	187 to 253 VAC
Maximum Circuit Breaker - A	40
Minimum Circuit Ampacity (MCA) - A	33
Cooling Power Input - kW	3.73
Heating Power Input - kW	3.97

EFFICIENCY	
EER Cooling (Ducted/Non Ducted)	11.8 / 12.5
SEER Cooling (Ducted/Non Ducted)	18.1 / 19.8
COP / High Heating 47°F (Ducted/Non Ducted)	3.64 / 3.88
HSPF Heating (Ducted/Non Ducted)	10.9 / 11.4

COMPRESSOR	
Compressor Type	Rotary Inverter
Refrigerant Type	R410A
Refrigerant Charge - lbs [kg]	11.7 [5.3]
Compressor Crankcase Heater - W	25
Refrigerant Oil / Lubricant	POE
Compressor Capacity Control - Steps/Range	81 / 20-100%

WIRING	
Communication Cable	LonWorks (Fujitsu Pink Cable. See AE Bulletin 009)

FAN	
Fan Type	2x Propeller fan
Fan Airflow Rate - CFM [m3/h]	3,767 [6,400]
Fan Power Output - W	2x 111

PIPING	
Max. Total Refrigerant Line Length - ft [m]	590 [180]
Max Height Diff. (OD & ID)(Upper/Lower) - ft [m]	164/131 [50/40]
Max. Refrig. Line Length 1st Sep. tube & furthest IU - ft [m]	131 [40]
Pipe Connection Method: Liquid/Gas	Flare
Pipe Connection: Liquid - in [mm]	3/8 [9.52]
Pipe Connection: Discharge Gas - in [mm]	5/8 [15.88]

HEAT EXCHANGER	
H. E. Pipe Type (Material)	Grooved H-pin (Copper)
H. E. Fin Tube (Material)	Corrugate (Aluminum)
H. E. Fin Surface Treatment	Corrosion resistance (Blue fin)
H. E. Fin Pitch - FPI [mm]	18 [1.45]
H. E. Rows x Stages	3 x 62
H. E. Face Area - Ft ² [m ²]	13 [1.22]
H. E. Length - in [mm]	36-13/16 [935]

SOUND	
Sound Pressure Levels (Cooling/Heating) - dB(A)	51 / 53

WEIGHT	
Net Weight - lbs [kg]	260 [118]
Gross Weight - lbs [kg]	282 [128]

DIMENSIONS	
Dim.Net (HxWxD) - in [mm]	52-1/2 × 38-3/16 × 14-9/16 [1340 x 972 x 368]

Dim.Gross (HxWxD) - in [mm]	58-1/8 × 41-7/8 × 18-7/8 [1476 x 1064 x 478]
-----------------------------	---

CODE	
ETL	3170288
AHRI Certified	Standard 210/240

Note: Specifications are based on the following conditions:
 Cooling: Indoor temperature of 80°F (26.7°C) DB/67°F (19.4°C) WB, and outdoor temperature of 95°F (35°C) DB/75°F (23.9°C) WB. Heating: Indoor temperature of 70°F (21.1°C) DB/60°F (15.6°C) WB, and outdoor temperature of 47°F (8.3°C) DB/43°F (6.1°C) WB. Pipe length: 25ft. (7.5m), Height difference: 0ft. (0m) (Outdoor unit - indoor unit).

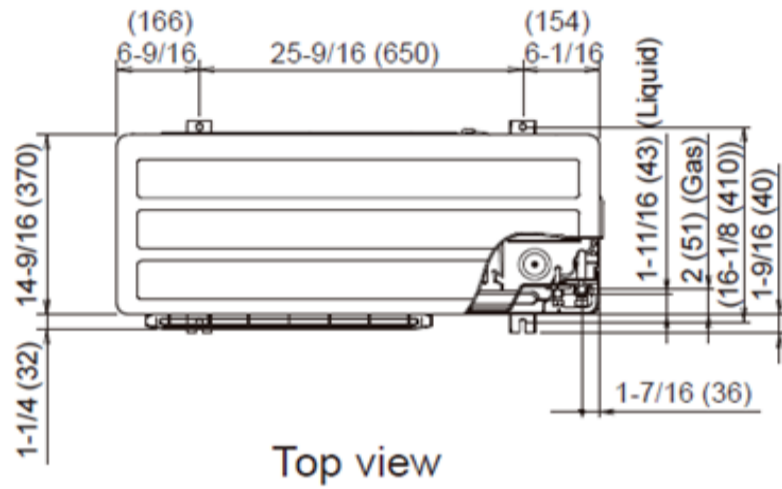


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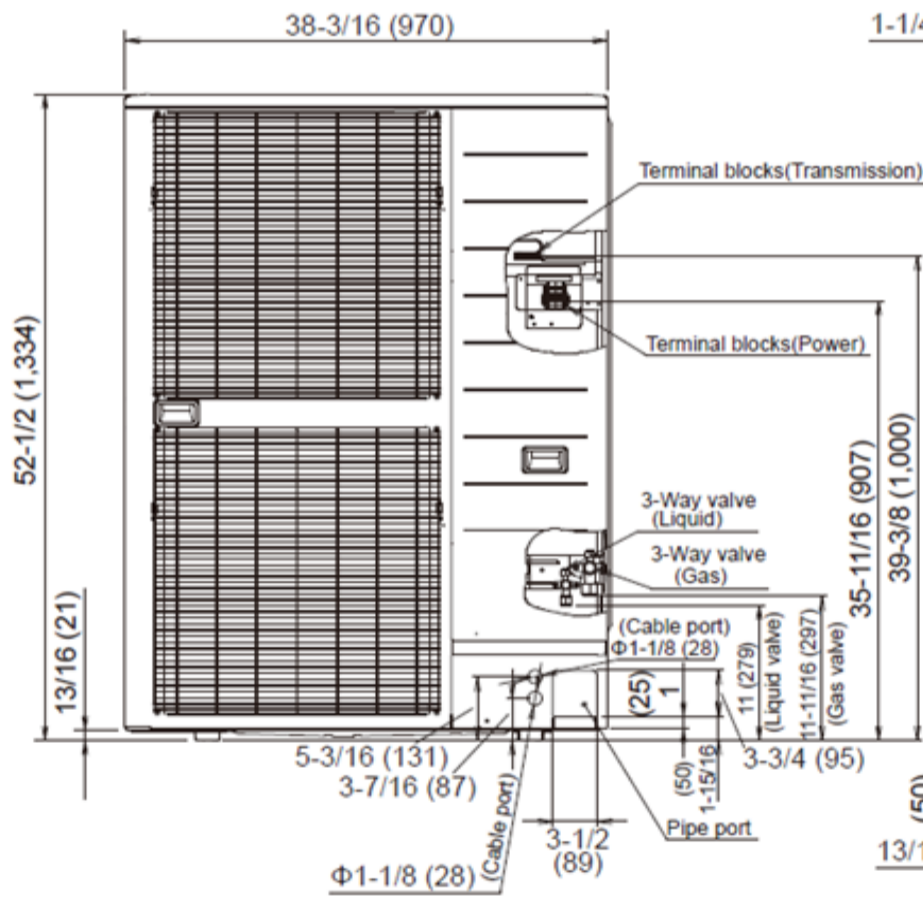
DIMENSIONS

Unit: In. (mm)

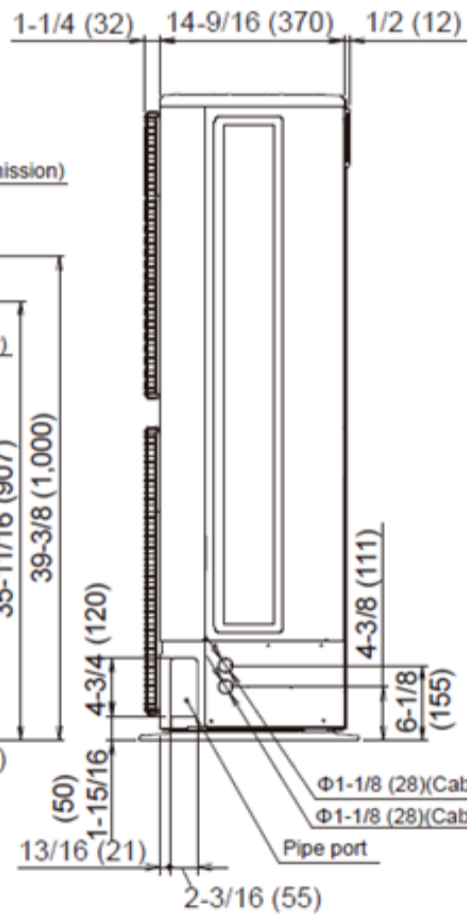
Airstage Project - 22338



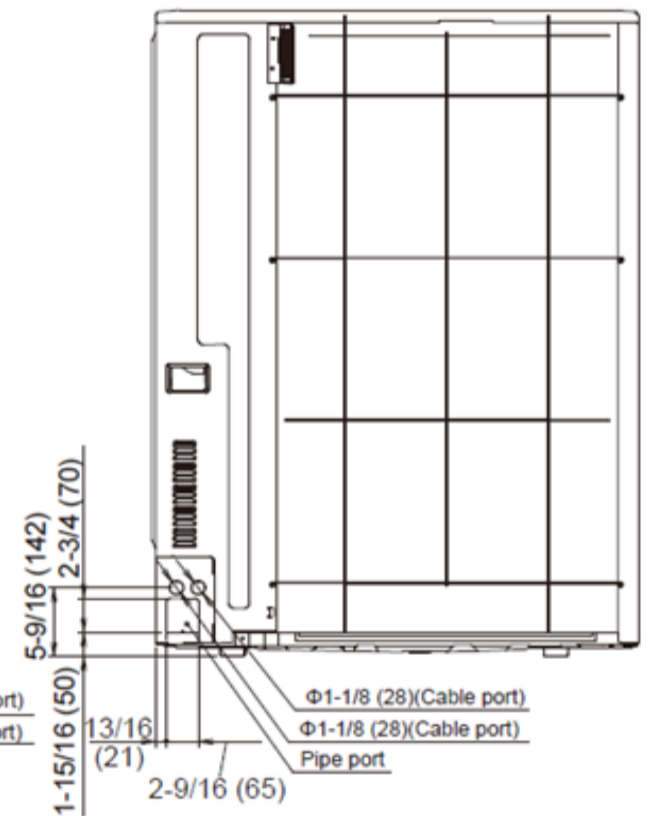
Top view



Front view



Side view



Rear view



Submittal UTY-RNRUZ2



Wired Remote Controller (Touch Panel)

Job Name: _____
 Location: _____
 Engineer: _____
 Submitted to: _____
 Submitted by: _____
 Reference: _____

Date: _____
 Approval: _____
 Construction: _____
 Unit #: _____
 Drawing #: _____



General Features

Wired touch screen remote controller with backlight that connects to the VRF indoor units using 2-wires. Individual or group control of up to 16 indoor units.

- Operation modes: Auto/Cool/Dry/Fan/Heat
- Various timer setup (on/off/weekly) are possible
- Auto ON or OFF timer – this feature is used to start/stop the indoor unit operation for early boost/startup or early shutdown.
- Weekly timer:
 - a. Start/stop function twice per day
 - b. Operating time can be set in 30-minute increments
 - c. The OFF timer can be carried over to the next day
- Vacation schedule
- Built-in Temperature sensor. Sensing can be set to measure temperature at the Remote or at Indoor unit.
- Additional Custom Settings:
 - Set temperature Auto Return
 - Set temperature Range Setting,
 - Away Setting,
 - Error History,
 - Anti Freeze,
 - Filter Reset,
 - R.C. Master/Slave Setting,
 - Language Setting.
- This remote controller is compatible with all VRF A***TLAV indoor units.
- This remote controller is not compatible with all VRF A***RLAV indoor units.

