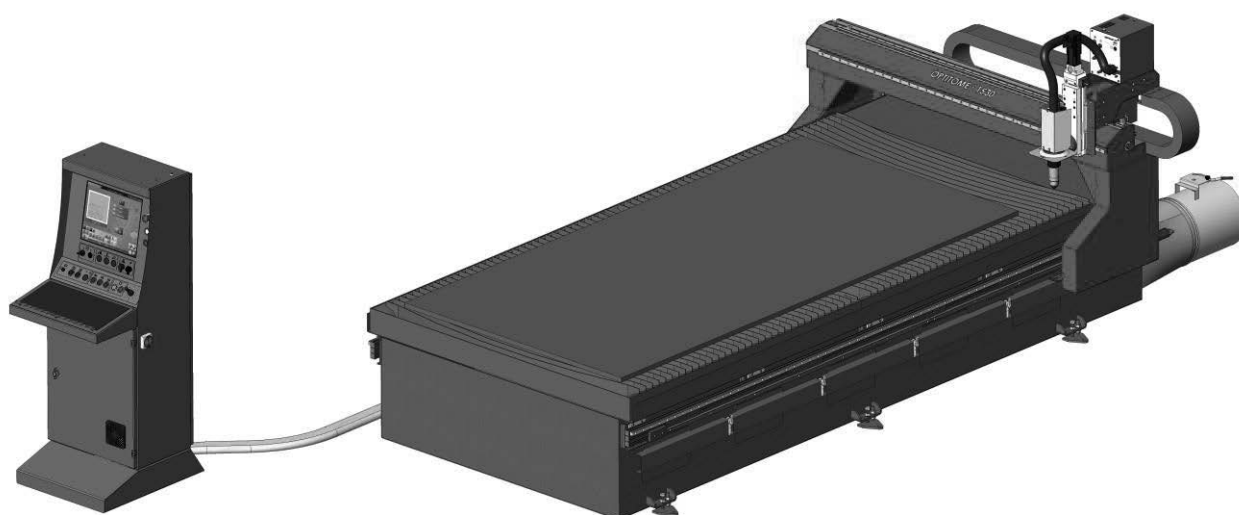


CUTTING MACHINE

OPTITOME²

HPC II

SAFETY INSTRUCTIONS FOR USE AND MAINTENANCE



EDITION : EN
REVISION : C
DATE : 02-2024

Instructions for use

REF : **8695 4788**

Original instructions

LINCOLN[®]
ELECTRIC

Thank you for the trust you have expressed by purchasing this equipment, which will give you full satisfaction if you follow its instructions for use and maintenance.

Its design, component specifications and workmanship comply with applicable European directives.

Please refer to the enclosed CE declaration to identify the directives applicable to it.

The manufacturer shall not be liable if the product is used in association with items not recommended by the manufacturer.

For your safety, below is a non-limitative list of recommendations or requirements, many of which appear in the labour code.

Lastly, please inform your supplier of any error you may find in this instruction manual.

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INFORMATIONS

DISPLAYS AND PRESSURE GAUGES

The analogue and digital measuring devices or displays of voltage, current, speed, pressure, etc. are to be considered as indicators

N°	MACHINE
07005030NG	OPTITOME ² HPC II 1530
07005010NG	OPTITOME ² HPC II 2010
07005040NG	OPTITOME ² HPC II 2040
07005060NG	OPTITOME ² HPC II 2060

REVISIONS

REVISION B

03/20

DESIGNATION	PAGE
Update	C-9

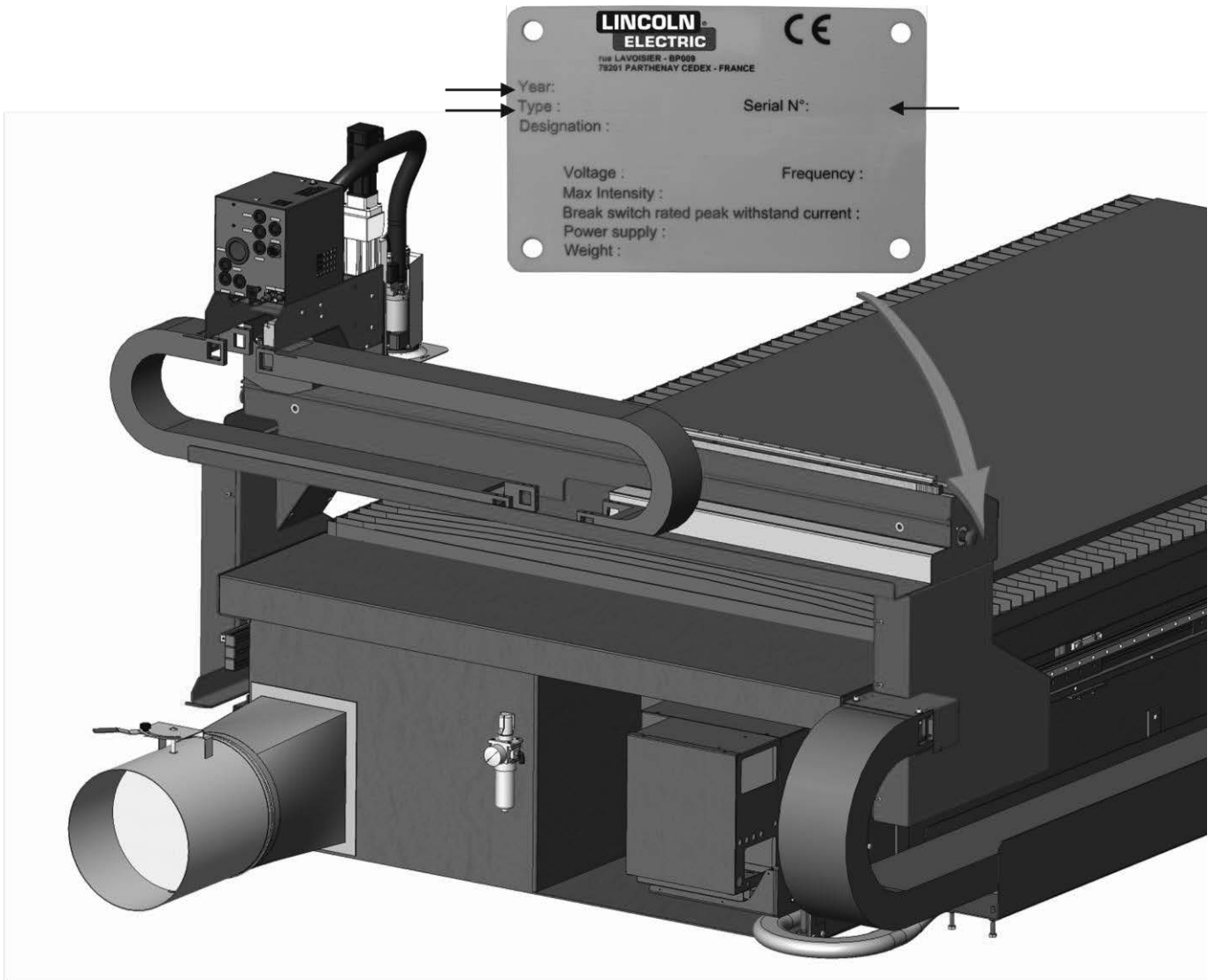
REVISION C

02/24

DESIGNATION	PAGE
Disconnecting valve added	

A - IDENTIFICATION

Quote this information in all correspondence.



B - SAFETY INSTRUCTIONS

For general safety instructions, please refer to the specific manual supplied with the equipment « 8695 7050 ».



1 - AIRBORNE NOISE

Please refer to the specific manual supplied with the equipment.

2 - CONSIGNES PARTICULIERES DE SECURITE



HANDLING

- For installation or maintenance operations, the operator must use the lifting eyes provided for that purpose and shown on the drawing.



CONDITIONS OF USE

- No object is to be placed on the rolling tracks.
- Do not climb on the cable drag chain.
- Before handling sheets, make sure that the safety of persons and property is protected.
- Before using the machine, make sure that all the guards are in place.
All guard covers must be screwed in.
Only authorised personnel may access electrical cabinets, which must have locking systems.
- No maintenance may be carried out on the machine when it is supplied with power.
- For any extended absence, the operator must shut off the supply of utilities (electricity and fluids).
- Before anyone starts working between the rolling tracks, make sure that the power supply to the machine has been switched off (locking an emergency stop button is sufficient).
- Switch the power source off while changing the wearing parts of the torch if the plasma process is being used.



STABILITY


- The machine must be anchored to the floor.




