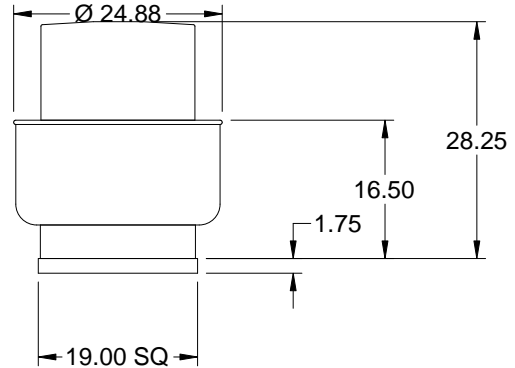


Model: CUBE-099-4

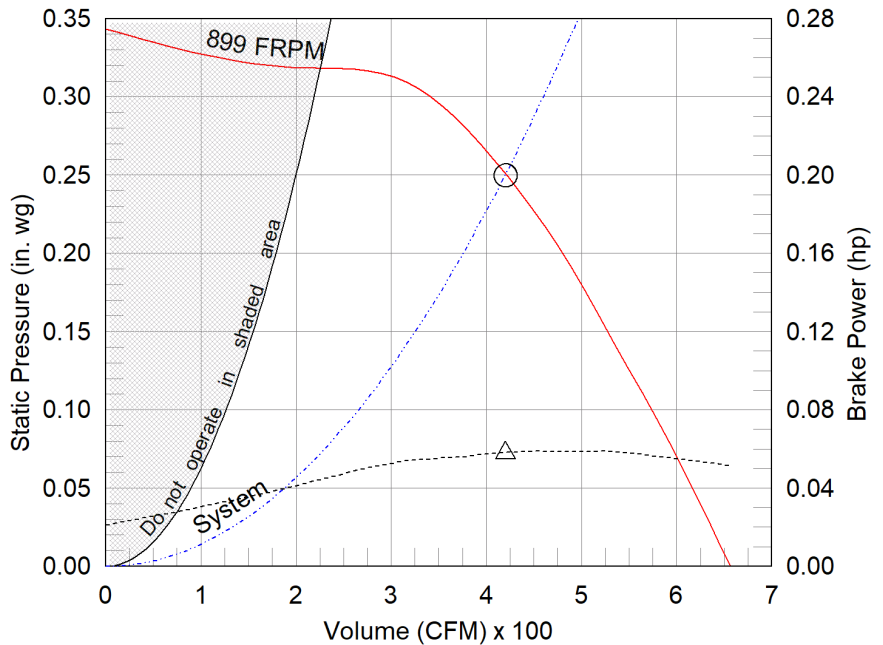
Belt Drive Upblast Centrifugal Roof Exhaust Fan



OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR.

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	57
Weight w/ Acc's (lb)	59
Max T Motor Frame Size	56
Roof Opening (in.)	14.5 x 14.5

Performance	
Requested Volume (CFM)	420
Actual Volume (CFM)	420
Total External SP (in. wg)	0.25
Fan RPM	899
Operating Power (hp)	0.06
Elevation (ft)	350
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.074
Drive Loss (%)	40.5
Tip Speed (ft/min)	2,632
Static Eff. (%)	48



Motor	
Motor Mounted	Yes
Size (hp)	1/4
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1725
Windings	1
NEC FLA* (Amps)	5.8

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

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	73	66	61	52	49	49	39	33	58	47	4.5

Notes:

All dimensions shown are in units of in.
*NEC FLA - based on tables 430.248 or 430.250 of National Electrical Code 2014. Actual motor FLA may vary, for sizing thermal overload, consult factory.
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: CUBE-099-4

Belt Drive Upblast Centrifugal Roof Exhaust Fan

Standard Construction Features:

- Aluminum housing - Backward inclined aluminum wheel - Curb cap with prepunched mounting holes - Motor and drives isolated on shock mounts - Drain trough - Ball bearing motors - Adjustable motor pulley - Adjustable motor plate - Fan shaft mounted in ball bearing pillow blocks - Bearings meet or exceed temperature rating of fan - Static resistant belts - Corrosion resistant fasteners - Internal lifting lugs

Selected Options & Accessories:

Switch, NEMA-1, Toggle, Shipped with Unit
Junction Box Mounted & Wired
Unit Warranty: 1 Yr (Standard)

AMCA

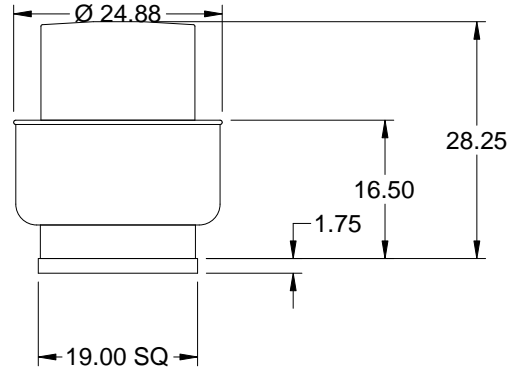


AMCA Licensed for Sound and Air Performance. Power rating (BHP/kW) includes transmission losses.

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 A: Free inlet, Free outlet. Power rating (BHP/kW) includes 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 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.

Model: CUBE-099-4

Belt Drive Upblast Centrifugal Roof Exhaust Fan

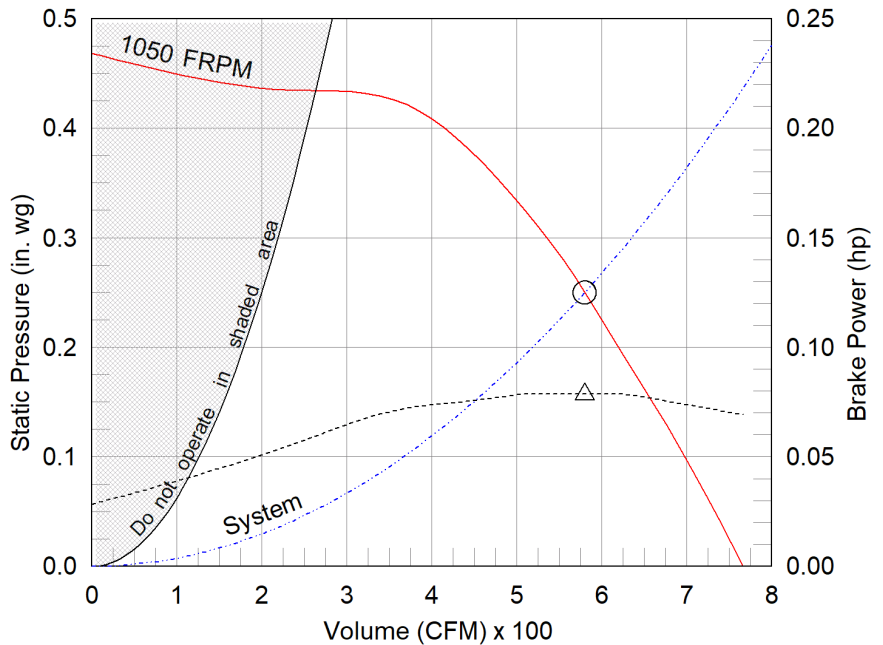


OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR.