Temperature Setting Range

Cooling °F (°C) 64 - 88 (18 - 30)
 Heating °F (°C) 48 - 88 (10 - 30)

Weight and Dimensions

Weight oz (g) 8 (220g)
 Dim.Net (HxWxD) – in(mm)..... 4-3/4x4-3/4x11/16
 (120x120x20.4)

Electrical

Input Voltage DC V 12
 Power consumption W Max 0.3
 Wire Size AWG (mm²) 22 to 16 (0.33 to 1.25)
 Non polar 2 core sheathed twisted pair cable
 Thermostat Wiring AWG (mm²) 18 (0.75)
 2 core sheathed non twisted pair cable
 Display..... 3.8 inch backlight LCD Touch display
 (255x160 dots)



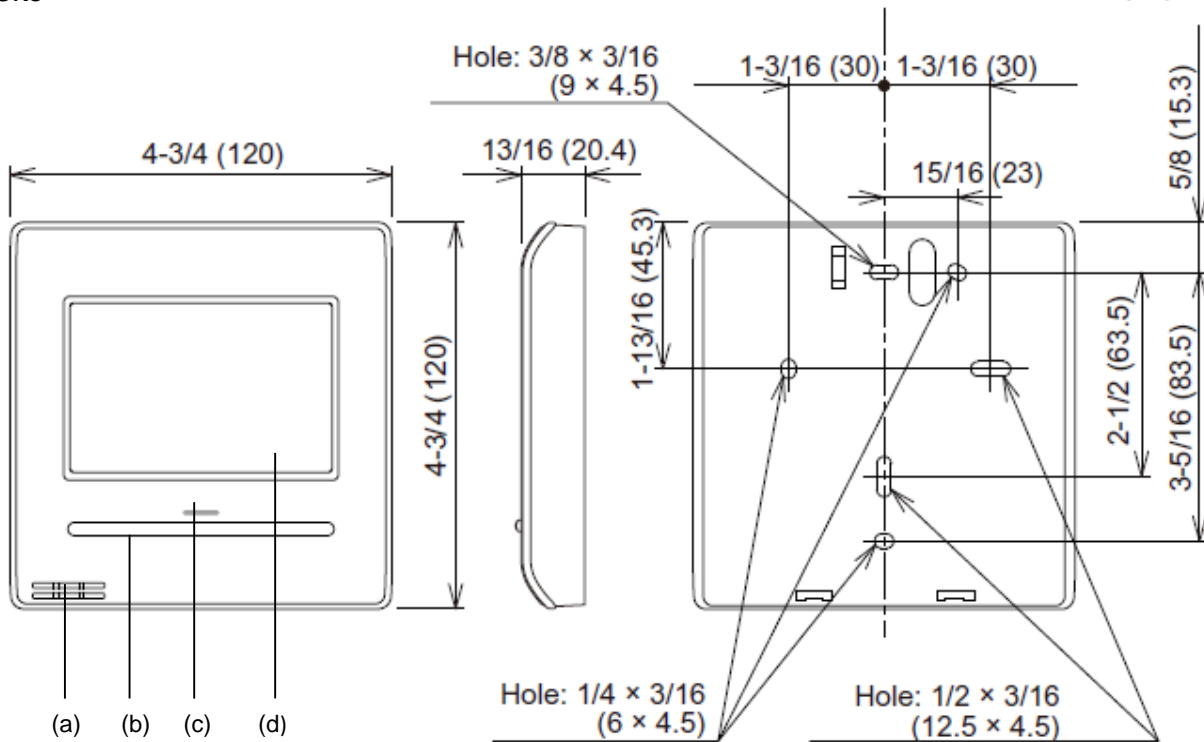
Submission UTY-RNRUZ2



Wired Remote Controller (Touch Panel)

DIMENSIONS

Unit : in. (mm)



- (a) Room temperature sensor
- (b) Operation (occupied/unoccupied) button
- (c) LED lamp (operation indicator)
- (d) Touch panel display



Project ID: 22337
Project name: CO DEPT HUMAN SERVICES- B ROAD
Address: 2838 B ROAD
GRAND JUNCTION, CO 81501
Project Type: Multi Family Housing

Mechanical Contractor

Company:
Contact:
Phone:
Address:

Distributor Branch

JOHNSTONE SUPPLY, INC. #274 (17235)
3192 HALL AVENUE
GRAND JUNCTION, CO 81504-6036

,



Project Name : CDHS B ROAD

Management Number :

Building : Other

Client Name: CO DEPT HUMAN SERVICES

Customer: JOHNSTONE GRAND JUNCTION

Consultant: BIGHORN CONSULTING ENG

Created by : Scott O'Toole

Company : GSC Northwest

Address : sotoole@gscnw.com

1.Material list

1.1.Material list

Series:VRF system

Model	Quantity	Type
AOU36RLAVM	1	J-II Heat pump
AOU48RLAVM	1	J-II Heat pump
ARUL12TLAV	2	Slim duct(Drain pump internal)
ARUL18TLAV	2	Slim duct(Drain pump internal)
ARUM24TLAV	1	Medium static pressure duct
UTY-RNRUZ2	5	Wired RC(Touch) Z2
UTP-AX090A	1	Separation tube
UTR-H0906L	1	Header

1.2.Material List 2 (Pipe)

Series:VRF system

	Pipe length(ft)			
	1/4	3/8	1/2	5/8
Total	100	145	100	145

1.3.Material List 3 (Calculation of additional charge refrigerant)

Series:VRF system

Refrigerant	lbs
R410A	7.1

2. Indoor unit details
2.1. Table of abbreviations

Name	Local name of the device	HC	Available heating capacity (with defrost compensation)
Model	Device model name	Airflow	Supplied airflow at low and high fan speed
RC C	Rated cooling capacity	ESP	External static pressure
RC H	Rated heating capacity	Sound	Sound pressure low and high
Tmp C	Indoor condition in cooling	MCA	Minimum Circuit Amps
Rq TC	Required cooling capacity	HxWxD	Height x Width x Depth
TC	Available total cooling capacity	Weight	Weight of the device
Rq SC	Required sensible cooling capacity	Dis Tmp C	Discharge temperature at cooling
SC	Available sensible cooling capacity	Dis Tmp H	Discharge temperature at heating
Tmp H	Indoor temperature in heating	HE	Heat exchanger volume
Rq HC	Required heating capacity (with defrost compensation)	Rated	Rated current

2.2. CU-1 (VRF system) – AOU48RLAVM

Name	Model	RC C (kBTU/h)	RC H (kBTU/h)	Tmp C (F/%)	Rq TC (kBTU/h)	TC (kBTU/h)	Rq SC (kBTU/h)	SC (kBTU/h)	Tmp H (F)	Rq HC (kBTU/h)	HC (kBTU/h)
HP-1	ARUL18TLAV	18.0	20.0	80.0/35.6	3.4	14.5	3.4	13.6	70.0	3.4	11.3
HP-2	ARUL12TLAV	12.0	13.5	80.0/35.6	3.4	9.7	3.4	8.9	70.0	3.4	7.7
HP-3	ARUL18TLAV	18.0	20.0	80.0/35.6	3.4	14.5	3.4	13.6	70.0	3.4	11.3

Name	Model	Airflow (cfm)	ESP (WG)	Sound (dB)	Rated (A)	MCA (A)	HxWxD (inch)	Weight (lbs)	Image
HP-1	ARUL18TLAV	High 553.0	0-0.36 0.10	34	0.55	0.76	7-13/16 x 35-7/16 x 24-7/16	49.0	
HP-2	ARUL12TLAV	High 353.0	0-0.36 0.10	30	0.38	0.71	7-13/16 x 27-9/16 x 24-7/16	40.0	
HP-3	ARUL18TLAV	High 553.0	0-0.36 0.10	34	0.55	0.76	7-13/16 x 35-7/16 x 24-7/16	49.0	

2.3. CU-2 (VRF system) – AOU36RLAVM

Name	Model	RC C (kBTU/h)	RC H (kBTU/h)	Tmp C (F/%)	Rq TC (kBTU/h)	TC (kBTU/h)	Rq SC (kBTU/h)	SC (kBTU/h)	Tmp H (F)	Rq HC (kBTU/h)	HC (kBTU/h)
HP-4	ARUM24TLAV	24.0	27.0	80.0/35.6	3.4	19.4	3.4	18.0	70.0	3.4	15.3
HP-5	ARUL12TLAV	12.0	13.5	80.0/35.6	3.4	9.7	3.4	8.9	70.0	3.4	7.7

Name	Model	Airflow (cfm)	ESP (WG)	Sound (dB)	Rated (A)	MCA (A)	HxWxD (inch)	Weight (lbs)	Image
HP-4	ARUM24TLAV	High 859.0	0-0.60 0.16	36	0.75	1.1	10-5/16 x 44-11/16 x 27-9/16	86.0	
HP-5	ARUL12TLAV	High 353.0	0-0.36 0.10	30	0.38	0.71	7-13/16 x 27-9/16 x 24-7/16	40.0	

3.Outdoor unit details



3.1.Table of abbreviations

Name	Local name of the device	Tmp H	Outdoor temperature in heating(dry bulb)
Model	Device model name	HC	Heating capacity
EER	Energy efficiency rating at rated capacity	MCA	Minimum Circuit Amps
COP	Coefficient of Performance at rated capacity	MFA	Main fuse (circuit breaker) current
RC C	Rated cooling capacity	HxWxD	Height x Width x Depth
RC H	Rated heating capacity	Weight	Weight of the device
Comb	Combination percentage	Refrig	Standard factory refrigerant charge
Tmp C	Outdoor temperature in cooling(dry bulb)	Rated C	Rated current Cooling
TC	Available total cooling capacity	Rated H	Rated current Heating

3.2.Outdoor unit details

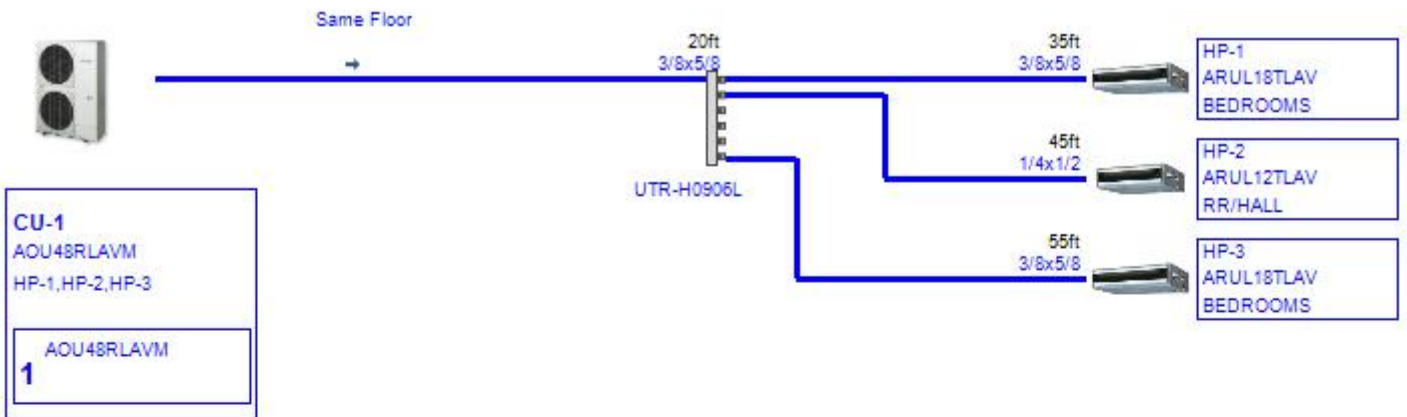
Series:VRF system

Name	Model	EER	COP	Comb (%)	RC C (kBTU/h)	RC H (kBTU/h)	Tmp C (F)	TC (kBTU/h)	Tmp H (F)	HC (kBTU/h)
CU-1	AOU48RLAVM	12.5	3.88	100	48.0	54.0	96.0	38.8	2.0	37.9
CU-2	AOU36RLAVM	13.3	3.82	100	36.0	42.0	96.0	29.1	2.0	34.8

