



# DGVS 450 ST EU2

## Industrial Plus Range



⚡ POWER (PRP / ESP):  
**413 / 451 kVA (330 / 361 kW)**

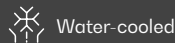
📡 FREQUENCY: **50Hz**      ⚡ VOLTAGE: **400/230V**

📦 WEIGHT WITH LIQUIDS AND WITHOUT FUEL:  
**4650kg**

📏 DIMENSIONS (FK):  
**L: 4600 mm**  
**W: 1606 mm**  
**H: 2236 mm**

**Generating set exclusively for stationary use.**  
 It must not be used as a non-road mobile machine, as defined in Regulation (EU) 2016/1628 (Chapter I, Article 3, Point I).

Indicative technical plan and indicative images. Dagartech reserves the right to modify the data in this technical sheet without prior notice.



## 1. General technical data

### 1.1. Main technical data

Engine	VOLVO TAD1344GE-B
Alternator	STAMFORD S4L1D-F
Fuel	Diesel
Type of execution	G3
Control panel	DSE 7320 MKII
Tank (l)	840
Sound level-Lp(A) (dB(A)@1m) <sup>1</sup>	82
Sound level-Lp(A) (dB(A)@7m) <sup>1</sup>	74
Sound power-LW(A) (dB(A))	98

<sup>1</sup>The sound levels may vary depending on the measurement conditions.

Voltage	PRP <sup>2</sup> (KVA/KW)	ESP <sup>2</sup> (KVA/KW)	PRP Amperage (A)	ESP Amperage (A)
400/230V	<b>413 / 330</b>	<b>451 / 361</b>	<b>596,1</b>	<b>651</b>

<sup>1</sup>PRP: Continuous power ("Prime Power"). ESP: Emergency Standby Power according to ISO8528-1.

**Tolerance of maximum active power (kW) ±5%**

### **i** Directives and Regulations

**ENVIRONMENTAL CONDITIONS STANDARD ISO 8528-1:2018: 25°C, 100kPa and 30% relative humidity:**

- **Prime Power (PRP):** Data on electrical power available at variable load without limit of hours per year. An overload of 10% is allowed for 1h out of 12. According to ISO 8528-1:2018.
- **Emergency Standby Power (ESP):** Data on electrical capacity available at variable load in case of emergency according to ISO 8528-1:2018.

**The DAGARTECH Generator bears the CE marking which includes the following directives:**

- **2006/42/EC.** Machine Safety Directive.
- **EN ISO 8528-13:2016.** Part 13: Safety. Alternating current generators powered by reciprocating internal combustion engines.
- **2014/30/EU.** Electromagnetic Compatibility Directive.
- **2000/14/EC.** Noise Emissions Directive. Sound power levels evaluated in accordance with the procedure laid down in the directive.
- **Directive 2011/65/EU** on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS 2).

## 2. Engine specifications

400/230V · 50Hz (1500 rpm)

VOLVO TAD1344GE-B | STAMFORD S4L1D-F

### 2.1. General technical data of the engine

Make and model	<b>VOLVO TAD1344GE-B</b>
Emissions	EU Stage II
r.p.m.	1500
<b>Generating set exclusively for stationary use.</b> It must not be used as a non-road mobile machine, as defined in Regulation (EU) 2016/1628 (Chapter I, Article 3, Point 1).	
Maximum ESP power (kWm)	389
Power PRP (kWm)	354
Fuel	Diesel
No. of cylinders	6
Cylinder capacity (c.c.)	12780
Compression ratio	18,5:1
Cooling system	Water-cooled
Type of regulation	Electronic
Type of engine/injection/suction	Diesel / direct / Turbocharged

### 2.2. Fuel

Type of fuel	Diesel
Tank capacity	840

### 2.3. Consumption and autonomy

	Consumption (l/h)		Autonomy (h)	
	PRP	ESP	PRP	ESP
<b>50%</b>	42,1	-	19,9	-
<b>75%</b>	62,3	-	13,5	-
<b>100%</b>	81,8	90,3	10,3	9,3

### 2.4. Cooling system

Fan flow (m <sup>3</sup> /s)	4,3
Radiator back pressure (Pa)	788
Fan power consumption (kW)	10
Total refrigerant capacity (l)	44

### 2.5. Lubrication system

Oil capacity (l)	36
Oil consumption (N/A)	N/A

### 2.6. Intake system

Combustion air intake flow (m <sup>3</sup> /min)	28
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**400/230V - 50Hz (1500 rpm)**
**VOLVO TAD1344GE-B | STAMFORD S4L1D-F**

