PO Box 5036
North Jay, ME 04262
Ph : 207-645-5109

Submittal

Job: 1406
Seaside Wing
850 Baxter Boulevard
Portland, ME

Spec Section No: VRF
Submittal No: 1
Revision No: 0
Sent Date: 4/24/2014
Due Date: 5/1/2014

Spec Section Title:

Submittal Title: VRF System

Contractor:
Ranor Mechanical
Wes Sirois

Contractor's Stamp

General Contractor:
Ledgewood, Inc.

Architect's Stamp

Engineer's Stamp

Submittal Information Form

Specifications Dated: WORKING OFF DRAWING P1-0 PROVIDED BY WES

Drawings Dated (if applicable): _____

1 Project: SEASIDE REHABILITATION

2 Specification Title: _____

3 Description: SAMSUNG VRF SYSTEM

4 Section: _____

5 Page/Sheet #: P1-0

6 Article/Paragraph: _____

7 Basis of Design: (Yes) No (if no please fill out 8-12)

8 Proposed Substitution: _____

9 Manufacturer: SAMSUNG

10 Trade Name: DVMS

11 Model #: DVMS

12 Please list SPECIFICALLY the deviations from the basis of design:

_____

_____

13 Equipment Lead Time (after approved submittals) 2-3 WEEKS

SAMSUNG

SUBMITTAL AM240FXVAFH/AA

Samsung DVM S Series, Heat Pump Condensing Unit

Job Name Seaside Rehabilitation
Location
Purchaser Ranor
Engineer
Submitted to Ranor
Reference ☐ Approval ☑ Construction ☐
Unit Designation CU-1
Schedule #

System Specifications

System	Modules Connected	2 X	AM120FXVAFH/AA
Performance	US Ton (nominal)		20
	Capacity (Btu/h)	Nominal / Rated Cooling[1]	240,000 / 228,000
		Nominal / Rated Heating[2]	270,000 / 258,000
	System Modulation down to (Btu/h)		7,513
	EER	Ducted / Non-Ducted	10.6 / 11.1
	IEER	Ducted / Non-Ducted	17.6 / 20.2
Power	Voltage	(ø/V/Hz)	3 / 208-230 / 60
	Nominal Running Current (A)	Cooling	49.8
		Heating	52.0
	MCA / MOP		See Module Data
Indoor Units	Total Capacity (%)		50 - 130% Of Outdoor Capacity
	Maximum Indoor Unit Quantity		41
Refrigerant	R410A Factory Charge (lbs.)		32.6
Pipe Connections	Liquid X Suction		5/8 X 1 1/8
Installation Limitation[3]	Max. Distance - ODU to IDU (feet)		656 (722 equivalent)
	Vertical Separation (feet)	ODU to IDU [4]	361 / 131
		Highest/Lowest IDU	164
	Total Refrigerant Pipe (feet)		3,280
Sound Level	dB(A)	Max.	See Module Data
Operating Temperature Range	Cooling	°F	23 - 120
	Heating	°F	-4 - 75
Required Accessories	Outdoor Module Connection Kit		MXJ-TA3819M (X1)
Safety Certifications			ETL & ETLc

Compatibility
Only compatible with Samsung DVM S indoor units (AM****N*DCH/AA)

Construction
The unit shall be galvanized steel with a baked on powder coated finish.

Heat Exchanger
The heat exchanger shall be mechanically bonded fin to copper tube.

Controls
The unit shall be operated via NASA Protocol with controls provided by Samsung

Controls shall integrate with a BMS system without additional interface modules

Control wiring shall be 16 AWG X 2 shielded wire.

Refrigerant System
The compressors shall be Samsung hermetically sealed, inverter driven, direct vapor injected, DC scroll type.

Vapor injected compressors provide improved performance in cooling and heating modes.

Refrigerant flow shall be controlled by EEV (electronic expansion valve) throughout the system.

Subcooling devices in system maintain capacity at extreme system refrigerant pipe lengths and minimize refrigerant noise.

Other Features
Asymmetrical scroll design with rotating compressor operation/priority (where applicable).

Optional night quiet modes to reduce outdoor unit sound (4 levels)

Optional snow blowing logic to prevent snow accumulation on outdoor units

Maximum current control of outdoor unit(s) to limit current (50% - 100% of design current) adjustable at outdoor unit or central control devices: DMS 2 (MIM-D00AN), BACnet Gateway (MIM-B17N), LON Gateway (MIM-B18N).

Continuous operation while outdoor unit(s) change between heating and cooling modes.

Protection Devices	Intelligent logic to ensure proper operation within unit design limitations and operational parameters
	High pressure sensor, low pressure sensor, over-voltage protection, compressor over-current protection, current transformer, fan motor voltage protection, fan motor thermal protection, overheat protection, phase detection protection, high voltage fuses
	Inverter PCB cooling done with liquid refrigerant to maintain optimal and safe operating temperatures

[1]Nominal cooling capacities are based on: Indoor temperature: 80 ^{0}F DB, 67^{0}F WB. Outdoor temperature: 95 ^{0}F DB, 75^{0}F WB.

[2]Nominal heating capacities are based on: Indoor temperature: 70 ^{0}F DB, 60^{0}F WB. Outdoor temperature: 47 ^{0}F DB, 43^{0}F WB.

[3]Other pipe restrictions and requirements exist. Please consult technical data book or installation manuals for full details.

[4]Standard maximum vertical separation is 164 / 131. With vertical separation (condenser above indoor units) >164' but <361', a PDM kit is required. Consult technical data books or Quietside Corporation for more details.

Samsung and Quietside maintains a policy of ongoing development, specifications are subject to change without notice.

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

INTERTEK ETL LISTED C US

Single Module Specifications

			AM120FXVAFH/AA	AM120FXVAFH/AA
Performance	US Ton (nominal)		10.0	10.0
	Capacity (Btu/h)	Nominal Cooling[1]	120,000	120,000
		Rated Cooling[1]	114,000	114,000
		Nominal Heating[2]	135,000	135,000
		Rated Heating[2]	129,000	129,000
Power	Voltage (ø/V/Hz)		3 / 208-230 / 60	3 / 208-230 / 60
	Nominal Running Current (A)	Cooling	24.9	24.9
		Heating	26.0	26.0
	Maximum Circuit Breaker (MCCB/ELB/ELCB)		50	50
	Minimum Circuit Ampacity (MCA)		43.0	43.0
Compressor	Type		SSC Scroll X 2	SSC Scroll X 2
	RLA (A)		14.8	14.8
	Lubricant Type		PVE	PVE
Refrigerant	Type		R410A	R410A
	Factory Charge (lbs.)		16.3	16.3
Pipe Connections	Liquid X Suction		1/2 X 1 1/8	1/2 X 1 1/8
Condenser Fan	Fan	Type	Propeller X 2	Propeller X 2
		Output (CFM)	9,182	9,182
	Motor	Type	DC	DC
		Output (W)	620 X 2	620 X 2
		FLA (A)	1.5 X 2	1.5 X 2
	Max. External Static Pressure ("WC)		0.3	0.3
Dimensions	W X H X D	Inches	51 X 66 3/4 X 30 1/8	51 X 66 3/4 X 30 1/8
	Weight	lbs.	613	613
Sound Level	dB (A)	Max.	61	61

