FN1AAF
OptiClean™ Negative Air Machine and Air Scrubber

Product Data



A200220CA

Fig. 1 – OptiClean™ Negative Air Machine and Air Scrubber

The OptiClean™ negative air machine is a portable solution primarily designed to help convert normal hospital rooms into Airborne Infectious Isolation (AII) rooms. Designed to ASHRAE's Standard 170 for Ventilation of Health Care Facilities, the OptiClean™ uses highly efficient filters and a heavy duty, yet quiet, motor to remove contaminated air from the room. The resulting negative air pressure, or "vacuum effect," helps limit the spread of air-based contaminants into surrounding areas.

If negative pressure is not required, such as in an open-air, temporary hospital, a business location or home, the machine can be used as an air "scrubber," pulling air in, removing many contaminants, and discharging cleaner air back into the room.

The unit can be operated either vertically as shown, or horizontally.

STANDARD FEATURES

- 99.97% efficient long-life HEPA filter removes particles as small as 0.3 microns
- Standard MERV 7 or higher pre-filter
- Minimum 200 CFM, Maximum 1500 CFM
- Meets or exceeds ASHRAE Standard 170: Ventilation of Health Care Facilities
- Vertical design for smaller footprint compared to many competitors, and can be mounted and operated horizontally when necessary
- Portable and adaptable to nearly any location
- Heavy duty locking casters for easy and smooth transport
- HEPA filter rack and sealing design meet air leakage requirement
- Red lighted indicator to alert user when filters are overloaded (generally means pre-filter requires replacement)
- Green ON/OFF switch illuminates to verify when running
- 3-second motor start delay
- 3-speed selector switch on 006 and 015 models for various air flow ranges
- 10-foot long power cord with strain relief
- 115V
- Galvanized steel, pre-painted cabinet is fully insulated
- Exhaust transition plate to standard 10-inch round (005/006 sizes) or 12-inch oval (015 size) duct included
- UL® Listed
- One year limited warranty
- 

A200221

Fig. 2 – Room Setup Example for Negative Air

UL and the UL logo are trademarks of UL LLC.

Table 1 – Model Number Nomenclature

1	2	3	4	5	6	7,8,9	10	11, 12
F	N	1	A	A	F	015	0	00

Product
F = Fan Unit

Type
N = Negative Air

Position
1 = Upflow

Series
A = Initial Series

Electrical
A = 115V, 60 Hz, 1-phase

Cabinet
F = Single-piece Cabinet

Capacity
005 = 500 cfm
006 = 600 cfm
015 = 1500 cfm

Coil Type
0 = no coil

Heater
00 = no heater

Table 2 – FN1AAF Basic Dimensional Data

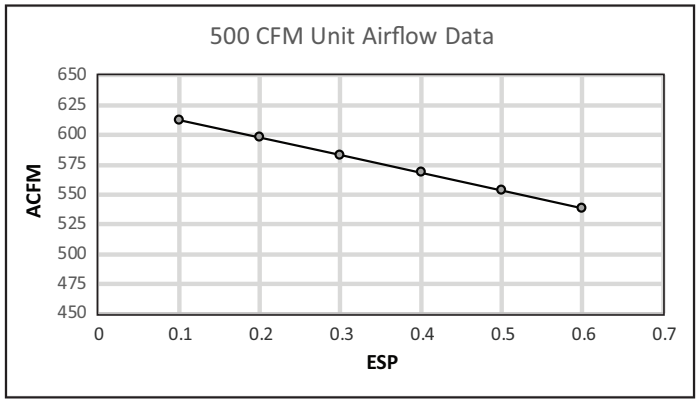
Model Size	Dimensions- inches (mm)			Unit Operating Weight lbs (kg)
	Height*	Width	Depth	
005, 006	49-5/8 (1260.5)	17-5/8 (447.7)	22-1/16 (560.4)	125 (56.7)
015	53-7/16 (1357.3)	21-1/8 (536.6)	22-1/16 (560.4)	150 (68.0)

