

Mr Mark Mitchell
United Living Ltd
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Swanley
Kent
BR8 8HU

18th May 2023

Dear Mark,

Tottenham Hale, Welbourne, London, N17 9EU – Planning Conditions 15, 16 & 17 (Life Safety Diesel Generator)

We write with reference to the above project and the information required to discharge Planning Conditions 15, 16 & 17 raised by London Borough of Haringey, in connection with the Life Safety Diesel Generator.

For ease of reference we have copied the requirements of Planning Conditions 15, 16 & 17 into the table below and we have inserted an additional column with our rationale in order to discharge each of the requirements: -

Planning Condition Number	Planning Condition Name	Planning Condition Requirement	Planning Condition Evidence / Answer
15	Intermittent and Exceptional Use of Diesel Generators	Generators shall be used solely on brief intermittent and exceptional occasions when required in response to an emergency and for testing as necessary to meet that purpose and shall not be used at any other time. At all times the generators shall be operated to minimise noise impacts and emissions of air pollutants and a log of operational hours shall be maintained and be available for	In theory the generator need never be operated, except in the case of an emergency fire condition. However, in practice it is normal for a generator to be operated twice per year at partial load conditions for approximately 10 minutes at a time and because the operating times are so short the noise and emissions of air pollutants are not normally considered to be an issue. It will be the building operators responsibility to ensure that the maintenance contract for the

		inspection by the Local Planning Authority.	generator is undertaken in accordance with the generator manufacturers instructions, which would require that the generator operating times are logged and signed for by the specialist maintenance contractor.
16	Back-Up Diesel Generators – Details of EU Stage V Emission Standards Compliance	Prior to the installation of back up diesel generators on the application site, details of generator compliance with EU Stage V Emission Standards for Generator Set Engines shall be provided in writing to and for approval by the Local Planning Authority. Installation shall be in compliance with the approved details and maintained thereafter.	The proposed life safety diesel generator for this site is of the fixed installation type as manufactured by Teksan, model ref: TJ303DW5C. Full technical details of the generator and engine are located within the appendix to this letter. It is noted that currently fixed standby generators are exempt from the EU Stage V Emission Standards and this is reserved for hire and export machines. The Stage V Emissions legislation is a complicated system that would require catalytic cleaners and the injection of AdBlue solution into the exhaust flue system in order to bring the exhaust gas toxins down to acceptable levels. However, these systems only work when the generator reaches its optimum working temperature and this will only ever occur in an emergency situation and certainly not during a typical test scenario. The installation of the generator shall be undertaken in accordance with the drawing located within the appendix to this letter, which has been approved by the generator supplier. It will be the building operators responsibility to ensure that they undertake the ongoing maintenance of the generator strictly in accordance with the manufacturers recommendations as contained within their O&M instructions.
17	Diesel Generator	Any diesel generators on the application site shall run on ultra	The diesel engine proposed is a Doosan, model ref: P126TI and it is

	Fuel - Ultra Low Sulphur Diesel (ULSD)	low sulphur diesel (ULSD) meeting the fuel specification within EN590:2004.	confirmed that this engine is designed to run on ultra low sulphur diesel. Full technical details of the engine are located within the appendix to this letter.

We trust the above and attached appendices are sufficient to allow discharge of the above Planning Conditions, but should you require any further information, then please do not hesitate to contact me.

Kind Regards

Paul Vine
Technical Director
paul@quinnross.com

TJ303DW5C (400 VAC)

50 Hz Diesel Generator Sets

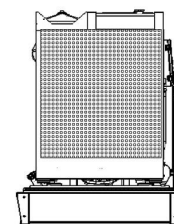
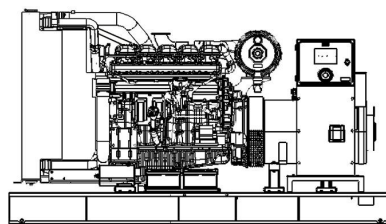
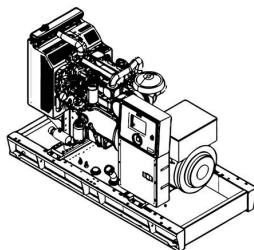


Output Power

Standby Power (ESP)	kVA	303
	kW	242
Prime Power (PRP)Data Center Power (DCP)	kVA	275
	kW	220

Size

	W x L x H (mm)	Weight (kg)	Fuel Tank (lt)	Noise dB(A) @ 7m
Canopied	1300x3940x1850	2819	385	70
Open Skid	1300x3000x1700	2254	385	N/A



Continuous Power

The maximum power which a generating set is capable of delivering continuously whilst supplying a constant electrical load. Average load can be 100%. The generator must not be overloaded.

