

Samsung DVM S Series, Heat Recovery Condensing Unit

Job Name _____
 Purchaser _____
 Submitted to _____
 Unit Designation _____

Location _____
 Engineer _____
 Reference _____ Approval _____ Construction _____
 Schedule # _____

System Specifications

Performance	US Ton (nominal)		14
	Capacity (Btu/h)	Nominal / Rated Cooling ¹	168,000 / 160,000
		Nominal / Rated Heating ¹	189,000 / 180,000
	Compressor Modulation Down to (Btu/h)		7,513
	EER	Ducted / Non-Ducted	10.6 / 10.6
	IEER	Ducted / Non-Ducted	18.7 / 19.8
	SCHE	Ducted / Non-Ducted	22.8 / 22.3
High Heat COP	Ducted / Non-Ducted	3.2 / 3.2	

Power	Voltage	(øV/Hz)	3 / 208-230 / 60
	Maximum Circuit Breaker (MCCB/ELB/ELCB)		80
	Minimum Circuit Ampacity (MCA)		66
	SCCR	kA	5

Indoor Units	Total Capacity (%)	50 - 130% Of Outdoor Unit Capacity
	Maximum Indoor Unit Quantity	29

Compressor	Type	SSC Scroll X 2
	RLA (A)	24

Refrigerant	R410A Factory Charge (lbs.)	24.25
-------------	-----------------------------	-------

Pipe Connections	Liquid X Suction X HP Gas (inches)	5/8 X 1 1/8 X 7/8
------------------	------------------------------------	-------------------

Installation Limitation ²	Max. Distance - ODU to IDU (feet)	656 (722 equivalent)	
	Vertical Separation (feet)	ODU to IDU ³	361
		Highest/Lowest IDU	131 (49 on same MCU)
	Total Refrigerant Pipe (feet)	3,280	

Condenser Fan	Fan	Type	Propeller X 2
		Output (CFM)	10,948
	Motor	Type	DC
		Output (W)	620 X 2
		FLA (A)	3
Max. External Static Pressure ("WC)	0.31		

Dimensions	W X H X D	Inches	51 X 66 3/4 X 30 1/8
	Weight	lbs.	723.10
	Shipping Weight	lbs.	760.60

Sound Level	dB (A)	Max.	63
-------------	--------	------	----

Operating Temperatures	Cooling	°F ⁴	5 - 120
	Heating	°F	-13 - 75

Safety Certifications	ETL (UL 1995)
-----------------------	---------------

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.		

Accessories Qty.	Model Number	Description
	WHG-T2	Top wind/hail guard (8 - 18 ton outdoor units)
	WHG-SL	Left side wind/hail guard (6 - 16 ton outdoor units)
	WHG-SR	Right side wind/hail guard (6 - 16 ton outdoor units)
	WHG-R2	Rear wind/hail guard (8 - 16 ton outdoor units)
	LACH-2-KIT	Low ambient cooling hood and side guards (Large Chassis, 1 Required)
	MIM-B14	External contact control interface module (operation and error output, night silent mode manual activation)



The Heat Recovery system shall allow simultaneous heating and cooling (conditions apply, refer to technical data book for more information)

Compatibility

Only compatible with Samsung DVM S indoor units (AM****N**CH**), AHU kits (MXD-K***AN), and UCK (MCM-D211UN).

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.

The aluminum fins of the heat exchanger shall have a protective coating.

Salt spray test method: ASTM-B117-18 - the heat exchanger showed no unusual rust or corrosion development to 2,280 hours.

Controls

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

The outdoor unit shall have a removable EEPROM that stores unit serial number, startup information, system settings, system tag/name, and other information.

Controls shall integrate with a BMS system without additional interface modules

Refrigerant System

The compressors shall be Samsung hermetically sealed, inverter driven, direct flash injected, DC scroll type with soft-start capability.

Flash injected compressors provide advanced low ambient heating performance.

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.

Must use with Mode Control Unit(s) for proper operation (MCU-S*****). When using MCU models MCU-S1NEK1N, MCU-S2NEK2N, MCU-S4NEK3N, and MCU-S6NEK2N, indoor units that will be used for cooling only year-round may be piped direct to the liquid and suction pipes bypassing MCU connection.

Optional rotational defrost capability to provide heating while performing defrost operation (modular systems only).

Other Features

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

Advanced oil recovery cycle logic (maximum duration in cool mode: 3 minutes, maximum duration in heat mode: 6 minutes, defrost cycles lasting over 3 minutes are considered oil recovery cycles). Oil recovery operation shall not interrupt heating or cooling operation.

Optional night quiet modes to reduce outdoor unit sound (4 levels) with automatic activation or manual activation (with MIM-B14).

Advanced intelligent defrost logic to significantly reduce defrost cycle frequency by monitoring air resistance across the condenser coil during heating operation to determine defrost operation initiation to prevent unnecessary defrost cycles.

Optional snow blowing logic to prevent snow accumulation on idle outdoor units

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

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), DMS 2.5 (MIM-D01AUN), BACnet Gateway (MIM-B17N, MIM-B17BUN), LON Gateway (MIM-B18N, MIM-B18BUN).

Energy savings options to reduce system energy consumption when average indoor room temperatures are greater than average indoor set temperatures in heating mode or when average indoor room temperatures are lower than average indoor set temperatures in cooling mode.

