

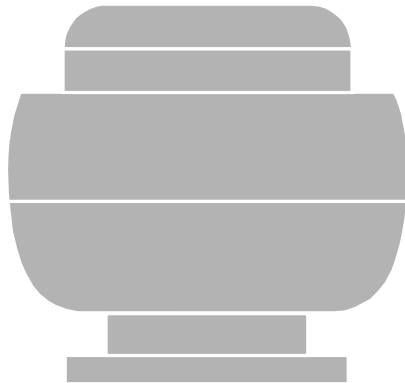
VCR



COOK

VCR

Restaurant Exhaust Ventilator



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INTRODUCTION

Cook Restaurant Exhaust Ventilator provides maximum performance and durability in kitchen hood exhaust applications.

- VCR unit top cap assembly is designed to provide weather protection for the motor and drive components while maintaining easy tool free access for inspection and maintenance.
- Standard lifting lugs, located under the top cap, provide for safe, fast and efficient lifting of the unit to a rooftop.
- One piece fan base, which includes a high-efficiency inlet venturi and continuously welded curb cap corners, insures weathertight conditions.
- One piece spun aluminum leak-free baffle is designed to provide smooth, turbulent-free airflow.
- Wheels are centrifugal type featuring non-overloading, backward-inclined blades and a tapered inlet shroud.
- Optional Wall Mounting Flange is available up to size 245.
- Accurate performance is assured through compliance with the AMCA Certified Ratings Program. All units are licensed to bear the AMCA Certified Ratings Seal for Air and Sound Performance.

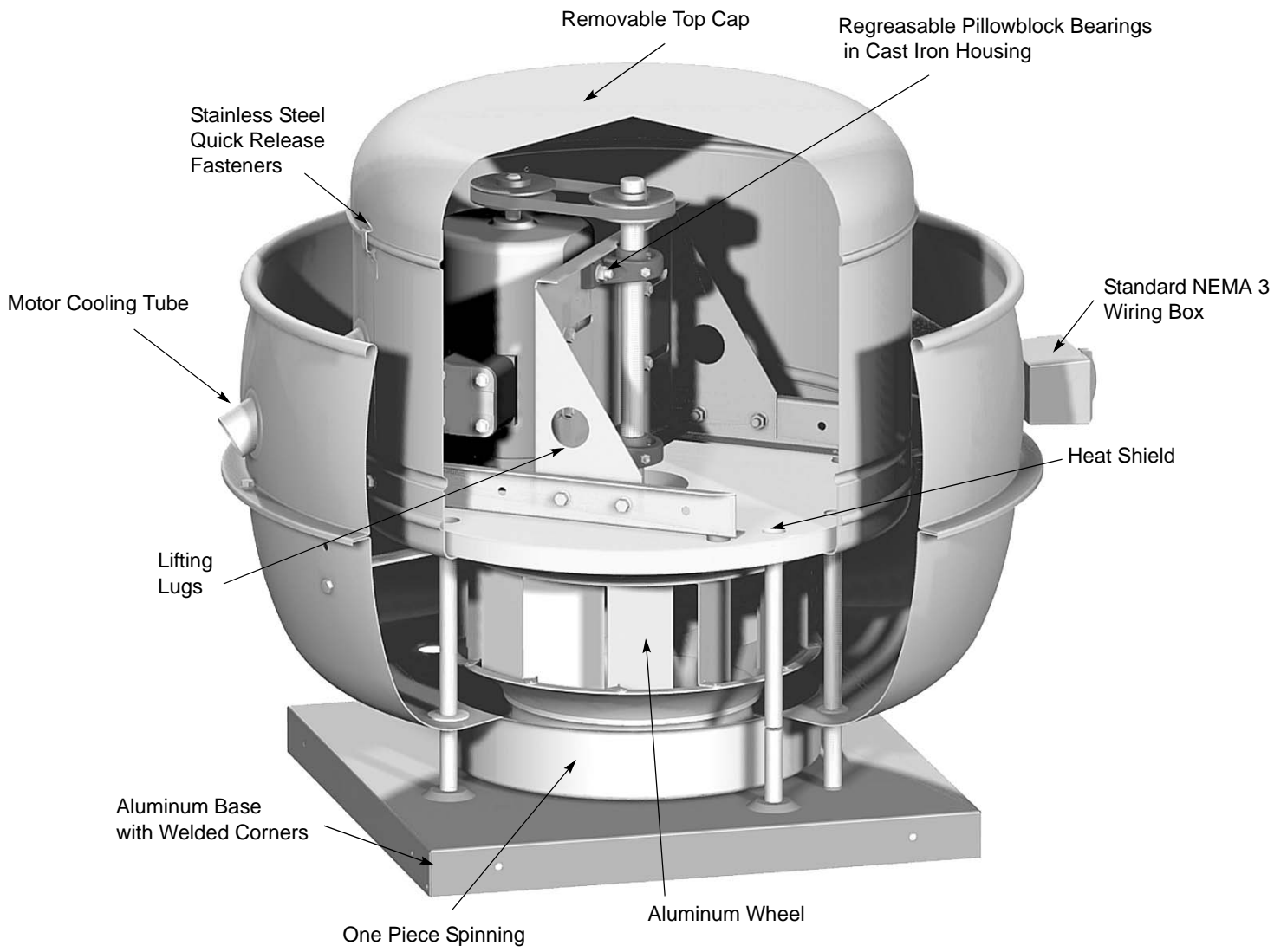
VCR/VCRD

Upblast Centrifugal Restaurant Exhaust Ventilator



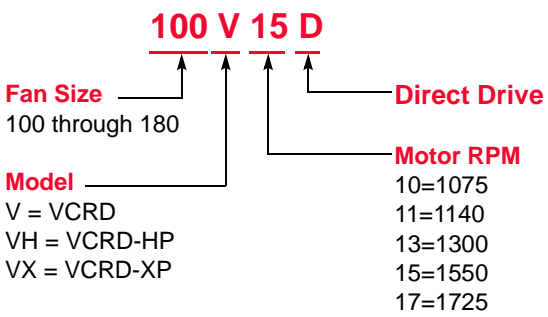
- VCR available in 6 direct drive sizes and 17 belt drive sizes. Capacities range from 400 to 28,800 CFM, with static pressures from 0 to 1-1/2 inches.
- VCR-HP available in 4 direct drive sizes and 11 belt drive high pressure sizes. Capacities range from 700 to 19,200 CFM, with static pressures from 1/4 to 2-1/2 inches.
- VCR-XP available in 3 direct drive sizes and 10 belt drive extended pressure sizes. Capacities range from 800 to 11,000 CFM, with static pressures from 1 to 4-1/2 inches.

VCR
Upblast Centrifugal Restaurant Exhaust Ventilator

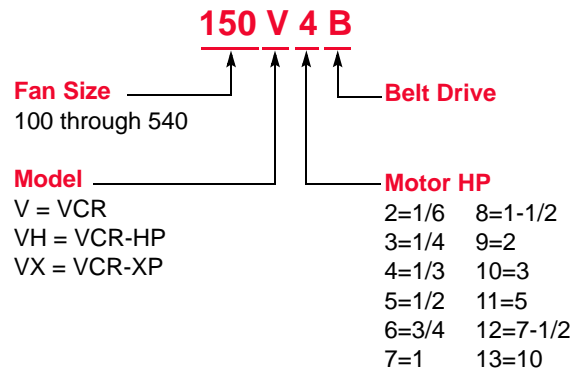


Model Number Chart

Direct Drive Models



Belt Drive Models



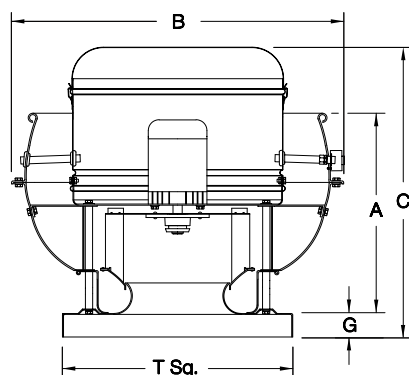
Upblast Centrifugal Restaurant Exhaust Ventilator Roof Mounted Direct Drive



Loren Cook Company certifies that the VCRD, VCRD-HP, VCRD-XP shown herein are 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.



Type VCRD, VCRD-HP, VCRD-XP are furnished standard with UL 762 and UL 762 listings (Power Ventilator for Restaurant Exhaust Appliances/YZHW) when furnished with factory supplied motor.



Description - Fan shall be a spun aluminum, roof mounted, direct driven, upblast centrifugal exhaust ventilator.

Certifications - Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be listed by Underwriters Laboratories (UL 762) and UL listed for Canada (Power Ventilator for Restaurant Exhaust Appliances). Fan shall bear the AMCA Certified Ratings Seal for Sound and Air Performance.

Construction - Fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The spun aluminum structural components shall be constructed of minimum 16 gauge marine alloy aluminum, bolted to a rigid aluminum support structure. The aluminum base shall have a one piece inlet spinning and continuously welded curb cap corners for maximum leak protection. The windband shall have a rolled bead for added strength. A two piece top cap shall have stainless steel quick release latches to provide access into the motor compartment without the use of tools. An external wiring compartment with integral conduit chase shall be provided into the motor compartment to facilitate wiring connections. The motor shall be enclosed in a weather-tight compartment, separated from the exhaust airstream. Unit shall bear an engraved aluminum nameplate. Nameplate shall indicate design CFM and static pressure. Unit shall be shipped in ISTA Certified Transit Tested Packaging.

Wheel - Wheel shall be centrifugal backward inclined, constructed of 100 percent aluminum, including a precision machined cast aluminum hub. Wheel inlet shall overlap an aerodynamic aluminum inlet cone to provide maximum performance and efficiency. Wheel shall be balanced in accordance with AMCA Standard 204-96, Balance Quality and Vibration Levels for Fans.

Motor - Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage, phase and enclosure.

Product - Fan shall be model VCRD, VCRD-HP or VCRD-XP as manufactured by Loren Cook Company of Springfield, Missouri.

VCRD / VCRD-HP / VCRD-XP Dimension Data

Size	A	B	C			G	T Sq.	Roof Opening Square*	Ship. Wt.
			VCRD	VCRD-HP	VCRD-XP				
100	12-1/2	25-1/4	20-3/16	-	-	2	18	13-1/2	30
120	19-1/16	30-3/16	28-1/4	-	-	2	20	15-1/2	61
135	19-1/16	30-3/16	28-5/8	-	-	2	20	15-1/2	66
150	20-15/16	34-11/16	30-1/4	27-1/2	-	2	24	19-1/2	77
165	20-15/16	34-11/16	30-3/4	27-3/4	26-11/16	2	24	19-1/2	83
180	24-13/16	39-7/16	35-7/8	33-3/8	31-9/16	3	30	25-1/2	100
195	24-13/16	39-7/16	-	33-1/2	32-1/8	3	30	25-1/2	110

All dimensions in inches. *Roof opening size for curbs supplied by Loren Cook Company only. Weights in pounds, less motor.

Description - Fan shall be a spun aluminum, roof mounted, belt driven, upblast centrifugal exhaust ventilator.

Certifications - Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be listed by Underwriters Laboratories (UL 762) and UL listed for Canada (cUL 762). Fan shall bear the AMCA Certified Ratings Seal for Sound and Air Performance.

Construction - Fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The spun aluminum structural components shall be constructed of minimum 16 gauge marine alloy aluminum, bolted to a rigid aluminum support structure. The aluminum base shall have a one piece inlet spinning and continuously welded curb cap corners for maximum leak protection. The windband shall have a rolled bead for added strength. A two piece top cap shall have stainless steel quick release latches to provide access into the motor compartment without the use of tools. An external wiring compartment with integral conduit chase shall be provided into the motor compartment to facilitate wiring connections. The motor, bearings and drives shall be mounted on a minimum 14 gauge steel power assembly, isolated from the unit structure with solid vibration isolators. These components shall be enclosed in a weather-tight compartment, separated from the exhaust airstream. A one-inch thick, three pound density foil back heat shield shall be utilized to protect the motor and drive components from excessive heat. Lifting lugs shall be provided to help prevent damage from improper lifting. Unit shall bear an engraved aluminum nameplate. Nameplate shall indicate design CFM, static pressure and maximum fan RPM. Unit shall be shipped in ISTA Certified Transit Tested Packaging.

Wheel - Wheel shall be centrifugal backward inclined, constructed of 100 percent aluminum, including a precision machined cast aluminum hub. Wheel inlet shall overlap an aerodynamic aluminum inlet cone to provide maximum performance and efficiency. Wheel shall be balanced in accordance with AMCA Standard 204-96, Balance Quality and Vibration Levels for Fans.

Motor - Motor shall be heavy duty type with permanently lubricated sealed ball bearings and furnished at the specified voltage, phase and enclosure.

Bearings - Bearings shall be designed and individually tested specifically for use in air handling applications. Construction shall be heavy duty regreasable ball type in a cast iron pillowblock housing selected for a minimum L50 life in excess of 200,000 hours at maximum cataloged operating speed.

Belts and Drives - Belts shall be oil and heat resistant, non-static type. Drives shall be precision machined cast iron type, keyed and securely attached to the wheel and motor shafts. Drives shall be sized for 150 percent of the installed motor horsepower. The variable pitch motor drive must be factory set to the specified fan RPM.

Product - Fan shall be model VCR, VCR-HP or VCR-XP as manufactured by Loren Cook Company of Springfield, Missouri.

Upblast Centrifugal Restaurant Exhaust Ventilator Roof Mounted Belt Drive



Loren Cook Company certifies that the VCR, VCR-HP and VCR-XP shown herein are 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.

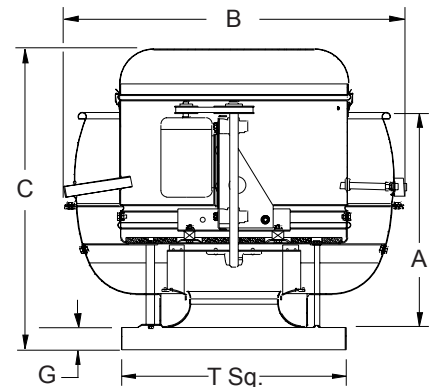


Type VCR, VCR-HP, VCR-XP are furnished standard with UL 762 and cUL 762 listings (Power Ventilator for Restaurant Exhaust Appliances/YZHW) when furnished with factory supplied motor.

VCR/VCR-HP/VCR-XP Dimension Data

Size	A	B	C			G	T Sq.	Roof Opening Square*	Ship. Wt.
			VCR	VCR-HP	VCR-XP				
100	12-1/2	25-1/4	20-3/16	-	-	2	18	13-1/2	30
120	19-1/16	30-3/16	28-1/4	-	-	2	20	15-1/2	61
135	19-1/16	30-3/16	28-5/8	-	-	2	20	15-1/2	66
150	20-15/16	34-11/16	30-1/4	27-1/2	-	2	24	19-1/2	77
165	20-15/16	34-11/16	30-3/4	27-3/4	26-11/16	2	24	19-1/2	83
180	24-13/16	39-7/16	35-7/8	33-3/8	31-9/16	3	30	25-1/2	100
195	24-13/16	39-7/16	36-3/8	33-1/2	32-1/8	3	30	25-1/2	110
210	25-15/16	45-1/4	38-3/8	35-3/8	32-3/4	3	30	25-1/2	220
225	25-15/16	45-1/4	38-1/8	35-1/2	33-5/16	3	30	25-1/2	242
245	28-1/2	49-1/4	41-1/16	37-5/16	34-1/16	3	30	25-1/2	264
270	28-1/2	49-1/4	41-1/16	37-5/16	35	3	36	31-1/2	286
300	33-7/8	54-1/4	49-15/16	45-15/16	41-7/16	3	36	31-1/2	336
330	34-1/8	54-1/4	50-7/16	46-11/16	43-1/8	3	42	37-1/2	374
365	36-3/8	64-1/4	52-7/16	48-7/16	44-1/4	3	42	37-1/2	420
402	37-7/8	64-1/4	54-11/16	-	-	3	48	43-1/2	484
445	31-5/8	76-1/4	57-3/16	-	-	3	54	49-1/2	556
490	33-3/8	76-1/4	58-1/16	-	-	3	54	49-1/2	715

All dimensions in inches. *Roof opening size for curbs supplied by Loren Cook Company only. Weights in pounds, less motor.



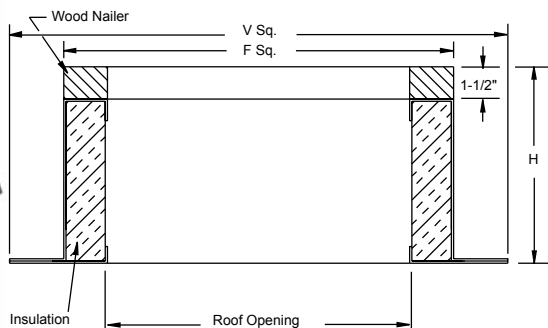
ACCESSORIES

Automatic Belt Tensioner



The automatic belt tensioner maintains constant tension on the drive belt which offers two distinct benefits. It reduces startup and maintenance costs by continuously tensioning the belt throughout its life and also increases belt life by reducing slippage.

Roof Curb



Standard Construction Features

- 18 gauge galvanized steel (RCG) or .080 aluminum (RCA).
- 1-1/2", 3 lbs. density thermal and acoustical insulation.
- Continuously welded corners.
- Wood nailer.

Options

- No wood nailer (deduct 1-1/2" for actual height).
- 13-1/2" tall construction.

Galvanized Steel or Aluminum Roof Curb Dimension Data

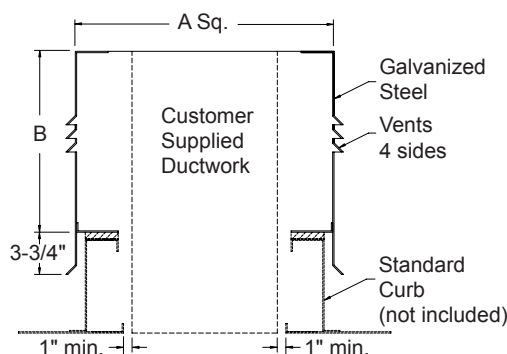
AC Unit	Catalog Number		F Sq.	H	V Sq.	Roof Opening
	Galvanized	Aluminum				
60, 70, 80, 90, 100	RCG-16	RCA-16	16-1/2	9-1/2	20-1/2	13-1/2
120, 135	RCG-18	RCA-18	18-1/2	9-1/2	22-1/2	15-1/2
150, 165	RCG-22	RCA-22	22-1/2	9-1/2	26-1/2	19-1/2
180, 195, 210, 225, 245	RCG-28	RCA-28	28-1/2	9-1/2	32-1/2	25-1/2
270, 300	RCG-34	RCA-34	34-1/2	9-1/2	38-1/2	31-1/2
330, 365	RCG-40	RCA-40	40-1/2	9-1/2	44-1/2	37-1/2
402	RCG-46	RCA-46	46-1/2	9-1/2	50-1/2	43-1/2
445, 490	RCG-52	RCA-52	52-1/2	9-1/2	56-1/2	49-1/2

All dimensions in inches. When motor operated damper is used, a wood nailer is required.

Vented Extension



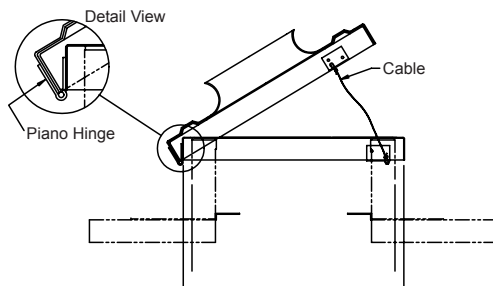
The vented extension, constructed of galvanized steel, is used to increase the discharge height of the fan. Vents in the extension allow the interior ductwork to dissipate heat.



Unit Size	Cat. No.	A Sq.	B
100	VE-17	17	20
120, 135	VE-19	19	16
150, 165	VE-23	23	16
180, 195, 210, 225, 245	VE-29	29	16
270, 300	VE-35	35	16
330, 365	VE-41	41	16
402	VE-47	47	16
445, 490	VE-53	53	16

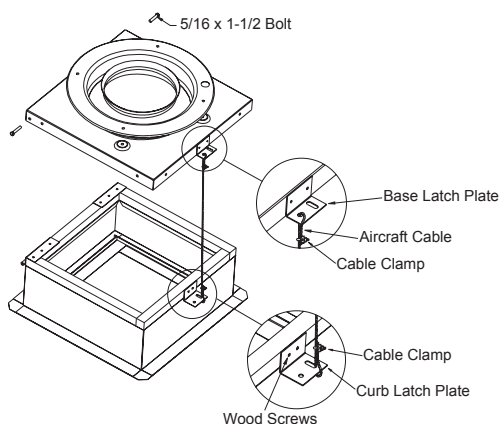
All dimensions in inches. Roof opening size for curbs supplied by Loren Cook Company only.

Hinged Base



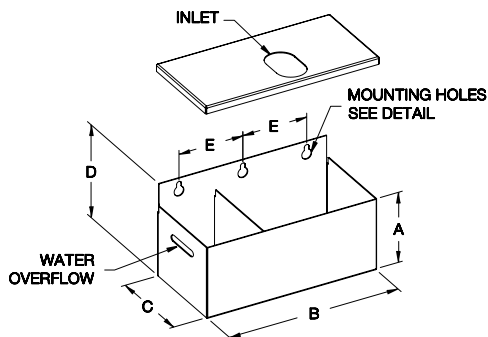
The hinged base is a factory welded sub-base, hinge and locking hasp that provides a secure and stable means of access to the inlet and interior ductwork for cleaning and inspection. Galvanized aircraft cable is installed on the hinged base to support the fan in an open position. Available on sizes 100 through 300, consult factory on larger sizes.

Hinged Base Kit



The hinged base kit is a field installed option which provides a lockable, hinged connection between the fan and curb. This allows easy access to the wheel and inlet of the fan as well as the interior ductwork. The kit includes two hinge plates, two latch plates, hinge bolts, aircraft cable and clamps. Available on sizes 100 through 300, consult factory on larger sizes.

Grease Trough

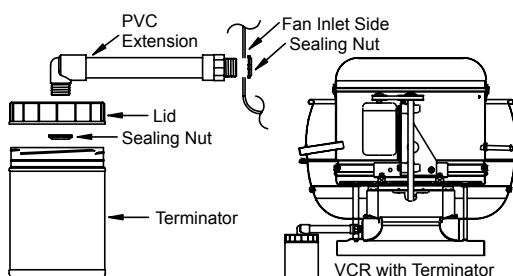
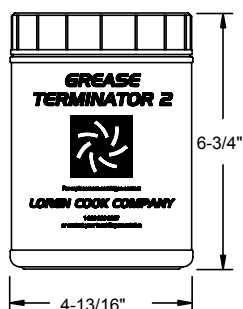


A	B	C	D	E
5	12	6-1/16	6-1/2	4-1/2

All dimensions in inches.

