

# Onan MARINE GENERATORS



**70\* kW 60 Hz**  
**60\* kW 50 Hz**  
**Admiral™ Series**  
**Model MCGDA**  
**Diesel**

\*Unlimited running time at rated power; additional 10% reserve power available

## Leading the Way

- Rugged dependability and high quality features make Onan a leading name in the marine industry. Reliable Onan marine generator sets have more standard features than any other marine genset available.
- Onan leads the way in innovation, with a sophisticated design and development process that applies technology to noise attenuation, vibration isolation and emissions. These technologies provide quiet, smooth running and clean gensets for your boating pleasure. Onan marine gensets are emissions certified per applicable regulations including CARB and EPA.
- The Onan designed and manufactured high efficiency, brushless alternator delivers the power you need with excellent load response and AC output characteristics. This alternator is protected with corrosion-resistant resins for salt water environments.
- Onan marine gensets are designed for compliance with U.S. Coast Guard regulations and ABYC voluntary standards, developed to increase your boating enjoyment.
- Onan marine gensets are produced by Cummins Power Generation, a subsidiary of Cummins Inc. Onan gensets are supported by the largest worldwide certified Distributor/Dealer network in the industry. Our extensive warranty coverage provides owner peace of mind.
- Onan gensets are complemented by a full line of accessories, making it easy to customize an Onan genset to suit your application. Onan gensets are easy to install, operate and maintain.
- More than 60 years of marine experience, gained by supplying gensets to the U.S. Coast Guard, Navy, recreational boaters and some of the finest yacht builders in the world, stand behind every Onan marine genset.

## Genset Ratings

Model	kW/kVA	Voltage	Amps	Phase	Hz	Engine RPM
70MCGDA	70/87.5	120/208	243	3	60 Hz	1800
60MCGDA	60/75	220/380	114	3	50 Hz	1500

Three phase output at .8 power factor. Single and other three phase configurations are available, contact your Distributor/Dealer for more information. Rating conditions are 100 kPa (29.6 in Hg) barometric pressure, 30% relative humidity, 25° C (77° F) (ref. ISO 3046).

## Genset Dimensions and Weights

	Without Sound Shield	With Sound Shield
Length	69.8 in (1772 mm)	78.7 in (1999 mm)
Width	29.9 in (759 mm)	36 in (914.4 mm)
Height	36.9 in (937 mm)	40.9 in (1038 mm)
Weight (dry)	2180 lb (989 kg)	2530 lb (1148 kg)

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## Features

- Convertible between 50/60 Hz
- Hydromechanical governing
- Three phase AC 105° C rise at 40° C ambient alternator with single or dual voltages, brushless, 12 lead reconnectable, 2/3 power available for single phase output
- Solid state voltage regulator
- 24 V DC electric system with battery charging, negative ground
- DC control console mounted with isolation and DC protective circuit breakers
- Start-run-stop switch
- Mechanical fuel lift and transfer pump with manual priming lever
- Engine starter with automatic start disconnect
- Freshwater cooling system with heat exchanger, expansion tank and coolant recovery system
- Gear-driven raw water pump
- Field circuit breaker
- Manual reset fault circuit breaker indicates engine shut down for
  - High engine coolant temperature
  - Low oil pressure
  - Additional customer input
- Running time meter
- Air cleaner
- Full flow lube oil filter
- Oil drain with valve and hose extension
- USCG approved secondary fuel filter
- Electric fuel shut-off solenoid
- Captive 4-point mounting system with vibration isolator mounts on rugged structural steel skid with convenient 4-point lifting arrangement
- Bulk head type fuel line connections for ease of installation
- Plug-in watertight connector for optional remote control
- Coolant overflow bottle to easily maintain coolant level
- Dry exhaust elbow with flange connection
- Factory load tested
- E-coat process to protect sheet metal
- Five year pleasure craft Limited Warranty
- DNV Type Approval

