

# SOMMERS

## Generator Systems

 3YR or 3000Hr Limited Parts, Travel & Labour warranty

60Hz PERKINS 1104D-E44TAG2 EPA Tier 3

### DGPW 100 ST T3

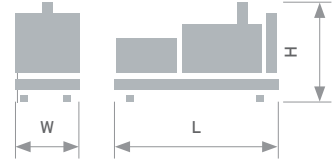


#### Measures:

L: 2100 mm H: 1614 mm  
W: 940 mm

#### Weight (dry):

2646 lbs / 1200 kg



60Hz



Diesel



Water cooled



Open



1800 RPM



CSA Approved or Equivalent

## 1 Genset General Description

➤ Open genset with automatic startup, control card allows automatic, manual or signal start-up.

General Technical Data			
Engine	PERKINS 1104D-E44TAG2		
Alternators	240/120V	Wdg. ·06	STAMFORD UCI274D-w06
	208/120V	Wdg. w311	STAMFORD UCI274D
	480/277V	Wdg. w311	STAMFORD UCI274C
	600/347V	Wdg. w17	STAMFORD UCI274D
Performance Class	G3		
Frequency	60Hz		
Control Panel	DSE 7320 MKII		
Noise level (dBA@7m)	N/A (Indoor)		

Voltage (V)	PRP (KW)	ESP (KW)	PRP/ESP (A)
240/120V	87	96	363.3 / 400.5
208/120V	91	101	316.8 / 350.2
480/277V	91	101	137.3 / 151.7
600/347V	92	102	110.8 / 122.4

PRP: Continuous power ("Prime Power") ISO 8528-1 standard.  
ESP: Emergency power ("Emergency Standby Power") ISO8528-1 standard.

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## 2 Engine Specifications

› PERKINS 1104D-E44TAG2 Diesel engine, inline 4-cylinders, 4-stroke. Turbo-Charged aspiration, air intake system. Electronic regulation. Complying with EPA Tier 3 emissions.

Engine General Data			
Manufacturer/Model	PERKINS 1104D-E44TAG2	Number of Cylinders	4 cylinders
R.P.M.	1800	Engine Capacity	4,4
Max. Power (kWm) (net)	111	Cooling System	Water cooled
Power PRP (Kwm) (net)	100	Regulation Type	Electronic
Fuel	Diesel	Engine Type/Injection/Suction	Diesel /Direct/Turbo-Charged

### 2.1 Fuel Feed System

› Direct injection system, fuel filter included that prevents the passage of particles, original parts from the engine manufacturer.

50% PRP	16.1 l/h (4.2 US gals/h)	75% PRP	22.0 l/h (5.8 US gals/h)
100% PRP	27.8 l/h (7.3 US gals/h)	110% ESP	30.0 l/h (7.9 US gals/h)

### 2.2 Cooling System


› Cooling by fully distributed coolant in a closed circuit driven by a pump activated by the engine. Tropicalized radiator. Original parts from the engine manufacturer.

<b>154.0</b>	<b>8.0</b> (6.0)	<b>17.0</b>	<b>1000W</b> 120V
Fan Airflow (m <sup>3</sup> /min @ 46°C)	Fan Power Consumption hp (kW)	Engine + Radiator Capacity (l)	Blockheater (W/V)

### 2.3 Lubricating System

› Lubrication system is driven by the crankshaft driven pump. Filter on top with full flow cartridge inserted, front crankcase. Original parts from the engine manufacture.

**Total Oil Capacity 8L**

 With oil pressure reading sensor

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#### 2.4 Air Intake System

› Direct air intake system including two-stage filter. Original parts from the engine manufacturer.

**Combustion Air Volume 8.5 m<sup>3</sup>/min**

#### 2.5 Start System

› Start system by electric motor. battery (without maintenance) with disconnecter and charging alternator driven by the starter motor 12V, original parts from the engine manufacturer.

