

High Power Range

POWER (PRP / ESP):
808 / 860 kVA (646 / 688 kW)

EMISSIONS LEVEL:
EU Stage 0

FREQUENCY
50Hz

VOLTAGE
400/230V

CE CERTIFIED



DGC 860 ST



DGCS 860 ST

1. General technical data

1.1. Version, dimensions and weight

Version	Open	Soundproofed
Dimensions	8K	HK1
L (mm)	4500	5603
W (mm)	1870	1616
H (mm)	2398	2398
Weight with liquids and without fuel (kg)	7715	9090

1.2. Main technical data

Engine	CUMMINS QSK23-G3	
Alternator	STAMFORD S6L1D-C	
Fuel	Diesel	
Type of execution	G2	
Control panel	DSE 7320 MKII	
Tank (l)	N/A	820
Sound level-Lp(A) (dB(A)@1m) ¹	N/A (Indoor)	85
Sound level-Lp(A) (dB(A)@7m) ¹	N/A (Indoor)	78
Sound power-LW(A) (dB(A))	N/A (Indoor)	108

¹The sound levels may vary depending on the measurement conditions.

Voltage	PRP ² (KVA/KW)	ESP ² (KVA/KW)	PRP Amperage (A)	ESP Amperage (A)
400/230V	808 / 646	860 / 688	1166,2	1241,3

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

Tolerance of maximum active power (kW) ±5%

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).

* Confirm the height of the unit. This measurement may vary depending on the height of the radiator.

2. Engine specifications

400/230V · 50Hz (1500 rpm)			DGC 860 ST		DGCS 860 ST		
2.1. General technical data of the engine	<i>Version</i>		Open		Soundproofed		
	Make and model		CUMMINS QSK23-G3				
	Emissions		EU Stage 0				
	r.p.m.		1500				
	Maximum ESP power (kWm)		743				
	Power PRP (kWm)		684				
	Fuel		Diesel				
	No. of cylinders		6				
	Cylinder capacity (c.c.)		23200				
	Compression ratio		16,0:1				
	Cooling system		Water-cooled				
	Type of regulation		Electronic				
	Type of engine/injection/suction		Diesel / direct / turbocharged				
	Number of exhaust outlets		1				
Number of exhaust silencers		1					
2.2. Fuel	Type of fuel		Diesel				
	Tank capacity		N/A		820		
2.3. Consumption and autonomy			Open		Soundproofed		
	Consumption (l/h)		Autonomy (h)		Autonomy (h)		
		PRP	ESP	PRP	ESP	PRP	ESP
	50%	85	-	N/A	-	9,6	-
	75%	121	-	N/A	-	6,8	-
	100%	161	178	N/A	N/A	5,1	4,6
2.4. Cooling system	<i>Version</i>		Open		Soundproofed		
	Fan flow (m³/s)		13,5		13,5		
	Radiator back pressure (mm H ₂ O)		13		13		
	Fan power consumption (kW)		14,4				
	Total refrigerant capacity (l)		110				
2.5. Lubrication system	Oil capacity (l)		103				
	Oil consumption (0)		0				
2.6. Intake system	Combustion air intake flow (l/s)		888				

400/230V · 50Hz (1500 rpm)		DGC 860 ST	DGCS 860 ST
2.7. Starter system	<i>Version</i>	Open	Soundproofed
	No. of batteries	2	
	Battery characteristics	12V 44Ah	
	Start-up voltage (V)	24V	

2.8. Exhaust system


Common data for both versions		
Exhaust gas flow (l/s)	2259 [PRP]	2463 [ESP]
Exhaust gas temperature (°C)	532 [PRP]	543 [ESP]
<i>Version</i>	Open	Soundproofed
Exhaust outside diameter (mm)	6" (Ø 152,4)	6" (Ø 152,4)
Exhaust attenuation level (dB(A))	-10	-35
Max. exhaust back pressure (kPa)	10,2	

Radiator level sensor not available for Baudouin 4M06 series engines.

