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SUBMITTAL

Project: Highland Park Middle School
Beaverton, OR

Contractor: N/A
N/A

Engineer: MFIA
Portland, OR

Specification Section: Fan Coils

Manufacturer: 

<u>Quantity</u>	<u>Tag</u>	<u>Model</u>
17	FC's	FHVS110
1	FC-C-10	FCVH108

- Indoor vertical unit fan coil
- Floor mounted painted cabinet, access panels, discharge grill – factory standard colors
- Floor mounted/ wall mounted galvanized steel finish – FC-C-10
- 3/4 row coil, stainless steel drain pan for FC-C-10 only – valve by others
- 1" MERV8 filter
- Direct drive supply fans and ECM motor
- 1 year parts warranty

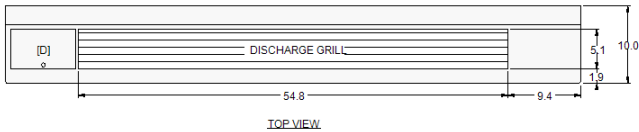
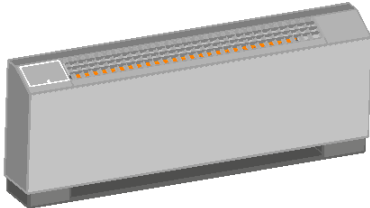
Notes:

1. Please confirm colors – see color chart at the end of this submittal
2. DDC controls by others – please confirm prior to release
3. Please confirm voltage – 120/60/1

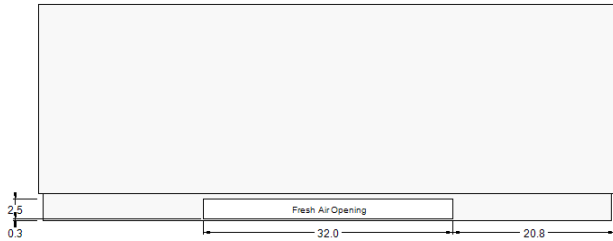
Rob Grace
Oregon Air Reps, Inc.

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

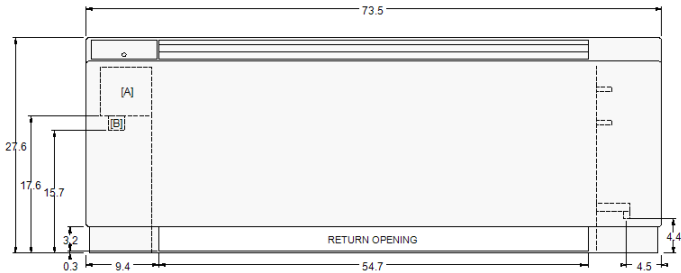
Job Number: CD7ACE
Job Name: Highland Park FC
Date: 2/10/10
Prepared Date:
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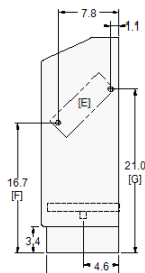
TOP VIEW



BACK VIEW



FRONT VIEW - RIGHT HAND UNIT



RIGHT VIEW

NOTES			
[A] - Electrical Control Box	[B] - Optional Disconnect Switch	[C] - Drain Pan Conn 0.75 OD	[D] - Electrical Ctrl Access Door
[E] - Primary Coil	[F] - Primary Coil Sup Conn 0.625 DIA	[G] - Primary Coil Ret Conn 0.625 DIA	

Technical Data Sheet for FC

Job Information		Technical Data Sheet
Job Name	Highland Park ES	
Date	3/19/2019	
Submitted By	Robert Grace	
Software Version	06.90	
Unit Tag	FC-1 thru FC-310B (Qty-17)	



Unit Overview					
Model Number	Unit Size	Voltage V/Hz/Phase	Air Flow CFM	External Static Pressure inH ₂ O	Unit Configuration
FHVS110	10	115/60/1	1005.6	0.00	Vertical

Unit	
Model Number:	FHVS110
Type:	Cabinet Unit Heater
Orientation:	Vertical
Size:	10
Cabinet:	Sloped Top Cabinet
Approval	ETL, CETL, AHRI

Physical			
Unit			
Depth	Width	Height	Shipping Weight
10.0 in	73.5 in	27.6 in	178 lb
Filters			
Type	(Quantity) Height x Width x Depth		
1" Throwaway MERV 8 Filter	(2) 27.2 in x 8.75 in x 1 in		