Name	Model	PS	Rated C (A)	Rated H (A)	MCA (A)	MFA (A)	HxWxD (inch)	Weight (lbs)	Refrig (lbs)	Image
CU-1	AOU48RLAVM	1Phase, 208V, 60Hz	16.38	17.44	33	40	52-1/2x38-3/16x14-9/16	262.0	11.7	
CU-2	AOU36RLAVM	1Phase, 208V, 60Hz	11.49	13.73	33	40	52-1/2x38-3/16x14-9/16	260.0	10.6	

4.Piping Diagrams

4.1.Piping CU-1 (VRF system)



Pipe explanatory notes

aa x bb

aa:Liquid

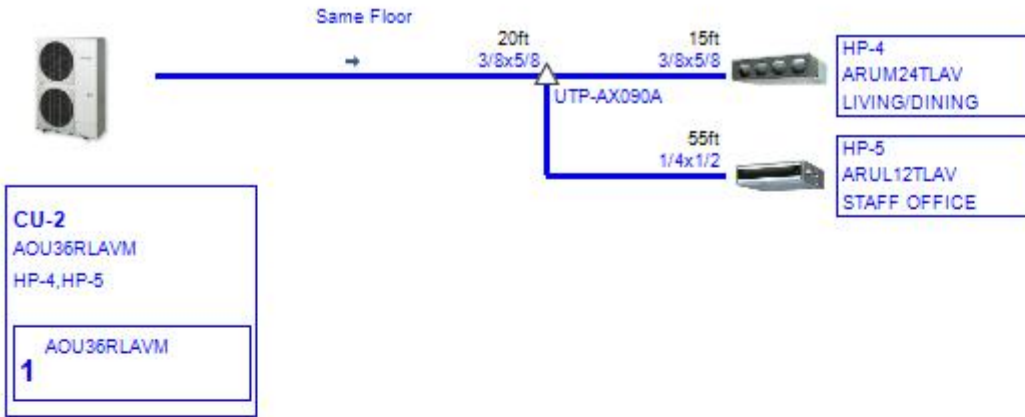
bb:Gas

aa

aa:Liquid

Refrig in OU (factory) R410A(lbs)	11.7	Add Refrig (piping+extra OU) R410A(lbs)	4.9	Total Refrig R410A(lbs)	16.6
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4.2.Piping CU-2 (VRF system)



Pipe explanatory notes

aa x bb

aa:Liquid

bb:Gas

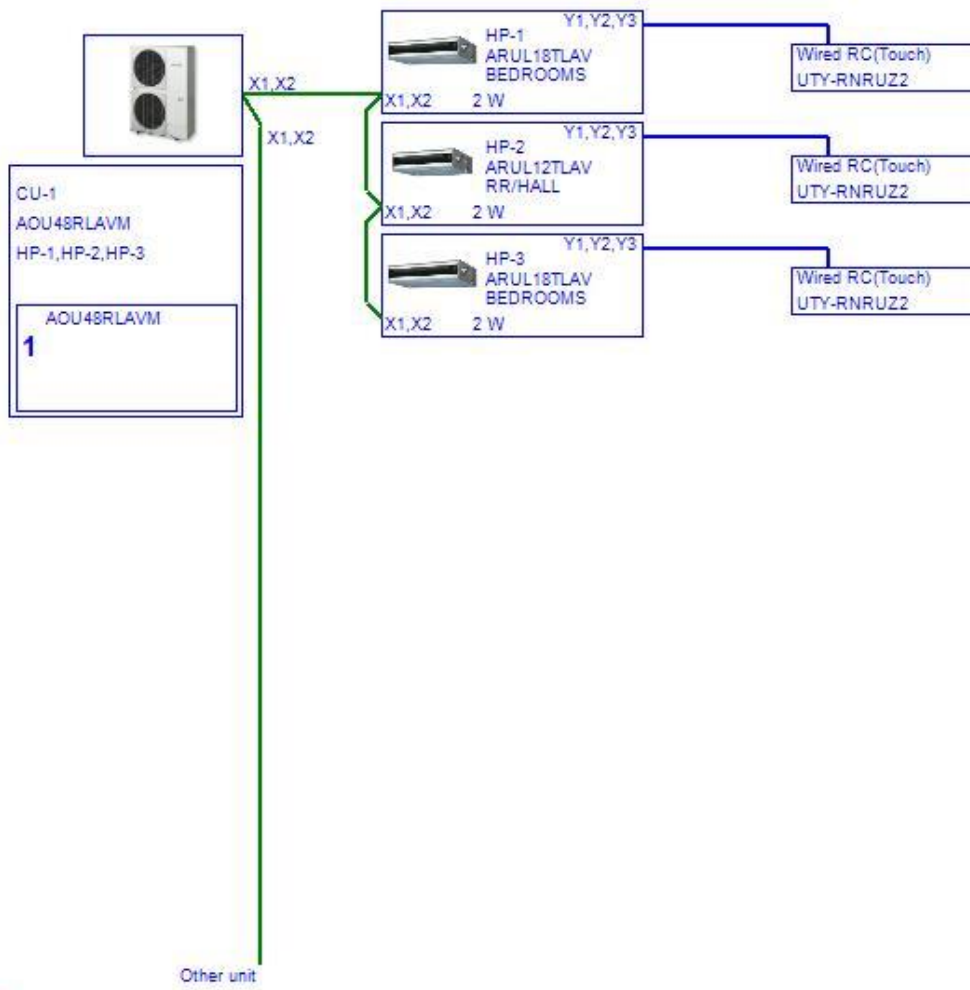
aa

aa:Liquid

Refrig in OU (factory) R410A(lbs)	10.6	Add Refrig (piping+extra OU) R410A(lbs)	2.1	Total Refrig R410A(lbs)	12.7
--------------------------------------	------	---	-----	-------------------------	------

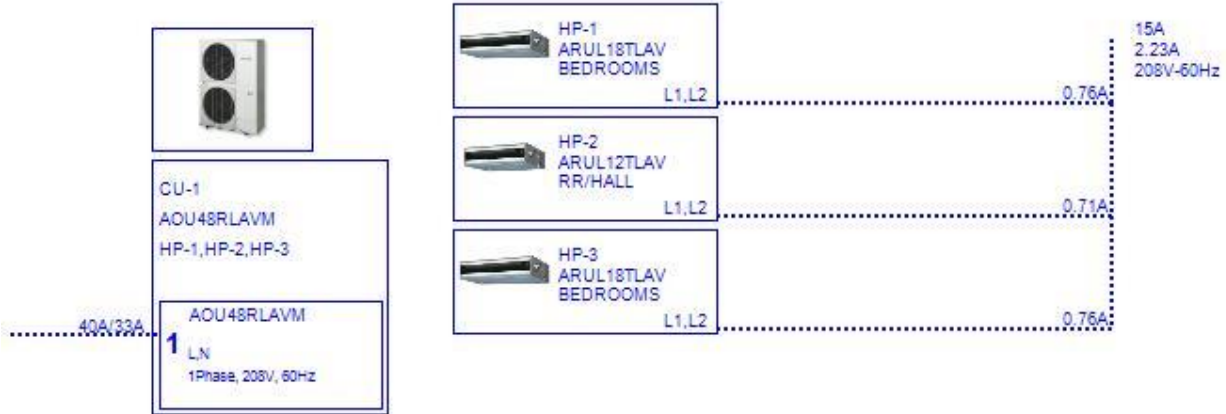
5.Wiring Diagrams

5.1.Wiring CU-1 (VRF system)



- Transmission line
Size : 0.33mm2(22AWG)
Wire type : LEVEL 4 (NEMA) non-polar 2core, twisted pair solid core diameter 0.65mm
Remarks : LONWORKS® compatible cable
- Remote controller line
Size : 0.33-1.25mm2(22-16AWG)

5.2.Wiring CU-1 (VRF system)



--- : Power line

Outdoor

Breaker/MCA
Diameter

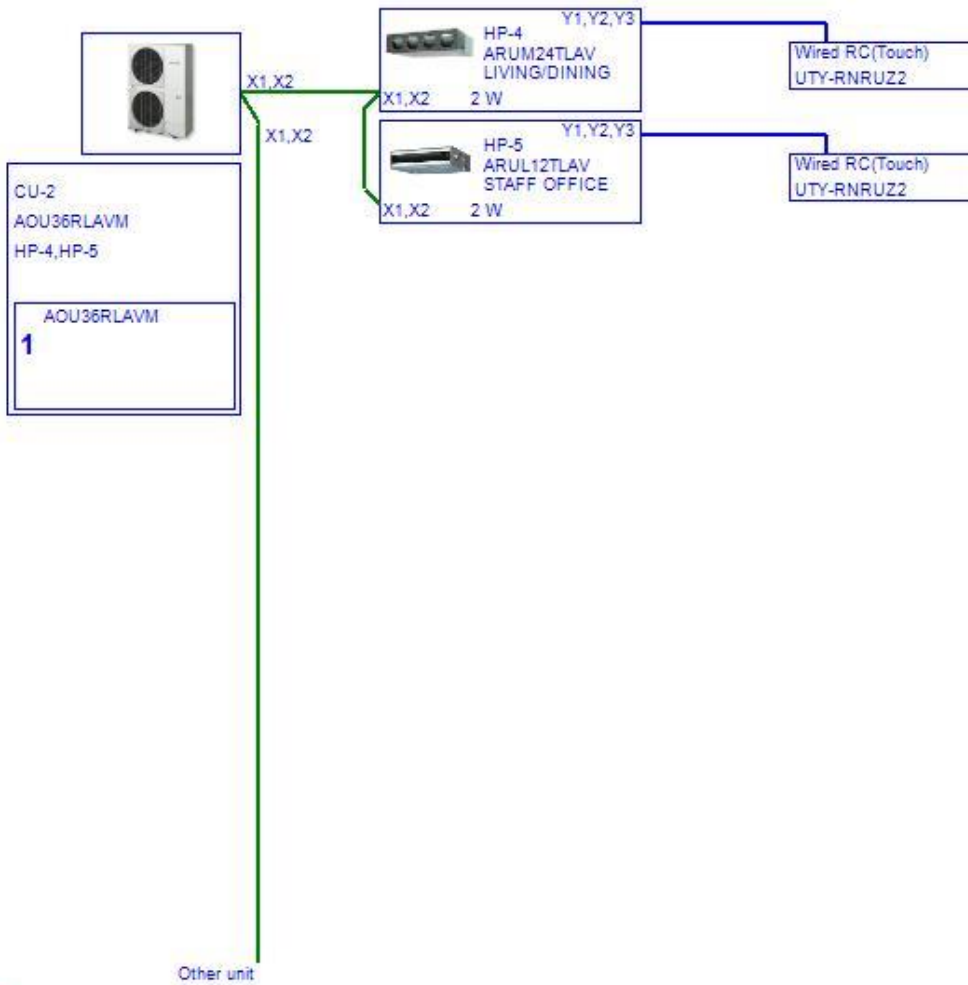
Indoor

MCA
Diameter

Total power line

Breaker
MCA
Voltage-Hz

5.3.Wiring CU-2 (VRF system)



- : Transmission line
- Size : 0.33mm2(22AWG)
- Wire type : LEVEL 4 (NEMA) non-polar 2core,twisted pair solid core diameter 0.65mm
- Remarks : LONWORKS® compatible cable
- : Remote controller line
- Size : 0.33-1.25mm2(22-16AWG)

5.4.Wiring CU-2 (VRF system)



*** : Power line

Outdoor

Breaker/MCA

Diameter

Indoor

MCA

Diameter

Total power line

Breaker

MCA

Voltage-Hz



6.Options

CU-1 (VRF system) - AOU48RLAVM

Name	Model	Type	Qty	Model	Type	Qty
HP-1	UTY-RNRUZ2	Wired RC(Touch) Z2	1			
HP-2	UTY-RNRUZ2	Wired RC(Touch) Z2	1			
HP-3	UTY-RNRUZ2	Wired RC(Touch) Z2	1			

CU-2 (VRF system) - AOU36RLAVM

Name	Model	Type	Qty	Model	Type	Qty
HP-4	UTY-RNRUZ2	Wired RC(Touch) Z2	1			
HP-5	UTY-RNRUZ2	Wired RC(Touch) Z2	1			



7.Piping / Branch kit / Header details

7.1.Branch kit details

Series:VRF system

Name	Model	UTP-AX090A
CU-1	AOU48RLAVM	0
CU-2	AOU36RLAVM	1

7.2.Header details

Series:VRF system

Name	Model	UTR-H0906L	UTR-H0908L	UTR-H1806L	UTR-H1808L	UTP-J0906A
CU-1	AOU48RLAVM	1	0	0	0	0
CU-2	AOU36RLAVM	0	0	0	0	0

Name	Model	UTP-J0908A	UTP-J1806A	UTP-J1808A
CU-1	AOU48RLAVM	0	0	0
CU-2	AOU36RLAVM	0	0	0

7.3.Piping details

Series:VRF system

Name	Model	1/4	3/8	1/2	5/8
CU-1	AOU48RLAVM	45	110	45	110
CU-2	AOU36RLAVM	55	35	55	35

Name	Refrig in OU (factory) R410A(lbs)	Add Refrig (piping+extra OU) R410A(lbs)	Total Refrig R410A(lbs)
CU-1	11.7	4.9	16.6
CU-2	10.6	2.1	12.7

7.4.Branch box details

7.5.RB details

7.6.DX Kit details



8.User option

8.1.8.User options(Project)

8.2.8.User options(Refrigerant)



9.Room list

9.1.Room list

9.2.Room-indoor list



10.Group List

There are some differences between a calculated result and specification.

