

Industrial Range

⚡ POWER (PRP / ESP):
200 / 220 kVA (160 / 176 kW)

📡 FREQUENCY
50Hz

⚡ VOLTAGE
400/230V

EU0 EMISSIONS LEVEL:
EU Stage 0

CE CERTIFIED



DGP 220 ST



DGPS 220 ST

1. General technical data

1.1. Version, dimensions and weight

Version	Open	Soundproofed
Dimensions	4K	DK1-P
L (mm)	2600	3412
W (mm)	1000	1162
H (mm)	1900	1900
Weight with liquids and without fuel (kg)	1850	2300

1.2. Main technical data

Engine	PERKINS 1106A-70TAG4	
Alternator	STAMFORD UCI274H	
Fuel	Diesel	
Type of execution	G2	
Control panel	DSE 6120 MKIII	
Tank (l)	430	425
Sound level-Lp(A) (dB(A)@1m) ¹	N/A (Indoor)	76
Sound level-Lp(A) (dB(A)@7m) ¹	N/A (Indoor)	68
Sound power-LW(A) (dB(A))	N/A (Indoor)	96

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	200 / 160	220 / 176	288,7	317,5

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).

2. Engine specifications

400/230V · 50Hz (1500 rpm)				DGP 220 ST		DGPS 220 ST	
2.1. General technical data of the engine	Version			Open		Soundproofed	
	Make and model			PERKINS 1106A-70TAG4			
	Emissions			EU Stage 0			
	r.p.m.			1500			
	Maximum ESP power (kWm)			191,3			
	Power PRP (kWm)			173,9			
	Fuel			Diesel			
	No. of cylinders			6			
	Cylinder capacity (c.c.)			7010			
	Compression ratio			16:1			
	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			430		425	
2.3. Consumption and autonomy				Open		Soundproofed	
	Consumption (l/h)			Autonomy (h)		Autonomy (h)	
	PRP	ESP		PRP	ESP	PRP	ESP
	50%	23,1	-	18,6	-	18,4	-
	75%	34,7	-	12,4	-	12,2	-
	100%	45,8	49,4	9,4	8,7	9,3	8,6
	2.4. Cooling system	Version			Open		Soundproofed
Fan flow (m³/min)			252		252		
Radiator back pressure (kPa)			0,1		0,1		
Fan power consumption (kW)			5				
Total refrigerant capacity (l)			21				
2.5. Lubrication system	Oil capacity (l)			16,5			
	Oil consumption (%)			< 0,10			
2.6. Intake system	Combustion air intake flow (m³/min)			13,2			

400/230V · 50Hz (1500 rpm)		DGP 220 ST	DGPS 220 ST
2.7. Starter system	Version	Open	Soundproofed
	No. of batteries	1	
	Battery characteristics	12V 60Ah	
	Start-up voltage (V)	12V	
	Common data for both versions		
2.8. Exhaust system	Exhaust gas flow (m³/min)	34,9 [PRP]	36,8 [ESP]
	Exhaust gas temperature (°C)	550 [PRP]	550 [ESP]
	Version	Open	Soundproofed
	Exhaust outside diameter (mm)	3,5" (Ø 88,9)	3,5" (Ø 88,9)
	Exhaust attenuation level (dB(A))	-10	-35
	Max. exhaust back pressure (kPa)	6	

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

3. Alternator specifications

3.1.
General
technical
data of the
alternator

Version	Open		Soundproofed	
Make and model	STAMFORD UCI274H			
No. of poles	4			
Insulation class	H			
No. of threads	12			
Mechanical protection index	IP23			
Voltage Regulator (AVR)	AS440			
Voltage regulation	±1%			
ESP power 27°C (kVA)	220			
Power PRP 40°C (kVA)	200			
No. of phases	3			
Power factor (cos φ)	0,8			
	Performance η (%)			
	50%	75%	100%	110%
	93,9%	93,8%	93,3%	93,0%

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)

DGP 220 ST

DGPS 220 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.
- 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 INDUSTRIAL 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**.
- 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 9150 12V, 3A
-------	------------------

Protections:

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

6.2. Circuit breaker

Model	Schneider EasyPact 400A 4P
-------	----------------------------

6.3. Control module



1. Transfer to the generator (manual mode)
2. Start engine (manual mode)
3. Silence alarm
4. Automatic mode
5. Test mode

6. Manual mode
7. Genset stop
8. MAIN NETWORK transfer (manual mode)
9. Navigation keyboard
10. Main status and instrument display

Model	DSE 6120 MKIII
-------	----------------

The DSE 6120 MKIII is an Automatic Mains Failure (AMF) control module designed for use in a wide range of applications with diesel or gas generators. Upon detecting a power supply interruption, it automatically starts the generator and shuts it down once the mains power is restored. It also allows operation in manual and test modes.

This module allows monitoring of multiple engine parameters and displays alerts, statuses, and alarms on a backlit LCD screen. It is compatible with both electronic (CAN) and non-electronic engines, offering configurable inputs and outputs to suit various needs. Additionally, it includes USB communication and allows expansion via DSENet®.

Its configuration is straightforward and can be done using the DSE Configuration Suite software or directly from its front panel. It also features advanced functionalities such as event and performance monitoring, remote communications, and PLC programming capabilities.

The module dimensions are 216 mm x 158 mm x 43 mm, with a panel cutout of 184 mm x 137 mm and a maximum panel thickness of 8 mm. It is an ideal solution for applications that require reliable control and monitoring of the generator.

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)

PERKINS 1106A-70TAG4 | STAMFORD UCI274H

6.3. Control module


Standard ✓

DSE 6120 MKIII


Option □

DSE 7320 MKII

Model

Operating modes

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

Module configuration options

PC	✓	✓
----	---	---

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
- ℹ 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)

PERKINS 1106A-70TAG4 | STAMFORD UCI274H

6.3. Control module


Standard ✓

DSE 6120 MKIII


Option □

DSE 7320 MKII

Model

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	✓	✓
Low load operation warning	□	□

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.

6.3. Control module


Standard ✓

Option □

Model	DSE 6120 MKIII	DSE 7320 MKII
Communications		
RS232	✗	✓
RS485	✗	✓
USB communication port	✓	✓
Modbus IP	□ DSE 855/890/891	□ DSE 855/890/891
Modbus RS 485	□ DSE 855/890/891	✓
PC Software (Mimic)	✓	✓
GSM/GRPS MODEM	□ DSE 890	□ DSE 890
Remote display < 1km	✗	□ DSE 2520
Remote monitoring	□ DSE 855/890	□ DSE 855/890
Input expansion	□ DSE 2130 8 inputs	□ DSE 2130 8 inputs
Input expansion (Thermocouple)	□ DSE 2133	□ DSE 2133
Output expansion	□ DSE 2152/2157 8 inputs	□ DSE 2152/2157 8 inputs
Status LED expansion	□ DSE 2548	□ DSE 2548
SNMP protocol	□ DSE 892	□ DSE 892
Services		
Configurable alarm history	250	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	□ 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)

PERKINS 1106A-70TAG4 | STAMFORD UCI274H

7. Detailed supply scope

Engine

PERKINS 1106A-70TAG4, EU STAGE 0, 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.
- 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 12V starter, original elements from the engine manufacturer.
- Protection from hot and moving parts.

Alternator

STAMFORD UCI274H ALTERNATOR OF 12 WIRES AND 4 POLES, BRUSHLESS AND WITH ELECTRONIC VOLTAGE REGULATION TYPE AVR (AS440).

- 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)

PERKINS 1106A-70TAG4 | STAMFORD UCI274H

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.
- 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 6120 MKIII 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 9150 12V, 3A 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.

400/230V · 50Hz (1500 rpm)

PERKINS 1106A-70TAG4 | STAMFORD UCI274H

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 pole centrally-mounted (Optional for models below 90kVA in open version).

8. Featured options available



Monitor and control your generating set via PC or mobile phone with the DSE 890 module

Including this module, **the device connects to the switchboard server** via ethernet or GPRS (GSM or 3G) connection. **It also includes the GPS** function (satellite tracking).

A DSE GSM antenna is required for the correct operation of the DSE890.



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.



