TECH DATA

DSP Series

Two Stage Aircooled
Fixed Speed Air Compressor
200 Hp

Effective Date 2/23/2023

Engineering Data

MODEL (PRESSURE RATING):		DSP-145A-110 (110)		DSP-145A-125 (125)[9]		DSP-145A-145 (145)	
COMPRESSOR DATA							
Pressure [psig(barg)]		**Capacity FAD [cfm(m^3/min)]**	**Specific Shaft Power @ Stated Pressure [kW/100cfm (BHp/100cfm)][7]**	**Capacity FAD [cfm(m^3/min)]**	**Specific Shaft Power @ Stated Pressure [kW/100cfm (BHp/100cfm)][7]**	**Capacity FAD [cfm(m^3/min)]**	**Specific Shaft Power @ Stated Pressure [kW/100cfm (BHp/100cfm)][7]**
145 (10.00)		N/A	N/A	N/A	N/A	706.0 (20.00)[2]	22.2 (29.68)
125 (8.60)		N/A	N/A	805.2 (22.80)[2]	19.4 (26.04)	706.7 (20.01)	20.2 (27.11)
110 (7.50)		883.0 (25.00)[2]	17.7 (23.75)	806.8 (22.85)	18.1 (24.23)	707.4 (20.03)	18.7 (25.07)
86 (5.93)		886.1 (25.09)	15.9 (21.34)	809.1 (22.91)	16.1 (21.61)	708.4 (20.06)	16.5 (22.10)
71 (4.90)		888.9 (25.17)	14.8 (19.82)	810.6 (22.95)	14.9 (19.98)	709.2 (20.08)	15.1 (20.26)
PRESSURE DATA							
Full Load Operating Pressure	psig (barg)	110 (7.50)		125 (8.60)		145 (10.00)	
Maximum Operating Pressure	psig (barg)	110 (7.50)		125 (8.60)		145 (10.00)	
Minimum Operating Pressure	psig (barg)	71 (4.90)		71 (4.90)		71 (4.90)	
Operating Interstage Pressure	psig (barg)	29 (2.0)		30 (2.1)		33 (2.3)	
TEMPERATURE DATA							
Maximum Ambient Temperature	°F (°C)	104 (40)		104 (40)		104 (40)	
Minimum Ambient Temperature	°F (°C)	32 (0)		32 (0)		32 (0)	
Maximum Inlet Temperature	°F (°C)	104 (40)		104 (40)		104 (40)	
Minimum Inlet Temperature	°F (°C)	32 (0)		32 (0)		32 (0)	
1st Stage Airend Discharge Temperature	°F (°C)	311(155) @ 68°F of ambient temp.		320(160) @ 68°F of ambient temp.		338(170) @ 68°F of ambient temp.	
2nd Stage Airend Discharge Temperature	°F (°C)	374 (190)@ 68°F of ambient temp.		410 (210)@ 68°F of ambient temp.		464 (240)@ 68°F of ambient temp.	
PERFORMANCE DATA[1]							
Capacity FAD @ Rated Pressure[2]	cfm (m^3/min)	883.0 (25.0)		805.2 (22.8)		706.0 (20.0)	
Compressor Shaft Power[4][7]	kW (HP)	156.4 (209.7)		156.4 (209.7)		156.4 (209.7)	
Package Power Input[4][7]	kW (HP)	161.6 (216.8)		161.6 (216.8)		161.6 (216.8)	
Specific Package Power Input @ Rated Pressure[3][7]	kW/100cfm (BHp/100cfm)	18.3 (24.5)		20.1 (26.9)		22.9 (30.7)	
	kW/(m^3/min)	6.46		7.09		8.08	
Power Input @ No Load[5]	kW (HP)	42.7 (57.3)		41.0 (55.0)		41.0 (55.0)	
Maximum Altitude Operation[10]	ft (m)			Note 10			
AIREND DATA							
# of Stages	#	2		2		2	
Primary Rotor Maximum Speed - 1st Stage	rpm	9,923		9,173		8,218	
Primary Rotor Diameter - 1st Stage	inches	6.3		6.3		6.3	
Primary Rotor Maximum Speed - 2nd Stage	rpm	12,329		11,400		10,217	
Primary Rotor Diameter - 2nd Stage	inches	4.49		4.49		4.49	
AIRCOOLED COOLING DATA							
Intercooler Heat Removal	1,000 Btu/Hr.	211		197		179	
Aftercooler Heat Removal[8]	1,000 Btu/Hr.	211		225		243	
Oil Cooler Heat Removal	1,000 Btu/Hr.	66		66		66	
Others Heat Removal	1,000 Btu/Hr.	49		49		49	
Total Package Heat Removal	1,000 Btu/Hr.	537		537		537	
