



# COMPTON COLLEGE – STUDENT HOUSING

Mechanical Equipment Cutsheet Package



[www.p2sinc.com](http://www.p2sinc.com)

April 11, 2023  
P2S Project # 22-0843

PHHP- 103 TO 122, 133 TO 142, 151 TO 164, 165A, 165B, 165C, 166, 201 TO 223, 231 TO 242, 251 TO 267, 301 TO 323, 331 TO 342, 351 TO 367

# MAESTRO PRO

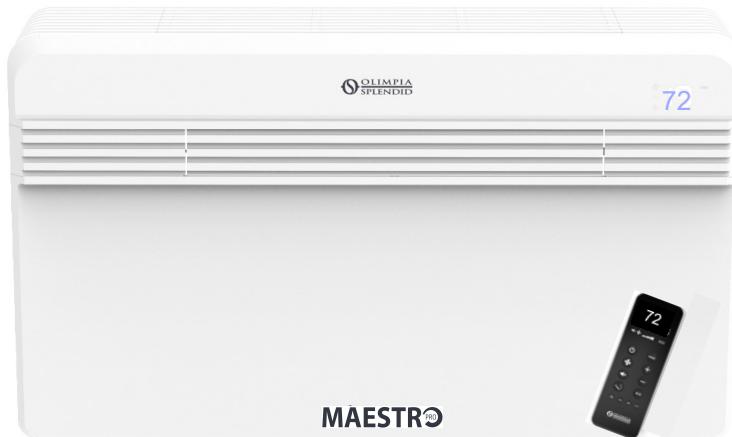
With no outdoor unit

Industry leading inverter compressor technology provides unparalleled comfort in heating and cooling for both residential or commercial applications

**OLIMPIA  
SPLENDID**

HOME OF COMFORT

## Inverter 12 HP



Designed in Italy by  
*Matteo Thun*  
MATTEO THUN & ANTONIO RODRIGUEZ  
MILANO | SHANGHAI



CLOUD

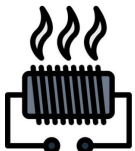


WiFi Capable



Bluetooth

Industry leading Wi-Fi technology with all the security of the cloud. *Requires WiFi accessory*



### Resistance Heater

Model 02234 includes 2kw of resistance heat to provide occupants in colder climates the heat they need to remain comfortable all winter



### INVERTER COMPRESSOR

Innovative compressor technology that is versatile and efficient with a wide range of frequencies available and electronic management of the thermal expansion valve (TXV)



### SILENT MODE

Maestro Pro is designed so the inverter compressor and variable speed fan motor operate for maximum acoustical comfort down to 32 dBA (sound power). All enclosed in a sleek Italian designed cabinet by Matteo Thun and lined with state-of-the-art sound reducing material.



### VARIABLE SPEED FAN (ECM)

The fan motor has a variable frequency drive technology installed to control motor speed and torque (V PRO). Designed to eliminate swings in temperature resulting in reduced energy consumption while providing quiet operation in all modes.



### HEAT PUMP

Our reverse cycle heat pumps offer both heating and cooling to provide occupants with year-round comfort. It can also be used as backup heat during shoulder seasons.



### PRO POWER

The use of inverter technology provides a capacity boost up to 11,600 btu/h



### REMOTE CONTROL

"Fully Digital" remote control allows functions such as dehumidification, silent mode, sleep mode and ventilation mode.

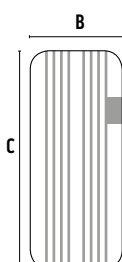
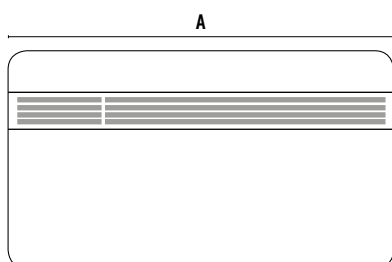
Maestro Pro12 HP Models: 02234 / 02283

### FEATURES

- Max Cooling Capacity (BTUs) 10,500 / 11,600
- Max Heating Capacity (BTUs) 9,500 / 10,600
- Installation Versatility: Top or bottom wall
- Easy installation: Can be installed from inside the space in just a few minutes
- Rotating Flap: Provides total air diffusion for consistent temperature throughout the space.
- Backlite Display: On-board touch control
- User Control Options:
  - Multifunction remote (Standard)
  - Wireless Wall Mounted Thermostat (Optional)
- 24 hour Timer
- Sound Transmission: Best in Class STC and OITC

### FUNCTIONS

- Dehumidification Mode:** Controls humidity during mild ambient conditions for increased comfort
- Fan Mode:** Variable speed motor maintains a consistent temperature throughout the conditioned space.
- Economy Mode:** Allows for energy saving by automatically optimizing the unit's performance
- Auto Mode:** Adjusts comfort settings based on ambient conditions.
- Sleep Mode:** Gradually increases the temperature setpoint ensuring whisper quiet operation, greater comfort and energy savings while you sleep.
- Silent Mode:** Allows the user to set the system to minimum sound level.



MAESTRO PRO INVERTER 12 HP			
A	B	C	Weight
35.6"	8.5"	20.5"	86 lbs





Design Specifications & Capacities		Acronym	Unit	02234	02283
Power supply (min 109V, max 127V)			V-ph-Hz	208/230-1-60	208/230-1-60
Rated capacity for cooling / Max capacity of cooling (1)			Btu/h	7600 / 10,500	8150 / 11,600
Rated capacity for heating / Max capacity for heating (3)			Btu/h	7700 / 9500	8150 / 10600
Rated Power Input for Cooling mode (1)			W	690	810
Rated power consumption - Heating mode (3)			W	850	850
Maximum Power consumption - Cooling mode (2)			W	1400	1400
Maximum Power Consumption - Heat Pump Only (3)			W	1400	1400
Maximum Power consumption - Resistance Heat Only			W	2000	N/A
Combined Energy efficiency Ratio cooling mode	CEER			11.1	10.0
Rated efficiency energy ratio (1)	EER <sub>rated</sub>	BTU/h/W		11.0	10.1
Rated Coefficient of performance (3)	COP <sub>rated</sub>	BTU/h/W		2.9	3.6
Dehumidification capacity		pints/hr		2.8	3.0
Indoor fan air volume in cooling mode ( max/med/min )		CFM		290 / 230 / 200	290 / 230 / 200
Indoor fan air volume in heating mode ( max/med/min )		CFM		290 / 230 / 200	290 / 230 / 200
Outdoor fan speeds		Max/Min		350 / 70	350 / 70
Venting holes diameter (two holes required)		Inches		350 / 70	350 / 70
Maximum Remote Control Range		ft		33	33
Dimensions ( W x H x D ) (without packaging)		Inches		35.5 x 20.4 x 8.5	35.5 x 20.4 x 8.5
Dimensions ( W x H x D ) (with packaging)		Inches		38.6 x 24.0 x 13.0	38.6 x 24.0 x 13.0
Weight ( without packing )		lbs		86	86
Weight ( with packaging )		lbs		93	93
Sound level (5)	dB(A)	min/max		33 / 42	33 / 42
Refrigerant		ASHRAE #		R-410A	R-410A
Refrigerant Factory Charge		lb - oz		1.50	1.50

OPERATIONAL LIMITS	Indoor temperature	Outdoor temperature
Maximum operating temperature in cooling mode	DB 95°F - WB 75°F	DB 109°F - WB 90°F
Minimum operating temperature in cooling mode	DB 64°F	DB 14°F
Maximum operating temperature in heating mode	DB 81°F	DB 75°F - WB 64°F
Minimum operating temperature in heating mode	-	DB 5°F

TEST PARAMETERS	Indoor temperature	Outdoor temperature
(1) Rated output power for cooling , EER, Hourly consumption, Energy efficiency class tests	DB 80,6°F - WB 64,4°F	DB 95°F - WB 75°F
(2) High load test in cooling mode	DB 95°F - WB 75°F	DB 109°F - WB 90°F
(3) Rated output power for heating , COP, Hourly consumption, Energy efficiency class tests	DB 69,8°F - WB 60°F	DB 44,6°F - WB 42,8°F
(4) High load test in heating mode	DB 81°C	DB 75°F - WB 64°F
(5) The sound pressure level is been measured into half-anechoic room far 2 meter respect front part equipment with a microphone at 1 meter of height. min means internal noise fan only at minimum speed		

# MAESTRO PRO

Job Name/Location:

CU-1, 2, 7, 8

Tag No.:

Date:

For:  File  Resubmit  
 Approval  Other \_\_\_\_\_

PO No.:

Architect: GC:

Engr: Mech:

Rep: (Company) (Project Manager)



**ARUM144BTE5**  
 Multi V™ 5 with LGRED° 208-230V ODU  
 12 Ton Single Frame Heat Pump and Heat Recovery

**Performance:**

Cooling Mode:

Nominal Capacity (Btu/h)	144,000
Power Input (kW)	9.30

Heating Mode:

Nominal Capacity (Btu/h)	162,000
Power Input (kW)	10.54

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

**Electrical:**

Frame	ARUM144BTE5
Power Supply (V/Hz/Ø) <sup>1</sup>	208-230/60/3
MOP (A)	70
MCA (A)	51.1
Rated Amps (A)	46.1
Compressor A (A)	19.8
Compressor B (A)	18.3
Fan (A)	8.0

**Piping:<sup>2</sup>**

Frame	ARUM144BTE5
Refrigerant Charge (lbs.)	26.5
Liquid (in., O.D.)	1/2 Braze
High Pressure Vapor (Heat Recov only; in., O.D.)	7/8 Braze
Low Pressure Vapor (in., O.D.)	1-1/8 Braze

**Standard Features:**

- Advanced Smart Load Control
- Intelligent Heating
- HiPOR (High Pressure Oil Return)
- Smart Oil Control
- Night Quiet Operation
- Fault Detection and Diagnosis
- Active Refrigerant Control
- Variable Heat Path Exchanger
- Subcooling and Vapor Injection Control
- Liquid Cooled Inverter Controller
- Advanced Comfort Cooling

**Optional Accessories:**

- Air Guide - ZAGDKA52A
- Hail Guard Kit - ZHGDKA52A
- Low Ambient Baffle Kit - ZLABKA52A, Control Kit - PRVC2 (1 per system)
- Base Pan Heater - ZPLT1A52A

\*\*Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F and is achieved only when all indoor units are operating in cooling mode. Does not impact heat recovery system synchronous operating range.

**Operating Range:**

Cooling (°F DB)**	5 - 122
Heating (°F WB)	-22 - 61
Synchronous	
Cooling Based (°F DB)	14 - 81
Heating Based (°F WB)	14 - 61

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Max. Number of Indoor Units <sup>3</sup>	24
Sound Pressure <sup>4</sup> dB(A)	60.0
Weight	
Frame	ARUM144BTE5
Net (lbs.)	639
Shipping (lbs.)	666
Communication Cable (No x AWG) <sup>5</sup>	2 x 18
Heat Exchanger Coating	Black Coated Fin™

**Compressor:**

Type	HSS DC Scroll
Quantity	2
Oil / Type	PVE / FVC68D

**Fan:**

Type	Propeller
Quantity	2
Motor Drive	Brushless Digitally Controlled Direct
Air Flow Rate (rated/max, CFM)	9,300 / 11,300

**Notes:**

1. Power wiring cable size must comply with the applicable local and national codes. Cables terminate at each frame.
2. For main pipe segment size, refer to the LATS Multi V tree diagram.
3. The combination ratio must be between 50-130%.
4. Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745 for the combination of outdoor units.
5. Communication cable between ODU and IDUs must be 2-conductor, 18 AWG, twisted, stranded, and shielded. Ensure the communication cable shield is properly grounded to the Main ODU chassis only. Do not ground the communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Acceptable operating voltage: 187V - 253V
7. Fan ESP (in wg) selectable range is 0.16 to 0.32.





Job Name/Location: \_\_\_\_\_

# ARUM144BTE5

Multi V™ 5 with LGRED® 208-230V ODU

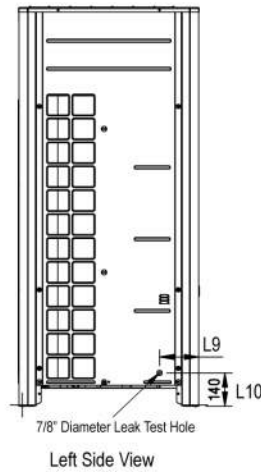
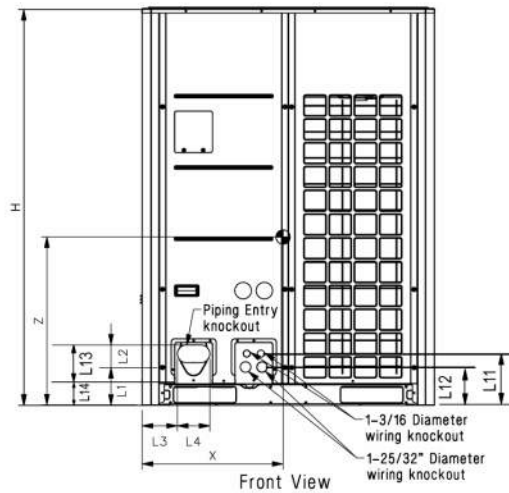
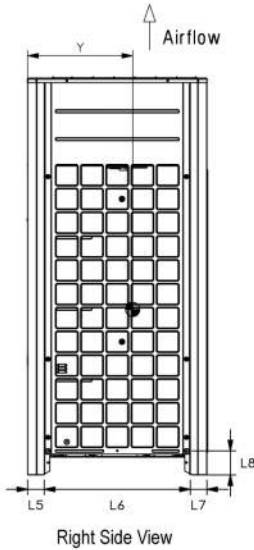
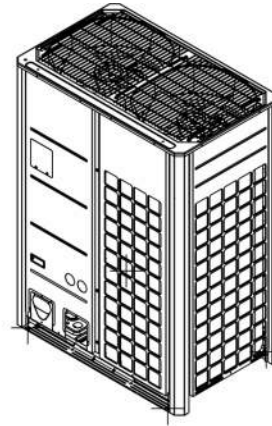
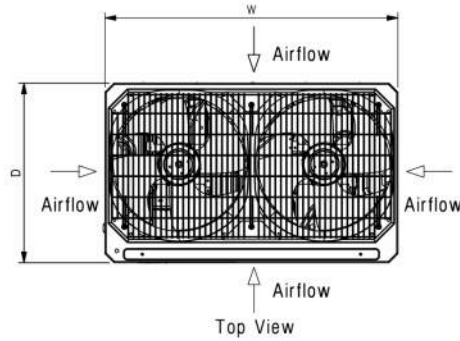
12 Ton Single Frame Heat Pump and Heat Recovery



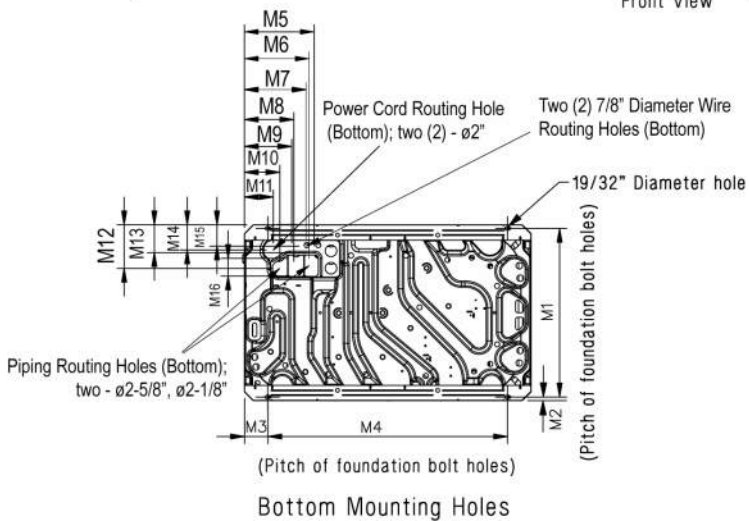
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Date: \_\_\_\_\_

PO No.: \_\_\_\_\_



W	48-13/16"
H	66-17/32"
D	29-29/32"
L1	6-5/16"
L2	3-3/4"
L3	5-29/32"
L4	5-13/32"
L5	2-25/32"
L6	24-9/32"
L7	2-25/32"
L8	4-1/32"
L9	6-1/2"
L10	5-9/16"
L11	8-5/8"
L12	6-7/16"
L13	9-15/16"
L14	3-5/8"

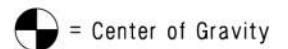


M1	28-25/32"
M2	5/8"
M3	3-15/16"
M4	40-15/16"
M5	11-15/16"
M6	11-1/16"
M7	10-1/2"
M8	8-7/16"
M9	8-1/8"
M10	6-1/16"
M11	4-15/16"
M12	7-1/2"
M13	4-13/16"
M14	4-5/16"
M15	3-5/8"
M16	3"

Center of Gravity

X	23-7/32"
Y	15-5/8"
Z	25-9/16"

All dimensions have a tolerance of  $\pm 0.25$  in.  
[Unit: inch]



Job Name/Location: \_\_\_\_\_

**ARUM144BTE5**  
Multi V™ 5 with LGRED° 208-230V ODU  
12 Ton Single Frame Heat Pump and Heat Recovery



Tag No.: \_\_\_\_\_

Date: \_\_\_\_\_

PO No.: \_\_\_\_\_

**AHRI Data:**

Reference Number	Indoor Type	Cooling Capacity (95°F)	EER (95°F)	IEER	SCHE	High Heating Capacity (47°F)	High COP (47°F)	Low Heating Capacity (17°F)	Low COP (17°F)
205281465	Ducted Indoor Units	138,000	12.10	23.00	25.90	152,000	3.52	98,000	2.48
202516755	Non-Ducted Indoor Units	138,000	12.50	28.60	27.50	152,000	3.84	98,000	2.67

Job Name/Location:

Tag No.:

Date:

For:  File  Resubmit  
 Approval  Other \_\_\_\_\_

PO No.:

Architect: \_\_\_\_\_ GC: \_\_\_\_\_

Engr: \_\_\_\_\_ Mech: \_\_\_\_\_

Rep: \_\_\_\_\_  
 (Company) (Project Manager)



**ARUM096BTE5**  
 Multi V™ 5 with LGRED° 208-230V ODU  
 8 Ton Single Frame Heat Pump and Heat Recovery

**Performance:**

Cooling Mode:

Nominal Capacity (Btu/h)	96,000
Power Input (kW)	5.33

Heating Mode:

Nominal Capacity (Btu/h)	108,000
Power Input (kW)	6.74

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at [www.ahridirectory.org](http://www.ahridirectory.org).

**Electrical:**

Frame	ARUM096BTE5
Power Supply (V/Hz/Ø) <sup>1</sup>	208-230/60/3
MOP (A)	40
MCA (A)	28.5
Rated Amps (A)	24.4
Compressor A (A)	16.4
Compressor B (B)	-
Fan (A)	8.0

**Piping:<sup>2</sup>**

Frame	ARUM096BTE5
Refrigerant Charge (lbs.)	23.2
Liquid (in., O.D.)	3/8 Braze
High Pressure Vapor (Heat Recov only; in, O.D.)	3/4 Braze
Low Pressure Vapor (in., O.D.)	7/8 Braze

**Standard Features:**

- Advanced Smart Load Control
- Intelligent Heating
- HiPOR (High Pressure Oil Return)
- Smart Oil Control
- Night Quiet Operation
- Fault Detection and Diagnosis
- Active Refrigerant Control
- Variable Heat Path Exchanger
- Subcooling and Vapor Injection Control
- Liquid Cooled Inverter Controller
- Advanced Comfort Cooling

**Optional Accessories:**

- Air Guide - ZAGDKA52A
- Hail Guard Kit - ZHGDKA52A
- Low Ambient Baffle Kit - ZLABKA52A, Control Kit - PRVC2 (1 per system)
- Base Pan Heater - ZPLT1A52A

\*\*Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F and is achieved only when all indoor units are operating in cooling mode. Does not impact heat recovery system synchronous operating range.

**Operating Range:**

Cooling (°F DB)**	5 - 122
Heating (°F WB)	-22 - 61
Synchronous	
Cooling Based (°F DB)	14 - 81
Heating Based (°F WB)	14 - 61

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Max. Number of Indoor Units <sup>3</sup>	16
Sound Pressure <sup>4</sup> dB(A)	58.0
Weight	
Frame	ARUM096BTE5
Net (lbs.)	507
Shipping (lbs.)	534
Communication Cable (No x AWG) <sup>5</sup>	2 x 18
Heat Exchanger Coating	Black Coated Fin™

**Compressor:**

Type	HSS DC Scroll
Quantity	1
Oil / Type	PVE / FVC68D

**Fan:**

Type	Propeller
Quantity	2
Motor Drive	Brushless Digitally Controlled Direct
Air Flow Rate (rated/max, CFM)	7,400 / 11,300

**Notes:**

1. Power wiring cable size must comply with the applicable local and national codes. Cables terminate at each frame.
2. For main pipe segment size, refer to the LATS Multi V tree diagram.
3. The combination ratio must be between 50-130%.
4. Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745 for the combination of outdoor units.
5. Communication cable between ODU and IDUs must be 2-conductor, 18 AWG, twisted, stranded, and shielded. Ensure the communication cable shield is properly grounded to the Main ODU chassis only. Do not ground the communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Acceptable operating voltage: 187V - 253V
7. Fan ESP (in wg) selectable range is 0.16 to 0.32.





Job Name/Location: \_\_\_\_\_

# ARUM096BTE5

Multi V™ 5 with LGRED® 208-230V ODU

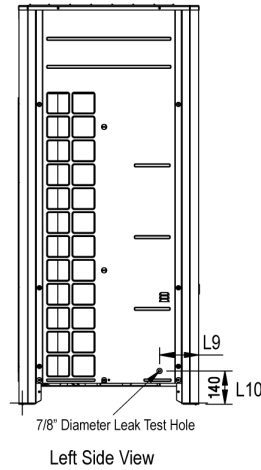
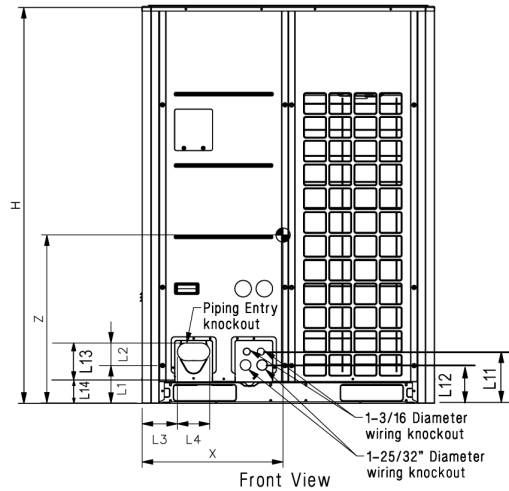
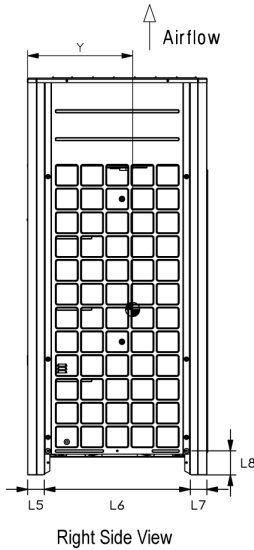
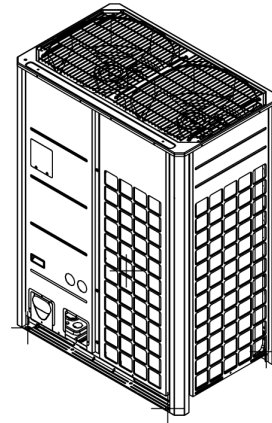
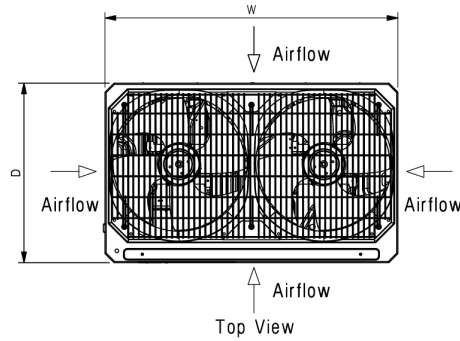
8 Ton Single Frame Heat Pump and Heat Recovery



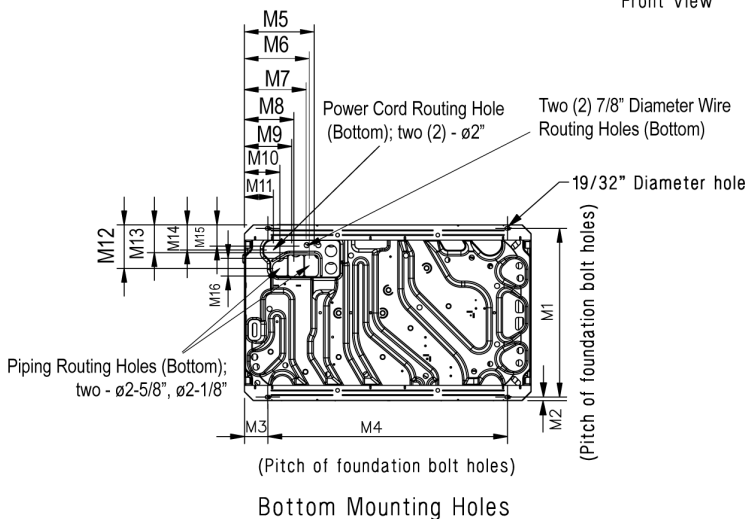
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L6	24-9/32"
L7	2-25/32"
L8	4-1/32"
L9	6-1/2"
L10	5-9/16"
L11	8-5/8"
L12	6-7/16"
L13	9-15/16"
L14	3-5/8"

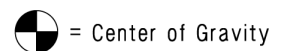


M1	28-25/32"
M2	5/8"
M3	3-15/16"
M4	40-15/16"
M5	11-15/16"
M6	11-1/16"
M7	10-1/2"
M8	8-7/16"
M9	8-1/8"
M10	6-1/16"
M11	4-15/16"
M12	7-1/2"
M13	4-13/16"
M14	4-5/16"
M15	3-5/8"
M16	3"

Center of Gravity

X	23-7/32"
Y	15-5/8"
Z	25-9/16"

All dimensions have a tolerance of ± 0.25 in.  
[Unit: inch]



Job Name/Location: \_\_\_\_\_

**ARUM096BTE5**

**Multi V™ 5 with LGRED° 208-230V ODU**

**8 Ton Single Frame Heat Pump and Heat Recovery**



**Tag No.:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**PO No.:** \_\_\_\_\_

**AHRI Data:**

Reference Number	Indoor Type	Cooling Capacity (95°F)	EER (95°F)	IEER	SCHE	High Heating Capacity (47°F)	High COP (47°F)	Low Heating Capacity (17°F)	Low COP (17°F)
205281459	Ducted Indoor Units	92,000	13.50	25.10	27.00	103,000	3.66	67,000	2.73
202516171	Non-Ducted Indoor Units	92,000	14.40	33.00	32.00	103,000	4.33	67,000	2.85

Date: \_\_\_\_\_

For:  File  Resubmit

PO No.: \_\_\_\_\_

 Approval  Other \_\_\_\_\_

Architect: \_\_\_\_\_

GC: \_\_\_\_\_

Engr: \_\_\_\_\_

Mech: \_\_\_\_\_

Rep: \_\_\_\_\_

(Company)

(Project Manager)

**ARUM072BTE5**

Multi V™ 5 Single Frame 208-230V

6.0 Ton Outdoor Unit for Heat Pump and Heat Recovery

**Performance:****Cooling Mode:**

Nominal Capacity (Btu/h)	72,000
Power Input <sup>1</sup> (kW)	4.28

**Heating Mode:**

Nominal Capacity (Btu/h)	81,000
Power Input <sup>1</sup> (kW)	5.39

Nominal Capacity is outside the scope of AHRI Standard 1230 and based on the following conditions:

Indoor: 80°F DB / 67°F WB

Indoor: 70°F DB

Outdoor: 95°F DB

Outdoor: 47°F DB / 43°F WB

**Electrical:**

Power Supply (V/Hz/∅)	208-230/60/3
MOP (A)	35
MCA (A)	22.6
Rated Amps (A)	19.1
Compressor A (A)	14.1
Compressor B (A)	-
Fan (A)	5.0

**Piping:**

Refrigerant Charge (lbs)	14.3
Liquid Line (in, OD)	3/8 Braze
Low Pressure Vapor Line (in, OD)	3/4 Braze
High Pressure Vapor Line (in, OD) (HR only)	5/8 Braze

**Standard Features:**

- Advanced Smart Load Control
- Intelligent Heating
- HiPOR (high pressure oil return)
- Smart Oil Control
- Night Quiet Operation
- Fault Detection and Diagnosis
- Active Refrigerant Control
- Variable Path Heat Exchanger
- Subcooling and Vapor Injection Control
- Liquid Cooled Inverter Controller

**Optional Accessories:**

- Air Guide - ZAGDKA51A (1 required)
- Low Ambient Baffle Kit - ZLABKA51A (1), Control Kit - PRVC2 (1 per system)
- Hail Guard Kit - ZHGDKA51A (1 Required)

**\*\*Cooling operating range is extended to -9.9 to 122°F if the optional low ambient baffle kit and low ambient control kit are installed.**

LG Electronics USA, Inc. 1000 Sylvan Ave, Englewood Cliffs, NJ 07632/www.lg-vrf.com

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**Operating Range:**

Cooling (°F DB)**	5-122
Heating (°F WB)	-13 - 61
Synchronous:	
Cooling Based Synchronous (°F DB)	14 - 81
Heating Based Synchronous (°F WB)	14 - 61

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Max Number of Indoor Units <sup>2</sup>	13
Sound Pressure <sup>3</sup> dB(A)	58.0
Net Unit Weight (lbs)	430
Shipping Weight (lbs)	452
Communication Cable <sup>4</sup> (No x AWG)	2 x 18
Heat Exchanger Coating	Black Coated Fin™

**Compressor:**

Type	HSS DC Scroll
Quantity	1
Oil/Type	PVE/FVC68D

**Fan:**

Type	Propeller
Quantity	1
Motor/Drive	Brushless Digitally Controlled/Direct
Air Flow Rate (CFM)	8,470

**Notes:**

- For AHRI ratings, refer to the AHRI website <http://www.ahridirectory.org>.
- The combination ratio must be between 50 – 130%.
- Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
- Communication cable between ODU and IDU(s) must be 2-conductor, 18 AWG, twisted, stranded, and shielded. Ensure the communication cable shield is properly grounded to the Master ODU chassis only. Do not ground the communication cable at any other point. Wiring must comply with all applicable local and national codes.
- Nominal data is rated 0 ft above sea level, with 25 ft of refrigerant line per indoor unit and a 0 ft level difference between outdoor and indoor units. All capacities are net with a combination ratio between 95-105%.
- Power wiring cable size must comply with the applicable local and national codes.
- Acceptable operating voltage: 187V - 253V.





