CITY OF COQUITLAM, POIRIER ADMIN BUILDING – HVAC FEASIBILITY STUDY

Project No.: 025b-008-24
640/644 Poirier Street, Coquitlam, BC, V3J 6B1

Feasibility Study

July 3, 2024

PREPARED FOR:
City of Coquitlam
640 Poirier Street
Coquitlam, BC V3J 6B1
T 604-927-6050

ATTN:
Krystal Law
Building Technician
E Klaw@coquitlam.ca

PREPARED BY:
Mike Kasuya, P.L.Eng., AScT, PTech, CPHD, LEED AP BD+C
Principal – Building Energy Services
E mikekasuya@amegroup.ca

REVIEWED BY:
Charles Lankester, P.Eng., MEL, LEED Green Assoc
Associate – Building Energy Services
E charleslankester@amegroup.ca

200 – 638 Smithe Street,
Vancouver, BC
V6B 1E3
T 604-684-5995

PROFESSIONAL'S SEAL & SIGNATURE

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY 3
2. INTRODUCTION 4
3. EXISTING MECHANICAL SYSTEM DESCRIPTIONS 4
3.1 Building Heating System 4
3.2 Building Cooling System 6
4. COOLING LOAD CALCULATION 8
5. SYSTEM OPTIONS & RECOMMENDATIONS 9
5.1 System Options Review 9
5.2 Cost Estimate For South Building Cooling Upgrade (Half Scope) 11
5.3 Cost Estimate For Full Building Cooling Upgrade (Full Scope) 13
6. CONCLUSION 15
APPENDIX A EQUIPMENT SUBMITTALS

Statement of Limitations

This report has been prepared by the AME Consulting Group for the exclusive use of City of Coquitlam. The material in this report reflects the best judgement of the AME Consulting Group with the information made available to them at the time of preparation. Any use a third party may make of this report, or any reliance on or decisions made based upon the report, are the responsibility of such third parties. The AME Consulting Group accepts no responsibility for damage suffered by any third party as a result of decisions made or actions taken based upon this report.

Acknowledgements

The AME Group would like to acknowledge the contributions from City of Coquitlam representatives for providing existing building documentation, access to site, and making time to respond to questions which provided valuable insight into the existing building operations, and maintenance considerations.

Copyright Notice

Opinion of Price and Market Condition Disclaimer

The prices listed described in this report are based on AME's opinion of prices with previous experience in a similar project. These opinions of the price should be considered alongside the fact that construction, material, and labor cost in British Columbia have been increasing rapidly in recent months due to the disruptions in the global supply chain. As such, the opinions on the price listed in this report are expected to increase significantly after issuance.

1. EXECUTIVE SUMMARY

The AME Consulting Group has been engaged to review the feasibility of installing the cooling system for Poirier admin building located at 640 & 644 Poirier street. A previous feasibility study was conducted by AME in 2021 to review (3) potential cooling upgrade options for implementation. This report reviews and re-analyzes the previously completed partial building feasibility study and include full building evaluation.

The building is currently heated by hydronic baseboard heaters fed by condensing gas boilers located in the boiler room on the first floor. The supply temperature is 160°F, which is considered high-temperature heating. The building currently has 12 window-mounted AC units installed that were visually confirmed on site and only serve the South side of the building (City occupied). Each unit serves an individual office room with a cooling capacity of 6 MBH. Additionally, the second floor north meeting room has a ceiling-mounted cassette unit connected to an outdoor condensing unit.

AME reviewed previously investigated system options and, according to the prior feasibility study, this report does not recommend a packaged AHU system due to insufficient ceiling space for ductwork. The report finds that both ducted fan coils option and wall-mounted unit option are mechanically feasible.

As requested by the City of Coquitlam, this report investigates two construction scopes: a half scope focusing only on the South side (City side), and a full scope which expands the cooling upgrade to the entire building, including the North side. AME conducted a cooling load calculation for both options, as shown in the table below.

Table 1: Cooling Load Calculation

	Cooling Load (Tons)
Half Scope (South Building)	12.7
Full Scope (Full Building)	23.6

Upon reviewing the cost of both system options, this report recommends implementing VRF condensing units with wall-mounted AC units for both the half building scope and full building scope. The City of Coquitlam also engaged O'M Engineering to review the electrical capacity and upgrade requirements for the proposed equipment. Refer to electrical report for details.

2. INTRODUCTION

AME was engaged by the City of Coquitlam to investigate the cost and feasibility of cooling upgrade options for the Poirier admin building located at 640 & 644 Poirier Street. A previous study conducted in 2021 reviewed three (3) potential cooling upgrade options: a packaged AHU system, VRF with ducted fan coils, and VRF with wall-mounted units. The scope of the previous study focused only on the south building, currently occupied by City of Coquitlam staff. This report re-analyzes the previous cooling upgrade options and includes a review of a full building cooling upgrade. An initial site visit was conducted by AME and O'M Engineering on May 1st, 2024, and the scope of work was reviewed by all disciplines. The photo below shows the layout of the Poirier admin building.

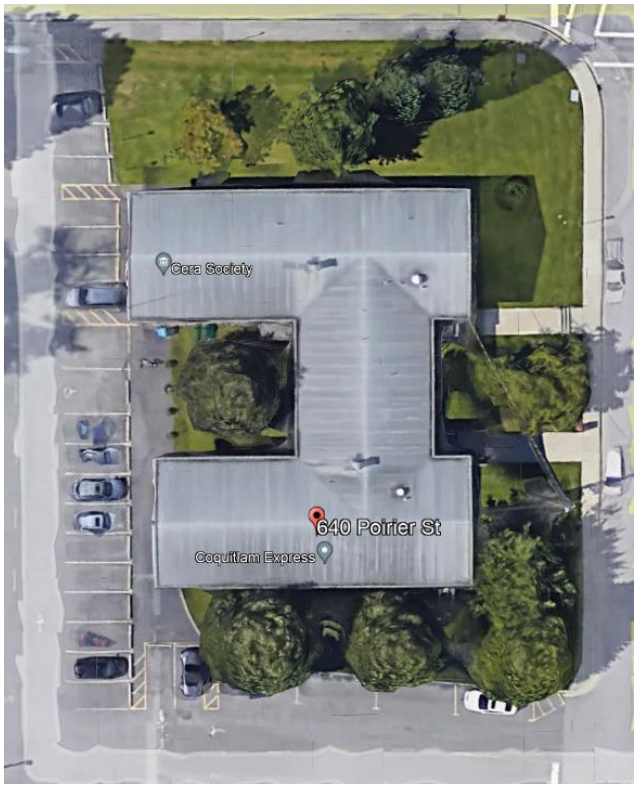


Photo 1: Poirier Admin Building (Source: Google Earth)

3. EXISTING MECHANICAL SYSTEM DESCRIPTIONS

3.1 Building Heating System

The building heating is currently served by hydronic baseboard heaters fed by (2) condensing gas boilers. There are (2) boiler rooms located at the floor 1 of the building, each boiler room has (1) condensing gas boiler serves hydronic baseboard heaters located at every room and (1) gas-fed domestic hot water tank serving the domestic water heating. The heating water setpoint is 160 °F as shown on site. The building

staff has commented that the existing heating system is able to satisfy the building heating. However, they would like to explore the VRF heating as an alternative and use the existing heating system as the backup/top up option. Photo 2 below demonstrates one of the boiler room which contains (1) condensing boiler for heating and (1) domestic hot water tank. Photo 3 shows the hydronic baseboard heater located at each office room. Each baseboard heater is controlled by a wall mounted temperature sensor.

Photo 2: Existing Boiler Room

Photo 3: Ex. Hydronic Baseboard Heater

3.2 Building Cooling System

The building is not equipped with any central cooling and ventilation system. However, some window units can be found in some of the office rooms which provide 6 MBH. As per the building operator, the building currently has 12 window-mounted AC units installed that were visually confirmed on site and only serve the South side of the building (City occupied). Other than the window units, a cassette unit was installed in the north meeting room ceiling with an outdoor condensing unit located at the fence outside the building. On Floor 1, there is also an existing wall-mounted split AC unit serving the storage & office room, with condensing unit located at the fence outside the building too. Photo 4 below shows the existing window unit and Photo 5 & 6 depicts the cassette unit and the outdoor condensing unit.

Photo 4: Existing Window AC Unit

Photo 5: Cassette Unit

Photo 6: Outdoor Condensing Units

4. COOLING LOAD CALCULATION

As requested by the City of Coquitlam, this report investigates two construction scopes: a half scope focusing only on the south building (City side), and a full scope which expands the cooling upgrade to the entire building, including the north side.

AME conducted a cooling load calculation to determine cooling required to maintain the space temperature within acceptable limit. The table below shows the result of cooling demand of the building for different options.

Table 2: Cooling Load Results

	Cooling Load (Tons)
Half Scope (South Building)	12.7
Full Scope (Full Building)	23.6

5. SYSTEM OPTIONS & RECOMMENDATIONS

5.1 System Options Review

AME investigated the feasibility of (3) system options for implementation. Based on the previous scope of work, these options are:

.1 Packaged AHU

- Description

  The packaged AHU option describes a centralized heat pump system, which cools or heats the air through a cooling or heating coils located inside the unit, the conditioned air then distributed to each zone through ductwork.

- Advantage

  This option provides a centralized option which makes the system easier to control.

- Disadvantage

  However, this option has a several disadvantages. The first one is the higher initial cost as AHU is generally more expensive and the installation is more complex. AHU also requires a large physical space for installation and room for centralized ductwork. Furthermore, the noise generated by AHU can also be a potential issue to the tenant. Thus, this report does not recommend packaged AHU option.

.2 VRF with ducted fan coils

- Description

  This option provides a Variable Refrigerant Flow (VRF) condensing unit with a combined 28 tons of cooling capacity. This condensing unit allows a variable refrigerant flow for heating or cooling based on the space demand. The VRF unit connects to fan coils units with different heating/cooling capacities depending on the load of the zone that it serves. The unit has a heat recovery option which can also provide the heating where there are times of simultaneous load to increase overall system efficiency. As the system is providing heating selections have been provided that are suitable to be operate during winter design conditions. Refer to **Appendix A** for equipment submittals.

- Advantage

  The main advantage of ducted fan coils option is the cooling effectiveness and the aesthetic appeal of the finished space. Since the cooling airflow is distributed to the space by fan coils

units and diffusers, this option has better appearance as all ductwork is hidden in the ceiling space.

- Disadvantage

  Constructability and cost are the main disadvantages of this option because the work includes installing the ductwork from each fan coils to the diffusers. Contractors would need to coordinate the building owner and tenants for the long shutdown schedule during construction. In addition, the limiting space is another potential risk of this option as the new ductwork might not fit in the existing ceiling space.

.3 VRF with wall mounted units.

- Description

  Similar to the ducted fan coils option, this option also provides the VRF condensing unit. However, the refrigerant lines will connect to the wall-mounted AC units. As the system is providing heating selections have been provided that are suitable to be operate during winter design conditions. Refer to **Appendix A** for equipment submittals.

- Advantage

  In contrast to ducted fan coils, wall mounted unit has the advantage in terms of space and constructability. In general, the wall-mounted units are smaller in dimension. There is minimal disruption to tenants during the construction hour as there is no need to open the ceiling.

- Disadvantage

  In contrast to ducted fan coils, wall-mounted unit option has a disadvantage in terms of cooling effectiveness as a ductless system is generally less efficient at cooling than a ducted system. In addition, the evaporator and refrigerant piping are also more noticeable to occupants which has some effects on the appearance of the room. This report suggests adopting wall-mounted option if the upfront budget and the physical space are limited.

5.2 Cost Estimate For South Building Cooling Upgrade (Half Scope)

.1 VRF with ducted fan coils indoor units

Table 3: Cost Estimate

VRF Condensing Unit w/ fan Coils Units - Half Building					
Line No.	**Category**	**Description**	**Quantity**	**Unit Price**	**Line Total**
1	Equipment				
2		12 Tons VRF Condensing Unit	1		
3		2 Tons Fan Coils Unit	3		
4		1.5 Ton Fan Coils Unit	5		
5		0.5 Ton Fan Coils Unit	1		
6		Branch Selector Box	1		
7					$246,000
8	Diffusers				
9		10" dia Square Diffuser	21	$150	$3,150
10	Piping				
11		3/4" Condensate SS Piping	100	$23	$2,300
12		1/2" & 1-1/8" Refrigerant Line	3	$639	$1,916
13		3/8" & 1-1/8" Refrigerant Line	1	$458	$458
14		3/8" & 3/4" Refrigerant Line	2	$279	$557
15		1/4" & 1/2" Refrigerant Line	2	$229	$458
16	Ductwork				
17		14" Dia Ductwork	20	$38	$760
18		12" Dia Ductwork	20	$25	$500
19		10" Dia Ductwork	20	$22	$440
20	Electrical				
21		Electrical parts, wiring	1	$10,000	$10,000
22	Structural				
23		Concrete Pad	1	$2,000	$2,000
24	Ceiling Work				
25		Abatement Removal	1	$5,000	$5,000
26		Ceiling Demo	1	$10,000	$10,000
27	Labour				
28		30% of Total	1	$76,962	$76,962
29	Contingency				
30		20% of Total	1	$72,100	$72,100
31		Total	$432,602		

.2 VRF with wall mounted indoor units

Table 4: Cost Estimate

VRF Condensing Unit w/ wall mounted - Half Building					
Line No.	**Category**	**Description**	**Quantity**	**Unit Price**	**Line Total**
1	Equipment				
2		14 Tons VRF Condensing Unit	1		
3		5 MBH Wall Mounted Indoor Unit	12		
4		7 MBH Wall Mounted Indoor Unit	7		
5		9 MBH Wall Mounted Indoor Unit	1		
6		12 MBH Wall Mounted Indoor Unit	1		
7		15 MBH Wall Mounted Indoor Unit	1		
8		18 MBH Wall Mounted Indoor Unit	1		
9		Remote Controller	1		
10					$78,750
11	Piping				
12		3/4" Condensate SS Piping	100	$23	$2,300
13		1/2" & 1-1/8" Refrigerant Line	6	$639	$3,832
14		3/8" & 1-1/8" Refrigerant Line	2	$458	$916
15		3/8" & 3/4" Refrigerant Line	4	$279	$1,114
16		1/4" & 1/2" Refrigerant Line	4	$229	$916
17	Electrical				
18		Electrical parts, wiring	1	$10,000	$10,000
19	Structural				
20		Concrete Pad	1	$2,000	$2,000
21	Ceiling Work				
22		Abatement Removal	1	$5,000	$5,000
23		Ceiling Demo	1	$5,000	$5,000
24	Labour				
25		30% of Total	1	$26,349	$26,349
26	Contingency				
27		20% of Total	1	$27,236	$27,236
28		Total		$163,413	

.3 Recommendation

After reviewing the cost for both options, this report recommends implementing VRF unit with wall-mounted indoor units for half scope cooling.

5.3 Cost Estimate For Full Building Cooling Upgrade (Full Scope)

.1 VRF with ducted fan coils indoor units

Table 5: Cost Estimate

VRF Condensing Unit w/ fan Coils Units - Full Building					
Line No.	**Category**	**Description**	**Quantity**	**Unit Price**	**Line Total**
1	Equipment				
2		12 Tons VRF Condensing Unit	1		
3		14 Tons VRF Condensing Unit	1		
4		2.5 Ton Fan Coils Unit	1		
5		2 Tons Fan Coils Unit	3		
6		1.5 Ton Fan Coils Unit	12		
7		1.3 Ton Fan Coils Unit	1		
8		0.6 Ton Fan Coils Unit	1		
9		0.5 Ton Fan Coils Unit	1		
10		Branch Selector Box	2		
11					$546,000
12	Diffusers				
13		10" dia Square Diffuser	21	$150	$3,150
14	Piping				
15		3/4" Condensate SS Piping	100	$23	$2,300
16		1/2" & 1-1/8" Refrigerant Line	6	$639	$3,832
17		3/8" & 1-1/8" Refrigerant Line	2	$458	$916
18		3/8" & 3/4" Refrigerant Line	4	$279	$1,114
19		1/4" & 1/2" Refrigerant Line	4	$229	$916
20	Ductwork				
21		14" Dia Ductwork	40	$38	$1,520
22		12" Dia Ductwork	40	$25	$1,000
23		10" Dia Ductwork	40	$22	$880
24	Electrical				
25		Electrical parts, wiring	2	$10,000	$20,000
26	Structural				
27		Concrete Pad	2	$2,000	$4,000
28	Ceiling Work				
29		Abatement Removal	2	$5,000	$10,000
30		Ceiling Demo	2	$10,000	$20,000
31	Labour				

32		30% of Total	1	$168,489	$168,489
33	Contingency				
34		20% of Total	1	$156,824	$156,824
35		Total		$940,941	

.2 VRF with wall mounted indoor units

Table 6: Cost Estimate

VRF Condensing Unit w/ wall mounted - Full Building					
Line No.	**Category**	**Description**	**Quantity**	**Unit Price**	**Line Total**
1	Equipment				
2		6 Tons VRF Condensing Unit	1		
3		8 Tons VRF Condensing Unit	1		
4		14 Tons VRF Condensing Unit	1		
5		5 MBH Wall Mounted Indoor Unit	33		
6		7 MBH Wall Mounted Indoor Unit	8		
7		9 MBH Wall Mounted Indoor Unit	3		
8		12 MBH Wall Mounted Indoor Unit	1		
9		15 MBH Wall Mounted Indoor Unit	1		
10		18 MBH Wall Mounted Indoor Unit	3		
11		28 MBH Wall Mounted Indoor Unit	1		
12		Remote Controller	3		
13					$175,000
14	Piping				
15		3/4" Condensate SS Piping	200	$23	$4,600
16		1/2" & 1-1/8" Refrigerant Line	12	$639	$7,664
17		3/8" & 1-1/8" Refrigerant Line	4	$458	$1,832
18		3/8" & 3/4" Refrigerant Line	8	$279	$2,229
19		1/4" & 1/2" Refrigerant Line	8	$229	$1,833
20	Electrical				
21		Electrical parts, wiring	2	$10,000	$20,000
22	Structural				
23		Concrete Pad	3	$2,000	$6,000
24	Ceiling Work				
25		Abatement Removal	2	$5,000	$10,000
26		Ceiling Demo	2	$5,000	$10,000
27	Labour				

28		30% of Total	1	$57,947	$57,947
29	Contingency				
30		20% of Total	1	$59,421	$59,421
31		Total		$356,526	

.3 Recommendation

After reviewing the cost for both options, this report recommends implementing VRF unit with wall-mounted indoor units for full scope cooling.

6. CONCLUSION

The calculation shows the south building would need around 12.7 tons of cooling and the full building would need 23.6 tons of cooling. This report investigated the previously investigated three (3) options for adding cooling. This report recommended VRF condensing unit with wall mounted AC indoor unit as the potential method for cooling addition of the spaces. This system option is more feasible as it requires the least construction work among other options and cheaper construction cost.

This report analyzes the constructability of both half scope (south building) and full scope (full building). The opinion of probable cost for both scopes are expressed as the following table:

Table 7: Options Cost Estimate Table

	VRF w/ducted Fan Coils Options	VRF w/wall-mounted AC Options
Half Scope	$432,602	$163,413
Full Scope	$940,941	$356,526

END OF REPORT

Appendix A
Equipment Submittals

Ducted Fan Coils
Options

Submittal Data Sheet

14 ton, 230V, VRV EMERION HR - REYQ168AATJA

Project: City of Coquitlam, Poirier Admin - AME - JX

Submitted by: Patricia Argueyo of OLYMPIC INTERNATIONAL AGENCIES on 5/8/2024

Submitted to: No Engineer Name Specified

FEATURES

- New Simple and Stylish design with expanded line up with single-module units from 6 - 20T and dual-modules up to 40 T
- Space-saving 16 - 20 T single module units provide up to 34% footprint and up to 500 lbs./unit weight reduction compared to previous series
- High energy efficiency with IEERs up to 30.0 delivers up to 30% efficiency increase
- Year-round comfort and energy savings with Daikin's Variable Refrigerant Temperature technology (VRT)
- Heating down to -13°F as standard and high heating capacities at 17°F make it an ideal choice for all-electric heat pump solutions
- Continuous heating during defrost capability with single module (16 T - 20 T) and all dual module systems
- Hot gas defrost circuit allows for installation without base pan heater
- High dust and moisture protection withan IP55 rated sealed E-box
- Dual-fuel ready with connectivity to Daikin communicating gas furnace or all-electric heat pump heating for optimized operational costs based on utility rates
- Increased piping lengths of up to 361 ft. vertical separation between ODU and IDU provide additional application flexibility compared to previous VRV systems
- Design flexibility to enlarge system from single to a dual-module without changes to installed main pipe sizes for phased installation or tenant fit-out buildings
- Local code compliance-ready from factory via alignment with compliance needs, such as OSHPD Seismic, Miami Dade Wind, and Chicago pressure relief codes
- Reduced wiring costs with up to 34% reduction in MCA values compared to previous series
- Engineered for ease of installation and service with three-segment panel design
- Factory ships with increased space for easy field piping connections to service valves.
- Built-in data recorder to store up to 40 minutes of operational data
- Integrates with new Daikin HERO ecosystem, an IoT-based remote monitoring and diagnostics platform.