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	57
Weight w/ Acc's (lb)	59
Max T Motor Frame Size	56
Roof Opening (in.)	14.5 x 14.5

Performance	
Requested Volume (CFM)	580
Actual Volume (CFM)	580
Total External SP (in. wg)	0.25
Fan RPM	1050
Operating Power (hp)	0.08
Elevation (ft)	350
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.074
Drive Loss (%)	29.2
Tip Speed (ft/min)	3,074
Static Eff. (%)	41

Motor	
Motor Mounted	Yes
Size (hp)	1/4
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1725
Windings	1
NEC FLA* (Amps)	5.8



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

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	72	67	65	58	54	53	44	37	62	50	5.6

Notes:

All dimensions shown are in units of in.
*NEC FLA - based on tables 430.248 or 430.250 of National Electrical Code 2014. Actual motor FLA may vary, for sizing thermal overload, consult factory.
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: CUBE-099-4

Belt Drive Upblast Centrifugal Roof Exhaust Fan

Standard Construction Features:

- Aluminum housing - Backward inclined aluminum wheel - Curb cap with prepunched mounting holes - Motor and drives isolated on shock mounts - Drain trough - Ball bearing motors - Adjustable motor pulley - Adjustable motor plate - Fan shaft mounted in ball bearing pillow blocks - Bearings meet or exceed temperature rating of fan - Static resistant belts - Corrosion resistant fasteners - Internal lifting lugs

Selected Options & Accessories:

Switch, NEMA-1, Toggle, Shipped with Unit
Junction Box Mounted & Wired
Unit Warranty: 1 Yr (Standard)

AMCA

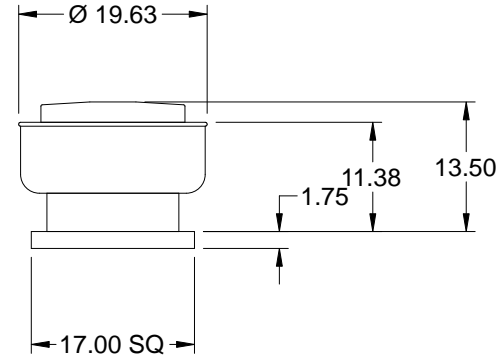


AMCA Licensed for Sound and Air Performance. Power rating (BHP/kW) includes transmission losses.

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 A: Free inlet, Free outlet. Power rating (BHP/kW) includes 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 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.

Model: CUE-060-VG

Direct Drive Upblast Centrifugal Roof Exhaust Fan

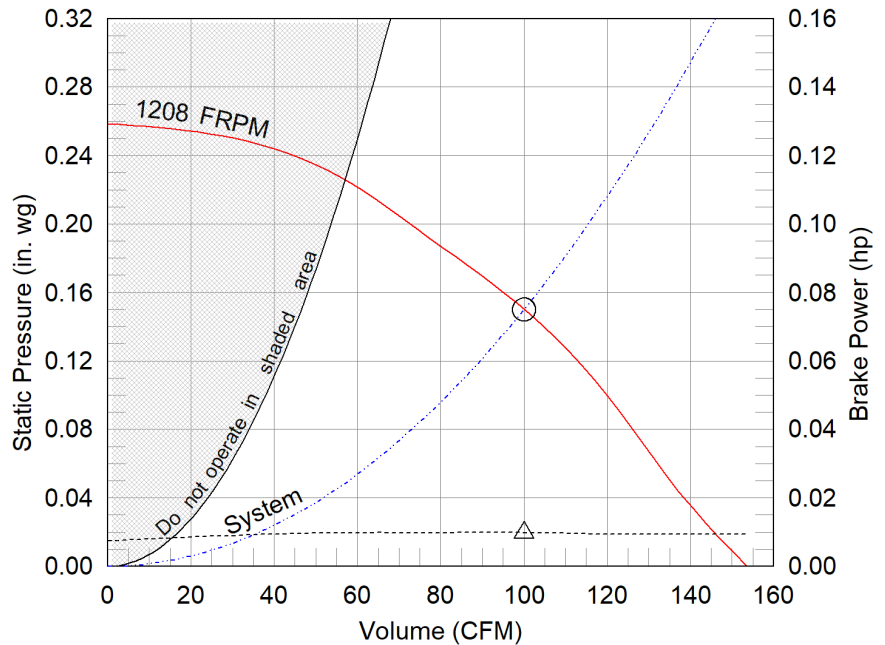


OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR.

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	22
Weight w/ Acc's (lb)	24
Roof Opening (in.)	10.5 x 10.5

Performance	
Requested Volume (CFM)	100
Actual Volume (CFM)	100
Total External SP (in. wg)	0.15
Fan RPM	1208
Operating Power (hp)	0.01
Elevation (ft)	350
Airstream Temp.(F)	70
Air Density (lb/ft3)	0.074
Tip Speed (ft/min)	2,570
Static Eff. (%)	24

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



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

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	60	60	54	43	41	39	29	24	50	38	2.2

Notes:

All dimensions shown are in units of in.
*NEC FLA - based on tables 430.248 or 430.250 of National Electrical Code 2014. Actual motor FLA may vary, for sizing thermal overload, consult factory.
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: 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

Switch, NEMA-1, Toggle, Shipped with Unit

Junction Box Mounted & Wired

Composite Wheel Material

Unit Warranty: 1 Yr (Standard)

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 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 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.

DESCRIPTION

Qty	Model
1	MSCF-15L-FC-7

MSCF

Modular Small Cabinet Fan

Tag AHU-01

Standard Construction Features

- Modular • 18 Gauge Galvanized Steel Housing • 18 Gauge Double Wall Construction • Sealed and Bolted Access Panels on Both Sides of each Module
- Corrosion Resistant Fasteners • Flexible Internal Connection between Housing and Scroll • Galvanized Steel Wheel • Motor and Drive Frame Mounted on Internal Isolators • Ball Bearing Motors • Fan Shaft Mounted in a Pillow Block Ball Bearing • Adjustable Motor Pulley • Fan Shaft Pulley • Static Free Belts • Tool Free Access is Standard on the Vertical Inlet Filter Module.
- When Cooling Module is selected, a Stainless Steel, Double Sloped and Insulated Drain Pan is Standard.

MOTOR SPECS

FLA - Based on tables 150 or 148 of National Electrical Code 2002.

