

Centrifugal Upblast Roof Exhausters, EVU-Series



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BY JOHNSON CONTROLS

INTRODUCTION

Upblast Roof Exhauster

The EVU-Series of centrifugal fans are designed for medium to high pressure applications and are available in a range of capacities. They can be either roof or wall mounted. While suitable for general ventilation, these fans are specifically designed to discharge contaminated or grease-laden air or fumes up and away from building surfaces. The optional "Fatrap" (UL762) restaurant grease exhaust configuration (see Fatrap Configuration) makes them particularly suited for all food service applications and chemical fume hoods. The optional heat and smoke removal configuration (see Smoke Removal) makes them particularly suited for heat and smoke control systems. The optional high wind construction makes them particularly suited for high wind hurricane zones.

These EVU-Series fans feature a weather-resistant seamless spun aluminum housing which provides ample drainage and works in conjunction with a patented wheel design and deeply spun inlets to provide smooth quiet airflow through the ventilator. The centrifugal wheels are aluminum, non-overloading, backward inclined, robotically welded, and dynamically balanced.

Direct Drive Units

Model: EVU (V/S/R/Q/Q1/Q2)

- Static pressure up to 1.5" wg.
- Flow capacity up to 4,489 CFM.
- Fatrap (FT) option available on sizes 13, 16, and 18.

Standard Duty Belt Drive Units

Model: EVU (B)

- Static pressure up to 2.5" wg.
- Flow capacity up to 21,511 CFM.
- Fatrap (FT) option available.
- Heat & Smoke Removal (-HS) option available.

High Pressure Belt Drive Units

Model: EVU (BH)

- Static pressure up to 4" wg.
- Flow capacity up to 9,920 CFM.
- Fatrap (FT) option available.
- Heat & Smoke Removal (-HS) option available.



Belt Drive EVU with
Fatrap option (left)
and Direct Drive
EVU (below).

CERTIFICATIONS & LISTINGS



AMCA Certification

YORK® by Johnson Controls certifies that the EVU-Series models (EVU, EVUB, EVUBH, and EVUBHFT) 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 Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



UL and cUL Certification

EVU-Series fans carry the UL label, UL705 (ZACT/ZACT7), file #E477250. EVU-Series fans with the "Fatrap" option carry the UL label UL762 (YZHW/YZHW7), file #E477318. EVU-Series fans with the heat and smoke removal option carry the UL label UL793 (ZAXH/ZAXH7), file #MH60894.

FEATURES & BENEFITS

Motor Selection

Both direct drive and belt drive models are available with a wide range of voltages and enclosures (see Motor Selection for a complete listing). Standard belt drive Open Drip Proof (ODP) ball bearing motors are selected using a conservative portion of the NEMA service factor. Standard direct drive ODP motors have Class B insulation and internal overload protection. Overload protection is available as an option on belt drive models. Each size is carefully engineered to match the motor to the wheel capacity.

Internal Wiring

All direct and belt drive models with ODP motors feature a polarized disconnect plug which is factory wired from the motor to the junction box. This provides a positive method of electric shut-off as required by most codes without requiring the traditional disconnect switch. (See Options & Accessories for optional NEMA wiring and disconnect devices.)

Sound Performance

These units deliver outstanding air performance with minimal noise and have the lowest AMCA licensed sound performance in the industry.

Curb Caps (Base)

Curb caps for direct drive and standard duty belt drive models are available in galvanized steel (standard) or aluminum (optional). Curb caps for high capacity belt drive models are available only in aluminum. All curb caps have fully welded corners and are pre-punched to ensure a leak-tight and easy installation.

Forced Motor Cooling

Motors and drive components are located out of the airstream in a separate compartment. A cooling tube between the motor dome and discharge apron enables fresh air to be drawn into the motor housing during fan operation. This positive cooling promotes longer life for motor and drive components.

Easy Maintenance Access

By removing the fasteners, the motor dome lifts off for complete access to all the drive components.

Vibration Isolators

Multidirectional, rubber-in-shear vibration isolators mitigate residual vibration transmission from the unit to the building.

Structural Integrity

Durable housings of spun aluminum have a high strength-to-weight ratio and incorporate a rolled bead for additional strength. There are no welds to break or seams to leak. The heavy-gauge motor mounting platform provides positive rigidity between all components of the power train assembly.

Internal Bracing

Tri-Strut™ supports transfer the weight of the motor mounting platform directly to the curb mounting surface. The aluminum spun housing, therefore, is not used to support any weight. For grease laden applications, there is less surface for grease build-up during normal operation.

Solid Steel Shafts

Sized so the first critical speed is a minimum of 130% of maximum cataloged operating speed, shafts are precision ground, and polished.

Self-Aligning Bearings

Heavy-duty bearings are sized for a minimum L50 life in excess of 200,000 hours of operation. 100% factory tested, they are designed for air handling applications.

Drives and Belts

Pulleys are pre-set to the specified RPM. Cast iron variable pitch pulleys are adjustable, allowing for field balancing based on actual field conditions. All pulleys are sized for at least 150% of the driven horsepower.

Conduit

Both direct and belt drive units include a large 1" nominal conduit chase (not available on heat and smoke removal units; wiring is run via the cooling tubes) for easy installation of wiring from the motor dome to below the curb cap. Fatrap units are factory wired to an external NEMA 3R junction box.

Reverse Venturi

Reverse venturi reduces turbulence and improves distribution of the air as it enters the wheel inlet and is "captured" by the blades.



Wheels

These fans offer patented wheel designs. Carefully matched, highly-tooled venturis enhance the performance of these backward inclined and non-overloading centrifugal wheels. Made of advanced aluminum alloys, the various wheel components provide superior strength and durability, as well as spark resistant construction. The heat and smoke removal configuration utilizes steel construction.

Silent Wheel (Direct Drive)

- Blades' highly curved leading edge provide unsurpassed low sound numbers with excellent air performance.
- Back plate and inlet are stamped for consistency, plus dynamic balancing assure smooth, vibration-free operation.
- Riveted or riveted and welded construction ensure superior dependability over other wheel designs.



Standard Duty, All Welded Wheel

(Standard Duty & High Pressure Belt Drive)

- Blades are curved for improved air performance while increasing their strength and rigidity.
- Back plate and inlet are stamped for consistency. They include a perimeter rim which enhances strength and improves balancing.
- Wheel assembly is robotically welded to provide extremely durable and consistent performance.
- Wheel is dynamically balanced. Balancing weights are mechanically attached to the inside of the rims of both the back plate and wheel inlet. This allows a precise placement of the weights anywhere within a full 360° range on two separate planes, without the possibility of detachment.

OPTIONS & ACCESSORIES

Finishes

Coatings such as Polyester Powder Coat, Epoxy Powder Coat, Phenolic Epoxy Powder Coat, and others are available. See the coatings brochure for details.

Mounting Pedestal

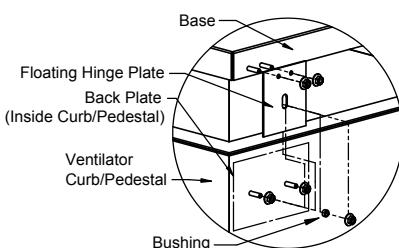
The 12" high mounting pedestal, available in aluminum or galvanized steel, incorporates a removable access panel for easy inspection and service of motor operated back draft dampers. It provides solid ventilator support and a weather resistant seal that does not injure or disturb flashing. This item should not be used with Fatrap units.

Hinged Sub-Base

Hinged sub-bases provide access to the curb well for damper service or clean out for grease applications. Constructed with a rust proof hinge arrangement and low height (3 1/2") the assembly is easily manipulated and reduces the impact on overall installation height. This accessory is available for use with most all models for either factory built or existing roof curbs.

Floating Hinge Kit

A floating hinge kit is also available for field installation. This assembly connects the exhauster directly to the roof curb and provides the same level of access as the hinged sub-base.



Aluminum Bird & Insect Screen

Bird screens are available for all direct and belt drive models. An aluminum insect screen with a smaller mesh than the standard bird screen is also available. However, please note that NFPA 96 installations do not allow the use of bird or insect screens. The requirements of local codes must be reviewed to determine if there are any conflicts.

Internal Wiring

NEMA 3R wiring is available for both direct and belt drive models.

Backdraft Dampers

Back draft dampers are available for either gravity or motorized operation (motor kit optional). Dampers feature square galvanized steel frame, multi-leaf, roll formed aluminum blades with nylon bearings. Back draft dampers should not be used when venting kitchen hoods. NFPA 96 installations do not allow the use of dampers. The requirements of local codes must be reviewed to determine if there are any conflicts.

Safety Disconnect Switch

Safety disconnect switches are available to allow positive electrical shut-off and safety. Switches are factory mounted when factory wiring is requested. Wiring is only run from the motor to the junction box. (Factory wiring of explosion proof applications is not available.) A wide range of NEMA rated enclosures with disconnect switches are available for indoor, outdoor, and explosion proof installations. Disconnects are to be field wired by a licensed electrician.



Firestat Switch

Firestat switch automatically disconnects the unit when the temperature of the air being exhausted exceeds a preset rating.



Time-Delay Switch

(Selected direct drive models only) The Airminder Model AM12 switch is a UL recognized and CSA certified time-delay relay that operates both the fan and room light to ventilate an area even after the occupants depart. In the "On" position, the Airminder turns the light and fan on immediately. In the "Off" position, the light goes off immediately and the fan is in operation for a period of time as preset from 1 to 60 minutes. Suitable only for 1/3 HP maximum at 120/1/60.



