

VENTRY[®]

ALL-TERRAIN
VENTILATION FANS

Why Choose VENTRY FANS?

The benefits of VENTRY[®] FANS all contribute to safety, versatility and ease of use.

Overcome snow, stairs, hills,
uneven ground, debris, brush,
tall grass, mud, water...



- State-of-the-art Safety Propellers, pressure-bonded with Kevlar and fiberglass for proven safety
- Low weight, low noise, and very low emissions
- Unobstructed airstream is raised over obstacles
- Tilt, aim and stabilize with the turn of a knob.
- Overcome common obstacles that would handicap conventional blowers
- GFCI-compatible three-phase electric models available



- Made in USA
- Won't walk or rotate
- Vibration dampening feet with metal core and tough tread for aggressive grab on slick and slanted surfaces

Patent
5,503,526



- Controls raised within reach for ergonomics
- Entry Point Lights, Wheels & Skids, and other options to choose from



- Side handles for easy 1- or 2-person carry

- 14-inches between propeller and ground; no intake of foreign matter so crew isn't blasted with sand and the fan won't plug with leaves

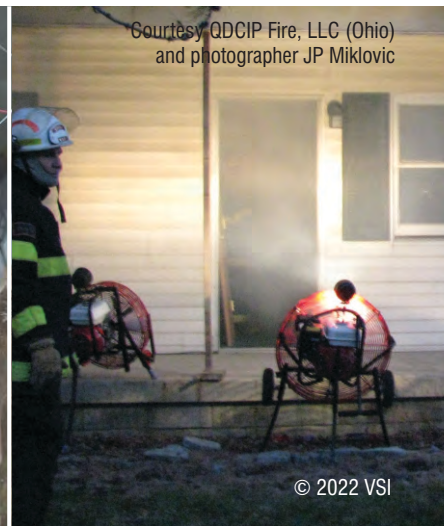
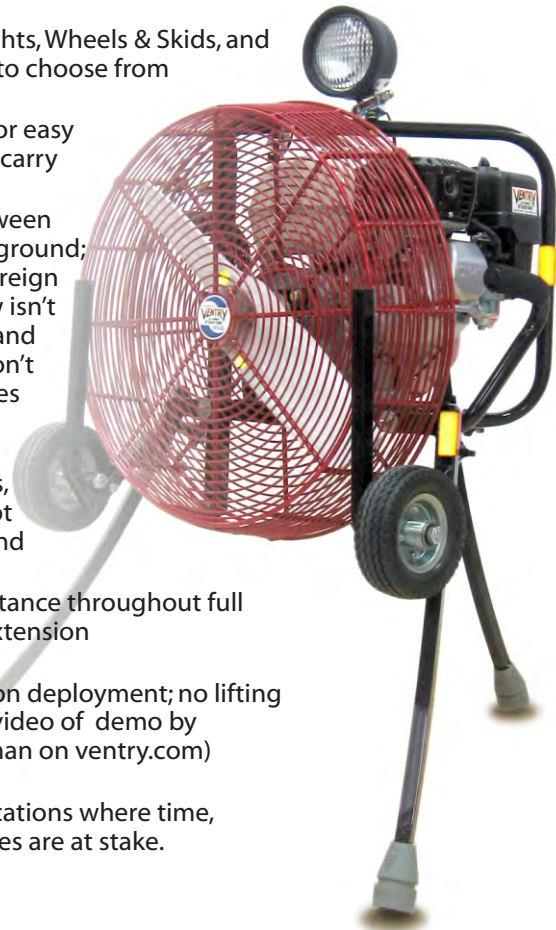


- Robust, solid aluminum legs, guaranteed not to break or bend

- Solid 3-point stance throughout full range of leg extension

- Fast, one-person deployment; no lifting required (see video of demo by pregnant woman on ventry.com)

- Ideal for applications where time, money, and lives are at stake.



