you can depend on TAYLOR POWER SYSTEMS

Model: TD13

Shown with optional equipment

Ratings Range

		60Hz
Standby:	kW	13
	kVA	16
Prime:	kW	12
	kVA	15

Generator	Voltage	PH	Hz	Standby Rating		Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
BCI164C311	277/480	3	60	13/16	19	12/15	18
	139/240	3	60	13/16	38	12/15	36
	254/440	3	60	13/16	21	12/15	20
	127/220	3	60	13/16	42	12/15	39
	240/416	3	60	13/16	22	12/15	21
	120/208	3	60	13/16	44	12/15	42
	120/240	3	60	13/16	38	12/15	36
	219/380	3	60	13/16	24	12/15	23
	120/240	1	60	10/10	42	9/9	38
BCI164C06	120/240	1	60	13/13	54	12/12	50

Features

- 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.
- 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 Tier 4 interim Certified Engine.

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 in 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.)

Perkins Diesel Engine

Model 403D-15G

Basic technical data

Number of cylinders	3
Cylinder arrangement	Vertical in-line
Cycle	Four stroke
Induction system	Naturally aspirated
Compression ratio	22.5:1
Bore	3.3 in. (84 mm)
Stroke	3.5 in. (90 mm)
Cubic capacity	91 cu in. (1.496 L)
Direction of rotation	Anti-clockwise when viewed from flywheel
Firing order	1,2,3

Cooling system

Radiator

Face area	258.9 in² (0.167 m²)
Number of rows and material	2, Aluminum
Matrix density and material	14.5 Aluminum fins per inch
Width of matrix	13.2 in. (334 mm)
Height of matrix	19.7 in. (500 mm)
Pressure cap setting	13 psi (90 kPa)

Fan

diameter	12.6 in. (320 mm)
Drive ratio	1.15:1
Number of blades	7
Material	Plastic
Type	Pusher

Coolant

Total system capacity	
With radiator	1.59gal (6.0 L)
Without radiator	0.69 gal (2.6 L)
Maximum top tank temperature	233° F (112° C)
Temperature rise across engine (rating dependent)	TBA
Thermostat operation range	180-203° F (82-95 °C)
Recommended coolant:	50% ethylene glycol with a corrosion Inhibitor (BS 658 : 1992 or MOD AL39) and 50% clean fresh water.

Designation	Units	Prime	Standby
		60 Hz	
Gross engine power	hp (kWb)	19.7 (14.7)	21.7 (16.2)
Electropak net engine power	hp (kWm)	19.3 (14.4)	21.3 (15.9)
Brake mean effective pressure	psi (kPa)	94 (650)	105 (722)
Engine coolant flow (Water Pump Ratio 1.15:1)	gal/min (L/min)	12 (45.4)	12 (45.4)
Combustion air flow (at rated speed)	cfm (m³/min)	43.4 (1.23)	43.4 (1.23)
Exhaust gas flow (max.)	cfm (m³/min)	110.9 (3.1)	118.7 (3.4)
Exhaust gas temperature in mani-fold Max.	°F (°C)	851 (455)	941 (505)
Overall thermal efficiency (net)	%	35	34

Exhaust system

Maximum back pressure	1.5 psi (10.2 kPa)
Exhaust outlet size	1.65 in. (42 mm)

Fuel system

Type of injection	Indirect
Fuel injection pump	Cassette type
Fuel atomizer	Pintle nozzle

Fuel lift pump

Flow / Hour	16.6 gal/hour (63 L/hr.)
Maximum suction head	0.8 m
Maximum static pressure head	3.0 m
Governor type	Mechanical

Fuel Consumption gal/hr (L/hr.)

Power Rating				
Speed	110%	100%	75%	50%
60Hz	1.3 (4.9)	1.27 (4.8)	1.3 (4.9)	1.4 (5.4)

Lubrication system

Lubricating oil capacity total system	1.6 gal (6.0 L)
Minimum sump capacity	1.2 gal (4.5 L)
Maximum engine operating angles	
Front up, front down, right side or left side	35°

Lubricating oil pressure

Relief valve opens	38-52 psi (262-359 kPa)
At maximum no-load speed	TBA
Oil temperature (normal operation)	257° F (125° C)

Electrical system

Type	12 volt negative earth
Alternator voltage	12V
Alternator output	65A
Starter motor voltage	12V
Starter motor power	2.7 hp (2.0 kW)

Induction system

Maximum air intake restriction

Clean filter	0.44 psi (3 kPa)
dirty filter	0.93psi (6.4 kPa)
Air filter type	Dry element

Generator Controller Options

Digital Control Panel

The DGC-2020 digital genset controller provides integrated engine-genset control, protection, and metering. Microprocessor based technology allows for exact measurement, setpoint adjustment, and timing functions. Front panel 3 position controls and indicators enable quick and simple operation. The panel is also equipped with a emergency stop push button and an Alarm Horn with silence button. A wide temperature-range liquid crystal display (LCD) with backlighting can be viewed under a wide range of ambient light and temperature conditions down to 40° C.

Features SAE J1939 Engine ECU communications, Multilingual capability, Remote RS-485 communications for Optional RDP-110 Remote Annunciator, Extremely rugged, fully encapsulated design with 4 programmable contact inputs and 10 contact outputs (2 Adc rated).

It also features 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 110Level 1 Compatible.