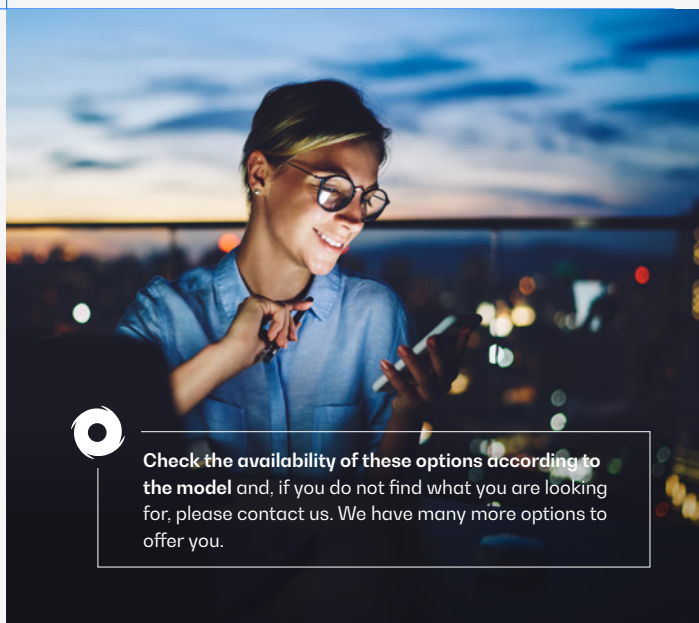
✓ OPTION AVAILABLE IN SOUNDPROOF GENERATOR SETS



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.

400/230V · 50Hz (1500 rpm)

PERKINS 1106A-70TAG4 | STAMFORD UCI274H

9. Even more options



24 hour tank


 External ROTH tanks
DUO SYSTEM

AUTONOMY OPTIONS

Increase the autonomy of your generator up to 48 hours, including special tanks

You can choose between different integrated tanks to increase the autonomy of the unit up to 48 hours of operation. You can also incorporate automatic fuel transfer systems for supply from external tanks.

— External tanks:

- External tank 400 l (ROTH DUO SYSTEM).
- External tank 620 l (ROTH DUO SYSTEM).
- External tank 1,000 l (ROTH DUO SYSTEM).
- External tank 1,500 l (ROTH DUO SYSTEM).



Engine heating system



Fuel particle separator filter

ENGINE - ALTERNATOR OPTIONS

You can choose between different integrated tanks to increase the autonomy of the unit up to 48 hours of operation. You can also incorporate automatic fuel transfer systems for supply from external tanks.

- Electronic engine regulation/management (for models with mechanical regulation).
- Engine heating system.
- Fuel particle separator filter.
- Manual oil drainage pump.
- 6-way fuel valve kit.
- Super Silent kit (includes heavy mass alternator + high attenuation exhaust -50dB(A))
 AVAILABLE
- Alternator anti-condensation heaters.
- Superior generator impregnation systems.
- AVR MX341 + PMG $\pm 1\%$ STAMFORD.
- AVR MX321 + PMG $\pm 0.5\%$ STAMFORD.

Caption:



AVAILABLE IN OPEN GENERATOR SETS



AVAILABLE IN SILENT GENERATOR SETS

400/230V · 50Hz (1500 rpm)

PERKINS 1106A-70TAG4 | STAMFORD UCI274H



Complete stainless steel hood (304)

MECHANICAL OPTIONS

- Retention bath (see change of dimensions).
- Sensor on retention bath (requires retention bath).
- Lapas - SilentBlocks for levelling.
- Damping - anti-vibration springs.
- Complete stainless steel canopy (304).  AVAILABLE
- Galvanized bench.
- Non-standard RAL colour.  AVAILABLE



DSE 2157



DSE 334 network surveillance

COMMUNICATION OPTIONS

- DSE 7320 MKII control card extra price (for models with the DSE 6020 MKII control board in the standard scope of supply).
- 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.
- Switching with Schneider contactors. 25 to 125 A.
- Socomec motorised switches: $\geq 125A$.