3. Alternator specifications

3.1. General technical data of the alternator

<i>Version</i>	Open	Soundproofed		
Make and model	STAMFORD S6L1D-C			
No. of poles	4			
Insulation class	H			
No. of threads	12			
Mechanical protection index	IP23			
Voltage Regulator (AVR)	MX321+PMG			
Voltage regulation	±1%			
ESP power 27°C (kVA)	860			
Power PRP 40°C (kVA)	810			
No. of phases	3			
Power factor (cos φ)	0,8			
	Performance η (%)			
	50%	75%	100%	110%
	94,7%	94,9%	94,4%	94,2%

 **Standard regulations that the alternator meets:**

CEI 2-3 | IEC 34-1 | EN 60034-1 | VDE 0530 | BS 4999-5000 | CAN/CSA-C22.2-No 100-95.

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)

DGC 860 ST


DGCS 860 ST

4. Bench Specifications

- Unit mounted on **electro-welded high-resistance steel bench**, painted with epoxy-polyester powder paint.
 - 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.  INCLUDED
 - **Without fuel tank** in open models.  INCLUDED
- * EXCEPTIONALLY, THE DGB 825 ME MODEL DOES INCLUDE A FUEL TANK.
- **Tested in a salt spray chamber according to ASTM B-117-09, resistance 500h.**

5. Soundproof Canopy Specifications



 The canopy is part of the scope of supply of the soundproof generator sets. Open generators do not include a canopy.

- **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 -35dB(A)** 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 HIGH POWER 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).*

Caption:



INCLUDED IN OPEN GENERATOR SETS



INCLUDED IN SILENT GENERATOR SETS

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**.
- **Deep Sea Electronics battery charger**, designed to be permanently connected to the battery and maintain 100% of the charge. The charger switches to float mode when charging is complete:

Model	DSE BC2405 24V, 5A
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Protections:

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

6.2. Circuit breaker

Model	Schneider ComPact 1250A 4P
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6.3. Control module

1. 4 configurable indicator LEDs	8. Manual mode
2. Generator on load	9. Genset stop
3. Transfer to the generator (manual mode)	10. MAIN NETWORK transfer (manual mode)
4. Start engine (manual mode)	11. Network on load
5. Silence alarm	12. Navigation keyboard
6. Automatic mode	13. Main status and instrument display
7. Test mode	

Model	DSE 7320 MKII
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DEEP SEA, DSE 6020 MKII control board automatically switches the genset on when an outage is detected in the electrical grid and automatically switches off when the supply of electricity is restored.

It can also operate in manual and signal mode. Makes it possible to monitor a large number of engine parameters and to display information, status and alarm alerts.

The module includes USB communication ports, 4 configurable digital inputs, 3 analogue inputs, 6 configurable outputs, emergency button, 8-35 V battery charger.

Equipped with a 132x64 pixels LCD illuminated display with 4 lines of text, 5 menu navigation keys, programmable clocks and alarms, parameter reading and display with RMS values.

The entire module can be easily set up from a PC using the specific DSE settings software.

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

Other alternative settings available on request extending the options available as part of the work system.

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)

400/230V - 50Hz (1500 rpm)

BAUDOUIN 6M33G750/5 | MECCALTE ECO40 VL4 B

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.

Ask us for further readings in generating sets equipped with electronically managed engines and DSE 7320MKII control module.


DO YOU WANT A SUPERIOR PERFORMANCE CONTROL MODULE?

Contact us and tell us what you need.

400/230V - 50Hz (1500 rpm)

CUMMINS QSK23-G3 | STAMFORD S6L1D-C

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.

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

Ask us for further readings in generating sets equipped with electronically managed engines and DSE 7320MKII control module.


DO YOU WANT A SUPERIOR PERFORMANCE CONTROL MODULE?

























Contact us and tell us what you need.

V1-2024. Last update: 10/05/2024. Indicative technical plan and indicative images. Dagartech reserves the right to modify the data in this technical sheet without prior notice.




