

Emergency Balance Range

POWER (PRP / ESP): 156 / 172 kVA (125 / 138 kW)











1. General technical data

1.1. Version, dimensions and weight

Version	Open	Soundproofed
Dimensions	4K1B	DK1B
L (mm)	2650	3419
W (mm)	1100	1122
H (mm)	2005	2004
Weight with liquids and without fuel (kg)	1690	2090

1.2. Main technical data

Engine	VOLVO T	AD731GE	
Alternator	MECCALTE	ECP34 2L4 C	
Fuel	Die	esel	
Type of execution	G	G3	
Control panel	DSE 60	DSE 6020 MKII	
Tank (I)	344	344	
Sound level-Lp(A) (dB(A)@1m) ¹	N/A (Indoor)	81	
Sound level-Lp(A) (dB(A)@7m) ¹	N/A (Indoor)	74	
Sound power-LW(A) (dB(A))	N/A (Indoor)	97	

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	156 / 125	172 / 138	225,2	248,3

²PRP: 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).

* Confirm the height of the equipment. This value may vary depending on whether a lifting beam is included in the standard scope of supply.





2. Engine specifications

Type of engine/injection/suction

400/230V · 50Hz (1500 rpm)		BGV 170 ME	BGVS 170 ME
2.1. Version General technical data of the engine Wake and model Emissions	Version	Open	Soundproofed
	Make and model	VOLVO T	AD731GE
	Emissions	EU Stage II, TA-luft	
	r.p.m.	150	00
	Maximum ESP power (kWm)	14	8
	Power PRP (kWm)	13	4
	Fuel	Die	sel
	No. of cylinders	6	
	Cylinder capacity (c.c.)	7150	
	Compression ratio	18	<u> 1</u>
	Cooling system	Water-	cooled
	Type of regulation	Mech	anical

2.2. Fuel

Type of fuel Diesel Tank capacity 344 344

2.3. Consumption and autonomy

			Oμ	en	Sound	proofed
		mption (h)		nomy h)	Auto (I	nomy n)
	PRP	ESP	PRP	ESP	PRP	ESP
50%	17,9	-	19,3	-	19,3	-
75%	25,8	-	13,3	-	13,3	-
100%	34,3	37,9	10	9,1	10	9,1

Diesel / direct / Turbocharged

Cooling system

Version	Open	Soundproofed
Fan flow (m³/s)	2,1	2,1
Radiator back pressure (Pa)	150	150
Fan power consumption (kW)	5,5	
Total refrigerant capacity (I)	23,8	
Oil capacity (I)	17	7
Oil consumption (I/h)	0,	.1

system 2.6.

Intake system

Lubrication

2.5.

Combustion air intake flow (m³/min) 10,7



400/230V · 50H≥ (1	500 rpm)	BGV 170 ME	BGVS 170 ME
2.7. Starter system	Version	Open	Soundproofed
•	No. of batteries	1	<u> </u>
	Battery characteristics	12V 6	60Ah
	Start-up voltage (V)	12	VV

2.8. Exhaust system

	Common data for both versions	
Exhaust gas flow (m³/min)	27,5 [PRP]	30,2 [ESP]
Exhaust gas temperature (°C)	520 [PRP]	540 [ESP]
Version	Open	Soundproofed
Exhaust outside diameter (mm)	3" (Ø 76,2)	3" (Ø 76,2)
Exhaust attenuation level (dB(A))	-10	-25
Max. exhaust back pressure (kPa)	5	

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	MECCALTE I	ECP34 2L4 C
No. of poles		1
Insulation class	ŀ	1
No. of threads	1:	2
Mechanical protection index	IP23	
Voltage Regulator (AVR)	DSR	
Voltage regulation	±1%	
ESP power 27°C (kVA)	181	
Power PRP 40°C (kVA)	165	
No. of phases	3	
Power factor (cos φ)	0	8
	Performo	unce n (%)

Pertormance η (%)			
50%	75%	100%	110%
94,1%	93,6%	92,9%	92,5%

i 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) BGV 170 ME BGVS 170 ME

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



- *i* 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.
- Attenuation silencer -25dB(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 EMERGENCY BALANCE 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 **coating with noise-insulating material** (polyurethane foam with outer veil). We also incorporated a **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 **ASTIM 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 Chint 250A 4P

6.3. Control module



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

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

Model DSE 6020 MKII

DSE 6020 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 USB communication ports, 4 configurable digital inputs, 3 analog inputs, 6 configurable outputs, emergency stop button, 8-35 V battery charger.

