

SD350 SD400

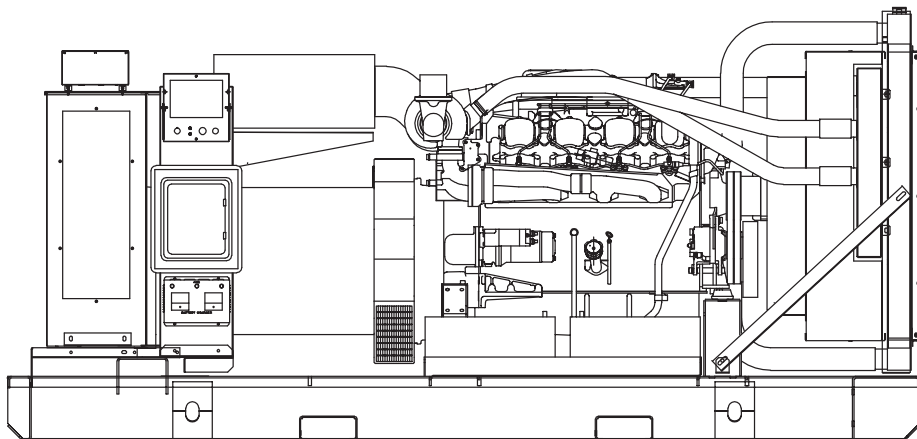
Liquid Cooled Diesel Engine Generator Sets

Standby Power Rating

350KW 60 Hz / 350KVA 50 Hz
400KW 60 Hz / 400KVA 50 Hz

Prime Power Rating

260KW 60 Hz / 275KVA 50 Hz
300KW 60 Hz / 366KVA 50 Hz



Power Matched

GENERAC 16.0DTA ENGINE

Turbocharged / Aftercooled

FEATURES

■ **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.

■ **TEST CRITERIA:**

- ✓ PROTOTYPE TESTED
- ✓ SYSTEM TORSIONAL TESTED
- ✓ ELECTRO-MAGNETIC INTERFERENCE
- ✓ NEMA MG1 EVALUATION
- ✓ MOTOR STARTING ABILITY
- ✓ SHORT CIRCUIT TESTING
- ✓ UL 2200 COMPLIANCE AVAILABLE

■ **POWERMANAGER® DIGITAL CONTROL PLATFORM.** The PowerManager® Digital Control Platform (PM-DCP) is a powerful control system built around a 32-bit, industrial microprocessor. Standard factory programming controls the entire engine / generator

system, while allowing the PM-DCP, with its onboard PLC, to be customized to meet any application requirement. The system is available on single unit gas, diesel or bi-fuel installations as well as Modular Paralleling Systems (MPS) from 350 kW - 3000 kW.

- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own a GENERAC POWER SYSTEM.
- **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.
- **LONGER ENGINE LIFE.** Generac heavy-duty diesels provide long and reliable operating life.
- **GENERAC TRANSFER SWITCHES, SWITCHGEAR AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, switchgear and controls for total system compatibility.

GENERAC®

APPLICATION & ENGINEERING DATA

SD350/SD400

GENERATOR SPECIFICATIONS

TYPE	Four-pole, revolving field
ROTOR INSULATION	Class H
STATOR INSULATION	Class H
LINE-TO-LINE HARMONIC FACTOR	5%
BALANCED TELEPHONE INFLUENCE FACTOR (TIF)	<50
ALTERNATOR	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED)	1
COUPLING	Direct, Flexible Disc
LOAD CAPACITY (STANDBY)	100%
LOAD CAPACITY (PRIME)	110%

NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN6271 standards.

EXCITATION SYSTEM

- PERMANENT MAGNET EXCITER ±0.25% regulation ✓
(standard) Enhances motor starting capabilities ✓
Isolates the excitation system from non-linear loads ✓
Sustains short circuit current (300% for 10 seconds) ✓
Mounted outboard of main bearing (for easy maintenance) ✓
- REGULATION Solid-state ✓
3-phase sensing ✓

GENERATOR FEATURES

- Revolving field heavy duty generator
- Directly connected to the engine
- Operating temperature rise 120 °C above a 40 °C ambient
- Insulation is Class H rated at 150 °C rise
- All prototype models have passed three phase short circuit testing

