**AIR INLET SYSTEM**

After cooler core, fresh water, corrosion resistant coated (airside)

Air inlet shutoff Turbocharger, engine oil lubricated

Air Inlet Adapter (90 Deg)

Rear Accessory Module and Air Cleaners.

Custom accessory module designed to straddle the generator and base.

The Accessory module is designed to mount two (2) vertical air cleaner housings, and GMS start/stop panel and junction box

**CONTROL SYSTEM**

Caterpillar ADEM III Electronic Engine Control, LH with Electronic Unit Injector Fuel System.

Rigid wiring harness

Governor Conversion

Converts engine to direct rack controls requiring 0 to 200ma. Requires 24V DC 10 AMP Continuous, 20 amp Intermittent, clean electrical power

**COOLING SYSTEM**

Single/Combined Circuit For treated fresh water. The cylinder block/head/turbocharger cooling  circuit is in series with the after cooler/oil cooler circuit. Includes jacket water and lubricating oil temperature regulators and two external circuitconnections.

Expansion Tank- High Volume Shipped loose for customer mounting. Engine coolant water drains Plate type oil cooler, remote. Includes regulator and ANSI connections. Provides 70C oil to the engine. Three bundle oil cooler. Multiple element, full modulating temperature regulator in Caterpillar designed  regulator housing. Regulator housing connects directly to Caterpillar expansion tank. Custom Cooling System Includes supply & mounting of a titanium AC/OC circuit heat exchanger and a titanium JW circuit heat exchanger, custom accessory module mounted to the front of the base assembly for shipping purposes. Once in place, module will disconnect from the base to isolate

module.

Titanium heat exchangers are sized to meet EPA Marine

Tier II emissions by providing 32degree C AC/OC engine inlet water with 27 degree C ambient seawater.  Noble must provide 2600 LPM seawater to the inlet of the custom cooling circuit.

**EXHAUST SYSTEM**

Dry, gas tight, exhaust manifold

(2) 18in Flexible Exhaust fitting (shipped loose)

(2) 18in Exhaust Flange (shipped loose)

**FLYWHEEL-HIGH INERTIA**

Flywheel has roughly twice the mass moment of inertia as compared  to the standard flywheel. Assists in meeting certain transient  response criteria. The flywheel has thirty-two 7/8-9-2B THD holes on a  1025 mm (40.35 in.) diameter

bolt circle. Flywheel & coupling guards

**FUEL SYSTEM**

Filter, fuel, duplex

Flex Fuel Outlet Connection

Flex Fuel Inlet Connection

Manuel Fuel Priming Pump

Fuel Cooler (Plate Type)

To be installed on the base next to the engine coupling.

**LUBRICATION SYSTEM**

Centrifugal oil filters with single shutoff. Service side engine mounted on cylinder block inspection covers. Includes installed oil lines and single shutoff valve. Filters centrifuge bypass oil from the main lubricating oil pump. Can be serviced with the engine running. Three filters included. Oil filler and dipstick Valve, oil pressure regulating Valves, crankcase explosion relief. The total engine system Suitable for tilt requirement 15° Static Pitch and 22.5° Dynamic Pitch. Duplex Oil Filter

Dual housing, six-element system using Caterpillar filter elements.  Filter elements will be accessible from the service side of the  engine. Drain valves and element racks are provided for ease of service. Continuous Pre-lube Pump mounted to engine base. Motor included. Includes 24 VDC motor starter  Pump

**Voltage  Requires:** 24 VDC and customer-supplied power source. Includes engine mounted pilot valve to maintain correct pre-lubrication oil level within the engine and level detection to disable starter if pre-lubrication oil level becomes

insufficient. Drain group provides oil drain for use with oil mist detector. Oil Mist Detector Dry Sump - includes oil pump, sump tank & lines. 15 degree tilt capability.

**STARTER SYSTEM**

TDI Turbine Starting System includes (2) TDI Turbine Starters.

Jacket Water Heater

Engine starting aid for operation down to 0 C (32 F).

Requires Customer-supplied power source.

**GENERAL**

Damper Guard - Constructed of perforated steel for strength as well as for adequate air flow for cooling of damper. Engine Lifting Eyes .Manual Barring Device With a 50:1 gear reduction. Can be used with electric or air drills.

**GENSET MONITORING SYSTEM**

The GMS (Genset Monitoring System) provides protection, monitoring,and control for a single 3600 diesel generator set utilizing a PLC  (programmable logic controller) based system housed in a NEMA 4 (IP66) enclosure. All critical shutdowns have both relay based and PLC based  protection. Sensors are wired directly to the GMS control panel. Use of the GMS eliminates the need for a separate gauge panel and annunciator panel.

Requires 24 VDC power and control air pressure.

**GMS PROTECTION SYSTEM ADDITIONS**

Includes the following:

  1 ea. - Generator Cooling System Flow Switch

  1 ea. - Generator Lube Oil Pressure Contactor

  2 ea. - Generator water temperature RTD

**Additional monitoring parameters:**

  Generator bearing vibration alarm

  Generator water flow

  Generator low oil pressure alarm and shutoff

  Generator leak detector

  TEWAC water temperature alarm (2).

**MOUNTING SYSTEM**

Includes Offshore rigid 3-point base.

Isolator weld plates - Includes (8) isolator weld plates for connection of isolators to customer foundation.  The weld plates ease in the genset package installation. The weld plates have threaded holes which match the isolator hole pattern.  The weld plates are to be welded to the customer foundation at the time of package installation. Weld plates are shipped loose. Verticalrestraint Isolators - provides (8) isolators for generator set base in seismic zones and drill rig with +/- 1.5G vertical restraint and +/1 3G horizontal restraint under low cycle

**conditions.**  Shipped loose.

    ABS Design Review (as required by ABS)

    ABS Factory Survey (as required by ABS)

    ABS IMO Certification & Documentation

    Testing (as required by ABS)

    Documentation Management & Submittal to ABS

**QTY (1) – DRAWING PACKAGE**

  Includes (4) paper sets & (1) electronic set on CD & includes the following:

Package General Arrangement Drawings – includes (5) views of the engine/package configuration being quoted. Views provided are right, front, rear, left & top.  Also includes installation footprint, customer connection  details and ships loose components associated with the engine/package. Wiring Diagram – includes electrical wiring diagrams for Caterpillar-supplied systems on the package.

Includes engine, generator & controls.

Piping & Instrumentation Diagrams – includes schematic diagrams of cooling, lubrication, fuel, starting & mechanical instrumentation systems including customer connection sizes.