"No climbing on the structure of the machine other than on platforms or gangways designed for that purpose. To access equipment at heights, the user must use accessing means in accordance with the regulations, such as a safe mobile gangway, lift basket etc".




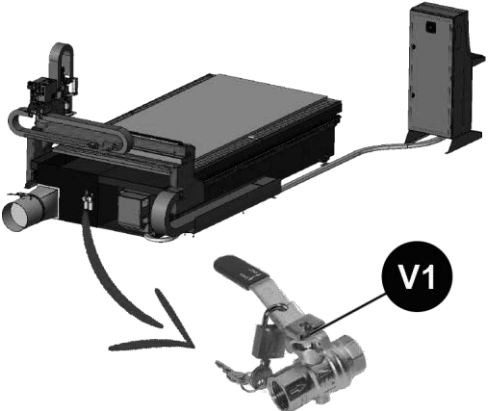
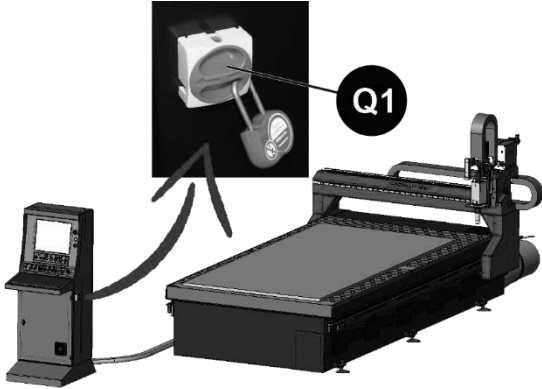
Clean the working area from time to time.


 This machine may only be moved by its designer, namely **LINCOLN ELECTRIC**.

 **Never modify the machine.**
The machine **is not** designed for anchoring lifting equipment.

 The use of Personal Protective Equipment (PPE) is **mandatory**.

 Machine **maintenance** must be carried out **with all the energy supplies switched off**.
The disconnection and padlocking of all energy sources is **mandatory**.

Pneumatic locking out:	Electrical locking out:
<p>Pneumatic locking out is achieved by means of the disconnecting valve « V1 ».</p> 	<p>Electrical locking out is achieved by means of the disconnecter « Q1 ».</p> 

 The emergency stop and safety lines must be interlocked and tested in accordance with the electricity diagram of the machine.

HANDLING OF PARTS



- The equipment for handling workpieces that have been or need to be cut is not part of the supply and is to be provided by the customer. The customer must therefore take protective measures appropriate for the equipment for handling the workpieces.
- **IMPORTANT:** While handling sheets to cut, take the necessary precautions to avoid impacts on the machine and the rolling tracks.
- Impacts on any of the elements can lead to squareness faults or the malfunctioning of the electrical shaft and therefore incorrect cutting of the workpieces.
- For safety reasons, the operator may not climb on the cutting tables to handle the workpieces.
- An accidental manoeuvre could restart the movement unintentionally.
- The machine must remain under the supervision of a trained operator when it is operating.

IMPORTANT :



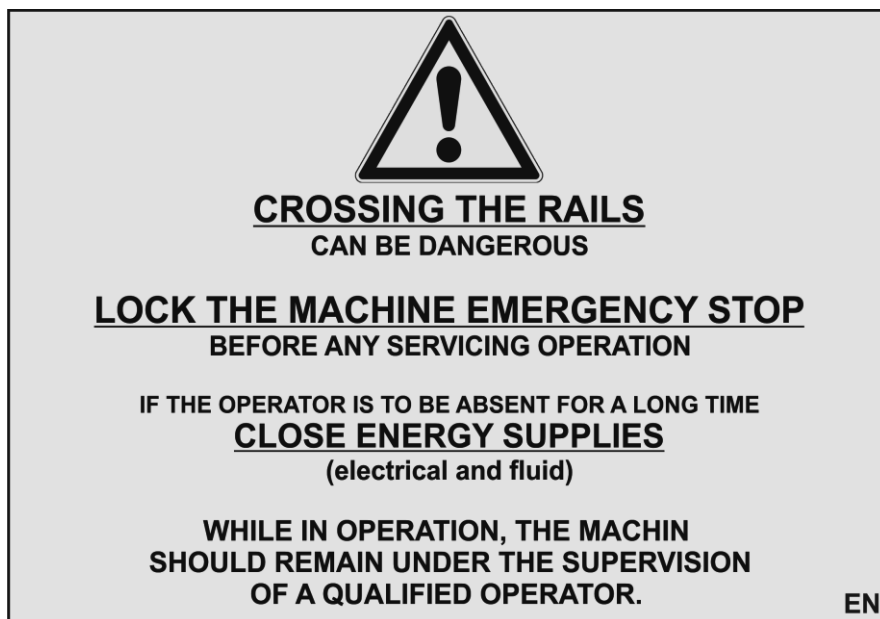
BEFORE ANY MAINTENANCE OPERATION, REMEMBER TO :

- Switch off and lock out the electricity supply
- Switch off, flush and lock out the gas and compressed air supplies.

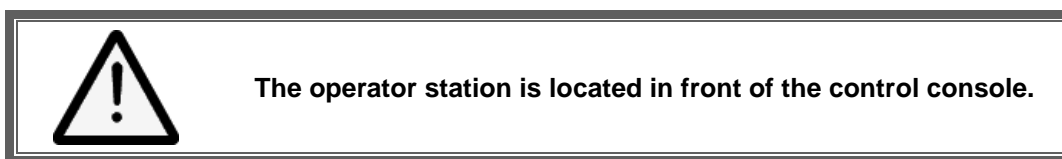


IMPORTANT! "Do not remove the Nylstop nuts from the fastening screws of the guards: they keep them captive"

For safety reasons, please apply the label supplied in this folder near the machine control console.



3 - LAYOUT



The machine you have purchased can be hazardous if you do not take certain precautions for use.

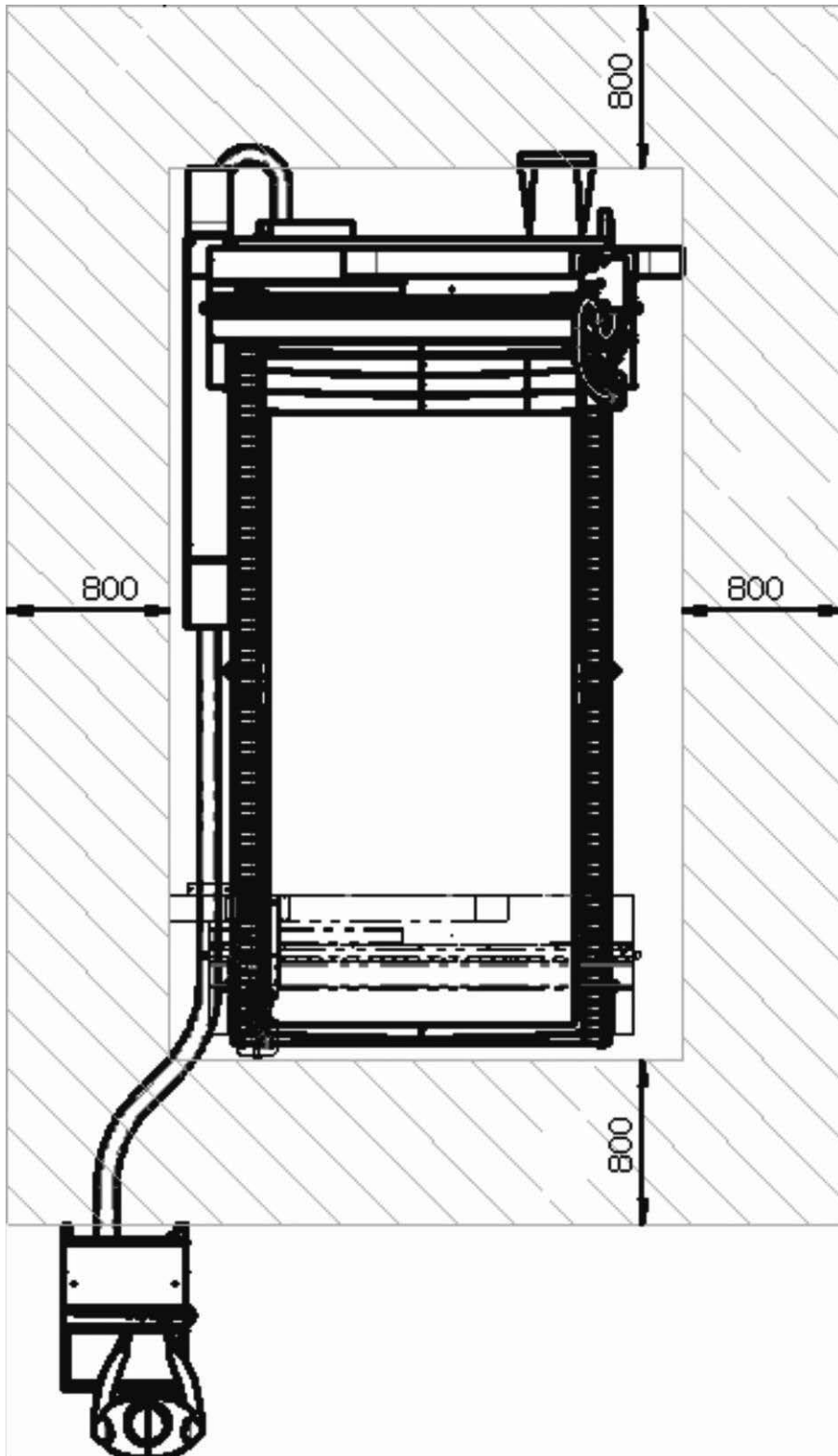
Make sure that no part of the machine can come within less than 500 mm of an obstacle according to the safety standards NF EN 349.