Hp.	RPM	V/C/P	Enclosure	FLA (A)
3/4	1725	230/60/3	ODP	3.2

COOLING

Cooling Type	Cooling Coil Model	Total Energy (MBH)	Coil-Type
Direct Exp (DX)	DX12C06S12-7.5x31-LH	40.2	Normal

PERFORMANCE

Volume (CFM)	Total SP (in. wg)	External SP (in. wg)	Inter. SP (in. wg)	Power (hp)	FRPM (RPM)	Post Filter Face Velocity (ft/min)	Pre Filter Face Velocity (ft/min)
460	2.123	1.5	0.623	0.58	2875	184	256

Module Order:

Pre-Filter
Cooling
Pre Access Plenum
Fan
Post Filter

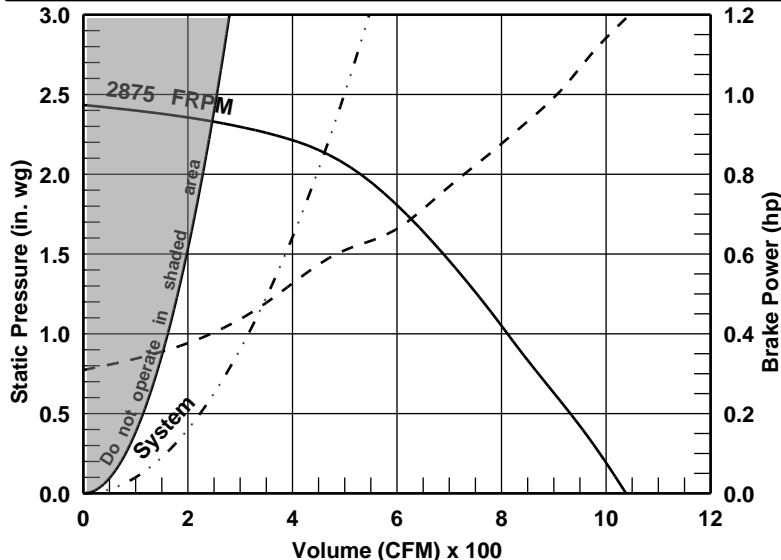
SELECTED OPTIONS & ACCESSORIES

Mounting Brackets/Lifting Lugs, Hanging Configuration
Drive Right, Neoprene Iso., Top Horizontal Dis., Steel Shaft
ETL Listing in Compliance with UL/cUL-1995
Switch - Nema-1, Toggle, J-Box Mounted & Wired, Switch Field Installed
Standard Belts
