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الشركة الوطنية لحفر وصيانة ابار النفط

**National Oil Well Drilling & Workover Company**

احدى شركات المؤسسة الوطنية للنفط

**N.O.C Company**

**CAT D3512B CATERPILLAR LAND DRILLING SCR GENERATOR SPECIFICATION.**

**Our Ref: NWD-TC-2023-T-70-05**

| ITEM # | Quantity | UOI | DESCRIPTION |
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| 01 | **03** | UNITS | **CAT D3512B** CATERPILLAR GENERATOR SET, 3512B **LAND DRILLING** SCR GENERATORS, DIESEL OILFIELD GENERATOR SET, OPEN TYPE.  MADE: **USA**  BRAND **NEW & UNUSED**  Power Rating: 1045 eke  Power Rating @ 0.8 pf / 1492KVA  Voltage Output: 600Vac  Phase: 3 Ø (phase)  Frequency / RPM: 60Hz / **1200 RPM**  COMPOSED OF THE FOLLOWING:  **A**) **FOR ENGINES**  **a**). Air Inlet system  \*Corrosion- resistant after cooler core  \*Air inlet shutoff  \*Dual element & heavy duty air cleaners with  \*Service Indicator  \*With manual shutoff System  **b**). Cooling system  \*Separate-circuit after cooled  \*Outlet controlled jacket water thermostat  \*Jacket water pump – gear driven  \*Dual outlet  \*After cooler water pump – gear driven  \*After cooler water thermostat  \* Radiator & fan for desert operation with  ambient temperature to 140 Degree F /50◦C  \* Radiator with guard  \* Coolant drain lines with valve and level sight gauge  \* Fan & belts guards  \* Jacket Water pump  \*Coolant level sensor  \*Coolant conditioner  **c**). Exhaust system  \* Dry exhaust manifold  \* Flanged faced outlets  \* Dual turbochargers, water cooled bearings  \* Stainless steel exhaust flex fittings  \* Elbows, flanges, expanders & Y adapters  \* Elbow, 305 mm (12 in) |

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|  |  |  | \* Muffler, 356 mm (14 in), spark arresting, includes companion  \* flanges, clean-out box, and spark box  \* Muffler, 305 mm (12 in), spark arresting, includes companion  \* flanges, clean-out box, and spark box  \* Spark arrestors  d). Fuel System  \* Fuel transfer pump  \* Fuel return line with flexible connection  \* Electronic unit injectors  \* Primary fuel filter with water separator  \* Fuel Pressure Gauge  e). Lube System  \* Crankcase breather  \* Oil cooler  \* Shallow oil pan  \* Oil drain extension, 2 in NPT female connection  \* Crankcase fumes disposal  \* Oil level regulator  \* Centrifugal Oil Cleaner  \* Oil filler  \* Gear type lube oil pump  f). Governing  \* CATERPILLAR ADEM control system  g). Starting  \*Electrical starting System 24 Vdc  h). Instrument Panel  \* Emergency stop button  \* Analog gauges:  \* Fuel pressure  \* Engine oil pressure  \* Engine oil temperature  \* Engine coolant temperature  \* DC voltage  \* Engine percent load  \* EMCP 4.4 control panel  \* 5.5-inch graphical display  \* 16 languages supported  \* Engine/generator monitoring and protection  \* CAN, RS 485 MODBUS, Ethernet communications supported  \* Remote e-stop/start/stop  \* Engine start and crank attempt counter  B) **FOR GENERATOR (600Vac, 60Hz, 1045 EKW)**  \* SE Excitation  \* 6 Poles  \* Class H Insulation RISE (127°C)  \* Reactive Droop  \* Bus bar Connections.  \* Anti Condensate Space Heaters  \* Cable Access Box  without load sharing  Without voltage regulator |
| ITEM # | Quantity | UOI | DESCRIPTION |
|  |  |  | C) **ELECTRIC MODULAR CONTROL PANEL (EMCP 4.4)**  **WITH THE FOLOWING FEATURES:**  a). 140 mm (5.5 in) Graphical Display  • Generator AC voltage  • 3-phase (L-L & L-N)  • ± 0.25% accuracy  • rpm and battery voltage  • Generator AC current (per phase and average)  • Generator frequency  • Power metering (kW, kVA, kVAr, pf)  • Hour meters (kW-hour, kVAr-hour)  • Engine oil pressure (psi, kPa or bar)  • Engine oil temperature (°C or °F)  • Engine coolant temperature (°C or °F)  • Multiple language support  • Engine start and crank attempt counter  • Real time clock  b). Communication  • Accessory CAN data link  • RS-485 annunciator data link  • RS-485 SCADA (Modbus RTU)  • Ethernet SCADA (Modbus TCP)  c). Controls  • Auto/start/stop  Engine cool down timer  • Emergency stop  • Engine cycle crank  • Programmable cycle timer  d). Generator Set Protection  • Over/under voltage  • Over/under frequency  • Generator phase sequence  Over current (timed and inverse)  • Reverse kW, kVA  • Current balance  • Low oil pressure  • High coolant temp  Low coolant level  • Fail to start  • Over speed  e.) Outputs  • 16 programmable digital outputs  • 3 programmable (4-20mA or ±10V)  programmable (PWM) Inputs  f.) Emergency stop  • Remote start  • 12 programmable digital inputs  • Oil pressure and water temperature  • 3 programmable inputs (±10V, PWM, current,  or resistive)  • Oil temperature, fuel level mounting. |

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|  |  |  | **D) MOUNTING**.  \* INNER BASE FOR MOUNTING ENGINE AND GENERATOR ENGINE AND GENERATOR MOUNTING GROUP COUPLING /ENGINE AND GENERATOR MOUNTING SUPPORT TO ISNTALL AT GENERATOR SCR HOUSE, TOWING POINTS & FORKLIFT POCKETS, SKID BASE WITH DRAGGING POINTS.  **E) GENERAL DETAILS**.  \* Paint - Caterpillar Yellow except rails & radiators should be gloss black.  \* SAE Standard Rotation  \* Flywheel teeth 183 & Flywheel Housing - SAE No. 00  \* Machine should be Brand New & unused  \* Remanufactured or Refurbished Generators not acceptable  \* **Must be genuine & manufactured in USA.**  \* Complete with Test Certificate, Certificate of conformance and other standard related documents.  \* Warranty.  \* Training for 6 persons (3 mechanics & 3 electricians) including accommodation, Food and general expenses.  \* Installation and commissioning.  \* Inspection and Witnessing by NWD personnel prior to shipment.  \* The offer must include Detailed Technical Offer, Data sheet, they can make also checklist based on  our requirements for easy evaluation.  \* Service Parts Manual should be included with CD ROM, 4sets.  \*\*\*\*\*\*\*\*\* **NOTHING FOLLOWS** \*\*\*\*\*\*\*\*\*\*\*\*\* |