

Projects and Customer's Information:



MEDUPI POWER STATION

South Africa

Contract Number

N° 4600008582

Space for Stamping (Review and Validation status - if needed)

Rev	Revision Date	Created by	Checked by	Approved by	Description	Status
A	24/08/09	M.Louw	C.Chantry	J.McClinton	Draft	Review
B	21/10/09	M.Louw	C.Chantry	J.McClinton	First issue	Review
C	26/07/10	W.Reddy	C.Chantry	J.McClinton	SAA to SAT – Fan duties revised	Review
D	29-11-10	N.Pereira	S.Porobich	J.McClinton	Updated numbering – latest set	Review
E	03-09-12	N.Pereira	T.Venter	J.McClinton	Updated additional smokex	Released
F	11-11-13	N.Pereira	W.Reddy	J.McClinton	Technical data amended	Released
G	15-11-13	N.Pereira	W.Reddy	J.McClinton	Revised per Eskom Comment	Released
H	01-03-14	N.Pereira	W.Reddy	J.McClinton	Revised per Eskom Comment	Released

Cross checked

Department		Name		Date		Signature	
Main Contractor							
Scale N/A							
Unit 16		Discipline M		KKS SAT20 AN001 –AN014 AN016- AN027		ESKOM Document ID 200-75814	
Replaces				ALSTOM Document Code MDI/16/M/SAT-- --S01/DS/019			
Responsible dept. SQM		Created by N.Pereira		Checked by W.Reddy		Approved by J.McClinton	
						Format A4	
Originator Actom – Mechanical Equipment		Document Type Fan & Motor Data Sheet		Status Electronically Released			
		Title, Subtitle, Project TURBINE HALL – STANDARD ROOF FANS		Identification number MDI/16/M/SAT-- --S01/DS/019			
		"Medupi Power Plant Project"		Rev. H		Date 01-03-2014	
				Lang. En		Sheet 1/4	

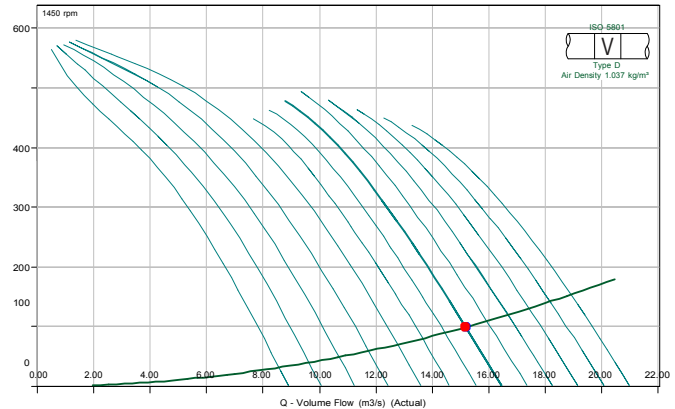
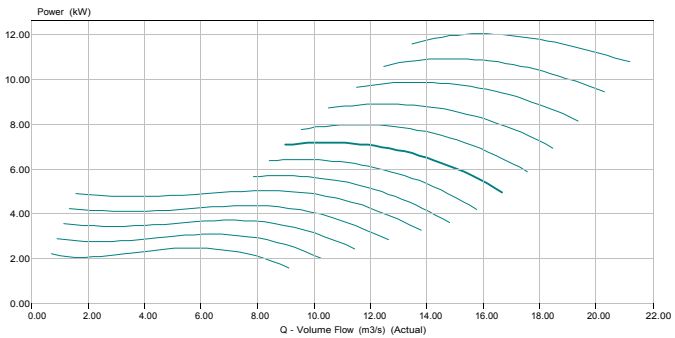
Fläkt Woods Limited
Combination Data Sheet
JM Aerofoil



Project Name	: Medupi Turbine Hall	Date:	: 01 March 2014
Quotation Number	:	Fan Code:	: DVA100JM/25/4/6/22
Customer:	: Alstom Power	Item Reference	: RU2 – SAT20AN001-014 & SAT20AN016 to AN027