Class B Motor Insulation or Greater
Cooling Coil Conn. on Right Side Viewing Inlet
1.5 Insulation Density
Pre, Vertical Arr., Pleated Filtr., 60-65% (MERV 11), 4 in.
Pre, 12.75 in. Access Plenum Length
Post, Sloped Arr., Pleated Filtr., 90-95% (MERV 15) Eff., 4 in.

SOUND

Inlet / Outlet Sound Power by Octave Band								---	dBA
63	125	250	500	1000	2000	4000	8000		
84	85	77	73	69	67	69	69	77	66
86	90	85	79	75	69	67	64	82	71
Radiated Sound Levels									
74	65	62	55	46	39	36	39	57	46

All sound data is based on three-phase motors. Three-phase motors are recommended for sound-sensitive applications to avoid potential single-phase motor hum.



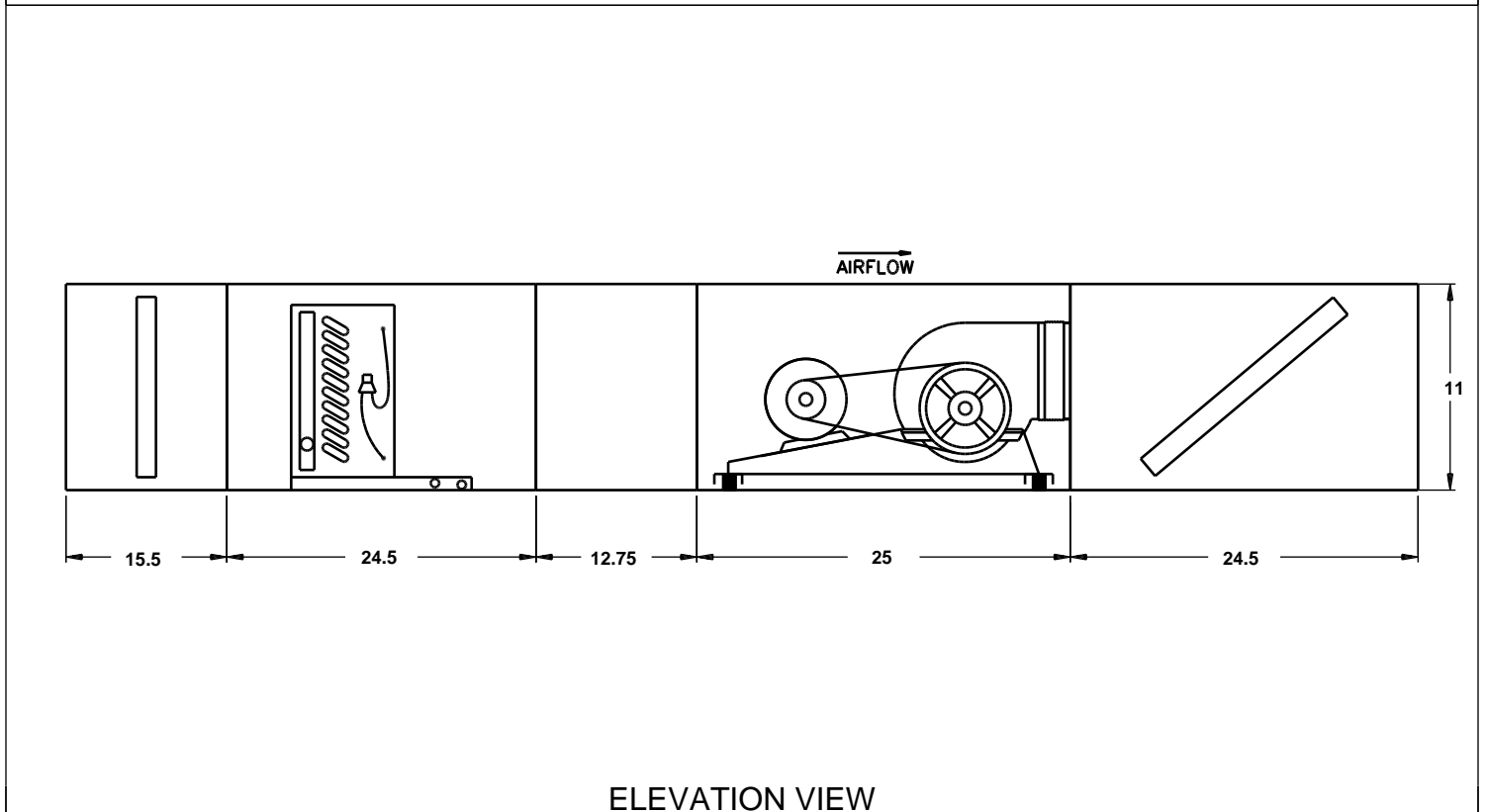
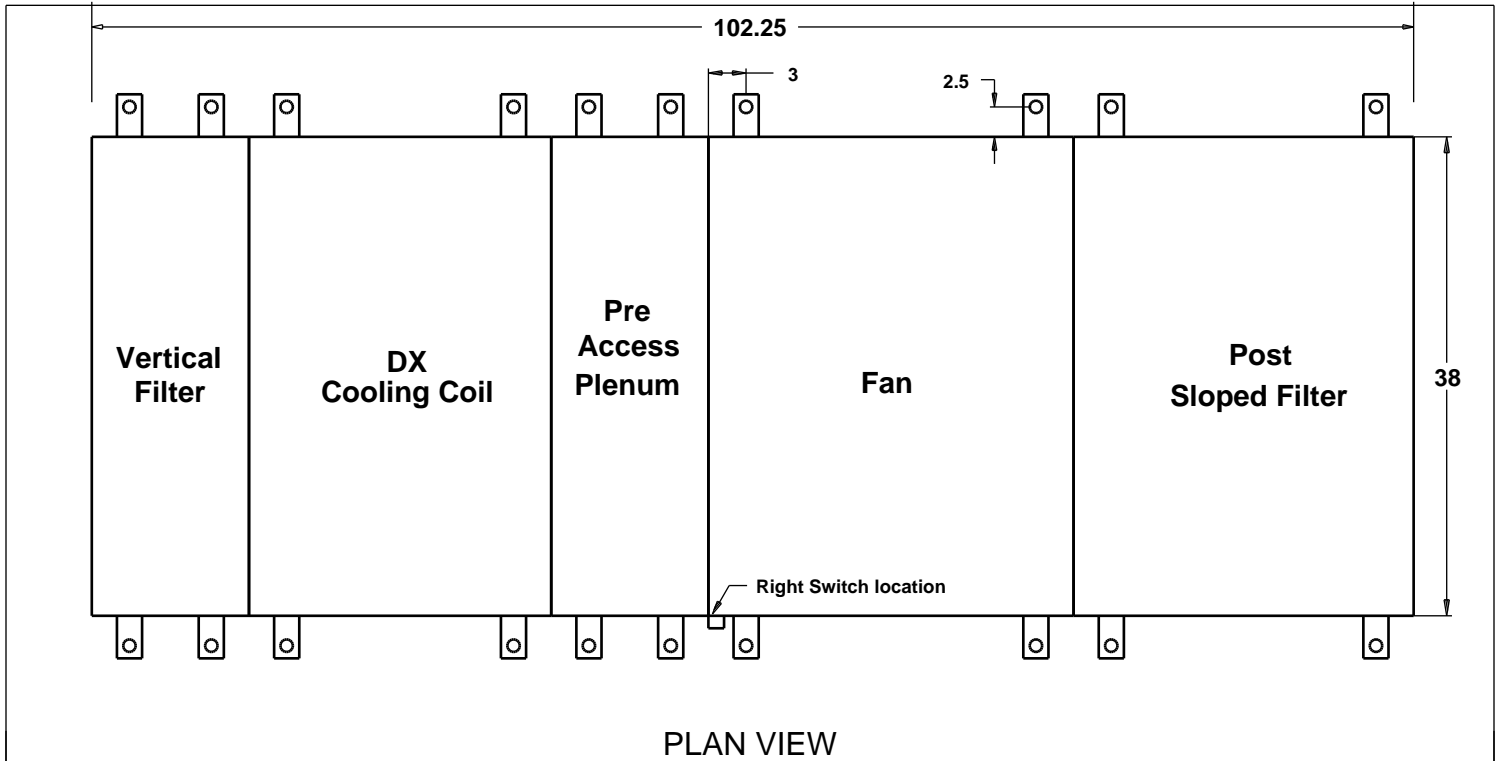
— Fan curve
- - - System curve
... Brake horsepower curve