Important: the operator passage way must absolutely be clear over a minimum width of 800 mm according to safety standards NF EN 547-1-3.

The floor should be marked out as shown in the enclosed drawing.

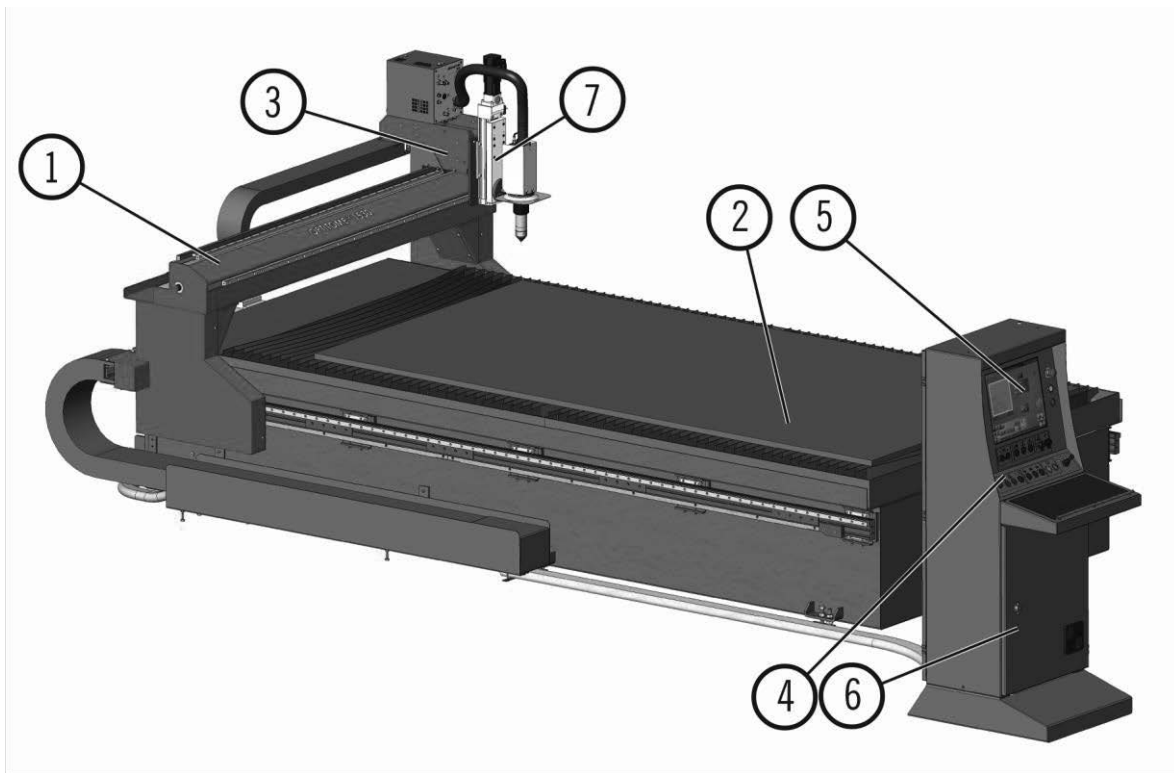
While accessing the marked area, any person could be hit by the machine or the cable drag chain.

See layout drawing supplied



C - DESCRIPTION

1 - DESCRIPTION



1	Beam
2	Cutting table with guide rails
3	Tool carriage
4	Control panel
5	CNC control
6	Electrical power system
7	Tool holder

2 - GENERAL

This is a numerically controlled single-piece plasma cutting machine that is particularly suited to industries that use steel, stainless steel and aluminium for plates measuring :

- 1500*3000 => **OPTITOME² 1530**
- 2000*4000 => **OPTITOME² 2040**
- 2000*1000 => **OPTITOME² 2010**
- 2000*6000 => **OPTITOME² 2060**

The main intended applications are those of iron workers, metal workers, air processing, air-conditioning, ventilation, refractory industries, workshops producing in small and medium runs or support production.

It is managed by a CNC control of the type **HPC II DIGITAL PROCESS HPI**.

This machine uses:

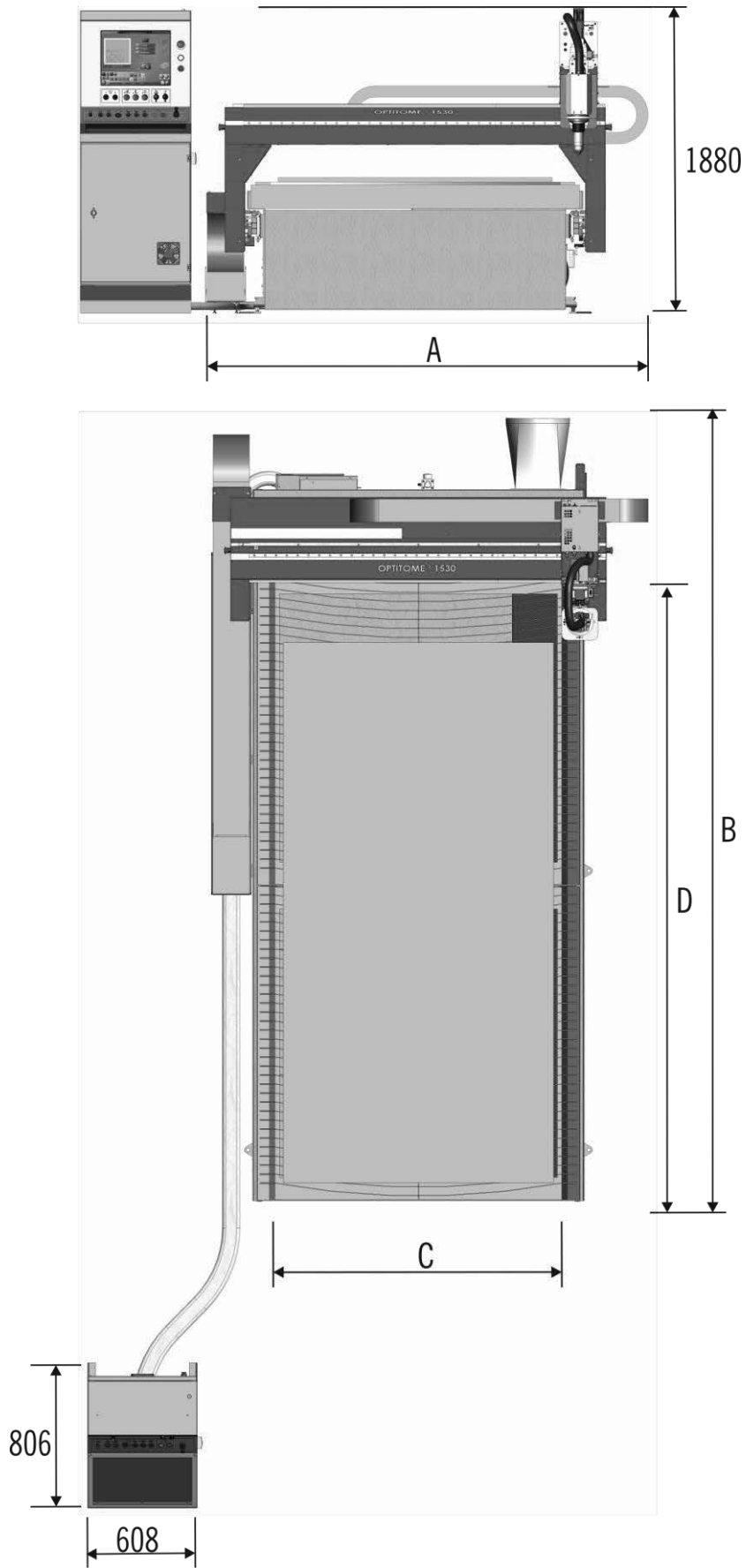
- all the dry plasma cutting methods
- optional oxycutting to allow the occasional cutting of black steels, maximum thickness 50mm,
- optional WEN marking or FELT marking.