Submittal Data Sheet

14 ton, 230V, VRV EMERION HR - REYQ168AATJA

Project: City of Coquitlam, Poirier Admin - AME - JX

Submitted by: Patricia Argueyo of OLYMPIC INTERNATIONAL AGENCIES on 5/8/2024

Submitted to: No Engineer Name Specified

PERFORMANCE

Outdoor Unit Model No.	REYQ168AATJA	Outdoor Unit Name:	14 ton, 230V, VRV EMERION HR
Type:	Heat Recovery	Unit Combination:	
Rated Cooling Conditions:	Indoor (°F DB/WB): 80 / 67 Ambient (°F DB/WB): 95 / 75	Rated Heating Conditions:	Indoor (°F DB/WB): 70 / 60 Ambient (°F DB/WB): 47 / 43
Rated Piping Length(ft):			
Rated Height Difference (ft):			
Rated Cooling Capacity (Btu/hr):	160,000	Rated Heating Capacity (Btu/hr):	180,000
Nom Cooling Capacity (Btu/hr):	168,000	Nom Heating Capacity (Btu/hr):	189,000
Cooling Input Power (kW):		Heating Input Power (kW):	
EER (Non-Ducted/Ducted):	11.50 / 11.10	Heating COP (Non-Ducted/Ducted):	3.5 / 3.2
IEER (Non-Ducted/Ducted):	24.00 / 21.40	Heating COP 17F (Non-Ducted/Ducted):	2.1 / 2.1
		SCHE (Non-Ducted/Ducted):	25.60 / 22.30

OUTDOOR UNIT DETAILS

Power Supply (V/Hz/Ph):	208-230 / 60 / 3	Compressor Stage:	
Power Supply Connections:		Capacity Control Range (%):	2 - 100
Min. Circuit Amps MCA (A):	54.9	Capacity Index Limit:	-
Max Overcurrent Protection (MOP) (A):	60	Airflow Rate (H) (CFM):	9680
Max Starting Current MSC(A):		Gas Pipe Connection (inch):	1-1/8
Rated Load Amps RLA(A):	12.5 + 20.0	Liquid Pipe Connection (inch):	5/8
Dimensions (Height) (in):	65-3/8	H/L Pressure Connection (inch)	7/8
Dimensions (Width) (in):	48-13/16	H/L Equalizing Connection (inch)	
Dimensions (Depth) (in):	30-1/8	Sound Pressure (H) (dBA):	65
Net Weight (lb):	787	Sound Power Level (dBA):	

Submittal Data Sheet

14 ton, 230V, VRV EMERION HR - REYQ168AATJA

Project: City of Coquitlam, Poirier Admin - AME - JX

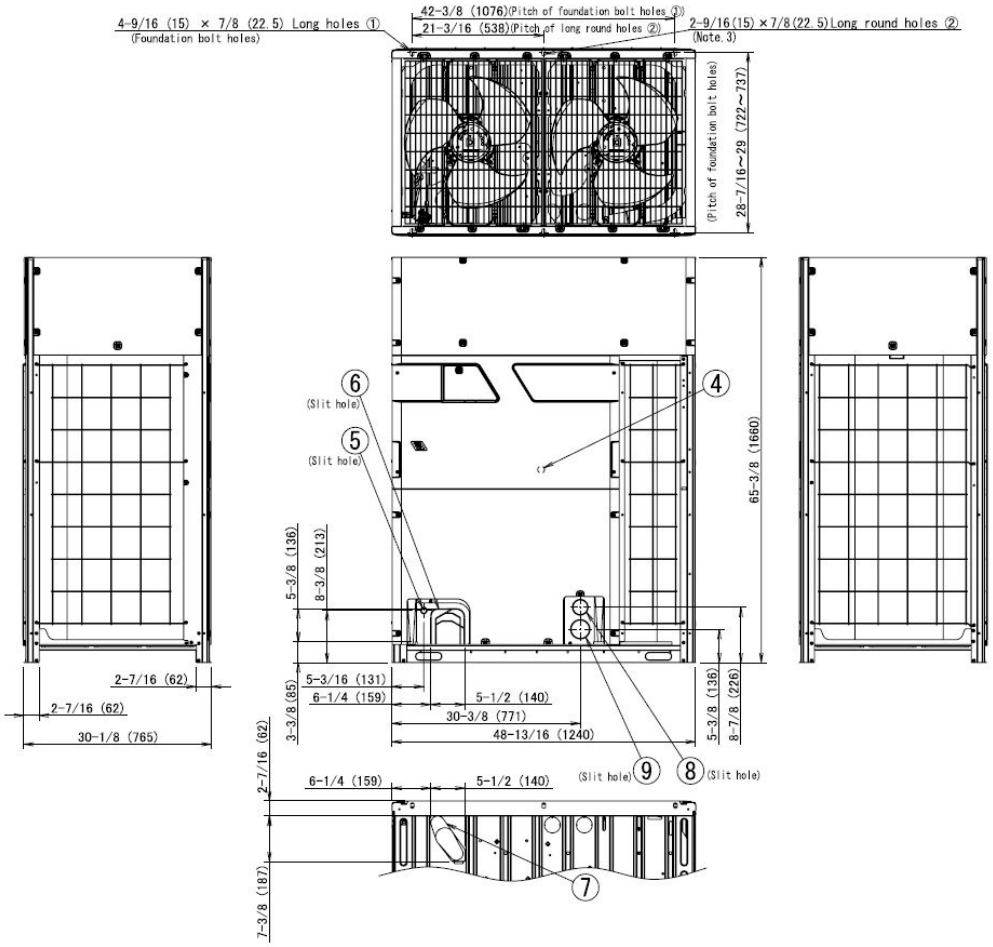
Submitted by: Patricia Argueyo of OLYMPIC INTERNATIONAL AGENCIES on 5/8/2024

Submitted to: No Engineer Name Specified

SYSTEM DETAILS

Refrigerant Type:	R-410A	Cooling Operation Range (°F DB):	23 - 122
Holding Refrigerant Charge (lbs):	25.8	Heating Operation Range (°F WB):	-13 - 60
Additional Charge (oz/ft):		Max. Pipe Length (Vertical) (ft):	361
Pre-charge Piping (Length) (ft):		Cooling Range w/Baffle (°F DB):	-
Max. Pipe Length (Total) (ft):	540		
Max Height Separation (Ind to Ind ft):			

DIMENSIONAL DRAWING



Submittal Data Sheet

12 ton, 230V, VRV EMERION HR - REYQ144AATJA

Project: City of Coquitlam, Poirier Admin - AME - JX

Submitted by: Patricia Argueyo of OLYMPIC INTERNATIONAL AGENCIES on 5/8/2024

Submitted to: No Engineer Name Specified

FEATURES

- New Simple and Stylish design with expanded line up with single-module units from 6 - 20T and dual-modules up to 40 T
- Space-saving 16 - 20 T single module units provide up to 34% footprint and up to 500 lbs./unit weight reduction compared to previous series
- High energy efficiency with IEERs up to 30.0 delivers up to 30% efficiency increase
- Year-round comfort and energy savings with Daikin's Variable Refrigerant Temperature technology (VRT)
- Heating down to -13°F as standard and high heating capacities at 17°F make it an ideal choice for all-electric heat pump solutions
- Continuous heating during defrost capability with single module (16 T - 20 T) and all dual module systems
- Hot gas defrost circuit allows for installation without base pan heater
- High dust and moisture protection withan IP55 rated sealed E-box
- Dual-fuel ready with connectivity to Daikin communicating gas furnace or all-electric heat pump heating for optimized operational costs based on utility rates
- Increased piping lengths of up to 361 ft. vertical separation between ODU and IDU provide additional application flexibility compared to previous VRV systems
- Design flexibility to enlarge system from single to a dual-module without changes to installed main pipe sizes for phased installation or tenant fit-out buildings
- Local code compliance-ready from factory via alignment with compliance needs, such as OSHPD Seismic, Miami Dade Wind, and Chicago pressure relief codes
- Reduced wiring costs with up to 34% reduction in MCA values compared to previous series
- Engineered for ease of installation and service with three-segment panel design
- Factory ships with increased space for easy field piping connections to service valves.
- Built-in data recorder to store up to 40 minutes of operational data
- Integrates with new Daikin HERO ecosystem, an IoT-based remote monitoring and diagnostics platform.

Submittal Data Sheet

12 ton, 230V, VRV EMERION HR - REYQ144AATJA

Project: City of Coquitlam, Poirier Admin - AME - JX

Submitted by: Patricia Argueyo of OLYMPIC INTERNATIONAL AGENCIES on 5/8/2024

Submitted to: No Engineer Name Specified

PERFORMANCE

Outdoor Unit Model No.	REYQ144AATJA	Outdoor Unit Name:	12 ton, 230V, VRV EMERION HR
Type:	Heat Recovery	Unit Combination:	
Rated Cooling Conditions:	Indoor (°F DB/WB): 80 / 67 Ambient (°F DB/WB): 95 / 75	Rated Heating Conditions:	Indoor (°F DB/WB): 70 / 60 Ambient (°F DB/WB): 47 / 43
Rated Piping Length(ft):			
Rated Height Difference (ft):			
Rated Cooling Capacity (Btu/hr):	138,000	Rated Heating Capacity (Btu/hr):	154,000
Nom Cooling Capacity (Btu/hr):	144,000	Nom Heating Capacity (Btu/hr):	162,000
Cooling Input Power (kW):		Heating Input Power (kW):	
EER (Non-Ducted/Ducted):	12.50 / 12.00	Heating COP (Non-Ducted/Ducted):	3.8 / 3.4
IEER (Non-Ducted/Ducted):	26.50 / 22.50	Heating COP 17F (Non-Ducted/Ducted):	2.2 / 2.1
		SCHE (Non-Ducted/Ducted):	25.60 / 22.10

OUTDOOR UNIT DETAILS

Power Supply (V/Hz/Ph):	208-230 / 60 / 3	Compressor Stage:	
Power Supply Connections:		Capacity Control Range (%):	3 - 100
Min. Circuit Amps MCA (A):	47.8	Capacity Index Limit:	-
Max Overcurrent Protection (MOP) (A):	50	Airflow Rate (H) (CFM):	9675
Max Starting Current MSC(A):		Gas Pipe Connection (inch):	1-1/8
Rated Load Amps RLA(A):	10.0 + 15.8	Liquid Pipe Connection (inch):	1/2
Dimensions (Height) (in):	65-3/8	H/L Pressure Connection (inch)	7/8
Dimensions (Width) (in):	48-13/16	H/L Equalizing Connection (inch)	
Dimensions (Depth) (in):	30-1/8	Sound Pressure (H) (dBA):	65
Net Weight (lb):	785	Sound Power Level (dBA):	

Submittal Data Sheet

12 ton, 230V, VRV EMERION HR - REYQ144AATJA

Project: City of Coquitlam, Poirier Admin - AME - JX

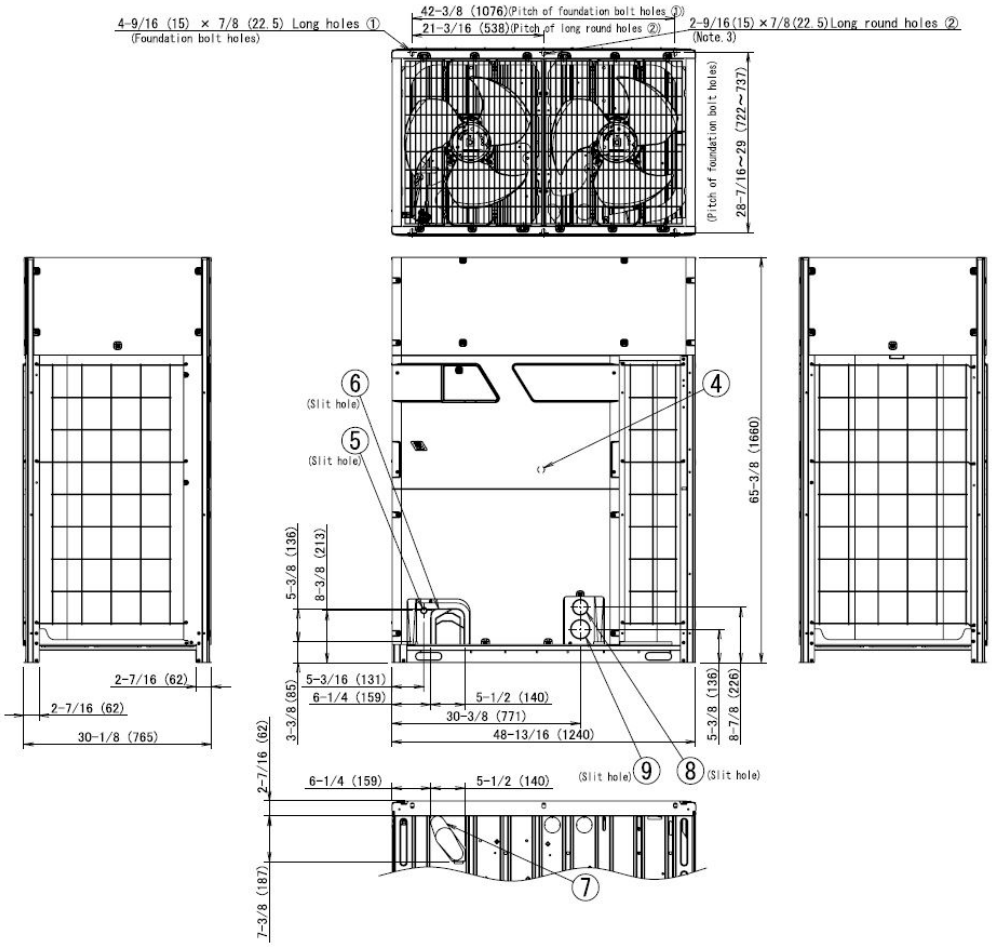
Submitted by: Patricia Argueyo of OLYMPIC INTERNATIONAL AGENCIES on 5/8/2024

Submitted to: No Engineer Name Specified

SYSTEM DETAILS

Refrigerant Type:	R-410A	Cooling Operation Range (°F DB):	23 - 122
Holding Refrigerant Charge (lbs):	25.8	Heating Operation Range (°F WB):	-13 - 60
Additional Charge (oz/ft):		Max. Pipe Length (Vertical) (ft):	361
Pre-charge Piping (Length) (ft):		Cooling Range w/Baffle (°F DB):	-
Max. Pipe Length (Total) (ft):	540		
Max Height Separation (Ind to Ind ft):			

DIMENSIONAL DRAWING



Submittal Data Sheet
Branch Selector Box, Flex-Series
BSF8Q54TVJ

DESCRIPTION

Daikin's new Flex series Branch selector boxes are engineered to be compact and provide flexibility in design, installation, maintenance, and service. Packed with Daikin technology, the new Flex series branch selector boxes fit in tight ceiling spaces. The versatile piping configurations, and the ease of maintenance and service makes the Flex series an ideal choice for commercial buildings.

FEATURES and BENEFITS

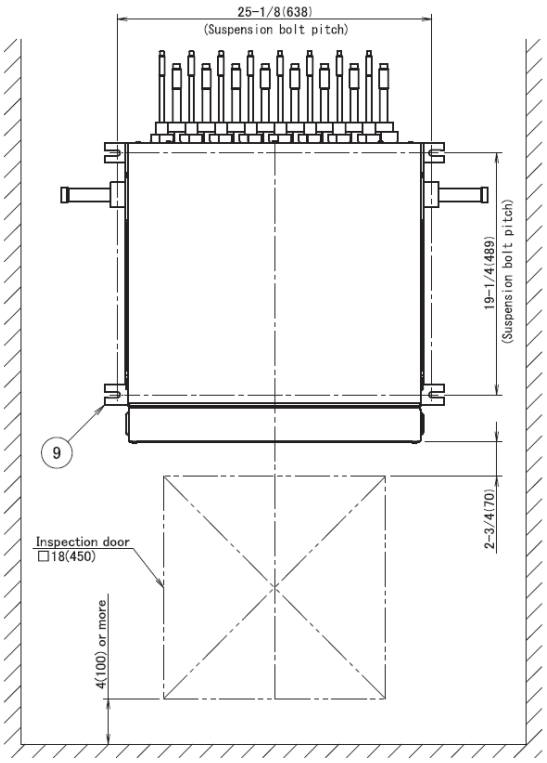
- Engineered for flexibility in design with left, right and pass through piping configuration
- Ideal for tight spaces with 9-1/2" height and no service clearance requirement on top
- Series connectible up to 12 ports with up to 230 MBH downstream capacity
- Low ambient technical cooling capability down to −4F°
- Pass through configuration allows reduction in required REFNETs
- Ease of maintenance with access to EEV heads from side access panels
- Ability to mix and match standard and flex series branch selector units
- Same piping flexibility as standard series branch selector units
- Compatible with M, P and T series indoor units and all T series VRV 3 phase heat recovery systems

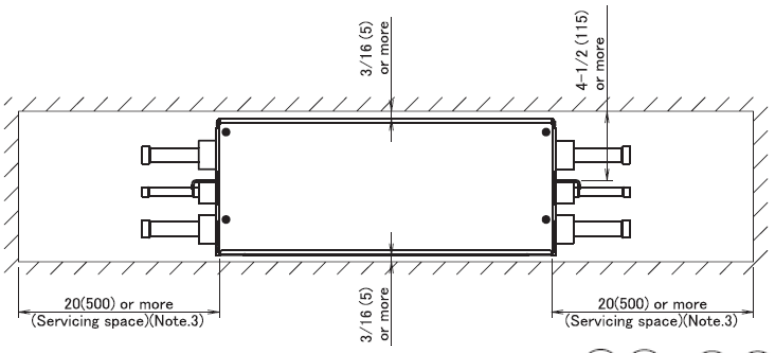
SPECIFICATIONS				
Model No:				**BSF8Q54TVJ**
Type				Multi-Port
Power Supply				Single phase 208/230V 60Hz
MCA / MOP				0.8 / 15
Number of Branches				8
Max Capacity Index of Connectable Indoor Units Per BS Box / Connected in Series				290 / 162
Maximum connection index per port				54
Max Capacity Index of Total Connectable Indoor Units Under BS Units Connected in Series				230
Piping connections	Indoor Unit	Liquid	in.	3/8 (1/4) Brazing
		Gas	in.	5/8 (1/2) Brazing
	Outdoor unit	Liquid	in.	5/8 Brazing
		Suction Gas	in.	1-1/8 Brazing
		HP/LP Gas	in.	1-1/8 Brazing
Weight			lbs (kg)	81 (37)
Dimensions		Height	in. (mm)	9 -1/2 (241)
		Width	in. (mm)	23-3/8 (593)
		Depth	in. (mm)	23-3/4 (603)
Sound Level	Operating Sound / Max Sound		dB(A)	40.5 / 50
Refrigerant				R410A
Optional Accessory		Pipe Reducer Kit	Part Number	KHFP26A200T

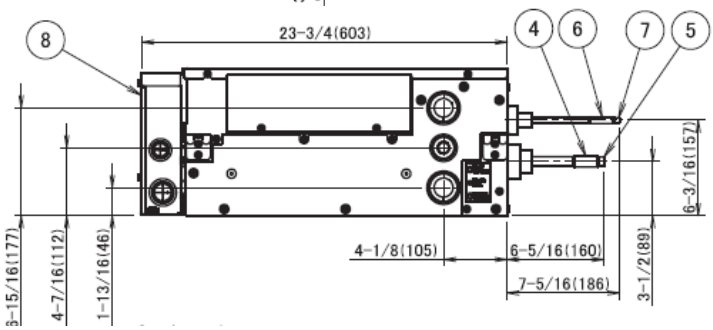
Daikin North America LLC, 19001 Kermier Rd, Waller TX, 77484
www.daikinac.com www.daikincomfort.com

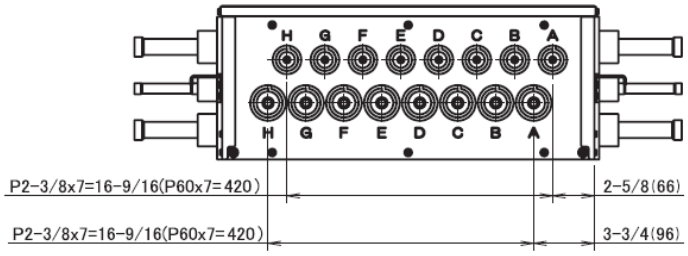
Submittal Data Sheet
Branch Selector Box, Flex-Series
BSF8Q54TVJ

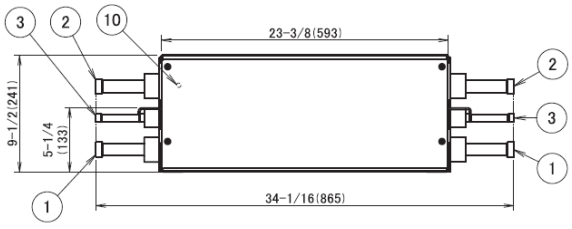
DIMENSIONAL DRAWINGS

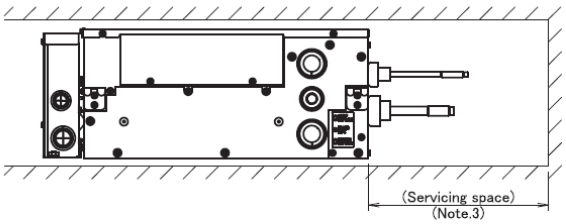












No.	Part name	Remark	No.	Part name	Remark
7	Indoor unit liquid pipe connection port (Note.4)	φ1/4(φ6.4) Brazing connection			
6	Indoor unit liquid pipe connection port (Note.4)	φ3/8(φ9.5) Brazing connection			
5	Indoor unit gas pipe connection port (Note.4)	φ1/2(φ12.7) Brazing connection			
4	Indoor unit gas pipe connection port (Note.4)	φ5/8(φ15.9) Brazing connection			
3	Outdoor unit liquid pipe connection port (Note.5,6)	φ5/8(φ15.9) Brazing connection	10	Ground terminal	M4
2	Outdoor unit HP/LP gas pipe connection port (Note.5,6)	φ1-1/8(φ28.6) Brazing connection	9	Hanger brackets	M8~M10
1	Outdoor unit suction gas pipe connection port (Note.5,6)	φ1-1/8(φ28.6) Brazing connection	8	Control box (Note.1)	

Submittal Data Sheet
Branch Selector Box, Flex-Series
BSF6Q54TVJ

DESCRIPTION

Daikin's new Flex series Branch selector boxes are engineered to be compact and provide flexibility in design, installation, maintenance, and service. Packed with Daikin technology, the new Flex series branch selector boxes fit in tight ceiling spaces. The versatile piping configurations, and the ease of maintenance and service makes the Flex series an ideal choice for commercial buildings.

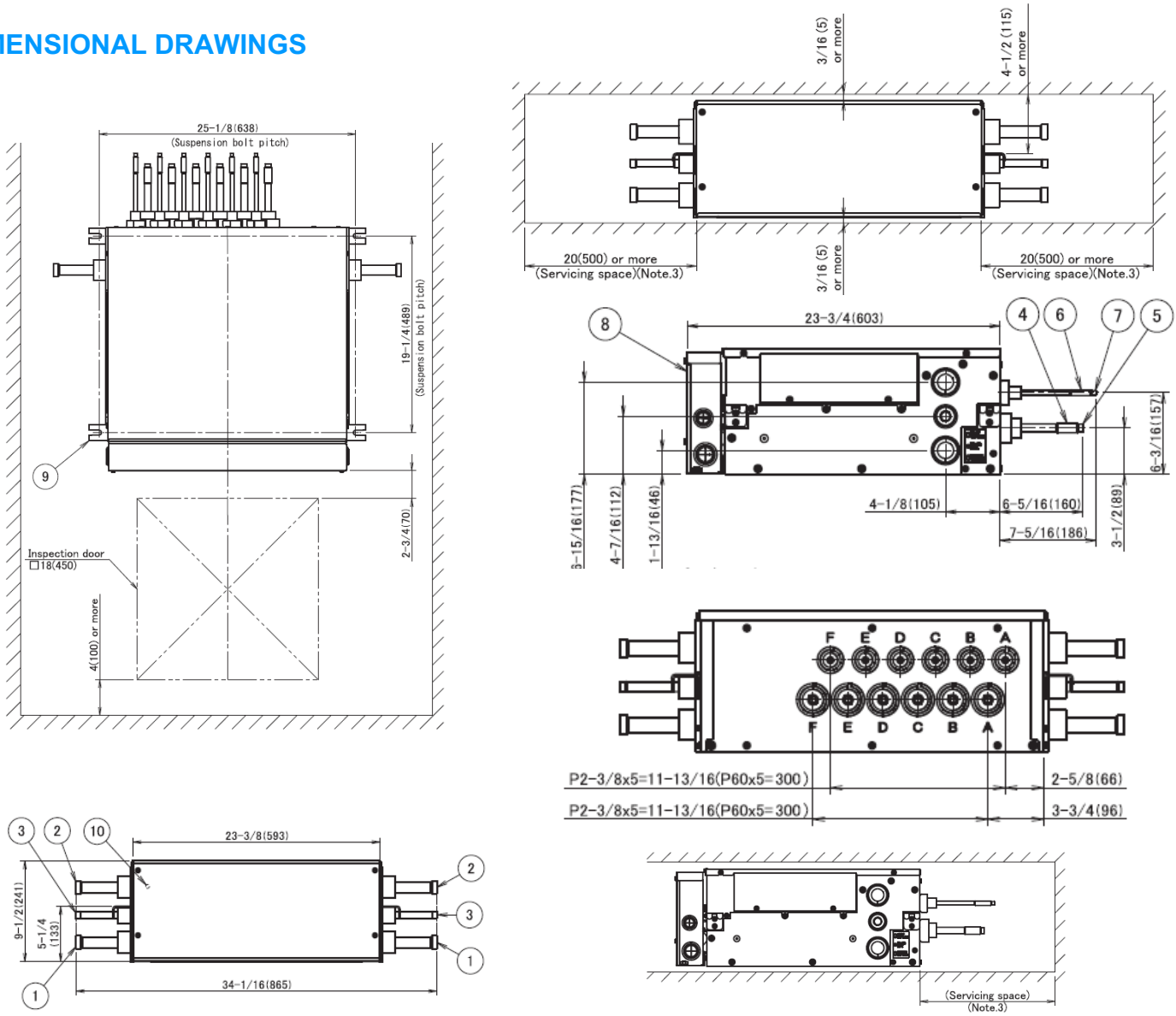
FEATURES and BENEFITS

- Engineered for flexibility in design with left, right and pass through piping configuration
- Ideal for tight spaces with 9-1/2" height and no service clearance requirement on top
- Series connectible up to 12 ports with up to 230 MBH downstream capacity
- Low ambient technical cooling capability down to −4F°
- Pass through configuration allows reduction in required REFNETs
- Ease of maintenance with access to EEV heads from side access panels
- Ability to mix and match standard and flex series branch selector units
- Same piping flexibility as standard series branch selector units
- Compatible with M, P and T series indoor units and all T series VRV 3 phase heat recovery systems

SPECIFICATIONS				
Model No:				**BSF6Q54TVJ**
Type				Multi-Port
Power Supply				Single phase 208/230V 60Hz
MCA / MOP				0.6 / 15
Number of Branches				6
Max Capacity Index of Connectable Indoor Units Per BS Box / Connected in Series				216 / 162
Maximum connection index per port				54
Max Capacity Index of Total Connectable Indoor Units Under BS Units Connected in Series				230
Piping connections	Indoor Unit	Liquid	in.	3/8 (1/4) Brazing
		Gas	in.	5/8 (1/2) Brazing
	Outdoor unit	Liquid	in.	5/8 Brazing
		Suction Gas	in.	1-1/8 Brazing
		HP/LP Gas	in.	1-1/8 Brazing
Weight			lbs (kg)	73 (33)
Dimensions		Height	in. (mm)	9 -1/2 (241)
		Width	in. (mm)	23-3/8 (593)
		Depth	in. (mm)	23-3/4 (603)
Sound Level	Operating Sound / Max Sound		dB(A)	40.5 / 50
Refrigerant				R410A
Optional Accessory		Pipe Reducer Kit	Part Number	KHFP26A200T

Submittal Data Sheet
Branch Selector Box, Flex-Series
BSF6Q54TVJ

DIMENSIONAL DRAWINGS



7	Indoor unit liquid pipe connection port (Note.4)	ϕ1/4(ϕ6.4) Brazing connection			
6	Indoor unit liquid pipe connection port (Note.4)	ϕ3/8(ϕ9.5) Brazing connection			
5	Indoor unit gas pipe connection port (Note.4)	ϕ1/2(ϕ12.7) Brazing connection			
4	Indoor unit gas pipe connection port (Note.4)	ϕ5/8(ϕ15.9) Brazing connection			
3	Outdoor unit liquid pipe connection port (Note.5,6)	ϕ5/8(ϕ15.9) Brazing connection	10	Ground terminal	M4
2	Outdoor unit HP/LP gas pipe connection port (Note.5,6)	ϕ1-1/8(ϕ28.6) Brazing connection	9	Hanger brackets	M8~M10
1	Outdoor unit suction gas pipe connection port (Note.5,6)	ϕ1-1/8(ϕ28.6) Brazing connection	8	Control box (Note.1)	
No.	Part name	Remark	No.	Part name	Remark

Daikin North America LLC, 19001 Kermier Rd, Waller TX, 77484
www.daikinac.com www.daikincomfort.com

Submittal Data Sheet

1.25-Ton MSP Concealed Ducted Unit

FXSQ15TBVJU

FEATURES

- Eleven capacity options from 5,800 Btu/h to 54,000 Btu/h External static pressure up to 0.6 in. w.g. (150 Pa).
- Low profile height of 9-5/8" (245 mm) for all models.
- 5-speed DC fan motor with selectable Auto fan speed.
- Ease of installation with auto adjusting airflow at commissioning based on external static pressure.
- Independently configurable auxiliary heat on/off temperature settings.
- Factory rear-return, field convertible to bottom-return.
- Integral condensate pump with up 25-5/16" (643 mm) of lift from the drain outlet.
- Drain pan inspection port.
- Standard Limited Warranty: 10-year limited parts warranty.

