

OWNER'S MANUAL
General Ventilation Fans
Electric Driven



*HD Series
(Incl. -T & -S)*



*PAL Series
(Incl. 24 & 30)*



INTRODUCTION

Thank you for choosing Tempest Technology Corporation for your ventilation needs. With this manual we hope to help you operate your Tempest product safely and to its full potential. Maintained according to the specifications set in this manual, it is not uncommon to receive many years of use and operation out of your Tempest equipment.

This manual is produced solely for the use of purchasers and operators of Tempest Technology Corporation equipment. Any reproduction, retransmission, or other use of the contents of this manual without written consent of Tempest Technology Corporation is strictly prohibited.

It is the intent of this manual to provide the owner/operator of Tempest Technology Corporation products with both general and specific information regarding the safe and proper operation and maintenance of the equipment described within.

CONTACT

If after careful review, any questions arise concerning any portion of this manual, please contact Tempest Technology Corporation for assistance:

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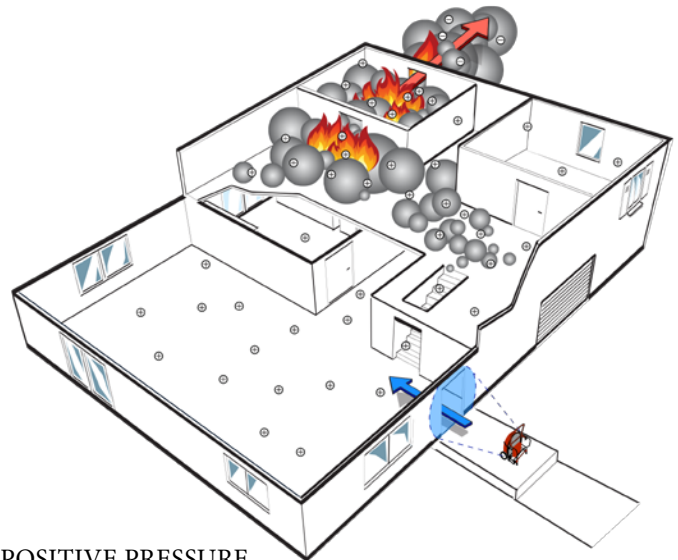
ABOUT TEMPEST

Tempest Technology Corporation is the leading manufacturer of products and accessories for environmental management in firefighting and industrial applications.

Tempest began as a manufacturer of gasoline and electric powered blowers for the fire service. Fire departments use the **Tempest Power Blower™** to provide “Positive Pressure Ventilation / Attack” (PPV/PPA) to remove heat, gases and smoke from the interior of a burning structure.

Tempest has expanded into other industries and found new applications for its products. The **Tempest Power Blower™** and PPV/PPA are used by industrial applications to control dust, fumes and unhealthy gases like carbon monoxide, greatly improving safety in confined spaces.

Tempest Technology Corporation has earned a reputation as a leader and innovator in the air movement industry and continues in that role today.



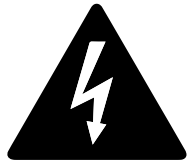
POSITIVE PRESSURE
VENTILATION/ATTACK

SAFETY GUIDE

Failure to follow the operating, maintenance and lubrication requirements set forth in this manual may result in serious personal injury or death and/or damage to equipment or property.

The following WARNING statements indicate potentially hazardous conditions for operators and equipment. Make certain that anyone who works on or around the fan has read and fully understands the safety precautions listed.

1. Carefully read this owner's manual before attempting to operate, service or disassemble any part of your *Tempest Ventilator*.
2. **DO NOT** operate the unit when mentally or physically fatigued or impaired.
3. Stay away from rotating parts; avoid wearing loose jackets, shirts, and ties. Keep hands and feet away from moving parts.
4. Keep all unauthorized personnel at a safe distance from the fan.
5. Keep all guards in place. **DO NOT** make repairs while the unit is running. **DO NOT** operate if any guard or grille is not in place.
6. Always wear eye protection. Loose debris can be picked up in the air stream and flown in the air.
7. Hearing protection is required. Engine and air noise may exceed safe dB levels.
8. Always ensure proper voltage and amperage is delivered to your *Tempest Ventilator*.
9. Only a qualified technician should perform repairs or maintenance on electric components.
10. Never operate your *Tempest Ventilator* with electric components exposed.
11. Never operate your *Tempest Ventilator* with damaged, exposed or frayed wiring.
12. It is the sole responsibility of the owner/operator to develop procedures for proper use of the *Tempest Ventilator* in accordance with generally accepted ventilation techniques as well as the organization's own operating procedures, before placing the unit into service.