Speed Controllers

The Lek-Trol™ controller allows adjustment in speed to a maximum of 50% reduction, which results in a very cost effective means for system balancing. The device can be located under the fan dome to prevent unauthorized tampering or on the wall for ease of operation by the building occupants. (Available on direct drive units with ODP motors and some select TE motors. See reference table under Motor Availability)



Automatic Belt Tensioner

The factory mounted Automatic Belt Tensioner accessory eliminates the need for re-tensioning the belt after start-up. It is constructed from 10 gage galvanized steel and incorporates five torsion springs to automatically position the motor and maintain proper belt tension. Additional benefits include reduced belt and pulley wear and simplified belt replacement without tools. The Automatic Belt Tensioner is available for models EVU08B, EVU10B, EVU12BH, EVU13B, EVU13BHFT and EVU14B with 1/4, 1/2, 3/4, and 1 HP ODP motors. It can also be used with 1.5 HP, 3-phase ODP motors.

Spark Resistant Construction

AMCA 'B' construction is available as standard construction on direct drive units and as an option on belt drive units (not available on heat and smoke removal units). If required, an explosion proof motor and disconnect may be selected as options.

Wall Mounting

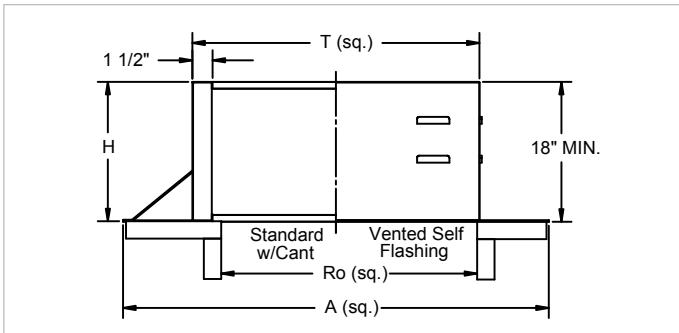
This option is provided as a separate product line, whose models include a "W" prefix. Product line includes models up to size 24, motors up to 2HP, and round bases (not available on heat and smoke removal units).

Prefabricated Curb

A variety of sizes of prefabricated roof curbs are available. Galvanized steel unibeam curbs are the most popular. For a complete listing of all curb types and sizes available, see the latest Roof Curb brochure. Please note that NFPA 96 installations require a specific curb height. See Fatrap configuration on the next page.

OPTIONS & ACCESSORIES

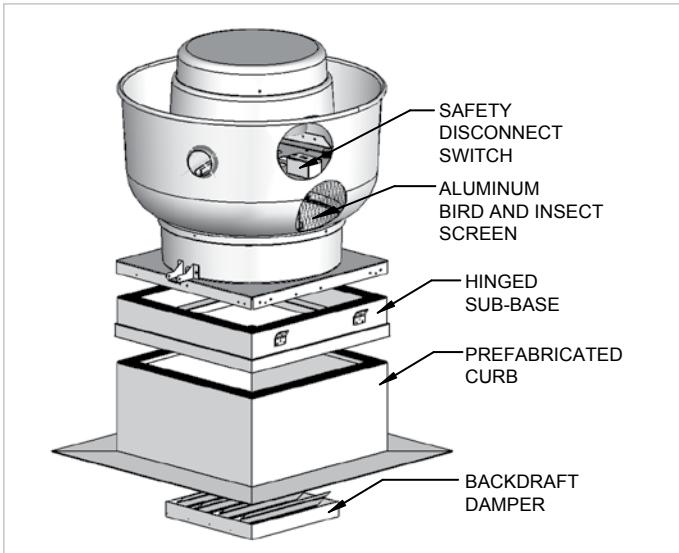
EVU Curb Dimensions



Model	E ⁽⁴⁾ SQ	T ⁽²⁾ SQ	A SQ	Ro ⁽³⁾ SQ	Damper Size SQ	Galv. Steel Gauge
EVU08S/R	18.5	17	25	9	8.75	18
EVU10S/R	18.5	17	25	11.5	11.25	18
EVU11V/S/R/Q	18.5	17	25	11.5	11.25	18
EVU13V/S/R/Q	18.5	17	25	11.5	11.25	18
EVU16V/S/R/Q1/Q2	20.5	19	27	16	15.75	18
EVU18V	28.5	27	35	20	19.75	18
EVU08B to EVU14B	24.75	23.25	31.25	16	15.75	18
EVU12BH	24.75	23.25	31.25	16	15.75	18
EVU13BHFT	24.75	23.25	31.25	16	15.75	18
EVU16B and EVU18B	28.5	27	35	20	19.75	18
EVU18BH	28.5	27	35	20	19.75	18
EVU24B	33.5	32	40	25	24.75	18
EVU24BH	33.5	32	40	25	24.75	18
EVU27B and EVU30B	36.5	35	43	28	27.75	18
EVU36B	44.5	43	51	36	35.5	18

Standard heights "H" are 8", 12", and 18" including wood nailing. "T" dimension of curb is 1 1/2" less than the dimension of inside base of fan ("E"). "Ro" refers to Roof Opening. "E" dimension is inside base of fan. For FT (Fatrap) units, curbs are cantless, 18" high and optionally vented.

Exploded View



Fatrap Configuration

Fatrap configured fans are ideal for use in commercial kitchens over grilles, charcoal broilers, deep fat fryers, steam tables, ranges, dishwashers, and other appliances. These fans are specially configured for food service applications with the addition of a group of accessories that either meets a requirement or eases installation requirements according to NFPA 96. NFPA 96 "Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations" is the generally recognized authority nationwide for restaurant installation requirements. However, local codes may vary.

Included in the units are the following.

- **UL762 Listing:** Fatrap configured fans are listed at 400°F — 100°F higher than UL requirements. The high temperature rating is the result of the fan's highly efficient forced motor cooling capability. Three direct drive (sizes 13 – 18) and all belt drive models are listed.
- **Pre-wired Junction Box:** A weather-proof junction box is factory wired and mounted to the housing exterior. An appropriately sized disconnect switch is commonly selected as an additional option. These items meet the code requirements for positive electric shut-off.
- **Grease Collector/Separator Box:** Designed for easy installation, the grease is routed from a single swiveling collection spout to an amply sized durable galvanized steel box, trapping grease and residue, and avoiding discharge onto the roof surface. Additionally, these boxes separate the water from the grease, prolonging the time required between periodic maintenance.

Additional Fatrap Accessories

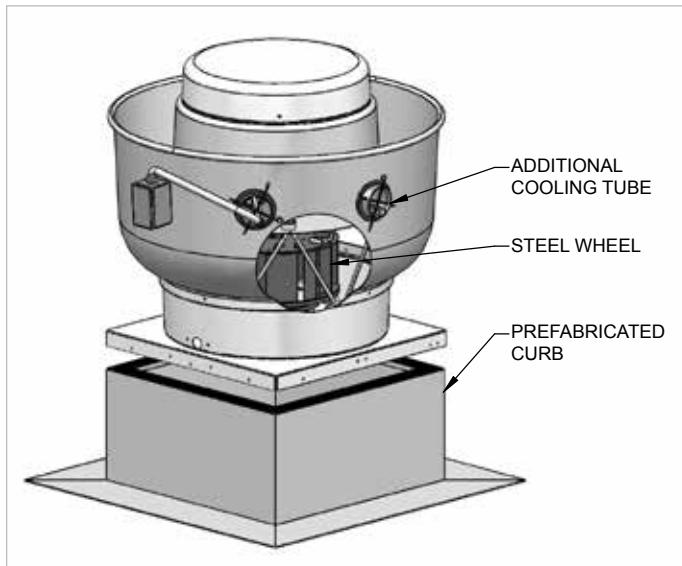
Ventilated Curbs and Pedestals: For buildings two stories or higher NFPA 96 requires the use of ventilated mounting curbs or pedestals to provide an approved arrangement for connecting a range hood and duct work to the roof fan. YORK® by Johnson Controls ventilated mounting curbs and pedestals (18" high) comply with that standard when properly installed. Ventilated curbs have a flat mounting flange for fastening directly to the roof deck. This flange should be securely fastened and flashed to ensure weather tightness. Ventilated pedestals are designed to fit on an existing curb. They provide cap flashing when so installed.

OPTIONS & ACCESSORIES

Heat & Smoke Removal Configuration

While EVU fans are commonly used for general ventilation, they are also designed to discharge contaminated or grease-laden air or fumes up and away from building surfaces with the Fatrap option. When equipped with the Heat and Smoke Removal option, this series of fans incorporates features exclusively designed to exhaust heat and smoke in the event of fire. During these emergencies, the fans are designed to operate at the temperature and time limits stated below. To maintain power to these fans during emergencies, special consideration must be made for field power supply. In the event of an emergency, if power is maintained, the units will operate for the times and temperatures indicated, after which they will continue to operate until they are destroyed by the extreme temperature generated during an actual fire, or their roof structure collapses.

For smoke control systems, Heat and Smoke Removal configured fans are listed per UL for emergency smoke removal, referencing UL705, UL793, Industrial Risk Insurers (IRI), and Southern Building Code Congress International (SBCCI).



The UL standard requires the fan to run at 500°F for 4 hours (IRI) and 1000°F for 15 minutes (SBCCI). Heat and Smoke Removal configured units are listed at 500°F for 4 hours and 1000°F for 1 hour. The additional 45 minutes at 1000°F will buy precious time in the event of a fire.

Steel Wheel: The wheel is a standard duty, all welded wheel (standard duty and high pressure belt drive). The blades are curved for improved air performance while increasing their strength and rigidity. The wheel assembly is fully welded to provide extremely durable and consistent performance. The wheel is dynamically balanced. Balancing weights are mechanically attached to the inside of the rims of both the back plate and wheel inlet. This allows a precise placement of the weights anywhere within a full 360° range on two separate planes, without the possibility of detachment.