CONTROL PANEL FEATURES

- TOUCH SCREEN DISPLAY PANEL READS:
 - Voltage (all phases)
 - Power factor
 - kVAR
 - Engine speed
 - Run hours
 - Fault history
 - Coolant temperature
 - Low oil pressure shutdown
 - Overvoltage
 - Low coolant level
 - Not in auto position (flashing light)
 - ATS selection
 - Current (all phases)
 - kW
 - Transfer switch status
 - Low fuel pressure
 - Service reminders
 - Oil pressure
 - Time and date
 - High coolant temperature shutdown
 - Overspeed
 - Low coolant level
 - Exercise speed
- INTERNAL FUNCTIONS:
 - I²T function for alternator protection from line to neutral and line to line short circuits
 - Emergency stop
 - Programmable auto crank function
 - 2 wire start for any transfer switch
 - Communicates with the Generac HTS transfer switch
 - Built-in 7 day exerciser
 - Adjustable engine speed at exerciser
 - RS232 port for GenLink[®] control
 - RS485 port remote communication
 - Canbus addressable
 - Governor controller and voltage regulator are built into the master control board
 - Temperature range -40 °C to 70 °C

ENGINE SPECIFICATIONS

MAKE	GENERAC
MODEL	1600TA
CYLINDERS	V-8
DISPLACEMENT - liter/(cu. in.)	16 (976.4)
BORE - mm/(in.)	135 (5.31)
STROKE - mm/(in.)	140 (5.51)
COMPRESSION RATIO	15.5:1
INTAKE AIR	Turbocharged/Aftercooled
NUMBER OF MAIN BEARINGS	5
CONNECTING RODS	I-Beam Section
CYLINDER HEAD	Individual
PISTONS	Open Chamber/Oil Cooled
CRANKSHAFT	Counter Weighted Type

VALVE TRAIN

- LIFTER TYPE Solid
- VALVES Heat Resistant Steel

ENGINE GOVERNOR

- ELECTRONIC / ISOCHRONOUS Standard
- STEADY STATE FREQUENCY REGULATION ±0.25%

LUBRICATION SYSTEM

- TYPE OF OIL PUMP Gear
- OIL FILTER Full Flow Cartridge and Bypass
- CRANKCASE CAPACITY - liter/(gal.) 34.8 (9.2)

COOLING SYSTEM

- TYPE OF SYSTEM Pressurized, Closed Recovery
- WATER PUMP Pre-Lubed, Self Sealing
- TYPE OF FAN Pusher
- NUMBER OF FAN BLADES 7
- DIAMETER OF FAN - mm/(in.) 762 (30.0)
- COOLANT HEATER 240V(2000W)

FUEL SYSTEM

- FUEL No. 2 Diesel Fuel
(Fuel should conform to ASTM Spec.)
- FUEL FILTER Paper Element Type
- FUEL INJECTION PUMP Bosch PE8P Type
- INJECTORS Bosch Multi-Hole
- FUEL LINE (Supply) 1/2"FNPT
- FUEL RETURN LINE 1/2"FNPT

ELECTRICAL SYSTEM

- BATTERY CHARGE ALTERNATOR 30 Amps at 24V
- STARTER MOTOR 6.0 kW at 24V
- RECOMMENDED BATTERY 2 x 12V 700 CCA 27F
- GROUND POLARITY Negative