GENERAL INFORMATION

BLOWER IDENTIFICATION

Each *Tempest Ventilator* has a part number as well as a serial number. The part number identifies the type of unit (size, drive, etc.) while the serial number relates to information referencing the date of manufacture. This information is useful should it become necessary to contact the factory regarding your ventilator.

SERIAL NUMBER LOCATIONS

The serial number is typically located on the frame just right or left of the motor mount.

Please write the Serial Number of your *Tempest Ventilator* in the spaces below. This will aid us in identifying which model you have when assisting you.

Model (Part No.) _____

Date _____

Serial No. _____

WARRANTY

Warranty information on your unit can be found on the back page of this manual. For further information, please contact Tempest Technology Corp.

GENERAL VENTILATION FAN DATA

TYPE:	General Ventilation Fan
DRIVE:	Single Speed Models: Direct-Drive Single Speed 110-120V, 60Hz or 220-230V, 50Hz Electric Motor, GFCI Compatible Variable Speed Models: Direct-Drive Variable Speed 110-120V, 60Hz or 220-230V, 50Hz Electric Motor, GFCI Compatible, NEMA-4 Rated Drive
EP OPTION:	Hazardous Locations Class I, Group C & D and Class II, Group F & G Environments
BLADE:	AirFlex Fiberglass Reinforced Polyamide Blades
BUSHING:	Keyed Shaft and Set or Cap Screws
SHROUD:	HD Models: Rolled Steel w/ Powder-Coat Finish PAL-24 Models: Turbo 2000 Tapered Aluminum w/ Durable Powder-Coat Finish
FRAME:	Rugged, Lightweight, Square-Steel or Round-Steel Tubing with Powder-Coat Finish
TILT MECHANISM:	24-HD Models: Manual Set Leg Extensions, Three Position Tilt, +15°, +5°, 0° 24-HD-T Models: Manual Set, Eight Position Fan/Motor Tilt, 10° Increments, +30° to -50° 24-HD-S Models: Manual Set, 360° Swivel & Eight Position Fan/Motor Tilt, 10° Increments, 0° to -80°
GRILLE:	Continuous Circular-Wound, External-Weld Steel Wire with 8 Tie Points for Additional Safety Meets UL & European CE Safety Standards
WHEELS:	PAL & HD Models (Non -S): 10" Solid Rubber w/ High Strength Polymer Hubs

24-HD SPECIFICATIONS:	Model No.	Part No.	Size	HP	CFM	Dimensions (WxDxH)	Weight
	24-HD	913-1160	24"	1.0	12,867	28.75" x 26.00" x 34.50"	120 lbs.
	24-HD-EP	913-1161	24"	1.0	12,867	28.75" x 26.00" x 34.50"	125 lbs.

24-HD-T SPECIFICATIONS:	Model No.	Part No.	Size	HP	CFM	Dimensions (WxDxH)	Weight
	24-HD-T-EP	913-1180	24"	1.0	12,867	31.00" x 32.25" x 64.25"	150 lbs.

24-HD-S SPECIFICATIONS:	Model No.	Part No.	Size	HP	CFM	Dimensions (WxDxH)	Weight
	24-HD-S	913-1170	24"	1.0	12,867	31.00" x 23.00" x 29.00"	89 lbs.
	24-HD-S-EP	913-1171	24"	1.0	12,867	31.00" x 23.00" x 29.00"	94 lbs.
	24-HD-S-VSR	913-1172	24"	2.0	15,663	31.00" x 23.00" x 29.00"	117 lbs.

PAL-24 SPECIFICATIONS:	Model No.	Part No.	Size	HP	CFM	Dimensions (WxDxH)	Weight
	PAL-24	913-1065	24"	1.0	12,867	31.00" x 23.00" x 40.75"	133 lbs.
	PAL-24-EP	913-1070	24"	1.0	12,867	31.00" x 23.00" x 40.75"	138 lbs.
	PAL-24-VSR	913-1060	24"	2.0	15,663	31.00" x 23.00" x 40.75"	158 lbs.