Fan Code	DVA100JM/25/4/6/22
Fan Diameter / Size	1000 mm
Blades	6
Fan Speed	1440 rpm
Velocity	19.3 m/s
Blade Angle	22°
Form of Running	B
Fan Casing	Long
Requested Duty	15.18m³/s @ 99 Pa (static)
Outlet Dynamic Pressure	194 Pa
Duty Shaft Power	5.52 kW
Max Shaft Power	6.94 kW
Total Efficiency	77 %
Motor Frame	132M
Motor Rating	7.5 kW
Motor Mounting	Pad
Electrical Supply	380-420 Volts 50 Hz 3 Phase
Start Type	DOL Motor
Winding	Standard
Enclosure	Standard All

Air Density	1.037 kg/m³ / 20 °C / 0 m / 50% RH
Smoke Venting	Non Smoke Venting



	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m**
Inlet*	100	97	96	95	95	94	91	87	105	80
Outlet*	101	97	96	95	95	95	91	89	105	80
Breakout*	91	74	68	68	68	66	70	66	91	55
* Lw dB re 10 ⁻¹² W									** dBA re 2x10 ⁻⁵ Pa	

Fläkt Woods Acoustic Evaluation

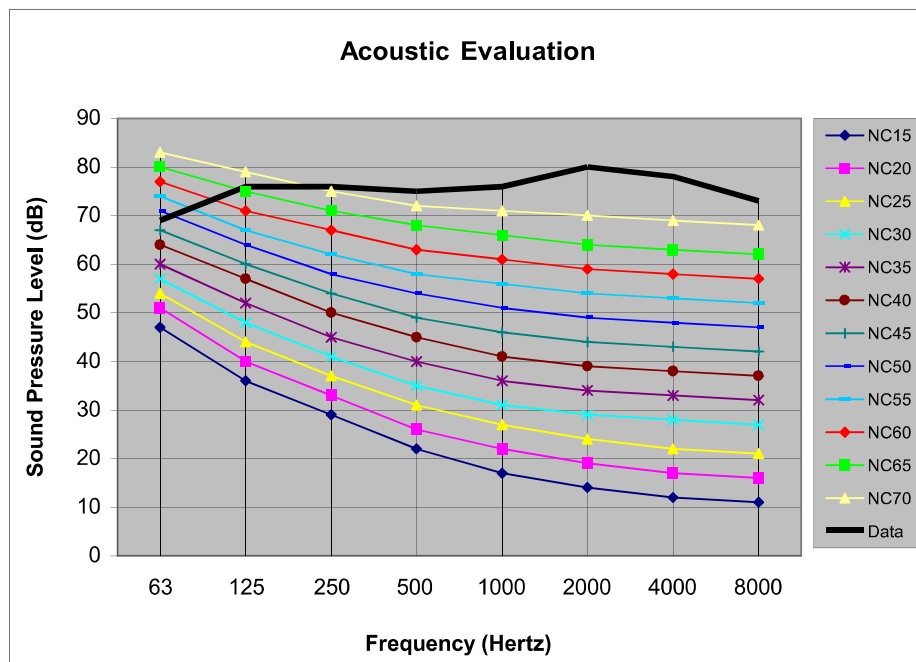


COMPANY : Alstom Power
PROJECT : Medupi Turbine Hall
DISTANCE : 1 meter

FREQUENCY (Hz)	63	125	250	500	1K	2K	4K	8K	SPL's ADDED
RU1 - SAT20AN028 - 030									
DVA100JM/25/4/6/22 7.5kW	100	97	96	96	95	94	91	87	105 dB
Silencer 1.0D with Pod	-5	-5	-11	-18	-19	-15	-14	-13	
RESULTANT:	95	92	85	78	76	79	77	74	97 dB
A weighting	-26	-16	-9	-3	0	1	1	-1	
RESULTANT	69	76	76	75	76	80	78	73	85 dBA (LwA)
DISTANCE:	-11	-11	-11	-11	-11	-11	-11	-11	
RESULTANT	58	65	65	64	65	69	67	62	74 dBA (LpA) at 1 metre

Note: Estimate is based on free field conditions.