Electrical			
Unit			
Voltage	Fan Motor Amps	Unit MCA	Unit MROPD
115/60/1 V/Hz/Phase	8.5 A	10.6 A	15 A

Hot Water Coil				
Physical				
Fins per Inch	Number of Rows		Coil Circuits	Face Area
12	3		5	1.0 ft²
Performance				
Total Capacity Btu/hr	Temperature			
	Air		Fluid	
	Entering °F	Leaving °F	Entering °F	Leaving °F
	61752	50.0	106.2	140.0
Fluid				
Type	Glycol Concentration %		Flow rate gpm	Pressure Drop ft H ₂ O
Propylene Glycol	20		4.0	3.70

Supply Fan	
Fan	

Technical Data Sheet for FC

Fan Height	Fan Width	Quantity
6.30 in	6.26 in	4

Motor		
Type	Horsepower	Quantity
Field Adjustable ECM	1/4 hp	2

Sound

Casing Radiated Sound Power (db)						
125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
59	59	61	60	56	49	50

Options

General	
Cabinet Style:	Tamperproof
Cabinet Coating:	Premium
Cabinet Color:	Antique Ivory
Cabinet Plenum Insulation:	1/4 inch Closed Cell
Cabinet Gauge:	16 Gauge
Sub-base Height:	3.5" Subbase
Leveling Legs:	Leveling Legs
Return Air Location:	Front
Disconnect Switch:	Disconnect Switch

Warranty

Warranty:	Standard
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AHRI Certification



All equipment is rated and certified in accordance with AHRI 440.

Notes

Sound Power (dB) measured in accordance with ANSI/AHRI Standard 260-2008.

Total sound power level data based On units With 115/1/60 volt PSC motor at corresponding motor speed, 4 row coil, 1" throwaway filter, unit standard insulation, 0.0" external Static pressure And standard rated internal pressure losses.

Accessories

Optional	
Part Number	Description
910103745	LEVELING LEGS (ALL SIZES)

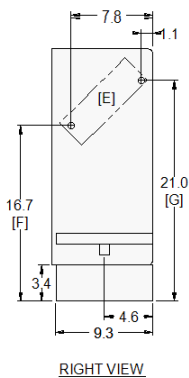
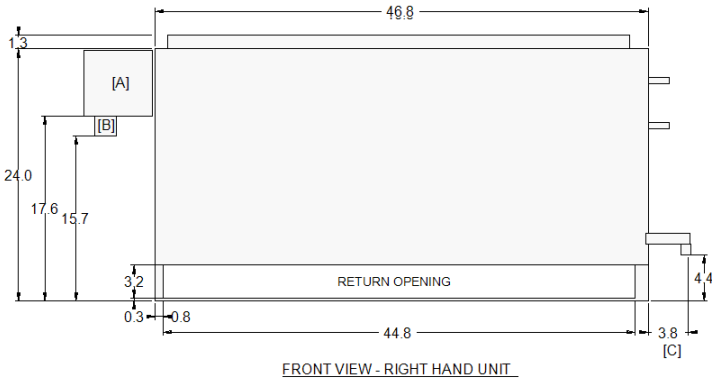
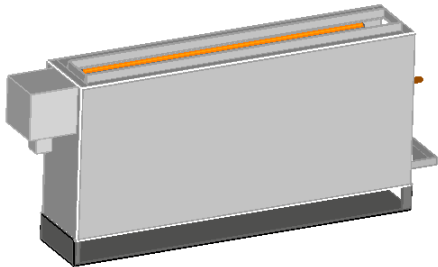
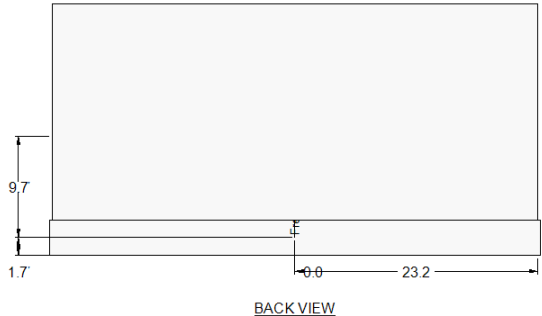
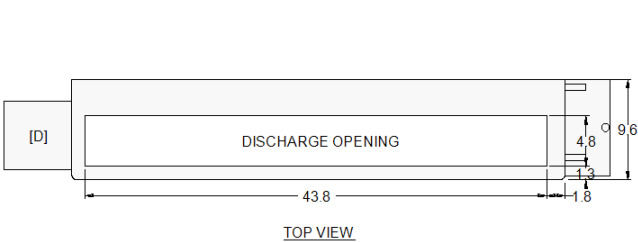
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Job Number: CD7ACE
Job Name: Highland Park EC