Analog Top Mount Controller

This Generator control panel has analog instruments to monitor AC voltage, AC frequency, percent of load and, run time/hour meter. Safety shutdowns provide red LED indication for overspeed, overcrank, low oil pressure, and high coolant temperature. Provide green LED indication of engine running. Control switch is provided for local and remote starting with 3 position run/off/remote switch.

There is also an engine mounted emergency by-pass key switch with mechanical oil pressure and coolant temperature gauge.

Analog End Mount Controller

This Generator control panel has analog instruments to monitor AC voltage, AC frequency, and percent of load. The analog engine instruments monitor oil pressure, water temperature, battery voltage, fuel level, and run time/hour meter. Safety shutdowns provide red LED indication for overspeed, overcrank, low oil pressure, and high coolant temperature. Provide green LED indication of engine running. Control switch is provided for local and remote starting with 3 position run/off/remote switch. There is also an engine mounted emergency by-pass key switch.

Dyna Gen Controller

The DYNA-GEN GSC300 Digital Genset Controller provides control and protection in the operation of the generator set. The controller allows starting and stopping of the engine and indicates status and fault conditions.Unit Safety Shutdowns and Alarms are High Water Temperature, Low Oil Pressure, Overcrank, Overspeed, Low Battery Voltage Alarm, and Unit Not In Auto Alarm.

It controls automatic start/stop of the unit as well as pre-heating of the engine.

The Back Lit Digital Display provides monitoring of the Battery Voltage, Hour Meter, Frequency, and Fuel Level.

The panel is also equipped with analog voltmeter and percent of load meter.

AC Alternator Specifications

STANDARDS

Stamford industrial generators meet the requirements of BS EN 60034 and the relevant section of other international standards such as B55000, VDE 0530, NEMA MG1-32, 1EC34, CSA C22.2-100, A51359.

Other standards and certifications can be considered on request.

VOLTAGE REGULATORS

SX460 AVR

With this self excited control system the main stator supplies power via the Automatic Voltage Regulator (AVR) to the exciter stator. The high efficiency semiconductors of the AVR ensure positive build-up from initial low levels of residual voltage.

The exciter rotor output is fed to the main rotor through a three phase full wave bridge rectifier. This rectifier is protected by a surge suppressor against surges caused, for example, by short circuit.

(Optional) AS440 AVR

With this self-excited system the main stator provides power via the AVR to the exciter stator. The high efficiency semi-conductors of the AVR ensure positive build-up from initial low levels of residual voltage.

The exciter rotor output is fed to the main rotor through a three-phase full-wave bridge rectifier. The rectifier is protected by a surge suppressor against surges caused, for example, by short circuit or out-of-phase paralleling.

The AS440 will support a range of electronic accessories, including a droop Current Transformer (CT) to permit parallel operation with other ac generators.

WINDINGS & ELECTRICAL PERFORMANCE

All generator stators are wound to *2/3* pitch. This eliminates triplen (3rd, 9th, 15th **...)** harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The *2/3* pitch design avoids excessive neutral currents sometimes seen with higher winding pitches, when in parallel with the mains. A frilly connected damper winding reduces oscillations during paralleling. This winding, with the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.

SHAFT

The generator rotor is dynamically balanced to better than B56861:Part 1 Grade 2.5 for minimum vibration in operation.

INSULATION/IMPREGNATION

The insulation system is class H.

All wound components are impregnated with materials and processes designed specifically to provide the high build required for static windings and the high mechanical strength required for rotating components.

QUALITY ASSURANCE

Generators are manufactured using production procedures having a quality assurance level to BS EN ISO 9001.

Standard Features and Optional Accessories

Standard Features

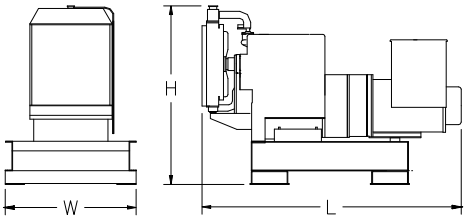
- **Heavy duty steel base**
- **Vibration isolators**
- **Oil drain valve with extension**
- **Battery rack**
- **Battery cables**
- **Water jacket heater**
- **Owners manual**

Optional Accessories

- ☐ Critical Exhaust Silencer
- ☐ Flex Exhaust Connector
- ☐ Top Mount Analog Control Panel
- ☐ End Mount Analog Control Panel
- ☐ DGC2020 Digital Control Panel
- ☐ DynaGen Digital Control Panel
- ☐ Modem for DGC2020
- ☐ Enhanced Gen Protection for DGC2020
- ☐ Surface Mount Remote Annunciator Panel for DGC2020
- ☐ Flush Mount Remote Annunciator Panel for DGC2020
- ☐ Remote Mount Break Glass E-Stop Switch
- ☐ Line Circuit Breaker
- ☐ Generator strip heater
- ☐ Radiator duct flange for open unit
- ☐ Weather Enclosure with external muffler
- ☐ Weather Enclosure with internal muffler
- ☐ Sound Attenuated weather enclosure
- ☐ Oil Pan Heater
- ☐ Battery
- ☐ Battery Charger
- ☐ Battery Heaters
- ☐ Sub-Base Fuel Tank
- ☐ Flexible Fuel Lines

WEIGHTS AND DIMENSIONS

OVERALL SIZE, L x W x H, in.: 48 in. x 30 in. x 42 in.
WEIGHT (WET): 770 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.

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