

Six - 16.7 MW GE Frame 5LA Gas Turbine Generator Packages



Item	Component	Description
1	Frame 5LA Turbine Packages	Single shaft heavy duty industrial gas turbine, suitable for outdoor operation; anti-corrosion coatings on liners, nozzles, and blades. Configured for natural gas fuel.
2	Frequency	60 Hz
3	Generator	GE, 3600 rpm, 13.2 KV, 3ph, 60Hz, 18,824 @ .85 PF, air cooled, EDF-4 excitation system (250v, 240a) RTDs for generator stator winding (2 per phase)
4	Accessory Gearbox	Drives main lube oil pump and hydraulic pump.
5	Turbine Module	Acoustical enclosure & single lift base
6	Generator Module	Acoustical enclosure & single lift base.
7	Air Filter/Silencer	Air inlet filter system consisting of a silencer, transition duct, and expansion joint.
8	Turbine Control Panel	Control system using BTEC proprietary architecture will be supplied; includes turbine-generator sequencing and control, vibration monitoring equipment, fire & gas detection panel.



9	Power Control Module	<p>10' 8" x 15' control module attached to the accessory skid with a weatherproof enclosure containing:</p> <ul style="list-style-type: none"> • GTG 480 VAC MCC / Lighting and Distribution transformer • 120 volt distribution panel • BTEC Turbine Control System • Complete battery set • Batteries and Chargers – Two battery systems are provided: (1) 125 VDC control system, one hr supply, dual chargers, and disconnects. (2) 24 VDC fire system battery system. • Miscellaneous: Cable trays, lighting, interior and interconnect cabling
10	Gas Fuel System	Gas fuel system includes duplex shutoff valves / vent valve, fuel flow metering (corrected), associated instrumentation, and a control valve all mounted on an independent skid located adjacent to the gas turbine module. System includes latest technology that surpasses original OEM supplied equipment (i.e. electronic fuel control valve).
11	Turbine Lube Oil System	On-main-skid self-contained lubrication system includes: dual filters, dual oil/water heat-exchangers, gearbox driven main pump, backup AC driven pump, emergency DC driven pump, air/oil mist eliminator associated instrumentation.
12	Hydraulic System	Complete system, gearbox driven pump, backup AC driven pump and dual filters
13	Cooling Water System	System includes turbine - generator lube oil heat exchangers and support legs.
14	Ventilation System	Cooling ventilation air for compartments complete with fans, dampers, and exhaust hoods.
15	Cooling And Sealing Air System	Complete system, includes control valves.
16	Starting System	Diesel starter (2) Electric motor starter (4)
17	Fire System	CO ₂ fire protection system for accessory, turbine, and exciter compartments. System includes nozzles, heat detectors, CO ₂ bottles and racks and independent fire system control panel.
18	Vibration Monitoring System	Complete system including velocity and proximity probes together with monitoring and alarm panel.
19	Generator Connections	Neutral cubicle including a grounding resistor. Generator lineside connection is fed direct to 15kV switchgear line-up.
20	15 kV switchgear, excitation system, air conditioned - insulated enclosure and interconnect wire / cable and conduit /tray	15kV generator switchgear unit located in NEMA 3R enclosure, mounted adjacent to generator skid, bus duct interconnection between generator and switchgear unit. Outgoing connection is bottom entry. CTs for metering, relaying and voltage regulation. A Basler DECS 300N excitation system. A 10' x 10' air conditioned building



		with door and removable access panels. Wire, cable and cable trays sufficient for electrical interconnect between module and switcher gear enclosure.
21	Protective Relaying	Protective relaying including: 25,32,40,46,50/51,52G,59,64,81O/U,86,87
22	Exhaust Plenum	Exhaust plenum with internal liner and expansion joint
23	Couplings	Load and accessory gear system including coupling guards.
24	Exhaust Stack	Standard simple cycle exhaust stack.
25	Paint	Complete internal and external painting.
26	Crating and preparation for shipping	Unit is prepared for shipment including crating of certain components.
27	Installation Manuals	6 copies
28	Operation Manuals	6 copies
29	Warranty	12 months from startup / 18 months from ready to ship.



Available Optional Equipment:

Item	Component	Description
A	Load Test	Full load package test utilizing dedicated packaged equipment for this unit (ie. MCC, turbine control panel).
B	Dual Fuel (#2 Fuel Oil)	Liners, liquid fuel nozzles, fuel pump, fuel ring, piping and connections.