PAL-30 SPECIFICATIONS:	Model No.	Part No.	Size	HP	CFM	Dimensions (WxDxH)	Weight
	PAL-30	913-1080	30"	1.5	13,000	33.00" x 22.00" x 35.50"	133 lbs.
	PAL-30-VSR	913-1085	30"	2.0	15,072	33.00" x 22.00" x 35.50"	158 lbs.

OPERATING PROCEDURES

PRE-OPERATION

After receiving and unpacking your fan, be sure to carefully inspect it for any damage that might have occurred during shipping. Should you find any damage: PLEASE NOTIFY TEMPEST TECHNOLOGY CORP. IMMEDIATELY AT 800.346.2143 OR RESPONSE@TEMPEST.US.COM.

OPERATION

SET-UP, STARTING AND STOPPING

Assuming the previous Pre-Operation and safety instructions have been followed, the fan is now ready to run.



WHEN USING A GENERATOR, IT IS IMPERATIVE THAT THE GENERATOR BE RUNNING AT FULL CAPACITY BEFORE PLUGGING IN ANY ELECTRIC FAN. ALWAYS VERIFY SUFFICIENT GENERATOR OUTPUT BEFORE USE. IMPROPER VOLTAGE SUPPLY MAY DAMAGE UNIT AND VOID WARRANTY.

CAUTION: DO NOT MOVE THE FAN WHILE IT IS IN OPERATION. SEVERE PERSONAL INJURY IS POSSIBLE AS WELL AS DAMAGE TO THE FAN.

ALWAYS SHUT-DOWN THE FAN PRIOR TO MOVING.

SET-UP

Position the fan in the desired location, making sure it is placed on a flat, hard and debris free surface.

NOTE: The following sections cover separate operating instructions for both single speed and variable speed fans. Please be sure to follow the operating instructions specific to your particular fan model.

STARTING - SINGLE SPEED

No Switch: Plug fan into power source. Unit will begin running automatically.

With Switch:

1. Ensure fan toggle is switched to the OFF position.
2. Plug fan into power source.
3. Switch toggle to the ON position.

STOPPING

No Switch: Unplug unit from power source or switch off power source.

With Switch: Stop unit before unplugging from power source. Make sure toggle switch is set to STOP.

SINGLE SPEED REQUIREMENTS

Based on 110-120V fan on 20 amp circuit.

Motor HP	0.3	1.0	1.5
Starting Amps	10.9	48.0	54.6
Starting Watts	1300	6,000	6,300
Runnings Amps	6.3	13.4	14.2
Runnings Watts	756	1,900	2,100

MAXIMUM POWER CORD LENGTH

Based on 1 fan on 20 amp circuit.

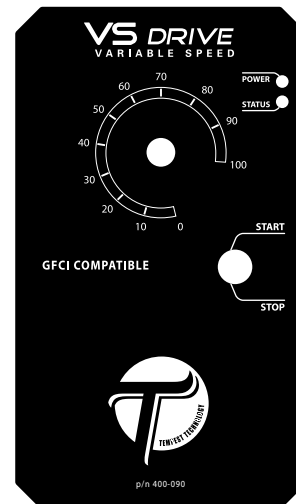
Motor HP	0.3	1.0	1.5
14 Gauge	215'	60'	45'
12 Gauge	330'	95'	65'
10 Gauge	550'	150'	115'
8 Gauge	850'	240'	190'
6 Gauge	1,350'	380'	300'

STARTING - VARIABLE SPEED

1. Check that the toggle switch is set to STOP.
2. Plug the fan cord into power source receptacle. If power is properly brought to the control, the "POWER" LED and the "STATUS" LED indicators will be lit.
3. Engage START toggle. The toggle is momentary switch to start. The center position is the run location.
4. Adjust the rheostat knob to the desired speed/load.

STOPPING

1. Stop unit before unplugging from power source. Make sure toggle is set to STOP.



VARIABLE SPEED DRIVE

MAINTENANCE PROCEDURES

Although Tempest electric ventilators are designed to eliminate most maintenance issues, it is imperative that the fans be inspected before startup on each use. Please review the following list before using this product.

