

# STOL SERIES

## SUBMITTAL DATA - HVLS CEILING FANS & ACCESSORIES

SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

JOB TITLE: \_\_\_\_\_ CONTRACTOR: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ PHONE #: \_\_\_\_\_

CITY: \_\_\_\_\_ ADDRESS: \_\_\_\_\_

STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_ CITY: \_\_\_\_\_

STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

ENGINEER: \_\_\_\_\_

LOCAL REPRESENTATIVE: \_\_\_\_\_

QTY.	MODEL #	FAN DIA.	VOLTAGE	MOTOR FLA	PHASE	HP	AREA COVERED	MAX EFFECTIVE DIAMETER	MAX SPEED	INSTALLED WEIGHT
	STOL-0824-612-1	8 Ft. (2.4 m)	115	4.6	1	1.0HP (0.75 kW)	5024 Ft <sup>2</sup> (467 m <sup>2</sup> )	80 Ft. (24 m)	85 RPM	325 lb (147 kg)
	STOL-0824-623-1		230	4.6	1					
	STOL-0824-623-3		230	4.6	3					
	STOL-0824-646-3		460	2.3	3					
	STOL-0824-657-3		575	2.3	3					
	STOL-1030-612-1	10 Ft. (3.0 m)	115	4.6	1	1.0HP (0.75 kW)	7850 Ft <sup>2</sup> (730 m <sup>2</sup> )	100 Ft. (30 m)	85 RPM	335 lb (152 kg)
	STOL-1030-623-1		230	4.6	1					
	STOL-1030-623-3		230	4.6	3					
	STOL-1030-646-3		460	2.3	3					
	STOL-1030-657-3		575	2.3	3					
	STOL-1236-612-1	12 Ft. (3.6 m)	115	4.6	1	1.0HP (0.75 kW)	11,304 Ft <sup>2</sup> (1050.2 m <sup>2</sup> )	120 Ft. (36 m)	85 RPM	345 lb (157 kg)
	STOL-1236-623-1		230	4.6	1					
	STOL-1236-623-3		230	4.6	3					
	STOL-1236-646-3		460	2.3	3					
	STOL-1236-657-3		575	2.3	3					
	STOL-1443-612-1	14 Ft. (4.3 m)	115	4.6	1	1.0HP (0.75 kW)	15,386 Ft <sup>2</sup> (1429.4 m <sup>2</sup> )	140 Ft. (43 m)	75 RPM	355 lb (161 kg)
	STOL-1443-623-1		230	4.6	1					
	STOL-1443-623-3		230	4.6	3					
	STOL-1443-646-3		460	2.3	3					
	STOL-1443-657-3		575	2.3	3					
	STOL-1649-612-1	16 Ft. (4.9 m)	115	4.6	1	1.0HP (0.75 kW)	20,096 Ft <sup>2</sup> (1866.9 m <sup>2</sup> )	160 Ft. (49 m)	64 RPM	365 lb (166 kg)
	STOL-1649-623-1		230	4.6	1					
	STOL-1649-623-3		230	4.6	3					
	STOL-1649-646-3		460	2.3	3					
	STOL-1649-657-3		575	2.3	3					
	STOL-1855-612-1	18 Ft. (5.5 m)	115	4.6	1	1.5HP (1.12 kW)	25,434 Ft <sup>2</sup> (2362.8 m <sup>2</sup> )	180 Ft. (55 m)	55 RPM	385 lb (175 kg)
	STOL-1855-623-1		230	4.6	1					
	STOL-1855-623-3		230	4.6	3					
	STOL-1855-646-3		460	2.3	3					
	STOL-1855-657-3		575	2.3	3					
	STOL-2061-612-1	20 Ft. (6.1 m)	115	4.6	1	1.5HP (1.12 kW)	31,400 Ft <sup>2</sup> (2917.1 m <sup>2</sup> )	200 Ft. (61 m)	50 RPM	395 lb (179 kg)
	STOL-2061-623-1		230	4.6	1					
	STOL-2061-623-3		230	4.6	3					
	STOL-2061-646-3		460	2.3	3					
	STOL-2061-657-3		575	2.3	3					
	STOL-2473-612-1	24 Ft. (7.3 m)	115	4.6	1	1.5HP (1.12 kW)	45,216 Ft <sup>2</sup> (4200.7 m <sup>2</sup> )	240 Ft. (73 m)	42 RPM	405 lb (184 kg)
	STOL-2473-623-1		230	4.6	1					
	STOL-2473-623-3		230	4.6	3					
	STOL-2473-646-3		460	2.3	3					
	STOL-2473-657-3		575	2.3	3					

