

## Ratings Range — 60 Hertz Operation

Standby:	kW	265-400
	kVA	331-500
Prime:	kW	235-365
	kVA	294-456

Throughout its 80 year history, **Taylor Machine Works**, which manufactures heavy machinery for industries worldwide, has maintained a reputation of having unparalleled products with service to match. **Taylor Power Systems** is no different!

In the early 1980's Taylor Machine Works created Taylor Power Systems to distribute industrial engines and manufacture generator sets offering diesel powered 9 kW to 2000 kW and gaseous powered 30 kW to 400 kW. Taylor Power Systems provides quality standby and prime generator sets in stationary or mobile configurations for a wide variety of applications for example the Healthcare and Telecommunications Industries, Public Utilities, Federal, State and Local Government agencies, Educational and Financial Institutions as well as Agricultural.

Taylor Power Systems is your 21st Century Power Source!

- Single source responsibility for the generator set and accessories.
- Prototype and production tested to insure one step load acceptance per NFPA 110.
- Two year limited warranty on generator sets and accessories. Extended warranties also available.
- Unit conforms to CSA, NEMA, EGSA, ANSI and other standards.
- Heavy duty 4 cycle industrial engine for reliability and fuel efficiency.
- Brushless rotating field generator with class H insulation.
- Heavy duty steel base with integral vibration isolators.
- EPA Certified Engine.

## Genset Ratings

Genset Model Number	Alternator	Voltage L-N / L-L	Phase	Hertz	Natural Gas 130° Rise Standby Rating		LP Gas 130° Rise Standby Rating	
					kW / kVA	Amps	kW / kVA	Amps
TG400	433CSL6220	277/480	3	60	400/500	601	265/331	399
		139/240	3	60	400/500	1203	265/331	797
		127/220	3	60	400/500	1312	265/331	869
		240/416	3	60	400/500	694	265/331	460
		120/208	3	60	400/500	1388	265/331	919
		120/240	3	60	400/500	1203	265/331	797
		220/380	3	60	400/500	760	265/331	503
		120/240	1	60	240/240	1000	240/240	1000

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor.

STANDBY RATINGS: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271.

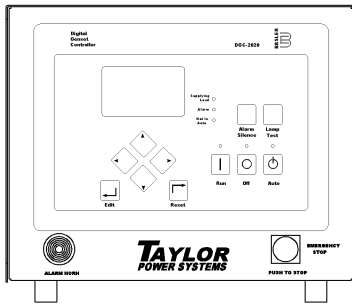
PRIME POWER RATINGS: Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS5514, AS2789, and DIN 6271. For limited running time and base load ratings consult the factory. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

GENERAL GUIDELINES FOR DERATION: Altitude: Derate 0.5% per 100m (328 ft.) elevation above 1000m (3279 ft.) Temperature: Derate 1.0% per 10°C (18°F) temperature above 40°C (104°F).

# Application and Engineering Data

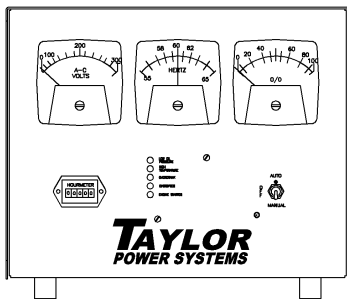
Basic Technical Data		Lubrication System	
Manufacturer	Doosan	Type	Full Pressure
Model	D219TIC	Oil pan capacity	42.3 qt (40 L)
Number of cylinders	12	Oil pan capacity with filter	49.7 qt (47.1 L)
Cylinder arrangement	Vertical in-line	Oil filter: qty and type	2, Cartridge
Cycle	4	<b>Electrical System</b>	
Induction system	Turbocharged, Charge Air-Cooled	Ignition system	N/A
Compression ratio	10.5:1	Battery charging alternator:	
Bore	5.04 in (128 mm)	Ground	negative
Stroke	5.59 in (142 mm)	Volts	24
Cubic capacity	1338 cu in (21.9 L)	Ampere rating	45
Piston speed	1677 ft/min (511 m/min)	Starter motor rated voltage	24
Main bearings: qty and type	14, Precision Half-Shell	Battery, recommended cold cranking amps (CCA):	
Governor type	Electronic	Qty rating for -18 °C (0 °F)	Two, 1000
Rated rpm	1800	Battery voltage	12
Max power at rated rpm	530 hp (395 kW)	<b>Operation Requirements</b>	
Engine power at Standby rating	N/A	Radiator-cooled cooling air, m <sup>3</sup> /min (scfm) ‡	29000 scfm (821 m <sup>3</sup> /min)
Frequency regulation, no-load to full-load	Isochronous	Combustion air	841 cfm (1682 m <sup>3</sup> /min)
Frequency regulation, steady state	± 0.5%	Heat rejected to ambient air: Engine	3765 Btu/min (66 kW)
Frequency	Fixed	Alternator	1309 Btu/min (23 kW)
Air cleaner type	Dry	<b>Fuel System</b>	
		Fuel Type	LP Gas, Natural Gas or Dual Fuel
		<b>Fuel Consumption</b>	
<b>Exhaust System</b>		<b>Natural Gas</b>	
Exhaust manifold type	Wet	100% Load	4231 cfh (119.8 m <sup>3</sup> /hr)
Exhaust flow at rated kW	2995 cfm (1787 kg/hr)	75% Load	3298 cfh (93.4 m <sup>3</sup> /hr)
Exhaust temperature at rated kW	1350 °F (732 °C)	50% Load	2317 cfh (65.6 m <sup>3</sup> /hr)
Maximum allowable back pressure	3.0 in (10.2 kPa)	25% Load	1413 cfh (40.0 m <sup>3</sup> /hr)
Exhaust outlet size at engine hookup	N/A	<b>LP Gas</b>	
<b>Cooling System</b>		100% Load	1409 cfh (39.9 m <sup>3</sup> /hr)
Ambient temperature	122 °F (50 °C)	75% Load	1201 cfh (34.0 m <sup>3</sup> /hr)
Engine jacket water capacity	14 gal (53 L)	50% Load	809 cfh (22.9 m <sup>3</sup> /hr)
Radiator system capacity, including engine	64 gal (242 L)	25% Load	512 cfh (14.5 m <sup>3</sup> /hr)
Engine jacket water flow	174 gpm (660 Lpm)		
Heat rejected to cooling water at rated	25760 Btu/min (453 kW)		
Max restriction of cooling air, intake and discharge side of radiator	0.5 H <sub>2</sub> O (0.125 kPa)		