*. Height without casters. Add 3-5/8" (92.1 mm) when casters installed

Table 3 – Specifications

	005, 006 Size	015 Size
Air Discharge	Vertical	
Air Intake Dimension (thru bottom) - in. (mm)	15-1/2 x 19-13/16 (387 x 503)	19 x 19-13/16 (483 x 503)
Blower Type	Direct Drive	
CFM (Nominal)	500	500 / 1000 / 1500
Motor Type	ECM	
Motor HP	1/3 or 3/4	1.0
Rated RPM	1500	
FILTERS (in.)		
Factory Installed - in.	Pre-Filter - 16 x 20 x 2 HEPA - 16 x 20 x 12	Pre-Filter - 20 x 20 x 2 HEPA - 20 x 20 x 12
ELECTRICAL DATA		
Voltage	115	
Hertz	60	
Amps	5.0	12.0

External Static Pressure (ESP)	0.1	0.2	0.3	0.4	0.5	0.6
Actual Flow (CFM)	613	598	583	568	554	539

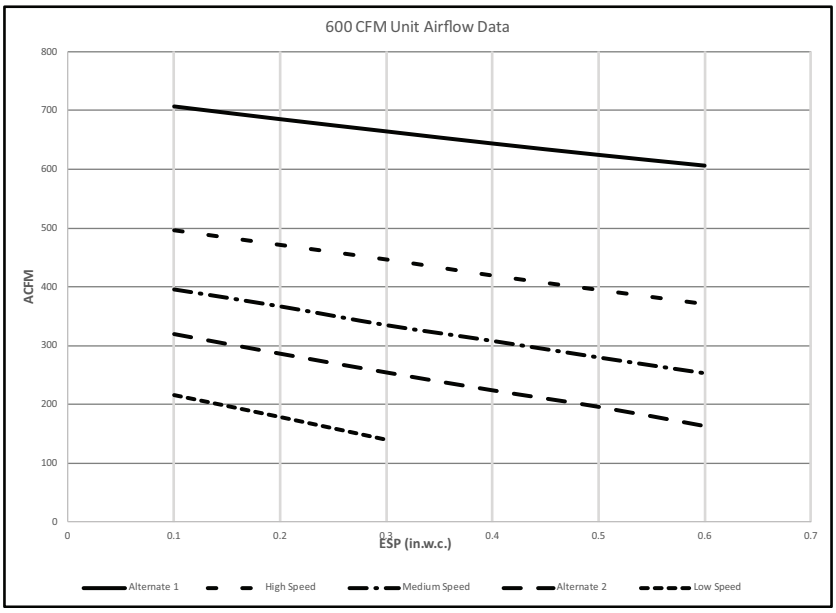


A200225

Fig. 3 – Static Pressure - 005 Size

Airflow based upon clean pre-filter at 115V with factory-approved HEPA filter.
Measured with 10 feet of flex duct installed.

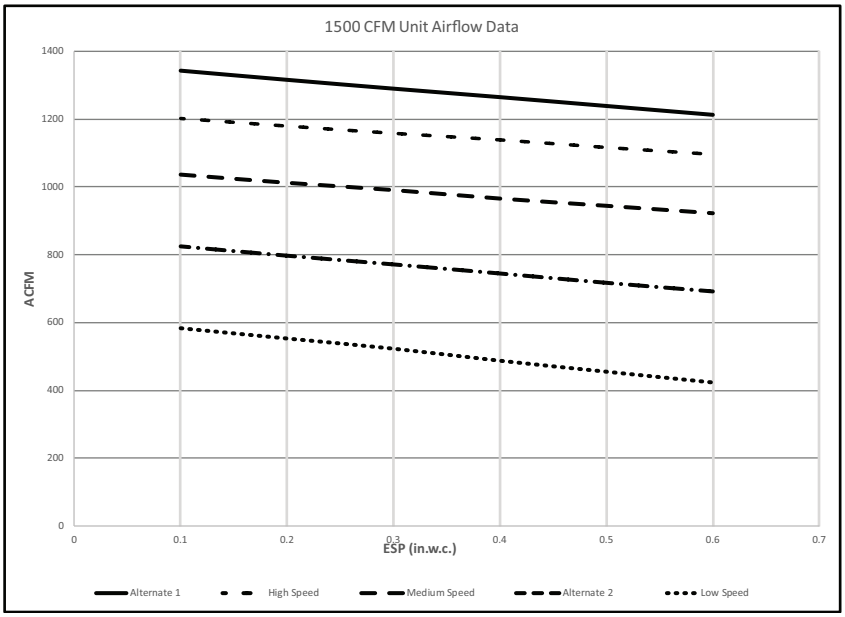
Unit Airflow Data (CFM)								
Switch Setting	*Motor Tap Number*	*External Static Pressure (ESP)*						
		*0.01**	*0.1*	*0.2*	*0.3*	*0.4*	*0.5*	*0.6*
Alternate 1	5	731	706	685	664	643	624	606
High	4	524	496	471	446	419	394	370
Medium	3	428	396	367	335	309	280	254
Alternate 2	2	350	320	287	254	224	195	162
Low	1	248	216	179	140			
* CFM with accessory Air Diffuser (no adapter plate)								



