CLARKE
PowerGen

30kW

60Hz / 120-240V, 1Ø / 120-480V, 3Ø
Stationary Stand-by Generators

Standard Features

- Manufactured in Cincinnati, Ohio, USA.
- Stationary standby, diesel generator system designed to be permanently located for supplying emergency power during temporary interruptions of the utility power supply.
- Applications may include hospitals, communications, factories, offices, data processing centers, pumping stations, etc.

Engine

- Governor, mechanical
- Electrical system, 12 DVC
- Cartridge-type filters
- Battery rack & cables
- Coolant and lube drains piped to edge of base

Generator

- Insulation system, Class H
- Drip proof generator air intake (NEMA 2, IP23)
- Electrical design in accordance with BS5000 Part 99, IEC60034-1, NEMA MG-1.33

Automatic Voltage Regulator

- Voltage within ± 1.0% 3Ø and ± 1.0% 1Ø at steady state from no load to full load
- Provides fast recovery from transient load changes
- SE350 Standard (on most models)

Control System

- Clarke GSC1 digital control panel
- Output method to PC, RS232
- DC & AC wiring harnesses

Mounting Arrangement

- Heavy-duty fabricated steel base with lifting points
- Anti-vibration pads to ensure vibration isolation
- Complete OSHA guarding
- Exhaust outlet ready for connection to silencer pipe work
- Flexible fuel lines NPT connections

Cooling System

- Radiator and cooling fan complete with protective guards
- Standard ambient temperature up to 50°C (122°F)

Circuit Breaker

- UL/CSA listed
- 3-pole with solid neutral, 3Ø
- NEMA 1 steel enclosure
- Electrical stub-up area below circuit breaker

Equipment Finish

- All electroplated hardware
- Anticorrosive paint protection
- Alkyd Enamel paint for durability and scuff resistance

Quality Standards

- BS5000, BS5514, IEC60034, NEMA MG-1.33, NFPA 110 (with optional equipment)
- UL2200 Certification (available on most models)

Documentation

- Operation & Maintenance manuals
- Wiring Diagrams

Warranty

- All equipment carries full manufacturer's two (2) year warranty

Optional Features*

Enclosure
- Weatherproof
- Level 1 (15 dBa reduction)
- Level 2 (25 dBa reduction)
- Powder-coated aluminum

Silencer System
- Industrial, Residential, Critical, Hospital
- Mounting kit
- Through-wall installation kits

Engine
- Battery heater
- Lube oil drain pump
- High lube oil temperature shutdown
- Lube oil sump heater
- Coolant and fuel drains to base

Circuit Breaker
- Auxiliary volt free contacts
- Shunt trip (100+ amp breakers)
- NEMA 3R/12 enclosures
- 2 pole single phase

Generator
- 80°C, 105°C, 150°C temperature rise available
- Anti-condensation heater
- Permanent magnet generator (PMG)
- Generator upgrade 1 size (3-phase only)
- Sustained short circuit current of up to 300% of the rated current for up to 10 seconds (on PMG-equipped units)

Control System
- No Control System
- Clarke digital-enhanced control panel

Mounting Accessories
- Seismic vibration isolators
- Spring-type vibration isolators

Fuel System
- UL142 Listed true secondary containment, skid-mounted fuel tank base (12/24 hour capacity) with fuel alarm (low level/leak detected)
- Critical high fuel alarm
- Critical low fuel level shutdown

Cooling System
- Coolant heater
- Low coolant temperature alarm
- Low coolant level shutdown
- Radiator transition flange

Remote Annunciation
- 15-channel remote annunciator panel & horn (supplied loose)

Miscellaneous
- Toolkit
- Additional operator's manuals
- Special enclosure color & options

Extended Service Contracts
- Extended warranty & service coverage
- Preventative maintenance

Testing
- Factory test and report at both 1.0 pf and 0.8 pf
- Meets Prototype Testing Requirements per NFPA110

* Some options may not be available in all models. Not all options are listed.

