

# **BENNETT ENGINEERING**

MECHANICAL • ELECTRICAL  
(207) 865-9475

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## **Memorandum**

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To: Mark Mueller

Date: 11/5/14

From: Will Bennett

Subject: **HVAC system on Seaport Lofts**

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**The mechanical systems at the Seaport Lofts are proposed to be the following:**

**The 37 units will be heated and cooled by Daikin wall mounted or ducted indoor units connected to multi system condensing units. The Typical condensing unit will serve two to 4 indoor units. Each unit will be served by one to two condensing units. 16 units will have two condensing units. Condensing units will be mounted on the roof and piped with insulated refrigerant lines to their respective indoor fan coils. All piping will be within the walls of the structure and run thru the roof to the condensing units. There will be a total of 53 condensing units for the units. Each condensing unit will receive power supply from its respective unit. Power consumption for each system will be 18 amps or less. Condensing units are relatively quiet with a with a dB(A) of 54 or less.**

**The systems will be high efficiency with SEERS as high as 17.2 and HSPF as high as 9.3. Each indoor unit will be controlled individually. Smaller areas such as bathrooms may be fitted with electric floor (radiant mat) heating as they will not have fancoils.**

**The common and hallways will be heated and cooled with a high efficiency Rooftop single package system. Heating fuel source will be natural gas. The unit will be equipped with economizer/outside air dampers to provide proper ventilation and space temperature.**

**See attached cut sheets for system components. Feel free to contact us if you have any questions.**

Project Name: **seaport**

Unit Model #: **ZF036D10P2JAA2**

Quantity: **1**

System: **ZF036D10P2JAA2**

### Cooling Performance

Total capacity	37.5 MBH
Sensible capacity	27.1 MBH
Refrigerant type	R-410A
Seasonal Efficiency (at ARI)	13.00 SEER
Efficiency (at ARI)	11.00 EER
Ambient DB temp.	95.0 °F
Entering DB temp.	80.0 °F
Entering WB temp.	67.0 °F
Leaving DB temp.	59.1 °F
Leaving WB temp.	57.1 °F
Power input (w/o blower)	2.79 kW
Sound power	81 dB(A)

### Gas Heating Performance

Entering DB temp.	60 °F
Heating output capacity (Max)	92 MBH
Supply air	1200 CFM
Heating input capacity (Max)	115 MBH
Leaving DB temp.	131.0 °F
Air temp. rise	71.0 °F
SSE	80.2 %
Stages	2

### Supply Air Blower Performance

Supply air	1200 CFM
Ext. static pressure	0.6 IWG
Unit static resistance	0.08 IWG
Blower speed	918 RPM
Max BHP of Motor (including service factor)	1.73 HP
Duct location	Bottom
Motor rating	1.50 HP
Actual required BHP	0.61 HP
Power input	0.57 kW
Elevation	0 ft.
Drive type	BELT

### Electrical Data

Power supply	230-3-60
Unit min circuit ampacity	18.9 Amps
Unit max over-current protection	25 Amps

### Dimensions & Weight

Hgt	33 in.	Len	83 in.	Wth	45 in.
Weight with factory installed options					598 lbs.

### Clearances

Right	24 in.	Front	32 in.	Back	36 in.
Top	72 in.	Bottom	0 in.	Left	36 in.

Note: Please refer to the tech guide for listed maximum static pressures



### 3 Ton

- York Units are Manufactured at an ISO 9001 Registered Facility and Each Rooftop is Completely Computer-Run Tested Prior to Shipment.

### Unit Features

- Unit Cabinet Constructed of Powder Painted Steel, Certified At 1000 Hours Salt Spray Test (ASTM B-117 Standards)
- Through-the-Curb and Through-The-Base Utility Connections
- Either Supply and/or Return can be Field Converted from Vertical to Horizontal configuration without Cutting Panels.
- Full Perimeter Base Rails with Built in Rigging Capabilities
- Galvanized Steel Drain Pan
- Reciprocating Compressor
- Single Stage Cooling
- Solid Core Liquid Line Filter Driers
- Microchannel Condenser Coil
- 92 MBH Output Aluminized Steel, Two Stage Gas Nominal Heat
- 1.5 HP Standard Static Belt Drive Blower
- Unit Ships with 1" Throwaway Filters with a Standard Filter Rack That Will Accept up to 2" Filters
- Single Point Power Connection
- HACR Circuit Breaker/Disconnect (Sized for 208 Volts)
- Non Powered Convenience Outlet (110 VAC)
- Supply Air Smoke Detector
- Single Enthalpy Economizer and Hood (No Barometric Relief Damper)
- Short Circuit Current: 5kA RMS Symmetrical

### Standard Unit Controller: Simplicity Control Board

- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection, On-Board Diagnostic and Fault Code Display.
- Safety Monitoring - Monitors the High and Low-Pressure Switches, the Freezestats, the Gas Valve, if Applicable, and the Temperature Limit Switch on Gas and Electric Heat Units. The Unit Control Board will Alarm on Ignition Failures, Safety Lockouts and Repeated Limit Switch Trips.

### Warranty

- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Compressors and Electric Heater Elements
- Ten (10) Year Warranty - Aluminized Steel Tubular Heat Exchangers



**Small Sunline**  
Single Package R-410A Air Conditioner

Project Name: **seaport**

Unit Model #: **ZF036D10P2JAA2**

Quantity: **1**

System: **ZF036D10P2JAA2**

**Factory Installed Options**

**ZF036D10P2JAA2**

<b>Product Category:</b>	<b>Z</b>	York Sunline Single Packaged R-410A Air Conditioner
<b>Product Identifier:</b>	<b>F</b>	13.0 SEER / 11.0 EER
<b>Nominal Cooling Capacity:</b>	<b>036</b>	3 Ton Single Stage Cooling
<b>Heat Type and Nominal Heat Capacity:</b>	<b>D10</b>	92 MBH Output Aluminized Steel, Two Stage Gas Heat
<b>Airflow:</b>	<b>P</b>	1.5 HP Standard Static Belt Drive Blower 1" Throwaway Filters Single Enthalpy Economizer and Hood (No Barometric Relief Damper)
<b>Voltage:</b>	<b>2</b>	208/230-3-60
<b>Installation Options:</b>	<b>J</b>	Supply Air Smoke Detector Non Powered Convenience Outlet (110 VAC) HACR Circuit Breaker/Disconnect (Sized for 208 Volts)
<b>Additional Options:</b>	<b>AA</b>	Microchannel Condenser Coil Galvanized Steel Drain Pan
<b>Product Generation:</b>	<b>2</b>	

Project Name: **seaport**

Unit Model #: **ZF036D10P2JAA2**

Quantity: **1**

System: **ZF036D10P2JAA2**

### Cooling Performance

Total capacity	37.5 MBH
Sensible capacity	27.1 MBH
Refrigerant type	R-410A
Seasonal Efficiency (at ARI)	13.00 SEER
Efficiency (at ARI)	11.00 EER
Ambient DB temp.	95.0 °F
Entering DB temp.	80.0 °F
Entering WB temp.	67.0 °F
Leaving DB temp.	59.1 °F
Leaving WB temp.	57.1 °F
Power input (w/o blower)	2.79 kW
Sound power	81 dB(A)

### Gas Heating Performance

Entering DB temp.	60 °F
Heating output capacity (Max)	92 MBH
Supply air	1200 CFM
Heating input capacity (Max)	115 MBH
Leaving DB temp.	131.0 °F
Air temp. rise	71.0 °F
SSE	80.2 %
Stages	2

### Supply Air Blower Performance

Supply air	1200 CFM
Ext. static pressure	0.6 IWG
Unit static resistance	0.08 IWG
Blower speed	918 RPM
Max BHP of Motor (including service factor)	1.73 HP
Duct location	Bottom
Motor rating	1.50 HP
Actual required BHP	0.61 HP
Power input	0.57 kW
Elevation	0 ft.
Drive type	BELT

### Electrical Data

Power supply	230-3-60
Unit min circuit ampacity	18.9 Amps
Unit max over-current protection	25 Amps

### Dimensions & Weight

Hgt	33 in.	Len	83 in.	Wth	45 in.
Weight with factory installed options					598 lbs.

### Clearances

Right	24 in.	Front	32 in.	Back	36 in.
Top	72 in.	Bottom	0 in.	Left	36 in.

Note: Please refer to the tech guide for listed maximum static pressures



### 3 Ton

- York Units are Manufactured at an ISO 9001 Registered Facility and Each Rooftop is Completely Computer-Run Tested Prior to Shipment.

### Unit Features

- Unit Cabinet Constructed of Powder Painted Steel, Certified At 1000 Hours Salt Spray Test (ASTM B-117 Standards)
- Through-the-Curb and Through-The-Base Utility Connections
- Either Supply and/or Return can be Field Converted from Vertical to Horizontal configuration without Cutting Panels.
- Full Perimeter Base Rails with Built in Rigging Capabilities
- Galvanized Steel Drain Pan
- Reciprocating Compressor
- Single Stage Cooling
- Solid Core Liquid Line Filter Driers
- Microchannel Condenser Coil
- 92 MBH Output Aluminized Steel, Two Stage Gas Nominal Heat
- 1.5 HP Standard Static Belt Drive Blower
- Unit Ships with 1" Throwaway Filters with a Standard Filter Rack That Will Accept up to 2" Filters
- Single Point Power Connection
- HACR Circuit Breaker/Disconnect (Sized for 208 Volts)
- Non Powered Convenience Outlet (110 VAC)
- Supply Air Smoke Detector
- Single Enthalpy Economizer and Hood (No Barometric Relief Damper)
- Short Circuit Current: 5kA RMS Symmetrical

### Standard Unit Controller: Simplicity Control Board

- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection, On-Board Diagnostic and Fault Code Display.
- Safety Monitoring - Monitors the High and Low-Pressure Switches, the Freezestats, the Gas Valve, if Applicable, and the Temperature Limit Switch on Gas and Electric Heat Units. The Unit Control Board will Alarm on Ignition Failures, Safety Lockouts and Repeated Limit Switch Trips.