Standby Power

The max power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 hrs of operation per year under average of 70% load. Overloading isn't permissible.

Prime Power

The maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load. Average load should be 70%. The generator can be overloaded 10% for 1 hour per 12 hrs.

TTDTJ303DW5C20201117EN

Engine

Manufacturer		DOOSAN
Model		P126TI-II
No of Cylinders		6
Cylinder Configuration		INLINE
Displacement	lt	11,1
Stroke	mm	155
Bore	mm	123
Compression Ratio		17:01
Aspiration		TURBOCHARGE-INTERCOOLER
Governor Type		ELECTRONIC
Cooling System		WATER
Coolant Capacity	lt	65
Lubrication Oil Capacity	lt	23
Electrical System	VDC	24
Speed / Frequency 50 Hz	rpm	1500 rpm / 50 Hz
Engine Gross Power (Standby 50 Hz)	kW	294
Fuel Consumption %110 ESP 50 Hz	lt/h	77,6
Fuel Consumption %100 PRP 50 Hz	lt/h	63,1
Fuel Consumption %75 PRP 50 Hz	lt/h	47
Fuel Consumption %50 PRP 50 Hz	lt/h	31,3
Exhaust Outlet Temperature 50 Hz	°C	590
Exhaust Gas Flow 50 Hz	m3/min	47,4
Combustion Air Flow 50 Hz	m3/min	20,1
Cooling Air Flow 50 Hz	m3/min	280

Alternator

Manufacturer		CROMPTON GREAVES
Model		G1R315SA
No of Phases		3
Power Factor		0,8
No of Bearings		SINGLE
No of Poles		4
No of Leads		6
Voltage Regulation (Steady State)		± %1 [In Steady State, Speed from (-%2) to (+%5) and CosØ=0,8-1]
Insulation Class		H
Degree of Protection		IP 23
Excitation System		AVR (Automatic Voltage Regulator), Brushless
Connection Type		STAR
Total Harmonic Content (No Load)		< %2,5
Frequency	Hz	50
Voltage Output 50 Hz	VAC	230 / 400
Rated Power (Standby) 400_50 Hz	kVA	302,5
Rated Power (Continuous) 400_50 Hz	kVA	275
Efficiency (4/4_400 V_50 Hz)	%	93

Standard Equipments

Engine

In Teksan generator sets, leading engine brands that have state of the art technology and have compliance with ISO 8528, ISO 3046, BS 5514, DIN 6271 standards, are being used. These engines with low fuel consumption, provide accurate speed setting and order, mount to the fuel pump, also have mechanic or electronic type governors.

Alternator

In products Teksan produced, leading alternator brands of the world that have state of the art technology, high quality, productivity and durability, are being used. All alternators, which pass necessary test process and found appropriate according to EC 60034-1; CEI EN 60034-1; BS 4999-5000; VDE 0530, NF 51-100,111; OVE M-10, NEMA MG 1.22. standards, have bearing system that does not need maintenance, with electronic type voltage regulator providing voltage setting.

Control Panel

Standard control panel, that is used in Teksan generator sets, ensures comfortable and safe usage. All measured and statistical parameters, operating modes, notice and alarms and condition of generator, are monitored easily from the control panel. On the front of the panel's metal body has electronic control module and the emergency stop button and the panel's metal body is made of steel sheet and is painted with electrostatic powder paint.

Teksan offers panel design and solutions that comply with special requirements of customers as well as quality standard panels.