BENEFITS

- Requires as little as 11-1/4" (285 mm) of clearance above the ceiling thanks to the low profile design.
- Auto fan speed control optimizes fan energy use by automatically adjusting the unit's fan speed as the room temperature approaches the set point.
- The drain pan inspection port simplifies maintenance by allowing for simple and easy inspection of the drain pan conditions.
- Designed for quiet operation, with sound levels as low as 28 dB(A).

Submittal Data Sheet

1.25-Ton MSP Concealed Ducted Unit

FXSQ15TBVJU

PERFORMANCE

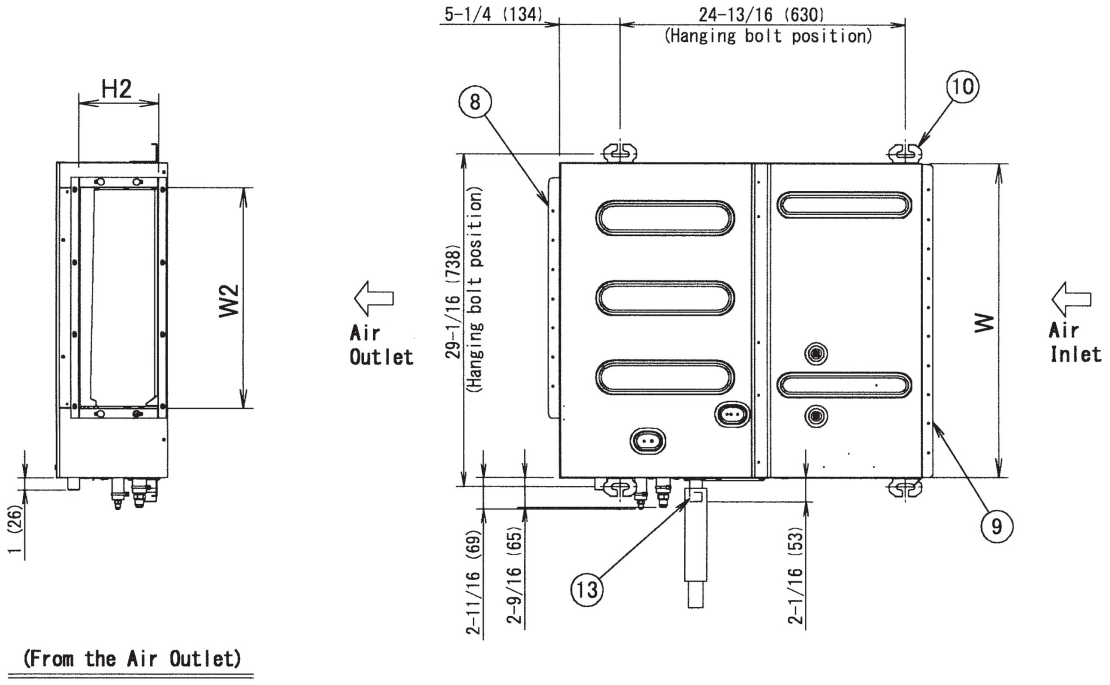
Indoor Unit Model No.	FXSQ15TBVJU	Indoor Unit Name:	1.25-Ton MSP Concealed Ducted Unit
Type:	Concealed Ducted	Rated Cooling Conditions:	Indoor (°F DB/WB): 80 / 67 Ambient (°F DB/WB): 95 / 75
Rated Cooling Capacity (Btu/hr):	15,000	Rated Heating Conditions:	Indoor (°F DB/WB): 70 / 60 Ambient (°F DB/WB): 47 / 43
Sensible Capacity (Btu/hr):	11,300	Rated Piping Length(ft):	
Cooling Input Power (kW):	0.162	Rated Height Separation (ft):	
Rated Heating Capacity (Btu/hr):	17,000		

INDOOR UNIT DETAILS

Power Supply (V/Hz/Ph):	208/230 / 60 / 1	Airflow Rate (H) (CFM):	530
Power Supply Connections:	L1, L2, G	Moisture Removal (Gal/hr):	
Min. Circuit Amps MCA (A):	1.4	Gas Pipe Connection (inch):	1/2
Max Overcurrent Protection (MOP) (A):	15	Liquid Pipe Connection (inch):	1/4
Dimensions (HxWxD) (in):	9-11/16 x 27-9/16 x 31-1/2	Condensate Connection (inch):	1-1/4
Net Weight (lb):	60	Sound Pressure (H/L) (dBA):	36/33/30
Ext. Static Pressure (Rated/Max) (inWg):	0.2 / 0.6	Sound Power Level (dBA):	64

Submittal Data Sheet
1.25-Ton MSP Concealed Ducted Unit
FXSQ15TBVJU

DIMENSIONAL DRAWING



H		9-11/16 (245)
W		27-9/16 (700)
D		31-1/2 (800)
Air Inlet	H1	8-3/16 (208)
	W1	25-3/4 (654)
Air Outlet	H2	6-15/16 (176)
	W2	19-3/8 (492)

ITEM	PART NAME	REMARK
13	Drain socket	
12	Drain hose(Accessory)	
11	Socket(for maintenance)	O.D. ϕ1"(ϕ26)
10	Hanger	For M10 or equivalent
9	Air Inlet flange	
8	Air Outlet flange	
7	Power supply wiring connection	
6	Transmission and remote controller wiring connection	
5	Control box(inside)	
4	Ground terminal(Control box)	M4
3	Drain pipe connection	O.D. ϕ1-1/4"(ϕ32)
2	Gas pipe connection	ϕ1/2"(ϕ12.7) Flare connection
1	Liquid pipe connection	ϕ1/4"(ϕ6.4) Flare connection

Note: For additional dimensional data and clearance information, refer to Engineering Data

Submittal Data Sheet

1.5-Ton MSP Concealed Ducted Unit

FXSQ18TBVJU

FEATURES

- Eleven capacity options from 5,800 Btu/h to 54,000 Btu/h External static pressure up to 0.6 in. w.g. (150 Pa).
- Low profile height of 9-5/8" (245 mm) for all models.
- 5-speed DC fan motor with selectable Auto fan speed.
- Ease of installation with auto adjusting airflow at commissioning based on external static pressure.
- Independently configurable auxiliary heat on/off temperature settings.
- Factory rear-return, field convertible to bottom-return.
- Integral condensate pump with up 25-5/16" (643 mm) of lift from the drain outlet.
- Drain pan inspection port.
- Standard Limited Warranty: 10-year limited parts warranty.

BENEFITS

- Requires as little as 11-1/4" (285 mm) of clearance above the ceiling thanks to the low profile design.
- Auto fan speed control optimizes fan energy use by automatically adjusting the unit's fan speed as the room temperature approaches the set point.
- The drain pan inspection port simplifies maintenance by allowing for simple and easy inspection of the drain pan conditions.
- Designed for quiet operation, with sound levels as low as 28 dB(A).

Submittal Data Sheet

1.5-Ton MSP Concealed Ducted Unit

FXSQ18TBVJU

PERFORMANCE

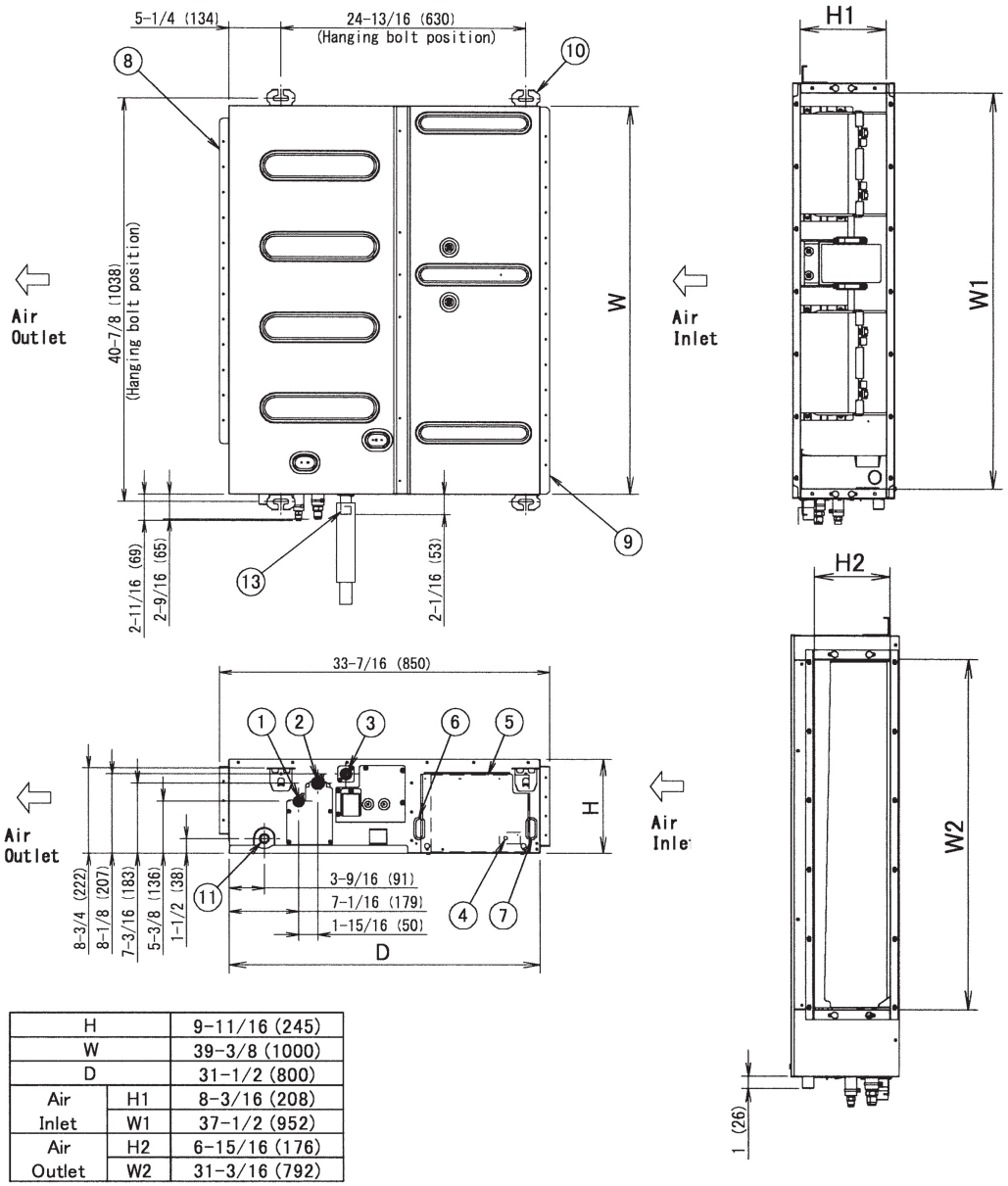
Indoor Unit Model No.	FXSQ18TBVJU	Indoor Unit Name:	1.5-Ton MSP Concealed Ducted Unit
Type:	Concealed Ducted	Rated Cooling Conditions:	Indoor (°F DB/WB): 80 / 67 Ambient (°F DB/WB): 95 / 75
Rated Cooling Capacity (Btu/hr):	18,000	Rated Heating Conditions:	Indoor (°F DB/WB): 70 / 60 Ambient (°F DB/WB): 47 / 43
Sensible Capacity (Btu/hr):	13,600	Rated Piping Length(ft):	
Cooling Input Power (kW):	0.164	Rated Height Separation (ft):	
Rated Heating Capacity (Btu/hr):	20,000		

INDOOR UNIT DETAILS

Power Supply (V/Hz/Ph):	208/230 / 60 / 1	Airflow Rate (H) (CFM):	600
Power Supply Connections:	L1, L2, G	Moisture Removal (Gal/hr):	
Min. Circuit Amps MCA (A):	1.6	Gas Pipe Connection (inch):	1/2
Max Overcurrent Protection (MOP) (A):	15	Liquid Pipe Connection (inch):	1/4
Dimensions (HxWxD) (in):	9-11/16 x 39-3/8 x 31-1/2	Condensate Connection (inch):	1-1/4
Net Weight (lb):	77	Sound Pressure (H/L) (dBA):	34/32/29
Ext. Static Pressure (Rated/Max) (inWg):	0.2 / 0.6	Sound Power Level (dBA):	62

Submittal Data Sheet
1.5-Ton MSP Concealed Ducted Unit
FXSQ18TBVJU

DIMENSIONAL DRAWING



H		9-11/16 (245)
W		39-3/8 (1000)
D		31-1/2 (800)
Air Inlet	H1	8-3/16 (208)
	W1	37-1/2 (952)
Air Outlet	H2	6-15/16 (176)
	W2	31-3/16 (792)

ITEM	PART NAME	REMARK
13	Drain socket	
12	Drain hose (Accessory)	
11	Socket (for maintenance)	O.D. φ1" (φ26)
10	Hanger	For M10 or equivalent
9	Air Inlet flange	
8	Air Outlet flange	
7	Power supply wiring connection	
6	Transmission and remote controller wiring connection	
5	Control box (inside)	
4	Ground terminal (Control box)	M4
3	Drain pipe connection	O.D. φ1-1/4" (φ32)
2	Gas pipe connection	φ1/2" (φ12.7) Flare connection
1	Liquid pipe connection	φ1/4" (φ6.4) Flare connection

Note: For additional dimensional data and clearance information, refer to Engineering Data

Submittal Data Sheet

2-Ton MSP Concealed Ducted Unit

FXSQ24TBVJU

FEATURES

- Eleven capacity options from 5,800 Btu/h to 54,000 Btu/h External static pressure up to 0.6 in. w.g. (150 Pa).
- Low profile height of 9-5/8" (245 mm) for all models.
- 5-speed DC fan motor with selectable Auto fan speed.
- Ease of installation with auto adjusting airflow at commissioning based on external static pressure.
- Independently configurable auxiliary heat on/off temperature settings.
- Factory rear-return, field convertible to bottom-return.
- Integral condensate pump with up 25-5/16" (643 mm) of lift from the drain outlet.
- Drain pan inspection port.
- Standard Limited Warranty: 10-year limited parts warranty.

BENEFITS

- Requires as little as 11-1/4" (285 mm) of clearance above the ceiling thanks to the low profile design.
- Auto fan speed control optimizes fan energy use by automatically adjusting the unit's fan speed as the room temperature approaches the set point.
- The drain pan inspection port simplifies maintenance by allowing for simple and easy inspection of the drain pan conditions.
- Designed for quiet operation, with sound levels as low as 28 dB(A).

Submittal Data Sheet

2-Ton MSP Concealed Ducted Unit

FXSQ24TBVJU

PERFORMANCE

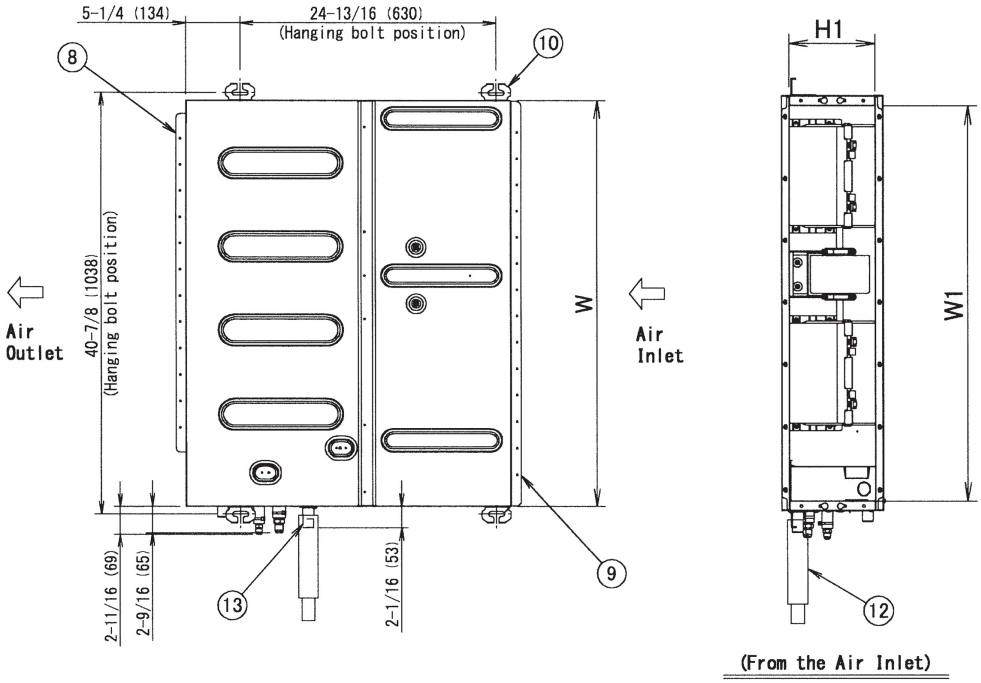
Indoor Unit Model No.	FXSQ24TBVJU	Indoor Unit Name:	2-Ton MSP Concealed Ducted Unit
Type:	Concealed Ducted	Rated Cooling Conditions:	Indoor (°F DB/WB): 80 / 67 Ambient (°F DB/WB): 95 / 75
Rated Cooling Capacity (Btu/hr):	24,000	Rated Heating Conditions:	Indoor (°F DB/WB): 70 / 60 Ambient (°F DB/WB): 47 / 43
Sensible Capacity (Btu/hr):	17,100	Rated Piping Length(ft):	
Cooling Input Power (kW):	0.222	Rated Height Separation (ft):	
Rated Heating Capacity (Btu/hr):	27,000		

INDOOR UNIT DETAILS

Power Supply (V/Hz/Ph):	208/230 / 60 / 1	Airflow Rate (H) (CFM):	742
Power Supply Connections:	L1, L2, G	Moisture Removal (Gal/hr):	
Min. Circuit Amps MCA (A):	1.8	Gas Pipe Connection (inch):	5/8
Max Overcurrent Protection (MOP) (A):	15	Liquid Pipe Connection (inch):	3/8
Dimensions (HxWxD) (in):	9-11/16 x 39-3/8 x 31-1/2	Condensate Connection (inch):	1-1/4
Net Weight (lb):	77	Sound Pressure (H/L) (dBA):	36/32/29
Ext. Static Pressure (Rated/Max) (inWg):	0.2/ 0.6	Sound Power Level (dBA):	64

Submittal Data Sheet
2-Ton MSP Concealed Ducted Unit
FXSQ24TBVJU

DIMENSIONAL DRAWING



H		9-11/16 (245)
W		39-3/8 (1000)
D		31-1/2 (800)
Air Inlet	H1	8-3/16 (208)
	W1	37-1/2 (952)
Air Outlet	H2	6-15/16 (176)
	W2	31-3/16 (792)

ITEM	PART NAME	REMARK
13	Drain socket	
12	Drain hose(Accessory)	
11	Socket(for maintenance)	O.D. φ1"(φ26)
10	Hanger	For M10 or equivalent
9	Air Inlet flange	
8	Air Outlet flange	
7	Power supply wiring connection	
6	Transmission and remote controller wiring connection	
5	Control box(inside)	
4	Ground terminal(Control box)	M4
3	Drain pipe connection	O.D. φ1-1/4"(φ32)
2	Gas pipe connection	φ5/8"(φ15.9)Flare connection
1	Liquid pipe connection	φ3/8"(φ9.5) Flare connection

Note: For additional dimensional data and clearance information, refer to Engineering Data

Submittal Data Sheet

2.5-Ton MSP Concealed Ducted Unit

FXSQ30TBVJU

FEATURES

- Eleven capacity options from 5,800 Btu/h to 54,000 Btu/h External static pressure up to 0.6 in. w.g. (150 Pa).
- Low profile height of 9-5/8" (245 mm) for all models.
- 5-speed DC fan motor with selectable Auto fan speed.
- Ease of installation with auto adjusting airflow at commissioning based on external static pressure.
- Independently configurable auxiliary heat on/off temperature settings.
- Factory rear-return, field convertible to bottom-return.
- Integral condensate pump with up 25-5/16" (643 mm) of lift from the drain outlet.
- Drain pan inspection port.
- Standard Limited Warranty: 10-year limited parts warranty.

BENEFITS

- Requires as little as 11-1/4" (285 mm) of clearance above the ceiling thanks to the low profile design.
- Auto fan speed control optimizes fan energy use by automatically adjusting the unit's fan speed as the room temperature approaches the set point.
- The drain pan inspection port simplifies maintenance by allowing for simple and easy inspection of the drain pan conditions.
- Designed for quiet operation, with sound levels as low as 28 dB(A).