# STOL SPECIFICATIONS

## APPROVALS

- ETL
- CE
- C-Tick

## AIRFOILS

- Equipped with 6 airfoils
- Extruded anodized aluminum
- High performance STOL design

## GEARBOX

- Precision finished gears for low noise & long service life
- Sealed with lifetime synthetic oil
- Robust 3" output shaft for strength
- Nylon bushing on input

## CONSTRUCTION

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

## VFD

- NEMA1, IP 10 metal enclosure with hinged door. (NEMA 4x, IP 66 available)
- Factory assembled & programmed
- Minimum start/stop torque loads

## WINGTIP FENCE

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

## MOTOR

- Totally enclosed, fan cooled (TEFC)
- IP55 rating
- Class F insulation
- 1.5HP (1.12 kW) nominal horsepower

## STANDARD LIMITED WARRANTY

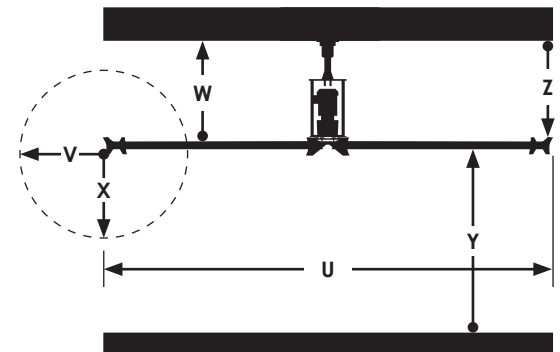
- 3 year: Motor & Reducer
- 1 year: Electronics
- Lifetime: Airfoil
- Extended warranties available.

# STOL SERIES SAFETY CLEARANCES & DROP HEIGHT<sup>1</sup>

MODEL #	DIAMETER [U]	SIDE [V]	ABOVE [W]	BELOW [X]	MIN. AIRFOIL HEIGHT [Y]	AIRFOIL DROP HEIGHT [Z]
STOL-0824	8 Ft (2.4 m)	15"	39"	15"	10'	44"
STOL-1030	10 Ft (3.0 m)	18"	39"	18"	10'	44"
STOL-1236	12 Ft (3.6 m)	22"	39"	22"	10'	44"
STOL-1443	14 Ft (4.3 m)	26"	39"	26"	10'	44"
STOL-1649	16 Ft (4.9 m)	30"	39"	30"	10'	46"
STOL-1855	18 Ft (5.5 m)	33"	39"	33"	10'	49"
STOL-2061	20 Ft (6.1 m)	36"	39"	36"	10'	51"
STOL-2473	24 Ft (7.3 m)	44"	39"	44"	10'	55"

<sup>1</sup> All dimensions are based on a standard 1 ft. extension bar.