Chassis and Fuel Tank

Chassis is manufactured from steel that has features and durability for carrying burden of generator set. Thanks to its rigid structural design and anti-vibration mounts, it reduces vibration level to minimum. All chassis contain lifting lugs. Apart from chassis that are produce by Teksan, special solutions that design in accordance with customer desires, make transportation and positioning easier.

In less than 1600 kVA power generator sets, fuel tank is produced integratedly to the chassis. In more than 1600 kVA power generator sets, rectangular type fuel tank is provided with generator set seperately. In all types of fuel tank have its level and indicator.

Cooling System

System, that consists of quality industrial - type radiator, expansion tank and cooler fan, keeps the temperature of generator set's equipments constant at a proper level.



Canopy Features

TEKSAN Standard Canopies' default features are as follows;

- Compatible with 2000/14/EC directives, certified noise emission level,
- 2 or 4 points transport possibility according to cabin size,
- Hidden exhaust inside the canopy,
- Emergency stop button located on the canopy,
- Improved air suction channel to ensure homogenous cooling in the canopy,
- Radiator air outlet and exhaust with designed towards above,
- Lid on cab that provides to be filled up water and antifreeze easily to the radiator,
- Amplified paint system against corrosion and rust,
- Improved performance in terms of sound insulation,
- Demounted parts that make transportation and maintenance easier,

As well as the standard range of canopies, TEKSAN can also design tailormade canopies with specific sound level or size upon customer requests.

Optional Equipments

Some Optional Equipments that Teksan provides with Generator Sets;

- Medium voltage alternator,
- Remote radiator applications,
- Automatic fuel filling system,
- Fuel tank, oil pan, dashboard, alternator, coil heaters,
- Alternator with double AVR and PMG,
- Synchronization systems,
- The generator output breaker,
- Grid-generator transfer switches,
- Accordance with the specific volume of demand-insulated cabins,
- Seismic solutions,
- Trailer,
- Remote monitoring.

Control Panel Features-DSE-7320

- 4-Line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- Customisable status screens
- Power save mode
- Support for up to three remote display units
- 9 configurable inputs
- 8 configurable outputs
- Flexible sender inputs
- Configurable timers and alarms
- 3 configurable maintenance alarms
- Multiple date and time scheduler
- Configurable event log (250)
- Tier 4 CAN engine support
- Integral PLC editor
- Easy access diagnostic page
- CAN and Magnetic Pick-up/Alt. sensing
- Fuel usage monitor and low fuel alarms
- Charge alternator failure alarm
- Manual speed control (on compatible CAN engines)
- Manual fuel pump control
- Engine exerciser
- "Protections disabled" feature
- kW & kV Ar protection
- Reverse power (kW & kV Ar) LED and LCD alarm indication
- Power monitoring (kW h, kV Ar, kV A h, kV Ar h)
- Load switching (load shedding and dummy load outputs)
- Automatic load transfer (DSE7320)
- Unbalanced load protection
- Independent Earth Fault trip
- True dual mutual standby with load balancing timer (DSE7310 only)
- USB connectivity
- Backed up real time clock
- Fully configurable via DSE Configuration Suite PC software
- Configurable display languages
- Remote SCADA monitoring via DSE Configuration Suite PC software
- User selectable RS232 and RS485 communications
- Configurable Gencomm pages
- Advanced SMS messaging (additional external modem required)
- Start & stop capability via SMS messaging
- Additional display screens to help with modem diagnostics
- Idle control for starting & stopping.
- DSENet® expansion compatible
- Heated display option available



Functions

- AMF unit
- Remote start controller
- Manual start controller
- Engine controller
- Remote display & control unit
- CTs at genset or load side

Communications

- Web monitoring
- GSM-SMS (required externally modem)
- e-mail
- USB Device
- RS-232
- J1939-CANBUS