Date: 6/1/10

Prepared Date:

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2/10/2010



NOTES			
[A] - Electrical Control Box	[B] - Optional Disconnect Switch	[C] - Drain Pan Conn 0.75 OD	[D] - Electrical Controls
[E] - Primary Coil	[F] - Primary Coil Sup Conn 0.625 DIA	[G] - Primary Coil Ret Conn 0.625 DIA	

Technical Data Sheet for FC-C-10

Job Information		Technical Data Sheet
Job Name	Highland Park ES	
Date	3/19/2019	
Submitted By	Robert Grace	
Software Version	06.90	
Unit Tag	FC-C-10 (Qty-1)	



Unit Overview					
Model Number	Unit Size	Voltage V/Hz/Phase	Air Flow CFM	External Static Pressure inH ₂ O	Unit Configuration
FCVH108	08	115/60/1	840.3	0.10	Vertical

Unit	
Model Number:	FCVH108
Type:	Fan Coil
Orientation:	Vertical
Size:	08
Cabinet:	Hideaway
Approval	ETL, CETL, AHRI

Physical			
Unit			
Depth	Width	Height	Shipping Weight
9.6 in	46.3 in	24.0 in	114 lb
Filters			
Type	(Quantity) Height x Width x Depth		
1" Throwaway MERV 8 Filter	(2) 21.7 in x 8.75 in x 1 in		

Electrical			
Unit			
Voltage	Fan Motor Amps	Unit MCA	Unit MROPD
115/60/1 V/Hz/Phase	6.8 A	8.4 A	15 A

Technical Data Sheet for FC-C-10

Chilled Water Coil

Physical					
Fins per Inch	Number of Rows	Coil Circuits	Face Area	Face Velocity	
12	4	4	2.5 ft²	341.6 ft/min	
Performance					
Capacity		Air Temperature			
Total Btu/hr	Sensible Btu/hr	Entering		Leaving	
		Dry Bulb °F	Wet Bulb °F	Dry Bulb °F	Wet Bulb °F
23436	23349	83.0	64.0	57.6	54.6
Fluid					
Temperature		Type	Glycol Concentration %	Flow rate gpm	Pressure Drop ft H ₂ O
Entering °F	Leaving °F				
44.0	55.1	Propylene Glycol	20	4.3	11.36

Hot Water Coil

Physical				
Fins per Inch	Number of Rows		Coil Circuits	Face Area
12	4		4	2.5 ft²
Performance				
Total Capacity Btu/hr	Temperature			
	Air		Fluid	
	Entering °F	Leaving °F	Entering °F	Leaving °F
47975	70.0	122.2	140.0	116.9
Fluid				
Type	Glycol Concentration %		Flow rate gpm	Pressure Drop ft H₂O
Propylene Glycol	20		4.3	8.52

Supply Fan

Fan		
Fan Height	Fan Width	Quantity
6.30 in	6.26 in	2
Motor		
Type	Horsepower	Quantity
Field Adjustable ECM	(1) 1/8, (1) 1/4 hp	2

Sound

Casing Radiated Sound Power (db)						
125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
60	62	62	62	58	49	43

Technical Data Sheet for FC-C-10

Options

General

Return Air Location:	Front
Disconnect Switch:	Disconnect Switch

Control

Occ/Vacant Control Input:	None
Filter Status:	None
Fan Status:	None
Condensate Overflow Protection:	Condensate Overflow Switch

Warranty

Warranty:	Standard
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AHRI Certification



All equipment is rated and certified in accordance with AHRI 440.

Notes

Sound Power (dB) measured in accordance with ANSI/AHRI Standard 260-2008.

Total sound power level data based On units With 115/1/60 volt PSC motor at corresponding motor speed, 4 row coil, 1" throwaway filter, unit standard insulation, 0.0" external Static pressure And standard rated internal pressure losses.

PART 1: GENERAL

1.01 FAN COIL TYPE AND ARRANGEMENT

- A. The fan coil shall be furnished as a draw-through cooling coil with a heating coil in preheat/reheat position.

1.02 CABINET

- A. Unit shall be supplied with powder coat painted cabinet. Finish must meet ASTM B117 specifications (salt spray test).
- B. Unit shall be supplied with a decorative wall plate with powder coat paint. Finish must meet ASTM B117 specifications (salt spray test).

