



**ADVANCING VENTILATION®**

# TEMPEST HVLS

## 6-BLADE HIGH VOLUME LOW SPEED



### FEATURES:

#### BLADES

- Equipped with 6 blades
- Extruded anodized aluminum
- High performance E420 design with
- STOL technology

#### CONSTRUCTION

- Mounting is to be 1/4" powder coated steel and anodized aluminum
- All construction is to be protected from the elements
- Stainless steel safety brackets

#### VFD

- Onboard, IP65 rating
- Factory assembled & programmed
- Minimum start/stop torque loads

#### WINGTIPS

- Equipped with 6 Wingtips
- Constructed of nylon 66
- Redirect outward airflow into downward airflow

#### MOTOR

- Direct drive ECM motor
- Totally enclosed
- IP65 rating
- Class F insulation
- 1.35HP (1.0 kW) nominal horsepower
- 115V models include a 15 Ft. pigtail for power connection

#### WARRANTY

- 5 YEAR Housing
- 1 YEAR Motor and Control

MODEL	DESCRIPTION	FAN DIA.	VOLTAGE RANGE	MOTOR FLA	PHASE	HP	AREA COVERED	MAX EFFECTIVE DIAMETER FOR DESTRATIFICATION	MAX EFFECTIVE DIAMETER FOR COOLING	MAX SPEED	INSTALLED WEIGHT
THVLS6061151	TEMPEST 06FT 115V/1PH	6 Ft. (1.8 m)	108-132V	5.2	1	1.35 HP (1.0kW)	2,826 Ft <sup>2</sup> (262 m <sup>2</sup> )	60 Ft. (18 m)	30 Ft. (9 m)	140 RPM	101 lb
THVLS6062301	TEMPEST 06FT 230V/1PH		207-253V		1						
THVLS6062303	TEMPEST 06FT 230V/3PH		207-253V		3						
THVLS6064603	TEMPEST 06FT 460V/3PH		414-506V		3						
THVLS6081151	TEMPEST 08FT 115V/1PH	8 Ft. (2.4 m)	108-132V	5.2	1	1.35 HP (1.0kW)	5,024 Ft <sup>2</sup> (467 m <sup>2</sup> )	80 Ft. (24 m)	40 Ft. (12 m)	100 RPM	104 lb
THVLS6082301	TEMPEST 08FT 230V/1PH		207-253V		1						
THVLS6082303	TEMPEST 08FT 230V/3PH		207-253V		3						
THVLS6084603	TEMPEST 08FT 460V/3PH		414-506V		3						
THVLS6101151	TEMPEST 10FT 115V/1PH	10 Ft. (3.0 m)	108-132V	5.2	1	1.35 HP (1.0kW)	7,850 Ft <sup>2</sup> (730 m <sup>2</sup> )	100 Ft. (30 m)	50 Ft. (15 m)	70 RPM	107 lb
THVLS6102301	TEMPEST 10FT 230V/1PH		207-253V		1						
THVLS6102303	TEMPEST 10FT 230V/3PH		207-253V		3						
THVLS6104603	TEMPEST 10FT 460V/3PH		414-506V		3						
THVLS6121151	TEMPEST 12FT 115V/1PH	12 Ft. (3.6 m)	108-132V	5.2	1	1.35 HP (1.0kW)	11,304 Ft <sup>2</sup> (1050.2 m <sup>2</sup> )	120 Ft. (36 m)	60 Ft. (18 m)	65 RPM	111 lb
THVLS6122301	TEMPEST 12FT 230V/1PH		207-253V		1						
THVLS6122303	TEMPEST 12FT 230V/3PH		207-253V		3						
THVLS6124603	TEMPEST 12FT 460V/3PH		414-506V		3						
THVLS6141151	TEMPEST 14FT 115V/1PH	14 Ft. (4.3 m)	108-132V	5.2	1	1.35 HP (1.0kW)	15,386 Ft <sup>2</sup> (1429.4 m <sup>2</sup> )	140 Ft. (43 m)	70 Ft. (21.5 m)	50 RPM	115 lb
THVLS6142301	TEMPEST 14FT 230V/1PH		207-253V		1						
THVLS6142303	TEMPEST 14FT 230V/3PH		207-253V		3						
THVLS6144603	TEMPEST 14FT 460V/3PH		414-506V		3						
THVLS6161151	TEMPEST 16FT 115V/1PH	16 Ft. (4.9 m)	108-132V	5.2	1	1.35 HP (1.0kW)	20,096 Ft <sup>2</sup> (1,867 m <sup>2</sup> )	160 Ft. (49 m)	80 Ft. (24.5 m)	45 RPM	119 lb
THVLS6162301	TEMPEST 16FT 230V/1PH		207-253V		1						
THVLS6162303	TEMPEST 16FT 230V/3PH		207-253V		3						
THVLS6164603	TEMPEST 16FT 460V/3PH		414-506V		3						