Submittal Data: UTR H0906L

Separation Tube

Header 6 Connections / Total Capacity Less Than 96.5 MBH

Job Name: _____

Date: _____

Location: _____

Approval: _____

Engineer: _____

Construction: _____

Submitted to: _____

Unit #: _____

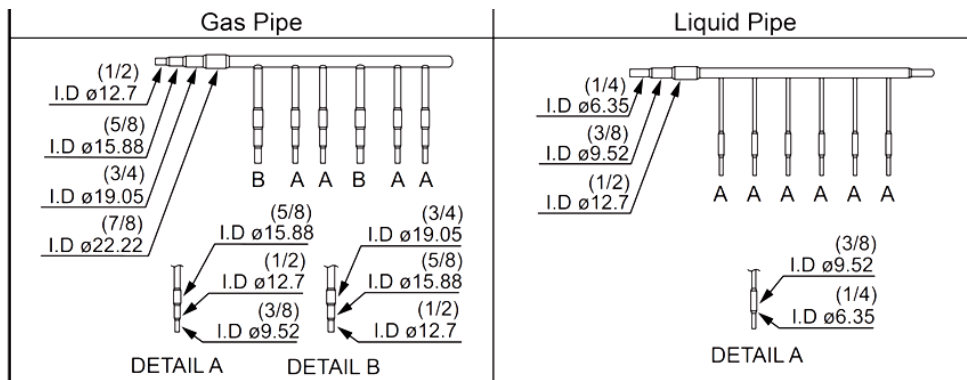
Submitted by: _____

Drawing #: _____

Reference: _____

	Gas Pipe	Liquid Pipe		Closed Pipe
UTR-H0906L				
	Insulation	Closed Pipe Insulation	Binder	$\varnothing 6.35$ (1/4) 4 pcs $\varnothing 9.52$ (3/8) 2 pcs $\varnothing 12.7$ (1/2) 2 pcs
	Large 1 pcs			
	Small 1 pcs	6 pcs	10 pcs	

UTR-H0906L





Submittal ARUL12TLAV

Slim Duct (12,000 BTU) Indoor Unit For Heat-recovery/Heat-pump Airstage VRF System

Job Name _____
Location _____
Engineer _____
Submitted To _____
Submitted By _____
Reference _____

Date _____
Approval _____
Construction _____
Unit No _____
Drawing No _____

FEATURES

- Quiet 3-speed fan
- Slim design require small height clearance 9-3/4"
- Adjustable Static pressure from 0 to 0.36 in.WG
- Built-in high-lift drain pump
- Flexible air intake connection (Back or bottom)
- Built-in intake air filter
- Optional Auto louver grille
- Very low power usage
- Auxiliary heat operation capability



STATIC PRESSURE

Static Pressure Range - in.WG [Pa] 0 to 0.36 [0 to 90]
 Standard Static Pressure - in.WG [Pa] 0.10 [25]

CAPACITY

Capacity - Cooling - Btu/h [kW] 12,000 [3.5]
 Capacity - Heating - Btu/h [kW] 13,500 [4]

PIPING ACCESSORIES

UTP-AX090A Separation Tube - 2-Pipe - 90 MBH or Less
 UTP-AX180A Separation Tube - 2-Pipe - 91 to 180 MBH
 UTP-AX567A Separation Tube - 2-Pipe - 180 MBH or More

ELECTRICAL

Power Source 208 / 230V, 1-Phase, 60Hz
 Available Voltage Range - VAC 187 to 253
 Input Power - W 54
 Full Load Amps - FLA - A 0.57
 Max Circuit Breaker - A 15
 Minimum Circuit Ampacity - MCA - A 0.71
 Fuse - A (V) 5 (250)

CONTROLLER

UTY-RNRU Individual Touch Panel Controller (Wired Remote)
 UTY-RNKU Wired Remote Control
 UTY-RSKU Simple Remote (WITH Master Control) (1/16 units)
 UTY-RHKU Simple Remote (WITHOUT Master Control) (1/16 units)
 UTY-LNHU Wireless Remote Controller (requires IR Receiver)
 UTY-DCGY Central Remote Controller (100 units)
 UTY-DTGYZ1 Touch Panel Controller with Internet (400 units)
 UTY-APGX System Controller (1600 units)
 UTY-ALGX System Controller Lite - (400 units)

FAN

Fan Type 2X (Sirocco)
 Airflow Rate - High - CFM [m³/h] 353 [600]
 Airflow Rate - Medium - CFM [m³/h] 300 [510]
 Airflow Rate - Low - CFM [m³/h] 265 [450]

ACCESSORIES

UTB-YWC IR Receiver for Duct (Use with Wireless Remote UTY-LNHU)
 UTD-GXSA-W Auto Louver Grille for Slim Duct
 UTY-TEKX External Switch Controller
 UTY-XSZX Remote Sensor for ducted units

SOUND PRESSURE

Sound Pressure Level - dB(A) 24/27/30

WIRING

Communication Cable LonWorks (Fujitsu Pink Cable. See AE Bulletin 009)

WEIGHT AND DIMENSIONS

Enclosure - Net Weight - lbs [kg] 40 [18]
 Enclosure - Gross Weight - lbs [kg] 51 [23]
 Dimensions - Net (H x W x D) - in [mm] 7-13/16 x 27-9/16 x 24-7/16
 [198 x 700 x 620]
 Dimensions - Gross (H x W x D) - in [mm] 10-7/8 x 38-1/8 x 30-3/8
 [276 x 968 x 772]

PIPING

Connection Pipe Diameter - Liquid (Flare) - in [mm] ø 1/4 [6.35]
 Connection Pipe Diameter - Gas (Flare) - in [mm] ø 1/2 [12.70]
 Connection Pipe Diameter - Drain (ID; OD) - in [mm] ø 3/4 [19]
 Drain-Pump Built-in
 Drain-Pump Lift - in [mm] 33 7/16 [850]

ETL

E.T.L. 91987

TEMPERATURE SETTINGS

Operating Temp. Cooling (DB) - °F [°C] 64 to 90 [18 to 32]
 Operating Temp. Heating (DB) - °F [°C] 50 to 86 [10 to 30]

Note: Specifications are based on the following conditions:
 Cooling: Indoor temperature of 80°F (26.7°C) DB/67°F (19.4°C) WB, and outdoor temperature of 95°F (35°C) DB/75°F (23.9°C) WB.
 Heating: Indoor temperature of 70°F (21.1°C) DB/60°F (15.6°C) WB, and outdoor temperature of 47°F (8.3°C) DB/43°F (6.1°C) WB.
 Pipe length: 25ft. (7.5m), Height difference: 0ft. (0m) (Outdoor unit – indoor unit).



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 www.airstagevrf.com

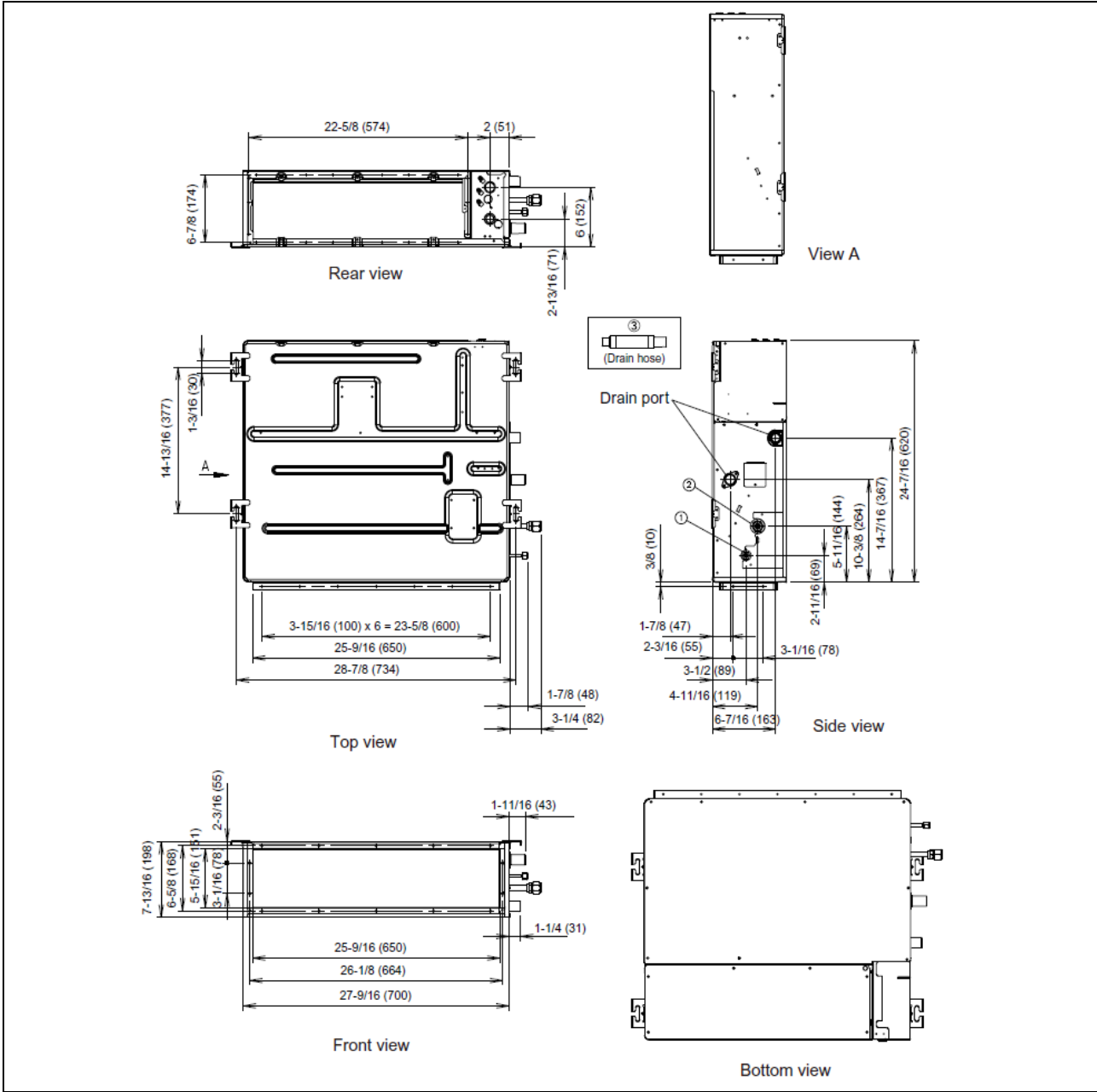


Submittal ARUL12LAV

Slim Duct (12,000 BTU) Indoor Unit
For Heat-recovery/Heat-pump Airstage VRF System