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## Available Options

- Low-profile configuration on selected models
- 120 V or 240 V, 1000 W, thermostatically controlled coolant heater
- 120 V or 240 V, 300 W engine oil heater
- Electronic governor - isochronous operation, suitable for parallel operation with droop compensator option
- USCG approved, set-mounted secondary fuel filter/water separator
- Maintenance side-mounted lube oil filter
- Manual lube oil sump pump
- Drip pan capable of containing all genset fluids
- Enhanced captive vibration isolator mounts
- Solid mounted to rugged structural steel skid
- Keel cooling with dry exhaust
- Water cooled exhaust mixing elbow
- Single point lifting bracket with low profile configuration
- 12 V DC electric system with battery charging, negative ground
- 12 V or 24 V DC electric system with battery charging, isolated ground
- Common fault relay for external alarm
- Individual fault indicators
- Shut down circuit over ride switch
- Low oil level indicator and shut down
- Low coolant level shut down
- Electronic overspeed shut down
- Tachometer
- Oil temperature gauge
- Six gauge control system
- Single phase 4 lead alternator at 80° or 105° C rise at 40° C ambient
- Three phase 12 lead alternator at 80° C
- Three phase 12 lead alternator, full single phase output at 80° C rise at 40° C ambient
- Permanent Magnet Generator (PMG) exciter; provides more power for motor starting and increases immunity from non-linear loads; 300% short circuit current capability
- Set-mounted mainline circuit breaker
- Circuit breaker with shunt trip, 12 V or 24 V DC or auxiliary contacts
- Anti-condensation resistance heater, 120 V or 240 V, 100 W
- Manual voltage regulator
- Alternator air discharge louvers
- Droop compensator for parallel operation
- AC meter package includes dual range voltmeter and ammeter, dual scale tachometer/frequency meter, phase selector switch with an "off" position
- Front power take off - 12 V or 24 V - 70 hp PITTS series H36D400 or 100 hp PITTS series H36D700 with torsional coupling and configured for a "C" splined 1-1/4 in pump shaft (SAE J744)
- Two year commercial Limited Warranty
- One year Limited Warranty
- Export box or crate packing