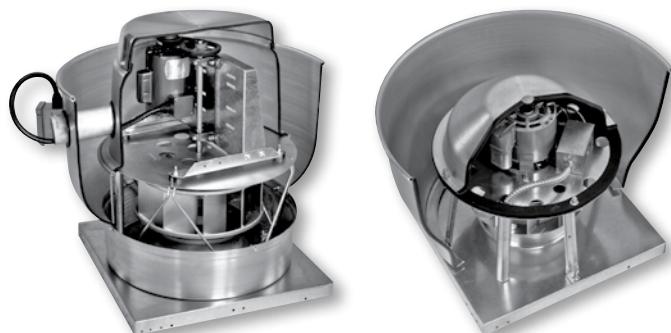
Forced Motor Cooling: Motors and drive components are located out of the airstream in a separate compartment. Two cooling tubes are located between the motor dome and discharge apron which enables fresh air to be drawn into the motor compartment during fan operation. This allows the cooler outside air to wash over the motor and bearings. This positive cooling promotes longer life for the motor and drive components.

High Wind Construction

High wind construction EVU fans are specifically designed for high wind hurricane zones (HWHZ). These models are designed to withstand 150 MPH winds in accordance with Miami-Dade and Florida Building Code standards. The units are tested and certified through a 3rd party Professional Engineer (P.E.) to meet these strict standards. Installation details are provided and since there are no tie downs or external braces required for attaching the unit to the roof or curb this makes installation simple and easy. A wide range of sizes are offered to meet all of your ventilation needs, which includes all belt and direct drive sizes 36 and under.

Product Certifications:

- Miami-Dade NOA # 14-0311.03
- Florida Product Approval #12339
- Texas Department of Insurance # RV-48



Belt Drive
Cutaway

Direct Drive
Cutaway

MOTOR AVAILABILITY



Green Plus Electronically Commutated Motor

The Green Plus (GP) option utilizes EC motors to provide significantly greater efficiency, flexibility, and controllability over standard direct drive permanent split capacitor (PSC) motors. Using the included potentiometer, the Green Plus motors can be turned down to as low as 80% the max operating speed while maintaining 90% efficiency through the operating range. Additionally, the Green Plus can accept 0-10V input to tie to building management systems, allowing for savings in not only direct fan energy consumption but reducing the exhaust of conditioned air during off peak hours as well. All Green Plus motors come in open enclosure for usage with 115V-208V/230V, single phase, 50/60 Hz applications.

Model	Size	Tap	ECM HP
EVU /WEVU	8	V	1/6
	8	S	1/6
	8	R	1/6
	8	Q	1/6
	10	V	1/6
	10	S	1/6
	10	R	1/6
	10	Q	1/6
	11	V	1/6
	11	S	1/6
	11	R	1/6
	11	Q	1/4
	13	V	1/6
	13	S	1/6
	13	R	1/6
	13	Q	1/4
	16	V	1/6
	16	S	1/3
	16	R	1/3
	16	Q1	1/2
	16	Q2	3/4
	18	V	3/4

Variable Speed Motor Control

YORK® by Johnson Controls offers Lek-Trol™ solid state controllers to alter the high speed of most direct drive motors by as much as 50%. If variable speed is required, check the Lek-Trol™ availability table below to verify that controllers exist for the fan model selected. Remember, Lek-Trol™ controllers are currently only available for direct drive motors including all standard Open Drip Proof (ODP) 60 Hz motors. Not all totally enclosed motors are currently available with variable speed control. Inverter rated motors suitable for use with variable frequency drives can be supplied for belt drive models. Contact your local representative for availability.

Available Lek-Trol™ Speed Controls

Model	60 Hz					50 Hz		
	ODP	Totally Enclosed				Totally Enclosed		
		115V	115V	200V	208V	230V	110V	220V
EVU08S	-	-	-	-	-	-	-	-
EVU08R	LT25	-	-	-	-	-	-	-
EVU10S	-	-	-	-	-	-	-	-
EVU10R	LT30	LT30	LT35	LT35	LT35	LT30	LT35	LT35
EVU11V	-	-	-	-	-	-	-	-
EVU11S	-	-	-	-	-	-	-	-
EVU11R	LT30	-	-	-	-	-	-	-
EVU11Q	LT50	-	-	-	-	-	-	-
EVU13V	-	-	-	-	-	-	-	-
EVU13S	-	-	-	-	-	-	-	-
EVU13R	LT30	LT30	LT35	LT35	LT35	LT50	LT35	LT35
EVU13Q	LT45	LT50	LT35	LT35	LT35	LT50	LT35	LT35
EVU16V	-	-	-	-	-	-	-	-
EVU16S	-	-	-	-	-	-	-	-
EVU16R	LT50	-	-	-	-	-	-	-
EVU16Q1	LT40	-	-	-	-	-	-	-
EVU16Q2	LT75	-	-	-	-	-	-	-
EVU18V	LT60	-	-	-	-	-	-	-

Lek-Trol™ indicated for multi-speed models (eg., EVU16V/S/R) are applicable only for the high speed. Do not use on low or medium speed for multi-speed models. Items noted with (-) are not applicable.

MOTOR AVAILABILITY

Direct Drive Motor Availability

The following chart lists the various motor options available for each of the direct drive fan models. Once a fan model is selected, this chart can be used to determine if a suitable motor is available. (If not, another selection may have to be made from the fan performance charts). Look under the nominal RPM heading to determine which fans have 2-speed and 3-speed motors.

Model	Nominal RPM				1 Phase							
	1050 V	1300 S	1550 R	1725 Q	115 Volts			200 - 240 Volts				
					Open Drip Proof	Totally Enclosed	Explosion Proof	Open Drip Proof	Totally Enclosed	50 hz	50 C Ambient	Explosion Proof (4)
EVU08S/R	-	x	x	-	yes	yes (1)	-	Use TE Motors	yes (1)	yes (1)	yes (1)	-
EVU10S/R	-	x	x	-	yes	yes (1)	-		yes (1)	yes (1)	yes (1)	-
EVU11V/S/R	x	x	x	-	yes	yes (1)	-		yes (1)	yes (1)	yes (1)	-
EVU11Q	-	-	-	x	yes	yes	yes		yes	yes	yes	yes (5)
EVU13V/S/R	x	x	x	-	yes	yes (1)	-		yes (1)	yes (1)	yes (1)	-
EVU13Q	-	-	-	x	yes	yes	yes		yes	yes	yes	yes (5)
EVU16V/S/R	x	x	x	-	yes	yes (1)	-		yes (1)	yes (1)	yes (1)	-
EVU16Q1	-	-	-	x (3)	yes	-	-		-	-	-	-
EVU16Q2	-	-	-	x	yes	yes	yes		yes	yes	yes	yes (5)
EVU18V	x	-	-	-	yes	-	-		-	-	-	-

Model	Nominal RPM				3 Phase			
	1050 V	1300 S	1550 R	1725 Q	200 - 460 Volts (2)		Explosion Proof (4)	
					200 - 460 Volts (2)	Explosion Proof (4)	200 - 460 Volts (2)	Explosion Proof (4)
EVU08S/R	-	x	x	x	-	-	-	-
EVU10S/R	-	x	x	x	-	-	-	-
EVU11V/S/R	x	x	x	x	-	-	-	-
EVU11Q	-	-	-	-	-	x	-	yes (6)
EVU13V/S/R	x	x	x	x	-	-	-	-
EVU13Q	-	-	-	-	-	x	-	yes (6)
EVU16V/S/R	x	x	x	x	-	-	-	-
EVU16Q1	-	-	-	-	-	x (3)	-	-
EVU16Q2	-	-	-	-	-	x	-	yes (6)
EVU18V	x	-	-	-	-	-	-	-

(1) High speed only.

(2) 200V - 240V, 380V, 415V, 460V.

(3) Nominal 1650 RPM.

(4) Cls.I, Grp.D, Div. I / Cls. II, Grp.F & G, Div.I., Not available with 50 Hz.

(5) 230V only. Not available in 200V or 208V.

(6) 230V and 460V only.

(7) Available on EC Motor only.

EVU08 - EVU13 | DIRECT DRIVE**Performance Data Overview**

Direct drive models are available with single and multi-speed motors. Multi-speed motors (eg., EVU16V/S/R) are designated: V (1050 RPM), S (1300 RPM), and R (1550 RPM). EVU18V is an exception, being a single speed motor. Q, Q2 (1725 RPM) and Q1 (1650 RPM) are single speed motors. A single EVU fan may be suitable for several requirements by a simple wiring change. This feature provides flexibility for a variety of

reasons, including energy savings, off hours requirements, future expansion, or unexpected field variations.

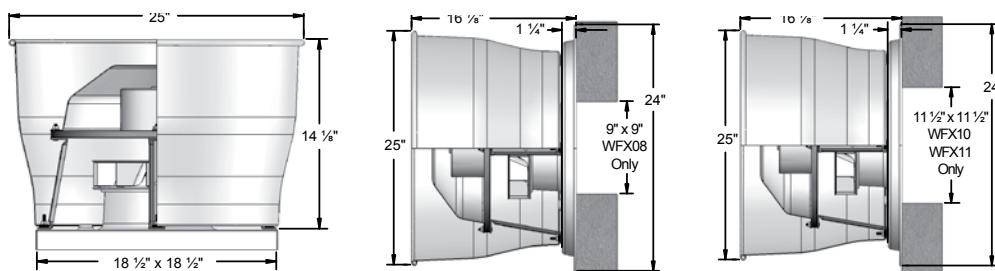
Direct drive models are available in six sizes (8, 10, 11, 13, 16, and 18). Capacities up to 4500 CFM, with static pressures to 1 1/2".

By using Lek-Trol™ variable speed controllers, the high speed flow rate of most models can be reduced by as much

as 50%. Do not use Lek-Trol™ on medium or low speed for multi-speed models.

When compared to belt drive models, direct drive fans require less maintenance, have a simpler construction, cost less, and are lighter in weight.

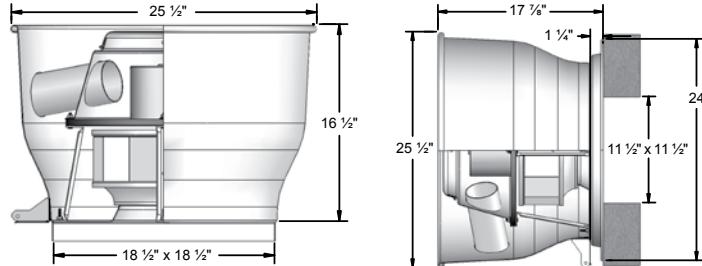
Performances in 50 Hz applications will be less than shown below; consult your local PennBarry representative.