DIMENSIONS

Unit: In. (mm)



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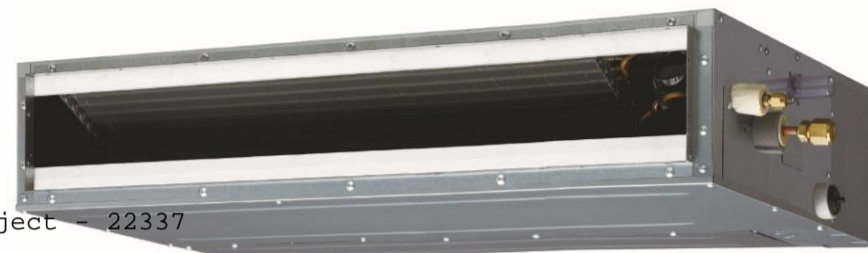
Slim Duct (18,000 BTU) Indoor Unit For Heat-recovery/Heat-pump Airstage VRF System

Job Name _____
 Location _____
 Engineer _____
 Submitted To _____
 Submitted By _____
 Reference _____

Date _____
 Approval _____
 Construction _____
 Unit No _____
 Drawing No _____

FEATURES

- Quiet 3-speed fan
- Slim design require small height clearance 9-3/4"
- Adjustable Static pressure from 0 to 0.36 in.WG
- Built-in high-lift drain pump
- Flexible air intake connection (Back or bottom)
- Built-in intake air filter
- Optional Auto louver grille
- Very low power usage
- Auxiliary heat operation capability
- 10 year Extended Warranty on parts and compressor. See Warranty Statement.



Airstage Project - 22337



STATIC PRESSURE

Static Pressure Range - in.WG [Pa]	0 to 0.36 [0 to 90]
Standard Static Pressure - in.WG [Pa]	0.10 [25]

CAPACITY

Capacity - Cooling - Btu/h [kW]	18,000 [5.3]
Capacity - Heating - Btu/h [kW]	20,000 [5.9]

PIPING ACCESSORIES

UTP-AX090A	Separation Tube - 2-Pipe - 90 MBH or Less
UTP-AX180A	Separation Tube - 2-Pipe - 91 to 180 MBH
UTP-AX567A	Separation Tube - 2-Pipe - 180 MBH or More

ELECTRICAL

Power Source	208 / 230V, 1-Phase, 60Hz
Available Voltage Range - VAC	187 to 253
Input Power - W	83
Full Load Amps - FLA - A	0.61
Max Circuit Breaker - A	15
Minimum Circuit Ampacity - MCA - A	0.76
Fuse - A (V)	5 (250)

CONTROLLER

UTY-RNRU22	Individual Touch Panel Controller (Wired Remote)
UTY-RSRY	Simple Remote (WITH Master Control) 2-Wire
UTY-RHRY	Simple Remote (WITHOUT Master Control) 2-Wire
UTY-RHKU	Simple Remote (WITHOUT Master Control) (1/16 units)
UTY-LNHU	Wireless Remote Controller (requires IR Receiver)
UTY-DCGY	Central Remote Controller (100 units)
UTY-DTGYZ1	Touch Panel Controller with Internet (400 units)

FAN

Fan Type	3X (Sirocco)
Airflow Rate - High - CFM [m³/h]	553 [940]
Airflow Rate - Medium - CFM [m³/h]	494 [840]
Airflow Rate - Low - CFM [m³/h]	441 [750]

ACCESSORIES

#N/A	#N/A
UTD-GXSB-W	Auto Louver Grille for Slim Duct
UTY-TEKX	External Switch Controller. Use with 3-Wire remotes only.
UTY-XSZX	Remote Sensor for ducted units

SOUND PRESSURE

Sound Pressure Level - dB(A)	28/32/34
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WIRING

Communication Cable	LonWorks (Fujitsu Pink Cable. See AE Bulletin 009)
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WEIGHT AND DIMENSIONS

Enclosure - Net Weight - lbs [kg]	49 [22]
Enclosure - Gross Weight - lbs [kg]	60 [27]
Dimensions - Net (H x W x D) - in [mm]	7-13/16 x 35-7/16 x 24-7/16 [198 x 900 x 620]
Dimensions - Gross (H x W x D) - in [mm]	10-7/8 x 46 x 30-3/8 [276 x 1,168 x 772]

PIPING

Connection Pipe Diameter - Liquid (Flare) - in [mm]	ø 3/8 [9.52]
Connection Pipe Diameter - Gas (Flare) - in [mm]	ø 5/8 [15.88]
Connection Pipe Diameter - Drain (ID; OD) - in [mm]	ø 3/4 [19]
Drain-Pump	Built-in
Drain-Pump Lift - in [mm]	33 7/16 [850]

ETL

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TEMPERATURE SETTINGS

Operating Temp. Cooling (DB) - °F [°C]	64 to 90 [18 to 32]
Operating Temp. Heating (DB) - °F [°C]	50 to 86 [10 to 30]

Note: Specifications are based on the following conditions:
 Cooling: Indoor temperature of 80°F (26.7°C) DB/67°F (19.4°C) WB, and outdoor temperature of 95°F (35°C) DB/75°F (23.9°C) WB. Heating: Indoor temperature of 70°F (21.1°C) DB/60°F (15.6°C) WB, and outdoor temperature of 47°F (8.3°C) DB/43°F (6.1°C) WB. Pipe length: 25ft. (7.5m), Height difference: 0ft. (0m) (Outdoor unit - indoor unit).

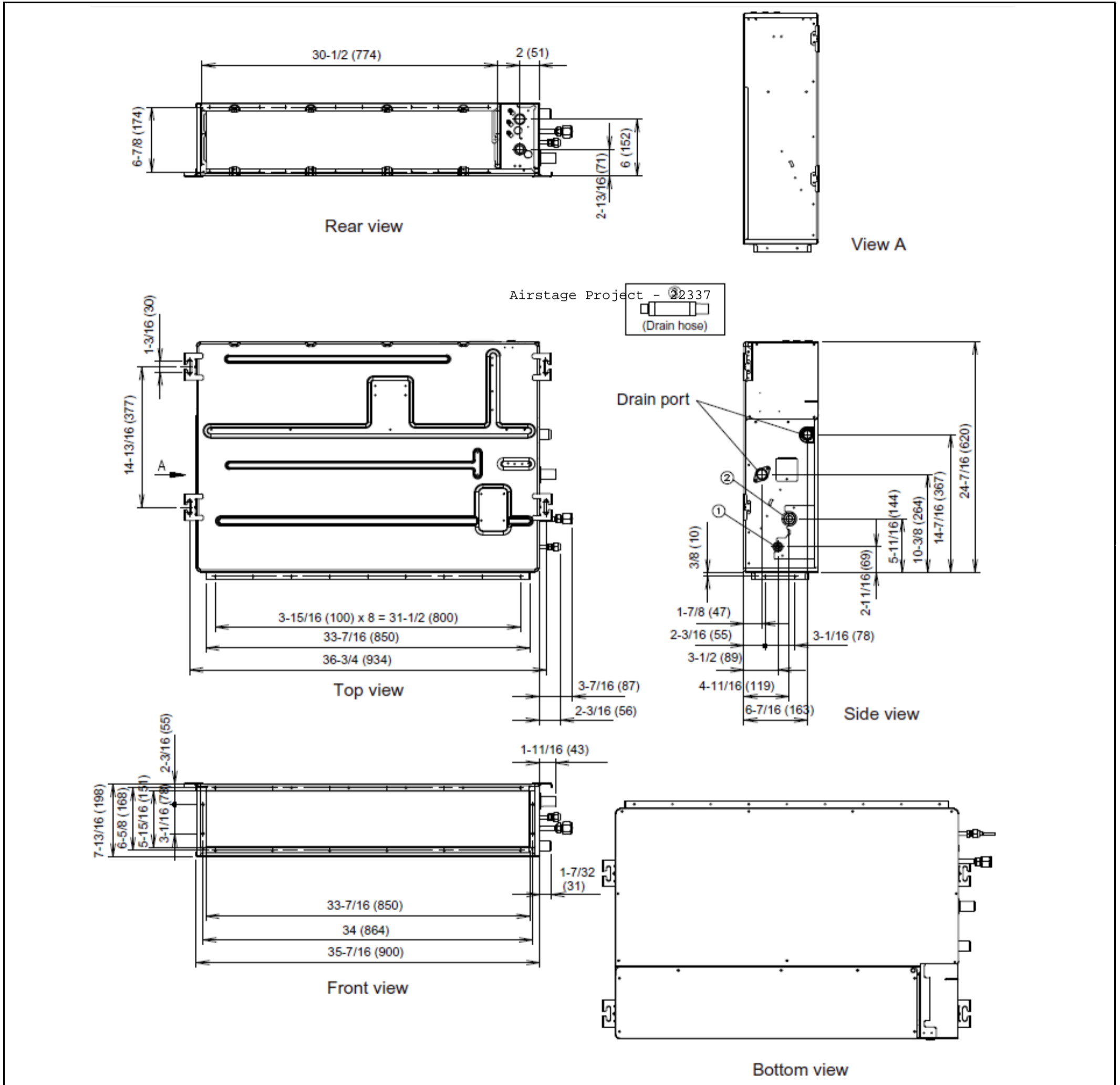


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 Fax: (973) 836-0453
 www.airstagevrf.com

Slim Duct (18,000 BTU) Indoor Unit
For Heat-recovery/Heat-pump Airstage VRF System

DIMENSIONS

Unit: In. (mm)



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Medium Static Pressure Duct (24,000 BTU) Indoor Unit For Heat-recovery/Heat-pump Airstage VRF System

Job Name _____
 Location _____
 Engineer _____
 Submitted To _____
 Submitted By _____
 Reference _____

Date _____
 Approval _____
 Construction _____
 Unit No _____
 Drawing No _____

FEATURES

- Quiet 3-speed fan
- Slim design require Small height clearance 10-1/4"
- Adjustable Static pressure from 0.12 to 0.6 in.WG
- Flexible air intake connection (Back or bottom)
- Very low power usage
- Dual direction drain piping
- Auxiliary heat operation capability
- 10 year Extended Warranty on parts and compressor. See Warranty Statement.