[1]Nominal cooling capacities are based on: Indoor temperature: 80^{0}F DB, 67^{0}F WB. Outdoor temperature: 95^{0}F DB, 75^{0}F WB.
[2]Nominal heating capacities are based on: Indoor temperature: 70^{0}F DB, 60^{0}F WB. Outdoor temperature: 47^{0}F DB, 43^{0}F WB.
Pipe restrictions exist. Please consult technical data book or installation manuals for full details.
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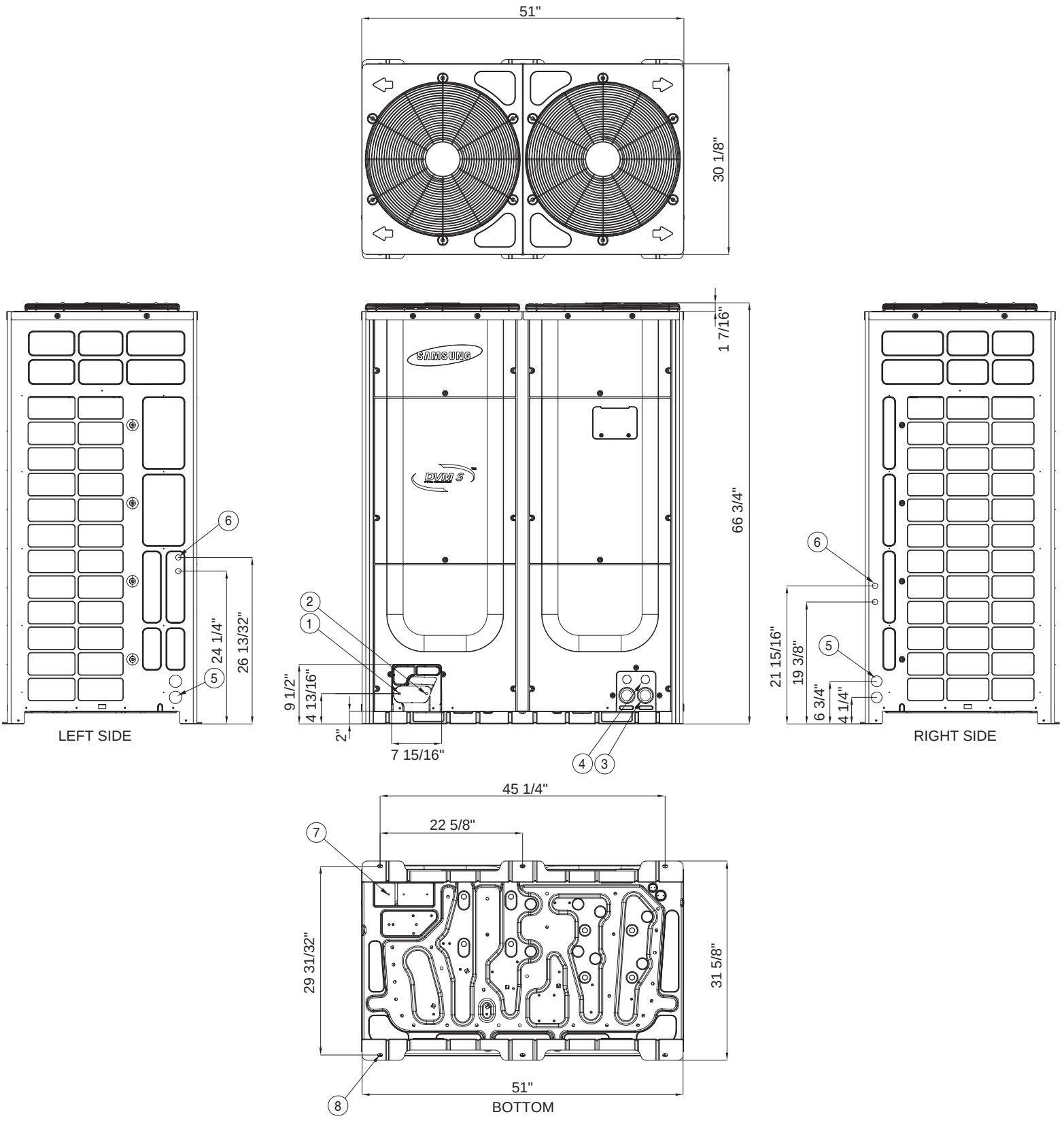
SUBMITTAL AM240FXVAFH/AA

Samsung DVM S Series, Heat Pump Condensing Unit

AM120FXVAFH/AA Dimensional Drawing



1. Gas refrigerant pipe opening
2. Liquid refrigerant pipe opening
3. Power conduit opening (2 X Ø1 3/4")
4. Communication conduit opening (2 X Ø1 3/8")
5. Power conduit opening (4 X Ø1 3/4")
6. Communication conduit opening (8 X Ø7/8")
7. Knock-out opening for refrigerant piping (7" X 3")
8. Anchor bolt hole (4 X Ø15/32")

SUBMITTAL AM009FNTDCH/AA

Samsung DVM S Series, Neo Forte Wall-Mounted Unit

Job Name Seaside Rehabilitation
Location
Purchaser Ranor
Engineer
Submitted to Ranor
Reference ☐ Approval ☑ Construction ☐
Unit Designation CU-1
Schedule #

Specifications

Performance	Nominal Capacity	Cooling (Btu/h)	9,500 (6,400 SH)
		Heating (Btu/h)	10,500
	Condensate	Pints/Hour	3.0
Power	Voltage (ø/V/Hz)		1 / 208-230 / 60
	Nominal Running Current (A)		0.25
Fan	Type		Crossflow
	Motor	Type	Feedback SSR (1)
		Output (W)	23
Airflow	CFM (UL)	H/M/L	290 / 254 / 219
Refrigerant	Type		R410A
	Control Method		Electronic Expansion Valve (external)*
Piping Connections	Liquid (flare)	Inches	1/4
	Suction (flare)	Inches	1/2
	Drain	Inches	ID 11/16 Hose
Unit Dimensions	W X H X D	Inches	32 1/2 X 11 1/4 X 7 1/2
	Weight	lbs.	19
Sound Level	H / L	dB	31 / 27
Accessories	Single Unit Expansion Valve Kit		MEV-A24SA
	Condensate Pump		ASP-MO-UNIV 110-250
Safety Certifications			ETL & ETLc

*Purchased separately

Nominal cooling capacities are based on: Indoor temperature: 80 °F DB, 67°F WB. Outdoor temperature: 95 °F DB, 75°F WB.

Nominal heating capacities are based on: Indoor temperature: 70 °F DB, 60°F WB. Outdoor temperature: 47 °F DB, 43°F WB.

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- Compatible with Samsung DVM S and Mini DVM systems: AM***FXVA*R/AA, AM***FXVA*H/AA, AM0**FXMDCH/AA only.
- Electro-static, washable, pleated filters as standard (included with unit)
- Supplemental, replaceable, anti-allergy and deodorizing filters included as standard
- The unit shall have LED indicator lights, IR receiver, and 1 motorized louver
- High-voltage terminal block temperature sensor to disable unit in the event overheating of power connection.