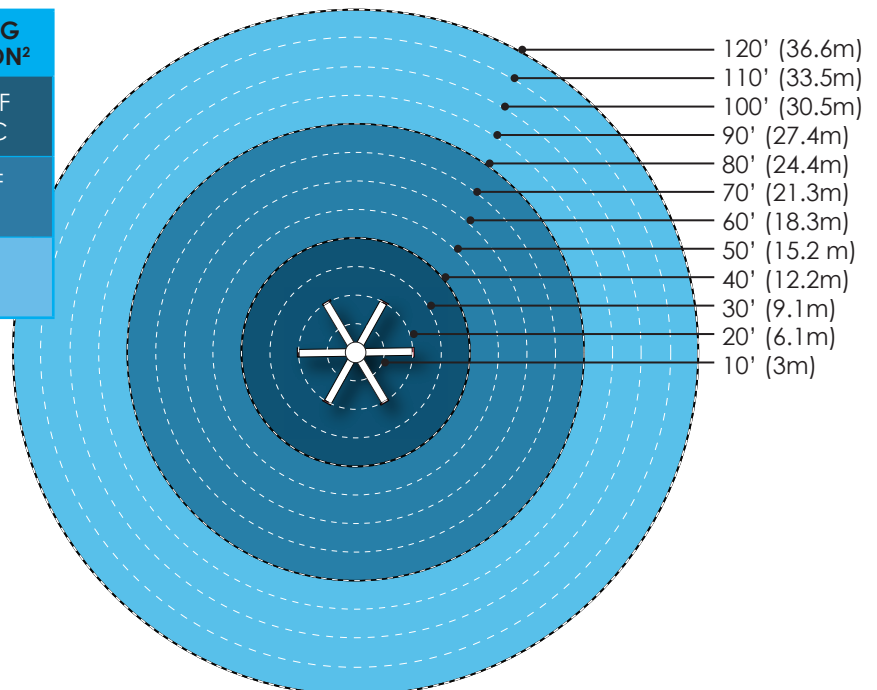
Safety Clearances & Drop Height



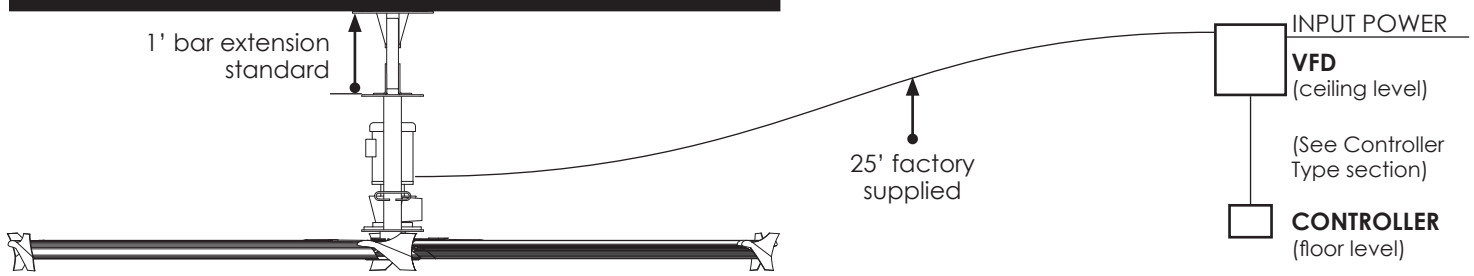
# STOL SERIES MAX EFFECTIVE DIAMETER

DISTANCE FROM CENTER	AIR VELOCITY <sup>2</sup>	COOLING SENSATION <sup>2</sup>
0' - 40' (0 - 12.2m)	620 - 900 fpm 3 - 4.5 m/s	14 - 15°F 8 - 10°C
40' - 80' (12.2 - 24.4m)	340 - 620 fpm 1.7 - 3 m/s	9 - 15°F 5 - 8°C
80' - 120' (24.4 - 36.6m)	0 - 340 fpm 0 - 1.7 m/s	0 - 9°F 0 - 5°C

<sup>2</sup> 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.