# ARUM072BTE5

Multi V™ 5 Single Frame 208-230V

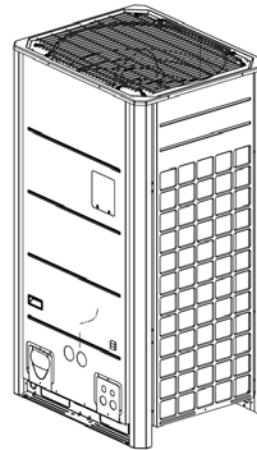
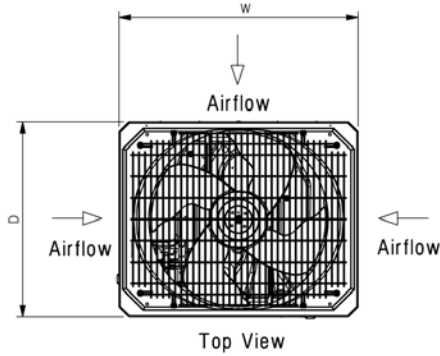
6.0 Ton Outdoor Unit for Heat Pump and Heat Recovery



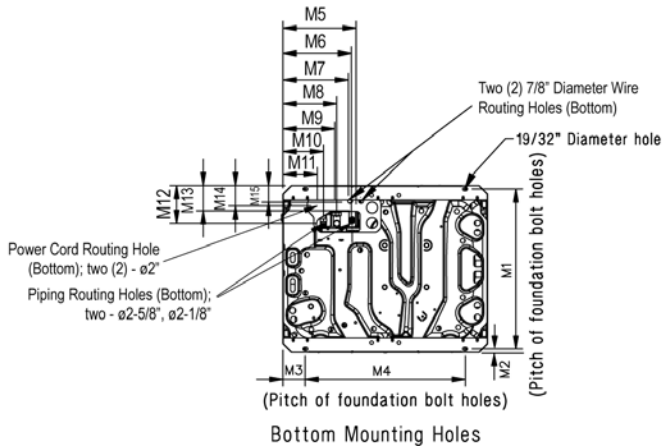
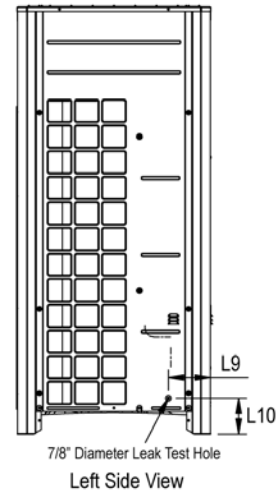
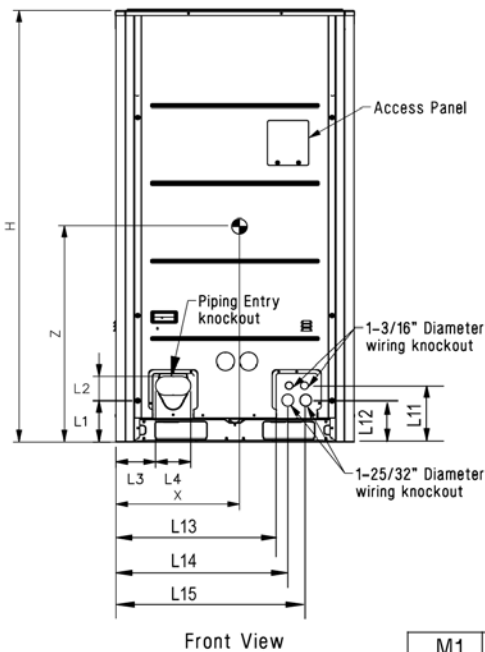
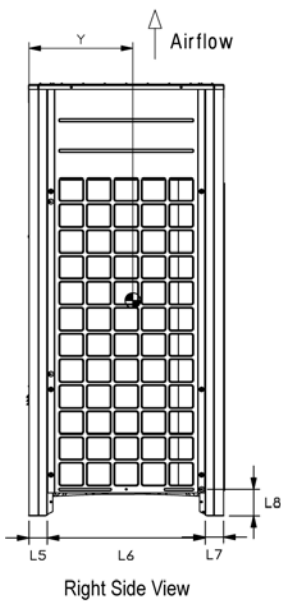
Tag #:

Date:

PO No.:



W	36-5/8"
H	66-17/32"
D	29-29/32"
L1	6-5/16"
L2	3-3/4"
L3	6-3/32"
L4	5-13/32"
L5	2-25/32"
L6	24-9/32"
L7	2-25/32"
L8	4-1/16"
L9	6-1/2"
L10	5-9/16"
L11	8-5/8"
L12	6-7/16"
L13	24-5/8"
L14	26-7/16"
L15	29-3/16"

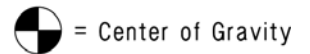


M1	28-25/32"
M2	5/8"
M3	3-31/32"
M4	28-3/4"
M5	13-1/8"
M6	12-5/16"
M7	11-3/4"
M8	9-11/16"
M9	9-5/16"
M10	7-5/16"
M11	6-3/16"
M12	6-13/16"
M13	4-1/2"
M14	3-11/16"
M15	3"

### Center of Gravity

X	18-3/16"
Y	16-5/16"
Z	31-15/32"

All dimensions have a tolerance of  $\pm 0.25$  in. [Unit: inch]



Job Name/Location:

CU-6

Tag No.:

Date:

For:  File  Resubmit  
 Approval  Other \_\_\_\_\_

PO No.:

Architect: GC:

Engr: Mech:

Rep: (Company) (Project Manager)



**ARUM121BTE5**  
**Multi V™ 5 with LGRED° 208-230V ODU**  
**10 Ton Single Frame Heat Pump and Heat Recovery**

**Performance:**

Cooling Mode:

Nominal Capacity (Btu/h)	119,700
Power Input (kW)	7.72

Heating Mode:

Nominal Capacity (Btu/h)	135,000
Power Input (kW)	9.20

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at www.ahridirectory.org.

**Electrical:**

Frame	ARUM121BTE5
Power Supply (V/Hz/Ø) <sup>1</sup>	208-230/60/3
MOP (A)	40
MCA (A)	30.9
Rated Amps (A)	26.3
Compressor A (A)	18.3
Compressor B (B)	-
Fan (A)	8.0

**Piping:<sup>2</sup>**

Frame	ARUM121BTE5
Refrigerant Charge (lbs.)	23.2
Liquid (in., O.D.)	1/2 Braze
High Pressure Vapor (Heat Recov only; in, O.D.)	3/4 Braze
Low Pressure Vapor (in., O.D.)	1-1/8 Braze

**Standard Features:**

- Advanced Smart Load Control
- Intelligent Heating
- HiPOR (High Pressure Oil Return)
- Smart Oil Control
- Night Quiet Operation
- Fault Detection and Diagnosis
- Active Refrigerant Control
- Variable Heat Path Exchanger
- Subcooling and Vapor Injection Control
- Liquid Cooled Inverter Controller
- Advanced Comfort Cooling

**Optional Accessories:**

- Air Guide - ZAGDKA52A
- Hail Guard Kit - ZHGDKA52A
- Low Ambient Baffle Kit - ZLABKA52A, Control Kit - PRVC2 (1 per system)
- Base Pan Heater - ZPLT1A52A

\*\*Cooling range with the Low Ambient Baffle Kit (sold separately) is -9.9°F to +122°F and is achieved only when all indoor units are operating in cooling mode. Does not impact heat recovery system synchronous operating range.

**Operating Range:**

Cooling (°F DB)**	5 - 122
Heating (°F WB)	-22 - 61
Synchronous	
Cooling Based (°F DB)	14 - 81
Heating Based (°F WB)	14 - 61

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Max. Number of Indoor Units <sup>3</sup>	20
Sound Pressure <sup>4</sup> dB(A)	59.0
Weight	
Frame	ARUM121BTE5
Net (lbs.)	507
Shipping (lbs.)	534
Communication Cable (No x AWG) <sup>5</sup>	2 x 18
Heat Exchanger Coating	Black Coated Fin™

**Compressor:**

Type	HSS DC Scroll
Quantity	1
Oil / Type	PVE / FVC68D

**Fan:**

Type	Propeller
Quantity	2
Motor Drive	Brushless Digitally Controlled Direct
Air Flow Rate (rated/max, CFM)	8,400 / 11,300

**Notes:**

1. Power wiring cable size must comply with the applicable local and national codes. Cables terminate at each frame.
2. For main pipe segment size, refer to the LATS Multi V tree diagram.
3. The combination ratio must be between 50-130%.
4. Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745 for the combination of outdoor units.
5. Communication cable between ODU and IDUs must be 2-conductor, 18 AWG, twisted, stranded, and shielded. Ensure the communication cable shield is properly grounded to the Main ODU chassis only. Do not ground the communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Acceptable operating voltage: 187V - 253V
7. Fan ESP (in wg) selectable range is 0.16 to 0.32.



Job Name/Location: \_\_\_\_\_

# ARUM121BTE5

Multi V™ 5 with LGRED® 208-230V ODU

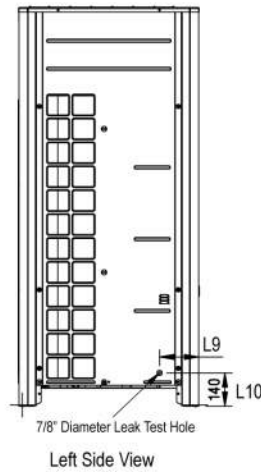
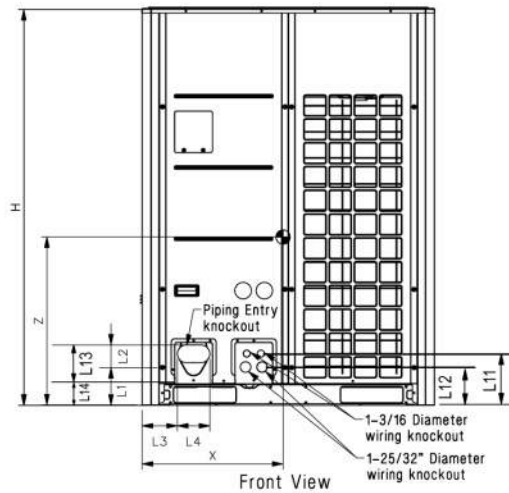
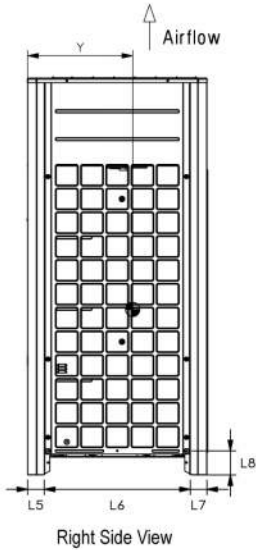
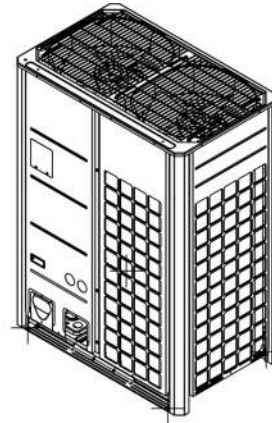
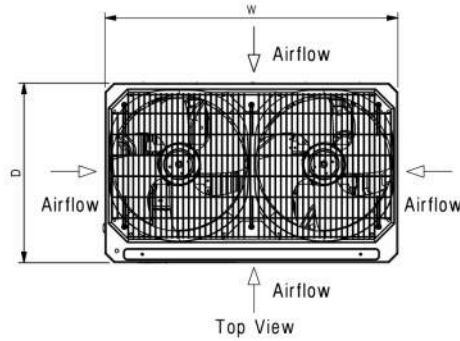
10 Ton Single Frame Heat Pump and Heat Recovery



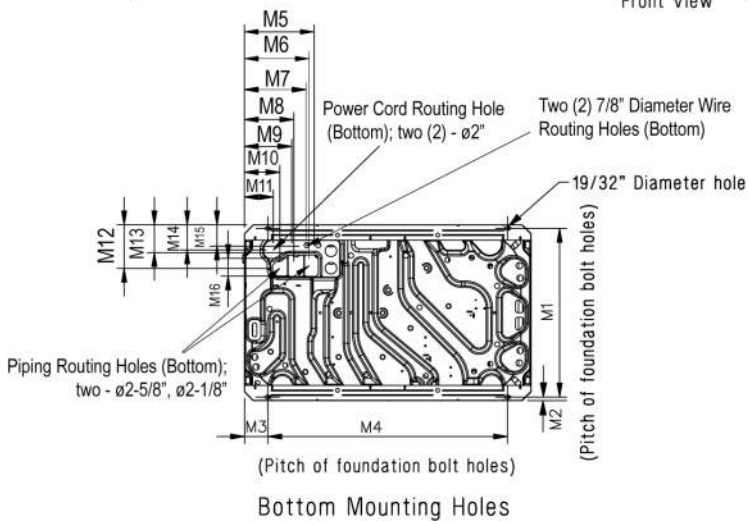
Tag No.: \_\_\_\_\_

Date: \_\_\_\_\_

PO No.: \_\_\_\_\_



W	48-13/16"
H	66-17/32"
D	29-29/32"
L1	6-5/16"
L2	3-3/4"
L3	5-29/32"
L4	5-13/32"
L5	2-25/32"
L6	24-9/32"
L7	2-25/32"
L8	4-1/32"
L9	6-1/2"
L10	5-9/16"
L11	8-5/8"
L12	6-7/16"
L13	9-15/16"
L14	3-5/8"

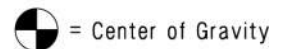


M1	28-25/32"
M2	5/8"
M3	3-15/16"
M4	40-15/16"
M5	11-15/16"
M6	11-1/16"
M7	10-1/2"
M8	8-7/16"
M9	8-1/8"
M10	6-1/16"
M11	4-15/16"
M12	7-1/2"
M13	4-13/16"
M14	4-5/16"
M15	3-5/8"
M16	3"

Center of Gravity

X	23-7/32"
Y	15-5/8"
Z	25-9/16"

All dimensions have a tolerance of  $\pm 0.25$  in.  
[Unit: inch]





Job Name/Location: \_\_\_\_\_

**ARUM121BTE5**  
Multi V™ 5 with LGRED° 208-230V ODU  
10 Ton Single Frame Heat Pump and Heat Recovery



Tag No.: \_\_\_\_\_

Date: \_\_\_\_\_

PO No.: \_\_\_\_\_

**AHRI Data:**

Reference Number	Indoor Type	Cooling Capacity (95°F)	EER (95°F)	IEER	SCHE	High Heating Capacity (47°F)	High COP (47°F)	Low Heating Capacity (17°F)	Low COP (17°F)
205281462	Ducted Indoor Units	114,000	12.50	24.60	26.40	129,000	3.46	84,000	2.53
202516176	Non-Ducted Indoor Units	114,000	13.10	29.60	31.00	129,000	3.97	84,000	2.74

Job Name/Location:

FC 1-1

Tag #:

Date:	For: <input type="checkbox"/> File <input type="checkbox"/> Resubmit
PO No.:	<input type="checkbox"/> Approval <input type="checkbox"/> Other
Architect:	GC:
Engr:	Mech:
Rep:	
(Company)	(Project Manager)



**ARNU483B8A4**  
**Multi V™ High Static Ducted**  
**48,100 Btu/h Indoor Unit**



**Performance:**

Total Cooling Capacity (Btu/h)	48,100
Heating Capacity (Btu/h)	54,200
Max Power Input <sup>1</sup> (W)	800
L/M/H Power Input at Factory Default (W)	482 / 500 / 538

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at [www.ahridirectory.org](http://www.ahridirectory.org).

**Electrical:**

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	5.2

**Piping:**

Refrigerant:

Liquid Line (in, OD) <sup>14</sup>	3/8 Braze
Vapor Line (in, OD)	3/4 Braze

Condensate:

Condensate Pump Drain <sup>2</sup> (in, ID)	1 Plain
Gravity Drain Plugged (in, OD)	1 (3/4 MPT)

**Controls Features:**

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Dual thermistor control
- Wi-Fi compatible
- Dual setpoint control
- Multiple aux heater applications
- Filter life display
- External on/off control
- Auto fan
- Leak detection
- Weekly schedule
- Fan speed control
- Group control
- Hot start
- Self diagnostics
- Timer (on/off)
- Child lock

**Optional Accessories:**

- Wireless Remote Controller<sup>3</sup> - PQWRHQ0FDB
- Premium Controller - PREMTA000
- MultiSITE CRC1 Controller - PREMTBVC0
- MultiSITE CRC1+ Controller - PREMTBVC1
- Simple Controller - PREMTCC00U
- Wi-Fi Module - PWFMD200
- Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
- Dry Contact for Economizer - PDRYCB400
- Dry Contact for Third Party Thermostat - PDRYCB320<sup>14</sup>
- Aux Heater Kit - PRARH1<sup>14</sup>
- Remote Temperature Button Sensor - ZRTBS01
- High Efficiency Filter Box - ZFBXB801A

**Entering Mixed Air:**

Cooling Max <sup>4</sup> (°F WB)	76
Heating Min (°F DB)	59

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure <sup>5</sup> dB(A) (H/M/L)	47 / 46 / 44
Filter Type	Washable
MERV	N/A
Filter Quantity	1
Filter Dimensions <sup>6</sup> (in)	16-1/2" x 55" x 1/4"
Net Unit Weight (lbs)	192
Shipping Weight (lbs)	222

**Fan:**

Type	Sirocco
Fan Quantity	2
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	2
High Mode Airflow Rate H/M/L (CFM)	2,019/1,518/1,200
High Mode External Static Pressure (ESP) (in wg) <sup>7</sup>	0.7
Airflow Range (CFM)	1059 - 2625
Minimum ESP (in wg) <sup>8</sup>	0.35
Maximum ESP (in wg) <sup>8</sup>	0.98

**Notes:**

1. Maximum power input is rated at maximum setting value.
2. Maximum lift is 27 in from bottom of unit. Check valve not included (field supplied).
3. Requires an LG wall controller because ducted units do not have infrared receiver.
4. See Engineering Manual for sensible and latent capacities.
5. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
6. Actual filter sizes may vary.
7. At factory fan speed setting.
8. Maximum static pressure may result in reduced airflow (CFM).
9. All Communication cable between Main outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Main outdoor unit chassis only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
10. Power wiring cable size must comply with the applicable local and national code.
11. This unit comes with a dry nitrogen charge.
12. All capacities are net with a combination ratio between 95 – 105%.
13. Must follow installation instructions in the applicable LG installation manual.
14. If a Third-Party Dry Contact and an LG internal heater or an LG Auxiliary Heater Kit is installed, supplemental heat capability cannot be controlled by the Third-Party Thermostat.

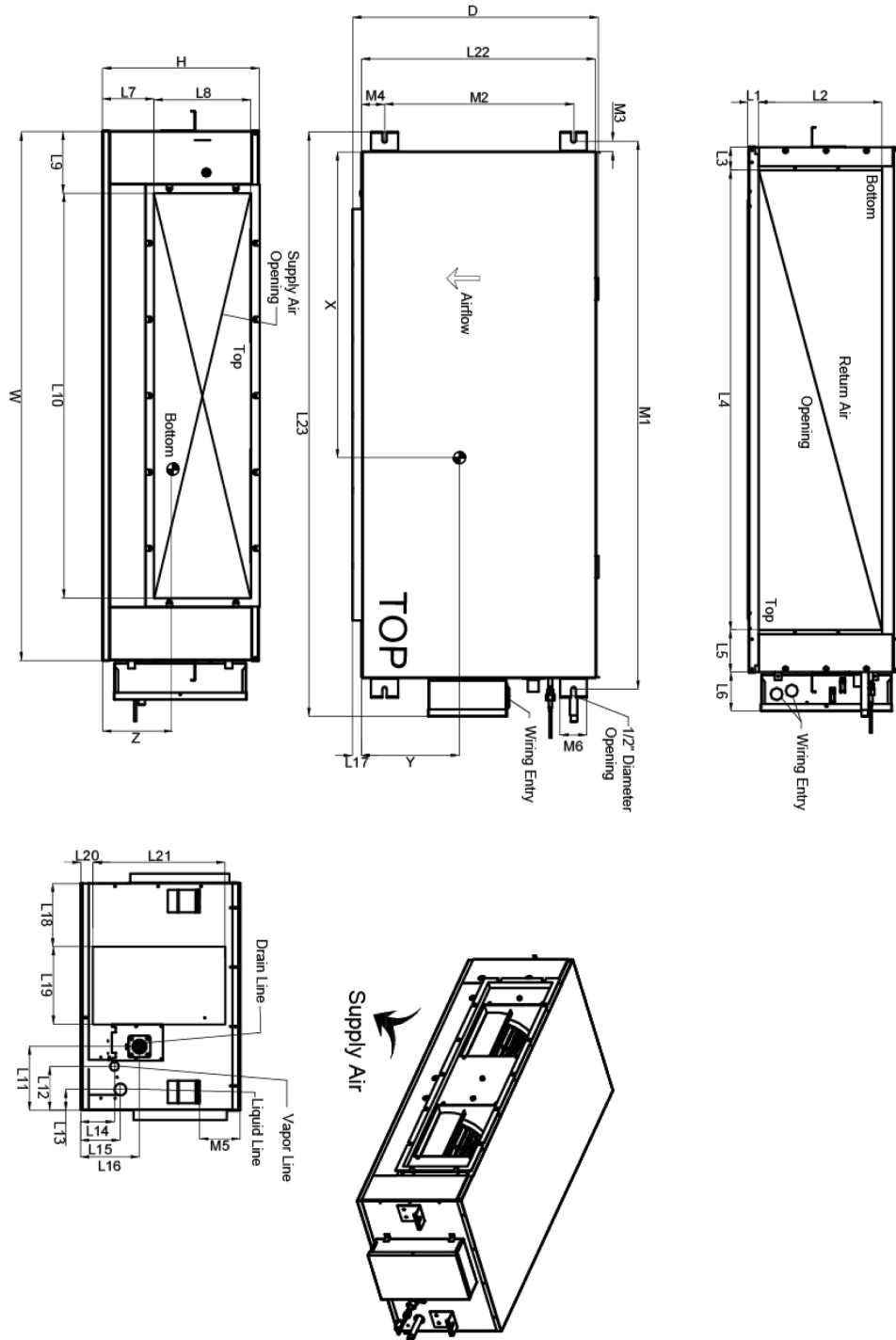


For continual product development, LG reserves the right to change specifications without notice.

**ARNU483B8A4**  
**Multi V™ High Static Ducted**  
**48,100 Btu/h Indoor Unit**



**Tag #:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**PO No.:** \_\_\_\_\_



W	61 1/2"
D	28 5/8"
H	18 1/8"
L1	2 3/8"
L2	15 7/16"
L3	2"
L4	5 5/8"
L5	4 9/16"
L6	4 1/2"
L7	6"
L8	11 5/8"
L9	6 3/4"
L10	4 1/4"
L11	7 5/8"
L12	5 1/4"
L13	2 1/2"
L14	4 3/4"
L15	5 1/2"
L16	6 7/8"
L17	1 3/16"
L18	7 13/16"
L19	9 3/16"
L20	1 5/16"
L21	1 5 3/8"
L22	2 7 1/8"
L23	6 8 1/4"
M1	63 13/16"
M2	22"
M3	1 3/16"
M4	2 1/2"
M5	4 1/8"
M6	3 3/16"

**Center of Gravity**

X	31 1/16"
Y	18 1/8"
Z	8 3/4"

Note - All dimensions have a tolerance of ± 0.25 in.  
 = Center of gravity



Date:	For: <input type="checkbox"/> File <input type="checkbox"/> Resubmit
PO No.:	<input type="checkbox"/> Approval <input type="checkbox"/> Other
Architect:	GC:
Engr:	Mech:
Rep:	
(Company)	(Project Manager)



**ARNU283M2A4**  
**Multi V™ Mid Static Ducted**  
**28,000 Btu/h Indoor Unit**



**Performance:**

Total Cooling Capacity (Btu/h)	28,000
Heating Capacity (Btu/h)	31,500
Max Power Input <sup>1</sup> (W)	430
L/M/H Power Input at Factory Default (W)	57 / 88 / 123

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at [www.ahridirectory.org](http://www.ahridirectory.org).

**Electrical:**

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	2.3

**Piping:**

Refrigerant:

Liquid Line (in, OD)	3/8 Flare
Vapor Line (in, OD)	5/8 Flare

Condensate:

Condensate Pump Drain <sup>2</sup> (in, ID)	1 Plain
Gravity Drain Plugged (in, OD)	1 (3/4 MPT)

**Controls Features:**

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Dual thermistor control
- Wi-Fi compatible
- Dual setpoint control
- Multiple aux heater applications
- Filter life display
- External on/off control
- Auto fan
- Leak detection
- Weekly schedule
- Fan speed control
- Group control
- Hot start
- Self diagnostics
- Timer (on/off)
- Child lock

**Optional Accessories:**

- Wireless Remote Controller<sup>3</sup> - PQWRHQ0FDB
- Premium Controller - PREMTA000
- MultiSITE CRC1 Controller - PREMTBVC0
- MultiSITE CRC1+ Controller - PREMTBVC1
- Simple Controller - PREMTCC00U
- Wi-Fi Module - PWFMD200
- Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
- Dry Contact for Economizer - PDRYCB400
- Dry Contact for Third Party Thermostat - PDRYCB320<sup>14</sup>
- Aux Heater Kit - PRARH1<sup>14</sup>
- Remote Temperature Button Sensor - ZRTBS01
- High Efficiency Filter Box - ZFBXM201A

**Entering Mixed Air:**

Cooling Max <sup>4</sup> (°F WB)	76
Heating Min (°F DB)	59

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Power <sup>5</sup> dB(A) (H/M/L, @0.24 ESP)	64/61/57
Filter Type	Washable
MERV	N/A
Filter Quantity	2
Filter Dimensions <sup>6</sup> (in)	9-11/16 x 23-15/16 x 3/16
Net Unit Weight (lbs)	86.2
Shipping Weight (lbs)	99.2

**Fan:**

Type	Sirocco
Fan Quantity	2
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	1
Standard Mode Airflow Rate H/M/L (CFM)	892 / 770 / 645
Standard Mode External Static Pressure (ESP) <sup>7</sup> (in wg)	0.20
High Mode Airflow Rate H/M/L (CFM)	845 / 676 / 528
High Mode External Static Pressure (ESP) <sup>7</sup> (in wg)	0.24
Airflow Range (CFM)	676 - 1,554
Minimum ESP (in wg) <sup>8</sup>	0.16
Maximum ESP (in wg) <sup>8</sup>	0.71

**Notes:**

- 1 Maximum power input is rated at maximum setting value.
- 2 Maximum lift is 27 in from bottom of unit. Check valve not included (field supplied).
- 3 Requires an LG wall controller because ducted units do not have infrared receiver.
- 4 See Engineering Manual for sensible and latent capacities.
- 5 Sound Power level is measured using rated conditions, and tested in a reverberation room per ISO 3741 standards.
- 6 Actual filter sizes may vary.
- 7 At factory fan speed setting.
- 8 Maximum static pressure may result in reduced airflow (CFM).
- 9 All Communication cable between Main outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Main outdoor unit chassis only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
- 10 Power wiring cable size must comply with the applicable local and national code.
- 11 This unit comes with a dry nitrogen charge.
- 12 All capacities are net with a combination ratio between 95 – 105%.
- 13 Must follow installation instructions in the applicable LG installation manual.
- 14 If a Third-Party Dry Contact and an LG internal heater or an LG Auxiliary Heater Kit is installed, supplemental heat capability cannot be controlled by the Third-Party Thermostat.

For continual product development, LG reserves the right to change specifications without notice.



Job Name/Location:

**ARNU283M2A4**  
**Multi V™ Mid Static Ducted**  
**28,000 Btu/h Indoor Unit**

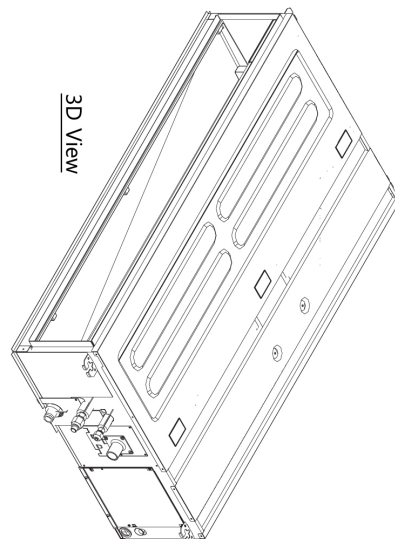
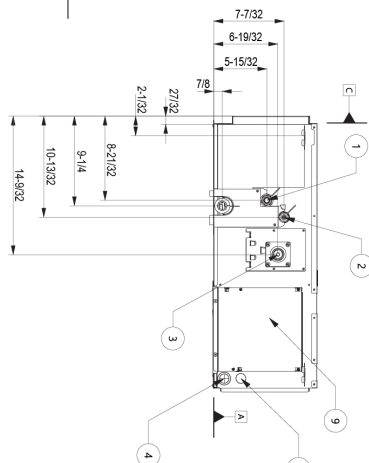
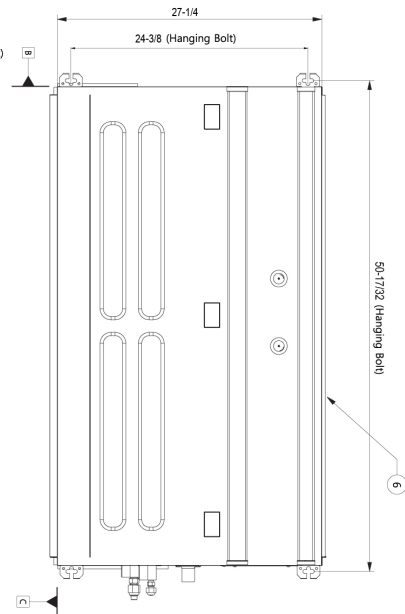
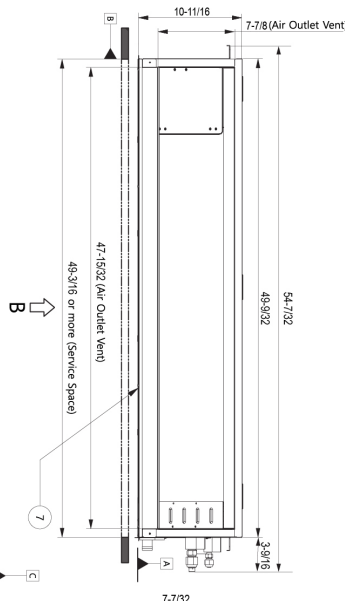
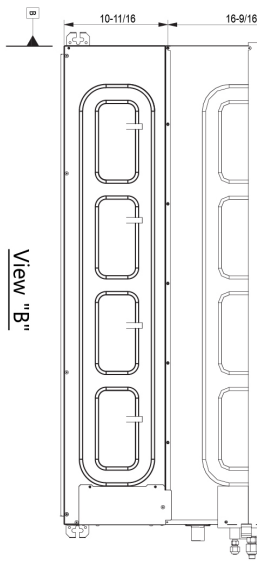
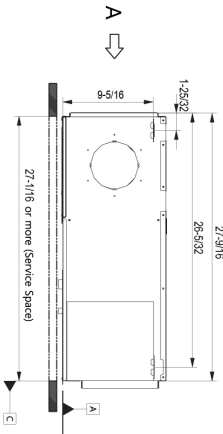
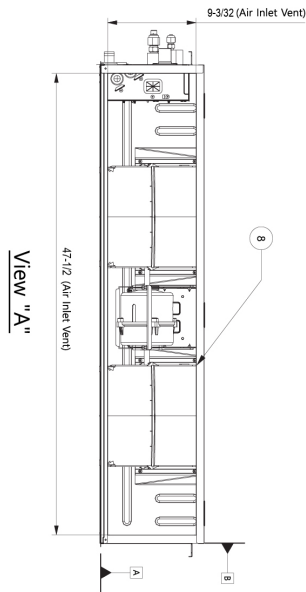


Tag #:

Date:

PO No.:

[Unit: inch]



No.	Part Name	Description
9	Control Cover	-
8	Air Filters	Supplied with product
7	Air Outlet	-
6	Air Inlet	-
5	Power Cable Hole	-
4	Remote and Communication Cable Hole	-
3	Drain pipe connection	-
2	Liquid pipe connection	-
1	Gas pipe connection	-

Job Name/Location:

FC 1-3, 2-2, 8-3, 8-6

Tag #:

Date:

For:  File  Resubmit  
 Approval  Other

PO No.:

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)



**ARNU123M1A4**  
**Multi V™ Mid Static Ducted**  
**12,300 Btu/h Indoor Unit**



**Performance:**

Total Cooling Capacity (Btu/h)	12300
Heating Capacity (Btu/h)	13600
Max Power Input <sup>1</sup> (W)	190
L/M/H Power Input at Factory Default (W)	31 / 38 / 46

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at [www.ahridirectory.org](http://www.ahridirectory.org).

**Electrical:**

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	1.6

**Piping:**

Refrigerant:

Liquid Line (in, OD)	1/4 Flare
Vapor Line (in, OD)	1/2 Flare

Condensate:

Condensate Pump Drain <sup>2</sup> (in, ID)	1 Plain
Gravity Drain Plugged (in, OD)	1 (3/4 MPT)

**Controls Features:**

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Dual thermistor control
- Wi-Fi compatible
- Dual setpoint control
- Multiple aux heater applications
- Filter life display
- External on/off control
- Auto fan
- Leak detection
- Weekly schedule
- Fan speed control
- Group control
- Hot start
- Self diagnostics
- Timer (on/off)
- Child lock

**Optional Accessories:**

- Wireless Remote Controller<sup>3</sup> - PQWRHQ0FDB
- Premium Controller - PREMTA000
- MultiSITE CRC1 Controller - PREMTBVC0
- MultiSITE CRC1+ Controller - PREMTBVC1
- Simple Controller - PREMTCC00U
- Wi-Fi Module - PWFMD200
- Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
- Dry Contact for Economizer - PDRYCB400
- Dry Contact for Third Party Thermostat - PDRYCB320<sup>14</sup>
- Aux Heater Kit - PRARH1<sup>14</sup>
- Remote Temperature Button Sensor - ZRTBS01
- High Efficiency Filter Box - ZFBXM101A

**Entering Mixed Air:**

Cooling Max <sup>4</sup> (°F WB)	76
Heating Min (°F DB)	59

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Power <sup>5</sup> dB(A) (H/M/L, @0.24 ESP)	44 / 43 / 40
Filter Type	Washable
MERV	N/A
Filter Quantity	2
Filter Dimensions <sup>6</sup> (in)	9-1/16 x 33-7/16 x 3/16
Net Unit Weight (lbs)	56.0
Shipping Weight (lbs)	67.0

**Fan:**

Type	Sirocco
Fan Quantity	2
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	1
Standard Mode Airflow Rate H/M/L (CFM)	399 / 344 / 286
Standard Mode External Static Pressure (ESP) <sup>7</sup> (in wg)	0.10
High Mode Airflow Rate H/M/L (CFM)	392 / 328 / 262
High Mode External Static Pressure (ESP) <sup>7</sup> (in wg)	0.24
Airflow Range (CFM)	216 - 906
Minimum ESP (in wg) <sup>8</sup>	0.08
Maximum ESP (in wg) <sup>8</sup>	0.59

**Notes:**

- 1 Maximum power input is rated at maximum setting value.
- 2 Maximum lift is 27 in from bottom of unit. Check valve not included (field supplied).
- 3 Requires an LG wall controller because ducted units do not have infrared receiver.
- 4 See Engineering Manual for sensible and latent capacities.
- 5 Sound Power level is measured using rated conditions, and tested in a reverberation room per ISO 3741 standards.
- 6 Actual filter sizes may vary.
- 7 At factory fan speed setting.
- 8 Maximum static pressure may result in reduced airflow (CFM).
- 9 All Communication cable between Main outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Main outdoor unit chassis only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
- 10 Power wiring cable size must comply with the applicable local and national code.
- 11 This unit comes with a dry nitrogen charge.
- 12 All capacities are net with a combination ratio between 95 – 105%.
- 13 Must follow installation instructions in the applicable LG installation manual.
- 14 If a Third-Party Dry Contact and an LG internal heater or an LG Auxiliary Heater Kit is installed, supplemental heat capability cannot be controlled by the Third-Party Thermostat.