<b>2.7.</b> <b>Starter system</b>	No. of batteries	2
	Battery characteristics	12V 44Ah
	Start-up voltage (V)	24V

<b>2.8.</b> <b>Exhaust system</b>	Exhaust gas flow (m <sup>3</sup> /min)	63,5 [PRP]	67,5 [ESP]
	Exhaust gas temperature (°C)	440 [PRP]	465 [ESP]
	Exhaust outside diameter (mm)	5" (Ø 127)	
	Exhaust attenuation level (dB(A))	-35	
	Max. exhaust back pressure (kPa)	10	

### 3. Alternator specifications

<b>3.1.</b> <b>General technical data of the alternator</b>	Make and model	<b>STAMFORD S4L1D-F</b>		
	No. of poles	4		
	Insulation class	H		
	No. of threads	12		
	Mechanical protection index	IP23		
	Voltage Regulator (AVR)	PMG+MX341		
	Voltage regulation	±1%		
	ESP power 27°C (kVA)	465		
	Power PRP 40°C (kVA)	415		
	No. of phases	3		
	Power factor (cos φ)	0,8		



**WITH AUXILIARY WINDING**  
ON UNITS BELOW 100 KVA

**WITH PMG**  
ON UNITS OF 100 KVA AND ABOVE

Performance η (%)			
50%	75%	100%	110%
94,4%	94,2%	93,2%	92,6%

**i** Standard regulations that the alternator meets:

AS 1359 | IEC 34-11 | 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%**

Complies with: EN61000-6-3, EN61000-6-2 regarding radio interference.

400/230V - 50Hz (1500 rpm)

VOLVO TAD1344GE-B | STAMFORD S4L1D-F

## 4. Bench Specifications

- Unit mounted on **electro-welded high-resistance steel bench**, painted with epoxy-polyester powder paint. Includes a **retention bath**.
- Connection of the assembly to the bench by means of **anti-vibration dampers**.
- **Fuel tank located on the bench itself**. The engine is equipped with a measuring gauge and fuel system.
- **Tested in a salt spray chamber according to ASTM B-117-09, resistance 500h**.

## 5. Soundproof Canopy Specifications

- **Electro-welded canopy made of high resistance galvanized steel** painted with electrostatic epoxy-polyester powder
- Interior soundproofing by means of a **lining with soundproofing material**.
- **Efficient attenuation silencer** for the evacuation of gases to the outside with protective cover.
- **Tested in a salt spray chamber according to ASTM B-117-09, resistance 720H. IP44 mechanical protection degree**.

**THE CANOPIES OF THE INDUSTRIAL PLUS RANGE ARE MADE OF HIGH-RESISTANCE GALVANIZED STEEL AND ARE ELECTRO-WELDED AND PAINTED WITH ELECTROSTATIC EPOXY-POLYESTER POWDER PAINT.**



In addition, they are equipped with a **rigid panel** made of glass wool with an outer textile covering. We also incorporated an efficient **silencer attenuation device for the evacuation of gases to the outside**, featuring a rain cap.

*Our canopies are tested in a salt spray chamber according to standard **ASTM B-117-09** (resistance 720H. **IP44 mechanical protection grade**).*

## 6. Control panel

### 6.1. Main elements of the control panel

- Protection panel, distribution with **automatic control module** which allows you to work in manual, automatic or signal mode.
- **Push button** for **emergency stop**.

#### Protections:

- **4-pole magnetothermic protection** against overloads and short circuits.
- **Protection fuses** for the control set.

### 6.2. Circuit breaker

Model	Schneider EasyPact 630A 4P
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### 6.3. Control module

Model	DSE 7320 MKII
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DSE 7320 MKII DEEP SEA control card with mains grid monitor. The genset will automatically start up when detecting a fault in the electric power network and it will turn off automatically as well, when the electrical supply is re-established. It can also work in manual mode and by signal. It allows you to monitor a wide range of generator parameters and display information alerts, status and alarms.

The module includes communication ports USB , RS232, RS485, and also DSENet<sup>®</sup> for system expansion. Possibility of Ethernet networking (plug).

The entire module is easily configurable via PC using the DSE specific software configuration.

It has 132x64p illuminated LCD display with 4 lines of text, 5-key navigation through menus, 9 configurable outputs and 8 configurable inputs, programmable clocks and alarms, reading and displaying parameter values, including RMS values.

Different operating modes: AUTOMATIC mode, MANUAL mode, SIGNAL mode and TEST mode.

Other alternative configurations are available upon request to extend the capabilities of the operation modes.