- 277V power source is not accepted.
- Estimated values based on typical conditions.



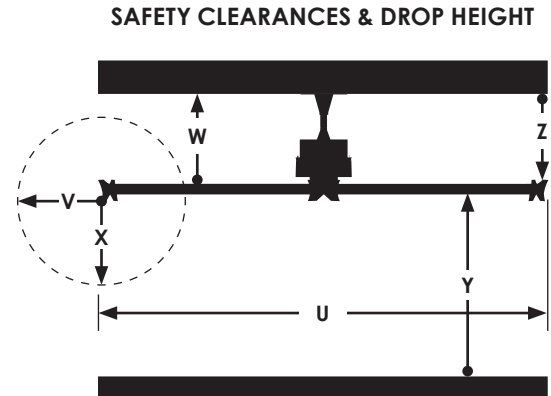
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# TEMPEST HVLS

## 6-BLADE HIGH VOLUME LOW SPEED

### SAFETY CLEARANCES AND DROP HEIGHT

MODEL	DIAMETER [U]	SIDE [V]	ABOVE [W]	BELOW [X]	MIN. BLADE HEIGHT [Y]	BLADE DROP HEIGHT [Z]
THVLS606	6 Ft. (1.8 m)	11"	20"	11"	10'	22.25"
THVLS608	8 Ft. (2.4 m)	15"	20"	15"	10'	22.25"
THVLS610	10 Ft. (3.0 m)	18"	20"	18"	10'	22.25"
THVLS612	12 Ft. (3.6 m)	22"	20"	22"	10'	22.25"
THVLS614	14 Ft. (4.3 m)	26"	20"	26"	10'	22.25"
THVLS616	16 Ft. (4.9 m)	29"	20"	29"	10'	22.25"

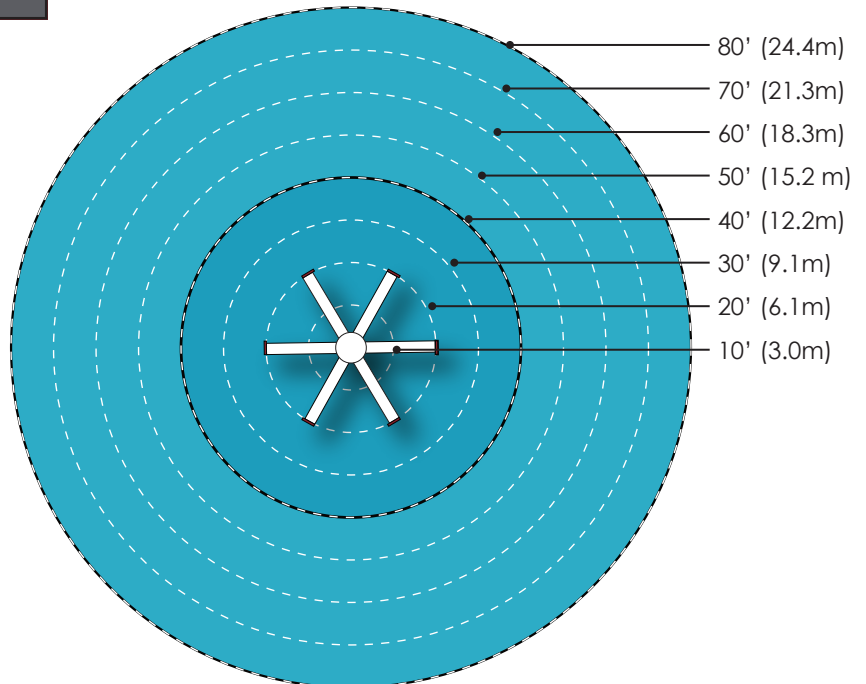


• All dimensions are based on a standard 6-1/2" extension bar.

