

# DETROIT DIESEL

## Standby Generator Set Package

# Series 71

## 12V-71N 305 kW



### Specifications

	60 Hertz	50 Hertz		60 Hertz	50 Hertz
Model	7125-7005		Bore & Stroke in.	4.25 × 5	4.25 × 5
Standby Output*			mm	107.95 ×	107.95 ×
With Fan:				127	127
kW at 0.8 PF	290	240	Piston Displacement cu. in.	851.2	851.2
kVA	362.50	300	litres	14.0	14.0
Without Fan:			Compression Ratio	18.7:1	18.7:1
kW at 0.8 PF	305	254	Net Weight (Dry)		
kVA	381.25	317.50	with Standard Equipment		
Governed RPM	1800	1500	lbs.	9000	9000
Engine Type	Two Cycle	Two Cycle	kg	4082	4082
Number of Cylinders	12	12	Shipping Volume cu. ft.	325	325
			cu. m.	9.3	9.3

\* 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

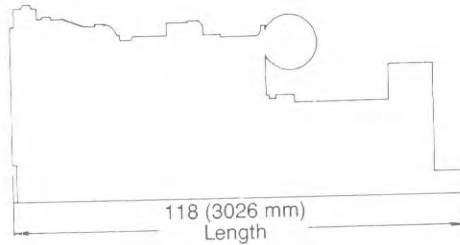
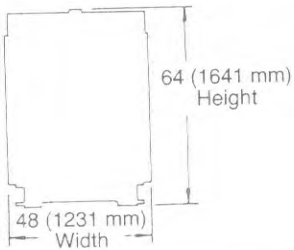
- Rapid transient response engine design
  - Dry type air cleaner
  - Set mounted radiator, 105°F (40°C) ambient, with cowling
    - OSHA-approved guard, radiator guard and duct adapter
  - A.C. brushless generator, 105°F (40°C) ambient, 60 HZ, 480 volts 1000 meters altitude including AVR ( $\pm 0.5\%$  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 meter
    - 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 (– 17.8°C) with fiberglass lined battery rack and battery cables
- Heat exchanger cooled
- Exhaust silencers

## Mounting Specifications

Dimensions are approximate—inches (mm)



Dimensions from front of Radiator

	In.
Fuel Inlet	Not used
Fuel Return	Not used
Sump Drain	Not used
Exhaust Outlet	Not used

## Applications Data:

	60 Hertz	50 Hertz		60 Hertz	50 Hertz
Coolant Capacity			Maximum Allowable Air Temperature Rise (Ambient to Engine Inlet): °F (°C)	30 (16.7)	30 (16.7)
Engine: gals. (L)	13.8 (52)	13.8 (52)	Air for Combustion:		
Standard Radiator: gals. (L)	17.0 (64.4)	17.0 (64.4)	cfm (m <sup>3</sup> /min.)	1130 (32.0)	950 (26.9)
Total: gals. (L)	30.8 (116.4)	30.8 (116.4)	Air for Radiator Cooling:		
Engine Coolant Flow:			cfm (m <sup>3</sup> /min.)		
gpm (L/min.)	173 (655)	144 (545)	Max. Air Inlet Restriction:		
Max. Restriction at Fresh Water Pump Inlet:			in. H <sub>2</sub> O (kPa)	13.4 (3.3)	11 (2.7)
in. Hg. (kPa)	3.0 (10.2)	2.0 (6.7)	Maximum Static Head: ft.	50	50
Heat Rejection to Coolant:			Heat Rejection to Room		
BTU/min. (kW)	12900 (226.8)	10800 (189.9)	Engine: BTU/min. (kW)	2880 (50.6)	2730 (48.0)
Coolant Capacity Heat Exchanger plus Engine:			Generator: BTU/min. (kW)	1160 (20.5)	1050 (18.5)
gal. (L)	25.3 (96)	25.3 (96)	Total: BTU/min. (kW)	4040 (71.1)	3780 (66.5)
Max. Suction Pressure (raw water): in. Hg. (kPa)	5 (16.9)	5 (16.9)	Exhaust Flow (Rated Output)		
Max. Discharge Pressure (raw water): psi (kPa)	10 (68.9)	10 (68.9)	cfm (m <sup>3</sup> /min.)	2990 (84.7)	2490 (70.5)
Heat Exchanger Raw Water Flow: gpm (L/min.)	82 (310)	70 (265)	Exhaust Temp. (Rated Output): °F (°C)	960 (516)	950 (500)
Crankcase Oil Capacity: gals. (L)	9.5 (36.0)	9.5 (36.0)	Exhaust Back Pressure (max. allow.): in. Hg. (kPa)	3.3 (11.2)	2.3 (7.8)
Fuel Consumption:			Recommended Exhaust Pipe Diameter		
25% load gph (L/hr.)	7.9 (29.9)	6.5 (24.6)	Single: in. (mm)	6 (152)	6 (152)
50% load gph (L/hr.)	12.7 (48.1)	10.7 (40.5)	Dual: in. (mm)	4 (102)	4 (102)
75% load gph (L/hr.)	18.3 (69.3)	15.6 (59.0)	System Voltage	24	24
100% load gph (L/hr.)	25.6 (96.9)	22.2 (84.0)	Starter Rolling Current @ 32°F (0°C): (amps)	900	900
Fuel Supply Line, min., I.D.:			Estimated Starter Breakaway Current @ 32°F (0°C): (amps)	2250	2250
in. (mm)	0.5 (12.7)	0.5 (12.7)			
Fuel Return Line, min., I.D.:					
in. (mm)	0.313 (7.95)	0.313 (7.95)			
Max. Suction at Fuel Transfer Pump: in. Hg. (kPa)	6 (20)	6 (20)			

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