

- Cooling water pump for circulation of water through diesel engine and radiator cooler, engine driven
- Cooling thermostatic valve, designed to fail open to radiator circuit
- Expansion tank
- Facility for temperature gauge and high temperature switch
- All necessary piping, valves, vents, drains, etc.

8.6.10 Speed Control

An adjustable droop governor shall be provided complete for the diesel engine and shall be of the electronic/hydraulic type. The governor shall be capable of maintaining the frequency within the limits set in ISO 8528 for standard types.

8.6.11 Alternator

The alternator shall be of the flange mounted, brushless, self-exciting, self-regulating standard type.

Alternator enclosure shall as a minimum be IP22.

Both ends of the generator main leads shall be brought to a terminal box and star connected.

The alternator shall be able to sustain unbalanced loads up to 20% without affecting the voltage regulation.

The insulation of alternator and exciter windings shall be class H, and the manufacturer shall guarantee that the insulation is suited for use in tropical climate. Alternatively a special varnish shall be applied to achieve the required guarantee.

The alternator shall be capable of producing short circuit currents of 3-5 times I_N , enabling the protection devices in the panels to function.

8.6.11.1 Automatic Voltage Regulator

An automatic voltage regulator of the static type capable of maintaining the voltage within the limits set in ISO for best grade of voltage regulation shall be incorporated.

The system shall incorporate a low speed protection, that decreases the excitation current in case of the alternator being operated at a speed lower than nominal. The system shall provide full security for the excitation system against overload.

8.6.11.2 Arrangement of the Diesel Generator Set

The diesel generator set shall be installed in the generator room on a solid concrete block. The concrete block shall be isolated from other building works by provision of flexible expansion joints, in order to isolate seismic motor vibrations from spreading to building structures producing cracks.

Generator company will give certificate. Noise reduction measures shall be included in order to reach not more than 85 dB (A) in 1 metre from the generator room. The measures shall include air intakes provided with noise reducing baffles and heavy-duty isolation of the entrance door to the generator room. Refer the civil works specification for further information.

The Contractor shall include installations (if necessary), such as forced ventilation of the generator room, in order to reduce the indoor temperature rise to an acceptable degree recommended by the equipment supplier, when the diesel generator set is in operation. Heat reduction measures must not reduce noise reduction precautions.

All equipment located outside shall be provided with sun cover in order to be protected against direct sun radiation.