WHOLESALE DIESEL GENERATORS
A DIVISION OF NORTH STAR LOGISTICS LLC
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30KW
CATERPILLAR
DIESEL GENERATOR

GENERAL INFORMATION & KEY FEATURES

- **Power:** 30 kW / 37.5 kVA at 60 Hz
- **Engine:** Perkins 1103A-33TG2
- **Cylinder:** 3-cylinder
- **Cooling:** Water-cooled
- **Displacement:** 3.3 Liter
- **Bore x Stroke:** 105x127 mm
- **Voltage:** Any voltage can be customized
- **Phase:** Single phase or 3-phase options available
- **Operating Speed:** 1500 rpm
- **Noise Level:** 69 db @ 7m
- **Enclosure Type:** Silent IP-65, soundproof and weatherproof customizable enclosure
- **Controller:** DSE GenSet 6110
- **Fuel Tank:** 47 or 160 gallons, extended fuel tank capacity options
- **Dimensions:** L*W*H - 90 x 43 x 70 (in.)
- **Weight:** 2300 lbs.
- **Certifications:** Certified ISO:9001, ISO:17025, ISO:8258, EPA Tier 3, UL2200

1103A-33TG2

59.3 kWm @ 1500 rpm
67.4 kWm @ 1800 rpm

Genset

1100 Series

Basic technical data

Number of cylinders 3
Cylinder arrangement ... ...Vertical in-line
Cycle. ... ... Four stroke
Induction system... ... ...Turbocharged
Compression ratio. ... ... 17.25 : 1
Bore .. .. 105 mm (4.13 in)
Stroke .. .. 127 mm (4.99 in)
Cubic capacity .. .. 3.3 litres
Direction of rotation... ... ... .Clockwise view from front
Firing order 1,2,3

Weight of Genset (engine only)

Dry ... ...

Cooling system

Radiator

Face area . ... 0.276 m² (2.97 ft²)
Rows and materials.. ... ... Single row aluminium
Matrix density and material . ... Aluminium 12,5 fins/inch
Width of matrix. ... ... 526 mm (20.7 inches)
Height of matrix ... ... 524 mm (20.6 inches)
Pressure cap setting ... ... 107 kPa

Fan

Diameter .. .. 457mm (18 in)
Drive ratio 1.25:1
Number of blades 7
Material ... ... Composite
Type . ...Pusher

Coolant

Recommended coolant: 50 % ethylene glycol with a corrosion inhibitor (BS 658 : 1992 or MOD AL39) and 50% clean fresh water.

Total system capacity:
With radiator ... ... 10.2 l (21.5 pt)
Without radiator ... ... 4.4 l (9.2 pt)
Maximum top tank temperature ... . 110 °C (230 °F)
Thermostat operating range.. ... ...82 - 93 °C (180 - 199 °F)

Lubrication system

Lubricating oil capacity

Total system ... ...8.3 litres (17.5 pt)
Sump minimum .. ..6.2 litres (13.1 pt)
Sump maximum . ... 7.8 litres (16.4 pt)
Maximum engine operating angles:
Front up, front down, right side or left side ... ... 25°

Lubricating oil pressure

Relief valve opens . ... 415 - 470 kPa
- at maximum no-load speed.. ... ... 276 - 414 kPa
Max continuous oil temperature (in rail) . ...125 °C (257 °F)
Oil consumption at full load as a % of fuel consumption 0.15%

Exhaust system

Maximum back pressure
1500 rpm. .. ..10 kPa
1800 rpm ... . .15 kPa
Exhaust outlet size . ... .56 mm (2.2 inches)

Fuel System

Type of injection . ... Direct
Fuel injection pump ... ... Rotary
Fuel atomiser.. ... ... Multi-hole
Nozzle opening pressure ... ... 29 MPa (290 bar)

Fuel lift pump

Type ... ... Mechanical
Flow/hour ... ... 120 - 150 litres/h (211 - 264 pt/m)
Pressure ... ... 30 - 75 kPa (4.4 - 10.9 psi)
Maximum suction head:
1500 rpm. .. .. 20 kPa