# Generator Controller Options



## Digital Control Panel

- Integrated engine-genset control, protection, and metering
- Microprocessor allows for exact measurement, setpoint adjustment, and timing functions
- Front panel 3 position controls and indicators enable quick and simple operation
- Emergency stop push button and an Alarm Horn with silence button
- A wide temperature-range liquid crystal display (LCD) with backlighting
- SAE J1939 Engine ECU communications
- Multilingual capability
- Remote RS-485 communications for Optional RDP-110 Remote Annunciator
- 4 programmable contact inputs and 10 contact outputs (2 A/c rated)
- Modbus Communications with RS-485, Battery Backup for Real Time Clock, UL recognized, CSA certified, CE approved, HALT (Highly Accelerated Life Tests) tested, IP 54 Front Panel rating with integrated gasket. and NFPA 110 Level 1 Compatible.



## Analog Controller

- Monitor AC voltage, AC frequency, percent of load and, run time/hour meter
- Overspeed, overcrank, low oil pressure, and high coolant temperature indicators
- Green LED indication of engine running
- Control switch for local and remote starting with 3 position run/off/remote switch
- Emergency by-pass key switch gauge
- Mechanical oil pressure gauge
- Coolant temperature gauge

# Alternator Specifications

<b>Manufacturer</b>	Marathon	<ul style="list-style-type: none"> <li>• NEMA MG1, IEEE, AND ANSI standards compliance for temperature and motor starting.</li> <li>• Sustained short-circuit current of the rated current for up to 10 seconds.</li> <li>• Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.</li> <li>• Self-ventilated and dripproof construction.</li> <li>• Superior voltage waveform from a two-thirds pitch stator and skewed rotor.</li> <li>• Linkboards</li> <li>• Optimized Electrical Design</li> <li>• Enhanced Ventilation</li> <li>• Fully Guarded</li> <li>• Heavy Duty Bearings</li> </ul>
<b>Type</b>	Ext. Voltage Regulated, Brushless	
<b>Gen Frame</b>	MAGNAPLUS	
<b>Insulation</b>	NEMA	
<b>Material</b>	Class H	
<b>Temperature Rise</b>	130 °C, Standby	
<b>Hertz</b>	60	
<b>Phase</b>	3	
<b>RPM</b>	1800	
<b>Exciter</b>	Rotating	
<b># Leads</b>	12 Reconnectable or 4 Single Phase	
<b>PF</b>	0.8	
<b>Ambient</b>	40°C	
<b>Coupling Single Bearing</b>	Flexible	
<b>Amortisseur Windings</b>	Full	
<b>Cooling Air Volume</b>	250 CFM	
<b>Peak Motor Starting</b>	30% Voltage Dip, 1100 skVA	
<b>Voltage Regulation no-load and full-load</b>	1 Phase Sensing 1% Optional 3 Phase Sensing 1/2%	

## STANDARD FEATURES

- Heavy Duty Steel Base
- Vibration Isolators
- Oil Drain Valve with Extension
- Battery Rack
- Battery Cables
- High Ambient Unit Mounted Radiator
- Battery Charging Alternator
- Factory Paint
- Factory Test Prior to Shipment
- 2 Year Warranty
- Owners Manual

## AVAILABLE ACCESSORIES

### OPEN UNIT

- Narrow Skid Base
- Radiator Duct Flange
- Ship Loose Flex Exhaust
- Ship Loose Critical Silencer

### ENCLOSED UNIT

- Wide Skid Base
- Standard Enclosure With Internal Silencer
- Sound Attenuated Enclosure With Silencer
- Load Center With Lights and GFI Receptacle

### CONTROLLER

- DGC2020 Control Panel
- DGC2020 Control Panel with Modem
- DGC2020 with Generator Protection
- DGC2020 with Modem and Generator Protection
- Flush or Surface Mount Remote Annunciator
- Remote Mount Break Glass E-Stop Switch
- Analog Control Panel

## MISCELLANEOUS

- Flexible Fuel Lines
- Coolant Drain Kit
- Water Jacket Heater
- Oil Pan Heater
- Generator Strip Heater
- Battery
- Battery Charger
- Pad Type Battery Heater
- Battery Heater Blanket with Thermostat
- Line Circuit Breaker
- Dual Fuel

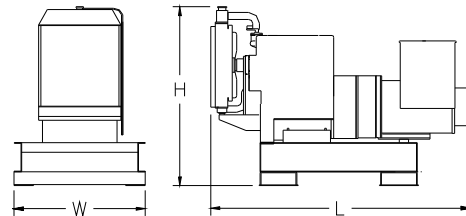
## WARRANTY

- 3 Year Warranty
- 5 Year Warranty

## WEIGHTS AND DIMENSIONS

OVERALL SIZE, L x W x H, in.: 140 in x 90 in x 93 in  
WEIGHT: 10334 lbs.

Note: Dim and weights reflect standard open unit with no options



Note: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

## DISTRIBUTED BY: