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USER AND MAINTENANCE MANUAL

SafeFAST Premium Touch

ADDITIONAL INFORMATION

GUARANTEE

The guarantee for SafeFAST Premium S/D Biohazard vertical laminar airflow cabins is 12 months from the date of the invoice.

In addition to the specifically stated cases of improper use of the cabin, the warranty offered by Faster S.r.l. also excludes certain improper uses described in the instruction manual, the most important of which are listed again below:

- installation in a location that does not comply with the manufacturer's recommendations.
- incorrect supply voltage
- poor earthing
- the use of chlorine or its derivatives, incompatible with stainless steel, to clean the cabin,
- tampering or modifications made by the customer.
- tampering with the cabin with any type of tool
- incorrect connection between the electrical socket and the power cable, incorrect connection between the gas tap or solenoid valve and the gas network

ADDRESS FOR TECHNICAL ASSISTANCE

For service, please contact:

Official distributor

SZABO-SCANDIC HandelsgmbH
Quellenstraße 110, A-1100 Wien
T. +43(0)1 489 3961-0
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SZABO SCANDIC
Part of Europa Biosite

Intended users: This user manual is written for the end user and provides information on the SafeFAST Premium fume hood, including instructions for installation and operation; it is recommended that you read the manual in its entirety before using the instrument

CONTENT

1 GENERAL INFORMATION

SafeFAST Premium personal protective equipment is designed to protect both the material to be handled from contamination and the operator and environment from the risks of microbial contamination.

The filtered air passing through the main HEPA filter ensures a laminar air flow over the work surface, thanks to its uniform perforation. The system is designed to create a protective barrier and prevent exchanges between the inside air potentially biologically contaminated and the outside.

SafeFAST Premium cabinet are Biohazard Class II personal protective equipment, according to the definitions now adopted by all major international standards (e.g. EN 12469:2000). Suitable for handling micro-organisms class CDC-2/3, DHSS-B2/B1 group 1,2,3 as per D.L. 81/08 "Safety in the workplace" and wherever product-personal-environment cross-protection is required.

Particularly suitable for applications such as:

- Handling of aetiological agents with known pathogenicity in humans and animals.
- Presence of high concentrations of biological materials.
- Presence of agents that may cause genetic alterations or synergistic activities with other materials.
- Oncogenic viruses.

Do not handle products on the ground at the entrance to the work area but in the centre of the table.

Cabin performance is detailed in the TEST CERTIFICATE below, in accordance with the requirements of:

- EN 12469:2000

In addition, SafeFAST Premium enclosures meet the harmonised EN 61010-1 and EN 61326 standards according to the applicable European CE marking directives.

SafeFAST Premium complies with the above-mentioned standards ONLY if the instruments connected to the electrical socket located inside the work chamber are marked 'CE' or otherwise comply with the above-mentioned standards designed to prevent any electromagnetic interference.

All FASTER cabins are equipped with high insertion loss filters.

Faster cabins can be provided:

with support table: For reasons of stability, it is necessary to follow the instructions in this manual, in particular paragraph 4B. (SYSTEM AND PERFORMANCE CHECKS) and paragraph 5 (LIMITATIONS).

without a support table: In this case, the customer must place the booth on a table or suitable support surface to ensure its stability under all operating conditions, in compliance with all safety regulations currently in force.

Faster s.r.l. cannot be held liable for malfunctions, damage to persons or property due to non-compliance, poor or absent maintenance or improper use of the cabin.

2 SAFETY SYMBOLS

Caution: risk of danger to the user.

Caution: risk of electric shock

Warning: biohazard

Warning: risk of UV radiation.

3 INSTALLATION

3.A INSTRUCTIONS AND CHECKS ON DELIVERY

Considering the critical nature of the use of the SafeFAST Premium cabinet and the need to keep it in optimum condition, installation is very important.

SafeFAST Premium Biohazard cabinets are positioned on a pallet, wrapped in an extensible film and contained in a package of multi-layer strapped cardboard.

After placing the cabinet in its site of use, opened the package and removed the extensible film, check that the equipment has not suffered any dents or scratches due to transport or improper handling of the package.

In case of any further transport, packing and storage by the user after the initial period of use (e.g.: change of laboratory or factory), contact the technical assistance service at SZABO-SCANDIC for more accurate and precise instructions or for assistance by specialized techicians.
SafeFAST Premium Biohazard cabinets, with or without package, should be always located in a room sheltered from rain.

3.B INSTRUCTIONS FOR TRANSPORT, PACKAGING AND STORAGE

CAUTION: Disconnect power and sterilise the unit before performing any of the following operations.

The following instructions are essential if the end user needs to transport, pack or store a cabinet after a period of routine use (e.g. laboratory/plant relocation):

- Disconnect tubes for gas/vacuum.
- If the cabinet exhausts to the outside of the building or is connected to the intake channel of the air treatment system, remove the connection tube from the cabinet to the outside or cabinet to the air treatment system. Be careful not to damage or cover with dust (or any other material) the exhaust filter of the cabinet.
- Remove the work surface and cover it with a protective film.
- Close the cabinet front opening.

If the cabinet is to be moved from one laboratory to another within the same building:

- on a table with wheels: it is sufficient to put the cabinet on the table; do not place it on one side or on the back panel.
- by a forklift: put the cabinet on a pallet to ensure good stability and to protect the basin under the cabinet and the front window against damage in transit.

Take care not to damage protruding parts (e.g.: gas/vacuum taps, exhaust duct) when passing through doors/windows.

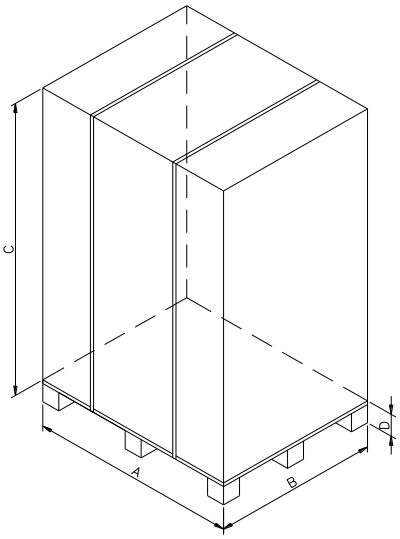
If the cabinet is be kept temporarily unused at final destination ,cover the cabinet itself with a protective film (pluriball or expansible film) taking care to protect also the exhaust filter, especially from dust.

We recommend extreme caution in long-distance moving carried out by forwarding agents (e.g. change of address): we suggest that you use the original packaging supplied by the manufacturer with the cabinet.

Packaging features

Wooden pallets of the following dimensions:
SafeFAST Premium 209: 113 x 90 x .12 cm
SafeFAST Premium 212: 145 x 90 x 12 cm
SafeFAST Premium 215: 175 x 90 x 12 cm
SafeFAST Premium 218: 205 x 90 x 12 cm

Cardboard base to be placed on the pallet of the following dimensions:
SafeFAST Premium 209: 110 x 87x1 cm (thick)
SafeFAST Premium 212: 142 x 87 x 1 cm (thick)
SafeFAST Premium 215: 172 x 87x1 cm (thick)
SafeFAST Premium 218: 202 x 87x1 cm (thick)



Bubble wrap to wrap and protect the booth from dust.
Outer carton of the following dimensions:

model	A	B	C	D
SafeFAST Premium 209	1130	900	1600	120
SafeFAST Premium 212	1450	900	1600	120
SafeFAST Premium 215	1750	900	1600	120
SafeFAST Premium 218	2050	900	1600	120

Steel straps and clips
During transport, take care to keep the packaging upright (i.e. with the pallet at the bottom).
The cabin (with or without packaging) must be stored in a place with the following environmental conditions:

- Minimum temperature 0°C
- Maximum temperature 70°C
- Maximum humidity: 90%

3.C INSTALLATION REQUIREMENTS

CAUTION: Disconnect power and sterilise the unit before performing any of the following operations.

Install the cabinet away from drafts and heat sources (radiators, ventilators/convectors), to ensure proper functioning. For instance, in a small room (<30 m^3), if an exhaust duct is used to expel air outside the building, we recommend the installation of a grill in the room to provide an air supply equal at least to the quantity entering the front of the cabinet to create the protective barrier.

Install the cabinet in a well-ventilated room with a low degree of dust.

The distance between the cabinet and the exhaust system (if present) should be as short as possible.

Place the cabinet away from doors and windows, which may cause malfunctions.

Place the cabinet in places where there is little human traffic.

The exhaust system should be installed on the roof or on a wall or through a window. Otherwise, it can be connected to a chimney.

The door of the room should be in such a position as to prevent drafts.
Min. temperature: 5 °C
Max. temperature: 40 °C
Max. humidity: 80% at 31°C, linear drop in relative humidity down to 50% relative humidity at 40°C.
Pollution degree II

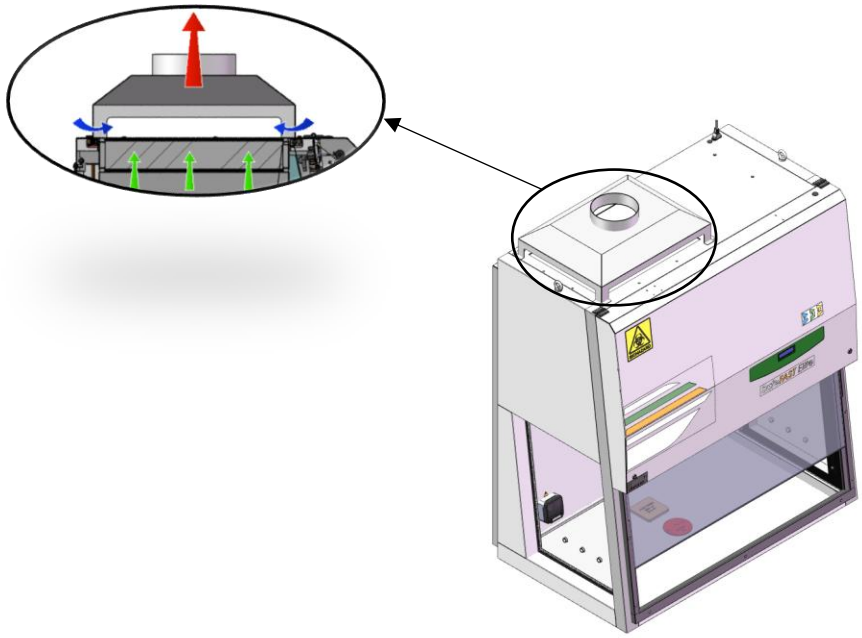
The exhaust duct (optional), located on top of the cabinet, should be connected to the outside of the building, in which case an anti-blowback shutter should also be installed on the exhaust flange, as recommended by EN 12469.

Alternatively, it is possible the connection with the conditioning plant, but the air must not be recycled.

The maximum length of the ∅ 200mm exhaust hard duct should not exceed 25 linear meters; the anti-blowback system and/or a thimble connection prevent air from flowing back into the extraction channel.

Before connecting the cabinet to the mains power supply, check the necessary voltage and power indicated on the plate near the power cable. The room must be equipped with an earth connection and connections to the gas and/or vacuum networks, and an air exhaust duct must be installed outside the building.

Example of Thimble



LEGEND:

1. Exhaust air from the cabinet.
2. Air from the environment.
3. Air flow rate (100÷ 200 m^3/h more than the cabin exhaust air flow rate) to a dedicated exhaust fan (a voltage-free contact is available in the circuit board - see circuit diagram - to check when ventilation is active).

For connection to gas and/or vacuum networks, read chapter .2C carefully

The quantity of heat generated by the cabinet, if the air is not extracted ouside the room, is the following for the eight models respectively:

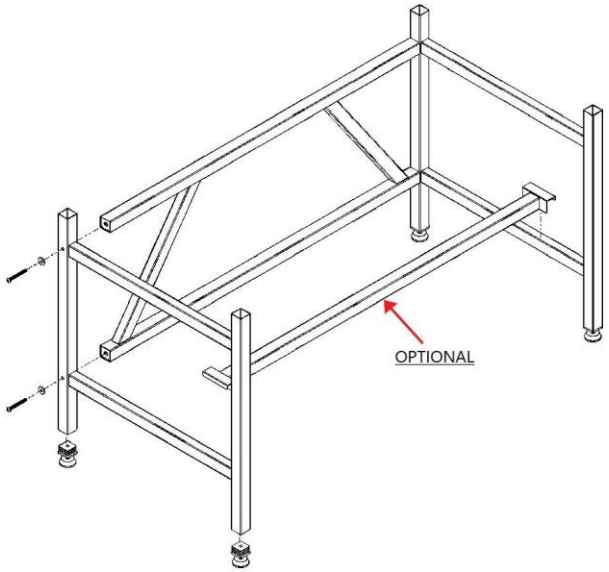
SafeFAST Premium 209	65W
SafeFAST Premium 212	85W
SafeFAST Premium 215	105W
SafeFAST Premium 218	130W

This heat value must be added to the heat generated by any instrument (e.g. connected to an internal socket or tap) used by the customer in the work chamber.

WARNING: Installation must be carried out by technicians authorised by Faster S.r.l. or the official distributor.

4 ASSEMBLY THE SUPPORT TABLE

The stand is supplied unassembled, with the screw kit and feet.

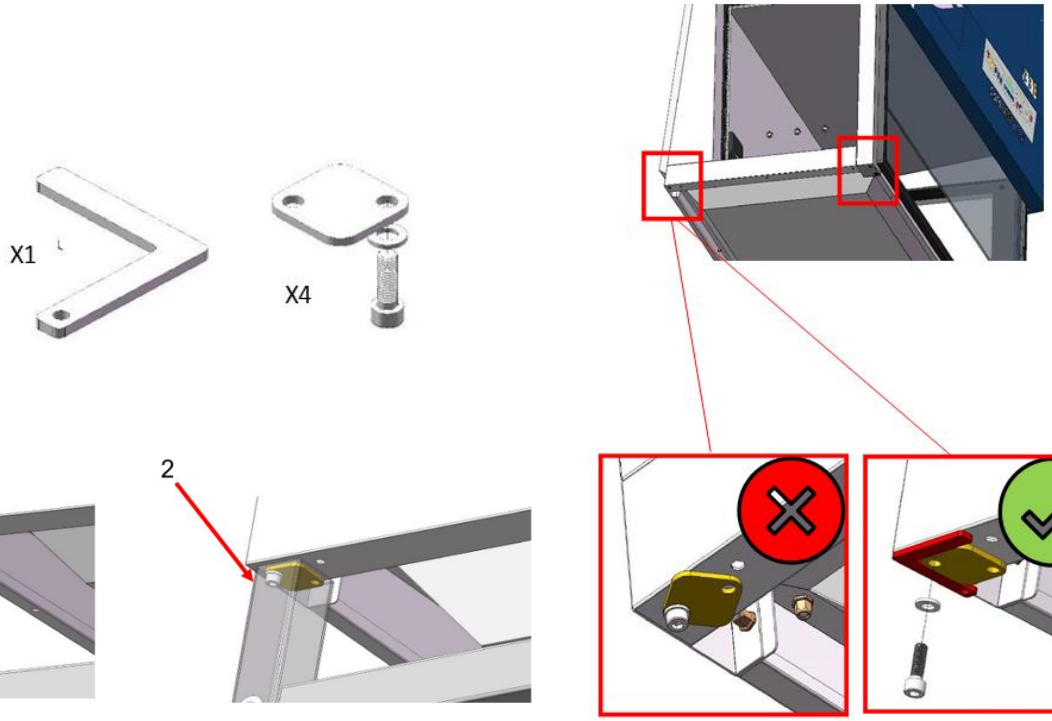


4.A ASSEMBLY OF THE CABINET ON THE STAND

The SafeFAST premium cabinet can be supplied with the corresponding support table, to which they must be attached.

