SAMSUNG

# SUBMITTAL AC054KNZDCH/AA
## Samsung Multi-position Air Handler, Single Zone, Split System

Job Name _____ Location _____

Purchaser _____ Engineer _____

Submitted to _____ Reference ☐ Approval ☐ Construction ☐

Unit Designation _____ Schedule # _____

**Specifications**

| | | | |
|---|---|---|---|
| Model | Indoor Unit Model Number (US Code) | | AC054KNZDCH/AA (CNH54ZDK) |
| | Outdoor Unit Model Number (US Code) | | AC054KXADCH/AA (CXH54ADK) |
| Performance | Nominal Capacity [1] | Cooling / Heating (Btu/h) | 54,000 / 60,000 |
| | Capacity Range | Cooling (Btu/h) | 21,000 - 55,000 |
| | | Heating (Btu/h) | 21,000 - 62,000 |
| | SEER / EER | | 17.10 / 8.05 |
| | COP (nominal heating) | | 3.03 |
| | HSPF | | 9.0 |
| | AHRI Certification Number | | 8950575 |
| | Condensate (pints/h) | | 12.05 |
| Power (without optional heat kits) | Voltage | ø / V / Hz | 1 / 208-230 / 60 |
| | Working Voltage Range (VAC) | | 176 - 254 (max. 3% deviation from each) |
| | Operating Current (min. / std. / max.) | Cooling (A) | 10.1 / 28.7 / 35.8 |
| | | Heating (A) | 10.2 / 24.7 / 38.5 |
| | Max. Breaker | Amps | 70 |
| | Min. Circuit Ampacity (A) | | 42 |
| Dimensions | W X H X D (in) | Indoor Unit | 24 1/2 X 58 3/4 X 21 3/4 |
| | | Outdoor Unit | 37 X 56 X 13 |
| | Weight (lbs.) | Indoor Unit | 163.14 |
| | | Outdoor Unit | 211.6 |
| Sound Pressure Level | Indoor Unit dB(A) | L / M / H | 39 / 42 / 45 |
| | Outdoor Unit dB(A) | Cooling / Heating (high) | 56 / 56 |
| Operating Temperatures ($^0$F) | Outdoor | Cooling | 23 ~ 115°F (-5 ~ 46°C) |
| | | | 0 ~ 115°F (-18 ~ 46°C) W/Baffle |
| | | Heating | -4 ~ 75°F (-20 ~ 24°C) |
| | Indoor | Cooling | 61 ~ 90°F (16 ~ 32°C) |
| | | Heating | T ≤ 80°F (27°C) |
| Pipe Connections | Indoor & Outdoor | High side (flare) | 3/8" |
| | | Low side (flare) | 3/4" |
| | Maximum (ft.) | | 246 |
| | Maximum Vertical Separation (ft.) | | 98 |
| | Condensate Connection | | 3/4" FNPT |
| Refrigerant | Factory Charge | oz. | 119.93 |
| | Charged for | | 25 ft |
| | Additional Refrigerant | | 0.355 oz./ft. over 25 ft |
| Compressor | Type | | Inverter Driven, Twin BLDC Rotary |
| | RLA | A | 28.5 |
| Evaporator Fan | Type | | Double-inlet, forward curve, centrifugal (with ECM motor) |
| | Air Volume | CFM (L/M/H) | 1,342 / 1,501 / 1,889 (at standard ESP) |
| | | Total CFM Range [2] | 370 - 2,000 |
| | HP | | 3/4 |
| | Motor Amps | A | 2.09 |
| | External Static Pressure ("WC) | Standard | 0.28 |
| | | Min. / Max. | 0.1 / 1.0 |
| Condenser Fan | Motor | | BLDC With Axial Type Fan (2) |
| | FLA / Watts / CFM (max.) | | 0.48 A X 2 / 125 W X 2 / 5,160 CFM |
| Safety | Certifications | | ETL (UL 1995) |
| | Devices: PCB fuses, indoor unit terminal block thermal fuse, current transformer, over-voltage protection, crankcase heating, temperature limit protection logic, compressor overload sensing | | |

[1] Certified in accordance with the AHRI Unitary Small Air-Source Heat Pumps (USHP) Certification Program which is based on the latest edition of AHRI Standard 210/240.

[2] Refer to installation manual for full fan curve details


**General Information**

- Auto-restart after power loss
- The indoor unit shall be capable of being field convertible to downflow configuration with optional downflow conversion kit.
- The outdoor unit shall have a snow accumulation prevention option setting to prevent snow drifting against an idle outdoor unit.
- The indoor and outdoor units shall have a removable EEPROM that stores system programming information, unit name, and other data
- The outdoor unit shall have a night time quiet mode option to reduce operating sound during the night (automatic or manual activation with dry contact signal).
- The pipe connections at the outdoor unit shall be internal allowing pipes to inter the chassis through the front, right side, bottom, or back.
- Air handler has an air leakage of no more than 2 percent of the design air flow rate when tested in accordance with ASHRAE 193.
- The outdoor unit shall supply power to indoor unit via 14 AWG X 3 power wire when optional heat kits are not installed. If VHK-***A supplemental heat kits are installed, power to the heat kits must be provided from a dedicated circuit with proper overcurrent protection per NEC (refer to VHK-***A supporting documents for heat kit electrical data).

**Construction**

The outdoor unit shall be galvanized steel with a baked on powder coated finish for durability

The indoor unit shall be constructed of insulated, powder coated, galvanized steel

**Indoor Fan**

The indoor fan is a double-inlet, forward curve, centrifugal type with a single constant-torque (ECM) fan motor

The indoor unit shall have low, medium, high, and auto fan speed setting options.

The evaporator fan motor shall have five speed taps

**Heat Exchanger**

The indoor unit heat exchanger shall be mechanically bonded aluminum fin to copper tube

The outdoor unit heat exchanger shall be aluminum, flat fin, micro channel

**Controls**

Control signal shall be a DDC type signal

Interconnect control wire between outdoor and indoor unit shall be 16AWG X 2 shielded

Controllers must be purchased separately

Controls shall integrate with a BMS system

No additional interface modules/adapters are required when connecting to Samsung NASA DVM S central controllers.

**Refrigerant System**

The refrigerant type shall be R410A

The compressor shall be hermetically sealed, inverter controlled, twin BLDC Rotary made by Samsung

Refrigerant flow shall be controlled by an electronic expansion valve at outdoor unit

Soft-start to reduce current demand during compressor start

**Warranty**

10 Years compressor, 10 years parts, 1 year limited labor when registered (conditions apply)

## Optional Accessories

| | | | |
|---|---|---|---|
| Wired Controller | Advanced Wired Controller | ☐ | MWR-WG00UN |
| | Simplified Touch Controller | ☐ | MWR-SH11UN |
| Wi-Fi Adapter | | ☐ | MIM-H04UN |
| Wireless Signal Control | Wireless Signal Receiver | ☐ | MRK-A10N |
| | Wireless Controller | ☐ | AR-EH03U |
| External Temperature Sensor | | ☐ | MRW-TA |
| External Contact Control | | ☐ | MIM-B14 |
| Filter Box (includes 1" MERV 8 filter) | | ☐ | VFB-3 |
| Supplemental Electric Heat Kits | 5kW | ☐ | VHK-305A |
| | 10kW | ☐ | VHK-310A |
| | 15kW | ☐ | VHK-315A |
| Wall Bracket (for outdoor unit) | | ☐ | CKN-250 |
| Wind Baffles | Front | ☐ | WBF-6M |
| | Back | ☐ | WBB-4M |
| Downflow Conversion Kit | | ☐ | VDK-3 |
| Thermostat Adaptor (for connection to a standard 24VAC thermostat) | | ☐ | MIM-A60UN |