# STOL SERIES INSTALLATION



## STOL SERIES OPTIONAL ACCESSORIES & UPGRADES

QTY.	PART #	DESCRIPTION	NOTES							
<b>EXTENSION BARS</b>										
	1002-X	Extension Bar	Lowere assembly in 1 ft increments. All models come standard with a 1 ft. extension. Custom lengths up to 10 ft. are available.							
QTY.	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'
<b>CONTROLLER TYPES</b>										
	1034-1	Single Yoke Controller	Includes Fwd/Off/Rev switch and 0-10 speed pot to control fan speed. NEMA 4x enclosure. (qty. 1) 100 Ft. wire factory supplied.. One per fan required.							
	1034-2	Double Yoke Controller	Includes Fwd/Off/Rev switch and 0-10 speed pot to control fan speed. NEMA 4x enclosure. (qty 2) 100 Ft. wire factory supplied.. One per two fans required.							
	1034-3	Triple Yoke Controller	Includes Fwd/Off/Rev switch and 0-10 speed pot to control fan speed. NEMA 4x enclosure. (qty 3) 100 Ft. wire factory supplied.. One per three fans required.							
	1046	AutoPilot Controller	Wall mounted controller with 7" LCD touchscreen interface. Web based controller supports up to 24 fans. Wire to be field supplied.							
	1047	Touch 'N' Go Controller	Operate a single fan in forward/reverse with 0-100% speed control. Mounts to wall or electric gang box. Fully digital interface with password lockout capability. 50 Ft. wire factory supplied.							
	1067	UltraLite Controller	Control each fan individually in the forward direction. Allows operation of the fan for cooling & destratification. Wire to be field supplied One per fan required.							
	1069	VLD Controller	Control each fan individually via an economic digital interface. Wire to be field supplied.							
	1077	Radar Controller	Digital interface controls all fan functions including programming, fault viewing, and more. Control up to 63 fans individually or as a group. Operate fans for cooling or destratification.							
<b>OPTIONAL ACCESSORIES</b>										
	1017	Motor Cover	The Motor Cover creates an aesthetic shield encasing the motor and gearbox. It provides the clean & sleek appearance of polished stainless steel.							
	1044	Purlin Mounting System	Mounting system for hanging SkyBlade Fans along purlin ceiling braces (hardware included).							
	1048	Temperature Probe (AutoPilot)	Two temperature probes required per fan. Required for use with "Automatic" mode on the AutoPilot. For AutoPilot only.							
	1050	230v Line Reactor	Cleans dirty voltage by reducing harmonic current and transient voltages. Includes one Nema 1 enclosure.							
	1051	460v Line Reactor								
	1052	230v EMC Filter	Reduce the transfer of electromagnetic noise between the drive and main power supply. Mountable inside VFD enclosure. One required per fan.							
	1053	460v EMC Filter								
	1054	Lockable Controller Shroud	Add-on for the yoke controller to allow them to be padlocked. Includes two (2) shrouds (Lock not included).							
	1070	Lift Buster	All VFD controls are at floor level allowing service of the fan without the need for a lift or ladder. Control panel with LCD display with inline CAT5 surge suppression, network protection, and RS485 protocol language. Can be ran up to 100 ft. distances. Wire to be field supplied.							
	1071	VFD Diagnostic Tool	VFD mounted user interface. Required for non- factory programming, troubleshooting, and integration to existing systems.							
	1072	RJ45 Splitter	Easily and accurately split your RJ45 communication wire. For AutoPilot only.							
<b>OPTIONAL UPGRADES</b>										
	1015	Black Wing Tips	Optional upgrade to black wingtips to compliment your space.							
	1019-W1.5-EXP	Explosion Proof Motor	Optional upgrade to Class 1 Division 1 explosion proof 1.5HP motor.							
	1022-N4X	Nema 4x VFD Enclosure	Nema 4x variable frequency drive enclosure offers weather and wash down resistant properties.							
	1049	Stainless Steel Hub	Stainless steel, 304 grade, hub plate and hub cylinder provides excellent corrosion and degradation resistant properties. Perfect for those harsh, salty and humid climates.							
	1073	Harsh Environment Package	Upgrade includes Nema 4x VFD enclosure, 304 grade stainless steel hub, and 6 Nylon66 wintip fences.							
	1074	BACnet Integration Package	Upgrade to VFD capable of BACnet protocol. Available for 200v-600v 1p/3p only.							
<b>LIMITED WARRANTY UPGRADES</b>										
	1061	Standard Level Warranty	Standard limited warranty 3 years-motor & reducer/1 year-electronic controls/lifetime-airfoils, chassis & hub.							
	1062	Bronze Level Warranty	Upgrade warranty to 3 years-motor & reducer/3 years-electronic controls/lifetime-airfoils, chassis & hub.							
	1063	Silver Level Warranty	Upgrade warranty to 5 years-motor & reducer/3 years-electronic controls/lifetime-airfoils, chassis & hub.							
	1064	Gold Level Warranty	Upgrade warranty to 7 years-motor & reducer/7 years-electronic controls/lifetime-airfoils, chassis & hub.							
	1076	Platinum Level Warranty	Upgrade warranty to 12 years-motor & reducer/12 years-electronic controls/lifetime-airfoils, chassis & hub.							