Construction
HIPS chassis certified to UL94 V0 with galvanized steel mounting bracket

Heat Exchanger
The heat exchanger shall be mechanically bonded fin to copper tube

Indoor Fan
Indoor fan is a single, antibacterial, crossflow type

Three fan speed settings and auto setting

Controls
The unit shall be operated via a wireless or wired remote control with DDC type signal

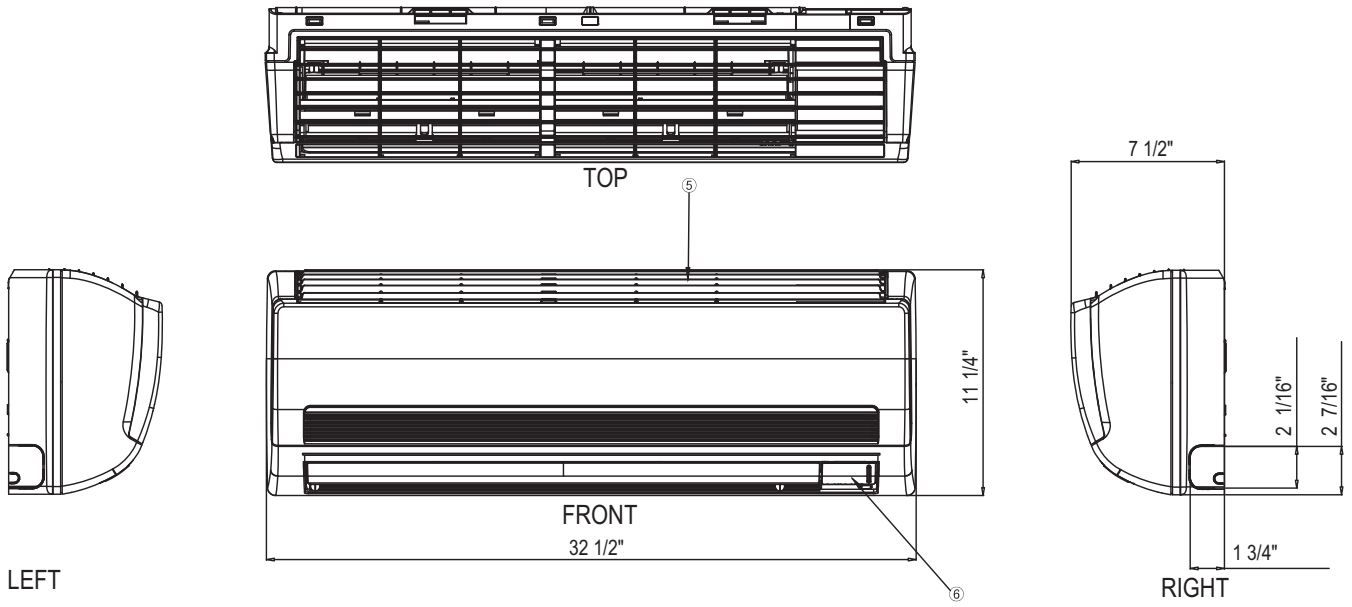
The unit shall integrate with the Samsung NASA Controls Network Solution

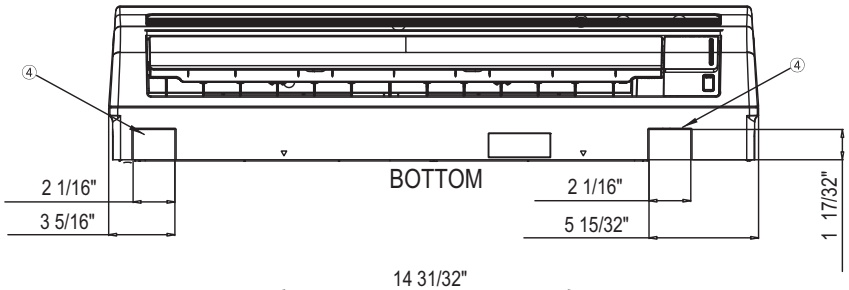
Controls shall integrate with a BMS system

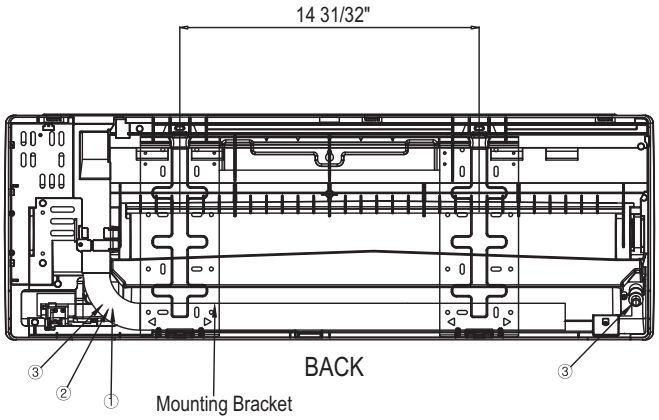
Control wiring shall be 2 X 16 AWG shielded wire

SUBMITTAL AM009FNTDCH/AA

Samsung DVM S Series, Neo Forte Wall-Mounted Unit

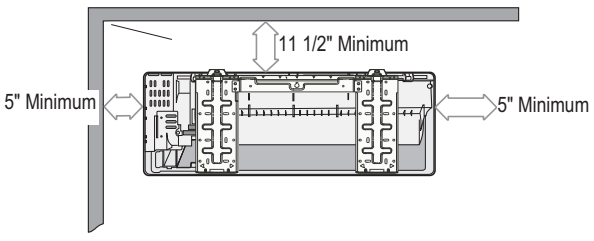




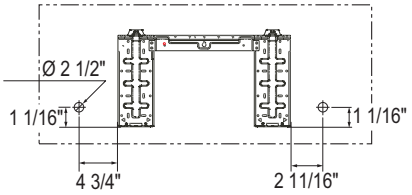


No.	Name	Description
①	Liquid Pipe Connection	Ø 1/4" Flare
②	Gas Pipe Connection	Ø 1/2" Flare
③	Drain Pipe Connection	ID 11/16" Hose
④	Optional Cabinet Penetration Opening	-
⑤	Air Inlet Grille	-
⑥	Air Outlet Louver	-

Minimum clearances from walls and ceiling



Pipe hole locations for straight-through wall penetrations



SUBMITTAL AM012FNTDCH/AA

Samsung DVM S Series, Neo Forte Wall-Mounted Unit

Job Name Seaside Rehabilitation
Location
Purchaser Ranor
Engineer
Submitted to Ranor
Reference ☐ Approval ☑ Construction ☐
Unit Designation CU-1
Schedule #

Specifications

Performance	Nominal Capacity	Cooling (Btu/h)	12,000 (8,000 SH)
		Heating (Btu/h)	13,500
	Condensate	Pints/Hour	4.0
Power	Voltage (ø/V/Hz)		1 / 208-230 / 60
	Nominal Running Current (A)		0.3
Fan	Type		Crossflow
	Motor	Type	Feedback SSR (1)
		Output (W)	23
Airflow	CFM (UL)	H/M/L	328 / 293 / 258
Refrigerant	Type		R410A
	Control Method		Electronic Expansion Valve (external)*
Piping Connections	Liquid (flare)	Inches	1/4
	Suction (flare)	Inches	1/2
	Drain	Inches	ID 11/16 Hose
Unit Dimensions	W X H X D	Inches	32 1/2 X 11 1/4 X 7 1/2
	Weight	lbs.	19
Sound Level	H / L	dB	37 / 29
Accessories	Single Unit Expansion Valve Kit		MEV-A24SA
	Condensate Pump		ASP-MO-UNIV 110-250
Safety Certifications			ETL & ETLc

*Purchased separately

Nominal cooling capacities are based on: Indoor temperature: 80 °F DB, 67°F WB. Outdoor temperature: 95 °F DB, 75°F WB.

Nominal heating capacities are based on: Indoor temperature: 70 °F DB, 60°F WB. Outdoor temperature: 47 °F DB, 43°F WB.

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- Compatible with Samsung DVM S and Mini DVM systems: AM***FXVA*R/AA, AM***FXVA*H/AA, AM0**FXMDCH/AA only.
- Electro-static, washable, pleated filters as standard (included with unit)
- Supplemental, replaceable, anti-allergy and deodorizing filters included as standard
- The unit shall have LED indicator lights, IR receiver, and 1 motorized louver
- High-voltage terminal block temperature sensor to disable unit in the event overheating of power connection.