A200420A

Fig. 4 – Static Pressure - 006 Size

Unit Airflow Data (CFM)								
Switch Setting	*Motor Tap Number*	*External Static Pressure (ESP)*						
		*0.01**	*0.1*	*0.2*	*0.3*	*0.4*	*0.5*	*0.6*
Alternate 1	5	1462	1342	1315	1289	1264	1238	1212
High	4	1280	1201	1179	1158	1139	1117	1097
Medium	3	1104	1037	1013	992	967	946	924
Alternate 2	2	885	826	798	772	745	717	692
Low	1	637	583	552	522	487	454	422
* CFM with accessory Air Diffuser (no adapter plate)								



A200253A

Fig. 5 – Static Pressure - 015 Size

1.Airflow based upon clean pre-filter at 115V with factory-approved HEPA filter.

2.Measured with adapter plate installed

High-Altitude Adjustment

Depending on your location, you may see up to 10% increase of measured airflow at higher altitudes. To compensate, you can change motor taps for alternate airflows. See instructions in the Operation and Maintenance Manual.

Table 4 – Sound vs Airflow Data

005 Model					
Motor Tap*	**Switch Position**	**Nominal Airflow†**	**as NAM (dB)**	**as Scrubber (dB)**	**with Accessory Diffuser (dB)**
1		375	48	54	51
2		425	51	57	54
3	Factory Setting	500	53	59	57
4		575	55	61	59
5		600	55	62	60
006 Model					
Motor Tap	**Switch Position**	**Airflow**	**as NAM (dB)**	**as Scrubber (dB)**	**with Accessory Diffuser (dB)**
1	Low	200	39	41	39
2		300	43	46	43
3	Medium	400	45	49	46
4	High	500	49	52	50
5		700	51	58	56
015 Model					
Motor Tap	**Switch Position**	**Airflow**	**as NAM (dB)**	**as Scrubber (dB)**	**with Accessory Diffuser (dB)**
1	Low	600	51	53	49
2		800	56	59	55
3	Medium	1050	60	63	59
4	High	1200	61	65	62
5		1350	61	67	64

*. The factory-set low and medium airflow can be moved to Speed Tap 2 or Speed Tap 5 airflow respectively, by removing the upper panel and moving the motor pin selection. Refer to Operation and Maintenance manual for procedure.

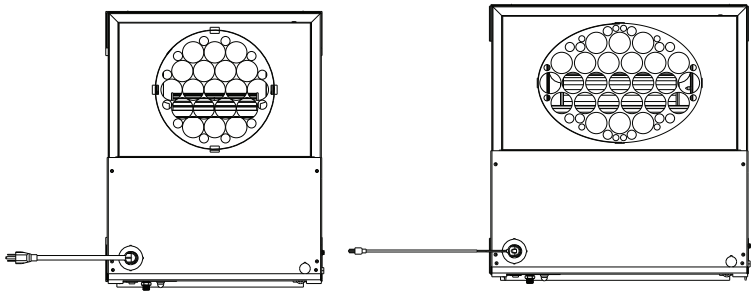
†. Airflow measured at 0.10 ESP (external static pressure). For other ESP values, see Static Pressure tables above.