When the support table has been assembled following the next instructions: make sure that all parts of the cabinet that can be opened (control panel and frontal glass) are locked to avoid injuries.

Then place the cabinet on the table, taking care to place the centering plates (1) (located under the cabinet) in the appropriate table slot (2).



4.B ELECTRICAL/GAS CONNECTIONS AND WORKTOP INSTALLATION

The electrical connection of the SafeFAST Premium Biohazard cabinet is made by connecting the power cable located on the upper side of the cabinet to a suitable power point (see technical table) . When the cabinet is connected, the green light on the control panel switches on (see chapter 4E).

If stipulated by local legislation, insert upstream of the power line an automatic protection overload switch provided with a differential relay, with a rated switching voltage no greater than 30 mA.

NOTE: regarding the electrical connection, it is necessary to use the cable supplied with the cabinet or a suitable cable that can provide a 10A current.

The right side of the cabinet is also provided with two gas/vacuum intakes with manual taps, one of which is fitted with an electrovalve.

The size of the pipes for the gas connection is: 1/4”.

The connection with the two gas/vacuum intakes is made according to the type of connection: town gas or industrial gas (air, vacuum, nitrogen, etc.).

The cabinet must be connected by qualified staff to the town gas mains through an approved conduit for safety reasons.

NOTE: the gas that can be used with the standard tap configuration is methane, for other gas type it is necessary to change the tap model.

NOTE: No part of the cabinet is involved in an explosion and/or burns/flames. Flammable gas is used (if it is) by the customers under their own responsibility. Anyway, sthe fuel gas is blocked by a solenoid valve in case the air velocity is lower than the safety condition. E.g. the gas valve cannot be opened if the safe air velocity is not reached or in any case of air flow alarm.

For the installation of the work surface, proceed as follows:

- remove the protective paper from the work surface leaning against the back of the cabinet, taking care not to scratch its surface,
- open the safety front window,
- clean the work surface with a damp cloth soaked in alcohol or soapy water or with a commonly available product designed for stainless steel,
- place the work surface into the work chamber, let the back to slide on the chamber's supporting bases up to its back wall,
- close the safety front window.

5 WASTE TREATMENT AND DISPOSAL

Materials must be disposed of correctly according to the laws and regulations in force; the same regulations provide instructions for labelling potentially hazardous substances or materials, if present, according to the C.E.R. code.

These products must be disposed of separately from household waste. In addition, disposal must be carried out by an authorised company.

Faster S.r.l. is committed to reducing the impact of its products on the environment.

During the operations described above, it is recommended to use personal protective equipment (PPE):

- Eye protection
- Respiratory protection
- Safety shoes
- Body protection
- Gloves

DISPOSAL OF ELECTRICAL AND ELECTRONIC EQUIPMENT (EEE)

<table>
<tr><td>  </td><td>INFORMATION FOR EU USERS
The presence of this symbol on the device indicates that the product must not be disposed of with other household waste at the end of its life cycle.
When disposing of the equipment, contact your dealer for information on how to collect and dispose of it
according to the regulations in force in the respective country.</td></tr>
<tr><td colspan="2">Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)
This product complies with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC. It is marked with the following symbol:
FASTER sells products through distributors throughout Europe. Contact your local FASTER distributor SZABO-SCANDIC for recycling/disposal.</td></tr>
<tr><td colspan="2">INFORMATION FOR NON-EU USERS
This symbol is only valid in Europe. If you wish to dispose of this product, contact your local authorities or dealer and ask for information on the correct method of disposal.</td></tr>
</table>

Fluids of pathogenic material removed from the work surface and liquids collected in the collection tray below the work surface, as well as HEPA filters replaced during maintenance activities, are biologically toxic and harmful and must therefore undergo specific treatment. All other materials in the cabinet are recycled but cannot be disposed of as normal municipal waste.

WARNING: Before disposing of a booth in which contaminants and pathogens have been handled, the booth must be properly decontaminated.

TYPE OF MATERIALS IN THE CABINET (SAFEFAST)

CABIN PARTS	MATERIALS
Structure	Epoxy powder-coated steel
Inner work chamber	AISI 304 stainless steel
Work surface	AISI 316 stainless steel
Motorised fans	Galvanised steel
Filters	Frame: aluminium alloy Filter bed: glass fibre Protective grille: epoxy powder-coated aluminium Gasket: polyurethane
Keyboard	Touch-sensitive keyboard on front panel
Glasses	Calcium silicate safety sheet
Seals	EPDM
Wiring	Rohs-compliant wires, flame-retardant PVC enclosures
Cable printing	Polyamide body/nut, EPDM inner part

5.A ERGONOMICS

This microbiological safety cabinet has been designed and manufactured according to the general ergonomic guidelines of EN ISO 12469:2000 Annex A.

In addition, the instructions in this manual in Chapter 7 must be followed to ensure the safety of all maintenance operations.

6 LIMITATIONS

CAUTION: Do not handle samples on the grids of the work surface at the entrance to the chamber.

CAUTION: Disconnect power and sterilise the unit before performing any of the following operations.

PRECAUTIONS for the correct use of the cabin

Listed below are the most important guideleines to be followed and the main substances to be avoided to ensure the correct use of the SafeFAST Premium cabinet:

- NEVER USE chlorine-based substances (e.g. sodium hypochlorite) as they are corrosive for the metal structure of the cabinet, and in particular for stainless steel parts.
- When the nature of the work carried out under the cabinet changes completely or following an accidental spilling of pathogenic material, STOP working and start again only after having cleaned and sterilized the cabinet,
- DO NOT use ethanol as a sterilizing substance if a heat source is used under the cabinet,
- DO NOT use cosmetic powders, nail polish, hairspray or cosmetics in general during work,
- DO NOT eat, drink or smoke in the work zone,
- AVOID substances that release explosive vapours.

In addition, when working with the cabinet, AVOID:

- the introduction of extraneous material
- the introduction of paper or cloth that might clog the holes of the work surface.
- working in the part of the work surface near the front opening of the cabinet (longitudinally slotted zone)
- upstream contamination of the material, putting the hands or any object between the absolute filter and the sterile material
- working under the cabinet if the airflow has not yet been activated, i.e. when the display "STAND-BY" appears, indicating that the motor-fans are not yet on. After the cabinet is switched on, and if the work requires special sterile conditions, chemical sterilization of the work chamber must be carried out using a cloth soaked in bactericide. Then wait for 20-30 minutes for the bactericide to take effect.
- using in the work zone large size bunsen burners, as the flame might damage the absolute filter located in the upper part of the working area.
- manipulating pathogenic material not included in the categories indicated for Biohazard cabinets Class II according to EN-12469:2000.

Before opening the front window be sure that the inside of the cabinet has been properly decontaminated; in fact, this part can be potentially dangerous for the operator’s hands as well as for the laboratory air, which comes directly into contact with, after opening the front window.

Table of technical characteristics

Description	Unit	SafeFAST Premium 209	SafeFAST Premium 212	SafeFAST Premium 215	SafeFAST Premium 218
Overall dimensions (W x H x D(*))	mm	1045x1500x855	1350x1500x855	1655x1500x855	1960x1500x855
Useful dimensions (W x H x D)	mm	887x740x580	1192x740x580	1497x740x580	1802x740x580
Maximum front opening	mm	440	440	440	440
Working opening	mm	160	160	160	160
Weight	Kg	170	195	225	260
Noise level	dB (A)	42.5	42.5	51.8	54.2
Lighting level	Lux	>750	>750	>750	>750
Main voltage	V	230V AC 2P+E	230V AC 2P+E	230V AC 2P+E	230V AC 2P+E
Frequency	Hz	50/60	50/60	50/60	50/60
Maximum energy consumption	kW	0.9	0.91	1.02	1.065
Current	A	4,5	4,63	5,1	5,5
Electrical class		1	1	1	1
Protection level		IP20	IP20	IP20	IP20
Internal socket (maximum current for all sockets: 4A)		2P+E 230V 4A	2P+E 230V 4A	2P+E 230V 4A	2P+E 230V 4A
LED	W	3x10	4x10	5x10	6x10

(*) The overall depth can be reduced to795 mm by removing the outer rear.

Power board fuse list

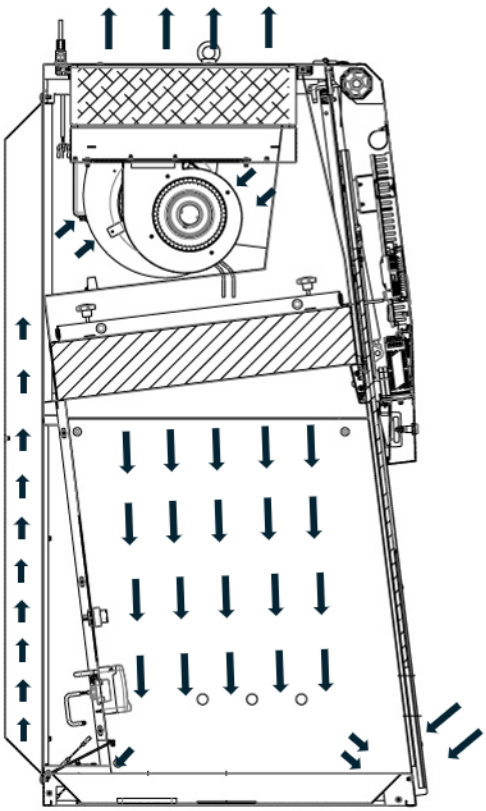
Tag	Description	Evaluation
F1	Auxiliary power supply	3.15 AT
F2	U.V. light fuse	1 A
F3	Light fuse	2 A
F4	Socket fuse - phase	4 A
F5	Socket fuse - neutral	4 A
F6	Exhaust motor fuse	6.3 AT
F7	LAF motor fuse	10 AT
F8	Electric valve fuse	1.6 A

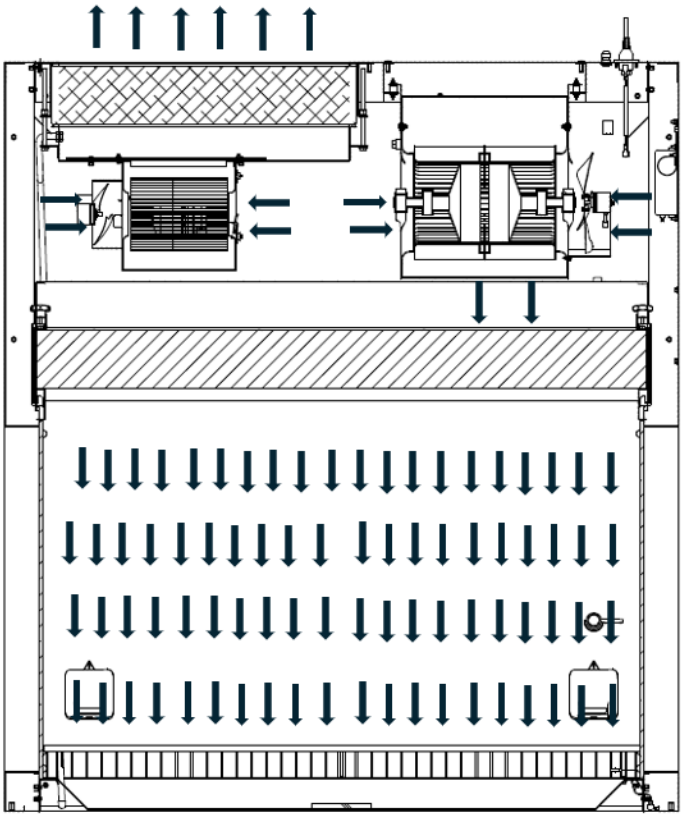
7 OPERATING PRINCIPLE

The operating principle of SafeFAST Premium cabinet is as follows:

The pressurised air pushed into the plenum of the main fan passes through the HEPA H14 filter and then descends, in a laminar flow, into the working chamber. From here, it mixes through the perforated surface with the air from outside, which enters the cabinet through the front opening.

The air is aspirated into the return duct located at the rear of the working chamber. Some of the air is exhausted through the HEPA exhaust filter. The exhausted air allows air from outside to enter, generating a frontal barrier that provides operator/environmental protection from hazardous materials handled in the work area.





8 OPERATION

The SafeFAST Premium laminar flow safety cabinet is manufactured in accordance with international standards for the protection of material, operator and environment against Class II biohazards and is suitable for the handling of low- and medium-risk pathogens.

8.A SYSTEM AND PERFORMANCE CONTROLS

The SafeFAST Premium cabinet is provided with an automatic regulation system to keep the airflow speed in the work chamber and the recycling extracted air ratio constant even with the progressive clogging of the two HEPA filters up to the maximum pressure supported by the motor-fan.

The soft-touch control panel is microprocessor-controlled with a display showing all data related to operational functions, various alarms and error messages.

The perforated work surface creates optimal laminar airflow at working level, while the longitudinal slits at the front create a protective air barrier.

The vertically sliding front glass is electrically operated. When the cabinet is in operation, it must be 160 mm; any movement of the glass triggers an acoustic and visual alarm, which cannot be silenced according to EN 12469:2000.

When the cabinet is switched off, the glass can be opened to the maximum or closed completely. The front glass can be closed and opened by alternately pressing one of the two arrow up and the arrows down buttons shown on the touch screen display.

WARNING: When the cabinet is switched on, any change in the working opening invalidates the efficiency of the air protecting the operator; therefore, if the operator presses the two buttons simultaneously, he is fully aware of the potential risk he is running.

ENERGY SAVING MODE: In addition, a safety device is installed that automatically reduces the speed of the motor fans if the ventilation is on and the electric front glass is fully closed. From this situation, when the operator opens the front window, the motors increase their power to reach the nominal air speed. During Energy Saving Mode the working area is kept clean by a slight laminar flow and a slight exhaust flow rate keeps the cabinet in negative pressure ensuring total protection for operator and environment.

To optimise visibility within the working chamber, the cabinet is ergonomically angled at an angle (approximately 7 degrees from vertical).