Submittal Data Sheet

2.5-Ton MSP Concealed Ducted Unit

FXSQ30TBVJU

PERFORMANCE

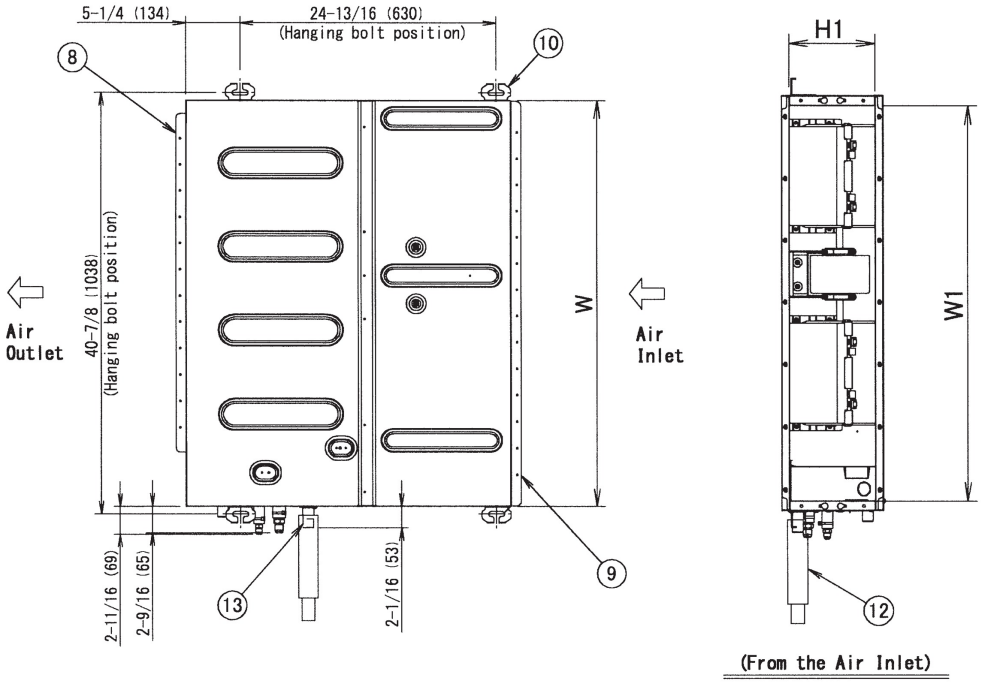
Indoor Unit Model No.	FXSQ30TBVJU	Indoor Unit Name:	2.5-Ton MSP Concealed Ducted Unit
Type:	Concealed Ducted	Rated Cooling Conditions:	Indoor (°F DB/WB): 80 / 67 Ambient (°F DB/WB): 95 / 75
Rated Cooling Capacity (Btu/hr):	30,000	Rated Heating Conditions:	Indoor (°F DB/WB): 70 / 60 Ambient (°F DB/WB): 47 / 43
Sensible Capacity (Btu/hr):	22,600	Rated Piping Length(ft):	
Cooling Input Power (kW):	0.230	Rated Height Separation (ft):	
Rated Heating Capacity (Btu/hr):	34,000		

INDOOR UNIT DETAILS

Power Supply (V/Hz/Ph):	208/230 / 60 / 1	Airflow Rate (H) (CFM):	812
Power Supply Connections:	L1, L2, G	Moisture Removal (Gal/hr):	
Min. Circuit Amps MCA (A):	1.8	Gas Pipe Connection (inch):	5/8
Max Overcurrent Protection (MOP) (A):	15	Liquid Pipe Connection (inch):	3/8
Dimensions (HxWxD) (in):	9-11/16 x 39-3/8 x 31-1/2	Condensate Connection (inch):	1-1/4
Net Weight (lb):	82	Sound Pressure (H/L) (dBA):	37.5/34/30
Ext. Static Pressure (Rated/Max) (inWg):	0.2 / 0.6	Sound Power Level (dBA):	64

Submittal Data Sheet
2.5-Ton MSP Concealed Ducted Unit
FXSQ30TBVJU

DIMENSIONAL DRAWING



H		9-11/16 (245)
W		39-3/8 (1000)
D		31-1/2 (800)
Air Inlet	H1	8-3/16 (208)
	W1	37-1/2 (952)
Air Outlet	H2	6-15/16 (176)
	W2	31-3/16 (792)

ITEM	PART NAME	REMARK
13	Drain socket	
12	Drain hose(Accessory)	
11	Socket(for maintenance)	O.D. φ1"(φ26)
10	Hanger	For M10 or equivalent
9	Air Inlet flange	
8	Air Outlet flange	
7	Power supply wiring connection	
6	Transmission and remote controller wiring connection	
5	Control box(inside)	
4	Ground terminal(Control box)	M4
3	Drain pipe connection	O.D. φ1-1/4"(φ32)
2	Gas pipe connection	φ5/8"(φ15.9)Flare connection
1	Liquid pipe connection	φ3/8"(φ9.5) Flare connection

Note: For additional dimensional data and clearance information, refer to Engineering Data

Project name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

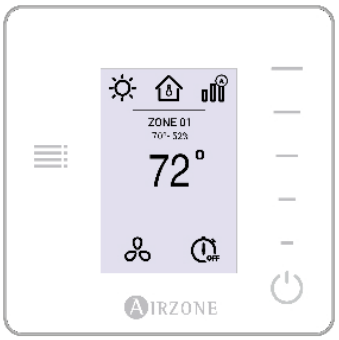
DESCRIPTION

The DZK increases the flexibility of Daikin VRV and Sky Air systems by adding a zoning damper box for independent zone temperature control from a single indoor unit.

Model	DZKS015E3-4
Description	Daikin Zoning Kit
Damper Control	Flow Control System by Airzone
Damper Size	8"
Number of Dampers	3
Insulation Value	R4
Operating range	32 to 122°F (0 to 50°C) 5% to 90% RH (non-condensing)
Weight (Mass)	7 kg - 15.43 lb
Power supply	110/230VAC, 1Ø, 50/60Hz, 250mA
Size (WxHxD)	34.18x10.43x10.43 inch (868.36x265x265 mm)
Compatible Indoor Units	FXSQ15TAVJU FXSQ15TBVJU FDMQ 09-12 RVJU

DZKS015E3-4

DZK-MTS-4-W



DZK-ZTS-4-W

DZK-LTS-4-W

FEATURES

- Each zone is capable of:
  - Independent set point control.
  - Set point range limitation.
  - Local ventilation mode.
  - Adjustable min/max zone opening position.
- Option to link multiple outlets for larger zones.
- Option to cap and close unused outlets.
- Auto changeover logic including adjustable zone weighting.
- Automatic control of fan speed based on each damper's demand.
- Direct control integration to the Daikin indoor unit through the P1/P2 protocol.
- Pre-assembled plenum box and simple bolt on design saves installation time.
- Centralized zone control and monitoring when using DZK-BACNET-HUB-4.

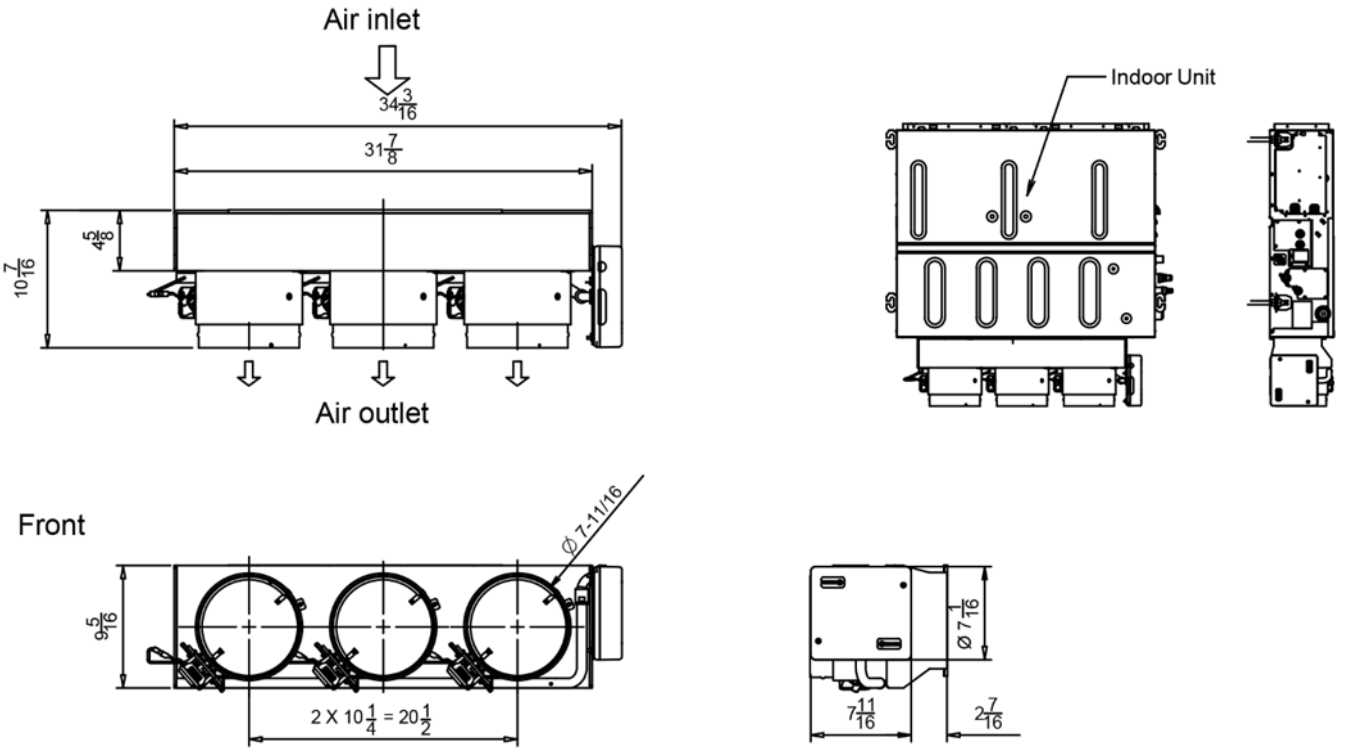
AVAILABLE DZK-4 THERMOSTATS

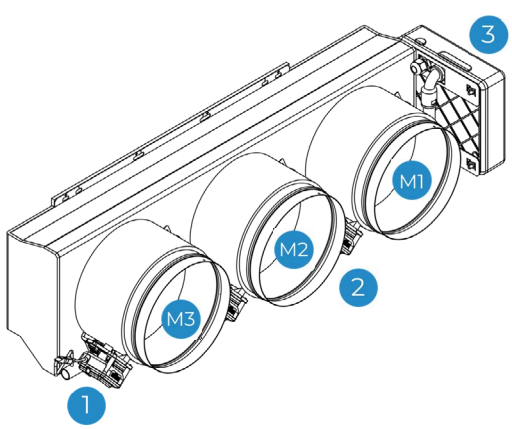
- DZK-MTS-4-W – Wired Thermostat (minimum one Wired Thermostat required)
- DZK-ZTS-4-W – Wireless Thermostat
- DZK-LTS-4-W – Wireless Lite Thermostat
- DZK-BACNET-HUB-4 – BACNET Interface

Project name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

DIMENSIONAL DRAWING (UNITS INCH)

DZKS015E3-4





Model	
1	Actuator
2	Damper
3	Main control board
MX	Damper number (X)

Note: Dampers are numbered starting with number 1 next to the Zoning box control board.

Project name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

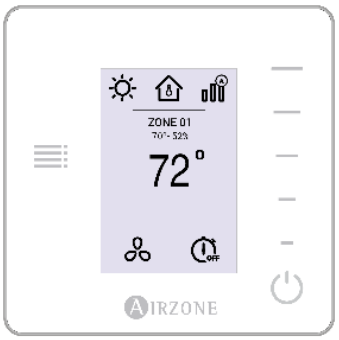
DESCRIPTION

The DZK increases the flexibility of Daikin VRV and Sky Air systems by adding a zoning damper box for independent zone temperature control from a single indoor unit.

Model	DZKS030E4-4
Description	Daikin Zoning Kit
Damper Control	Flow Control System by Airzone
Damper Size	8"
Number of Dampers	4
Insulation Value	R4
Operating range	32 to 122°F (0 to 50°C) 5% to 90% RH (non-condensing)
Weight (Mass)	8.8 kg - 19.4 lb
Power supply	110/230VAC, 1Ø, 50/60Hz, 250mA
Size (WxHxD)	43.62x10.43x10.43 inch (1108x265x265 mm)
Compatible Indoor Units	FXSQ 18-24-30 TAVJU / TBVJU FDMQ 15-18-24 RVJU FXMQ 15-18-24 TBVJU

DZKS030E4-4

DZK-MTS-4-W



DZK-ZTS-4-W

DZK-LTS-4-W

FEATURES

- Each zone is capable of:
  - Independent set point control.
  - Set point range limitation.
  - Local ventilation mode.
  - Adjustable min/max zone opening position.
- Option to link multiple outlets for larger zones.
- Option to cap and close unused outlets.
- Auto changeover logic including adjustable zone weighting.
- Automatic control of fan speed based on each damper's demand.
- Direct control integration to the Daikin indoor unit through the P1/P2 protocol.
- Pre-assembled plenum box and simple bolt on design saves installation time.
- Centralized zone control and monitoring when using DZK-BACNET-HUB-4.

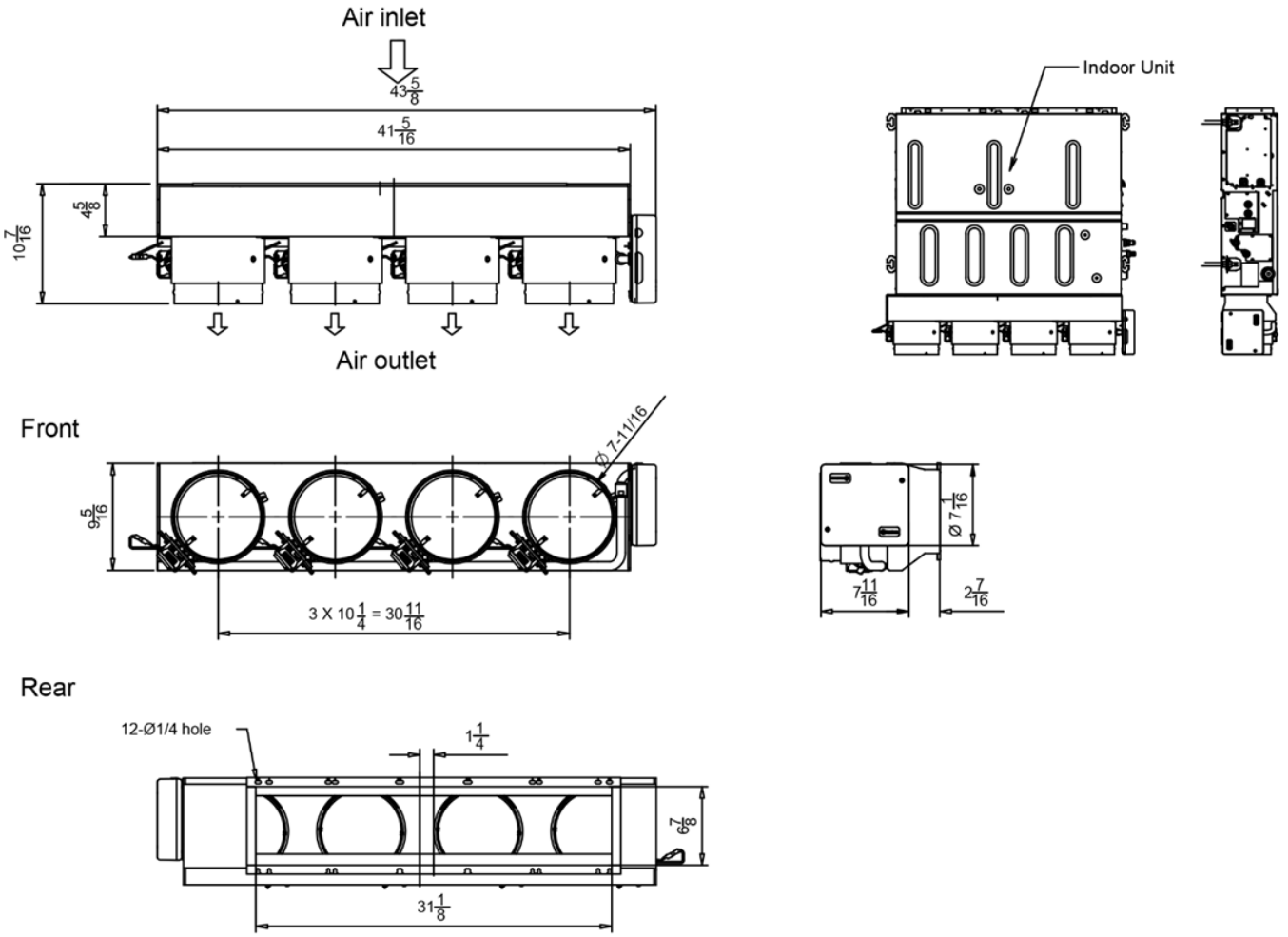
AVAILABLE DZK-4 THERMOSTATS

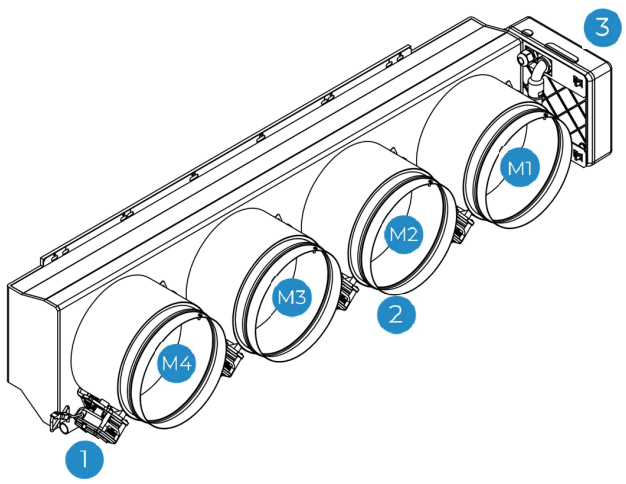
- DZK-MTS-4-W – Wired Thermostat (minimum one Wired Thermostat required)
- DZK-ZTS-4-W – Wireless Thermostat
- DZK-LTS-4-W – Wireless Lite Thermostat
- DZK-BACNET-HUB-4 – BACNET Interface

Project name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

DIMENSIONAL DRAWING (UNITS INCH)

DZKS030E4-4





Model	
1	Actuator
2	Damper
3	Main control board
MX	Damper number (X)

Note: Dampers are numbered starting with number 1 next to the Zoning box control board.

Project name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

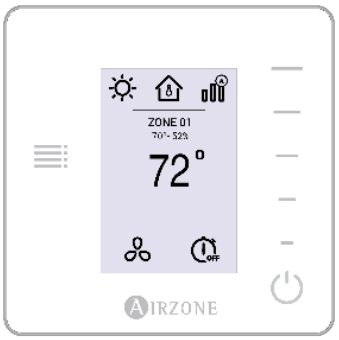
DESCRIPTION

The DZK increases the flexibility of Daikin VRV and Sky Air systems by adding a zoning damper box for independent zone temperature control from a single indoor unit.

Model	DZKS030E5-4
Description	Daikin Zoning Kit
Damper Control	Flow Control System by Airzone
Damper Size	6"
Number of Dampers	5
Insulation Value	R4
Operating range	32 to 122°F (0 to 50°C) 5% to 90% RH (non-condensing)
Weight (Mass)	9 kg - 19.84 lb
Power supply	110/230VAC, 1Ø, 50/60Hz, 250mA
Size (WxHxD)	43.62x10.43x10.43 inch (1108x265x265 mm)
Compatible Indoor Units	FXSQ 18-24-30 TAVJU / TBVJU FDMQ 15-18-24 RVJU FXMQ 15-18-24 TBVJU

DZKS030E5-4

DZK-MTS-4-W



DZK-ZTS-4-W

DZK-LTS-4-W

FEATURES

- Each zone is capable of:
  - Independent set point control.
  - Set point range limitation.
  - Local ventilation mode.
  - Adjustable min/max zone opening position.
- Option to link multiple outlets for larger zones.
- Option to cap and close unused outlets.
- Auto changeover logic including adjustable zone weighting.
- Automatic control of fan speed based on each damper's demand.
- Direct control integration to the Daikin indoor unit through the P1/P2 protocol.
- Pre-assembled plenum box and simple bolt on design saves installation time.
- Centralized zone control and monitoring when using DZK-BACNET-HUB-4.

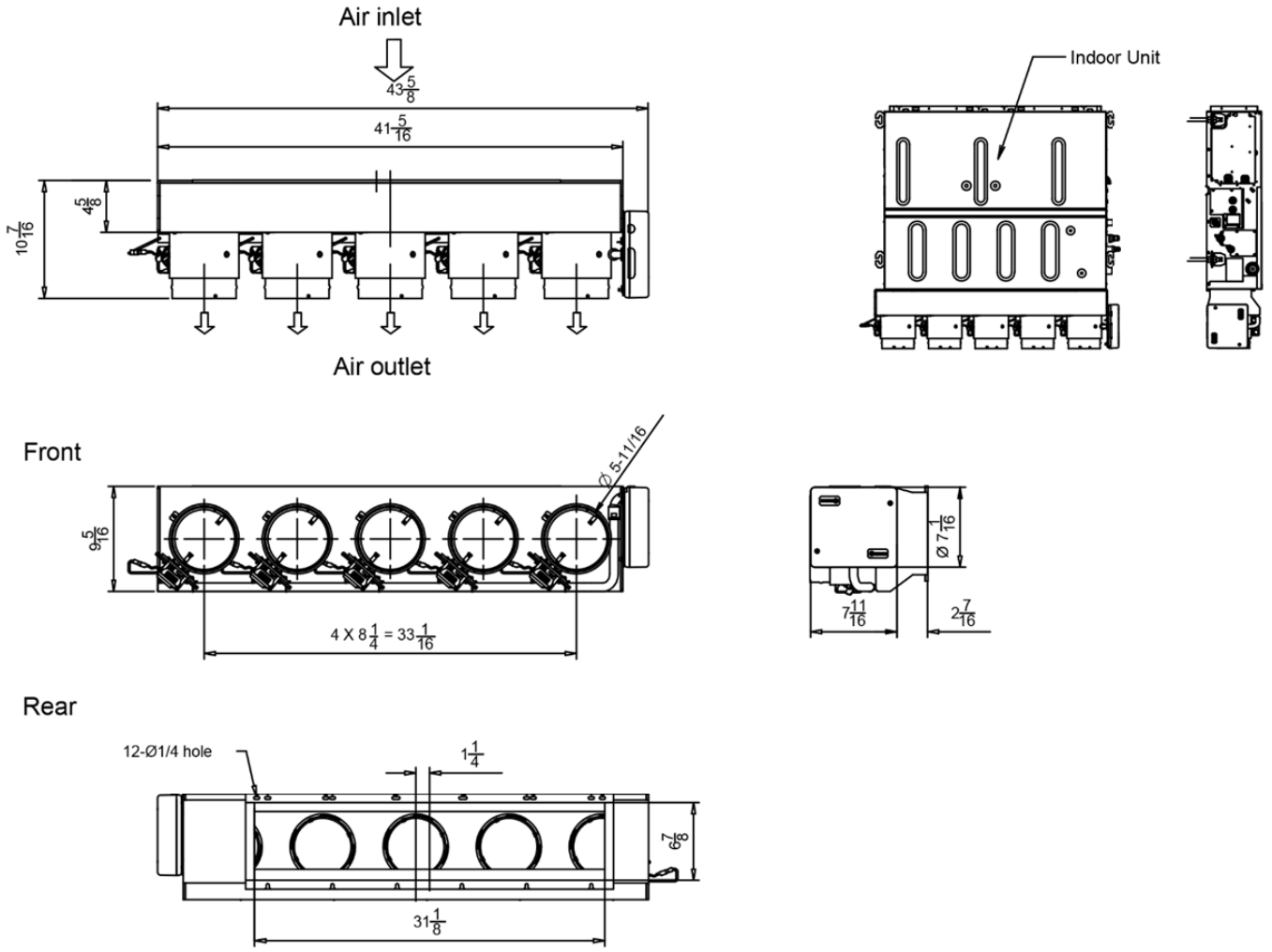
AVAILABLE DZK-4 THERMOSTATS

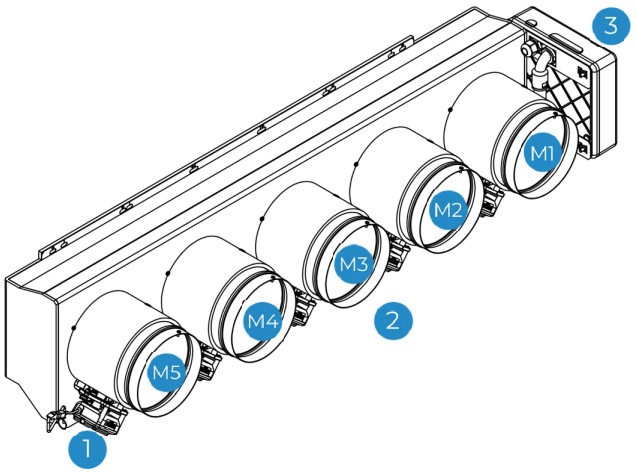
- DZK-MTS-4-W – Wired Thermostat (minimum one Wired Thermostat required)
- DZK-ZTS-4-W – Wireless Thermostat
- DZK-LTS-4-W – Wireless Lite Thermostat
- DZK-BACNET-HUB-4 – BACNET Interface

Project name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

DIMENSIONAL DRAWING (UNITS INCH)

DZKS030E5-4





Model	
1	Actuator
2	Damper
3	Main control board
MX	Damper number (X)

Note: Dampers are numbered starting with number 1 next to the Zoning box control board.