For continual product development, LG reserves the right to change specifications without notice.

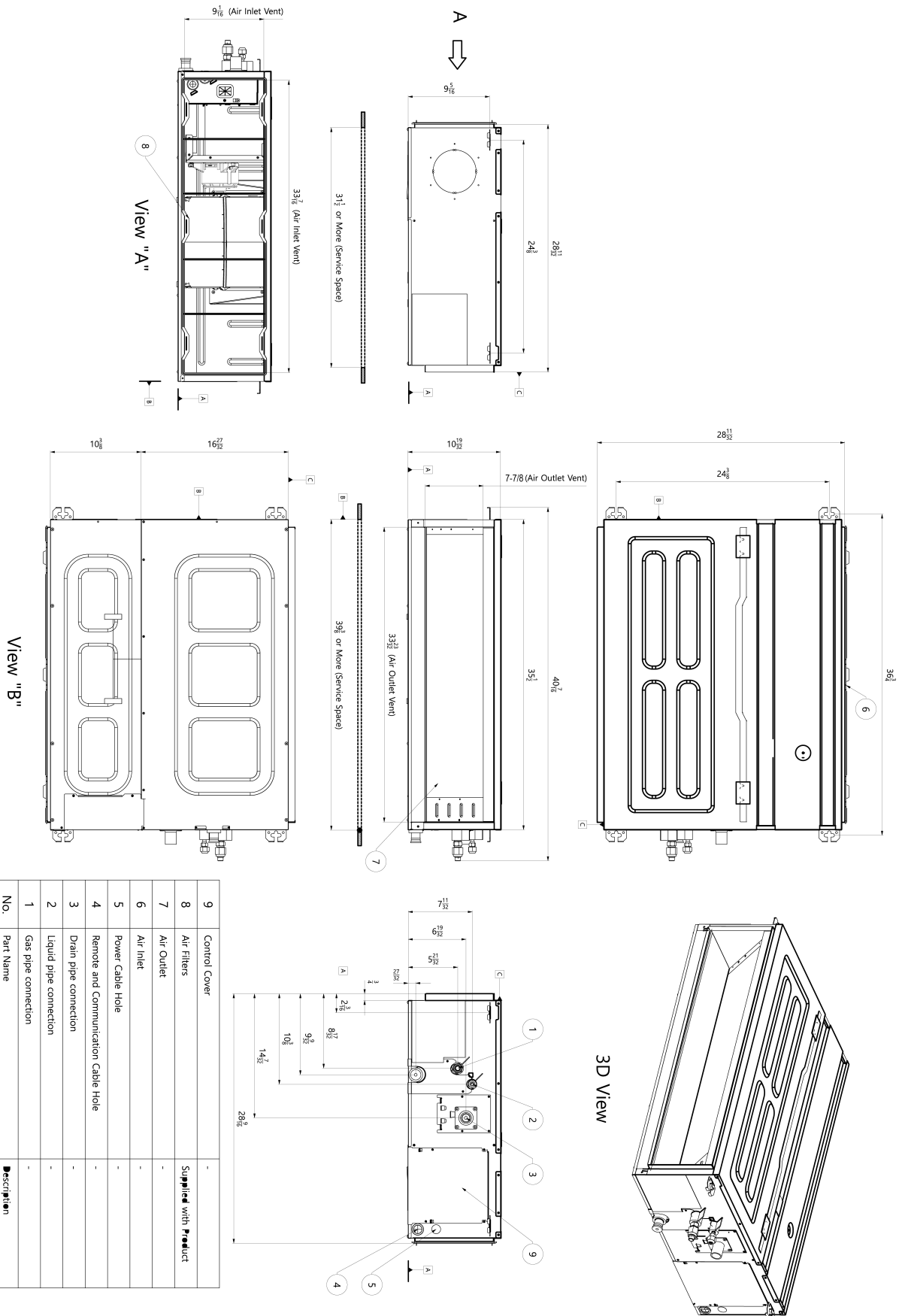


Job Name/Location:

**ARNU123M1A4**  
**Multi V™ Mid Static Ducted**  
**12,300 Btu/h Indoor Unit**



**Tag #:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**PO No.:** \_\_\_\_\_



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Date:	For: <input type="checkbox"/> File <input type="checkbox"/> Resubmit
PO No.:	<input type="checkbox"/> Approval <input type="checkbox"/> Other
Architect:	GC:
Engr:	Mech:
Rep:	
(Company)	(Project Manager)



**ARNU183M1A4**  
**Multi V™ Mid Static Ducted**  
 19,100 Btu/h Indoor Unit



**Performance:**

Total Cooling Capacity (Btu/h)	19100
Heating Capacity (Btu/h)	21500
Max Power Input <sup>1</sup> (W)	190
L/M/H Power Input at Factory Default (W)	55 / 63 / 85

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at [www.ahridirectory.org](http://www.ahridirectory.org).

**Electrical:**

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	1.6

**Piping:**

Refrigerant:

Liquid Line (in, OD)	1/4 Flare
Vapor Line (in, OD)	1/2 Flare

Condensate:

Condensate Pump Drain <sup>2</sup> (in, ID)	1 Plain
Gravity Drain Plugged (in, OD)	1 (3/4 MPT)

**Controls Features:**

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Dual thermistor control
- Wi-Fi compatible
- Dual setpoint control
- Multiple aux heater applications
- Filter life display
- External on/off control
- Auto fan
- Leak detection
- Weekly schedule
- Fan speed control
- Group control
- Hot start
- Self diagnostics
- Timer (on/off)
- Child lock

**Optional Accessories:**

- Wireless Remote Controller<sup>3</sup> - PQWRHQ0FDB
- Premium Controller - PREMTA000
- MultiSITE CRC1 Controller - PREMTBVC0
- MultiSITE CRC1+ Controller - PREMTBVC1
- Simple Controller - PREMTCC00U
- Wi-Fi Module - PWFMD200
- Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
- Dry Contact for Economizer - PDRYCB400
- Dry Contact for Third Party Thermostat - PDRYCB320<sup>14</sup>
- Aux Heater Kit - PRARH1<sup>14</sup>
- Remote Temperature Button Sensor - ZRTBS01
- High Efficiency Filter Box - ZFBXM101A

**Entering Mixed Air:**

Cooling Max <sup>4</sup> (°F WB)	76
Heating Min (°F DB)	59

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Power <sup>5</sup> dB(A) (H/M/L, @0.24 ESP)	49 / 47 / 43
Filter Type	Washable
MERV	N/A
Filter Quantity	2
Filter Dimensions <sup>6</sup> (in)	9-1/16 x 33-7/16 x 3/16
Net Unit Weight (lbs)	56.0
Shipping Weight (lbs)	67.0

**Fan:**

Type	Sirocco
Fan Quantity	2
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	1
Standard Mode Airflow Rate H/M/L (CFM)	606 / 493 / 413
Standard Mode External Static Pressure (ESP) <sup>7</sup> (in wg)	0.10
High Mode Airflow Rate H/M/L (CFM)	638 / 556 / 392
High Mode External Static Pressure (ESP) <sup>7</sup> (in wg)	0.24
Airflow Range (CFM)	216 - 906
Minimum ESP (in wg) <sup>8</sup>	0.08
Maximum ESP (in wg) <sup>8</sup>	0.59

**Notes:**

- 1 Maximum power input is rated at maximum setting value.
- 2 Maximum lift is 27 in from bottom of unit. Check valve not included (field supplied).
- 3 Requires an LG wall controller because ducted units do not have infrared receiver.
- 4 See Engineering Manual for sensible and latent capacities.
- 5 Sound Power level is measured using rated conditions, and tested in a reverberation room per ISO 3741 standards.
- 6 Actual filter sizes may vary.
- 7 At factory fan speed setting.
- 8 Maximum static pressure may result in reduced airflow (CFM).
- 9 All Communication cable between Main outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Main outdoor unit chassis only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
- 10 Power wiring cable size must comply with the applicable local and national code.
- 11 This unit comes with a dry nitrogen charge.
- 12 All capacities are net with a combination ratio between 95 – 105%.
- 13 Must follow installation instructions in the applicable LG installation manual.
- 14 If a Third-Party Dry Contact and an LG internal heater or an LG Auxiliary Heater Kit is installed, supplemental heat capability cannot be controlled by the Third-Party Thermostat.

For continual product development, LG reserves the right to change specifications without notice.





Job Name/Location:

FC 1-6, 8-1

Tag #:

Date:

For:  File  Resubmit

PO No.:

Approval  Other

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)



**ARNU243M1A4**  
Multi V™ Mid Static Ducted  
24,200 Btu/h Indoor Unit



**Performance:**

Total Cooling Capacity (Btu/h)	24200
Heating Capacity (Btu/h)	27300
Max Power Input <sup>1</sup> (W)	190
L/M/H Power Input at Factory Default (W)	58 / 74 / 91

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at [www.ahridirectory.org](http://www.ahridirectory.org).

**Electrical:**

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	1.6

**Piping:**

Refrigerant:

Liquid Line (in, OD)	3/8 Flare
Vapor Line (in, OD)	5/8 Flare

Condensate:

Condensate Pump Drain <sup>2</sup> (in, ID)	1 Plain
Gravity Drain Plugged (in, OD)	1 (3/4 MPT)

**Controls Features:**

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Dual thermistor control
- Wi-Fi compatible
- Dual setpoint control
- Multiple aux heater applications
- Filter life display
- External on/off control
- Auto fan
- Leak detection
- Weekly schedule
- Fan speed control
- Group control
- Hot start
- Self diagnostics
- Timer (on/off)
- Child lock

**Optional Accessories:**

- Wireless Remote Controller<sup>3</sup> - PQWRHQ0FDB
- Premium Controller - PREMTA000
- MultiSITE CRC1 Controller - PREMTBVC0
- MultiSITE CRC1+ Controller - PREMTBVC1
- Simple Controller - PREMTCC00U
- Wi-Fi Module - PWFMD200
- Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
- Dry Contact for Economizer - PDRYCB400
- Dry Contact for Third Party Thermostat - PDRYCB320<sup>14</sup>
- Aux Heater Kit - PRARH1<sup>14</sup>
- Remote Temperature Button Sensor - ZRTBS01
- High Efficiency Filter Box - ZFBXM101A

**Entering Mixed Air:**

Cooling Max <sup>4</sup> (°F WB)	76
Heating Min (°F DB)	59

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Power <sup>5</sup> dB(A) (H/M/L, @0.24 ESP)	51 / 49 / 47
Filter Type	Washable
MERV	N/A
Filter Quantity	2
Filter Dimensions <sup>6</sup> (in)	9-1/16 x 33-7/16 x 3/16
Net Unit Weight (lbs)	59.0
Shipping Weight (lbs)	70.0

**Fan:**

Type	Sirocco
Fan Quantity	2
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	1
Standard Mode Airflow Rate H/M/L (CFM)	641 / 592 / 493
Standard Mode External Static Pressure (ESP) <sup>7</sup> (in wg)	0.10
High Mode Airflow Rate H/M/L (CFM)	703 / 638 / 556
High Mode External Static Pressure (ESP) <sup>7</sup> (in wg)	0.24
Airflow Range (CFM)	216 - 906
Minimum ESP (in wg) <sup>8</sup>	0.08
Maximum ESP (in wg) <sup>8</sup>	0.59

**Notes:**

- 1 Maximum power input is rated at maximum setting value.
- 2 Maximum lift is 27 in from bottom of unit. Check valve not included (field supplied).
- 3 Requires an LG wall controller because ducted units do not have infrared receiver.
- 4 See Engineering Manual for sensible and latent capacities.
- 5 Sound Power level is measured using rated conditions, and tested in a reverberation room per ISO 3741 standards.
- 6 Actual filter sizes may vary.
- 7 At factory fan speed setting.
- 8 Maximum static pressure may result in reduced airflow (CFM).
- 9 All Communication cable between Main outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Main outdoor unit chassis only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
- 10 Power wiring cable size must comply with the applicable local and national code.
- 11 This unit comes with a dry nitrogen charge.
- 12 All capacities are net with a combination ratio between 95 – 105%.
- 13 Must follow installation instructions in the applicable LG installation manual.
- 14 If a Third-Party Dry Contact and an LG internal heater or an LG Auxiliary Heater Kit is installed, supplemental heat capability cannot be controlled by the Third-Party Thermostat.

For continual product development, LG reserves the right to change specifications without notice.

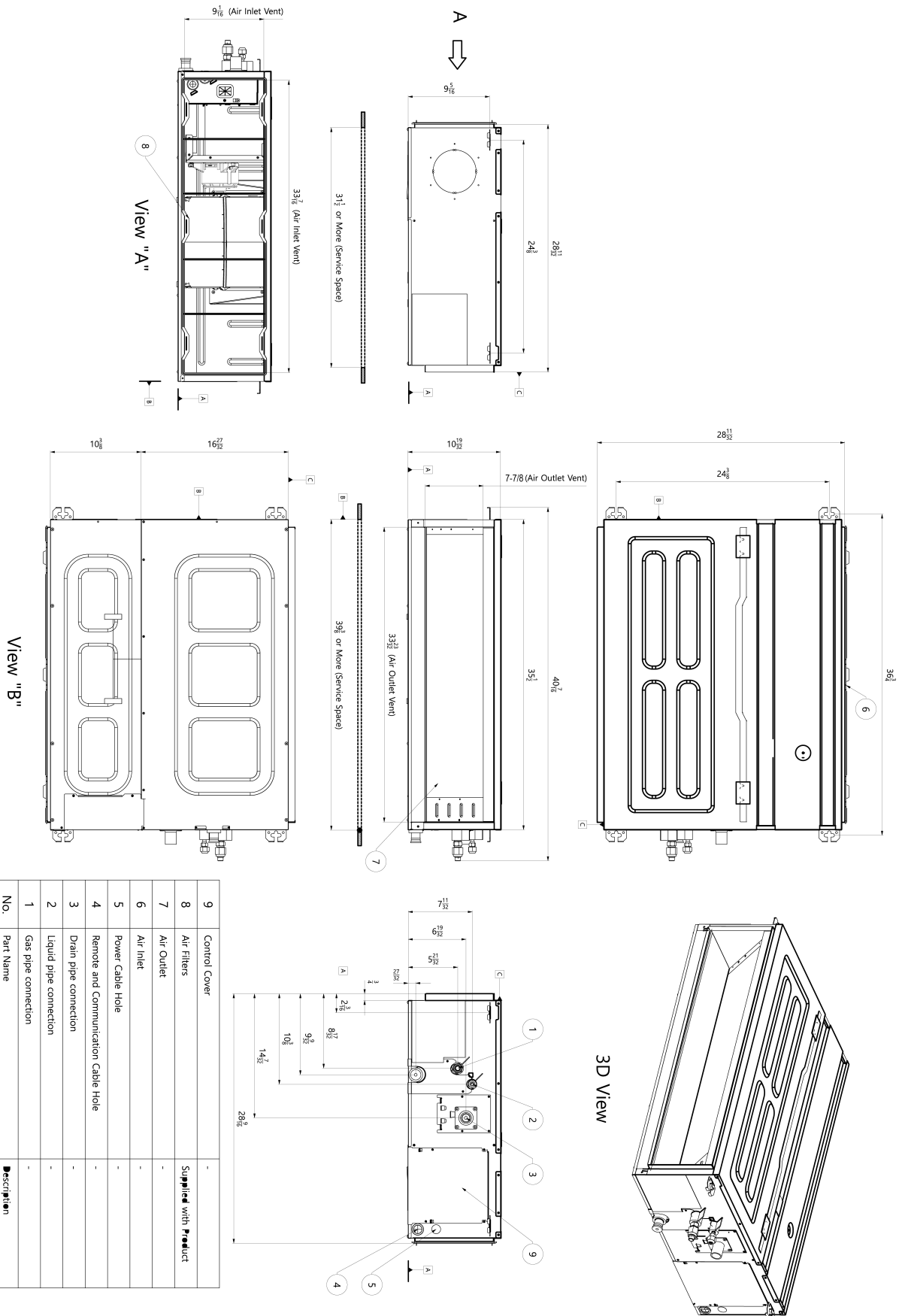


Job Name/Location:

**ARNU243M1A4**  
**Multi V™ Mid Static Ducted**  
**24,200 Btu/h Indoor Unit**



**Tag #:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**PO No.:** \_\_\_\_\_



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Job Name/Location:

FC 2-1, 2-3, 2-5

Tag #:

Date:

For:  File  Resubmit

PO No.:

Approval  Other

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)

**ARNU363M2A4**  
**Multi V™ Mid Static Ducted**  
**36,200 Btu/h Indoor Unit**



**Performance:**

Total Cooling Capacity (Btu/h)	36,200
Heating Capacity (Btu/h)	40,600
Max Power Input <sup>1</sup> (W)	430
L/M/H Power Input at Factory Default (W)	88 / 123 / 184

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at [www.ahridirectory.org](http://www.ahridirectory.org).

**Electrical:**

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	2.3

**Piping:**

Refrigerant:

Liquid Line (in, OD)	3/8 Flare
Vapor Line (in, OD)	5/8 Flare

Condensate:

Condensate Pump Drain <sup>2</sup> (in, ID)	1 Plain
Gravity Drain Plugged (in, OD)	1 (3/4 MPT)

**Controls Features:**

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Dual thermistor control
- Wi-Fi compatible
- Dual setpoint control
- Multiple aux heater applications
- Filter life display
- External on/off control
- Auto fan
- Leak detection
- Weekly schedule
- Fan speed control
- Group control
- Hot start
- Self diagnostics
- Timer (on/off)
- Child lock

**Optional Accessories:**

- Wireless Remote Controller<sup>3</sup> - PQWRHQ0FDB
- Premium Controller - PREMTA000
- MultiSITE CRC1 Controller - PREMTBVC0
- MultiSITE CRC1+ Controller - PREMTBVC1
- Simple Controller - PREMTCC00U
- Wi-Fi Module - PWFMD200
- Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
- Dry Contact for Economizer - PDRYCB400
- Dry Contact for Third Party Thermostat - PDRYCB320<sup>14</sup>
- Aux Heater Kit - PRARH1<sup>14</sup>
- Remote Temperature Button Sensor - ZRTBS01
- High Efficiency Filter Box - ZFBXM201A

**Entering Mixed Air:**

Cooling Max <sup>4</sup> (°F WB)	76
Heating Min (°F DB)	59

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Power <sup>5</sup> dB(A) (H/M/L, @0.24 ESP)	65/62/60
Filter Type	Washable
MERV	N/A
Filter Quantity	2
Filter Dimensions <sup>6</sup> (in)	9-11/16 x 23-15/16 x 3/16
Net Unit Weight (lbs)	86.2
Shipping Weight (lbs)	99.2

**Fan:**

Type	Sirocco
Fan Quantity	2
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	1
Standard Mode Airflow Rate H/M/L (CFM)	1021 / 844 / 695
Standard Mode External Static Pressure (ESP) <sup>7</sup> (in wg)	0.20
High Mode Airflow Rate H/M/L (CFM)	1031 / 845 / 676
High Mode External Static Pressure (ESP) <sup>7</sup> (in wg)	0.24
Airflow Range (CFM)	676 - 1,554
Minimum ESP (in wg) <sup>8</sup>	0.16
Maximum ESP (in wg) <sup>8</sup>	0.71

**Notes:**

- 1 Maximum power input is rated at maximum setting value.
- 2 Maximum lift is 27 in from bottom of unit. Check valve not included (field supplied).
- 3 Requires an LG wall controller because ducted units do not have infrared receiver.
- 4 See Engineering Manual for sensible and latent capacities.
- 5 Sound Power level is measured using rated conditions, and tested in a reverberation room per ISO 3741 standards.
- 6 Actual filter sizes may vary.
- 7 At factory fan speed setting.
- 8 Maximum static pressure may result in reduced airflow (CFM).
- 9 All Communication cable between Main outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Main outdoor unit chassis only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
- 10 Power wiring cable size must comply with the applicable local and national code.
- 11 This unit comes with a dry nitrogen charge.
- 12 All capacities are net with a combination ratio between 95 – 105%.
- 13 Must follow installation instructions in the applicable LG installation manual.
- 14 If a Third-Party Dry Contact and an LG internal heater or an LG Auxiliary Heater Kit is installed, supplemental heat capability cannot be controlled by the Third-Party Thermostat.

For continual product development, LG reserves the right to change specifications without notice.



Job Name/Location:

**ARNU363M2A4**  
**Multi V™ Mid Static Ducted**  
**36,200 Btu/h Indoor Unit**

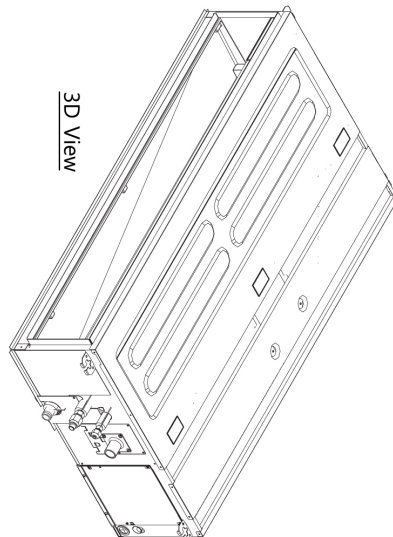
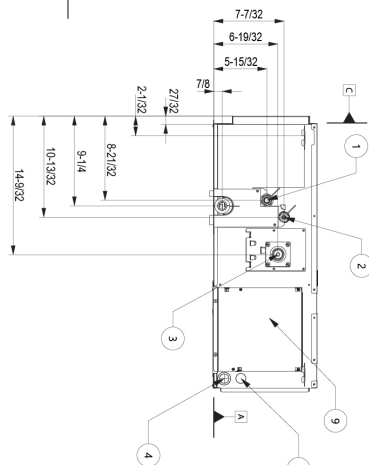
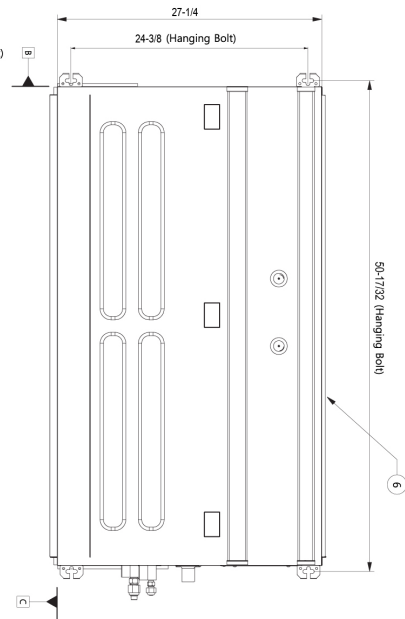
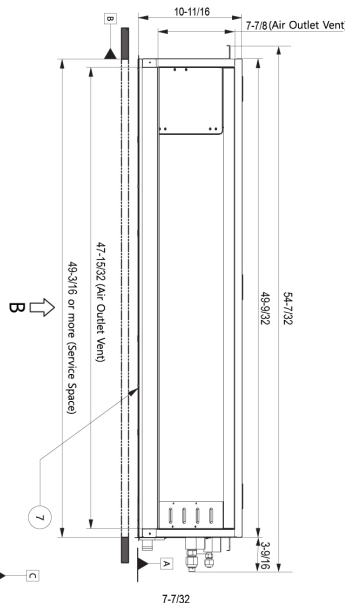
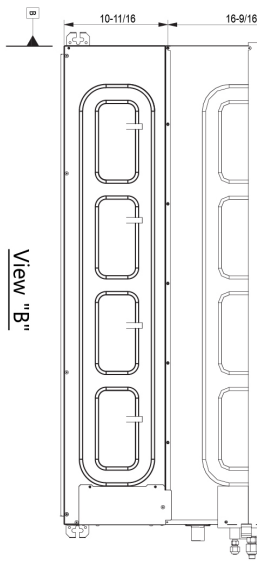
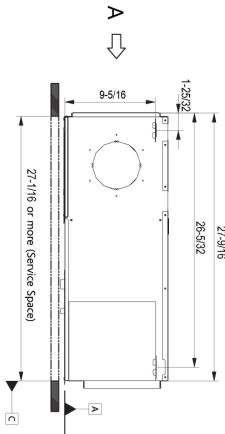
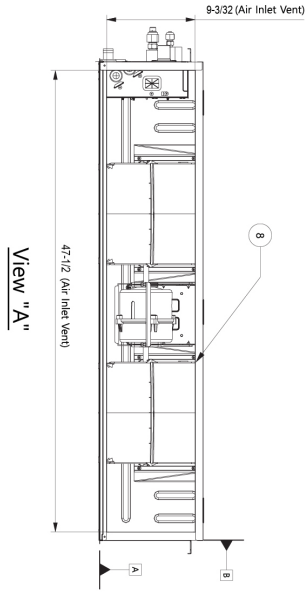


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Date:

PO No.:

[Unit: inch]



No.	Part Name	Description
9	Control Cover	-
8	Air Filters	Supplied with product
7	Air Outlet	-
6	Air Inlet	-
5	Power Cable Hole	-
4	Remote and Communication Cable Hole	-
3	Drain pipe connection	-
2	Liquid pipe connection	-
1	Gas pipe connection	-

Job Name/Location: **FC 7-1, 7-2, 7-3, 7-4, 7-5, 7-6, 9-1, 9-2, 9-3, 9-4**

Tag #:

Date: \_\_\_\_\_

For:  File     Resubmit  
 Approval    Other \_\_\_\_\_

PO No.: \_\_\_\_\_

Architect: \_\_\_\_\_ GC: \_\_\_\_\_

Engr: \_\_\_\_\_ Mech: \_\_\_\_\_

Rep: \_\_\_\_\_  
(Company) (Project Manager)



## ARNU243SKA4

Multi V™ Standard Wall Mounted Unit  
 24,200 Btu/h Indoor Unit



### Performance:

Total Cooling Capacity (Btu/h) <sup>1</sup>	24,200
Heating Capacity (Btu/h) <sup>1</sup>	25,600
Max Power Input (W) <sup>2</sup>	53
L / M / H Power Input at Factory Default (W)	16 / 26 / 39

Rated capacity is certified under AHRI Standard 1230. Ratings are subject to change without notice. Current certified ratings are available at [www.ahridirectory.org](http://www.ahridirectory.org).

### Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.52

### Piping:

Refrigerant	
Liquid Line (in., O.D.)	3/8 Flare
Vapor Line (in., O.D.)	5/8 Flare
Condensate	
Condensate Line (in., I.D.)	5/8
Factory Installed Pump	No

### Controls Features:

- Auto changeover (Heat Recovery only)
- Auto operation
- Auto restart
- Dual thermistor control
- Dual setpoint control
- Multiple auxillary heater applications
- Timer (on/off)
- Weekly schedule
- Auto direction/ swing (up/down)
- Fan speed control
- Jet cool (fast cooling)
- Filter life display
- Child lock
- Group control
- Hot start
- Self diagnostics
- External on/off control
- Wi-Fi compatible
- Auto Fan
- Leak Detection

### Optional Accessories:

- Wireless Remote Controller - PQWRHQ0FDB
- MultiSITE™ CRC1 Controller - PREMTBVCO
- MultiSITE™ CRC1+ Controller - PREMTBVC1
- Simple Remote Controller - PREMTC00U
- Premium Remote Controller - PREMTA000
- Remote Temperature Button Sensor - ZRTBS01
- Simple Dry Contact (1 contact, 24 VAC external power) - PDRYCB100
- Dry Contact for Third Party Thermostat - PDRYCB320
- Dry Contact for Economizer - PDRYCB400
- Auxillary Heater Kit - PRARS1

### Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure dB(A) (H/M/L) <sup>3</sup>	46 / 41 / 34
Primary Filter Type	Washable
Unit Net Weight (lbs.)	26.9
Unit Shipping Weight (lbs.)	35.3

### Fan:

Type	Cross Flow
Quantity	1
Motor/Drive	Brushless Digitally Controlled/Direct
Motor Quantity	1
Air Flow Rate H/M/L (CFM)	537 / 449 / 371

### Notes:

1. See Engineering Manual for sensible and latent capacities.
2. Max. power input is rated at maximum setting value.
3. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
4. All communication cable to be minimum 18 AWG, 2-conductor, twisted, stranded, shielded and must comply with applicable local and national codes. Ensure the communication cable is properly grounded at the main outdoor unit only. Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
5. Power wiring is field provided and must comply with the applicable local and national codes.
6. This unit comes with a dry nitrogen charge.
7. All capacities are net with a combination ratio between 95 – 105%.
8. Must follow installation instructions in the applicable LG installation manual.



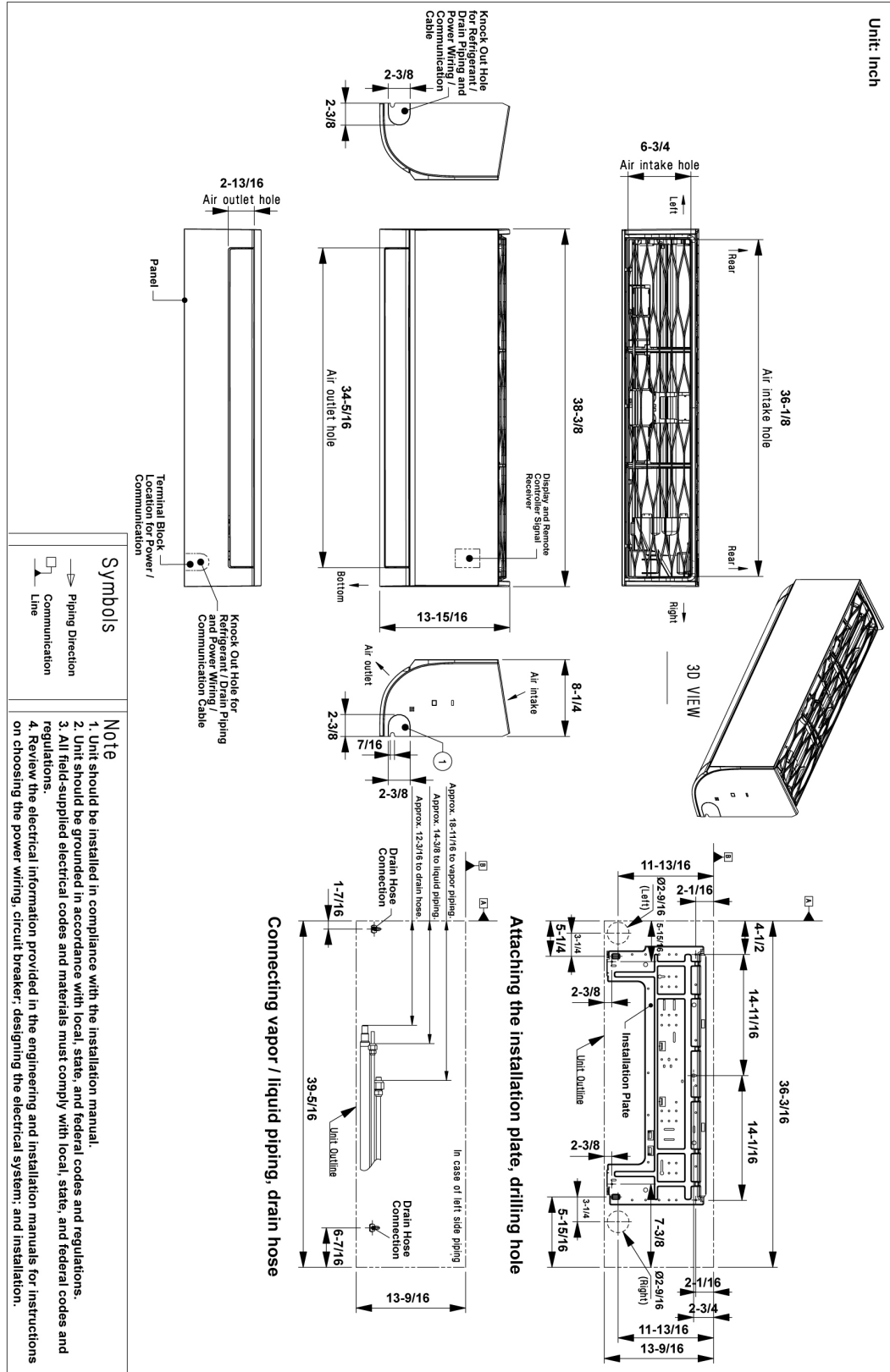
**ARNU243SKA4**  
**Multi V™ Standard Wall Mounted Unit**  
 24,200 Btu/h Indoor Unit



Tag No.: \_\_\_\_\_

Date: \_\_\_\_\_

PO No.: \_\_\_\_\_





Job Name/Location:

HRU 1-1

Tag No.:

Date:

For:  File  Resubmit

PO No.:

Approval  Other

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)



## PRHR063A

### Multi V™ Heat Recovery Unit

Six (6) Port



#### Performance:

Maximum Port Capacity Btu/h (each port) <sup>1,2</sup>	60,000
Maximum Unit Capacity Btu/h (sum of ports)	230,000
Number of Indoor Unit Ports	6
Max. Connectible Number of Indoor Units	48
Max. Connectible Number of Indoor Units per Branch	8
Power Input <sup>3</sup>	
Cooling	75.9
Heating	72.1

#### Refrigerant Piping:<sup>4</sup>

Port Liquid Line (in., O.D.)	3/8
Port Vapor Line (in., O.D.)	5/8
System Liquid Line (in., O.D.)	5/8
System Vapor Line High (in., O.D.)	7/8
System Vapor Line Low (in., O.D.)	1-1/8

#### Features:

- Allows connected indoor units to be in cooling or heating mode simultaneously.
- Internal components are insulated.
  - External casing insulation is not needed.<sup>4</sup>
  - Condensate drain not needed.
- Includes high pressure vapor pipe strainer accessory.
- Factory installed indoor unit vapor pipe strainers.
- Series or parallel connection with additional heat recovery units.
- Flexible placement for service access or pipe routing.
- Access panels:
  - Top panel for EEV heads.
  - Rear panel for control access.
  - Bottom panel for refrigerant circuit.

