# DETROIT DIESEL Series 71 Standby Generator Set Package

## Specifications

<table>
<thead>
<tr>
<th></th>
<th>60 Hertz</th>
<th>50 Hertz</th>
<th>60 Hertz</th>
<th>50 Hertz</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>7125-7005</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Standby Output</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Fan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>kW at 0.8 PF</td>
<td>290</td>
<td>240</td>
<td>107.95</td>
<td>107.95</td>
</tr>
<tr>
<td>kVA</td>
<td>362.50</td>
<td>300</td>
<td>127</td>
<td>127</td>
</tr>
<tr>
<td>Without Fan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>kW at 0.8 PF</td>
<td>305</td>
<td>254</td>
<td>14.0</td>
<td>14.0</td>
</tr>
<tr>
<td>kVA</td>
<td>381.25</td>
<td>317.50</td>
<td>18.7:1</td>
<td>18.7:1</td>
</tr>
<tr>
<td><strong>Governed RPM</strong></td>
<td>1800</td>
<td>1500</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Engine Type</strong></td>
<td>Two Cycle</td>
<td>Two Cycle</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of Cylinders</strong></td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The ratings are applicable to heavy-duty diesel generator sets and are subject to normal varying load factors used in the event of a utility power failure. In this and other emergency applications, the generator set may be operated continuously with no deration except as required for ambient temperature and altitude until normal power is restored. The generator sets are rated at SAE conditions 77°F (25°C) air inlet temperature, 29.31 in. Hg. (99 kPa) barometer (dry); 102°F (39°C) fuel inlet temperature (853 specific gravity at 60°F). For complete listing of available generator set options, contact your local Detroit Diesel Corporation sales representative.

## Standard Equipment

- Rapid transient response engine design
- Dry type air cleaner
- Set mounted radiator, 105°F (40°C) ambient, with cowling
  - OSHA-approved guard, radiator guard and duct adapter
- A.C. brushless generator, 105°F (40°C) ambient, 60 Hz, 480 volts 1000 meters altitude including AVR (+ 0.5% regulation) with PERMANENT MAGNET EXCITER and underspeed protection (4 lead machine) for standby application, 2/3 pitch design
- Set mounted control cabinet with following equipment:  
  - Sheet metal cabinet enclosure, NEMA 1  
  - AC ammeter, 3.5 inch, dial type  
  - AC voltmeter  
  - Frequency meter, dial type  
  - Ammeter voltmeter combination phase selector switch (4 position)  
  - Manual voltage adjusting rheostat  
  - Engine lube oil pressure gauge  
  - Water temperature gauge  
  - Elapsed time motor  
  - Cool down timer (adjustable)  
  - NFPA 110, Level I pre-alarm switches/wiring  
  - Automatic start/stop cranking controls, single crank and cycle cranking with five (5) lights for indicating shutdown due to high engine water temperature, low oil pressure, overspeed, overcrank, and low jacket water coolant temperature  
  - Four (4) shock isolators for cabinet  
  - 2-element speed switch installed  
  - Three (3) oversized current transformers suitable for driving optional meters.  
  - Two (2) panel illumination lamps with on/off toggle switch  
  - Terminal strips, fuses, wiring harness, wiring diagram and nameplates  
  - Press to test lights with single activating switch

**NOTE:** Standard control panel meets NFPA 110 level 2 requirements when jack water heater option is added

- 600 volt, molded case, full main-line circuit breaker
- Vibration spring isolators, for stationary generator set application
- Flexible fuel lines
- Flexible exhaust connection, stainless steel bellows type
- Electronic governor
- 5 year/1500 hour warranty

## Optional Equipment

- 50 Hz and broad-range voltage generators
- High ambient 122°F (50°C) radiator
- Canadian Standards/600 volt generators
- Floor and wall mounted control cabinets
- NFPA 110, level 1 components
- Engine-driven battery charging alternator
- Dual rate, float-equalize static battery charger, with malfunction alarm
- Base mounted and free standing fuel day tanks
- NFPA 110 remote annunciator panels
- Set mounted panel to meet local codes
- Weather enclosure
- Trailer package to ICC regulations
- Automatic transfer switches
- Starting battery, 24 VDC, rated 1,050 cold cranking amperes, 0 degree F (-18°C) with fiberglass lined battery rack and battery cables
- Heat exchanger cooled
- Exhaust silencers
### Mounting Specifications
Dimensions are approximate— inches (mm)

- **Height**: 64 (1641 mm)
- **Width**: 48 (1231 mm)
- **Length**: 118 (3026 mm)