### Warranty

- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Compressors and Electric Heater Elements
- Ten (10) Year Warranty - Aluminized Steel Tubular Heat Exchangers

Project Name: seaport

Unit Model #: ZF036D10P2JAA2

Quantity: 1

System: ZF036D10P2JAA2

### Consolidated Drawing

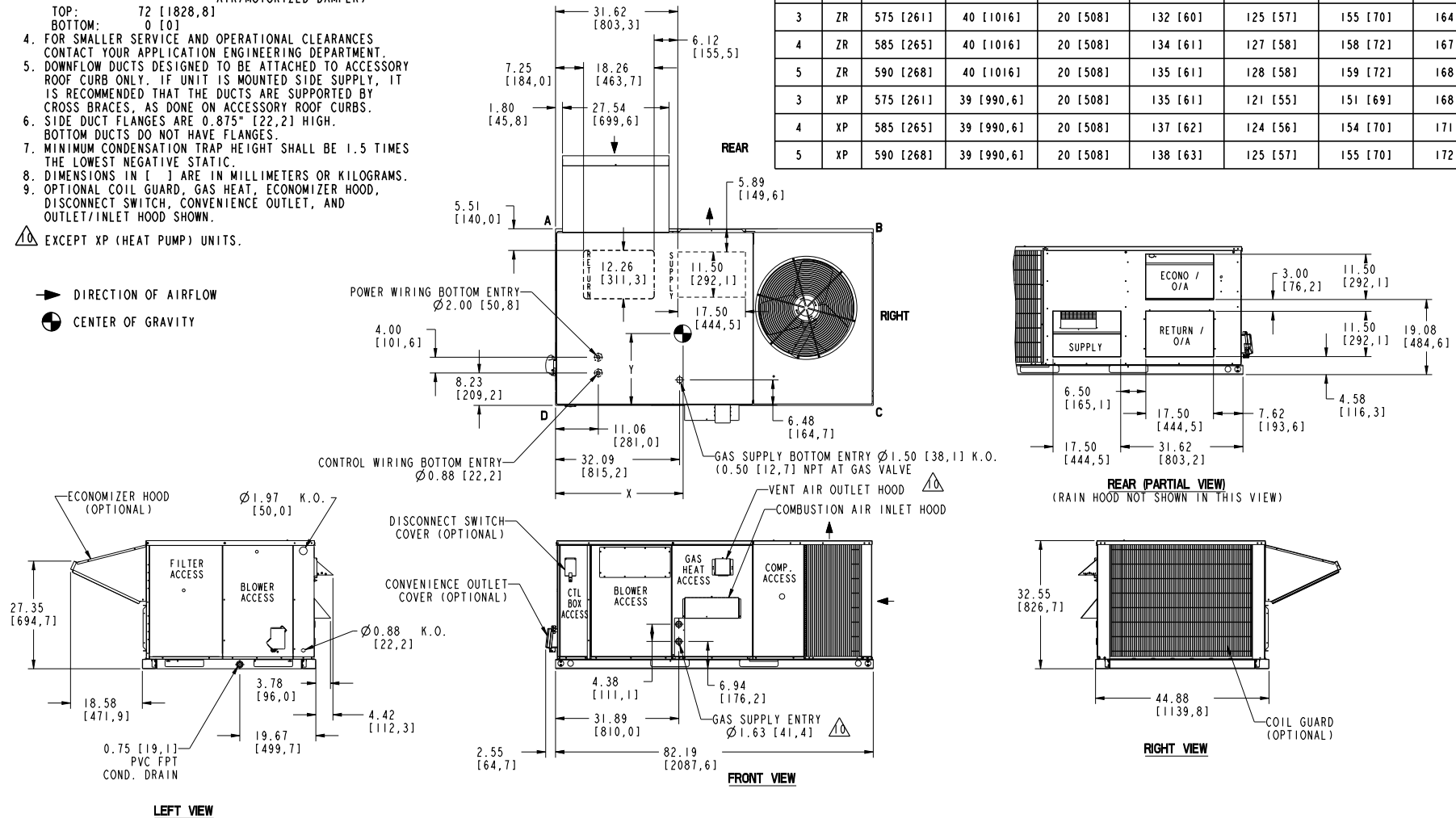
**NOTES:**

1. FOR OUTDOOR USE ONLY.
2. WEIGHTS SHOWN ARE FOR COOLING ONLY UNITS.
3. MIN. CLEARANCES TO BE:
  - RIGHT SIDE: 24 [609,6]
  - LEFT SIDE: 24 [609,6] (LESS ECONOMIZER)
  - FRONT: 36 [914,4] (WITH ECONOMIZER)
  - FRONT: 24 [609,6] (COOLING/ELECTRIC HEAT)
  - FRONT: 32 [812,8] (GAS HEAT)
  - REAR: 12 [304,8] (LESS ECONOMIZER)
  - REAR: 36 [914,4] (WITH ECONOMIZER OR FIXED AIR/MOTORIZED DAMPER)
  - TOP: 72 [1828,8]
  - BOTTOM: 0 [0]
4. FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES CONTACT YOUR APPLICATION ENGINEERING DEPARTMENT.
5. DOWNFLOW DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THAT THE DUCTS ARE SUPPORTED BY CROSS BRACES, AS DONE ON ACCESSORY ROOF CURBS.
6. SIDE DUCT FLANGES ARE 0.875" [22,2] HIGH. BOTTOM DUCTS DO NOT HAVE FLANGES.
7. MINIMUM CONDENSATION TRAP HEIGHT SHALL BE 1.5 TIMES THE LOWEST NEGATIVE STATIC.
8. DIMENSIONS IN [ ] ARE IN MILLIMETERS OR KILOGRAMS.
9. OPTIONAL COIL GUARD, GAS HEAT, ECONOMIZER HOOD, DISCONNECT SWITCH, CONVENIENCE OUTLET, AND OUTLET/INLET HOOD SHOWN.

⚠ EXCEPT XP (HEAT PUMP) UNITS.

- ➔ DIRECTION OF AIRFLOW
- CENTER OF GRAVITY

TONNAGE	UNIT	OPERATING WEIGHT (LBS) (BASE UNIT)	CENTER OF GRAVITY LOCATION (BASE UNIT)		4 POINT CORNER LOADS (LBS) (BASE UNIT)			
			X	Y	A	B	C	D
3	ZF	468 [212]	33 [838,2]	18.25 [463,6]	114 [52]	76 [35]	111 [50]	167 [76]
4	ZF	541 [245]	31.50 [800,1]	18.50 [469,9]	138 [63]	85 [39]	122 [55]	196 [89]
5	ZF	569 [258]	37 [939,8]	15 [381]	105 [48]	86 [39]	170 [77]	208 [94]
6	ZF	640 [290]	37 [939,8]	15 [381]	118 [54]	96 [44]	192 [87]	234 [106]
3	ZR	575 [261]	40 [1016]	20 [508]	132 [60]	125 [57]	155 [70]	164 [74]
4	ZR	585 [265]	40 [1016]	20 [508]	134 [61]	127 [58]	158 [72]	167 [76]
5	ZR	590 [268]	40 [1016]	20 [508]	135 [61]	128 [58]	159 [72]	168 [76]
3	XP	575 [261]	39 [990,6]	20 [508]	135 [61]	121 [55]	151 [69]	168 [76]
4	XP	585 [265]	39 [990,6]	20 [508]	137 [62]	124 [56]	154 [70]	171 [78]
5	XP	590 [268]	39 [990,6]	20 [508]	138 [63]	125 [57]	155 [70]	172 [78]



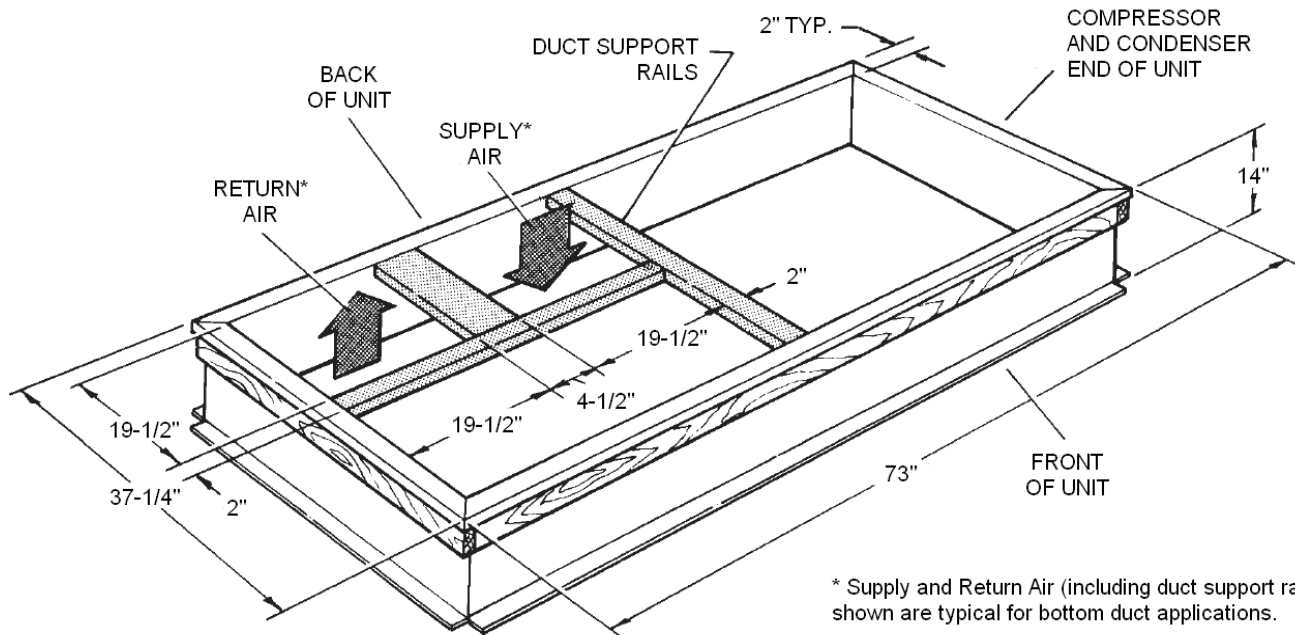
Project Name: **seaport**

Unit Model #: **ZF036D10P2JAA2**

Quantity: **1**

System: **ZF036D10P2JAA2**

**1RC0434 Roof Curb**



DUCT SIZES:  
Supply Air = 19" x 19"  
Return Air = 19" x 19"

\* Supply and Return Air (including duct support rails) shown are typical for bottom duct applications.  
For location of horizontal duct applications (on back of unit), refer to Unit Dimensions details.