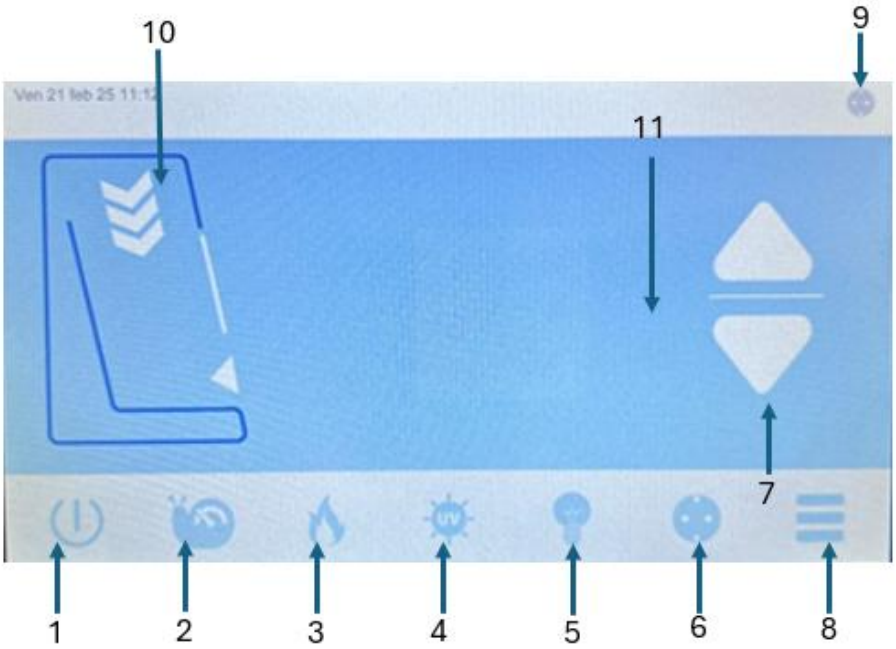
8.B PRELIMINARY CHECKS

Before carrying out any work, the following conditions must be verified:

- that the cabinet power cable is connected to a power socket with the appropriate voltage and frequency, as per the instructions on the label attached next to the power cable
- that all alarm lights are switched off
- that the working area inside the cabinet is free from the materials used during the previous session.
- that the cabin has been sterilised if the work to be performed is changed

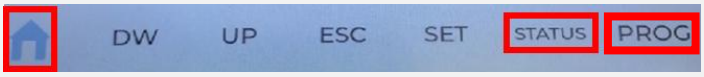
9 CONTROL PANEL SYMBOLS

List and description of all symbols and controls on the touch screen control panel:



1 MAIN SWITCH:	Pressing the main switch the access password is requested. Once the password 5 + 4 + ENT is entered, the cabinet starts, the LAF and exhaust fans (if installed) are powered, and the following notification appears on the display:  indicates the STAND-BY phase, where the glass is not yet in the working position to have the appropriate safety conditions. It is important to wait for the necessary time (approx. 40 seconds) for the laminar flow and exhaust speed to reach the preset values. In addition, during this stand-by period, an acoustic alarm sounds intermittently, warning the operator not to start working yet. When the audible alarm and the message "STAND-BY" disappear from the display, the cabinet is ready for operation. LAF and front barrier air speeds are displayed. **NOTE:** In any case, it is recommended to wait five minutes before starting work.
2 SPEED REDUCTION	Press the corresponding button to request the password (the same as the start-up password). Once the password has been confirmed, the function is enabled. When enabled, the user appears at the top right of the display. For single fan grow boxes, the LAF and expulsion speeds are approximately 30% lower than the nominal speed; for double fan grow boxes, the discharge speed alone is approximately 30% lower than the nominal speed. The light and the gas solenoid valve cannot be switched on. If they are switched on, they will switch off automatically The following two messages are displayed alternately:

	>>>WARNING<< **DANGER** **and:** **REDUCED AIRFLOW** **>>>NOT WORKING<<** The 'SPEED REDUCTION' function can only be activated when the cabin is in operation. It is possible to operate the power supply only.
3 SOLENOID VALVE	Press this button to activate the gas solenoid valve.
4 LAMP U.V.	By pressing this button, the U.V. lamp can be switched on with a non-programmable timer. Enables the U.V. lamp in "manual mode"; when enabled, the display shows the U.V. icon in the upper corner of the panel. The U.V. lamp only comes on if the cabinet is switched off, the cabinet lighting is switched off and the front window is fully closed. After 180 minutes, the U.V. lamp switches off automatically. N.B. When the UV lamp is active, the front glass cannot be raised.
5 LIGHT	Switches on the interior light; when it is on, the display shows the light icon in the upper corner of the panel. The U.V. lamp is automatically switched off when the interior light is switched on. Press and hold the light button and the up/down arrows to increase/decrease the lighting level.
6 PRESA	Pressing this button, when enabled, displays a grip icon in the upper corner of the panel.
7 UP/DOWN ARROWS	Pressing the up/down arrow allows the front window to be moved to the working position or closed.
8 SUB MENU	By pressing this button, you can access the submenu and set parameters (PROG) or display them (STATUS).
9 ACTIVE PARAMETERS	Active utility icons are visible in the right-hand corner of the display.
10 WORKING CONDITIONS	The machine status is shown on the touch screen display. When the laminar flow (LAF) and the front barrier (BARR) are in optimal condition, the following information appears on the display:  indicates that the glass is in the appropriate safe working position and that the air flows within the set ranges.
11 DISPLAY	Touch screen display.

Parameters that can be set from the submenu:	
STATUS	If pressed, the following data will appear on the display. **Outside temperature:** Indicates the temperature outside the cabinet ; the LCD display shows (for example) "EXT. TEMPERATURE=27°C". This value is detected by an electronic probe installed outside the cabinet. **Internal temperature:** Indicates the internal temperature of the cabinet work area; the LCD display shows (e.g.) "INT. TEMPERATURE =30°C". This value is detected by an electronic probe located inside the cabinet. **Residual U.V. lamp life:** Shows the operating time of the U.V. lamp preset by the user with the appropriate buttons. The LCD display shows (for example) "U.V. TIME=XXXX h". At the end of this time, the message "U.V. LIFETIME OVER" will appear on the line below. **1, 2, 3, 4, 5 residual filter life:** this is the operating time of the filters installed in the cabinet, which can be programmed by the user. The LCD display will show (for example)" RES. FILTER TIME 1=XXXX: XX h: min". At the end of this time, the message 'CHECK FILTER (e.g.) 1' will appear on the line below. The filters installed in the cabinet follow the numbering shown below: **MAIN HEPA FILTER =1** **EXHAUSTHEPA FILTER = 2** **ADDITIONAL HEPA FILTER = 3** **CARBON FILTER = 4** **LAF Power**: it is shown indirectly by the power supply voltage of the main motor, expressed as percentage of max. load voltage displayed also in proportion by a bar. The display shows the notice (es.): "MOT.LAF = XX % " (max.100%). **EXH Power:** it is shown indirectly by the power supply voltage of the exhaust motor, expressed as percentage of max. load voltage displayed also in proportion by a bar. The display shows the notice(es.): "MOT.EXH = XX % " (max.100%). **Operating time:** shows the operating time of the cabinet from the moment the main switch is set to 'I'. The LCD display will show (for example) 'WORK TIME= XXXXXh'. This value cannot be reset.
DW + UP	These keys allow you to move through the various

	parameters set in PROG or move and display the parameters set in STATUS.
PROG	When PROG is pressed, it allows you to enter the operator menu and set basic parameters: - TIMER - ALARM CLOCK - UV PROGRAMMING - UV LAMP LIFE - RESIDUAL LIFE FILTERS - LANGUAGE SELECTION - SET CLOCK - PASSWORD CHANGE - VIEWING FILE HISTORY - REMOTE CONTROL Described below.
Press ESC + HOME to return to the main page.	

TIMER (countdown):

- Use the UP/DW keys to scroll through the operator menu.
- select 'TIMER SET UP.' and press the 'SET' button the display will show:

TIMER SETTING
SET UP hh:mm

- enter the desired time and press SET to confirm.
- press ESC to exit the operator menu.
- The display alternately shows the countdown and standard information.

When the countdown finishes, an acoustic signal warns the operator. The signal can be muted with the ESC key.

To deactivate the countdown:

- select 'TIMER SET UP' and press 'SET' the display shows:

TIMER SETTING
RESET? YES

- press 'SET' to confirm
- press 'ESC' to exit the operator menu

ALARM CLOCK:

- Use the UP/DW keys to scroll through the operator menu.
- select 'ALARM CLOCK SETTING' and press 'SET' the display appears:

SETTING THE ALARM CLOCK
ENABLE? YES

- press SET to confirm and the display shows

SETTING THE ALARM CLOCK

DATE AND TIME

- Set the date and time with the arrow keys and confirm by pressing SET; when the previously set time is reached, an acoustic signal will warn the operator. The signal can be muted with the ESC key.

To deactivate this function:

- select 'ALARM CLOCK SETTING' and press 'SET' the display shows:

SETTING THE ALARM CLOCK

ENABLE? NO

- Deactivate the alarm by choosing 'NO' and press 'SET' to confirm.
- press 'ESC' to exit the operator menu.

UV PROGRAMMING:

- Use the UP/DW keys to scroll through the operator menu.
- select 'UV PROGRAMMING', press 'SET'; the display shows:

UV LIGHTING TIME

SETUP hh:mm

- enter the desired time for the UV cycle and press SET to confirm.
- the display shows:

UV PROGRAMMING

DATE AND TIME

- set date and time with the arrow buttons and confirm by pressing SET when the previously set time is reached the UV lamp is switched on, if the requirements for switching on the UV lamp are not fulfilled (e.g. glass open) an alarm message is displayed
- press 'ESC' to exit the operator menu.

RESIDUAL LIFETIME UV LAMP:

- Use the UP/DW keys to scroll through the operator menu.
- select 'RESIDUAL U.V. LAMP' and press the 'SET' button the display shows:

REMAINING LAMP LIFE U.V.

set XXXX

- where XXXX indicates the number of hours set for the U.V. lamp life.
- Use the UP/DW keys to adjust the hours parameter.
- Then press the 'SET' button to confirm the data and/or return to the previous menu.
- To end programming, press the ESC key'.

RESIDUAL LIFETIME FILTERS:

- Use the UP/DW keys to scroll through the operator menu.
- select 'RESIDUAL LIFE FILTERS' and press the 'SET' button the display shows:

FILTER 1 REMAINING LIFE

set XXXX

where XXXX indicates the number of hours set for the FILTER 1.

- Use the UP/DW buttons to adjust the hours parameter.
- Then press the 'SET' button to confirm the data and move to filter 2 and so on up to filter 5.
- To end programming, press the ESC key.

LANGUAGE SELECTION

- Use the UP/DW keys to scroll through the operator menu.
- select 'LANGUAGE' and press the 'SET' button the display shows:

LANGUAGE

English

- Use the UP/DW buttons to select the desired language (Italian, English, French, German, Spanish).
- Press the 'SET' button to confirm and exit the 'LANGUAGE' menu.
- Press the 'SET' button to exit the operator menu and return to the standard display.
- press the 'ESC' key to exit.

SETTING THE CLOCK

- Use the UP/DW keys to scroll through the operator menu.
- select 'SET CLOCK' and press the 'SET' button, the display shows:

SETTING THE CLOCK

set XXXX

- Use the UP/DW buttons to change the hours, minutes, days, days, month, year and day of the week.
- Press the 'SET' button to confirm data and/or return to the previous menu.
- To end programming, press the ESC key'.

PASSWORD CHANGE

- Use the UP/DW keys to scroll through the operator menu.
- Select 'CHANGE PASSWORD' and press the 'SET' button the display shows:

CURRENT PASSWORD

PSW:

- Enter the current password and press 'SET'.

SETTING THE PASSWORD

PSW:

- Enter the new password and press 'SET'.

CHECK PASSWORD

PSW:

- Enter the password again and press the 'SET' button to confirm the data and/or return to the previous menu.
- To end programming, press the ESC key'.

VIEWING FILE HISTORY

- Use the UP/DW keys to scroll through the operator menu.
- select 'HISTORY VIEW' and press the 'SET' button the display shows the last alarm displayed
- Use the UP/DOWN arrow keys to scroll through the list of possible problems. The list is in chronological order and contains up to 64 entries.
- To end programming, press the ESC key'.

REMOTE CONTROL

- use the 'UP/DOWN arrow' keys to scroll through the operator menu.
- select 'REMOTE CONTROL' and press the 'SET' button the display shows:

REMOTE CONTROL

REMOTE ENABLING

- press SET again and the display shows the following message:

REMOTE ENABLING

ENABLE? YES/NO

- Choose the desired option and press SET.

- press 'ESC' to exit the operator menu.

9.A SWITCHING ON THE CABINET

To start the cabinet, proceed as follows:

1. switch on the light by pressing the relevant button (if the UV lamp is on, it will switch off).
2. ensure that the front glass is in the standard working position.
3. press the main button and enter the password (5 + 4 + SET) to switch on the cabinet. Initially the display shows a stand-by phase symbolized by a red pop-up
   Then the message 'WINDOW POSITION' is displayed for about 40 seconds.
4. After 40 seconds of stand-by, the cabinet is ready and safe operation is possible. A green pop-up appears on the touch screen display and the LAF and barrier speeds are displayed.
5. wait five minutes before starting work.
6. During this period, only introduce materials into the working area inside the cabin that are indispensable for the work to be done.

All movements made under the laminar flow cabinet must be parallel to the work surface, taking care to work in the centre of the table to avoid upstream contamination (e.g. when taking a sample from a bottle, hold the bottle gently but firmly with one hand, keeping it slightly inclined, and work with the other hand so that the air coming into contact with the hand does not directly contact the inside, but rather the outside of the bottle).

9.B SWITCHING OFF THE CABINET

CAUTION: Be aware that materials in the work area may be contaminated with pathogenic material. Act accordingly.

At the end of the work session, proceed as follows:

1. remove material from the inner work chamber
2. clean the work surface and the interior walls of the chamber as indicated in the 'Cleaning instructions' section.
3. Leave the laminar air flow cabinet in operation for 20-30 minutes after the end of work (if no UV lamp is installed).
4. switch off the light by pressing the corresponding button.
5. press the main switch and enter the password to switch off the cabinet (5+4+SET)
6. slide the front glass completely downwards.
7. As an alternative to step 6, if necessary, attach the UV lamp (optional) to the rear wall of the working chamber, connect it to the internal socket installed on the right side of the working chamber, slide the front glass completely down and switch on the germicidal lamp by pressing the 'U.V.' button.

9.C REMOTE SIGNALS (OPTIONAL)

The electronic control board can be improved by adding the following optional features:

Ventilation status (ON/OFF)

Normally open volt-free contact can be used to connect to an external circuit.

There are two different possibilities:

1 the signal starts when the ventilation is activated and stops when the ventilation is deactivated.

2 the signal flashes during the ventilation start-up phase and lights up when the correct airflow conditions are reached.

Correct airflow conditions

Normally open volt-free contact can be used to connect to an external circuit. This signal closes when the air flow rate is in the correct range and opens in the event of a flow rate alarm.

External consent

On request, the ventilation can be activated via remote volt-free contact. When the ventilation is activated, the car remains stand-by (start-up) until the normally open remote contact is closed.

If the remote contact is open during normal ventilation, the following message 'REMOTE CONTACT OFF' will appear and the operator should switch off the ventilation as soon as possible and then check the cause of the fault.

9.D INFLATABLE SEAL (OPTIONAL)

The optional inflatable gasket can be used to improve the sealing of the front glass during normal operation or when sterilising the unit.

The cabinet is supplied with a plastic tube to be connected to the compressed airline (customer-supplied) or to a compressor (available as an option on request).

The seal can only be inflated when the front glass is in the working position or fully closed.

To inflate and deflate the seal, the 'SET' button must be pressed simultaneously.

Since the seal will be pressed against the front glass, the glass cannot be moved in this case and the message 'SEALING DEFLATED' will appear.

If the seal is deflated, a pressure sensor allows the front window to be moved again after five seconds.

