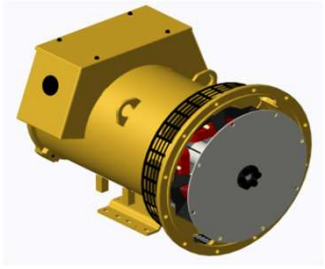
A2 Grade Specifications

POWERQUIPS PRIVATE LTD.



Standard Compliance
IS IEC 60034

Applications
Industrial
Retail (Hotels, Residential and commercial complex, sound system)
Construction
Home appliances

Technical Standards:

Parameter	**Standard Specifications**
Frequency	50 Hz/60 Hz
Control System	Self Excited, AVR Controlled
AVR	SES17 , 3 phase sensing AVR
Voltage Series Star	415 V
Voltage Regulation	±1.0% (With 4% Engine governing)
Voltage Series (1 Ph)	230 V
Speed	1500/1800 rpm
Overspeed	1.2 times of operating speed for 2 minutes
Temperature rise	Class H
degree of protection	IP23
Duty rating	Continious (S1)
10% Overload	15 Minutes in 6 hours
Short circuit withstand capability	3 times full load current for 3 sec
	No Load < 3%
Waveform distortion	Balanced linear load < 6%
Transient Voltage dip (full load , .8 p.f.)	20-25%
Max. unbalanced load	Max. 25%
Bearing	2 bearing, 6306 and 6309 2RS
Cooling air	0.12 m^3/sec
Diection of rotation	Clockwise from drive end
Phase Sequence	UVW
Critical Speed	>75 Hz
Balancing grade	NA
Efficiency @ 100% load	80% - 85%
Winding Insulation life@Class H Continuous	Half life > = 15000 Hours

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Build Standards:

Parameters	**Specifictions of AE series product**
Markets	For General Applications, 50 / 60 Hz
Temperature	Suitable for 40 deg C Ambient
Winding Pitch	Full Pitch
Ends Out	6 ends out/ 2 ends out
Stator and rotor Steel	1000 grade lamination steel
Exciter Stator and Rotor Steel	CRCA lamination steel
Copper wire	Dual coat copper wire
Impregnation	In unsaturated Polyester resin
Damper windings	Aluminium
Frame	In full fabricated structure
Cables	Class F
Surge suppressor	Metal Oxide Varistor
Terminal board	Spacious board for ease of connections in SMC material
Connections	In fail safe connectors
Foot Print	Dedicated Foot for each customer
Terminal box	Dedicated Terfminal box
SAE Adaptor	SAE 3 and SAE 4
Coupling	Key
Anti-Condensation heater	Optional
Thermistors	Optional
Warranty	12 Months
Pricing	Dynamic , linked to metal market indicator

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Construction

The robust mechanical structure withstands up to 5G in any direction and 6G vertically and its design permits easy access to the connections and components during routine maintenance check-ups. The mechanical design has used the advanced FEM techniques. The materials used are: E250 steel for the frame, C40/C45 steel for the shaft and cast iron for the end-brackets: fans are nylon fiber glass loaded, UL compliant materials.
Rotors are dynamically balanced according grade 2.5 of ISO 1940-1.

Accessories

Additional optionals can be fitted on our alternator series, such as PTC thermistors or PT100 both on windings and bearings, space heaters, high and low profile of terminal boxes (on most series), air filter , power factor controller for parallel operation , IP43 and IP45 protections, marine IP23 + protection ,winding protection for harsh environments and many others.

Deration coefficients

Ambient temperature (Celsius)

Altitude (meters)	25	45	50	55	60
≤ 1000	1.05	0.99	0.93	0.9	0.88
> 1000 ≤ 1500	1.01	0.92	0.89	0.87	0.84
> 1500 ≤ 2000	0.96	0.87	0.84	0.82	0.78
> 2000 ≤ 3000	0.9	0.81	0.78	0.76	0.73