Airstage Project - 22337



STATIC PRESSURE

Static Pressure Range - in.WG [Pa] 0 to 0.60 [0 to 150]
 Standard Static Pressure - in.WG [Pa] 0.16 [40]

CAPACITY

Capacity - Cooling - Btu/h [kW] 24,000 [7.0]
 Capacity - Heating - Btu/h [kW] 27,000 [7.9]

PIPING ACCESSORIES

UTP-AX090A Separation Tube - 2-Pipe - 90 MBH or Less
 UTP-AX180A Separation Tube - 2-Pipe - 91 to 180 MBH
 UTP-AX567A Separation Tube - 2-Pipe - 180 MBH or More

ELECTRICAL

Power Source 208 / 230V, 1-Phase, 60Hz
 Available Voltage Range - VAC 187 to 253
 Input Power - W 129
 Full Load Amps - FLA - A 0.88
 Max Circuit Breaker - A 15
 Minimum Circuit Ampacity - MCA - A 1.1
 Fuse - A (V) 5 (250)

CONTROLLER

UTY-RNRU2 Individual Touch Panel Controller (Wired Remote)
 UTY-RSRY Simple Remote (WITH Master Control) 2-Wire
 UTY-RHRY Simple Remote (WITHOUT Master Control) 2-Wire
 UTY-RHKU Simple Remote (WITHOUT Master Control) (1/16 units)
 UTY-LNHU Wireless Remote Controller (requires IR Receiver)

FAN

Fan Type 2X (Sirocco)
 Airflow Rate - High - CFM [m³/h] 859 [1,460]
 Airflow Rate - Medium - CFM [m³/h] 724 [1,230]
 Airflow Rate - Low - CFM [m³/h] 589 [1,000]

UTY-DCGY Central Remote Controller (100 units)
 UTY-DTGYZ1 Touch Panel Controller with Internet (400 units)

SOUND PRESSURE

Sound Pressure Level - dB(A) 28/31/36

ACCESSORIES

#N/A #N/A
 UTD-LF25NA Long Life Filter
 UTD-SF045T Flange (Square) for Duct IU
 UTD-RF204 Flange (Round) for Duct IU
 UTZ-PU1NBA Drain Pump Kit - For Medium Static Ducted Units
 UTY-TEKX External Switch Controller. Use with 3-Wire remotes only.
 UTY-XSZX Remote Sensor for ducted units

WIRING

Communication Cable LonWorks (Fujitsu Pink Cable. See AE Bulletin 009)

WEIGHT AND DIMENSIONS

Enclosure - Net Weight - lbs [kg] 86 [39]
 Enclosure - Gross Weight - lbs [kg] 104 [47]
 Dimensions - Net (H x W x D) - in [mm] 10-5/16 x 44-11/16 x 27-9/16
 [270 x 1,135 x 700]
 Dimensions - Gross (H x W x D) - in [mm] 11-13/16 x 51-15/16 x 31-1/8
 [300 x 1,320 x 790]

PIPING

Connection Pipe Diameter - Liquid (Flare) - in [mm] ø 3/8 [9.52]
 Connection Pipe Diameter - Gas (Flare) - in [mm] ø 5/8 [15.88]
 Connection Pipe Diameter - Drain (ID; OD) - in [mm] ø 3/4 [19]
 Drain-Pump Optional

ETL

E.T.L. 91987

TEMPERATURE SETTINGS

Operating Temp. Cooling (DB) - °F [°C] 64 to 90 [18 to 32]
 Operating Temp. Heating (DB) - °F [°C] 50 to 86 [10 to 30]

Note: Specifications are based on the following conditions:
 Cooling: Indoor temperature of 80°F (26.7°C) DB/67°F (19.4°C) WB, and outdoor temperature of 95°F (35°C) DB/75°F (23.9°C) WB. Heating: Indoor temperature of 70°F (21.1°C) DB/60°F (15.6°C) WB, and outdoor temperature of 47°F (8.3°C) DB/43°F (6.1°C) WB. Pipe length: 25ft. (7.5m), Height difference: 0ft. (0m) (Outdoor unit - indoor unit).

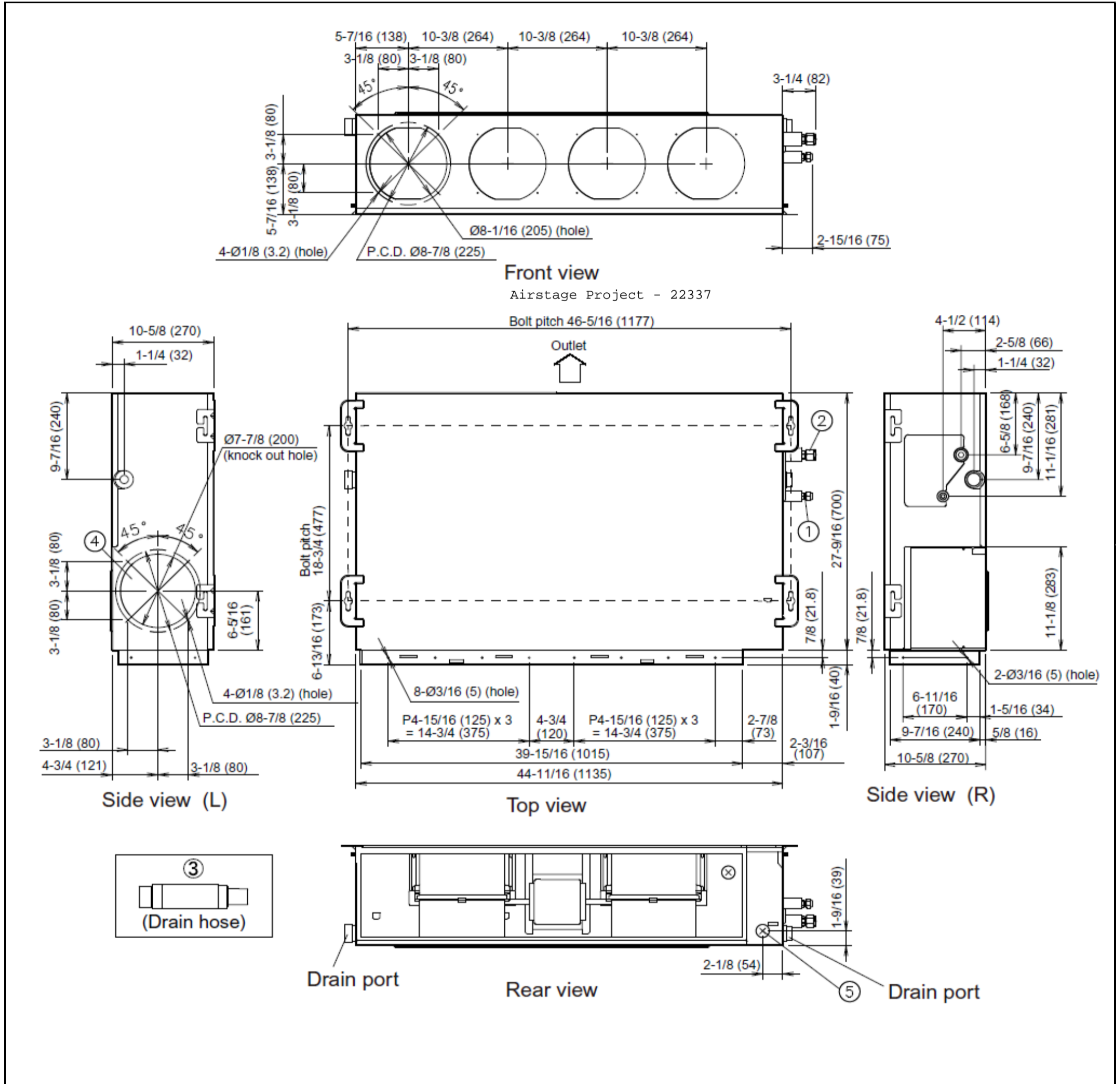


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 www.airstagevrf.com

Medium Static Pressure Duct (24,000 BTU) Indoor Unit
For Heat-recovery/Heat-pump Airstage VRF System

DIMENSIONS

Unit: In. (mm)



**3 Ton Heat Pump Outdoor Unit - 208/230 VAC, 1-Phase, 60Hz
AOU36RLAVM**

Job Name _____
 Location _____
 Engineer _____
 Submitted To _____
 Submitted By _____
 Reference _____

Date _____
 Approval _____
 Construction _____
 Unit No _____
 Drawing No _____

- Energy efficient Single-Phase VRF
- Inverter driven dual rotary compressor
- High power dual DC fan motor.
- Large Blue fin heat-exchanger
- 10 Year warranty on parts and compressor. See Warranty Statement for details.
- Optional: Internet, BACnet, LonWorks, or Modbus communication.



Airstage Project - 22337



CAPACITY	
Nominal Cooling Capacity - BTU/h [kW]	36,000 [10.55]
Nominal Heating Capacity - BTU/h [kW]	42,000 [12.31]
Nominal Tonnage - Ton(s)	3
Maximum Connectable Indoor Units	6
Connectable Capacity	50% to 130%
Cooling Power Input - kW	2.61
Heating Power Input - kW	3.13

OPERATING TEMPERATURES	
Operating Temp. Cooling (DB) - °F [°C]	23 to 115 [-5 to 46]
Operating Temp. Heating (DB) - °F [°C]	-4 to 70 [-20 to 21]

ELECTRICAL	
Electrical Power Requirements	208/230 VAC, 1-Phase, 60Hz
Voltage Range	187 to 253 VAC
Maximum Circuit Breaker - A	40
Minimum Circuit Ampacity (MCA) - A	33
Cooling Power Input - kW	2.61
Heating Power Input - kW	3.13

EFFICIENCY	
EER Cooling (Ducted/Non Ducted)	12.5 / 13.3
SEER Cooling (Ducted/Non Ducted)	17.0 / 19.0
COP / High Heating 47°F (Ducted/Non Ducted)	3.82 / 3.86
HSPF Heating (Ducted/Non Ducted)	10.4 / 11.4

COMPRESSOR	
Compressor Type	Rotary Inverter
Refrigerant Type	R410A
Refrigerant Charge - lbs [kg]	10.6 [4.8]
Compressor Crankcase Heater - W	25
Refrigerant Oil / Lubricant	POE
Compressor Capacity Control - Steps/Range	81 / 20-100%

WIRING	
Communication Cable	LonWorks (Fujitsu Pink Cable. See AE Bulletin 009)

FAN	
Fan Type	2x Propeller fan
Fan Airflow Rate - CFM [m3/h]	3,649 [6,200]
Fan Power Output - W	2x 100

PIPING	
Max. Total Refrigerant Line Length - ft [m]	590 [180]
Max Height Diff. (OD & ID)(Upper/Lower) - ft [m]	164/131 [50/40]
Max. Refrig. Line Length 1st Sep. tube & furthest IU - ft [m]	131 [40]
Pipe Connection Method: Liquid/Gas	Flare
Pipe Connection: Liquid - in [mm]	3/8 [9.52]
Pipe Connection: Discharge Gas - in [mm]	5/8 [15.88]

HEAT EXCHANGER	
H. E. Pipe Type (Material)	Grooved H-pin (Copper)
H. E. Fin Tube (Material)	Corrugate (Aluminum)
H. E. Fin Surface Treatment	Corrosion resistance (Blue fin)
H. E. Fin Pitch - FPI [mm]	18 [1.45]
H. E. Rows x Stages	3 x 62
H. E. Face Area - Ft ² [m ²]	13 [1.22]
H. E. Length - in [mm]	36-13/16 [935]

SOUND	
Sound Pressure Levels (Cooling/Heating) - dB(A)	50 / 52

WEIGHT	
Net Weight - lbs [kg]	260 [118]
Gross Weight - lbs [kg]	282 [128]

DIMENSIONS	
Dim.Net (HxWxD) - in [mm]	52-1/2 × 38-3/16 × 14-9/16 [1340 x 972 x 368]

Dim.Gross (HxWxD) - in [mm]	58-1/8 × 41-7/8 × 18-7/8 [1476 x 1064 x 478]
-----------------------------	---

CODE	
ETL	3170288
AHRI Certified	Standard 210/240

Note: Specifications are based on the following conditions:
 Cooling: Indoor temperature of 80°F (26.7°C) DB/67°F (19.4°C) WB, and outdoor temperature of 95°F (35°C) DB/75°F (23.9°C) WB. Heating: Indoor temperature of 70°F (21.1°C) DB/60°F (15.6°C) WB, and outdoor temperature of 47°F (8.3°C) DB/43°F (6.1°C) WB. Pipe length: 25ft. (7.5m), Height difference: 0ft. (0m) (Outdoor unit - indoor unit).