1RC0434 Roof Curb Dimensions



# Submittal Data Sheet

Project Name: SEAPPORT MINI SPLIT  
 Location:  
 Engineer: DAVID CHADWICK  
 Submitted to: GRANITE  
 Submitted by:  
 Reference: seaport

Approval:  
 Date: 10/7/2014  
 Construction:  
 Unit #:  
 Drawing #:

## Performance

Indoor Unit Model No:  
 Outdoor Unit Model No: 2MXS18GVJU  
 Rated Cooling Capacity (Btu/hr): 18000  
 Sensible Capacity (Btu/hr): N/A  
 Max/Min Cooling Capacity (Btu/hr / kW): :tabook/databook  
 Cooling Input Power (kW):  
 SEER: 19.5/13  
 Rated Heating Capacity (Btu/hr): 22000  
 Max/Min Heating Capacity (Btu/hr / kW): :tabook/databook  
 Heating Input Power (kW):  
 Heating COP (Btu/hr / Btu/hr): 3.4/2.9  
 HSPF: 9.2/7.7

Indoor Unit Type:  
 Condensing Unit Type: 2 Zone Multi Heat Pump  
 Rated Cooling Conditions Indoor: 80°F DB/67°F WB  
 Outdoor: 95°F DB/75°F WB  
 Rated Heating Conditions Indoor: 70°F DB/60°F WB  
 Outdoor: 47°F DB/43°F WB  
 Rated Piping Length(ft) 25  
 Rated Height Separation(ft) 0

## Indoor Unit Details

Power Supply (V/Hz/Ph):  
 Power Supply Connections:  
 Min Circuit Amps MCA (A):  
 Max Overcurrent Amps MFA (A):  
 Dimensions (HxWxD): N/A  
 Panel (HxWxD): N/A  
 Net Weight (lbs):  
 Weight with Panel (lbs):

Airflow Rate (CFM wet coil) N/A  
 Moisture Removal (pt/h):  
 Gas Pipe Connection (inch):  
 Liquid Pipe Connection (inch):  
 Condensate Connection (inch):  
 Sound Pressure Level (dBA):  
 Sound Power Level (dBA):  
 Static Pressure Rated/Max (inW/g) /

## Condensing Unit Details

Power Supply (V/Hz/Ph): 208-230/60/1ph  
 Power Supply Connections: L1, L2, Ground  
 Min. Circuit Amps MCA (A): 11.1  
 Max. Overcurrent Amps MFA (A): 20  
 Max. Starting Current MSC(A): 8.3  
 Rated Load Amps RLA (A): 7.7  
 Dimensions (HxWxD): 28-15/16x32-1/2x11-13/16  
 Net Weight (lbs): 139

Compressor Type: Inverter  
 Capacity Control Range (%):  
 Airflow Rate (CFM): 1730  
 Gas Pipe Connection (inch): 3/8 x2  
 Liquid Pipe Connection (inch): 1/4 x2  
 Sound Pressure Level (dBA): 51  
 Sound Power Level (dBA):

## System Details

Refrigerant Type: R-410A  
 Holding Refrigerant Charge (lbs): 5.73  
 Additional Charge (oz/ft): 0.22  
 Pre-charge Piping (Length ft): 98.4 ft  
 Max. Pipe Length (Total ft): 164/82 ft

Max. Pipe Length (Vertical ft): 49.2 ft  
 Cooling Operation Range (°F): 14 - 115  
 Cooling Range w/Baffle (°F): 14 - 115  
 Heating Operation Range (°F): 5 - 72  
 Heating Range w/Baffle (°F): 5 - 72



# Submittal Data Sheet

Project Name: SEAPPORT MINI SPLIT  
 Location:  
 Engineer: DAVID CHADWICK  
 Submitted to: GRANITE  
 Submitted by:  
 Reference: seaport

Approval:  
 Date: 10/7/2014  
 Construction:  
 Unit #:  
 Drawing #:

## Performance

Indoor Unit Model No:  
 Outdoor Unit Model No: 3MXS24JVJU  
 Rated Cooling Capacity (Btu/hr): 24000  
 Sensible Capacity (Btu/hr): N/A  
 Max/Min Cooling Capacity (Btu/hr / kW): :tabook/databook  
 Cooling Input Power (kW):  
 SEER: 16.6/13  
 Rated Heating Capacity (Btu/hr): 30000  
 Max/Min Heating Capacity (Btu/hr / kW): :tabook/databook  
 Heating Input Power (kW):  
 Heating COP (Btu/hr / Btu/hr): 3.2/2.7  
 HSPF: 9.0/7.7

Indoor Unit Type:  
 Condensing Unit Type: 3 Zone Multi Heat Pump  
 Rated Cooling Conditions Indoor: 80°F DB/67°F WB  
 Outdoor: 95°F DB/75°F WB  
 Rated Heating Conditions Indoor: 70°F DB/60°F WB  
 Outdoor: 47°F DB/43°F WB  
 Rated Piping Length(ft) 25  
 Rated Height Separation(ft) 0

## Indoor Unit Details

Power Supply (V/Hz/Ph):  
 Power Supply Connections:  
 Min Circuit Amps MCA (A):  
 Max Overcurrent Amps MFA (A):  
 Dimensions (HxWxD): N/A  
 Panel (HxWxD): N/A  
 Net Weight (lbs):  
 Weight with Panel (lbs):

Airflow Rate (CFM wet coil) N/A  
 Moisture Removal (pt/h):  
 Gas Pipe Connection (inch):  
 Liquid Pipe Connection (inch):  
 Condensate Connection (inch):  
 Sound Pressure Level (dBA):  
 Sound Power Level (dBA):  
 Static Pressure Rated/Max (inWg) /

## Condensing Unit Details

Power Supply (V/Hz/Ph): 208-230/60/1ph  
 Power Supply Connections: L1, L2, Ground  
 Min. Circuit Amps MCA (A): 17.8  
 Max. Overcurrent Amps MFA (A): 20  
 Max. Starting Current MSC(A): 12  
 Rated Load Amps RLA (A): 10.4  
 Dimensions (HxWxD): 30-5/16x35-7/16x12-5/8  
 Net Weight (lbs): 168

Compressor Type: Inverter  
 Capacity Control Range (%):  
 Airflow Rate (CFM): 2062  
 Gas Pipe Connection (inch): 3/8 x 1, 1/2 x 1, 5/8 x 1  
 Liquid Pipe Connection (inch): 1/4 x3  
 Sound Pressure Level (dBA): 54  
 Sound Power Level (dBA):

## System Details

Refrigerant Type: R-410A  
 Holding Refrigerant Charge (lbs): 6.83  
 Additional Charge (oz/ft): 0.22  
 Pre-charge Piping (Length ft): 131.6 ft  
 Max. Pipe Length (Total ft): 230/82 ft

Max. Pipe Length (Vertical ft): 49.2 ft  
 Cooling Operation Range (°F): 14 - 115  
 Cooling Range w/Baffle (°F): 14 - 115  
 Heating Operation Range (°F): 5 - 72  
 Heating Range w/Baffle (°F): 5 - 72





# Submittal Data Sheet

Project Name: SEAPPORT MINI SPLIT  
 Location:  
 Engineer: DAVID CHADWICK  
 Submitted to: GRANITE  
 Submitted by:  
 Reference: seaport

Approval:  
 Date: 10/7/2014  
 Construction:  
 Unit #:  
 Drawing #:

## Performance

Indoor Unit Model No:  
 Outdoor Unit Model No: 4MXS32GVJU  
 Rated Cooling Capacity (Btu/hr): 30600  
 Sensible Capacity (Btu/hr): N/A  
 Max/Min Cooling Capacity (Btu/hr / kW): :tabook/databook  
 Cooling Input Power (kW):  
 SEER: 17.2/13.3  
 Rated Heating Capacity (Btu/hr): 32000  
 Max/Min Heating Capacity (Btu/hr / kW): :tabook/databook  
 Heating Input Power (kW):  
 Heating COP (Btu/hr / Btu/hr): 3.4/3.0  
 HSPF: 9.3/7.9

Indoor Unit Type:  
 Condensing Unit Type: 4 Zone Multi Heat Pump  
 Rated Cooling Conditions Indoor: 80°F DB/67°F WB  
 Outdoor: 95°F DB/75°F WB  
 Rated Heating Conditions Indoor: 70°F DB/60°F WB  
 Outdoor: 47°F DB/43°F WB  
 Rated Piping Length(ft) 25  
 Rated Height Separation(ft) 0

## Indoor Unit Details

Power Supply (V/Hz/Ph):  
 Power Supply Connections:  
 Min Circuit Amps MCA (A):  
 Max Overcurrent Amps MFA (A):  
 Dimensions (HxWxD): N/A  
 Panel (HxWxD): N/A  
 Net Weight (lbs):  
 Weight with Panel (lbs):

Airflow Rate (CFM wet coil) N/A  
 Moisture Removal (pt/h):  
 Gas Pipe Connection (inch):  
 Liquid Pipe Connection (inch):  
 Condensate Connection (inch):  
 Sound Pressure Level (dBA):  
 Sound Power Level (dBA):  
 Static Pressure Rated/Max (inWg) /

## Condensing Unit Details

Power Supply (V/Hz/Ph): 208-230/60/1ph  
 Power Supply Connections: L1, L2, Ground  
 Min. Circuit Amps MCA (A): 18  
 Max. Overcurrent Amps MFA (A): 20  
 Max. Starting Current MSC(A): 13.8  
 Rated Load Amps RLA (A): 12.1  
 Dimensions (HxWxD): 30-5/16x35-7/16x12-5/8  
 Net Weight (lbs): 168

Compressor Type: Inverter  
 Capacity Control Range (%):  
 Airflow Rate (CFM): 2062  
 Gas Pipe Connection (inch): 3/8 x 1, 1/2 x 1, 5/8 x 2  
 Liquid Pipe Connection (inch): 1/4 x4  
 Sound Pressure Level (dBA): 54  
 Sound Power Level (dBA):

## System Details

Refrigerant Type: R-410A  
 Holding Refrigerant Charge (lbs): 6.83  
 Additional Charge (oz/ft): 0.22  
 Pre-charge Piping (Length ft): 131.6 ft  
 Max. Pipe Length (Total ft): 230/82 ft

Max. Pipe Length (Vertical ft): 49.2 ft  
 Cooling Operation Range (°F): 14 - 115  
 Cooling Range w/Baffle (°F): 14 - 115  
 Heating Operation Range (°F): 5 - 72  
 Heating Range w/Baffle (°F): 5 - 72

Project Name: SEAPPORT MINI SPLIT  
 Location: \_\_\_\_\_  
 Engineer: DAVID CHADWICK  
 Submitted to: GRANITE  
 Submitted by: \_\_\_\_\_  
 Reference: seaport

Approval: \_\_\_\_\_  
 Date: 10/7/2014  
 Construction: \_\_\_\_\_  
 Unit #: \_\_\_\_\_  
 Drawing #: \_\_\_\_\_

### Performance

Indoor Unit Model No: CTXS12HVJU  
 Outdoor Unit Model No: \_\_\_\_\_  
 Rated Cooling Capacity (Btu/hr): 11500  
 Sensible Capacity (Btu/hr): N/A  
 Max/Min Cooling Capacity (Btu/hr / kW): :tabook/databook  
 Cooling Input Power (kW): \_\_\_\_\_  
 SEER: data book  
 Rated Heating Capacity (Btu/hr): 11500  
 Max/Min Heating Capacity (Btu/hr / kW): :tabook/databook  
 Heating Input Power (kW): \_\_\_\_\_  
 Heating COP (Btu/hr / Btu/hr): data book  
 HSPF: data book

Indoor Unit Type: Wall Mounted (for Multi)  
 Condensing Unit Type: \_\_\_\_\_  
 Rated Cooling Conditions: Indoor: 80°F DB/67°F WB  
 Outdoor: 95°F DB/75°F WB  
 Rated Heating Conditions: Indoor: 70°F DB/60°F WB  
 Outdoor: 47°F DB/43°F WB  
 Rated Piping Length(ft): 25  
 Rated Height Separation(ft): 0

### Indoor Unit Details

Power Supply (V/Hz/Ph): 208-230/60/1ph  
 Power Supply Connections: L1, L2, Ground  
 Min Circuit Amps MCA (A): data book  
 Max Overcurrent Amps MFA (A): data book  
 Dimensions (HxWxD): 11-7/16x31-5/16x9-3/8  
 Panel (HxWxD): N/A  
 Net Weight (lbs): 20  
 Weight with Panel (lbs): \_\_\_\_\_