Submittal Data Sheet

BRC1E73 – Navigation Remote Controller

Project Name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

MODEL COMPATIBILITY:

Compatible with VRV and VRV Life™ indoor unit models: FXAQ, FXDQ, FXEQ, FXFQ, FXHQ, FXLQ, FXMQ, FXMQ_MF, FXNQ, FXSQ, FXTQ, FXUQ, FXZQ, VAM, CXTQ
Compatible with SkyAir indoor unit models: FAQ, FBQ, FCQ, FHQ, FTQ
Compatible with Single and Multi-zone system indoor unit model: FFQ, FDMQ

SPECIFICATIONS:

Model	BRC1E73
Description	Navigation Remote Controller
Maximum Connections	16 indoor units
Communication Wire	18AWG-2, No polarity Stranded, Non-shielded
Total Wiring Length	1,640 ft. (500 m)
Communication Protocol	Daikin proprietary P1P2 protocol
Power	16VDC supplied by indoor unit (1.58VA maximum)
Comfort Setpoint Range	60 to 90 °F (16 to 32 °C)
Setback Setpoint Range	40 to 95 °F (5 to 35°C)
Operating Temp Range	14 to 122°F (-10 to 50°C)
Operating Humidity Range	75% or less (RH) (without condensation)
Dimensions (WxHxD)	4.72x4.72x0.75 inch (120x120x19 mm)
Weight (Mass)	0.42 lbs. (0.19 kg)

PRODUCT IMAGE:

Notes:
(1) 1 of 3 display options – Detailed display shown

FEATURES:

1. Up to 16 indoor units are controllable within one group
2. Within one group, up to 2 Navigation Remote Controllers can be used, one as a main and one as a sub
3. Backlit LCD displays in English, Spanish or French
4. Temperature sensor built-in with configurable offset
5. Display of Temperature and Setpoint in 1°F / °C increments
6. Three configurable display options: Detailed, Standard and Simple
7. Dual setpoints (independent cooling and heating setpoints) with configurable minimum setpoint differential or Single Setpoint (occupied period)
8. Setpoint range limit for cooling and heating modes

Submittal Data Sheet

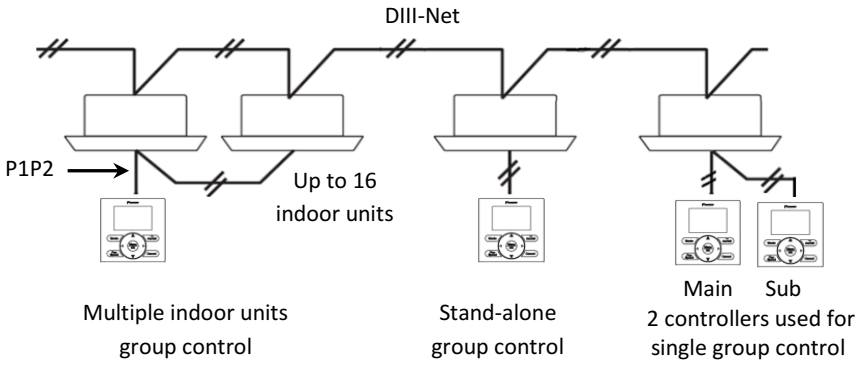
BRC1E73 – Navigation Remote Controller

Project Name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

9. Independent cooling and heating setback setpoints (unoccupied period)
10. Auto changeover control with configurable primary and secondary changeover dead bands and guard timer
11. Airflow – Individual air flow direction, dual airflow and auto draft prevention (prevents air blowing directly on occupants)*
12. Built-in 7 days, weekdays+weekend, weekdays+Sat+Sun, and Everyday schedules with up to 5 actions per day with independent cooling and heating or setback setpoints
13. Automatic Setback by occupancy sensor*
14. Automatic Off by occupancy sensor*
15. Configuration for Self-cleaning filter panel**
16. Automatic adjustment for Daylight Savings Time (DST)
17. 48 hour clock/calendar battery backup (protects schedule timing in cases of short term power loss from indoor unit)
18. Real-time monitoring of system malfunctions with immediate display of unit in error and error code
19. The buttons on the remote controller are selectable by locking out the unwanted buttons
20. The operation modes can be restricted to provide only the desired mode(s) of operation
21. Display can be configured to show “Off” and room temperature only when indoor unit is turned off
22. To prevent unwanted changes, fan speed selection and display may be hidden
23. Auto off timer configurable in 10 minute increments (range 30-180 minutes)
24. Can be used to replace earlier versions of remote controllers

* Available for FXFQ_TVJU, FXUQ_PVJU, and FXZQ_TA indoor units
**Available for FXFQ_TVJU indoor units

SYSTEM DIAGRAM:



FACE DECAL OPTIONS:

Face decal options are used to hide unnecessary buttons:
1. The face decal is designed to adhere to the faceplate
2. Hidden buttons can be accessed by service personnel without removing the face decal due to its flexibility

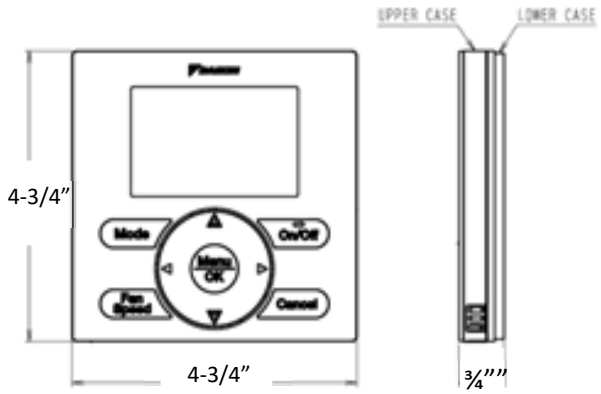
Submittal Data Sheet

BRC1E73 – Navigation Remote Controller

Project Name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

Used with	Single Setpoint mode			Dual Setpoint mode		
Model	BRC1E72RM	BRC1E72RF	BRC1E72RMF	BRC1E72RM2	BRC1E72RF2	BRC1E72RMF2
						
On/Off	X	X	X	X	X	X
Mode	X		X	X		X
Fan		X	X		X	X
Up, Down	X	X	X	X	X	X
Left, Right				X	X	X
Menu/Ok						
Cancel						

DIMENSIONS:



DOCUMENTATION:

Documentation available on www.daikincity.com and/or www.daikinac.com:

- Installation Manual
- Operation Manual

Submittal Data Sheet

BRC1E73 – Navigation Remote Controller

Project Name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

- Submittal
- Guide Specifications
- Quick User Guide
- Field Setting Table

Project name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

DZK-MTS-4-W DESCRIPTION

The DZK Wired Thermostat offers an intuitive, easy to use interface to control the zones of the DZK zoning kit.

MODEL COMPATIBILITY

DZK030E4-4 – up to (4) DZK-MTS-4-W may be used
DZK030E5-4 – up to (5) DZK-MTS-4-W may be used
DZK048E4-4 – up to (4) DZK-MTS-4-W may be used
DZK048E6-4 – up to (6) DZK-MTS-4-W may be used

Note: At least (1) DZK-MTS-4-W must be used for each DZK accessory.

Power supply and consumption	
V máx.	12 Vdc
I máx.	500 mA
Stand-by consumption	0.672 W
Connection and communications	
Wiring type	AWG 20 – 4 wired, shielded twisted pair
Maximum distance	40 m (131 ft)
Operating temperaturas	
Storage	-20 ... 70 °C (-4 ... 158 °F)
Operation	0 ... 50 °C (32 ... 122 °F)
Operating humidity range	5...90 % (non-condensing)
Set-point temperature range	15 ... 30 °C (59 ... 86 °F)
Reading accuracy	±0,1 °C (±1 °F)
Display accuracy	±0,1 °C (±1 °F)
Relative humidity	±4 %
Mechanical aspects	
Protection class	IP 30
Assembly	Surface through support
Type of probe	Airzone_NTC_10K
Weight	198 g (0.44 lb)

FEATURES

- 3.5” color touch screen display
- Slim profile at less than ¾” deep
- Large, easy to read set point display
- Room temperature and Relative Humidity (%) display
- Configurable as a Main or Zone thermostat
- Configurable °F or °C display
- Configurable English, French, or Spanish language
- 12 or 24 hour clock display
- Adjustable display brightness

CONTROL CAPABILITY (AS MAIN)

- Independent cooling and heating set point
- Mode selection
- User Mode selection
- Airflow Adjust control
- Local ventilation enable/disable
- Basic/Advanced menu mode options
- Remote control of other zones
- Off timer

CONTROL CAPABILITY (AS ZONE)

- Independent cooling and heating set point
- Mode (monitoring/display)
- User Mode (monitoring/display)
- Airflow Adjust (monitoring/display)
- Local ventilation enable/disable
- Basic/Advanced menu mode options
- Remote control of other zones
- Off timer

CONFIGURABLE SYSTEM OPTIONS

- Configurable minimum cooling set point
- Configurable maximum heating set point
- Language
- Units
- User Mode set points
- Global Ventilation
- Daylight savings time
- Show/hide room temperature display

Project name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

AVAILABLE PARAMETERS

	Configurable parameter	Available through DZK-MTS-4-W	Available through Airzone Cloud APP
System parameters	System ID	✓	✓
	Global ventilation		✓
	Proportional opening	✓	✓
	Radio channel	✓	
	Away Mode Settings		✓
	Auxiliary Heat		✓
	Automatic time change		✓
	Autochange		✓
	BACnet		✓
	Room temperature	✓	✓
	Lite step	✓	✓
	Remote assitance	✓	
	Stages	✓	✓
	Reset system	✓	
Zone parameters	Linked zones	✓	✓
	Thermostat type	✓	✓
	Offset	✓	✓
	User mode setpoint	✓	✓
	Weight	✓	✓
	Reset thermostat	✓	
	Basic mode		✓

Submittal Data Sheet

DMS502B71 – Interface for use in BACnet

Project Name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

MODEL COMPATIBILITY:

Compatible with VRV and VRV Life™ indoor unit models: FXAQ, FXDQ, FXEQ, FXFQ, FXHQ, FXLQ, FXMQ, FXMQ_MF, FXNQ, FXSQ, FXTQ, FXUQ, FXZQ, CXTQ, VAM
Compatible with SkyAir indoor unit models: FAQ, FBQ, FCQ, FHQ, FTQ
Compatible with Single Zone/Multi Zone/SkyAir system indoor unit models:

- FDMQ, FFQ_Q
- FFQ_LVJU with the use of the Interface Adaptor DTA112BA51
- FTXS, CTXS, CTXG, FTXG, FDXS, CDXS, FVXS with the use of the DIII-Net Adapter KRP928BB2S
- FTX, FTXN, FTK, and FTKN with the use of the DIII-Net Adapter KRP928BB2S and an Interface adaptor KRP067A41E/KRP980B1/KRP980B2E

SPECIFICATIONS:

Model	DMS502B71
Description	BACnet Interface
Maximum Indoor Units	128 groups/256 indoor units (256 groups/512 indoor units with DAM411B51)
Maximum Outdoor Units	20 (40 with DAM411B51)
DIII-Net Communication Wire	18AWG-2, No polarity Stranded, Non-shielded
BACnet IP Communication Wiring	10Base-T/100Base-TX
Communication Protocol	Daikin Proprietary DIII-Net protocol / BACnet IP
IP Setting Range	Class C network
Power	24VAC (field supplied) (40VA maximum)
Comfort Setpoint Range	60 to 90 °F (16 to 32 °C)
Setpoint	Single Setpoint
Temperature Units	Degrees Fahrenheit or Celsius
Operating Temp Range	14 to 122°F (-10 to 50°C)
Operating Humidity Range	90% or less (RH) (w/o condensation)
Dimensions (WxHxD)	10.81 x 10.34 x 2.69 inch (274.57 x 262.13 x 68.33 mm)
Weight (Mass)	6.2 lbs. (2.8 kg)
Certification	FCC Part 15 Subpart B Class A

PRODUCT IMAGE:

Notes:
Image shows BACnet Interface (DMS502B71) with Optional DIII Board (DAM411B51) inserted

Daikin North America LLC, 5151 San Felipe, Suite 500, Houston TX, 77056
www.daikinac.com www.daikincity.com

Submittal Data Sheet

DMS502B71 – Interface for use in BACnet

Project Name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

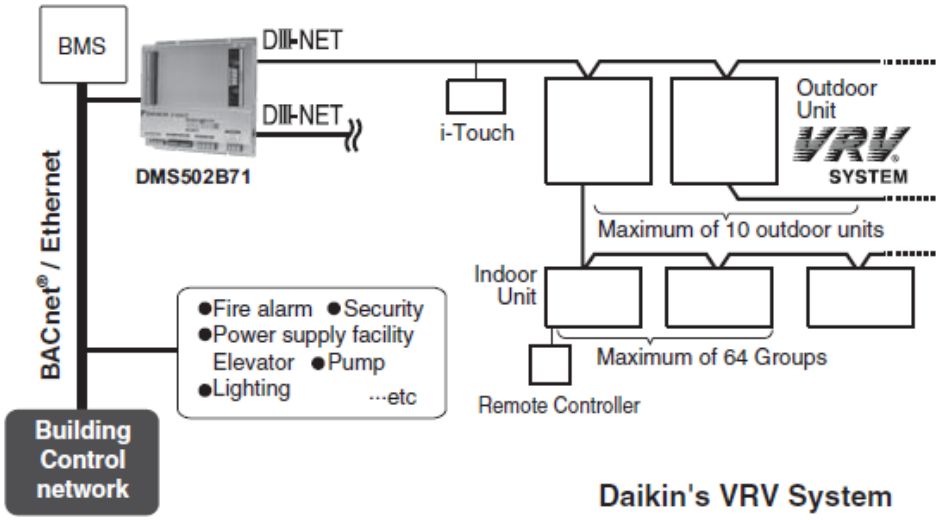
OPTIONS:

- Option DIII Board DAM411B51 can be applied to add two additional DIII-Net ports to the BACnet Interface

FEATURES:

- Integrate Daikin VRV, SkyAir, Single and Multi-zone systems with third party building automation systems supporting the BACnet protocol
- BACnet Application Specific Controller (B-ASC) device profile compatible with BACnet (ANSI / ASHRAE-135)
- BACnet IP Data Link Layer (Annex J)
- Supports COV – Change of Value, Property Array Index and Segmented requests
- IPv4 and Foreign Device registration for use with BACnet Broadcast Management Devices (BBMD)
- BTL listed (operating system version 6.2 and later)
- Diagnostic LEDs
- 2 Alarm Output contacts DO-1 and DO-2
- 4 Digital Inputs for Forced Off function
- The following programing is required from BMS:
  - Auto-changeover
  - Setpoint Range Limitation
  - Setback
  - Scheduling
  - Dual Setpoints

SYSTEM DIAGRAM:



Daikin's VRV System

Submittal Data Sheet

DMS502B71 – Interface for use in BACnet

Project Name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

INDOOR UNIT MONITORING AND CONTROL POINTS:

Check the appropriate box indicating the required integrated points for this project.

Function			Description
Operation, configuration, and monitoring		On/Off (Note2)	Start / stops the indoor unit and monitors the latest status
		Operation Mode (Note 2)	Sets the cool / Heat / Fan/ Dry mode for the indoor unit and monitors the latest mode
		Setpoint setting (Note 2)	Sets the setpoint of the indoor unit and monitors the latest setpoint.
		Filter sign and reset	Monitors filter run time, provides service alert, and allows a manual reset of the status as required.
		Remote controller permit/prohibit	Permits or prohibits the remote controller so that it can or cannot be used to control the indoor unit's On/Off/Operation mode/Setpoint
		Lower Centralized Controller operation enable/disable	Enables or disables operation of a Centralized Controller connected to the DIII network.
		Fan Speed setting (Note 2)	Sets the fan speed and monitors the latest setting.
		Airflow direction setting (Note 2)	Sets the airflow direction and monitors the latest setting.
		Forced system stop	The forced system stop command will force the indoor units to stop running based upon a received emergency alarm input. Remote controllers will be locked out from restarting indoor units during a forced system stop event.
		Forced Thermo-off	In response to the forced thermo-off command, the indoor unit stops actively cooling or heating.
		Energy saving	Offsets the internal setpoint +3.6^{0}F (2^{0}C) in cooling, and -3.6^{0}F (-2^{0}C) in heating in an indoor unit. The actual setpoint is not changed.
		Ventilation mode setting (Note 2)	Sets the ventilation mode and monitors the latest mode.
		Ventilation amount setting (Note 2)	Sets the ventilation amount and monitors the latest amount.
Monitoring		On/Off status	Monitors the On/Off status of the indoor unit.
		Alarm	Monitors whether or not the indoor unit is operating normally, and issues an alarm if the indoor unit has a malfunction.
		Malfunction code	Displays a malfunction code specified by Daikin if an indoor unit in the system has a malfunction.
		Operation mode	Monitors if the indoor unit is in Cool, Heat, Fan, or Dry mode.
		Room temperature (Note 1)	Monitors the room temperature.
		Filter sign	Monitors filter run time and provides service alert.
		Thermo-on status	Monitors whether or not the indoor unit is in actively cooling or heating.
		Compressor status	Monitors if the compressor of the outdoor unit connected to the indoor unit is properly operating.
		Indoor fan status	Monitors if the indoor unit's fan is properly operating.
		Heater status	Monitors if the indoor unit's heater is properly operating.
		Ventilation mode status	Monitors the ventilation mode status of the Energy Recover Ventilator
		Ventilation amount status	Monitors the ventilation amount status of the Energy Recovery Ventilator

1. Room temperature data (BACnet object name RoomTemp_XXX) by default is reported from the Daikin indoor units return air thermistor. This applies to all VRV indoor unit styles and capacities. During periods when the indoor unit is turned off or during certain operating modes that cycle the fan off including defrost operation, hot-start and system pressure equalization, the reported temperature may not accurately reflect the actual space temperature. For applications where this temperature value will be primary to system control including mode and

Project Name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

temperature setpoint management, it is recommended that the Daikin remote temperature sensor (Part No. KRCS01-1B or 4B depending on model) is specified for each indoor unit and installed within the occupied space or unit be configured to be controlled from temperature sensor in BRC1E73 Navigation Controller if the unit is capable.

2. In the indoor unit, the setpoints, start/stop status, mode, airflow direction, and fan speed are written to the non-volatile memory each time they are changed so the settings are not lost in the event of a power failure. The number of times this non-volatile memory can be written is limited, and writing beyond that limit may cause failure to the indoor unit EEPROM. This will not cause the indoor unit to stop functioning; however, the volatile memory will not retain the last settings received. Consequently, when the setpoints, start/stop status, mode, airflow direction, and fan speed are frequently changed by automatic control from the BMS, the number of times each setting for each indoor unit is limited to 70,000 – 80,000 times per year (dependent on the indoor unit manufacturing date).If the same value is repeatedly sent, it will not be added to the total "write to" count.
3. BACnet® is a registered trademark of ASHRAE.