#### Electrical:<sup>3</sup>

Power Supply (V/Hz/∅)	208-230/60/1
Rated Amps	0.09

#### Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure	
Cooling Mode dB(A)	31
Heating Mode dB(A)	31
Simultaneous dB(A)	38
Changeover Cooling to Heating	33
Changeover Heating to Cooling	38
Unit Net Weight (lbs.)	60
Unit Shipping Weight (lbs.)	75

#### Notes:

1. Each port can allow up to 8 indoor units with a maximum capacity of 60 MBh per port.
2. Multiple units installed on the same heat recovery port must operate in the same mode. Auto-changeover or Mode override is not possible.
3. Power wiring is field provided, and must comply with the applicable local and national codes.
4. All refrigerant piping requires insulation.
5. Communication cable between Main outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Main outdoor unit chassis only. ⚡ Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Kit components must be kept dry and free of debris before installation.
7. This unit comes with a dry nitrogen charge.
8. Must follow installation instructions in the applicable LG installation manual.



Job Name/Location: \_\_\_\_\_

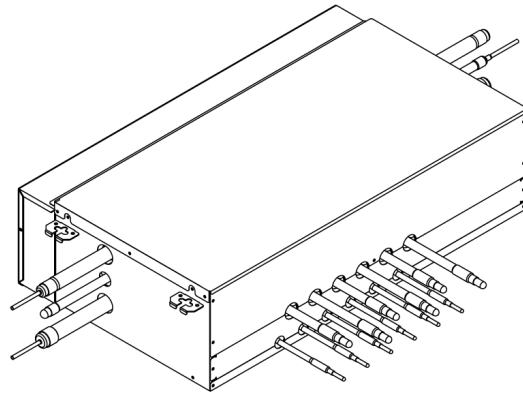
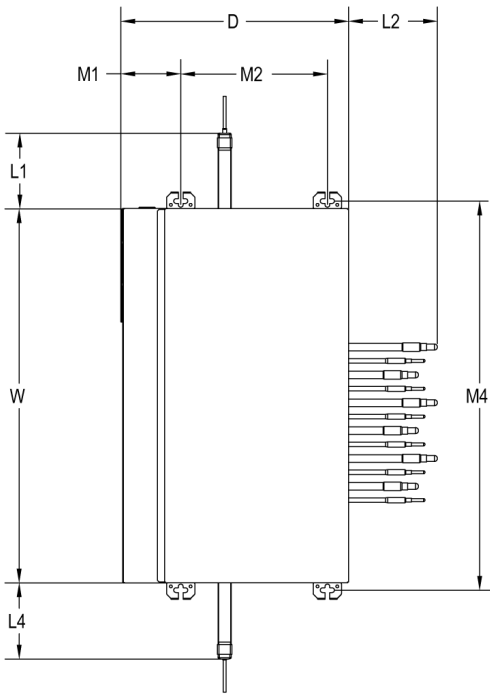
**PRHR063A**  
**Multi V™ Heat Recovery Unit**  
 Six (6) Port



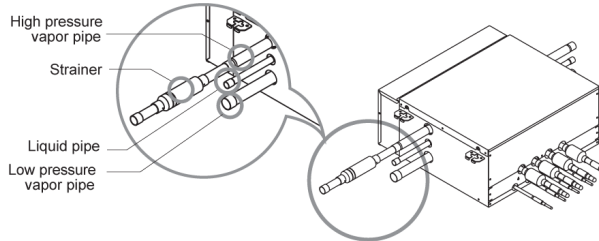
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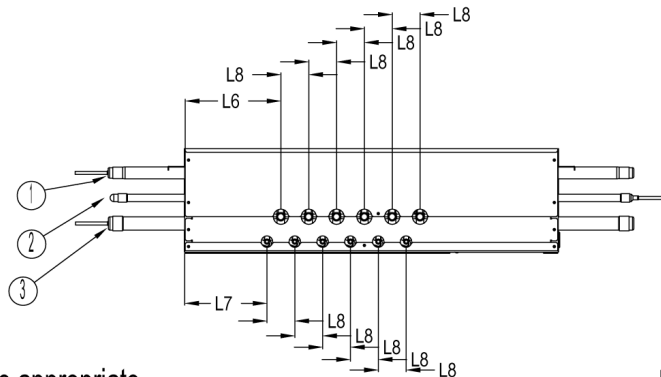
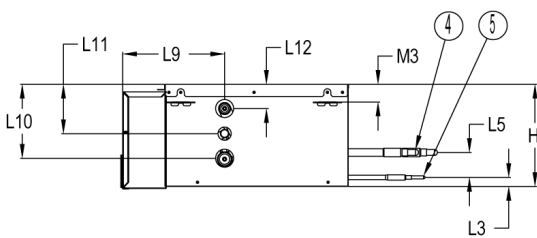
PO No.: \_\_\_\_\_



– Connect the strainer that is provided as an accessory to the HRU high pressure vapor pipe.  
 – Strainers are factory installed on the indoor unit vapor piping.



W	31-1/4"
H	8-5/8"
D	18-15/16"
L1	6-5/16"
L2	6-15/16"
L3	3/4"
L4	6-5/16"
L5	2-3/16"
L6	8-1/16"
L7	6-7/8"
L8	2-5/16"
L9	8-9/16"
L10	6-3/16"
L11	3-9/16"
L12	2"
M1	4-15/16"
M2	12-1/4"
M3	1-1/2"
M4	32-1/2"



[Unit: inch]

**Note:**

1. Unit should be installed in compliance with the appropriate LG installation manual.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials supplied from the site must comply with the local regulations or national codes.

6	Control box
5	Liquid pipe to Indoor unit
4	Vapor pipe to Indoor unit
3	Low pressure vapor pipe
2	Liquid pipe to Outdoor unit
1	High pressure vapor pipe
No.	Part Name

Job Name/Location: **HRU 2-1, 2-2, 2-3**

Tag No.:

Date: \_\_\_\_\_

For:  File  Resubmit  
 Approval  Other \_\_\_\_\_

PO No.: \_\_\_\_\_

Architect: \_\_\_\_\_ GC: \_\_\_\_\_

Engr: \_\_\_\_\_ Mech: \_\_\_\_\_

Rep: \_\_\_\_\_  
(Company) (Project Manager)



**PRHR023A**  
**Multi V™ Heat Recovery Unit**  
 Two (2) Port

**Performance:**

Maximum Port Capacity Btu/h (each port) <sup>1,2</sup>	60,000
Maximum Unit Capacity Btu/h (sum of ports)	120,000
Number of Indoor Unit Ports	2
Max. Connectible Number of Indoor Units	16
Max. Connectible Number of Indoor Units per Branch	8
Power Input <sup>3</sup>	
Cooling	39.8
Heating	37.2

**Electrical:<sup>3</sup>**

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.06

**Refrigerant Piping:<sup>4</sup>**

Port Liquid Line (in., O.D.)	3/8
Port Vapor Line (in., O.D.)	5/8
System Liquid Line (in., O.D.)	3/8
System Vapor Line High (in., O.D.)	3/4
System Vapor Line Low (in., O.D.)	7/8

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure	
Cooling Mode dB(A)	31
Heating Mode dB(A)	31
Simultaneous dB(A)	38
Changeover Cooling to Heating	33
Changeover Heating to Cooling	38
Unit Net Weight (lbs.)	33
Unit Shipping Weight (lbs.)	46

**Features:**

- Allows connected indoor units to be in cooling or heating mode simultaneously.
- Internal components are insulated.
  - External casing insulation is not needed.<sup>4</sup>
  - Condensate drain not needed.
- High pressure vapor pipe strainer accessory not required.
- Factory installed indoor unit vapor pipe strainers.
- Series or parallel connection with additional heat recovery units.
- Flexible placement for service access or pipe routing.
- Access panels:
  - Top panel for EEV heads.
  - Rear panel for control access.
  - Bottom panel for refrigerant circuit.

**Notes:**

1. Each port can allow up to 8 indoor units with a maximum capacity of 60 MBh per port.
2. Multiple units installed on the same heat recovery port must operate in the same mode. Auto-changeover or Mode override is not possible.
3. Power wiring is field provided, and must comply with the applicable local and national codes.
4. All refrigerant piping requires insulation.
5. Communication cable between Main outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Main outdoor unit chassis only. Ⓢ Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Kit components must be kept dry and free of debris before installation.
7. This unit comes with a dry nitrogen charge.
8. Must follow installation instructions in the applicable LG installation manual.



Job Name/Location: \_\_\_\_\_

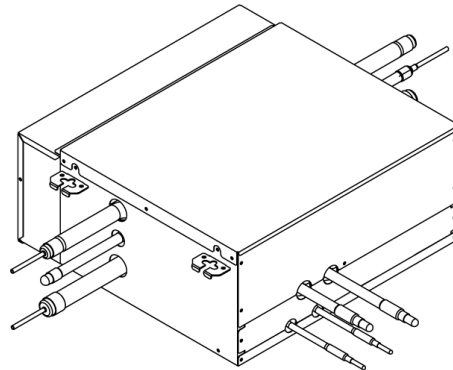
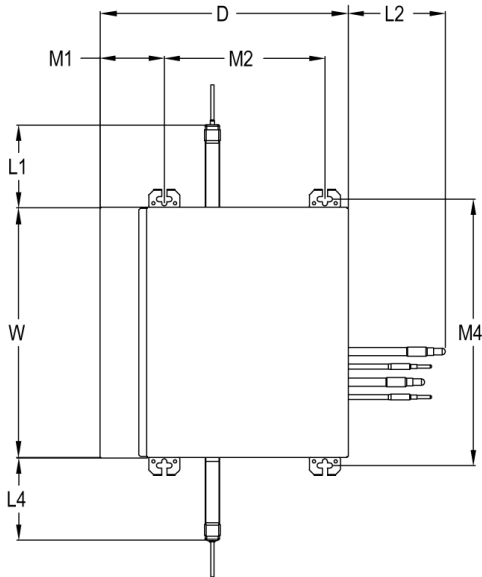
**PRHR023A**  
**Multi V™ Heat Recovery Unit**  
 Two (2) Port



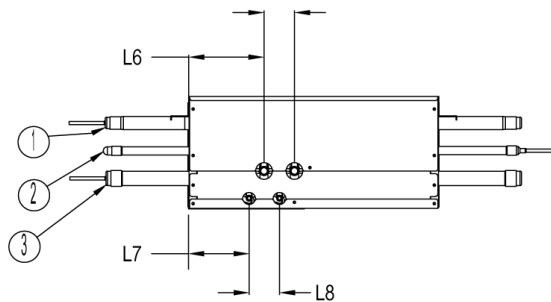
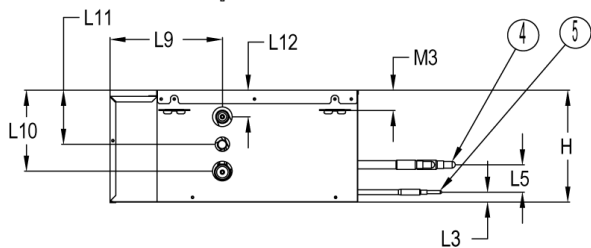
Tag No.: \_\_\_\_\_

Date: \_\_\_\_\_

PO No.: \_\_\_\_\_



Strainers are factory installed on the indoor unit vapor piping.



W	19-1/8"
H	8-5/8"
D	18-15/16"
L1	5-15/16"
L2	6-15/16"
L3	3/4"
L4	5-15/16"
L5	2-3/16"
L6	5-3/4"
L7	4-9/16"
L8	2-5/16"
L9	8-9/16"
L10	6-3/16"
L11	3-9/16"
L12	2"
M1	4-15/16"
M2	12-1/4"
M3	1-1/2"
M4	20-3/8"

[Unit: inch]

**Note:**

1. Unit should be installed in compliance with the appropriate LG installation manual.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials supplied from the site must comply with the local regulations or national codes.

6	Control box
5	Liquid pipe to Indoor unit
4	Vapor pipe to Indoor unit
3	Low pressure vapor pipe
2	Liquid pipe to Outdoor unit
1	High pressure vapor pipe
No.	Part Name

Job Name/Location:

HRU 8-1, 8-2

Tag No.:

Date:

For:  File  Resubmit

PO No.:

Approval  Other

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)



**PRHR033A**  
Multi V™ Heat Recovery Unit  
Three (3) Port

**Performance:**

Maximum Port Capacity Btu/h (each port) <sup>1,2</sup>	60,000
Maximum Unit Capacity Btu/h (sum of ports)	180,000
Number of Indoor Unit Ports	3
Max. Connectible Number of Indoor Units	24
Max. Connectible Number of Indoor Units per Branch	8
Power Input <sup>3</sup>	
Cooling	39.8
Heating	37.2

**Electrical:<sup>3</sup>**

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps	0.06

**Refrigerant Piping:<sup>4</sup>**

Port Liquid Line (in., O.D.)	3/8
Port Vapor Line (in., O.D.)	5/8
System Liquid Line (in., O.D.)	1/2
System Vapor Line High (in., O.D.)	7/8
System Vapor Line Low (in., O.D.)	1-1/8

**Unit Data:**

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure	
Cooling Mode dB(A)	31
Heating Mode dB(A)	31
Simultaneous dB(A)	38
Changeover Cooling to Heating	33
Changeover Heating to Cooling	38
Unit Net Weight (lbs.)	37
Unit Shipping Weight (lbs.)	50

**Features:**

- Allows connected indoor units to be in cooling or heating mode simultaneously.
- Internal components are insulated.
  - External casing insulation is not needed.<sup>4</sup>
  - Condensate drain not needed.
- Includes high pressure vapor pipe strainer accessory.
- Factory installed indoor unit vapor pipe strainers.
- Series or parallel connection with additional heat recovery units.
- Flexible placement for service access or pipe routing.
- Access panels:
  - Top panel for EEV heads.
  - Rear panel for control access.
  - Bottom panel for refrigerant circuit.

**Notes:**

1. Each port can allow up to 8 indoor units with a maximum capacity of 60 MBh per port.
2. Multiple units installed on the same heat recovery port must operate in the same mode. Auto-changeover or Mode override is not possible.
3. Power wiring is field provided, and must comply with the applicable local and national codes.
4. All refrigerant piping requires insulation.
5. Communication cable between Main outdoor units to indoor units / heat recovery units to be 18 AWG, 2-conductor, twisted, stranded, shielded. Ensure the communication cable shield is properly grounded to the Main outdoor unit chassis only. ⚡ Do not ground the outdoor unit to indoor units / heat recovery units communication cable at any other point. Wiring must comply with all applicable local and national codes.
6. Kit components must be kept dry and free of debris before installation.
7. This unit comes with a dry nitrogen charge.
8. Must follow installation instructions in the applicable LG installation manual.





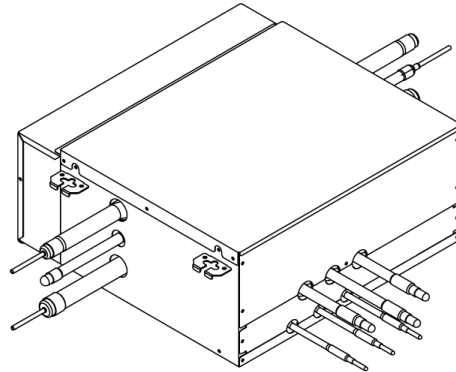
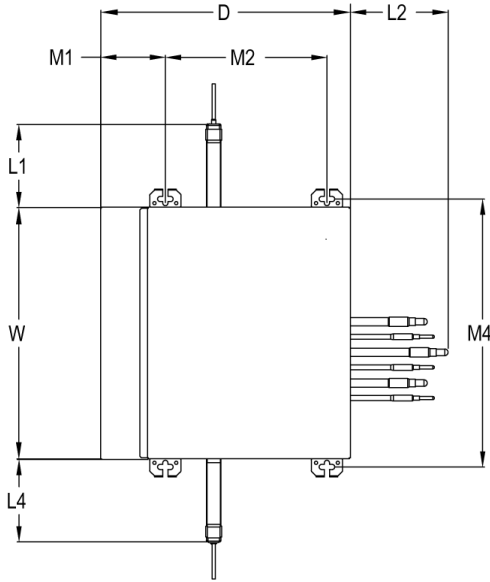
**PRHR033A**  
**Multi V™ Heat Recovery Unit**  
 Three (3) Port



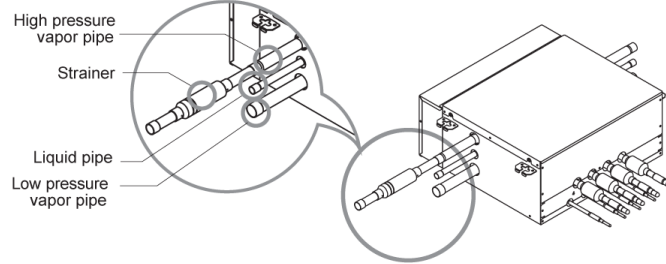
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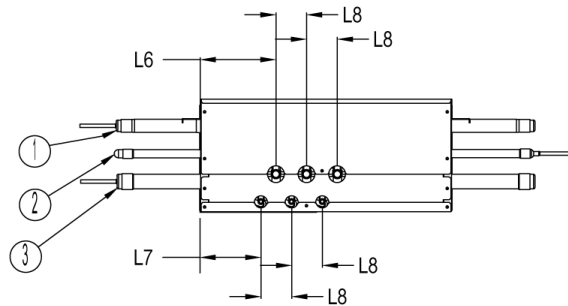
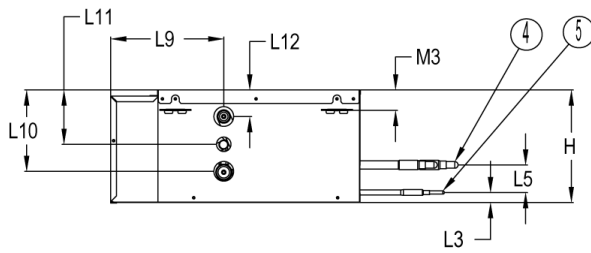
PO No.: \_\_\_\_\_



– Connect the strainer that is provided as an accessory to the HRU high pressure vapor pipe.  
 – Strainers are factory installed on the indoor unit vapor piping.



W	19-1/8"
H	8-5/8"
D	18-15/16"
L1	5-15/16"
L2	6-15/16"
L3	3/4"
L4	5-15/16"
L5	2-3/16"
L6	5-3/4"
L7	4-9/16"
L8	2-5/16"
L9	8-9/16"
L10	6-3/16"
L11	3-9/16"
L12	2"
M1	4-15/16"
M2	12-1/4"
M3	1-1/2"
M4	20-3/8"



[Unit: inch]

**Note:**

1. Unit should be installed in compliance with the appropriate LG installation manual.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials supplied from the site must comply with the local regulations or national codes.

6	Control box
5	Liquid pipe to Indoor unit
4	Vapor pipe to Indoor unit
3	Low pressure vapor pipe
2	Liquid pipe to Outdoor unit
1	High pressure vapor pipe
No.	Part Name

## Model: SQ-100-VG

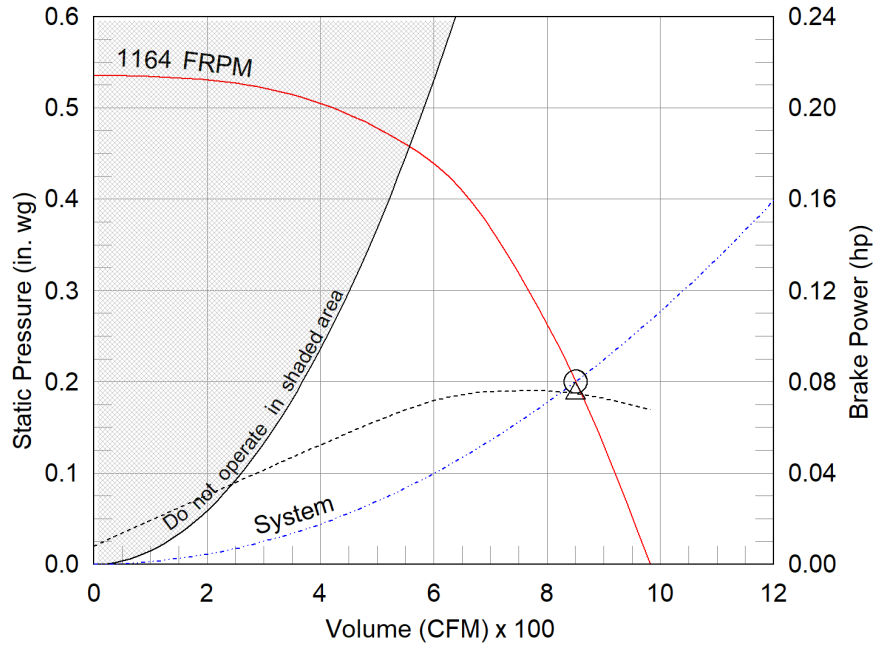
### Direct Drive Centrifugal Inline Fan

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	46
Weight w/ Acc's (lb)	56
Optional Damper (in.)	14 x 14

Performance	
Requested Volume (CFM)	850
Actual Volume (CFM)	850
Total External SP (in. wg)	0.2
Fan RPM	1164
Operating Power (hp)	0.07
Elevation (ft)	39
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	3,410
Static Eff. (%)	36

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	649

Motor	
Motor Mounted	Yes
Size (hp)	1/4
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1725
Windings	1
FLA (Amps)	3.5
Min. Circuit Ampacity (MCA)	4
Max. Overcurrent Protection (MOP)	15
Short Circuit Current Rtg (SCCR)	5 kA



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

### Nameplate Model: SQ-100-VG

#### Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	67	68	65	64	61	55	47	45	65	54	6.6
Radiated	68	70	59	58	56	49	41	41	61	49	5.3

#### Notes:

All dimensions shown are in units of in.  
 \*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory.MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).  
 LwA - A weighted sound power level, based on ANSI S1.4  
 dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
 Sones - calculated using AMCA 301 at 5 ft



## Model: SQ-100-VG

### Direct Drive Centrifugal Inline Fan

#### Standard Construction Features:

- Galvanized steel housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-160) wheel - Two bolted access panels - Integral duct connection flanges - Ball bearing motors (sizes 97-160 and all vari-green motors), sleeve bearing motors (sizes 60-95) - Corrosion resistant fasteners

#### Selected Options & Accessories:

Motor - Vari-Green EC motor

Control - Vari-Green Dial on Exterior of Fan Housing, Mounted and Wired  
UL/cUL 705 Listed - "Power Ventilators"

Junction Box Mounted and Wired

Switch, NEMA-1, Toggle, Shipped Separate

Aluminum Wheel Material

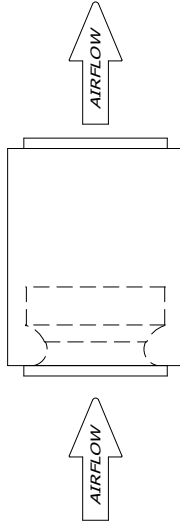
Motor Cover

Unit Warranty: 1 Yr (Standard)

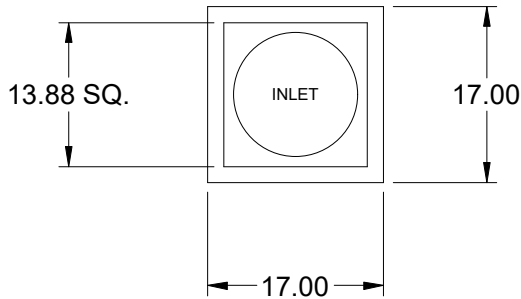
Damper Shipped Loose, Inline, BD-330-PB-14X14, Gravity Operated, Not Coated

SQ-100-VG

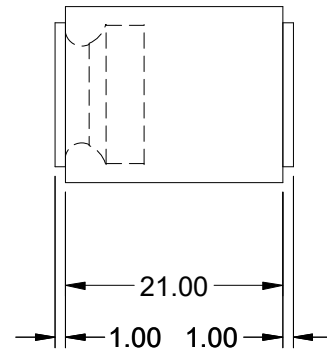
Direct Drive Centrifugal Inline Fan



TOP VIEW



END VIEW



SIDE VIEW

Notes: All dimensions shown are in units of in.

# Disconnect Switch

Enclosure Rating: NEMA-1

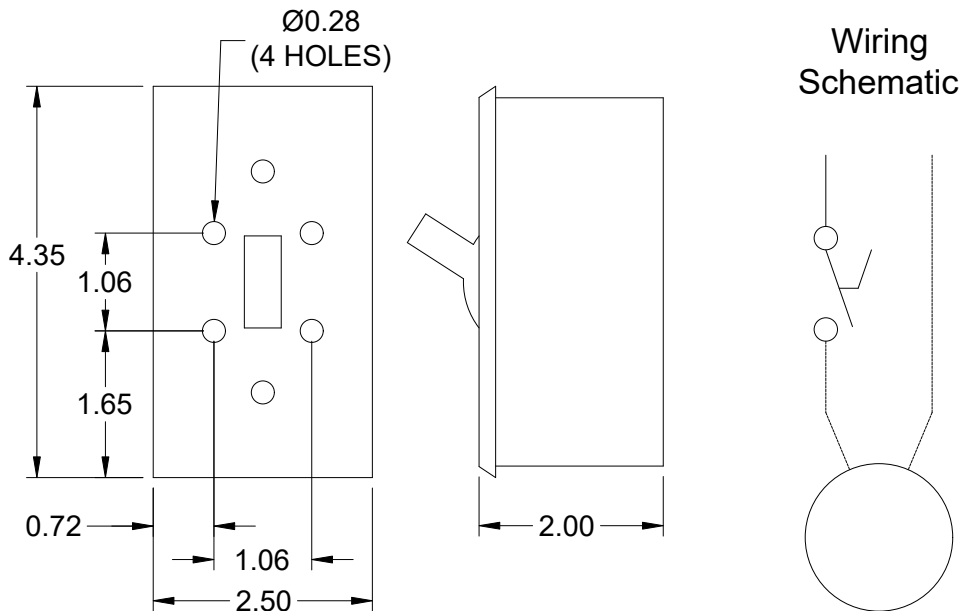
## Standard Construction Features:

Enclosure constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dust. This enclosure meets the rod entry and the indoor corrosion protection design tests. The rod entry test is intended to simulate incidental contact with enclosure equipment. Enclosure is equipped with provision to lockout in the off position with customer supplied lock.

## Disconnect Switch Configuration

Type:	Toggle	Motor Size:	1/4 hp	Voltage:	115	UL Listed:	Yes
Manufacturer:	Pass and Seymour	Cycle:	60	Amperage:	15	CSA Approved:	Yes
Overload Protection:	None	Phase:	1	Switch Pole(s):	1	Rating:	1/2 hp
Junction Box Mtg.:	Ship Separate	RPM:	1725	Exp. Resist. Wiring:	None		
Switch Mounting:	Shipped Separate						

## Electrical Drawing Details



Notes: All dimensions shown are in units of in.



## AMCA



AMCA Licensed for Sound and Air Performance. Power rating (BHP/kW) does not include transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type B: Free inlet, Ducted outlet. Power rating (BHP/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The inlet sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type B: free inlet hemispherical sone levels. dBA levels are not licensed by AMCA International. The AMCA Certified Ratings Seal applies to inlet sone ratings only. Radiated (casing) sound data is the sound generated through the fan housing when the fan is ducted on both the inlet and outlet.

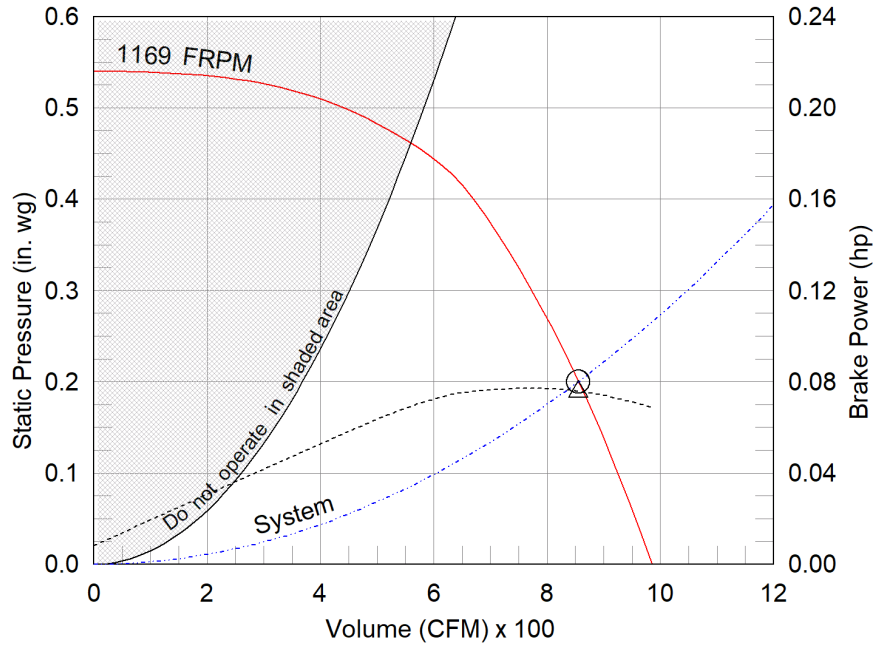
**Model: SQ-100-VG**  
Direct Drive Centrifugal Inline Fan

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	46
Weight w/ Acc's (lb)	56
Optional Damper (in.)	14 x 14

Performance	
Requested Volume (CFM)	855
Actual Volume (CFM)	855
Total External SP (in. wg)	0.2
Fan RPM	1169
Operating Power (hp)	0.08
Elevation (ft)	39
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	3,425
Static Eff. (%)	36

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	653

Motor	
Motor Mounted	Yes
Size (hp)	1/4
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1725
Windings	1
FLA (Amps)	3.5
Min. Circuit Ampacity (MCA)	4
Max. Overcurrent Protection (MOP)	15
Short Circuit Current Rtg (SCCR)	5 kA



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

**Nameplate Model: SQ-100-VG**

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	67	68	65	64	61	55	48	45	66	54	6.6
Radiated	68	70	59	58	56	49	41	41	61	49	5.3

**Notes:**

All dimensions shown are in units of in.  
 \*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory.MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).  
 LwA - A weighted sound power level, based on ANSI S1.4  
 dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
 Sones - calculated using AMCA 301 at 5 ft



## Model: SQ-100-VG

### Direct Drive Centrifugal Inline Fan

#### Standard Construction Features:

- Galvanized steel housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-160) wheel - Two bolted access panels - Integral duct connection flanges - Ball bearing motors (sizes 97-160 and all vari-green motors), sleeve bearing motors (sizes 60-95) - Corrosion resistant fasteners

#### Selected Options & Accessories:

Motor - Vari-Green EC motor

Control - Vari-Green Dial on Exterior of Fan Housing, Mounted and Wired  
UL/cUL 705 Listed - "Power Ventilators"

Junction Box Mounted and Wired

Switch, NEMA-1, Toggle, Shipped Separate

Aluminum Wheel Material

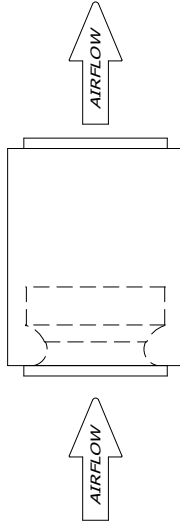
Motor Cover

Unit Warranty: 1 Yr (Standard)

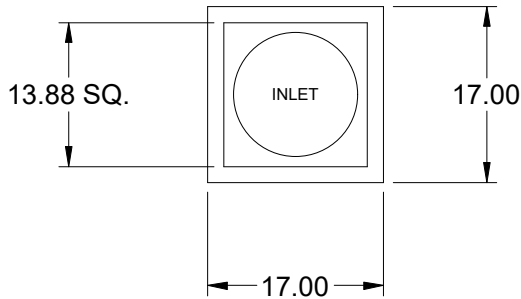
Damper Shipped Loose, Inline, BD-330-PB-14X14, Gravity Operated, Not Coated

SQ-100-VG

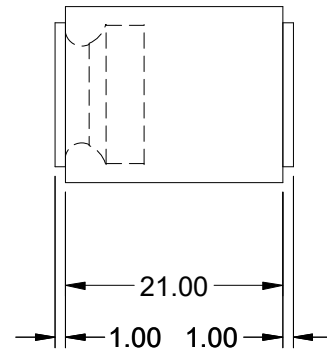
Direct Drive Centrifugal Inline Fan



TOP VIEW



END VIEW



SIDE VIEW

Notes: All dimensions shown are in units of in.