The control console supports the operating approach.

The integration of an extraction table (included in the basic offer) that can be connected to any extraction and/or filtration system and fitted with slag collector boxes makes its conditions of use maximally safe and healthy. The plate frame is removable, giving easy access for cleaning the boxes, or for replacing it to make it easier to load and unload cut pieces.

The frame is 800mm high and has been designed to allow access so that the distance between the edge of the rails and the side ends of the table is as short as possible.

3 - MECHANICAL ASSEMBLY



Size	A (mm)	B (mm)	C (mm)	D (mm)
1530	2550	4375	1500	3000
2010	3050	2550	2000	1000
2040	3050	5325	2000	4000
2060	3050	7380	2000	6000

This is a single-piece machine made up of a mechanically welded cutting table, with, on each side, a guide rail with ball slides and a rack to guide and move the beam

Two guide rails with ball slides and a rack are fixed to the beam, to guide and move the tool carriage

The high feed speed is 15m/min

A console cabinet to be fastened to the floor contains all the electrical and electronic equipment that is required for control and operator dialogue

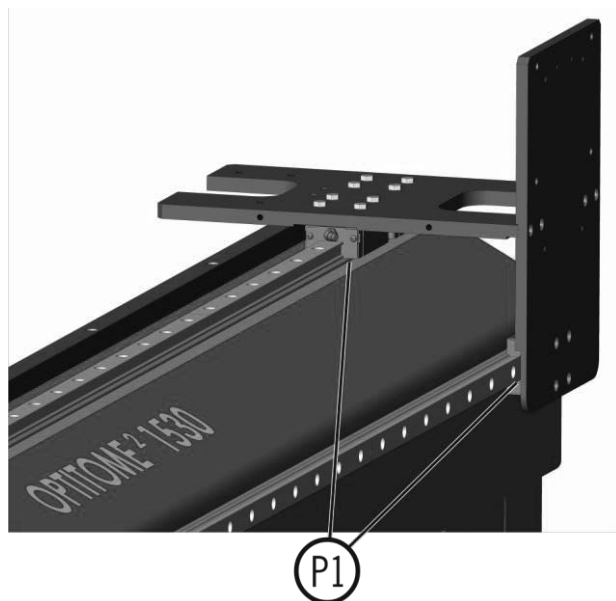
4 - CUTTING TABLE

This is a mechanically welded box that is fixed to the floor between the machine frame, and which has a $\varnothing 350$ outlet for connection to an extraction system. For this table, we recommend the use of extraction with filtration that is suited to machine performance.

A removable support frame for the piece to cut, made of sheet metal for plasma cutting, is placed on the box.

The bottom contains slag collector boxes that are easily removable for cleaning.

5 - TRANSVERSE CARRIAGE

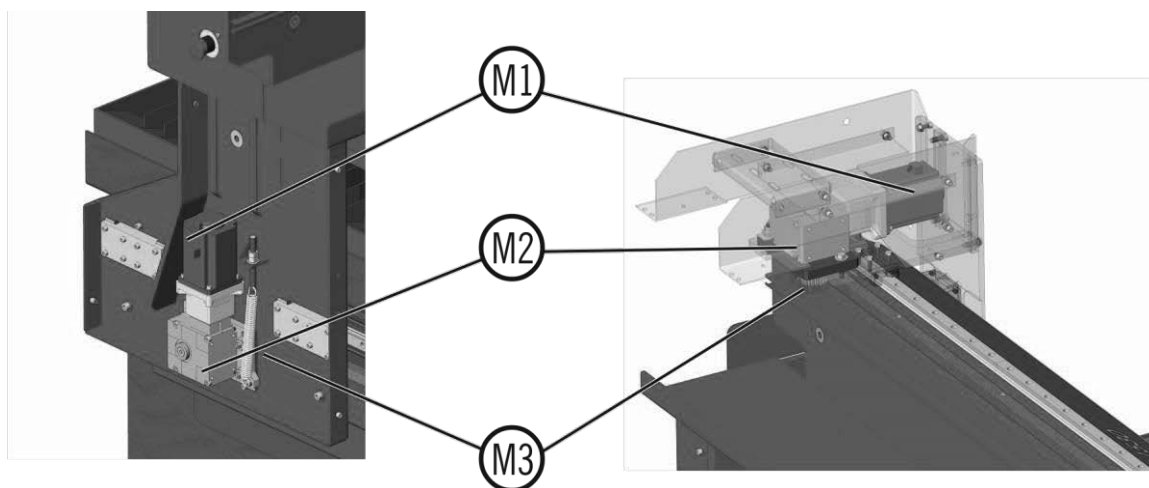


The carriage has three ball slides P1 for optimum guidance.

The powered carriage has the following functions:

- Support for transverse power system
- Support for one or more tools with option.

6 - POWER SYSTEMS



M1	Motor power BRUSHLESS « 750W 3000 rpm »
M2	Reduction gear, reduction 1/19.5
M3	M2 20-tooth pinion

7 - CONSOLE

The control console of this range includes the CNC control **HPC II DIGITAL PROCESS HPI**, with all the controls required for starting up the machine and operating the cutting cycle.

This console is available in two versions :

✓ **Essential**

Most controls are available only on the touchscreen.

✓ **Advanced**

The most used commands are available on buttons on the front face for a better maneuverability of the machine and the process.



Console Essential



Console Advanced

D - ASSEMBLY AND INSTALLATION

1 - CONDITIONS OF INSTALLATION

THE LAYOUT OF THE INSTALLATION MUST COMPLY WITH SAFETY STANDARD NF EN 547 -1 - 3 TO ENSURE PERSONAL PROTECTION



THE FOLLOWING CONDITIONS MUST BE COMPLIED WITH BEFORE INSTALLING THE EQUIPMENT



ELECTRICITY SUPPLY see supply drawing provided

VERY IMPORTANT

The power cable (customer supply) must have a section suitable for the power rating of the installation. The customer is responsible for protecting the power cable and the installation itself.

Such protection must be appropriate for the neutral point treatment of the electricity supply.

The information required for sizing the protection is provided on the identification plate of the installation.

SUPPLY OF GAS see supply drawing provided

PNEUMATIC SUPPLY see supply drawing provided

The user must provide a source of compressed air with a regulator that can supply the required flow and pressure. The air must be clean, de-oiled and degreased.

QUALITY CLASS: as per standard ISO 8573-1

Solid pollutant class	Class 3	Grain size 5 μ m	Mass concentration 5mg/m ³
Water class	Class 3	Maximum dew point under pressure -20 ^o C	
Total oil class	Class 5	Concentration 25 mg/m ³	

ARRANGEMENT OF CABLES AND FLEXIBLE HOSES

* The customer must provide the means to support and protect cables and flexible pipes from mechanical, chemical or thermal damage from their source up to the entrance to the cable drag chain and from the machine up to the entrance to the control console.

TOOLS REQUIRED FOR INSTALLING THE MACHINE ON THE SITE

- Level, accuracy 1/10 per metre
- Impact drill for concrete, for bit Ø16
- Decameter
- Chalk line
- Vacuum cleaner
- 24 mm open-ended spanner
- 24 mm ring spanner

2 - FLOOR PREPARATION

See layout drawing supplied

The floor does not need any particular preparation for installing the machine; however, we recommend a concrete floor for the machine to be satisfactorily stable.

Concrete screed in a single stretch (200 mm thick) made at least 21 days before (standard BAEL 91). The thickness of the screed and its reinforcement are given for guidance, and must be verified depending on the characteristics of the floor.

Single concrete longitudinal member. 20 Mpa (350 kg/m³) concrete with metal reinforcement.

Flatness over the entire site with additional travelling tracks ± 10 mm.