**Number of Batteries**

**1**

**Battery Features**

**31A-925**

**Starting Voltage**

**12V**

#### 2.6 Exhaust System

› Attenuation level -10dB(A). Complying EPA Tier 3 emissions.

##### Exhaust System

Exhaust Gas Volume	20 m <sup>3</sup> /min
Exhaust Gas Temperature	506 °C
Exhaust External Diameter	Ø73.2 (3")
Max. Exhaust Backpressure	15kPa

### 3 Alternator Specifications

› Alternator STAMFORD 4-poles, brushless, alternator with class H insulation wound at 2/3 pitch and self-excited automatic voltage regulator (AVR).

Alternator General Data	240/120V	208/120V	480/277V	600/347V
Brand/Model	STAMFORD UCI274D-w06	STAMFORD UCI274D	STAMFORD UCI274C	STAMFORD UCI274D
Winding No.	·06	w311	w311	w17
Voltage Regulator AVR	AS440	AS440	AS440	AS440
Voltage Regulator	±1%	±1%	±1%	±1%
ESP Power Rating 40°C (kW)	100.0	110.0	106.0	124.0
PRP Power Rating 40°C (kW)	100.0	105.0	100.0	146.3
Number of Phases	1	3	3	3
Power Factor (cos φ)	1	0.8	0.8	0.8
Efficiency at 100% Load	87.2%	90.5%	91.0%	91.3%
Efficiency at 110% Load	86.6%	90.2%	90.8%	91.1%

**The alternator complies with the following standards:**

- Class H temperature rise 125°C (257°F), Standby (ESP).
- Class H temperature rise 105°C (302°F), Prime (PRP).
- AS 1359
- IEC 34-1
- BS EN 60034-1
- VDE 0530
- BS 5000
- CAN/CSA-C22.2-100
- NEMA MG1-32

Low wave distortion: THD (100% load) = 2%, THF < 2%, Complying with EN61000-6-3, EN61000-6-2 standards on radio interference.

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#### 4 Bench Specifications

- › Engine and alternator mounted on a high strength steel frame and painted with electrostatic epoxy polyester powder paint. Frame is tested in saline mist chamber to conform to ASTM B-117-09 for 500 hours. Engine and Alternator are mounted on rubber isolators to help dampen vibration while running.



#### 6 Control Panel

- › The control panel protects the engine and generator and allows for manual and automatic control of the genset.



#### 6.1 Main Line Breaker

- › Main line circuit breaker: A thermo-magnetic breaker provides protection against short circuits and overloads.

240/120V 400 Amps, Adj.

208/120V 400 Amps, Adj.

480/277V 150 Amps, Fixed

600/347V 125 Amps, Fixed

#### 6.2 Control Panel Features

- › **Emergency Stop Push Button**

- › **DeepSea Battery Charger**

Permanently connected to the battery to keep the battery fully charged. Charger is equipped with a float feature to keep battery ready in a prime starting state.

- › **Panel Fusing**

Fusing to protect the control panel wiring and accessories.

#### 6.3 Control Card

##### DSE 7320 MKII

##### Features of the DSE 7320 MKII Card:

- 132X64 pixel illuminate LCD display
- Full engine/alternator parameter and alarm read out
- 5-button menu navigation
- One touch Auto-Manual-Test and Stop buttons
- 9 factory configurable outputs
- 8 factory configurable inputs
- Programmable PLC for custom application
- Remote communication through an RS232 or RS485 connection
- Utility sensing Option

##### The control card complies with the following environmental tests:

- BS EN 61000-6-2 (electromagnetic compatibility)
- BS EN 61000-6-4 (electromagnetic compatibility)
- BS EN 60950 (electrical safety)
- BS EN 61000-6-2 (Temperature)
- BS EN 60068-2-6 (Vibration)
- BS EN 60068-2-30 (Humidity)
- BS EN 60068-2-27 (Shock)