Governor type

Mechanical speed control to .. .. ISO 8528, G2

Fuel specification

Fuel Specification	European RF75-T-96 / DIN EN590 / BS2869 class A2
Density (kg/l @ 15 °C)	0.835 - 0.845
Viscosity (mm²/s @ 40 °C)	2.5 - 3.5
Sulphur content (%)	0.1 - 0.2
Cetane number	45 - 50

Fuel consumption litres/hour (UK gals/hr)

		Power rating				
Speed		110%	100%	75%	50%	25%
1500	Litres	15.9	14.6	10.8	7.56	4.2
	SFC	216.8	217.7	215.4	224	252

Induction system

Maximum air intake restriction

Clean filter ... ...5 kPa
Dirty filter .. ..8 kPa
Air filter type . ... Dry

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Perkins®
THE HEART OF EVERY GREAT MACHINE

STAMFORD

S1L2-H1 Winding 06 / 706

Electrical Data		
Insulation System	Class H	
Stator Winding	Double Layer Concentric	
Winding Pitch	Two Thirds	
Winding Leads	4	
Winding Number	06 / 706	
Number of Poles	4	
IP Rating	IP23	
RFI Suppression	EN 61000-6-2 & EN 61000-6-4, refer to factory for others	
Waveform Distortion	NO LOAD < 2% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%	
Short Circuit Ratio	1/Xd	
Steady State X/R Ratio	3.9	
	60 Hz	
Telephone Interference	TIF<50	
Voltage Series	240	240
Power Factor	0.8	1.0
kVA Base Rating (Class H)	29	31.3
Saturated Values in Per Unit at Base Ratings and Voltages		
Xd Dir. Axis Synchronous	1.027	1.108
X'd Dir. Axis Transient	0.132	0.142
X"d Dir. Axis Subtransient	0.118	0.127
Xq Quad. Axis Reactance	1.086	1.172
X"q Quad. Axis Subtransient	0.137	0.148
XL Stator Leakage Reactance	0.075	0.081
X2 Negative Sequence Reactance	0.190	0.205
X0 Zero Sequence Reactance	0.005	0.005
Unsaturated Values in Per Unit at Base Ratings and Voltages		
Xd Dir. Axis Synchronous	1.438	1.552
X'd Dir. Axis Transient	0.152	0.164
X"d Dir. Axis Subtransient	0.138	0.149
Xq Quad. Axis Reactance	1.119	1.207
X"q Quad. Axis Subtransient	0.164	0.177
XL Stator Leakage Reactance	0.085	0.091
X2 Negative Sequence Reactance	0.228	0.246
X0 Zero Sequence Reactance	0.006	0.006
Time Constants (Seconds)		
T'd TRANSIENT TIME CONST.	0.028	
T''d SUB-TRANSTIME CONST.	0.001	
T'do O.C. FIELD TIME CONST.	0.122	
Ta ARMATURE TIME CONST.	0.011	

STAMFORD

S1L2-H1 Winding 06 / 706

RATINGS AT 0.8/1.0 POWER FACTOR

	Class - Temp Rise	Standby - 163/27°C		Standby - 150/40°C		Cont. H - 125/40°C		Cont. F - 105/40°C	
60 Hz	Series (V)	240	240	240	240	240	240	240	240
	Power Factor	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0
	kVA	31.9	34.4	30.7	33.2	29.0	31.3	26.3	28.3
	kW	25.5	34.4	24.6	33.2	23.2	31.3	21.0	28.3
	Efficiency (%)	79.5	83.7	80.0	84.1	80.7	84.8	81.6	85.5
	kW Input	32.1	41.1	30.7	39.5	28.8	36.9	25.8	33.1

De-Rates

All values tabulated above are subject to the following reductions:

- 3% for every 500 meters by which the operating altitude exceeds 1000 meters above mean sea level
- 3% for every 5°C by which the operational ambient temperature exceeds 40°C
- For any other operating conditions impacting the cooling circuit please refer to applications

Note: Requirement for operating in an ambient exceeding 60°C and altitude exceeding 4000 meters must be referred to applications.

Dimensional and Torsional Drawing

For dimensional and torsional information please refer to the alternator General Arrangement and rotor drawings available on our website (http://stamford-avk.com/)

Note: Continuous development of our products means that the information contained in our data sheets can change without notice, and specifications should always be confirmed with Cummins Generator Technologies prior to purchase.