# Disconnect Switch

Enclosure Rating: NEMA-1

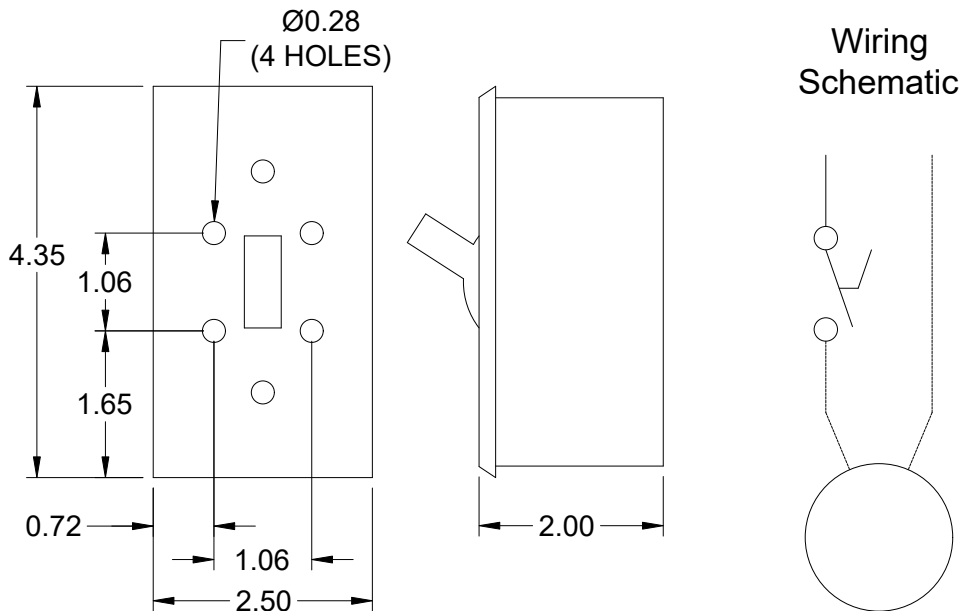
## Standard Construction Features:

Enclosure constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dust. This enclosure meets the rod entry and the indoor corrosion protection design tests. The rod entry test is intended to simulate incidental contact with enclosure equipment. Enclosure is equipped with provision to lockout in the off position with customer supplied lock.

## Disconnect Switch Configuration

Type:	Toggle	Motor Size:	1/4 hp	Voltage:	115	UL Listed:	Yes
Manufacturer:	Pass and Seymour	Cycle:	60	Amperage:	15	CSA Approved:	Yes
Overload Protection:	None	Phase:	1	Switch Pole(s):	1	Rating:	1/2 hp
Junction Box Mtg.:	Ship Separate	RPM:	1725	Exp. Resist. Wiring:	None		
Switch Mounting:	Shipped Separate						

## Electrical Drawing Details



Notes: All dimensions shown are in units of in.



## AMCA



AMCA Licensed for Sound and Air Performance. Power rating (BHP/kW) does not include transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type B: Free inlet, Ducted outlet. Power rating (BHP/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The inlet sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type B: free inlet hemispherical sone levels. dBA levels are not licensed by AMCA International. The AMCA Certified Ratings Seal applies to inlet sone ratings only. Radiated (casing) sound data is the sound generated through the fan housing when the fan is ducted on both the inlet and outlet.

## Model: SQ-90-VG

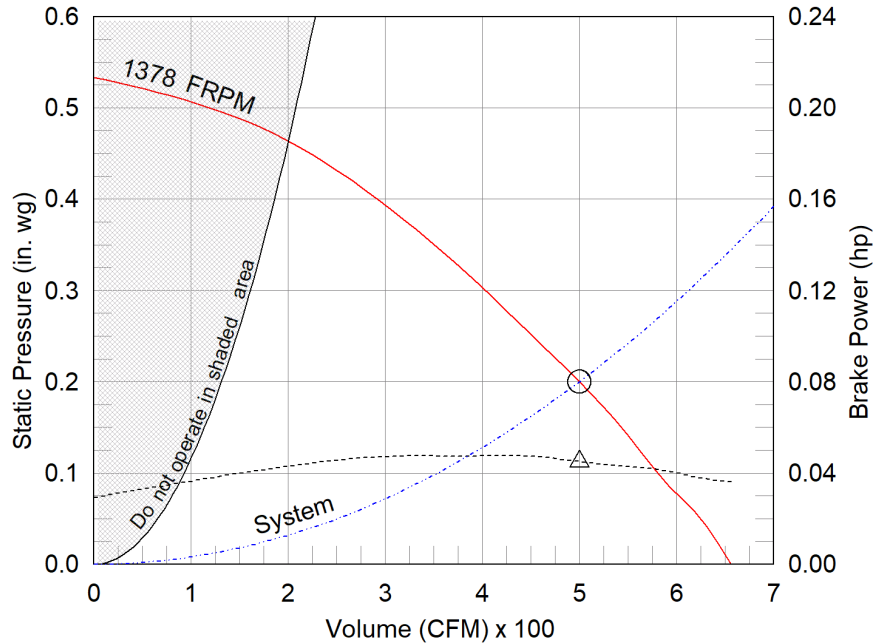
### Direct Drive Centrifugal Inline Fan

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	48
Weight w/ Acc's (lb)	57
Optional Damper (in.)	12 x 12

Performance	
Requested Volume (CFM)	500
Actual Volume (CFM)	500
Total External SP (in. wg)	0.2
Fan RPM	1378
Operating Power (hp)	0.05
Elevation (ft)	39
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	3,924
Static Eff. (%)	35

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	500

Motor	
Motor Mounted	Yes
Size (hp)	1/10
Voltage/Cycle/Phase	115/60/1
Enclosure	TENV
Motor RPM	1725
Windings	1
FLA (Amps)	1.38
Min. Circuit Ampacity (MCA)	2
Max. Overcurrent Protection (MOP)	15
Short Circuit Current Rtg (SCCR)	5 kA



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

### Nameplate Model: SQ-90-VG

#### Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	67	68	66	58	54	54	50	43	62	51	6.0
Radiated	68	70	60	52	49	48	44	39	59	47	4.9

#### Notes:

All dimensions shown are in units of in.  
 \*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory.MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).  
 LwA - A weighted sound power level, based on ANSI S1.4  
 dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
 Sones - calculated using AMCA 301 at 5 ft



## Model: SQ-90-VG

### Direct Drive Centrifugal Inline Fan

#### Standard Construction Features:

- Galvanized steel housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-160) wheel - Two bolted access panels - Integral duct connection flanges - Ball bearing motors (sizes 97-160 and all vari-green motors), sleeve bearing motors (sizes 60-95) - Corrosion resistant fasteners

#### Selected Options & Accessories:

Motor - Vari-Green EC motor

Control - Vari-Green Dial on Exterior of Fan Housing, Mounted and Wired  
UL/cUL 705 Listed - "Power Ventilators"

Junction Box Mounted and Wired

Switch, NEMA-1, Toggle, Shipped Separate

Composite Wheel Material

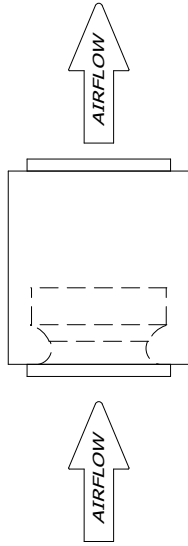
Motor Cover

Unit Warranty: 1 Yr (Standard)

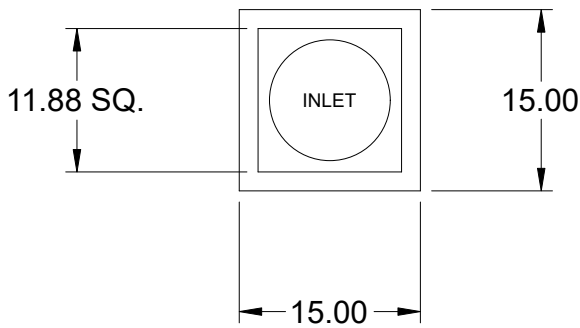
Damper Shipped Loose, Inline, BD-330-PB-12X12, Gravity Operated, Not Coated

SQ-90-VG

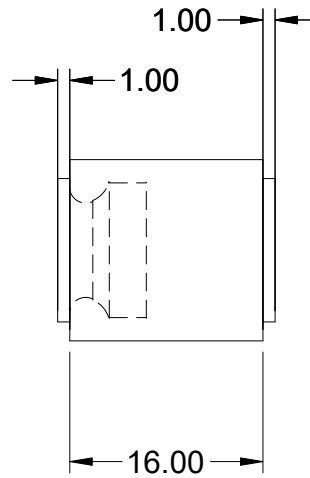
Direct Drive Centrifugal Inline Fan



TOP VIEW



END VIEW



SIDE VIEW

Notes: All dimensions shown are in units of in.

# Disconnect Switch

## Enclosure Rating: NEMA-1

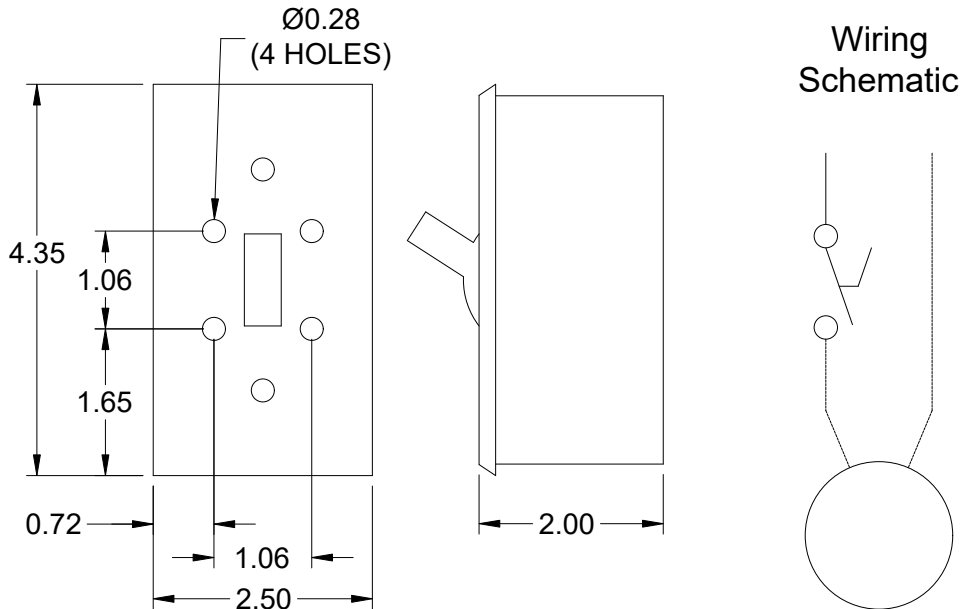
### Standard Construction Features:

Enclosure constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dust. This enclosure meets the rod entry and the indoor corrosion protection design tests. The rod entry test is intended to simulate incidental contact with enclosure equipment. Enclosure is equipped with provision to lockout in the off position with customer supplied lock.

### Disconnect Switch Configuration

Type:	Toggle	Motor Size:	1/10 hp	Voltage:	115	UL Listed:	Yes
Manufacturer:	Pass and Seymour	Cycle:	60	Amperage:	15	CSA Approved:	Yes
Overload Protection:	None	Phase:	1	Switch Pole(s):	1	Rating:	1/2 hp
Junction Box Mtg.:	Ship Separate	RPM:	1725	Exp. Resist. Wiring:	None		
Switch Mounting:	Shipped Separate						

### Electrical Drawing Details



Notes: All dimensions shown are in units of in.



## AMCA



AMCA Licensed for Sound and Air Performance. Power rating (BHP/kW) does not include transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type B: Free inlet, Ducted outlet. Power rating (BHP/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The inlet sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type B: free inlet hemispherical sone levels. dBA levels are not licensed by AMCA International. The AMCA Certified Ratings Seal applies to inlet sone ratings only. Radiated (casing) sound data is the sound generated through the fan housing when the fan is ducted on both the inlet and outlet.

# Model: SP-A50-90-VG

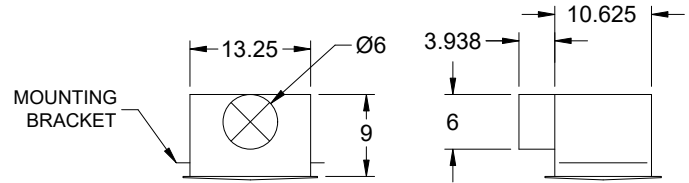
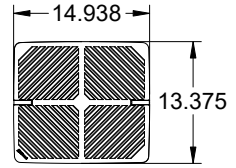
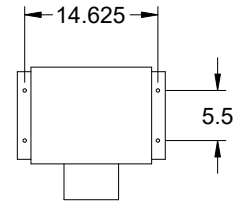
## Ceiling Exhaust Fan

### Standard Construction Features:

- Corrosion resistant galv steel scroll and housing - Sound absorbing insulation - White designer non-yellowing grille - Round outlet duct collar with integral backdraft damper - Double inlet forward curved wheel - Plug type disconnect - Adj. mounting brackets - Field rotatable discharge

### Selected Options & Accessories:

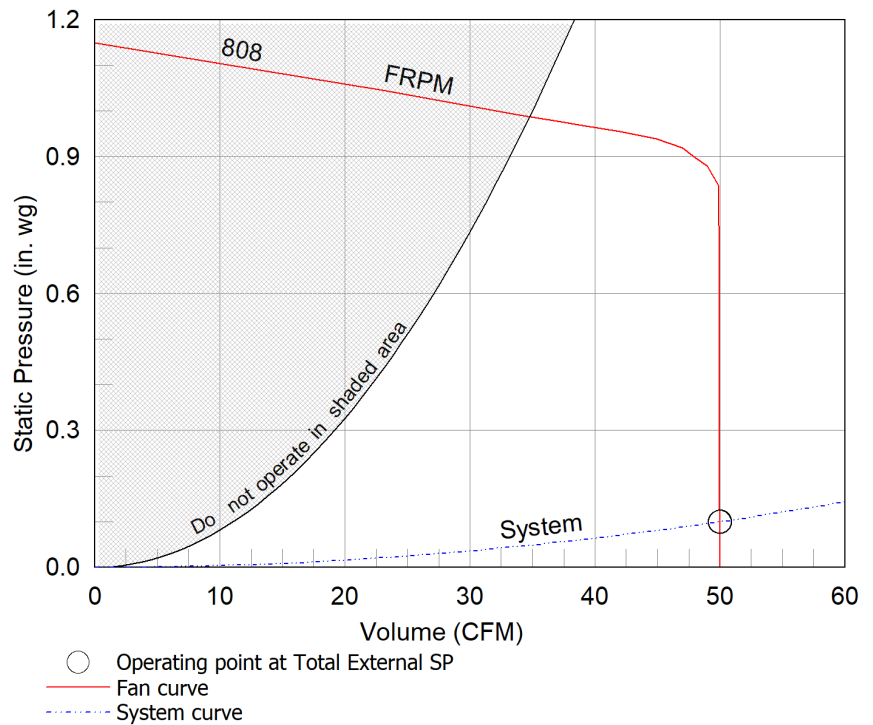
- Motor rated for continuous use
- Motor with CSA Approval
- Motor with 40 Degree C Ambient Temperature
- UL/cUL 507 Listed - Electric Fan
- Round Duct Connection
- Adjustable easy installation mounting bracket
- Energy Star Certified
- Standard Grille
- Polypropylene Wheel Material
- Can Be Used to Comply with: ASHRAE 62.2, California Title 24, and Washington State Energy Code



Dimensional	
Quantity	1
Weight w/o Acc's (lb)	12
Weight w/ Acc's (lb)	12

Performance	
Requested Volume (CFM)	50
Actual Volume (CFM)	50
Total External SP (in. wg)	0.1
Fan RPM	808
* FLA (A)	0.29
Elevation (ft)	39
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Sones	< 0.3

Motor	
Motor Mounted	Yes
** Input Watts (W)	6
Voltage/Cycle/Phase	115/60/1
Enclosure	TEAO

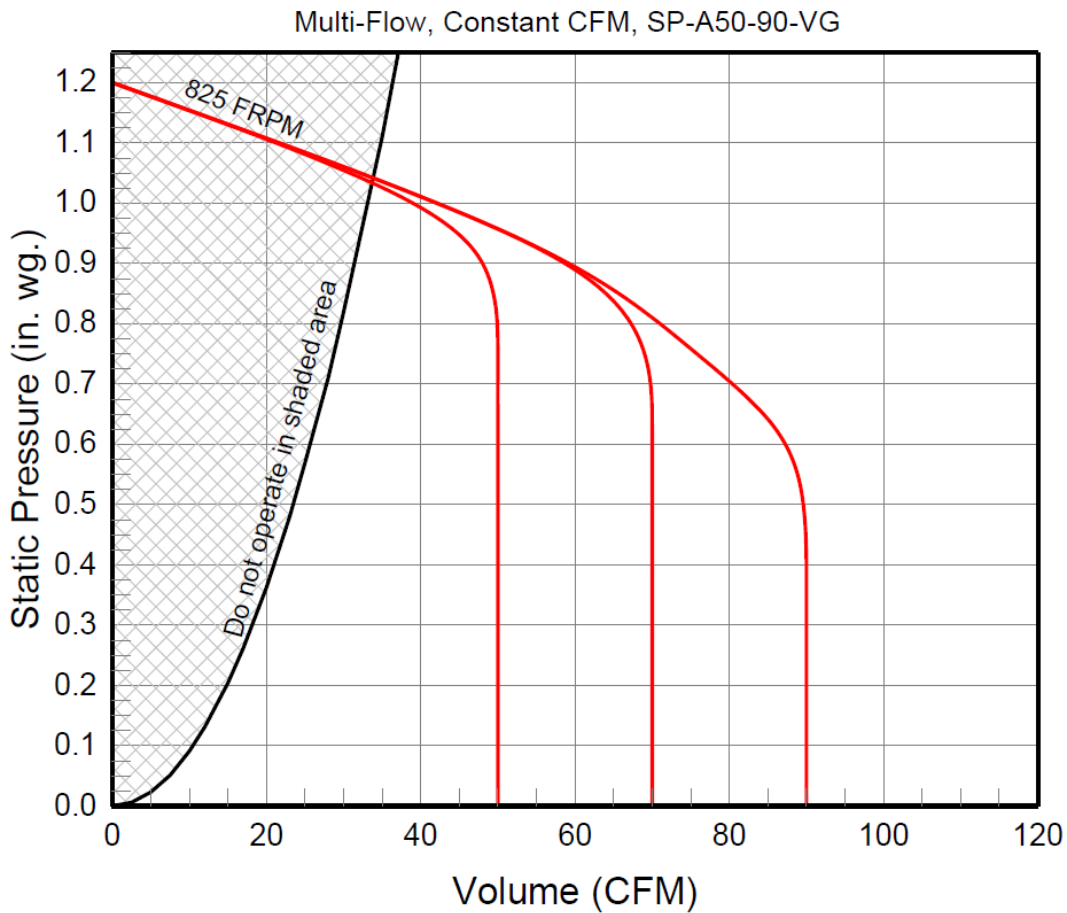


### Notes:

- All dimensions shown are in units of in.
- \*FLA is approximate and will vary slightly with the motor.
- Sones - calculated using AMCA 301 at 5 ft
- \*\* Wattage is approximate and may vary between motors.



This is a Constant Airflow fan which will hold a constant airflow as static pressure increases. This is also a Multi-Flow fan capable of three selectable speeds and will run at the user selected speed by the three position switch on the inside of the fan.



## AMCA



AMCA Licensed for Sound and Air Performance. Power Rating (Watt) includes transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type B: Free inlet, Ducted outlet. Performance ratings include the effects of an inlet grille and backdraft damper. Speed (RPM) shown is nominal. Performance is based on actual speed of test. The watt ratings shown are at free air. The sound ratings shown are for loudness values in spherical sones at 5 ft. (1.5m) in a spherical free field calculated per Annex B of AMCA 311. Values shown are for installation type B: free inlet spherical sone levels. The AMCA Certified Ratings Seal applies to sone ratings only.

# Model: SP-A50-90-VG

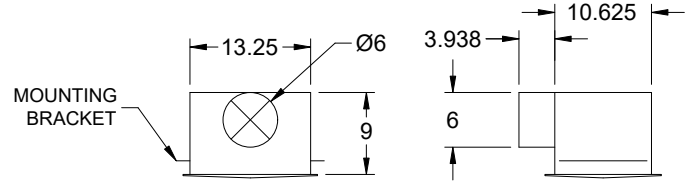
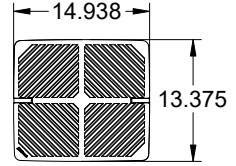
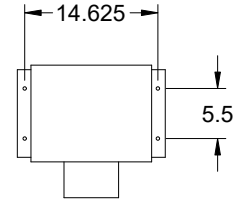
## Ceiling Exhaust Fan

### Standard Construction Features:

- Corrosion resistant galv steel scroll and housing - Sound absorbing insulation - White designer non-yellowing grille - Round outlet duct collar with integral backdraft damper - Double inlet forward curved wheel - Plug type disconnect - Adj. mounting brackets - Field rotatable discharge

### Selected Options & Accessories:

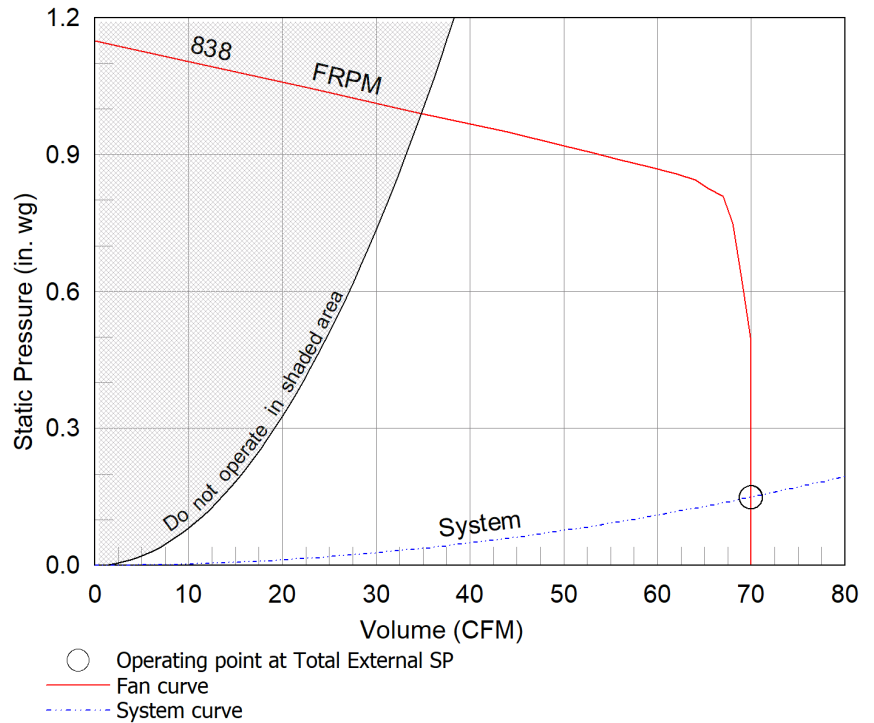
- Motor rated for continuous use
- Motor with CSA Approval
- Motor with 40 Degree C Ambient Temperature
- UL/cUL 507 Listed - Electric Fan
- Round Duct Connection
- Adjustable easy installation mounting bracket
- Energy Star Certified
- Standard Grille
- Polypropylene Wheel Material
- Can Be Used to Comply with: ASHRAE 62.2, California Title 24, and Washington State Energy Code



Dimensional	
Quantity	1
Weight w/o Acc's (lb)	12
Weight w/ Acc's (lb)	12

Performance	
Requested Volume (CFM)	70
Actual Volume (CFM)	70
Total External SP (in. wg)	0.15
Fan RPM	838
* FLA (A)	0.29
Elevation (ft)	39
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Sones	0.5

Motor	
Motor Mounted	Yes
** Input Watts (W)	6
Voltage/Cycle/Phase	115/60/1
Enclosure	TEAO

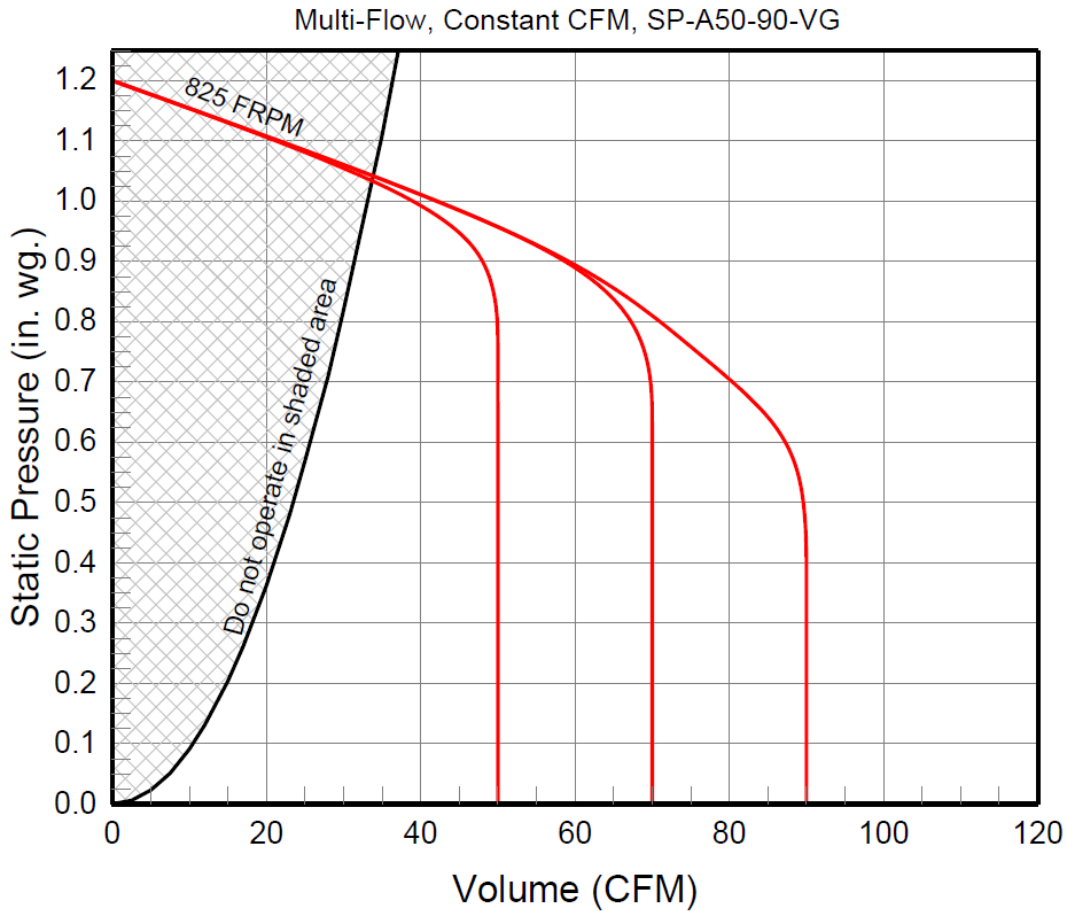


### Notes:

- All dimensions shown are in units of in.
- \*FLA is approximate and will vary slightly with the motor.
- Sones - calculated using AMCA 301 at 5 ft
- \*\* Wattage is approximate and may vary between motors.



This is a Constant Airflow fan which will hold a constant airflow as static pressure increases. This is also a Multi-Flow fan capable of three selectable speeds and will run at the user selected speed by the three position switch on the inside of the fan.





## AMCA



AMCA Licensed for Sound and Air Performance. Power Rating (Watt) includes transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type B: Free inlet, Ducted outlet. Performance ratings include the effects of an inlet grille and backdraft damper. Speed (RPM) shown is nominal. Performance is based on actual speed of test. The watt ratings shown are at free air. The sound ratings shown are for loudness values in spherical sones at 5 ft. (1.5m) in a spherical free field calculated per Annex B of AMCA 311. Values shown are for installation type B: free inlet spherical sone levels. The AMCA Certified Ratings Seal applies to sone ratings only.

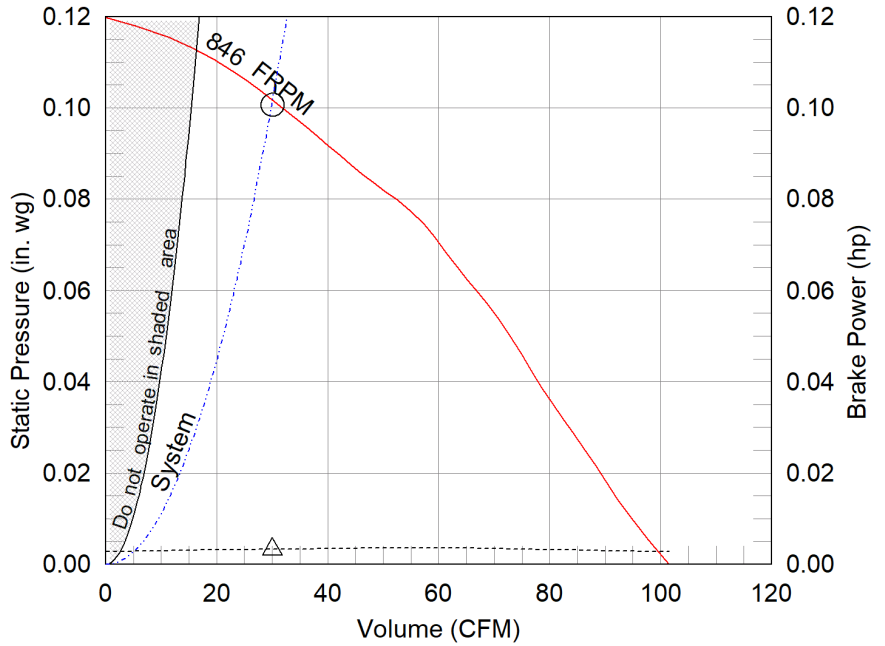
**Model: SQ-60-VG**  
Direct Drive Centrifugal Inline Fan

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	30
Weight w/ Acc's (lb)	33
Optional Damper (in.)	9 x 9

Performance	
Requested Volume (CFM)	30
Actual Volume (CFM)	30
Total External SP (in. wg)	0.101
Fan RPM	846
Operating Power (hp)	0.00
Elevation (ft)	39
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	1,799
Static Eff. (%)	14

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	54

Motor	
Motor Mounted	Yes
Size (hp)	1/15
Voltage/Cycle/Phase	115/60/1
Enclosure	TENV
Motor RPM	1725
Windings	1
FLA (Amps)	1.3
Min. Circuit Ampacity (MCA)	2
Max. Overcurrent Protection (MOP)	15
Short Circuit Current Rtg (SCCR)	5 kA



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- ..... Brake horsepower curve

**Static Pressure Calculations**

External SP	0.1 in. wg
Damper	0.001 in. wg
<b>Total External SP</b>	<b>0.101 in. wg</b>

**Nameplate Model: SQ-60-VG**

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	55	51	42	32	28	23	16	17	39	28	0.5
Radiated	60	61	44	34	26	24	14	20	46	35	1.3

**Notes:**

All dimensions shown are in units of in.  
\*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory.MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).  
LwA - A weighted sound power level, based on ANSI S1.4  
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
Sones - calculated using AMCA 301 at 5 ft



## Model: SQ-60-VG

### Direct Drive Centrifugal Inline Fan

#### Standard Construction Features:

- Galvanized steel housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-160) wheel - Two bolted access panels - Integral duct connection flanges - Ball bearing motors (sizes 97-160 and all vari-green motors), sleeve bearing motors (sizes 60-95) - Corrosion resistant fasteners

#### **Selected Options & Accessories:**

Motor - Vari-Green EC motor with Dial ONLY (Not capable for field conversion to 0-10)

Control - Vari-Green Dial on Exterior of Fan Housing, Mounted and Wired  
UL/cUL 705 Listed - "Power Ventilators"

Junction Box Mounted and Wired

Switch, NEMA-1, Toggle, Shipped Separate

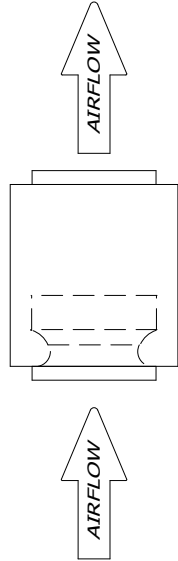
Composite Wheel Material

Unit Warranty: 1 Yr (Standard)

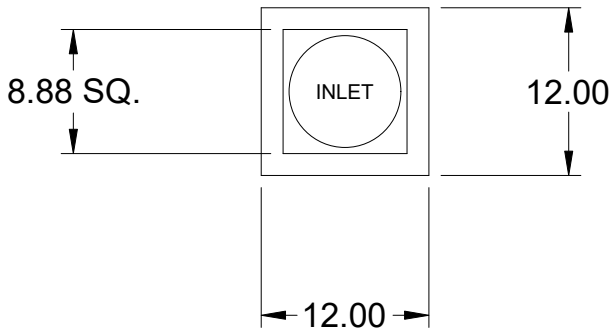
Damper Shipped Loose, Inline, BD-330-PB-9X9, Gravity Operated, Not Coated

SQ-60-VG

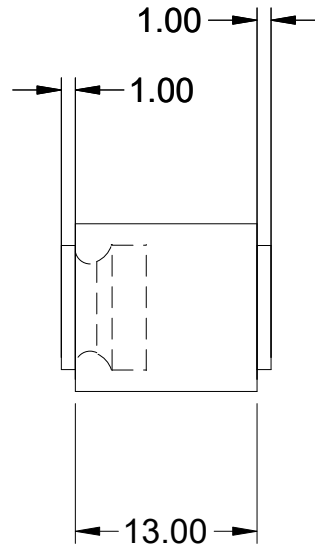
Direct Drive Centrifugal Inline Fan



TOP VIEW



END VIEW



SIDE VIEW

Notes: All dimensions shown are in units of in.