Courtesy QDCIP Fire, LLC (Ohio)
and photographer JP Miklovic



Hot air balloon inflation.
Courtesy Circus Balloon Club,
Lau Laursen (Denmark)



Visit and View

Compelling videos and photos:
ventry.com/videos



A 9-months-pregnant woman sets up and takes down a VENTRY FAN.

At full RPM and with our CEO inches away, a VENTRY FAN is jostled with a pike pole during destructive testing. The stricken portion of the prop instantly transforms into wood chips, James is unharmed, and the enhanced safety of VENTRY SAFETY PROPELLERS is proven.



Hear noise decrease and see air volume increase when a solid shroud is removed from the free-flowing guard of a VENTRY FAN.

Benefits Above and Beyond the Obvious

The most visible benefit of VENTRY FANS is their patented three-legged design. No matter the terrain or obstacles, the outward curving legs on all VENTRY FANS provide a rock-solid footprint and truly "stand-alone" operation. Legs provide the versatility to perform well in any terrain, any season, any scene.

Less obvious but of great importance is the VENTRY SAFETY PROPELLER on every model, engineered to maximize the air moved with each motor, reducing weight, noise and emissions. The props' forward-sweeping tips produce narrow, consistent air streams for ventilating at a distance (8-15 feet or farther is best). VENTRY FANS can and should be placed off to the side, leaving the path clear for crew.

Most importantly, VENTRY SAFETY PROPELLERS are inherently safe. In a proprietary in-house process, Kevlar and fiberglass are wrapped around and bonded to a cedar core, forming a durable, protective shell. If "it hits the fan," the outer shell crushes the wood in the affected area and reduces it to harmless wooden splinters. As proven in a video on VENTRY.COM, no one is hurt and the fan is returned to service with a new propeller.

Service and Support

We have 5-year "No BS" warranties on workmanship and materials plus Lifetime Factory Support. If you ever have a problem with a VENTRY FAN, contact VSI. We will help—even beyond warranty periods.

Try Before You Buy

Many benefits of VENTRY FANS—output, versatility, ease of use, durability and more—are best experienced first-hand, especially side-by-side with other options. To facilitate this, VSI encourages and will arrange demos and possibly free trials.



VENTRY
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BY Fire Fighters, FOR Fire Fighters

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SAMPLE SPECIFICATIONS

	MODEL NAME	PROP Inches	HP	WEIGHT Lbs	VOLUME CFM	M ³ /H	THRUST* Lbs
ELEC	20EM3550	20	1.5	78	10,500	17,837	8.1
GAS	20GX120	20	3.5	60	16,500	28,029	12.7
GAS	20GX160	20	4.8	66	17,300	29,388	14.4
GAS	24GX120	24	3.5	78	20,000	33,975	17.6
GAS	24GX200	24	5.5	88	29,500	50,113	24.4

*Thrust is a reliable way to verify output and test relative performance, thanks to Newton's Third Law of Motion.

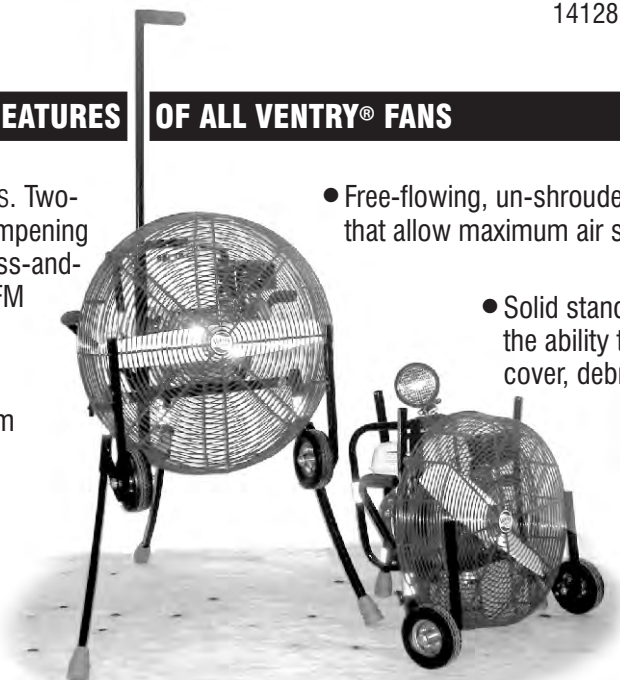


SPECIFICATIONS

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FEATURES OF ALL VENTRY® FANS