#### **i** Environmental Tests that the module passes:

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 (vibrations) | BS EN 60068-2-27 (shock)

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400/230V - 50Hz (1500 rpm)

VOLVO TAD1344GE-B | STAMFORD S4L1D-F

### 6.3. Control module


**Standard** ✓

*Model* **DSE 7320 MKII**

#### Operating modes

STOP mode	✓
MANUAL mode	✓
TEST mode	✓
AUTO mode	✓

#### Module configuration options

PC	✓
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#### Generator readings

Generator voltage (F-F)	✓
Generator voltage (F-N)	✓
Generator current (A)	✓
Generator frequency	✓
Generator load F-N (kW / kVA / kVAr)	✓
Total generator load (kW / kVA / kVAr)	✓
Average generator power factor	✓
Accumulated generator load (kW, kVAh, kWh, kVAh)	✓

#### Network readings

Network voltages (ph-N)	✓
Network voltages (ph-ph)	✓
Grid frequency	✓
Network current (A)	□
Network load ph-N (kW / kVA / kVAr)	□
Total network load (kW / kVA / kVAr)	□

#### Engine readings

Coolant temperature	✓
Oil pressure	✓
Engine fuel level	✓
Engine battery volts	✓
Engine speed	✓
Engine run time	✓

#### Caption

- ✓ Included      □ Optional
- ✗ Not available      ⓘ Consult

Readings available at control module level.

**Confirm the availability of these readings for this generator and engine.**

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400/230V - 50Hz (1500 rpm)

VOLVO TAD1344GE-B | STAMFORD S4L1D-F

### 6.3. Control module


**Standard** ✓

**Model** DSE 7320 MKII

#### Engine protections

High water temperature	✓
Low oil pressure	✓
Low water level	✓
Fuel reserve by sensor	✓
Second fuel tank control	✓
Shutdown failure	✓
Battery voltage failure	✓
Battery charge alternator failure	✓
Overspeed	✓
Underfrequency	✓
Failure to start	✓
Emergency stop	✓
Maintenance notice	✓
Maintenance Alert	✓

#### Alternator protections

High frequency	✓
Low frequency	✓
High voltage	✓
Low voltage	✓
Short circuit	✓
Asymmetry between phases	□
Incorrect phase sequence	✓
Reverse power	✓
Breaker Trip 4 poles	□
Overpressure alarm	✓

#### Counters

Hour meter	✓
Kilowatt meter	✓
Starter counter	✓

#### Caption

- ✓ Included      □ Optional
- ✗ Not available      ⓘ Consult

Readings available at control module level.

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### 6.3. Control module



**Standard** ✓

*Model* **DSE 7320 MKII**

#### Communications

RS232	✓
RS485	✓
USB communication port	✓
Modbus IP	☐ DSE 855/890/891
Modbus RS 485	✓
PC Software (Mimic)	✓
GSM/GRPS MODEM	☐ DSE 890
Remote display < 1km	☐ DSE 2520
Remote monitoring	☐ DSE 855/890
Input expansion	☐ DSE 2130 8 inputs
Output expansion	☐ DSE 2157 8 inputs
SNMP protocol	☐ DSE 892

#### Services

Configurable alarm history	250
External start	✓
Start-up inhibition	☐
Network Failure Start	✓
Activation of group counter	✓
Activation of grid and group counter	✓
Control of fuel transfer	✓
Motor temperature control	✓
Forced group operation	✓
Free programmable alarms	✓
Group start function in test mode	✓
Free programmable outputs	✓
Multilingual	✓

#### Special applications

GPS localisation	☐ DSE 890
Calendar scheduler	✓
DSE configuration suite via PC	✓
Front panel module configuration with PIN	✓
Alternative work	✓
Programmable PLC	✓
Power save mode	✓
Alternative configurations	✓
Dummy load control / load shedding	✓ 5 Stage dummy load

#### Caption

- ✓ Included      ☐ Optional
- ✗ Not available      ⓘ Consult

Readings available at control module level.

**Confirm the availability of these readings for this generator and engine.**

400/230V - 50Hz (1500 rpm)

VOLVO TAD1344GE-B | STAMFORD S4L1D-F

## 7. Detailed supply scope

### Engine

**VOLVO TAD1344GE-B, EU STAGE II, 1500 RPM, WATER-COOLED, WITH ELECTRONIC REGULATION ENGINE.**

- 6-cylinder inline Diesel engine, 4-stroke with Electronic fuel regulation by means of a fuel pump, original from the manufacturer.
- **Sensors and alarms:**
  - Oil pressure alarm.
  - Temperature alarm.
  - Coolant level alarm.
  - Oil pressure reading.
  - Coolant temperature reading.
- direct injection and Turbocharged suction system. Original manufacturer's particle separator filter.
- Refrigeration through cooling liquid, fully distributed in the closed circuit run by an engine driven pump, tropicalised radiator, original from the engine manufacturer.
- Crankshaft-driven pump lubrication system. The filter is a full-flow insert cartridge, front housing, original from the engine manufacturer.
- Air intake system for turbo-fed combustion with two-stage filter, original from the engine manufacturer.
- Electric motor starting system, battery (no maintenance) with disconnecter and load alternator driven by the 24V starter, original elements from the engine manufacturer.
- Protection from hot and moving parts.