Model Ratings

Standby Model	kW/kVA	Voltage	Phase	PF	Hz	AMPs	*skVA@ 30% Voltage Dip	Alternator Model	Temp. Rise	Connec-tion
30D-JSMG-NAE	30 30	120/240	1	1	60	125	48	284PSL1708	130°C	12 WIRE
30D-JSMP-NAE	30 37.5	120/208	3	0.8	60	104	93	283PSL1707	130°C	12 WIRE
30D-JSMJ-NAE	30 37.5	240	3	0.8	60	90	93	283PSL1707	130°C	12 WIRE
30D-JSMR-NAE	30 37.5	277/480	3	0.8	60	45	123	283PSL1707	130°C	12 WIRE

* skVA refers to starting kilovolt-Amperes

Standard Equipment

Engine

- Air cleaner
- Oil pump
- Full flow oil filter
- Jacket water pump
- Thermostats
- Exhaust manifold
- Blower fan and fan drive
- Radiator (unit-mounted)
- Electric starting motor (12V)
- Governor, mechanical
- Base, formed steel
- SAE flywheel and bell housing
- Charging alternator (12V)
- Battery box and cables
- Flexible fuel connectors
- EPA certified engine

Generator

- NEMA MG1, IEEE, and ANSI standards Compliance for Temperature Rise and Motor Starting
- Self-ventilated and drip-proof
- Superior voltage waveform
- Sold state, volts-per-hertz regulator
- No load to full load regulation
- Brushless, alternator with brushless pilot exciter
- 4 pole, rotating field
- 130°C stand-by temperature rise
- 1 bearing, sealed
- Flexible coupling
- Full amortisseur windings
- 125% rotor balancing
- 3-phase voltage sensing
- ± 1% voltage regulation
- 100% of rated load—one step
- 3% maximum harmonic content

Digital Control Panel(s)

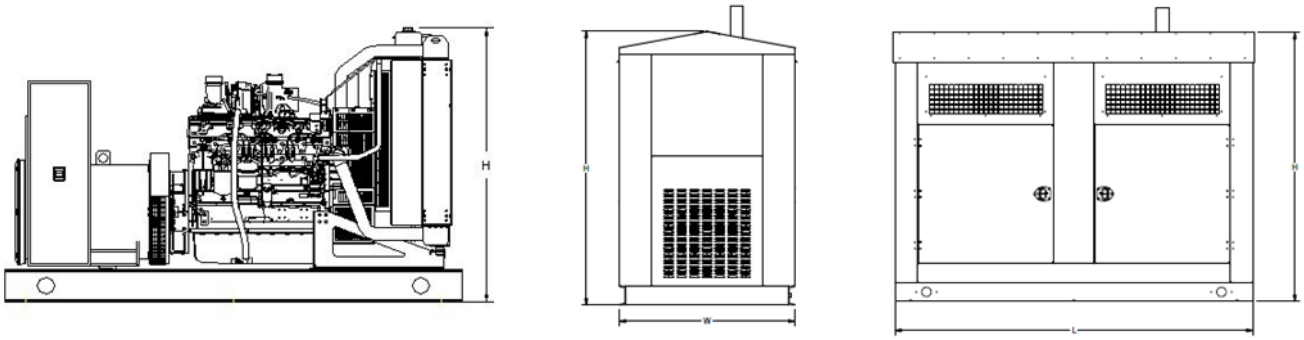
- Digital metering, microprocessor-based
- Engine parameters, displayable
- Generator protection functions
- Engine protection
- SAE J 1939 engine ECU communications
- Windows-based software
- Multi-lingual capability
- Remote communications to Clarke remote annunciator
- 7 programmable contact inputs
- 7 contact outputs
- UL recognized, CE approved
- 116 events recording
- IP 65 front panel rating with integrated gasket
- NFPA 110 level 1 compatible