### MAX EFFECTIVE DIAMETER FOR COOLING

DISTANCE FROM CENTER	AIR VELOCITY <sup>2</sup>	COOLING SENSATION <sup>2</sup>
0' - 20' (0-6.1m)	620 - 900 fpm 3 - 4.5 m/s	8 - 15°F 5 - 10°C
21' - 40' (6.2-12.2m)		
41' - 60' (12.3-18.3m)	340 - 620 fpm 1.7 - 3 m/s	0 - 8°F 0 - 5°C
61' - 80' (18.4-24.4m)		

• Stated values are estimations based on standard installation at maximum power. Values such as building layout, obstructions, ceiling height, and drop ceiling height may effect these numbers.



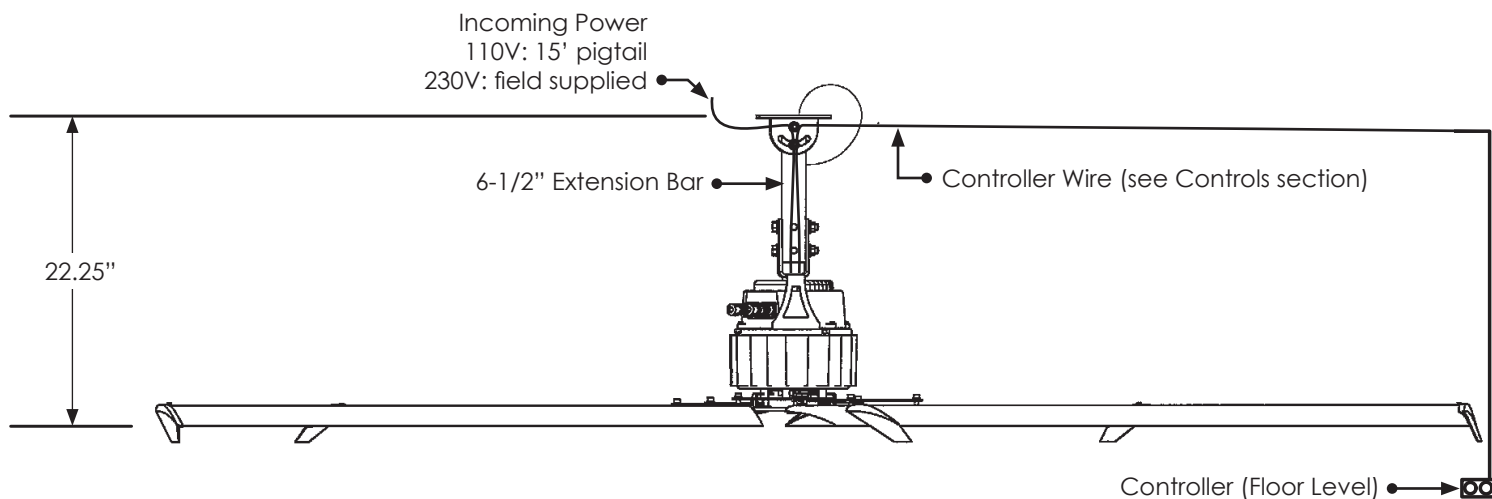


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## TEMPEST INSTALLATION





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## TEMPEST HVLS 6-BLADE HIGH VOLUME LOW SPEED

