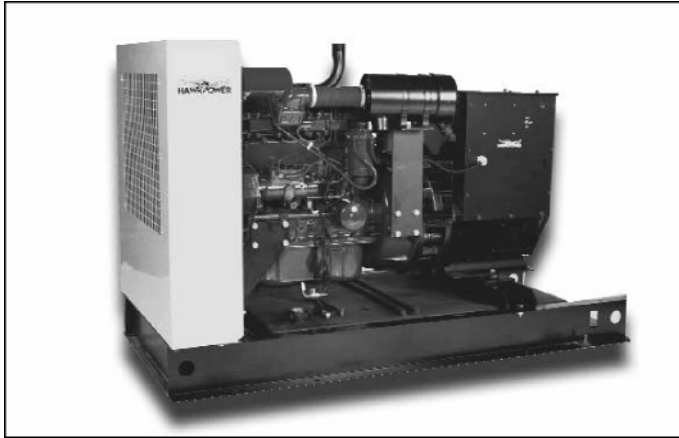


# MDG40



## Water-Cooled, Diesel Generator Set

### Technical Data Sheet



\*\*Photo displays MDG30 Generator set for illustration purposes only.

#### Generator Set Data

##### **42 KW STAND BY – 38 KW CONTINUOUS DUTY**

##### **Stand-by Power:**

Defined as power available for one hour in twelve of continuous operation. For Prime (continuous) Power rating, divide by 1.1.

##### **De-Rating**

Power outputs shown must be adjusted for site ambient conditions as follows:

- **Altitude:** Approximately 1.5% for every 300m (1000 ft.) above 100m (325 ft.).
- **Temperature:** Approximately 1% for every 5° C (9° F) above 25° C (77° F).
- **Humidity:** Up to approximately 10%, depending on ambient temperatures.

**NOTE:** These de-rate factors are approximate. For definitive specifications, consult Industrial Engines Ltd.

##### **Arrangement**

Close-coupled with rotor bolted to flywheel and generator flange bolted to flywheel housing. Vibration isolators are fitted between base and generator assembly.  
(See drawing for dimensions).

#### Standard Genset Specification

- High Coolant Temperature Automatic Shutdown
- Radiator and Pusher Fan
- UV/Ozone Resistant Hoses
- Fan Guard
- Battery Charge Alternator
- Battery Cables
- Battery Tray and Hold down
- Vibration Isolation of Unit to Mounting Base
- Integral Base Frame
- Low Oil Pressure Automatic Shutdown
- Fuel Control Solenoid
- Mechanical Fuel Lift Pump
- 12 volt Starter Motor
- Heavy-duty Air Cleaner
- Main Line Circuit Breaker
- Engine Mounted Muffler

- Plus one of the following control panels:

##### **IEL MURPHY: Basic Electric Start**

Analog Murphy Gauge Package: Manual start/stop. This control provides safety shutdowns for low oil pressure and high engine temperature.

**NOTE:** AC meters are optional for this control.

##### **Deep Sea – 7310 - Digital Autostart with LCD**

As Basic Digital Autostart plus LCD screen read out. Control panel includes a three-position toggle switch with auto/off/run positions, an LCD display of running time, oil pressure, water temperature and battery voltage. Fault indication provided for low oil pressure, high engine temperature, overspeed and overcrank.

#### Genset Options

- 12 Volt Battery
- Battery Charger
- Weather Enclosure
- Coolant Heater
- Main Line Circuit Breaker
- AC Meters
- Sound Attenuation
- Export Crating Fuel Tank

## Engine Specification Alternator Data

**Manufacturer:** I.E.L. – Mitsubishi

**Model:** S4SDT-G Water-cooled industrial diesel engine, \*EPA compliant

**Design:** Four-cycle, four-cylinder, diesel with indirect injection combustion, cast iron crankcase and cylinder head.

**Displacement:** 3.3 Liter

**Bore x Stroke:** 3.70 in. (94 mm) x 4.72 in. (120 mm)

**Compression Ratio:** 22 : 1

**Lube Oil System:** Full flow pressure lube oil system with spin-on cartridge filter with bypass.

**Recommended Oil Filter change:**

250 hours up to 95° F (35° C) ambient

125 hours above 95° F (35° C) ambient

**Air Cleaner:** Heavy-duty

**Fuel System:** Individual fuel injection pumps operated by the camshaft. Lift of the fuel lift pump is 10 feet (3.04 m) maximum.

**Design:** 4-Pole, brushless, single bearing, rotating field, solid state AVR, 12-lead reconnectable for single or 3 phase.

**Construction:** Complies with NEMA, IEEE and ANSI standards. Self-ventilated, drip-proof construction. Triple-dip varnish and epoxy-coated windings to Class H insulation with 2/3 pitch wound stator for a smooth voltage wave form.

**Voltage:** 60 Hertz, 1 Phase 120/240 VAC, 3 Phase 277/480 VAC.

Engine Specifications at 60 Hz Rated Load		
Engine Model S4S DT G	U.S.	Metric
Cylinder Displacement	203.3 cu. in.	3.3 liter
Exhaust Gas Flow	257.8 cfm (218.9)	121.7 l/sec. (103.3)
Exhaust Temperature	932° F	500° C
Maximum Back Pressure	20" water	52 mbar
Governor Droop	5%	
Steady-State Frequency Regulation	+/- 0.5%	
Combustion Air	93 cfm (79)	43.9 l/sec. (37.3)
Cooling Air Flow	4278 cfm (3474)	2.0 m <sup>3</sup> /sec. (1.6)

Fuel Consumption 60Hz		
Load	Gal/Hr	Liter/Hr
100%	2.7	12
75%	2.0	9
50%	1.3	6

Alternator Statistics at Rated Load	
Alternator Manufacturer	Newage
Voltage Change with 100% Load Step Applied	Within 3% (1/4sec.)
Telephone Influence Factor (TIF)	Less than 50
Voltage Regulation	2% all loads to 100%
Total Harmonic Factor (THF)	Less than 2%
Temperature Rise	125° C

**Approximate Weight** (includes coolant and oil):

Open Generator Set: 1685 lbs.  
Enclosed Generator Set: 1890 lbs.  
Sound Attenuated Generator Set: 1965 lbs.

A = 53.81"

B = 43.1"

C = 68.5"

D = 32.0"

E = 44.8"

F = 53.81"

### Shipping Details

Crate Type	Open/Encl Length	Sound Att. Length	All Width	All Height	Open Weight	Encl. Weight	Sound Att. Weight
Pallet Only	75"	99"	37"	55"	1950 lbs.	2055 lbs.	2235 lbs.
Open Crate	77"	101"	37"	59"	1925 lbs.	2130 lbs.	2310 lbs.
Enclosed Crate	77"	101"	37"	59"	1960 lbs.	2165 lbs.	2345 lbs.