6.3. Control module



Standard 

Model	DSE 7320 MKII
Communications	
RS232	
RS485	
USB communication port	
Modbus IP	<input type="checkbox"/> DSE 855/890/891
Modbus RS 485	
PC Software (Mimic)	
GSM/GRPS MODEM	<input type="checkbox"/> DSE 890
Remote display < 1km	<input type="checkbox"/> DSE 2520
Remote monitoring	<input type="checkbox"/> DSE 855/890
Input expansion	<input type="checkbox"/> DSE 2130 8 inputs
Output expansion	<input type="checkbox"/> DSE 2157 8 inputs
SNMP protocol	<input type="checkbox"/> DSE 892
Services	
Configurable alarm history	250
External start	
Start-up inhibition	<input type="checkbox"/>
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	<input type="checkbox"/> 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.

Ask us for further readings in generating sets equipped with electronically managed engines and DSE 7320MKII control module.



DO YOU WANT A SUPERIOR PERFORMANCE CONTROL MODULE?

Contact us and tell us what you need.



400/230V - 50Hz (1500 rpm)

CUMMINS QSK23-G3 | STAMFORD S6L1D-C

7. Detailed supply scope

Engine

PERKINS 403A-15G1, EU STAGE 0, 1500 RPM, WATER-COOLED, MECHANICALLY CONTROLLED ENGINE.

- 6-cylinder inline Diesel engine, 4-stroke with Electronic fuel regulation by means of a fuel pump, original from the manufacturer.
- direct injection and turbocharged suction system. Original manufacturer's particle separator filter.
- Industrial exhaust gas silencer of -10 dB(A).  INCLUDED
- Efficient high-attenuation exhaust silencer of -35 dB(A).  INCLUDED
- 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 S6L1D-C ALTERNATOR OF 12 WIRES AND 4 POLES, BRUSHLESS AND WITH ELECTRONIC VOLTAGE REGULATION TYPE AVR (MX321+PMG).

- 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.



Caption:



INCLUDED IN OPEN GENERATOR SETS





INCLUDED IN SILENT GENERATOR SETS

400/230V - 50Hz (1500 rpm)

CUMMINS QSK23-G3 | STAMFORD S6L1D-C

Bench

- Bench made of high-strength electro-welded steel.
- 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.  INCLUDED
- Without fuel tank in open models.  INCLUDED
* EXCEPTIONALLY, THE DGB 825 ME MODEL DOES INCLUDE A FUEL TANK.
- 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 (not included in open models)

- 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.
- **DSE BC2405 24V, 5A DeepSea Electronics battery charger.**
 - Designed to be permanently connected to the battery and maintain 100% of the charge. The charger switches to float mode when charging is complete.
- **Protections:**
 - 4-pole magnetothermic protection against overloads and short circuits.
 - Protection fuses for the control set.

Caption:



INCLUDED IN OPEN GENERATOR SETS



INCLUDED IN SILENT GENERATOR SETS

400/230V - 50Hz (1500 rpm)

CUMMINS QSK23-G3 | STAMFORD S6L1D-C

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*.
- Push button for emergency stop.
- Reinforced central lifting pole for soundproof generator sets and open generator sets up to 900 kVA power (from 1,000 kVA in the open version, lifting points on the bench are included).

8. Featured options available



If your generator set needs to operate as a power source connected to the electrical grid...

You will need a **remote-operated motorized transfer switch**. This way, both power sources will alternate their operation without you having to do anything.



If your generating set is going to be installed outdoors or subjected to high humidity conditions...

We recommend that you choose to manufacture it in stainless steel or add special treatments such as C5-M painting.