COMPATIBILITY:

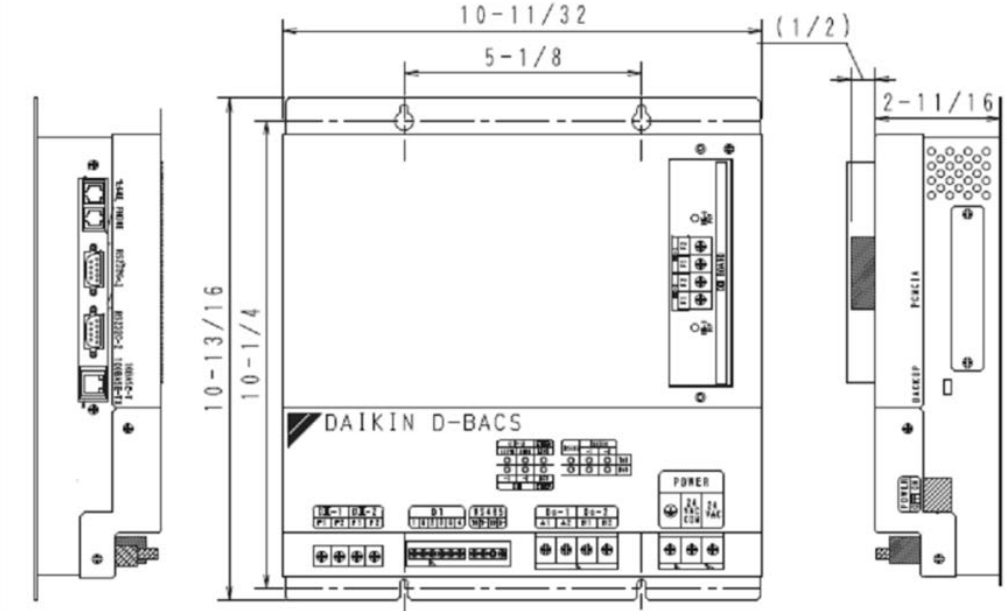
Function	VRV indoor unit	SkyAir indoor unit (except FTXS)	VAM	Outdoor air processing unit	Mini-Split & SkyAir FTXS indoor units (KRP928 adapter required)	FFQ indoor unit for Multi-split & Super Multi Plus (DTA112BA51 adapter required)
On/Off operation and monitoring	✔	✔	✔	✔	✔	✔
Indoor unit malfunction notification	✔	✔	✔	✔	✔	✔
Room temperature monitoring	✔	✔	N/A	✔ (return air	✔	✔
Setpoint setting and monitoring	✔	✔	N/A	N/A	✔	✔
Operation mode setting and monitoring	✔	✔	N/A	✔	✔	✔
Remote-control permit/prohibit setting and monitoring	✔	✔	✔	✔	✔	✔
Filter sign monitoring and reset	✔	✔	✔	✔	N/A	✔
Thermo-on status monitoring	✔	✔	N/A	✔	N/A	✔
Compressor operation status monitoring	✔	✔	N/A	✔	N/A	✔
Indoor fan status monitoring	✔	✔	✔	✔	N/A	✔
Heater status monitoring	✔	✔	N/A	✔	N/A	✔
Airflow direction setting and monitoring	✔	✔	N/A	N/A	N/A	✔
Fan speed settings and monitoring	✔	✔	✔ (Monitoring	N/A	N/A	✔
Forced thermo-off setting and monitoring	✔	✔	N/A	✔	N/A	✔
Energy saving (setpoint offset)	✔	✔	N/A	✔	N/A	N/A
Ventilation Mode	N/A	N/A	✔	N/A	N/A	N/A
Ventilation Amount	N/A	N/A	✔	N/A	N/A	N/A

Submittal Data Sheet

DMS502B71 – Interface for use in BACnet

Project Name:	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit #:
Reference:	Drawing #:

DIMENSIONS:



DOCUMENTATION:

Documentation available on www.daikincity.com and/or www.daikinac.com:

- BACnet Design Guide
- Installation Manual
- Submittal
- Guide Specifications

SAMSUNG

DVM Pro 2.0

Wall mounted AC Options

Report

Project

Customer:

Project Name: Poirier Admin Building

Location: Canada, Vancouver Intl A

Date: 2024-05-17

Designer

Name:

Phone:

Email:

Address:

Software

Version: 2.0.1.6

DB version: 20240514-195847

Table of Abbreviations

Abbreviation	Description
Add. Ref.	Additional Refrigerant
AM	Airflow Mode
Block Load	Block Load
CM	Cooling Operation Mode
Corr. Capa	Correction Capacity
Corr. PI	Correction Power Input
CR	Combination Ratio
DB	Dry Bulb Temperature
Des Temp	Design Temperature
Dis. Temp.	Discharge Temperature
Equip. Name	Equipment Name
EWT	Entering Water Temperature
FR	Flow Rate
HM	Heating Operation Mode
IDU	Indoor Unit
LWT	Leaving Water Temperature
Max. Capa	Maximum Capacity
Min. HOR	Minimum Heating Operation Ratio
ODU	Outdoor Unit
Op. WF Range	Operating Water Flow Range
Op. WT Range	Operating Water Temperature Range
Operating Temp. Range	Operating Temperature Range
PHE	Plate Heat Exchanger
Pipe Mat.	Piping Material
PL	Pressure Loss
PWL	Sound Power level
Ref. Pipe	Refrigerant Pipe
Rq. Vent. Vol.	Required Ventilation Volume
SHC	Sensible Heat Capacity
SPL	Sound Pressure Level
TC	Total Capacity
WB	Wet Bulb Temperature
47/43, 120	DB / WB, LWT (for DVM Chiller Heating capacity)

SAMSUNG

DVM Pro 2.0

Equipment List of North 1F

Type	Model Code	Description	Unit	Qty.
ODU	AM072BXVGFR/AA	DVM S2 Heat Recovery	EA	1
IDU	AM005TNVDCH/AA	Wall-Mounted (WindFree)	EA	9
	AM009TNVDCH/AA	Wall-Mounted (WindFree)	EA	1
	AM028TNVDCH/AA	Wall-Mounted (WindFree)	EA	1
Pipe Mat.	MCU-S12NEK1UN	MCU, 12 Ports, 85kW(290MBH)	EA	1
Controller	MWR-WG00UN	Wired remote controller	EA	11
Add. Ref.	R410A	Refrigerant	lbs	12.25

Type	Size	Length [ft] / Quantity [EA]			
		Liquid Pipe	Gas Pipe	H.P. Gas	Total
Ref. Pipe	6.35(1/4'')	98.43	0.00	0.00	98.43
	9.52(3/8'')	49.84	0.00	0.00	49.84
	12.7(1/2'')	0.00	98.43	0.00	98.43
	15.88(5/8'')	0.00	9.84	40.00	49.84
	19.05(3/4'')	0.00	40.00	0.00	40.00
Elbow	19.05(3/4'')	0.00	5.00	0.00	5.00

SAMSUNG

DVM Pro 2.0

Equipment List of North 2F

Type	Model Code	Description	Unit	Qty.
ODU	AM096BXVGFR/AA	DVM S2 Heat Recovery	EA	1
IDU	AM005TNVDCH/AA	Wall-Mounted (WindFree)	EA	12
	AM007TNVDCH/AA	Wall-Mounted (WindFree)	EA	1
	AM009TNVDCH/AA	Wall-Mounted (WindFree)	EA	1
	AM018TNVDCH/AA	Wall-Mounted (WindFree)	EA	1
Pipe Mat.	MCU-S8NEK1UN	MCU, 8 Ports, 85kW(290MBH)	EA	2
Controller	MWR-WG00UN	Wired remote controller	EA	15
Add. Ref.	R410A	Refrigerant	lbs	18.02

Type	Size	Length [ft] / Quantity [EA]			
		Liquid Pipe	Gas Pipe	H.P. Gas	Total
Ref. Pipe	6.35(1/4'')	147.64	0.00	0.00	147.64
	9.52(3/8'')	80.00	0.00	0.00	80.00
	12.7(1/2'')	0.00	147.64	20.00	167.64
	15.88(5/8'')	0.00	20.00	0.00	20.00
	19.05(3/4'')	0.00	0.00	60.00	60.00
	22.22(7/8'')	0.00	60.00	0.00	60.00
Elbow	19.05(3/4'')	0.00	0.00	5.00	5.00
	22.22(7/8'')	0.00	5.00	0.00	5.00

SAMSUNG

DVM Pro 2.0

Equipment List of South 1&2F

Type	Model Code	Description	Unit	Qty.
ODU	AM168BXVGFR/AA	DVM S2 Heat Recovery	EA	1
IDU	AM005TNVDCH/AA	Wall-Mounted (WindFree)	EA	12
	AM007TNVDCH/AA	Wall-Mounted (WindFree)	EA	7
	AM009TNVDCH/AA	Wall-Mounted (WindFree)	EA	1
	AM012TNVDCH/AA	Wall-Mounted (WindFree)	EA	1
	AM015TNVDCH/AA	Wall-Mounted (WindFree)	EA	1
	AM018TNVDCH/AA	Wall-Mounted (WindFree)	EA	2
Pipe Mat.	MCU-S12NEK1UN	MCU, 12 Ports, 85kW(290MBH)	EA	1
	MCU-S8NEK1UN	MCU, 8 Ports, 85kW(290MBH)	EA	2
	MXJ-YA2500M	Y-joint	EA	1
	MXJ-YA2815M	Y-joint	EA	1
Controller	MWR-WG00UN	Wired remote controller	EA	24
Add. Ref.	R410A	Refrigerant	lbs	32.26

Type	Size	Length [ft] / Quantity [EA]			
		Liquid Pipe	Gas Pipe	H.P. Gas	Total
Ref. Pipe	6.35(1/4'')	236.22	0.00	0.00	236.22
	9.52(3/8'')	80.00	0.00	0.00	80.00
	12.7(1/2'')	0.00	236.22	20.00	256.22
	15.88(5/8'')	40.00	20.00	0.00	60.00
	19.05(3/4'')	0.00	0.00	60.00	60.00
	22.22(7/8'')	0.00	60.00	40.00	100.00
	28.58(1 1/8'')	0.00	40.00	0.00	40.00
Elbow	19.05(3/4'')	0.00	0.00	10.00	10.00
	22.22(7/8'')	0.00	10.00	5.00	15.00
	28.58(1 1/8'')	0.00	5.00	0.00	5.00

Controller Equipment List

Type	Model Code	Description	Unit	Qty.
Controller	MWR-WG00UN	Wired remote controller	EA	50
	MIM-B17BUN	BACnet Gateway	EA	1

SAMSUNG

DVM Pro 2.0

Piping

System (North 1F)

Design Condition

Design Condition (Air)	Outdoor		Indoor	
	CM	HM	CM	HM
Temperature (DB/WB) [°F]	75.9 / 66.0	18.0 / 14.5	80.6 / 66.2	68.0 / 59.0
Altitude Correction	-			

Installation

Type	Floor	Room Name	Equip. Name	Model Code
ODU	1F	-	North 1F	AM072BXVGFR/AA
IDU	1F	-	IDU1	AM028TNVDCH/AA
		-	IDU2	AM005TNVDCH/AA
		-	IDU3	AM005TNVDCH/AA
		-	IDU4	AM005TNVDCH/AA
		-	IDU5	AM005TNVDCH/AA
		-	IDU6	AM005TNVDCH/AA
		-	IDU7	AM005TNVDCH/AA
		-	IDU8	AM005TNVDCH/AA
		-	IDU9	AM005TNVDCH/AA
		-	IDU10	AM005TNVDCH/AA
		-	IDU11	AM009TNVDCH/AA

Outdoor Unit

Equip. Name	Model Code	CR [%]	Max. Capa. [Btu/h]		Corr. Capa. [Btu/h]	
			CM	HM	CM	HM
North 1F	AM072BXVGFR/AA	114.58	80122.00	93950.00	80122.00	91700.00

Indoor Unit

Equip. Name	Model Code	AM	Des Temp[°F]		Max. Capa. [Btu/h]			Corr. Capa. [Btu/h]		
			CM	HM	CM		HM	CM		HM
			IN WB	IN DB	TC	SHC	TC	TC	SHC	TC
IDU1	AM028TNVDCH/AA	H	66.20	68.00	28000.00	18800.00	29000.00	27193.00	18258.00	29000.00
IDU2	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4856.00	3302.00	5800.00
IDU3	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4856.00	3302.00	5800.00
IDU4	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4856.00	3302.00	5800.00
IDU5	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4856.00	3302.00	5800.00

Piping (Continued)

System (North 1F) (Continued)

Indoor Unit

Equip. Name	Model Code	AM	Des Temp[°F]		Max. Capa. [Btu/h]			Corr. Capa. [Btu/h]		
			CM	HM	CM		HM	CM		HM
			IN WB	IN DB	TC	SHC	TC	TC	SHC	TC
IDU6	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4856.00	3302.00	5800.00
IDU7	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4856.00	3302.00	5800.00
IDU8	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4856.00	3302.00	5800.00
IDU9	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4856.00	3302.00	5800.00
IDU10	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4856.00	3302.00	5800.00
IDU11	AM009TNVDCH/AA	H	66.20	68.00	9500.00	6400.00	10500.00	9226.00	6215.00	10500.00

Accessory

Equip. Name	Model Code	Address				Accessory
		Main		RMC		
North 1F	AM072BXVGFR/AA	-	-	-	-	
IDU1	AM028TNVDCH/AA	-	-	-	-	
IDU2	AM005TNVDCH/AA	-	-	-	-	
IDU3	AM005TNVDCH/AA	-	-	-	-	
IDU4	AM005TNVDCH/AA	-	-	-	-	
IDU5	AM005TNVDCH/AA	-	-	-	-	
IDU6	AM005TNVDCH/AA	-	-	-	-	
IDU7	AM005TNVDCH/AA	-	-	-	-	
IDU8	AM005TNVDCH/AA	-	-	-	-	
IDU9	AM005TNVDCH/AA	-	-	-	-	
IDU10	AM005TNVDCH/AA	-	-	-	-	
IDU11	AM009TNVDCH/AA	-	-	-	-	

Combination Ratio

Model Code	CR [%]	Operation Mode	Min. HOR [%]	Block Load [Btu/h]		Max. Capacity [Btu/h]	
				CM	HM	CM	HM
AM072BXVGFR/AA	114.58	HR	-	-	-	80122.00	91700.00

System Check Result

Checklist	Restriction Value	Design Result

Piping (Continued)

System (North 1F) (Continued)

System Check Result

Checklist	Restriction Value	Design Result
Long pipe length is 50.33 ft (Restriction: 656.17 ft).	656.17 ft	50.33 ft
Total pipe length is 168.44 ft (Restriction: 3280.84 ft).	3280.84 ft	168.44 ft
Pipe length from first Y-Joint to the farthest IDU is 10.33 ft (Restriction: 147.64 ft).	147.64 ft	10.33 ft
Height difference between ODU and IDU is 0.00 ft (restriction: 361.00 ft) (ODU higher than IDUs).	361.00 ft	0.00 ft
Height difference between ODU and IDU is 6.56 ft (restriction: 361.00 ft) (ODU lower than IDUs).	361.00 ft	6.56 ft
Height difference between IDUs when there is no wall mounts with EEV is 0.00 ft (restriction: 131.23 ft).	131.23 ft	0.00 ft
Height difference between IDUs when there are wall mounts with EEV is 0.00 ft (restriction: 98.43 ft).	98.43 ft	0.00 ft
Height difference between the lowest IDU and the highest wall mount with EEV is 0.00 ft (restriction: 49.21 ft).	49.21 ft	0.00 ft
Height difference between MCUs is 0.00 ft (restriction: 98.43 ft).	98.43 ft	0.00 ft

Refrigerant

Factory Charging and Additional Refrigerant Amount	Refrigerant Amount [lbs]
Factory Charging Refrigerant Amount	13.67
Additional Refrigerant Amount	12.25
Total	25.92

Piping (Continued)

System (North 1F) (Continued)

Piping Diagram

-The above system configuration may differ from The actual installation conditions.
Please refer to The installation manual for full details.

Piping (Continued)

System (North 2F)

Design Condition

Design Condition (Air)	Outdoor		Indoor	
	CM	HM	CM	HM
Temperature (DB/WB) [°F]	75.9 / 66.0	18.0 / 14.5	80.6 / 66.2	68.0 / 59.0
Altitude Correction	-			

Installation

Type	Floor	Room Name	Equip. Name	Model Code
ODU	1F	-	North 2F	AM096BXVGFR/AA
IDU	2F	-	IDU20	AM005TNVDCH/AA
		-	IDU21	AM007TNVDCH/AA
		-	IDU22	AM005TNVDCH/AA
		-	IDU23	AM009TNVDCH/AA
		-	IDU24	AM018TNVDCH/AA
		-	IDU25	AM005TNVDCH/AA
		-	IDU26	AM005TNVDCH/AA
		-	IDU12	AM005TNVDCH/AA
		-	IDU13	AM005TNVDCH/AA
		-	IDU14	AM005TNVDCH/AA
		-	IDU15	AM005TNVDCH/AA
		-	IDU16	AM005TNVDCH/AA
		-	IDU17	AM005TNVDCH/AA
		-	IDU18	AM005TNVDCH/AA
		-	IDU19	AM005TNVDCH/AA

Outdoor Unit

Equip. Name	Model Code	CR [%]	Max. Capa. [Btu/h]		Corr. Capa. [Btu/h]	
			CM	HM	CM	HM
North 2F	AM096BXVGFR/AA	98.96	90698.00	108709.00	90698.00	108600.00

Indoor Unit

Equip. Name	Model Code	AM	Des Temp[°F]		Max. Capa. [Btu/h]			Corr. Capa. [Btu/h]		
			CM	HM	CM		HM	CM		HM
			IN WB	IN DB	TC	SHC	TC	TC	SHC	TC
IDU20	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00

Piping (Continued)

System (North 2F) (Continued)

Indoor Unit

Equip. Name	Model Code	AM	Des Temp[°F]		Max. Capa. [Btu/h]			Corr. Capa. [Btu/h]		
			CM	HM	CM		HM	CM		HM
			IN WB	IN DB	TC	SHC	TC	TC	SHC	TC
IDU21	AM007TNVDCH/AA	H	66.20	68.00	7500.00	5000.00	8500.00	7160.00	4774.00	8500.00
IDU22	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00
IDU23	AM009TNVDCH/AA	H	66.20	68.00	9500.00	6400.00	10500.00	9070.00	6110.00	10500.00
IDU24	AM018TNVDCH/AA	H	66.20	68.00	18000.00	12100.00	20000.00	17185.00	11552.00	20000.00
IDU25	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00
IDU26	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00
IDU12	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00
IDU13	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00
IDU14	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00
IDU15	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00
IDU16	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00
IDU17	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00
IDU18	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00
IDU19	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4774.00	3246.00	5800.00

Accessory

Equip. Name	Model Code	Address				Accessory
		Main		RMC		
North 2F	AM096BXVGFR/AA	-	-	-	-	
IDU20	AM005TNVDCH/AA	-	-	-	-	
IDU21	AM007TNVDCH/AA	-	-	-	-	
IDU22	AM005TNVDCH/AA	-	-	-	-	
IDU23	AM009TNVDCH/AA	-	-	-	-	
IDU24	AM018TNVDCH/AA	-	-	-	-	
IDU25	AM005TNVDCH/AA	-	-	-	-	
IDU26	AM005TNVDCH/AA	-	-	-	-	
IDU12	AM005TNVDCH/AA	-	-	-	-	
IDU13	AM005TNVDCH/AA	-	-	-	-	
IDU14	AM005TNVDCH/AA	-	-	-	-	
IDU15	AM005TNVDCH/AA	-	-	-	-	
IDU16	AM005TNVDCH/AA	-	-	-	-	
IDU17	AM005TNVDCH/AA	-	-	-	-	

Piping (Continued)

System (North 2F) (Continued)

Accessory

Equip. Name	Model Code	Address				Accessory
		Main		RMC		
IDU18	AM005TNVDCH/AA	-	-	-	-	
IDU19	AM005TNVDCH/AA	-	-	-	-	

Combination Ratio

Model Code	CR [%]	Operation Mode	Min. HOR [%]	Block Load [Btu/h]		Max. Capacity [Btu/h]	
				CM	HM	CM	HM
AM096BXVGFR/AA	98.96	HR	-	-	-	90698.00	108600.00

System Check Result

Checklist	Restriction Value	Design Result
Long pipe length is 90.83 ft (Restriction: 656.17 ft).	656.17 ft	90.83 ft
Total pipe length is 248.31 ft (Restriction: 3280.84 ft).	3280.84 ft	248.31 ft
Pipe length from first Y-Joint to the farthest IDU is 30.83 ft (Restriction: 147.64 ft).	147.64 ft	30.83 ft
Height difference between ODU and IDU is 0.00 ft (restriction: 361.00 ft) (ODU higher than IDUs).	361.00 ft	0.00 ft
Height difference between ODU and IDU is 16.34 ft (restriction: 361.00 ft) (ODU lower than IDUs).	361.00 ft	16.34 ft
Height difference between IDUs when there is no wall mounts with EEV is 0.00 ft (restriction: 131.23 ft).	131.23 ft	0.00 ft
Height difference between IDUs when there are wall mounts with EEV is 0.00 ft (restriction: 98.43 ft).	98.43 ft	0.00 ft
Height difference between the lowest IDU and the highest wall mount with EEV is 0.00 ft (restriction: 49.21 ft).	49.21 ft	0.00 ft
Height difference between MCUs is 0.00 ft (restriction: 98.43 ft).	98.43 ft	0.00 ft

Refrigerant

Factory Charging and Additional Refrigerant Amount	Refrigerant Amount [lbs]
Factory Charging Refrigerant Amount	17.64

Piping (Continued)

System (North 2F) (Continued)

Refrigerant

Factory Charging and Additional Refrigerant Amount	Refrigerant Amount [lbs]
Additional Refrigerant Amount	18.02
Total	35.66

Piping (Continued)

System (North 2F) (Continued)

Piping Diagram

-The above system configuration may differ from The actual installation conditions.
Please refer to The installation manual for full details.

Piping (Continued)

System (South 1&2F)

Design Condition

Design Condition (Air)	Outdoor		Indoor	
	CM	HM	CM	HM
Temperature (DB/WB) [°F]	75.9 / 66.0	18.0 / 14.5	80.6 / 66.2	68.0 / 59.0
Altitude Correction	-			

Installation

Type	Floor	Room Name	Equip. Name	Model Code
ODU	1F	-	South 1&2F	AM168BXVGFR/AA
IDU	1F	-	IDU27	AM018TNVDCH/AA
		-	IDU28	AM015TNVDCH/AA
		-	IDU29	AM007TNVDCH/AA
		-	IDU30	AM007TNVDCH/AA
		-	IDU31	AM005TNVDCH/AA
		-	IDU32	AM005TNVDCH/AA
		-	IDU33	AM005TNVDCH/AA
		-	IDU34	AM007TNVDCH/AA
		-	IDU35	AM007TNVDCH/AA
		-	IDU36	AM009TNVDCH/AA
	2F	-	IDU44	AM005TNVDCH/AA
		-	IDU45	AM005TNVDCH/AA
		-	IDU46	AM005TNVDCH/AA
		-	IDU47	AM005TNVDCH/AA
		-	IDU48	AM007TNVDCH/AA
		-	IDU49	AM007TNVDCH/AA
		-	IDU50	AM018TNVDCH/AA
		-	IDU37	AM007TNVDCH/AA
		-	IDU38	AM005TNVDCH/AA
		-	IDU39	AM005TNVDCH/AA
		-	IDU40	AM005TNVDCH/AA
		-	IDU41	AM005TNVDCH/AA
		-	IDU42	AM012TNVDCH/AA
		-	IDU43	AM005TNVDCH/AA

Piping (Continued)

System (South 1&2F) (Continued)

Outdoor Unit

Equip. Name	Model Code	CR [%]	Max. Capa. [Btu/h]		Corr. Capa. [Btu/h]	
			CM	HM	CM	HM
South 1&2F	AM168BXVGFR/AA	110.12	175870.00	203860.00	175870.00	203860.00

Indoor Unit

Equip. Name	Model Code	AM	Des Temp[°F]		Max. Capa. [Btu/h]			Corr. Capa. [Btu/h]		
			CM	HM	CM		HM	CM		HM
			IN WB	IN DB	TC	SHC	TC	TC	SHC	TC
IDU27	AM018TNVDCH/AA	H	66.20	68.00	18000.00	12100.00	20000.00	17112.00	11503.00	19406.00
IDU28	AM015TNVDCH/AA	H	66.20	68.00	15000.00	10100.00	17000.00	14260.00	9602.00	16495.00
IDU29	AM007TNVDCH/AA	H	66.20	68.00	7500.00	5000.00	8500.00	7130.00	4753.00	8248.00
IDU30	AM007TNVDCH/AA	H	66.20	68.00	7500.00	5000.00	8500.00	7130.00	4753.00	8248.00
IDU31	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU32	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU33	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU34	AM007TNVDCH/AA	H	66.20	68.00	7500.00	5000.00	8500.00	7130.00	4753.00	8248.00
IDU35	AM007TNVDCH/AA	H	66.20	68.00	7500.00	5000.00	8500.00	7130.00	4753.00	8248.00
IDU36	AM009TNVDCH/AA	H	66.20	68.00	9500.00	6400.00	10500.00	9031.00	6084.00	10188.00
IDU44	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU45	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU46	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU47	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU48	AM007TNVDCH/AA	H	66.20	68.00	7500.00	5000.00	8500.00	7130.00	4753.00	8248.00
IDU49	AM007TNVDCH/AA	H	66.20	68.00	7500.00	5000.00	8500.00	7130.00	4753.00	8248.00
IDU50	AM018TNVDCH/AA	H	66.20	68.00	18000.00	12100.00	20000.00	17112.00	11503.00	19406.00
IDU37	AM007TNVDCH/AA	H	66.20	68.00	7500.00	5000.00	8500.00	7130.00	4753.00	8248.00
IDU38	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU39	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU40	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU41	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00
IDU42	AM012TNVDCH/AA	H	66.20	68.00	12000.00	8000.00	13500.00	11408.00	7605.00	13099.00
IDU43	AM005TNVDCH/AA	H	66.20	68.00	5000.00	3400.00	5800.00	4753.00	3232.00	5628.00

Piping (Continued)

System (South 1&2F) (Continued)