Topologies

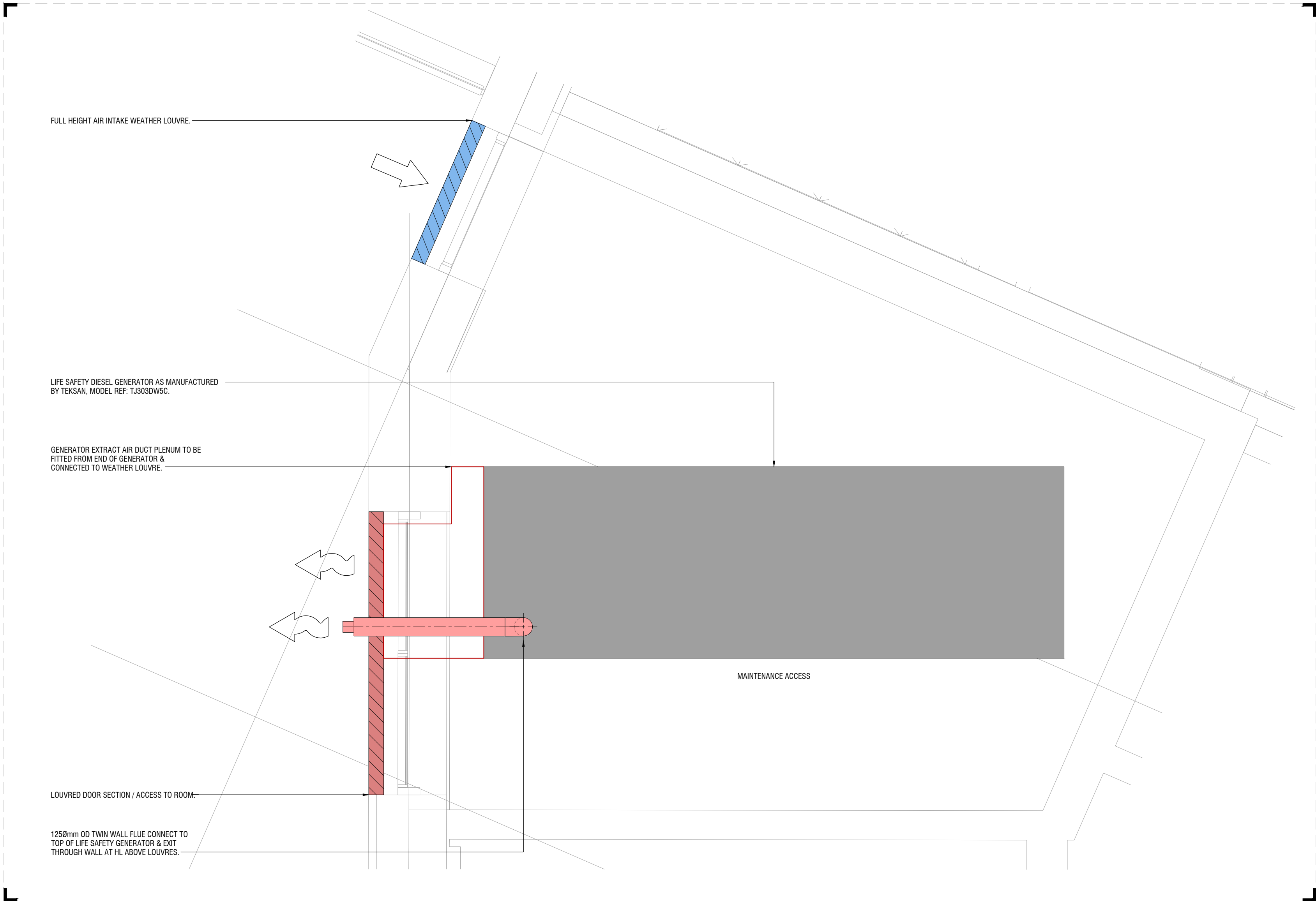
- 2 phase 3 wires, L1-L2
- 2 phase 3 wires, L1-L3
- 3 phase 3 wires
- 3 phase 4 wires, star
- 3 phase 4 wires, delta
- 1 phase 2 wires

- Technical information and values are according to ISO8528, ISO3046, NEMA MG-1.22, IEC 600341, BS 4999-5000, VDE 0530 standards.
- Producing with ISO9001, ISO14001, OHSAS18001, TSE, CE standards.
- All information given in this leaflet is intended for general purposes only.
- Due to a policy continuous improvement Teksan reserves the right to amend details and specifications without notice and all information given is subject to the Teksan's current condition of sales.