A grease trough provides for collection of grease from a VCR unit. The lid is removable for cleaning. The grease trough is shipped loose for field mounting. To provide for more thorough periodic cleaning, the grease trough should be mounted to the unit for easy removal.

Grease Terminator



The Grease Terminator 2 is a grease-capture and containment system.

Extended Lube Lines



Extended lube lines provide a quick and convenient way to lubricate the bearings while the fan is operating.

Typical Disconnect Switches



NEMA 3R



NEMA 4

NEMA 3R - Exterior mount, rain-tight.
NEMA 4 - Water-tight and dust-tight.

Fan Speed Control



Cook's FSC is a variable speed controller which can offer excellent energy conservation and lower sound levels when 100 percent of a direct drive fan operating capacity is not required. The FSC employs solid state circuitry for long-life and dependability. The FSC is available only on 115V and 230V shaded pole or permanent split capacitor direct drive motors and is not available on 1140 RPM and 1725 RPM motors. The FSC is normally shipped loose for field installation. Optional pre-wiring is available.

5 AMP FSC 10 AMP FSC

Motors

Direct Drive

All direct drive motors are standard single phase 115-volt.

- Size 100 are either shaded pole or permanent split capacitor type motors.
- Sizes 120 through 180 are either permanent split capacitor (1075, 1300, or 1550 rpm motors) or split phase (1140 or 1725 rpm motors).
- FSC can only be used on either shaded pole or permanent split capacitor type motors.

Optional motors:

- Two speed, single-phase open motors supplied as 1725 RPM motors are 1725/1140, or 1140 RPM motors are 1140/860.
- Explosion proof motors are available for some units, contact factory for details.
- These optional motors cannot use an FSC.
- Three-phase standard efficiency and three-phase Variable Frequency Drive (VFD) compatible motors are available, consult factory for details.

Belt Drive

Single-phase motors:

- Open drip motors from 1/6 to 1-1/2 HP.
- Two-speed, motors in 1725/1140RPM, from 1/6 to 1 HP.
- TEFC and Class 1, Group D, explosion proof motors from 1/4 to 1 HP.

Three-phase motors:

- Three-phase ODP motors from 1/4 to 10 HP.
- Two-speed, two winding motors in 1725/1140 RPM, from 1/3 to 5 HP.
- TEFC and Class 1, Group D, explosion proof motors from 1/4 to 10 HP.
- Variable Frequency Drive (VFD) compatible motors are available, contact factory for details.

All single-phase and three-phase, single speed, open drip motors listed in performance tables are shipped factory installed.

Optional Coatings

Lorenized® is an electrostatically applied, baked polyester powder coating. Each component shall be subject to a five stage environmentally friendly wash system, followed by a minimum 2 mil thick baked powder finish. Coating must exceed 1,000 hour salt spray under ASTM B117 test method.

Cook Epoxy Powder is an electrostatically applied, baked epoxy powder coating. Final coating thickness is 2.5 - 3.5 mils. For outdoor applications an optional UV resistant topcoat is available to prevent cosmetic chalking of the coating.

Cook Phenolic Epoxy Powder is an electrostatically applied, baked phenolic epoxy powder coating. Final coating thickness is 2 - 4 mils. For outdoor applications an optional UV resistant topcoat is required to prevent deterioration of the coating.

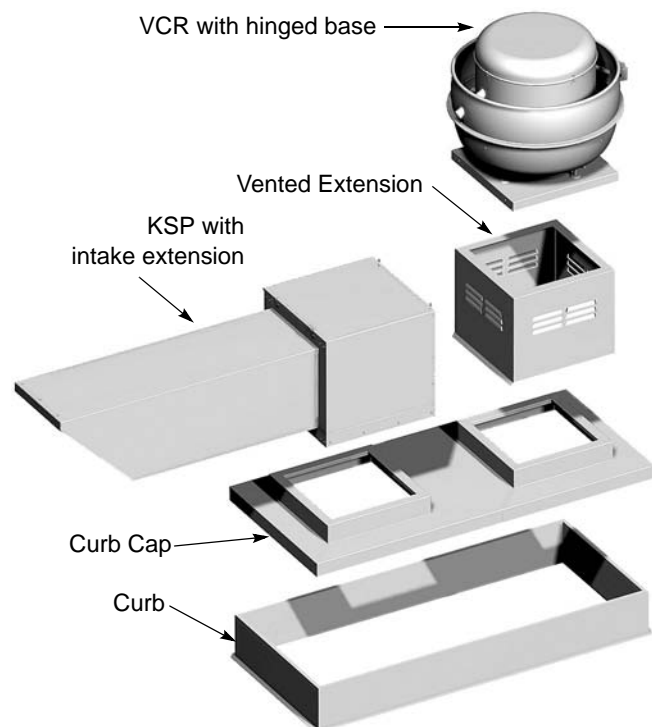
Cook Easy Clean Powder is an electrostatically applied, baked modified epoxy silicone powder producing a high temperature "non-stick" coating. Final coating thickness is 1.3 - 1.7 mils.

Air Dry Phenolic (Heresite VR-504) is a conventional spray applied phenolic resin coating. Final coating thickness is 4 - 6 mils. For outdoor applications an optional UV resistant topcoat (Heresite UC-5500) is required to prevent deterioration of the coating.

Refer to the corrosion resistance guide in the Compute-A-Fan software for a listing of the coatings above and their resistance to a variety of chemicals. Additional special coatings are available.

NFPA 96 Typical Specifications

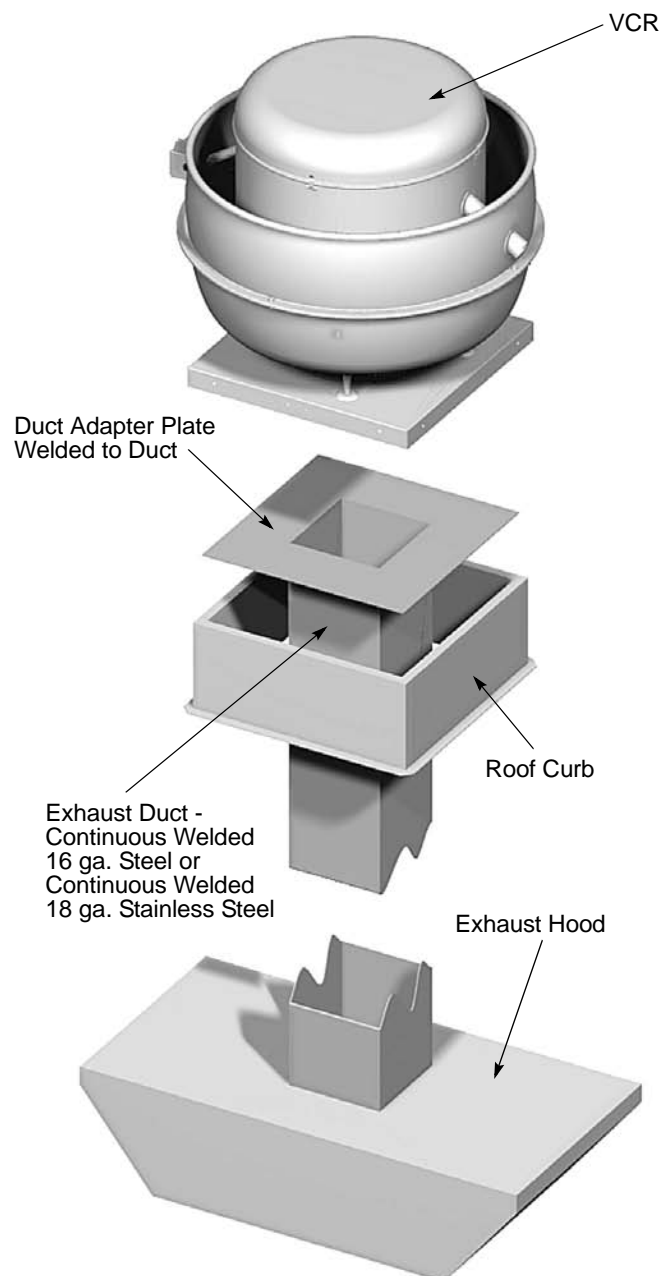
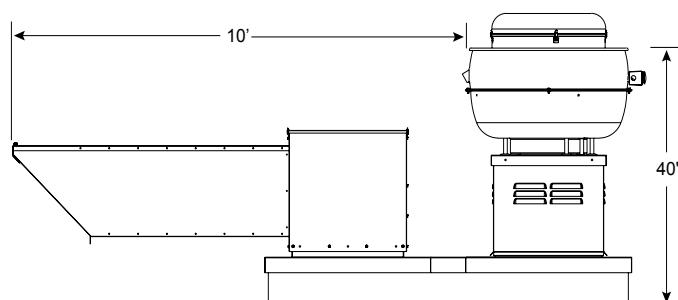
The NFPA 96 specification unit shall be a Cook VCR unit and Cook KSP unit mounted on a Cook common curb cap. The VCR shall include a hinged base or hinge kit, a vented extension, a drain tube to direct grease away from the fan, and a NFPA 96 compliant grease collection device such as the Cook aluminum grease trough or Cook Grease Terminator. The KSP unit shall include an intake extension. This will provide the minimum dimensions required to meet NFPA 96 requirements.



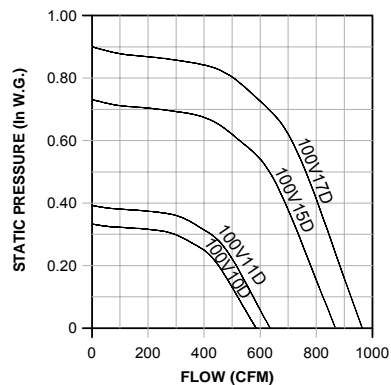
NFPA 96 Requirements

The exhaust fan must be installed so that the outlet of the fan is a minimum of 40 inches from the roof surface and the welded duct terminates at the bottom of the fan a minimum of 18 inches from the roof surface. The inlet of the supply fan must be a minimum of 10 feet away from the outlet of the exhaust fan. Where a 10 foot horizontal separation is not possible a 3 foot minimum vertical separation is acceptable and a special extended vented extension is required.

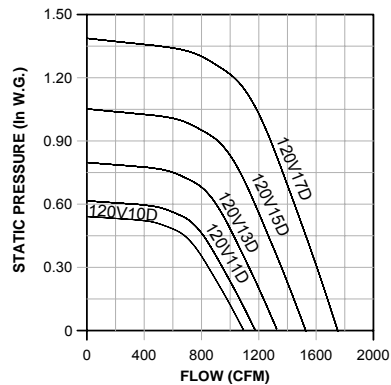
Standard Installation



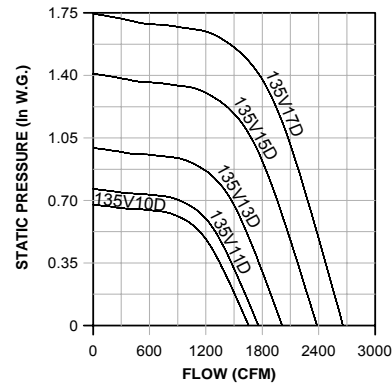
100 VCRD



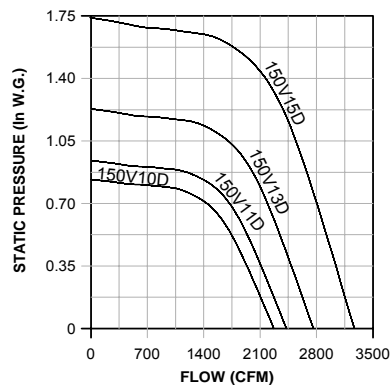
120 VCRD



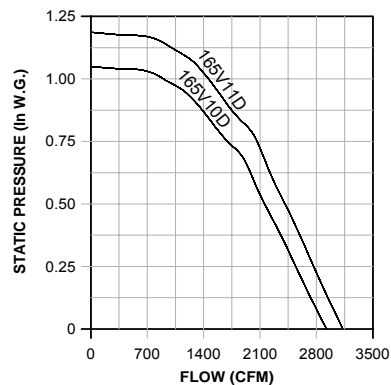
135 VCRD



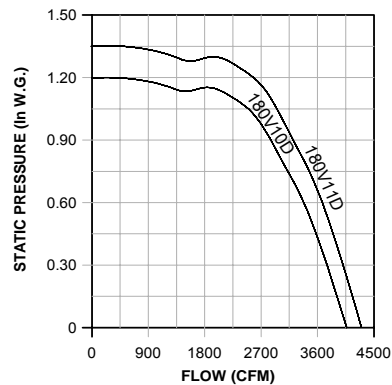
150 VCRD



165 VCRD



180 VCRD



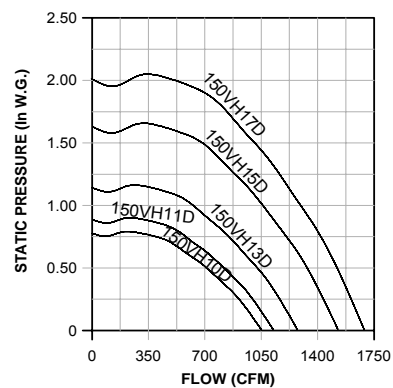
Performance certified is for Installation Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances (accessories) (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels. *Motor is a 2-speed 1300/1550 RPM motor.

100-180 VCRD

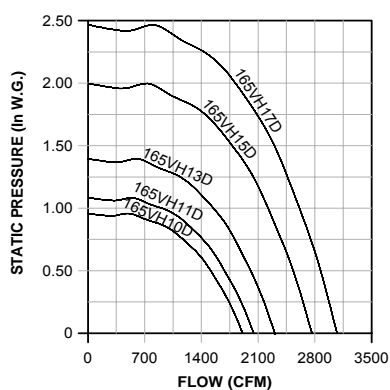
Cat. No.	Mtr. HP	Fan RPM	Tip Speed	0.00" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP			
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
100V10D	1/25	1050	2749	585		504		399																			
				4.7	.03	4.6	.03	4.2	.04																		
100V11D	1/4	1140	2985	635		560		479																			
				5.8	.04	5.7	.04	5.3	.05																		
100V15D	1/8	1550	4058	864		808		754		697		628		484													
				9.9	.10	9.8	.10	9.7	.11	9.4	.11	9.0	.12	8.6	.11												
100V17D	1/6	1725	4516	961		911		862		813		760		695		569											
				11.5	.14	11.5	.14	11.4	.15	11.3	.15	10.9	.15	10.5	.16	10.2	.15										
120V10D	1/6	1075	3376	1095		998		892		779																	
				7.6	.08	7.6	.09	7.1	.09	6.5	.09																
120V11D	1/6	1140	3581	1161		1070		971		868		733															
				8.7	.09	8.7	.10	8.3	.11	7.7	.11	7.1	.11														
120V13D	1/4*	1300	4084	1324		1244		1161		1072		981		867													
120V15D		1550	4869	1579		1512		1444		1372		1298		1223		1143		1047		872							
120V17D	1/3	1725	5417	1757		1697		1637		1574		1509		1442		1374		1304		1227		946					
				17.6	.33	17.6	.34	17.6	.35	17.4	.36	17.1	.37	16.7	.37	16.4	.37	16.1	.38	15.8	.38	15.2	.36				
135V10D	1/6	1075	3795	1656		1550		1441		1324		1177															
				9.6	.14	9.6	.15	9.2	.16	8.6	.16	8.0	.16														
135V11D	1/6	1140	4029	1756		1657		1555		1447		1325		1140		1325											
				11.2	.16	11.2	.18	10.9	.18	10.3	.19	9.7	.19	9.1	.19	9.7	.19										
135V13D	1/2*	1300	4595	2002		1915		1827		1736		1640		1535		1640		1152									
		14.6	.24	14.6	.26	14.5	.27	14.0	.28	13.5	.28	12.8	.28	13.5	.28	11.8	.27										
135V15D	1/2*	1550	5478	2387		2315		2241		2167		2091		2012		2091		1841		1736		1358					
		19.0	.41	19.0	.43	19.0	.44	18.8	.46	18.4	.47	18.1	.47	18.4	.47	17.5	.48	17.1	.48	16.5	.45						
135V17D	3/4	1725	6089	2657		2592		2526		2459		2392		2323		2253		2180		2103		1922		1614			
				23	.56	23	.58	23	.60	23	.62	23	.63	23	.64	22	.65	22	.65	22	.66	21	.67	21	.64		
150V10D	1/3	1075	4225	2272		2154		2035		1910		1775		1601		1258											
150V11D	1/3	1140	4477	12.1		.23		12.1		.25		11.9		.26		11.4		.27		10.8		.27		9.6		.25	
				13.9	.27	13.9	.29	13.7	.31	13.3	.32	12.7	.32	12.1	.32	12.7	.32										
150V13D	3/4*	1300	5105	2747		2650		2553		2453		2351		2244		2351		1989		1791							
		18.0	.41	18.0	.43	18.0	.45	17.6	.46	17.2	.47	16.6	.47	17.2	.47	15.6	.48	15.1	.48								
150V15D	3/4*	1550	6087	3275		3194		3113		3030		2947		2862		2947		2685		2590		2365		1979			
		24	.69	24	.72	24	.74	24	.76	23	.78	23	.79	23	.78	22	.80	22	.81	21	.82	21	.79				
165V10D	1/3	1075	4644	2925		2728		2543		2359		2156		1981		1696											
165V11D	1/2	1140	4924	14.9		.37		14.9		.38		14.8		.39		14.4		.39		13.8		.39		13.3		.39	
				16.9	.48	16.9	.50	16.9	.52	16.4	.54	16.0	.55	15.4	.55	16.0	.55	14.4	.55								
180V10D	3/4	1075	5066	4065		3936		3805		3667		3518		3344		3518		2899		2646							
				16.4	.61	16.4	.63	16.3	.65	15.6	.67	14.9	.69	14.4	.70	14.9	.69	13.6	.70	13.2	.69						
180V11D	3/4	1140	5369	4310		4189		4066		3939		3803		3653		3474		3261		3047							
				17.9		.73		17.9		.75		17.9		.77		17.2		.79		16.5		.81		15.9		.83	

150-195 VCRD-HP/VCRD-XP Data

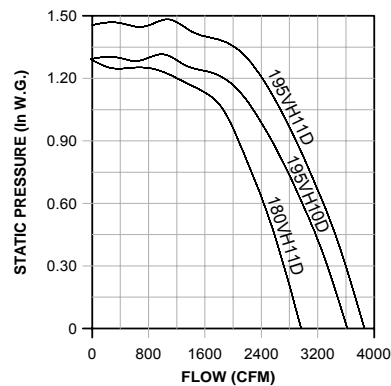
150 VCRD-HP



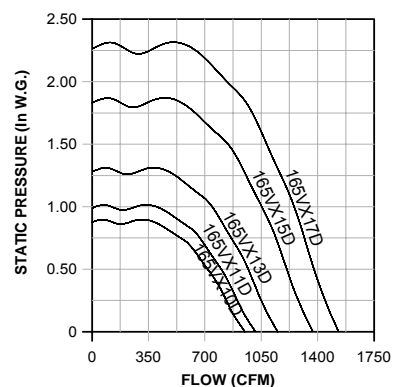
165 VCRD-HP



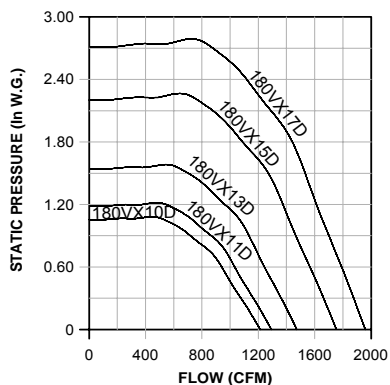
180 & 195 VCRD-HP



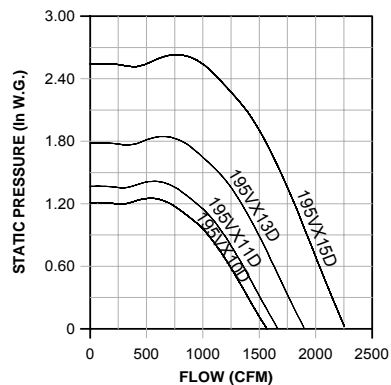
165 VCRD-XP



180 VCRD-XP



195 VCRD-XP



Performance certified is for Installation Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances (accessories) (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels. *Motor is a 2-speed 1300/1550 RPM motor.