Airflow Rate (CFM wet coil): 388/335/283  
 Moisture Removal (pt/h): \_\_\_\_\_  
 Gas Pipe Connection (inch): 3/8  
 Liquid Pipe Connection (inch): 1/4  
 Condensate Connection (inch): 11/16  
 Sound Pressure Level (dBA): 45  
 Sound Power Level (dBA): -  
 Static Pressure Rated/Max (inWg): 0 / 0/0

### Condensing Unit Details

Power Supply (V/Hz/Ph): \_\_\_\_\_  
 Power Supply Connections: L1, L2, Ground  
 Min. Circuit Amps MCA (A): \_\_\_\_\_  
 Max. Overcurrent Amps MFA (A): \_\_\_\_\_  
 Max. Starting Current MSC(A): data book  
 Rated Load Amps RLA (A): data book  
 Dimensions (HxWxD): N/A  
 Net Weight (lbs): \_\_\_\_\_

Compressor Type: Inverter  
 Capacity Control Range (%): \_\_\_\_\_  
 Airflow Rate (CFM): N/A  
 Gas Pipe Connection (inch): \_\_\_\_\_  
 Liquid Pipe Connection (inch): \_\_\_\_\_  
 Sound Pressure Level (dBA): \_\_\_\_\_  
 Sound Power Level (dBA): \_\_\_\_\_

### System Details

Refrigerant Type: R-410A  
 Holding Refrigerant Charge (lbs): -  
 Additional Charge (oz/ft): -  
 Pre-charge Piping (Length ft): -  
 Max. Pipe Length (Total ft): data book

Max. Pipe Length (Vertical ft): data book  
 Cooling Operation Range (°F): 14 - 115  
 Cooling Range w/Baffle (°F): \_\_\_\_\_  
 Heating Operation Range (°F): 5 - 72  
 Heating Range w/Baffle (°F): \_\_\_\_\_



# Submittal Data Sheet

Project Name: SEAPPORT MINI SPLIT  
 Location:  
 Engineer: DAVID CHADWICK  
 Submitted to: GRANITE  
 Submitted by:  
 Reference: seaport

Approval:  
 Date: 10/7/2014  
 Construction:  
 Unit #:  
 Drawing #:

## Performance

Indoor Unit Model No: CTXS07LVJU  
 Outdoor Unit Model No:  
 Rated Cooling Capacity (Btu/hr): 7000  
 Sensible Capacity (Btu/hr): N/A  
 Max/Min Cooling Capacity (Btu/hr / kW): :tabook/databook  
 Cooling Input Power (kW):  
 SEER: data book  
 Rated Heating Capacity (Btu/hr): 8500  
 Max/Min Heating Capacity (Btu/hr / kW): :tabook/databook  
 Heating Input Power (kW):  
 Heating COP (Btu/hr / Btu/hr): data book  
 HSPF: data book

Indoor Unit Type: Wall Mounted (for Multi)  
 Condensing Unit Type:  
 Rated Cooling Conditions: Indoor: 80°F DB/67°F WB  
 Outdoor: 95°F DB/75°F WB  
 Rated Heating Conditions: Indoor: 70°F DB/60°F WB  
 Outdoor: 47°F DB/43°F WB  
 Rated Piping Length(ft) 25  
 Rated Height Separation(ft) 0

## Indoor Unit Details

Power Supply (V/Hz/Ph): 208-230/60/1ph  
 Power Supply Connections: L1, L2, Ground  
 Min Circuit Amps MCA (A): data book  
 Max Overcurrent Amps MFA (A): data book  
 Dimensions (HxWxD): 11-5/8x31-1/2x8-9/16  
 Panel (HxWxD): N/A  
 Net Weight (lbs): 20  
 Weight with Panel (lbs):

Airflow Rate (CFM wet coil) 332/194/145  
 Moisture Removal (pt/h):  
 Gas Pipe Connection (inch): 3/8  
 Liquid Pipe Connection (inch): 1/4  
 Condensate Connection (inch): 5/8  
 Sound Pressure Level (dBA): 38  
 Sound Power Level (dBA): 54  
 Static Pressure Rated/Max (inWg) 0 / 0/0

## Condensing Unit Details

Power Supply (V/Hz/Ph):  
 Power Supply Connections: L1, L2, Ground  
 Min. Circuit Amps MCA (A): data book  
 Max. Overcurrent Amps MFA (A):  
 Max. Starting Current MSC(A): data book  
 Rated Load Amps RLA (A): data book  
 Dimensions (HxWxD): N/A  
 Net Weight (lbs):

Compressor Type: Inverter  
 Capacity Control Range (%):  
 Airflow Rate (CFM): N/A  
 Gas Pipe Connection (inch):  
 Liquid Pipe Connection (inch):  
 Sound Pressure Level (dBA):  
 Sound Power Level (dBA):

## System Details

Refrigerant Type: R-410A  
 Holding Refrigerant Charge (lbs): -  
 Additional Charge (oz/ft): -  
 Pre-charge Piping (Length ft): -  
 Max. Pipe Length (Total ft): data book

Max. Pipe Length (Vertical ft): data book  
 Cooling Operation Range (°F): 14 - 115  
 Cooling Range w/Baffle (°F): 14 - 115  
 Heating Operation Range (°F): 5 - 72  
 Heating Range w/Baffle (°F): 5 - 72

Project Name: SEAPPORT MINI SPLIT  
 Location: \_\_\_\_\_  
 Engineer: DAVID CHADWICK  
 Submitted to: GRANITE  
 Submitted by: \_\_\_\_\_  
 Reference: seaport

Approval: \_\_\_\_\_  
 Date: 10/7/2014  
 Construction: \_\_\_\_\_  
 Unit #: \_\_\_\_\_  
 Drawing #: \_\_\_\_\_

### Performance

Indoor Unit Model No: CTXS09HVJU  
 Outdoor Unit Model No: \_\_\_\_\_  
 Rated Cooling Capacity (Btu/hr): 8500  
 Sensible Capacity (Btu/hr): N/A  
 Max/Min Cooling Capacity (Btu/hr / kW): :tabook/databook  
 Cooling Input Power (kW): \_\_\_\_\_  
 SEER: data book  
 Rated Heating Capacity (Btu/hr): 10000  
 Max/Min Heating Capacity (Btu/hr / kW): :tabook/databook  
 Heating Input Power (kW): \_\_\_\_\_  
 Heating COP (Btu/hr / Btu/hr): data book  
 HSPF: data book

Indoor Unit Type: Wall Mounted (for Multi)  
 Condensing Unit Type: \_\_\_\_\_  
 Rated Cooling Conditions: Indoor: 80°F DB/67°F WB  
 Outdoor: 95°F DB/75°F WB  
 Rated Heating Conditions: Indoor: 70°F DB/60°F WB  
 Outdoor: 47°F DB/43°F WB  
 Rated Piping Length(ft) 25  
 Rated Height Separation(ft) 0

### Indoor Unit Details

Power Supply (V/Hz/Ph): 208-230/60/1ph  
 Power Supply Connections: L1, L2, Ground  
 Min Circuit Amps MCA (A): data book  
 Max Overcurrent Amps MFA (A): data book  
 Dimensions (HxWxD): 11-7/16x31-5/16x9-3/8  
 Panel (HxWxD): N/A  
 Net Weight (lbs): 20  
 Weight with Panel (lbs): \_\_\_\_\_

Airflow Rate (CFM wet coil) 388/335/283  
 Moisture Removal (pt/h): \_\_\_\_\_  
 Gas Pipe Connection (inch): 3/8  
 Liquid Pipe Connection (inch): 1/4  
 Condensate Connection (inch): 11/16  
 Sound Pressure Level (dBA): 44  
 Sound Power Level (dBA): -  
 Static Pressure Rated/Max (inWg) 0 / 0/0

### Condensing Unit Details

Power Supply (V/Hz/Ph): \_\_\_\_\_  
 Power Supply Connections: L1, L2, Ground  
 Min. Circuit Amps MCA (A): \_\_\_\_\_  
 Max. Overcurrent Amps MFA (A): \_\_\_\_\_  
 Max. Starting Current MSC(A): data book  
 Rated Load Amps RLA (A): data book  
 Dimensions (HxWxD): N/A  
 Net Weight (lbs): \_\_\_\_\_

Compressor Type: Inverter  
 Capacity Control Range (%): \_\_\_\_\_  
 Airflow Rate (CFM): N/A  
 Gas Pipe Connection (inch): \_\_\_\_\_  
 Liquid Pipe Connection (inch): \_\_\_\_\_  
 Sound Pressure Level (dBA): \_\_\_\_\_  
 Sound Power Level (dBA): \_\_\_\_\_

### System Details

Refrigerant Type: R-410A  
 Holding Refrigerant Charge (lbs): -  
 Additional Charge (oz/ft): -  
 Pre-charge Piping (Length ft): -  
 Max. Pipe Length (Total ft): data book

Max. Pipe Length (Vertical ft): data book  
 Cooling Operation Range (°F): 14 - 115  
 Cooling Range w/Baffle (°F): \_\_\_\_\_  
 Heating Operation Range (°F): 5 - 72  
 Heating Range w/Baffle (°F): \_\_\_\_\_



# Submittal Data Sheet

Project Name: SEAPPORT MINI SPLIT  
 Location:  
 Engineer: DAVID CHADWICK  
 Submitted to: GRANITE  
 Submitted by:  
 Reference: seaport

Approval:  
 Date: 10/7/2014  
 Construction:  
 Unit #:  
 Drawing #:

## Performance

Indoor Unit Model No: FTXS15LVJU  
 Outdoor Unit Model No:  
 Rated Cooling Capacity (Btu/hr): 15000  
 Sensible Capacity (Btu/hr): N/A  
 Max/Min Cooling Capacity (Btu/hr / kW): :tabook/databook  
 Cooling Input Power (kW):  
 SEER: data book  
 Rated Heating Capacity (Btu/hr): 18000  
 Max/Min Heating Capacity (Btu/hr / kW): :tabook/databook  
 Heating Input Power (kW):  
 Heating COP (Btu/hr / Btu/hr): data book  
 HSPF: data book

Indoor Unit Type: Wall Mounted  
 Condensing Unit Type:  
 Rated Cooling Conditions Indoor: 80°F DB/67°F WB  
 Outdoor: 95°F DB/75°F WB  
 Rated Heating Conditions Indoor: 70°F DB/60°F WB  
 Outdoor: 47°F DB/43°F WB  
 Rated Piping Length(ft) 25  
 Rated Height Separation(ft) 0

## Indoor Unit Details

Power Supply (V/Hz/Ph): 208-230/60/1ph  
 Power Supply Connections: L1, L2, Ground  
 Min Circuit Amps MCA (A): data book  
 Max Overcurrent Amps MFA (A): data book  
 Dimensions (HxWxD): 13x45-11/16x16-7/8  
 Panel (HxWxD): N/A  
 Net Weight (lbs): 31  
 Weight with Panel (lbs):

Airflow Rate (CFM wet coil) 568/385/360  
 Moisture Removal (pt/h): 0.8  
 Gas Pipe Connection (inch): 1/2  
 Liquid Pipe Connection (inch): 1/4  
 Condensate Connection (inch): 5/8  
 Sound Pressure Level (dBA): 45  
 Sound Power Level (dBA): 61  
 Static Pressure Rated/Max (inWg) 0 / 0/0