### Applications Data:

<table>
<thead>
<tr>
<th></th>
<th>60 Hertz</th>
<th>50 Hertz</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coolant Capacity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine: gals. (L)</td>
<td>13.8 (52)</td>
<td>13.8 (52)</td>
</tr>
<tr>
<td>Standard Radiator: gals. (L)</td>
<td>17.0 (64.4)</td>
<td>17.0 (64.4)</td>
</tr>
<tr>
<td>Total: gals. (L)</td>
<td>30.8 (116.4)</td>
<td>30.8 (116.4)</td>
</tr>
<tr>
<td><strong>Engine Coolant Flow</strong>: gpm (L/min.)</td>
<td>173 (655)</td>
<td>144 (545)</td>
</tr>
<tr>
<td><strong>Max. Restriction at Fresh Water Pump Inlet</strong>: in. Hg. (kPa)</td>
<td>3.0 (10.2)</td>
<td>2.0 (6.7)</td>
</tr>
<tr>
<td><strong>Heat Rejection to Coolant</strong>: BTU/min. (kW)</td>
<td>12900 (226.8)</td>
<td>10800 (189.9)</td>
</tr>
<tr>
<td><strong>Coolant Capacity Heat Exchanger plus Engine</strong>: gals. (L)</td>
<td>25.3 (96)</td>
<td>25.3 (96)</td>
</tr>
<tr>
<td><strong>Max. Suction Pressure</strong> (raw water): in. Hg. (kPa)</td>
<td>5 (16.9)</td>
<td>5 (16.9)</td>
</tr>
<tr>
<td><strong>Max. Discharge Pressure</strong> (raw water): psi (kPa)</td>
<td>10 (68.9)</td>
<td>10 (68.9)</td>
</tr>
<tr>
<td><strong>Heat Exchanger Raw Water Flow</strong>: gpm (L/min.)</td>
<td>82 (310)</td>
<td>70 (265)</td>
</tr>
<tr>
<td><strong>Crankcase Oil Capacity</strong>: gals. (L)</td>
<td>9.5 (36.0)</td>
<td>9.5 (36.0)</td>
</tr>
<tr>
<td><strong>Fuel Consumption</strong>: 25% load gph (L/hr.)</td>
<td>7.9 (29.9)</td>
<td>6.5 (24.6)</td>
</tr>
<tr>
<td>50% load gph (L/hr.)</td>
<td>12.7 (48.1)</td>
<td>10.7 (40.5)</td>
</tr>
<tr>
<td>75% load gph (L/hr.)</td>
<td>18.3 (69.3)</td>
<td>15.6 (59.0)</td>
</tr>
<tr>
<td>100% load gph (L/hr.)</td>
<td>25.6 (96.9)</td>
<td>22.2 (84.0)</td>
</tr>
<tr>
<td><strong>Fuel Supply Line, min. I.D.</strong>: in. (mm)</td>
<td>0.5 (12.7)</td>
<td>0.5 (12.7)</td>
</tr>
<tr>
<td><strong>Fuel Return Line, min. I.D.</strong>: in. (mm)</td>
<td>0.313 (7.95)</td>
<td>0.313 (7.95)</td>
</tr>
<tr>
<td>Max. Suction at Fuel Transfer Pump: in. Hg. (kPa)</td>
<td>6 (20)</td>
<td>6 (20)</td>
</tr>
</tbody>
</table>

### Dimensions from front of Radiator

- Fuel Inlet: Not Used
- Fuel Return: Not Used
- Sump Drain: Not Used
- Exhaust Outlet: Not Used

### Maximum Allowable Air
- **Temperature Rise (Ambient to Engine Inlet)**: °F (°C): 30 (16.7) 30 (16.7)
- **Air for Combustion**: cfm (m³/min.): 1130 (32.0) 950 (26.9)
- **Air for Radiator Cooling**: cfm (m³/min.): 1160 (20.5) 1050 (18.5)
- **Max. Air Inlet Restriction**: in. H₂O (kPa): 13.4 (3.3) 11 (2.7)
- **Maximum Static Head**: ft: 50 50
- **Heat Rejection to Room**
  - Engine: BTU/min. (kW): 2980 (50.6) 2730 (48.0)
  - Generator: BTU/min. (kW): 1160 (20.5) 1050 (18.5)
  - Total: BTU/min. (kW): 4040 (71.1) 3780 (66.5)
- **Exhaust Flow (Rated Output)**: cfm (m³/min.): 2990 (84.7) 2490 (70.5)
- **Exhaust Temp. (Rated Output)**: °F (°C): 960 (516) 950 (500)
- **Exhaust Back Pressure (max. allow.): in. Hg. (kPa)**: 3.3 (11.2) 2.3 (7.8)
- **Recommended Exhaust Pipe Diameter**
  - Single: in. (mm): 6 (152) 6 (152)
  - Dual: in. (mm): 4 (102) 4 (102)
- **System Voltage**: 24 24
- **Starter Rolling Current @ 32°F (0°C)**: (amps): 900 900
- **Estimated Starter Breakaway Current @ 32°F (0°C)**: (amps): 2250 2250