(FOR 1 FAN)



Originator	Identification Number	REV	Date	Lang	Page 3 of 4
Actom Mechanical/APC	MDI/16/M/SAT--S01/DS/019	H	01-03-2014	EN	

ENERGY Power Plants		DATA SHEET					
		LV MOTOR					
		Project : Medupi Turbine Hall Unit : 1 - 6					
1	CLIENT: Eskom					FUNCTIONAL CODE	
2	QUANTITY: 26 per unit						
3	MOTOR DESIGNATION: Pz5133-4RH-HV				MANUFACTURER ACTOM	Mfr's REFERENCE	
4	DRIVEN MACHINE: AXIAL FAN – SAT20AN001 – 014 & AN016-027						
5	POWER SUPPLY NETWORK				CONSTRUCTION		
6	Type	: alternating 3-phase			Rotor	: Die Cast aluminium	
7	Voltage between phases / variation	: 400V ± 10%			Stator winding	: Mush	
8	Frequency / variation	: 50Hz ± 2.5			- class of insulation	: H	
9	Neutral	: isolated / grounded			- winding impregnation	: Vacuum	
10					- temperature rise	: 80K	
11	ENVIRONMENT				Type construction	: B ... or V.....	
12	Installation area: non explosive –occasionally explosive				Frame	: 132M	
13	Nature of service ambient conditions : dry				Coupling type	: Direct	
14	Atmosphere : CLEAN				Bearings		
15	Max - min - normal air temperature	: 40 / -20 / 20 °C			- on Drive End	: 6208c3	
16	Relative maximum humidity	: N/A			- on Non-Drive End	: 6203c3	
17	Altitude	: 1000m.a.s.l			- lubrication type	: GREASE: Polyrex EM	
18	Particular risks	: N/A			DE		
19	Seismicity	: N/A			- grease or oil flow or quantity per bearing :		
20					- grease or oil viscosity	: 2cSt	
21	MOTOR CHARACTERISTICS				- oil inlet/outlet temperature	: N/A	
22	Motor type	: asynchronous			- grease or oil change every	: 5000	
23	Location	: inside/outside					
24	Arrangement	: horizontal/vertical			Cooling		
25	Rated voltage	: 400V			- type	: IC418	
26	Rated frequency	: 50Hz			- ventilating air flow	: N/A	
27	Rated output	: 7.5kW			- cooling water pressure	: N/A	
28	Synchronous speed	: 1500rpm			- cooling water flow	: N/A	
29	Slip (4/4 load)	: 60RPM			- water inlet/outlet temp rise	: N/A	
30	Rated current	: 14.6A			- water inlet/outlet head losses	: N/A	
31	Starting current Id/In	: 6.1PU			PAINTING: RAL 7032	: RAL7032 or G29	
32	Rated torque	: 49.7 Nm					
33	Starting torque Cd/Cn	: 3.0PU			MATERIALS		
34	Max. torque Cmax/Cn	: 2.7PU				Standard	Grade
35	No load current	: 6.61A			Stator winding	: Copper	Gen III
36		2/4	%	4/4	Stator bars	: Aluminium	N/A
37	Efficiency %	84.6	88.8	89.1	Frame	: Cast Iron	FC200
38	Power factor	0.70	0.80	0.82	Shaft	: Steel	EN8
39	Cyclic duration factor	: S1			Insulation	: Class H	NMN
40	Motor inertia	: 0.0363kg/m²			Impregnation	: Resin	Epoxy
41	Starting time	: 1.1sec			Terminal box	: Cast Iron	FC200
42	Number of successive startings	: 3p/hour cold,2p/hr hot			Rotor laminations	: Steel	Electrical
43	Max. permissible amplitudes of vibrations				Stator laminations	: Steel	Electrical
44	Noise level 1 m from the motor surface : Pressure 60dB(A)						
45	Protection class	: IP55			WEIGHTS AND OVERALL DIMENSIONS		
46	Rotation viewed from coupling end	: Bi-Directional			Axis height	: 132mm	
47		Clockwise/anticlockwise			Height	: 345mm	
48	Stator winding coupling	: DELTA			Length	: 510mm	
49					Width	: 270mm	
50	Applicable standards				Shaft end diameter	: 38mm	
51	- design	: SANS1804			Net weight	: 82kg	
52	- construction	: SANS1804			Volume	: NA	
53	- tests	: SANS1804					
Issue		REV H					
Date		01-03-2014					