## Condensing Unit Details

Power Supply (V/Hz/Ph):  
 Power Supply Connections: L1, L2, Ground  
 Min. Circuit Amps MCA (A):  
 Max. Overcurrent Amps MFA (A):  
 Max. Starting Current MSC(A): data book  
 Rated Load Amps RLA (A): data book  
 Dimensions (HxWxD): N/A  
 Net Weight (lbs):

Compressor Type: Inverter  
 Capacity Control Range (%):  
 Airflow Rate (CFM): N/A  
 Gas Pipe Connection (inch):  
 Liquid Pipe Connection (inch):  
 Sound Pressure Level (dBA):  
 Sound Power Level (dBA):

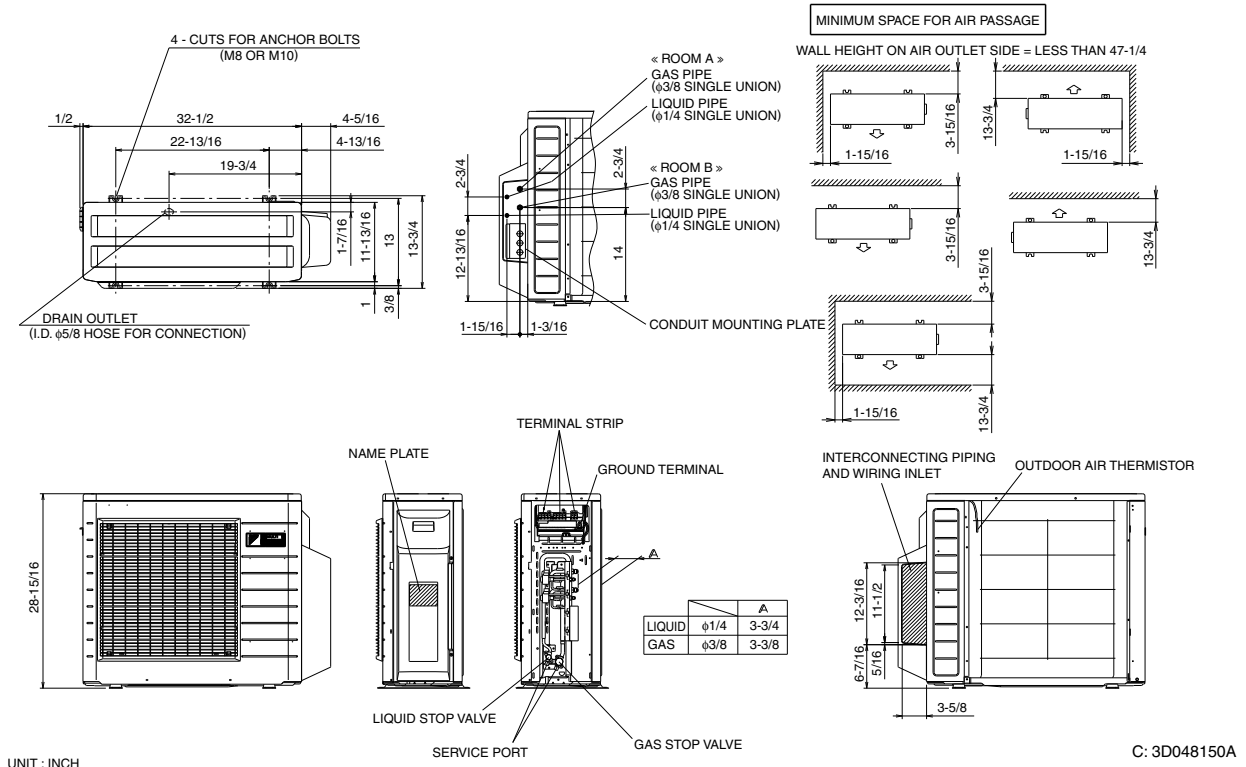
## System Details

Refrigerant Type: R-410A  
 Holding Refrigerant Charge (lbs): -  
 Additional Charge (oz/ft): -  
 Pre-charge Piping (Length ft): -  
 Max. Pipe Length (Total ft): data book

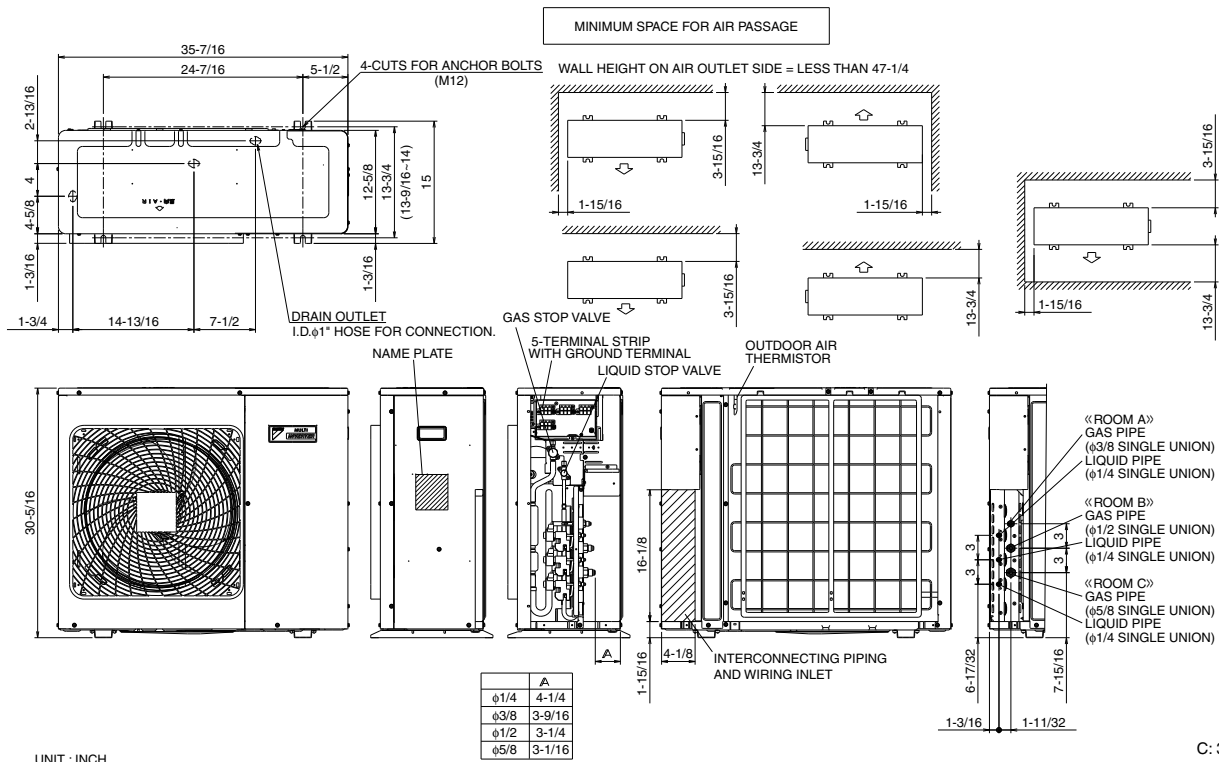
Max. Pipe Length (Vertical ft): data book  
 Cooling Operation Range (°F): 14 - 115  
 Cooling Range w/Baffle (°F):  
 Heating Operation Range (°F): 5 - 64  
 Heating Range w/Baffle (°F):