- Smoke-busting VENTRY® SAFETY PROPELLERS. Two-blade, aircraft propellers with vibration-dampening wood cores and pressure-bonded fiberglass-and-Kevlar® outer structures for safety, high CFM and longevity.
- Robust, powder-coated steel frames with three individually adjustable solid aluminum legs that provide three-point stability, all-terrain versatility, and unlimited tilt/aiming.
- Capable of rising at least 14 inches above the ground, allowing aiming of the air stream over obstacles such as residential entry steps.



Patent 5,503,526

- Free-flowing, un-shrouded, double reinforced wire guards that allow maximum air supply to propellers.
- Solid stance on stairs or uneven ground and the ability to straddle 12-inch high ground cover, debris and equipment.
- Dual side handles for one- or two-person transport.
- Manufactured in our Hauser, Idaho, USA facility using only grade 8 hardware.

Table 1											
MODEL	TYPE	PROP	MOTOR/ENG.	HP*	VOLUME (CFM)	THRUST (LBS)	CO (PPM)	FUEL CAPACITY	RUN TIME /TANK	ENGINE/MOTOR WARRANTY Commercial/Institutional Use	
20EM3550	Electric	20	Baldor® EM3550	1.5	10,500	8.1	0	N/A	N/A	Motor 18 mos; Drive 18 mos	
20GX120	Gas	20	Honda® GX120	3.5	16,500	12.7	17	2.1 qts	1.8 hrs	Engine: 3 years	
20GX160	Gas	20	Honda GX160	4.8	17,300	14.4	⌚	3.3 qts	2.0 hrs	Engine: 3 years	
24GX120	Gas	24	Honda GX120	3.5	20,000	17.6	16	2.1 qts	1.8 hrs	Engine: 3 years	
24GX160	Gas	24	Honda GX160	4.8	24,000	19.8	32	3.3 qts	2.0 hrs	Engine: 3 years	
24GX200	Gas	24	Honda GX200	5.5	29,500	24.4	19	3.3 qts	1.7 hrs	Engine: 3 years	

⌚ Measurement not yet available

***HP (HORSEPOWER).** VENTRY FAN specs show correct HP ratings, but many other PPV fan manufacturers continue to publish pre-2007 values. Long ago, litigation changed the way Honda and other small engine manufacturers rated HP (Table 2). When comparing fans, if the fans' engines are equal in make and model, then the engines are equal in power, even if the HP ratings shown do not match.

VOLUME. Air volume, in cubic feet per minute (CFM), is measured on VENTRY FANS with the legs extended. Multiply by 1.69875 to convert this to meters cubed per hour (m³/h).

Air volume (**output**) is a much better indicator of fan performance than engine horsepower (**input**). However, because air volume is measured inconsistently in the industry, comparing published CFM values is largely meaningless and in many cases misleading. We encourage hands-on and side-by-side testing in order to truly compare CFM ratings.

THRUST. Based on Newton's third law of motion, thrust is a measure of fan performance that allows easy comparison of fans, with far fewer variables than direct measure of CFM. Simple instructions available upon request.

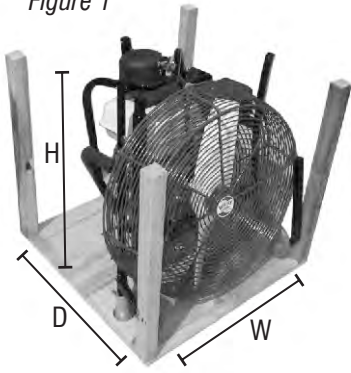
CARBON MONOXIDE. All VENTRY FAN models' CO output at equilibrium are well below OSHA standards of 50 PPM.