Table 5 – Octave Band Sound Data

	Negative Air Machine Mode						Air Scrubber Mode with Adaptor Plate					Air Scrubber Mode — with Air Diffuser				
005 SIZE	**Hz**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**
	OA (dB(A))	48	51	53	55	55	54	57	59	61	62	51	54	57	59	60
	Octave (dB(A))	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**
	125	41.3	44.6	46.9	48.6	48.3	42.0	44.7	46.9	49.0	49.8	43.4	46.3	48.6	50.5	51.4
	250	42.3	45.2	47.0	48.5	49.1	44.8	47.1	49.2	50.9	51.5	44.3	47.1	49.4	51.2	51.8
	500	41.8	44.3	46.3	47.6	48.6	47.1	49.7	51.8	53.4	54.0	43.7	46.2	48.6	50.5	51.2
	1000	40.3	42.9	45.0	46.4	46.7	48.9	51.4	53.4	55.2	55.9	43.3	46.3	49.1	51.2	52.1
	2000	38.3	41.0	43.3	44.5	45.0	48.2	50.9	53.2	55.0	55.6	43.2	46.3	49.2	51.3	52.1
	4000	32.6	35.8	38.3	39.8	40.4	44.4	47.7	50.3	52.3	53.0	40.7	44.3	47.6	50.0	50.9
	8000	23.4	26.2	28.7	30.8	31.5	34.6	38.4	41.6	44.1	45.1	32.1	35.8	39.1	41.7	42.6
006 SIZE	**Hz**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**
	OA (dB(A))	39	43	46	49	51	41	46	49	52	58	39	43	46	50	56
	Octave (dB(A))	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**
	125	31.8	35.2	38.2	42.2	45.0	31.3	34.6	37.4	40.9	46.5	31.1	35.0	37.9	41.7	48.2
	250	32.7	36.6	38.9	41.8	46.1	34.1	38.0	40.3	43.2	49.3	34.0	37.7	40.1	43.2	49.7
	500	32.7	36.5	39.0	41.7	43.4	35.2	39.8	42.2	45.2	49.9	32.1	36.0	38.6	41.9	47.8
	1000	29.8	34.9	37.7	40.7	42.5	35.3	40.8	43.9	47.5	52.3	28.9	34.2	37.4	41.4	48.0
	2000	26.8	32.8	35.9	39.4	41.3	31.8	38.3	41.7	45.7	50.9	27.2	33.4	37.0	41.4	48.3
	4000	22.5	28.1	31.9	35.8	37.9	25.1	31.7	36.1	40.8	47.1	23.7	29.8	34.1	39.1	47.2
	8000	20.4	21.6	23.8	27.2	29.2	20.6	23.3	26.9	31.7	38.8	20.5	22.5	25.5	30.1	38.5
015 SIZE	**Hz**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**
	OA (dB(A))	51	56	60	61	61	53	59	63	65	67	49	55	59	62	64
	Octave (dB(A))	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**	**Speed 1**	**Speed 2**	**Speed 3**	**Speed 4**	**Speed 5**
	125	44.5	49.9	54.1	55.2	55.4	42.7	48.6	52.9	55.2	55.9	43.1	49.1	52.9	55.0	56.1
	250	44.2	49.2	52.9	54.4	54.5	45.3	50.6	55.0	57.1	57.7	43.7	48.8	52.6	54.7	56.6
	500	42.5	47.2	51.0	52.3	52.4	46.2	50.9	55.6	57.6	59.5	40.6	46.1	50.3	53.0	55.1
	1000	42.8	48.1	52.0	53.5	53.6	47.5	52.6	57.5	59.4	61.1	40.1	46.6	51.1	54.0	56.7
	2000	40.7	46.1	50.1	51.5	51.7	46.4	51.6	56.4	58.4	60.7	40.2	46.6	50.9	53.9	56.7
	4000	35.9	42.3	46.7	48.3	48.3	41.2	48.0	52.8	55.4	57.8	37.6	45.1	50.1	53.8	56.1
	8000	27.8	35.6	41.6	43.4	43.4	31.1	39.1	44.9	48.4	50.4	27.9	35.4	41.6	46.3	48.6