**NOTE:** Refer to the Accessory List for detailed specifications and limitations on any of the above options.

# STOL SERIES WRITTEN SPECIFICATIONS

## HIGH VOLUME LOW SPEED FANS

- A. Basis-of-design product: Subject to compliance with requirements, provide WD Industries, dba SkyBlade Fan Company; **STOL Series** high volume low speed ceiling fans.
- B. Complete Unit: The fan shall be UL (Canada & USA), CE & CTICK certified and built pursuant to construction guidelines set forth by UL standard 507 and CSA standard 22.2. The fan shall be designed to move an effective amount of air for cooling and Destratification in large industrial 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 45 dBA (measured 20' or 6.1 m below the blades and 20' or 6.1 m horizontally from the center of the fan).
- C. Airfoils: The fan shall be equipped with six (6) high volume, low speed airfoils of precision 6005-T5 extruded anodized aluminum alloy. Each airfoil shall be of the high performance STOL (Short Take-Off and Landing) design. The airfoils shall be connected by means of two (2) locking bolts per airfoil. The airfoils shall be connected to "H-Strut" which is connected to the hub and interlocked with two sets of six stainless steel retainers.
- D. Wingtip Fence: The fan shall be equipped with six (6) STOL wingtip fences 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 airfoil by means of a single screw. The standard color of the winglets shall be "SkyBlade Red," but may also be offered in black.
- E. Motor: The fan motor shall be an AC induction type inverter rated at 1750 RPM, 230/460 VAC. The motor shall be totally enclosed, fan cooled (TEFC) with an IP55 NEMA classification. NEMA standard frame 56C shall be provided for ease of service. The motor shall be manufactured with Class F insulation. The motor shall include a nylon bushing on its output shaft to allow for reduced noise, vibration and ease of maintenance with gearbox.
- F. Gearbox: The gearbox shall incorporate a cast iron housing with 56C faced double reduction (or equivalent). The gearbox will utilize a precision finish for low noise & long service life standard with premium viton double lip output seals. Gearbox shall be sealed for ease of service with lifetime synthetic oil to exclude contaminants. The output shaft of the gearbox shall be no less than a 3" keyless shaft with bearings that are lubed for life. The gearbox input shall utilize a nylon bushing to allow for reduced noise, vibration and ease of maintenance with motor.
- G. 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 2" x 2" (5.08 cm x 5.08 cm) square tubing and black powder coated for corrosion resistance and appearance. Standard length of extension bar is 1 FT available in 1 FT increments up to 10 FT as specified by the architect or owner.
- H. Hub: The fan hub shall be minimum 1/4" precision press broken steel for high strength and rigidity. The hub shall be secured to the output shaft of the gearbox by means of a precision cut 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/airfoil assembly in case of gearbox output shaft failure.
- I. 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" thick low carbon steel and be powder coated for appearance and resistance to corrosion. All mounting bolts shall be Grade 5 or Grade 8 SAE.
- J. 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.
- K. 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.
- L. 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 with inline fuses and disconnect switch for ease of installation. The controller shall be contained within a NEMA 1 metal enclosure with hinged door.
- M. 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. Warren, MI), pursuant to the complete terms and conditions of the SkyBlade Fan Company Non-Prorated Warranty in accordance to the following schedule:
- Airfoils - Lifetime (Parts)
  - Hub - Lifetime (Parts)
  - Motor - 3 years (Parts)\*
  - Gearbox - 3 years (Parts)\*
  - Controller - 1 years (Parts)\*
- \*If factory supplied installation methods are shown not to be valid, SkyBlade Fan Company has right to void warranty. Further Information on the terms and conditions of the standard & purchased warranties can be found in Warranty Card