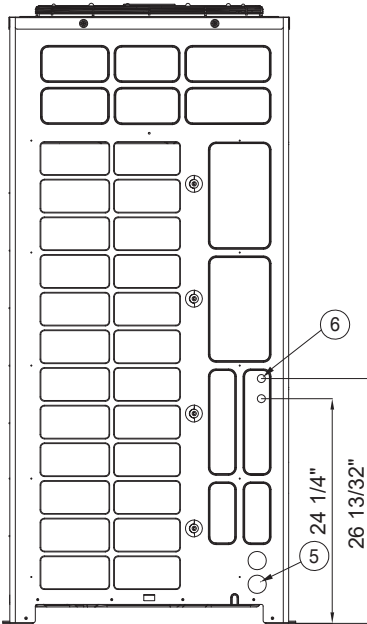
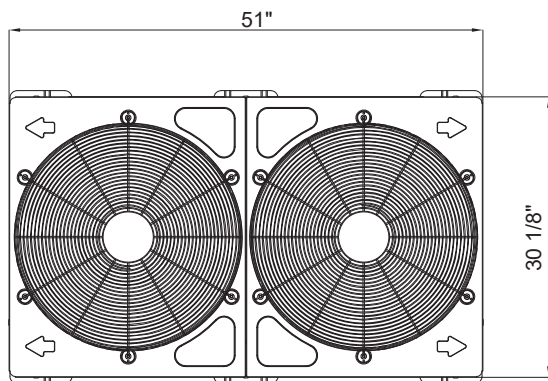
¹ Certified in accordance with the AHRI Variable Refrigerant Flow Multi-Split Air-Conditioners and Heat Pump (VRF) Certification Program which is based on the latest edition of AHRI Standard 1230.

² Other pipe restrictions and requirements exist. Please consult technical data book or installation manuals for full details regarding limitations and other requirements for vertical separation over 163 feet (outdoor to lowest indoor).

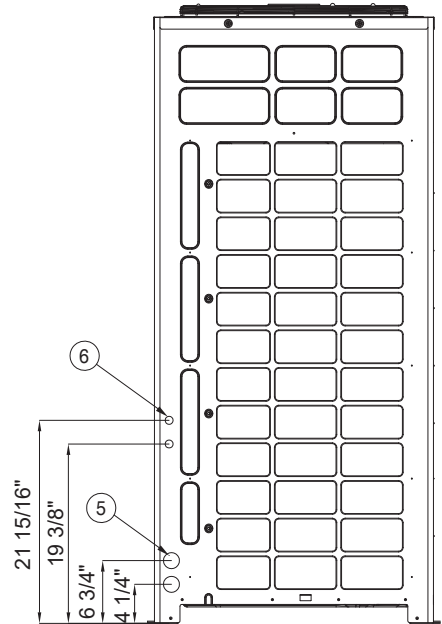
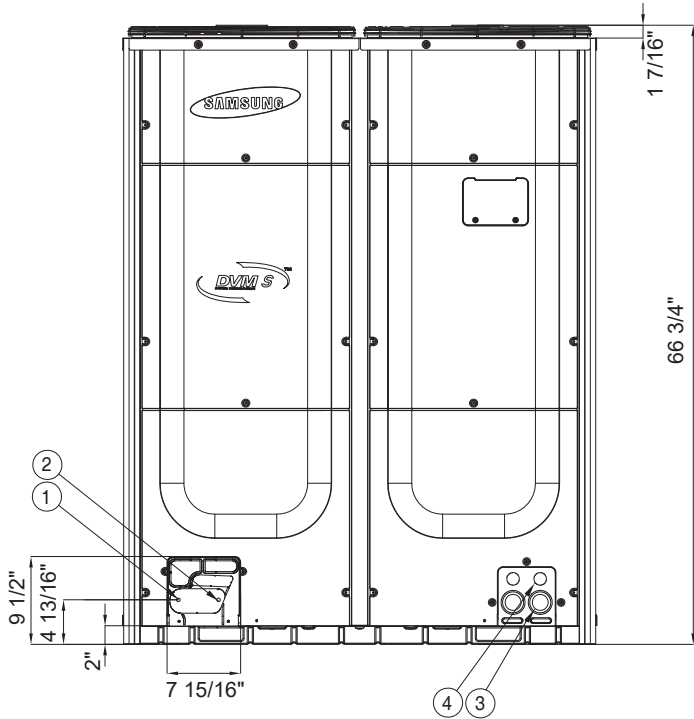
³ When outdoor unit is lower than indoor units, and vertical separation is greater than 131 feet, additional conditions apply. Please refer to supporting documents at www.SamsungHVAC.com

⁴ Cooling operation range is 23 - 120°F as standard. Cooling down to 5°F is possible with a modified pipe design. Consult technical documents or Samsung HVAC for more details.

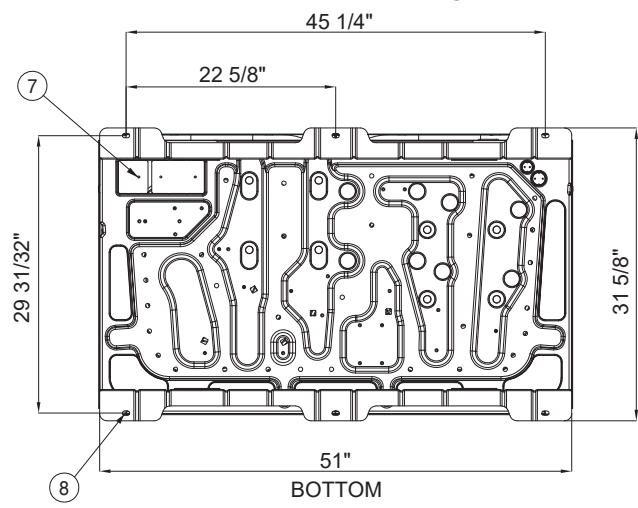
Samsung HVAC maintains a policy of ongoing development, specifications are subject to change without notice.



LEFT SIDE



RIGHT SIDE



BOTTOM

- 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")