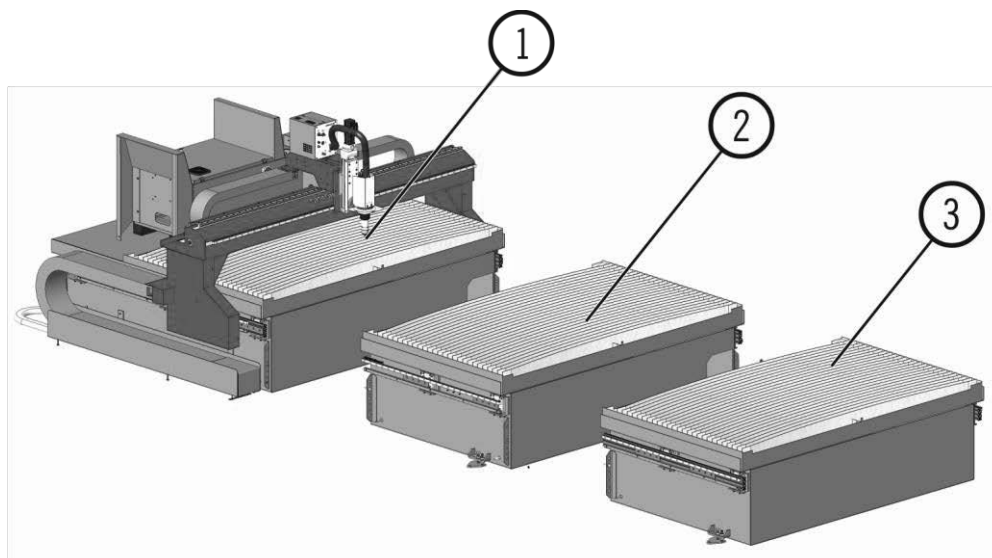
30 mm level difference of screed (5 mm/m max.).

3 - PUTTING IN PLACE OPTITOME 2040

The components of the installation may only be transported using the slinging points provided, with appropriate slinging equipment.


Check the flatness of the floor with an optical level and identify the high point.

1) Installation of thee parts of the table.

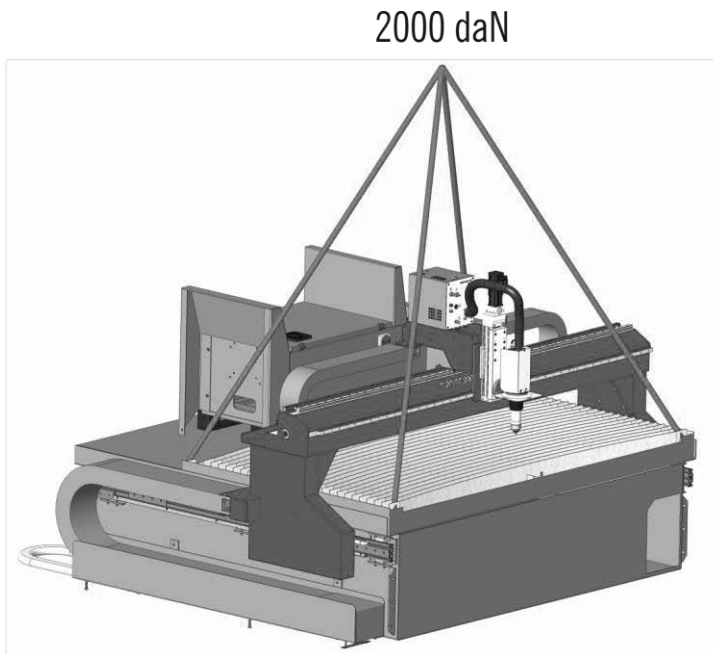



1	Part 1
2	Part 2
3	Part 3

- Place part 1 of the table at its intended location,



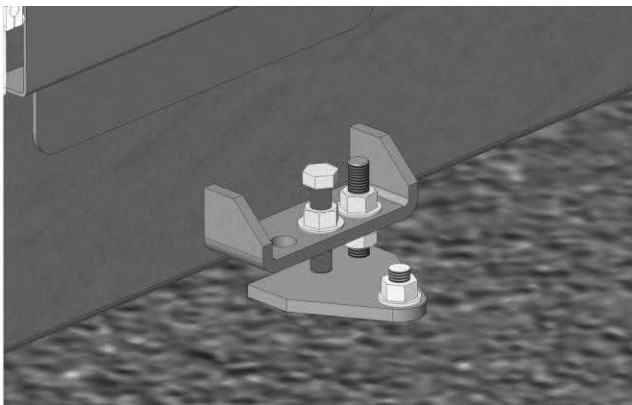
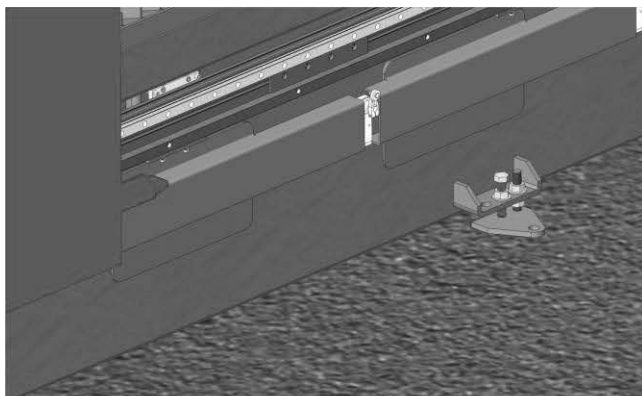
IMPORTANT! The use of adjustable chains with four strands is highly recommended.



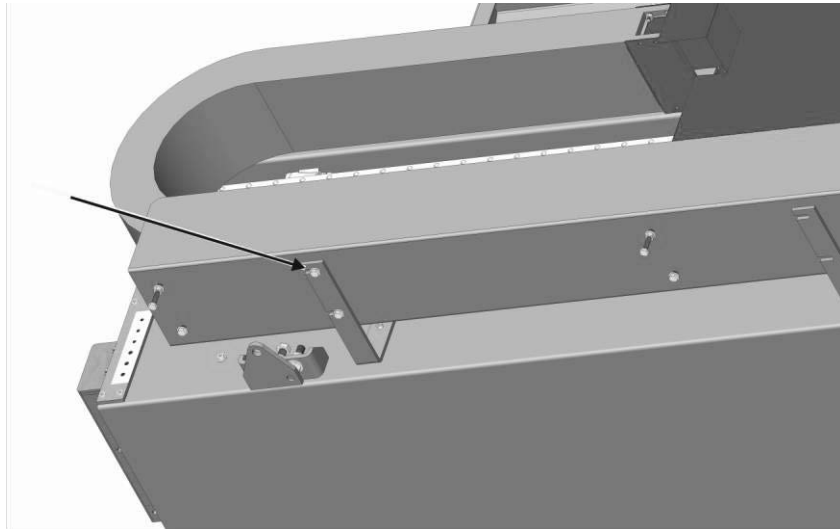


Operator protection:
Helmet - Gloves - Safety shoes

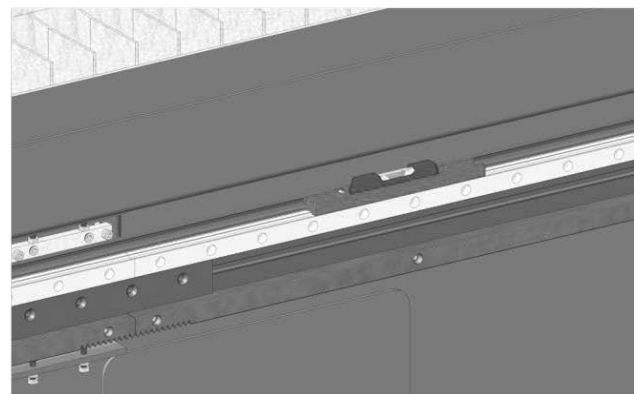
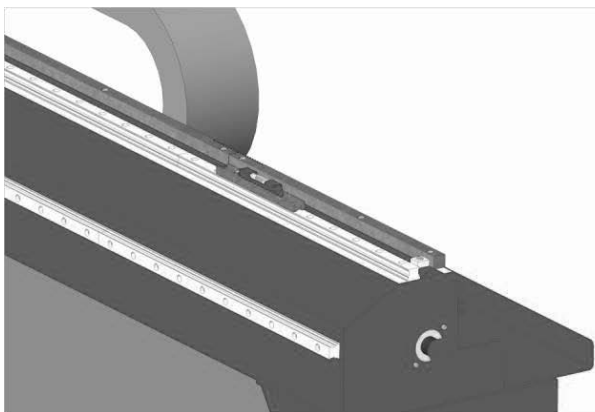
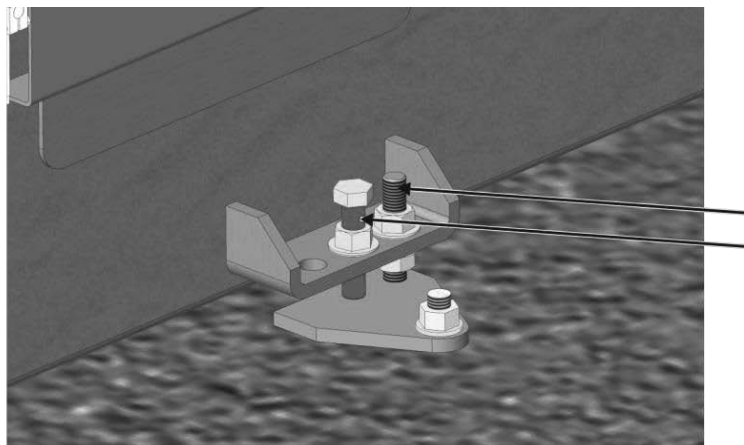
- Unload the console and the bundle pallet (60 daN),
- Pre-adjust the level using the adjustment screws,
- Anchor the table to the floor at the four corners with the dowels supplied,