Construction
HIPS chassis certified to UL94 V0 with galvanized steel mounting bracket

Heat Exchanger
The heat exchanger shall be mechanically bonded fin to copper tube

Indoor Fan
Indoor fan is a single, antibacterial, crossflow type

Three fan speed settings and auto setting

Controls
The unit shall be operated via a wireless or wired remote control with DDC type signal

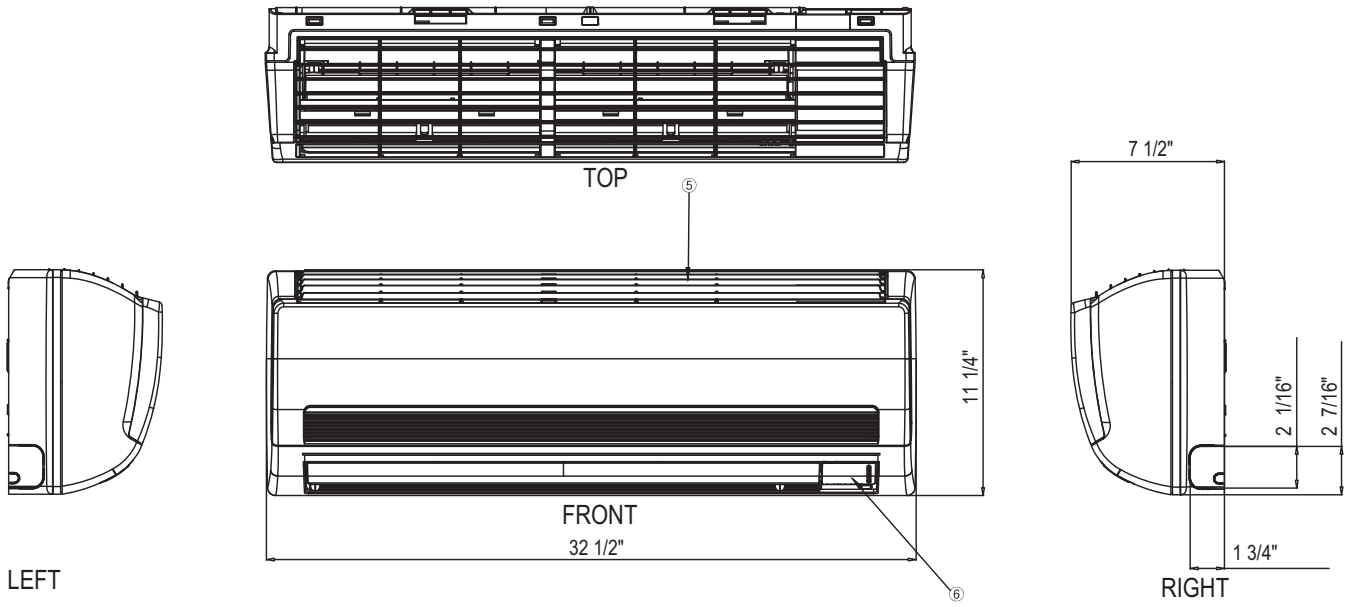
The unit shall integrate with the Samsung NASA Controls Network Solution

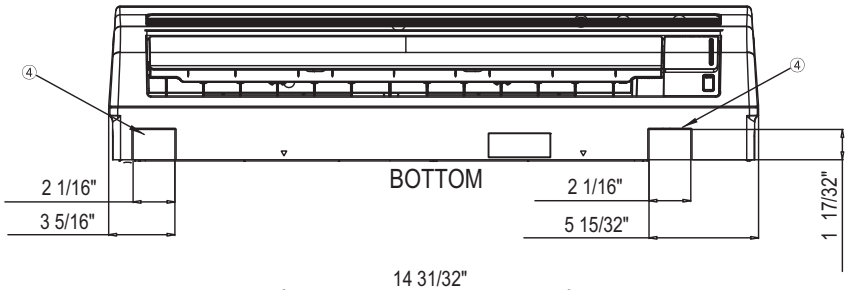
Controls shall integrate with a BMS system

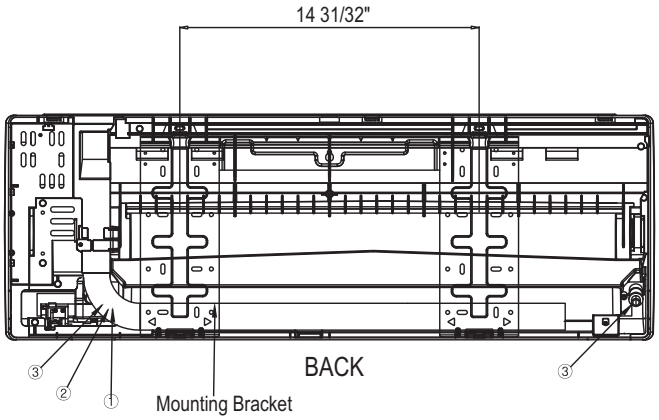
Control wiring shall be 2 X 16 AWG shielded wire

SUBMITTAL AM012FNTDCH/AA

Samsung DVM S Series, Neo Forte Wall-Mounted Unit

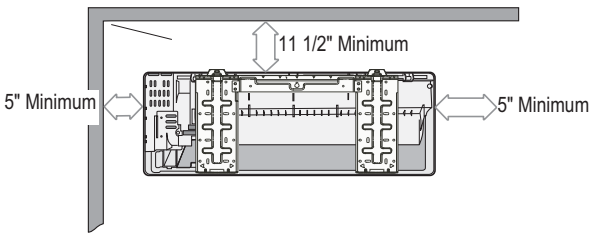




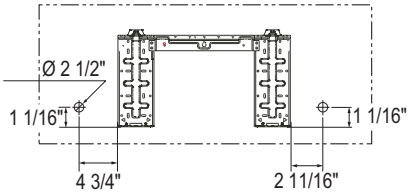


No.	Name	Description
①	Liquid Pipe Connection	Ø 1/4" Flare
②	Gas Pipe Connection	Ø 1/2" Flare
③	Drain Pipe Connection	ID 11/16" Hose
④	Optional Cabinet Penetration Opening	-
⑤	Air Inlet Grille	-
⑥	Air Outlet Louver	-

Minimum clearances from walls and ceiling



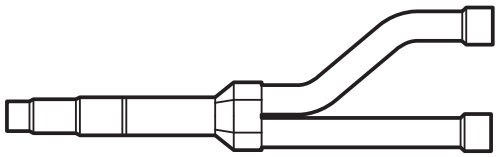
Pipe hole locations for straight-through wall penetrations

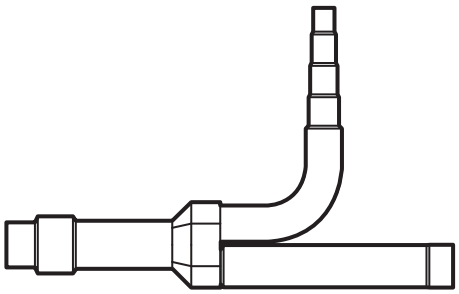


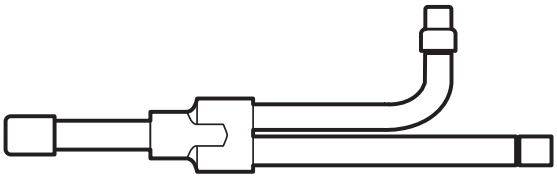
SUBMITTAL Outdoor Refrigerant Tee Fitting (MXJ-TA3***M)
For Samsung DVM S, Modular Systems

Job Name Seaside Rehabilitation
Location
Purchaser Ranor
Engineer
Submitted to Ranor
Reference ☐ Approval ☑ Construction ☐
Unit Designation CU-1
Schedule #