TBA: To Be Asked TBD: To Be Determined NA: Not Available N/A: Not Applicable TTDTJ303DW5C2020117EN

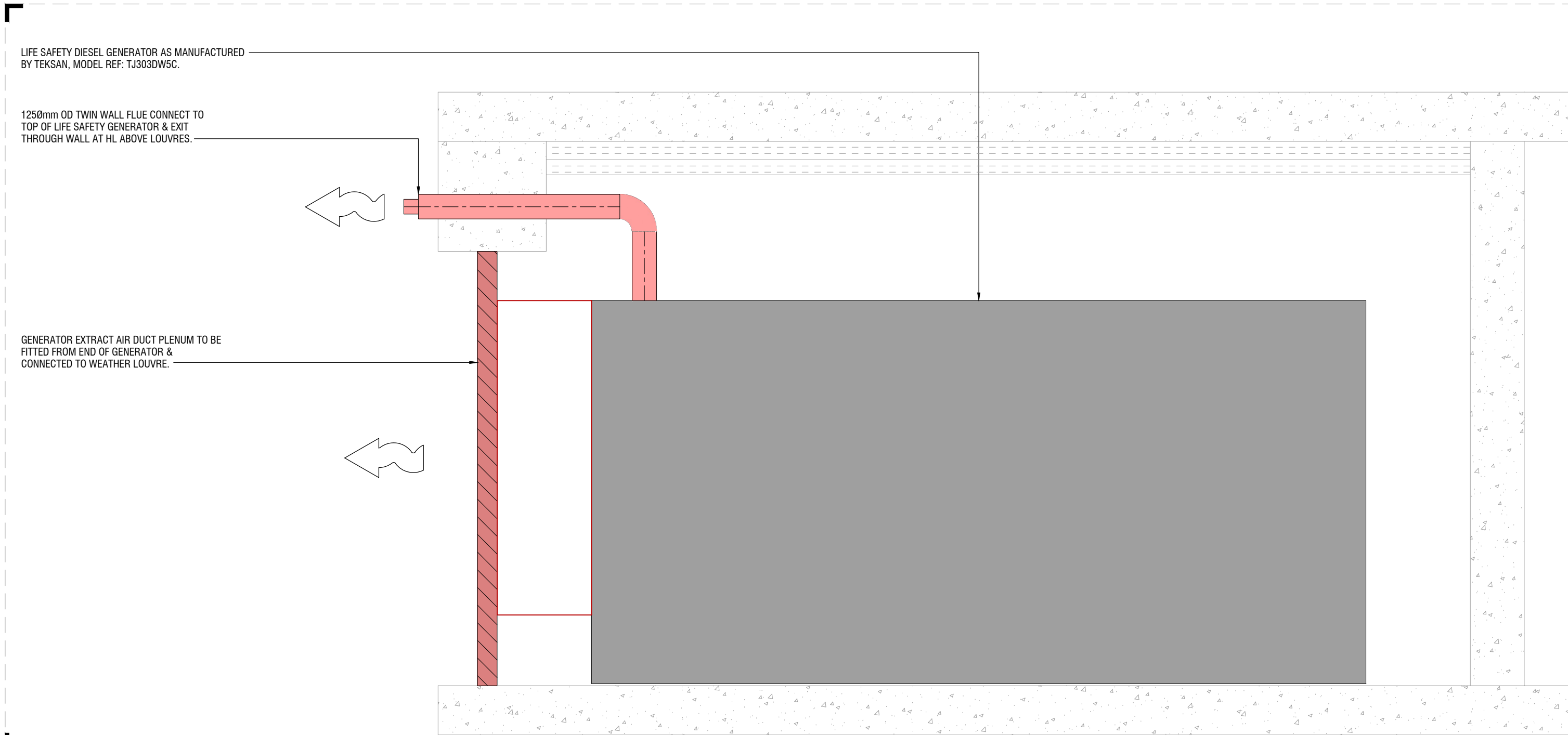
PLAN VIEW

SCALE: 1:20



SECTION A

SCALE: 1:20



DRAWING NOTES

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL PROJECT RELEVANT QUINNROSS INFORMATION, THE CONTRACT SPECIFICATION, ALL ARCHITECTS & CONSULTANTS LATEST INFORMATION & ALL RELEVANT THIRD PARTY INFORMATION.
- ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS OTHERWISE STATED.

