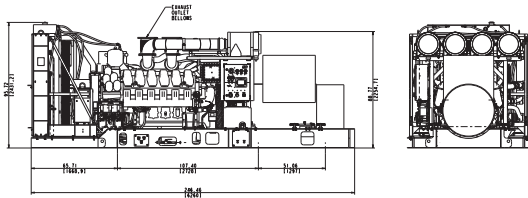


Electric Drilling Package

Diesel Engine Genset – 50Hz

1420 kW @ 1500 rpm plus 10% Overload Capability

1900 kVA (Generator oversized to meet low power factor requirements)



Dimensions and Masses

| Engine | Dimensions mm | Mass, dry |
|--------|-----------------------------------|------------------------|
| 12V | 6260x2374x2431 (247x94x96 in.) | 15060 kg (33200 lb) |

All dimensions are approximate, for complete information refer to the installation drawing.

| Engine Model | | |
|------------------------|----|---|
| Bore/stroke | mm | 170/210 |
| Cylinder configuration | | 90°V |
| Displacement/cylinder | l | 4.77 (290 cu. in.) |
| Displacement, total | l | 12V: 57.2 |
| Fuel specification | | EN 590, Grade No.1-D/2-D (ASTM D975-00) |

| | | |
|---|-----------------|--|
| Genset Type | | TPDSZ12V4000-2A0 |
| Engine Speed | | 1500 |
| Engine type | | 12V 4000 G23 |
| Generator type | | LS 841 M70S |
| Voltage | | V 600 |
| Power Factor | | 0.7 |
| Frequency | | Hz 50 |
| Fuel Consumption | | |
| 100% load | g/kWh (lb/hp-h) | 189 (0.311) |
| 75% load | g/kWh (lb/hp-h) | 195 (0.320) |
| 50% load | g/kWh (lb/hp-h) | 203 (0.334) |
| 25% load | g/kWh (lb/hp-h) | 235 (0.386) |
| Mechanical radiator, unit-mounted | | |
| Limiting Air Temperature (LAT) | | °C (°F) 45 (113) |
| Fan air flow | | m ³ /s (CFM) 37.58 (79633) |
| Air intake | | |
| Intake air depression | | mbar (in. Water) 50 (20) |
| Intake air flow @ 110% Load | | m ³ /s (CFM) 1.8 (3814) |
| Exhaust System | | |
| Exhaust volume flow | | |
| (at exhaust temperature) - CP | | m ³ /s (CFM) 4.0 (8476 CFM) |
| Exhaust gas temperature - CP | | °C (°F) 455 (851) |
| Max. Exhaust back pressure | | mbar (in. Water) 85 (34) |
| Generator | | |
| Temperature rise | | °C 80 |
| Lube System | | |
| Engine oil capacity, Initial Fill | | l (gal) 221 (60) |
| Engine Surface Airborne noise level at 1m | | dB(A) 102 |
| Exhaust noise level at 1 m (unsilenced) | | dB(A) 113 |

Reference conditions:

- > Ambient air temperature: 25°C (77°F)
- > Ambient air pressure: 1000 mbar (14.5 psi)
- > Genset Ratings: 1900 kVA, Generator oversized to meet low factor requirements
- > Charge air coolant temperature: 45°C (113° F)
- > Altitude above sea level: 100 m (328 ft)



Power. Passion. Partnership.

Application

Power definition

3B Continuous operation w/ variable load Load factor: < 75%, Operating hours: unrestricted, Overload: 10% capability (ICXN)

Power output within 5% tolerance at standard conditions. Power definition according to ISO 3046 (ratings also correspond to SAE J 1995 and SAE J 1349 standard conditions)
Consult your MTU distributor/dealer for the rating that will apply to your specific application.

Standard Equipment

Diesel Engine

Grey cast-iron crankcase with inspection ports,
Flywheel housing SAE 00, flywheel 21,
Forged crankshaft, forged connecting rods,
Four-valve, individual cylinder heads with exhaust valve rotators "Rotocap",
Piston cooling via oil spray nozzle,
Gear train for accessory drives, Dry exhaust manifolds, Vibration damper,
All necessary on-engine air, exhaust, coolant, fuel and oil pipework,
Engine equipped with 4 - turbochargers and 1 Intercooler,
Closed crankcase vent system, 100 A Battery charging alternator

Starting System

2 Electric starter 9 kW 24V 50MT DELCO A&B side

Fuel System

"Common Rail" fuel injection system, with low and high pressure fuel pumps, electronically controlled injectors,
Fuel main filter on engine (without diverter valve), Connecting hardware and set of fuel pipes with hose lines,
Double walled fuel injection pipes with leakage monitoring, Skid Mounted Racor 75/1000FHX model duplex pre-filter w/shutoff valve, central fuel connection plate for customer supply and return side of skid. Integrated fuel cooler.

Lube Oil System

Lube oil forced feed circulation pump with safety valve and lube oil heat exchanger;
oil filler neck, dipstick for oil level measurement on engine,
Lube oil filters multi stage, without diverter valve,
Lube oil centrifuge for extended lube oil change intervals,
Standard Oil Pan (allows for inclination of 15°),
Lube oil drain piping with ball valve to central connection on side of skid.