DSEGenset®

DSE6110/20 MKIII

AUTO START & AUTO MAINS (UTILITY) FAILURE CONTROL MODULES

DSE**6110 MKIII**

DSE**6120 MKIII**

KEY FEATURES

- 4-line back-lit LCD text display
- Multiple display languages
- Five-key menu navigation
- LCD alarm indication
- Customisable power-up text and screen images.
- DSENet® expansion compatibility
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB communications
- Front panel configuration with PIN protection
- Power save mode
- 3-phase generator sensing and protection
- 3-phase mains (utility) sensing and protection (DSE6120 MKIII only)
- Automatic load transfer control (DSE6120 MKIII only)
- Generator current and power monitoring (kW, kvar, kVA, pf)
- Mains (utility) current and power monitoring (kW, kvar, kVA, pf) (DSE6120 MKIII only)
- kW overload alarm
- Over current protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN
- 6 configurable DC outputs
- 4 configurable analogue/digital inputs
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- 8 configurable digital inputs
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Manual and automatic fuel pump control
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel level alarms
- 3 configurable maintenance alarms
- Compatible with a wide range of CAN engines, including Tier 4 engine support
- Uses DSE Configuration Suite PC Software for simplified configuration
- Licence-free PC software
- IP65 rating (with optional gasket) offers increased resistance to water ingress
- Configurable CAN read & transmitted information.
- 1 alternative configuration.

KEY BENEFITS

- Automatically transfers between mains (utility) and generator (DSE6120 MKIII only) for convenience.
- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored & displayed simultaneously for full visibility
- The module can be configured to suit a wide range of applications for user flexibility
- PLC editor allows user configurable functions to meet user specific application requirements.

RELATED MATERIALS

TITLE	PART NO.
DSE6110 MKIII & DSE6120 MKIII Installation Instructions	053-240
DSE6110 MKIII & DSE6120 MKIII Operator Manual	057-289
DSE6110 MKIII & DSE6120 MKIII Configuration Suite PC Manual	057-290

SPECIFICATIONS

DC SUPPLY

CONTINUOUS VOLTAGE RATING
8 V to 35 V Continuous
5 V for up to 1 minute

CRANKING DROPOUTS
Able to survive 0 V for 100 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT
260 mA at 12 V, 150 mA at 24 V

MAXIMUM STANDBY CURRENT
145 mA at 12 V, 85 mA at 24 V

CHARGE FAIL/EXCITATION RANGE
0 V to 35 V

GENERATOR & MAINS (UTILITY)

VOLTAGE RANGE
15 V to 415 V AC (Ph to N)
26 V to 719 V AC (Ph to Ph)

FREQUENCY RANGE
3.5 Hz to 75 Hz

MAGNETIC PICKUP

VOLTAGE RANGE
+/- 0.5 V to 70 V

FREQUENCY RANGE
10,000 Hz (max)

INPUTS

DIGITAL INPUTS A TO H
Negative switching

ANALOGUE INPUTS A & D
Configurable as:
Negative switching digital input
0 V to 10 V sensor
4 mA to 20 mA sensor
Resistive sensor

ANALOGUE INPUTS B & C
Configurable as:
Negative switching digital input
Resistive sensor

OUTPUTS

OUTPUT A & B (FUEL & START)
10 A DC at supply voltage

AUXILIARY OUTPUTS C, D, E, F, G & H
2 A DC at supply voltage

DIMENSIONS

OVERALL
216 mm x 158 mm x 43 mm
8.5” x 6.2” x 1.5”

PANEL CUT-OUT
184 mm x 137 mm
7.2” x 5.3”

MAXIMUM PANEL THICKNESS
8 mm
0.3”

STORAGE TEMPERATURE RANGE
-40°C to +85°C
-40 °F to +185 °F

OPERATING TEMPERATURE RANGE

NON-HEATED DISPLAY VARIANT
-30°C to +70°C
-22 °F to +158 °F

HEATED DISPLAY VARIANT
-40 °C to +70 °C
-40 °F to +158 °F

OPTIONAL PARTS

PART	PART NUMBER
IP65 Gasket	020-521

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Deep Sea Electronics maintains a policy of continuous development and reserves the right to change the details shown on this data sheet without prior notice. The contents are intended for guidance only.

