TECH DATA

DSP *NEXT* series

Two Stage Aircooled
Fixed Speed Air Compressor
100 Hp

Effective Date 2/23/2023

Engineering Data

MODEL (PRESSURE RATING):		DSP-75ATN-100 (100)		DSP-75ATN-125 (125)	
COMPRESSOR DATA					
Pressure [psig(MPa)]		**Capacity FAD [cfm(m^3/min)][1]**	**Specific Shaft Power @ Stated Pressure [kW/100cfm (BHP/100cfm)][1][4]**	**Capacity FAD [cfm(m^3/min)][1]**	**Specific Shaft Power @ Stated Pressure [kW/100cfm (BHP/100cfm)][1][4]**
135 (0.93)		N/A	N/A	392 (11.10)	22.3 (29.85)
125 (0.86)		N/A	N/A	392 (11.10)	21.4 (28.72)
100 (0.69)		459 (13.00)	19.3 (25.90)	396 (11.20)	19.9 (26.68)
86 (0.59)		461 (13.05)	18.1 (24.28)	— —	— —
71 (0.49)		463 (13.10)	16.9 (22.68)	— —	— —
PRESSURE DATA					
Full Load Operating Pressure	psig (MPa)	100 (0.69)		125 (0.86)	
Maximum Operating Pressure	psig (MPa)	100 (0.69)		135 (0.93)	
Minimum Operating Pressure	psig (MPa)	71 (0.49)		71 (0.49)	
Operating Interstage Pressure	psig (MPa)	29 (0.20)		29 (0.20)	
TEMPERATURE DATA					
Maximum Ambient Temperature	°F (°C)	104 (40)		104 (40)	
Minimum Ambient Temperature	°F (°C)	32 (0)		32 (0)	
Maximum Inlet Temperature	°F (°C)	104 (40)		104 (40)	
Minimum Inlet Temperature	°F (°C)	32 (0)		32 (0)	
2nd Stage Airend Discharge Temperature[6]	°F (°C)	347 (175)		410 (210)	
PERFORMANCE DATA[1]					
Capacity FAD @ Rated Pressure[1]	cfm (m^3/min)	459 (13.00)		392 (11.10)	
Compressor Shaft Power[2]	kW (HP)	86.9 (116.5)		82.2 (110.2)	
Package Power Input[2]	kW (HP)	94.9 (127.3)		89.9 (120.6)	
Specific Package Power Input @ Rated Pressure[1][2][4]	kW/100cfm (BHP/100cfm)	20.7 (27.7)		22.9 (30.8)	
	kW/(m^3/min)	7.30		8.10	
Power Input @ No Load[1]	kW (HP)	21.2 (28.4)		21.2 (28.4)	
Maximum Altitude Operation[5]	ft (m)	Note 5		Note 5	
AIREND DATA					
# of Stages	#	2		2	
Primary Rotor Maximum Speed - 1st Stage	min^{-1}	20,800		17,900	
Primary Rotor Diameter - 1st Stage	inches(mm)	3.9 (100)		3.9 (100)	
Primary Rotor Maximum Speed - 2nd Stage	min^{-1}	22,800		20,200	
Primary Rotor Diameter - 2nd Stage	inches(mm)	2.8 (70)		2.8 (70)	
AIRCOOLED COOLING DATA					
Intercooler Heat Removal	1,000 Btu(MJ)/Hr.	107 (102)		95 (90)	
Aftercooler Heat Removal	1,000 Btu(MJ)/Hr.	145 (137)		143 (136)	
Oil Cooler Heat Removal	1,000 Btu(MJ)/Hr.	28 (27)		27 (25)	
Total Package Heat Removal	1,000 Btu(MJ)/Hr.	315 (299)		298 (282)	
Aircooled Aftercooler CTD	°F (°C)	27 (15)		27 (15)	
Cooling Air Flow	cfm(m^3/min)	7,060 (200)		7,060 (200)	
Maximum Added Static Pressure	in. H_2O (mm H_2O)	0.08 (2)		0.08 (2)	
Cooling Air Differential Temperature (approx.)	°F(°C)	45 (25)		45 (25)	
OIL DATA					
Oil Type	Type	AWF		AWF	
Oil Pump	Type	Trochoid		Trochoid	
Normal Operating Oil Pressure	psig(MPa)	17-27(0.12-0.18)		17-27(0.12-0.18)	
Normal Operating Oil Temperature	°F(°C)	153(67) or Lower		153 (67) or Lower	
Oil Capacity	Gallons(L)	6.6 (25)		6.6 (25)	
SOUND LEVEL[3]					
Low Sound Enclosure	dB(A)	72		72	