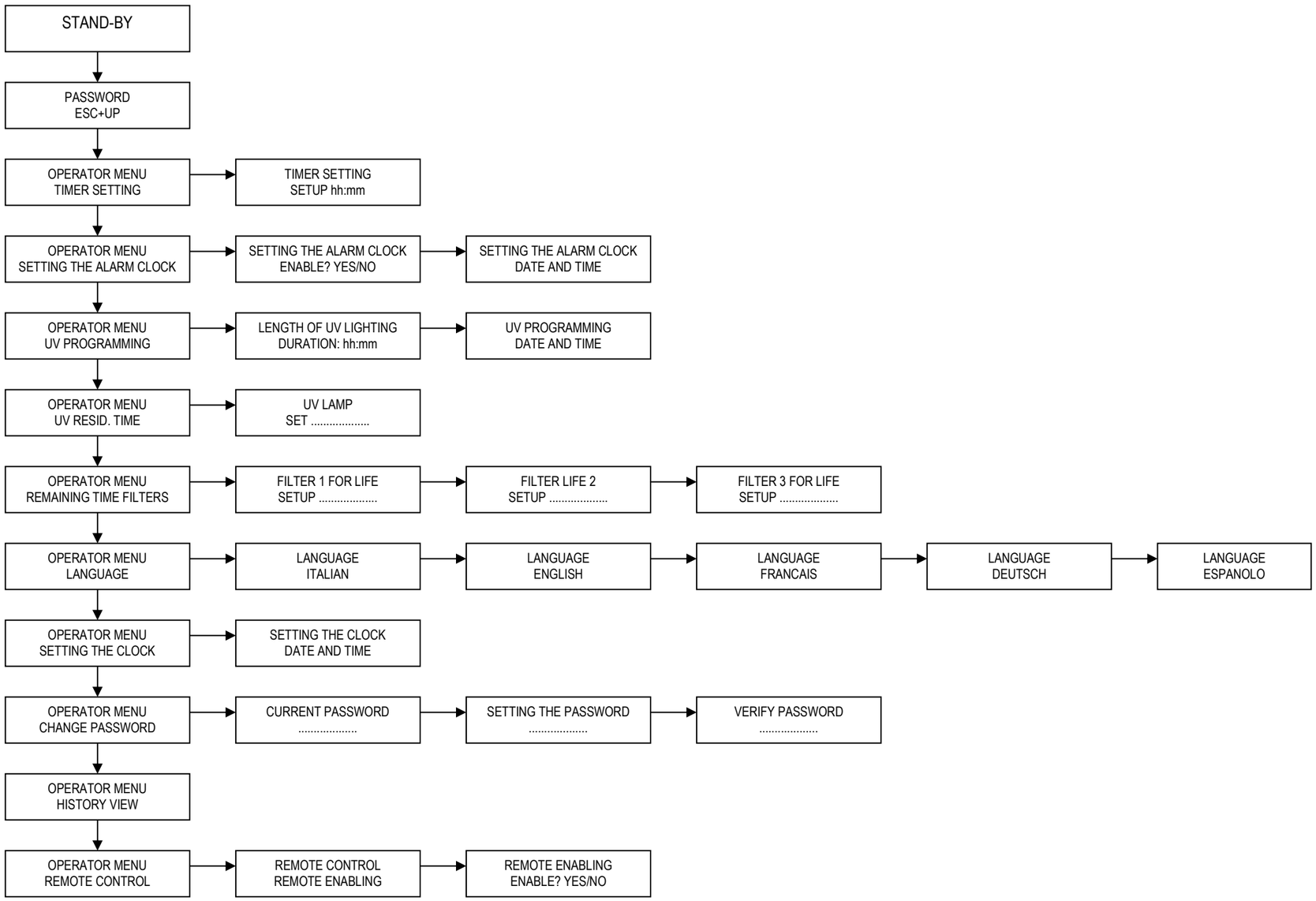
If the control panel is opened and the glass is moved, the seal will immediately deflate if it is inflated.

The pneumatic circuit of the seal is equipped with a pressure switch to check its correct functioning.

In the event of a loss of pressure, the alarm message 'CHECK SEAL' warns the operator.

9.E MANAGEMENT AND PROGRAMMING

Access the operator menu when the car is in stand-by mode by pressing sub menu and PROG (password). The diagram below shows the organisation of the "OPERATOR MENU". Pressing "SET" allows you to move to the highlighted item or confirm data entry, pressing "ESC" returns you to the beginning, using UP/DW you can move through the menu.



10 MAINTENANCE

WARNING: Do not use solutions containing free chlorine (e.g. sodium hypochlorite), which causes corrosion of steel and stainless steel, leading to irreparable damage to the appliance.

10.A INSTRUCTIONS FOR CLEANING BIOSAFETY CABINETS (by users)

CAUTION: The inside of the front glass may be contaminated. It is the responsibility of the operator to decide whether sterilisation is necessary before cleaning.

Faster s.r.l. cannot be held responsible for improper cleaning of the cabinet, a risk assessment must be carried out by the HSE manager to assess whether the substances used for cleaning are the best for its application.

IMPORTANT: NEVER USE CHLORINE-BASED SUBSTANCES TO CLEAN THE BIOSAFETY CABINET.

Before and after each application:

Clean the inner work chamber with a bactericidal/virucidal agent chosen according to the type of pathogenic micro-organism being handled (e.g. hydrogen peroxide, ethyl alcohol, ethanol, phenolic compositions, aldehydes, quaternary ammonium salts, etc.).

The procedure is as follows:

1. switch off the cabinet and disconnect the power cable
2. protect hands by wearing gloves according to the type of detergent used
3. distribute the cleaner on the side walls, back wall and worktop evenly to avoid leaving uncleaned areas
4. **Do not** put cleaning agents on HEPA filters to avoid damaging them.
5. Thoroughly clean all cleaned areas with clean absorbent paper. Be sure to remove any residual decontamination agent.

If pathogenic material was spilled during the work session, sterilise the work surface, then remove it using the small handles mounted on the side of the work surface.

Sterilise the spilled material in the collection tank under the table and remove all spilled material with absorbent paper.

A 70% ethanol solution or a solution of other bacteriostatic agents is recommended for thorough cleaning.

At least once a week:
Clean the outside of the SafeFAST Premium cabinet using a damp cloth soaked in soapy water or other commonly available products; if the cabinet exterior surfaces are stainless steel, a product specifically for stainless steel can be used

The procedure is as follows:

1. switch off the cabinet and disconnect the power cable.
2. thoroughly clean all stainless-steel surfaces using a damp cloth wrung out with soapy water or an equivalent product.

IMPORTANT: Clean all surfaces with a soft, non-abrasive cloth.

Once a week, we recommend removing all work chamber floors and using a non-abrasive stainless steel cleaner and pad to clean all stainless steel built-up areas. After cleaning, rinse the area thoroughly.

10.B GLASS CLEANING

To clean the inside of the front glass, proceed as follows:

1. Switch off the cabinet
2. bring the glass to the fully open position by pressing the arrows on the touch screen display.
3. to gain full access to the back of the glass open the control panel by turning the locks with the appropriate key.
4. clean the back of the front glass with suitable cleaning agents.
5. close the control panel and lower the front glass completely.
6. To gain full access to the front of the glass, open the control panel.
7. clean the front of the glass with suitable cleaning agents.
8. close the control panel by locking the relevant locks.

CAUTION: The inside of the front glass may be contaminated. It is the responsibility of the operator to sterilise the unit before cleaning.

11 STERILISATION WITH HYDROGEN PEROXIDE GENERATOR

Faster s.r.l. cannot be held responsible for the misuse of the VHP system. The laboratory HSE manager must carry out a proper risk assessment to evaluate whether hydrogen peroxide is the appropriate chemical agent for the specific laboratory application.

A VHP generator is an equipment that uses hydrogen peroxide in the form of steam for cabinet sterilisation. There are several options (closed or open) to perform sterilisation with VHP below are three examples.

The biosafety cabinet is connected to a VHP generator with two doors (camlocks):

- An inlet lock located on the side wall of the cabinet is used to inject steam into the work area. A hose connects the VHP generator to the entrance lock (figure 1).
- An outlet camlock located in the upper box, above the exhaust filter. A return pipe connects it to the VHP generator (optional) (figure 1).

Before starting sterilisation, the following steps must be performed:

- Switch off the cabinet.
- Seal the front glass with adhesive tape or an inflatable seal (optional). This will prevent hydrogen peroxide from escaping outside the cabinet and will then carry out the rest of the operations safely.
- Seal the top of the cabinet with a sealing box (optional)

(Example: VHP units from Steris or Bioquell)

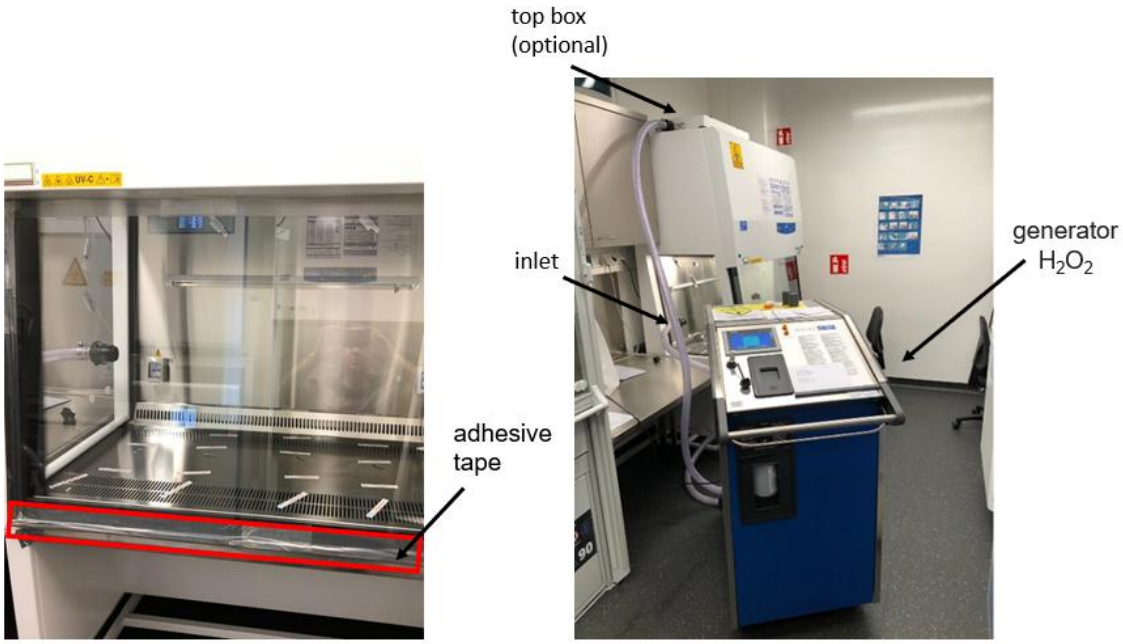


Figure1 : Closed system with hydrogen peroxide generator and catalyst

If sterilisation with hydrogen peroxide uses a system directly inside the cabinet that creates negative pressure by means of an external motor, it is not necessary to seal the front glass with adhesive tape or inflatable gasket.
A dedicated hose connecting the main VHP motor with catalyst will then be connected to an exhaust plenum (optional), located at the top of the cabinet (Example: Amiira VHP unit).

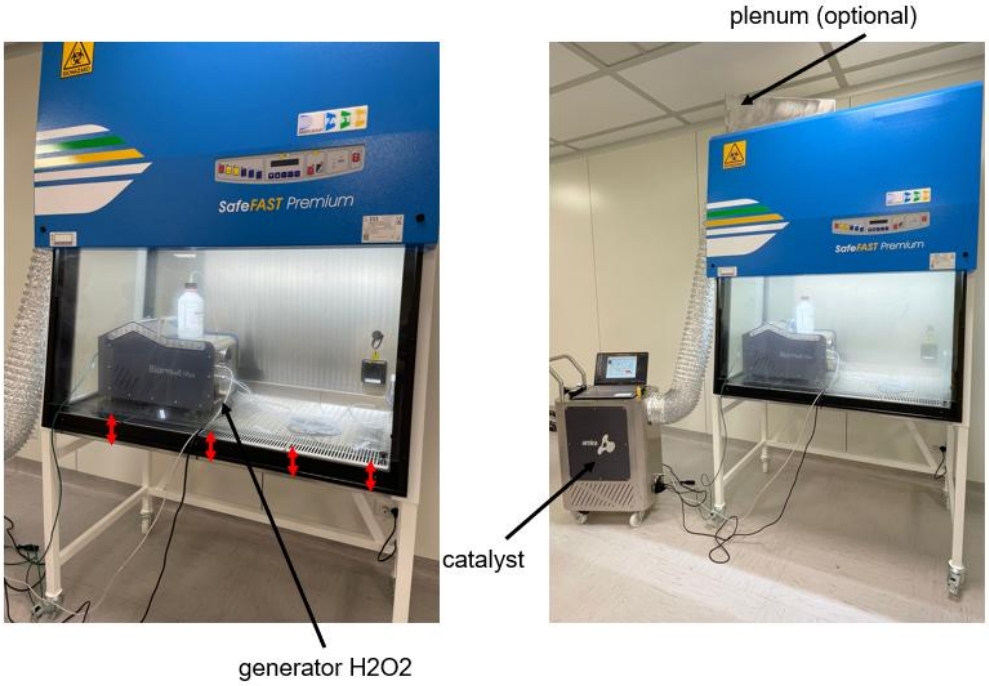


Figure 2: Closed system with hydrogen peroxide generator placed directly in the cabinet.

If sterilisation with hydrogen peroxide is performed on a ducted cabinet, steam is released outside the building at the end of sterilisation. If necessary, a sealing damper (optional) can be added to close the 'circuit'. In this case, a hose must be connected to the lock to create a closed system (figure 3).

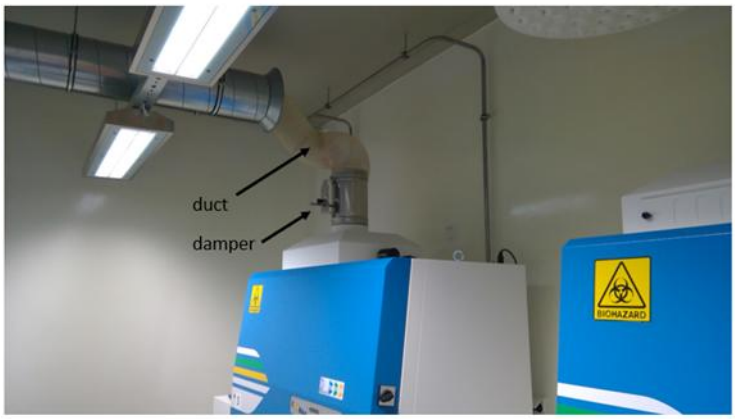


Figure 3: Open system on a ducted cabinet

IMPORTANT: Whichever option is chosen, ensure that at the end of the sterilisation cycle the H2O2 concentration has fallen to≤ 1 ppm.

FASTER S.r.l. refuses all responsibility for the performance of such sterilization procedures or of any possible consequences deriving from it, reminding that full responsibility for the operation lies only and exclusively with the properly trained operator-user

11.A MOTOR EARTH CONNECTION

If maintenance work is required on internal parts while the cainet is connected to the main power supply, follow this procedure:

1. Disconnect the cabinet from the main power supply.
2. remove the panel to access the inside of the cabinet.
3. connect the earth conductor of the two motors.
4. reconnect the car to the main power supply.
5. perform maintenance operations.
6. Disconnect the cabinet from the mains.
7. Disconnect the earth conductor of the two motor blowers.
8. reposition the cabinet panel.
9. reconnect the cabinet to the main grid

Earth connection during normal use

Ground connection during maintenance operation

IMPORTANT: During normal use of the cabinet, the motor's earth conductors must not be connected.