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

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





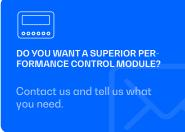
VOLVO TAD731GE | MECCALTE ECP34 2L4 C

6.3. Control module	****	· · · · · · · · · · · · · · · · · · ·
	$\mathbf{Standard} \mathbf{ \odot}$	Option •
Model	DSE 6020 MKII	DSE 7320 MKII
Operating modes		
STOP mode	\otimes	\otimes
MANUAL mode	\otimes	\otimes
TEST mode	\otimes	\otimes
AUTO mode	\otimes	\otimes
Module configuration options		
PC	\otimes	\otimes
Generator readings		
Generator voltage (F-F)	\otimes	\otimes
Generator voltage (F-N)	\otimes	\otimes
Generator current (A)	\otimes	\otimes
Generator frequency	\otimes	\otimes
Generator load F-N (kW / kVA / kVAr)	\otimes	\otimes
Total generator load (kW / kVA / kVAr)	\otimes	\otimes
Average generator power factor	\otimes	\otimes
Accumulated generator load (kW, kVAh, kWh, kVAh)	\otimes	\otimes
Network readings		
Network voltages (ph-N)	\otimes	\otimes
Network voltages (ph-ph)	\otimes	\otimes
Grid frequency	\otimes	\otimes
Network current (A)	•	•
Network load ph-N (kW / kVA / kVAr)	•	•
Total network load (kW / kVA / kVAr)	•	•
Engine readings		
Coolant temperature	\otimes	\otimes
Oil pressure	\otimes	\otimes
Engine fuel level	\otimes	\otimes
Engine battery volts	\otimes	\otimes
Engine speed	\otimes	\otimes
Engine run time	\otimes	\otimes

Caption	
	OptionalConsult
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.





6.3.

VOLVO TAD731GE | MECCALTE ECP34 2L4 C

Control module Standard & Option • DSE 6020 MKII DSE 7320 MKII Model **Engine protections** \otimes \otimes High water temperature \otimes \otimes Low oil pressure \otimes \otimes Low water level \otimes \otimes Fuel reserve by sensor Second fuel tank control \otimes \otimes Shutdown failure \otimes 8 \otimes Battery voltage failure \otimes \otimes 8 Battery charge alternator failure \otimes \otimes Overspeed Underfrequency \otimes \otimes Failure to start \otimes \otimes \otimes \otimes Emergency stop Maintenance notice \otimes \otimes Maintenance Alert \otimes \otimes **Alternator protections** \otimes \otimes High frequency \otimes \otimes Low frequency High voltage \otimes \otimes Low voltage \otimes \otimes \otimes Short circuit • Asymmetry between phases Incorrect phase sequence \otimes \otimes Reverse power X Breaker Trip 4 poles • • **((**/ Overpressure alarm Counters Hour meter \otimes \otimes \otimes \otimes Kilowatt meter

Caption	
	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.



Starter counter

(V)

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DAGARTECH®

6.3. Control module

Model

RS232

RS485

Communications

GSM/GRPS MODEM

Output expansion SNMP protocol



Standard &

 \otimes



DSE 6020 MKII	D

Option	•
SF 7320	МКП

×	\otimes
×	\otimes



USB communication port	
Modbus IP	[
Modbus RS 485	[
PC Software (Mimic)	

■ DSE 855/890/891 ■ DSE 855/890/891 ■ DSE 855/890/891 \otimes

 \otimes ■ DSE 890

 \otimes ■ DSE 890

Remote display < 1km Remote monitoring Input expansion

× ■ DSE 2520 ■ DSE 855/890 ■ DSE 855/890

X

● DSE 2130 8 inputs

● DSE 892

● DSE 2157 8 inputs

50 8

•

Services

Configurable alarm history
External start
Start-up inhibition
Network Failure Start
Activation of group counter
Activation of grid and group counter

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 \otimes \otimes Symbols ■ DSE 892

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■ DSE 890

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Special applications

Multilingual

Control of fuel transfer

Forced group operation

Motor temperature control

Free programmable alarms

Free programmable outputs

Group start function in test mode

GPS localisation
Calendar scheduler
DSE configuration suite via PC
Front panel module configuration with PIN
Alternative work
Programmable PLC

■ DSE 890

8

 \otimes

X

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Caption

Optional

(i) Consult X Not available

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 PER-FORMANCE CONTROL MODULE?