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

FN1AAF 005 Size Detailed Dimensions - English

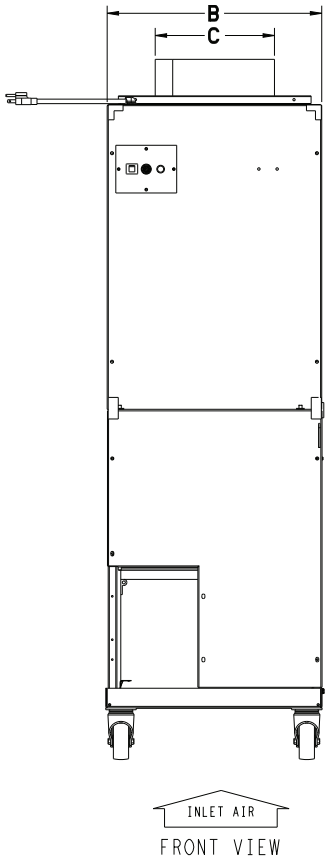


TOP VIEW (500CFM)

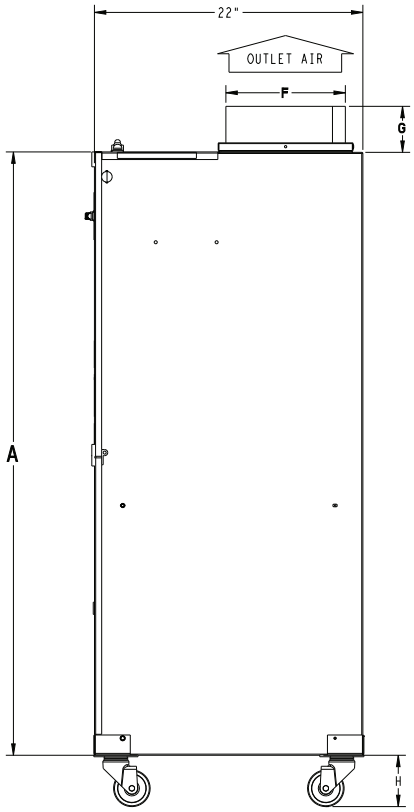
TOP VIEW (1500CFM)

UNIT	SERIES	ELECTRICAL CHARACTERSTICS			A	B	C	D	E	F	G	H	SHIPPING WT (LBS)
		115-1-60											
FN1AAF005000	A	X			49 5/8"	17 5/8"	10"	15 1/2"	19 13/16"	10"	3 3/4"	3 5/8"	125

X=YES
O=NO



FRONT VIEW

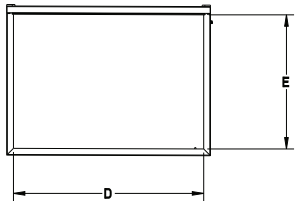


RIGHT SIDE VIEW

INLET AIR

NOTE:

1. SERIES DESIGNATION IS THE 4TH POSITION OF UNIT PRODUCT NUMBER
2. ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.
3. ALLOW 21" FROM FRONT FOR SERVICE
4. POWER CORD IS 10 FEET, 3 METERS LONG

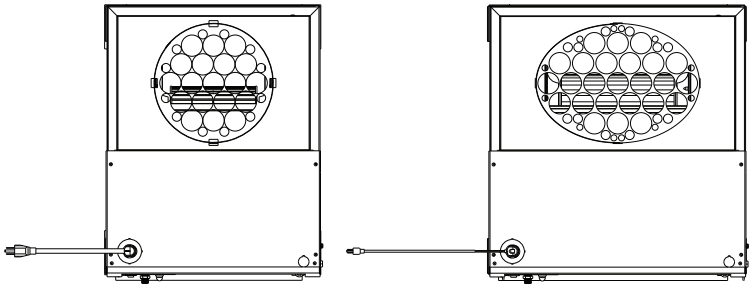


BOTTOM VIEW

A200262

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

FN1AAF 005 Size Detailed Dimensions - Metric



TOP VIEW (500CFM)