1.03 GENERAL CONSTRUCTION

- A. Hideaway and exposed floor mount

1.04 SUPPLY FAN

- A. Supply fans shall be a DWDI forward-curved type. Fan assemblies including fan, motor and sheaves shall be dynamically balanced by the manufacturer on all three planes at all bearing supports. Manufacturer must ensure maximum fan RPM is below the first critical speed.
- B. The complete fan assembly, including motor and main drain pan shall be easily removable.
- C. Units shall be certified in accordance with the Room Fan Coil Unit certification program that is based on ARI Standard 440.
- D. An ECM blower motor shall be provided on all units. Factory motor wiring shall be set for optimum fan performance. The unit shall be shipped at one fixed setting. The ECM motor shall utilize a permanent magnet rotor, which is connected to the shaft through resilient rings to absorb high frequency torque ripple. ECM motor shall be programmed for constant CFM or constant torque.
- E. ECM blower motor shall be 3 speeds, single phase with means for proportional field adjustment of each speed.

1.05 ELECTRICAL

- A. Supply fans shall be driven by permanent split-capacitor motors that are run-tested in the assembled unit and permanently lubricated. All motors shall have integral thermal overload protection with a maximum ambient operating temperature of 104°F. Motors shall be capable of starting at 78 percent of rated voltage and operating at 90 percent of rated voltage on all speed settings. Motors can operate up to 10 percent overvoltage.
- B. Motor wires shall include a quick-disconnect motor plug.

1.06 COOLING AND HEATING

A. Cooling Coils

1. Cooling performance shall be as specified on the unit schedule.
2. Water coil fins shall have full drawn collars to provide a continuous surface cover over the entire tube for maximum heat transfer. Seamless copper tubes shall be mechanically expanded into the fins to provide a continuous primary-to-secondary compression bond over the entire finned length for maximum heat transfer rates. Bare copper tubes shall not be visible between fins. Coil casing shall be constructed of galvanized steel.
3. Water coils shall be provided with headers of seamless copper tubing with intruded tube holes to permit expansion and contraction without creating undue stress or strain. Coil connections shall be copper sweat connections with connection size to be determined by manufacturer based upon the most efficient coil circuiting. Vent and drain connections shall be furnished on the coil connection, external to the cabinet.

Vent connections provided at the highest point to assure proper venting. Drain connections shall be provided at the lowest point.

4. All steel parts exposed to moisture shall be galvanized.

5. Unit shall include a noncorrosive, ABS main drain pan, positively sloped in every plane and insulated with closed-cell insulation. The drain pan shall be designed to ensure no pooling of condensate water per ASHRAE 62.2.

B. Water/Steam Heating Coil

1. Heating performance shall be as specified on the unit schedule.

2. Coil fins shall have full drawn collars to provide a continuous surface cover over the entire tube for maximum heat transfer. Seamless copper tubes shall be mechanically expanded into the fins to provide a continuous primary-to-secondary compression bond over the entire finned length for maximum heat transfer rates. Bare copper tubes shall not be visible between fins.

3. Coils shall be provided with headers of seamless copper tubing with intruded tube holes to permit expansion and contraction without creating undue stress or strain. Coil connections shall be copper sweat connections with connection size to be determined by manufacturer based upon the most efficient coil circuiting. Vent and drain connections shall be furnished on the coil connection, external to the cabinet. Vent connections shall be provided at the highest point to ensure proper venting. Drain connections shall be provided at the lowest point.