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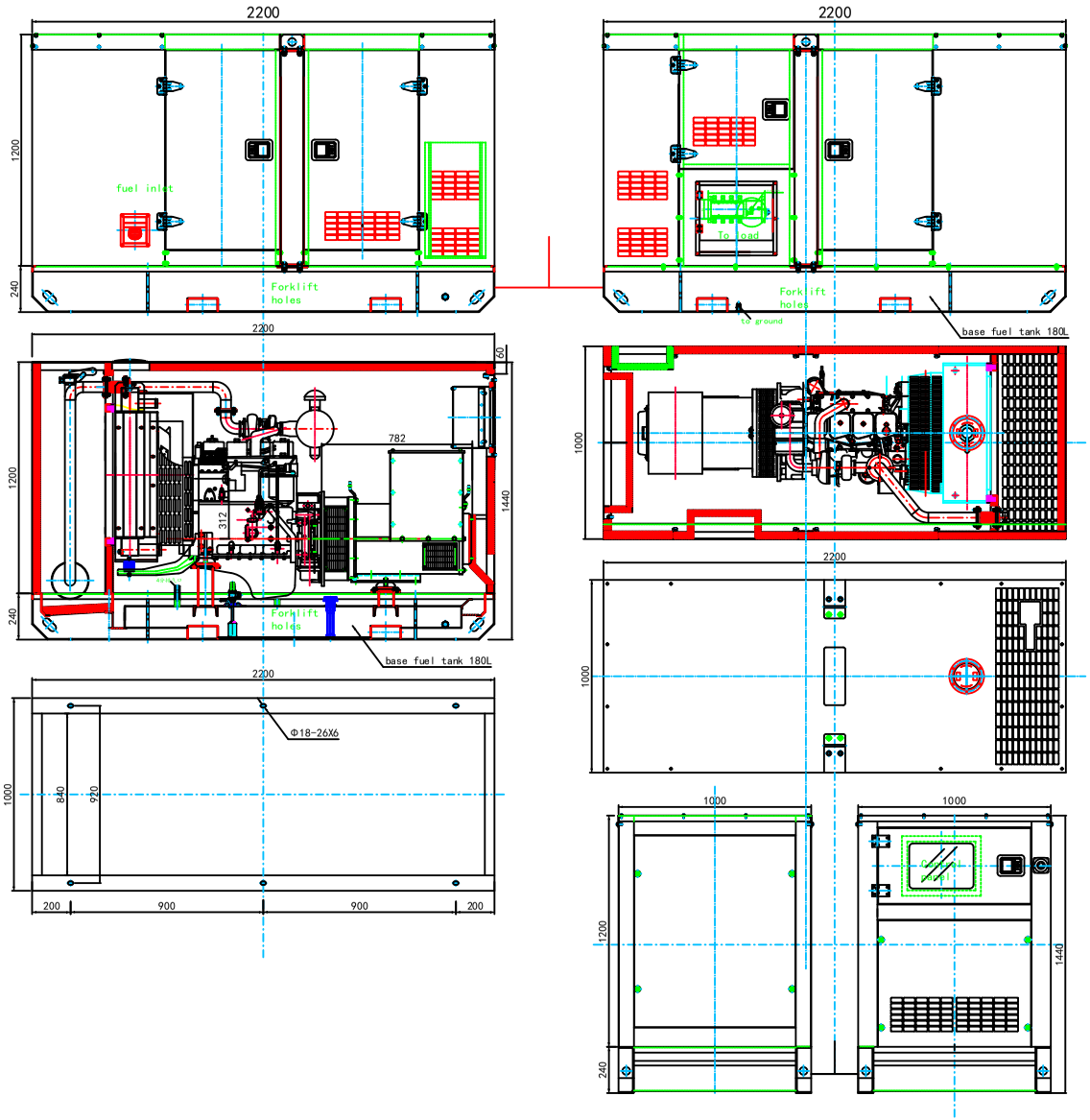

This is a design proposal diagram for reference only
There may be slight adjustments during production,
subject to actual conditions

Canopy drawing for 30Kw Diesel Generator