ALTERNATOR TECHNICAL DATASHEET
LSAP 47 E0

Reference :TDS/ACG/1935

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General Characteristics

Alternator Frame	**LSAP 47 E0**		
Rating	**550**	**kVA**	**440 kW**
Phase	3		
Pole	4		
Rated Speed	1500	RPM	
Rated Voltage [L-L] (V)	400	V	
Rated Current	793.9	A	
Frequency	50	Hz	
Rated Power Factor	0.8	Lag	
Voltage Regulation	±1%	With 4 % Engine Governing.	
Insulation System	H	Class	
Temperature Rise Limit	H	Class	
Winding Pitch	2/3		
Over Load	10 % Over Load for 1 hour once in 12 hours		
Waveform Distortion	No-Load < 1.5%		
Temperature Ambient	40	° C	
Altitude	1000	m	

Electrical Parameters

Stator Wdg Res(L-L) @20°C	0.010	Ω
Rotor Wdg Res @20°C	0.872	Ω
Excn. Current At No Load	1.30	A
Excn. Current At Full Load	4.61	A

Connection & Controls

Stator Winding	Double layer concentric winding
Control System	Self-regulated and self-excited
Excitation System	Brushless (Shunt)
AVR Type	Analogue
AVR Model	R 150

Performance: Efficiency @0.8 p.f

100% Load	94.8	%
75% Load	95.0	%
50% Load	94.6	%
25% Load	92.8	%

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Reactance & Time constant

Reactances are Saturated & Per Unit at Rating and Voltage Indicated. Time Constant are In Seconds

Reactances

Short Circuit Ratio	0.360
X_d Dir Axis Reactance	2.778
X'_d Dir Axis Transient Reactance	0.195
X''_d Dir Axis Sub Transient Reactance	0.129
X_q Quad Axis Reactance	1.418
X''_q Quad Axis Subtransient Reactance	0.149
X_l Leakage Reactance	0.076
X_2 Negative Sequence Reactance	0.154
X_0 Zero Sequence Reactance	0.005

Time Constant

T'_d Transient Time Constant	0.100
T''_d Sub Transient Time Constant	0.010
T'_{do} O.C Field Time Constant	2.301
T_a Armature Time Constant	0.015

Mechanical Parameters

Protection	IP 23	
Cooling	IC01	
Air flow	0.90	m^3/sec
WR^2	8.40	$kg\text{-}m^2$
Bearing Drive End	NA	
Bearing Non-Drive End	BALL 6315 C3	
Coupling	Single Bearing	
Maximum Over Speed	120% for 2 mins	
Dimensional Drawing	AG319145	
Machine Dim. L x B x H (mm)	Refer Dimension Drawing	
Weight of Generator	1270 ± 2% kg	

Note: The rating is industrial and conforms to IS:13364 and IS/IEC: 60034-1

Continuous development of our products entitles us to change specification details without notice