MAINTENANCE SCHEDULE

EVERY USE

- INSPECT FAN FOR DAMAGE AND FIX IF ANY
- TIGHTEN/REPLACE ANY LOOSE OR MISSING PARTS

EVERY MONTH OR 10 HOURS

- INSPECT & CLEAN SHROUD & GRILLES

IMPORTANT: Always operate the fan in an area free of debris which may be pulled into the unit's blades. If you suspect the fan's blade may have contacted a hard object, thorough inspection of the blade assembly should be conducted immediately to ensure safety. You may contact Tempest Technology Corp. in order to find out how to properly inspect the blade assembly.

TROUBLESHOOTING

Various factors can contribute to or be the sole cause of problems for electric fans. This section will identify some of these problems and provide solutions to correct them.

SINGLE SPEED

FAN FAILS TO START

- Make sure the unit is connected to the power source.
- Thoroughly check the power cord. If the cord shows any signs of serious wear it may need to be replaced before running properly.
- Many fans are equipped with an "automatic reset." This reset will kill power to the fan when the unit is at risk of overheating. Let the fan cool and attempt to start it again.
- There may be damage to the internal wiring. Have a qualified technician or electronics specialist examine the fan circuitry and wiring and make any necessary repairs.
- If your Tempest Single Speed Fan is not running after completing the steps mentioned above, please contact us at 800.346.2143 or response@tempest.us.com.

VARIABLE SPEED

IF THE "POWER" AND THE "STATUS" LEDS DO NOT LIGHT UP

- Make sure the unit is connected to the power source.
- Confirm that adequate power is being supplied to fan. If power supply is adequate, **DISCONNECT FAN FROM POWER SOURCE** and check for loose or faulty wiring on fan electrical system and have a qualified professional perform repairs if needed.
- Connect fan to power source and attempt restarting. If fan still does not run, contact Tempest at 800.346.2143 or response@tempest.us.com.

FAN SURGES WHEN RUNNING ON GENERATOR:

- Check that the generator meets the proper voltage output to operate the fan.
- If fan is still surging, contact Tempest at 800.346.2143 or response@tempest.us.com.

24-HD & 24-HD-T

FAN DOESN'T REST EVENLY ON LEVEL SURFACE

- Ensure fan is resting on a level surface, free from any debris or objects which may be located under its feet.
- Make sure the unit is not running. Then, place the unit on its back, resting it on its rubber stops (or wheels on -T models).
- Using a 9/16 wrench, adjust the jam nut located just above the foot pad to loosen the foot (it may be necessary to put 24-HD models in the first tilt position to gain access to the nut).
- Screw the foot pad in or out as necessary to make it level with the fan's other feet.
- Once adjusted, re-tighten the jam nut against the upper portion of the fan's leg and set the fan upright again.

WARRANTY INFORMATION

Except as otherwise set forth below, any claim by Customer with reference to the Goods sold shall be deemed waived by the Customer unless submitted in writing to Tempest within the earlier of (i) five (5) business days following the date Customer discovered, or by reasonable inspection should have discovered, any claimed breach of the foregoing warranty, or (ii) thirty (30) calendar days following the date of shipment. Any cause of action for breach of the foregoing warranty shall be brought within one (1) year from the date the alleged breach was discovered or should have been discovered, whichever occurs first.

Limited Power Blower Warranty

Tempest warrants to the original purchaser that all Tempest gasoline and electric powered blowers (except the engine or motor and drive) will be free from original defects in workmanship and material, under normal-use conditions, and Tempest will replace any defective power blower part (except the engine or motor and drive) if returned during the applicable warranty period, for the time frame indicated below:

Firefighting Industry:

Five (5) years from date of shipment

Industrial/Rental Industry:

One (1) year from date of shipment

Blower Engine / Motor & Drive Warranty

The engines manufactured by Honda® and Briggs & Stratton® are covered by a separate manufacturer's warranty for a period of two (2) years. Electric motors manufactured by Magnetek, Marathon, Baldor, Franklin Electric and Multi-Fan are covered by a separate manufacturer's warranty for a period of one (1) year.

Note: Unauthorized repair or modification of the factory assembly or parts voids the warranty.

All information provided in this operations manual is subject to change without notice. Please refer to our website for the most recent sales terms and conditions.



Tempest Technology Corporation

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