11.B REPLACEMENT OF HEPA FILTERS (by service personnel)

WARNING: Before replacing HEPA filters, the cabinet must be decontaminated. For the safety of personnel and the environment, the use of personal protective equipment and the collection of replaced HEPA filters in polyethylene bags is recommended.

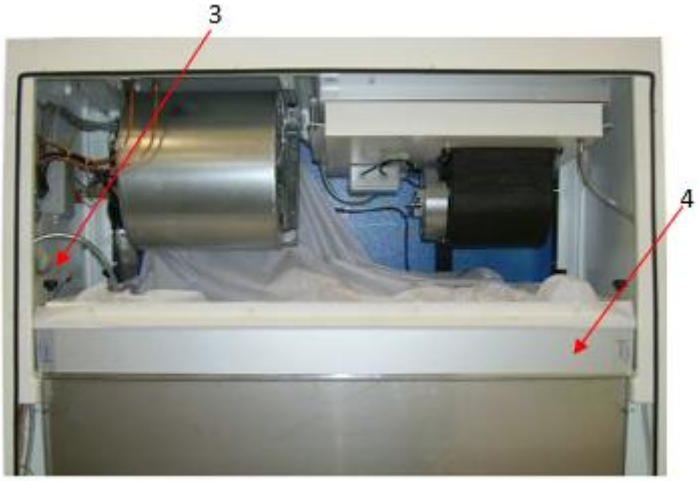
CAUTION: During normal operation of the cabinet the motor fans are not connected to the power supply. This connection must be restored if, for maintenance reasons, the technician can touch the motor fans while the cabinet is connected to the main power supply.

Replacing the main/exhaust HEPA filter

LAF filter

1. Open the front glass completely by pressing the 'up arrow' button on the display.
2. Switch the cabinet off and disconnect it from the mains.
3. Open the control panel [1] by turning the locks [2] with the appropriate key
4. Remove the inner panel [3] by unscrewing its fixing screws.

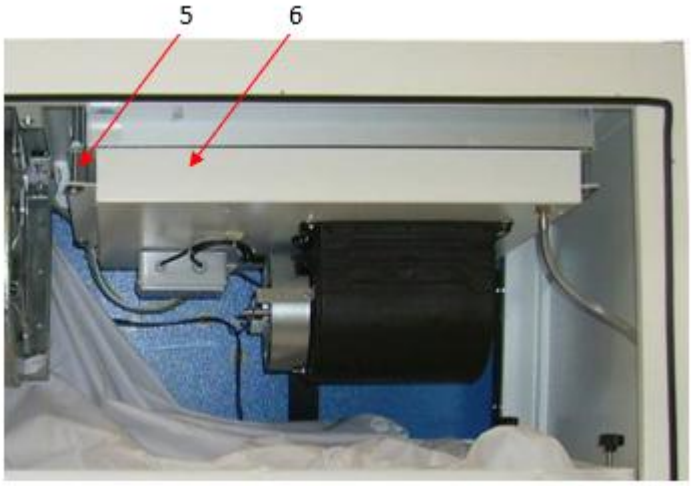
5. Rotate the threaded bars [3] to release the HEPA filter [4].



6. Remove the HEPA filter with PPE (personal protection equipment) and place it in a tightly sealed polyethylene bag.
7. Place the additional gasket (if not already present) on the filter shoulder frame, opposite the filter shoulder gasket (already present).
8. Install the new HEPA filter.
9. Secure the HEPA filter [6] by means of the threaded locking bars [4].

Exhaust filter

1. Turn the threaded fixing bars [5] to lift the plenum assembly [6] and release the HEPA filter.



2. Proceed as indicated in steps 6, 7 and 8.
3. Secure the HEPA filter by turning the threaded fixing bars [5].
4. Close the inner panel [3] with the fixing screws.
5. Carefully close the control board [1] and secure it with the latches [2].
6. Proceed with the necessary control-calibration procedures of the laminar flow cabin.

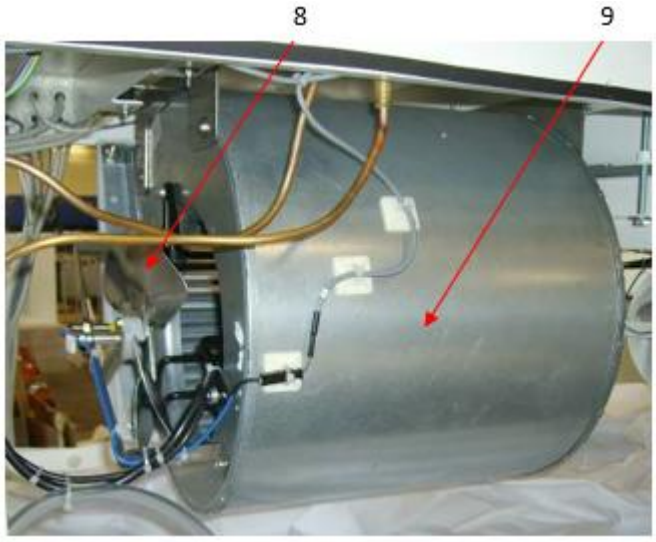
CAUTION: The two main/exhaust HEPA filters must be replaced at the same time. After replacing the filters, proceed to calibrate the fan speed. Carry out a check with a particle counter and possibly a D.O.P. test. For these operations, contact your local distributor.

11.C REPLACEMENT OF FANS (by service personnel)

CAUTION: Before replacing the fans, the cabinet must be decontaminated and a sterilisation certificate issued to the technicians before starting the operation. For the safety of personnel and the environment, the use of PVC gloves and the collection of replaced materials in polyethylene bags is recommended.

Replacement of the main fan.

1. Proceed as indicated in subsection 'Replacing HEPA filters', points 1 to 3.
2. Remove the frame in front of the fan and release the textile plenum.
3. Disconnect electrical connections.



4. Loosen the fixing screws of the main fan [9] and the flow sensor assembly [8] by unscrewing the relevant bracket from the fan.
5. Remove the main motor fan [9], including the side stirrup.
6. Position the new motor-fan after having mounted again the flow sensor group and the relevant stirrup.
7. Secure the motor fan with the relevant screws and reconnect the power supply.
8. Proceed as indicated in the section 'Replacing HEPA filters', 13 to 15.

Replacing the exhaust motor.

1. Proceed as described in subsection 'Replacing HEPA filters', points 1 to 4, and remove the exhaust HEPA filter.
2. Remove the anemometer fan

3. Remove the screws [11] of the exhaust fan [12] and the electrical connection. Position the new exhaust fan and set up the wiring.

LED bar replacement (by service personnel)

1. Raise the front sash of the window completely
2. Disconnect the mains power supply.
3. Open the front control panel [1] by unscrewing the fastening clips [2],
4. Unscrew the LED bar fixing screws [13] from the bracket

5. Replacing the LED bar
6. Close the front control panel [1] with the retaining clips [2].

Replacement of U.V. lamp (by service personnel)

1. Disconnect the electrical connections of the lamps from the power socket.
2. Remove lamp protection grille
3. Replace the germicidal bulb.
4. Fasten the protective grille and reconnect the electrical connections.

IMPORTANT: When installing the new UV lamp, take care not to leave fingerprints on the lamp which would block the UV effect.

12 LIST OF SPARE PARTS

CODE	DESCRIPTION	SafeFAST Premium			
		209	212	215	218
V30000101200	LED BAR PWLED_A DIMMABLE	3	4	5	6
V30000000591	CL ENCODER LIKA MI41 5V DC	1	1	1	1
V30000000090	ProximityNamur AEG 8/2	2	2	2	2
V30000006400	BIOHP_A POWER BOARD SF PREMIUM	1	1	1	1
V30000007410	BHCPU_128 CPU CARD	1	1	1	1
V30000007100	"BIOHP_A" power supply card	1	1	1	1
V30000006400	SF PREMIUM POWER BOARD	1	1	1	1
V30000007200	GLASS BOARD NBHG_A	1	1	1	1
V30000006880	7-INCH TOUCH SCREEN LCDFAST_B	1	1	1	1
V50000000485	EBM D3G146 LV1333 180W 50/60Hz	1	1	1	-
V50000000491	EBM D3G225-CD03-H1 500W 50/60HZ	1	1	1	1
V50000000415	DAREB 146/190 IP32 200W 50/60Hz MORS #	-	-	-	1
V50000102350	FILTER 24 X 36 610X915X115	1	-	-	-
V50000102360	FILTER 24 X 48 610X1220X115	-	1	-	-
V50000102370	FILTER 24 X 60 610X1525X115	-	-	1	-
V50000102380	FILTER 24 X 72 610X1830X115	-	-	-	1
V50000102221	FILTER DAB 43 457x457x115 H14 P LPD DG	1	-	-	-
V50000102231	FILTER DAB 41 457x610x115 H14 P LPD DG	-	1	-	-
V50000102241	FILTER DAB 47 457x762x115 H14 P LPD DG	-	-	1	-
V50000102251	FILTER DAB SP 457x915x115 H14 P LPD DG	-	-	-	1

13 MONITORING SYSTEM

ALARM OR ERROR MESSAGE	DESCRIPTION
Min. alarm LAF	Air flow velocity in the working chamber below the minimum threshold value
Min. BARRIER alarm	Insufficient suction of air from the front opening, i.e. air velocity in the exhaust duct below the minimum threshold value
LAF controller failure	Main fan too fast and uncontrollable (LAF)
No LAF encoder input	No anemometer input from the fan anemometer installed on the main fan motor LAF
No EXH encoder input	No input from the fan anemometer installed in the exhaust duct
Maximum LAF alarm	Air flow velocity in the working chamber above the maximum threshold value
Positioning the Front Glass	The front window is not closed properly
UV durability over the limit	UV lamp life expired
Sensor faults	Failure of one of the sensors. By pressing the 'MUTE' button, the corresponding sensor is displayed.
BLACK-OUT	Blackout warning when cabin is in operation Press 'MUTE' to stop the alarm
Checking HEPA filters	Possible clogging of absolute filters (HEPA)
Exhaust duct control	Possible clogging of the expulsion duct
Positioning the glass	The front glass is not in the correct position
F1 (2, 3, 4, 5) lifespan beyond	Filter 1 (2, 3, 4, 5) residual life is over
ATTENTION DANGER Reduced air flow. DOES NOT WORK	Caution when activating speed reduction (only for keyboards with 'SPEED REDUCTION' button)
CHECK THE GLASS	The screen did not move correctly Check that there are no obstacles under the screen. If the screen is blocked by

14 TROUBLESHOOTING - Probable causes of malfunctioning

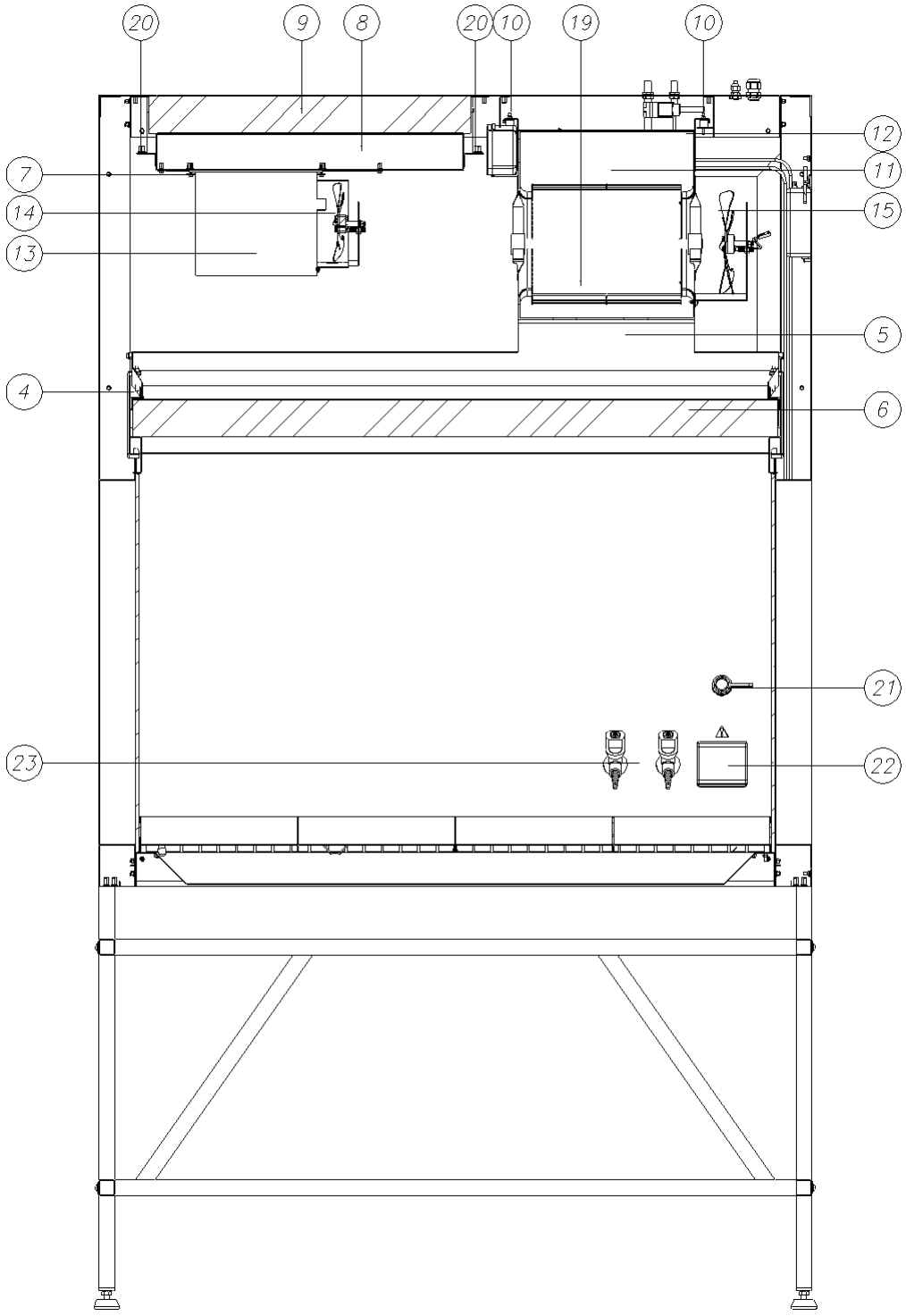
PROBLEM	CAUSE	REMEDY
The cabinet does not work	the power grid was interrupted electronic board out of order burnt fuse(s)	check the input voltage to the cabinet replace PCB replace fuses
Alarm: “HEPA filter check”	Main HEPA filter clogged	Replace HEPA filter
Alarm: “Low barrier velocity”	Double fan cabinet: the exhaust motor fan does not work	Check the exhaust motor fan Check fuse F6 on the power supply board Check that the exhaust duct is not clogged.
	Single fan cabin	Check that the exhaust duct is not clogged.
"LAF minimum alarm'. **[Possible contamination of the product but protection of the environment].**	Clogged HEPA filters .	Replace HEPA filters.
	The main fan does not work	Check the terminal voltage of the main fan power supply board. Check fuse F7 on the power supply board Replace power supply board Replace microprocessor board
"Black-out" alarm **(probable air exchange between the working chamber and outside and possible contamination of the environment)**	Blackout	Check power cable, plug/socket, power line. Press the 'Mute' button [15] to silence the alarm.
“Sensor failure” alarm	Sensor failure XX	Replace sensor XX.
Alarm: “No LAF encoder entry”	No signal from LAF flow sensor	Replace the LAF sensor
Alarm: "No EXH encoder input".	No signal from exhaust flow sensor out of service	Replace the exhaust sensor