150-195 VCRD-HP

Cat. No.	Mtr. HP	Fan RPM	Tip Speed	0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
150VH10D	1/6	1075	4222	988		913		817		711		579													
				6.4	.12	6.5	.12	6.5	.13	6.4	.13	5.9	.13												
150VH11D	1/4	1140	4477	1055		987		904		804		696		566											
				7.2	.14	7.2	.15	7.3	.15	7.3	.15	6.9	.15	6.4	.15										
150VH13D	1/3*	1300	5105	1220		1163		1099		1022		934		846		736		623							
				9.2	.2	9.2	.21	9.1	.22	9.3	.23	9.5	.23	9.1	.23	8.6	.23	8.1	.22						
150VH15D	1/3*	1550	6087	1475		1428		1379		1326		1266		1196		1122		1049		872		668			
				12.4	.34	12.4	.35	12.3	.36	12.2	.37	12.3	.38	12.4	.38	12.4	.39	12.3	.39	11.4	.38	10.6	.36		
150VH17D	1/2	1725	6774	1651		1609		1566		1521		1473		1420		1359		1293		1161		1005		834	
				14.8	.47	14.8	.48	14.8	.49	14.8	.5	14.7	.51	14.7	.52	14.6	.53	14.6	.53	14.4	.53	13.7	.53	13.1	.51
165VH10D	1/3	1075	4644	1830		1742		1633		1514		1375		1175											
				8.9	.22	8.7	.23	8.5	.24	8.3	.25	8.1	.25	8.1	.25										
165VH11D	1/3	1140	4924	1950		1869		1772		1662		1546		1393		1194									
				9.9	.26	9.7	.27	9.5	.28	9.3	.29	9.1	.3	9.0	.3	9.0	.29								
165VH13D	3/4*	1300	5616	2244		2176		2100		2012		1915		1816		1704		1556							
				12.6	.38	12.6	.39	12.3	.41	11.9	.42	11.6	.43	11.6	.44	11.4	.44	11.5	.44						
165VH15D	3/4*	1550	6696	2699		2643		2585		2522		2451		2373		2292				2027		1765		1428	
				16.5	.63	16.5	.65	16.5	.67	16.2	.69	15.9	.7	15.6	.72	15.4	.73	15.1	.74	14.8	.75	14.8	.74	15.0	.72
165VH17D	1	1725	7417	3015		2966		2915		2862		2804		2741		2672		2600		2452		2292		2076	
				19.6	.86	19.6	.88	19.6	.90	19.5	.93	19.2	.95	19.0	.97	18.7	.99	18.5	1.00	18.0	1.02	17.7	1.03	17.5	1.03
180VH11D	1/2	1140	5372	2864		2762		2655		2537		2407		2261		2109		1944							
				13.7	.43	13.7	.44	13.5	.46	13.2	.47	12.7	.48	12.2	.49	11.6	.5	11.1	.51						
195VH10D	3/4	1075	5488	3522		3402		3274		3127		2964		2791		2604		2392							
				14.7	.57	14.7	.6	14.3	.62	13.9	.63	13.3	.65	12.6	.66	11.9	.67	11.2	.67						
195VH11D	3/4	1140	5820	3748		3637		3519		3388		3240		3083		2917		2738		2296					
				16.4	.67	16.4	.7	16.2	.73	15.7	.75	15.3	.76	14.4	.77	13.8	.79	13.1	.8	11.9	.79				

165-195 VCRD-XP

Cat. No.	Mtr. HP	Fan RPM	Tip Speed	0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
165VX10D	1/6	1075	4644	884		833		784		718		648		550											
				7.4	.1	7.1	.1	6.8	.11	6.5	.12	6.3	.12	6.1	.12										
165VX11D	1/4	1140	4924	945		895		850		795		728		662		547									
				8.2	.11	7.9	.12	7.7	.13	7.4	.14	7.1	.14	6.9	.15	6.7	.15								
165VX13D	1/3*	1300	5616	1093		1045		1005		965		918		859		802		741		512					
				10.3	.16	10.1	.17	9.9	.18	9.6	.19	9.4	.2	9.1	.21	8.8	.21	8.7	.22	8.4	.21				
165VX15D	1/3*	1550	6696	1321		1278		1241		1207		1174		1139		1099		1051		954		839		635	
				13.9	.27	13.8	.28	13.6	.3	13.4	.31	13.2	.32	12.9	.33	12.7	.34	12.5	.35	12.0	.36	11.7	.37	11.4	.36
165VX17D	1/2	1725	7451	1480		1441		1404		1372		1342		1312		1282		1248		1166		1078		988	
				16.3	.37	16.1	.39	16.0	.4	15.8	.41	15.7	.43	15.5	.44	15.3	.45	15.0	.46	14.6	.48	14.2	.49	13.9	.51
180VX10D	1/3	1075	5066	1160		1102		1041		984		930		857		741		614							
				8.7	.14	8.4	.15	8.0	.16	7.8	.17	7.6	.17	7.6	.18	7.6	.19	7.7	.19						
180VX11D	1/4	1140	5372	1236		1182		1125		1069		1018		964		884		773							
				9.6	.16	9.3	.17	9.0	.19	8.7	.19	8.5	.2	8.4	.21	8.4	.22	8.5	.23						
180VX13D	1/2*	1300	6126	1423		1377		1329		1278		1229		1183		1139		1089		918		698			
				12.3	.24	12.0	.25	11.7	.26	11.3	.28	11.1	.29	10.9	.3	10.8	.31	10.7	.32	10.7	.34	11.0	.32		
180VX15D	1/2*	1550	7304	1713		1675		1636		1595		1553		1511		1470		1430		1356		1266		1112	
				16.9	.39	16.5	.41	16.2	.43	15.8	.44	15.5	.46	15.2	.47	15.0	.49	14.9	.5	14.7	.52	14.5	.54	14.6	.57
180VX17D	3/4	1725	8129	1914		1880		1846		1810		1774		1736		1698		1660		1589		1522		1448	
				19.7	.54	19.4	.55	19.1	.57	18.8	.59	18.5	.61	18.2	.63	18.1	.64	17.9	.66	17.7	.69	17.6	.71	17.4	.74
195VX10D	1/3	1075	5488	1497		1429		1362		1296		1226		1150		1066		961							
				9.5	.21	9.1	.22	8.7	.23	8.3	.25	8.0	.26	7.8	.27	7.5	.28	7.2	.28						
195VX11D	1/3	1140	5820	1596		1531		1468		1406		1342		1274		1200		1119		883					
				10.6	.24	10.2	.26	9.7	.27	9.4	.29	9.1	.3	8.8	.31	8.5	.32	8.3	.33	7.7	.33				
195VX13D	3/4*	1300	6637	1837		1780		1723		1669		1614		1559		1501		1440		1307		1129			
				13.7	.35	13.2	.37	12.8	.39	12.3	.41	11.9	.42	11.6	.44	11.3	.45	11.1	.46	10.7	.48	10.1	.5		
195VX15D	3/4*	1550	7913	2210		2162		2114		2067		2021		1975		1929		1883		1787		1684		1571	
				18.8	.59	18.3	.61	17.8	.64	17.4	.66	17.0	.68	16.6	.7	16.2	.72	15.9	.74	15.3	.77	15.0	.79	14.7	.82

Performance certified is for Installation Type A: free inlet, free outlet. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. Speed (RPM) shown for model 165V10D is nominal. Performance is based on actual speed of test. Speed (RPM) for all other models is constant and based on actual speed of test. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels. *Motor is a 2-speed 1300/1550 RPM motor.

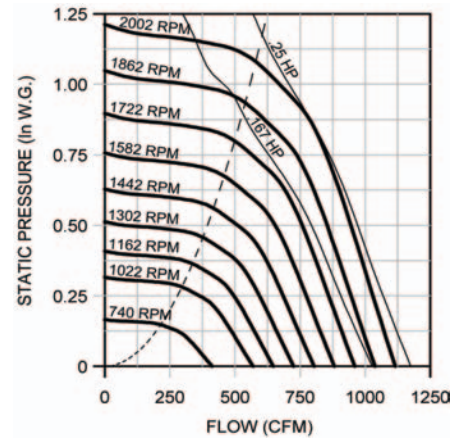
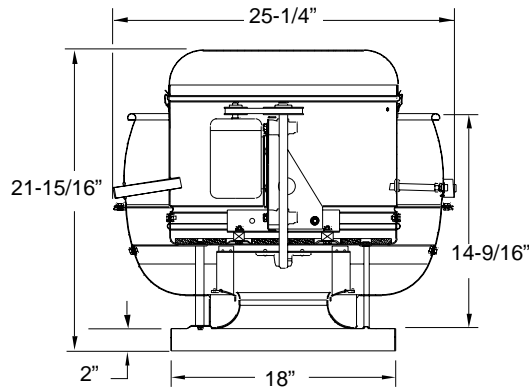
100, 120, 135 VCR Data

100 VCR

Wheel Diameter - 10"
Tip Speed (FPM) - $2.6 \times \text{RPM}$
Maximum RPM - 2002
Maximum BHP - $.031 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 48
Approx. Ship Wt. (Less Motor) - 30 lbs.
Roof Curb - RCG, RCA 16
Roof Opening - 13-1/2" Sq.

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .080
Base - .063

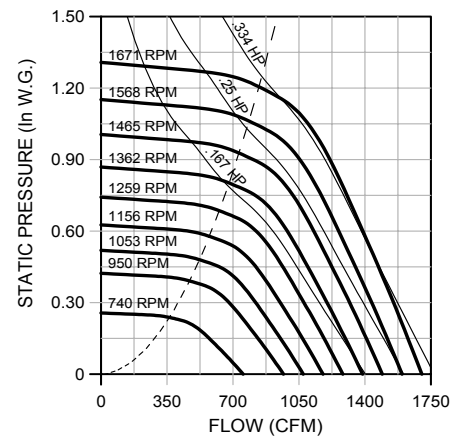
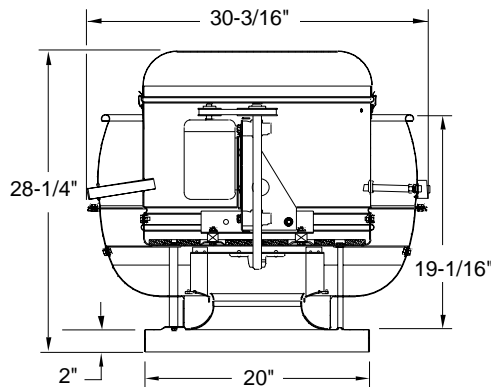


120 VCR

Wheel Diameter - 12"
Tip Speed (FPM) - $3.1 \times \text{RPM}$
Maximum RPM - 1669
Maximum BHP - $.072 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 56
Approx. Ship Wt. (Less Motor) - 61 lbs.
Roof Curb - RCG, RCA-18
Roof Opening - 15-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .063
Base - .063

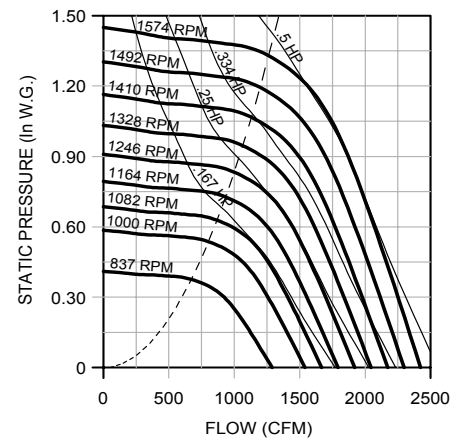
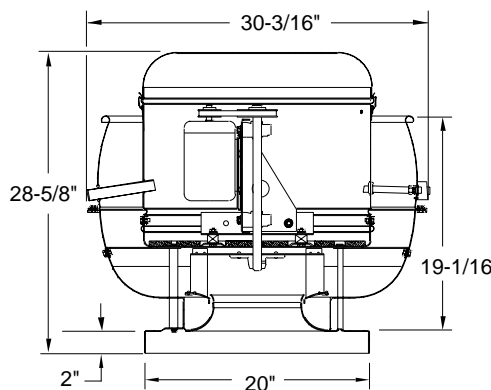


135 VCR

Wheel Diameter - 13.5"
Tip Speed (FPM) - $3.5 \times \text{RPM}$
Maximum RPM - 1574
Maximum BHP - $.13 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 56
Approx. Ship Wt. (Less Motor) - 66 lbs.
Roof Curb - RCG, RCA - 18
Roof Opening - 15-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .063
Base - .063



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

100 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
100V2B	1/6* 15 lbs.	740	1937	412		279																			
				1.7	.01	1.6	.01																		
		940	2460	524		433																			
				3.5	.02	3.3	.02																		
		1140	2984	635		560		479																	
				5.8	.04	5.7	.04	5.3	.05																
		1340	3508	747		683		619		542															
		8.0	.06	7.9	.07	7.7	.07	7.3	.07																
1540	4031	858		802		747		690		619		469													
				9.8	.10	9.7	.10	9.6	.11	9.3	.11	8.9	.11	8.5	.10										
				970		921		872		824		772		709		592									
1742	4560	11.7		.14	11.6	.15	11.5	.15	11.4	.16	11.1	.16	10.7	.16	10.3	.16									
100V3B	1/4* 15 lbs.	1807	4730	1007		959		912		865		817		761		678		531							
				12.4	.16	12.3	.16	12.3	.17	12.2	.17	11.9	.18	11.5	.18	11.2	.18	10.9	.16						
		1872	4900	1043		997		951		906		860		810		745		626							
				13.1	.17	13.1	.18	13.0	.19	12.9	.19	12.7	.19	12.4	.20	12.1	.20	11.8	.19						
		1937	5071	1079		1035		991		947		903		856		801		714		576					
				14.1	.19	14.0	.20	13.9	.21	13.8	.21	13.6	.21	13.2	.22	13.0	.22	12.77	.22	12.4	.20				
		2002	5241	1115		1072		1030		988		945		901		851		786		671					
		15.2	.21	15.1	.22	15.0	.23	14.9	.23	14.8	.24	14.4	.24	14.0	.25	13.6	.25	13.3	.24						

*1/6 & 1/4 HP motor available only in single phase ODP type.

120 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
120V2B	1/6 15 lbs.	904	2840	921		803		673																	
				5.2	.05	5.0	.05	4.4	.05																
		1037	3257	1056		955		845		722															
				7.0	.07	7.0	.08	6.5	.08	5.9	.08														
		1170	3675	1192		1103		1008		908		788													
1302	4090	1326		1247		1163		1075		983		871													
		11.4	.14	11.4	.15	11.1	.16	10.7	.16	10.0	.16	9.4	.16												
120V3B	1/4 15 lbs.	1367	4294	1393		1317		1238		1154		1069		975		832									
				12.2	.16	12.2	.17	12.0	.18	11.7	.18	11.0	.19	10.4	.19	10.0	.19								
		1432	4498	1459		1386		1312		1233		1152		1067		964		747							
				13.1	.19	13.1	.20	12.9	.21	12.6	.21	12.0	.21	11.6	.22	11.3	.22	10.9	.20						
		1496	4699	1524		1455		1384		1309		1232		1153		1066		944							
120V4B	1/3 19 lbs.	1549	4866	1578		1511		1443		1371		1297		1222		1142		1045		869					
				14.9	.24	14.9	.25	14.9	.26	14.5	.26	14.2	.27	13.8	.27	13.5	.27	13.2	.28	12.9	.26				
		1602	5032	1632		1567		1502		1433		1361		1289		1214		1130		1015					
				15.8	.26	15.8	.27	15.8	.28	15.5	.29	15.1	.30	14.8	.30	14.5	.30	14.2	.30	13.9	.30				
		1655	5199	1686		1623		1560		1494		1425		1355		1284		1208		1116					
		16.6		.29		16.6		.30		16.6		.31		16.3		.32		16.0		.32		15.6		.33	
		15.3		.33		15.3		.33		15.0		.34		14.7		.34									

135 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
135V2B	1/6 15 lbs.	837	2958	1289		1152		1001		676															
				5.7	.06	5.6	.07	5.0	.08	4.4	.07														
		957	3382	1474		1355		1230		1081															
				7.6	.10	7.5	.11	7.1	.11	6.5	.11														
		1078	3809	1660		1555		1447		1330		1184													
				9.8	.14	9.8	.15	9.5	.16	8.9	.16	8.3	.16												
135V3B	1/4 15 lbs.	1132	4000	1744		1643		1541		1432		1308		1113											
				11.0	.16	11.0	.17	10.7	.18	10.1	.18	9.5	.19	8.9	.19										
		1186	4191	1827		1731		1634		1532		1420		1275		971									
				12.2	.18	12.2	.20	12.0	.21	11.5	.21	10.8	.22	10.2	.22	9.7	.20								
		1240	4382	1910		1819		1726		1629		1527		1406		1219									
				13.5	.21	13.5	.22	13.3	.23	12.9	.24	12.2	.24	11.6	.25	11.0	.24								
135V4B	1/3 19 lbs.	1306	4615	2012		1925		1837		1747		1652		1548		1415		1182							
				14.7	.24	14.7	.26	14.6	.27	14.1	.28	13.6	.28	12.9	.29	12.4	.29	12.0	.28						
		1371	4845	2112		2029		1946		1860		1772		1677		1569		1419		1130					
				15.7	.28	15.7	.30	15.7	.31	15.3	.32	14.9	.33	14.2	.33	13.8	.33	13.5	.33	13.1	.30				
135V5B	1/2 23 lbs.	1473	5206	2269		2192		2115		2036		1955		1871		1781		1677		1538					
				17.4	.35	17.4	.37	17.4	.38	17.1	.40	16.8	.40	16.5	.41	16.1	.41	15.7	.41	15.4	.42				
		1574	5562	2424		2353		2280		2207		2132		2055		1975		1889		1791		1470			
				19.5	.43	19.5	.45	19.5	.46	19.3	.48	19.0	.49	18.7	.49	18.3	.50	18.0	.50	17.7	.51	17.1	.49		

Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

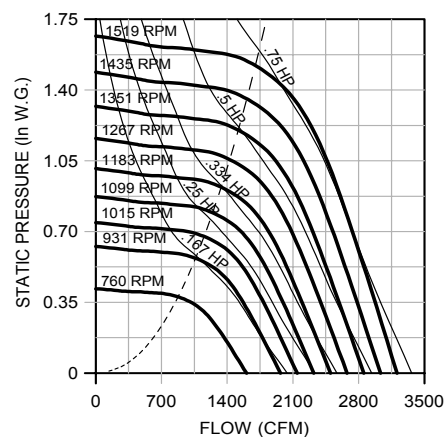
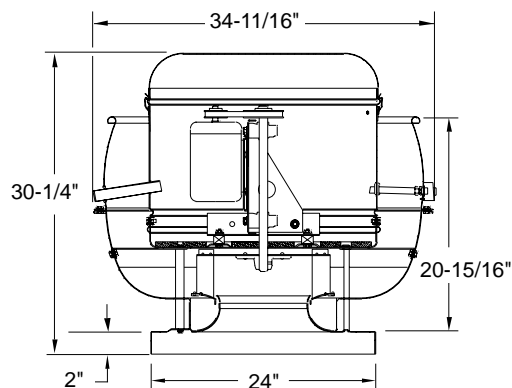
150 VCR/VCR-HP Data

150 VCR

Wheel Diameter - 15"
Tip Speed (FPM) - $3.9 \times \text{RPM}$
Maximum RPM - 1519
Maximum BHP - $.22 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 56
Approx. Ship Wt. (Less Motor) - 77 lbs.
Roof Curb - RCG, RCA - 22
Roof Opening - 19-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .063
Base - .063

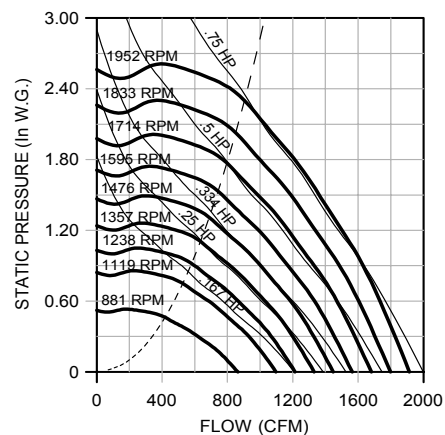
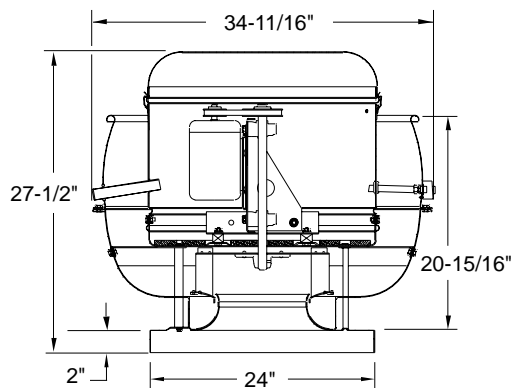


150 VCR-HP

Wheel Diameter - 15"
Tip Speed (FPM) - $3.9 \times \text{RPM}$
Maximum RPM - 1952
Maximum BHP - $.10 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 143T
Approx. Ship Wt. (Less Motor) - 77 lbs.
Roof Curb - RCG, RCA - 22
Roof Opening - 19-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .063
Base - .063



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

150 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
150V2B	1/6 15 lbs.	760	2984	1606		1439		1254		889															
				6.0	.08	5.9	.09	5.3	.10	4.7	.09														
		832	3267	1758		1606		1444		1238															
				7.1	.11	7.0	.12	6.6	.12	5.9	.13														
150V3B	1/4 15 lbs.	972	3817	1910		1770		1625		1462		1193													
				8.4	.14	8.4	.15	8.0	.16	7.4	.16	6.8	.16												
		1040	4084	2054		1924		1790		1647		1468													
				9.7	.17	9.7	.19	9.4	.20	8.9	.20	8.3	.20												
150V4B	1/3 19 lbs.	1149	4512	2198		2076		1952		1822		1677		1469											
				11.3	.21	11.3	.22	11.1	.24	10.5	.24	9.9	.25	9.4	.25										
		1149	4512	2428		2318		2207		2093		1971		1835		1648									
				14.1	.28	14.1	.30	14.0	.31	13.6	.32	13.0	.33	12.4	.33	11.8	.33								
150V5B	1/2 23 lbs.	1235	4849	2610		2508		2405		2299		2190		2074		1940		1756							
				16.6	.35	16.6	.37	16.5	.39	16.1	.40	15.7	.40	15.0	.41	14.4	.41	13.8	.41						
		1320	5183	2789		2694		2598		2500		2400		2295		2183		2052		1877					
				18.4	.43	18.4	.45	18.4	.47	18.0	.48	17.6	.49	17.1	.50	16.5	.50	16.0	.51	15.7	.51				
150V6B	3/4 31 lbs.	1420	5576	3001		2912		2823		2733		2641		2546		2447		2342		2221		1834			
				20	.53	20	.55	20	.58	20	.59	19.8	.61	19.4	.61	19.0	.62	18.6	.62	18.3	.63	17.6	.61		
		1519	5965	3210		3127		3044		2960		2875		2788		2698		2605		2506		2260			
				23	.65	23	.67	23	.70	23	.72	22	.73	22	.75	22	.75	21	.76	21	.76	20	.77		

150 VCR-HP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.250" SP		0.375" SP		0.500" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
150VH2B	1/6	881	3459	672		536		339																	
				4.4	.07	4.1	.07	3.7	.06																
	15 lbs.	1162	4563	1012		932		835		606															
				7.4	.15	7.5	.16	7.6	.16	6.8	.16														
150VH3B	1/4	1249	4904	1108		1039		954		763		491													
				8.5	.19	8.6	.20	8.7	.20	8.2	.20	7.3	.18												
	15 lbs.	1336	5246	1202		1141		1069		899		689													
				9.6	.23	9.6	.24	9.8	.24	9.8	.25	8.7	.24												
150VH4B	1/3	1407	5525	1277		1221		1158		1000		818		587											
				10.6	.26	10.4	.27	10.6	.28	10.9	.29	10.0	.29	9.1	.27										
	19 lbs.	1478	5804	1352		1300		1242		1098		940		743											
				11.4	.30	11.3	.31	11.3	.32	11.6	.34	11.1	.33	10.2	.33										
150VH5B	1/2	1587	6232	1466		1419		1368		1245		1102		940		753									
				12.9	.37	12.8	.38	12.8	.39	12.8	.41	12.9	.42	12.0	.41	11.3	.40								
	23 lbs.	1696	6660	1579		1536		1489		1384		1253		1118		952		775							
				14.4	.45	14.4	.46	14.3	.47	14.3	.49	14.2	.51	13.9	.50	13.2	.50	12.6	.48						
150VH6B	3/4	1824	7162	1711		1671		1629		1538		1427		1301		1174		1014		852					
				16.2	.56	16.2	.57	16.2	.58	16.2	.60	16.2	.62	16.1	.63	15.6	.63	15.1	.62	14.7	.60				
	31 lbs.	1952	7665	1842		1805		1766		1685		1591		1477		1361		1239		1087		938			
				18.5	.68	18.5	.69	18.5	.71	18.4	.73	18.3	.75	18.3	.77	18.3	.77	17.8	.77	17.4	.76	17.1	.74		