## 4.2 Outdoor Unit

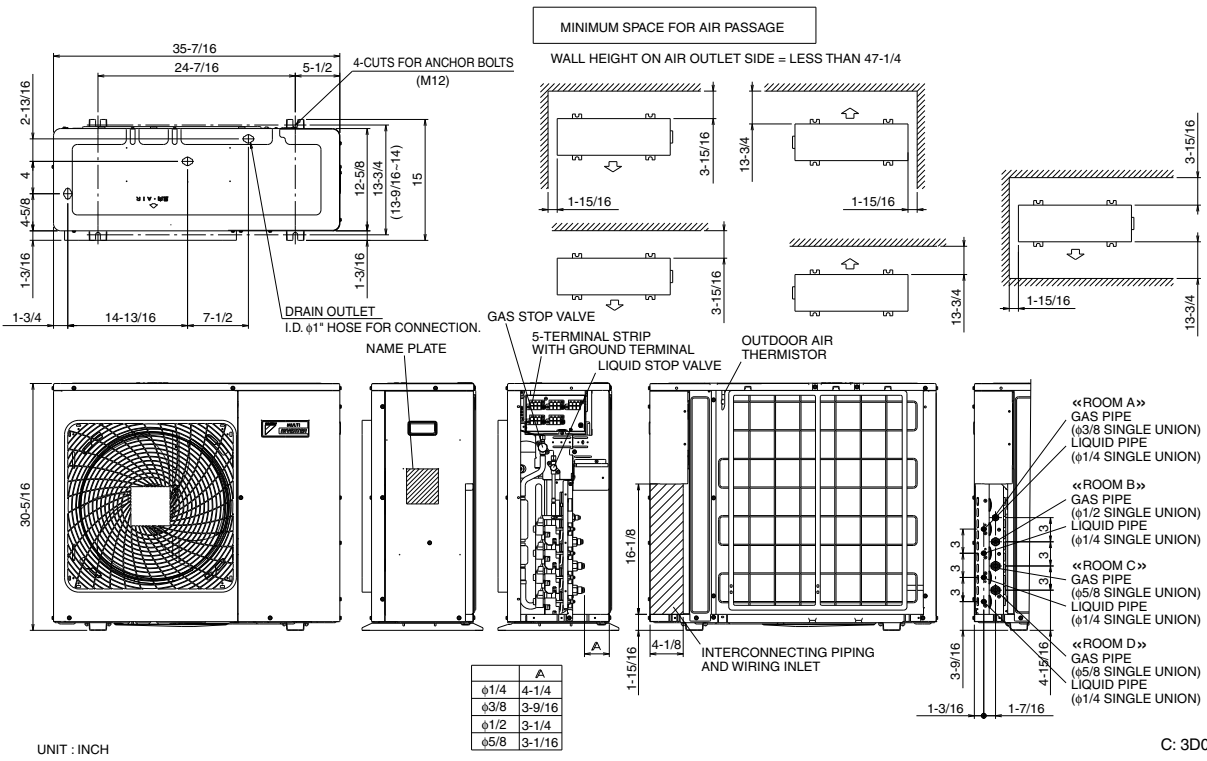
### 2MXS18GVJU



### 3MXS24JVJU



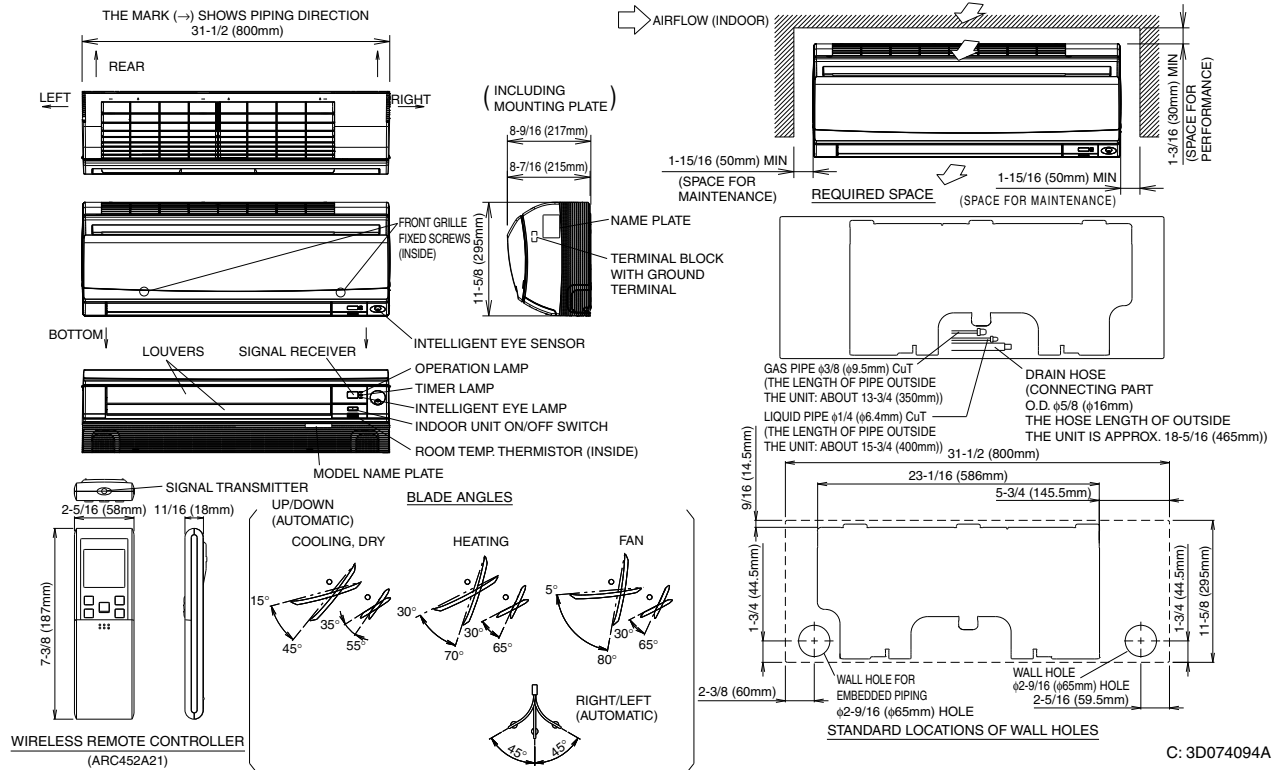
4MXS32GVJU



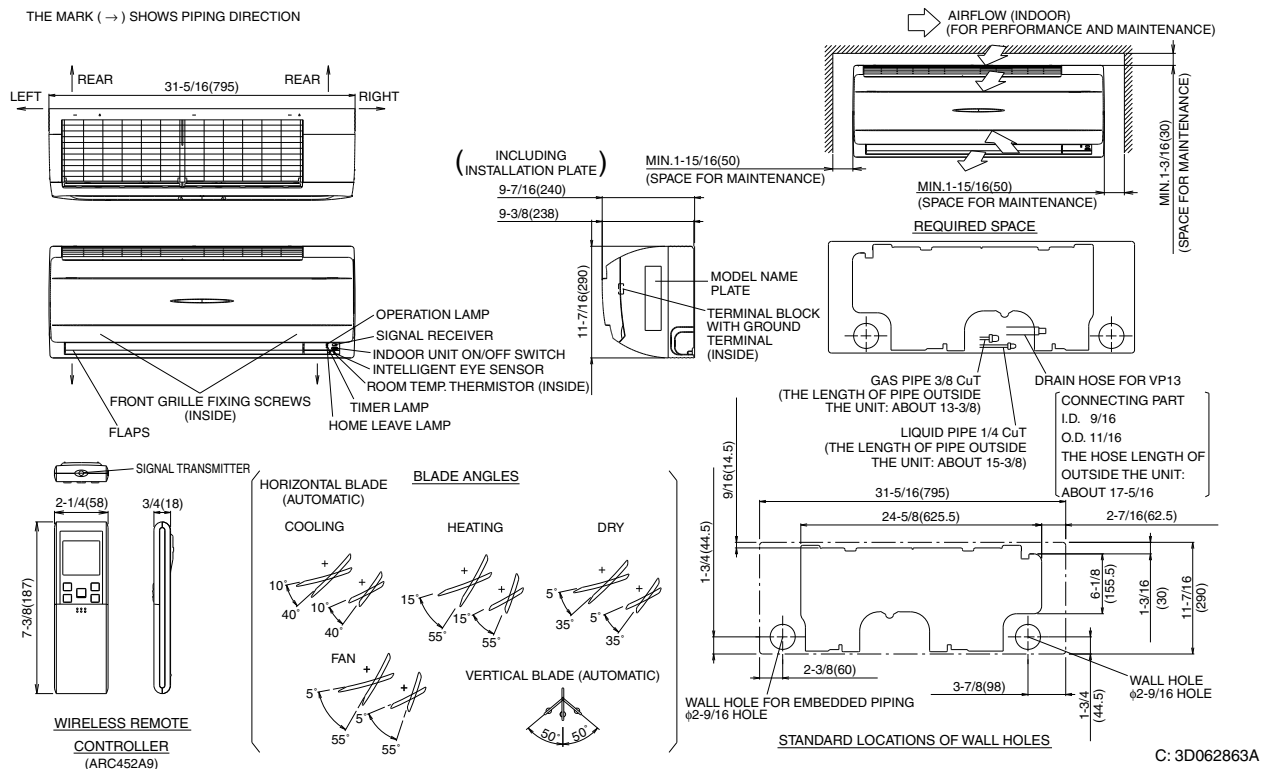
# 4. Dimensions

## 4.1 Indoor Unit

### CTXS07LVJU

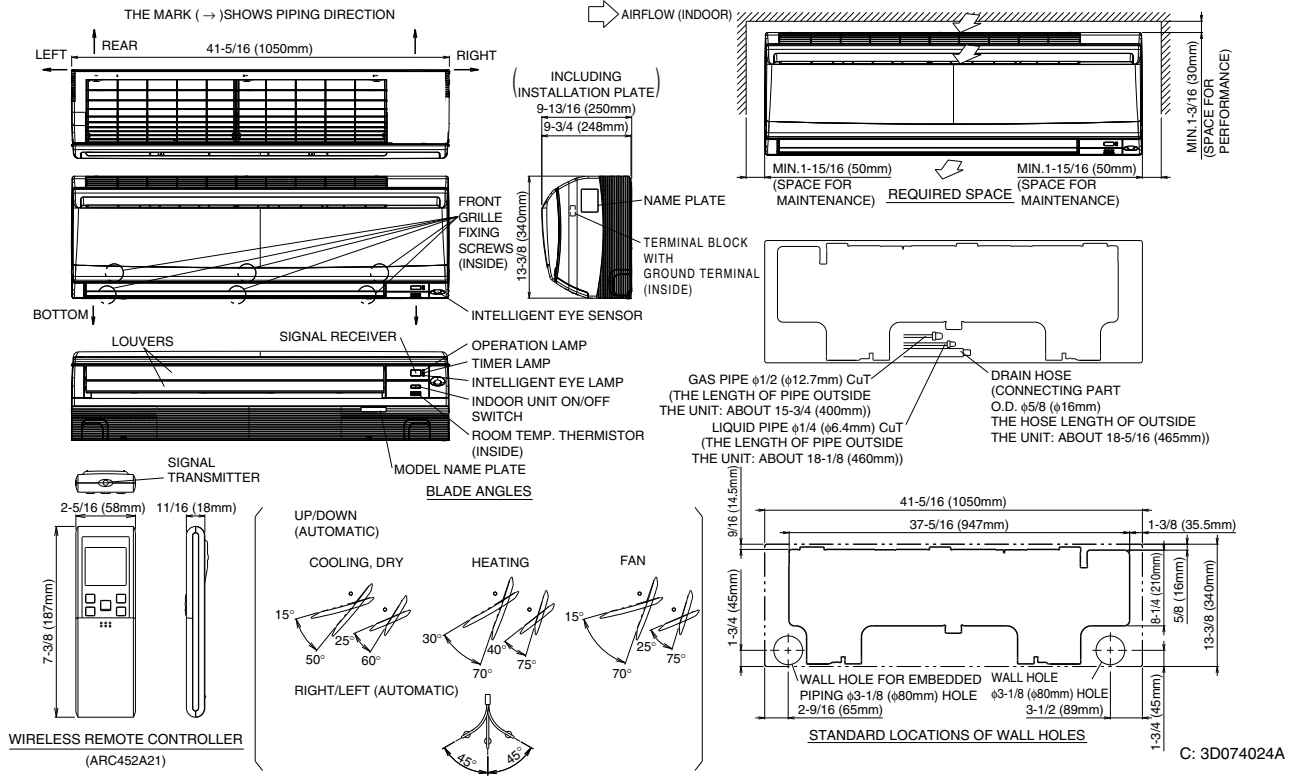


### CTXS09/12HVJU

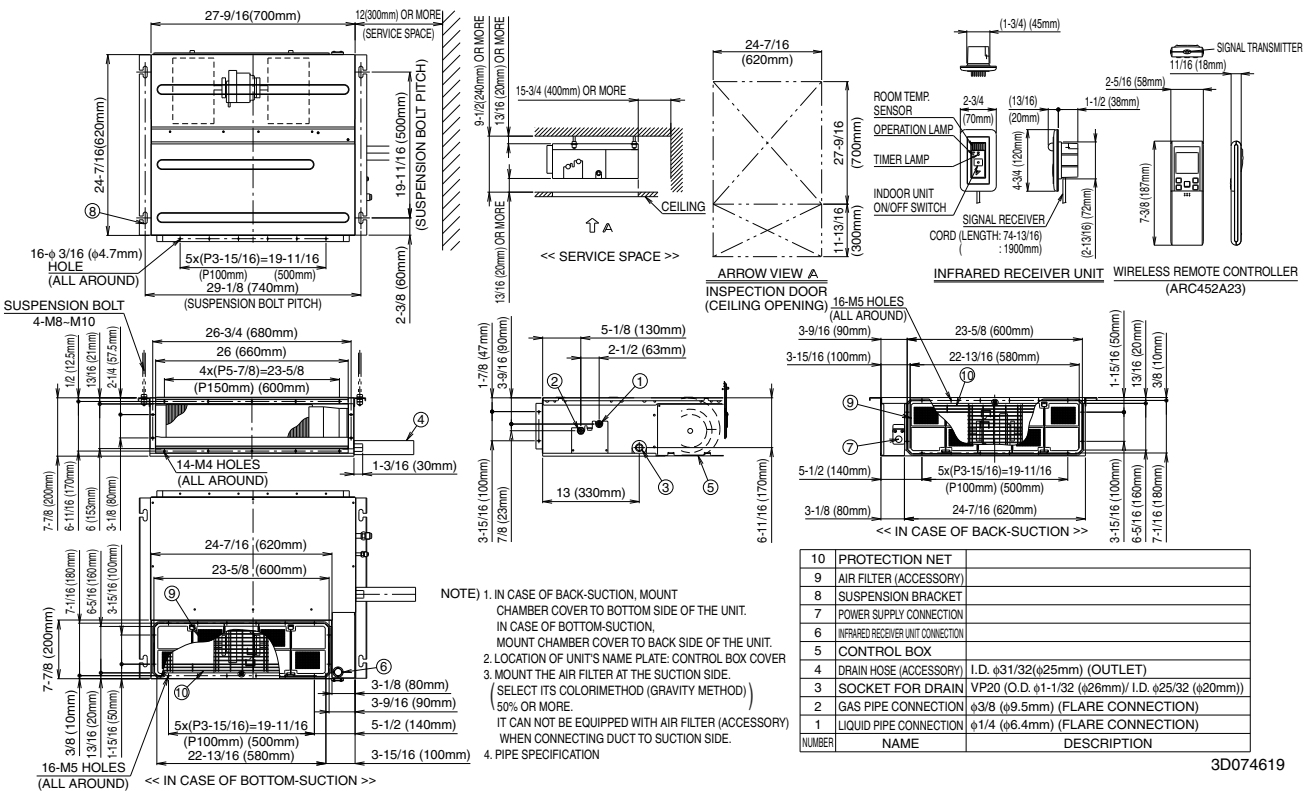




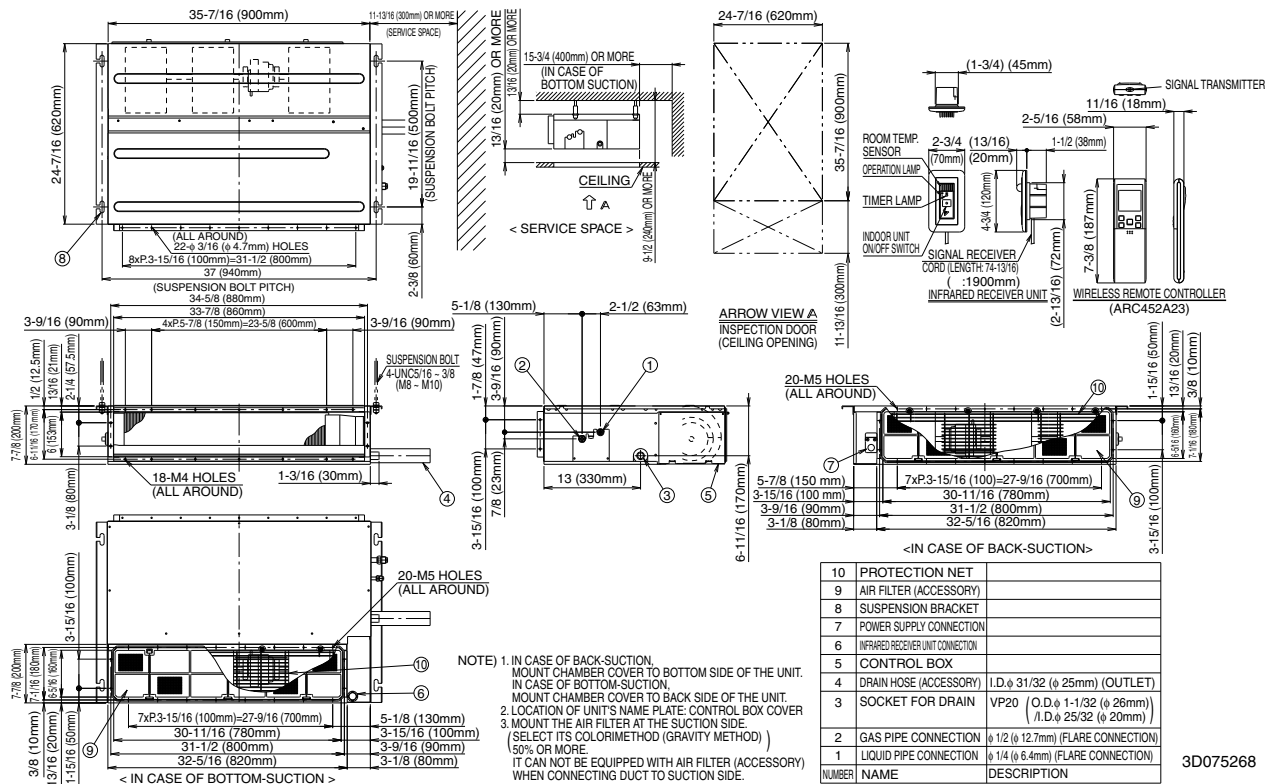
FTXS15/18LVJU



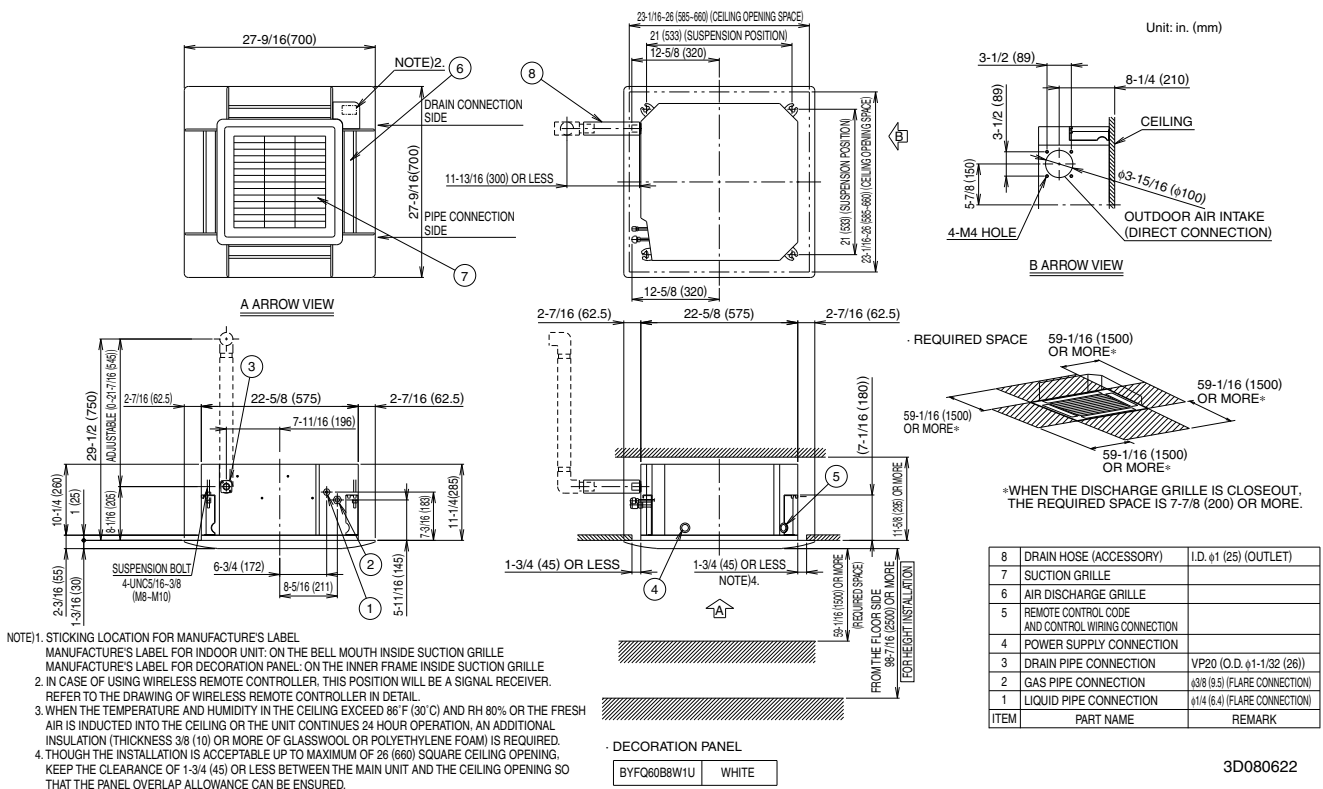
FDXS09/12LVJU



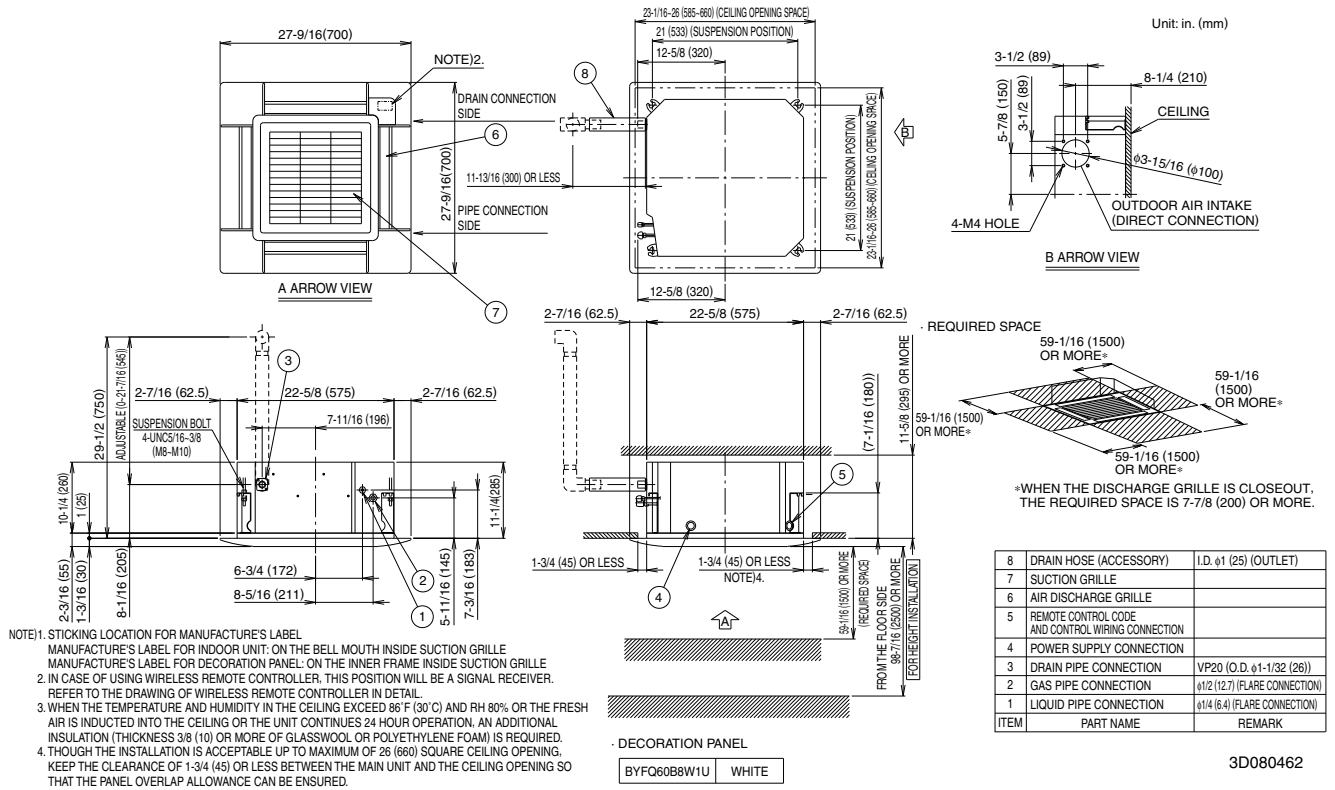
CDXS15/18LVJU



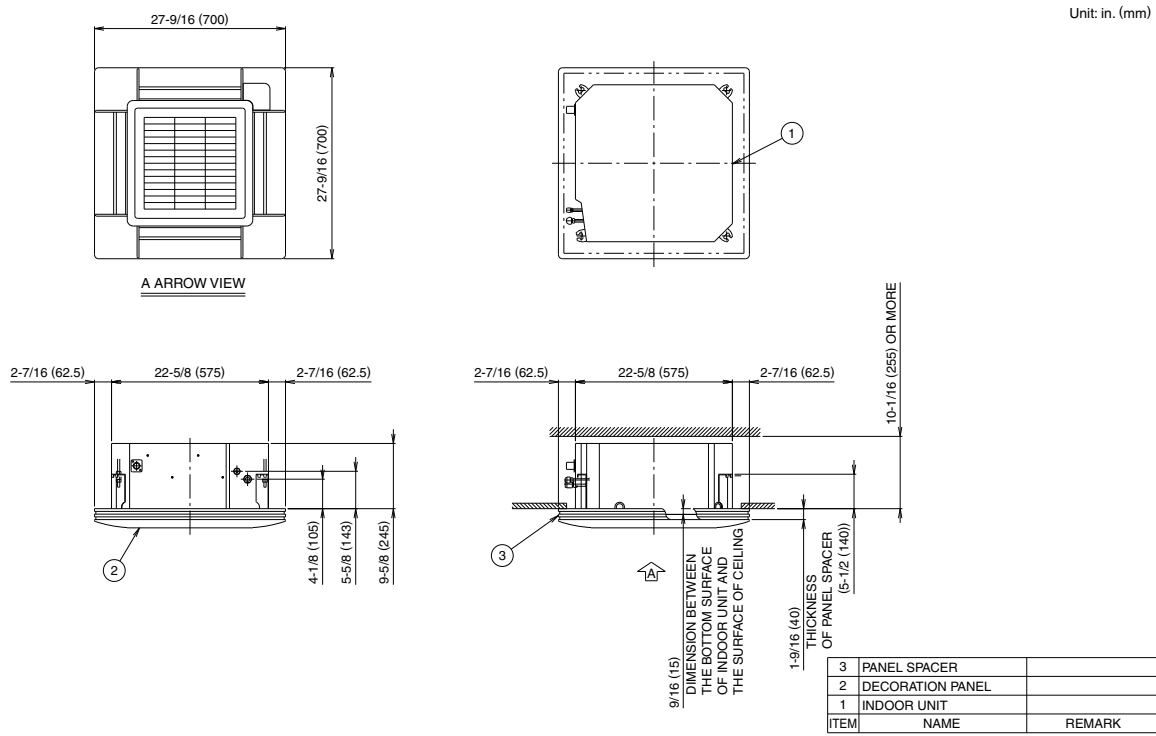
FFQ09/12LVJU with BYFQ60B8W1U (Decoration Panel)



FFQ15/18LVJU with BYFQ60B8W1U (Decoration Panel)

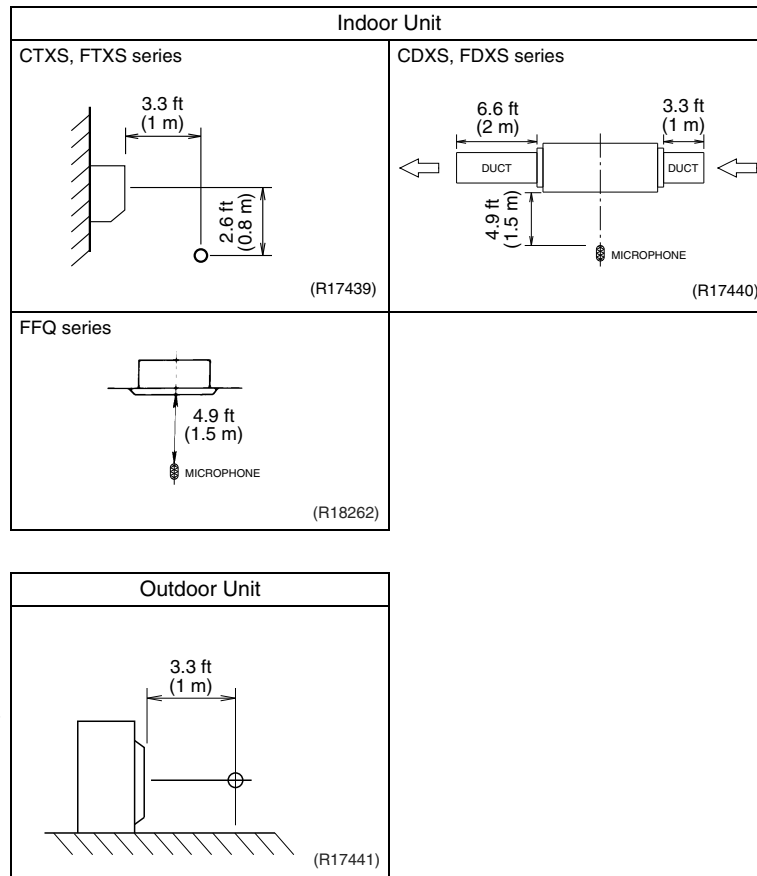


BYFQ60B8W1U — Decoration Panel (Option) —



# 10. Sound Level

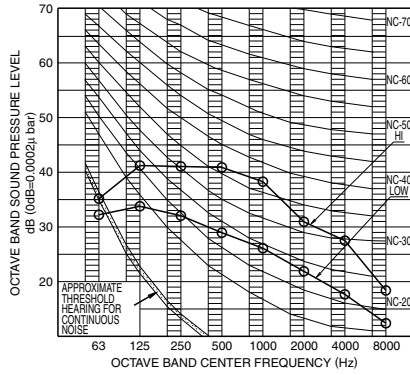