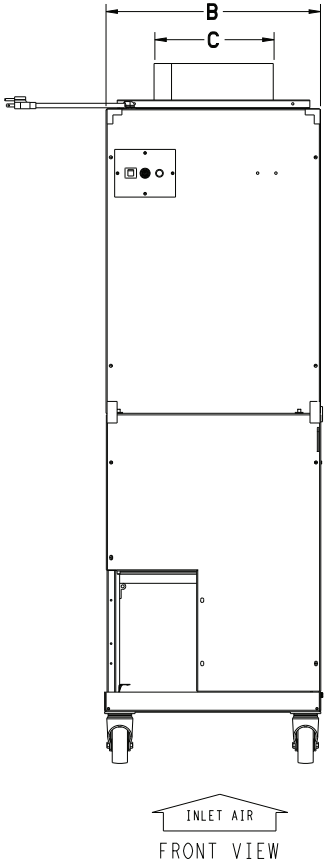
TOP VIEW (1500CFM)

UNIT	SERIES	ELECTRICAL CHARACTERSTICS			A	B	C	D	E	F	G	H	SHIPPING WT (LBS)
FN1AAF005000	A	X			1260.5	447.7	254	393.7	503.5	254	96	92	125
		115-1-60											

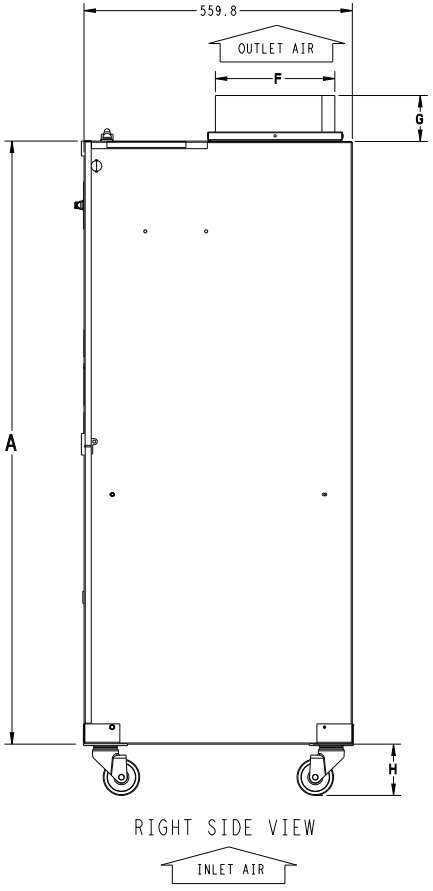
X=YES
O=NO

NOTE:

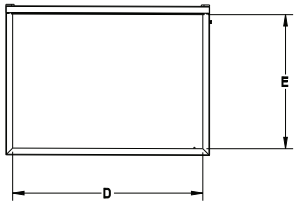
1. SERIES DESIGNATION IS THE 4TH POSITION OF UNIT PRODUCT NUMBER
2. ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.
3. ALLOW 21" FROM FRONT FOR SERVICE
4. POWER CORD IS 10 FEET, 3 METERS LONG



FRONT VIEW



RIGHT SIDE VIEW

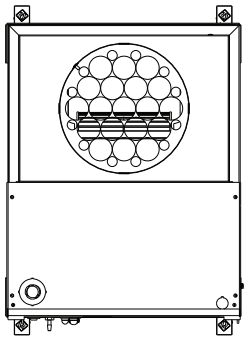


BOTTOM VIEW

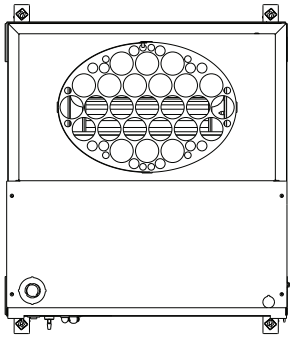
A200263

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

FN1AAF 006/015 Size Detailed Dimensions - English



TOP VIEW (600CFM)