P1	XX.05.23	ISSUED FOR COMMENT	PV	PV
REV	DATE	DESCRIPTION	DRN	CHK

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PROJECT
WELBOURNE
TOTTENHAM HALE

TITLE
GROUND FLOOR
MECHANICAL SERVICES
GENERATOR ROOM LAYOUT

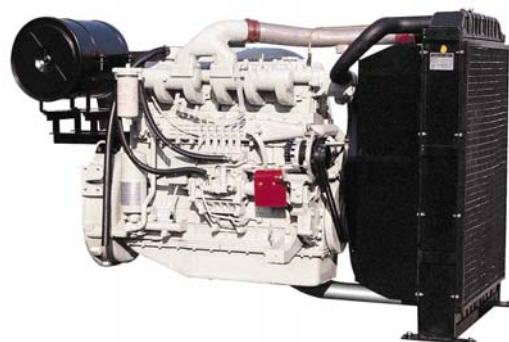
SCALE	SIZE	PLOTTED
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THIS DRAWING MUST BE
PRINTED IN COLOUR

◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Continuous Power	247	336
	Prime Power	278	378
	Standby Power	298	405
1500	Continuous Power	206	280
	Prime Power	241	328
	Standby Power	272	370



Note : -. The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271.

-. Ratings are based on ISO 8528.

→ **Prime power** available at variable load. The permissible average power out put (during 24h period) shall not exceed 70% of the prime power rating.

→ **Standby power** available in the event of a main power network failure. No overload is permitted.

◎ MECHANICAL SYSTEM

○ Engine Model	P126TI
○ Engine Type	In-line 4cycle, water cooled Turbo charged & intercooled (air to air)
○ Combustion type	Direct injection
○ Cylinder Type	Replaceable dry liner
○ Number of cylinders	6
○ Bore x stroke	123(4.84) x 155(6.1) mm(in.)
○ Displacement	11.051(674.5) lit.(in ³)
○ Compression ratio	17 : 1
○ Firing order	1-5-3-6-2-4
○ Injection timing	16° BTDC
○ Compression pressure	Above 28 kg/cm ² (398 psi) at 200rpm
○ Dry weight	Approx. 910 kg (2,006 lb)
○ Dimension (LxWxH)	1,383 x 870 x 1,207 mm (54.4 x 34.3 x 47.5 in.)
○ Rotation	Counter clockwise viewed from Flywheel
○ Fly wheel housing	SAE NO.1
○ Fly wheel	Clutch NO.14

◎ MECHANISM

○ Type	Over head valve
○ Number of valve	Intake 1, exhaust 1 per cylinder
○ Valve lashes at cold	Intake 0.30mm (0.0118 in.) Exhaust 0.30mm (0.0118 in.)

◎ VALVE TIMING

	Opening	Close
○ Intake valve	18 deg. BTDC	34 deg. ABDC
○ Exhaust valve	46 deg. BBDC	14 deg. ATDC

◎ FUEL CONSUMPTION

○ Prime Power (lit/hr)	1,500 rpm	1,800 rpm
25%	16.4	20.3
50%	30.0	36.2
75%	43.6	52.3
100%	58.1	70.3
○ Standby Power (lit/h)	1,500 rpm	1,800 rpm
25%	18.3	21.5
50%	33.4	38.7
75%	49.1	56.3
100%	66.2	76.5

◎ FUEL SYSTEM

○ Injection pump	Zexel in-line "P" type
○ Governor	Electric type
○ Feed pump	Mechanical type
○ Injection nozzle	Multi hole type
○ Opening pressure	220 kg/cm ² (3,129 psi)
○ Fuel filter	Full flow, cartridge type
○ Used fuel	Diesel fuel oil