EVU08 - EVU11

(EVU Units Only) Galv. Steel Base = 16 Gage
(WEVU Units Only) Aluminum Base = 0.064
(EVU Units Only) Aluminum Base = 0.050
Discharge Apron = 0.050
EVU08 Estimated Ship Weight = 29 lbs.
EVU10 Estimated Ship Weight = 32 lbs.
EVU11V/S/R Estimated Ship Weight = 42 lbs.
EVU11Q Estimated Ship Weight = 44 lbs.

Model	Nominal			Tip Speed FPM	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP	
	HP	Max Watts	RPM		CFM	Sones														
EVU8V	1/00(3)	(-3)	1050	2715	200	0.4	96	0.8	42	0.8	-	-	-	-	-	-	-	-	-	-
EVU8S	1/50	44	1300	3361	247	1.3	150	2	94	3.2	54	4.3	-	-	-	-	-	-	-	-
EVU8R	1/30	55	1550	4007	288	2.4	205	2.9	154	3.5	112	4.4	72	5.2	-	-	-	-	-	-
EVU8Q	1/20(3)	(-3)	1725	4460	325	3.2	249	3.6	197	3.9	157	3.9	121	3.9	85	3.9	46	3.9	-	-
EVU10V	1/50(3)	(-3)	1050	2715	323	1.6	221	2.3	155	2.2	103	2.2	40	2.2	-	-	-	-	-	-
EVU10S	1/25	85	1300	3361	400	3.5	309	3.8	246	4.1	194	4.6	152	5	109	5.5	57	6.1	-	-
EVU10R	1/12	122	1550	4007	570	6.2	500	6.6	440	6.8	385	6.8	325	6.8	251	6.9	170	7.1	-	-
EVU10Q	1/6(3)	(-3)	1725	4460	644	7.7	582	8.1	526	8.4	476	8.6	426	8.5	373	8.5	309	8.5	168	8.5
EVU11V	1/25	103	1050	3058	406	1.9	225	2.2	151	3.6	119	4.2	87	4.8	57	5.5	-	-	-	-
EVU11S	1/11	142	1300	3786	534	3.9	417	4.2	337	5.1	273	5.9	223	6.2	177	6.5	129	6.9	-	-
EVU11R	1/6	199	1550	4514	760	7.6	667	7.4	586	7.6	512	7.9	434	8.9	359	9.6	283	9.6	118	9.7
EVU11Q	1/5	255	1725	5024	1034	10.7	959	10.5	883	10.5	804	10.5	722	10.6	631	10.9	538	10.7	313	9.7

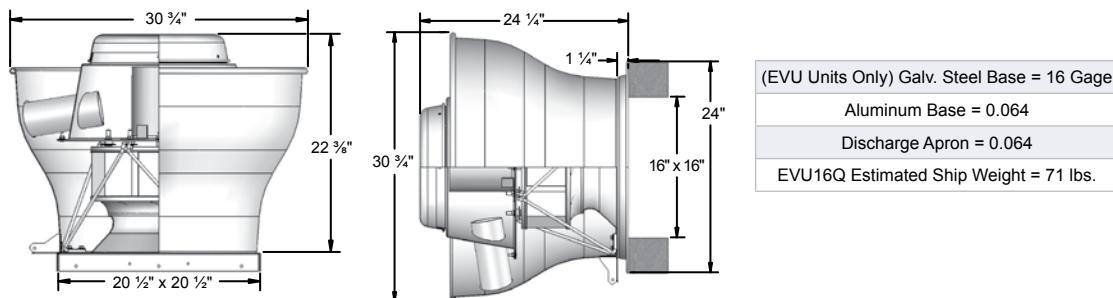
(1) TE motor is 1/6 Hp. (2) TE motor is 1/7 Hp. (3) Available on EC Motor only. See additional notes on page 11.

EVU13

(EVU Units Only) Galv. Steel Base = 16 Gage
(WEVU Units Only) Aluminum Base = 0.064
(EVU Units Only) Aluminum Base = 0.050
Discharge Apron = 0.050
EVU13S/R Estimated Ship Weight = 45 lbs.
EVU13Q Estimated Ship Weight = 52 lbs.

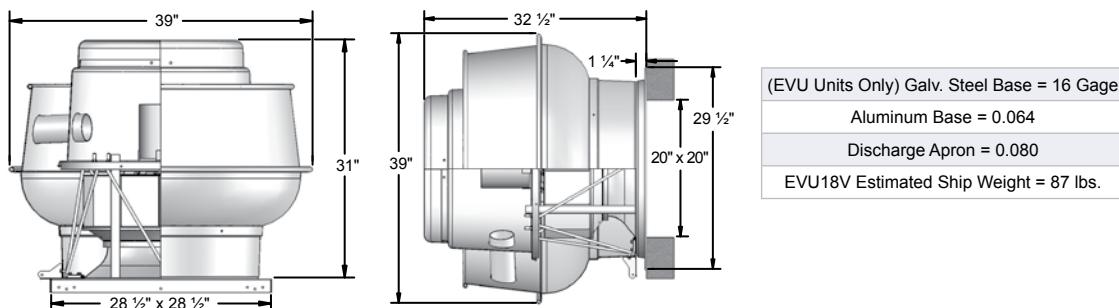
Model	Nominal			Tip Speed FPM	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP	
	HP	Max Watts	RPM		CFM	Sones																
EVU13V	1/20	113	1050	3221	640	4.2	469	2.8	317	2.4	250	3.1	197	3.8	149	4.5	106	5.2	-	-	-	-
EVU13S	1/12	148	1300	3988	845	7.4	735	6.4	612	5.2	492	5.0	404	5.3	334	5.7	270	6.1	136	7.0	-	-
EVU13R	1/6	188	1550	4755	1057	10.5	980	10.1	908	9.6	825	8.6	733	8.1	646	8.1	561	8.2	376	8.2	144	8.5
EVU13Q	1/4	343	1725	5292	1261	13.6	1198	13.0	1143	12.6	1093	12.1	1033	11.7	973	11.2	909	10.8	757	10.1	515	9.6

See notes on page 11.

EVU16 - EVU18 | DIRECT DRIVE**EVU16**

Model	Nominal			Tip Speed FPM	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP	
	HP	Max Watts	RPM		CFM	Sones																		
EVU16V	1/6	485	1050	3788	1604	7.9	1358	6.5	1128	5.5	951	5.8	801	6.3	705	6.9	644	7.7	522	9.2	384	9.3	230	9.7
EVU16S	1/3	527	1300	4690	1874	10.7	1693	9.5	1514	8.6	1326	8.0	1158	7.6	1023	7.7	913	8.2	735	9.6	572	9.7	379	9.9
EVU16R	1/3 ⁽¹⁾	590	1550	5592	2140	12.8	1994	11.9	1849	11.0	1709	10.2	1561	9.9	1410	9.6	1269	9.4	1033	9.7	812	11.1	583	10.8
EVU16Q1	1/2	715	1650	5953	2531	15.2	2432	14.7	2332	14.2	2232	13.7	2114	13.1	1992	12.5	1868	11.9	1582	11.0	1320	11.5	1001	12.1
EVU16Q2	3/4	890	1725	6223	2822	17.1	2753	16.8	2684	16.5	2594	16.1	2501	15.7	2418	15.4	2331	15.1	2119	14.2	1872	14.1	1566	14.2

(1) TE motor is 1/2 Hp. See additional notes at bottom of page.

EVU18

Model	Nominal			Tip Speed FPM	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP	
	HP	Max Watts	RPM		CFM	Sones																		
EVU18V	3/4	969	1075	6029	4489	21.0	4333	21.0	4177	20.0	4011	19.1	3831	18.1	3652	17.6	3455	17.2	3023	16.5	2431	17.5	1447	20.0

Performance shown is for installation Type A: Free Inlet, Free Outlet. Speed (RPM) shown is nominal. Performance is based on actual speed of test. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for Installation Type A: free inlet hemispherical sone levels. Performance ratings do not include the effects of appurtenances in the air stream.

EVU fans are only one component of a total system. As such, fan performance is directly affected by the system. It is critical that system designers determine the actual system loss to ensure that the actual flow is specified in the system design.

DIRECT DRIVE PERFORMANCE DATA

Fan Curves

The fan curves illustrated here show the range of capacities available for direct drive units. Each graph shows the performance of several models at one particular nominal speed. Fan curves provide a quick method for selecting a fan unit based on design point requirements.

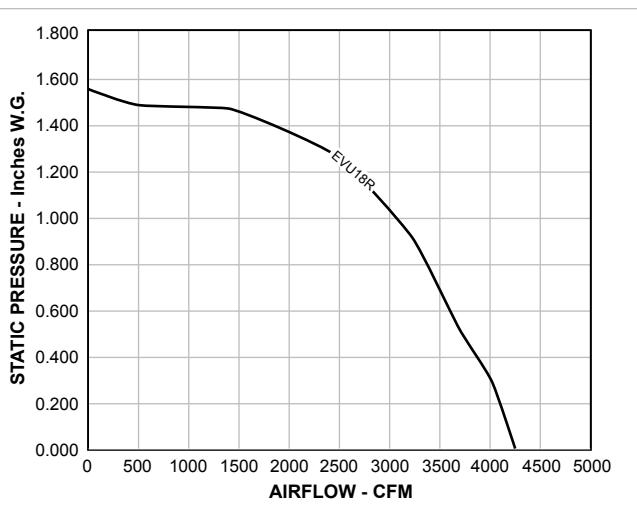
The direct drive performance charts on the previous pages provides the tabular data (CFM and static pressure) used to plot the fan curves. In addition, the horsepower tip speed and sones are tabulated. Since sound is normally an important factor in the selection of a fan, an engineer will usually want to select the "slowest" unit which meets CFM and SP requirements.