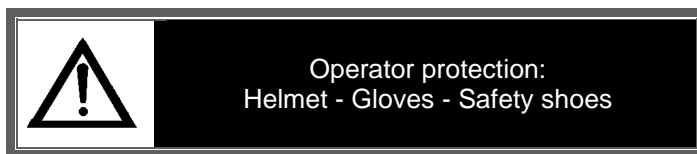
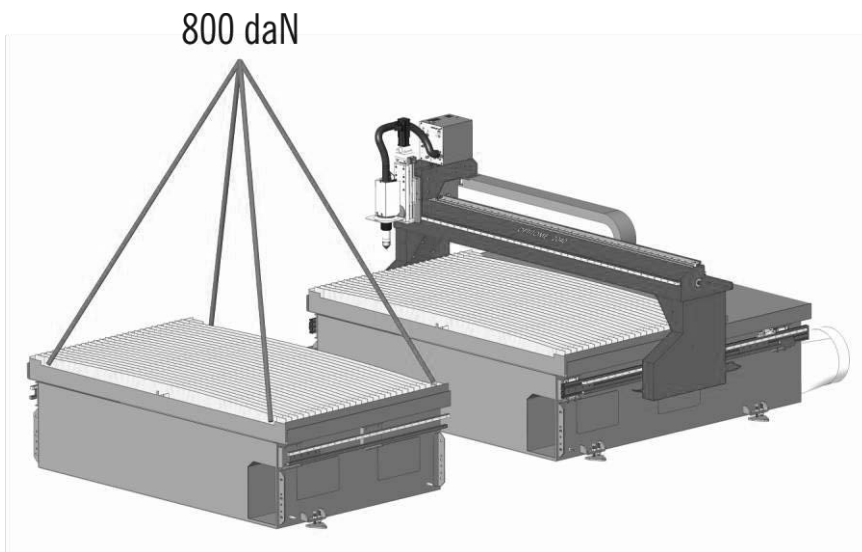
- On the left-hand side, loosen the two duct transport screws to slightly move away the duct and access the fastening plates (mind the cables and pipes),



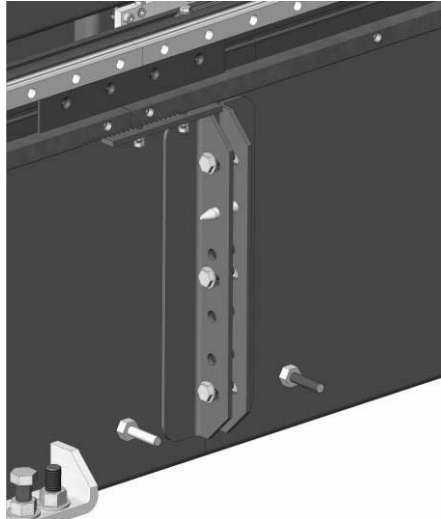
- Adjust the machine horizontally with the adjustment screws in the two planes, placing the level on the guide rails



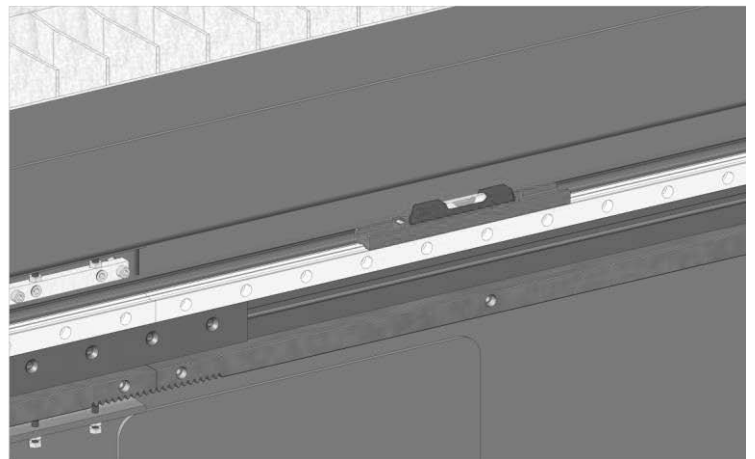
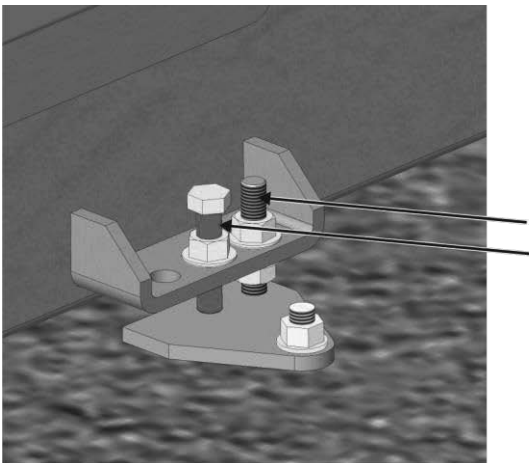
- Block the lock nuts of the adjustment screws,
- Sling part 2 of the table,



- Set the next part of the table against part 1, using the two centring pins as your guide,
- Bolt the two parts of the table,



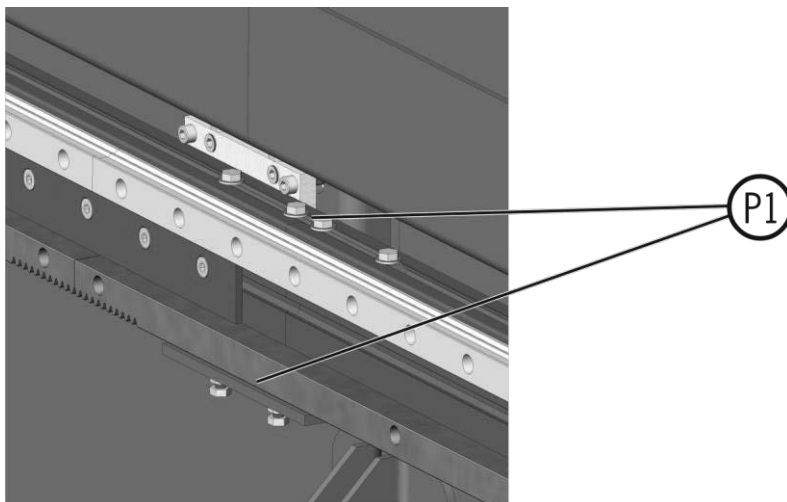
- Pre-adjust this part of the table horizontally using the adjustment screws, by placing the level on the guiding rails,



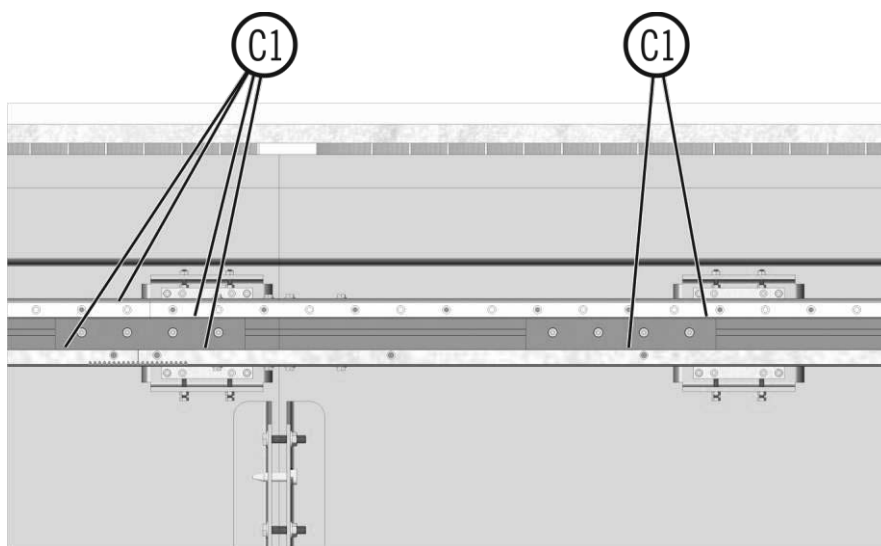
2) Setting up the rails and racks

IMPORTANT! Do not move the guide rails and racks of part 1 of the table.

