

58.5 kVA DIESEL GENERATOR SPECIFICATION

Nominal Rated Capacity (kVA)	58.5
No of Phase	Three Phase
Capacity of Engine (cc)	5650
Rated Engine Power (kW)	100% of the required powered at STP(Standard Temperature Pressure) i.e. equal to (Nominal Rated Capacity (KVA) of power generator+ Any Auxiliary power Consumption by the Power generator) x Power factor(0.8)/ Alternator efficiency.
Type of Engine cooling	Liquid Cooled
Type of Governor	Electronic
Number of cylinders (nos)	≥4
No of Strokes (nos)	4
Rated RPM of Engine(RPM)	1500
Fuel	High Speed Diesel(HSD)
Overload capacity	Engine is capable of delivering an output of 10% in excess of rated KVA for a period of one hour in any period of 12 Hours continuous running.
Fuel Consumption (gm/kWh)	200 to 265
Starting voltage(volt)	12 VDC
Salient Features of Engine	Turbo Charged Engine, Direct injection Fuel System.
Class of Governor	A1 or better
Maximum Change of Speed as a Percentage of Rated Speed on suddenly taking-off the rated load (Transient).	15 Second
Maximum Recovery Time in Seconds on suddenly taking-off the rated Load (Transient)	15 second
Maximum Change of Speed as a Percentage of Rated Speed on suddenly taking-off the rated load (Permanent)	5
Maximum Change of Speed as a Percentage of Rated Speed On a change of load, both on and off, by all steps of 25 percent of the rated load	4
Maximum Recovery Time in Seconds on a change of load, both on and off, by all steps of 25percent of the rated load(Transient)	5 second
Maximum Change of Speed as a Percentage of Rated Speed On a change of load, both on and off, by all steps of 25percent of the rated load (Permanent)	1.5
Alternator Voltage Rating	415V
Rating of AC Generator(KVA)	58.5

Power Factor of AC generator	0.8
Efficiency at rated Power factor at 75% of full load	≥90 percent
Conformity to Indian Standard (for Alternator) of full Load	Generally conforming to IS:13364(Part-2) latest (Above 20 KVA)
Type of alternator	Brushless, Self Excited
Voltage Regulation Grade	VG3
Class of Insulation	H
Control Panel	AMF Control Panel
Control Panel Location	Inside the canopy
IP Rating of Control Panel	IP 23
Display meters in the control panel (with appropriate rating and accuracy class) inclusive in the scope of supply	Multifunctional Digital display meter (displaying Voltage, Current, Frequency, Power Factor)
Other devices in the control panel (with appropriate rating) - inclusive in the scope of supply	Required switches and cutout, Battery charger, MCB
Displayed parameters/Features	Engine Speed, Lube oil pressure, Coolant / cylinder head Temperature, Engine running hours, Engine battery voltage, Engine Running status, Generator Voltage (Ph-Ph), Generator Voltage (Ph-N), Generator Current (R.Y. B) Generator apparent Power (kVA), Generator active Power (kW), Power factor, Frequency, Fuel level, Event log, Control supply Voltage.
Indicators	Low Lube oil pressure, High water / coolant / cylinder head temperature, Low fuel level, Over speed
Audio Alarm	Low Lube oil pressure, High water / coolant / cylinder head temperature, Low fuel level, Over speed
Acoustic Enclosure (inclusive in the scope of supply)	Yes, Power Generator supplied with Acoustic Enclosure
Minimum Sheet Thickness (mm)	1.6
Minimum Thickness of insulation	40 mm
Minimum Density of insulation (kg/cubic cm)	28
Noise level at 1 meter (dB)	≤75
Fuel Tank capacity	≥150 Ltrs
Number of Fuel tank	1
Minimum Fuel Tank Sheet Material Thickness	2
Fuel Tank Fabricated Material	M.S. Sheet
Fuel Tank Features	Fuel Tank capacity is sufficient for 8 hrs of running at full load
Battery Type & Specification	Low Maintenance free to IS:14257 for high cranking performance
Battery capacity (Ah)	≥100