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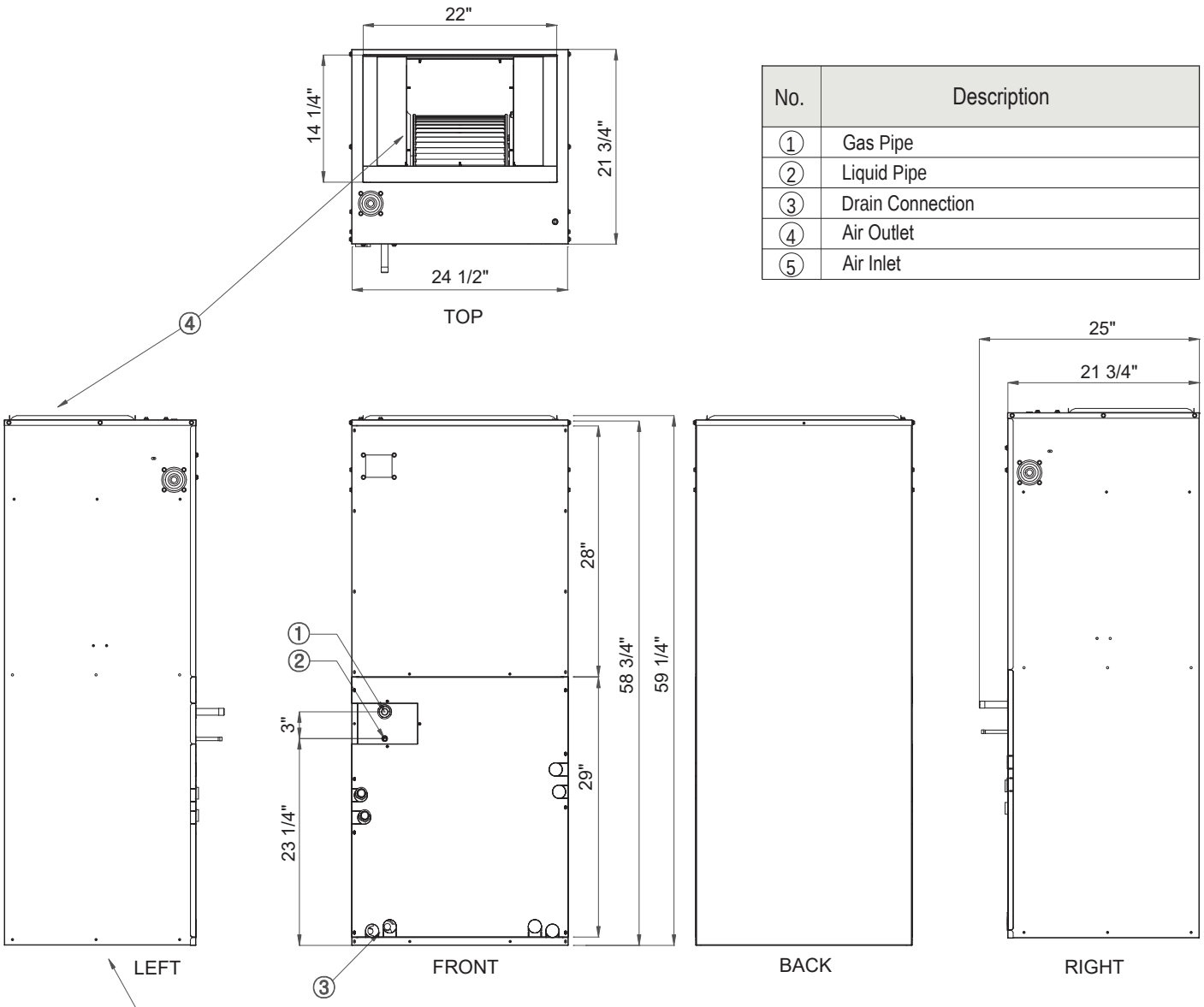
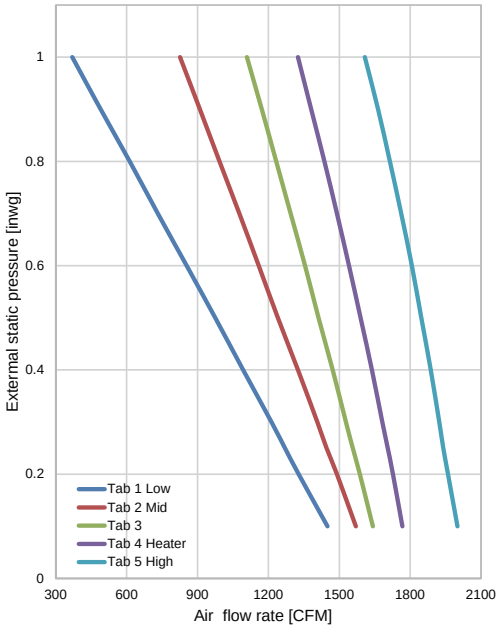
AC054KNZDCH/AA Dimensional Drawing




| No. | Description |
|---|---|
| ① | Gas Pipe |
| ② | Liquid Pipe |
| ③ | Drain Connection |
| ④ | Air Outlet |
| ⑤ | Air Inlet |