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MSCF Modular Small Cabinet Fan

MSCF-15L-FC-7

NOTES: All dimensions shown are in units of inches.

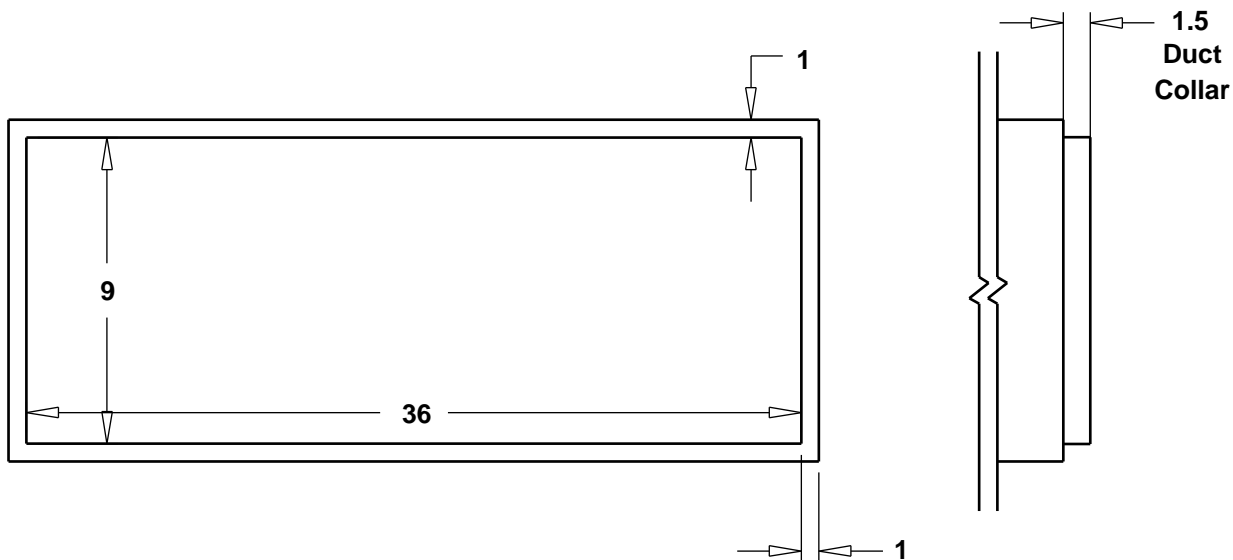
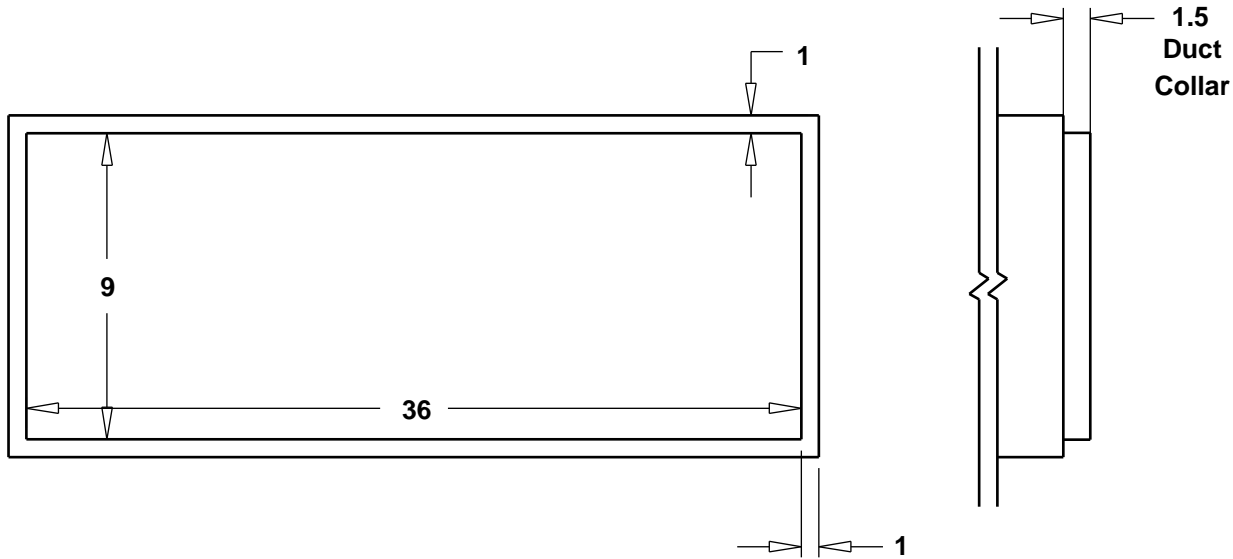