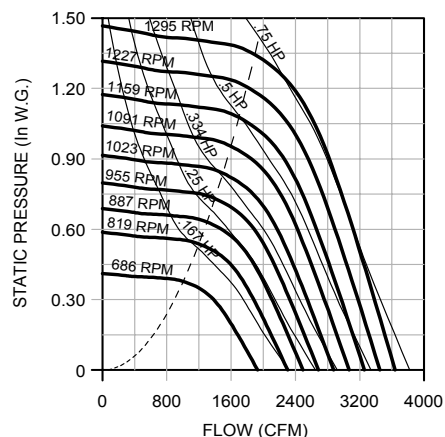
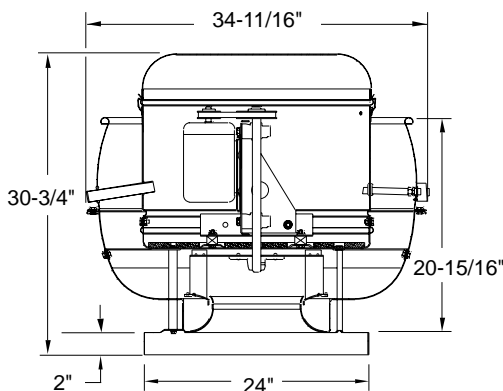
165 VCR/VCR-HP/VCR-XP Data

165 VCR

Wheel Diameter - 16.5 inches
Tip Speed (FPM) - $4.3 \times \text{RPM}$
Maximum RPM - 1295
Maximum BHP - $.35 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 56
Approx. Ship Wt. (Less Motor) - 83 lbs.
Roof Curb - RCG, RCA - 22
Roof Opening - 19-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .063
Base - .063

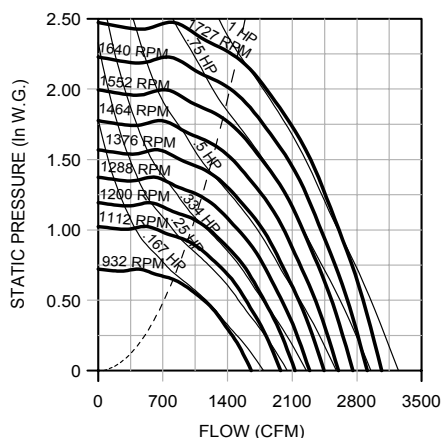
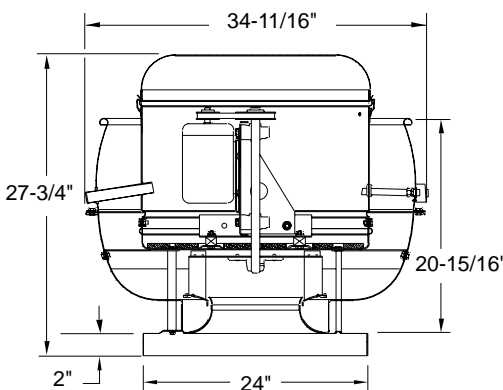


165 VCR-HP

Wheel Diameter - 16.5 inches
Tip Speed (FPM) - $4.3 \times \text{RPM}$
Maximum RPM - 1727
Maximum BHP - $.20 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 143T
Approx. Ship Wt. (Less Motor) - 83 lbs.
Roof Curb - RCG, RCA - 22
Roof Opening - 19-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .063
Base - .063

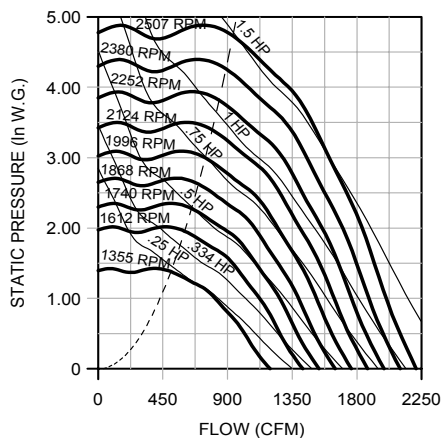
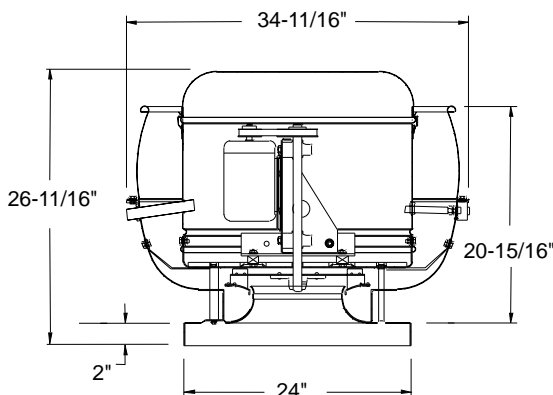


165 VCR-XP

Wheel Diameter - 16.5 inches
Tip Speed (FPM) - $4.3 \times \text{RPM}$
Maximum RPM - 2507
Maximum BHP - $.19 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 143T
Approx. Ship Wt. (Less Motor) - 83 lbs.
Roof Curb - RCG, RCA - 22
Roof Opening - 19-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .063
Base - .063



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

165 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
165V2B	1/6	686	2963	1929		1725		1500		1024															
				6.3	.10	6.2	.11	5.5	.11	4.8	.10														
	15 lbs.	771	3330	2168		1988		1797		1564															
165V3B	1/4	829	3581	2331		2164		1990		1796		1492													
				8.7	.17	8.7	.19	8.3	.20	7.7	.20	7.1	.20												
	15 lbs.	887	3831	2494		2338		2177		2004		1792		1337											
165V4B	1/3	933	4030	2624		2475		2323		2163		1981		1706											
				11.1	.24	11.1	.26	10.8	.28	10.3	.28	9.7	.29	9.1	.29										
	19 lbs.	980	4233	2756		2615		2471		2320		2157		1950		1550									
165V5B	1/2	1052	4544	2958		2827		2694		2556		2411		2249		2033		1608							
				14.3	.35	14.3	.37	14.1	.39	13.7	.40	13.2	.41	12.6	.41	12.1	.41	11.6	.38						
	23 lbs.	1125	4859	3164		3041		2917		2790		2657		2517		2356		2138		1723					
165V6B	3/4	1210	5226	3403		3289		3174		3057		2936		2811		2677		2525		2323					
				19.2	.53	19.2	.56	19.2	.58	18.8	.60	18.5	.61	17.9	.62	17.2	.62	16.6	.63	16.2	.63				
	31 lbs.	1295	5594	3642		3535		3428		3319		3208		3094		2975		2848		2705		2251			
				22	.65	22	.68	22	.70	21	.72	21	.74	21	.75	20	.76	19.4	.76	18.9	.77	18.1	.75		

165 VCR-HP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.250" SP		0.375" SP		0.500" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
165VH2B	1/6	932	4025	1450		1314		1141																	
				6.7	.16	6.5	.16	6.2	.16																
165VH3B	1/4	1072	4630	1736		1626		1507		1165															
				8.7	.23	8.4	.24	8.3	.25	8.0	.24														
165VH4B	1/3	1128	4872	1846		1747		1635		1355															
				9.5	.26	9.3	.28	9.1	.29	8.8	.29														
	19 lbs.	1185	5118	1957		1866		1762		1527		1142													
165VH5B	1/2	1273	5498	2125		2046		1954		1752		1466													
				12.1	.37	11.8	.39	11.5	.40	11.1	.41	11.2	.41												
	23 lbs.	1361	5879	2291		2221		2140		1956		1742		1421											
165VH6B	3/4	1463	6319	2482		2419		2349		2184		2007		1771		1448									
				15.1	.55	14.9	.57	14.7	.59	14.1	.61	13.7	.63	13.7	.63	13.8	.61								
	31 lbs.	1566	6764	2673		2615		2553		2408		2246		2069		1819		1503							
165VH7B	1	1646	7110	2820		2767		2709		2577		2426		2268		2074		1809		1467					
				18.2	.77	18.2	.79	18.0	.81	17.4	.85	16.9	.88	16.4	.90	16.2	.90	16.1	.88	16.2	.85				
	36 lbs.	1727	7460	2969		2918		2865		2745		2604		2457		2297		2082		1817					
				19.6	.89	19.6	.91	19.5	.93	19.0	.97	18.5	1.01	18.1	1.03	17.8	1.04	17.6	1.03	17.4	1.02				

165 VCR-XP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP		3.000" SP		3.500" SP		4.000" SP		4.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
165VX3B	1/4 15 lbs.	1355	5853	814		637																			
				9.4	.24	9.1	.25																		
165VX4B	1/3 19 lbs.	1498	6470	988		889		728																	
				11.7	.32	11.3	.33	10.9	.33																
165VX5B	1/2 23 lbs.	1609	6950	1121		1025		931		766		519													
				13.3	.38	12.9	.40	12.5	.41	12.3	.41	12.0	.37												
		1720	7429	1243		1160		1072		981		818		614											
				15.0	.46	14.5	.48	14.1	.49	13.9	.50	13.7	.50	13.5	.47										
165VX6B	3/4 31 lbs.	1850	7991	1376		1310		1229		1148		1065		926		753									
				16.9	.56	16.5	.58	16.1	.59	15.7	.61	15.5	.62	15.3	.63	15.2	.61								
		1979	8548	1503		1448		1382		1304		1229		1152		1040		681							
				19.1	.67	18.6	.69	18.1	.71	17.8	.73	17.4	.74	17.2	.76	17.1	.77	16.9	.71						
165VX7B	1 36 lbs.	2081	8989	1601		1551		1495		1427		1352		1281		1207		947							
				21	.76	20	.79	20	.82	19.6	.84	19.1	.85	18.7	.87	18.6	.88	18.5	.89						
		2183	9129	1698		1651		1602		1544		1476		1405		1338		1170		876					
				23	.86	22	.90	22	.93	21	.95	21	.97	21	.99	20	1.00	20	1.04	19.9	.99				
165VX8B	1-1/2 38 lbs.	2345	10129	1851		1807		1764		1717		1663		1601		1534		1408		1238		964			
				26	1.05	25	1.09	25	1.12	25	1.15	24	1.18	24	1.20	23	1.22	23	1.25	22	1.29	22	1.24		
		2507	10829	2003		1961		1921		1880		1836		1786		1729		1606		1488		1324		1068	
				29	1.26	29	1.30	28	1.34	28	1.37	27	1.41	27	1.44	27	1.46	26	1.50	25	1.54	25	1.57	25	1.53

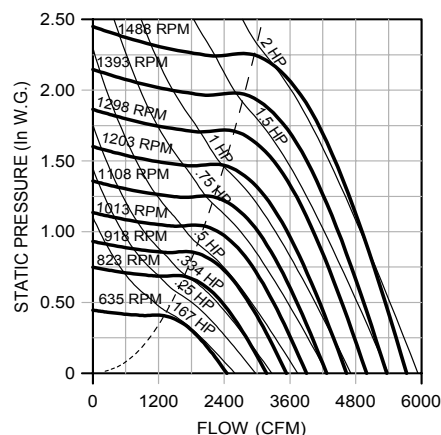
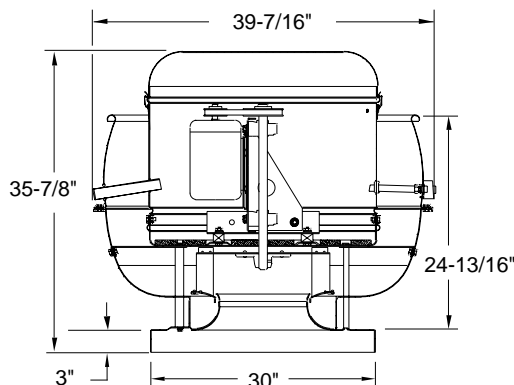
180 VCR/VCR-HP/VCR-XP Data

180 VCR

Wheel Diameter - 18 inches
Tip Speed (FPM) - 4.7 x RPM
Maximum RPM - 1488
Maximum BHP - .57 x (RPM/1000)³
Maximum Motor Frame - 145T
Approx. Ship Wt. (Less Motor) - 100 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .080
Base - .080

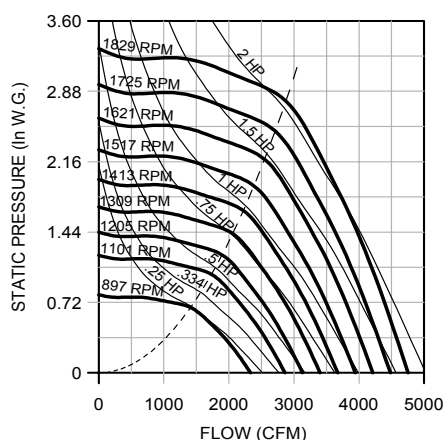
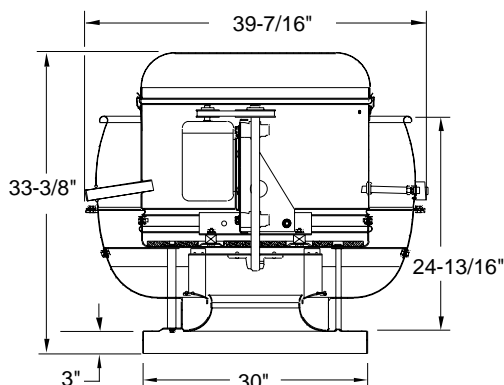


180 VCR-HP

Wheel Diameter - 18 inches
Tip Speed (FPM) - 4.7 x RPM
Maximum RPM - 1829
Maximum BHP - .31 x (RPM/1000)³
Maximum Motor Frame - 145T
Approx. Ship Wt. (Less Motor) - 100 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .080
Base - .080

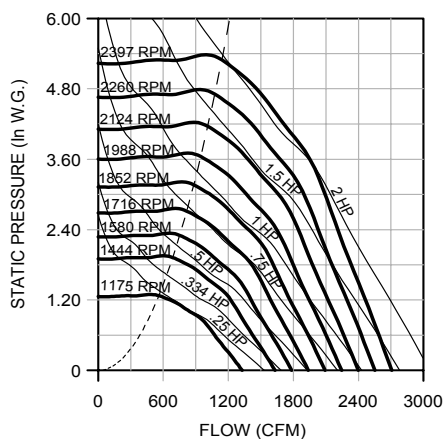
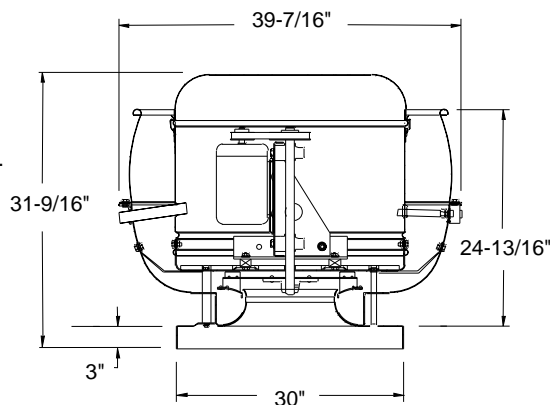


180 VCR-XP

Wheel Diameter - 18 inches
Tip Speed (FPM) - 4.7 x RPM
Maximum RPM - 2397
Maximum BHP - .15 x (RPM/1000)³
Maximum Motor Frame - 145T
Approx. Ship Wt. (Less Motor) - 100 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .080
Base - .080



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

180 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
180V2B	1/6 15 lbs.	635	2992	2446 5.9 .14	2214 5.6 .15	1945 5.0 .16	1541 4.5 .16																		
180V3B	1/4 15 lbs.	730	3440	2812 7.6 .21	2612 7.5 .23	2395 6.9 .24	2138 6.5 .25	1751 6.0 .24																	
180V4B	1/3 19 lbs.	807	3802	3109 9.3 .29	2928 9.3 .30	2738 8.7 .32	2526 8.2 .33	2272 7.7 .33	1872 7.3 .32																
180V5B	1/2 23 lbs.	927	4368	3571 12.2 .43	3414 12.2 .45	3253 11.8 .47	3082 11.2 .49	2893 10.7 .50	2677 10.3 .51	2401 9.9 .50															
180V6B	3/4 31 lbs.	1066	5023	4106 16.1 .66	3970 16.1 .68	3832 16.0 .71	3690 15.3 .73	3539 14.6 .74	3376 14.2 .76	3199 13.8 .77	2997 13.4 .77	2741 13.0 .76													
180V7B	1 36 lbs.	1176	5541	4530 18.6 .89	4407 18.6 .91	4283 18.6 .94	4155 18.1 .96	4023 17.4 .98	3885 16.7 1.00	3738 16.3 1.01	3579 15.9 1.02	3405 15.5 1.03	2948 14.8 1.02												
180V8B	1-1/2 38 lbs.	1264	5956	4869 21 1.10	4755 21 1.13	4639 21 1.16	4522 20 1.18	4402 19.7 1.20	4277 19.0 1.23	4146 18.4 1.24	4007 18.0 1.26	3860 17.6 1.27	3523 16.9 1.28	3029 16.3 1.25											
		1351	6366	5204 23 1.35	5097 23 1.37	4989 23 1.40	4880 23 1.43	4769 22 1.46	4655 21 1.48	4536 21 1.50	4413 20 1.52	4283 20 1.54	3999 19.3 1.56	3658 18.6 1.56											
180V9B	2 50 lbs.	1419	6686	5466 24 1.56	5364 24 1.59	5262 24 1.62	5158 24 1.65	5053 24 1.68	4946 23 1.70	4835 23 1.73	4721 22 1.75	4601 22 1.77	4345 21 1.80	4054 20 1.81											
		1488	7012	5732 26 1.80	5635 26 1.83	5537 26 1.86	5439 26 1.89	5339 26 1.92	5238 25 1.95	5134 25 1.98	5027 24 2.00	4916 24 2.02	4681 23 2.06	4423 22 2.08											

180 VCR-HP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.250" SP		0.375" SP		0.500" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
180VH3B	1/4 15 lbs.	897	4227	2068		1910		1724																	
				8.8	.22	8.4	.23	7.9	.24																
180VH4B	1/3 19 lbs.	992	4674	2344		2212		2060		1704															
				10.6	.30	10.3	.31	9.9	.32	8.8	.33														
180VH5B	1/2 23 lbs.	1139	5367	2759		2652		2534		2258		1939													
				13.7	.44	13.5	.46	13.1	.47	12.2	.49	11.0	.51												
180VH6B	3/4 31 lbs.	1225	5772	2998		2900		2796		2557		2278													
				15.5	.55	15.4	.56	15.1	.58	14.3	.60	13.3	.62												
		1311	6177	3234		3144		3050		2839		2592		2323											
				17.6	.66	17.5	.68	17.2	.70	16.6	.72	15.6	.75	14.4	.77										
180VH7B	1 36 lbs.	1446	6814	3602		3521		3438		3260		3057		2827		2583									
				20	.88	20	.90	20	.92	19.5	.95	18.7	.98	17.8	1.01	16.8	1.03								
180VH8B	1-1/2 38 lbs.	1553	7318	3891		3817		3741		3580		3403		3204		2984		2756							
				22	1.08	22	1.11	22	1.13	22	1.17	21	1.19	20	1.22	19.5	1.26	18.7	1.28						
		1660	7822	4178		4109		4039		3893		3735		3561		3367		3159		2945		2674			
				25	1.32	25	1.34	25	1.37	24	1.41	24	1.44	23	1.47	22	1.51	22	1.54	21	1.57	20	1.56		
180VH9B	2 50 lbs.	1744	8218	4403		4338		4271		4134		3988		3829		3655		3464		3264		3057		2785	
				27	1.52	27	1.55	27	1.57	27	1.62	26	1.66	25	1.69	25	1.72	24	1.76	23	1.80	22	1.82	22	1.80
		1829	8618	4630		4568		4505		4376		4240		4093		3935		3761		3575		3385		3185	
				29	1.75	29	1.78	29	1.80	29	1.86	28	1.90	28	1.93	27	1.96	26	2.00	26	2.05	25	2.08	24	2.10

180 VCR-XP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP		3.000" SP		3.500" SP		4.000" SP		4.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
180VX3B	1/4 15 lbs.	1175	5537	848		595																			
				8.9	.25	9.1	.23																		
180VX4B	1/3 19 lbs.	1300	6126	1089		918		698																	
				10.7	.32	10.7	.34	11.0	.32																
180VX5B	1/2 23 lbs.	1492	7030	1354		1274		1156		988		774													
				14.0	.45	13.7	.47	13.6	.50	14.0	.51	14.3	.48												
180VX6B	3/4 31 lbs.	1717	8091	1650		1578		1511		1436		1322		1174		1022									
				17.8	.65	17.6	.68	17.4	.70	17.3	.73	17.2	.76	17.4	.77	17.7	.76								
180VX7B	1 36 lbs.	1805	8505	1764		1694		1629		1564		1486		1368		1227									
				19.3	.74	19.1	.77	19.0	.80	18.8	.83	18.7	.85	18.7	.89	18.9	.90								
				1879		1811		1746		1685		1622		1543		1422		1155							
		1894	8925	21	.84	21	.88	21	.91	20	.94	20	.96	20	.99	20	1.03	21	1.02						
180VX8B	1-1/2 38 lbs.	2034	9585	2058		1993		1930		1871		1814		1756		1688		1466		1216					
				24	1.02	23	1.06	23	1.10	23	1.13	23	1.16	23	1.19	23	1.22	23	1.28	23	1.27				
				2235		2175		2115		2056		2001		1948		1894		1760		1536		1301			
		2175	10249	26	1.22	26	1.27	26	1.31	26	1.34	26	1.38	26	1.41	25	1.44	25	1.51	26	1.57	26	1.55		
180VX9B	2 50 lbs.	2286	10772	2372		2316		2258		2201		2146		2094		2044		1938		1780		1558		1320	
				28	1.40	28	1.45	28	1.49	28	1.53	28	1.57	28	1.60	28	1.64	28	1.70	28	1.78	28	1.82	29	1.78
				2508		2455		2401		2346		2292		2240		2191		2094		1981		1802		1593	
		2397	11295	31	1.60	30	1.65	30	1.69	30	1.74	30	1.78	30	1.82	30	1.85	30	1.92	30	1.99	30	2.08	31	2.10