Please refer to the Motor Availability section to make sure the motor you select meets your electrical requirements.

EVU-Series fans are only one component of a total system. As such, fan performance is directly affected by the system. As such, fan performance is directly affected by the system. It is critical that system designers determine the actual system loss to ensure that the actual flow is specified in the system design.

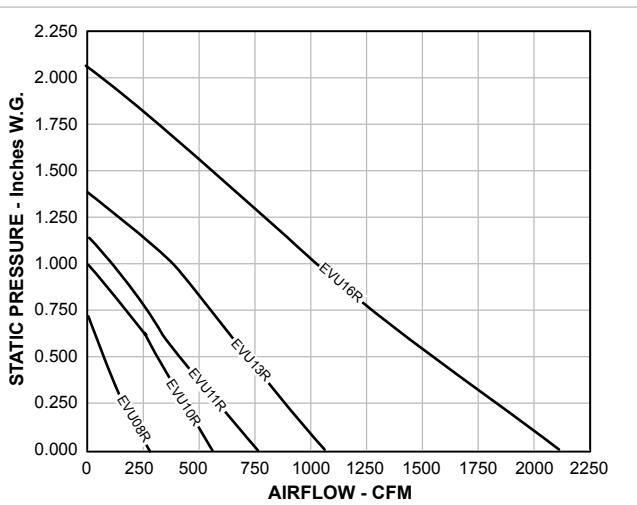
Nominal 1075 RPM

Nominal 1075 RPM



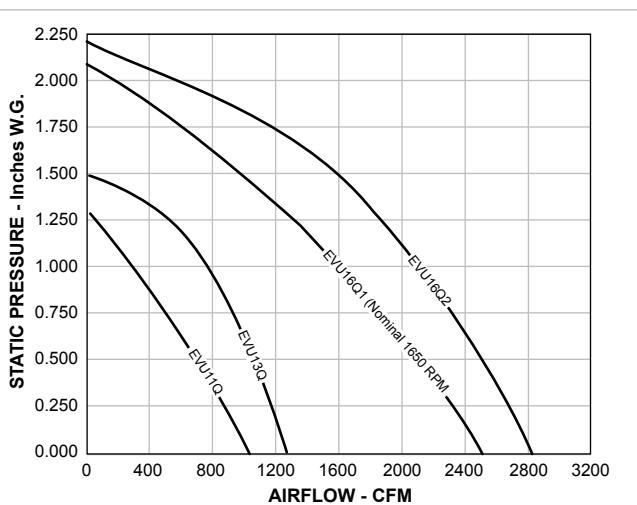
Nominal 1050 RPM

Nominal 1550 RPM



Nominal 1300 RPM

Nominal 1725 RPM



BELT DRIVE PERFORMANCE DATA

Performance Data

The belt drive models shown on the following pages have sizes and capacities ranging from below 250 CFM to above 30,000 CFM, with static pressures from 0" to 4". All models are available with a wide range of horsepower sizes and RPM's. Two-speed motors are commonly used to enhance this flexibility.

The data provided for each belt drive model includes:

- Elevation Drawing Showing Overall Dimensions
- Fan Curve Graph
- Performance Chart

Each curve graphically displays the range of capacities available for each model, in most cases beyond the specifics shown in the tabular data. The maximum performance afforded by each horsepower is indicated by dashed lines and the RPM is indicated by solid lines.

Some models have graphs that show both shaded and unshaded areas. Selection should be made from the unshaded area only. Shaded areas reflect unstable performance ("surge"), a characteristic typical of backward inclined wheels, and should be avoided. These unstable regions are not shown in the tabular data.

The highest RPM shown for a specific horsepower in the tabular data is the maximum speed that for any point along the performance curve, the BHP will not exceed the available horsepower.

It is important to note that while it is common industry-wide practice to exceed a "nominal" horsepower by using a motor's service factor, YORK® by Johnson Controls uses a conservative portion of the service factor, allowing half to remain a true "safety" factor.

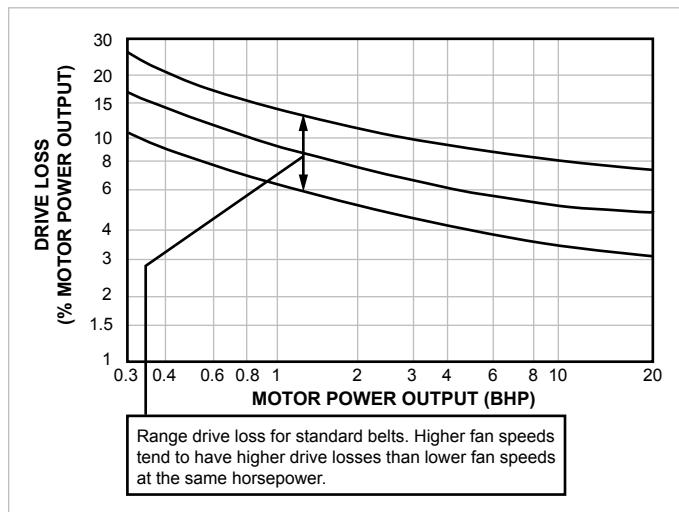
Use the Motor Availability chart (see Motor Selection) to select motor enclosures and voltages which can be installed in the fans.

Note: EVU fans are only one component of a total system. As such, performance is directly affected by the system. It is critical that system designers determine actual system losses to ensure that the actual flow is specified in the system range.

Belt Drive Losses

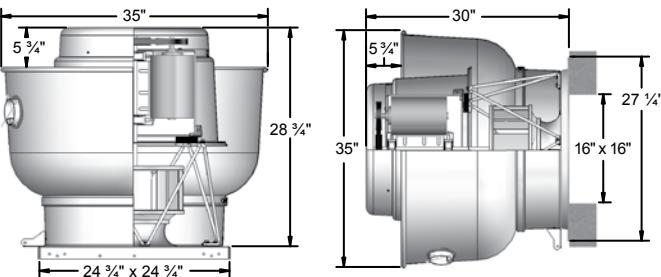
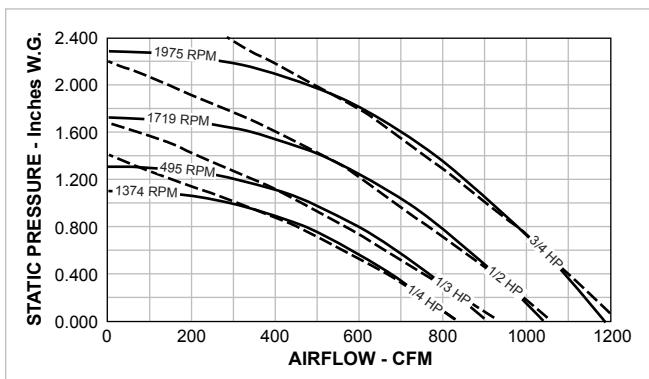
The AMCA Review Committee has developed the chart shown below for the purpose of estimating belt drive losses. To calculate total BHP (including drive losses): Find the BHP of your operating point on the x-axis on the graph below. Follow the vertical line to the curves indicating the range of drive losses. Look at the y-axis on the left and find the drive loss percentage. Calculate the total BHP by adding the drive loss to the operating point BHP. For BHP's below 0.3, use 30%.

Drive Loss Reference Chart



For totally enclosed, explosion proof, multi-speed and all 1.0 Service Factor motors, fan BHP plus drive losses should not exceed motor rated HP.

Graph reprinted from AMCA publication 203, with the express written permission from the Air Movement and Control Association, Inc., 30 West University Drive, Arlington Heights, IL 60004-1983.

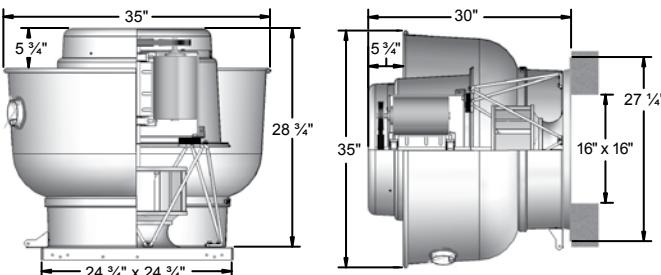
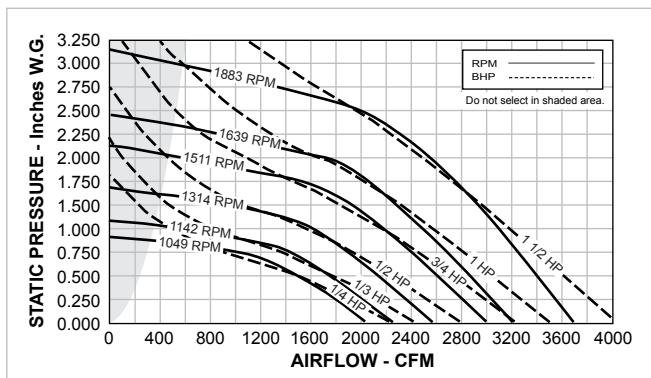
EVU08B | BELT DRIVE

Galv. Steel Base = 16 Gage	Roof/Wall Opening = 16" SQ.	Peak BHP = (RPM/2126) ³
Aluminum Base = 0.064	Damper Size = 15 3/4" SQ.	Max. RPM = 2085
Discharge Apron = 0.064	Max. Motor Frame Size = 55	Est. Ship Weight = 96 lbs.*

* Add 8 lbs. for Heat & Smoke option.