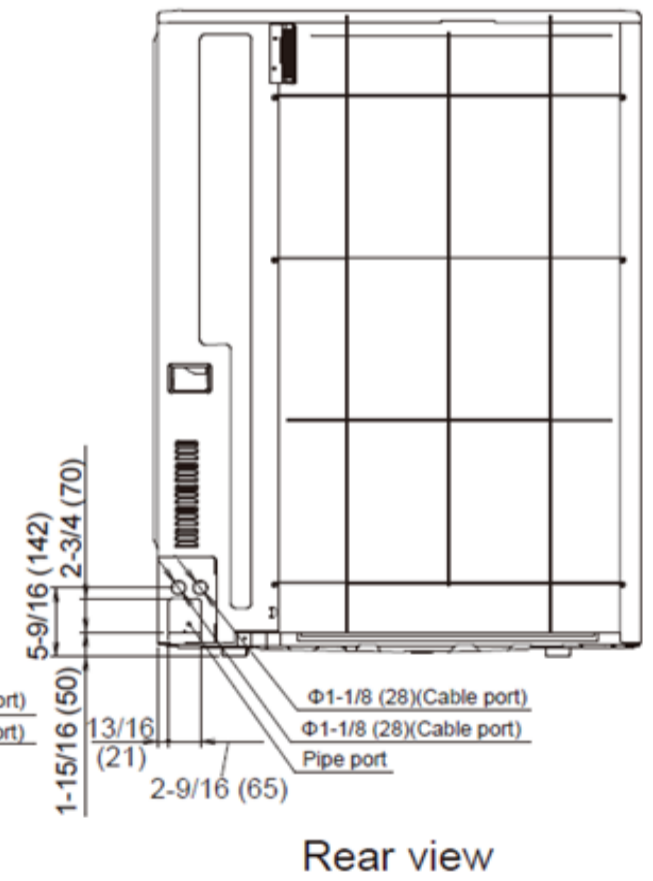
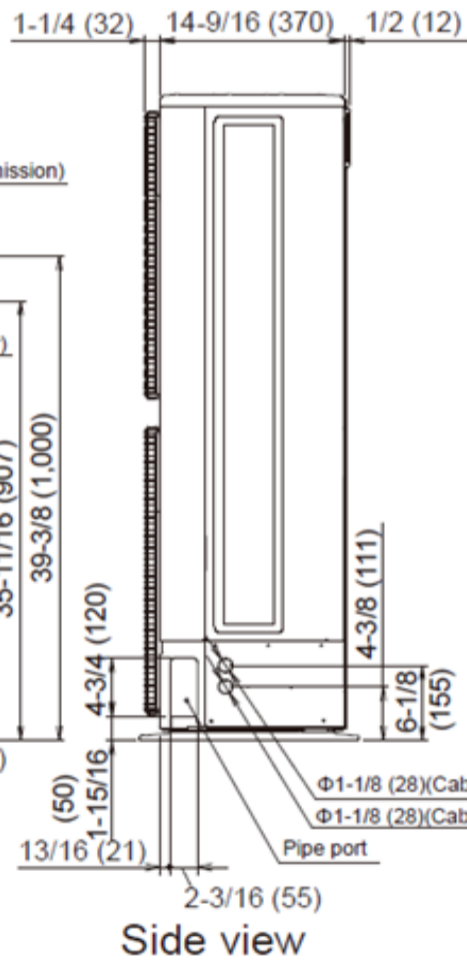
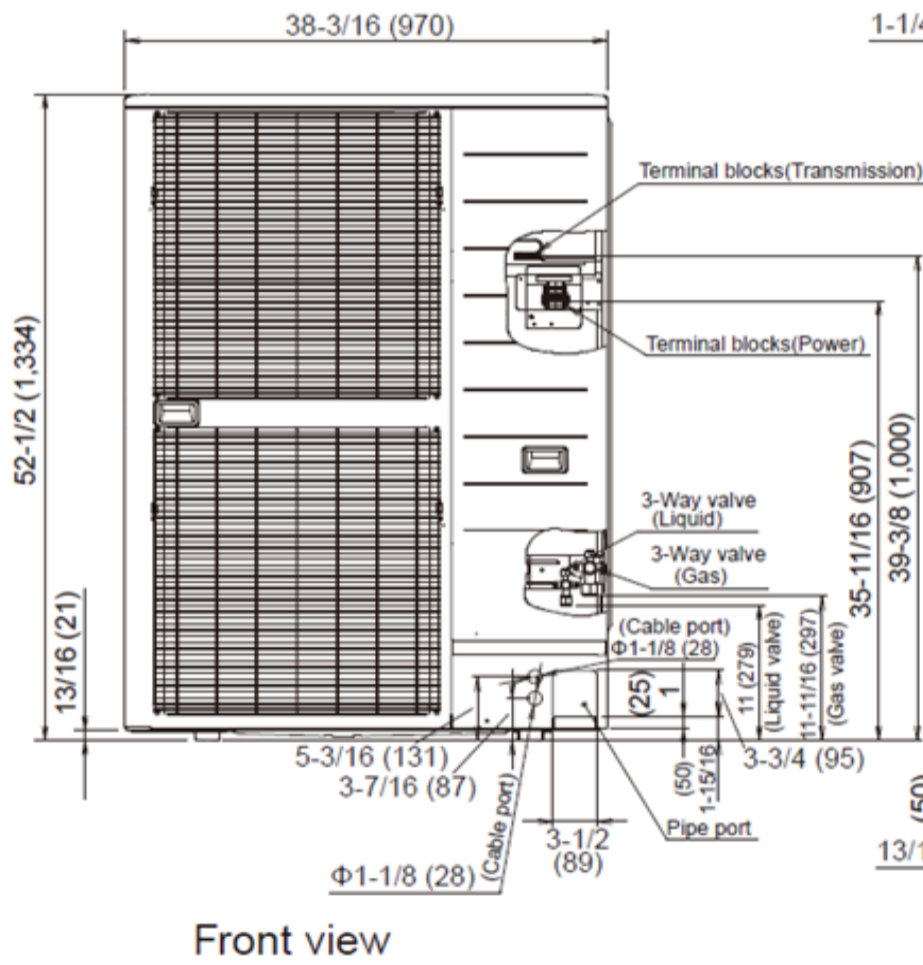
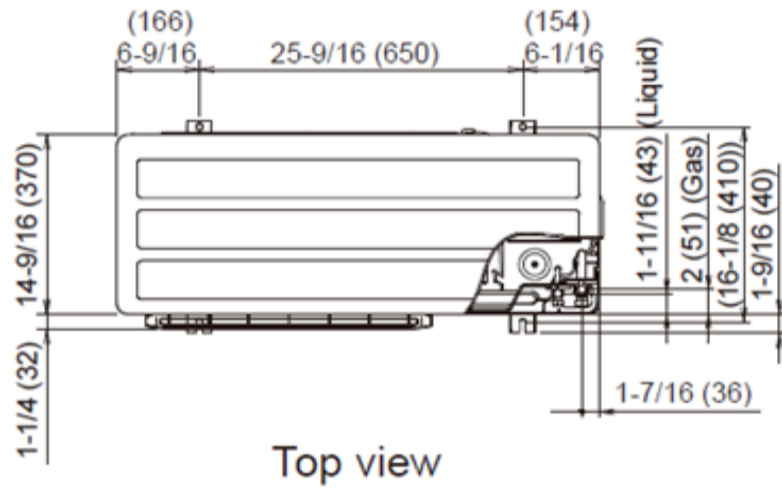


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 Toll Free: (888) 888-3424
 Fax: (973) 836-0453
 www.airstagevrf.com

DIMENSIONS

Unit: In. (mm)

Airstage Project - 22337



**4 Ton Heat Pump Outdoor Unit - 208/230 VAC, 1-Phase, 60Hz
AOU48RLAVM**

Job Name _____
 Location _____
 Engineer _____
 Submitted To _____
 Submitted By _____
 Reference _____

Date _____
 Approval _____
 Construction _____
 Unit No _____
 Drawing No _____

- Energy efficient Single-Phase VRF
- Inverter driven dual rotary compressor
- High power dual DC fan motor.
- Large Blue fin heat-exchanger
- 10 Year warranty on parts and compressor. See Warranty Statement for details.
- Optional: Internet, BACnet, LonWorks, or Modbus communication.



Airstage Project - 22337



CAPACITY

Nominal Cooling Capacity - BTU/h [kW]	48,000 [14.07]
Nominal Heating Capacity - BTU/h [kW]	54,000 [15.83]
Nominal Tonnage - Ton(s)	4
Maximum Connectable Indoor Units	8
Connectable Capacity	50% to 130%
Cooling Power Input - kW	3.73
Heating Power Input - kW	3.97

OPERATING TEMPERATURES

Operating Temp. Cooling (DB) - °F [°C]	23 to 115 [-5 to 46]
Operating Temp. Heating (DB) - °F [°C]	-4 to 70 [-20 to 21]

ELECTRICAL

Electrical Power Requirements	208/230 VAC, 1-Phase, 60Hz
Voltage Range	187 to 253 VAC
Maximum Circuit Breaker - A	40
Minimum Circuit Ampacity (MCA) - A	33
Cooling Power Input - kW	3.73
Heating Power Input - kW	3.97

EFFICIENCY

EER Cooling (Ducted/Non Ducted)	11.8 / 12.5
SEER Cooling (Ducted/Non Ducted)	18.1 / 19.8
COP / High Heating 47°F (Ducted/Non Ducted)	3.64 / 3.88
HSPF Heating (Ducted/Non Ducted)	10.9 / 11.4

COMPRESSOR

Compressor Type	Rotary Inverter
Refrigerant Type	R410A
Refrigerant Charge - lbs [kg]	11.7 [5.3]
Compressor Crankcase Heater - W	25
Refrigerant Oil / Lubricant	POE
Compressor Capacity Control - Steps/Range	81 / 20-100%

WIRING

Communication Cable	LonWorks (Fujitsu Pink Cable. See AE Bulletin 009)
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FAN

Fan Type	2x Propeller fan
Fan Airflow Rate - CFM [m3/h]	3,767 [6,400]
Fan Power Output - W	2x 111

PIPING

Max. Total Refrigerant Line Length - ft [m]	590 [180]
Max Height Diff. (OD & ID) (Upper/Lower) - ft [m]	164/131 [50/40]
Max. Refrig. Line Length 1st Sep. tube & furthest IU - ft [m]	131 [40]
Pipe Connection Method: Liquid/Gas	Flare
Pipe Connection: Liquid - in [mm]	3/8 [9.52]
Pipe Connection: Discharge Gas - in [mm]	5/8 [15.88]

HEAT EXCHANGER

H. E. Pipe Type (Material)	Grooved H-pin (Copper)
H. E. Fin Tube (Material)	Corrugate (Aluminum)
H. E. Fin Surface Treatment	Corrosion resistance (Blue fin)
H. E. Fin Pitch - FPI [mm]	18 [1.45]
H. E. Rows x Stages	3 x 62
H. E. Face Area - Ft ² [m ²]	13 [1.22]
H. E. Length - in [mm]	36-13/16 [935]

SOUND

Sound Pressure Levels (Cooling/Heating) - dB(A)	51 / 53
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WEIGHT

Net Weight - lbs [kg]	260 [118]
Gross Weight - lbs [kg]	282 [128]

DIMENSIONS

Dim.Net (HxWxD) - in [mm]	52-1/2 × 38-3/16 × 14-9/16 [1340 x 972 x 368]
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Dim.Gross (HxWxD) - in [mm]	58-1/8 × 41-7/8 × 18-7/8 [1476 x 1064 x 478]
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CODE

ETL	3170288
AHRI Certified	Standard 210/240

Note: Specifications are based on the following conditions:
 Cooling: Indoor temperature of 80°F (26.7°C) DB/67°F (19.4°C) WB, and outdoor temperature of 95°F (35°C) DB/75°F (23.9°C) WB. Heating: Indoor temperature of 70°F (21.1°C) DB/60°F (15.6°C) WB, and outdoor temperature of 47°F (8.3°C) DB/43°F (6.1°C) WB. Pipe length: 25ft. (7.5m), Height difference: 0ft. (0m) (Outdoor unit - indoor unit).