MSCF

Modular Small Cabinet Fan

MSCF-15L-FC-7

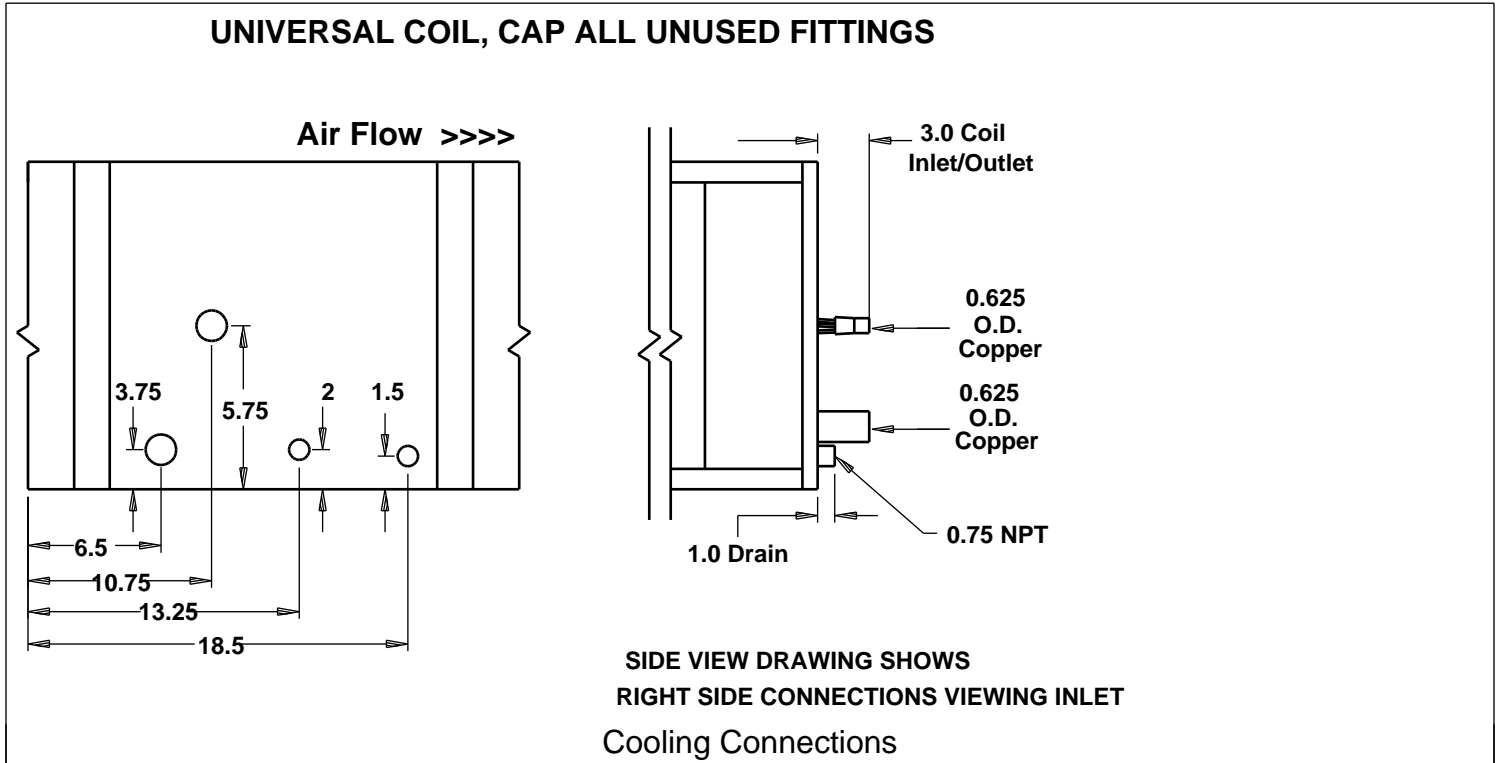
NOTES: All dimensions shown are in units of inches.



MSCF Modular Small Cabinet Fan

MSCF-15L-FC-7

NOTES: All dimensions shown are in units of inches.



Cooling Coil

Cooling Type	Direct Exp (DX)
Cooling Coil Model:	DX12C06S12-7.5x31-LH
Coil~Type:	Normal
Rows Deep:	6
Fins Per Inch:	12
Face Velocity (ft/min):	267
Total Energy (MBH):	40.2
Sens. Energy (MBH):	21.7
Entering Dry Bulb (F):	99
Entering Wet Bulb (F):	79
Leaving Dry Bulb (F):	52.3
Leaving Wet Bulb (F):	52.0
Cooling Coil SP (in. wg):	0.225
Code 18/19:	0.625-3-1/4-2.5
Suction Temp. (F):	45.0
Refrigerant:	R-410a
Liquid Temp. (F):	110
Superheat (F):	8
Cooling Coil Conn.:	Right Side

MSCF Filter Sizes

Unit Size	Vertical			Sloped		
	Filter Size	Qty.	Face Area	Filter Size	Qty.	Face Area
MSCF-15	9 x 18	2	1.8	12 x 12	1	2.5
				12 x 24	1	
MSCF-20	12 x 12	1	2.5	16 x 16	1	3.4
	12 x 24	1		16 x 20	1	
MSCF-25	14 x 18	2	3.0	16 x 20	2	3.8
MSCF-30	16 x 16	1	3.4	12 x 24	1	5.3
	16 x 20	1		24 x 24	1	
MSCF-45	16 x 24	2	4.8	24 x 24	2	7.2
MSCF-50	18 x 24	2	5.4	24 x 24	2	7.2
MSCF-65	24 x 24	2	7.2	24 x 24	4	14.4
MSCF-85	12 x 24	1	8.9	12 x 24	2	17.8
	24 x 24	2		24 x 24	4	

The same filter sizes are used in the mixing box with filter.

DESCRIPTION

Qty	Model
1	MSCF-15L-FC-15

Discharge	Approx. Total Weight (lb)	Elevation (ft)
Top Horizontal	415	350

MOTOR SPECS

FLA - Based on tables 150 or 148 of National Electrical Code 2002.

Hp.	RPM	V/C/P	Enclosure	FLA (A)
1 1/2	1725	230/60/3	ODP	6.0

MSCF

Modular Small Cabinet Fan

Tag AHU-02

Standard Construction Features

- Modular • 18 Gauge Galvanized Steel Housing • 18 Gauge Double Wall Construction • Sealed and Bolted Access Panels on Both Sides of each Module
- Corrosion Resistant Fasteners • Flexible Internal Connection between Housing and Scroll • Galvanized Steel Wheel • Motor and Drive Frame Mounted on Internal Isolators • Ball Bearing Motors • Fan Shaft Mounted in a Pillow Block Ball Bearing • Adjustable Motor Pulley • Fan Shaft Pulley • Static Free Belts • Tool Free Access is Standard on the Vertical Inlet Filter Module.
- When Cooling Module is selected, a Stainless Steel, Double Sloped and Insulated Drain Pan is Standard.