SULLAIR

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Engineering Data

MODEL (PRESSURE RATING):		**DSP-75ATN-100 (100)**			**DSP-75ATN-125 (125)**		
MAIN MOTOR ELECTRICAL DATA							
Main Motor	Type	4 (single phase)			4 (single phase)		
Main Motor Frame Size	Size	250SA			250SA		
Number of Poles	#	2			2		
Voltage	V	208	230	460	208	230	460
Main Motor Nominal Shaft Power	kW (HP)	N/A	N/A	75 (101)	N/A	N/A	75 (101)
Main Motor Service Factor	S.F.	N/A	N/A	1.2	N/A	N/A	1.2
Main Motor Nominal Amperage	A	N/A	N/A	110	N/A	N/A	110
Main Motor Rated Speed	min^{-1}	N/A	N/A	3,570	N/A	N/A	3,570
Main Motor Efficiency @ Rated Speed	%	N/A	N/A	94.1	N/A	N/A	94.1
FAN MOTOR ELECTRICAL DATA							
Fan Motor	Type	Totally enclosed			Totally enclosed		
Fan Motor Frame Size	Size	-			-		
Number of Poles	#	6			6		
Voltage	V	208	230	460	208	230	460
Fan Motor Nominal Shaft Power	kW (HP)	N/A	N/A	2.2 (2.9)	N/A	N/A	2.2 (2.9)
Fan Motor Amperage @ Full Load	A	N/A	N/A	4.6	N/A	N/A	4.6
Fan Motor Rated Speed	min^{-1}	N/A	N/A	1,150	N/A	N/A	1,150
Fan Motor Efficiency @ Rated Speed	%	N/A	N/A	87.5	N/A	N/A	87.5
TOTAL PACKAGE ELECTRICAL DATA							
Voltage	V	208	230	460	208	230	460
Total Package Shaft Power	kW (HP)	N/A	N/A	88.7 (118.9)	N/A	N/A	84.0 (112.6)
Total Package Amperage at Full Load	A	N/A	N/A	132	N/A	N/A	132
CONSTRUCTION DATA							
Fan Motor Minimum Speed	inches(mm)	105.7x 65.7 x 81.9 (2,684x 1,670x 2,080)			105.7x 65.7 x 81.9 (2,684x 1,670x 2,080)		
Shipping Weight	lbs.(kg)	4,650 (2,110)			4,650 (2,110)		
Air Discharge Connection	FLG (inches)	2			2		
Intercooler Condensate Drain Connection	NPT (inches)	0.5			0.5		
Aftercooler Condensate Drain Connection	NPT (inches)	0.5			0.5		
Power Cable Inlet Diameter	inches(mm)	2.48 x 2 (63 x 2)			2.48 x 2 (63 x 2)		

NOTES
(1) - Performance of the compressor package is measured according to ISO 1217, Annex C.
(2) - Data may differ ± 2% at other voltages.
(3) - Sound level measured according to ISO2151,Tolerance is ± 3 dB.
(4) - Specific Shaft Power includes the Main Motor and Auxiliary Fan Motor.
(5) - Refer to the correct DSP Altitude/Ambient Rerate Chart for applications of high altitudes. For applications above 9,840 feet, contact Sullair, LLC.
(6) - Temperature value is based on a 68°F(20℃) ambient temperature as a reference condition.
(7) - Temperature value is for the reference. It depends on the inlet air temperature and coolong water temperature.
Data is subject to change without notice.

TDS-000406/00