MOTOR MAKE & MODEL	Table 2 HP RATINGS	
	Pre-2007	Now
Honda GX120	4 hp	→ 3.5 hp
Honda GX160	5.5 hp	→ 4.8 hp
Honda GX200	6.5 hp	→ 5.5 hp



VENTRY FAN Specifications, Continued

Figure 1



DIMENSIONS (W x D x H, Inches)					Table 3
MODEL	Fan with no wheels	Fan with wheels, Small Solid Rubber	Fan with wheels, Medium Flat-Free	Fan with wheels, Large Pneumatic	
20EM3550	23.5 x 20.5 x 23.5	23.5 x 21 x 23.5	27.5 x 22.5 x 23.5	~	
20GX120	23.5 x 20.5 x 23.5	23.5 x 21 x 23.5	27.5 x 22.5 x 23.5	~	
20GX160	23.5 x 20.5 x 23.5	23.5 x 21 x 23.5	27.5 x 22.5 x 23.5	~	
24GX120	27 x 22 x 28	27 x 23 x 28	27 x 24 x 28	30 x 26 x 28	
24GX160	27 x 22 x 28	27 x 23 x 28	27 x 24 x 28	30 x 26 x 28	
24GX200	~	27 x 23 x 28	27 x 24 x 28	30 x 26 x 28	

WEIGHT (Lbs)

Table 4

MODEL	No Wheels	with Solid Rubber Wheels	with Med. Flat Free Wheels	with Large Pneumatic
20EM3550	78	84	87.5	~
20GX120	60 - 64	66 - 70	69.5 - 73.5	~
20GX160	66 - 72	72 - 78	75.5 - 81.5	~
24GX120	78 - 82	84 - 88	87.5 - 91.5	84 - 88
24GX160	73 - 79	79 - 85	82.5 - 88.5	79 - 85
24GX200	~	88 - 94	90.5 - 96.5	92 - 98

DIMENSIONS. Listed measurements were taken with the fans' legs retracted for storage, as shown in Figure 1. Actual measurements may vary $\pm 1/2$ inch in manufacturing.

WEIGHT. The weight of each fan can vary, depending if it is "dry" (without fuel or oil) or "wet" (with fuel and oil). Accessories (other than wheels) do not add any measurable weight.

ACCESSORIES BY MODEL

Table 6

MODEL	Wheels			Light				
	Small Solid Rubber	Medium Flat-Free	Large Pneumatics	Entry Point Halogen	Entry Point LED	Spark Arrestor	Tachometer	Misting Ring Ultimate Door Stop
20EM3550	●	●	~	~	~	~	●	☑
20GX120	●	●	~	~	~	●	●	☑
20GX160	●	●	~	●	●	●	●	☑
24GX120	●	●	●	~	~	●	●	☑
24GX160	●	●	●	●	●	●	●	☑
24GX200	☑	●	●	~	~	●	●	☑