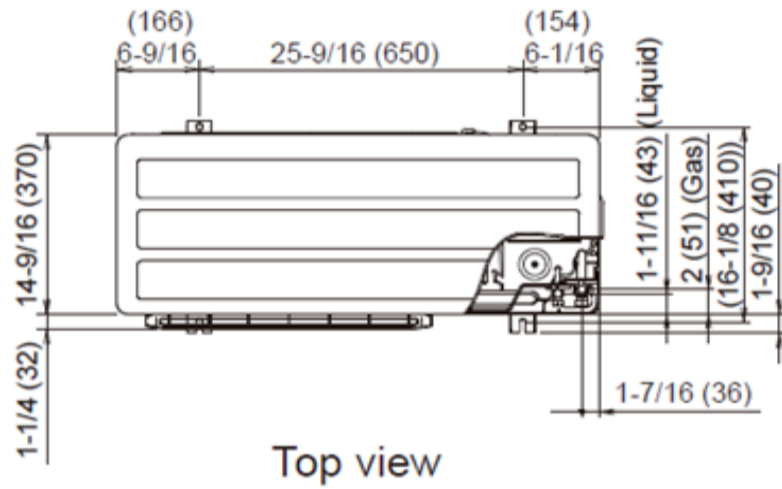


Fujitsu General America, Inc.
 353 Route 46 West
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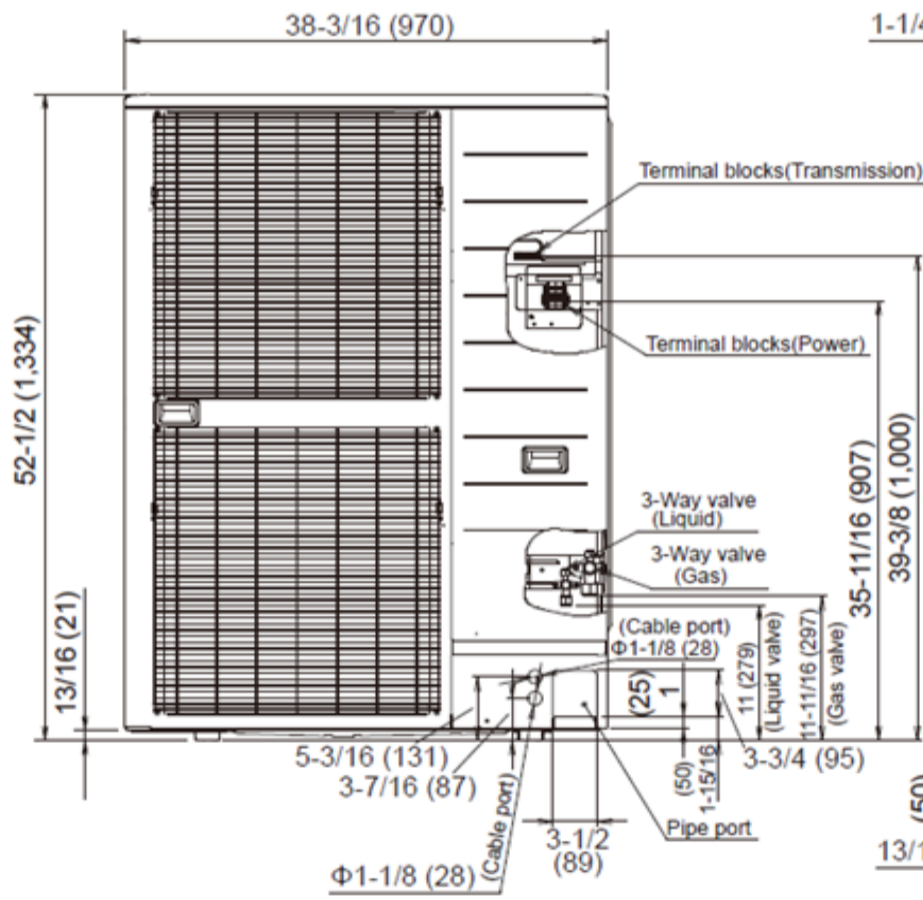
DIMENSIONS

Unit: In. (mm)

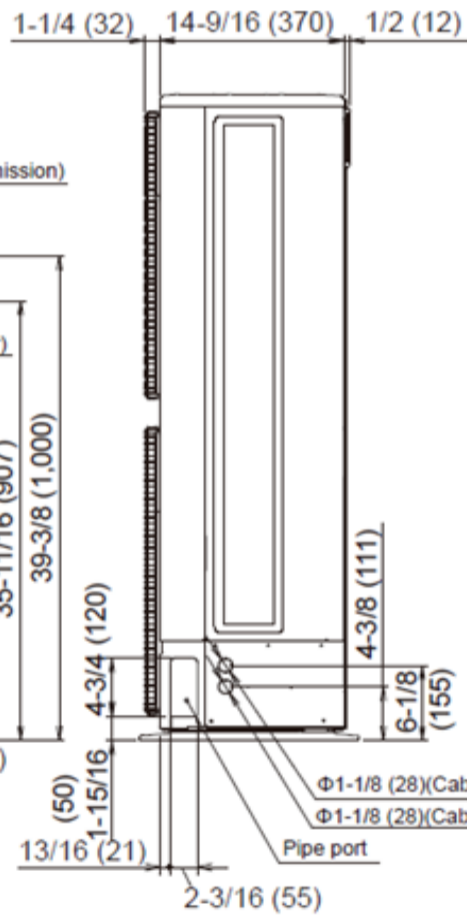
Airstage Project - 22337



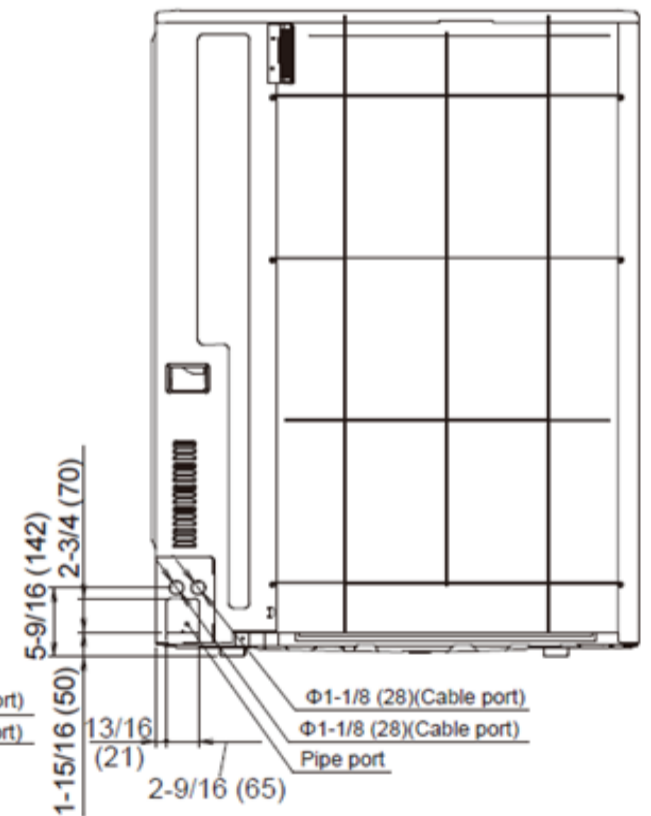
Top view



Front view



Side view



Rear view



Submittal UTY-RNRUZ2



Wired Remote Controller (Touch Panel)

Job Name: _____
 Location: _____
 Engineer: _____
 Submitted to: _____
 Submitted by: _____
 Reference: _____

Date: _____
 Approval: _____
 Construction: _____
 Unit #: _____
 Drawing #: _____



General Features

Wired touch screen remote controller with backlight that connects to the VRF indoor units using 2-wires. Individual or group control of up to 16 indoor units.

- Operation modes: Auto/Cool/Dry/Fan/Heat
- Various timer setup (on/off/weekly) are possible
- Auto ON or OFF timer – this feature is used to start/stop the indoor unit operation for early boost/startup or early shutdown.
- Weekly timer:
 - a. Start/stop function twice per day
 - b. Operating time can be set in 30-minute increments
 - c. The OFF timer can be carried over to the next day
- Vacation schedule
- Built-in Temperature sensor. Sensing can be set to measure temperature at the Remote or at Indoor unit.
- Additional Custom Settings:
 - Set temperature Auto Return
 - Set temperature Range Setting,
 - Away Setting,
 - Error History,
 - Anti Freeze,
 - Filter Reset,
 - R.C. Master/Slave Setting,
 - Language Setting.
- This remote controller is compatible with all VRF A***TLAV indoor units.
- This remote controller is not compatible with all VRF A***RLAV indoor units.

Temperature Setting Range

Cooling °F (°C) 64 - 88 (18 - 30)
 Heating °F (°C) 48 - 88 (10 - 30)

Weight and Dimensions

Weight oz (g) 8 (220g)
 Dim.Net (HxWxD) – in(mm)..... 4-3/4x4-3/4x11/16
 (120x120x20.4)

Electrical

Input Voltage DC V 12
 Power consumption W Max 0.3
 Wire Size AWG (mm²) 22 to 16 (0.33 to 1.25)
 Non polar 2 core sheathed twisted pair cable
 Thermostat Wiring AWG (mm²) 18 (0.75)
 2 core sheathed non twisted pair cable
 Display..... 3.8 inch backlight LCD Touch display
 (255x160 dots)



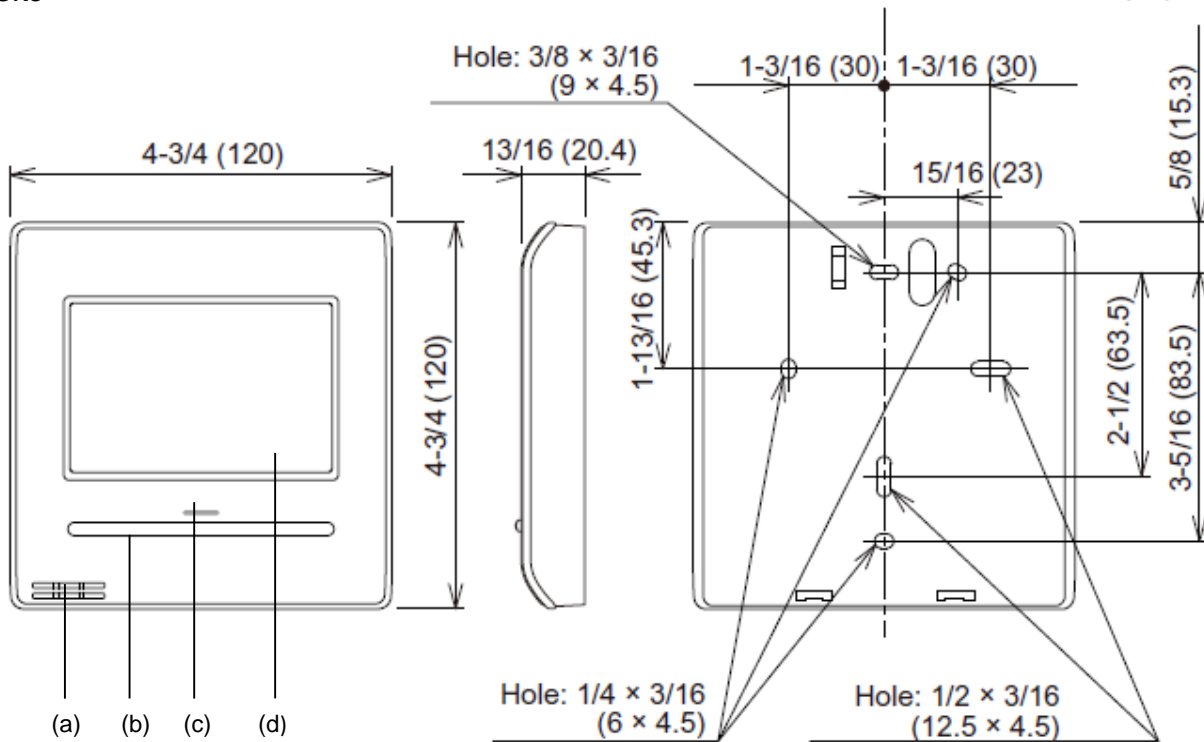
Submission UTY-RNRUZ2



Wired Remote Controller (Touch Panel)

DIMENSIONS

Unit : in. (mm)



- (a) Room temperature sensor
- (b) Operation (occupied/unoccupied) button
- (c) LED lamp (operation indicator)
- (d) Touch panel display