◎ LUBRICATION SYSTEM

○ Lub. Method	Fully forced pressure feed type
○ Oil pump	Gear type driven by crankshaft
○ Oil filter	Full flow, cartridge type
○ Oil pan capacity	High level 23 liters (6.1 gal.) Low level 20 liters (5.3 gal.)
○ Angularity limit	Front down 25 deg. Front up 25 deg. Side to side 15 deg.
○ Lub. Oil	Refer to Operation Manual

◎ COOLING SYSTEM

- Cooling method Fresh water forced circulation
- Water capacity 19 liters (5.02 gal.)
(engine only)
- Pressure system Max. 0.9 kg/cm² (12.8 psi)
- Water pump Centrifugal type driven by gear
- Water pump Capacity 320 liters (84.5 gal.)/min
at 1,800 rpm (engine)
- Thermostat Wax – pellet type
Opening temp. 71°C
Full open temp. 85°C
- Cooling fan Blower type, plastic
755 mm diameter, 7 blade

◎ ELECTRICAL SYSTEM

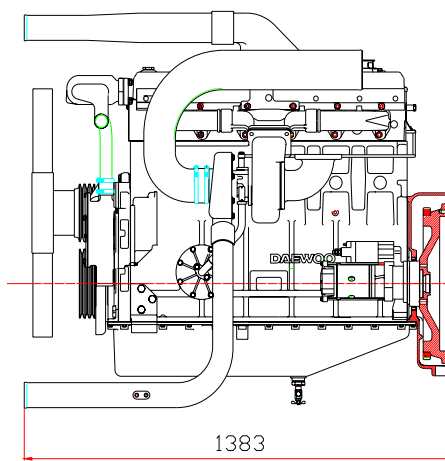
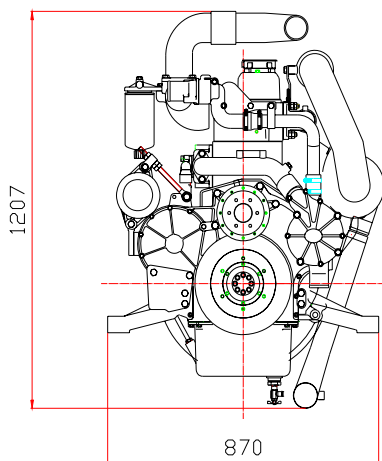
- Charging generator 24V x 45A alternator
- Voltage regulator Built-in type IC regulator
- Starting motor 24V x 6.0kW
- Battery Voltage 24V
- Battery Capacity 150 AH (recommended)
- Starting aid (Option) Block heater

◎ ENGINEERING DATA

- Water flow 265 liters/min @1,500 rpm
- Heat rejection to coolant 25.5 kcal/sec @1,500 rpm
- Heat rejection to CAC 7.2 kcal/sec @1,500 rpm
- Air flow 16.4 m³/min @1,500 rpm
- Exhaust gas flow 42.9 m³/min @1,500 rpm
- Exhaust gas temp. 560 °C @1,500 rpm
- Water flow 320 liters/min @1,800 rpm
- Heat rejection to coolant 29.0 kcal/sec @1,800 rpm
- Heat rejection to CAC 12.0 kcal/sec @1,800 rpm
- Air flow 23.0 m³/min @1,800 rpm
- Exhaust gas flow 58.1 m³/min @1,800 rpm
- Exhaust gas temp. 510 °C @1,800 rpm
- Max. permissible restrictions
 - .Intake system 220 mmH₂O initial
635 mmH₂O final
 - .Exhaust system 600 mmH₂O max.

◆ CONVERSION TABLE

- | | |
|------------------------------------|------------------------------------|
| in. = mm x 0.0394 | lb/ft = N.m x 0.737 |
| PS = kW x 1.3596 | U.S. gal = lit. x 0.264 |
| psi = kg/cm ² x 14.2233 | kW = 0.2388 kcal/s |
| in ³ = lit. x 61.02 | lb/PS.h = g/kW.h x 0.00162 |
| hp = PS x 0.98635 | cfm = m ³ /min x 35.336 |
| lb = kg x 2.20462 | |



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※ Specifications are subject to change without prior notice