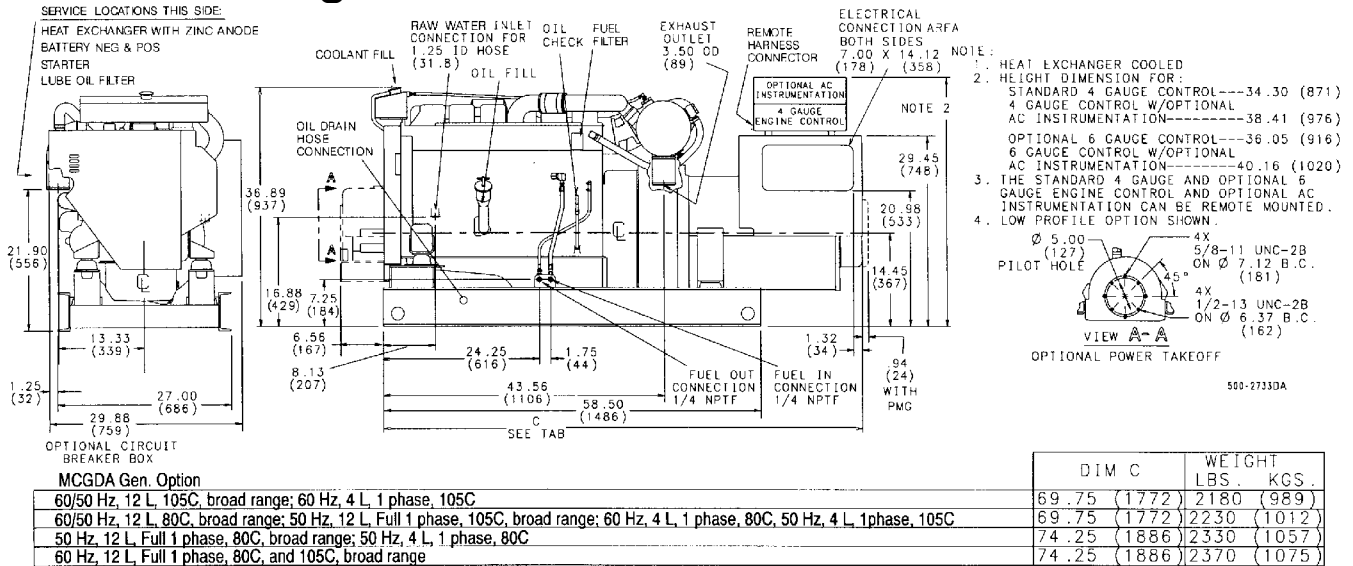
Onan Optional Sound Shield

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## Accessories

- Remote gauge package with start/stop switch, hourmeter, DC voltmeter, oil pressure and water temperature gauges
- Basic remote start/stop switch
- Deluxe remote start/stop switch with hourmeter
- Deluxe remote start/stop switch with DC voltmeter
- Dual gauge momentary switch to allow operation of remote panel gauges and set mounted gauge panel
- Remote station harness pigtail
- Remote panel wire harness - 15 ft, 25 ft, 45 ft, 75 ft, 100 ft or 150 ft
- Breaker box and mainline circuit breakers
- USCG approved secondary fuel filter/water separator with clear bowl
- Remote fuel filter/water separator assembly
- Dry exhaust muffler, flexible exhaust stainless steel tube assembly
- Siphon break kit
- Battery
- Various heaters- battery, alternator, oil, pan, coolant-see available options for description
- PMG exciter/regulator
- Drip pan capable of containing all genset fluids
- Marine water lift muffler and flexible exhaust hose
- Sound shield housings available with low profile and wet exhaust option
- Various electrical control features - electronic over speed, shut down override, low oil level, low coolant level, manual voltage regulator, electric tachometer, oil temperature gauge, alarm relay, enunciator, AC meter panel, 6 gauge control
- Manual lube oil sump pump
- Secondary vibration isolators

# Outline Drawing



This outline drawing is provided for general reference only and is not intended for design or installation. See installation manual and obtain outline drawing number 500-2733 (low profile) for more information (available from your Distributor/Dealer).

## Engine Detail

**Design** 4-cycle, DI water-cooled diesel  
**Cylinders** 6 (Turbo)  
**Bore** 4.04 in (102 mm)  
**Stroke** 4.72 in (120 mm)  
**Displacement** 359 in<sup>3</sup> (5.9 L)  
**Compression Ratio** 17.5:1  
**Max Fuel Lift** 5 ft (1.5 m)  
**Lube Oil Capacity** 16 qt (15 L)  
**Coolant Capacity** 22 qt (21 L)  
**Coolant Flow Rate**  
 60 Hz: 38 Gal/min (144 L/min)  
 50 Hz: 32 Gal/min (121 L/min)

**Raw Water Flow Rate**  
 60 Hz: 13.5 Gal/min (51 L/min)  
 50 Hz: 11.5 Gal/min (44 L/min)  
**Starting System** 24 V, negative ground  
**Power (Max)** SAEJ1349  
 at 1800 RPM 166 hp (124 kW)  
 at 1500 RPM 134 hp (100 kW)  
**Fuel Injection Pump** Bosch inline high fuel injection pressure system (model P7100)  
**Combustion Chamber** Direct Injection

**Max Raw Water Lift** 6 ft (1.7 m)  
**Fuel Consumption**  
 No. 2 diesel fuel, Gal/hr (L/hr)

	60 MCGDA	70 MCGDA
1/4 Load	1.6 (6)	2.0 (8)
1/2 Load	2.4 (9)	2.9 (11)
3/4 Load	3.3 (12)	4.0 (15)
Full Load	4.3 (16)	5.1 (19)