## 10.1 Measuring Location



- Note:**
1. Operation sound is measured in an anechoic chamber.
  2. The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 80°FDB (26.7°CDB) / 67°F WB (19.4°CWB) Outdoor ; 95°FDB (35°CDB) / 75°F WB (24°CWB)	Indoor ; 70°FDB (21°CDB) / 60°F WB (15.6°CWB) Outdoor ; 47°FDB (8.3°CDB) / 43°F WB (6°CWB)	16.4 ft (5 m)

FFQ15LVJU



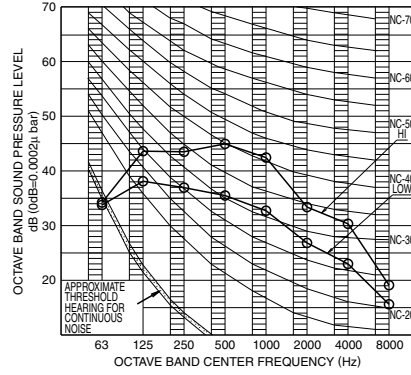
OVER ALL (dB)		
SCALE	HI	LOW
A	42.5	31.5

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS	
POWER SOURCE	208/230V, 60Hz
STANDARD CONDITION (JIS)	
4 DIRECTION DISCHARGE	

4D080698

FFQ18LVJU



OVER ALL (dB)		
SCALE	HI	LOW
A	46.0	37.5

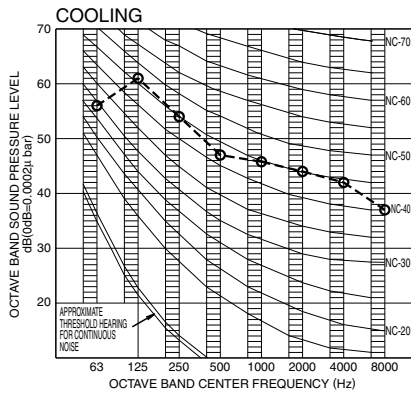
(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS	
POWER SOURCE	208/230V, 60Hz
STANDARD CONDITION (JIS)	
4 DIRECTION DISCHARGE	