Combustion Air System

Exhaust turbochargers, Intercooler,
Set of heavy duty, dry-type, 2-stage air filters, contamination indicator, filter mountings and flexible engine-filter connections, combustion air flaps for interruption of the combustion air in case of overspeed, incl. solenoid 24 VDC

Exhaust Gas System

2-exhaust bellow with companion flange for connection to all turbochargers,
Exhaust muffler, log style, dual inlet (ship loose)

Cooling System

Coolant circulation pump and coolant thermostat for main coolant circuit,
Coolant circulation pump and coolant thermostat for charge air coolant circuit,
Aluminized Steel formed cooling water tubing and rubber hose with clamps included for radiator connections,
All vent lines to radiator,
2-Circuit Global Heat Transfer radiator assembly with 1-blower fan (50 hp engine driven), single bolt-on surge tank, integrated fuel cooling circuit.

Base Frame/Mounting
of Genset

Engine mounts at engine free and driving end rigid,
Alternator rigid mounting to base frame,
Central Power supply panel for external batteries,
A572 steel base frame

| Standard Equipment | |
|---------------------------------------|---|
| Power Transmission | <p>Engine flywheel for free standing generator,</p> <p>Resilient Coupling between engine and generator,</p> <p>Coupling guard</p> |
| Mounting System | <p>Three or four point mounting to customer supplied container/master skid</p> |
| Engine Control/Monitoring | <p>Integrated electronic engine governor and engine management system "ADEC" for control, monitoring and protection:</p> <p>Engine speed/torque control,</p> <p>Engine monitoring and display of engine operating parameters and alarms,</p> <p>Engine protection against critical operating parameters,</p> <p>Acquisition and display of plant related measuring data,</p> <p>Communication with an external control system,</p> <p>Red and Yellow Alarm, etc.,</p> <p>Speed or torque analog input (0-10V/0-200 mA)</p> |
| Local Operator Panel on the skid with | <p>Mechanical gauges for: lube oil pressure, lube oil temperature, engine coolant temperature, engine speed,</p> <p>Common yellow & red alarms,</p> <p>Selector switch for: Off, Local/Idle, Remote,</p> <p>Emergency stop push button,</p> <p>Maintenance lockout switch,</p> <p>Air flap control and position indicator,</p> <p>Automatic start sequence control,</p> <p>Multi-page color LCD display panel, fuel consumption reading +/- 10 % accuracy – accuracy limited to accuracy of ADEC ECU,</p> <p>Ground straps,</p> <p>Panel suitable for -40°C to +70° ,</p> <p>Control panel with interface plugs</p> |
| Instrumentation | <p>1 coolant level sensor with cable installed in coolant header tank</p> |
| Generator | <p>Three-phase synchronous, brushless, self-exciting, self-regulating and self-ventilating generator with built-in exciter suitable for parallel operation</p> <p>Enclosure category IP 23, Roller bearings, Insulation class H utilised to F,</p> <p>Set-point adjustment +/- 5 %, Design in accordance with IEC 60034, Voltage 600 V (3Ph.),</p> <p>Speed 1500 min⁻¹, Frequency 50Hz, Rated Power 1900 kVA at p.f. 0.7,</p> <p>at site conditions 50°C ambient temp., 80°C Temp Rise, Site elevation 1000 m above sea level,</p> <p>Degree of protection IP 23, Excitation brushless, Winding 2/3 pitch,</p> <p>Form Wound Stator Coils, VPI with Epoxy Overspray,</p> <p>Stator RTDs, 100 Ohm PT, 2/Phase,</p> <p>Bearing RTD - 100 Ohm PT,</p> <p>Class 1 - Div 2 Space heaters.</p> |

| Optional Equipment | |
|-------------------------------|---|
| Starting System | Air Starter instead of electric starter, TDI AIR STARTER (90 to 150 PSI) |
| Coolant Preheating | Electrical coolant preheater 380VAC 3-Phase |
| Generator System | Additional air filtration box |
| Fuel system | Skid Mounted Racor 79/1000FHV MODEL TRIPLEX FILTER W/SHUTOFF VALVE |
| Local Operating Panel Options | Fuel tank monitoring and display, EMU with single cylinder exhaust temperature monitoring, Many external connections for the customer E-Stop, Stop, Start, etc., Frequency output from the flywheel |
| Features | Stiff A572 Steel Skid, Compact design to fit into customer supplied container, Low profile lifting lugs for container floor integration, Central connection plates on side of skid for fuel supply & return, battery power supply and oil drain for direct access from container floor, Fuel supply & return piping to side of skid with standard pipe thread, MTU Factory Local Operating Panel, with SAM (IP65) with Color multi-page LCD Display, Heavy Duty, 2-stage air filtration, Aluminized Steel Form Coolant Tubing, Stainless Steel Fuel cooler piping to/from radiator, Stainless steel lube oil drain piping to side of skid with shut-off valve. |

Subject to change without notice. Customization possible. Engines illustrated in this document may feature options not fitted as standard to standard engine.