# Disconnect Switch

Enclosure Rating: NEMA-1

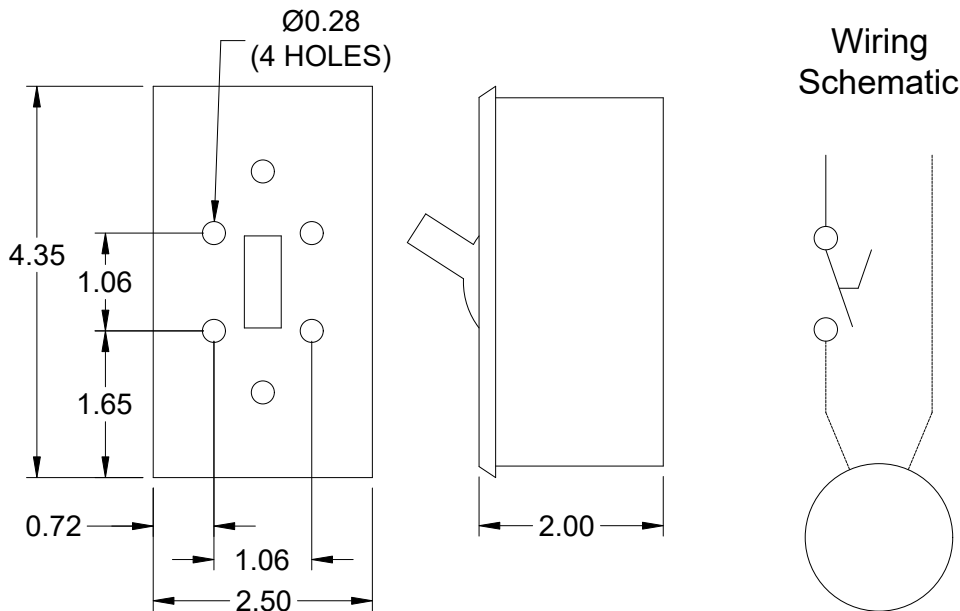
## Standard Construction Features:

Enclosure constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dust. This enclosure meets the rod entry and the indoor corrosion protection design tests. The rod entry test is intended to simulate incidental contact with enclosure equipment. Enclosure is equipped with provision to lockout in the off position with customer supplied lock.

## Disconnect Switch Configuration

Type:	Toggle	Motor Size:	1/15 hp	Voltage:	115	UL Listed:	Yes
Manufacturer:	Pass and Seymour	Cycle:	60	Amperage:	15	CSA Approved:	Yes
Overload Protection:	None	Phase:	1	Switch Pole(s):	1	Rating:	1/2 hp
Junction Box Mtg.:	Ship Separate	RPM:	1725	Exp. Resist. Wiring:	None		
Switch Mounting:	Shipped Separate						

## Electrical Drawing Details



Notes: All dimensions shown are in units of in.

## AMCA



AMCA Licensed for Sound and Air Performance Without Appurtenances (Accessories). Power rating (BHP/kW) does not include transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type B: Free inlet, Ducted outlet. Power rating (BHP/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The inlet sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type B: free inlet hemispherical sone levels. dBA levels are not licensed by AMCA International. The AMCA Certified Ratings Seal applies to inlet sone ratings only. Radiated (casing) sound data is the sound generated through the fan housing when the fan is ducted on both the inlet and outlet.

The AMCA licensed air and/or sound performance data has been modified for installation, appurtenances or accessories, etc. not included in the certified data. The modified performance is not AMCA licensed but is provided to aid in selection and applications of the product.



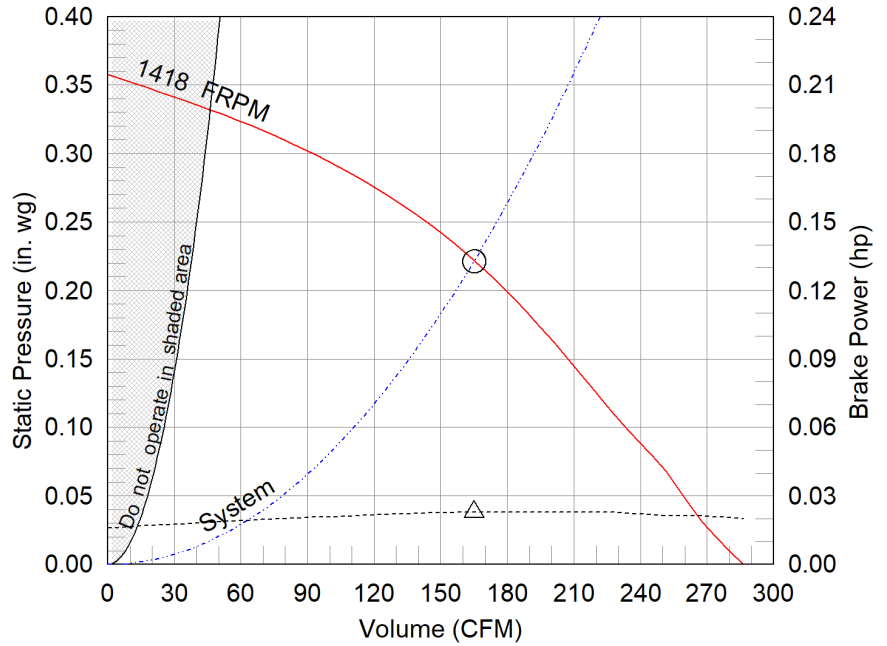
**Model: SQ-70-VG**  
Direct Drive Centrifugal Inline Fan

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	30
Weight w/ Acc's (lb)	33
Optional Damper (in.)	9 x 9

Performance	
Requested Volume (CFM)	165
Actual Volume (CFM)	165
Total External SP (in. wg)	0.221
Fan RPM	1418
Operating Power (hp)	0.02
Elevation (ft)	39
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	3,016
Static Eff. (%)	25

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	295

Motor	
Motor Mounted	Yes
Size (hp)	1/15
Voltage/Cycle/Phase	115/60/1
Enclosure	TENV
Motor RPM	1725
Windings	1
FLA (Amps)	1.3
Min. Circuit Ampacity (MCA)	2
Max. Overcurrent Protection (MOP)	15
Short Circuit Current Rtg (SCCR)	5 kA



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

**Static Pressure Calculations**

External SP	0.2 in. wg
Damper	0.021 in. wg
<b>Total External SP</b>	<b>0.221 in. wg</b>

**Nameplate Model: SQ-70-VG**

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	66	65	61	48	43	42	36	32	56	44	3.7
Radiated	67	67	55	43	38	36	31	28	54	42	3.2

**Notes:**

All dimensions shown are in units of in.  
\*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory.MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).  
LwA - A weighted sound power level, based on ANSI S1.4  
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
Sones - calculated using AMCA 301 at 5 ft



## Model: SQ-70-VG

### Direct Drive Centrifugal Inline Fan

#### Standard Construction Features:

- Galvanized steel housing - Backward inclined composite (sizes 60-95) or aluminum (sizes 97-160) wheel - Two bolted access panels - Integral duct connection flanges - Ball bearing motors (sizes 97-160 and all vari-green motors), sleeve bearing motors (sizes 60-95) - Corrosion resistant fasteners

#### Selected Options & Accessories:

Motor - Vari-Green EC motor with Dial ONLY (Not capable for field conversion to 0-10)

Control - Vari-Green Dial on Exterior of Fan Housing, Mounted and Wired  
UL/cUL 705 Listed - "Power Ventilators"

Junction Box Mounted and Wired

Switch, NEMA-1, Toggle, Shipped Separate

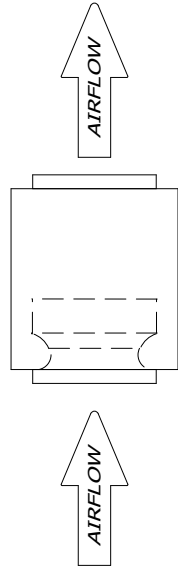
Composite Wheel Material

Unit Warranty: 1 Yr (Standard)

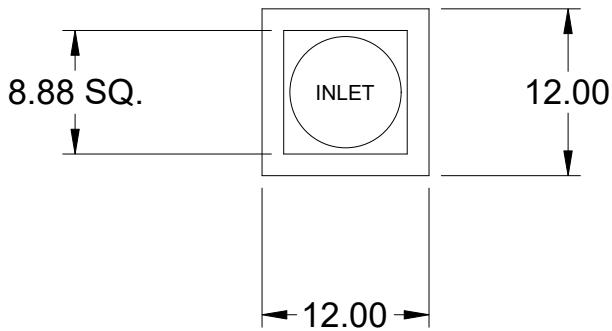
Damper Shipped Loose, Inline, BD-330-PB-9X9, Gravity Operated, Not Coated

SQ-70-VG

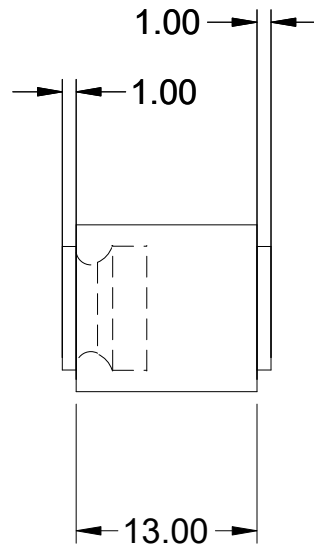
Direct Drive Centrifugal Inline Fan



TOP VIEW



END VIEW



SIDE VIEW

Notes: All dimensions shown are in units of in.

# Disconnect Switch

Enclosure Rating: NEMA-1

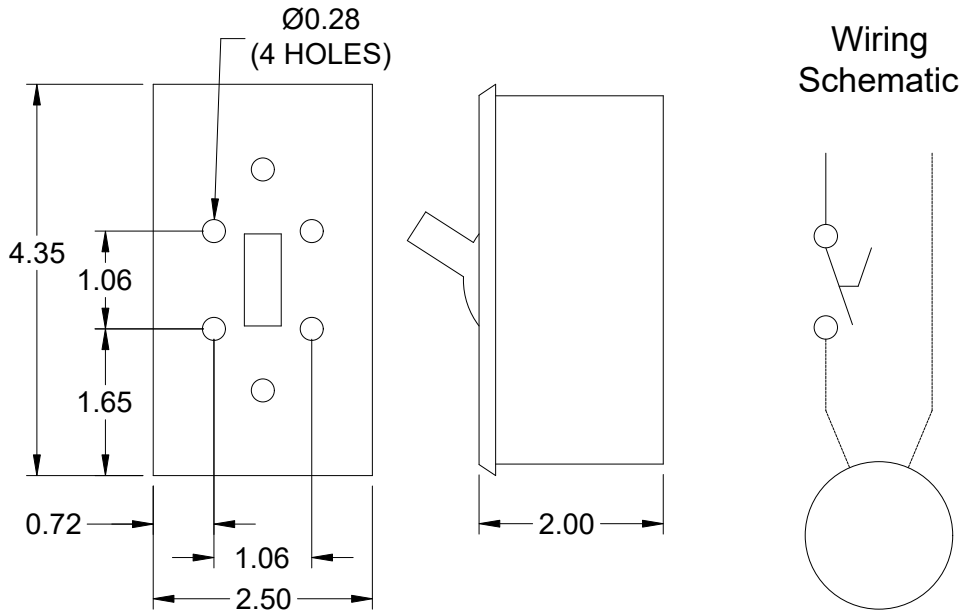
## Standard Construction Features:

Enclosure constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dust. This enclosure meets the rod entry and the indoor corrosion protection design tests. The rod entry test is intended to simulate incidental contact with enclosure equipment. Enclosure is equipped with provision to lockout in the off position with customer supplied lock.

## Disconnect Switch Configuration

Type:	Toggle	Motor Size:	1/15 hp	Voltage:	115	UL Listed:	Yes
Manufacturer:	Pass and Seymour	Cycle:	60	Amperage:	15	CSA Approved:	Yes
Overload Protection:	None	Phase:	1	Switch Pole(s):	1	Rating:	1/2 hp
Junction Box Mtg.:	Ship Separate	RPM:	1725	Exp. Resist. Wiring:	None		
Switch Mounting:	Shipped Separate						

## Electrical Drawing Details



Notes: All dimensions shown are in units of in.

## AMCA



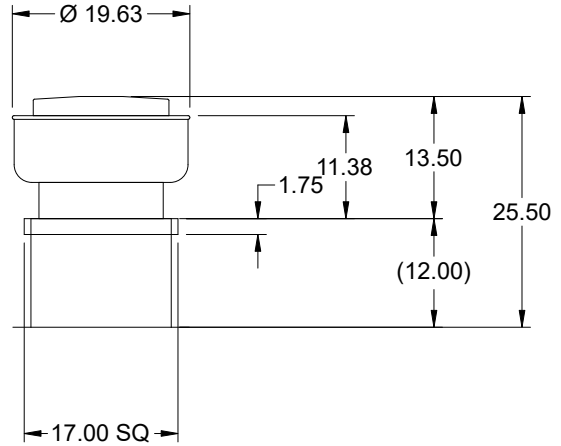
AMCA Licensed for Sound and Air Performance Without Appurtenances (Accessories). Power rating (BHP/kW) does not include transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type B: Free inlet, Ducted outlet. Power rating (BHP/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The inlet sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type B: free inlet hemispherical sone levels. dBA levels are not licensed by AMCA International. The AMCA Certified Ratings Seal applies to inlet sone ratings only. Radiated (casing) sound data is the sound generated through the fan housing when the fan is ducted on both the inlet and outlet.

The AMCA licensed air and/or sound performance data has been modified for installation, appurtenances or accessories, etc. not included in the certified data. The modified performance is not AMCA licensed but is provided to aid in selection and applications of the product.

# Model: CUE-060-VG

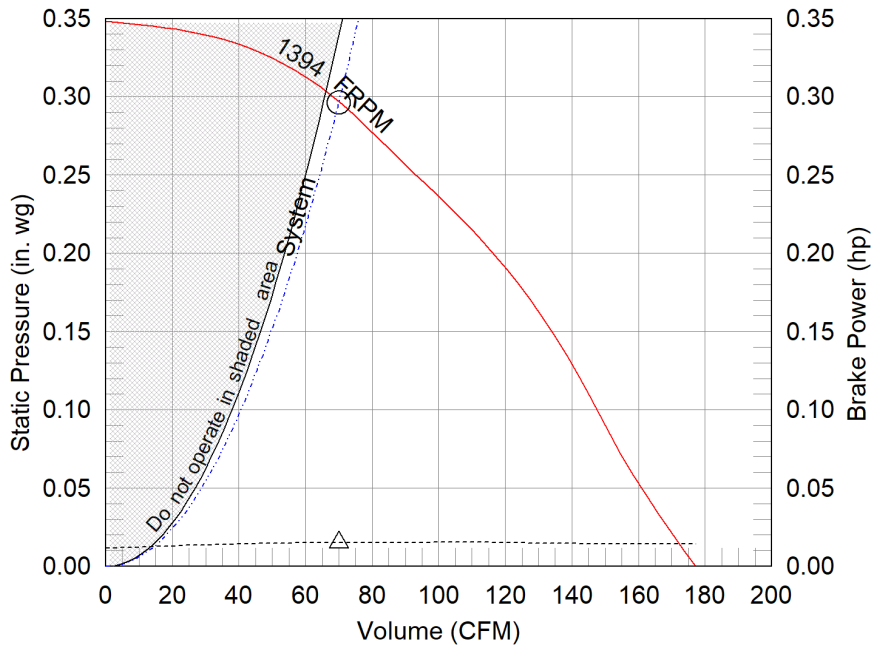
## Direct Drive Upblast Centrifugal Roof Exhaust Fan



Dimensional	
Quantity	1
Weight w/o Acc's (lb)	22
Weight w/ Acc's (lb)	28
Weight w/ Acc's and Curb (lb)	42
Standard Curb Cap Size (in.)	17 x 17
Optional Damper (in.)	8 x 8
Roof Opening (in.)	13.5 x 13.5

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

Performance	
Requested Volume (CFM)	70
Actual Volume (CFM)	70
Total External SP (in. wg)	0.296
Fan RPM	1394
Operating Power (hp)	0.02
Elevation (ft)	39
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	2,966
Static Eff. (%)	21



Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	368

Motor	
Motor Mounted	Yes
Size (hp)	1/15
Voltage/Cycle/Phase	115/60/1
Enclosure	TENV
Motor RPM	1725
Efficiency Rating	High
Windings	1
FLA (Amps)	1.3
Min. Circuit Ampacity (MCA)	2
Max. Overcurrent Protection (MOP)	15
Short Circuit Current Rtg (SCCR)	5 kA

- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- Brake horsepower curve

**Static Pressure Calculations**

External SP	0.25 in. wg
Damper	0.046 in. wg
<b>Total External SP</b>	<b>0.296 in. wg</b>

**Notes:**

All dimensions shown are in units of in.  
 \*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory.  
 MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).  
 LwA - A weighted sound power level, based on ANSI S1.4  
 dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
 Sones - calculated using ANSI/AMCA 301 at 5 ft

**Sound Power by Octave Band**

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	63	63	58	46	42	40	31	28	53	42	2.9



## Model: CUE-060-VG

### Direct Drive Upblast Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward curved composite (sizes 60-95) or aluminum (sizes 99-300) wheel - Aluminum curb cap with prepunched mounting holes - Drain trough - Ball bearing motors (sizes 85-300 and all Vari Green), sleeve bearing motors (sizes 60-80) - Motor isolated on shock mounts - Corrosion resistant fasteners

#### Selected Options & Accessories:

Motor - Vari-Green EC motor with Dial ONLY (Not capable for field conversion to 0-10)

Control - Dial for balancing

Standard Curb Cap Size - 17 Square

UL/cUL 705 Listed - "Power Ventilators"

Switch, NEMA-1, Toggle, Shipped with Unit

Junction Box Mounted & Wired

Foam Curb Seal (Factory Applied)

Birdscreen: Stainless Steel, nom. 87% Free Area

Composite Wheel Material

Unit Warranty: 1 Yr (Standard)

Damper Shipped Loose, BD-90-PB-8X8, Gravity Operated, Not Coated

#### Selected Sub Marks

*See individual submittals for full details*

GPI-17-8-G12

***The Vari-Green Motor included in this order has a 'Multi-Voltage' ability. This motor has the ability to accept 115V or 208-230V Single Phase power. The motor has an auto switch and does not require the user to change anything for the listed voltages.***



# Disconnect Switch

Enclosure Rating: NEMA-1

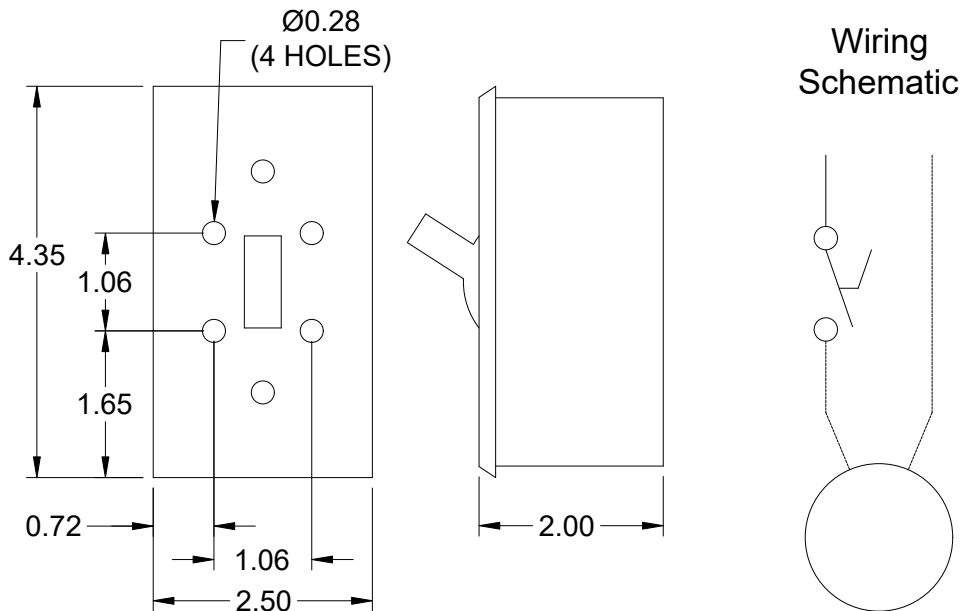
**Standard Construction Features:**

Enclosure constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dust. This enclosure meets the rod entry and the indoor corrosion protection design tests. The rod entry test is intended to simulate incidental contact with enclosure equipment. Enclosure is equipped with provision to lockout in the off position with customer supplied lock.

**Disconnect Switch Configuration**

Type:	Toggle	Motor Size:	1/15 hp	Voltage:	115	UL Listed:	Yes
Manufacturer:	Pass and Seymour	Cycle:	60	Amperage:	15	CSA Approved:	Yes
Overload Protection:	None	Phase:	1	Switch Pole(s):	1	Rating:	1/2 hp
Junction Box Mtg.:	Mounted and Wired	RPM:	1725	Exp. Resist. Wiring:	None		
Switch Mounting:	Shipped With Unit						

**Electrical Drawing Details**



Notes: All dimensions shown are in units of in.

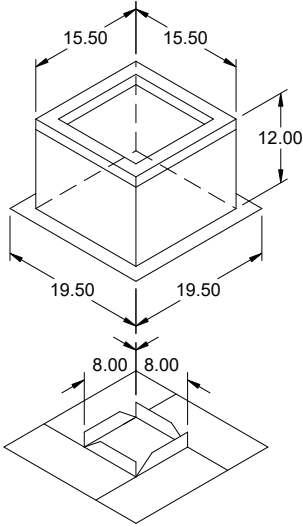
## AMCA



AMCA Licensed for Sound and Air Performance Without Appurtenances (Accessories). Power rating (BHP/kW) does not include transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per ANSI/AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels. dBA levels are not licensed by AMCA International. The AMCA Certified Ratings Seal applies to sone ratings only.

The AMCA licensed air and/or sound performance data has been modified for installation, appurtenances or accessories, etc. not included in the certified data. The modified performance is not AMCA licensed but is provided to aid in selection and applications of the product.



## Model: GPI

### Roof Curb

#### Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

#### General

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
	1	GPI-17	Nominal	1.5	14	Yes	No Preference

#### Dimensions

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Flange Width (in.)	Flange Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	17	17	15.5	15.5	12	12	19.5	19.5	16	16

\*May not be applicable

#### Damper Tray

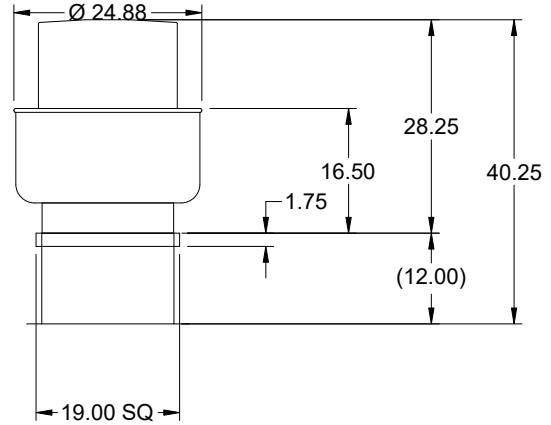
Damper Tray Width (in.)	Damper Tray Length (in.)
8	8

#### Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1.5	R6.5

# Model: CUE-099-VG

## Direct Drive Upblast Centrifugal Roof Exhaust Fan



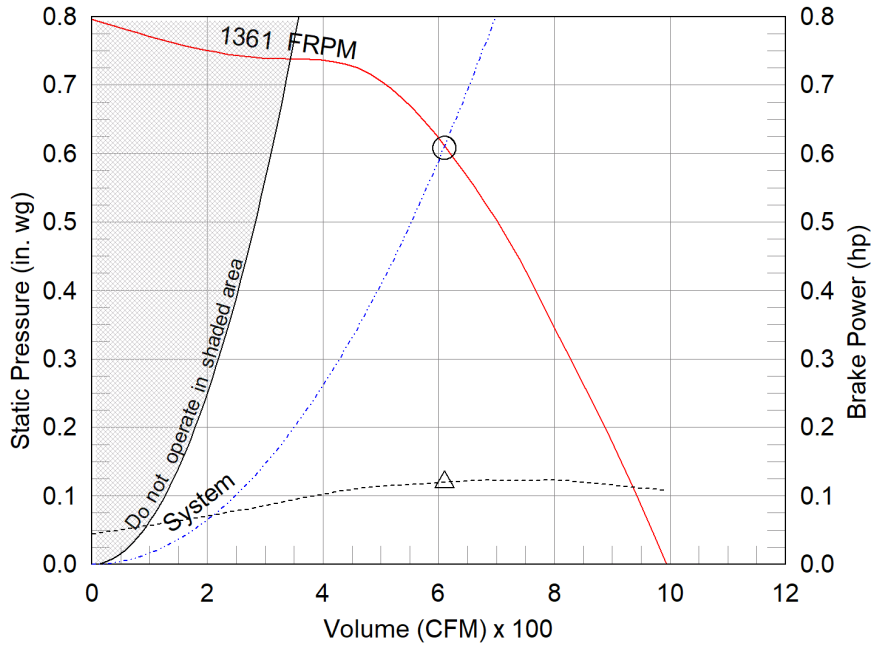
Dimensional	
Quantity	1
Weight w/o Acc's (lb)	38
Weight w/ Acc's (lb)	45
Weight w/ Acc's and Curb (lb)	61
Standard Curb Cap Size (in.)	19 x 19
Optional Damper (in.)	12 x 12
Roof Opening (in.)	15.5 x 15.5

Performance	
Requested Volume (CFM)	610
Actual Volume (CFM)	610
Total External SP (in. wg)	0.609
Fan RPM	1361
Operating Power (hp)	0.12
Elevation (ft)	39
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Tip Speed (ft/min)	3,986
Static Eff. (%)	49

Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	477

Motor	
Motor Mounted	Yes
Size (hp)	1/4
Voltage/Cycle/Phase	115/60/1
Enclosure	TENV
Motor RPM	1725
Efficiency Rating	High
Windings	1
FLA (Amps)	2.85
Min. Circuit Ampacity (MCA)	4
Max. Overcurrent Protection (MOP)	15
Short Circuit Current Rtg (SCCR)	5 kA

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- - - System curve
- - - Brake horsepower curve

### Static Pressure Calculations

External SP	0.5 in. wg
Damper	0.109 in. wg
<b>Total External SP</b>	<b>0.609 in. wg</b>

### Notes:

All dimensions shown are in units of in.  
\*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory.  
MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).  
LwA - A weighted sound power level, based on ANSI S1.4  
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International  
Sones - calculated using ANSI/AMCA 301 at 5 ft

### Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	71	70	67	62	59	58	54	44	66	54	7.2



## Model: CUE-099-VG

### Direct Drive Upblast Centrifugal Roof Exhaust Fan

#### Standard Construction Features:

- Aluminum housing - Backward inclined aluminum wheel - Aluminum curb cap with prepunched mounting holes - Drain trough - Ball bearing motors (sizes 85-300 and all Vari Green), sleeve bearing motors (sizes 60-80) - Motor isolated on shock mounts - Corrosion resistant fasteners

#### Selected Options & Accessories:

Motor - Vari-Green EC motor  
Control - Dial for balancing  
Standard Curb Cap Size - 19 Square  
UL/cUL 705 Listed - "Power Ventilators"  
Switch, NEMA-1, Toggle, Shipped with Unit  
Junction Box Mounted & Wired  
Foam Curb Seal (Factory Applied)  
Birdscreen: Stainless Steel, nom. 86% Free Area  
Unit Warranty: 1 Yr (Standard)  
Damper Shipped Loose, BD-100-PB-12X12, Gravity Operated, Not Coated

#### Selected Sub Marks

See individual submittals for full details

GPI-19-12-G12

***The Vari-Green Motor included in this order has a 'Multi-Voltage' ability. The red wire on the motor is called a 'Voltage Doubler', and when it is connected the motor can be powered by 115V.***

***If the Red wire is disconnected, then the motor can be powered with 208-230/277V. The motor will leave the factory with the voltage doubler wired per the order.***

# Disconnect Switch

Enclosure Rating: NEMA-1

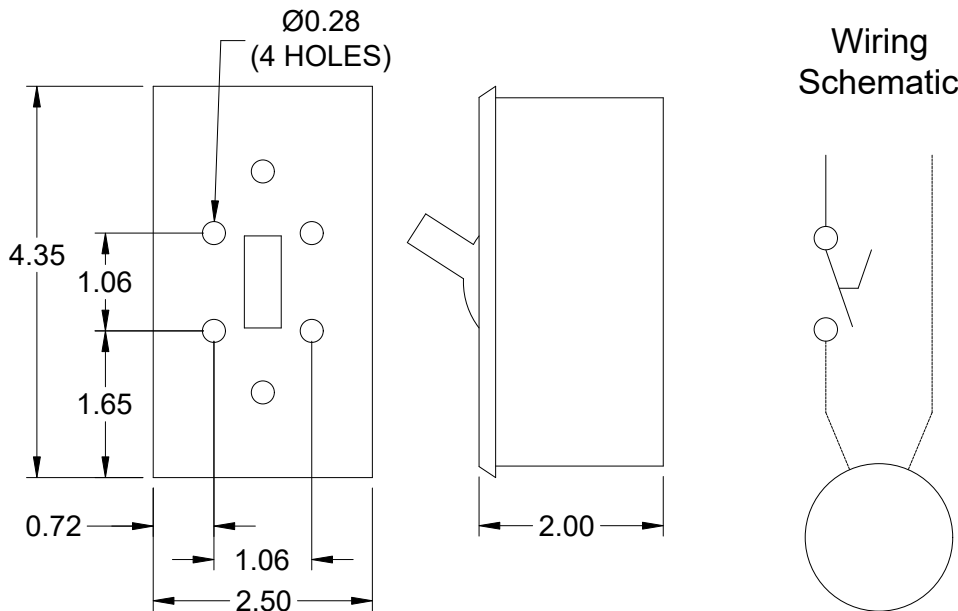
**Standard Construction Features:**

Enclosure constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dust. This enclosure meets the rod entry and the indoor corrosion protection design tests. The rod entry test is intended to simulate incidental contact with enclosure equipment. Enclosure is equipped with provision to lockout in the off position with customer supplied lock.

**Disconnect Switch Configuration**

Type:	Toggle	Motor Size:	1/4 hp	Voltage:	115	UL Listed:	Yes
Manufacturer:	Pass and Seymour	Cycle:	60	Amperage:	15	CSA Approved:	Yes
Overload Protection:	None	Phase:	1	Switch Pole(s):	1	Rating:	1/2 hp
Junction Box Mtg.:	Mounted and Wired	RPM:	1725	Exp. Resist. Wiring:	None		
Switch Mounting:	Shipped With Unit						

**Electrical Drawing Details**



Notes: All dimensions shown are in units of in.