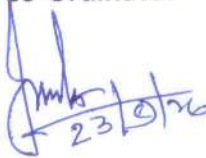
No of batteries	1
Salient Features of Power Generator	Glass window on Acoustic Enclosure in front of the Control Panel. Emergency Stop outside the Acoustic Enclosure
General Technical Requirements (GTR) / Commissioning (Part-1)	a) Power Generator shall be complete with Diesel Engine, Alternator and AMF/MANUAL Control Panel along with Acoustic Enclosure. Diesel engine and alternator shall be closely coupled or provided with flexible coupling and mounted on a Base plate / M.S. frame of robust in construction
General Technical Requirements (GTR) / Commissioning (Part-2)	b) Anti-Vibration mountings shall be Provided for the Engine as well as the alternator.
General Technical Requirements (GTR) / Commissioning (Part-3)	c) Power Generator should have protection against under voltage, over voltage, under frequency, over frequency, Low battery voltage, over current earth-fault, short circuit, Phase sequence change etc.
General Technical Requirements (GTR) / Commissioning (Part-4)	d) Automatic Mains Failure (AMF) control panel, where applicable, shall be able to start up the Power Generator and transfer the load on to the Power Generator on mains failure without requiring any human intervention. Similarly on restoration of mains supply, it shall be able to transfer the load to mains supply and switch off the Power Generator automatically.
General Technical Requirements (GTR) / Commissioning (Part-5)	e) Control Panel (Manual / AMF), where applicable, shall be equipped with suitable Voltmeter, Ammeter, Frequency meter, power factor meter (these items can be alternatively supplied in one multi functional digital display meter), battery charger, indicators, various switches and cut out IMCB / MCCB / Contactor / Circuit breaker for the DG output of appropriate rating and accuracy class as per trade practice for better utility.
General Technical Requirements (GTR) / Commissioning (Part-6)	f) Supply and installation of a change-over Switch / MCCB of suitable rating for Power Generator with manual control panel, where applicable, is inclusive in the scope of supply.
General Technical Requirements (GTR) / Commissioning (Part-7)	g) Acoustic Enclosure shall be made of Pre-treated and Powder coated CRCA Sheet. The sheet shall be Pre treated and Powder coated with weather-proof paint. The Acoustic Enclosure shall be vermin proof. The enclosure shall accommodate the (daily service) fuel tank of the Power Generator to make the system compact.

General Technical Requirements (GTR) / Commissioning (Part-8)	h) Power Generators shall meet the requirements of Environmental (Protection) Rules 1986 as laid down by Min. of Environment & Forests read with GSR 371 (E) dated 232(E) dated 31.03.2014, Gazette Notification No.167 dated 17.5.2002, GSR 520(E) dated 1.7.2003, No.448 (E) dated 12.07.2004, GSR 771(E) dated 11.12.2013 GSR 232 (E) dated 31.03.2014 and Gazette Notification No.578 dated 11.11.2014 in respect of noise and emission norms.The latest amendments to above GSRs shall be applicable as and when amended by Ministry of Environment and Forest.
General Technical Requirements (GTR) / Commissioning (Part-9)	i) Standard set of tools consisting of a set of 3 spanners, one screw driver, one standard plier of appropriate size shall be provided along with each power generator.
General Technical Requirements (GTR) / Commissioning (Part-10)	j) Supply of Fuel tank of suitable capacity, sufficient for minium 8 hours running/990 liters (whichever is lower) the Power Generator, is inclusive In the scope of supply. Fuel Tank shall be complete with fuel piping (between fuel tank and diesel engine), valves, level indications and all standard accessories. MS pipes, heavy class of suitable dia conforming to IS 1239 (Part-1) - latest shall be used for fuel piping.
General Technical Requirements (GTR) / Commissioning (Part-11)	Buyer's Responsibilities: i) Mains ACB for AMF operation shall be provided by the buyer for DG set rating above 600 KVA and above. For DG set other ratings seller shall provide mains and DG contactor / breaker, ii) Exhaust piping, extra civil work, distribution board shall be provided by the buyer. iii) Consumables such as filters, lube oil at the time of servicing during warranty period shall be provided by the buyer. iv) Obtaining necessary approvals. if any, isthe responsibility of the buyer.
Above General Technical Requirements (GTR) / Commissioning have been seen, read, understood and agreed to comply.	

WARRANTY/SERVICES

Warranty on Complete power generator / DG Set	24 month
Warranty in running hours	5000 hour
Number of preventive maintenance visits offered in an year during warranty period (Supply of all consumables is the buyer's	1
Response Time to attend the complaint during Warranty	7 days
Time Duration for Repairing / Replace the defect during Warranty	30days
Type of lab which carried out Test of Complete product to prove the conformity of product as per specification.	Certificates required as per CPCB
Test report Available for (Test / approval)	Type Approval Certificate for the specified rating of the Power Generator from any of the designated agency authorized by CPCB, COP Certificate for engine, Type test report and Endurance test report for Engine as per IS:10001 latest/ IS:10002 latest, Type test report for Alternator as per IS:13364 (Part-1) latest / IS:13364 (Part-2) latest to prove conformity to the specification.


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