- Required component for Samsung DVM S Series systems with multiple outdoor modules on piped as a single system
- For systems 12 - 36 tons nominal capacity
- Quantity of 1 necessary for 2 module systems (2 outdoor units twinned together, ≥168,000 Btu/h nominal capacity)
- Quantity of 2 necessary for 3 module systems (3 outdoor units piped together, ≥312,000 Btu/h nominal capacity)
- Includes both liquid and suction fittings, insulation, and ties to secure insulation
- Heat recovery systems require additional fitting (MXJ-TA3100M)
- Included insulation shall be polystyrene certified to UL94 V0, 5/8" wall thickness
- Constructed of brazed copper and brass
- Must be installed level horizontally within 15^0 in either direction
- Each model shall have the capability of field modification (with tubing cutter) to connect various pipe sizes and/or include adjustable reducers

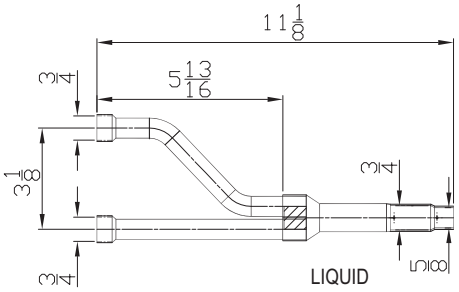


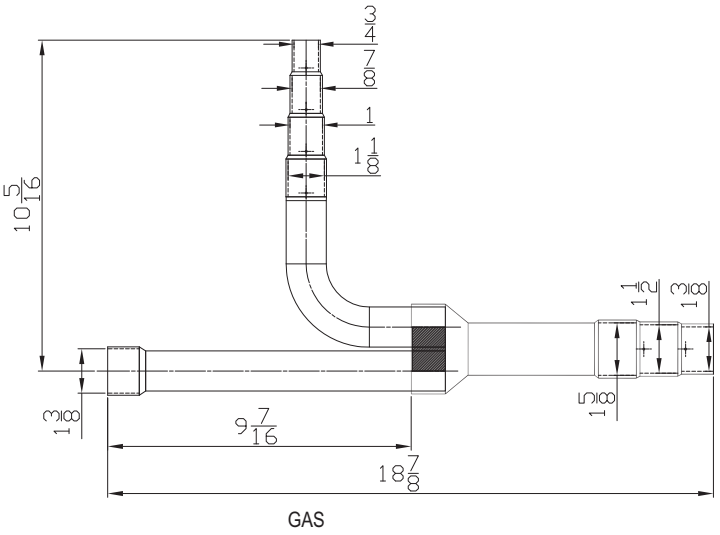




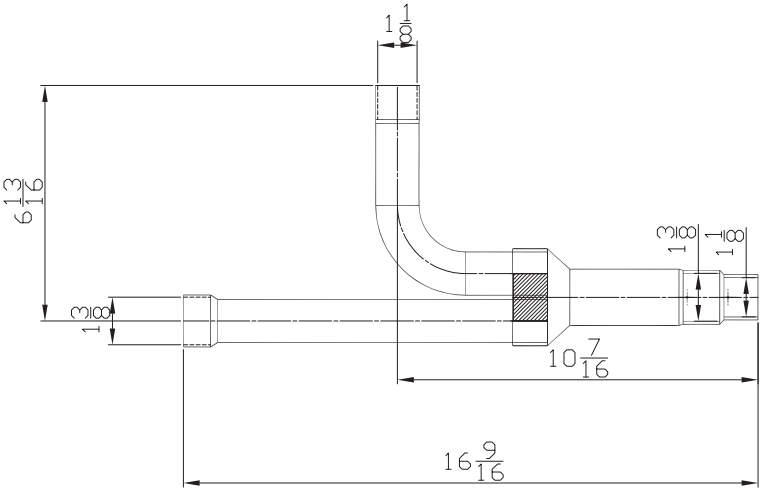
	Project Qty.	Model	Total Capacity	Application
☑		MXJ-TA3819M	12 - 36 tons	Outdoor Tee
☐		MXJ-TA3100M	12 - 36 tons	Hot Gas Tee (HR)

MXJ-TA3819M





MXJ-TA3100M



HIGH PRESSURE GAS

Actual product construction and appearance may vary slightly

SAMSUNG

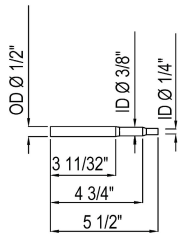
SUBMITTAL Refrigerant Y-Joints
For Samsung DVM S and Mini DVM S Systems

Job Name Seaside Rehabilitation
Location
Purchaser Ranor
Engineer
Submitted to Ranor
Reference ☐ Approval ☑ Construction ☐
Unit Designation CU-1
Schedule #

- Required component for Samsung DVM S and Mini DVM systems: AM***FXVA*R/AA, AM***FXVA*H/AA, AM0**FXMDCH/AA with multiple evaporators and/or Mode Change Units (MCU)
- Constructed of brazed copper and brass or all copper
- Indoor unit Y-joint models include both liquid and suction fittings, insulation, and ties to secure insulation
- Heat recovery (HR) Y-joint models are required for branching the hot gas pipe throughout heat recovery systems (HR systems only)
- Included insulation shall be polystyrene certified to UL94 V0, 5/8" wall thickness
- Inlet pipe shall be adjustable to facilitate different pipe sizes without having to braze additional fittings (excluding MXJ-YA1500K/L)
- Each model shall include adjustable reducers as noted in the table below

	Project Qty.	Model	Total Capacity (C)	Application	Included Reducers
☐		MXJ-YA1500M	80,000 Btu/h and less	HR high pressure gas	none
☐		MXJ-YA1509M	51,000 Btu/h and less	Indoor unit Y-joint	① X 2, ② X 2
☐		MXJ-YA2500M	80,000 Btu/h ≤ C ≤ 240,000 Btu/h	HR high pressure gas	③ X 2
☑		MXJ-YA2512M	51,000 Btu/h ≤ C ≤ 138,000 Btu/h	Indoor unit Y-joint	①X 2, ③ X 2
☑		MXJ-YA2812M	138,000 Btu/h ≤ C ≤ 160,000 Btu/h	Indoor unit Y-joint	① X 2, ③ X 1, ⑦ X 1
☐		MXJ-YA2815M	160,000 Btu/h ≤ C ≤ 240,000 Btu/h	Indoor unit Y-joint	② X 2, ③ X 1, ⑦ X 1
☐		MXJ-YA3100M	240,000 Btu/h ≤ C ≤ 468,000 Btu/h	HR high pressure gas	③ X 1, ④ X 1
☐		MXJ-YA3119M	240,000 Btu/h ≤ C ≤ 336,000 Btu/h	Indoor unit Y-joint	② X 2, ③ X 1, ④ X 1
☑		MXJ-YA3819M	336,000 Btu/h ≤ C ≤ 468,000 Btu/h	Indoor unit Y-joint	② X 2, ③ X 1, ④ X 1, ⑤ X 1

①



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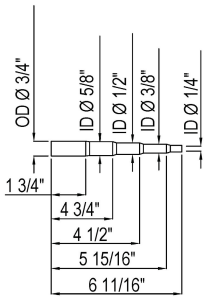

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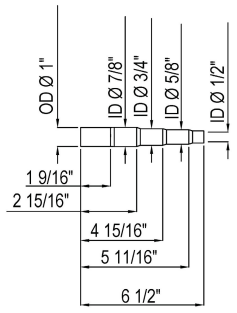

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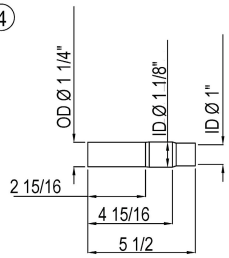

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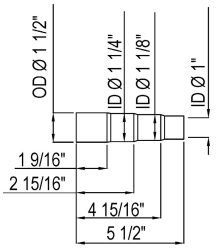

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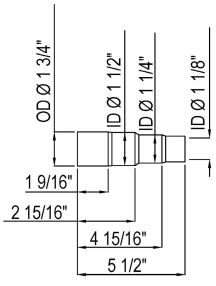

