

Soundproof Diesel Generating Sets

Model: **WD-45ST**

INDUSTRIAL RANGE

Powered by : **DEUTZ**



★★Generating Rates★★

| POWER RATING | | RPIME /STANDBY | RPIME /STANDBY |
|----------------------|---------|---|----------------|
| POWER | KVA | 45/50 | 50/56.25 |
| | KW | 36/40 | 40/45 |
| RATED SPEED | RPM | 1500 | 1800 |
| STANDARD VOLTAGE | V | 230/400 | |
| AVAILABLE VOLTAGE | V | 220-240,220-240/110-120,230/400,220/380 | |
| RATE AT POWER FACTOR | COS Phi | 0.8 | |

Ambient conditions of reference: 1000 mbar, 25°C, 30% relative humidity. Power according to ISO 3046 Normative.

P.R.P. Prime Power - ISO 8528 : prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals.

The permissible average power output during a 24 hours period shall not exceed 80% of the prime power. 10%

overload available for governing purposes only.

Standby Power (ISO 3046 Fuel Stop power): power available for use at variable loads for limited annual time

(500h), within the following limits of maximum operating time: 100% load 25h per year – 90% load 200h per year. No overload available. Applicable in case of failure of the main in areas of reliable electrical network.



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★★Detuz engine Specifications 1500/1800Rpm★★

| Model | D226B-3D | D266B-3D |
|--------------------------------|--------------|--------------|
| Number Of Cylinders | 3 | 3 |
| Bore x Stroke (mm) | 105 x120 | 105x120 |
| Rated Speed (Rpm) | 1500 | 1800 |
| Cont. Output (kw) | 45 | 51 |
| Max .Output (Kw) | 49.5 | 56 |
| Starting System | Electric | Electric |
| Cooling Method | Water-cooled | Water-cooled |
| Starting Battery | 2x20V/60Ah | 2x20V 60Ah |
| Displacement (L) | 3.12 | 3.12 |
| Compression Ratio | 22 | 22 |
| IN taking Method | Turbocharged | Turbocharged |
| Specific fuel consumption | ≤208 | ≤208 |
| Governing Method | Mechanical | Mechanical |
| Lubricant system capacity | 7.25 | 7.25 |
| Fuel tank capacity | 130L | 130L” |
| Steady speed regulation | ≤5% | ≤5% |
| Instantaneous speed regulation | ≤10% | ≤10% |
| Time required to steady speed | ≤5% | ≤5% |
| Fluctuation rate of speed | ±0.5% | ±0.5% |
| Air Filter (type) | Dry | Dry |
| PTO. Flanges | SAE3#11.5” | SAE3#11.5” |

ENGINE--Industrial 4 strokes cooled diesel engine complete with air, fuel and oil filters, electric Starting and charging equipment, engine protection against low water level.

COOLING--Radiator and cooling fan complete with protection guards, designed to cool engine at specified output in air temperatures up to 45 °C, radiators suitable for higher temperatures are Available Low water level protection fitted as standard.

ELECTRICAL SYSTEM--24V up to .Axial type starter motor, battery charging alternator, high capacity Lead acid battery and battery tray mounted on the generator base frame, and heavy duty Interconnecting cable with termination

EXHAUST SYSTEM--Heavy duty industrial exhaust silencer with flexible piping.

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★★Alternator Technical Specifications★★

| Alternator Brand | Leroy Somer | Stamford |
|----------------------------|--|----------|
| Model | TFW40 | STC40 |
| Exciter System | Self-Excited, Brushless | |
| Phase | 3phases and 4wires. | |
| Cooling Fan | Cast alloy aluminum | |
| Bearing | Single, double shielded | |
| Windings | 100% copper | |
| Insulation Type | Class: H | |
| Connection Type | Reconnect able | |
| Pitch | 2/3 | |
| Amortisseur Winding | Full | |
| Voltage Regulator | Automatic voltage adjustment A.V.R (ELECTRONIC) | |
| Steady Voltage Precision | ±1% | |
| Underspeed Protection | Standard | |
| Over excitation Protection | IP23 | |
| TIF (1960 Weightings) | <50 | |



ALTERNATOR--Brushless, self-exciting, self-regulation, screen- protected, Drip proof rated in Accordance with IEC60034.Voltage regulation maintained within ±0.5% from no load to full load. Between 0.8 lagging and unity. All standard voltages available.