Contact us and tell us what

Power save mode

Alternative configurations

Dummy load control / load shedding



VOLVO TAD731GE | MECCALTE ECP34 2L4 C

7. Detailed supply scope

Engine

VOLVO TAD731GE, EU STAGE II, TA-LUFT, 1500 RPM, WATER-COOLED, WITH MECHANICAL REGULATION ENGINE.

- 6-cylinder inline Diesel engine, 4-stroke with Mechanical 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
- Residential exhaust silencer of -25 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 disconnector and load alternator driven by the 12V starter, original elements from the engine manufacturer.
- Protection from hot and moving parts.

Alternator

MECCALTE ECP34 2L4 C ALTERNATOR OF 12 WIRES AND 4 POLES, BRUSHLESS AND WITH ELECTRONIC VOLTAGE REGULATION TYPE AVR (DSR).

- With IP23 protection class and H insulation class.
- Brushless 4-pole alternator. Robust mechanical structure with easy access to connections and components. Hinsulation 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.





✓ INCLUDED IN OPEN GENERATOR SETS







VOLVO TAD731GE | MECCALTE ECP34 2L4 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.
- 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 coating with noise-insulating material (polyurethane foam with outer veil).
- 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 6020 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 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.





VOLVO TAD731GE | MECCALTE ECP34 2L4 C

7. Detailed supply scope

Other equipment

- Interior fuel filling nozzle.
- Tropicalised Radiator for work at 50 °C*
- Prepared for maintenance intervals every 500 hours*.
- Push button for emergency stop.
- Reinforced pole centrally-mounted from 90 kVA (Optional for models below 90kVA).

8. Featured options available



Kit 1: Network failure

Adding an **engine heater** to your generator will ensure that your genset starts smoothly in the event of any failure in the electrical network, and without cold or moisture becoming an issue.



The readings and alarm kit is included within the standard supply scope of the equipment starting from 275kVA of power.

Kit 2: Readings and alarm¹

Your generator can provide you with very useful information in the event of any malfunction, maintenance work, or simply during its operation. If this is an important aspect for you, do not hesitate to include this kit in its equipment, which includes:

- Radiator level alarm sensor.
- Oil pressure reading sensor.
- Temperature reading sensor.



Kit 3: Exhaust installation

If you need a versatile solution for venting gases from your installation to the outside, choose this kit, equipped with 2 clamps and 3 meters of galvanized steel flexible hose.



AVAILABLE FOR OPEN GENERATOR SETS



 * Consult the specification according to the model. 1 Maintenance intervals may vary depending on the climate and working conditions.

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



DAGARTECH®

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 I (ROTH DUO SYSTEM).
- External tank 620 I (ROTH DUO SYSTEM).
- External tank 1,000 I (ROTH DUO SYSTEM).
- External tank 1,500 I (ROTH DUO 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).
- Fuel particle separator filter.
- Manual oil drainage pump.
- 6-way fuel valve kit.
- Alternator anti-condensation heaters.
- Superior generator impregnation systems.
- AVR MX341 + PMG ± 1% STAMFORD.
- AVR MX321 + PMG ± 0.5% STAMFORD.
- Alternator Extra Prive (for generator sets with MECC ALTE alternator).

Caption:









VOLVO TAD731GE | MECCALTE ECP34 2L4 C



MECHANICAL OPTIONS

- Retention bath (see change of dimensions).
- Sensor on retention bath (requires retention bath).
- SilentBlocks for levelling.
- Damping anti-vibration springs.
- Central lifting beam (for generators < 85kVA).
- Non-standard RAL colour.



DSF 2157



DSE 334 network surveillance

COMMUNICATION OPTIONS

- DSE 7320 MKII control card extra price (for models with the DSE 6020 MKII control card 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.