4D080699

10.2.2 Outdoor Unit

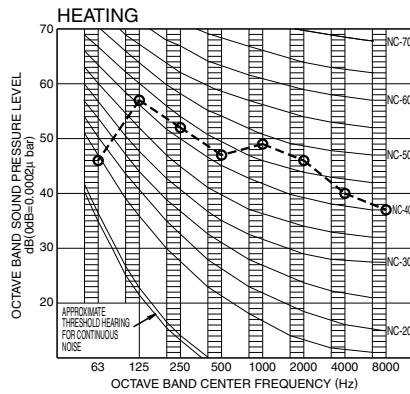
2MXS18GVJU



OVER ALL (dB)	
SCALE	60Hz
A	50

( B.G.N IS ALREADY RECTIFIED )

OPERATING CONDITIONS	
POWER SOURCE	208/230V 60Hz
JIS STANDARD (JIS9612)	
Cooling	



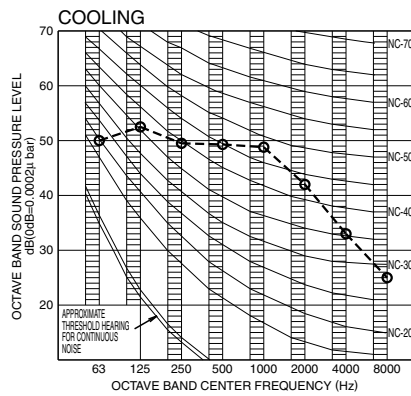
OVER ALL (dB)	
SCALE	60Hz
A	51

( B.G.N IS ALREADY RECTIFIED )

OPERATING CONDITIONS	
POWER SOURCE	208/230V 60Hz
JIS STANDARD (JIS9612)	
Heating	

3D048472A

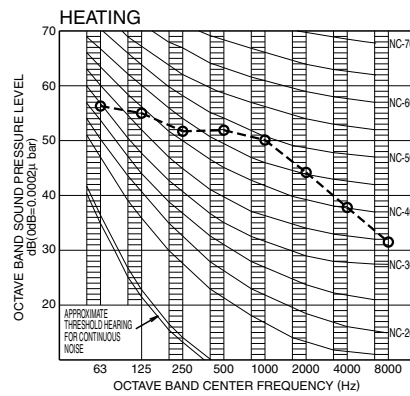
3MXS24JVJU, 4MXS32GVJU



OVER ALL (dB)	
SCALE	60Hz 208/230V
A	52

( B.G.N IS ALREADY RECTIFIED )

OPERATING CONDITIONS	
POWER SOURCE	208/230V 60Hz
JIS STANDARD (JIS9612)	
Cooling	



OVER ALL (dB)	
SCALE	60Hz 208/230V
A	54

( B.G.N IS ALREADY RECTIFIED )

OPERATING CONDITIONS	
POWER SOURCE	208/230V 60Hz
JIS STANDARD (JIS9612)	
Heating	

3D058787A