## AMCA

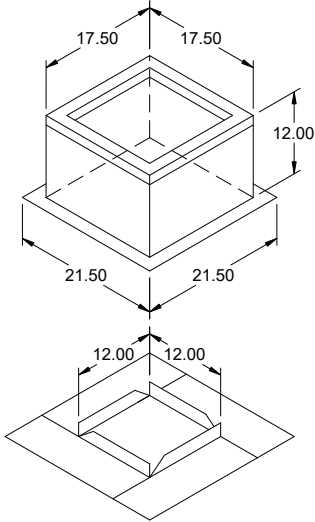


AMCA Licensed for Sound and Air Performance Without Appurtenances (Accessories). Power rating (BHP/kW) does not include transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per ANSI/AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels. dBA levels are not licensed by AMCA International. The AMCA Certified Ratings Seal applies to sone ratings only.

The AMCA licensed air and/or sound performance data has been modified for installation, appurtenances or accessories, etc. not included in the certified data. The modified performance is not AMCA licensed but is provided to aid in selection and applications of the product.





## Model: GPI

### Roof Curb

#### Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

#### General

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled	Union Label
	1	GPI-19	Nominal	1.5	16	Yes	No Preference

#### Dimensions

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Flange Width (in.)	Flange Length (in.)	Hinge Base Width* (in.)	Hinge Base Length* (in.)
12	19	19	17.5	17.5	14	14	21.5	21.5	18	18

\*May not be applicable

#### Damper Tray

Damper Tray Width (in.)	Damper Tray Length (in.)
12	12

#### Accessories

Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1.5	R6.5

# Model: CSP-A510-VG

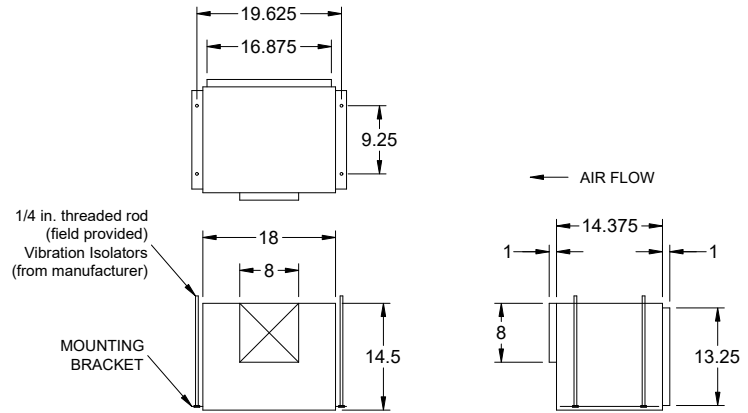
## Inline Cabinet Fan

### Standard Construction Features:

- Galvanized steel housing - Sound absorbing insulation - Outlet duct collar with integral back draft damper - Forward curved wheel - Plug type disconnect - Adjustable mounting brackets - Square duct connection - Field rotatable discharge

### Selected Options & Accessories:

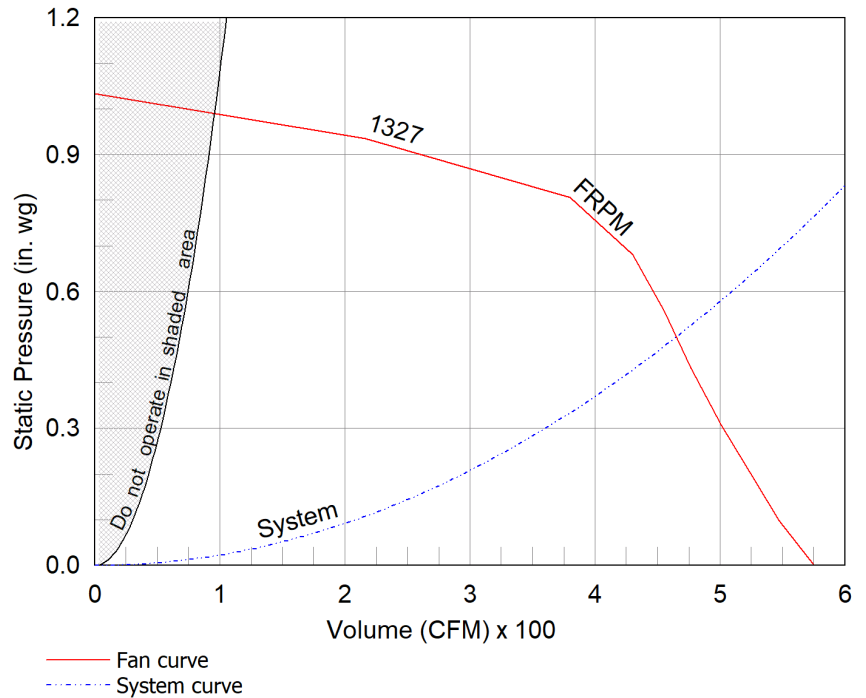
Motor rated for continuous use  
 Motor - Vari-Green EC motor w/Mounted Potentiometer Dial  
 UL/cUL 507 Listed - Electric Fan  
 Isolation Kit, (PN: VI KIT-SP/CSP), Shipped Loose  
 Adjustable easy installation mounting bracket  
 Polypropylene Wheel Material



Dimensional	
Quantity	1
Weight w/o Acc's (lb)	36
Weight w/ Acc's (lb)	37

Performance	
Requested Volume (CFM)	465
Actual Volume (CFM)	465
Total External SP (in. wg)	0.5
Fan RPM	1327
* FLA (A)	2.45
Elevation (ft)	39
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.075
Sones	1.3

Motor	
Motor Mounted	Yes
** Input Watts (W)	137
Voltage/Cycle/Phase	115/60/1
Enclosure	TENV
Control Input Voltage	8.5



### Notes:

All dimensions shown are in units of in.  
 \*FLA is approximate and will vary slightly with the motor.  
 Sones - calculated using AMCA 301 at 5 ft  
 \*\* Wattage is approximate and may vary between motors.



## AMCA



AMCA Licensed for Air Performance. Power rating (Watts) includes transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings seal applies to air performance ratings only. Performance certified is for installation type D: Ducted inlet, Ducted outlet. Performance ratings include the effects of a backdraft damper. Speed (RPM) shown is nominal. Performance is based on actual speed of test. The sound ratings shown are for loudness values in spherical sones at 5 ft. (1.5m) in a spherical free field calculated per Annex B of AMCA 311. Values shown are for installation type D: ducted inlet spherical sone levels. Ratings do not include the effects of duct end correction. Ratings are based on 10 ft. of insulated duct.

# Model: CSP-A1410

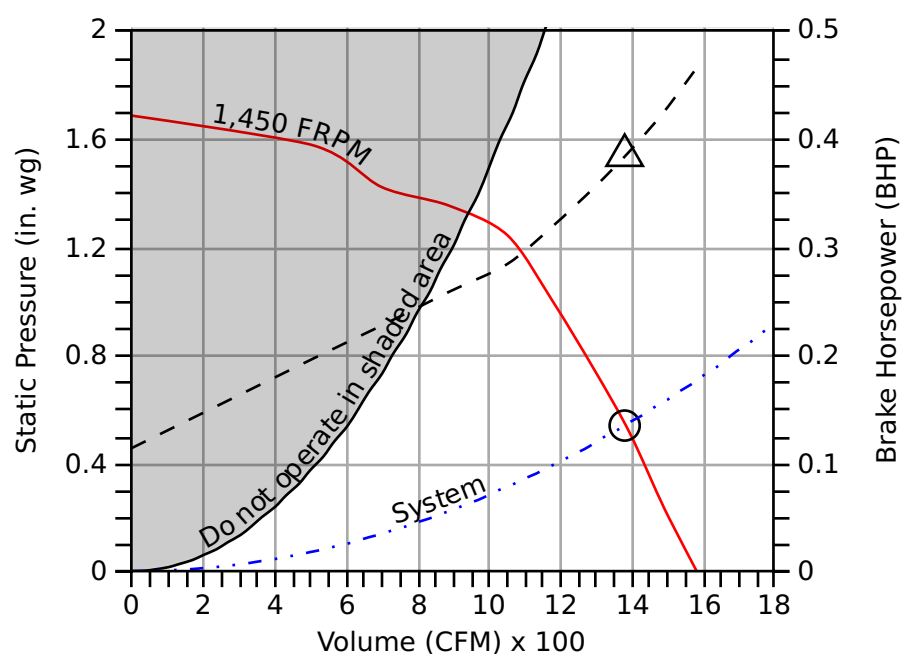
## Direct Drive Cabinet Fan

**Standard Construction Features:** Galvanized steel housing with duct collars. Centrifugal forward curved wheel. Direct driven motor in the air stream.

Fan Configuration	
Drive type	Direct

Performance	
Requested Volume (CFM)	1,330
Actual Volume (CFM)	1,380
Total External SP (in. wg)	0.54
Fan RPM	1,450
Operating Power (bhp)	0.38
Startup Power (bhp)	0.38
Air Stream Temp (F)	70
Start-up Temp (F)	70
Air Density (lbs/ft <sup>3</sup> )	0.075
Elevation (ft)	100
Watts (W)	717
Static Efficiency (%)	30
Outlet Velocity (ft/min)	1,327

Motor	
V/C/P	115/60/1
NEC FLA (Amps)	7.4



- Fan curve
- - - Brake horsepower curve
- Operating Point SP
- △ Operating Bhp point
- Max system curve
- ⋯ System curve

### Static Pressure Calculations

External SP	0.5 in. wg
Direct Drive RPM Adjustment	0.04 in. wg
<b>Total External SP</b>	<b>0.54 in. wg</b>

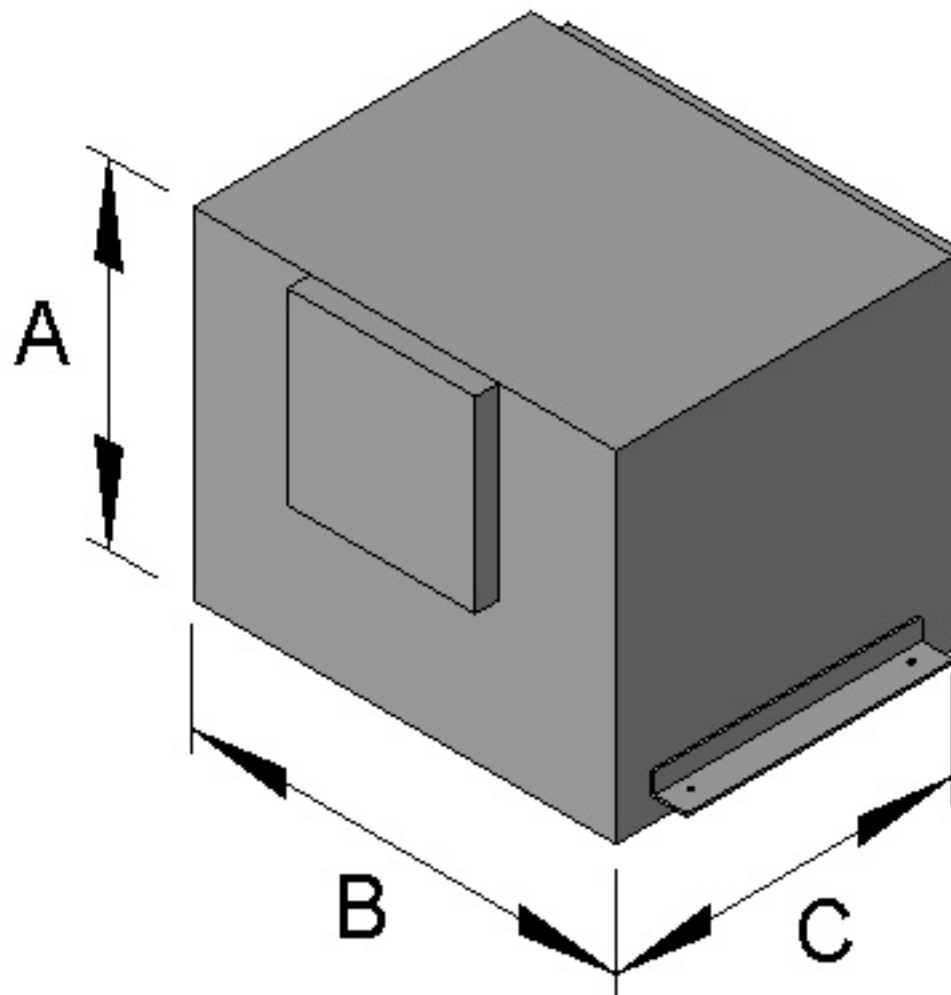
## Sound

	Octave Bands (hz)								LwA	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Inlet	64	68	64	50	42	40	41	38	58	43	4.4



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Dimensions and Weights		
Label	Value	Description
-	59	Weight w/o accessories (lbs)
A	15	Overall Height (in)
B	24	Overall Width (in)
C	14	Overall Length (in)
-	22.625	Inlet Width (in)
-	13.25	Inlet Height (in)



\*All dimensions are in inches.

# Model: CSP-A1050-VG

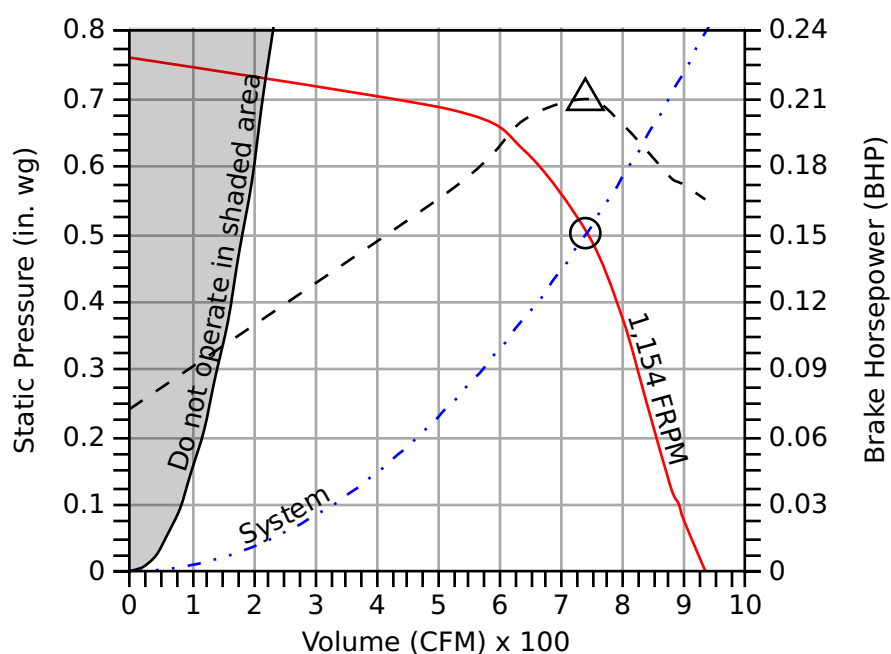
## Direct Drive Cabinet Fan

**Standard Construction Features:** Galvanized steel housing with duct collars. Centrifugal forward curved wheel. Direct driven motor in the air stream.

Fan Configuration	
Drive type	Direct

Performance	
Requested Volume (CFM)	740
Actual Volume (CFM)	740
Total External SP (in. wg)	0.5
Fan RPM	1,154
Operating Power (bhp)	0.21
Startup Power (bhp)	0.21
Air Stream Temp (F)	70
Start-up Temp (F)	70
Air Density (lbs/ft <sup>3</sup> )	0.075
Elevation (ft)	100
Watts (W)	156
Static Efficiency (%)	28
Outlet Velocity (ft/min)	712

Motor	
V/C/P	115/60/1
NEC FLA (Amps)	4.75



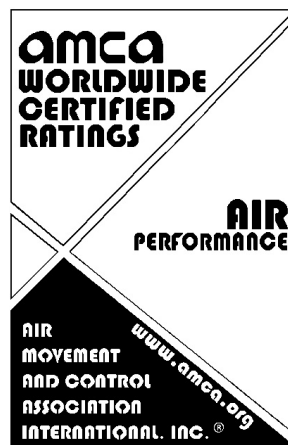
- Fan curve
- - - Brake horsepower curve
- Operating Point SP
- △ Operating Bhp point
- Max system curve
- · - · - System curve

### Static Pressure Calculations

External SP	0.5 in. wg
Direct Drive RPM Adjustment	0 in. wg
<b>Total External SP</b>	<b>0.5 in. wg</b>

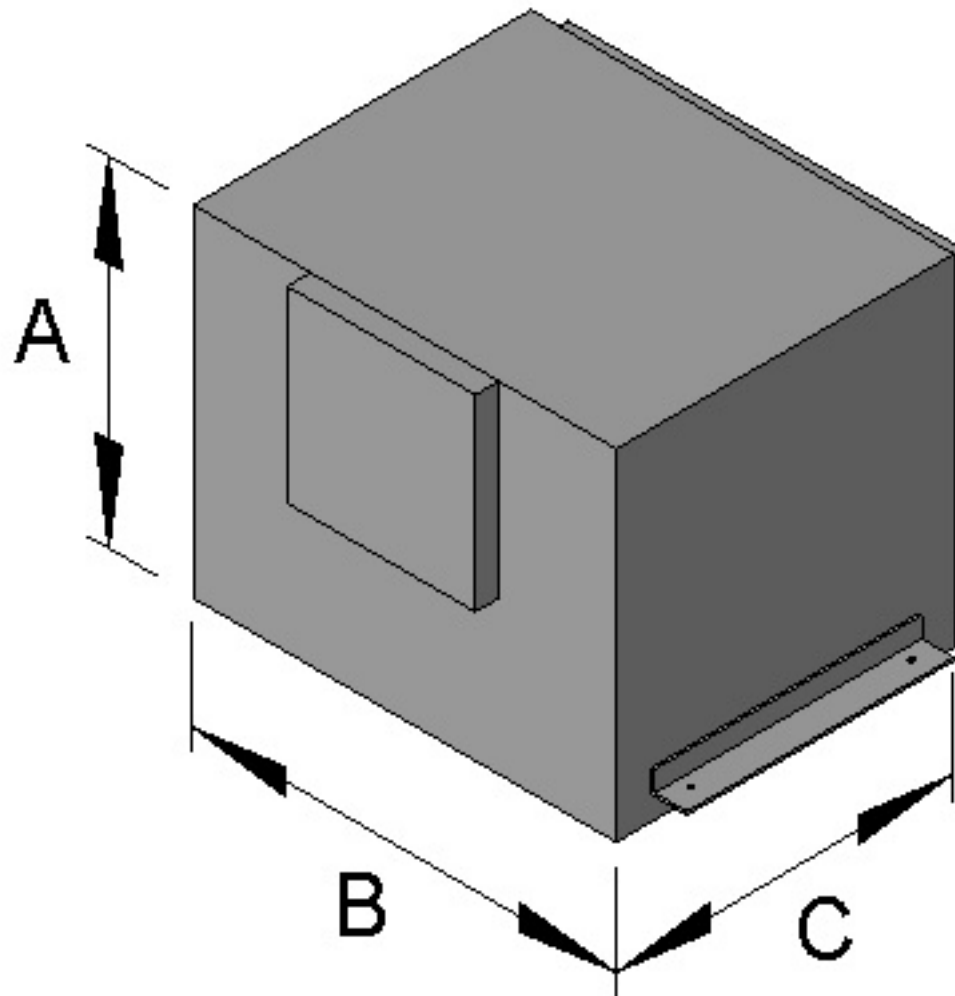
## Sound

	Octave Bands (hz)								LwA	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Inlet	49	56	54	43	42	36	39	30	50	35	2.2



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Dimensions and Weights		
Label	Value	Description
-	49	Weight w/o accessories (lbs)
A	15	Overall Height (in)
B	24	Overall Width (in)
C	14	Overall Length (in)



\*All dimensions are in inches.

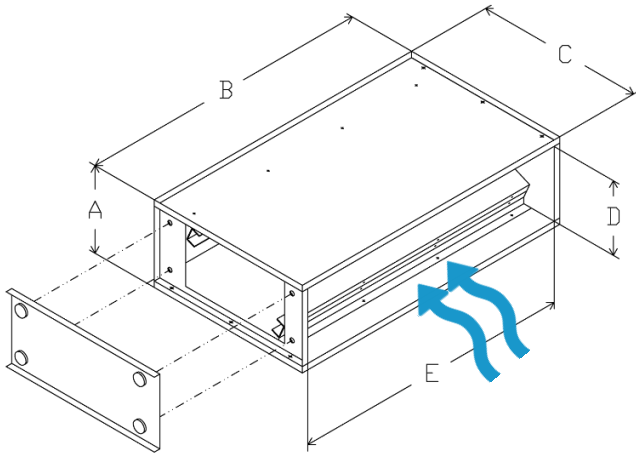


# SHARPE FILTER BOX

For LG Multi-V Indoor Units Ducted (High Static)



## FILTER BOX - FC 1-1

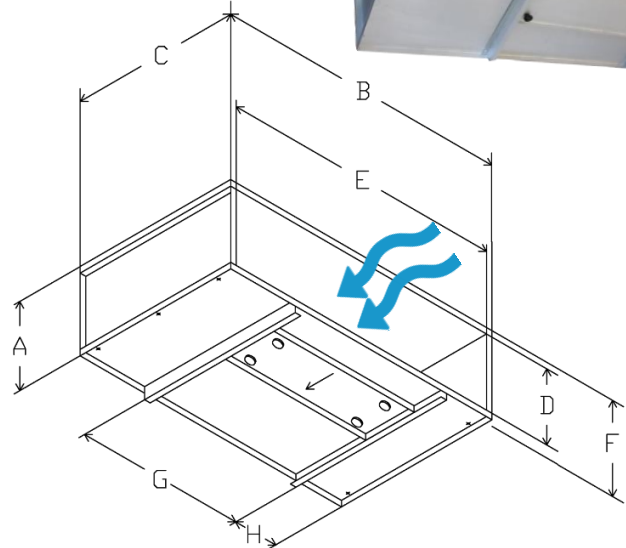


AIR FLOW

### **RIGHT-HAND (STANDARD) ACCESS DOOR**

For Filter Change (shown above)

*Left-hand Access also available*



AIR FLOW

### **BOTTOM ACCESS DOOR**

For Filter Change (shown above)

*Top Access also available*

MODEL	ACCESS DOOR LAYOUT	LG UNIT FRAME	RECOMMENDED FILTER SIZE (IN)	FACE VELOCITY @ MAX CFM (FPM)	A*	B*	C*	D*	E*	F*	G*	H*
FB-1	RIGHT HAND ACCESS (STD)	ARNUXXXBHA4	(1) 14 X 25 X 2	278 @ 650 CFM	10.25	34.75	20.00	8.75	33.25	N/A	N/A	N/A
FB-1L	LEFT HAND ACCESS									N/A	N/A	N/A
FB-1B	BOTTOM ACCESS									11.00	29.00	2.87
FB-1T	TOP ACCESS									11.00	29.00	2.87
FB-2	RIGHT HAND ACCESS (STD)	ARNUXXXBGA4	(1) 14 X 20 X 2 (1) 14 X 25 X 2	218 @ 915 CFM	11.63	46.50	20.00	10.13	45.00	N/A	N/A	N/A
FB-2L	LEFT HAND ACCESS									N/A	N/A	N/A
FB-2B	BOTTOM ACCESS									12.38	29.00	0.00
FB-2T	TOP ACCESS									12.38	29.00	0.00
FB-3	RIGHT HAND ACCESS (STD)	ARNUXXXBRA4	(1) 18 X 20 X 2 (1) 18 X 25 X 2	337 @ 1,815 CFM	15.00	48.50	20.00	13.50	47.00	N/A	N/A	N/A
FB-3L	LEFT HAND ACCESS									N/A	N/A	N/A
FB-3B	BOTTOM ACCESS									15.75	29.00	0.00
FB-3T	TOP ACCESS									15.75	29.00	0.00
FB-4	RIGHT HAND ACCESS (STD)	ARNUXXXB8A4	(3) 20 X 20 X 2	341 @ 2,700 CFM	18.12	61.75	20.00	16.62	60.25	N/A	N/A	N/A
FB-4L	LEFT HAND ACCESS									N/A	N/A	N/A
FB-4B	BOTTOM ACCESS									18.87	29.00	16.38
FB-4T	TOP ACCESS									18.87	29.00	16.38

\* All dimensions are in inches

For more information or questions, contact your authorized seller:

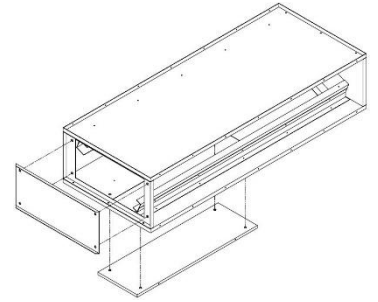
DMG Corp. at (562) 692-1277 or visit: [www.dmgvac.com](http://www.dmgvac.com)



# SHARPE FILTER BOX

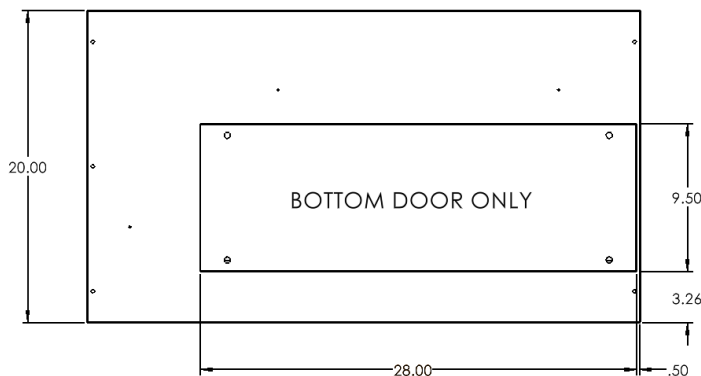
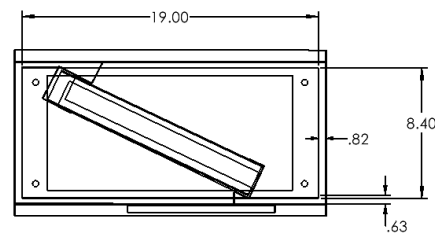
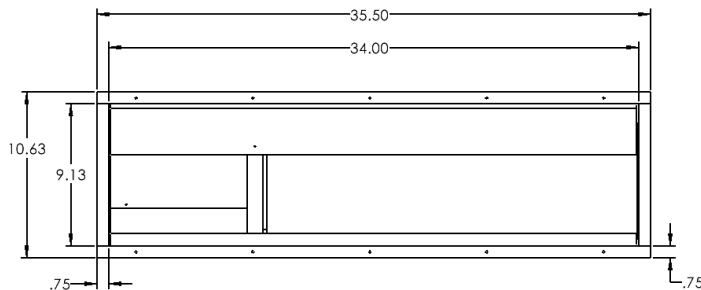
## Model: FB-M1-M13

For LG Multi-V High Static Ducted M1 Chassis



### Features:

- Designed for use with LG Multi V High Static Unit ARNUXXM1A4  
– Fits M1 Chassis Size 073 through 243
- Standard Right and Bottom Access Doors - Rotatable for left hand access
- Removable gasketed side access door with tethered bottom access door
- Thumbwheel door knob for quick access
- Inlet / Outlet mounting flanges with mounting holes
- High efficient MERV 13 filter included
- Filter size: (1) 14 x 25 x 2
- Construction: Single wall 20 gauge G90 galvanized steel - Angled 2" filter rack
- Weight: 35 lbs (Shipping 41 lbs)



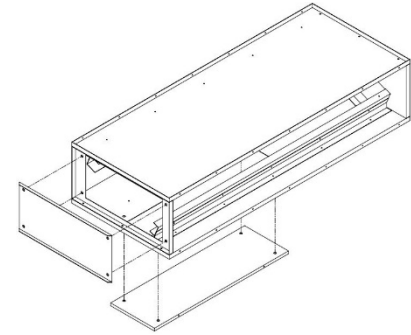
For more information or questions, contact your authorized seller:

Sharpe Heating & Ventilating (562) 695-5221 or email us at: [sharpe@dmghvac.com](mailto:sharpe@dmghvac.com)

# SHARPE FILTER BOX

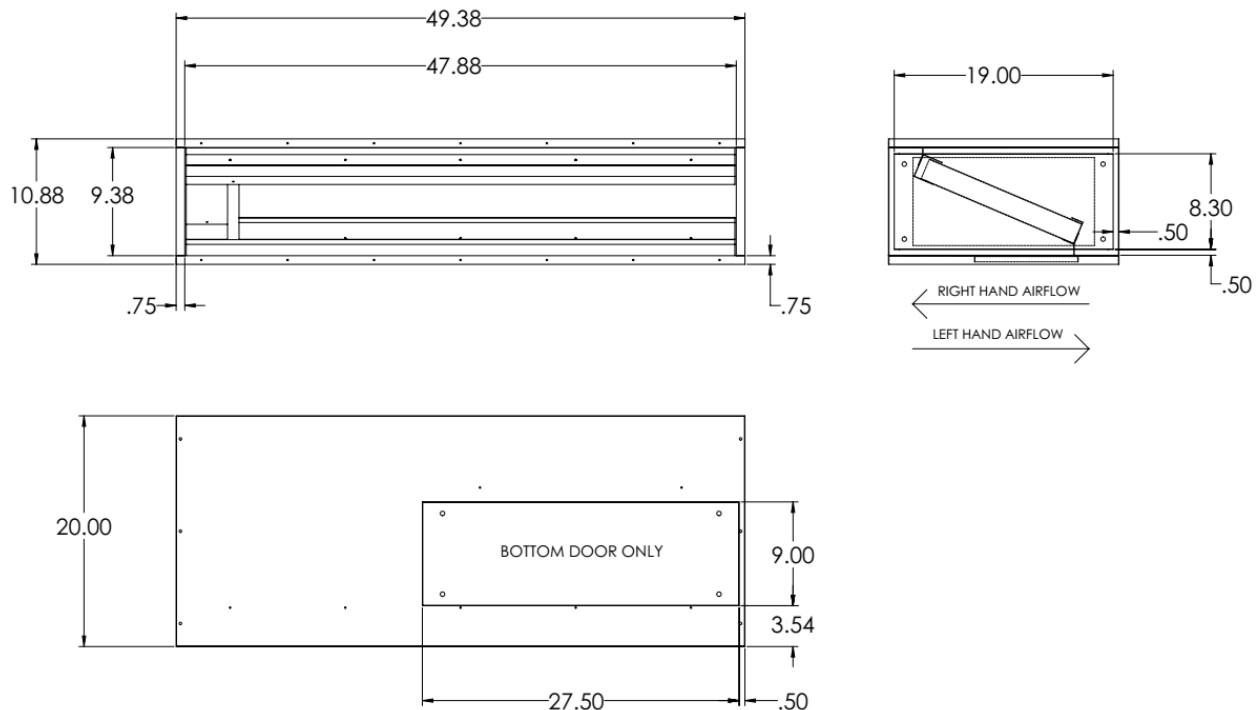
## Model: FB-M2-M13

For LG Multi-V High Static Ducted M2 Chassis



### Features:

- Designed for use with LG Multi V High Static Unit ARNXXXXM2A4  
– Fits M2 Chassis Size 073 through 423
- Standard Right and Bottom Access Doors - Rotatable for left hand access
- Removable gasketed side access door with tethered bottom access door
- Thumbwheel door knob for quick access
- Inlet / Outlet mounting flanges with mounting holes
- High efficient MERV 13 filter included
- Filter size: (1) 14 x 20 x 2, (1) 14 x 25 x 2
- Construction: Single wall 20 gauge G90 galvanized steel - Angled 2" filter rack
- Weight: 42 lbs (Shipping 48 lbs)



For more information or questions, contact your authorized seller:

Sharpe Heating & Ventilating (562) 695-5221 or email us at: [sharpe@dmghvac.com](mailto:sharpe@dmghvac.com)

## Application

The FSD-172 combination fire smoke damper employs triple-V blades for point-of-origin control of fire and smoke in static and dynamic smoke management systems. The FSD-172 is qualified to 2,000 ft/min (10.2 m/s) and 4 in.wg. (1.0 kPa) and may be installed in vertical walls or partitions, or horizontally in floors or assemblies with fire resistance ratings up to 2 hours. The FSD-172 may also be installed in horizontal openings of metal stud or wood stud tunnel-type corridor ceilings.

## Standard Construction

**Frame:** 5" × 1" (127 × 25) galvanized steel hat channel with interlocking corner gusset. Equivalent to 13 gauge (2.4) channel frame. Low profile head and sill are used on sizes less than 13" (330) high.