POWER OPTIONS

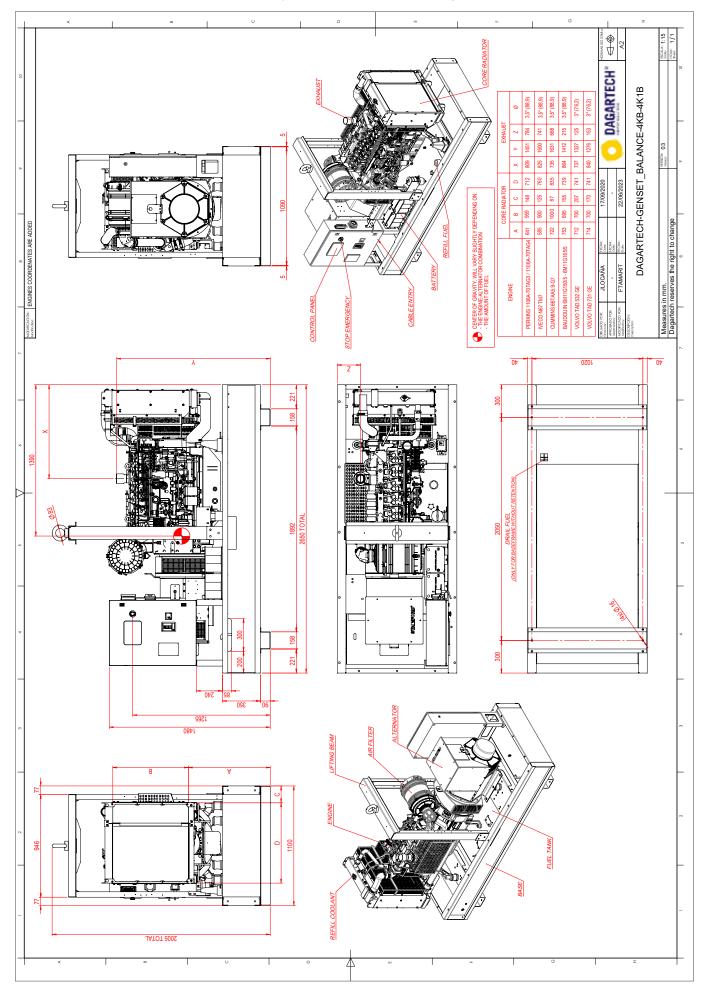
- Differential protection.
- As an option, you can include a switch cabinet attached to the generating set.
- Switching with Schneider contactors. 25 to 125 A.
- Socomec motorised switches: ≥ 125A.

Caption:









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

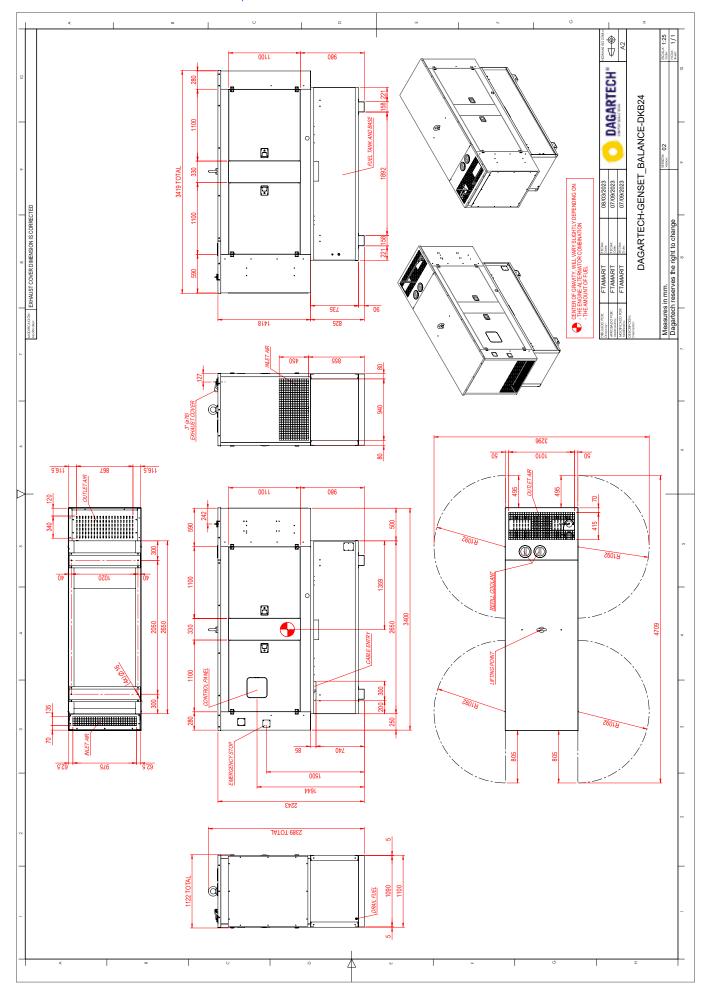
Do you need the technical drawing for the **24-hour version**?

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

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