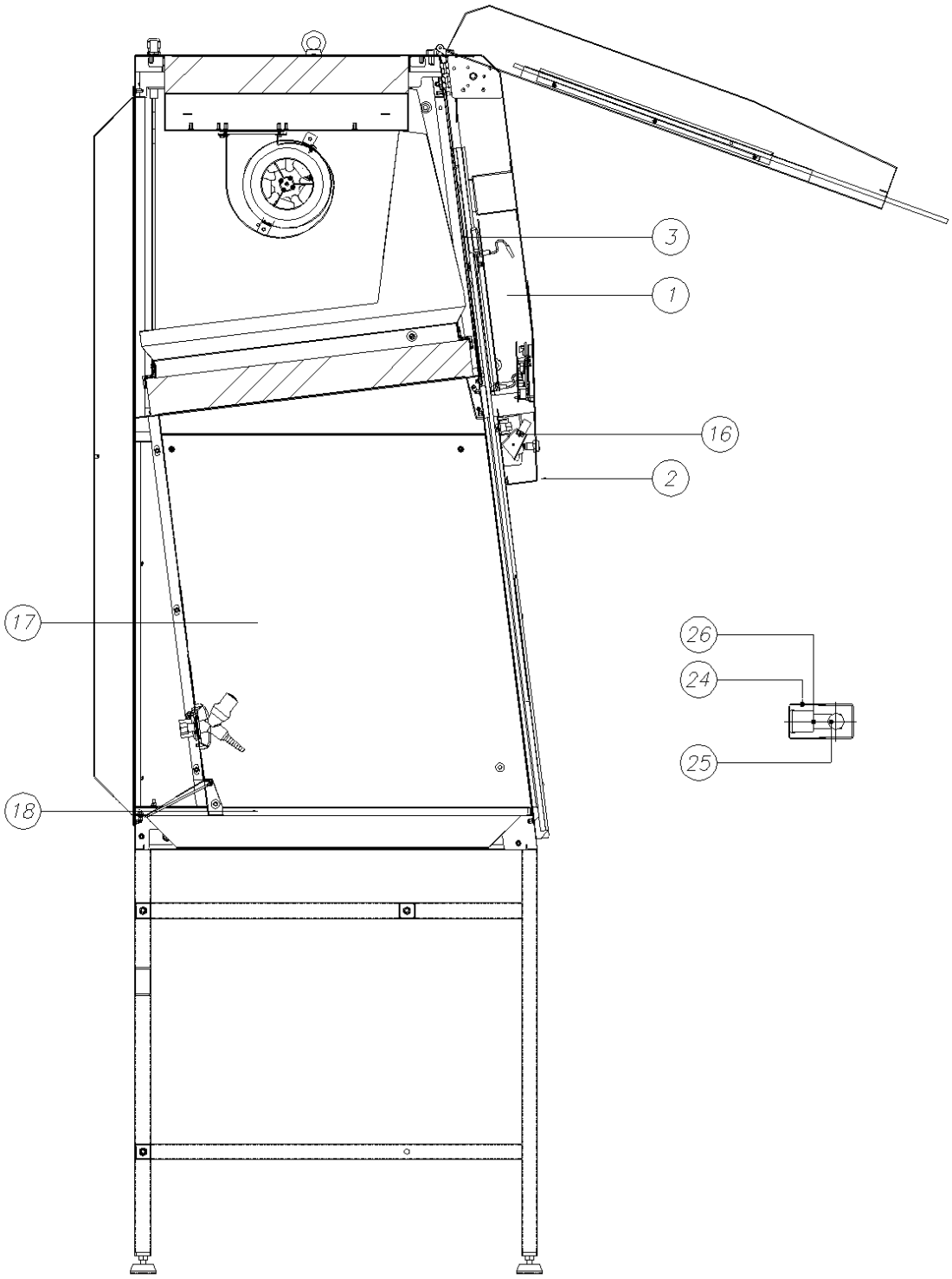
15 DRAWINGS AND DIAGRAMS

LEGEND

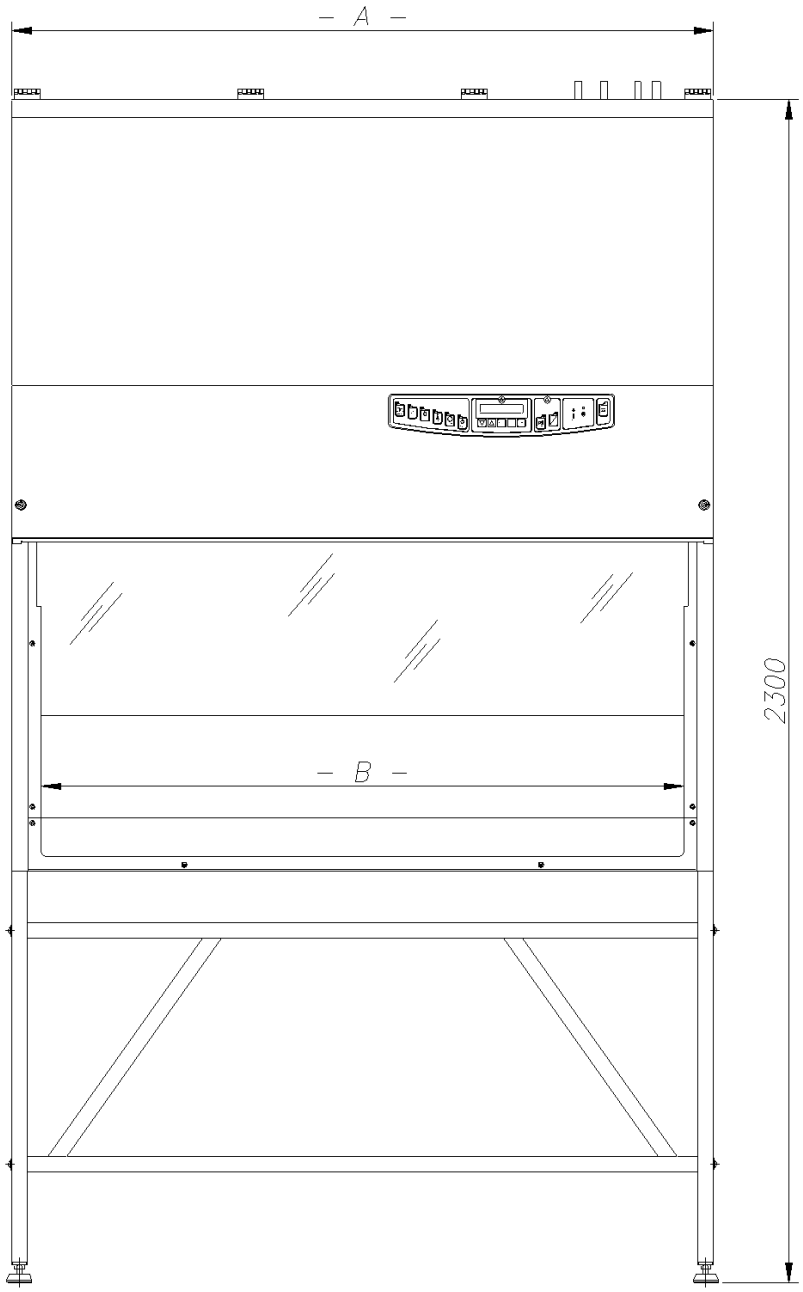
Ref.	DESCRIPTION
1	Control board panel
2	Control panel locks
3	Inner panel
4	LAF plenum fixing screws
5	LAF Plenum
6	HEPA
7	Exhaust fan fixing screws
8	Exhaust Plenum
9	HEPA filter
10	screws
11	Motor
12	Motor fan
13	Exhaust fan motion
14	Exhaust anemometer
15	anemometer
16	LED bars
17	Working chamber
18	Work
19	Frame
20	Threaded rods
21	UV lamp
22	Power socket
23	Taps
24	Carter UV lamp
25	UV lamp
26	UV lamp holder