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

SD350/SD400

OPERATING DATA	STANDBY				PRIME			
	SD350		SD400		SD350		SD400	
GENERATOR OUTPUT VOLTAGE/KW—60Hz	Rated kW	Rated AMP	Rated kW	Rated AMP	Rated kW	Rated AMP	Rated kW	Rated AMP
120/208V, 3-phase, 0.8 pf	350	1214	400	1388	260	902	300	1041
120/240V, 3-phase, 0.8 pf	350	1052	400	1203	260	782	300	902
277/480V, 3-phase, 0.8 pf	350	526	400	601	260	391	300	451
600V, 3-phase, 0.8 pf	350	421	400	481	260	313	300	361
NOTE: Consult your Generac dealer for additional voltages.								
GENERATOR OUTPUT VOLTAGE/KVA—50Hz								
220/380V, 3-phase, 0.8 pf	350	532	400	608	275	418	300	456
230/400V, 3-phase, 0.8 pf	350	505	400	586	275	397	300	443
260/415V, 3-phase, 0.8 pf	350	487	400	556	275	383	300	417
NOTE: Consult your Generac dealer for additional voltages.								
MOTOR STARTING KVA	Low Wye	High Wye	Low Wye	High Wye	Low Wye	High Wye	Low Wye	High Wye
Maximum @ 35% instantaneous voltage dip with standard alternator 50/60 Hz	750/900	1118/1342	917/1100	1130/1356	750/900	1118/1342	917/1100	1130/1356
FUEL								
Fuel consumption—60 Hz	% Load							
	gal./hr.	25% 50% 75% 100%	25% 50% 75% 100%	25% 50% 75% 100%	25% 50% 75% 100%	25% 50% 75% 100%	25% 50% 75% 100%	25% 50% 75% 100%
	liters/hr.	7.1 13.5 19.4 25.0	8.3 14.3 21.3 29.0	5.7 10.8 15.5 20.0	6.6 11.4 17.0 23.2	5.3 9.2 13.6 18.6	25.1 43.3 64.5 87.8	25.1 43.3 64.5 87.8
Fuel consumption—50 Hz	% Load							
	gal./hr.	25% 50% 75% 100%	25% 50% 75% 100%	25% 50% 75% 100%	25% 50% 75% 100%	25% 50% 75% 100%	25% 50% 75% 100%	25% 50% 75% 100%
	liters/hr.	5.7 10.8 15.5 20.0	6.6 11.4 17.0 23.2	4.6 8.6 12.4 16.0	5.3 9.2 13.6 18.6	20.1 34.6 51.6 70.3	25.1 43.3 64.5 87.8	25.1 43.3 64.5 87.8
COOLING								
Coolant capacity	System - lit./gal.	85 (22.4)	89 (23.5)	85 (22.4)	85 (22.4)	85 (22.4)	85 (22.4)	85 (22.4)
	Engine - lit./gal.	30 (7.9)	30 (7.9)	30 (7.9)	30 (7.9)	30 (7.9)	30 (7.9)	30 (7.9)
	Radiator - lit./gal.	55 (14.5)	55 (14.5)	55 (14.5)	55 (14.5)	55 (14.5)	55 (14.5)	55 (14.5)
Coolant flow/min.	60 Hz - lit./gal.	674 (178)	674 (178)	674 (178)	674 (178)	674 (178)	674 (178)	674 (178)
Coolant flow/min.	50 Hz - lit./gal.	562 (148)	417 (110)	417 (110)	417 (110)	417 (110)	417 (110)	417 (110)
Heat rejection to coolant	60 Hz - BTU/hr.	887,400	1,070,000	709,920	856,000	856,000	856,000	856,000
	50 Hz - BTU/hr.	739,500	898,670	591,600	713,330	713,330	713,330	713,330
Inlet air	60 Hz - m ³ /min. (cfm)	680 (24,000)	680 (24,000)	680 (24,000)	680 (24,000)	680 (24,000)	680 (24,000)	680 (24,000)
	50 Hz - m ³ /min. (cfm)	566 (20,000)	566 (20,000)	566 (20,000)	566 (20,000)	566 (20,000)	566 (20,000)	566 (20,000)
Max. air temp onto radiator*	°C (°F)	60 (140)	60 (140)	60 (140)	60 (140)	60 (140)	60 (140)	60 (140)
Max. ambient temperature*	°C (°F)	50 (122)	50 (122)	50 (122)	50 (122)	50 (122)	50 (122)	50 (122)
Max. external pressure drop on radiator	in. H ₂ O	1.0	1.0	1.0	1.0	1.0	1.0	1.0
COMBUSTION AIR REQUIREMENTS								
Flow at rated power	60 Hz - m ³ /min. (cfm)	33.9 (1197)	38.4 (1356)	27.1 (958)	30.7 (1084)	30.7 (1084)	30.7 (1084)	30.7 (1084)
	50 Hz - m ³ /min. (cfm)	26.6 (938)	30.2 (1065)	21.3 (751)	24.1 (852)	24.1 (852)	24.1 (852)	24.1 (852)
EXHAUST								
Exhaust flow at rated output								
	60 Hz - m ³ /min. (cfm)	104.0 (3675)	112.0 (4443)	83.8 (2960)	100.7 (3554)	100.7 (3554)	100.7 (3554)	100.7 (3554)
	50 Hz - m ³ /min. (cfm)	82.2 (2901)	96.6 (3492)	65.7 (2321)	79.1 (2793)	79.1 (2793)	79.1 (2793)	79.1 (2793)
Maximum recommended back pressure	Kpa (" Hg)	5.1 (1.5)	5.1 (1.5)	5.1 (1.5)	5.1 (1.5)	5.1 (1.5)	5.1 (1.5)	5.1 (1.5)
Exhaust temperature at rated output	°C (°F)	649 (1200)	704 (1300)	593 (1100)	649 (1200)	649 (1200)	649 (1200)	649 (1200)
Exhaust outlet size (2)	mm. (in)	127 (5.0)	127 (5.0)	127 (5.0)	127 (5.0)	127 (5.0)	127 (5.0)	127 (5.0)
ENGINE								
Rated RPM	60 Hz / 50 Hz	1800 / 1500	1800 / 1500	1800 / 1500	1800 / 1500	1800 / 1500	1800 / 1500	1800 / 1500
HP at rated KW	60 Hz / 50 Hz	528 / 414	598 / 470	431 / 336	487 / 381	487 / 381	487 / 381	487 / 381
Piston speed	60 Hz - m/sec. (ft./min)	8.4 (1653)	8.4 (1653)	8.4 (1653)	8.4 (1653)	8.4 (1653)	8.4 (1653)	8.4 (1653)
	50 Hz - m/sec. (ft./min)	7.0 (1378)	7.0 (1378)	7.0 (1378)	7.0 (1378)	7.0 (1378)	7.0 (1378)	7.0 (1378)
BMEP	60 Hz / 50 Hz - psi	238 / 224	270 / 254	194 / 182	219 / 203	219 / 203	219 / 203	219 / 203
POWER ADJUSTMENT FOR AMBIENT CONDITIONS								
Temperature								
	-4.5% for every 10 °C above - °C	40	40	40	40	40	40	40
	-2.5% for every 10 °F above - °F	104	104	104	104	104	104	104
Altitude								
	-0.8% for every 100 m above - m	1500	1066	1500	1500	1500	1500	1500
	-2.5% for every 1000 ft. above - ft.	5000	3500	5000	5000	5000	5000	5000