Module Order:

Pre-Filter
Cooling
Pre Access Plenum
Fan
Post Filter

SELECTED OPTIONS & ACCESSORIES

Mounting Brackets/Lifting Lugs, Hanging Configuration
Drive Right, Neoprene Iso., Top Horizontal Dis., Steel Shaft
ETL Listing in Compliance with UL/cUL-1995
Switch - Nema-1, Toggle, J-Box Mounted & Wired, Switch Field Installed
Standard Belts
Class B Motor Insulation or Greater
Cooling Coil Conn. on Right Side Viewing Inlet
1.5 Insulation Density
Pre, Vertical Arr., Pleated Filtr., 60-65% (MERV 11), 4 in.
Pre, 12.75 in. Access Plenum Length
Post, Sloped Arr., Pleated Filtr., 90-95% (MERV 15) Eff., 4 in.
NEMA Premium Efficient Motor - meets NEMA Table 12-12

COOLING

Cooling Type	Cooling Coil Model	Total Energy (MBH)	Coil-Type
Direct Exp (DX)	DX12C08S14-7.5x31-LH	59.9	Normal

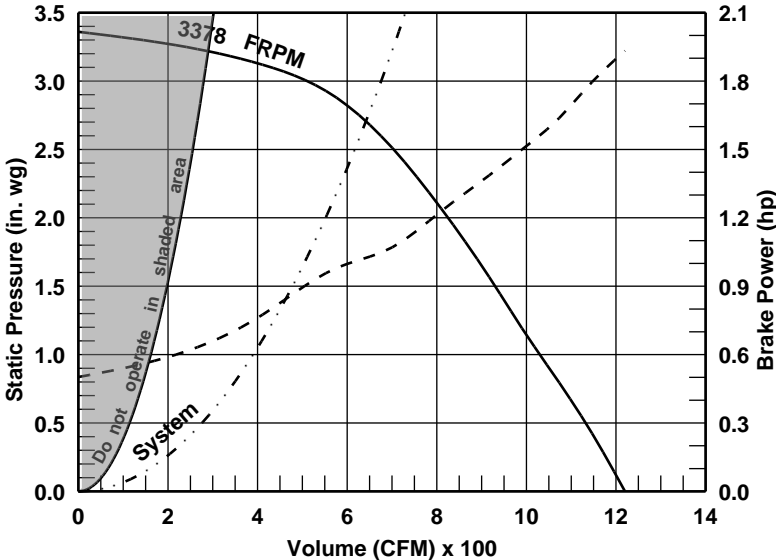
PERFORMANCE

Volume (CFM)	Total SP (in. wg)	External SP (in. wg)	Inter. SP (in. wg)	Power (hp)	FRPM (RPM)	Post Filter Face Velocity (ft/min)	Pre Filter Face Velocity (ft/min)
640	2.69	1.5	1.19	1.03	3378	256	356

SOUND

Inlet / Outlet Sound Power by Octave Band								---	dBA
63	125	250	500	1000	2000	4000	8000		
88	89	82	79	74	74	75	75	83	72
91	95	91	86	81	77	75	74	88	77
Radiated Sound Levels									
78	69	67	61	51	46	42	45	62	51

All sound data is based on three-phase motors. Three-phase motors are recommended for sound-sensitive applications to avoid potential single-phase motor hum.



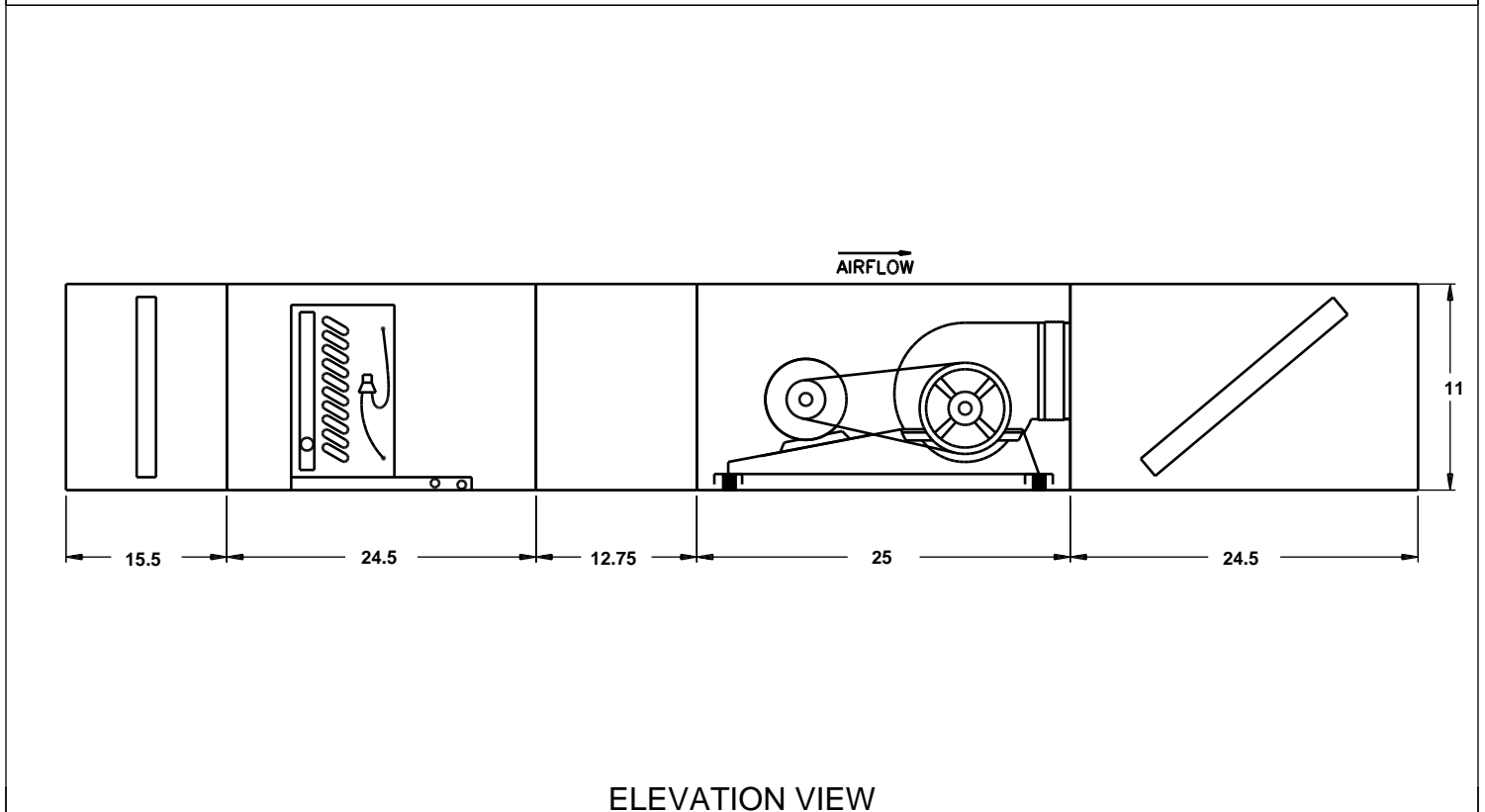
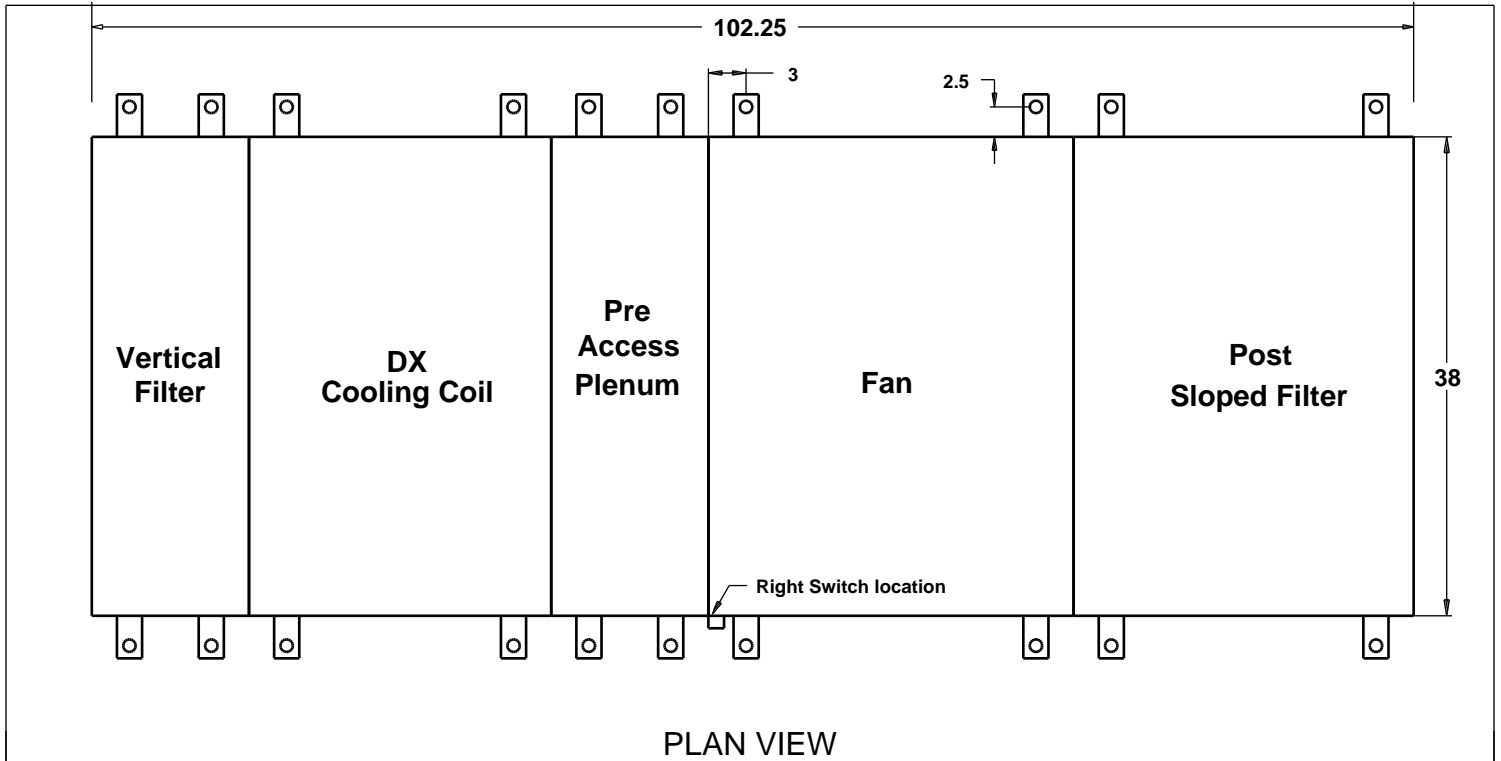
— Fan curve
- - - System curve
- . - Brake horsepower curve