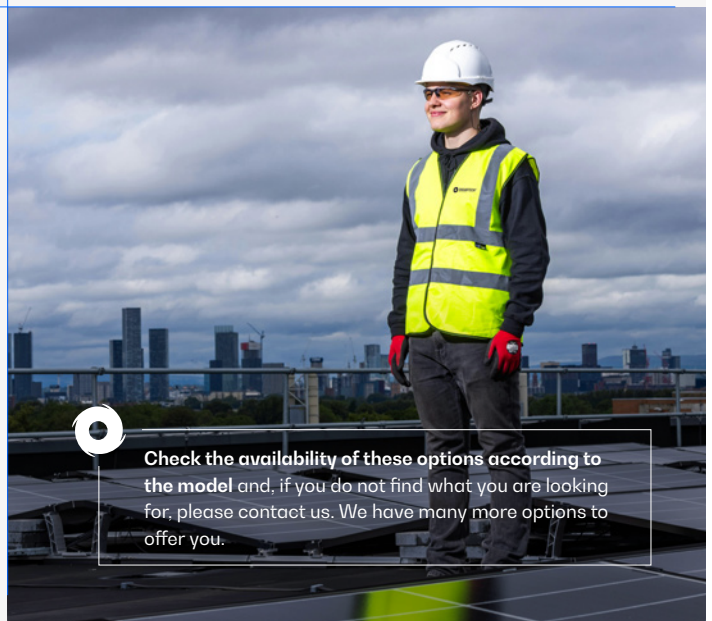
OPTION AVAILABLE IN SOUNDPROOF GENERATOR SETS



SEE OTHER SYNCHRONISATION
OPTIONS AVAILABLE

Do you need to scale up the power of your installation by synchronising several generating sets?

You can include island units and network sync with the Synchro Kit DSE 8610MKII (includes 4P motorisation + harting connectors + 10 meters of connecting cable between sets + ground contactor + PMG).



Check the availability of these options according to the model and, if you do not find what you are looking for, please contact us. We have many more options to offer you.

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

9. Even more options



Engine heating system



STAMFORD extra price

ENGINE - ALTERNATOR OPTIONS

- Engine heating system.
- Parker Filter.
- Rotary oil drain pump.
- 6-way fuel valve kit. 📄 AVAILABLE
- Super Silent kit (includes heavy mass alternator + high attenuation exhaust -50dB(A))
- Alternator anti-condensation heaters.
- Superior generator impregnation systems.
- AVR MX321 + PMG ± 0.5% STAMFORD.
- Alternator extra price (for units with MECC ALTE alternator).

MECHANICAL OPTIONS

- 995-liter fuel tank. 📄 AVAILABLE
- Retention bath (see change of dimensions).
- Sensor on retention bath (requires retention bath).
- SilentBlocks for levelling.
- Damping - anti-vibration springs.
- Complete stainless steel canopy (304). 📄 AVAILABLE
- Galvanized bench.

Non-standard RAL colour. 📄 AVAILABLE

Caption:



📄 AVAILABLE IN OPEN GENERATOR SETS



📄 AVAILABLE IN SILENT GENERATOR SETS

400/230V - 50Hz (1500 rpm)

CUMMINS QSK23-G3 | STAMFORD S6L1D-C



DSE 2157



DSE 334 network surveillance

COMMUNICATION OPTIONS

- DSE 2157 8 potential free output (requires DSE 7320MKII).
- DSE 2130 8 inputs (requires DSE 7320MKII).
- DSE 2548 8 LED diodes (requires DSE 7320MKII).
- DSE 855.
- DSE 890 webnet.
- DSE 7420 module.
- DSE 334 network surveillance.



Socomec motorised switchboard

POWER OPTIONS

- Differential protection.
- As an option, you can include a switch cabinet attached to the generating set.
- Socomec motorised switches: $\geq 125A$.

Caption:



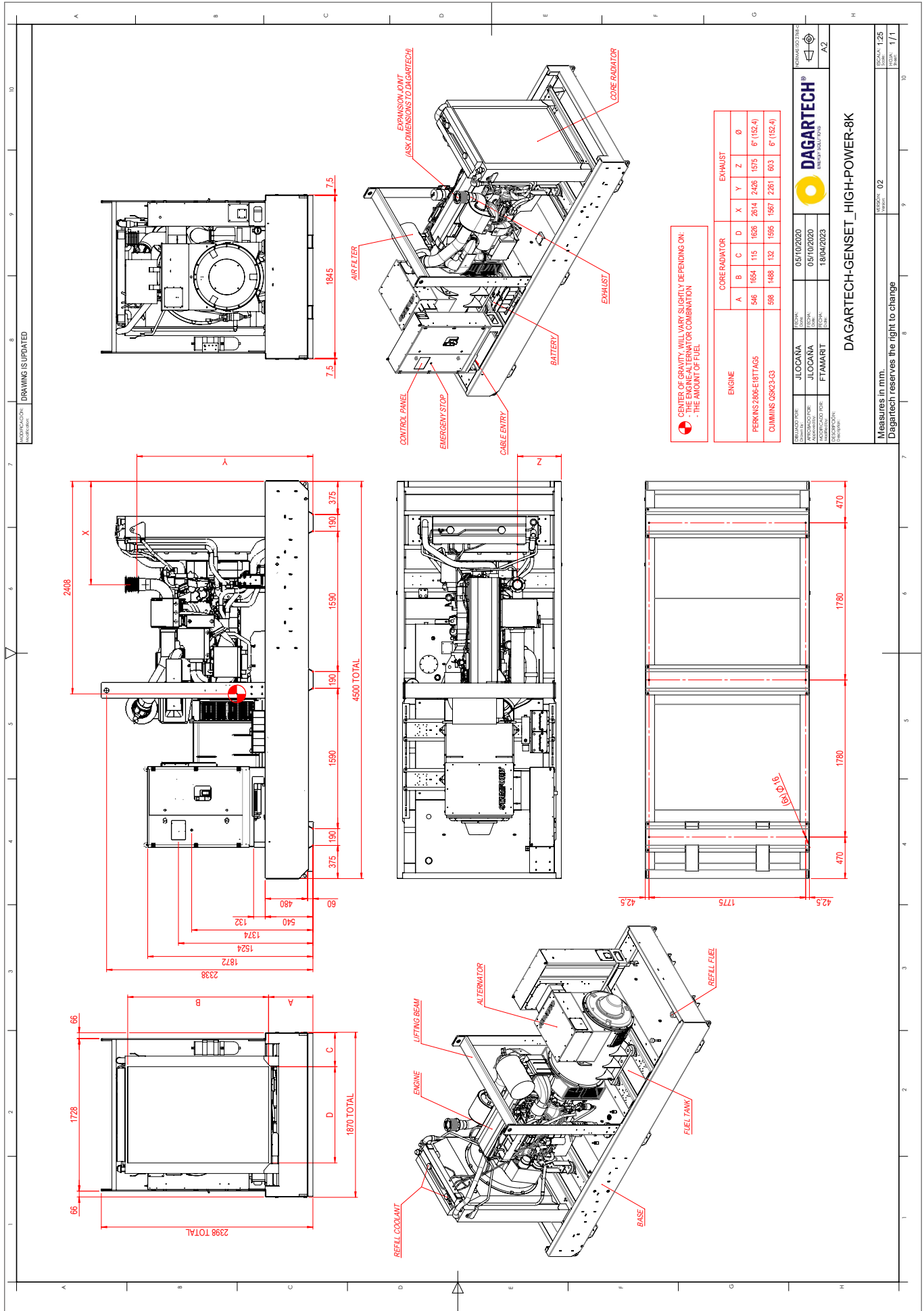
✓ AVAILABLE IN OPEN GENERATOR SETS



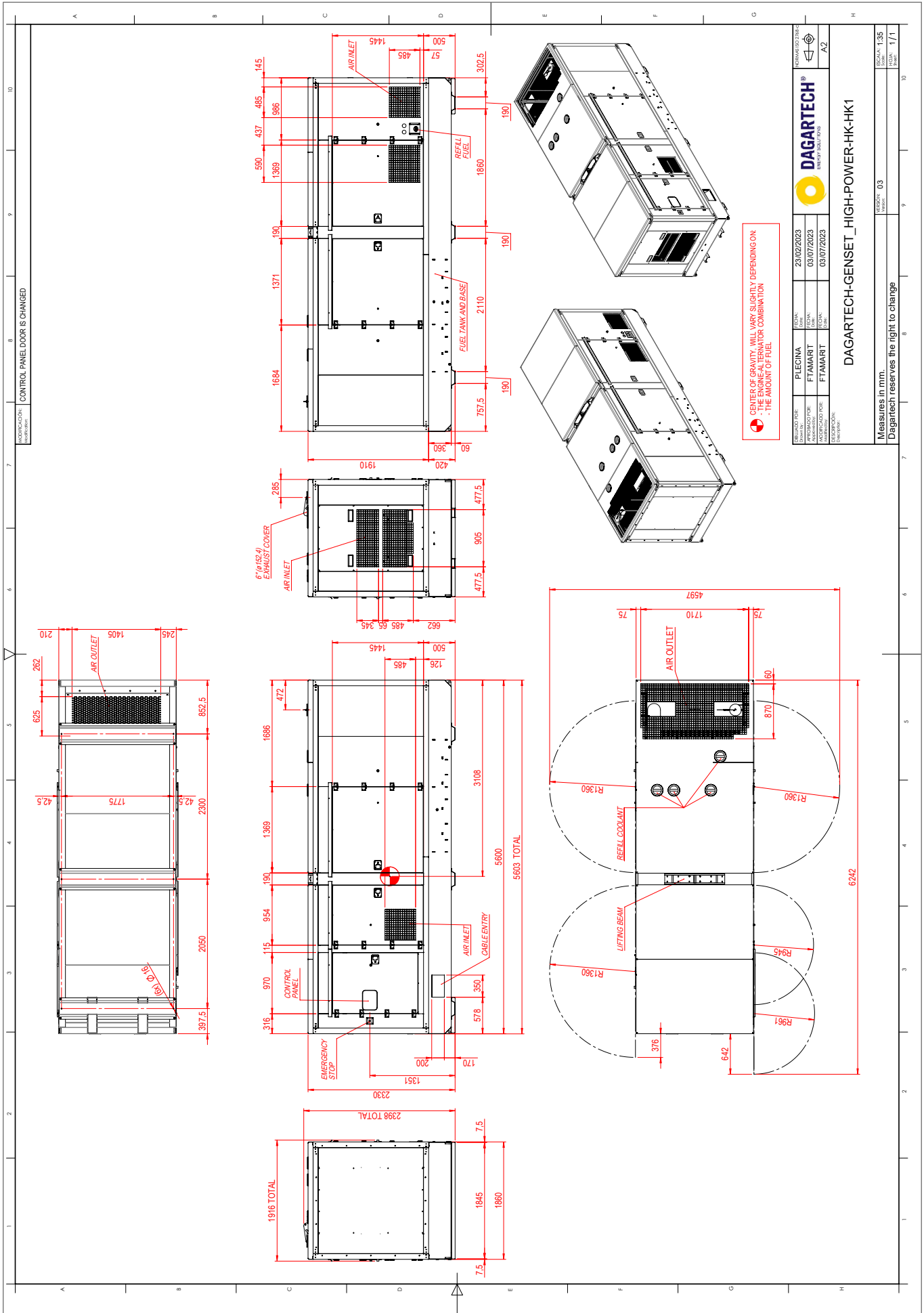
✓ AVAILABLE IN SILENT GENERATOR SETS

Installation plan DGC 860 ST - standard open model

V.1-2024. Last update: 10/05/2024. Technical plan for orientation purposes. The dimensions may vary depending on the equipment. Dagartech reserves the right to modify the data in this technical sheet without prior notice.



Installation plan DGCS 860 ST - standard silent model



⚠ CENTER OF GRAVITY WILL VARY SLIGHTLY DEPENDING ON:
- THE ENGINE/ALTERNATOR COMBINATION
- THE AMOUNT OF FUEL

REVISED FOR:	PLECIMA	FECHA:	23/02/2023	REVISADO POR:	FTAMART	FECHA:	03/07/2023
APROBADO POR:	FTAMART	FECHA:	03/07/2023	REVISADO POR:	FTAMART	FECHA:	03/07/2023
				DAGERTECH® ENERGY SOLUTIONS			
DAGARTECH-GENSET_HIGH-POWER-HK1							
Measures in mm. Dagartech reserves the right to change							
DRAWING NO: 1.35				SHEET: 03			
SCALE: 1/1				TOTAL: 1/1			



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