Aircooled Aftercooler CTD	°F	27		27		27	
Cooling Air Flow	cfm	14,127		14,127		14,127	
Maximum Added Static Pressure	in. H_2O	0.08		0.08		0.08	
Cooling Air Differential Temperature (approx.)	°F	37.8		37.8		37.8	
OIL DATA							
Oil Type	Type	AWF		AWF		AWF	
Oil Pump	Type	Trochoid		Trochoid		Trochoid	
Normal Operating Oil Pressure	psig	17-26		17-26		17-26	
Normal Operating Oil Temperature	°F	145 or Lower		145 or Lower		145 or Lower	
Oil Capacity	Gallons	13.2		13.2		13.2	
SOUND LEVEL[6]							
Low Sound Enclosure	dB(A)	77		78		78	
MAIN MOTOR ELECTRICAL DATA							
Main Motor	Type	TEFC		TEFC		TEFC	
Main Motor Frame Size	Size	280M2		280M2		280M2	
Number of Poles	#	4		4		4	
Voltage	V	460		460		460	
Main Motor Nominal Shaft Power	kW (Hp)	160 (214.6)		160 (214.6)		160 (214.6)	
Main Motor Service Factor	S.F.	1.1		1.1		1.1	
Main Motor Shaft Power @ Full Laod	kW (HP)	159.5 (213.9)		159.5 (213.9)		159.5 (213.9)	
Main Motor Nominal Amperage	A	251		251		251	
Main Motor Rated Speed	rpm	1,790		1,790		1,790	
Main Motor Efficiency @ Rated Speed	%	96.2		96.2		96.2	
FAN MOTOR ELECTRICAL DATA (This model uses 4 fan motors.)							
Fan Motor	Type	Totally enclosed		Totally enclosed		Totally enclosed	
Fan Motor Frame Size	Size	-		-		-	
Number of Poles	#	4		4		4	
Voltage	V	460		460		460	
Fan Motor Nominal Shaft Power	kW (HP)	1.5 (2.0)		1.5 (2.0)		1.5 (2.0)	
Fan Motor Shaft Power @ Full Laod	kW (HP)	1.1 (1.5)		1.1 (1.5)		1.1 (1.5)	
Fan Motor Amperage @ Full Load	A	2.2		2.2		2.2	
Fan Motor Rated Speed	rpm	1,740		1,740		1,740	
Fan Motor Efficiency @ Rated Speed	%	86.5		86.5		86.5	
TOTAL PACKAGE ELECTRICAL DATA							
Voltage	V	460		460		460	
Total Package Maximum Shaft Power	kW (Hp)	163.9 (219.8)		163.9 (219.8)		163.9 (219.8)	
Total Package Amperage at Full Load	A	262		262		262	
CONSTRUCTION DATA							
Shipping Dimensions (L x W x H)	inches	140.9 x 81.9 x 89.0		140.9 x 81.9 x 89.0		140.9 x 81.9 x 89.0	
Shipping Weight	lbs.	8,950		8,950		8,950	
Air Discharge Connection	FLG (inches)	2.5		2.5		2.5	
Intercooler Condensate Drain Connection	NPT (inches)	0.38		0.38		0.38	
Aftercooler Condensate Drain Connection	NPT (inches)	0.38		0.38		0.38	
Power Cable Inlet Diameter	inches	3.94		3.94		3.94	

NOTES
(1) - Performance of the compressor package is measured according to ISO 1217, Annex C.
(2) - Corresponds to 'Volume Flow Rate' (ISO 1217).
(3) - Guaranteed with a tolerance of ± 5%.
(4) - Data may differ ± 2% at other voltages.
(5) - Guaranteed with a tolerance of ± 20%.
(6) - Average sound pressure level is measured at a 3.28 ft. distance from the front, back and both side surfaces based on free field conditions. Tolerance is ± 3 dB.
(7) - Including Auxiliary Motors.
(8) - Including Hi-Precooler
(9) - 125psi model is the option.
(10) - Refer to the correct DSP Altitude/Ambient Rerate Chart for applications of high altitudes. For applications above 9,840 feet, contact Sullair, LLC.
Data is subject to change without notice.

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