### Alternator

**STAMFORD S4L1D-F ALTERNATOR OF 12 WIRES AND 4 POLES, BRUSHLESS AND WITH ELECTRONIC VOLTAGE REGULATION TYPE AVR (PMG+MX341).**

- With IP23 protection class and H insulation class.
- Brushless 4-pole alternator. Robust mechanical structure with easy access to connections and components. H insulation class, coil pitch 2/3 and self-excited AVR. IP23 protection degree.
- Protection with premium epoxy resins. High voltage parts are impregnated under vacuum, which always means very good insulation.

**Do you have any queries about the supply?**

Get in touch with us.



400/230V · 50Hz (1500 rpm)

VOLVO TAD1344GE-B | STAMFORD S4L1D-F

## Bench

- Bench made of high-strength electro-welded steel. Includes a retention bath.
- Painted with electrostatic epoxy-polyester powder paint.
- Anti-vibration dampers from the engine block to the bedplate.
- Fuel tank included on the bench itself. Equipped with cleaning record to facilitate maintenance work.
- With measuring gauge and installation of fuel to the engine.
- Liquid drainage connection to the outside.
- **Bench tested in a salt spray chamber according to ASTM B-117-09 (500h resistance).**

## Soundproofed canopy

- Electro-welded canopy of high resistance galvanized steel.
- Painted with electrostatic epoxy-polyester powder paint.
- Interior soundproofing by means of a rigid panel made of glass wool with an exterior textile covering.
- With IP44 mechanical protection level.
- **Canopy tested in salt spray chamber according to ASTM B-117-09 (resistance 720h).**

## Control panel

- **DeepSea Electronics automatic control module, DSE 7320 MKII which allows you to work in manual, automatic or signal mode.**
  - It offers multiple event logging and is fully configurable through DeepSea Electronics' free-access specific configuration software.
  - Three-phase network and group detection with measurement for configurations upon network failure.
- **Protections:**
  - 4-pole magnetothermic protection against overloads and short circuits.
  - Protection fuses for the control set.

## 7. Detailed supply scope

### Other equipment

- Mechanised fuel nozzle outside with key.
- Tropicalised Radiator for work at 50 °C\*.
- Prepared for maintenance intervals every 500 hours\*.
- High-performance original fuel particle separator filter from the manufacturer.
- Oil drain pump (included in models equipped with Volvo engines).
- Push button for emergency stop.
- Differential Protection.
- Reinforced pole centrally-mounted.
- Reinforced terminals.
- Hour counter.
- Stainless steel rain shield.
- Thermal sleeves.
- Document holder tray.

### Power sockets

Different configurations depending on the model.

	35-45 kVA CB 20	65-70 kVA CB 30	110-220 kVA CB 40	275-550 kVA CB 50
Schuko 	1	1	2	2
16A 2P+T (230V) 	-	1	1	1
16A 3P+N+T 	-	-	-	-
32A 3P+N+T 	1	1	2	1
63A 3P+N+T 	1	1	1	1
125A 3P+N+T 	-	-	-	1



\* Confirm the scope of supply depending on the model. Maintenance intervals may vary. Refer to the engine manufacturer's recommendations.

400/230V - 50Hz (1500 rpm)

VOLVO TAD1344GE-B | STAMFORD S4L1D-F

## 8. Featured options

### KITS

- **Automation kit - network failure** (includes engine heater, battery charger, key-operated auto selector and programming).
- **Automation kit for mains failure operation** (includes engine heater, battery charger, AUTO selector with key, and programming).
- **SuperSilent Kit** (includes -50dB(A) exhaust silencer and heavy mass on the alternator).
- **50 / 60 Hz Kit** (includes 50 / 60 Hz selector, AVR in electrical panel, potentiometer, and programming).
- **AVR Kit** (includes AVR in electrical panel and potentiometer).
- **Extra Protection Kit for power sockets** (includes thermal-magnetic protection per socket - Curve C and differential protection per socket - Class A).
- **EU Kit** (includes thermal-magnetic protection per base - Curve B and differential protection per base - Class B).