Caption:



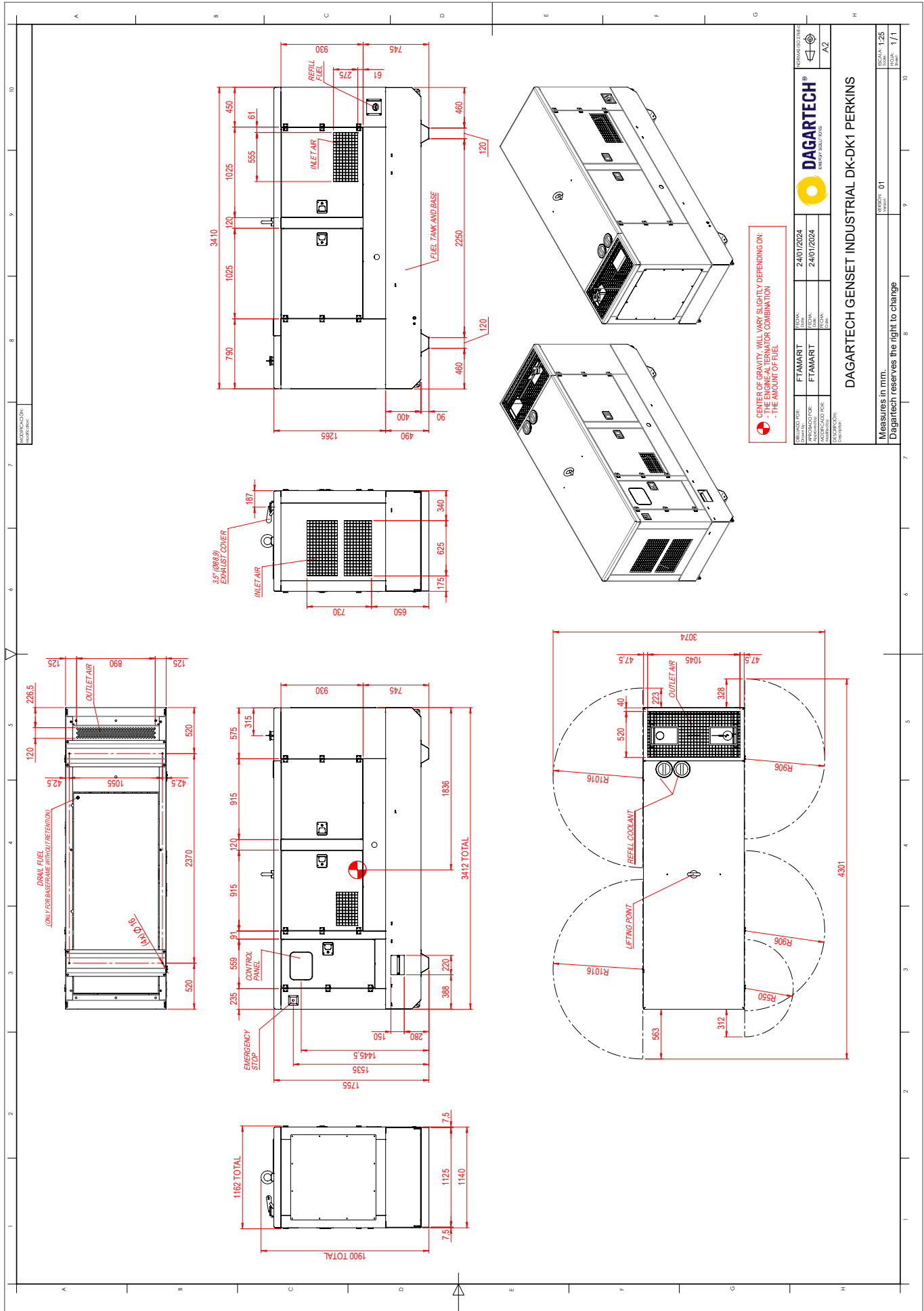
AVAILABLE IN OPEN GENERATOR SETS



AVAILABLE IN SILENT GENERATOR SETS



Installation plan DGPS 220 ST - standard silent model





¿Necesitas el plano de instalación de la **versión 24 horas**?