Accessory

Equip. Name	Model Code	Address				Accessory
		Main		RMC		
South 1&2F	AM168BXVGFR/AA	-	-	-	-	
IDU27	AM018TNVDCH/AA	-	-	-	-	
IDU28	AM015TNVDCH/AA	-	-	-	-	
IDU29	AM007TNVDCH/AA	-	-	-	-	
IDU30	AM007TNVDCH/AA	-	-	-	-	
IDU31	AM005TNVDCH/AA	-	-	-	-	
IDU32	AM005TNVDCH/AA	-	-	-	-	
IDU33	AM005TNVDCH/AA	-	-	-	-	
IDU34	AM007TNVDCH/AA	-	-	-	-	
IDU35	AM007TNVDCH/AA	-	-	-	-	
IDU36	AM009TNVDCH/AA	-	-	-	-	
IDU44	AM005TNVDCH/AA	-	-	-	-	
IDU45	AM005TNVDCH/AA	-	-	-	-	
IDU46	AM005TNVDCH/AA	-	-	-	-	
IDU47	AM005TNVDCH/AA	-	-	-	-	
IDU48	AM007TNVDCH/AA	-	-	-	-	
IDU49	AM007TNVDCH/AA	-	-	-	-	
IDU50	AM018TNVDCH/AA	-	-	-	-	
IDU37	AM007TNVDCH/AA	-	-	-	-	
IDU38	AM005TNVDCH/AA	-	-	-	-	
IDU39	AM005TNVDCH/AA	-	-	-	-	
IDU40	AM005TNVDCH/AA	-	-	-	-	
IDU41	AM005TNVDCH/AA	-	-	-	-	
IDU42	AM012TNVDCH/AA	-	-	-	-	
IDU43	AM005TNVDCH/AA	-	-	-	-	

Combination Ratio

Model Code	CR [%]	Operation Mode	Min. HOR [%]	Block Load [Btu/h]		Max. Capacity [Btu/h]	
				CM	HM	CM	HM
AM168BXVGFR/AA	110.12	HR	-	-	-	175870.00	203860.00

Piping (Continued)

System (South 1&2F) (Continued)

System Check Result

Checklist	Restriction Value	Design Result
Long pipe length is 111.81 ft (Restriction: 656.17 ft).	656.17 ft	111.81 ft
Total pipe length is 417.74 ft (Restriction: 3280.84 ft).	3280.84 ft	417.74 ft
Pipe length from first Y-Joint to the farthest IDU is 71.81 ft (Restriction: 147.64 ft).	147.64 ft	71.81 ft
Height difference between ODU and IDU is 0.00 ft (restriction: 361.00 ft) (ODU higher than IDUs).	361.00 ft	0.00 ft
Height difference between ODU and IDU is 16.34 ft (restriction: 361.00 ft) (ODU lower than IDUs).	361.00 ft	16.34 ft
Height difference between IDUs when there is no wall mounts with EEV is 0.00 ft (restriction: 131.23 ft).	131.23 ft	0.00 ft
Height difference between IDUs when there are wall mounts with EEV is 9.78 ft (restriction: 98.43 ft).	98.43 ft	9.78 ft
Height difference between the lowest IDU and the highest wall mount with EEV is 9.78 ft (restriction: 49.21 ft).	49.21 ft	9.78 ft
Height difference between MCUs is 9.78 ft (restriction: 98.43 ft).	98.43 ft	9.78 ft

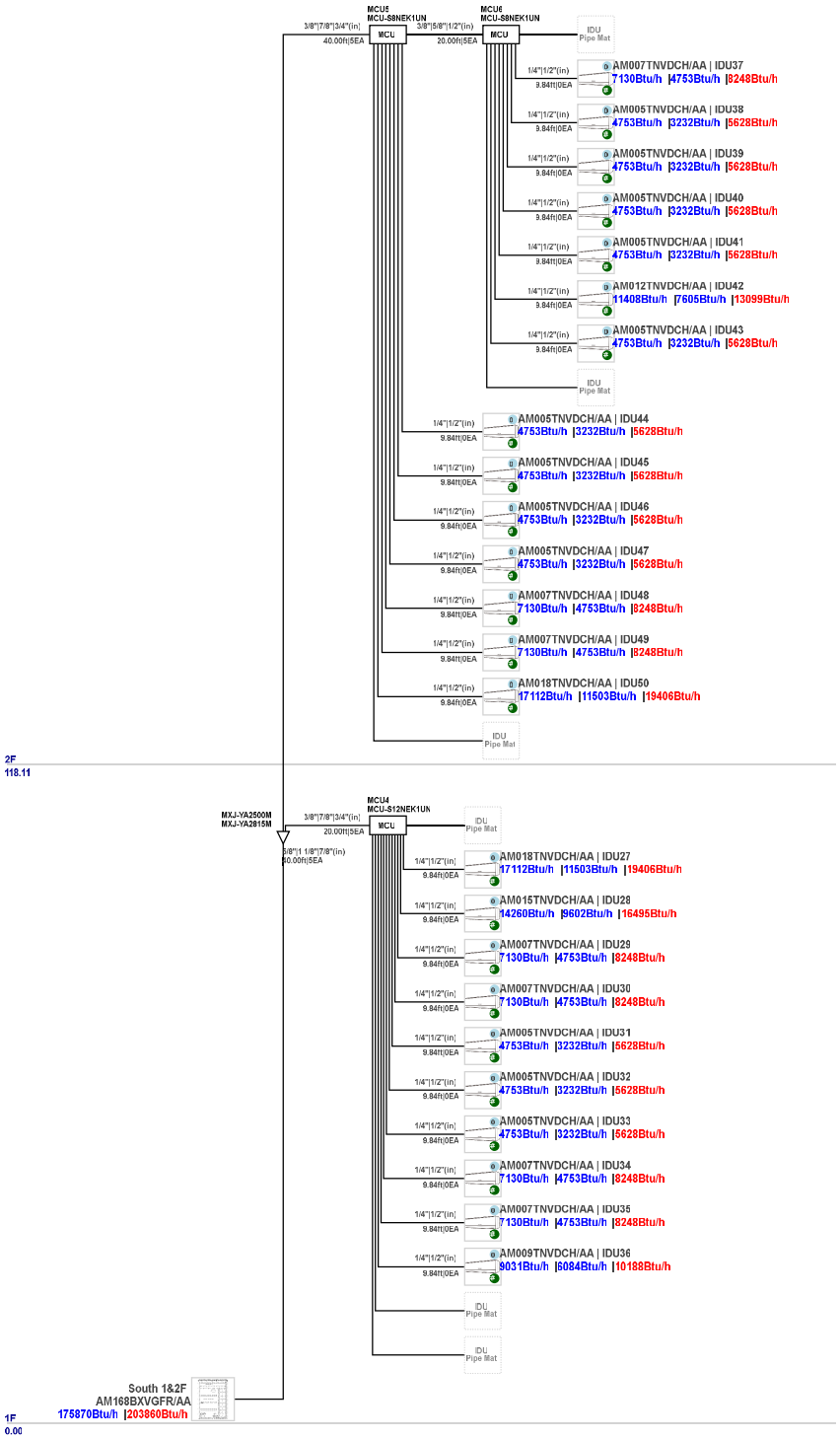
Refrigerant

Factory Charging and Additional Refrigerant Amount	Refrigerant Amount [lbs]
Factory Charging Refrigerant Amount	23.15
Additional Refrigerant Amount	32.26
Total	55.41

Piping (Continued)

System (South 1&2F) (Continued)

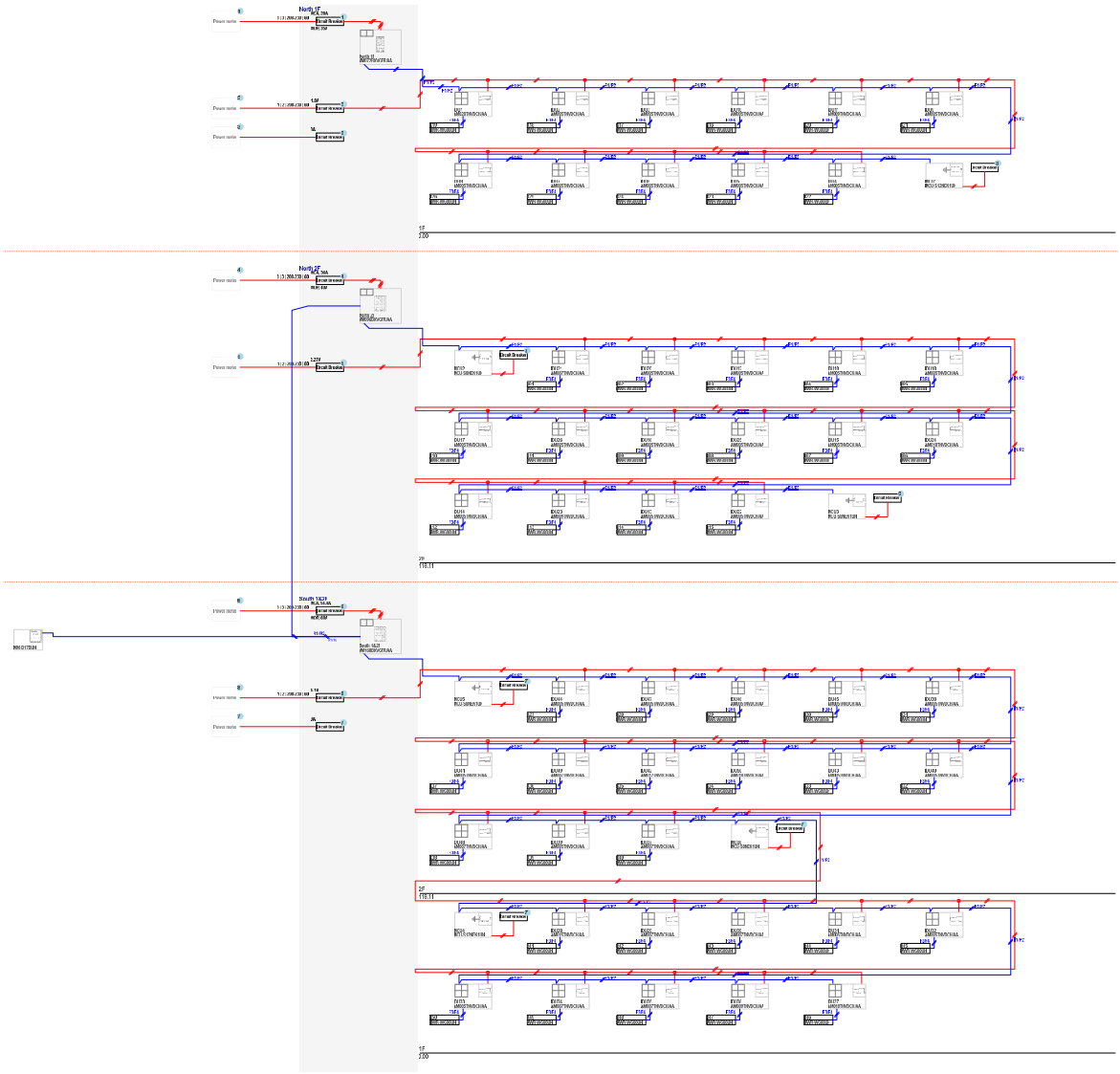
Piping Diagram



-The above system configuration may differ from The actual installation conditions.
Please refer to The installation manual for full details.

Wiring and Controller

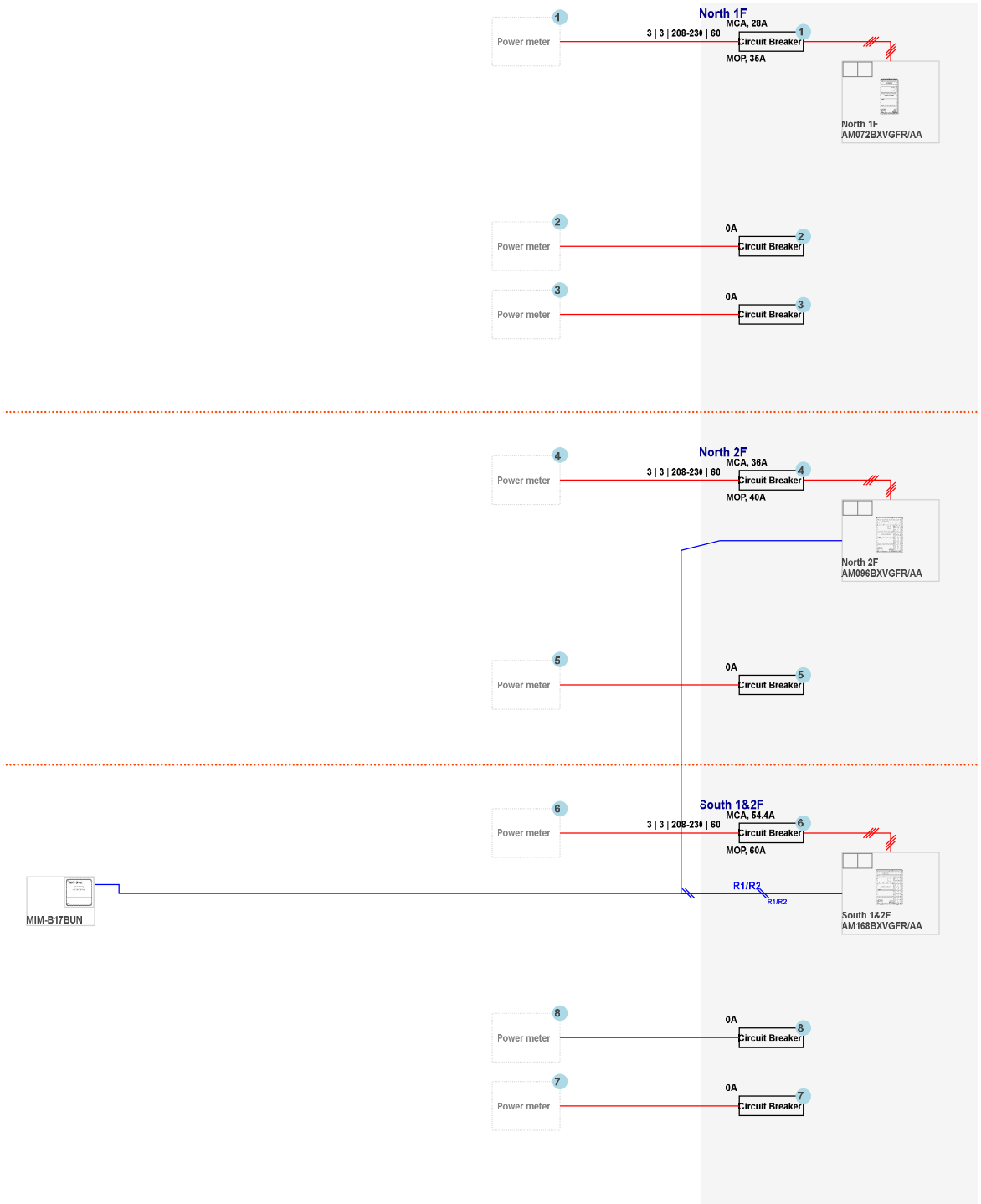
Wiring and Controller Diagram



-The above system configuration may differ from The actual installation conditions.
Please refer to The installation manual for full details.

Controller

Controller Diagram

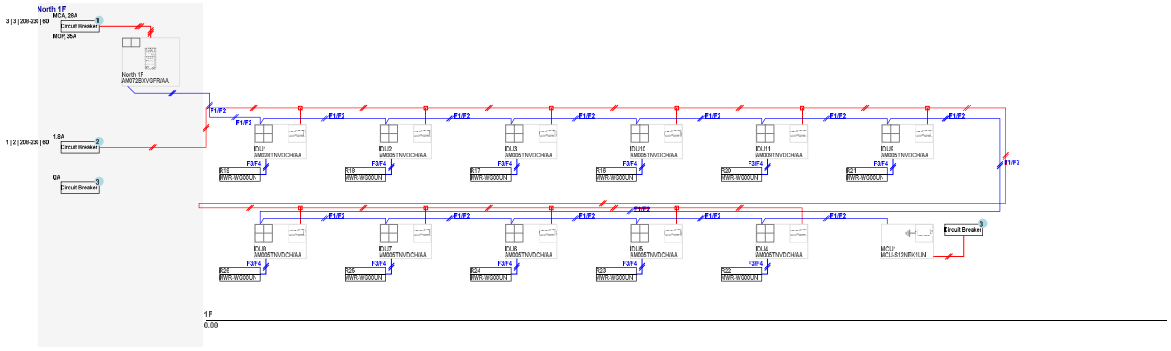


-The above system configuration may differ from The actual installation conditions.
Please refer to The installation manual for full details.

Wiring

System (North 1F)

Wiring Diagram

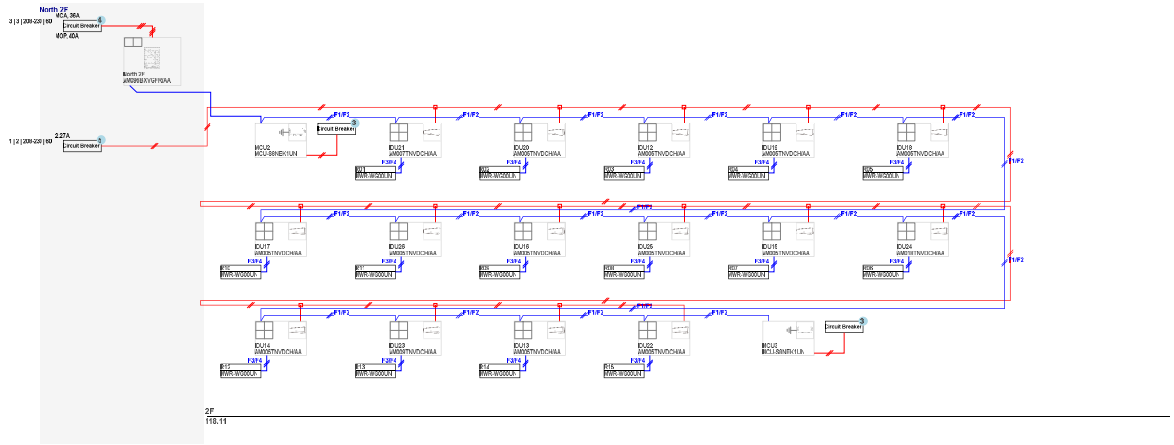


-The above system configuration may differ from The actual installation conditions.
Please refer to The installation manual for full details.

Wiring

System (North 2F)

Wiring Diagram

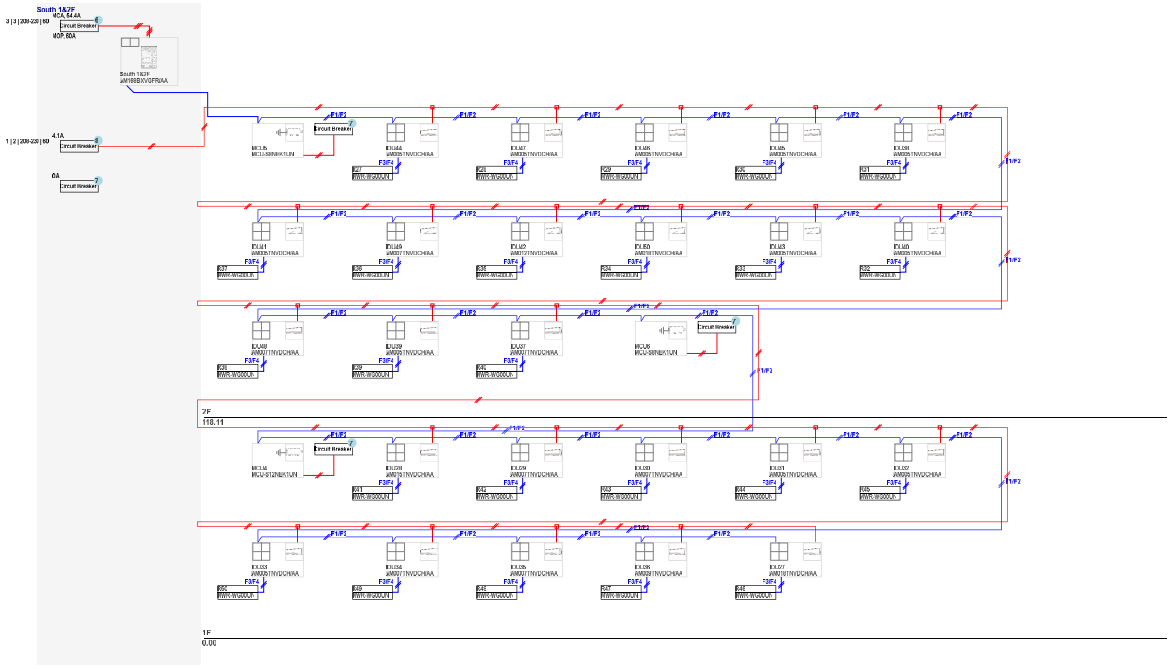


-The above system configuration may differ from The actual installation conditions.
Please refer to The installation manual for full details.

Wiring

System (South 1&2F)

Wiring Diagram



-The above system configuration may differ from The actual installation conditions.
Please refer to The installation manual for full details.