**Blades:** 6" × 16 gauge (152 × 1.6) galvanized steel — triple-V.

**Sleeve:** 16" × 20 gauge (406 × 1.0) galvanized steel.

**Axles:** ½" (13) diameter plated steel hex.

**Linkage:** Concealed in frame.

**Bearings:** Stainless steel oilite, sleeve-type.

**Seals:** Silicone blade edge seals and flexible metal jamb seals.

**Actuator:** 120 VAC, power-open, spring-close, external mount.

**Fire Closure Device:** HS-10 (electric actuators)  
PFV (pneumatic actuators)

**Fire Closure Temperature:** 165°F (75°C).

**Minimum Size:** 6" × 6" (152 × 152)

**Maximum Size:** 24" × 24" (610 × 610)

## Options

- Alternate actuator:
  - Internal mount (actuator in air-stream).
  - 24 VAC  230 VAC  Pneumatic
- DRS-30 — Two temperature fire closure device.  
(Includes PI-50 switch package)
- PI-50 — Dual position indicator switch package.
- Alternate factory installed sleeve:
  - Gauge:  18 (1.3)  16 (1.6)  14 (2.0)  10 (3.5)
  - Length:  20" (508)  24" (610)  Other \_\_\_\_\_
  - Side Plate  No Sleeve (Actuator must be internally mounted)
- Transitions:  Flanged
  - Round  Oval
  - Duct connections:  1" (25) S-clip
  - DM25  DM35  S & Drive  Ward
- Retaining angle systems: Gauge:  20 (1.0)  16 (1.6)
  - Picture frame:  SSPF (single-side)  DSPF (2-sided)
  - Individual angle sets:  SS (single-side)  DS (2-sided)
- Alternate fire closure temperature:
  - 212°F (100°C)  250°F (121°C)
  - 350°F (177°C).
- Duct smoke detector factory mounted and wired:
  - D4120 (100-4,000 fpm [0.5-20.3 m/s])
  - 2151 (0-3,000 fpm [0-15.2 m/s])
- Duct access door factory mounted in common sleeve.
- Remote control stations:
  - RCP-1 (single)  RCP-1K (single, key controlled)
  - RCP-1M (single, momentary switch)

## Ratings

**UL 555 Fire Resistance Rating:** 1½ hour (vertical and horizontal)  
1 hour (tunnel-type corridor ceiling)

**UL 555S Leakage Class:** 2 [20 cfm/sq.ft. @ 4 in.wg.]  
[(0.10 m³/s/m² @ 1.0 kPa)]

**Maximum Dynamic Closure Velocity:** 2,000 fpm (10.2 m/s)

**Maximum UL555S Rated Pressure:** 4 in.wg. (1.0 kPa)

**Maximum Temperature:** 350°F (177°C)

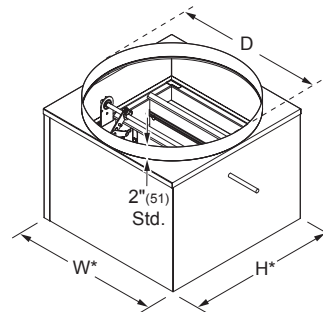
## Listings

**UL 555 and 555S listing:** R11767

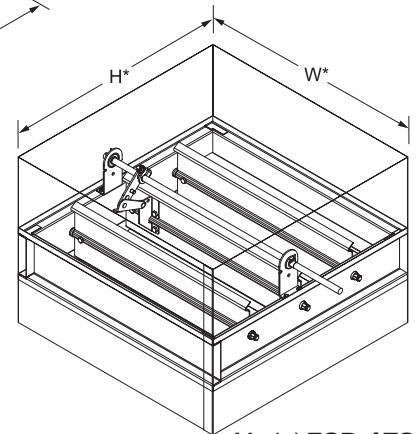
**CSFM listing:** 3225-0368:110 and 3230-0368:111

**Meets NFPA Standards:** 90A, 92A, 92B and 101

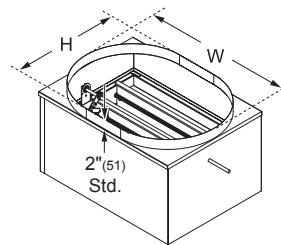
**Meets Building Code Standards:** IBC, NBC, NFPA, SBC and UBC



**Type R (optional)**  
Round duct transitions are standard with D=W=H. (available with D<W and H)(shown with top transition only)



**Model FSD-172**  
(standard)



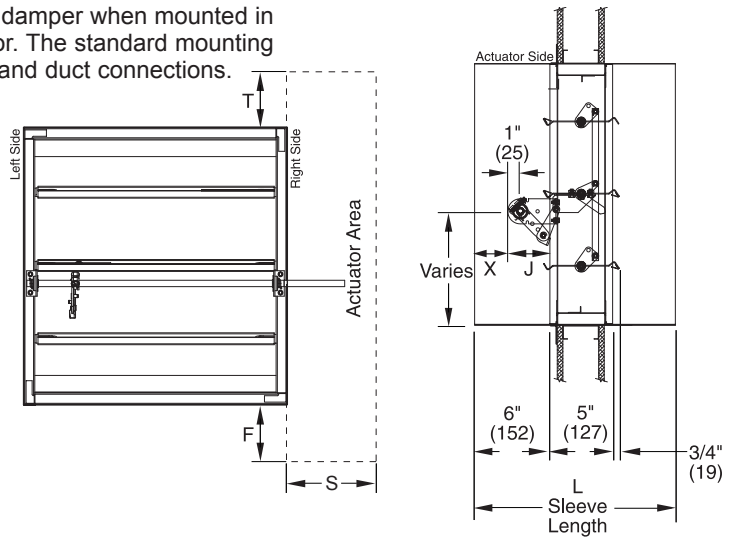
**Type O (optional)**  
Oval duct transitions are standard with W and H equal to damper width and height dimensions. (available with W and H smaller than damper width and height)(shown with top transition only)

\*Damper dimensions furnished approximately ¼" (6) undersize. (sleeve thickness not included)

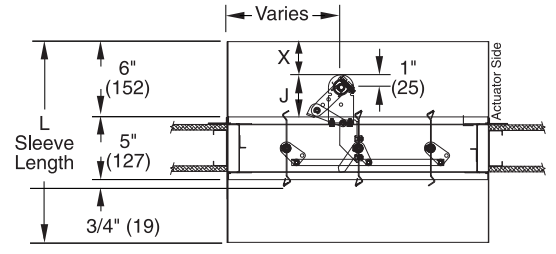
# Actuator and Sleeve Dimensional Data

The drawings and corresponding table illustrate the position of the damper when mounted in a factory sleeve and the relative space required for a given actuator. The standard mounting locations provide enough space for installation of retaining angles and duct connections.

	Damper Height	Actuator Model						
		FSLF120 FSLF24	FSNF120 FSNF24	GGD221 GGD121	ML4115 ML8115	331-4826	331-2998	
F	6"-7"	5"	7"	9"	5"	9"	13"	
	8"-9"	4"	7"	8"	4"	8"	12"	
	10"-11"	1"	4"	6"	1"	5"	9"	
	12"-13"	0"	3"	5"	0"	4"	8"	
	14"	0"	2"	4"	0"	3"	7"	
	15"-16"	0"	1"	3"	0"	2"	6"	
	17"	0"	3"	5"	0"	5"	9"	
	18" and 23" 19"-20" 21"-22" and 24"	0" 0" 0"	0" 0" 0"	0" 0" 0"	0" 0" 0"	0" 0" 0"	3" 2" 0"	1" 1" 1"
T	6" and 10" 7" and 11"-12" 8", 13"-14" and 21" 9", 15"-17" and 20"	3" 2" 1" 0"	3" 2" 1" 0"	3" 2" 1" 0"	3" 2" 1" 0"	3" 2" 1" 0"	3" 2" 1" 0"	
	18"-19" 22"-23" 24"	0" 0" 0"	0" 0" 0"	0" 0" 0"	0" 0" 0"	0" 0" 0"	0" 0" 0"	
	S	All	4-1/2"	4-1/2"	4-1/2"	4-1/2"	5"	7-1/4"
	X	<8" ≥8"	4" 2-5/8"	4" 2-5/8"	4" 2-5/8"	4" 2-5/8"	4" 2-5/8"	4" 2-5/8"
	J	<8" ≥8"	2" 3-3/8"	2" 3-3/8"	2" 3-3/8"	2" 3-3/8"	2" 3-3/8"	2" 3-3/8"



- NOTE:**
- Sleeve length "L" = wall/floor thickness + 10" (254). Standard sleeve length "L" = 16" (406).
  - Damper may be rotated 180° to position actuator area on the left side.
  - The entire damper frame is not required to be installed within the wall, partition or floor. However, the closed plane of the damper blades must be inside the wall, partition or floor.
  - Dimensions for FSLF120 apply to FSTF120.
  - Dimensions for ML4115/ML8115 apply to MS4209/MS8209.
  - For dimensions on actuators not shown above, contact factory.



# Airflow Performance Data

## Pressure Loss vs. Velocity

Figure 5.3 — Ducted Inlet and Outlet

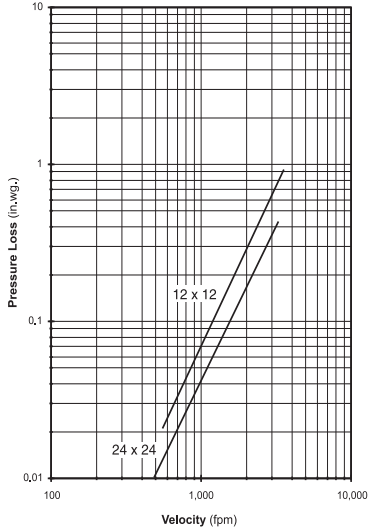


Figure 5.2 — Ducted Inlet

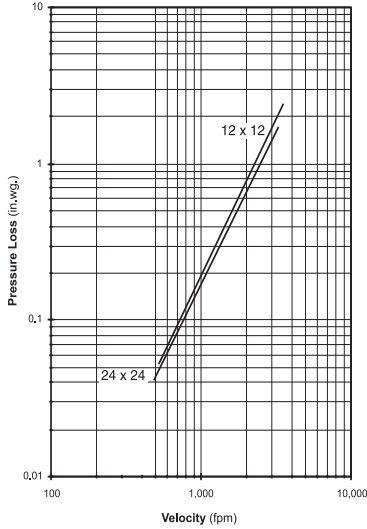
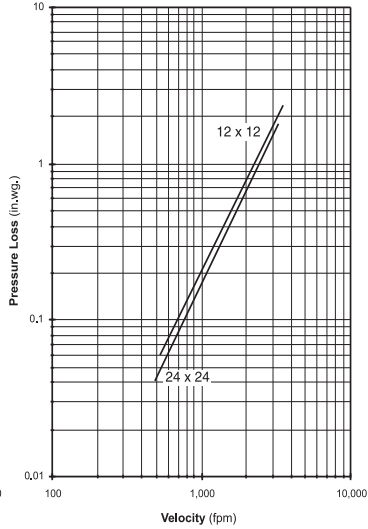
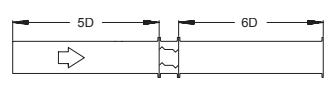


Figure 5.5 Plenum Mount

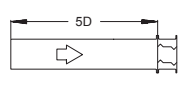


Pressure drop testing was performed in accordance with AMCA Standard 500-D using the three configurations shown. All data has been corrected to represent air density of 0.075 lb/ft. Actual pressure drop in any ducted HVAC system is a combination of many elements. This information, along with analysis of other system influences, should be used to estimate actual pressure losses for a damper installed in a given HVAC system.



### Ducted Inlet and Outlet

AMCA Figure 5.3 illustrates a fully ducted damper. This configuration represents the lowest pressure drop of the three test configurations because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.



### Ducted Inlet

AMCA Figure 5.2 illustrates a ducted damper exhausting air into an open area. This configuration has a lower pressure drop than Figure 5.5 because entrance losses are minimized by a straight duct run upstream of the damper.



### Plenum Mount

AMCA Figure 5.5 illustrates a plenum mounted damper. This configuration has the highest pressure drop because of extremely high entrance and exit losses due to the sudden changes of area in the system.

Information is subject to change without notice or obligation.

NOTE: Dimensions in parentheses ( ) are millimeters.

### Application

Model FSD-312 is a high performance combination fire smoke damper with Class II leakage. High strength airfoil blades ensure the lowest resistance to airflow in HVAC systems with velocities to 4000 fpm (20.3 m/s) and pressures to 8 in. wg (2 kPa). Model FSD-312 may be installed vertically (with blades running horizontal) or horizontally and is rated for airflow and leakage in either direction.

### Ratings

#### UL 555 Fire Resistance Rating

Fire Rating: 1½ hours

Dynamic Closure Rating: Actual ratings are size dependent

Velocity: Up to 4000 fpm (20.3 m/s)

Pressure: Up to 8 in. wg (2 kPa)

#### UL 555S Leakage Rating

Leakage Class: II

Operational Rating: Actual ratings are size dependent

Velocity: Up to 4000 fpm (20.3 m/s)

Pressure: Up to 8 in. wg (2 kPa)

Temperature: Up to 350°F (177°C) - depending upon the actuator

### Construction

	Standard	Optional
<b>Frame Material</b>	Galvanized steel	-
<b>Frame Material Thickness</b>	16 ga. (1.5mm)	-
<b>Frame Type</b>	5 in. x 1 in. (127mm x 25mm) hat channel	-
<b>Blade Material</b>	Galvanized steel	-
<b>Blade Material Thickness</b>	14 ga. (2mm) equivalent	-
<b>Blade Type</b>	Airfoil	-
<b>Blade Action</b>	Opposed	-
<b>Linkage</b>	Plated steel out of airstream, concealed in jamb	316SS
<b>Axle Bearings</b>	316SS	-
<b>Axle Material</b>	Plated steel	316SS
<b>Blade Seals</b>	Silicone	-
<b>Jamb Seals</b>	Stainless Steel	-
<b>Closure Device</b>	RRL	RRL/OCI, TOR, Fusible Link
<b>Closure Temperature</b>	165°F (74°C)	212°F (100°C), 250°F (121°C), 286°F (141°C)*, 350°F (177°C)



Width and Height dimensions furnished approximately ¼ in. (6mm) undersize. Add sleeve thickness for overall sleeved damper dimension. Right hand drive is shown. Left hand drive is available upon request.



See complete marking on product.

UL 555 and UL 555S  
Classification R13317

Model FSD-312 meets the requirements for fire dampers, smoke dampers and combination fire smoke dampers established by:

**National Fire Protection Association**  
NFPA Standards 80, 90A, 92, 101 & 105

**IBC International Building Codes**  
**CSFM California State Fire Marshal**

Fire Damper Listing (#3225-0981:0103)  
Leakage (Smoke) Damper Listing (#3230-0981:0104)

W x H	Minimum Size	Maximum Size		
		Single Section	Multiple Section	
			Horizontal	Vertical
<b>Inches</b>	6 x 6	32 x 50	144 x 96	128 x 100
<b>mm</b>	152 x 152	813 x 1270	3658 x 2438	3251 x 2540

\*Note: Maximum sizes are dependent on velocities and pressure.

#### Note:

The frames are constructed with reinforced corners. Low profile head and sill are used on sizes less than 17 in. (432mm) high for lower pressure drop and improved damper performance.

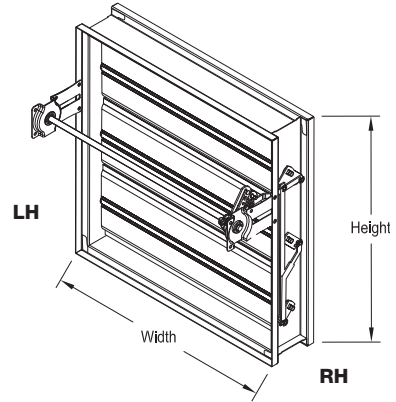
\* Only with fusible link



## Options and Accessories

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- [Breakaway connections](#)
- Clean wrap
- [Greenheck test switches \(GTS\)](#)
- [Grille tabs](#)
- [Momentary switches](#)
- [Retaining angles](#)
- [RRL/OCI](#)
- [Security bars](#)
- Sealed transitions and sleeve
- Smoke detectors
- [TOR](#)
- Transitions: C, O, R



## Document Links

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[Installation Instructions](#)



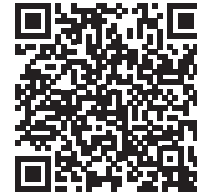
[Life Safety Damper Catalog](#)



[Damper Product Selection Guide](#)



[Specifications](#)



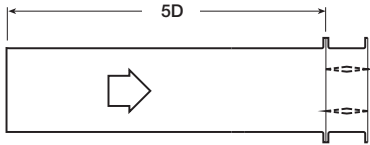
[Damper Warranty](#)





# Pressure Drop

AMCA Figure 5.2



12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.11
1500	0.24
2000	0.42
2500	0.66
3000	0.95
3500	1.30
4000	1.70

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.06
1500	0.12
2000	0.22
2500	0.34
3000	0.49
3500	0.67
4000	0.87

36 in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.05
1500	0.12
2000	0.21
2500	0.32
3000	0.47
3500	0.63
4000	0.83

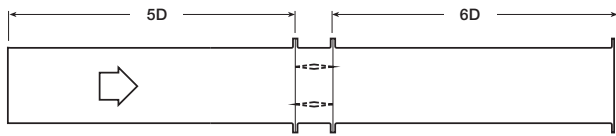
12 in. X 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.05
1500	0.12
2000	0.21
2500	0.33
3000	0.48
3500	0.65
4000	0.85

48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.02
1000	0.08
1500	0.18
2000	0.33
2500	0.51
3000	0.74
3500	1.00
4000	1.31

AMCA Figure 5.3



12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.06
1500	0.13
2000	0.23
2500	0.37
3000	0.53
3500	0.73
4000	0.95

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.06
2000	0.10
2500	0.16
3000	0.23
3500	0.32
4000	0.42

36 in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.05
2000	0.09
2500	0.14
3000	0.21
3500	0.29
4000	0.38

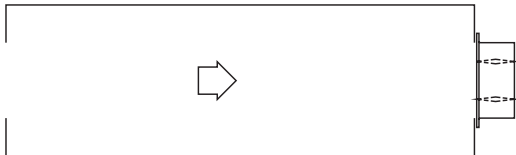
12 in. X 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.03
1500	0.06
2000	0.11
2500	0.18
3000	0.25
3500	0.34
4000	0.45

48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.04
1500	0.10
2000	0.18
2500	0.29
3000	0.42
3500	0.57
4000	0.74

AMCA Figure 5.5



12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.04
1000	0.18
1500	0.42
2000	0.75
2500	1.17
3000	1.68
3500	2.29
4000	2.09

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.13
1500	0.29
2000	0.52
2500	0.81
3000	1.17
3500	1.60
4000	2.14

36 in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.12
1500	0.27
2000	0.48
2500	0.75
3000	1.08
3500	1.48
4000	1.93

12 in. X 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.12
1500	0.27
2000	0.49
2500	0.77
3000	1.11
3500	1.51
4000	1.97

48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.14
1500	0.32
2000	0.57
2500	0.89
3000	1.28
3500	1.75
4000	2.29

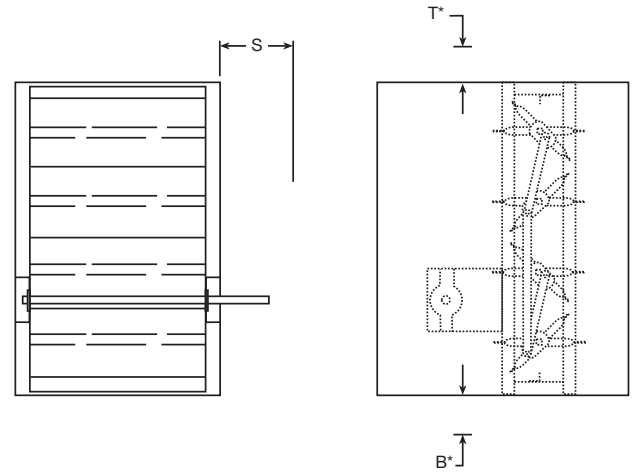


Greenheck Fan Corporation certifies that the model FSD-312 shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Programs. The AMCA Certified Ratings Seal applies to air performance ratings only.

## Space Envelopes

Externally mounted actuators always require space outside of the damper sleeve. The “S” dimension illustrates the clearance required for various available actuators.

On damper less than 18 in. (457mm), actuators may also require clearances above and/or below the sleeve. “B” and “T” dimensions are worst case clearance requirements for some dampers less than 18 in. (457mm) high. All dampers 18 in. (457mm) or more in height, do not require these worst case clearances. If space availability above or below the damper sleeve is limited, each damper size should be individually evaluated.

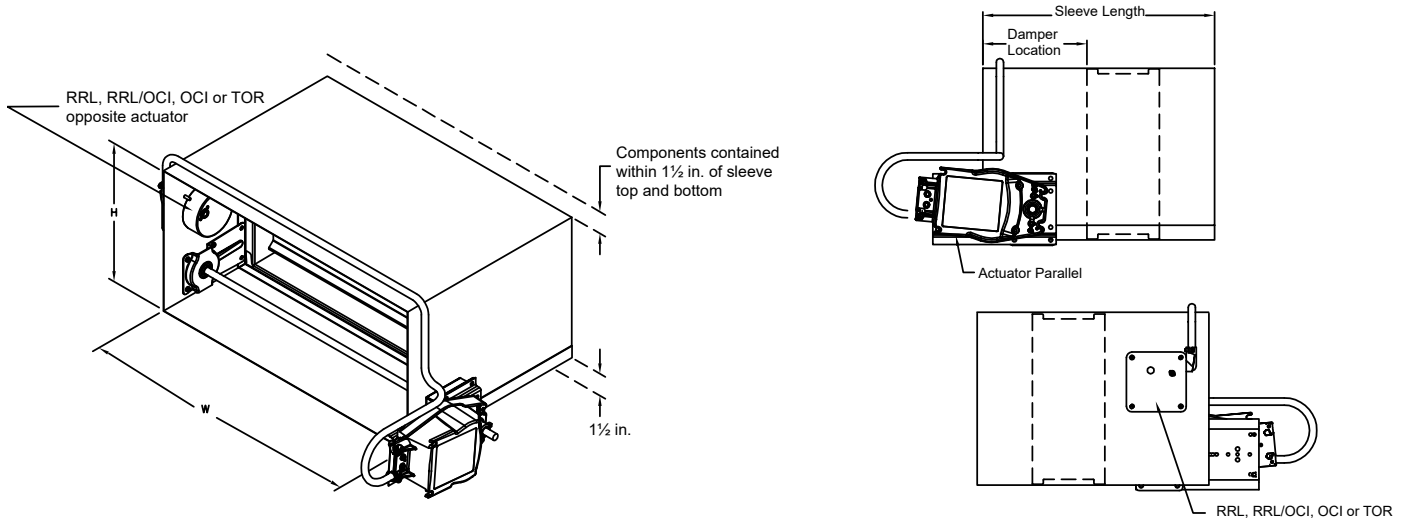


Actuator Type/Model	B*	T*	S	
	With RRL, RRL/OCI, or TOR	With RRL, RRL/OCI, or TOR	Piggyback	
			No	Yes
<b>120 Volt AC</b>				
FSLF120 (-S) Belimo	7 <sup>11</sup> / <sub>16</sub> in. (195mm)	0	6 in. (152mm)	NA
FSNF120 (-S) Belimo	½ in. (13mm)	9 <sup>13</sup> / <sub>16</sub> in. (249mm)	6 in. (152mm)	9 in. (229mm)
FSTF120 (-S) Belimo	7 <sup>11</sup> / <sub>16</sub> in. (195mm)	0	6 in. (152mm)	NA
MS4104 Series Honeywell	½ in. (13mm)	8½ in. (216mm)	6 in. (152mm)	NA
MS4X09 Series Honeywell	½ in. (13mm)	8½ in. (216mm)	6 in. (152mm)	NA
MS4120 Series Honeywell	½ in. (13mm)	9 <sup>13</sup> / <sub>16</sub> in. (249mm)	6 in. (152mm)	9 in. (229mm)
<b>24 Volt AC</b>				
FSAF24 (-S) Belimo	½ in. (13mm)	9 <sup>13</sup> / <sub>16</sub> in. (249mm)	6 in. (152mm)	NA
FSTF24 (-S) Belimo	7 <sup>11</sup> / <sub>16</sub> in. (195mm)	½ in. (13mm)	6 in. (152mm)	NA
FSLF24-S Belimo	7 <sup>11</sup> / <sub>16</sub> in. (195mm)	0	6 in. (152mm)	NA
FSNF24 (-S) Belimo	½ in. (13mm)	9 <sup>13</sup> / <sub>16</sub> in. (249mm)	6 in. (152mm)	9 in. (229mm)
MS8104 Series Honeywell	½ in. (13mm)	8½ in. (216mm)	6 in. (152mm)	NA
MS8120 Series Honeywell	½ in. (13mm)	9 <sup>13</sup> / <sub>16</sub> in. (249mm)	6 in. (152mm)	9 in. (229m)
<b>230 Volt AC</b>				
FSLF230-S Belimo	7 <sup>11</sup> / <sub>16</sub> in. (195mm)	0	6 in. (152mm)	NA
FSNF230-S Belimo	½ in. (13mm)	9 <sup>13</sup> / <sub>16</sub> in. (249mm)	6 in. (152mm)	9 in. (229mm)
MS4604 Series Honeywell	½ in. (13mm)	8½ in. (216mm)	6 in. (152mm)	NA
MS4X09 Series Honeywell	½ in. (13mm)	8½ in. (216mm)	6 in. (152mm)	NA
MS4620 Series Honeywell	½ in. (13mm)	9 <sup>13</sup> / <sub>16</sub> in. (249mm)	6 in. (152mm)	9 in. (229mm)

\* For dampers 18 in. (457mm) or more in height these dimensions are 0 in.

# Contained Actuator Option

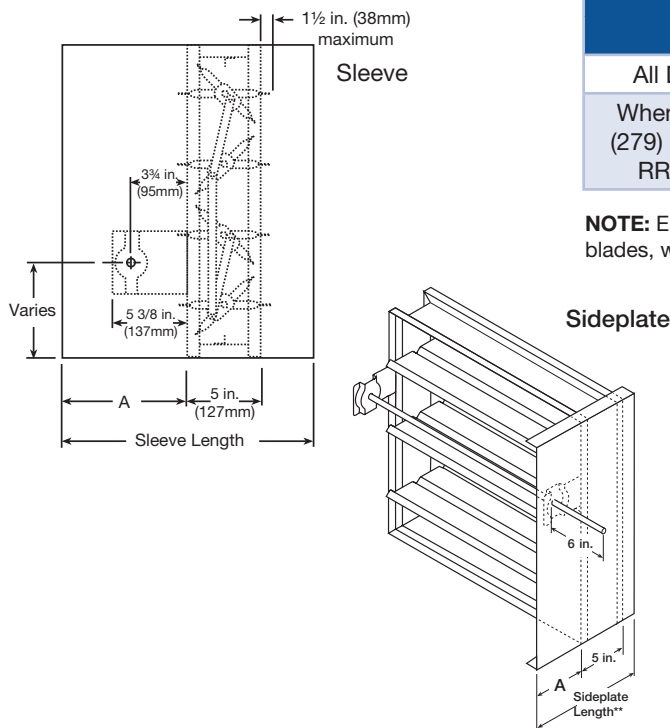
Dampers can be ordered with a “contained actuator option”. This option will result in the actuator being oriented such that it extends no more than 1½ inches above or below the sleeve. Note that some damper configurations that are 11 inches high or less will have the RRL, RRL/OCI, or TOR mounted on the side opposite the actuator when the contained actuator option is selected.



## Sleeve and Sideplate Dimensional Data

The drawings below and corresponding table show the position of the FSD-312 damper when mounted in a factory sleeve. The standard mounting locations provide enough space for the mounting of actuators, controls and allow space for installation of retaining angles and duct connections.

The standard location of a damper mounted in a factory sleeve (“A” dimension) is shown below. The damper can be positioned at other locations within a range of 6 in. (152mm) to 16 in. (406mm) for the “A” dimension.

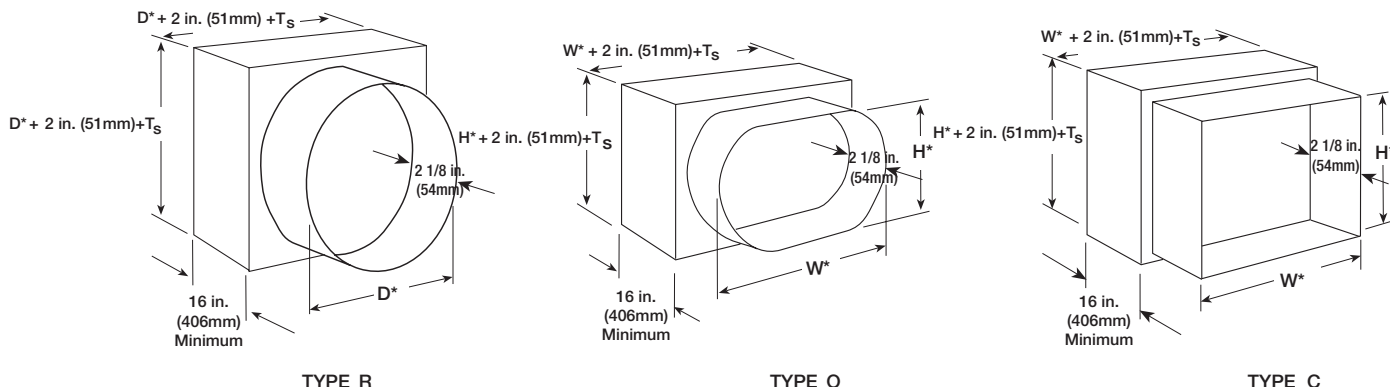


in. (mm)	"A" Dimension		
	Sleeve Std	Sleeve Max	Sideplate
All Dampers (RRL)	7 3/16 in. (183)	16 (406)	6 3/16 (157)
When Height is 11 in. (279) or less with RRL, RRL/OCI, or TOR	12 (305)	16 (406)	12 (305)

**NOTE:** Entire damper frame is not required to be installed within the wall. The damper blades, when closed should be contained within the wall.

# Transitioned Damper Dimensions

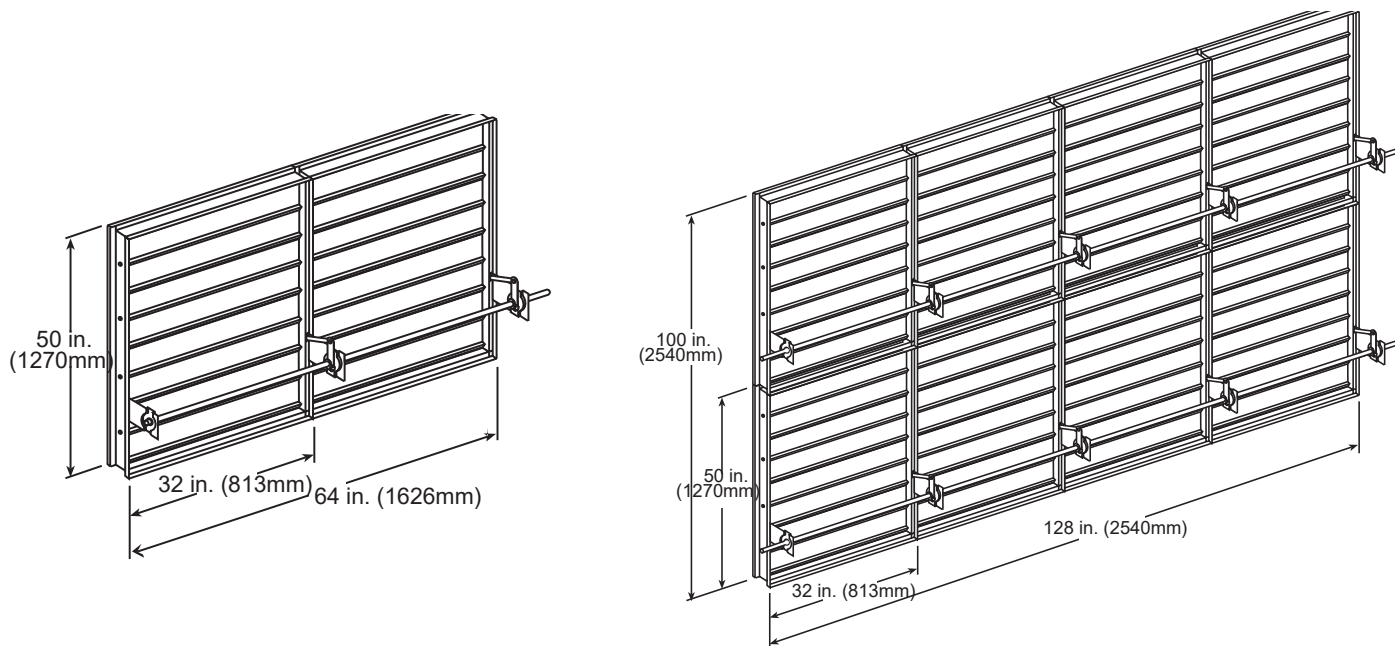
When a combination fire smoke damper is being used in conjunction with round or oval ductwork, the FSD-312 can be supplied in a factory sleeve with round or oval transitions on both ends of the sleeve. Dampers should be ordered to the duct dimensions. Drawings below show overall damper size.



\*These dimensions are furnished approximately 1/4 in. (6mm) undersize, except round and oval dimensions which are approximately 1/8 in. (3mm) undersize.  
 Ts = (2)(Sleeve Thickness)

## Multiple Sections Damper

Dampers larger than maximum single section size are supplied as a factory assembly of two or more sections of equal size. The following figures show maximum damper section size and assembly configurations for multi-section dampers.



Two Sections

Four sections wide  
Two sections high