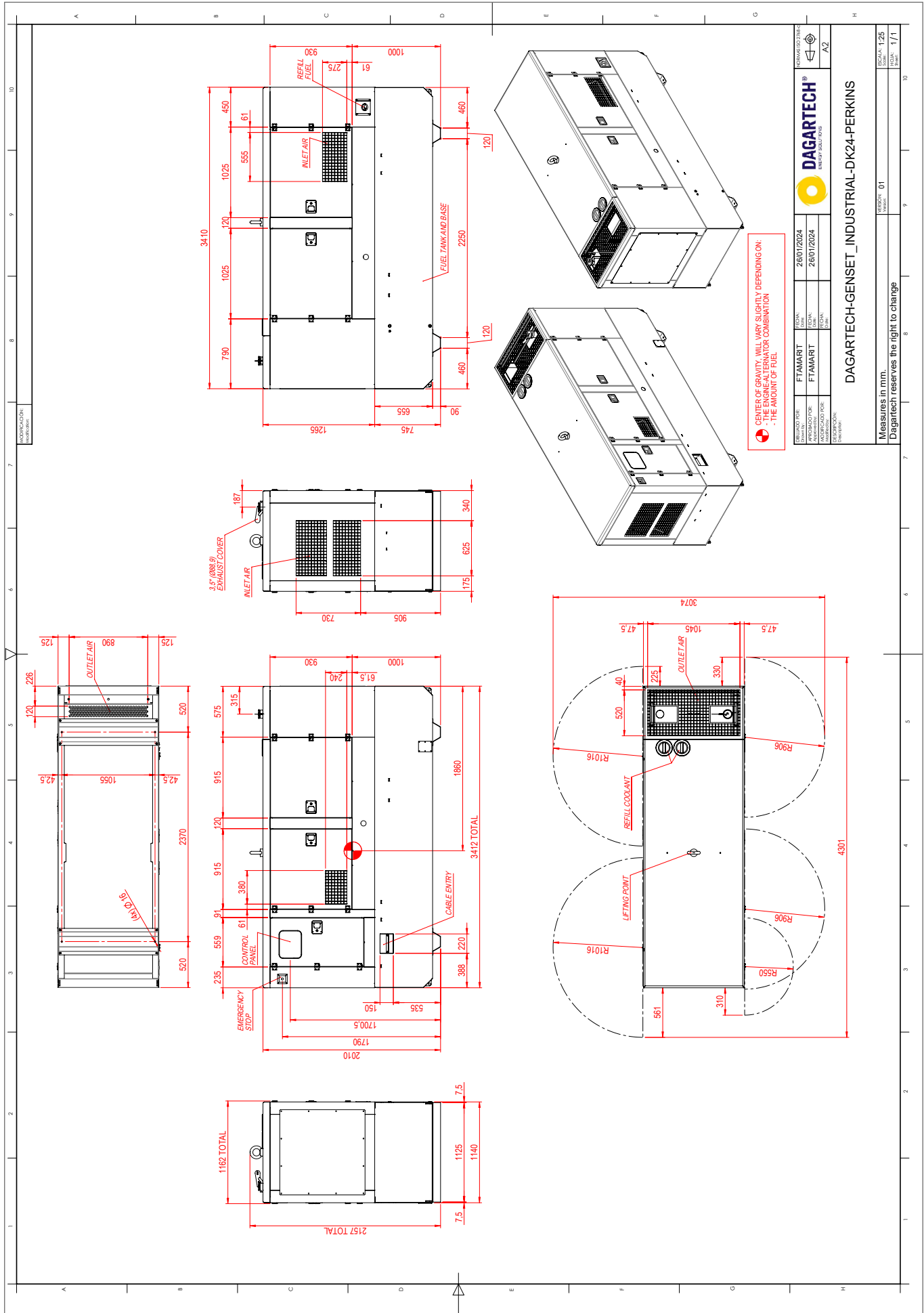
Do you need the technical drawing for the **24-hour version**?

Avez-vous besoin du plan d'installation pour la **version 24 heures** ?

Necessita de plano de instalação em versão com depósito de **48 horas**?

Brauchen Sie die Installationszeichnung für die **24-Stunden-Version**?

T +34 976 141 655
info@dagartech.com





DAGARTECH®
CUSTOM ENERGY SOLUTIONS

info@dagartech.com

T +34 976 141 655

**BESPOKE
ENERGY
SOLUTIONS**

dagartech.com