15.A DIAGRAM FOR MAINTENANCE OPERATIONS



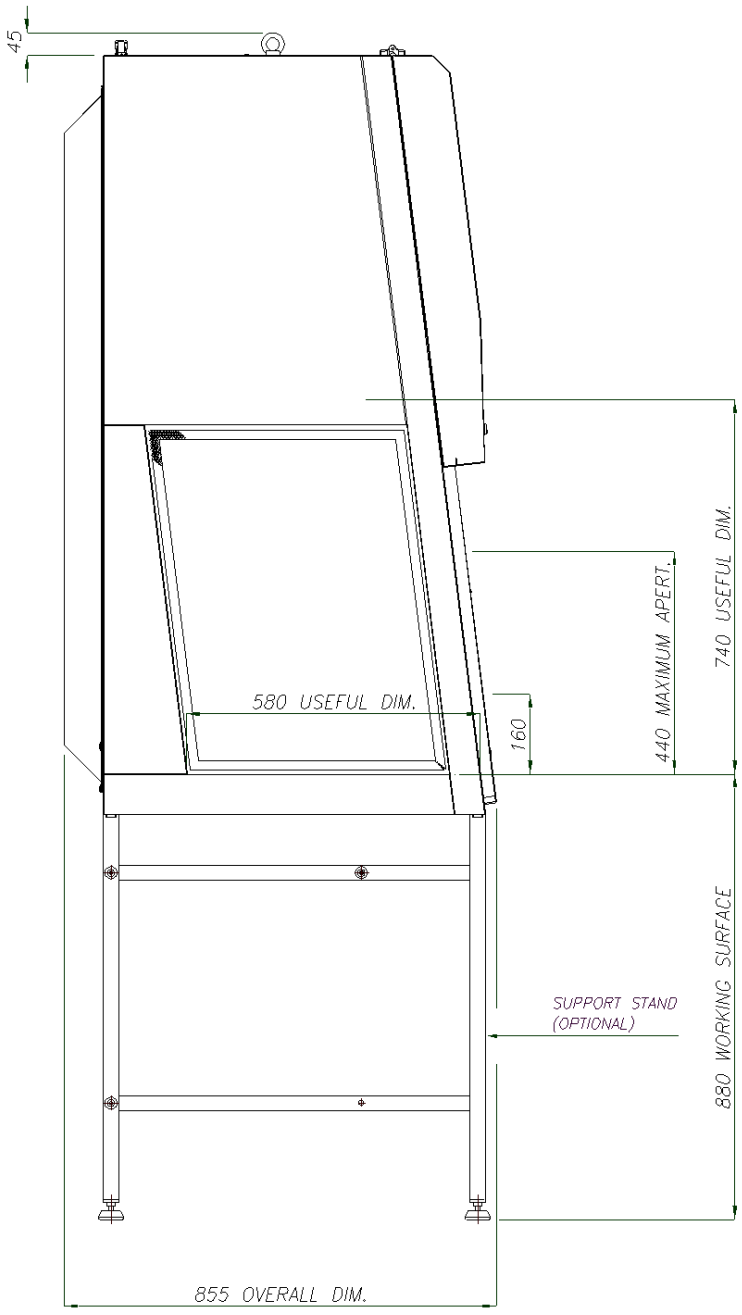

3
1
16
2
17
26
24
25
18

15.B FRONTAL DIAGRAM



SafeFAST Premium	A	B
209	1045	899
212	1350	1194
215	1655	1499
218	1960	1804

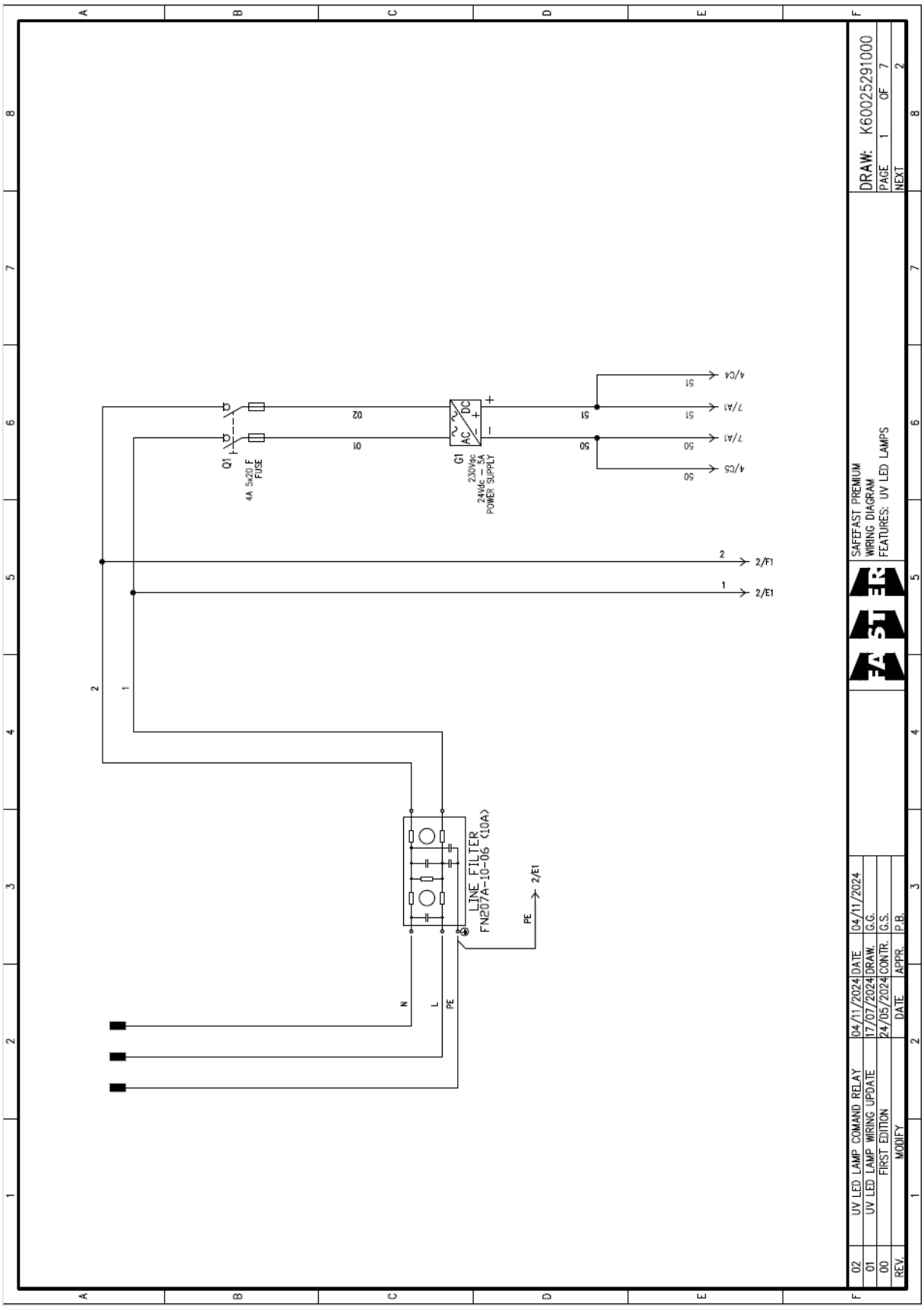
15.C SIDE DIAGRAM

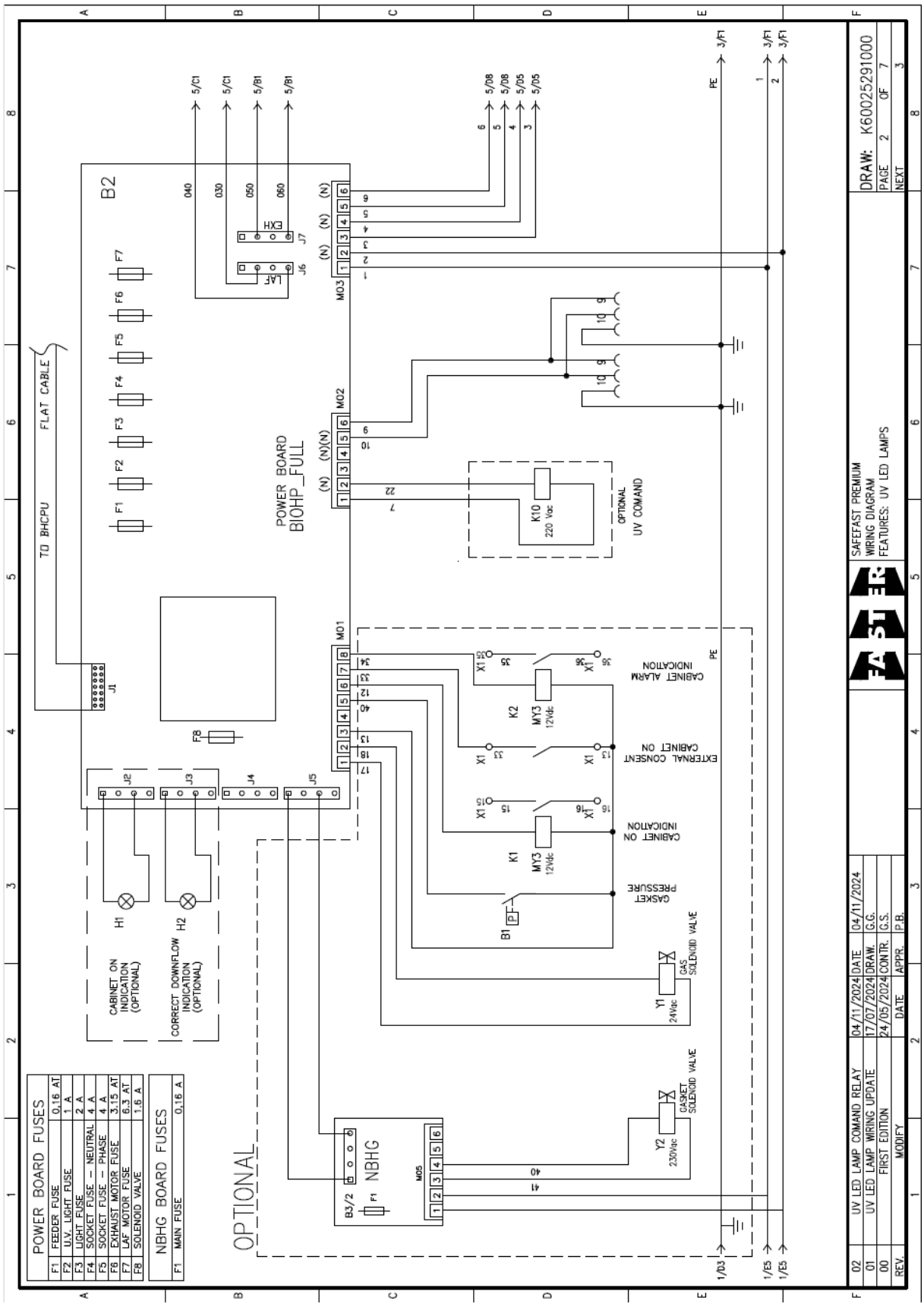


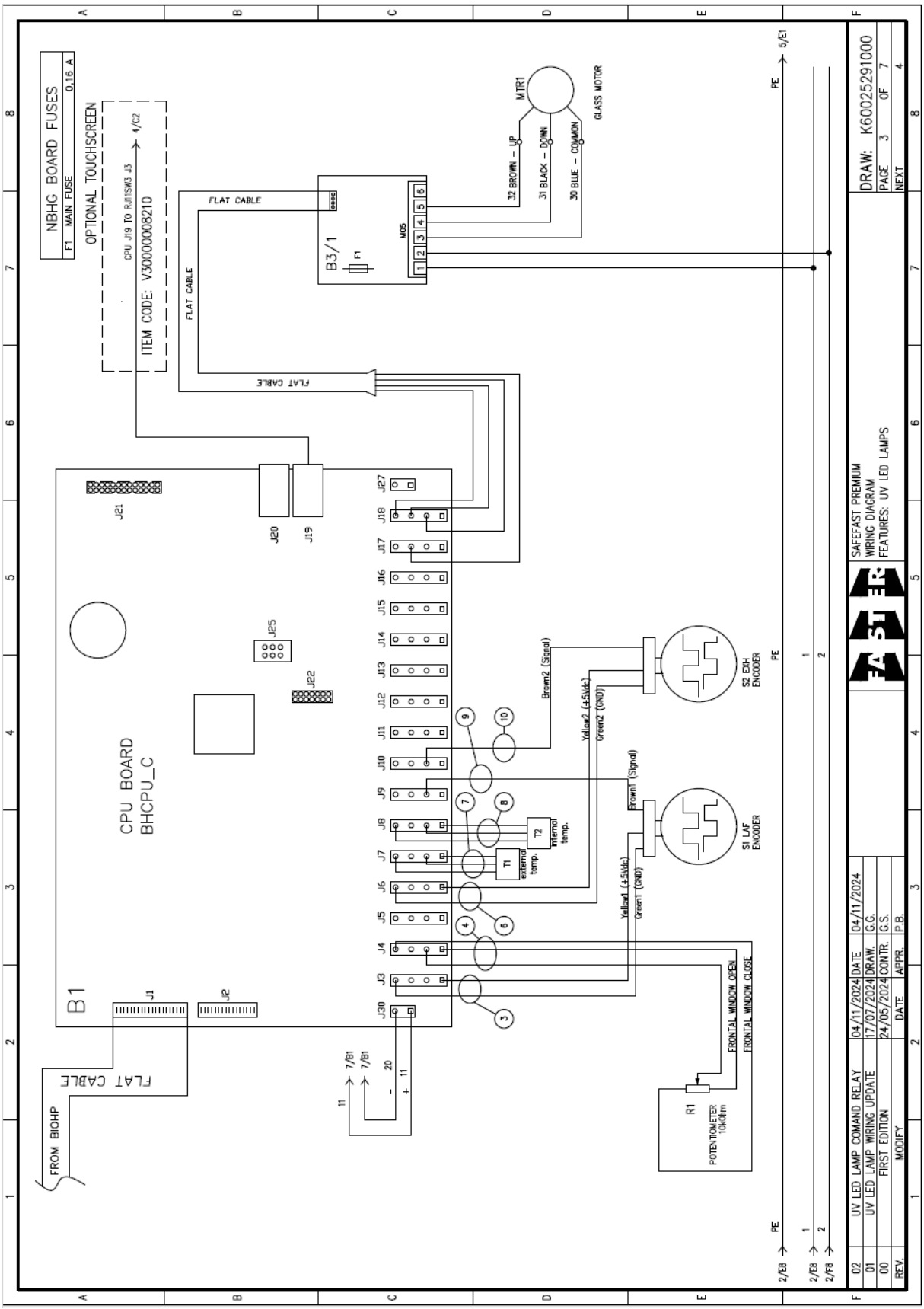
16 SENSOR LIST

PCB CAP	SENSOR SOFTWARE NAME	DESCRIPTION
J4	S16	GLASS POTENTIOMETER
J9	S0	LAF
J10	S1	EXH
J11	S2	not used
J12	S3	not used
J13	S4	not used
J14	S5	not used
J15	S6	not used
J16	S7	not used
J17	S8	NBHG sheet
J18	S9	NBHG sheet

17 WIRING DIAGRAM




POWER BOARD FUSES
F1 FEEDER FUSE 0,16 AT
F2 U.V. LIGHT FUSE 1 A
F3 LIGHT FUSE 2 A
F4 SOCKET FUSE – NEUTRAL 4 A
F5 SOCKET FUSE – PHASE 4 A
F6 EXHAUST MOTOR FUSE 3,15 AT
F7 LAF MOTOR FUSE 6,3 AT
F8 SOLENOID VALVE 1,6 A
NBHG BOARD FUSES
F1 MAIN FUSE 0,16 A
POWER BOARD BIOHP_FULL
TO BHCPU
FLAT CABLE
B2
OPTIONAL
NBHG
CABINET ON INDICATION (OPTIONAL)
CORRECT DOWNFLOW INDICATION (OPTIONAL)
CABINET ALARM INDICATION
EXTERNAL CONSENT CABINET ON
CABINET ON INDICATION
GASKET PRESSURE
GAS SOLENOID VALVE
GASKET SOLENOID VALVE
K10 220 Vac
OPTIONAL UV COMAND
K1 MY3 12Vdc
K2 MY3 12Vdc
Y1 24Vac
Y2 230Vac
B1
H1
H2
DRAW: K60025291000
PAGE 2 OF 7
NEXT 3
SAFEFAST PREMIUM
WIRING DIAGRAM
FEATURES: UV LED LAMPS
02 UV LED LAMP COMAND RELAY 04/11/2024 DATE 04/11/2024
01 UV LED LAMP WIRING UPDATE 17/07/2024 DRAW. G.G.
00 FIRST EDITION 24/05/2024 CONTR. G.S.
REV. MODIFY DATE APPR. P.B.