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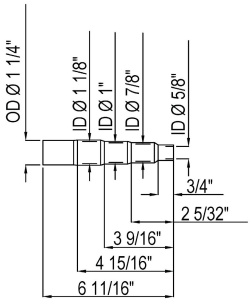
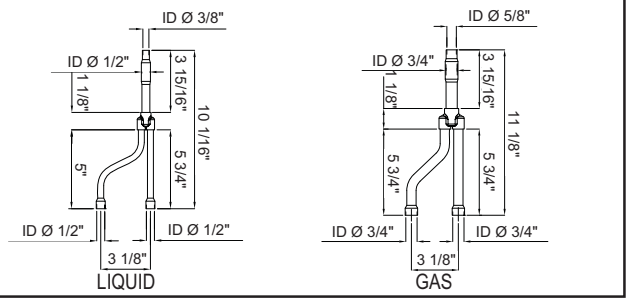


SAMSUNG

SUBMITTAL Refrigerant Y-Joints
For Samsung DVM S and Mini DVM S Systems

MXJ-YA1509M



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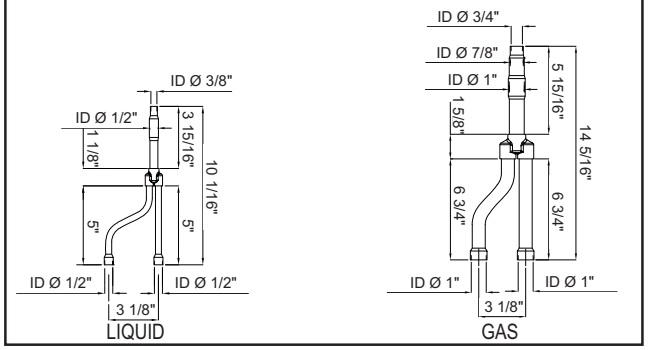

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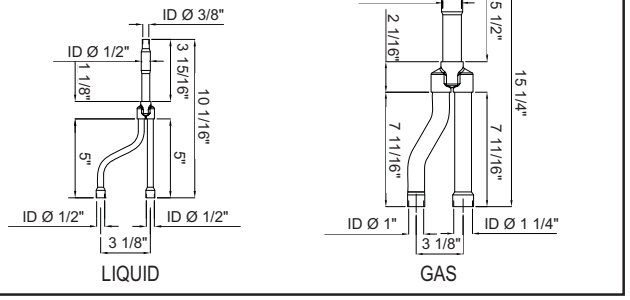

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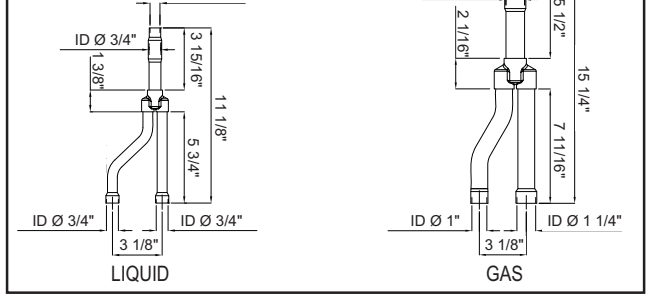

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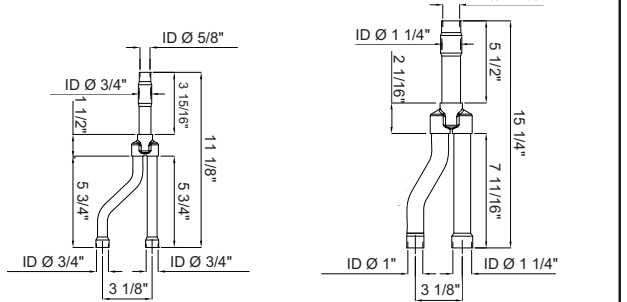

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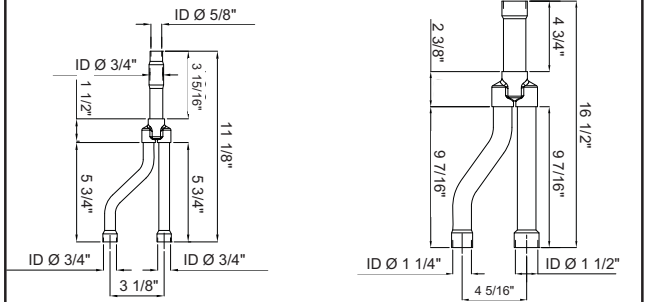

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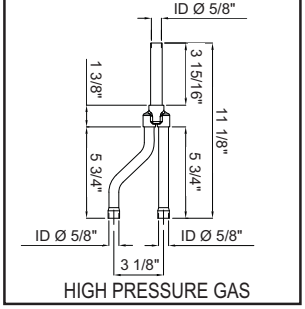

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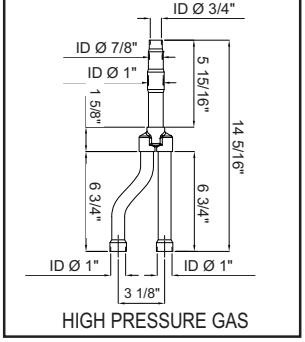

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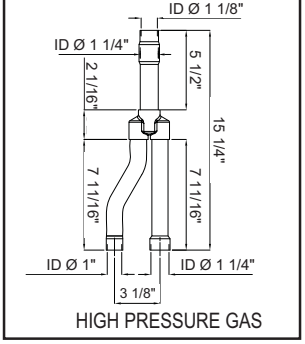


Actual product construction may vary slightly

www.SamsungSystemAC.com

SUBMITTAL MIM-B14

Samsung External Contact Control Module

Job Name Seaside Rehabilitation | Location

Purchaser Ranor | Engineer

Submitted to Ranor | Reference ☐ Approval ☑ Construction ☐

Unit Designation CU-1 | Schedule #

Description

- Direct indoor unit ON/OFF control (a single evaporator) by external contact, 0 volts signal
- Direct system ON/OFF control by external contact, 0 volts signal (when installed in MAIN outdoor unit)
- Emergency control with simple contact input
- Indoor unit operation and error state output through relay contacts
- Outdoor unit compressor operation and error state (when installed in outdoor unit)
- Installs inside individual indoor unit(s) that need control or in MAIN outdoor unit (DMS S Series outdoor units only)
- Control indoor unit and have synchronous control with other devices through the external contact input/output signals
- Operation output relay can be configured to open/close based on operation ON/OFF or thermo ON/OFF state (compressor ON/OFF state when installed in outdoor unit)
- Use examples: hotel key card switch, door/window switch, PIR sensor with timed relay, other occupancy sensors, enabling/disabling other ventilation

Specifications

Indoor unit option setting must be set to enable external contact control (when installing inside indoor unit)

External contact input signal open: indoor ON (evaporator and controller behavior can be modified with basic option code modifications)

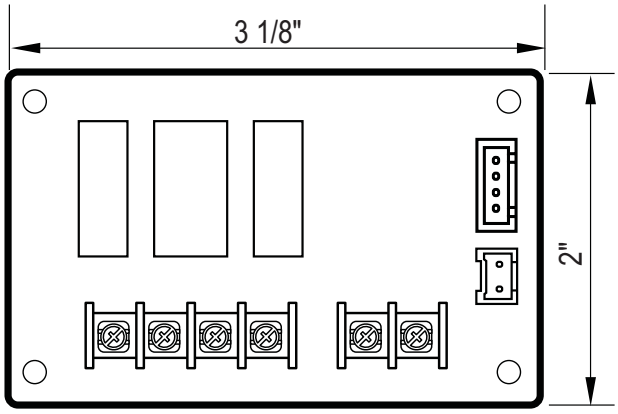
External contact input signal short (closed): indoor off (evaporator and controller behavior can be modified with basic option setting modifications)

