



Installation Data Sheet - Screw Blower

Series: DBS.2
 Document Number: TI.BIDS-032
 Version: 1.3
 Revision Date: 04/24/2023

Package Model	DBS 221 SFC (L & M)				
Electrical Data					
Horsepower	20	25	30	40	50
Voltage (3ph/60Hz)	460	460	460	460	460
Short Circuit Current Rating (SCCR) [kA] 460V/3ph/60Hz	50	50	50	50	50
Package FLA +/- 10%	28.9	33.8	41.8	53.3	66.1
Disconnect Fuse [Amp]	35	40	50	60	80
Recommended Wire Size (75°C or higher) [AWG]	1 x 4 x 8	1 x 4 x 6	1 x 4 x 4	1 x 4 x 2	1 x 4 x 2
Motor Data					
Insulation Class	F	F	F	F	F
Enclosure Type	TEFC	TEFC	TEFC	TEFC	TEFC
Type	SynRM (IES2)	SynRM (IES2)	SynRM (IES2)	SynRM (IES2)	ASM (IES2)
Notes:					
1. Time delay (dual element) fuse; Class J ≤ 600A (e.g. AJT).					
2. Fuse and wire sizes determined in accordance to NEC 240.6, 430.52 and tables 250.122, 430.248, 430.250.					
3. Breaker should be suitable for a heavy duty starting load and of inverse time delay design that complies to regulations outlines in NEC 430.52.					
4. SFC Units come standard at 460 volts.					
5. Ground wire size should be equal to conductor size.					
SFC Operating Modes					
<i>External Speed Control</i>					
The speed of the drive motor is controlled via an externally-supplied analog signal within the programmed speed range between n-min and n-max in accordance to machine design.					
<i>Fixed Speed</i>					
The speed of the drive motor is controlled by an adjustable value between 0% and 100% of machine speed which is set at the Sigma Control 2.					
<i>Pressure Regulation</i>					
When machine runs in pressure regulation mode, the frequency converter compensates for deviations between the set point pressure and the actual pressure by changing the speed of the drive motor. The variation in speed determines the air delivery of the machine to match the air consumption of system while maintaining the system pressure so long as the unit is maintained within the control range of the machine (Vmin and Vmax).					
Oil System Data					
Drive End Capacity [qt.]	0.97				
Gear End Capacity [qt.]	1.11				
Oil Type (Synthetic)	G-680				
Working Pressure					
DBS 221 L SFC pr	Continued working pressures below 2.2 psig are not permitted				
DBS 221 M SFC pr	Continued working pressures below 4.4 psig are not permitted				
Package Connections					
HP	20	25	30	40	50
Width [in.]	43 5/8	43 5/8	43 5/8	43 5/8	43 5/8
Depth [in.]	59 1/5	59 1/5	59 1/5	59 1/5	59 1/5
Height [in.]	66 5/8	66 5/8	66 5/8	66 5/8	66 5/8
Floor [sq.ft.]	18	18	18	18	18
Weight [lb.]	1773	1773	1775	1885	2161
Connection Size [in.]	4	4	4	4	4
Type [inlet (optional) and outlet]	Pipe	Pipe	Pipe	Pipe	Pipe

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General Information

<i>Floating Relay Contacts</i>	<i>Ambient and Intake Conditions</i>
<p>Contacts:</p> <ul style="list-style-type: none"> - X12: 1 and 2 Operation - X12: 3 and 4 Ready for operation - X12: 5 and 6 Group Alarm - X12: 7 and 8 Group Warning 	<p>Permissible ambient temperature [°F]* +32 - +113</p> <p>Permissible intake temperature [°F]* +5 - +113</p> <p>Relative humidity [%] 0 - 80</p> <p>Maximum elevation [ft.asl]* 3280</p> <p><i>*contact Kaeser about deviations in temperature or altitude</i></p>
<i>Remote On/Off</i>	<i>External Alarm</i>
<p>Contacts (not floating): powered 24 VDC</p> <p>-X15: 5 and 6</p> <p>Function:</p> <ul style="list-style-type: none"> - from open to closed: Machine switches on - from closed to open: Machine switches off 	<p>Contacts (not floating): powered 24 VDC</p> <p>DI: 1.08</p> <p>Function:</p> <ul style="list-style-type: none"> - the machine will switch off in the event of this external fault

Ventilation of Blower Room

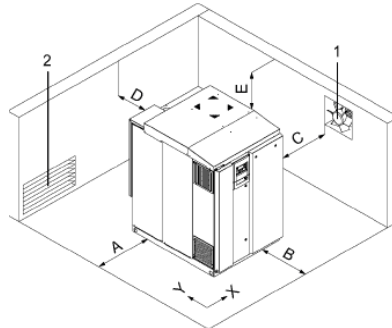
Air Inlet Opening	3.8 sq. ft
Cooling Fan Capacity (forced ventilation)	1,475 cfm
Max Heat Rejection	27,662 BTU/HR

Ventilation values based on 668cfm @ 15 psig ΔP, 50Hp and ambient inlet. Max. room temp. = 113° F and cooling air temp = 100° F. Discharge piping length = 5ft.

Model shown for reference only

Actual duct size may vary with installation

- 1 Exhaust Fan
- 2 Ventilation Inlet Air Opening
- X Cross direction
- Y Longitudinal direction



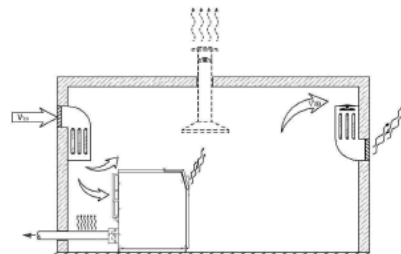
Recommended machine placement and dimensions:

	Inches
A Left side clearance =	3.9
B Front clearance =	43.3
C Right side clearance =	3.9
D Back clearance =	39.4
E Height clearance =	31.5

*The foundation must be firm and capable of bearing the weight of the machine.

Foundation in the cross direction (X) must be level, inclination max. 0.8°

Foundation in the longitudinal direction (Y) must be level, inclination max. 2.0°



It is recommended to extract the exhaust air from the upper third of the room as this is where the heat collects. The room ventilation openings should be arranged that the current of cooling air flowing through the room passes over the blower inlet and exhaust ports and, if possible, should leave no stagnant air in the room. (A thermal short circuit must be avoided, i.e. discharged cooling air must not find its way to the cooling air inlet.)
The blower must not be positioned so near to a wall that the inflow of cooling air is obstructed.

Pipework should be insulated against heat emission.

If the blower station is located in the middle of a large hall its exhaust air can be extracted by means of a duct positioned above the exhaust port (illustrated in broken lines).