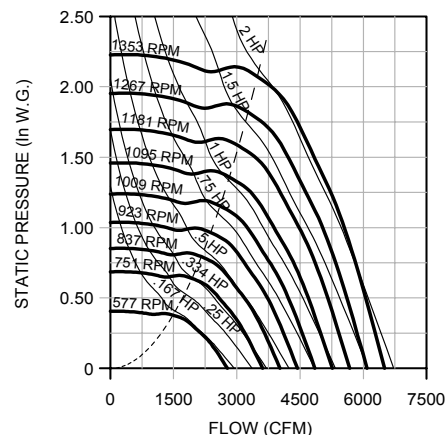
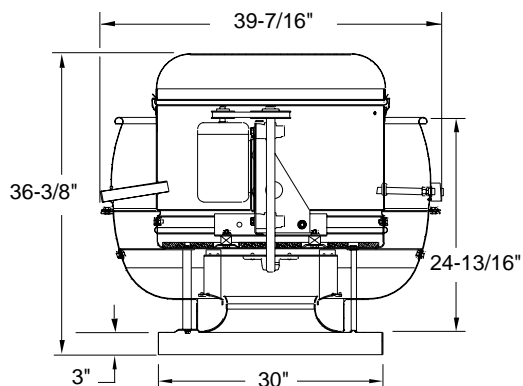
195 VCR/VCR-HP/VCR-XP Data

195 VCR

Wheel Diameter - 19.5 inches
Tip Speed (FPM) - 5.1 x RPM
Maximum RPM - 1353
Maximum BHP - .85 x (RPM/1000)³
Maximum Motor Frame - 145T
Approx. Ship Wt. (Less Motor) - 110 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .080
Base - .080

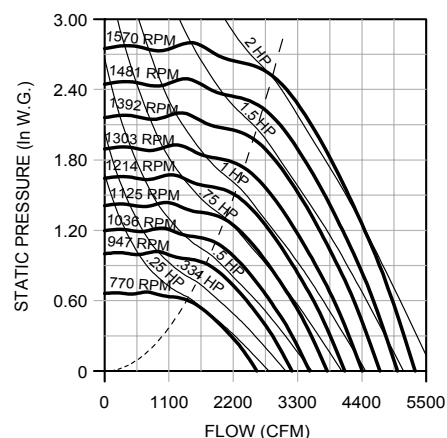
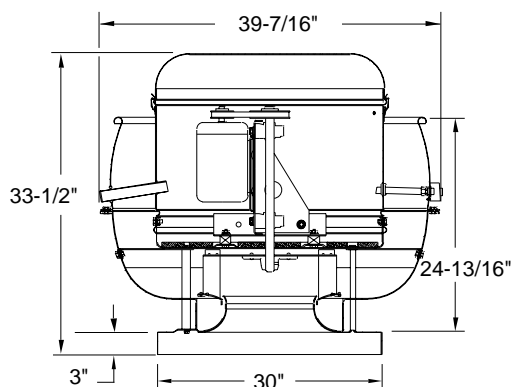


195 VCR-HP

Wheel Diameter - 19.5 inches
Tip Speed (FPM) - 5.1 x RPM
Maximum RPM - 1570
Maximum BHP - .54 x (RPM/1000)³
Maximum Motor Frame - 145T
Approx. Ship Wt. (Less Motor) - 110 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .080
Base - .080

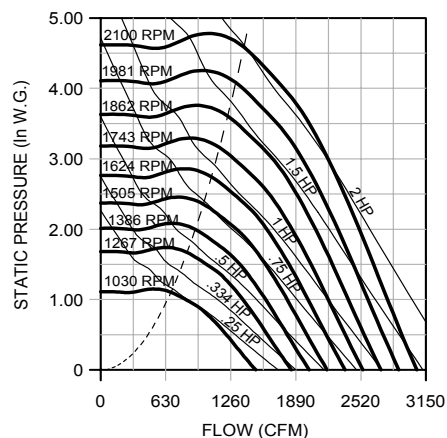
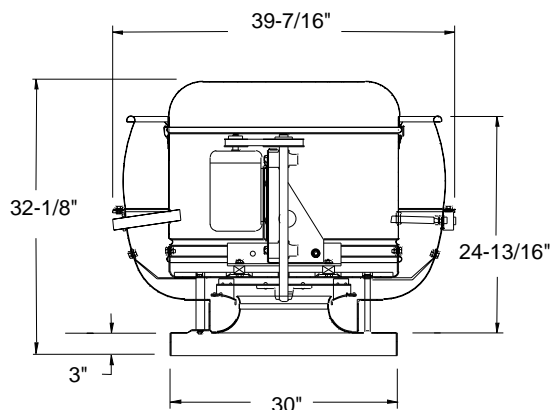


195 VCR-XP

Wheel Diameter - 19.5 inches
Tip Speed (FPM) - 5.1 x RPM
Maximum RPM - 2100
Maximum BHP - .23 x (RPM/1000)³
Maximum Motor Frame - 145T
Approx. Ship Wt. (Less Motor) - 110 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .050
Top Cap Cylinder - .040
Baffle - .080
Base - .080



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

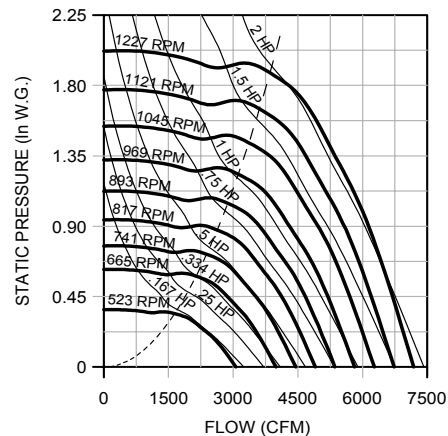
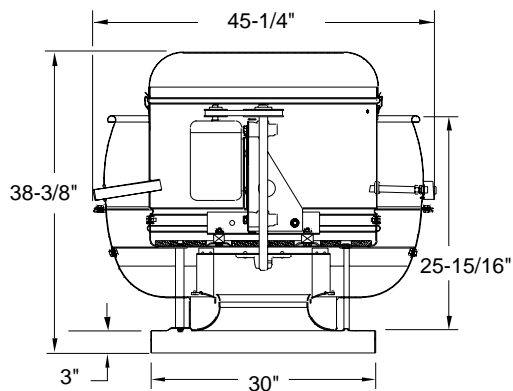
210 VCR/VCR-HP/VCR-XP Data

210 VCR

Wheel Diameter - 21 inches
Tip Speed (FPM) - $5.5 \times \text{RPM}$
Maximum RPM - 1227
Maximum BHP - $1.1 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 220 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080

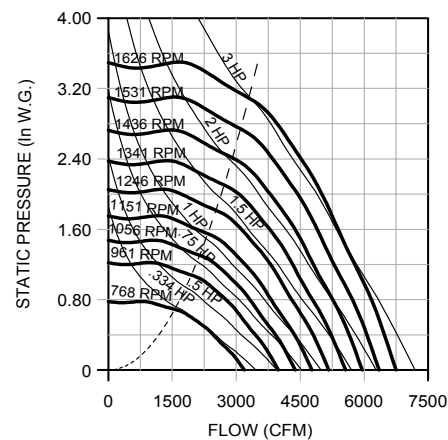
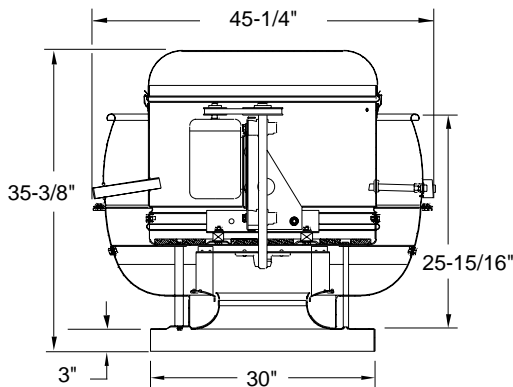


210 VCR-HP

Wheel Diameter - 21 inches
Tip Speed (FPM) - $5.5 \times \text{RPM}$
Maximum RPM - 1626
Maximum BHP - $.74 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 220 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080

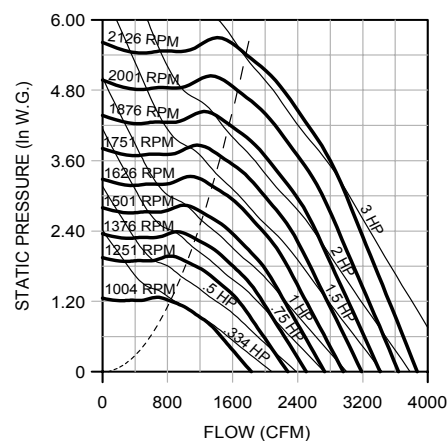
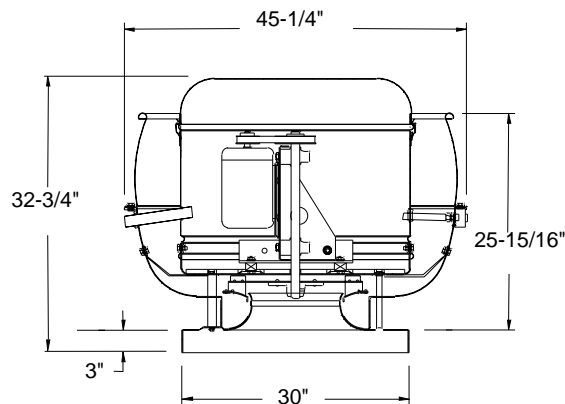


210 VCR-XP

Wheel Diameter - 21 inches
Tip Speed (FPM) - $5.5 \times \text{RPM}$
Maximum RPM - 2126
Maximum BHP - $.33 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 220 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

210 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
210V2B	1/6 15 lbs.	523	2875	2808		2470		2148																	
				7.4	.12	7.3	.14	9.8	.15																
210V3B	1/4 15 lbs.	602	3309	3232		2937		2651		2372															
				9.9	.19	9.8	.21	12.1	.23	12.6	.24														
210V4B	1/3 19 lbs.	665	3656	3571		3303		3041		2790		2521													
				11.5	.26	11.4	.28	11.8	.30	14.4	.32	13.4	.33												
210V5B	1/2 23 lbs.	764	4200	4102		3869		3638		3414		3196		2970		2640									
				14.3	.39	14.1	.42	14.0	.45	15.1	.46	16.4	.48	15.5	.50	14.6	.50								
210V6B	3/4 31 lbs.	879	4832	4720		4517		4315		4116		3922		3733		3543		3330		3012					
				18.6	.59	18.4	.63	18.3	.66	18.5	.69	19.2	.71	21	.72	20	.74	19.5	.76	18.8	.77				
210V7B	1 36 lbs.	970	5332	5209		5024		4841		4660		4481		4305		4134		3964		3782		3219			
				22	.80	22	.84	22	.88	22	.91	23	.93	24	.95	27	.97	26	.99	25	1.01	23	1.03		
210V8B	1-1/2	1042	5728	5595		5424		5253		5083		4915		4750		4588		4429		4271		3913			
				26	.99	26	1.03	26	1.07	25	1.11	26	1.14	26	1.16	29	1.18	32	1.20	31	1.23	29	1.27		
	38 lbs.	1114	6124	5982		5821		5661		5502		5345		5189		5035		4884		4735		4434		4057	
				30	1.21	30	1.25	29	1.30	29	1.34	29	1.38	30	1.40	31	1.43	35	1.45	39	1.47	37	1.52	35	1.56
210V9B	2 50 lbs.	1170	6432	6282		6130		5977		5825		5675		5526		5378		5233		5089		4808		4503	
				32	1.40	32	1.45	32	1.50	32	1.54	32	1.58	32	1.61	33	1.64	35	1.66	41	1.69	42	1.74	39	1.79
				6588		6443		6297		6153		6008		5866		5724		5584		5446		5176		4903	
		1227	6745	35	1.61	35	1.66	34	1.72	34	1.76	34	1.81	34	1.84	35	1.87	36	1.90	38	1.93	44	1.97	42	2.03

210 VCR-HP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.250" SP		0.375" SP		0.500" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
210VH4B	1/3 19 lbs.	768	4222	2769 8.4 .31		2511 8.3 .32		2235 7.9 .33																	
210VH5B	1/2 23 lbs.	882	4849	3323 10.7 .45		3093 10.6 .47		2875 10.6 .49		2341 9.5 .50															
210VRH6B	3/4 31 lbs.	1015	5580	3932 13.7 .67		3759 13.6 .70		3554 13.6 .72		3176 13.2 .75		2679 12.2 .77		1793 11.2 .69											
210VH7B	1 36 lbs.	1067	5866	4164 14.9 .77		4008 14.8 .81		3819 14.8 .83		3452 14.6 .87		3037 13.8 .89		2485 12.7 .87											
		1120	6157	4398 16.2 .89		4257 16.1 .92		4085 16.1 .95		3724 16.0 .99		3371 15.3 1.02		2891 14.2 1.03		2091 13.3 .95									
210VH8B	1-1/2 38 lbs.	1286	7070	5122 19.8 1.31		5007 19.7 1.36		4881 19.7 1.40		4572 19.6 1.46		4264 19.5 1.50		3965 18.9 1.54		3579 18.1 1.57		3133 17.2 1.55		2301 16.4 1.41					
210VH9B	2 50 lbs.	1352	7433	5406 21 1.52		5300 21 1.56		5184 21 1.61		4905 21 1.68		4600 21 1.73		4323 21 1.77		4009 20 1.80		3609 19.3 1.82		3164 18.4 1.78		2260 17.7 1.59			
		1417	7790	5685 23 1.74		5585 23 1.79		5478 23 1.83		5227 23 1.92		4932 23 1.98		4660 23 2.02		4390 22 2.06		4054 21 2.09		3659 20 2.09		3195 19.7 2.03		2263 19.0 1.80	
210VH10B	3 74 lbs.	1521	8362	6131 26 2.13		6038 26 2.19		5942 26 2.24		5725 26 2.33		5462 26 2.41		5191 25 2.46		4944 25 2.51		4688 25 2.55		4374 24 2.58		4008 23 2.59		3618 22 2.54	
		1626	8939	6578 29 2.59		6493 29 2.65		6404 29 2.70		6213 29 2.81		5986 28 2.90		5728 28 2.97		5481 28 3.02		5253 28 3.07		5011 27 3.11		4722 27 3.15		4384 26 3.16	

210 VCR-XP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	1" SP		1-1/4" SP		1-1/2" SP		1-3/4" SP		2" SP		2-1/4" SP		2-1/2" SP		3" SP		3-1/2" SP		4" SP		4-1/2" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
210VX4B	1/3 19 lbs.	1004	5519	1127 9.0 .33																					
210VX5B	1/2 23 lbs.	1153	6338	1558 11.3 .48		1357 11.2 .50		1102 12.7 .50																	
210VX6B	3/4 31 lbs.	1327	7295	1950 14.6 .69		1832 14.5 .73		1684 14.4 .76		1487 14.6 .77		1253 18.1 .76													
210VX7B	1 36 lbs.	1464	8048	2243 17.4 .90		2138 17.3 .93		2030 17.2 .97		1905 17.1 1.01		1734 17.0 1.03		1552 18.2 1.03		1301 27 1.01									
210VX8B	1-1/2 38 lbs.	1572	8642	2469 19.3 1.08		2370 19.2 1.13		2273 19.1 1.17		2172 19.0 1.21		2055 18.8 1.24		1900 18.7 1.27		1732 19.6 1.28									
		1681	9241	2694 22 1.30		2600 21 1.34		2508 21 1.39		2417 21 1.43		2323 21 1.47		2215 21 1.51		2078 21 1.55		1759 23 1.56							
210VX9B	2 50 lbs.	1767	9714	2869 23 1.48		2780 23 1.53		2691 23 1.58		2605 23 1.63		2518 22 1.67		2426 22 1.72		2322 22 1.76		2041 22 1.82		1710 29 1.80					
		1852	10181	3040 25 1.68		2956 25 1.74		2871 24 1.79		2787 24 1.84		2704 24 1.89		2621 24 1.94		2532 24 1.98		2309 24 2.07		2023 25 2.10		1646 40 2.04			
210VX10B	3 74 lbs.	1989	10935	3313 28 2.04		3235 28 2.11		3156 27 2.17		3077 27 2.23		2999 27 2.28		2922 27 2.33		2845 26 2.38		2679 26 2.48		2459 26 2.57		2192 28 2.60		1872 39 2.55	
		2126	11688	3583 32 2.46		3510 31 2.53		3437 30 2.60		3363 30 2.66		3289 30 2.72		3215 30 2.78		3143 29 2.83		2998 29 2.94		2837 29 3.04		2627 29 3.13		2378 31 3.17	

Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

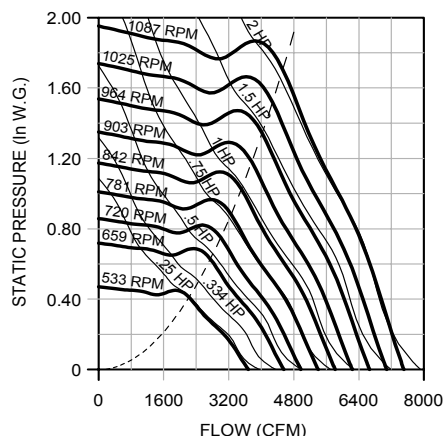
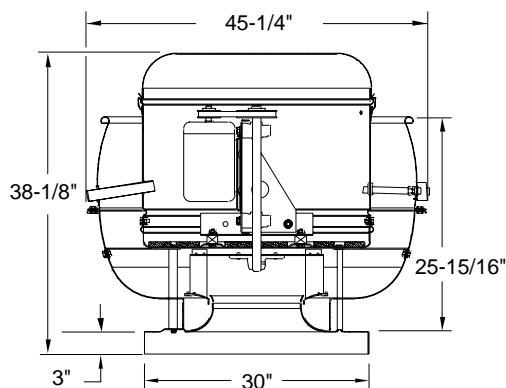
225 VCR/VCR-HP/VCR-XP Data

225 VCR

Wheel Diameter - 22.5 inches
Tip Speed (FPM) - 5.9 x RPM
Maximum RPM - 1087
Maximum BHP - $1.6 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 242 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080

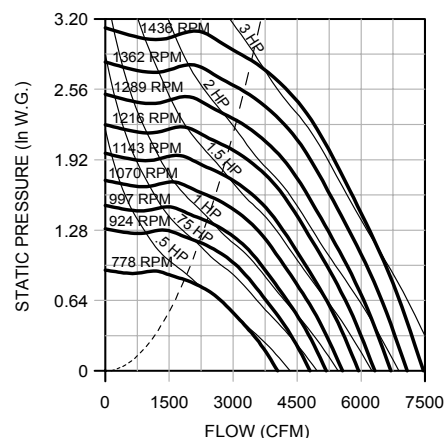
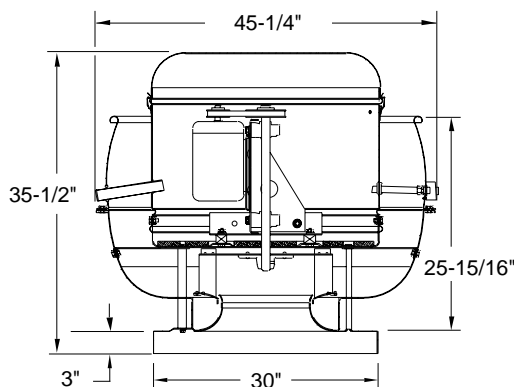


225 VCR-HP

Wheel Diameter - 22.5 inches
Tip Speed (FPM) - 5.9 x RPM
Maximum RPM - 1436
Maximum BHP - $1.1 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 242 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080

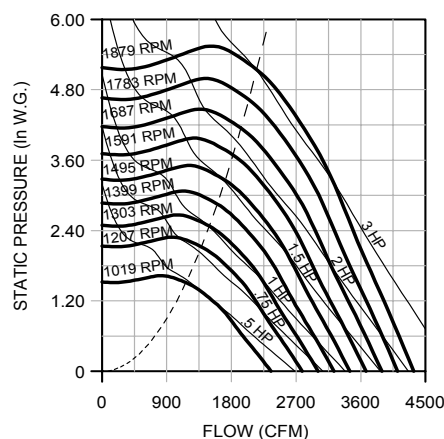
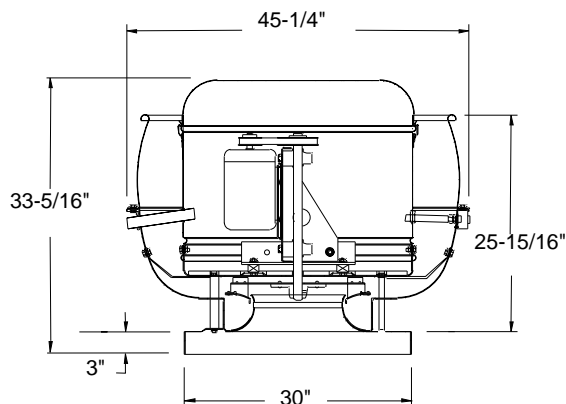


225 VCR-XP

Wheel Diameter - 22.5 inches
Tip Speed (FPM) - 5.9 x RPM
Maximum RPM - 1879
Maximum BHP - $.48 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 242 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

225 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
225V3B	1/4 15 lbs.	533	3139	3684		3333		2854		2357															
				8.4	.20	8.0	.24	7.4	.24	6.6	.25														
225V4B	1/3 19 lbs.	589	3469	4071		3753		3381		2873															
				10.2	.27	9.8	.32	9.4	.32	8.5	.33														
225V5B	1/2 23 lbs.	677	3987	4680		4400		4119		3730		3288		2938											
				13.1	.41	12.7	.49	12.3	.48	11.8	.49	10.9	.49	10.2	.50										
225V6B	3/4 31 lbs.	779	4588	5385		5138		4904		4637		4281		3887		3565									
				17.3	.63	16.8	.74	16.4	.75	16.0	.73	15.4	.74	14.7	.75	14.0	.76								
225V7B	1 36 lbs.	819	4824	5661		5426		5204		4964		4655		4280		3932		3645							
				18.9	.73	18.5	.86	18.1	.87	17.7	.85	17.2	.85	16.5	.87	15.9	.87	15.2	.89						
		859	5059	5938		5712		5500		5279		5011		4671		4313		4010		3741					
225V8B	1-1/2 38 lbs.	923	5436	6380		6169		5971		5771		5548		5271		4942		4612		4330					
				24	1.05	23	1.20	23	1.25	22	1.24	22	1.22	21	1.22	21	1.24	20	1.25	19.5	1.26				
		986	5808	6816		6616		6430		6246		6049		5822		5544		5231		4923		4422			
225V9B	2 50 lbs.	1036	6102	7161		6970		6793		6618		6437		6236		5997		5716		5414		4878		4427	
				29	1.48	29	1.68	28	1.75	28	1.77	27	1.74	27	1.72	27	1.72	26	1.75	25	1.76	24	1.78	23	1.81
		1087	6402	7514		7332		7161		6994		6824		6643		6435		6191		5913		5357		4907	
				32	1.71	32	1.92	31	2.02	31	2.04	30	2.03	30	2.00	29	1.98	29	2.00	28	2.02	27	2.04	26	2.07