## Alternator Detail

**Design** Synchronous revolving field, single bearing, 4-pole alternator; rigidly coupled to engine and permanently aligned  
**Voltage Regulation** Electronic, provides torque-matched under frequency compensation to optimize motor starting performance and assist the engine during transient load conditions

**Exciter System** The brushless armature powers the main alternator field winding through shaft-mounted, 3-phase, full-wave, silicon diodes  
**Stator** Skewed stator and 2/3 pitch windings minimize field heating and voltage harmonics

**Rotor** Dynamically balanced assembly; direct coupled to engine by flexible drive discs; rotor is supported by pre-lubricated, maintenance-free ball bearing  
**Alternator Cooling** Direct drive centrifugal blower  
**Insulation System** Class H per NEMA MG1-1-1.65 and BS2757

## Genset Detail

**Operating Environment** Gensets are durability tested at maximum ambient; air temperature: 176° F (80° C); raw water temperature 100° F (37.8° C)  
**Maximum Operation Angle** 7° continuous; 40° intermittent

**Frequency Regulation** Isochronous no load to full load  
**Random Frequency Variation** Will not exceed +/-0.5% of its mean value for constant loads from no load to full load  
**Voltage Regulation** No load to rated load +/-1%

**Random Voltage Variation** Will not exceed +/-1% of its mean value for constant loads from no load to full load  
**Sound Level**  
 77 dB(A) at 60 Hz\*  
 75 dB(A) at 50 Hz\*  
 \* Full load at 1 m with optional Onan sound shield

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## Warranty Policy

The Onan express written Limited Warranty covers virtually everything except routine maintenance for the first two years you own your marine generator set, and covers parts and labor on major power train and generator set parts during the third through fifth years.

For complete Onan Limited Warranty details see your Onan Distributor/Dealer.

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## After Sale Support

**GENUINE ONAN MAINTENANCE PARTS AND PRODUCTS** - For your ongoing satisfaction and the dependability of your Onan marine genset, Onan offers a complete line of replacement and tune-up parts, accessories and oil and maintenance chemicals. Onan marine parts are packaged for correct selection and convenient on-board storage.

**EASY TO LOCATE CERTIFIED ONAN SERVICE AND PARTS DEALERS** - Onan has the largest and best-trained worldwide certified Distributor/Dealer network in the industry, offering on-time parts and service and installation assistance. Onan Distributor/Dealers stock and sell commonly used Onan marine genset maintenance parts, accessories and products, plus operator manuals and literature on current Onan gensets. They can help you select and install the right genset for a new vessel or accessories on older models, or provide answers to questions on proper operation and maintenance procedures.

**MANUALS** - Installation, operators and parts manuals are shipped with the genset. To obtain additional copies or other manuals for this model, see your Onan Distributor/Dealer.

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## Standards and Testing



DET NORSKE VERITAS

National Marine Manufacturers Association (NMMA) members produce every conceivable product used by recreational boaters. NMMA provides a wide variety of programs and services including technical expertise, standards monitoring, government relations advocacy and industry statistics.

The American Boat and Yacht Council (ABYC) develops standards and recommended practices for designing, constructing, equipping and maintaining small pleasure and commercial craft.

This generator set was designed and manufactured in facilities certified to ISO 9001.

DNV Type Approval. DNV is recognized worldwide as a leading provider of classification of marine components.

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## Contact your Distributor/Dealer for more information



To easily locate the nearest Onan Distributor/Dealer, or for more information, contact Onan at 1-800-888-ONAN or 763-574-5000; 1400 73rd Avenue N.E., Minneapolis, MN 55432 U.S.A.; fax 763-574-8289; e-mail: [pgamail@cummins.com](mailto:pgamail@cummins.com); [www.onan.com](http://www.onan.com)

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**WARNING:** Backfeed to a utility system can cause electrocution and/or property damage. Do not connect to building electrical except through approved device or after building main breaker is open.