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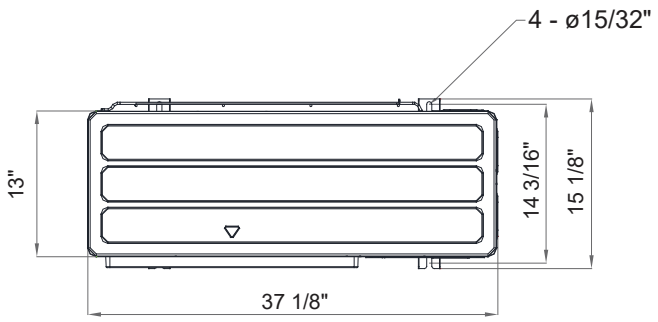
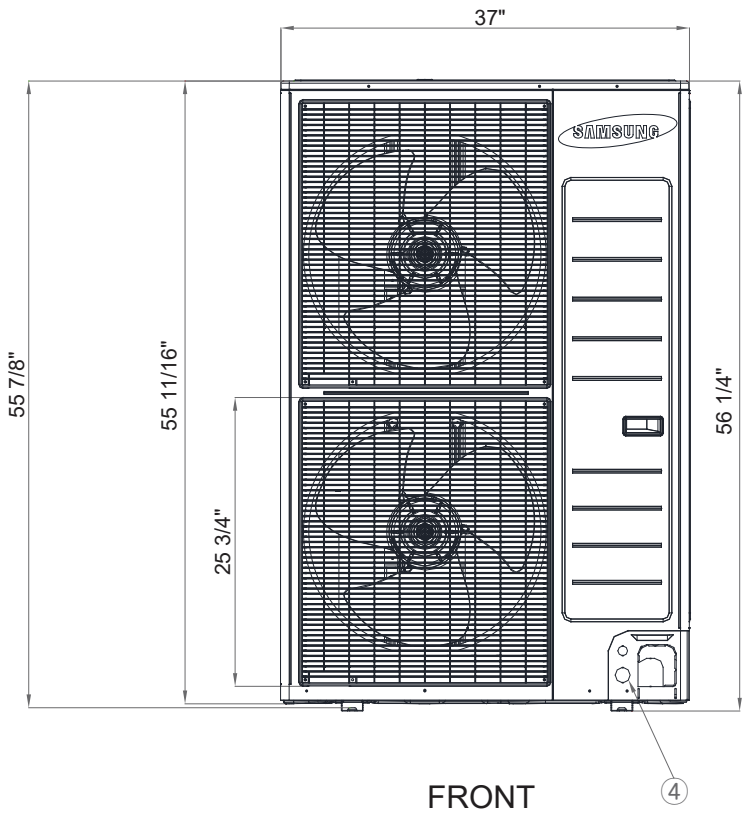
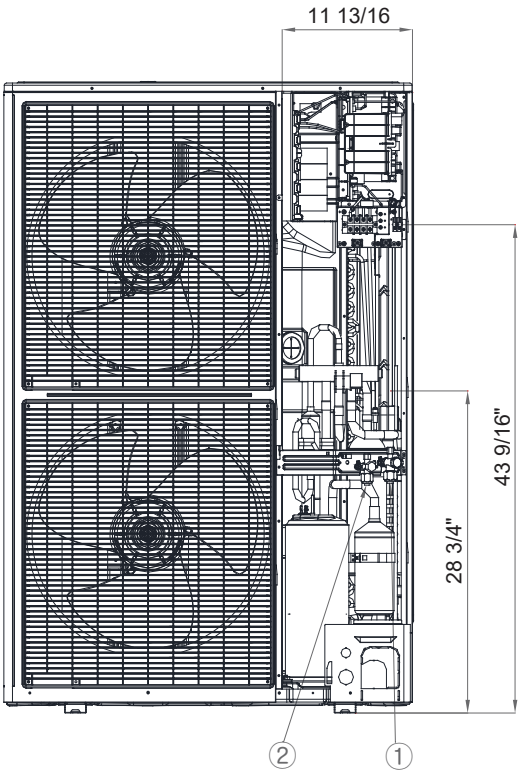


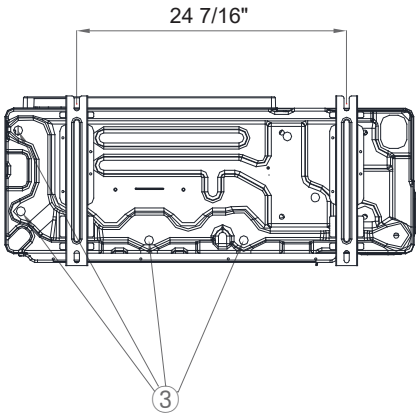

TOP




FRONT




FRONT WITHOUT SERVICE COVER




| No. | Description |
|---|---|
| 1 | Suction service valve |
| 2 | Liquid service valve |
| 3 | Drainage hole |
| 4 | Power and communication conduit openings |