225 VCR-HP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.250" SP		0.375" SP		0.500" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
225VH5B	1/2 23 lbs.	606	3569	2553		2159		1479																	
				7.3	.23	7.0	.24	6.3	.22																
		779	4588	3634		3370		3074		2328															
225VH6B	3/4 31 lbs.	897	5283	4315		4110		3875		3356		2659													
				17.2	.69	17.0	.72	16.7	.74	16.3	.76	15.6	.77												
225VH7B	1 36 lbs.	989	5825	4830		4656		4459		4009		3521		2800											
				19.6	.90	19.6	.94	19.3	.97	18.7	1.02	18.4	1.03	17.5	1.02										
225VH8B	1-1/2 38 lbs.	1063	6261	5238		5082		4910		4511		4073		3584		2781									
				21	1.11	21	1.15	21	1.19	21	1.25	20	1.27	19.7	1.28	18.8	1.22								
		1136	6691	5638		5495		5341		4987		4588		4169		3662		2808							
225VH9B	2 50 lbs.	1194	7033	5953		5819		5677		5354		4985		4593		4174		3604							
				26	1.55	26	1.60	26	1.64	25	1.72	24	1.78	23	1.80	23	1.81	22	1.81						
		1251	7369	6262		6135		6002		5705		5364		4996		4615		4180		3542					
225VH10B	3 74 lbs.	1343	7910	6757		6641		6520		6257		5958		5628		5281		4924		4520		3958			
				34	2.18	34	2.23	34	2.28	34	2.38	33	2.47	32	2.53	32	2.55	31	2.57	31	2.58	30	2.57		
		1436	8458	7256		7148		7037		6801		6536		6241		5926		5600		5266		4893		4408	
				40	2.65	40	2.71	40	2.76	40	2.86	40	2.96	39	3.05	39	3.10	38	3.12	38	3.14	38	3.15	37	3.16

225 VCR-XP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP		3.000" SP		3.500" SP		4.000" SP		4.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
225VX5B	1/2 23 lbs.	1019	6002	1710		1493		1190																	
				11.5	.48	11.4	.51	11.3	.48																
225VX6B	3/4 31 lbs.	1173	6909	2147		2013		1847		1635															
				14.9	.69	14.9	.73	14.8	.76	14.7	.77														
225VX7B	1 36 lbs.	1294	7622	2474		2353		2232		2089		1908		1700											
				17.3	.89	17.2	.93	17.1	.97	17.0	1.01	16.9	1.03	16.9	1.02										
225VX8B	1-1/2 38 lbs.	1390	8187	2731		2613		2502		2388		2255		2091		1905									
				19.2	1.08	19.0	1.12	18.9	1.17	18.8	1.21	18.8	1.25	18.7	1.28	18.6	1.28								
		1486	8753	2986		2871		2763		2660		2553		2430		2282		1924							
225VX9B	2 50 lbs.	1562	9200	3185		3075		2968		2868		2770		2666		2547		2247		1852					
				23	1.48	23	1.53	23	1.58	23	1.63	22	1.68	22	1.73	22	1.77	22	1.82	22	1.75				
		1637	9642	3380		3274		3170		3071		2977		2882		2782		2534		2221					
225VX10B	3 74 lbs.			25	1.68	25	1.74	25	1.79	24	1.84	24	1.89	24	1.94	24	1.99	24	2.08	24	2.08				
				3587		3487		3387		3289		3197		3107		3017		2813		2548		2232			
				27	1.92	27	1.98	27	2.04	27	2.09	26	2.14	26	2.20	26	2.25	26	2.35	26	2.42	26	2.39		
		1799	10597	3793		3698		3602		3507		3415		3328		3243		3065		2847		2576		2254	
				30	2.17	29	2.24	29	2.30	29	2.36	29	2.42	28	2.47	28	2.53	28	2.64	28	2.74	28	2.78	28	2.71
		1879	11068	3994		3904		3812		3720		3630		3544		3461		3297		3114		2885		2614	
				32	2.45	32	2.52	31	2.59	31	2.65	31	2.71	31	2.77	31	2.83	30	2.95	30	3.06	30	3.15	30	3.16

Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

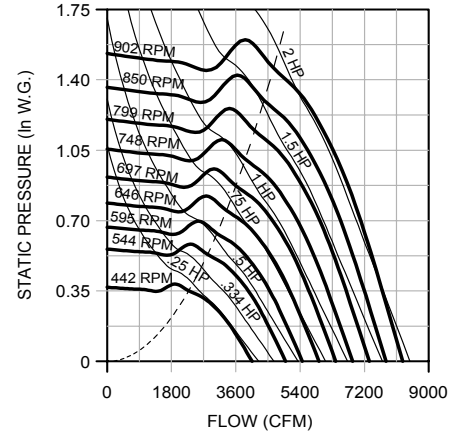
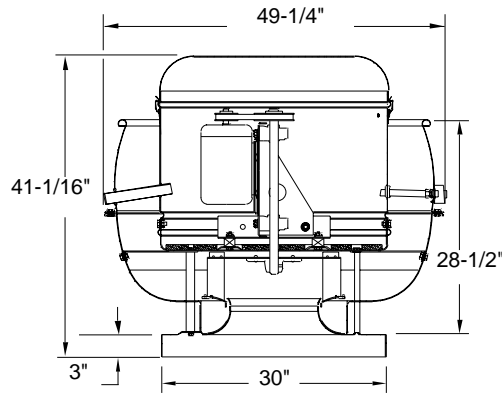
245 VCR/VCR-HP/VCR-XP Data

245 VCR

Wheel Diameter - 24.5 inches
Tip Speed (FPM) - 6.4 x RPM
Maximum RPM - 902
Maximum BHP - $2.8 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 264 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080

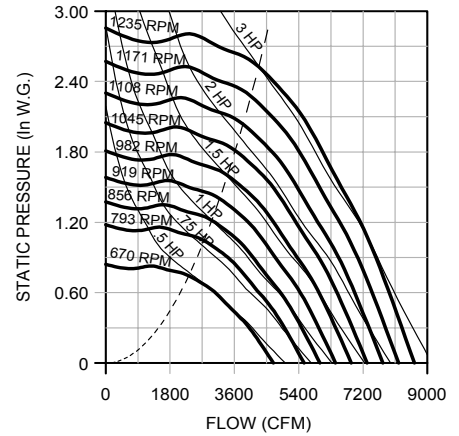
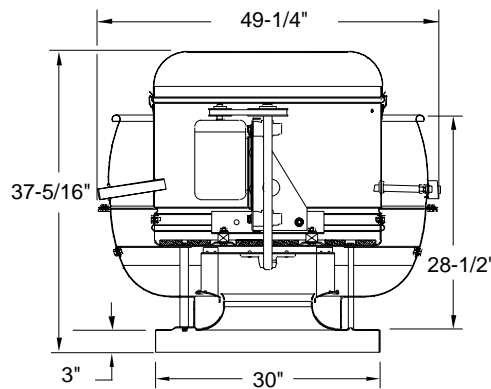


245 VCR-HP

Wheel Diameter - 24.5 inches
Tip Speed (FPM) - 6.4 x RPM
Maximum RPM (Standard Wheel) - 1185
Maximum RPM (Reinforced Wheel) - 1235
Maximum BHP - $1.6 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 264 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080

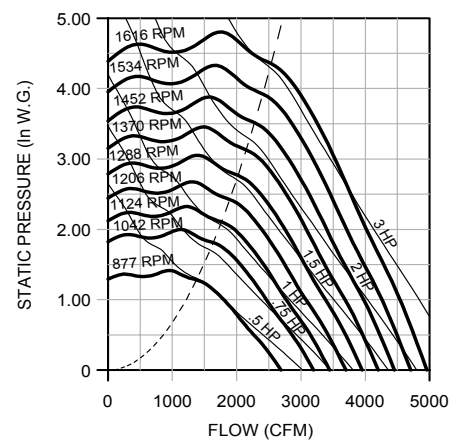
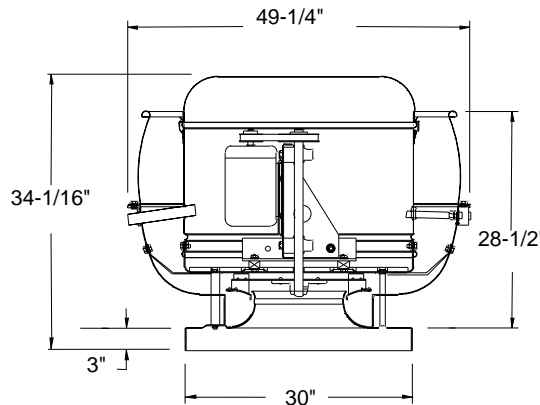


245 VCR-XP

Wheel Diameter - 24.5 inches
Tip Speed (FPM) - 6.4 x RPM
Maximum RPM (Standard Wheel) - 1616
Maximum BHP - $.75 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 264 lbs.
Roof Curb - RCG, RCA - 28
Roof Opening - 25-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

245 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
245V3B	1/4 15 lbs.	442	2835	4058		3639		3116																	
				7.2	.22	6.8	.24	6.3	.24																
245V4B	1/3 19 lbs.	489	3136	4490		4114		3691		3060															
				9.0	.30	8.6	.32	8.2	.33	7.3	.33														
245V5B	1/2 23 lbs.	561	3598	5151		4825		4481		4067		3471													
				11.9	.45	11.6	.48	11.3	.50	11.0	.50	9.7	.49												
245V6B	3/4 31 lbs.	646	4143	5931		5649		5359		5047		4674		4185											
				14.8	.69	14.5	.72	14.2	.75	13.9	.77	13.6	.76	12.7	.76										
245V7B	1 36 lbs.	679	4355	6234		5966		5692		5402		5074		4662		4104									
				16.1	.80	15.7	.83	15.4	.86	15.1	.88	14.7	.89	14.4	.88	13.0	.87								
245V8B	1-1/2 38 lbs.	765	4906	6537		6282		6022		5750		5453		5098		4650		3955							
				17.2	.92	16.9	.95	16.6	.99	16.3	1.01	15.9	1.03	15.5	1.02	14.7	1.01	13.5	.95						
245V9B	2 50 lbs.	860	5516	7023		6786		6546		6297		6035		5741		5391		4962		4325					
				19.7	1.14	19.4	1.18	19.0	1.21	18.7	1.25	18.3	1.27	17.8	1.27	17.3	1.27	16.4	1.25	15.4	1.19				
245V9B	2 50 lbs.	860	5516	7510		7288		7064		6835		6596		6341		6052		5713		5307					
				22	1.39	22	1.43	22	1.47	21	1.51	21	1.54	21	1.56	20	1.56	19.7	1.54	18.7	1.53				
245V9B	2 50 lbs.	860	5516	7896		7685		7472		7255		7032		6797		6542		6251		5912		4947			
				24	1.62	24	1.66	24	1.70	24	1.74	23	1.78	23	1.80	22	1.81	22	1.81	22	1.79	19.3	1.71		
245V9B	2 50 lbs.	860	5516	8281		8080		7878		7672		7461		7243		7011		6756		6465		5738			
				27	1.86	27	1.91	26	1.96	26	2.00	26	2.04	25	2.07	25	2.08	24	2.09	24	2.08	22	2.05		

245 VCR-HP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.250" SP		0.375" SP		0.500" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
245VH5B	1/2 23 lbs.	670	4297	4143		3805		3393																	
				10.6	.47	10.0	.49	9.4	.50																
245VH6B	3/4 31 lbs.	771	4945	4929		4675		4369		3661															
				14.2	.71	13.8	.73	13.3	.74	12.0	.77														
245VH7B	1 36 lbs.	811	5201	5233		4998		4730		4061		3255													
				15.3	.81	15.0	.84	14.6	.86	13.4	.89	12.1	.88												
		850	5451	5528		5307		5065		4442		3783													
				16.5	.93	16.2	.96	15.8	.98	14.7	1.02	13.5	1.03												
245VH8B	1-1/2 38 lbs.	913	5856	5999		5796		5583		5056		4458		3732											
				18.4	1.14	18.2	1.18	17.8	1.20	16.9	1.25	15.8	1.28	14.7	1.26										
		976	6260	6466		6279		6084		5640		5075		4522		3721									
				20	1.38	20	1.42	19.9	1.45	19.1	1.50	18.1	1.55	17.1	1.56	16.1	1.52								
245VH9B	2 50 lbs.	1026	6580	6835		6657		6475		6076		5564		5036		4446									
				22	1.59	22	1.64	22	1.68	21	1.72	19.9	1.75	18.9	1.81	18.1	1.80								
		1076	6901	7201		7033		6860		6494		6044		5526		5027		4353							
				24	1.82	24	1.87	24	1.92	23	1.98	22	2.03	21	2.08	20	2.09	19.2	2.05						
245VH10B	3 74 lbs.	1156	7414	7785		7628		7470		7140		6769		6307		5832		5364		4738					
				27	2.23	27	2.30	27	2.35	27	2.43	26	2.48	25	2.54	24	2.59	23	2.59	22	2.55				
		1235	7921	8358		8212		8065		7762		7437		7055		6603		6166		5725		5153			
				31	2.70	31	2.77	31	2.84	30	2.93	30	2.99	29	3.05	28	3.12	27	3.16	26	3.16	25	3.12		

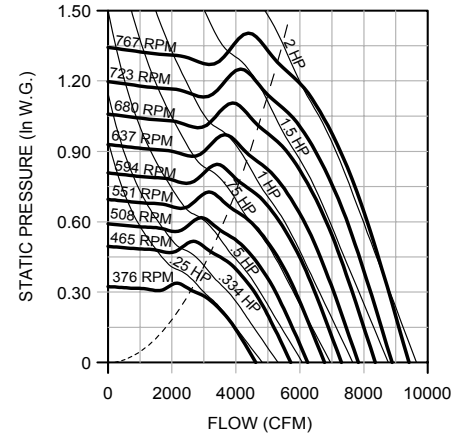
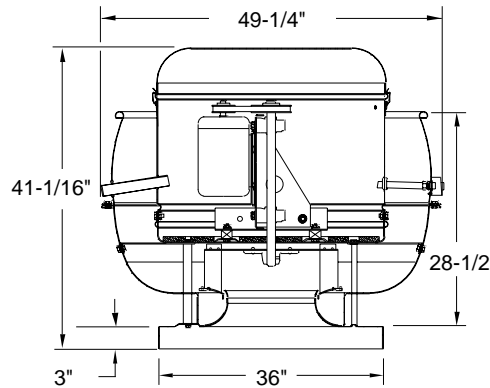
270 VCR/VCR-HP/VCR-XP Data

270 VCR

Wheel Diameter - 27 inches
Tip Speed (FPM) - 7.1 x RPM
Maximum RPM - 767
Maximum BHP - $4.6 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 286 lbs.
Roof Curb - RCG, RCA - 34
Roof Opening - 31-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080

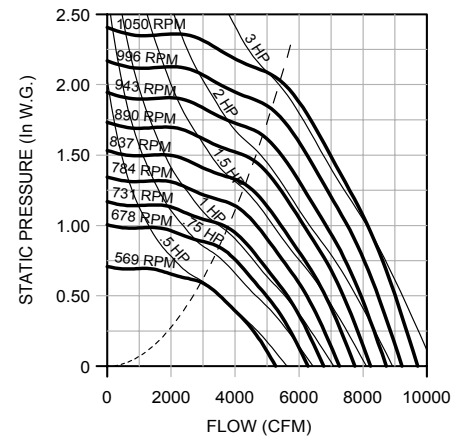
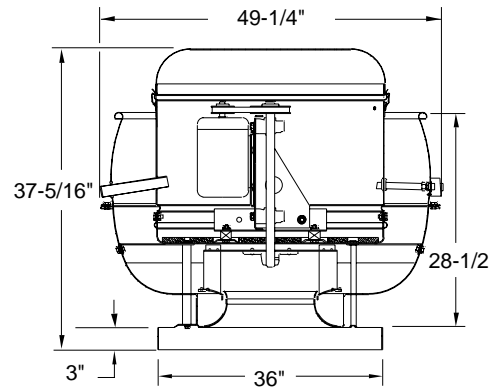


270 VCR-HP

Wheel Diameter - 27 inches
Tip Speed (FPM) - 7.1 x RPM
Maximum RPM (Standard Wheel) - 1025
Maximum RPM (Reinforced Wheel) - 1050
Maximum BHP - $2.7 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 286 lbs.
Roof Curb - RCG, RCA - 34
Roof Opening - 31-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080

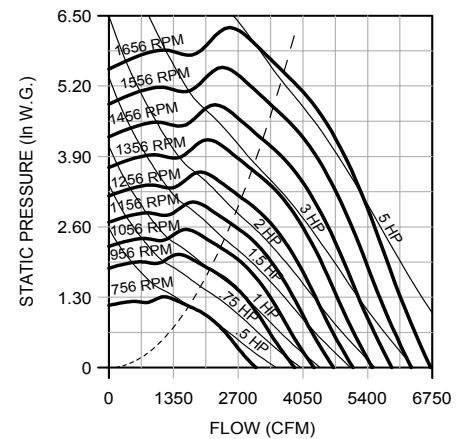
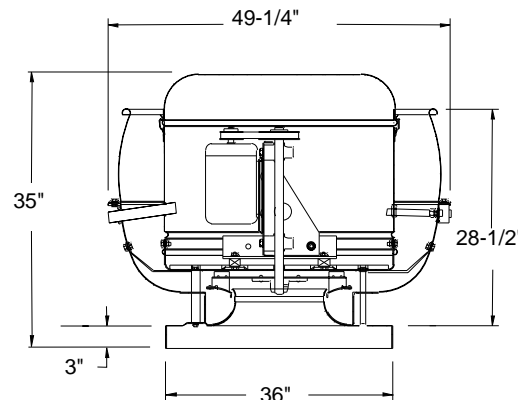


270 VCR-XP

Wheel Diameter - 27 inches
Tip Speed (FPM) - 7.1 x RPM
Maximum RPM - 1656
Maximum BHP - $1.17 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 182T
Approx. Ship Wt. (Less Motor) - 286 lbs.
Roof Curb - RCG, RCA - 34
Roof Opening - 31-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .040
Baffle - .080
Base - .080



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

270 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
270V3B	1/4 15 lbs.	376	2657	4620		4073		3320																	
				5.0	.22	4.7	.24	4.1	.24																
270V4B	1/3 19 lbs.	416	2940	5112		4623		4039																	
				6.3	.30	6.0	.32	5.4	.33																
270V5B	1/2 23 lbs.	477	3371	5861		5439		4981		4381															
				8.4	.45	8.3	.48	7.5	.50	7.1	.50														
270V6B	3/4 31 lbs.	549	3880	6746		6381		6000		5576		5025		4158											
				11.5	.68	11.5	.72	10.6	.75	9.9	.77	9.4	.76	9.0	.72										
270V7B	1 36 lbs.	577	4078	7090		6743		6384		5995		5523		4889											
				12.4	.79	12.4	.83	11.6	.87	10.9	.89	10.4	.88	9.9	.87										
		606	4283	7447		7116		6777		6416		6001		5472		4701									
270V8B	1-1/2 38 lbs.	651	4601	7999		7692		7379		7052		6696		6274		5746		4965							
				14.9	1.14	14.9	1.18	14.5	1.23	13.7	1.26	13.1	1.28	12.6	1.27	12.2	1.26	11.7	1.20						
		696	4919	8552		8265		7974		7673		7355		7000		6578		6063		5310					
270V9B	2 50 lbs.	732	5174	8995		8722		8445		8162		7867		7549		7185		6753		6231					
				17.7	1.61	17.7	1.67	17.6	1.72	17.0	1.76	16.4	1.79	15.8	1.81	15.4	1.80	14.6	1.78						
		767	5421	9425		9164		8901		8633		8355		8062		7740		7368		6930		5565			
				18.9	1.86	18.9	1.92	18.9	1.97	18.4	2.01	17.8	2.05	17.3	2.08	16.9	2.09	16.5	2.08	16.1	2.06	15.4	1.89		

270 VCR-HP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.250" SP		0.375" SP		0.500" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
270VH5B	1/2 23 lbs.	569	4022	4576		4080		3523																	
				9.9	.47	9.1	.50	8.4	.50																
270VH6B	3/4 31 lbs.	655	4629	5489		5136		4685		3652															
				13.9	.70	12.8	.73	12.0	.76	10.8	.76														
270VH7B	1 36 lbs.	689	4870	5837		5518		5122		4200															
				15.6	.81	14.5	.84	13.6	.87	12.3	.89														
		723	5110	6181		5888		5540		4682															
270VH8B	1-1/2 38 lbs.	777	5492	6721		6461		6164		5406		4565													
				18.7	1.14	18.2	1.18	17.2	1.21	15.7	1.27	14.7	1.27												
		830	5866	7245		7008		6747		6098		5339		4405											
270VH9B	2 50 lbs.	872	6163	7656		7434		7195		6622		5908		5156											
				22	1.58	22	1.63	22	1.68	19.7	1.75	18.4	1.80	17.6	1.80										
		915	6467	8075		7867		7645		7132		6477		5789		4947									
270VH10B	3 74 lbs.	983	6948	8734		8542		8342		7898		7352		6713		6066		5232							
				27	2.24	27	2.29	27	2.35	25	2.44	24	2.53	23	2.58	22	2.59	21	2.54						
		1050	7422	9378		9201		9018		8622		8159		7595		6995		6378		5574					
				31	2.71	31	2.77	31	2.83	29	2.94	27	3.03	26	3.11	25	3.15	24	3.15	23	3.09				