* Note: Values given are maximum temperatures to which power adjustments can be applied. Consult your Generac Power Systems representative if operating conditions exceed these maximums.

STANDARD ENGINE & SAFETY FEATURES

SD350/SD400

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain
- Factory-Installed Cool Flow Radiator
- Closed Coolant System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation between Unit Base and Structure
- 24 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Isochronous Governor
- Jacket Water Heater
- Flexible Fuel Lines (Stainless Steel Braid)
- Radiator Duct Adaptor

POWERMANAGER® DIGITAL CONTROL PLATFORM

The PowerManager® Generator Controller (PM-GC) is a fully programmable, integrated digital generator control console using a 32-bit industrial microprocessor to handle all control, monitoring, input/output genset functions. The open architecture used allows customizing the controls to meet any customer requirement, yet maintaining the simplicity of operation 'as is' with the factory default programming. (see Generac bulletin #0168840SBY)

OPTIONS

■ OPTIONAL COOLING SYSTEM ACCESSORIES

- Optional Coolant Systems (consult factory)

■ OPTIONAL FUEL ACCESSORIES

- Base Tank Low Fuel Alarm
- Primary Fuel Filters
- UL Listed Fuel Tanks
- Electric Fuel Transfer Pump System

■ OPTIONAL ELECTRICAL ACCESSORIES

- 10A Dual Rate Battery Charger
- Battery, 24 Volt
- Battery Warmer

■ OPTIONAL ALTERNATOR ACCESSORIES

- Alternator Upsizing
- Alternator Heater
- Main Line Circuit Breaker

■ OPTIONAL ENCLOSURES

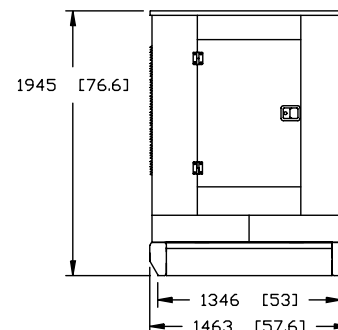
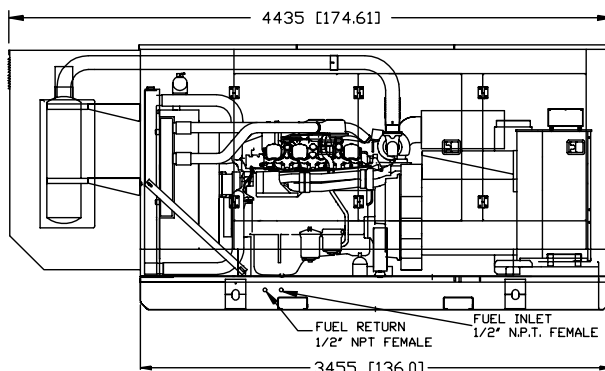
- Weather Protective
- Sound Attenuated
- Aluminum & Stainless Steel
- Enclosed Critical Muffler

■ ADDITIONAL OPTIONAL EQUIPMENT

- Automatic Transfer Switch (100 Amp - 2600 Amp)
- 21 Light Remote Annunciator
- Remote Relay Panels
- Oil Make-Up System
- Oil Heater
- 5 Year Warranties
- Export Boxing
- GenLink® Communications Software

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Design and specifications subject to change without notice. Dimensions shown are approximate. Contact your Generac dealer for certified drawings. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



mm [in] Shown with optional weather protective enclosure

DRY WEIGHT: 6500 lbs.

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