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#### 6.4 Display

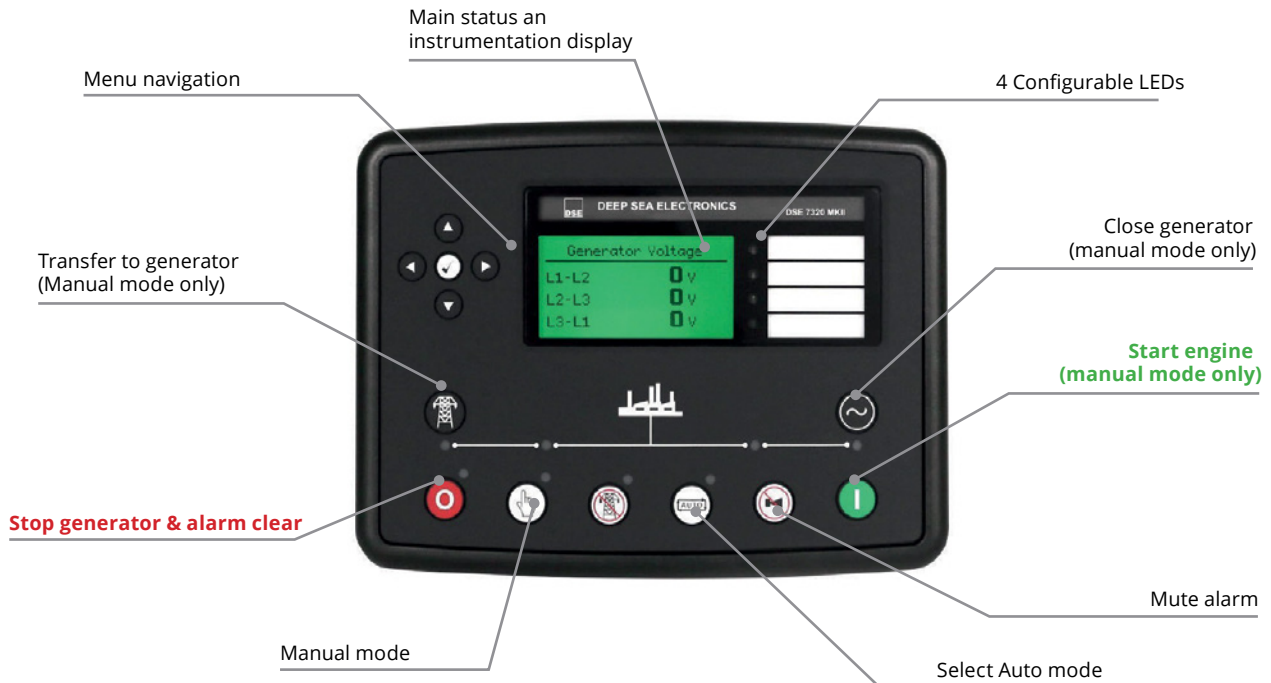
#### Control card for all Voltages: DSE 7320 MKII

Engine	
Engine Speed	Engine Hours
Oil Pressure	Number Engine Starts
Battery Voltage	Fuel Consumption
Fuel level	Engine Temperature

Generator	
Voltage (L-N)	Voltage (L-L)
Frequency	Amperage
Power Factor	Load (kW, kVA, kWh)

Mains
Voltage (L-N)
Voltage (L-L)
Frequency

Alarm Detected	
Overcrank	High Engine Temp.
Low Oil Pressure	Low Engine Temp.
Low Coolant Level	Low Fuel Level
Low Plant Battery Voltage	Main Line Breaker
Over Voltage	Over Frequency
Under Voltage	Over Speed
Control Not In Auto	Lamp Test Features
Radiator level sender	



Gensets rated for operational ambient temperature of 40 C, in compliance of CSA C282-15. If ambient temperature exceeds 40 C, please contact sales representative for derating information. Emergency standby power(ESP): the maximum power available for which a genset is delivering in the event of a utility power outage or under test conditions for up to 200hours per year. Prime Power(PRP): the maximum power which a genset is capable of delivering continuously for an unlimited number of hours per year.