270 VCR-XP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP		3.000" SP		3.500" SP		4.000" SP		4.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
270VX5B	1/2 23 lbs.	756	5343	1974																					
				12.1	.51																				
270VX6B	3/4 31 lbs.	869	6142	2661		2374																			
				14.3	.74	14.5	.77																		
270VX7B	1 36 lbs.	959	6778	3117		2907		2647		2270															
				16.3	.96	16.3	1.00	16.5	1.03	17.0	1.02														
270VX8B	1-1/2 38 lbs.	1101	7782	3781		3624		3451		3253		3015		2697											
				19.3	1.37	19.3	1.44	19.3	1.49	19.4	1.53	19.7	1.56	20	1.56										
270VX9B	2 50 lbs.	1157	8178	4035		3888		3732		3559		3362		3125		2811									
				21	1.56	21	1.63	21	1.69	21	1.75	21	1.79	22	1.81	22	1.81								
		1214	8581	4289		4150		4008		3853		3682		3488		3256									
270VX10B	3 74 lbs.	1304	9217	4688		4558		4428		4294		4151		3994		3820		3379							
				27	2.14	27	2.23	27	2.31	27	2.38	27	2.45	27	2.51	27	2.55	28	2.59						
		1393	9846	5079		4954		4833		4711		4585		4452		4307		3974		3529					
270VX11B	5 98 lbs.	1525	10779	5655		5537		5423		5312		5201		5088		4971		4713		4414		4043		3519	
				39	3.27	38	3.38	38	3.48	38	3.58	38	3.68	38	3.76	38	3.85	38	3.99	38	4.10	39	4.15	40	4.10
		1656	11705	6223		6110		6001		5897		5794		5693		5590		5375		5137		4869		4552	
				43	4.09	43	4.22	43	4.34	42	4.45	42	4.56	42	4.66	42	4.76	42	4.94	42	5.10	42	5.22	43	5.3

Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels. **Shaded area indicates reinforced wheel required.**

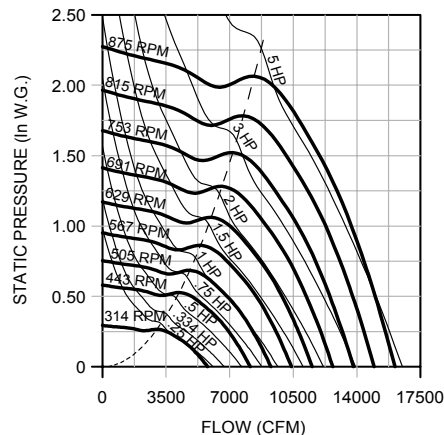
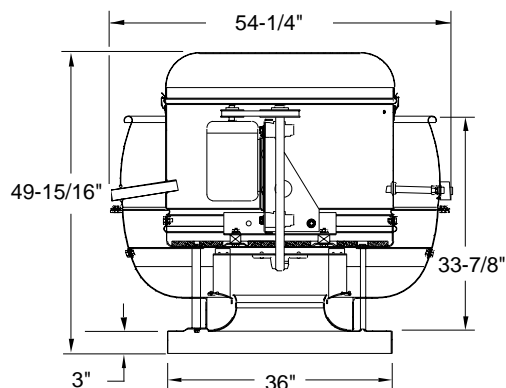
300 VCR/VCR-HP/VCR-XP Data

300 VCR

Wheel Diameter - 30 inches
Tip Speed (FPM) - $7.9 \times \text{RPM}$
Maximum RPM (Standard Wheel) - 837
Maximum RPM (Reinforced Wheel) - 875
Maximum BHP - $7.9 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 336 lbs.
Roof Curb - RCG, RCA - 34
Roof Opening - 31-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080

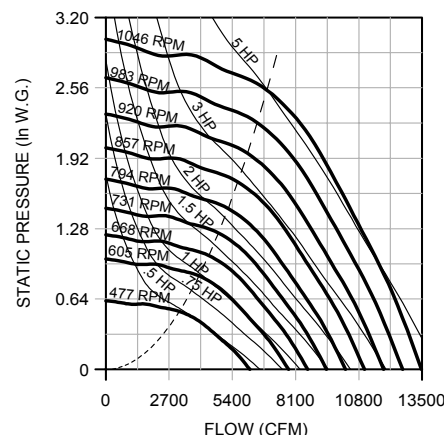
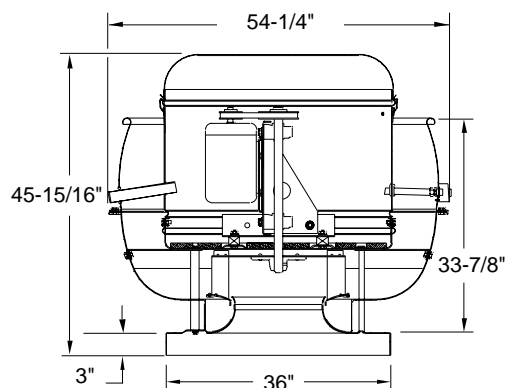


300 VCR-HP

Wheel Diameter - 30 inches
Tip Speed (FPM) - $7.9 \times \text{RPM}$
Maximum RPM (Standard Wheel) - 980
Maximum RPM (Reinforced Wheel) - 1046
Maximum BHP - $4.6 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 336 lbs.
Roof Curb - RCG, RCA - 34
Roof Opening - 31-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080

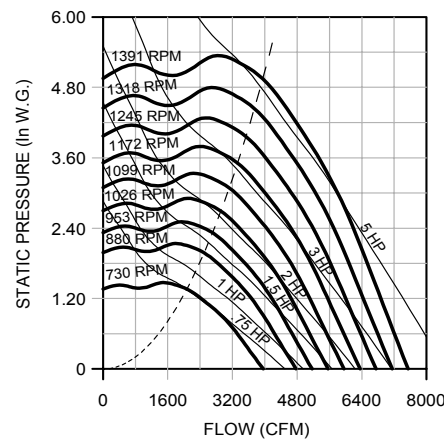
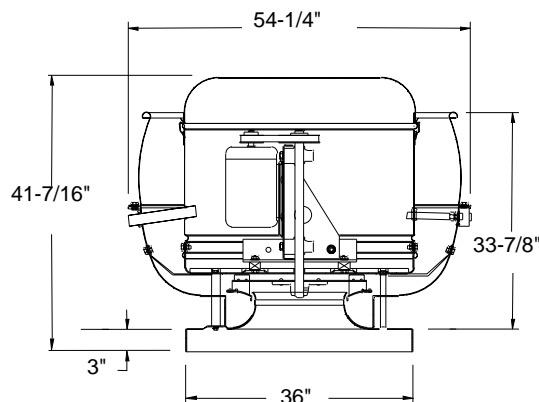


300 VCR-XP

Wheel Diameter - 30 inches
Tip Speed (FPM) - $7.9 \times \text{RPM}$
Maximum RPM - 1391
Maximum BHP - $1.97 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 336 lbs.
Roof Curb - RCG, RCA - 34
Roof Opening - 31-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

300 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
300V3B	1/4 15 lbs.	314	2466	5763		4932		3486																	
				4.8	.21	4.2	.24	3.3	.24																
300V4B	1/3 19 lbs.	348	2733	6387		5664		4589																	
				5.9	.29	5.4	.32	4.6	.33																
300V5B	1/2 23 lbs.	399	3133	7323		6716		5941		4788															
				7.7	.44	7.3	.47	6.6	.50	5.9	.50														
300V6B	3/4 31 lbs.	459	3604	8424		7910		7302		6532		5471													
				10.2	.67	9.8	.71	9.1	.75	8.4	.76	7.7	.76												
300V7B	1 36 lbs.	507	3981	9305		8845		8321		7709		6916		5907											
				12.4	.90	12.2	.94	11.4	.99	10.6	1.02	10.0	1.03	9.3	1.02										
300V8B	1-1/2 38 lbs.	582	4571	10682		10285		9855		9370		8822		8151		7327		6284							
				15.6	1.36	15.6	1.41	14.8	1.46	14.1	1.51	13.4	1.55	12.8	1.55	12.2	1.55	11.6	1.47						
300V9B	2 50 lbs.	641	5034	11765		11406		11027		10608		10150		9637		9023		8287		7461					
				18.2	1.81	18.2	1.87	17.7	1.93	17.0	1.99	16.3	2.04	15.7	2.07	15.1	2.08	14.5	2.07	13.9	2.05				
300V10B	3 74 lbs.	736	5780	13508		13197		12876		12534		12163		11768		11340		10862		10306		8982			
				23	2.74	23	2.81	23	2.88	22	2.95	21	3.01	21	3.07	20	3.11	19.6	3.14	19.1	3.14	18.0	3.13		
300V11B	5 98 lbs.	806	6330	14793		14509		14219		13917		13593		13248		12886		12497		12075		11058		9831	
				27	3.60	27	3.68	27	3.75	26	3.83	26	3.90	25	3.97	24	4.03	24	4.08	23	4.12	22	4.12	21	4.11
				16060		15798		15533		15260		14972		14668		14347		14013		13660		12868		11891	
		875	6872	31	4.61	31	4.69	31	4.77	31	4.85	30	4.93	29	5.01	29	5.09	28	5.16	27	5.21	26	5.28	25	5.27

300 VCR-HP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.250" SP		0.375" SP		0.500" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
300VH5B	1/2 23 lbs.	477	3746	5050		4371		3466																	
				7.8	.48	7.1	.50	6.6	.49																
300VH6B	3/4 31 lbs.	549	4311	6182		4607		5015																	
				10.5	.72	9.7	.74	9.0	.76																
300VH7B	1 36 lbs.	606	4759	7030		6536		6007		4813															
				12.9	.94	12.1	.99	11.3	1.00	10.1	1.02														
300VH8B	1-1/2 38 lbs.	651	5112	7678		7244		6757		5746															
				14.8	1.15	14.1	1.20	13.4	1.23	12.0	1.27														
				8312		7928		7487		6562		5467													
300VH9B	2 50 lbs.	767	6024	9295		8970		8600		7774		6920		5833											
				19.8	1.84	19.4	1.90	18.6	1.96	17.2	2.03	15.9	2.07	14.9	2.06										
300VH10B	3 74 lbs.	823	6463	10060		9767		9443		8695		7914		7081		5910									
				22	2.25	22	2.32	21	2.39	19.8	2.48	18.5	2.53	17.4	2.57	16.4	2.51								
				10832		10564		10276		9608		8882		8144		7319		6108							
300VH11B	5 98 lbs.	963	7563	11947		11708		11457		10892		10245		9580		8903		8163		7185					
				28	3.53	28	3.62	28	3.71	27	3.86	25	3.97	24	4.03	23	4.08	22	4.12	21	4.06				
				13055		12837		12612		12124		11564		10956		10343		9721		9055		8249		7112	
		1046	8215	32	4.49	32	4.59	32	4.68	31	4.86	30	5.01	29	5.11	27	5.16	26	5.22	25	5.28	24	5.26	24	5.05

300 VCR-XP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP		3.000" SP		3.500" SP		4.000" SP		4.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
300VX6B	3/4 31 lbs.	730	5733	2786		2334																			
				12.1	.75	12.9	.77																		
300VX7B	1 36 lbs.	806	6330	3371		3029		2619																	
				13.9	.98	14.4	1.01	15.1	1.03																
300VX8B	1-1/2 38 lbs.	866	6801	3787		3510		3171		2783															
				15.8	1.18	15.4	1.23	16.1	1.26	16.8	1.28														
				4174		3938		3662		3333		2968													
300VX9B	2 50 lbs.	972	7634	4472		4259		4018		3738		3411		3056											
				18.9	1.59	18.6	1.67	18.3	1.72	18.7	1.76	19.3	1.80	19.8	1.81										
				4764		4568		4353		4109		3827		3508		3164									
300VX10B	3 74 lbs.	1095	8600	5229		5051		4866		4663		4436		4179		3889		3227							
				23	2.15	23	2.26	23	2.36	22	2.43	22	2.48	23	2.53	23	2.57	25	2.56						
				5680		5516		5348		5172		4981		4770		4535		3989							
300VX11B	5 98 lbs.	1280	10053	6333		6182		6032		5879		5720		5552		5369		4954		4458		3906			
				31	3.26	31	3.38	30	3.51	30	3.63	30	3.74	30	3.84	29	3.91	30	4.02	31	4.11	32	4.12		
				6983		6843		6705		6567		6427		6283		6132		5802		5419		4972		4486	
		1391	10924	37	4.08	36	4.22	36	4.35	35	4.49	35	4.63	35	4.75	35	4.86	34	5.03	35	5.15	36	5.26	37	5.31

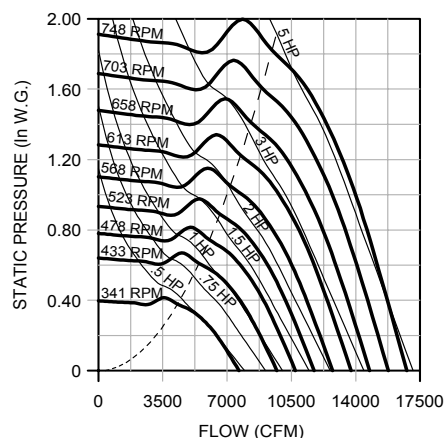
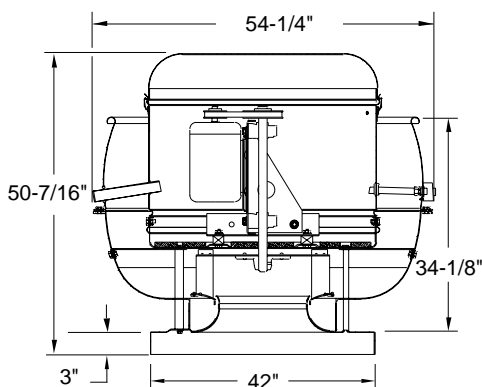
330 VCR/VCR-HP/VCR-XP Data

330 VCR

Wheel Diameter - 33 inches
Tip Speed (FPM) - 8.6 x RPM
Maximum RPM (Standard Wheel) - 716
Maximum RPM (Reinforced Wheel) - 748
Maximum BHP - $12.6 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 374 lbs.
Roof Curb - RCG, RCA - 40
Roof Opening - 37-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080

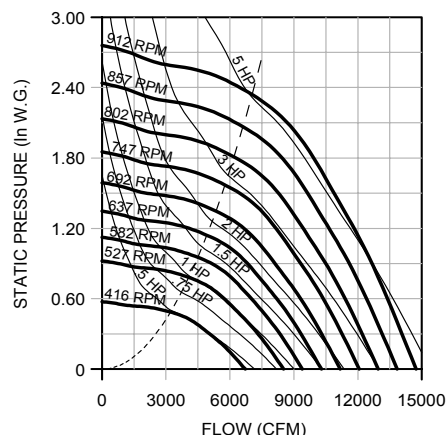
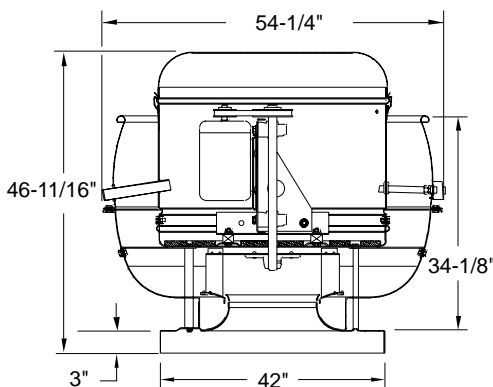


330 VCR-HP

Wheel Diameter - 33 inches
Tip Speed (FPM) - 8.6 x RPM
Maximum RPM (Standard Wheel) - 830
Maximum RPM (Reinforced Wheel) - 912
Maximum BHP - $7.0 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 374 lbs.
Roof Curb - RCG, RCA - 40
Roof Opening - 37-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080

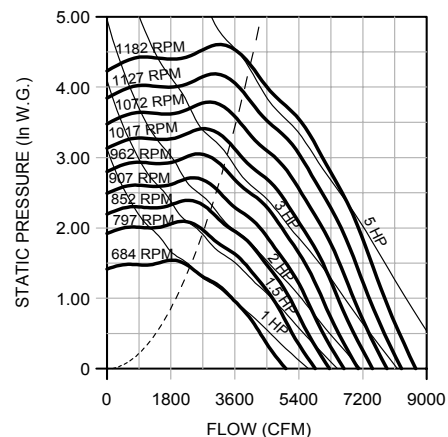
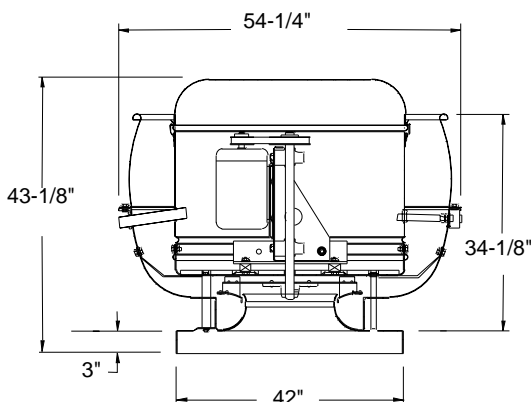


330 VCR-XP

Wheel Diameter - 33 inches
Tip Speed (FPM) - 8.6 x RPM
Maximum RPM - 1182
Maximum BHP - $3.21 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 374 lbs.
Roof Curb - RCG, RCA - 40
Roof Opening - 37-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

330 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
330V5B	1/2 23 lbs.	341	2946	7650		6920		6050		4379															
				7.0	.45	6.5	.49	5.7	.50	4.9	.44														
330V6B	3/4 31 lbs.	393	3395	8817		8189		7512		6630		5013													
				9.2	.68	8.9	.73	8.0	.76	7.3	.76	6.6	.68												
330V7B	1 36 lbs.	433	3740	9714		9147		8551		7866		6934													
				11.2	.91	10.9	.97	10.0	1.01	9.2	1.02	8.6	1.01												
330V8B	1-1/2 38 lbs.	498	4302	11173		10681		10176		9639		9024		8243		7127									
				14.6	1.39	14.6	1.45	13.7	1.51	12.9	1.55	12.1	1.56	11.5	1.54	10.8	1.49								
330V9B	2 50 lbs.	523	4518	11734		11265		10787		10286		9734		9066		8220		6813							
				16.0	1.61	16.0	1.68	15.2	1.74	14.3	1.78	13.6	1.80	12.9	1.79	12.2	1.77	11.7	1.62						
330V10B	3 74 lbs.	588	5079	12294		11848		11394		10922		10416		9831		9115		8190							
				17.1	1.85	17.1	1.92	16.4	1.99	15.6	2.04	14.9	2.07	14.2	2.07	13.6	2.05	13.0	2.02						
330V11B	5 98 lbs.	689	5952	13192		12776		12354		11921		11468		10974		10400		9711		8849					
				19.0	2.29	19.0	2.36	18.4	2.43	17.8	2.49	17.1	2.54	16.5	2.56	15.8	2.55	15.2	2.53	14.6	2.50				
330V11B	5 98 lbs.	689	5952	14112		13723		13331		12930		12516		12079		11598		11046		10395		8382			
				21	2.80	21	2.88	21	2.96	20	3.03	19.4	3.08	18.8	3.12	18.1	3.14	17.6	3.12	17.0	3.10	15.9	2.86		
330V11B	5 98 lbs.	689	5952	15458		15103		14746		14384		14014		13632		13231		12798		12312		11122		9180	
				25	3.68	25	3.77	25	3.85	24	3.93	23	4.00	23	4.06	22	4.10	21	4.12	21	4.12	19.6	4.06	18.5	3.76
330V11B	5 98 lbs.	748	6462	16781		16455		16127		15795		15459		15114		14761		14391		13997		13086		11937	
				28	4.71	28	4.80	28	4.90	28	4.99	27	5.07	26	5.14	26	5.20	25	5.25	25	5.27	24	5.25	22	5.19

330 VCR-HP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.250" SP		0.375" SP		0.500" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
330VH5B	1/2 23 lbs.	416	3593	5392		4522																			
				8.0	.49	7.2	.50																		
330VH6B	3/4 31 lbs.	479	4138	6641		5951		5189																	
				10.7	.72	9.9	.75	9.1	.77																
330VH7B	1 36 lbs.	528	4561	7553		6985		6319		4552															
				13.0	.95	12.2	.99	11.5	1.02	10.0	1.00														
330VH8B	1-1/2 38 lbs.	567	4898	8259		7756		7173		5850															
				15.0	1.16	14.2	1.21	13.5	1.24	12.0	1.27														
		606	5235	8953		8498		7990		6818		5091													
				17.1	1.40	16.3	1.45	15.6	1.50	14.3	1.55	12.7	1.51												
330VH9B	2 50 lbs.	668	5771	10037		9640		9212		8210		7104													
				19.9	1.85	19.5	1.91	18.8	1.96	17.5	2.05	16.1	2.08												
330VH10B	3 74 lbs.	718	6203	10900		10537		10153		9286		8292		7157											
				22	2.27	22	2.34	21	2.40	20	2.51	18.9	2.57	17.5	2.57										
		767	6626	11738		11402		11052		10285		9385		8439		7220									
				25	2.75	25	2.82	24	2.89	23	3.01	22	3.10	20	3.14	19.1	3.11								
330VH11B	5 98 lbs.	839	7248	12958		12654		12343		11680		10930		10083		9215		8146							
				28	3.56	28	3.64	28	3.72	27	3.87	26	3.99	25	4.07	24	4.12	22	4.09						
		912	7879	14186		13908		13626		13036		12395		11673		10888		10091		9164		7774			
				33	4.55	33	4.63	33	4.72	32	4.88	30	5.04	29	5.16	28	5.24	27	5.28	26	5.27	25	5.17		

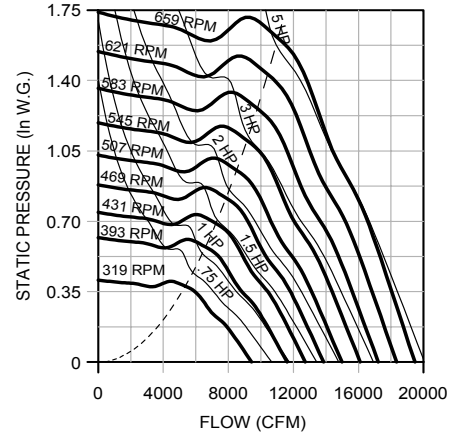
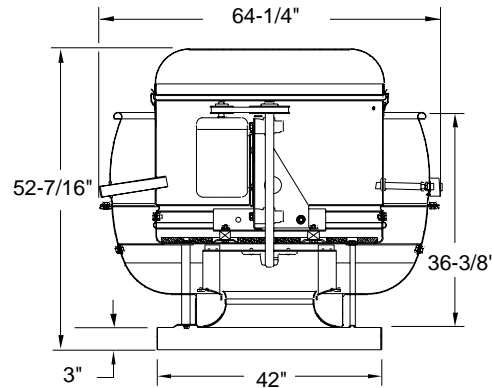
365 VCR/VCR-HP/VCR-XP Data

365 VCR

Wheel Diameter - 36.5 inches
Tip Speed (FPM) - 9.6 x RPM
Maximum RPM (Standard Wheel) - 624
Maximum RPM (Reinforced Wheel) - 659
Maximum BHP - $18.3 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 420 lbs.
Roof Curb - RCG, RCA - 40
Roof Opening - 37-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080