Input load across input terminals: 5V, 5mA

Can control DVM S outdoor units (AM***FXVA**/AA) all DVM Plus II, DVM Plus III, Mini DVM, DVM S, and Mini DVM S Eco indoor units excluding wall mounted Neo Forte (AVXWNH***CE) and Vivace (AVXWVH***CE) units

Wires directly into indoor or outdoor unit PCB (CN81 and CN83) with included connectors

Dimensions: 3 1/8" X 2"



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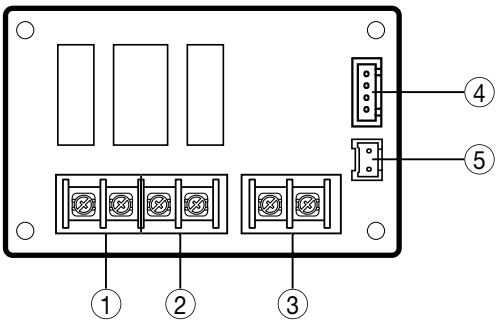
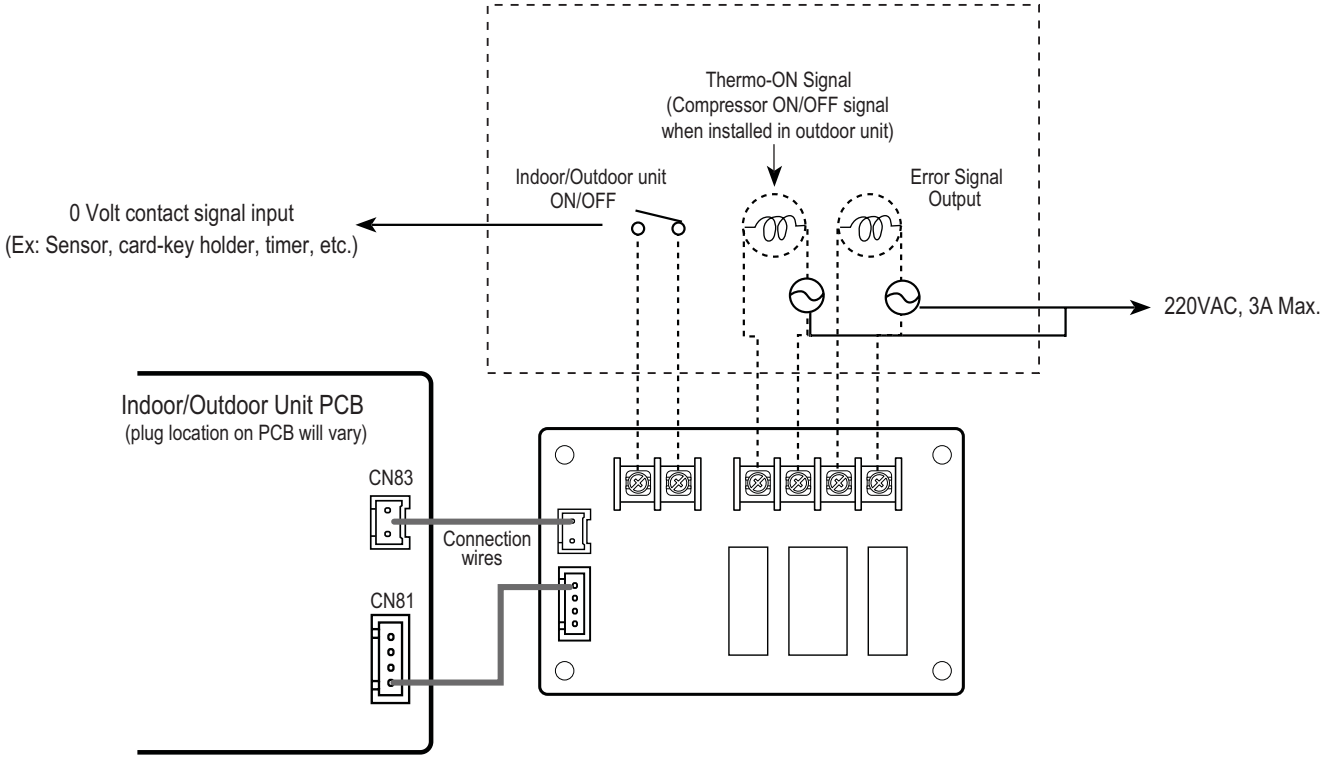
Samsung External Contact Control Module



No.	Input/Output	Contact Rating	Operation
①	Error State	220 VAC, 3A	Normally closed, opens upon error
②	Indoor unit thermo ON/OFF state	220 VAC, 3A	Start: closed, Stop: open
③	Operation signal input load		5VDC, 5mA
④	Connection to indoor/outdoor unit		
⑤	Connection to indoor/outdoor unit		



SUBMITTAL MR-DH00U

Samsung DVM S Series, Wireless Controller

Job Name Seaside Rehabilitation
Location
Purchaser Ranor
Engineer
Submitted to Ranor
Reference ☐ Approval ☑ Construction ☐
Unit Designation CU-1
Schedule #

Specifications

• Multi-channel wireless control of Samsung DVM S Series indoor units

• Can control up to 4 indoor units individual (setup required)

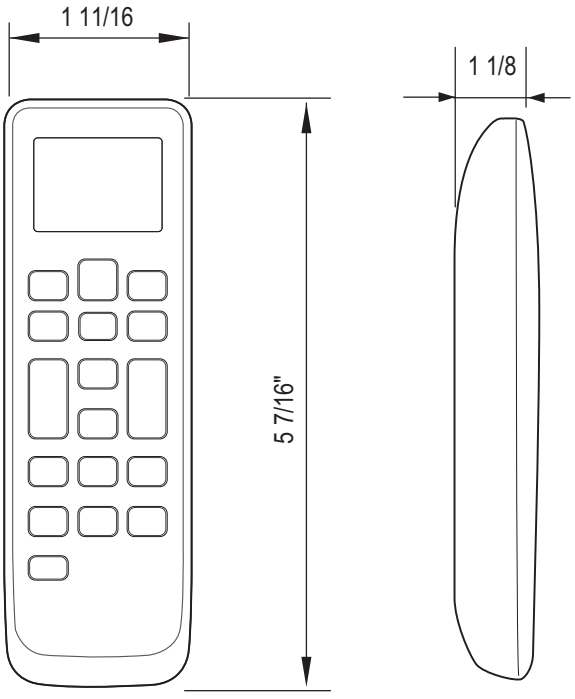
• Wide display

• Soft-touch buttons

• Control options: ON/OFF, set temperature, mode, fan speed, filter reminder reset, independent louver control (AM0**FN4DCH only), airflow direction, Single event timer setting

• Indoor unit address and option setting programming mode

• Includes holder to mount on wall



SUBMITTAL MXD-E24K300A

Samsung DVM S Series, 3 Unit Electronic Expansion Valve Kit

Job Name Seaside Rehabilitation | Location

Purchaser Ranor | Engineer

Submitted to Ranor | Reference ☐ Approval ☑ Construction ☐

Unit Designation CU-1 | Schedule #

Specifications

Power	Voltage (ø/V/Hz)		1 / 208-230 / 60
	Maximum Ampacity (A)		1.0
Connectable Capacity	Btu/h	3 X	≤ 12,000
Piping Connections (inches)	Supply Pipes In (flare)	Liquid	3/8
		Suction	5/8
	To Indoor Unit (flare)	A - Expanded Gas	1/4
		A - Suction	1/2
		B - Expanded Gas	1/4
		B - Suction	1/2
		C - Expanded Gas	1/4
		C - Suction	1/2
	Condensate Drain Line		ID 1/2", OD 11/16"
Maximum length from EEV kit to each indoor unit (feet)			65
Unit Dimensions	Width	Inches	19 5/8
	Height	Inches	8 1/16
	Depth	Inches	7 1/2
	Weight	lbs.	17
Refrigerant Type			R410A
Safety Certifications			ETL & ETLc