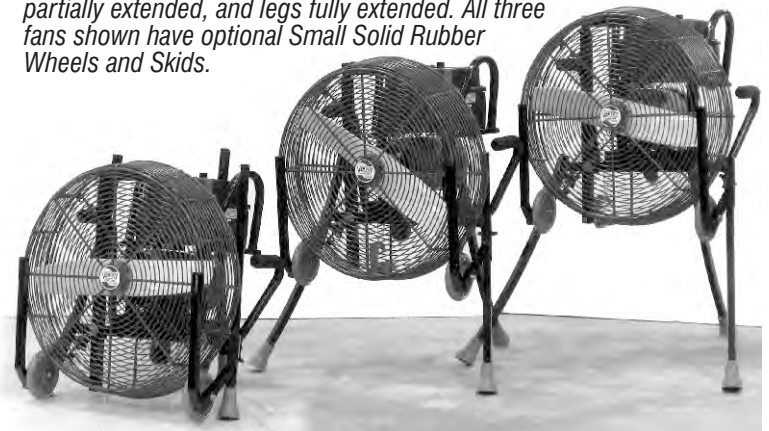
ELECTRIC FAN MODEL 20EM3550

Table 5

Motor: 1.5 hp / 1.1 kW
Wattage: 1800 watts
Input: Single phase, 100-115V, 50-60 Hz
Output to Motor: Three phase (lowers weight)
Amps: 15 Amp or less, even at start-up (no initial spike)
Controller: Variable speed from 0 to 3000 RPM
Listed: All electrical components are UL and CSA listed
NEMA 15A Plugs: Locking plug L5-15 (recommended) or straight/non-locking 5-15 (by request). Advise upon order.
GFCI-compatible. Please note that older GFCI breakers may have sensitivity conflicts with modern GFCI-compatible equipment.

ELECTRIC VENTRY FANS, model 20EM3550, shown with legs retracted, legs partially extended, and legs fully extended. All three fans shown have optional Small Solid Rubber Wheels and Skids.

Figure 2. Three Wheel Choices



WARRANTY. VENTRY FANS come with lifetime factory support. Also, workmanship and materials are covered on all VENTRY FANS for five years. Our customers have deemed this our "No BS" warranty. No matter your fan's age or origin, if you ever have questions, please contact us and we will help!

VENTRY® FAN Accessories

For availability and each option's effect on weight and dimensions, please see **VENTRY FAN Specifications**.

Point of Entry (POE) Lights: LED or Halogen

Choose **Halogen or LED**. Either one will make your VENTRY FAN even safer by lighting the scene before entry, lighting the exit on the way out, and lighting the fan itself—before, during and after operations. Benefits of either light include:

- * Bright, self-contained, and powered by a coil in specially-equipped motors;
- * Tips forward and back and rotates to aim in any direction;
- * Folds down so as not to increase fan dimensions;
- * With the light on or off, its LED button is glowing and visible when the fan is running.
- * The **LED POE Light** offers the additional benefit of solid state and long life.
- * Optional on new -GX160 or -GX200 VENTRY FAN models.



Spark Arrester

Installed inside the muffler to capture and prevent sparks from exiting the motor during operation. A Spark Arrester is required on all engines operated in national parks within the U.S.

Ventry® Filtered Mister

This Misting Ring is made of powder coated stainless steel. It includes a 22 micron filter, flush valve, and two sets of easy-to-clean brass nozzles. To prevent clogging, the inline filter removes impurities from the water supply and flushes clear with the turn of a valve.

15 inches in diameter. Easy installation. Connects to a standard garden hose. Max pressure of 150 psi. The nozzles are designed for high emission velocity with a low flow rate. Output is 5 to 9 gph at 100 psi.

The misting ring can dramatically lower temperatures as much as 25°F. It is very effective for cooling and rehab, salvage and overhaul, dust control and more. Retrofits to existing fans.



Wheels, Stair Skids & Handle

Three wheel options from which to choose. Availability varies by model. All three include a long **Handle** that moves straight up and down from the center of the fan. Tip the fan toward you to roll. Pull a release and the handle may be lowered back down out of the way when not needed.

Small and Medium wheels come with two powder-coated steel **Stair Skids** which protect the fan's guard and allow for easy maneuvering of the fan up and down stairs and over obstacles like curbs.



Small Solid Rubber

Wheels and Skids. Extra rugged, clear polyurethane wheels with ABEC-5 bearings for smooth rolling. 5 inches in diameter. Ideal for urban environments and mostly smooth ground.

Medium Flat-Free Wheels and Skids. Microcellular polyurethane "foam" material. 6 x 2 inches, they roll easily over rough and unpacked terrain and provide extra clearance between the fan guard and the ground during transport. These are low maintenance and have a zinc-plated, two-piece steel hub. They can never go flat!