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MSCF Modular Small Cabinet Fan

MSCF-15L-FC-15

NOTES: All dimensions shown are in units of inches.

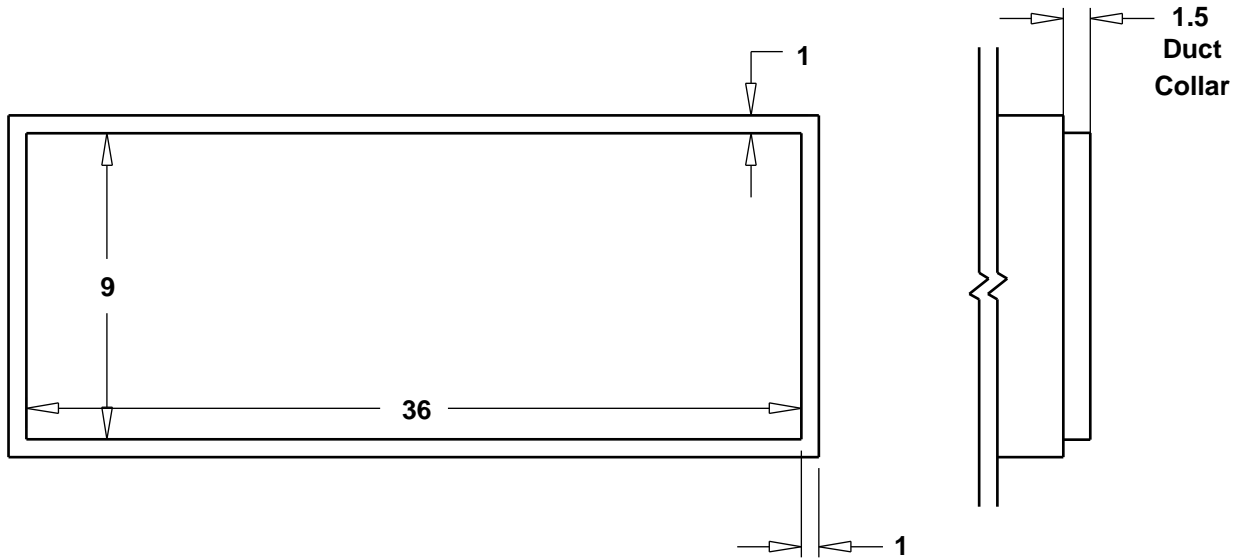


MSCF

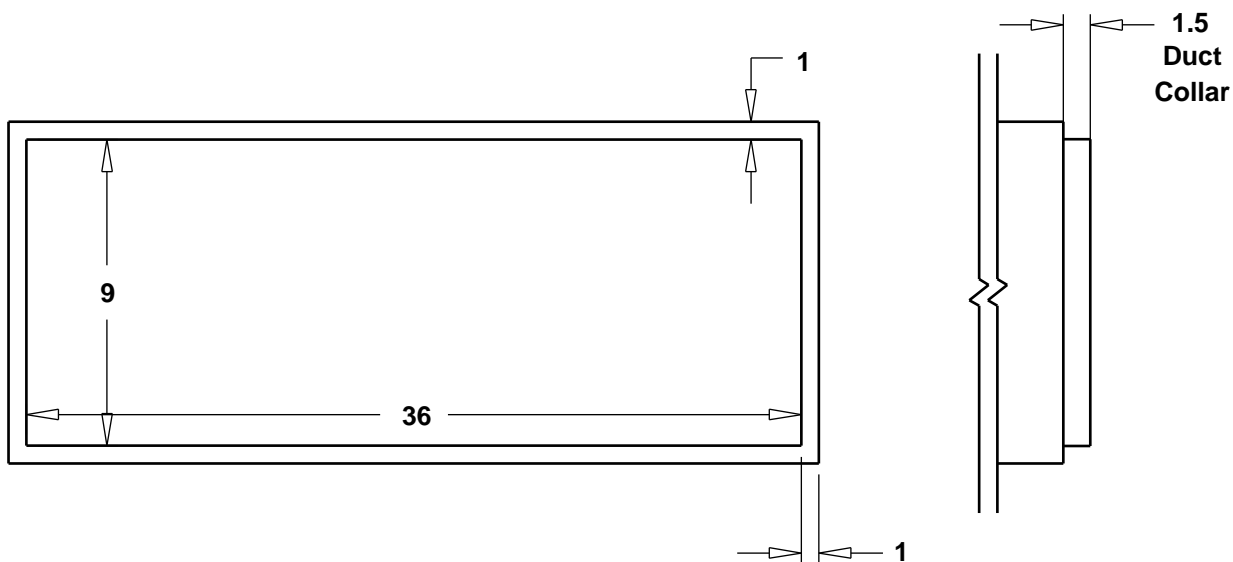
Modular Small Cabinet Fan

MSCF-15L-FC-15

NOTES: All dimensions shown are in units of inches.



INLET END VIEW

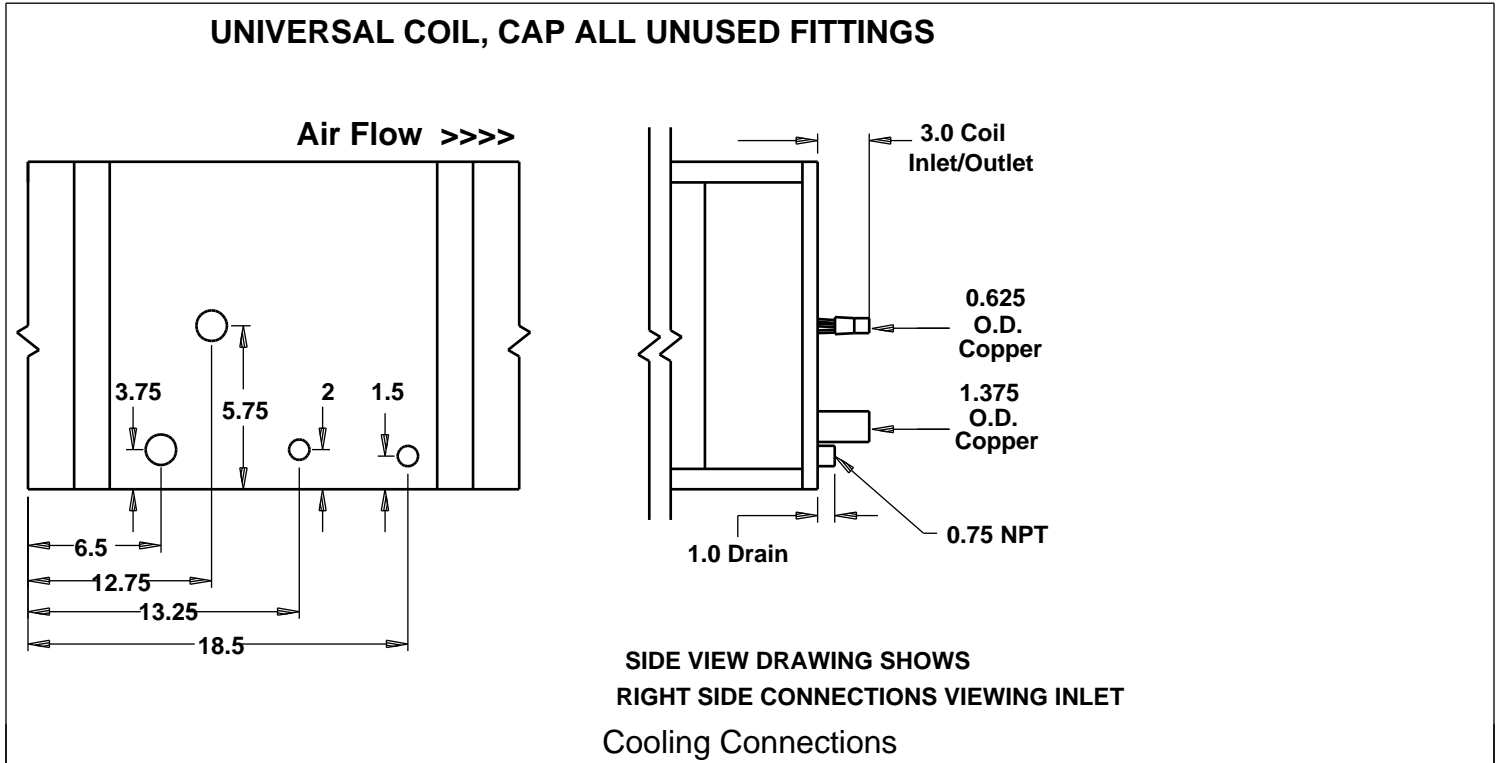


OUTLET END VIEW

MSCF Modular Small Cabinet Fan

MSCF-15L-FC-15

NOTES: All dimensions shown are in units of inches.



Cooling Coil

Cooling Type	Direct Exp (DX)
Cooling Coil Model:	DX12C08S14-7.5x31-LH
Coil~Type:	Normal
Rows Deep:	8
Fins Per Inch:	14
Face Velocity (ft/min):	372
Total Energy (MBH):	59.9
Sens. Energy (MBH):	31.3
Entering Dry Bulb (F):	98
Entering Wet Bulb (F):	79
Leaving Dry Bulb (F):	49.7
Leaving Wet Bulb (F):	49.4
Cooling Coil SP (in. wg):	0.574
Code 18/19:	0.625-3-1/4-4
Suction Temp. (F):	45.0
Refrigerant:	R-410a
Liquid Temp. (F):	110
Superheat (F):	8
Cooling Coil Conn.:	Right Side

MSCF Filter Sizes

	Vertical			Sloped		
Unit Size	Filter Size	Qty.	Face Area	Filter Size	Qty.	Face Area
MSCF-15	9 x 18	2	1.8	12 x 12	1	2.5
				12 x 24	1	
MSCF-20	12 x 12	1	2.5	16 x 16	1	3.4
	12 x 24	1		16 x 20	1	
MSCF-25	14 x 18	2	3.0	16 x 20	2	3.8
MSCF-30	16 x 16	1	3.4	12 x 24	1	5.3
	16 x 20	1		24 x 24	1	
MSCF-45	16 x 24	2	4.8	24 x 24	2	7.2
MSCF-50	18 x 24	2	5.4	24 x 24	2	7.2
MSCF-65	24 x 24	2	7.2	24 x 24	4	14.4
MSCF-85	12 x 24	1	8.9	12 x 24	2	17.8
	24 x 24	2		24 x 24	4	

The same filter sizes are used in the mixing box with filter.