1.07 FILTERS

A. Filters shall be 1" (25 mm) throwaway. They shall be concealed from sight and easily removable.

1.08 CONTROLS

A. Unit shall be supplied with a DDC interface board.

B. DDC Interface board shall have three 24-volt relays with line-voltage contactors to operate the fan motor speeds.

PART 2: EXECUTION

2.01 INSTALLATION

A. The Thinline Fan Coil unit shall be installed per manufacturer's Installation & Maintenance Bulletin.

1. Selected field mounted kits shall be specified on the unit schedule and installed per manufacturer's instruction.



Paint colors and finish



Fan coil units

Unit ventilators

Water source heat pumps

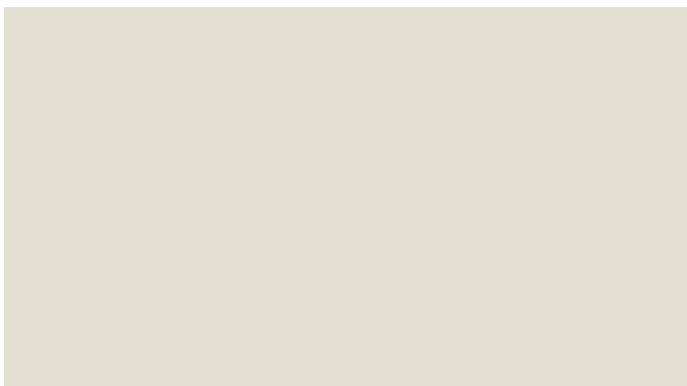


People and ideas you can trust.™

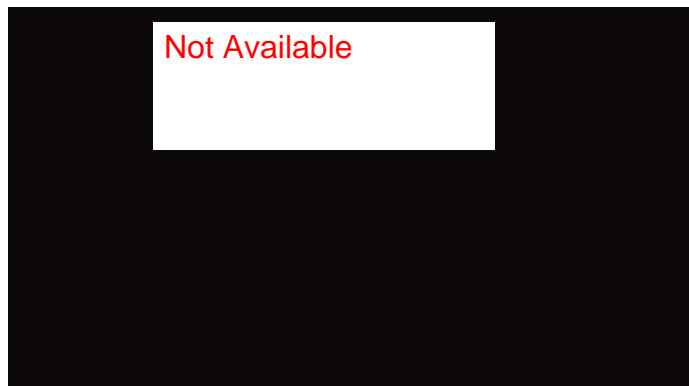
Standard colors

Standard color choices vary by product and model. Consult your Daikin Applied representative for more information.

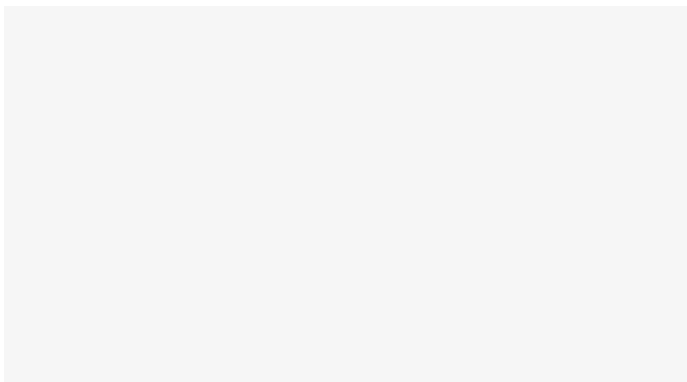
Antique ivory



Oxford brown



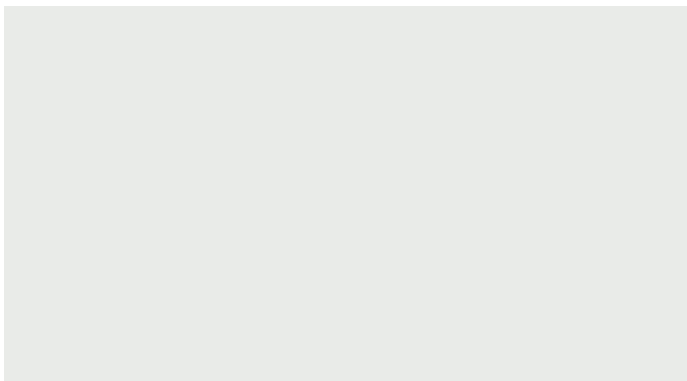
Cupola white



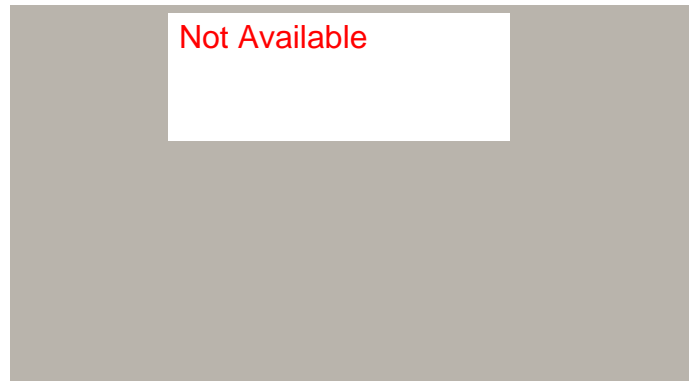
Putty beige



Off white



Soft gray



Custom colors

Not seeing the color you need? Daikin Applied can custom-paint units to match your requirements. Contact your Daikin Applied sales representative for color choices and options.