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★★Control Panel Technical Specifications★★

Control Panel---GRT168

The base mounted control panel in a vibration isolated sheet steel enclosure. The control panel is equipped as follows:

- A) Instruments: Analogue Voltmeter, Hours Run Meter. Water pressure Meter.
- B) Control module: Standard collocation is **GRT168 Auto start with ATS**
- C) Controls: Emergency Stop Pushbutton, Voltmeter Phase Selector Switch

Main Features:

- Automatic mains failure
- Engine control, Generator protection
- Built in alarms and warnings
- Remote Start operation available
- Daily / weekly / monthly exerciser
- Weekly operation schedule programs
- Fuel pump control
- Mains simulation
- Block heater control
- Field adjustable parameters
- Free MS-Windows Remote monitoring
- LED displays
- Configurable analogue inputs
- I/O expansion capability
- ECU control and monitoring via J1940 CANBUS

Protection Circuits

- Warning
- Battery charge failure
- Low battery voltage
- Shut downs
- Fail to start
- Emergency stop
- Low oil pressure
- High engine temperature
- Over/Under speed
- Electrical trip
- Generator over current
- Under/Over generator frequency
- Failed to reach loading

Instruments

- Engine
- Engine speed
- Oil pressure
- Coolant temperature
- Run time
- Battery volts
- Tor
- Voltage: L-N
- Current L1-L2-L3
- Frequency
- Mains
- Voltage: L-L, L-N



★★Generating Sets Standard Features★★

Three phase four wires, output voltage 400V/230V, 50HZ or 60HZ, between 0.8 and 1.0 laggings, protection capability, Brushless, According with the standard of NAME1 and IP23

★General Features ★

1. Composed of Deutz diesel engine and Stamford or Leroy somer alternator
2. Oil and fuel filter fitted, water separator
3. Three phase four wire, output voltage 400V/230V, 50HZ/60HZ, between 0.8 laggings, protection capability
4. According with the standard of NAME1 and IP23.
5. Composed of Deutz diesel engine and Stamford or Leroy somer alternator
6. Operation & Maintenance manual
7. Change load from 0-100%, within 1.0 %(electric speed regulator), within 4.5 %(mechanical speed regulator)
8. Lube-oil drain valve fitted
9. Electric Starter Charge motor 24 VD.C
10. Water-cooled
11. 8-hours operation base tank
12. Between 0.8 and 1.0 lagging and unity
13. Auto start
14. Optional soundproof and weatherproof canopy
15. Special Integrated Steel Base tank and sprayed overall in gloss enamel paint

★Voltage Regulation and Frequency Adjustable ratio:★

Voltage regulation maintained within $\pm 0.51\%$

Between 0.8 and 1.0 lagging and unity

From no load to full load

At speed droop variation upto 4.5%

Change load form 0-100%, within 1% (electric speed regulator), within 4.5% (mechanical speed regulator)

Frequency undulation:

Load form 0-100%, frequency undulation within 0.25%, No load wire volts max undulation ration within 1.8%

Three phase balance load in the order of 5%

Effect factor of telecom

TIF batter than 50

THF to IEC60034 Part 40 Batter than 2%

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★★Soundproofed Generator Version Features★★

★Robust Corrosion Resistant Construction★

1. Body made form steel components treated with polyester coating
2. Black finish stainless steel lock and hinges

★Excellent Access for maintenance★

1. Radiator fills access plate
2. Two large doors on each side
3. Lube oil and cooling water drains pipes to exterior of the enclosure

★Security and Safety★

1. Control panel viewing window in a lockable access door
2. Emergency stop push button (red) mounted on the enclosure interior
3. Cooling fan and battery charge alternator fully guarded
4. Exhaust silencing system totally enclosed for operator safely

★Generator Sets Optional Features★

1. Low fuel level, high temperature, low battery, over speed, over crank, run, auto shutdown
2. Automatic fuel filling system
3. Engine oil feeding and drain pump
4. Auto Transfers Switch (ATS)
5. Parallel control panels
6. Circuit Breaker MCCB&ACB
7. Remote control panel
8. Weatherproof/Soundproof canopy, trailer type and open type, provides multiple options and alternatives

★Quality Standards★

ISO9001:2000, ISO3046, ISO14000, ISO8528, BS999, AS1359, ICE34, UL, CE and CCC.