HP	RPM	Tip Speed FPM	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		1.125" SP			
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP		
1/4	350	1191	208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		1.7 0.01	1.7 0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	525	1787	312	162	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		4.2 0.01	4.2 0.01	4.2 0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	700	2382	416	320	163	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		4.5 0.03	4.4 0.03	4.2 0.03	4.2 0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	875	2978	520	447	359	231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		5.9 0.06	5.8 0.07	5.6 0.07	5.3 0.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1050	3574	624	563	497	422	324	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		8.0 0.11	7.9 0.11	7.6 0.12	7.3 0.12	6.9 0.12	6.0 0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1225	4169	728	677	623	564	498	421	306	-	-	-	-	-	-	-	-	-	-	-	-	-		
		10.6 0.17	10.4 0.18	10.2 0.18	9.8 0.18	9.4 0.19	9.0 0.19	8.3 0.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1374	4676	817	771	724	674	619	560	493	407	275	-	-	-	-	-	-	-	-	-	-	-		
		12.1 0.25	11.9 0.25	11.6 0.25	11.3 0.26	11.0 0.26	10.7 0.27	10.3 0.26	9.9 0.26	9.2 0.24	-	-	-	-	-	-	-	-	-	-	-	-		
1/3	1410	4799	838	793	748	700	647	591	528	455	346	152	-	-	-	-	-	-	-	-	-	-		
		12.6 0.27	12.3 0.27	12.1 0.27	11.8 0.27	11.4 0.28	11.1 0.29	10.8 0.29	10.4 0.28	9.9 0.27	9.0 0.23	-	-	-	-	-	-	-	-	-	-	-		
	1440	4901	856	812	767	722	670	616	557	489	394	252	-	-	-	-	-	-	-	-	-	-	-	
	1470	5003	874	831	787	743	693	640	584	519	437	318	-	-	-	-	-	-	-	-	-	-	-	
	1495	5088	889	846	804	760	711	660	605	543	472	366	-	-	-	-	-	-	-	-	-	-	-	
1/2 HP	1535	5224	912	871	830	787	741	692	639	582	518	429	-	-	-	-	-	-	-	-	-	-	-	
		14.3 0.34	14.0 0.35	13.8 0.35	13.5 0.35	13.2 0.36	12.9 0.37	12.5 0.37	12.1 0.37	11.8 0.37	11.5 0.35	-	-	-	-	-	-	-	-	-	-	-	-	
	1565	5326	930	890	849	807	763	715	664	611	548	472	-	-	-	-	-	-	-	-	-	-	-	
	1595	5428	948	909	869	828	785	738	689	637	578	511	-	-	-	-	-	-	-	-	-	-	-	
	1630	5548	969	930	891	851	810	764	717	667	612	551	-	-	-	-	-	-	-	-	-	-	-	
3/4 HP	1665	5667	990	952	914	875	835	790	745	696	646	587	-	-	-	-	-	-	-	-	-	-	-	
	1695	5769	1008	970	933	895	856	813	768	721	672	616	-	-	-	-	-	-	-	-	-	-	-	
	1719	5850	1022	985	948	911	872	830	787	741	693	640	-	-	-	-	-	-	-	-	-	-	-	
	1755	5973	1043	1007	971	934	897	857	814	770	723	674	-	-	-	-	-	-	-	-	-	-	-	
		17.1 0.51	16.9 0.52	16.7 0.52	16.4 0.53	16.2 0.53	15.8 0.53	15.5 0.54	15.2 0.55	14.8 0.55	14.5 0.56	-	-	-	-	-	-	-	-	-	-	-	-	
	1795	6109	1067	1032	997	961	924	886	844	802	757	711	-	-	-	-	-	-	-	-	-	-	-	-
	1830	6228	1088	1053	1019	984	948	911	870	829	786	741	-	-	-	-	-	-	-	-	-	-	-	-
	1860	6330	1106	1072	1038	1003	968	933	893	853	810	766	-	-	-	-	-	-	-	-	-	-	-	-
	1890	6432	1124	1090	1057	1023	988	953	915	875	834	791	-	-	-	-	-	-	-	-	-	-	-	-
	1920	6535	1141	1109	1076	1042	1008	974	937	898	858	816	-	-	-	-	-	-	-	-	-	-	-	-
	1950	6637	1159	1127	1095	1062	1028	995	959	920	882	841	-	-	-	-	-	-	-	-	-	-	-	-
	1975	6722	1174	1142	1110	1078	1045	1012	977	939	901	861	-	-	-	-	-	-	-	-	-	-	-	-
		21.0 0.73	20.0 0.74	20.0 0.74	20.0 0.75	19.7 0.75	19.5 0.75	19.1 0.76	18.8 0.77	18.6 0.78	18.3 0.78	-	-	-	-	-	-	-	-	-	-	-	-	-

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include transmission losses. For further information on estimating belt drive losses and motor service factors see page 12. The sound ratings shown are for loudness values in fan sones at 50' (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet hemispherical sone levels. Performance ratings do not include the effects of appurtenances in the airstream.

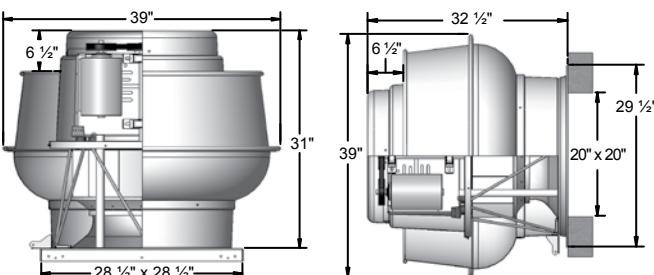
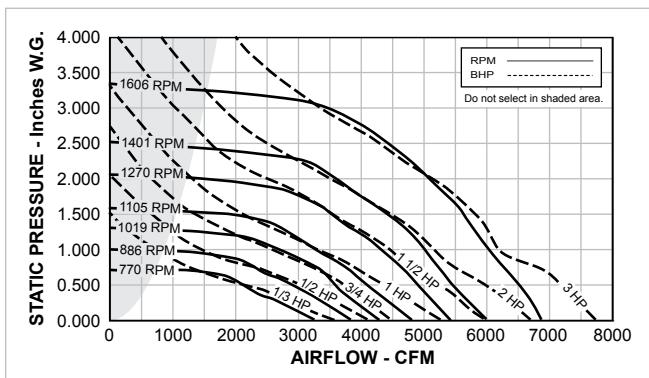
EVU12BH | BELT DRIVE

Galv. Steel Base = 16 Gage Roof/Wall Opening = 16" SQ. Peak BHP = (RPM/1632)³
 Aluminum Base = 0.064 Damper Size = 15 3/4" SQ. Max. RPM = 2440
 Discharge Apron = 0.064 Max. Motor Frame Size = 56 Est. Ship Weight = 109 lbs.*

* Add 8 lbs. for Heat & Smoke option.

HP	RPM	Tip Speed FPM	0.250" 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												
			Sones	BHP																													
1/4	840	3491	1320		794		-		-		-		-		-		-		-		-		-										
			7.4	0.13	7.0	0.13	-		-		-		-		-		-		-		-	-	-										
	880	3657	1416		1005		-		-		-		-		-		-		-		-	-	-										
			8.4	0.14	7.7	0.16	-		-		-		-		-		-		-		-	-	-										
	920	3824	1509		1140		-		-		-		-		-		-		-		-	-	-										
			9.0	0.16	8.4	0.18	-		-		-		-		-		-		-		-	-	-										
1/3	970	4031	1624		1299		500		-		-		-		-		-		-		-	-	-	-									
			9.2	0.19	8.8	0.21	9.1	0.16	-		-		-		-		-		-		-	-	-	-									
	1049	4360	1801		1518		1105		-		-		-		-		-		-		-	-	-	-									
			10.1	0.23	9.8	0.26	10.0	0.26	-		-		-		-		-		-		-	-	-	-									
1/2	1105	4592	1924		1661		1325		425		-		-		-		-		-		-	-	-	-	-								
			10.8	0.27	10.6	0.29	10.6	0.31	10.9	0.22	-		-		-		-		-		-	-	-	-									
	1142	4746	2004		1754		1445		776		-		-		-		-		-		-	-	-	-	-								
			11.1	0.29	10.9	0.32	11.0	0.34	11.3	0.29	-		-		-		-		-		-	-	-	-									
	1175	4883	2075		1836		1551		1028		-		-		-		-		-		-	-	-	-	-								
			11.5	0.32	11.2	0.35	11.2	0.37	11.7	0.35	-		-		-		-		-		-	-	-	-									
	1200	4987	2128		1897		1626		1212		-		-		-		-		-		-	-	-	-	-								
	1235	5133	2203		1981		1725		1382		470		-		-		-		-		-	-	-	-	-								
3/4	1280	5320	2298		2085		1846		1543		896		-		-		-		-		-	-	-	-	-								
	1314	5461	2369		2164		1934		1654		1151		-		-		-		-		-	-	-	-	-								
			12.6	0.43	13.1	0.47	12.9	0.50	13.1	0.52	13.6	0.49	-		-		-		-		-	-	-	-	-								
	1340	5569	2423		2224		2000		1738		1343		374		-		-		-		-	-	-	-	-	-							
			12.8	0.46	13.4	0.50	13.3	0.53	13.4	0.55	14.1	0.54	14.0	0.36	-		-		-		-	-	-	-	-								
	1375	5715	2496		2304		2089		1847		1522		737		-		-		-		-	-	-	-	-	-							
	1400	5818	2547		2360		2151		1918		1622		963		-		-		-		-	-	-	-	-	-							
	1435	5964	2620		2439		2238		2017		1738		1228		-		-		-		-	-	-	-	-	-							
1	1462	6076	2675		2500		2305		2090		1826		1428		564		-		-		-	-	-	-	-	-							
	1511	6280	2775		2609		2422		2217		1984		1686		1029		-		-		-	-	-	-	-	-							
			14.7	0.65	15.7	0.69	16.0	0.73	16.0	0.76	16.2	0.78	17.0	0.79	17.0	0.68	-		-		-	-	-	-	-	-							
	1540	6400	2835		2672		2490		2291		2073		1799		1253		-		-		-	-	-	-	-	-	-						
			15.0	0.68	15.9	0.73	16.3	0.77	16.3	0.80	16.5	0.82	17.2	0.83	17.6	0.76	-		-		-	-	-	-	-	-	-						
	1586	6592	2928		2772		2597		2408		2204		1950		1593		835		-		-		-	-	-	-	-	-	-				
	1600	6650	2957		2802		2629		2443		2243		1996		1675		964		-		-		-	-	-	-	-	-	-				
	1639	6812	3036		2886		2719		2540		2349		2121		1850		1285		-		-		-	-	-	-	-	-	-				
1 1/2	1675	6961	3109		2963		2801		2629		2442		2236		1981		1552		817		-		-	-	-	-	-	-	-	-			
			16.7	0.87	17.3	0.92	17.8	0.97	17.8	1.01	17.9	1.04	18.2	1.06	19.0	1.07	19.7	1.02	19.6	0.84	-	-	-	-	-	-	-	-	-	-			
	1750	7273	3261		3123		2971		2809		2633		2449		2226		1969		1448		701		-	-	-	-	-	-	-	-	-	-	
	1825	7585	3412		3282		3139		2984		2821		2650		2461		2231		1955		1381		-	-	-	-	-	-	-	-	-	-	
			19.4	1.11	19.7	1.17	19.9	1.22	19.9	1.27	19.8	1.31	19.8	1.34	20.0	1.37	21.0	1.38	22.0	1.38	22.0	1.24	-	-	-	-	-	-	-	-	-	-	-
	1883	7826	3529		3402		3266		3117		2965		2798		2625		2419		2193		1812		-	-	-	-	-	-	-	-	-	-	-
			21.0	1.22	21.0	1.28	21.0	1.33	21.0	1.38	21.0	1.43	21.0	1.46	21.0	1.49	21.0	1.51	22.0	1.53	23.0	1.47	-	-	-	-	-	-	-	-	-	-	-