Large Pneumatics Tires. 8.5 x 3 inches, these big, air-filled tires allow easy transport over very rough terrain, rocks and gravel. These tires do not include skids, as their large size and position forward of the fan protect the guard.



Small, Medium and Large Wheels

Tachometer

This small, digital meter shows RPM and hours for performance report, diagnostics and maintenance scheduling.

Ultimate Door Stop

A well-engineered tool that is so useful to firefighters that we include one on new VENTRY FANS; it is hung from the fan's side handle for easy retrieval when needed. Keeps a door open when set on top of the door, over its hinge, between the door and jamb, or on the floor like a traditional wedge. Extras sold separately.



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VENTRY ELECTRIC FAN Model 20EM3550



VENTRY FAN MODEL 20EM3550 IS 1.5 HP, VARIABLE SPEED, AND GFCI-COMPATIBLE.

Made by Ventry Solutions, Inc, this variable speed fan is easily deployed by one person and ideal for all levels and stages of ventilation, from aggressive, coordinated attack to post knock-down mop-up. It combines efficient three phase technology with the patented, all-terrain, 3-legged design and Safety Propellers exclusive to VENTRY FANS.



SPECIFICATIONS

Motor:	1.5 HP / 1.1 kW
Volume:	10,500 cfm (17,837 m ³ /hr), 8.1 pounds thrust*
Wattage:	1800 watts
Input:	Single phase, 110V \pm 10%, 50/60 Hz \pm 5% (plugs into normal household current)
Output to Motor:	Three-phase; controller converts single phase to three phase
Amps:	15 A or less, even at start up (no initial spike)
Controller:	Variable speed from 0 to 3000 RPM
Nema Plug:	L5-15 (locking; standard) or 5-15; others upon request
Dimensions:	23.5 x 20.5 x 23.5 inches, base model <i>without wheels</i> 23.5 x 21 x 23.5 inches with Solid Rubber Wheels 27.50 x 22.5 x 23.5 inches with Medium Flat-Free Wheels
Weight:	78 pounds, base model
Listed:	All electrical components are UL and CSA listed
Country of Origin:	USA
US Patent:	5,503,526

**Thrust is a measure of fan performance that allows for easy comparison between fans.*

BENEFITS OF THREE PHASE TECHNOLOGY

- **Size and weight.** Reduced by 25–50% over single phase systems which is critical for one-person operation and fitting limited storage compartments.
- **Efficiency.** Three phase systems provide almost constant torque and deliver more power using less amperage than single phase.
- **Sophistication.** Three-phase technology allows for better control of motor operations for greater compatibility with standard power supplies. For example, through programming, the power draw at startup is limited to 15 amps (no initial spike), thereby avoiding the need for huge breakers and other protections.

EXCLUSIVE TO VENTRY FANS

- Fail-safe two-blade, aircraft-style **Safety Propellers** of composite construction with vibration-dampening wood core and pressure-bonded, quadruple-layer fiberglass and Kevlar® outer structure contribute to the fans' safety, durability, longevity, and efficiency.
- Individually adjustable, solid aluminum, **All-Terrain Legs** can straddle 12" high obstacles, provide rock-solid stance on imperfect ground, aim air stream over stairs and other obstacles, and provide fast, unlimited aiming. Legs also eliminate the possibility of the fan picking up and ejecting, or plugging with, debris.
- Double reinforced **Free-Flow Wire Guard** allows maximum air supply for higher air volume, while excluding objects larger than 1/2-inch for safety.



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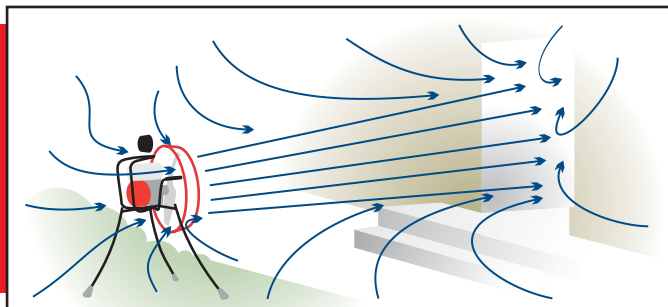
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2 Secrets for Best Performance

For best performance from your VENTRY® FAN...