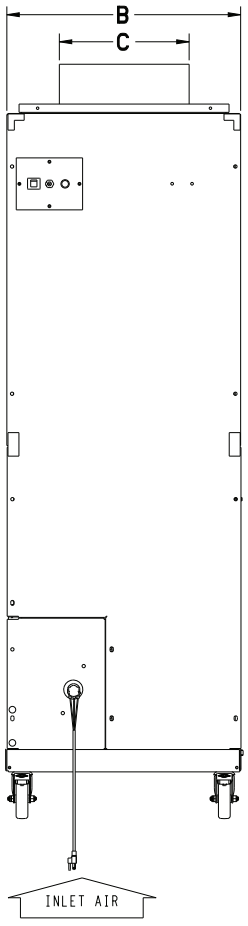
TOP VIEW (1500CFM)

UNIT	SERIES	ELECTRICAL CHARACTERSTICS			A	B	C	D	E	F	G	H	SHIPPING WT (LBS)
FN1AAF006000	A,B,C	X			49 5/8"	17 5/8"	10"	15 1/2"	19 13/16"	10"	3 3/4"	3 5/8"	125
FN1AAF015000	A,C	X			53 7/16"	21 1/8"	13 3/8"	19"	19 13/16"	10"	3 3/4"	3 5/8"	150
		115-1-60											

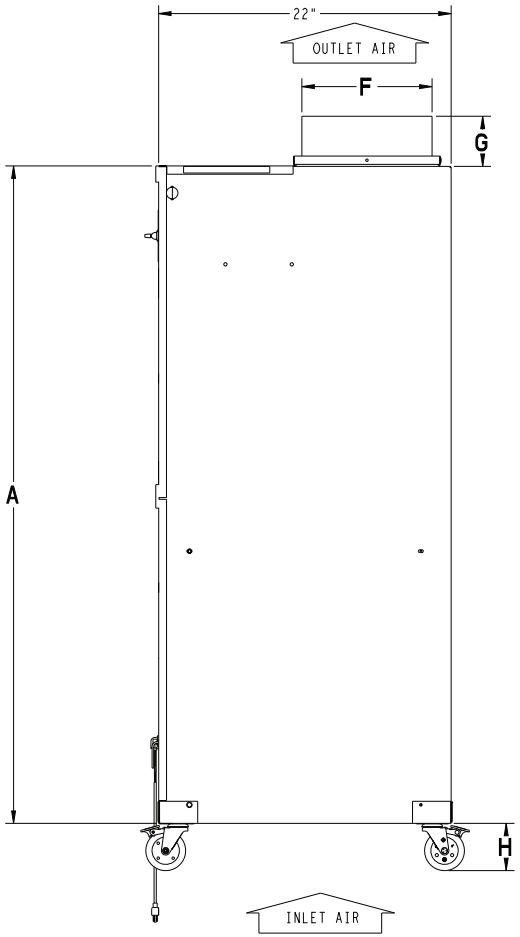
X=YES
O=NO

NOTE:

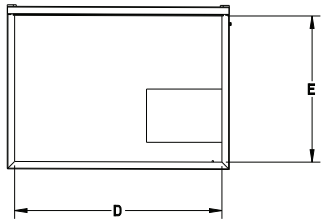
1. SERIES DESIGNATION IS THE 4TH POSITION OF UNIT PRODUCT NUMBER
2. ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.
3. ALLOW 21" FROM FRONT FOR SERVICE
4. POWER CORD IS 10 FEET, 3 METERS LONG



FRONT VIEW



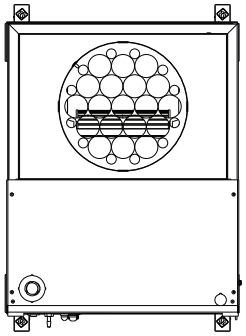
RIGHT SIDE VIEW



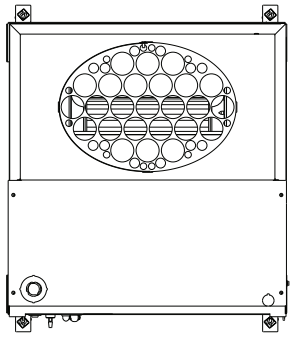
BOTTOM VIEW

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

FN1AAF 006/015 Size Detailed Dimensions - Metric



TOP VIEW (600CFM)