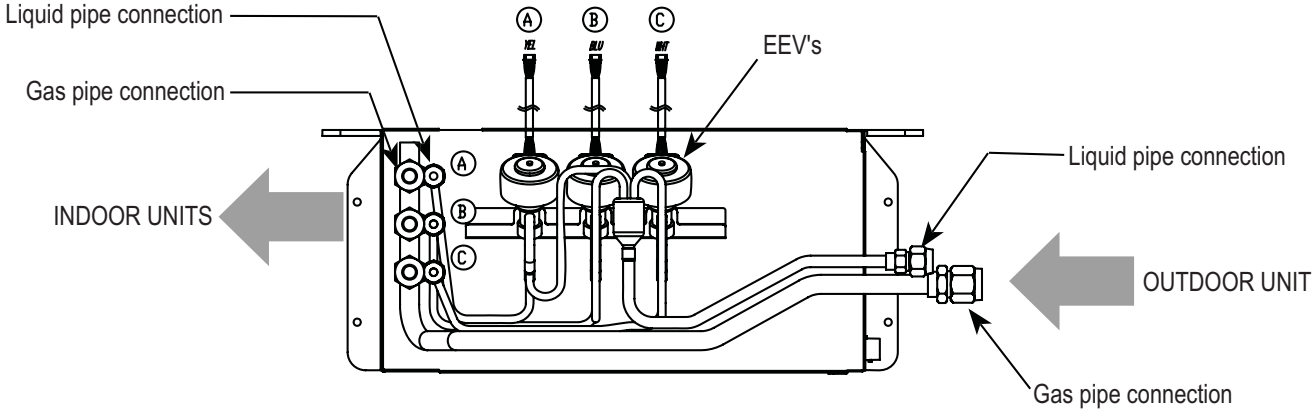
- Electronic expansion valve kit for use with 3 wall-mounted (AM0***NTDCH) and/or under-ceiling (AM0***NCDCH) evaporators
- Compatible with Samsung DVM S and Mini DVM systems: AM***FXVA*H/AA, AM0**FXMDCH/AA only.
- Installs external to evaporator cabinet
- PCB shall contain high voltage fuses

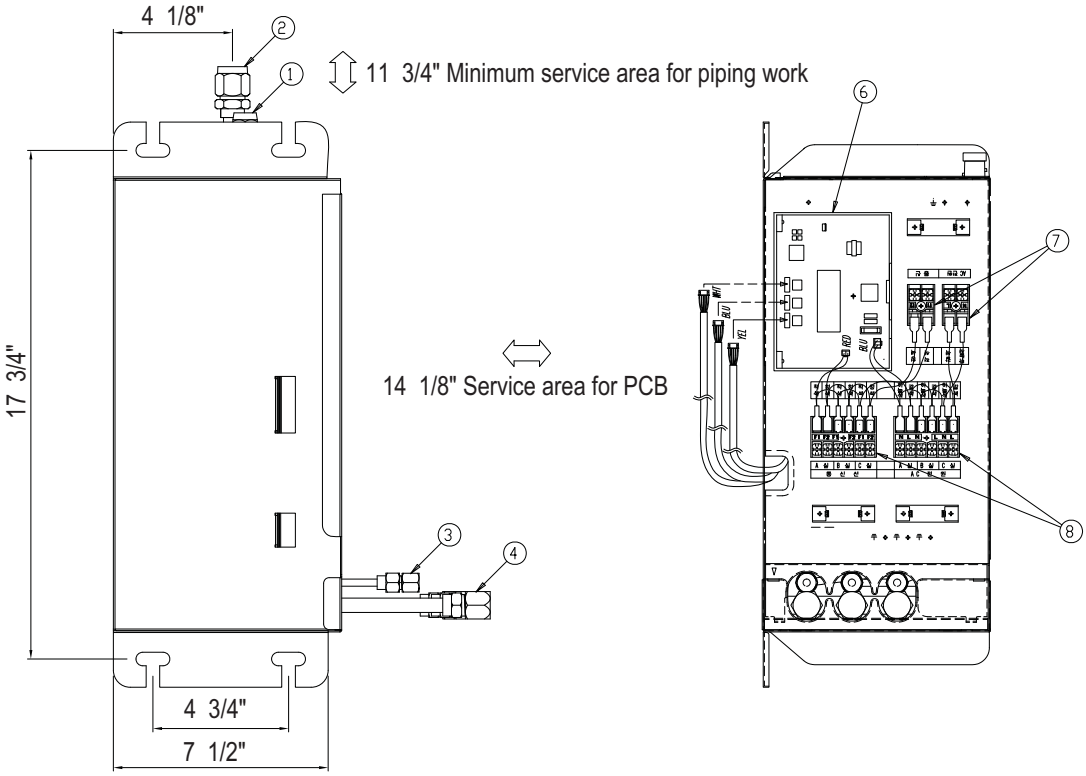
Construction
Galvanized steel chassis

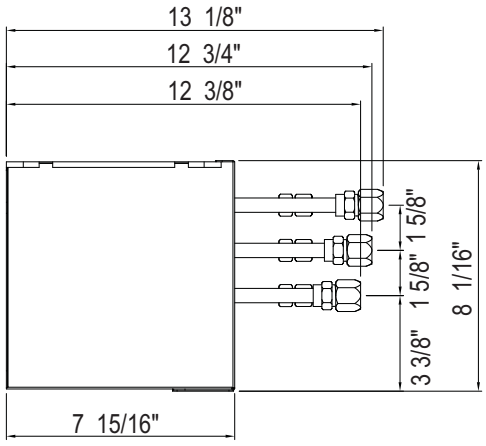
Controls
The unit shall be operated via a DDC type signal

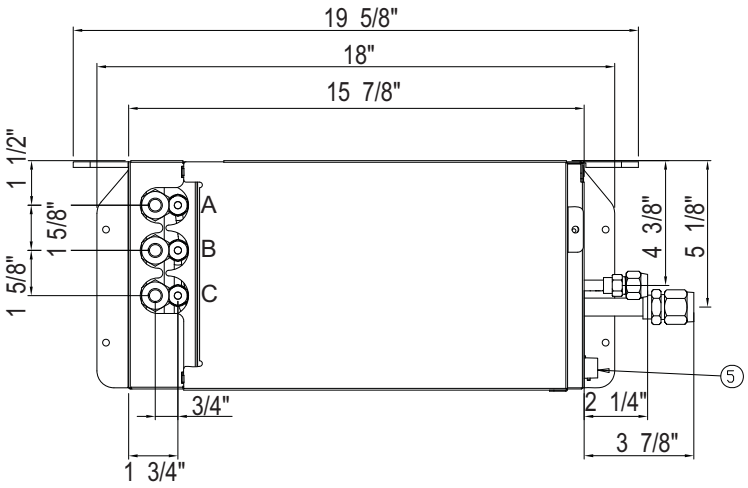
Controlled through main system communication wires (COM 1, F1/F2)

Must mount level to facilitate proper condensation drainage and internal refrigerant flow









No.	Name
①	Liquid pipe connection from branch joint or outdoor unit
②	Gas pipe connection from branch joint or outdoor unit
③	Liquid pipe connections to wall mounted/ceiling units
④	Gas pipe connections to wall mounted units/ceiling units
⑤	Condensate pipe connection (ID 1/2" / OD 11/16")
⑥	PCB
⑦	Power and communication wiring terminals from outdoor unit
⑧	Power and communication wiring terminals from outdoor unit