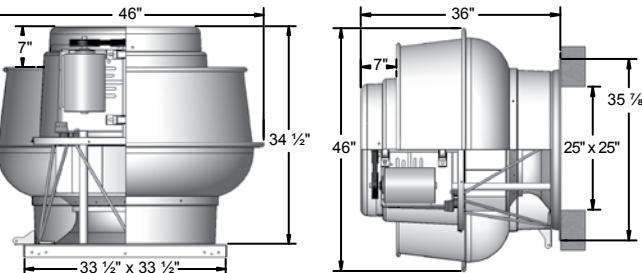
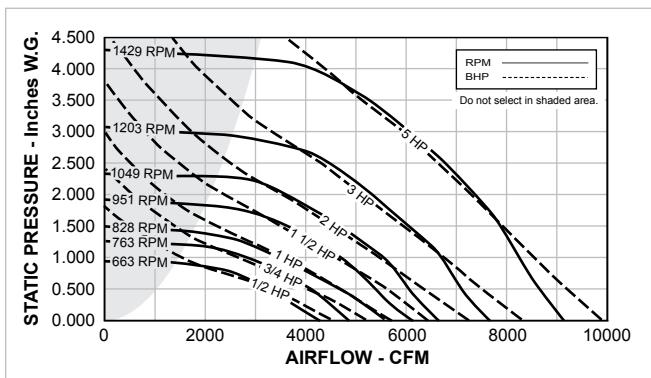
Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include transmission losses. For further information on estimating belt drive losses and motor service factors see page 12. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet hemispherical sone levels. Performance ratings do not include the effects of appurtenances in the airstream.

EVU18BH | BELT DRIVE

Galv. Steel Base = 14 Gage Roof/Wall Opening = 20" SQ. Peak BHP = (RPM/1106)³
 Aluminum Base = 0.080 Damper Size = 19 3/4" SQ. Max. RPM = 1870
 Discharge Apron = 0.064 Max. Motor Frame Size = 145T Wall Mounted Max. HP = 2
 Est. Ship Weight = 142 lbs. (Add 20 lbs. for Heat & Smoke option.)

HP	RPM	Tip Speed FPM	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		3.000" SP						
			Sones	BHP																							
1/3	770	4082	2308	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	800	4241	2520	1622	7.9	0.37	8.1	0.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
1/2	840	4453	2773	2108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	886	4697	3028	2436	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
3/4	915	4851	3186	2628	10.1	0.53	9.9	0.57	10.0	0.52	-	-	-	-	-	-	-	-	-	-	-	-					
	970	5142	3475	3017	11.5	0.62	10.7	0.66	11.5	0.68	-	-	-	-	-	-	-	-	-	-	-	-					
1	1019	5402	3712	3342	12.4	0.71	11.3	0.75	12.0	0.79	12.1	0.71	-	-	-	-	-	-	-	-	-	-	-				
	1065	5646	3932	3598	13.0	0.81	11.9	0.85	12.4	0.89	13.3	0.88	-	-	-	-	-	-	-	-	-	-	-				
1 1/2	1080	5726	4003	3681	13.2	0.84	12.2	0.88	12.5	0.93	13.6	0.93	-	-	-	-	-	-	-	-	-	-	-				
	1105	5858	4121	3818	13.5	0.90	12.6	0.93	12.7	0.98	13.7	1.00	13.4	0.73	-	-	-	-	-	-	-	-	-				
2	1125	5964	4216	3926	13.9	0.94	12.9	0.98	12.8	1.03	13.9	1.06	14.1	0.98	-	-	-	-	-	-	-	-	-				
	1150	6097	4333	4061	14.2	1.00	13.4	1.04	13.0	1.09	14.1	1.13	14.8	1.10	-	-	-	-	-	-	-	-	-				
1 1/2	1175	6229	4450	4193	14.7	1.07	14.0	1.11	13.3	1.15	14.3	1.20	15.5	1.19	-	-	-	-	-	-	-	-	-				
	1200	6362	4570	4315	15.3	1.13	14.5	1.17	13.6	1.22	14.6	1.28	15.7	1.29	15.5	1.11	-	-	-	-	-	-	-	-			
2	1225	6494	4697	4436	16.1	1.18	15.2	1.24	14.3	1.29	14.9	1.34	16.0	1.37	16.4	1.3	-	-	-	-	-	-	-	-			
	1270	6733	4925	4652	17.0	1.29	16.2	1.38	15.3	1.42	15.3	1.47	16.5	1.52	17.7	1.51	-	-	-	-	-	-	-	-			
2	1280	6786	4975	4700	17.1	1.32	16.3	1.41	15.5	1.45	15.4	1.50	16.6	1.56	17.9	1.55	17.3	1.28	-	-	-	-	-	-	-		
	1335	7077	5251	4961	18.4	1.46	17.2	1.58	16.6	1.63	16.1	1.68	17.1	1.74	18.4	1.77	19.2	1.73	-	-	-	-	-	-	-		
3	1375	7289	5449	5150	19.4	1.57	18.2	1.72	17.6	1.77	17.1	1.82	17.5	1.88	18.8	1.93	20.0	1.93	19.9	1.78	-	-	-	-	-		
	1401	7427	5578	5272	20.0	1.64	18.8	1.82	18.2	1.86	17.8	1.91	17.9	1.97	19.1	2.04	20.0	2.05	21.0	1.98	-	-	-	-	-		
3	1440	7634	5770	5454	21.0	1.76	19.8	1.96	19.3	2.01	18.8	2.06	18.7	2.12	19.6	2.19	21.0	2.22	22.0	2.20	22.0	1.98	-	-	-		
	1480	7846	5958	5650	22.0	1.89	21.0	2.11	20.0	2.17	20.0	2.22	19.7	2.28	20.0	2.35	21.0	2.41	23.0	2.41	23.0	2.34	-	-	-		
3	1520	8058	6139	5853	24.0	2.03	22.0	2.24	22.0	2.34	21.0	2.39	21.0	2.45	21.0	2.51	22.0	2.59	23.0	2.61	25.0	2.59	-	-	-		
	1560	8270	6321	6055	25.0	2.19	24.0	2.39	23.0	2.52	23.0	2.57	23.0	2.63	22.0	2.69	23.0	2.77	24.0	2.82	25.0	2.83	24.0	1.93	-	-	
3	1585	8403	6434	6181	26.0	2.28	25.0	2.48	24.0	2.64	24.0	2.69	23.0	2.75	23.0	2.81	23.0	2.88	24.0	2.96	26.0	2.96	26.0	2.71	-	-	-
	1606	8514	6528	6286	27.0	2.37	25.0	2.56	24.0	2.74	24.0	2.79	24.0	2.85	24.0	2.91	24.0	2.98	25.0	3.06	26.0	3.08	27.0	2.95	-	-	-

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include transmission losses. For further information on estimating belt drive losses and motor service factors see page 12. The sound ratings shown are for loudness values in fan sones at 50' (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet hemispherical sone levels. Performance ratings do not include the effects of appurtenances in the airstream.

EVU24BH | BELT DRIVE

Galv. Steel Base = 14 Gage Roof Opening = 25" SQ. Peak BHP = (RPM/827)³
 Aluminum Base = 0.080 Damper Size = 24 3/4" SQ. Max. RPM = 1620
 Discharge Apron = 0.064 Max. Motor Frame Size = 184T Wall Mounted Max. HP = 2
 Est. Ship Weight = 187 lbs. (Add 40 lbs. for Heat & Smoke option.)