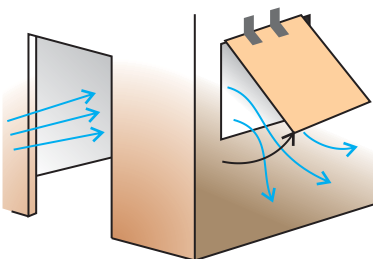
1. Always extend the Legs when the fan is in use.
2. Place the fan 8 to 12 feet back from the target.

These quick and easy steps result in important safety and performance benefits, although they may seem odd at first to those who've trained only with conventional on-the-ground fans.



See videos on VENTRY.COM in which a woman, 9 months pregnant, demonstrates the legs easily and without lifting.

All leg adjustment knobs have neon yellow “dots” to emphasize the benefits of extending the Legs. If your VENTRY FAN needs dots, call us for a **free visibility upgrade**.



Questions and comments? Call us. We have experts on staff who are happy to discuss. See VENTRY.COM for more tips, testing, and training ideas.

Why extend the Legs?

Legs on VENTRY FANS add versatility and **maximize air volume**. The higher the air volume the better for effective ventilation. VENTRY® SAFETY PROPELLERS pull in air from many directions — above, behind, and even below. If raised, the fan won't be trying to pull air out of the dirt; as more air is able to reach and supply the propeller, CFM increases. See diagram below. **Always extend the legs (a minimum of six inches) when you run your VENTRY FAN.**

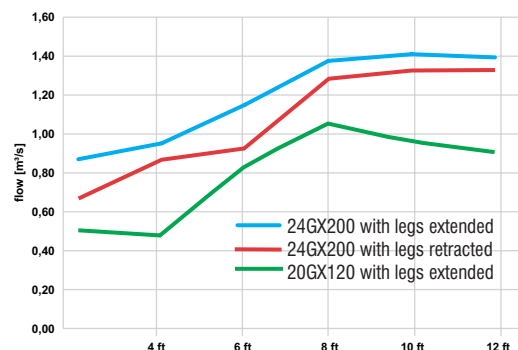
Extending the legs on a VENTRY FAN will also increase scene safety and make your high performance Safety Propeller last a very, very long time by preventing debris pick-up.

Why place the fan so far back?

With VENTRY FANS, it is better to err on the side of being too far away than too close!

In general, air volume is highest at about 8 feet from the door. It then drops off slowly as the fan gets farther away, but drops off very quickly as the fan is placed closer and closer to the door.

When a PPV fan blows air in and smoke pours back out the top of the door, **the fan is too close to the entry point**. It is the tight, narrow air cone produced by the Safety Propellers which allows VENTRY FANS to be placed far back from the target and **entrain air through the entrance** as shown in the illustration at the top of this page.



Adapted from <http://www.me.utexas.edu/~ezekoye/rsch.dir/documents/TravisHouseStudy.pdf>

Placing the fan far away from the target also keeps the access clear and the fan well out of the way. **Your fan should never be an obstacle to firefighting crew and victims!**

Simple test to demonstrate benefits

These recommendations are based on **decades of direct firefighting experience**, customer feedback, and third party testing. Results will vary with conditions and are specific to VENTRY FANS. We encourage all customers to experiment with their fans to learn and implement the best practices for the conditions in which they operate.

One simple test: Tape a piece of cardboard over an exit point and observe how high it flies during ventilation (see illustration at left). You may need to steady the cardboard by adding a little weight to it. Try ventilating with the fan legs extended and retracted for comparison. Also try placing the fan at different distances from the door. The results should be dramatic.

VENTRY
ALL-TERRAIN
PPA & PPV FANS



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