NBHG BOARD FUSES
F1 MAIN FUSE 0,16 A
OPTIONAL TOUCHSCREEN
CPU J19 TO RJ11SW3 J3
4/C2
ITEM CODE: V30000008210
FLAT CABLE
B3/1
F1
M05
MTR1
32 BROWN – UP
31 BLACK – DOWN
30 BLUE – COMMON
GLASS MOTOR
PE
5/E1
J21
J20
J19
J27
J18
J17
J16
J15
J14
J13
J12
J11
J10
J9
J8
J7
J6
J5
J4
J3
J30
J25
J22
CPU BOARD
BHCPU_C
B1
J1
J2
FLAT CABLE
FROM BIOHP
Brown2 (Signal)
Yellow2 (+5Vdc)
Green2 (GND)
S2 EXH ENCODER
Brown1 (Signal)
Yellow1 (+5Vdc)
Green1 (GND)
S1 LAF ENCODER
T2
internal temp.
T1
external temp.
FRONTAL WINDOW OPEN
FRONTAL WINDOW CLOSE
R1
POTENTIOMETER 10kOhm
7/B1
7/B1
20
11
2/E8
2/F8
SAFEFAST PREMIUM
WIRING DIAGRAM
FEATURES: UV LED LAMPS
DRAW: K60025291000
PAGE 3 OF 7
NEXT 4
02 UV LED LAMP COMAND RELAY 04/11/2024 DATE 04/11/2024
01 UV LED LAMP WIRING UPDATE 17/07/2024 DRAW. G.G.
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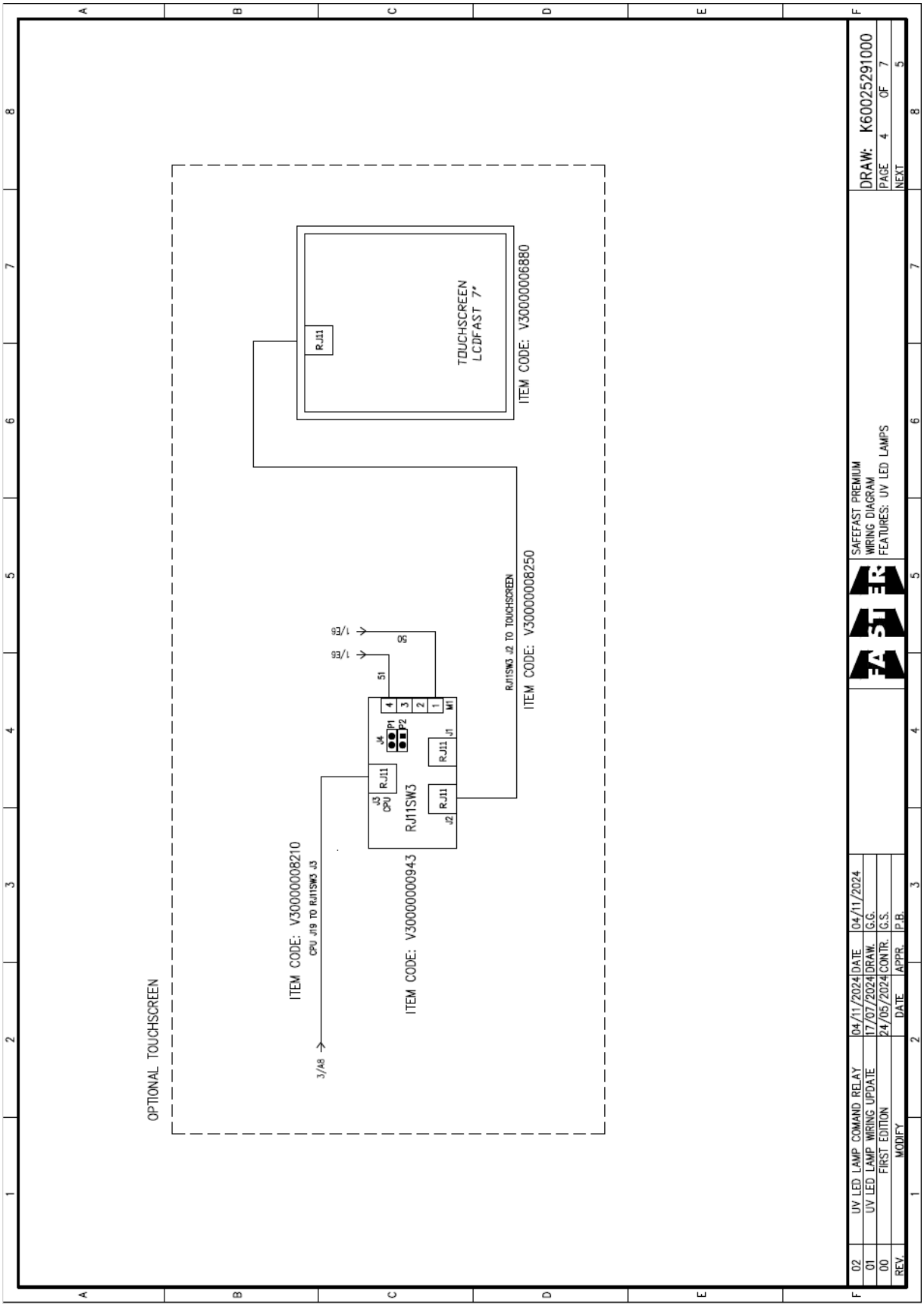
OPTIONAL TOUCHSCREEN
ITEM CODE: V30000008210
CPU J19 TO RJ11SW3 J3
3/A8
ITEM CODE: V30000000943
RJ11SW3
J3 CPU
RJ11
J4
JP1
JP2
J1
RJ11
J2
RJ11
M1
4
3
2
1
S1
1/E6
S0
1/E6
RJ11SW3 J2 TO TOUCHSCREEN
ITEM CODE: V30000008250
RJ11
TOUCHSCREEN
LCDFAST 7"
ITEM CODE: V30000006880
SAFEFAST PREMIUM
WIRING DIAGRAM
FEATURES: UV LED LAMPS
DRAW: K60025291000
PAGE 4 OF 7
NEXT 5
02 UV LED LAMP COMAND RELAY 04/11/2024 DATE 04/11/2024
01 UV LED LAMP WIRING UPDATE 17/07/2024 DRAW. G.G.
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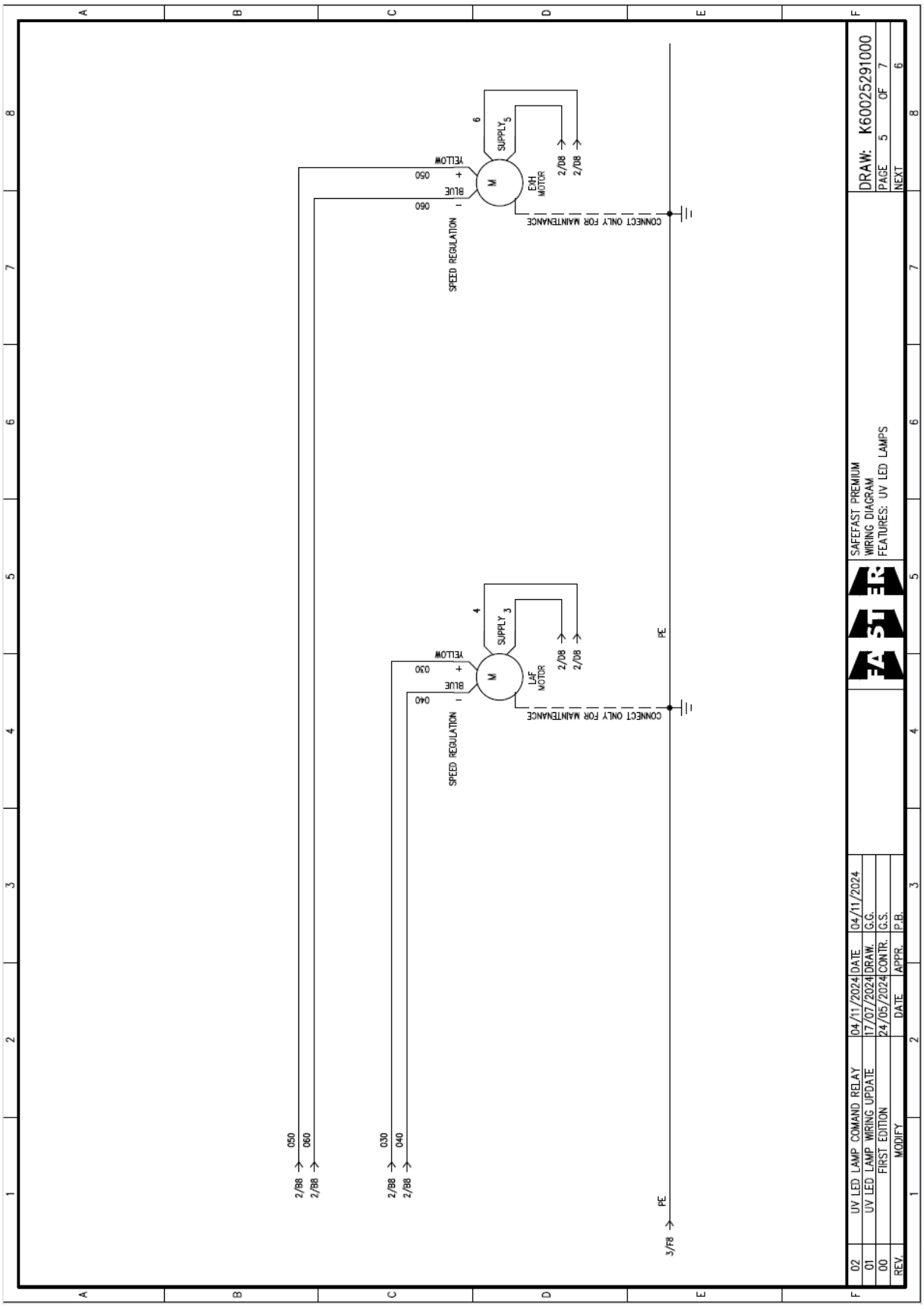
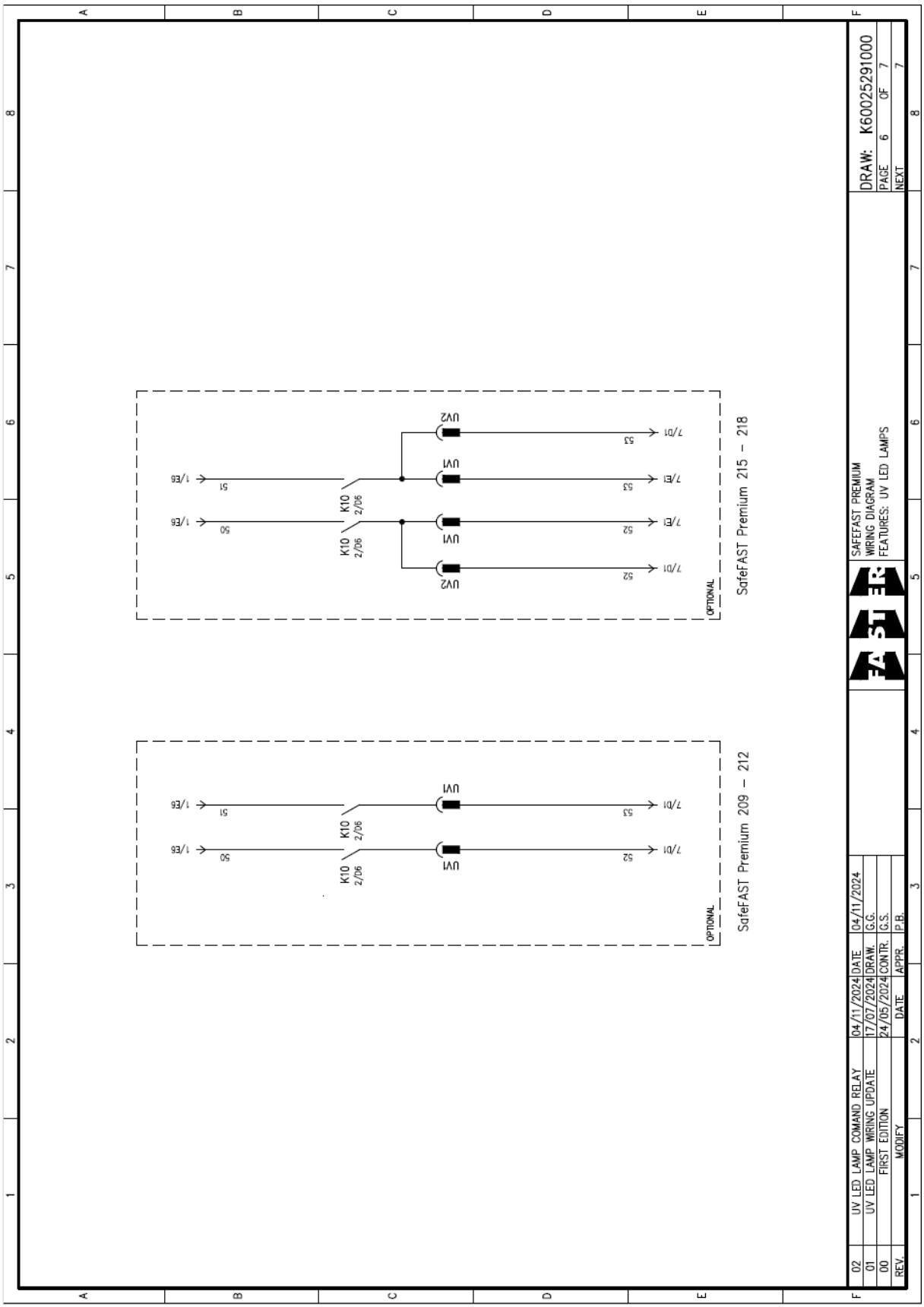
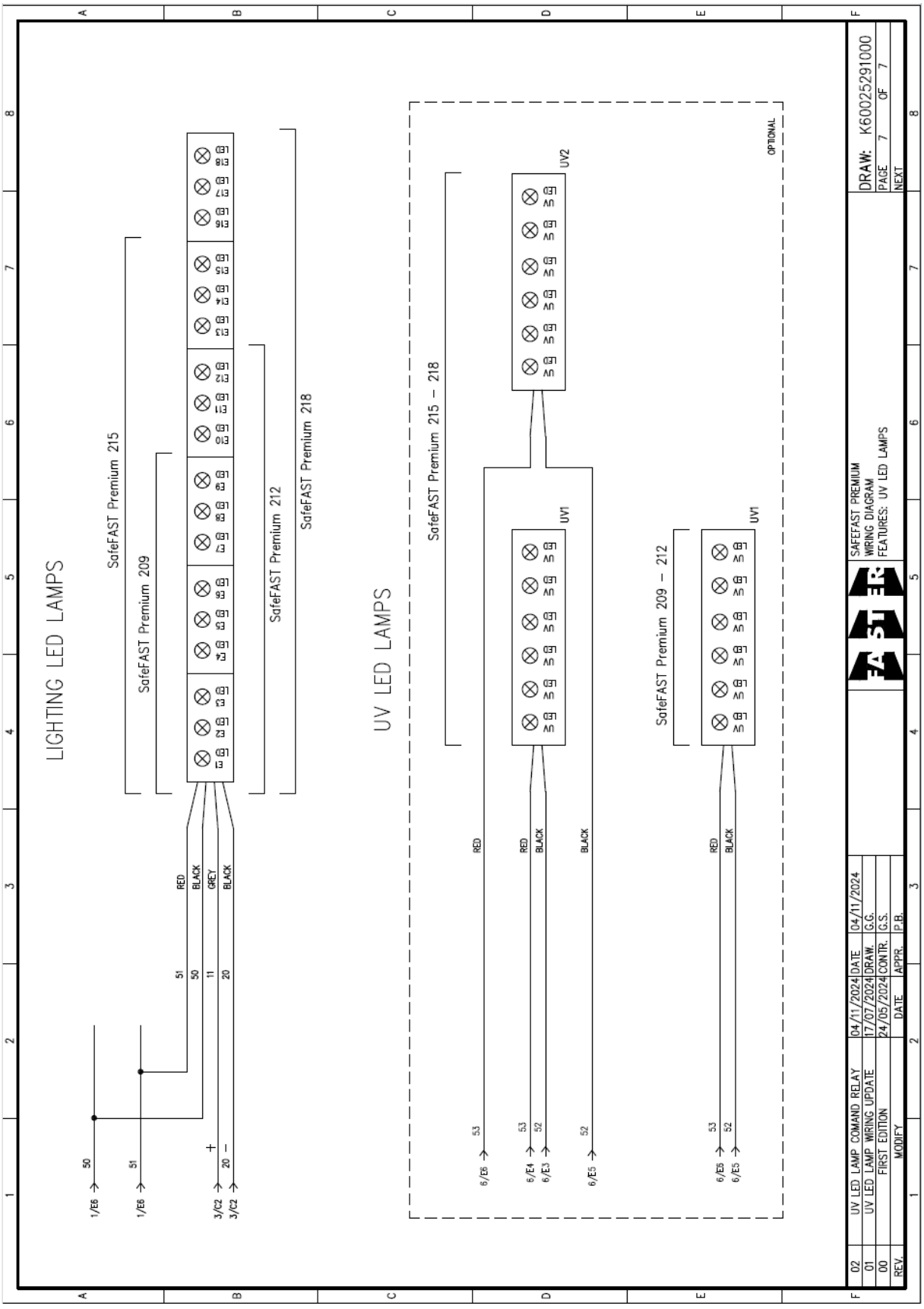

SAFEFAST PREMIUM
WIRING DIAGRAM
FEATURES: UV LED LAMPS
DRAW: K60025291000
PAGE 5 OF 7
NEXT 6
02 UV LED LAMP COMAND RELAY 04/11/2024 DATE 04/11/2024
01 UV LED LAMP WIRING UPDATE 17/07/2024 DRAW. G.G.
00 FIRST EDITION 24/05/2024 CONTR. G.S.
REV. MODIFY DATE APPR. P.B.
SUPPLY 5
EXH MOTOR
SUPPLY 3
LAF MOTOR
YELLOW
BLUE
050
060
030
040
SPEED REGULATION
CONNECT ONLY FOR MAINTENANCE
2/08
2/B8
PE
3/F8


SafeFAST Premium 215 – 218
SafeFAST Premium 209 – 212
OPTIONAL
K10 2/06
UV1
UV2
SAFEFAST PREMIUM
WIRING DIAGRAM
FEATURES: UV LED LAMPS
DRAW: K60025291000
PAGE 6 OF 7
NEXT 7
UV LED LAMP COMAND RELAY 04/11/2024 DATE 04/11/2024
UV LED LAMP WIRING UPDATE 17/07/2024 DRAW. G.G.
FIRST EDITION 24/05/2024 CONTR. G.S.
MODIFY DATE APPR. P.B.
REV.


LIGHTING LED LAMPS
SafeFAST Premium 215
SafeFAST Premium 209
SafeFAST Premium 212
SafeFAST Premium 218
RED
BLACK
GREY
BLACK
50
51
11
20
1/E6
1/E6
3/C2
3/C2
UV LED LAMPS
SafeFAST Premium 215 – 218
SafeFAST Premium 209 – 212
UV1
UV2
OPTIONAL
6/E6
6/E4
6/E3
6/E5
6/E5
6/E3
SAFEFAST PREMIUM
WIRING DIAGRAM
FEATURES: UV LED LAMPS
DRAW: K60025291000
PAGE 7 OF 7
NEXT
02 UV LED LAMP COMAND RELAY 04/11/2024 DATE 04/11/2024
01 UV LED LAMP WIRING UPDATE 17/07/2024 DRAW. G.G.
00 FIRST EDITION 24/05/2024 CONTR. G.S.
REV. MODIFY DATE APPR. P.B.

18 DECLARATION OF CONFORMITY

drawn up in accordance with Annex II.A of Directive 2006/42/EC. The undersigned legal representative of the company, Faster S.r.l. Via R. Merendi 22,20007 Cornaredo (MI) Italy.

Declares the following products:

SafeFAST Premium Touch

comply with the following directives:

2006/42/EC Directive of the European Parliament and of the Council on machinery

2014/30/EU Directive of the European Parliament and of the Council on the approximation of the laws of the Member States relating to electromagnetic compatibility.

2014/35/EU Directive of the European Parliament and of the Council on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.

2011/65/EU Directive of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS 2).

2009/125/EU Establishment of a framework for the setting of ecodesign requirements for energy-related products.

and with the following standards:

EN 12469:2000 Biotechnology: Performance criteria for microbiological safety cabinets

EN 61010-1 Safety requirements for electrical equipment for measurement, control and laboratory use Part 1: General requirements.

EN 61326-1 Electrical equipment for measurement, control and laboratory use EMC requirements.

and, according to the above-mentioned directives, the CE IIA mark has been applied. The undersigned also declares that the person authorised to compile the relevant technical documentation is Ing. Pietro Bascapè

Cornaredo, February 2025

Faster S.r.l.

Maria Giulia Turzi

Chairman of the Board of Directors