- Join the ends of the aluminium sections to each other with the joining irons **P1**, without locking them,

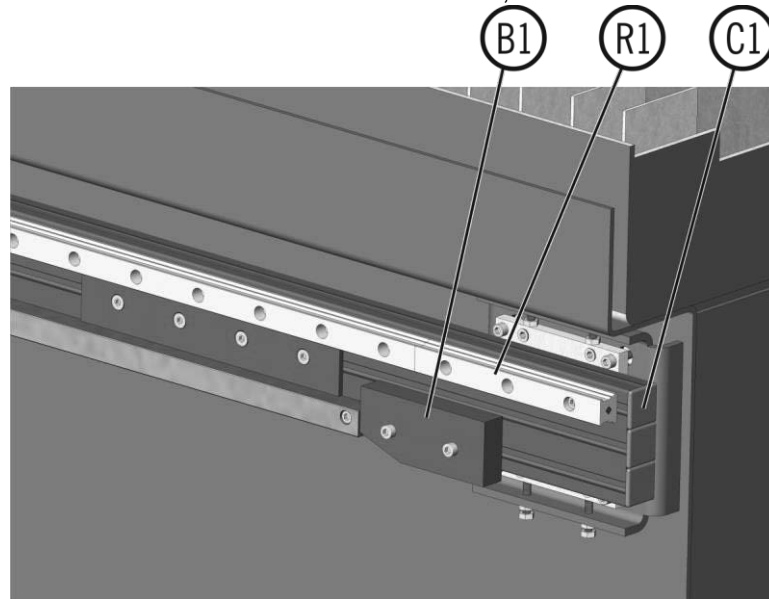


- Loosen the guide rails and racks and put them in contact **C1** with those of part 1,
- Lock them, making sure they are in close contact with the support irons that act as the positioning reference,
- Also lock the section joining irons,

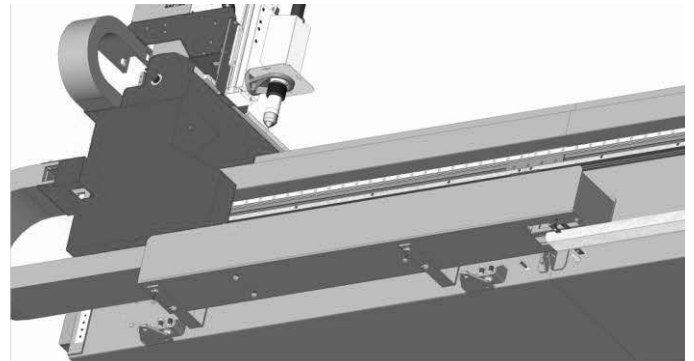
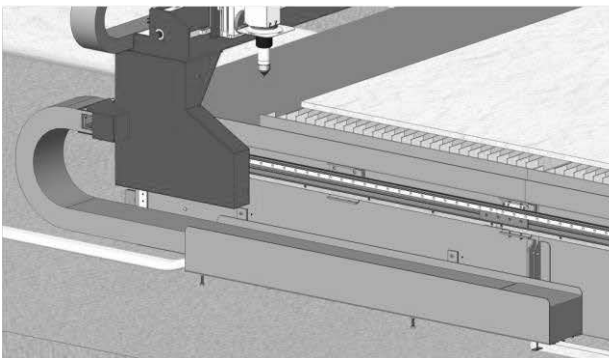


- Fasten this part of the table to the floor and adjust it horizontally using the adjustment screws, by placing the level on the guiding rails,
- Proceed similarly with part 3 of the table

- Add the 180mm guide rail **R1** on each side and the mechanical stop **B1** to the left,
- Put the covers **C1** at the end of the aluminium sections,



- Fasten the chain duct in the two supports, taking support from the floor with the two outer screws



4 - PUTTING IN PLACE OPTITOME 1530

The components of the installation may only be transported using the slinging points provided, with appropriate slinging equipment.

Check the flatness of the floor with an optical level and identify the high point.

- Place the machine in its location,

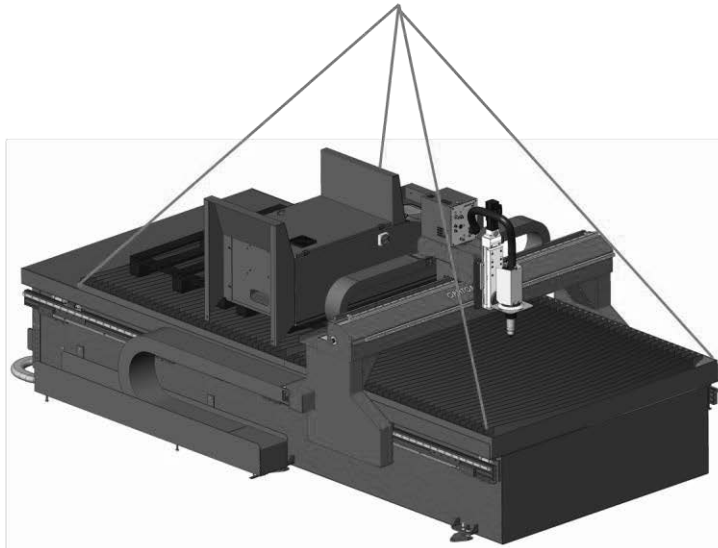


IMPORTANT! The use of adjustable chains with four strands is highly recommended.

160 daN

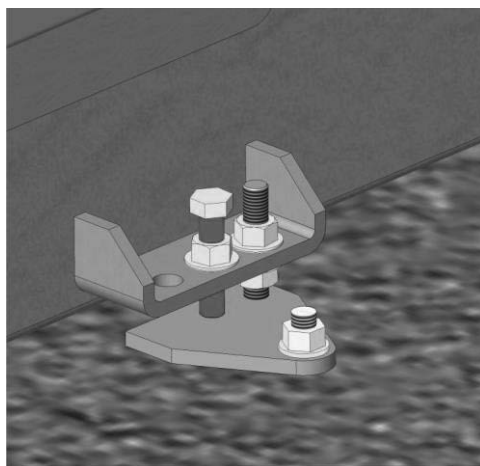


2800 daN

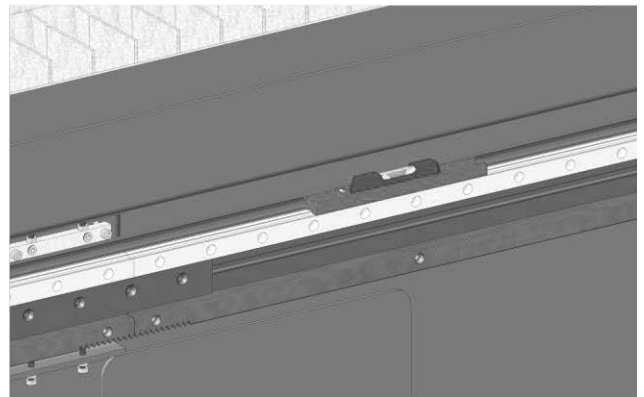
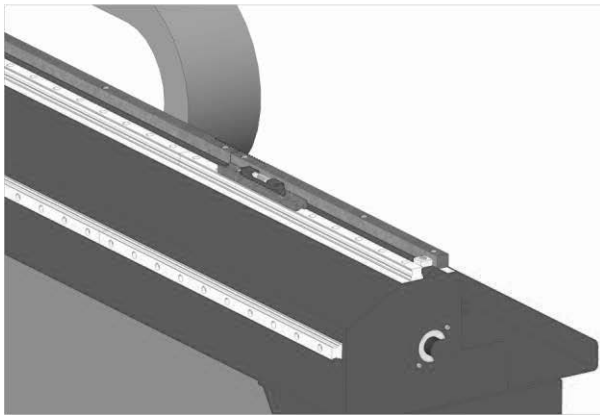
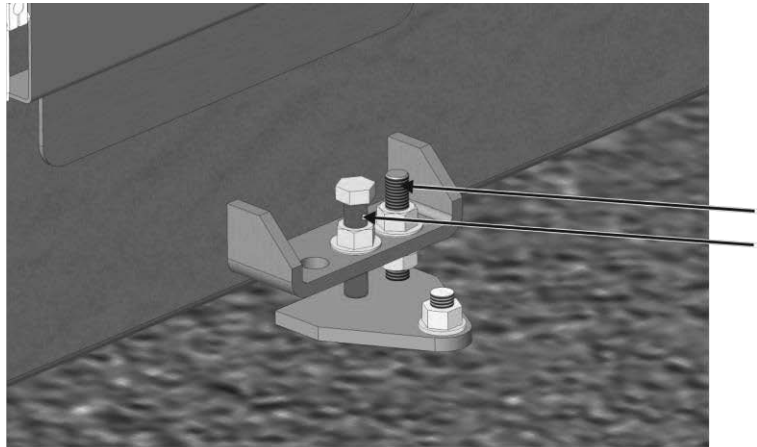