Application Data

Engine	
Manufacturer	John Deere
Model	4024TF281
Type	4-Cycle
Arrangement	4-Inline
Displacement: L (in)	42.4 (149)
Bore: cm (in)	8.6 (3.4)
Stroke: cm (in)	10.5 (4.1)
Compression ratio	20.5:1
Rated RPM	1,800
Engine Governor	JDEC
Maximum Power: Stand-by: kWm (bhp)	36 (49)
Speed Regulation	± .25%
Air Cleaner	Dry
Liquid Capacity (Lubrication)	
Total Oil System: L (gal)	7.9 (2.1)
Engine Jacket Water Capacity: L (gal)	2.6 (0.68)
System Coolant Capacity: L (gal)	11.4 (3)
Fuel Consumption	
At 100% of Power Rating: L/ Hr (Gal/ Hr)	10.6 (2.8)
At 75% of Power Rating: L/ Hr (Gal/ Hr)	7.9 (2.1)
At 50% of Power Rating: L/ Hr (Gal/ Hr)	5.3 (1.4)

Fuel System	
Fuel Supply Connection Size	3/8" NPT
Fuel Return Connection Size	3/8" NPT
Maximum Fuel Lift: M (Ft.)	3 (10)
Recommended Fuel	Diesel #2
Total Fuel Flow: L/Hr (Gal/Hr)	98.4 (26)
Electrical	
Electric Volts DC	12
Cold Cranking Amps Under -17.8°C (0°F)	750
Cooling System (Radiator)	
Ambient Capacity of Radiator: °C (°F)	50 (122)
Maximum Restriction of Cooling Air, Intake, and Discharge Side of Radiator: kPa (in. H_2O)	0.12 (0.5)
Water Pump Capacity: L/ Min (GPM)	91 (24)
Heat Rejection to Coolant: kW (BTUM)	25 (1,412)
Heat Rejection to Air: kW (BTUM)	N/A
Heat Radiated to Ambient: kW (BTUM)	6 (344)
Air Requirements	
Aspirating*: m / min (SCFM)	3 (106)
Air Flow Required for Rad. Cooled Unit: *m / min (SCFM)	62 (2,199)
Exhaust	
Gas Temperature (Stack): °C (°F)	552 (1,026)
Gas Volume at Stack Temperature: m / min (CFM)	8 (283)
Maximum Allowable Back Pressure: kPa (in H_2O)	7.5 (30)

Weights & Dimensions



Unit Type	Dimensions (L x W x H)	Weight Less Tank (LBs)
Open Unit	59 x 35 x 44	1439
Enclosed unit without sub-base tank	86 x 40 x 76	2151

Consult the factory for accurate weights and dimensions for your specific engine-generator set.

Sound Data

Unit Type	Standby Full Load (dBA)
Open Unit with critical grade silencer	72

Sound data is provided at 7 meters (23 feet).

Emissions Data

This GenSet John Deere Engine is USA EPA NSPS Stationary Emissions Compliant and is in compliance with CARB requirements for Interim Tier 4 engines.

The emission data listed is measured from a laboratory test engine according to the test procedures of 40 CFR 89 or 40 CFR 1039, as applicable. The test engine is intended to represent nominal production hardware, and we do not guarantee that every production engine will have identical test results. The family parent data represents multiple ratings and this data may have been collected at a different engine speed and load. Emission results may vary due to engine manufacturing tolerances, engine operating conditions, fuels used, or other conditions beyond our control.

Rating Definitions &

Stand-by rating apply to installations served by a reliable utility source. The Stand-by rating is applicable to varying loads for the durations of a power outage. No overload capacity for this rating. Ratings are in accordance with ISO-3046/1, AS 2789, and DIN 6271.

Power Deration Factor:
Altitude: 0.5% per 305 m (1,000 Ft.) above 1,524 m (5,000 Ft.) and 4% per 305 m (1,000 Ft.) above 2,286 m (7,500 Ft.).
Temperature: 0.5% per 5.5°C (10°F) above 25°C (77°F)

Model Nomenclature

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