### TEMPEST INSTALLATION

- A. Basis-of-design product: Subject to compliance with requirements, provide S&P USA TEMPEST **Series** high volume low speed ceiling fans.
- B. Complete Unit: The fan shall be designed to move an effective amount of air for cooling and Destratification in large industrial/commercial applications over an extended life. The fan and components shall be designed specifically for high volume, low speed fans to ensure lower noise operation. The sound levels from the fan operating at maximum speed shall not exceed <35 dBA (measured 20' or 6.1 m below the blades and 20' or 6.1 m horizontally from the center of the fan).
- C. Blades: The fan shall be equipped with six (6) high volume, low speed blades of precision 6005-T5 extruded anodized aluminum alloy. Each blade shall be of the high performance E420 (Short Take-Off and Landing) design. The blades shall be connected by means of two (2) locking bolts per blade. The blades shall be connected to "H-Strut" which is connected to the hub and interlocked with one set of six stainless steel retainers.
- D. Wingtips: The fan shall be equipped with six (6) Tempest Wingtips designed to redirect outward airflow into downward airflow, thereby enhancing the efficiency and effectiveness of the fan. The wingtips shall be molded of Nylon 66 and nominally measure 10"x6-3/8" (25.4 cm x 16.2 cm). The wingtips shall be attached at the tip of each blade by means of a single screw. The standard color of the winglets shall be black.
- E. Motor: The fan motor shall be an ECM (Electronically Commutated Motor), BLDC (Brushless DC), gearless direct drive. The motor shall be totally enclosed with an IP65 NEMA classification. The motor shall be manufactured with Class F insulation with bearings that are lubed for life.
- F. Extension Bar: The fan shall be equipped with an extension bar that provides a structural connection between the fan assembly and upper mounting system. The extension bar shall be aluminum 2" x 2" (5.08 cm x 5.08 cm) square tubing and powder-coated for corrosion resistance and appearance. Standard length of extension bar is 6-1/2". available in additional 1 Ft. increments up to 5 Ft. as specified by the architect or owner.
- G. Hub: The fan hub shall be minimum 1/4" precision steel for high strength and rigidity. The hub shall be secured to the output shaft of the motor by means of a precision cut stainless steel cylinder & interlocking bushing system. Both hub and steel bushing shall be precision machined to achieve a factory balanced and solid rotating assembly. The hub shall incorporate six (6) safety retaining brackets no less than 1/8" made of stainless steel that shall restrain the hub/blade assembly in case of motor output shaft failure.
- H. Mounting System: The fan mounting system shall be designed for quick and secure installation from a structural support beam. All components in the mounting system shall be of welded construction using 1/4" powder-coated steel. All mounting bolts shall be Grade 5 or Grade 8 SAE.
- I. Guy Wire: The fan shall be equipped with a safety cable that provides an additional means of securing the fan assembly to the building structure. The safety cable shall be a four point restraint 3/16" (.47 cm) diameter and fabricated out of 7 x 19 stranded galvanized steel with each cable having a breaking strength of 2,475 lbs. The cable is to be secured with supplied wire rope clips or fasteners. Field construction of safety cables is not permitted.
- J. Safety Cable: The fan shall be equipped with a safety cable that provides an additional means of securing the fan assembly to the building structure. The safety cable shall be 3/16" (.47 cm) diameter and fabricated out of 7 x 19 stranded galvanized steel a break strength of 2,475 lbs. The cable is to be secured with supplied wire rope clips or fasteners. Field construction of safety cables is not permitted.
- K. VFD Enclosure: The fan controller shall be constructed using a Variable Frequency Drive (VFD) that is pre-assembled and factory programmed to communicate a 60 second ramp up/down to the fan, to minimize the starting and braking torques and for smooth and efficient operation. The VFD enclosure shall be pre-assembled and internally wired for ease of installation. The controller shall be onboard with IP65 rating.
- L. Warranty: The Manufacturer shall replace any products or components defective in material or workmanship, free of charge to the customer (including transportation charges within the USA, F.O.B. ), pursuant to the complete terms and conditions of the S&P USA Non-Prorated Warranty in accordance to the following schedule:
- Blades - 5 year (Parts)
  - Hub - 5 year (Parts)
  - Motor - 1 year (Parts)\*
  - Controller - 1 years (Parts)\*
- \*If factory supplied installation methods are shown not to be valid, S&P USA has right to void warranty. Further Information on the terms and conditions of the standard & purchased warranties can be found in Warranty Card.
- S&P USA is not liable for any voltage disturbances with explicit reference to electronic magnetic interference (EMI). Voltage disturbance refers to transient overvoltage, voltage unbalance, voltage swells, rapid voltage change, flicker, superimposed signals, harmonic voltages, supply voltage variations, voltage dips and frequency/time deviation.