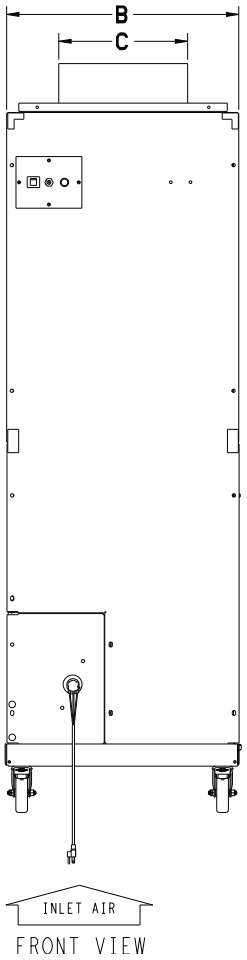
TOP VIEW (1500CFM)

UNIT	SERIES	ELECTRICAL CHARACTERSTICS			A	B	C	D	E	F	G	H	SHIPPING WT (LBS)
FN1AAF006000	A,B,C	X			1260.5	447.7	254	393.7	503.5	254	96	92	125
FN1AAF015000	A,C	X			1357.3	536.5	340	482.7	503.5	254	96	92	150
		115-1-60											

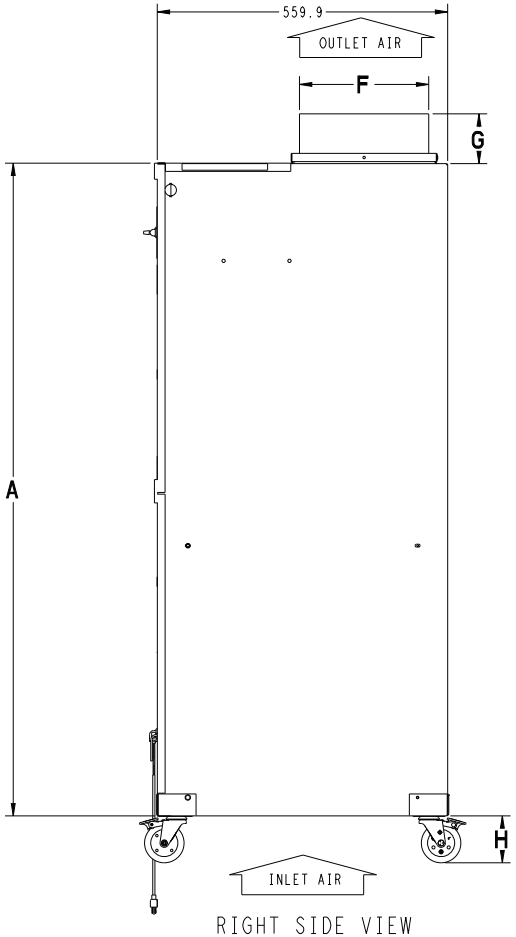
X=YES
O=NO

NOTE:

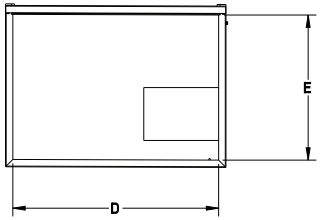
1. SERIES DESIGNATION IS THE 4TH POSITION OF UNIT PRODUCT NUMBER
2. ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.
3. ALLOW 21" FROM FRONT FOR SERVICE
4. POWER CORD IS 10 FEET, 3 METERS LONG



FRONT VIEW



RIGHT SIDE VIEW



BOTTOM VIEW

A200423

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Table 6 – Accessories

Description	P/N	Used On Models
Diffuser for Air Scrubber - Small	KFADG0101SML	005, 006
Diffuser for Air Scrubber - Large	KFADG0101LRG	015

© 2020 Carrier. All rights reserved.