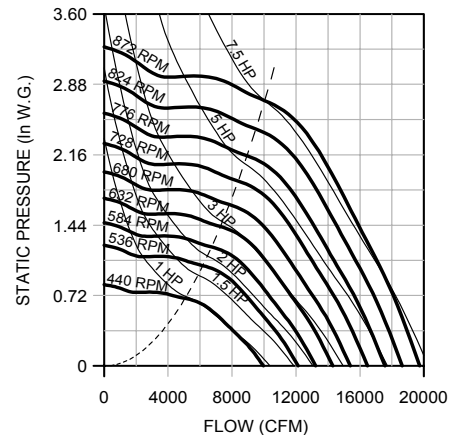
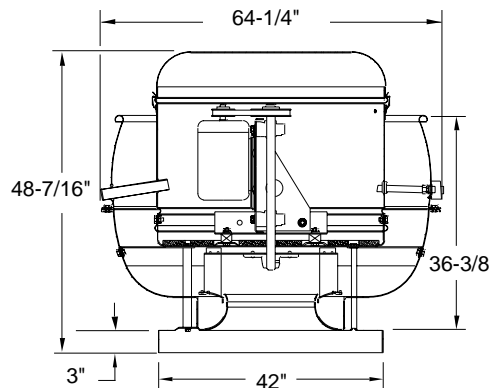


365 VCR-HP

Wheel Diameter - 36.5 inches
Tip Speed (FPM) - 9.6 x RPM
Maximum RPM (Standard Wheel) - 735
Maximum RPM (Reinforced Wheel) - 872
Maximum BHP - $12.0 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 420 lbs.
Roof Curb - RCG, RCA - 40
Roof Opening - 37-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080

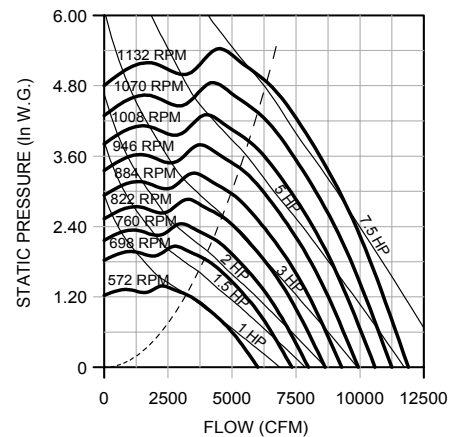
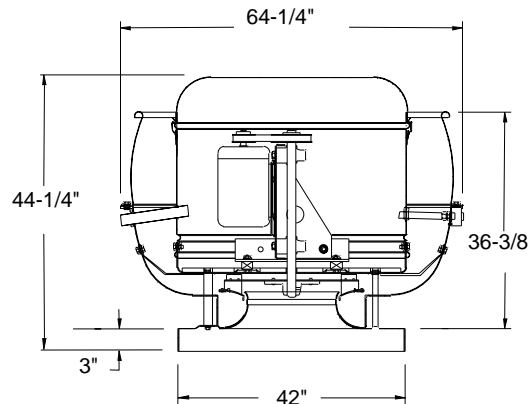


365 VCR-XP

Wheel Diameter - 36.5 inches
Tip Speed (FPM) - 9.6 x RPM
Maximum RPM - 1132
Maximum BHP - $5.48 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 420 lbs.
Roof Curb - RCG, RCA - 40
Roof Opening - 37-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

365 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP											
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP								
365V6B	3/4 31 lbs.	319	3048	9425		8374		6939		5421																									
				7.6	.52	7.2	.55	6.4	.57	5.6	.59																								
				10222		9257		8064		6842																									
365V7B	1 36 lbs.	382	3650	11286		10415		9479		8170		7149																							
				10.9	.89	10.5	.93	9.7	.96	8.9	.99	8.2	1.02																						
				12940		12183		11406		10474		9322		8485																					
365V8B	1-1/2 38 lbs.	438	4185	14.2		1.34		14.1		1.39		13.2		1.43		12.4		1.16		11.6		1.49		10.9		1.53									
				13590		12870		12135		11323		10163		9336		8315																			
				15.5		1.55		15.5		1.60		14.6		1.65		13.8		1.69		13.0		1.71		12.3		1.75		11.6		1.79					
365V9B	2 50 lbs.	460	4395	14270		13584		12887		12148		11131		10177		9427																			
				17.0		1.80		17.0		1.85		16.2		1.90		15.4		1.94		14.6		1.97		13.9		2.00		13.2		2.05					
				15333		14696		14050		13385		12617		11551		10780		10070																	
365V10B	3 74 lbs.	519	4959	19.2		2.23		19.2		2.29		18.6		2.34		17.8		2.39		17.1		2.43		16.4		2.45		15.7		2.49					
				16397		15801		15199		14585		13932		13088		12113		11440		10773															
				21		2.73		21		2.79		21		2.85		19.9		2.90		19.1		2.95		18.4		2.98		17.8		3.01		17.2		3.06	
365V11B	5 78 lbs.	607	5800	17933		17389		16840		16284		15715		15096		14296		13383		12728		11446													
				24		3.57		24		3.64		24		3.70		23		3.77		23		3.82		22		3.87		21		3.90		21		3.93	
				19469		18968		18464		17955		17438		16907		16322		15583		14716		13515		12244											
				28		4.57		28		4.64		28		4.71		27		4.78		26		4.85		26		4.90		25		4.95		24		4.99	
				24		5.02		23		5.13		22		5.26																					

365 VCR-HP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.250" SP		0.375" SP		0.500" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
365VH7B	1 36 lbs.	440	4204	8756		7976		7188																	
				11.3	.97	10.8	1.00	10.1	1.02																
365VH8B	1-1/2 38 lbs.	506	4835	10463		9834		9151		7719															
				15.1	1.44	14.4	1.49	13.9	1.52	12.3	1.56														
365VH9B	2 50 lbs.	532	5083	11111		10540		9893		8585		6358													
				16.7	1.67	16.0	1.72	15.3	1.76	13.9	1.80	12.4	1.72												
		557	5322	11728		11204		10598		9362		7859													
				18.2	1.90	17.5	1.95	16.8	2.00	15.6	2.06	13.9	2.06												
365VH10B	3 74 lbs.	599	5723	12749		12289		11757		10608		9416		7466											
				21	2.35	20	2.40	19.4	2.46	18.3	2.54	16.7	2.58	15.1	2.48										
		640	6115	13735		13321		12854		11788		10714		9485											
				23	2.85	22	2.91	22	2.97	21	3.07	19.4	3.13	17.9	3.14										
365VH11B	5 98 lbs.	700	6688	15163		14798		14402		13476		12491		11499		10348									
				26	3.70	26	3.76	26	3.83	24	3.96	23	4.05	22	4.10	20	4.11								
		760	7262	16578		16251		15903		15109		14207		13306		12384		11327		9616					
				30	4.71	30	4.78	30	4.85	28	4.99	27	5.12	26	5.20	25	5.26	23	5.27	22	5.09				
365VH12B	7-1/2 120 lbs.	816	7797	17890		17589		17275		16581		15774		14926		14088		13220		12240		10824			
				34	5.81	34	5.88	34	5.96	33	6.11	31	6.26	30	6.37	29	6.45	28	6.51	26	6.52	25	6.38		
		872	8332	19197		18918		18631		18011		17298		16512		15723		14937		14122		13214		12026	
				38	7.07	38	7.15	38	7.23	37	7.39	36	7.55	35	7.70	34	7.81	32	7.89	31	7.94	29	7.96	28	7.86

365 VCR-XP

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	1.000" SP		1.250" SP		1.500" SP		1.750" SP		2.000" SP		2.250" SP		2.500" SP		3.000" SP		3.500" SP		4.000" SP		4.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
365VX7B	1 36 lbs.	572	5465	4040																					
				10.8	1.02																				
365VX8B	1-1/2 38 lbs.	657	6278	5355		4807		4166																	
				13.3	1.49	13.5	1.54	14.4	1.55																
365VX9B	2 50 lbs.	691	6602	5829		5344		4784		4112															
				14.5	1.70	14.4	1.76	15.1	1.81	16.2	1.78														
		724	6918	6269		5836		5335		4770															
				15.8	1.92	15.7	2.00	15.9	2.06	16.7	2.08														
365VX10B	3 74 lbs.	778	7434	6957		6591		6171		5698		5173		4532											
				18.0	2.31	17.7	2.42	17.6	2.50	17.9	2.56	18.8	2.58	19.9	2.53										
		831	7940	7608		7288		6930		6526		6080		5590		5027									
				20	2.74	19.6	2.87	19.5	2.98	19.3	3.05	19.8	3.12	21	3.15	22	3.11								
365VX11B	5 98 lbs.	909	8686	8537		8262		7967		7642		7282		6890		6465		5478							
				23	3.45	23	3.62	23	3.76	22	3.88	22	3.97	22	4.04	23	2.41	25	4.06						
		988	9441	9456		9211		8955		8684		8390		8069		7721		6950		6050					
				27	4.29	26	4.49	26	4.66	26	4.82	25	4.95	25	5.05	25	5.14	26	5.28	28	5.23				
365VX12B	7-1/2 120 lbs.	1060	10129	10279		10056		9825		9585		9332		9061		8768		8117		7385		6546			
				31	5.17	30	5.39	29	5.59	29	5.78	29	5.94	28	6.09	28	6.21	28	6.39	30	6.52	31	6.47		
		1132	10817	11093		10886		10675		10458		10232		9996		9745		9191		8566		7875		7099	
				35	6.17	34	6.40	33	6.62	33	6.84	32	7.04	32	7.22	32	7.38	31	7.62	31	7.81	33	7.95	35	7.91

Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels. **Shaded area indicates reinforced wheel required.**

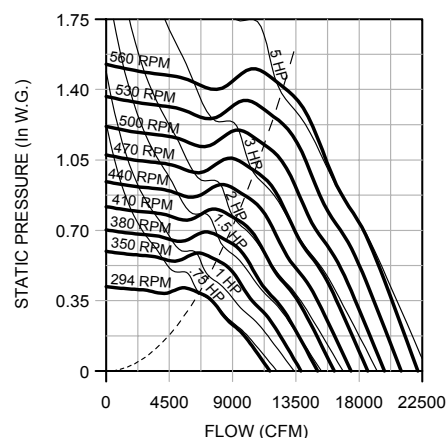
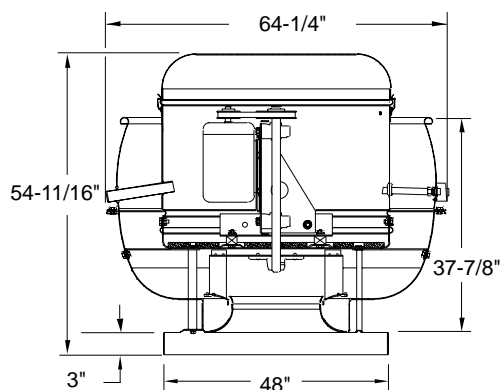
402, 445, 490 VCR Data

402 VCR

Wheel Diameter - 40.25 inches
Tip Speed (FPM) - 10.5 x RPM
Maximum RPM (Standard Wheel) - 539
Maximum RPM (Reinforced Wheel) - 560
Maximum BHP - $29.8 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 484 lbs.
Roof Curb - RCG, RCA - 46
Roof Opening - 43-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080

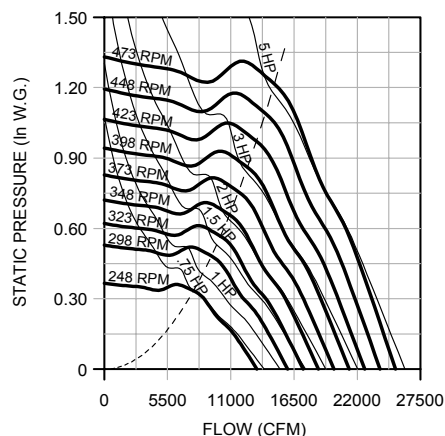
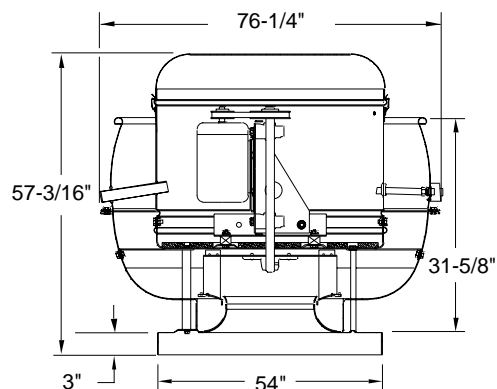


445 VCR

Wheel Diameter - 44.5 inches
Tip Speed (FPM) - 11.7 x RPM
Maximum RPM (Standard Wheel) - 463
Maximum RPM (Reinforced Wheel) - 473
Maximum BHP - $49.2 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 556 lbs.
Roof Curb - RCG, RCA - 52
Roof Opening - 49-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080

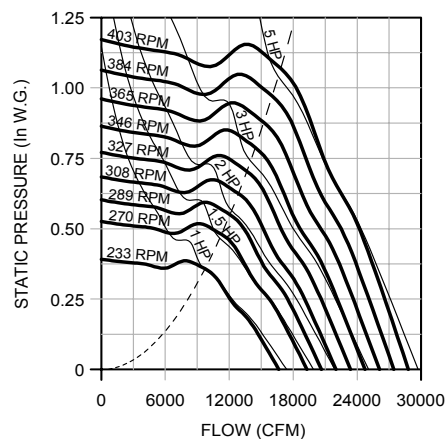
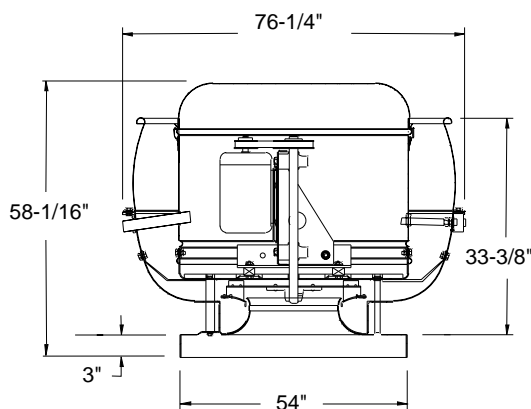


490 VCR

Wheel Diameter - 49 inches
Tip Speed (FPM) - 12.8 x RPM
Maximum RPM (Standard Wheel) - 360
Maximum RPM (Reinforced Wheel) - 403
Maximum BHP - $79.6 \times (\text{RPM}/1000)^3$
Maximum Motor Frame - 213T
Approx. Ship Wt. (Less Motor) - 715 lbs.
Roof Curb - RCG, RCA - 52
Roof Opening - 49-1/2 inches

Material Gauges

Top Cap Lid - .063
Top Cap Cylinder - .050
Baffle - .080
Base - .080



Performance certified is for Installation Type A: free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories) in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

402 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
402V6B	3/4 31 lbs.	294	3098	11648		10390		8682		7054															
				8.1	.66	7.6	.70	6.8	.73	6.0	.76														
402V7B	1 36 lbs.	324	3414	12836		11700		10378		8833															
				9.7	.88	9.3	.93	8.6	.96	7.7	.99														
402V8B	1-1/2 38 lbs.	348	3667	13787		12732		11600		10011		8786													
				11.2	1.09	10.9	1.15	10.0	1.19	9.2	1.21	8.4	1.26												
		372	3919	14738		13752		12727		11292		10094													
				12.7	1.34	12.5	1.39	11.7	1.44	10.9	1.47	10.0	1.51												
402V9B	2 50 lbs.	392	4130	15530		14596		13635		12443		11075		10008											
				14.1	1.57	13.9	1.62	13.1	1.67	12.2	1.71	11.4	1.74	10.7	1.79										
		411	4330	16283		15393		14482		13456		12024		11041		9511									
				15.4	1.80	15.3	1.87	14.5	1.92	13.7	1.96	12.9	1.99	12.1	2.04	11.3	2.07								
402V10B	3 74 lbs.	441	4647	17472		16642		15799		14910		13702		12517		11618									
				17.4	2.23	17.4	2.29	16.7	2.36	15.9	2.41	15.1	2.44	14.4	2.48	13.7	2.53								
		471	4963	18660		17884		17098		16289		15355		14058		13119		12256							
				19.6	2.71	19.6	2.79	18.9	2.85	18.1	2.91	17.4	2.95	16.7	2.98	16.0	3.04	15.3	3.10						
402V11B	5 98 lbs.	515	5426	20403		19694		18979		18250		17487		16555		15347		14475		13714					
				23	3.55	23	3.63	22	3.70	22	3.77	21	3.83	20	3.87	19.5	3.90	18.8	3.96	18.2	4.02				
		560	5900	22186		21534		20878		20214		19536		18809		17911		16786		15939		14485			
				26	4.56	26	4.65	26	4.73	25	4.81	24	4.88	23	4.93	23	4.98	22	5.01	21	5.07	20	5.21		

445 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
445V6B	3/4 31 lbs.	248	2889	13278		11622		9396																	
				7.2	.66	6.8	.70	5.9	.73																
445V7B	1 36 lbs.	274	3192	14670		13181		11219		9428															
				8.8	.88	8.4	.94	7.5	.97	6.7	1.01														
445V8B	1-1/2 38 lbs.	294	3425	15740		14358		12758		10864															
				10.0	1.09	9.6	1.15	8.8	1.19	8.0	1.23														
		315	3669	16865		15577		14198		12258		10768													
				11.4	1.34	11.1	1.41	10.3	1.45	9.4	1.49	8.6	1.54												
445V9B	2 50 lbs.	331	3856	17721		16498		15219		13393		11972													
				12.5	1.56	12.3	1.62	11.5	1.68	10.6	1.71	9.8	1.76												
		347	4042	18578		17412		16208		14633		13043		11553											
				13.7	1.80	13.6	1.86	12.7	1.92	11.9	1.96	11.1	2.01	10.3	2.07										
445V10B	3 74 lbs.	373	4345	19970		18887		17779		16538		14792		13586		11818									
				15.7	2.23	15.7	2.31	14.8	2.37	14.1	2.42	13.2	2.46	12.4	2.52	11.6	2.56								
		398	4636	21309		20294		19262		18173		16686		15247		14146									
				17.6	2.71	17.6	2.79	16.9	2.86	16.1	2.92	15.3	2.96	14.6	3.01	13.9	3.08								
445V11B	5 98 lbs.	436	5079	23343		22418		21481		20522		19455		17953		16703		15707		14305					
				21	3.56	21	3.65	21	3.73	19.3	3.81	18.6	3.87	17.8	3.90	17.2	3.96	16.5	4.04	15.8	4.11				
		473	5510	25324		24471		23612		22737		21827		20762		19312		18178		17265					
				24	4.55	24	4.64	24	4.74	23	4.82	22	4.89	21	4.95	20	4.99	19.8	5.05	19.1	5.13				

490 VCR

Catalog Number	Mtr. HP/ Drv. Wt.	Fan RPM	Tip Speed	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP		1.500" SP	
				Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP	Sone	BHP
490V7B	1 36 lbs.	233	2988	16655		14719		12081																	
				7.8	.88	7.3	.94	6.5	.97																
490V8B	1-1/2 38 lbs.	251	3219	17941		16152		13825		11666															
				9.0	1.10	8.7	1.16	7.8	1.21	6.9	1.26														
		268	3437	19156		17486		15564		13259															
				10.3	1.34	9.9	1.41	9.1	1.46	8.3	1.50														
490V9B	2 50 lbs.	282	3617	20157		18572		16856		14496		12543													
				11.4	1.56	11.1	1.63	10.2	1.69	9.3	1.73	8.5	1.80												
		295	3784	21086		19573		17979		15688		13990													
				12.3	1.78	12.1	1.86	11.3	1.93	10.4	1.97	9.5	2.03												
490V10B	3 74 lbs.	317	4066	22659		21253		19803		17934		15976		14252											
				14.1	2.21	14.0	2.30	13.1	2.37	12.3	2.42	11.4	2.47	10.7	2.55										
		339	4348	24231		22918		21576		20073		17957		16493		14366									
				16.0	2.71	15.9	2.80	15.1	2.88	14.3	2.94	13.5	2.99	12.7	3.06	11.9	3.11								
490V11B	5 98 lbs.	371	4759	26519		25320		24103		22834		21216		19339		18035		16312							
				18.7	3.55	18.7	3.65	18.0	3.74	17.2	3.82	16.5	3.88	15.7	3.93	15.0	4.01	14.3	4.09						
		403	5169	28806		27703		26589		25448		24206		22499		20872		19684		18279					
				22	4.55	22	4.66	21	4.76	20	4.86	19.6	4.93	18.8	4.98	18.1	5.04	17.4	5.13	16.7	5.23				

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UL 762 Listed for Restaurant Exhaust Appliances

Cook products, with UL 762 listing are designed to eject contaminated or grease-laden air. The products are UL listed to operate continuously at elevated temperatures, and continue operation during grease flare-up.

Products UL Listed to Operate up to 300°F

VCR/VCR-HP/VCR-XP

VCRD/VCRD-HP/VCRD-XP

Lo-Pro (requires diverters)

CPV/CPA/CPA-A

QMX/QMX-HP/QMXU/QMXU-HP/QMXLE/QMXLE-HP

CIC

CPV, CPA, CPA-A, QMX, QMX-HP and CIC must be ordered with drain and access door to comply with UL requirements. Weather covers are required for outdoor applications. When airstream temperatures are expected to exceed 180°F, high temperature accessories may be required.

Loren Cook Products UL Listed to Operate up to 500°F

CPS/CPS-A

CA/CA-SWSI Arrangement 1, 9 and 10

CA-4/CA-4 SWSI Arrangement 1 and 2

CF/CF Arrangement 1, 9 and 10

CF-4/CF-4 Arrangement 1 and 2

QMX/QMX-HP Arrangement 9

CIC

These Cook products must be ordered with drain and access door to comply with UL requirements. Weather covers are required for outdoor applications.

When airstream temperatures are expected to exceed 180°F, high temperature accessories may be required.

All of the units are intended for installation in accordance with the Standard of the National Fire Protection Association for the installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment, NFPA 96.



VCR / VCR-HP / VCR-XP
VCRD / VCRD-HP / VCRD-XP



Lo-Pro - Shown with diverters



CPS / CPA / CPS-A / CPA-A
Shown with weather cover



CA / CF



CA-4 / CF-4



QMX / QMX-HP



CIC



QMXLE / QMXLE-HP



QMXU / QMXU-HP



LOREN COOK COMPANY

2015 E. DALE STREET
SPRINGFIELD, MO 65803-4637

417.869.6474

FAX 417.862.3820

lorencook.com