HP	RPM	Tip Speed FPM	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		3.000" SP		
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP									
1/2	600	3897	2641	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	663	4306	8.9 0.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/4	707	4592	3231	2472	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	725	4709	10.0 0.51	10.3 0.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	763	4956	3633	2971	1877	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	800	5196	10.8 0.61	11.0 0.63	10.8 0.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1 1/2	828	5378	3774	3142	2264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	855	5553	4069	3497	2824	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	886	5755	11.1 0.65	11.3 0.67	11.4 0.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	915	5943	4195	3736	3180	1929	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	925	6008	13.1 1.03	13.1 1.07	13.3 1.10	13.6 1.09	13.3 0.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	951	6177	4549	4107	3542	2822	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	990	6430	13.7 1.13	13.7 1.19	13.7 1.22	14.0 1.23	14.3 1.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1019	6619	5148	4833	4355	3857	3223	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	1049	6814	14.7 1.23	14.6 1.30	14.6 1.34	14.6 1.35	14.9 1.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1080	7015	5216	4910	4450	3953	3345	2152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	1105	7177	5393	5110	4695	4198	3655	2859	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1125	7307	16.0 1.37	15.7 1.45	15.7 1.49	15.6 1.51	15.5 1.51	15.8 1.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	1175	7632	5657	5403	5056	4560	4107	3503	2353	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1203	7814	16.9 1.53	16.5 1.62	16.5 1.67	16.5 1.70	16.5 1.72	16.7 1.69	16.5 1.48	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	1210	7859	5856	5605	5288	4831	4384	3851	3096	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1245	8087	6063	5813	5522	5115	4667	4203	3597	2447	-	-	-	-	-	-	-	-	-	-	-	-	
9	1275	8281	6276	6027	5761	5405	4954	4539	4005	3270	-	-	-	-	-	-	-	-	-	-	-	-	
	1325	8606	6447	6198	5953	5635	5184	4777	4301	2689	2546	-	-	-	-	-	-	-	-	-	-	-	
10	1380	8963	6583	6335	6105	5801	5375	4965	4535	4002	3184	-	-	-	-	-	-	-	-	-	-	-	
	1429	9282	6923	6675	6461	6191	5846	5429	5047	4597	4058	-	-	-	-	-	-	-	-	-	-	-	
11	1203	7814	7122	6864	6655	6407	6105	5690	5311	4924	4425	-	-	-	-	-	-	-	-	-	-	-	
	1210	7859	7230	6911	6704	6461	6169	5757	5377	5004	4508	2767	-	-	-	-	-	-	-	-	-	-	-
12	1245	8087	7395	7152	6945	6728	6453	6088	5701	5341	4922	3740	-	-	-	-	-	-	-	-	-	-	-
	1275	8281	7597	7359	7151	6954	6688	6368	5977	5624	5270	4244	-	-	-	-	-	-	-	-	-	-	-
13	1325	8606	7931	7702	7492	7302	7074	6815	6453	6088	5750	4933	-	-	-	-	-	-	-	-	-	-	-
	1380	8963	8298	8078	7865	7683	7493	7246	6965	6604	6264	5580	-	-	-	-	-	-	-	-	-	-	-
14	1429	9282	8623	8411	8198	8019	7843	7624	7384	7065	6717	6086	-	-	-	-	-	-	-	-	-	-	-
	24	24	29.0 4.33	28.0 4.46	27.0 4.59	26.0 4.72	26.0 4.84	26.0 4.93	26.0 4.99	26.0 5.05	26.0 5.05	27.0 5.16	-	-	-	-	-	-	-	-	-	-	-

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include transmission losses. For further information on estimating belt drive losses and motor service factors see page 12. The sound ratings shown are for loudness values in fan sones at 50' (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet hemispherical sone levels. Performance ratings do not include the effects of appurtenances in the airstream.

ENGINEERING SPECIFICATIONS

Model

EVU = Centrifugal Fan
WEVU = Wall Mounted Centrifugal Fan

Unit Size

08, 10, 11, 12, 13, 14, 16,
18, 24, 27, 30, 36

Drive Type

D = Direct Drive
B = Belt Drive

Motor Tap

Q = 1725 RPM
R = 1550 RPM
S = 1300 RPM
V = 1050 RPM
Q1 = 1650 RPM
Q2 = 1725 RPM

ECM

0 = None
G = ECM

Motor Speed

1 = Single Speed
2 = 2S2W Single & Three Phase
3 = 2S1W Three Phase

Horse Power

See selection software.

Enclosure

O = Open Drip Proof
T = Totally Enclosed
E = Explosion Proof
X = Special

Voltage

See selection software.

Phase

1 = Single
3 = Three

Cycle

5 = 50 Hz
6 = 60 Hz

Efficiency

S = Standard
H = High Efficiency

Paint / Coating

0 = None
F = Epoxy Powder Coat*
G = Epoxy Powder Coat with UV*
H = Hi-Temp Powder Coat*
J = Non-stick Powder Coat*
K = Phenolic Powder Coat*
L = Phenolic Powder Coat with UV*
N = Polyester Powder Coat
X = Special
** Not available with choice of color.*

Color

0 = None
50 = Chrome Green
55 = Pale Green
56 = Dove Gray
61 = White
63 = Oxford Beige
65 = Dover White
66 = Desert Tan
70 = Black
73 = Smoke Gray
77 = Brick Red
79 = Peppercorn
81 = Pale Brown
83 = Chocolate Brown
85 = Timeless Bronze
94 = Charcoal
X = Special

AMCA Spark Rating

0 = None
C = Standard
B = Optional

Damper

0 = None
BDD = Gravity Back Draft Damper
MD1 = Gravity Back Draft Damper 115V
MD2 = Gravity Back Draft Damper 230V
MD4 = Gravity Back Draft Damper 460V
ED1 = Explosion Proof Motor
Operated Damper 115V

Screen

0 = None
B = Bird Screen
S = Insect/Bird Screen

Roof Curb

See selection software.

Slope

0 = None
S = Single
D = Double

Metal Liner

0 = None
L = Metal Liner

Damper Holding Plate

0 = None
P = Damper Holding Plate

Neoprene Gasket

0 = None
G = Gasket

Wooden Nailer

0 = None
W = Wooden Nailer

Curb Paint/Coating

B = Air Dried Epoxy
Q = Enamel

Hinged Sub-base

0 = None
H = Hinged Sub-base

Mounting Pedestal

0 = None
P = Mounting Pedestal

Floating Hinge Kit

0 = None
H = Floating Hinge Kit

Aluminum Base

0 = None
A = Aluminum Base

Thermal Overload Protection

0 = None
P = Thermal Overload Protection

Disconnect Switch

0 = None
1 = NEMA 1 Disconnect Switch
3R = NEMA 3R Disconnect Switch
4 = NEMA 4 Disconnect Switch
7 = NEMA 7 Disconnect Switch
9 = NEMA 9 Disconnect Switch

Internal Wiring

0 = None
1 = NEMA 1 Internal Wiring
3R = NEMA 3R Internal Wiring

Transformer

0 = None
T = Transformer

Speed Controller

0 = None
L = Loose
M = Mounted

Firestat Switch

0 = None
F = Firestat Switch

Continued, next page.

ENGINEERING SPECIFICATIONS

Fatrap

0 = None
F = Fatrap

Heat & Smoke Removal

0 = None
-HS = Heat & Smoke Removal

Wall Mount

0 = None
W = Wall Mount

High Pressure Wheel

0 = None
H = High Pressure Wheel

High Wind Construction

0 = None
M = Miami Dade Approved

Pressure Controlled Package

L = Low Voltage
H = High Voltage
C = Control 24V

EVU - Direct Drive Units

Direct drive centrifugal roof exhaust upblast fan shall be model EVU, manufactured by YORK® by Johnson Controls. The housing shall be weatherproof, utilize heavy gauge spun aluminum construction with a large rolled bead for strength, with galvanized (aluminum optional) base, with rigid galvanized steel internal support structures. Housing shall not provide any of the internal structural support. Units shall be equipped with an oversized electrical conduit chase through the curb cap and into the motor compartment for ease of wiring (except Explosion Proof). Units shall be pre-wired to a junction box mounted in the motor compartment and equipped with an electrical disconnect device (except Explosion Proof).

Statically and dynamically balanced backward inclined, centrifugal wheels shall be aluminum, spark-resistant, nonoverloading, and matched to deeply spun venturis. Motors shall be continuous duty, permanently lubricated, multispeed (for applicable models), have thermal overload protection, mounted out of the main airstream, be easily accessible for service, and furnished at the specified voltage, phase and enclosure. Each fan shall bear the AMCA Certified Ratings Seal for Air and Sound Performance, and shall be UL (UL705, UL762 optional applicable models) listed. If specified (Fatrap option), fan shall additionally provide UL762 listing rated at 400°F, motor pre-wired to a weather-proof junction box, and drain connection leading into a grease collector/separator box.

EVU - Belt Drive Units

Belt drive centrifugal roof exhaust upblast fan shall be model EVU, manufactured by YORK® by Johnson Controls. The housing shall be weatherproof, utilize heavy-gauge spun aluminum construction with a large rolled bead for strength, with galvanized (aluminum optional) base, with rigid galvanized steel internal support structures. Housing shall not provide any of the internal structural support. Large diameter cooling tube shall provide ambient air to flow over motor. Units shall be equipped with an oversized electrical conduit chase through the curb cap and into the motor compartment for ease of wiring (except Explosion Proof). Units shall be prewired to a junction box mounted in the motor compartment and equipped with an electrical disconnect device (except Explosion Proof).

Statically and dynamically balanced backward inclined, centrifugal wheels shall be aluminum, spark-resistant, nonoverloading, and be matched to deeply spun venturis. Motors shall be continuous duty, ball bearing design, permanently lubricated, mounted out of the main airstream, and furnished at the specified voltage, phase, and enclosure. Shafts shall be turned, ground and polished. Heavy duty ball bearings are rated for a minimum L50 life exceeding 200,000 hours. Pulleys shall be adjustable, cast iron, machined, keyed, securely attached, and sized for 150% of the horsepower at its rated maximum speed. Each fan shall bear the AMCA Certified Ratings Seal for Air and Sound Performance (EVU), and shall be UL (UL705, UL762 optional) listed. If specified (Fatrap option), fan shall additionally provide UL762 listing rated at 400°F motor pre-wired to a weather-proof junction box, and drain connection leading into a grease collector/separator box. If specified (heat and smoke removal option), fan shall additionally provide UL listing rated for 500°F at 4-hours and 1000°F at 1 hour, including steel wheel and additional cooling tube.



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