SAMSUNG

DVM Pro 2.0

Product Specification

North 1F

Outdoor Unit

Model Name						AM072BXVGFR/AA
Module						Single
Power Supply					Ø, #, V, Hz	3 | 3 | 208-230 | 60
Mode						HR
Performance	Ton					6
	Capacity	Cooling		Nominal	Btu/h	72000
				Rated	Btu/h	69000
		Heating		Nominal	Btu/h	81000
				Rated	Btu/h	77000
Power	Current	MCA			A	28
		MOP			A	35
Casing	Material	Body				GI Steel Plate
		Base				GI Steel Plate
Heat Exchanger	Type					Fin & Tube
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Anti-corrosion
Compressor	Quantity				EA	1
Fan	Type					Propeller
	Discharge direction					Top discharge
	Air Flow Rate	High			CFM	5580
	External Static Pressure	Max			W G	0.44
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	630
Piping Connections	Liquid Pipe	Type				Welding
		Diameter			in	3/8''
	Gas Pipe	Type				Welding
		Diameter			in	3/4''
	High Pressure Gas Pipe	Type				Welding
		Diameter			in	5/8''
Wiring connections	Communication	Min.			㎟	0.75
		Comm.Layer				F1,F2
Refrigerant	Type					R410A
	Factory Charging				lbs	13.67

Product Specification

North 1F (Continued)

Outdoor Unit

Sound	Sound Pressure	Cooling	dB(A)	54
	Sound Power Level	Cooling	dB(A)	75
External Dimension	Net Weight		lbs	394.63
	Shipping Weight		lbs	425.49
	Net Dimensions	W	in	36.61
		H	in	66.73
		D	in	30.12
	Shipping Dimensions	W	in	39.29
		H	in	74.29
		D	in	32.64
Operating Temp. Range	Cooling	Min.	°F	5
		Max.	°F	122
	Heating	Min.	°F	-22
		Max.	°F	75.2
Maximum number of connectable indoor units			EA	12

Product Specification

North 1F (Continued)

Indoor Unit

Model Name						AM028TNVDCH/AA
Power Supply					Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode						HP/HR
Performance	MBH					28
	Capacity	Cooling	Nominal		Btu/h	28000
		Heating	Nominal		Btu/h	29000
Power	Power Input	Cooling	Nominal		kW	0.065
		Heating	Nominal		kW	0.065
	Current Input	Cooling	Nominal		A	0.43
		Heating	Nominal		A	0.43
	Current	MCA			A	0.54
		MOP			A	15
		FLA		Quantity	EA	1
				A	A	0.43
Heat Exchanger	Type					F&T
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Green Hydrophile
Fan	Type					Crossflow Fan
	Air Flow Rate	High			CFM	618
		Mid			CFM	550.9
		Low			CFM	487.4
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	27
Piping Connections	Liquid Pipe	Type				Flaring
		Diameter			in	3/8''
	Gas Pipe	Type				Flaring
		Diameter			in	5/8''
	Drain Pipe	Diameter				ID18 HOSE
Wiring connections	Communication	Min.			AWG	2 X 16 AWG SHIELDED
		Comm.Layer				F1, F2
Refrigerant	Type					R410A
	Control Type					EEV included
Sound	Sound Pressure	High			dB(A)	46

Product Specification

North 1F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	45
		Low	dB(A)	43
	Sound Power Level	Cooling	dB(A)	64
External Dimension	Net Weight		lbs	28.7
	Shipping Weight		lbs	33.1
	Net Dimensions	W	in	41.5
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	43.9
		H	in	11.4
		D	in	14.8

SAMSUNG

DVM Pro 2.0

Product Specification

North 1F (Continued)

Indoor Unit

Model Name						AM005TNVDCH/AA
Power Supply					Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode						HP/HR
Performance	MBH					5
	Capacity	Cooling	Nominal		Btu/h	5000
		Heating	Nominal		Btu/h	5800
Power	Power Input	Cooling	Nominal		kW	0.02
		Heating	Nominal		kW	0.02
	Current Input	Cooling	Nominal		A	0.13
		Heating	Nominal		A	0.13
	Current	MCA			A	0.16
		MOP			A	15
		FLA		Quantity	EA	1
				A	A	0.13
Heat Exchanger	Type					F&T
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Green Hydrophile
Fan	Type					Crossflow Fan
	Air Flow Rate	High			CFM	173
		Mid			CFM	158.9
		Low			CFM	144.8
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	27
Piping Connections	Liquid Pipe	Type				Flaring
		Diameter			in	1/4''
	Gas Pipe	Type				Flaring
		Diameter			in	1/2''
	Drain Pipe	Diameter				ID18 HOSE
Wiring connections	Communication	Min.			AWG	2 X 16 AWG SHIELDED
		Comm.Layer				F1, F2
Refrigerant	Type					R410A
	Control Type					EEV included
Sound	Sound Pressure	High			dB(A)	31

Product Specification

North 1F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	30
		Low	dB(A)	27
	Sound Power Level	Cooling	dB(A)	50
External Dimension	Net Weight		lbs	19.8
	Shipping Weight		lbs	23.1
	Net Dimensions	W	in	32.3
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	34.6
		H	in	11.4
		D	in	14.8

SAMSUNG

DVM Pro 2.0

Product Specification

North 1F (Continued)

Indoor Unit

Model Name						AM009TNVDCH/AA
Power Supply					Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode						HP/HR
Performance	MBH					9
	Capacity	Cooling	Nominal		Btu/h	9500
		Heating	Nominal		Btu/h	10500
Power	Power Input	Cooling	Nominal		kW	0.03
		Heating	Nominal		kW	0.03
	Current Input	Cooling	Nominal		A	0.2
		Heating	Nominal		A	0.2
	Current	MCA			A	0.25
		MOP			A	15
		FLA		Quantity	EA	1
				A	A	0.2
Heat Exchanger	Type					F&T
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Green Hydrophile
Fan	Type					Crossflow Fan
	Air Flow Rate	High			CFM	300.2
		Mid			CFM	271.9
		Low			CFM	243.7
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	27
Piping Connections	Liquid Pipe	Type				Flaring
		Diameter			in	1/4''
	Gas Pipe	Type				Flaring
		Diameter			in	1/2''
	Drain Pipe	Diameter				ID18 HOSE
Wiring connections	Communication	Min.			AWG	2 X 16 AWG SHIELDED
		Comm.Layer				F1, F2
Refrigerant	Type					R410A
	Control Type					EEV included
Sound	Sound Pressure	High			dB(A)	34

Product Specification

North 1F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	33
		Low	dB(A)	32
	Sound Power Level	Cooling	dB(A)	52
External Dimension	Net Weight		lbs	20.9
	Shipping Weight		lbs	24.3
	Net Dimensions	W	in	32.3
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	34.6
		H	in	11.4
		D	in	14.8

SAMSUNG

DVM Pro 2.0

Product Specification

North 2F

Outdoor Unit

Model Name						AM096BXVGFR/AA
Module						Single
Power Supply					Ø, #, V, Hz	3 | 3 | 208-230 | 60
Mode						HR
Performance	Ton					8
	Capacity	Cooling		Nominal	Btu/h	96000
				Rated	Btu/h	92000
		Heating		Nominal	Btu/h	108000
				Rated	Btu/h	103000
Power	Current	MCA			A	36
		MOP			A	40
Casing	Material	Body				GI Steel Plate
		Base				GI Steel Plate
Heat Exchanger	Type					Fin & Tube
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Anti-corrosion
Compressor	Quantity				EA	2
Fan	Type					Propeller
	Discharge direction					Top discharge
	Air Flow Rate	High			CFM	9924
	External Static Pressure	Max			W G	0.44
Fan Motor	Type					BLDC
	Quantity				EA	2
	Output				W	620
Piping Connections	Liquid Pipe	Type				Welding
		Diameter			in	3/8''
	Gas Pipe	Type				Welding
		Diameter			in	7/8''
	High Pressure Gas Pipe	Type				Welding
		Diameter			in	3/4''
Wiring connections	Communication	Min.			㎟	0.75
		Comm.Layer				F1,F2
Refrigerant	Type					R410A
	Factory Charging				lbs	17.64

Product Specification

North 2F (Continued)

Outdoor Unit

Sound	Sound Pressure	Cooling	dB(A)	57
	Sound Power Level	Cooling	dB(A)	79
External Dimension	Net Weight		lbs	566.59
	Shipping Weight		lbs	604.07
	Net Dimensions	W	in	50.98
		H	in	66.73
		D	in	30.12
	Shipping Dimensions	W	in	53.66
		H	in	74.29
		D	in	32.64
Operating Temp. Range	Cooling	Min.	°F	5
		Max.	°F	122
	Heating	Min.	°F	-22
		Max.	°F	75.2
Maximum number of connectable indoor units			EA	16

SAMSUNG

DVM Pro 2.0

Product Specification

North 2F (Continued)

Indoor Unit

Model Name					AM005TNVDCH/AA
Power Supply				Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode					HP/HR
Performance	MBH				5
	Capacity	Cooling	Nominal	Btu/h	5000
		Heating	Nominal	Btu/h	5800
Power	Power Input	Cooling	Nominal	kW	0.02
		Heating	Nominal	kW	0.02
	Current Input	Cooling	Nominal	A	0.13
		Heating	Nominal	A	0.13
	Current	MCA		A	0.16
		MOP		A	15
		FLA	Quantity	EA	1
			A	A	0.13
Heat Exchanger	Type				F&T
	Material	Fin			Al
		Tube			Cu
	Fin Treatment				Green Hydrophile
Fan	Type				Crossflow Fan
	Air Flow Rate	High		CFM	173
		Mid		CFM	158.9
		Low		CFM	144.8
Fan Motor	Type				BLDC
	Quantity			EA	1
	Output			W	27
Piping Connections	Liquid Pipe	Type			Flaring
		Diameter		in	1/4''
	Gas Pipe	Type			Flaring
		Diameter		in	1/2''
	Drain Pipe	Diameter			ID18 HOSE
Wiring connections	Communication	Min.		AWG	2 X 16 AWG SHIELDED
		Comm.Layer			F1, F2
Refrigerant	Type				R410A
	Control Type				EEV included
Sound	Sound Pressure	High		dB(A)	31

Product Specification

North 2F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	30
		Low	dB(A)	27
	Sound Power Level	Cooling	dB(A)	50
External Dimension	Net Weight		lbs	19.8
	Shipping Weight		lbs	23.1
	Net Dimensions	W	in	32.3
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	34.6
		H	in	11.4
		D	in	14.8

Product Specification

North 2F (Continued)

Indoor Unit

Model Name					AM007TNVDCH/AA
Power Supply				Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode					HP/HR
Performance	MBH				7
	Capacity	Cooling	Nominal	Btu/h	7500
		Heating	Nominal	Btu/h	8500
Power	Power Input	Cooling	Nominal	kW	0.024
		Heating	Nominal	kW	0.024
	Current Input	Cooling	Nominal	A	0.16
		Heating	Nominal	A	0.16
	Current	MCA		A	0.2
		MOP		A	15
		FLA	Quantity	EA	1
			A	A	0.16
Heat Exchanger	Type				F&T
	Material	Fin			Al
		Tube			Cu
	Fin Treatment				Green Hydrophile
Fan	Type				Crossflow Fan
	Air Flow Rate	High		CFM	201.3
		Mid		CFM	176.6
		Low		CFM	158.9
Fan Motor	Type				BLDC
	Quantity			EA	1
	Output			W	27
Piping Connections	Liquid Pipe	Type			Flaring
		Diameter		in	1/4''
	Gas Pipe	Type			Flaring
		Diameter		in	1/2''
	Drain Pipe	Diameter			ID18 HOSE
Wiring connections	Communication	Min.		AWG	2 X 16 AWG SHIELDED
		Comm.Layer			F1, F2
Refrigerant	Type				R410A
	Control Type				EEV included
Sound	Sound Pressure	High		dB(A)	34

Product Specification

North 2F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	32
		Low	dB(A)	30
	Sound Power Level	Cooling	dB(A)	51
External Dimension	Net Weight		lbs	19.8
	Shipping Weight		lbs	23.1
	Net Dimensions	W	in	32.3
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	34.6
		H	in	11.4
		D	in	14.8

SAMSUNG

DVM Pro 2.0

Product Specification

North 2F (Continued)

Indoor Unit

Model Name						AM009TNVDCH/AA
Power Supply					Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode						HP/HR
Performance	MBH					9
	Capacity	Cooling	Nominal		Btu/h	9500
		Heating	Nominal		Btu/h	10500
Power	Power Input	Cooling	Nominal		kW	0.03
		Heating	Nominal		kW	0.03
	Current Input	Cooling	Nominal		A	0.2
		Heating	Nominal		A	0.2
	Current	MCA			A	0.25
		MOP			A	15
		FLA		Quantity	EA	1
				A	A	0.2
Heat Exchanger	Type					F&T
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Green Hydrophile
Fan	Type					Crossflow Fan
	Air Flow Rate	High			CFM	300.2
		Mid			CFM	271.9
		Low			CFM	243.7
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	27
Piping Connections	Liquid Pipe	Type				Flaring
		Diameter			in	1/4''
	Gas Pipe	Type				Flaring
		Diameter			in	1/2''
	Drain Pipe	Diameter				ID18 HOSE
Wiring connections	Communication	Min.			AWG	2 X 16 AWG SHIELDED
		Comm.Layer				F1, F2
Refrigerant	Type					R410A
	Control Type					EEV included
Sound	Sound Pressure	High			dB(A)	34

Product Specification

North 2F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	33
		Low	dB(A)	32
	Sound Power Level	Cooling	dB(A)	52
External Dimension	Net Weight		lbs	20.9
	Shipping Weight		lbs	24.3
	Net Dimensions	W	in	32.3
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	34.6
		H	in	11.4
		D	in	14.8

SAMSUNG

DVM Pro 2.0

Product Specification

North 2F (Continued)

Indoor Unit

Model Name						AM018TNVDCH/AA
Power Supply					Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode						HP/HR
Performance	MBH					18
	Capacity	Cooling	Nominal		Btu/h	18000
		Heating	Nominal		Btu/h	20000
Power	Power Input	Cooling	Nominal		kW	0.052
		Heating	Nominal		kW	0.052
	Current Input	Cooling	Nominal		A	0.35
		Heating	Nominal		A	0.35
	Current	MCA			A	0.44
		MOP			A	15
		FLA		Quantity	EA	1
				A	A	0.35
Heat Exchanger	Type					F&T
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Green Hydrophile
Fan	Type					Crossflow Fan
	Air Flow Rate	High			CFM	554.5
		Mid			CFM	487.4
		Low			CFM	423.8
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	27
Piping Connections	Liquid Pipe	Type				Flaring
		Diameter			in	1/4''
	Gas Pipe	Type				Flaring
		Diameter			in	1/2''
	Drain Pipe	Diameter				ID18 HOSE
Wiring connections	Communication	Min.			AWG	2 X 16 AWG SHIELDED
		Comm.Layer				F1, F2
Refrigerant	Type					R410A
	Control Type					EEV included
Sound	Sound Pressure	High			dB(A)	40

Product Specification

North 2F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	37
		Low	dB(A)	34
	Sound Power Level	Cooling	dB(A)	58
External Dimension	Net Weight		lbs	26.5
	Shipping Weight		lbs	30.9
	Net Dimensions	W	in	41.5
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	43.9
		H	in	11.4
		D	in	14.8

SAMSUNG

DVM Pro 2.0

Product Specification

South 1&2F

Outdoor Unit

Model Name						AM168BXVGFR/AA
Module						Single
Power Supply					Ø, #, V, Hz	3 | 3 | 208-230 | 60
Mode						HR
Performance	Ton					14
	Capacity	Cooling		Nominal	Btu/h	168000
				Rated	Btu/h	160000
		Heating		Nominal	Btu/h	189000
				Rated	Btu/h	180000
Power	Current	MCA			A	54.4
		MOP			A	60
Casing	Material	Body				GI Steel Plate
		Base				GI Steel Plate
Heat Exchanger	Type					Fin & Tube
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Anti-corrosion
Compressor	Quantity				EA	2
Fan	Type					Propeller
	Discharge direction					Top discharge
	Air Flow Rate	High			CFM	10665
	External Static Pressure	Max			W G	0.44
Fan Motor	Type					BLDC
	Quantity				EA	2
	Output				W	620
Piping Connections	Liquid Pipe	Type				Welding
		Diameter			in	5/8''
	Gas Pipe	Type				Welding
		Diameter			in	1 1/8''
	High Pressure Gas Pipe	Type				Welding
		Diameter			in	7/8''
Wiring connections	Communication	Min.			㎟	0.75
		Comm.Layer				F1,F2
Refrigerant	Type					R410A
	Factory Charging				lbs	23.15

Product Specification

South 1&2F (Continued)

Outdoor Unit

Sound	Sound Pressure	Cooling	dB(A)	60
	Sound Power Level	Cooling	dB(A)	83
External Dimension	Net Weight		lbs	659.18
	Shipping Weight		lbs	696.66
	Net Dimensions	W	in	50.98
		H	in	66.73
		D	in	30.12
	Shipping Dimensions	W	in	53.66
		H	in	74.29
		D	in	32.64
Operating Temp. Range	Cooling	Min.	°F	5
		Max.	°F	122
	Heating	Min.	°F	-22
		Max.	°F	75.2
Maximum number of connectable indoor units			EA	29

SAMSUNG

DVM Pro 2.0

Product Specification

South 1&2F (Continued)

Indoor Unit

Model Name						AM018TNVDCH/AA
Power Supply					Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode						HP/HR
Performance	MBH					18
	Capacity	Cooling	Nominal		Btu/h	18000
		Heating	Nominal		Btu/h	20000
Power	Power Input	Cooling	Nominal		kW	0.052
		Heating	Nominal		kW	0.052
	Current Input	Cooling	Nominal		A	0.35
		Heating	Nominal		A	0.35
	Current	MCA			A	0.44
		MOP			A	15
		FLA		Quantity	EA	1
				A	A	0.35
Heat Exchanger	Type					F&T
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Green Hydrophile
Fan	Type					Crossflow Fan
	Air Flow Rate	High			CFM	554.5
		Mid			CFM	487.4
		Low			CFM	423.8
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	27
Piping Connections	Liquid Pipe	Type				Flaring
		Diameter			in	1/4''
	Gas Pipe	Type				Flaring
		Diameter			in	1/2''
	Drain Pipe	Diameter				ID18 HOSE
Wiring connections	Communication	Min.			AWG	2 X 16 AWG SHIELDED
		Comm.Layer				F1, F2
Refrigerant	Type					R410A
	Control Type					EEV included
Sound	Sound Pressure	High			dB(A)	40

Product Specification

South 1&2F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	37
		Low	dB(A)	34
	Sound Power Level	Cooling	dB(A)	58
External Dimension	Net Weight		lbs	26.5
	Shipping Weight		lbs	30.9
	Net Dimensions	W	in	41.5
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	43.9
		H	in	11.4
		D	in	14.8

SAMSUNG

DVM Pro 2.0

Product Specification

South 1&2F (Continued)

Indoor Unit

Model Name						AM015TNVDCH/AA
Power Supply					Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode						HP/HR
Performance	MBH					15
	Capacity	Cooling	Nominal		Btu/h	15000
		Heating	Nominal		Btu/h	17000
Power	Power Input	Cooling	Nominal		kW	0.04
		Heating	Nominal		kW	0.04
	Current Input	Cooling	Nominal		A	0.27
		Heating	Nominal		A	0.27
	Current	MCA			A	0.34
		MOP			A	15
		FLA		Quantity	EA	1
				A	A	0.27
Heat Exchanger	Type					F&T
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Green Hydrophile
Fan	Type					Crossflow Fan
	Air Flow Rate	High			CFM	441.5
		Mid			CFM	402.6
		Low			CFM	370.8
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	27
Piping Connections	Liquid Pipe	Type				Flaring
		Diameter			in	1/4''
	Gas Pipe	Type				Flaring
		Diameter			in	1/2''
	Drain Pipe	Diameter				ID18 HOSE
Wiring connections	Communication	Min.			AWG	2 X 16 AWG SHIELDED
		Comm.Layer				F1, F2
Refrigerant	Type					R410A
	Control Type					EEV included
Sound	Sound Pressure	High			dB(A)	37

Product Specification

South 1&2F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	34
		Low	dB(A)	33
	Sound Power Level	Cooling	dB(A)	55
External Dimension	Net Weight		lbs	26.5
	Shipping Weight		lbs	30.9
	Net Dimensions	W	in	41.5
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	43.9
		H	in	11.4
		D	in	14.8

Product Specification

South 1&2F (Continued)

Indoor Unit

Model Name					AM007TNVDCH/AA
Power Supply				Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode					HP/HR
Performance	MBH				7
	Capacity	Cooling	Nominal	Btu/h	7500
		Heating	Nominal	Btu/h	8500
Power	Power Input	Cooling	Nominal	kW	0.024
		Heating	Nominal	kW	0.024
	Current Input	Cooling	Nominal	A	0.16
		Heating	Nominal	A	0.16
	Current	MCA		A	0.2
		MOP		A	15
		FLA	Quantity	EA	1
			A	A	0.16
Heat Exchanger	Type				F&T
	Material	Fin			Al
		Tube			Cu
	Fin Treatment				Green Hydrophile
Fan	Type				Crossflow Fan
	Air Flow Rate	High		CFM	201.3
		Mid		CFM	176.6
		Low		CFM	158.9
Fan Motor	Type				BLDC
	Quantity			EA	1
	Output			W	27
Piping Connections	Liquid Pipe	Type			Flaring
		Diameter		in	1/4''
	Gas Pipe	Type			Flaring
		Diameter		in	1/2''
	Drain Pipe	Diameter			ID18 HOSE
Wiring connections	Communication	Min.		AWG	2 X 16 AWG SHIELDED
		Comm.Layer			F1, F2
Refrigerant	Type				R410A
	Control Type				EEV included
Sound	Sound Pressure	High		dB(A)	34

Product Specification

South 1&2F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	32
		Low	dB(A)	30
	Sound Power Level	Cooling	dB(A)	51
External Dimension	Net Weight		lbs	19.8
	Shipping Weight		lbs	23.1
	Net Dimensions	W	in	32.3
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	34.6
		H	in	11.4
		D	in	14.8

SAMSUNG

DVM Pro 2.0

Product Specification

South 1&2F (Continued)

Indoor Unit

Model Name						AM005TNVDCH/AA
Power Supply					Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode						HP/HR
Performance	MBH					5
	Capacity	Cooling	Nominal		Btu/h	5000
		Heating	Nominal		Btu/h	5800
Power	Power Input	Cooling	Nominal		kW	0.02
		Heating	Nominal		kW	0.02
	Current Input	Cooling	Nominal		A	0.13
		Heating	Nominal		A	0.13
	Current	MCA			A	0.16
		MOP			A	15
		FLA		Quantity	EA	1
				A	A	0.13
Heat Exchanger	Type					F&T
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Green Hydrophile
Fan	Type					Crossflow Fan
	Air Flow Rate	High			CFM	173
		Mid			CFM	158.9
		Low			CFM	144.8
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	27
Piping Connections	Liquid Pipe	Type				Flaring
		Diameter			in	1/4''
	Gas Pipe	Type				Flaring
		Diameter			in	1/2''
	Drain Pipe	Diameter				ID18 HOSE
Wiring connections	Communication	Min.			AWG	2 X 16 AWG SHIELDED
		Comm.Layer				F1, F2
Refrigerant	Type					R410A
	Control Type					EEV included
Sound	Sound Pressure	High			dB(A)	31

Product Specification

South 1&2F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	30
		Low	dB(A)	27
	Sound Power Level	Cooling	dB(A)	50
External Dimension	Net Weight		lbs	19.8
	Shipping Weight		lbs	23.1
	Net Dimensions	W	in	32.3
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	34.6
		H	in	11.4
		D	in	14.8

SAMSUNG

DVM Pro 2.0

Product Specification

South 1&2F (Continued)

Indoor Unit

Model Name						AM009TNVDCH/AA
Power Supply					Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode						HP/HR
Performance	MBH					9
	Capacity	Cooling	Nominal		Btu/h	9500
		Heating	Nominal		Btu/h	10500
Power	Power Input	Cooling	Nominal		kW	0.03
		Heating	Nominal		kW	0.03
	Current Input	Cooling	Nominal		A	0.2
		Heating	Nominal		A	0.2
	Current	MCA			A	0.25
		MOP			A	15
		FLA		Quantity	EA	1
				A	A	0.2
Heat Exchanger	Type					F&T
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Green Hydrophile
Fan	Type					Crossflow Fan
	Air Flow Rate	High			CFM	300.2
		Mid			CFM	271.9
		Low			CFM	243.7
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	27
Piping Connections	Liquid Pipe	Type				Flaring
		Diameter			in	1/4''
	Gas Pipe	Type				Flaring
		Diameter			in	1/2''
	Drain Pipe	Diameter				ID18 HOSE
Wiring connections	Communication	Min.			AWG	2 X 16 AWG SHIELDED
		Comm.Layer				F1, F2
Refrigerant	Type					R410A
	Control Type					EEV included
Sound	Sound Pressure	High			dB(A)	34

Product Specification

South 1&2F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	33
		Low	dB(A)	32
	Sound Power Level	Cooling	dB(A)	52
External Dimension	Net Weight		lbs	20.9
	Shipping Weight		lbs	24.3
	Net Dimensions	W	in	32.3
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	34.6
		H	in	11.4
		D	in	14.8

SAMSUNG

DVM Pro 2.0

Product Specification

South 1&2F (Continued)

Indoor Unit

Model Name						AM012TNVDCH/AA
Power Supply					Ø, #, V, Hz	1 | 2 | 208-230 | 60
Mode						HP/HR
Performance	MBH					12
	Capacity	Cooling	Nominal		Btu/h	12000
		Heating	Nominal		Btu/h	13500
Power	Power Input	Cooling	Nominal		kW	0.037
		Heating	Nominal		kW	0.037
	Current Input	Cooling	Nominal		A	0.25
		Heating	Nominal		A	0.25
	Current	MCA			A	0.31
		MOP			A	15
		FLA		Quantity	EA	1
				A	A	0.25
Heat Exchanger	Type					F&T
	Material	Fin				Al
		Tube				Cu
	Fin Treatment					Green Hydrophile
Fan	Type					Crossflow Fan
	Air Flow Rate	High			CFM	363.8
		Mid			CFM	321.4
		Low			CFM	293.1
Fan Motor	Type					BLDC
	Quantity				EA	1
	Output				W	27
Piping Connections	Liquid Pipe	Type				Flaring
		Diameter			in	1/4''
	Gas Pipe	Type				Flaring
		Diameter			in	1/2''
	Drain Pipe	Diameter				ID18 HOSE
Wiring connections	Communication	Min.			AWG	2 X 16 AWG SHIELDED
		Comm.Layer				F1, F2
Refrigerant	Type					R410A
	Control Type					EEV included
Sound	Sound Pressure	High			dB(A)	40

Product Specification

South 1&2F (Continued)

Indoor Unit

Sound	Sound Pressure Level	Mid	dB(A)	36
		Low	dB(A)	34
	Sound Power Level	Cooling	dB(A)	56
External Dimension	Net Weight		lbs	20.9
	Shipping Weight		lbs	24.3
	Net Dimensions	W	in	32.3
		H	in	11.8
		D	in	8.5
	Shipping Dimensions	W	in	34.6
		H	in	11.4
		D	in	14.8