### ENGINE OPTIONS

- Electronic engine governor (on models with standard mechanical regulation).
- Manual oil drain pump (for models without this feature in their standard supply scope).
- 6-Way Valve Kit with quick connectors.

### ALTERNATOR OPTIONS

- Alternator impregnation system (spray).
- Alternator impregnation system 4 (special varnish).

### ELECTRICAL AND COMMUNICATION OPTIONS

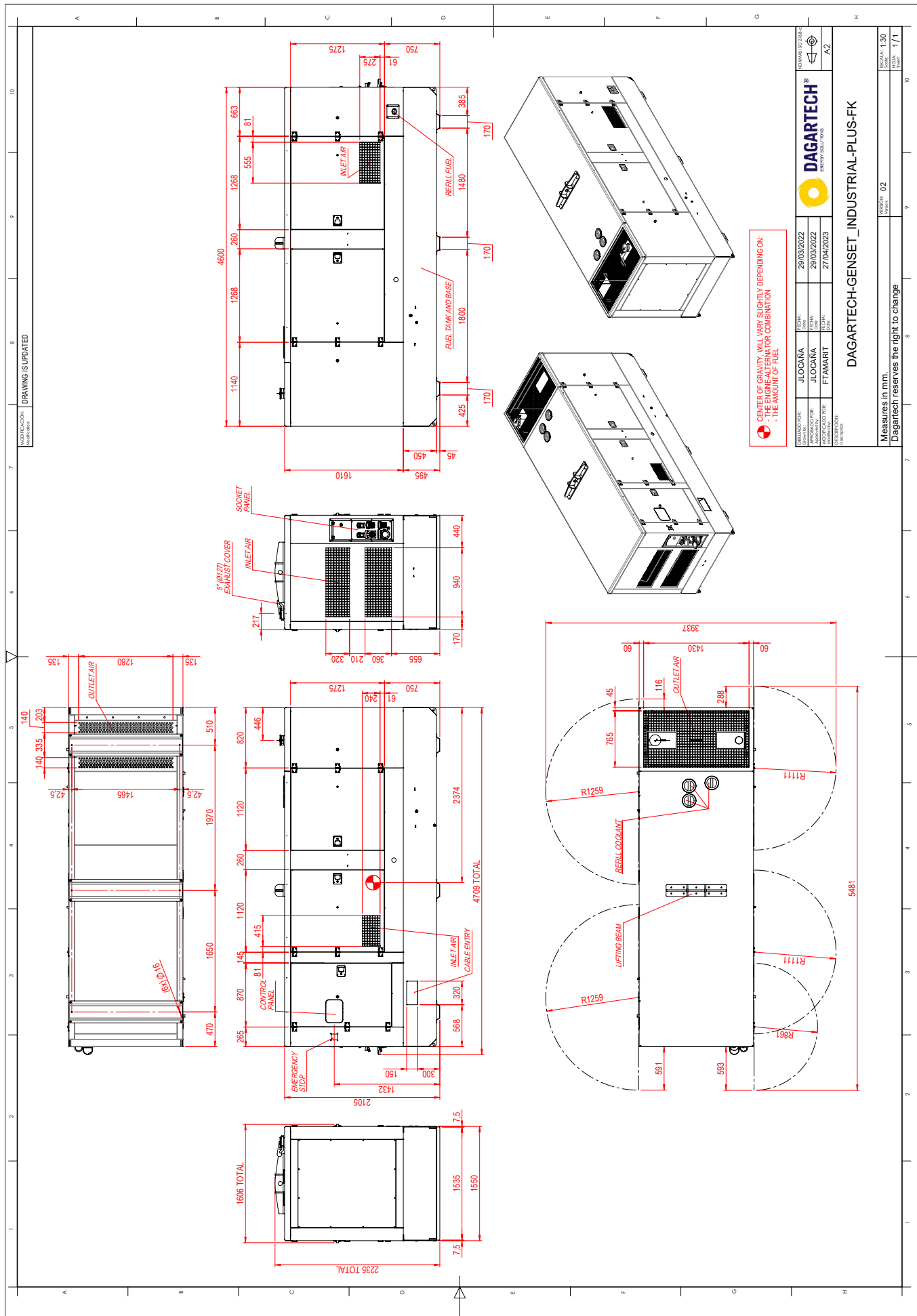
- Power Locks.
- Ground spike.
- ComAp IL4 AMF25 extra price.

### MECHANICAL OPTIONS

- Sensor on retention bund warning when spillage.
- C5 (Marine coating) paint on the canopy and baseframe.
- Non-standard RAL color.
- High-capacity fuel tanks.

\* Check the availability of these options based on the model.

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