Operator protection:
Helmet - Gloves - Safety shoes

- Unload the console (160 daN) and the bundle pallet (60 daN),
- Pre-adjust the level using the adjustment screws,
- Anchor the table to the floor (6 feet) with the dowels supplied,



- Adjust the machine horizontally with the adjustment screws in the two planes, placing the level on the guide rails



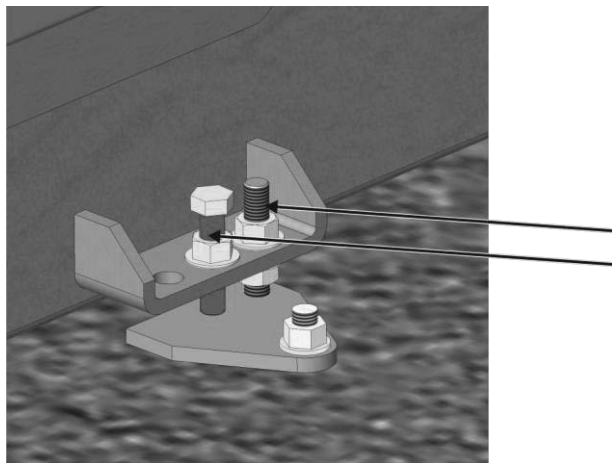
- Block the lock nuts of the adjustment screws,

5 - CONNECTING THE ENERGY SUPPLIES

Please refer to the location and energy supply drawings supplied



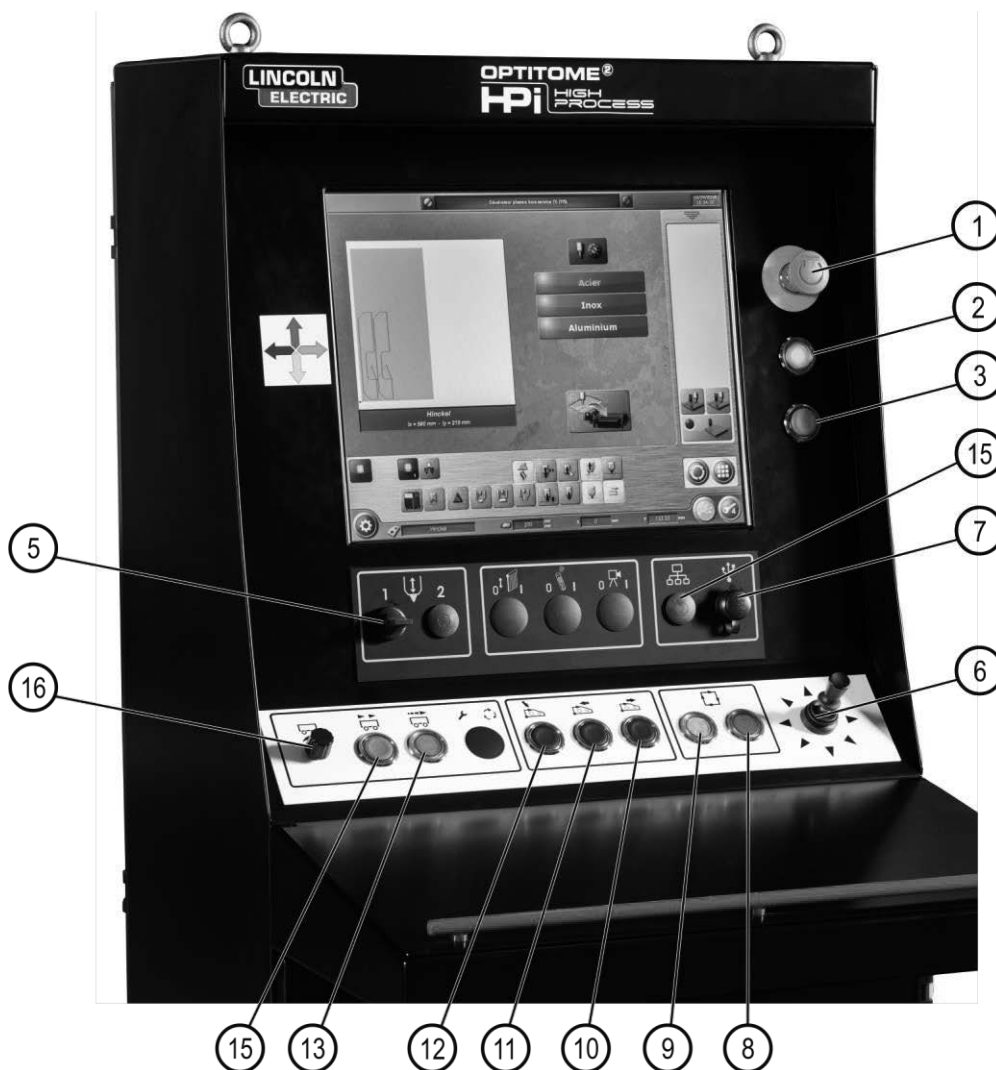
IMPORTANT! After switching on the power to the machine, check the whole machine with an optical level, setting the sight on the ends of the beam guide rail and moving the machine electrically; if necessary, readjust with the help of the adjustment screws and the fastening plates.



Note: In no event is there any need to disengage the power systems

E - OPERATOR MANUAL

1 - DESCRIPTION OF CONTROLS



Item	Fonction
1	Emergency stop button
2	On button and indicator
3	Off button
5	Plasma tool up and down button
6	Manual movement in the direction defined by the joystick
7	USB socket
8	Stop cycle / Pausing cycle / Fault indicator
9	Start cycle
10	Forward along path
11	Backwards along path
12	Back to program zero point
13	Button for switch to held movement
14	Button for switch to high speed
15	RJ45 socket
16	Machine speed setting

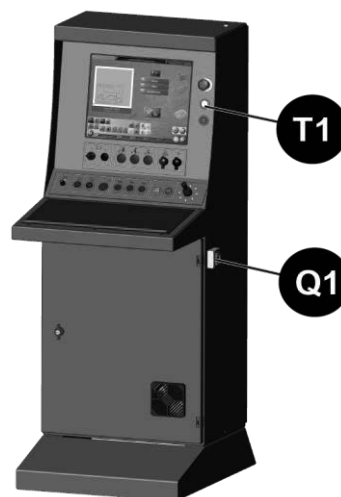
2 - STARTING UP THE MACHINE

- Open the compressed air valve "V1".



- Power up the machine by moving the switch Q1 to the position I.

The indicator T1 will go on.



This machine operates with an HPC II DIGITAL PROCESS HPI control system with a touch screen.

When the power is switched on, the **HPC II DIGITAL PROCESS HPI** control system is initialised. (approximately 1 min).

At the end of the initialisation process, the screen displays:



- Press the button **2** to put the machine into service. The button **2** will light up
- If the button does not light up, check that the emergency stops **1** and at the end of the beam are released.
- When it is turned on, **HPC II DIGITAL PROCESS HPI** indicates any plasma installation starting up faults.
- The lamp **8** will light up and the messages will be displayed on the screen display bar. Click the bar and follow the instructions.

The machine is now ready to operate

The **HPC II DIGITAL PROCESS HPI** control can manage the cutting parameters depending on the equipment and the material to cut, associated with workpiece programs.

The workpiece programs are taken from standard shapes or imported from a CAD system

The association of a workpiece program and cutting parameters constitutes a JOB, which can be saved.

Each program and each job can be copied, edited or exported.

There are several ways to cut workpiece:

- ◆ Select a JOB to make a workpiece that has already been made
- ◆ Select a program, then the material and cutting performance
- ◆ Select a standard shape, enter its dimensions and then the material and cutting performance (for a new workpiece)

For more details about the use of HPC II DIGITAL PROCESS HPI refer to



instruction 8695 4944 or click **at any time for help about the current**
screen

3 - STOPPING THE MACHINE



Before switching off the power to the machine, it is imperative to stop the **HPC II DIGITAL PROCESS HPI**.

To stop the **HPC** system, go to menu by clicking



at the bottom left,

press



and then confirm with



If the operator is away for an extended period of time or if any work is done on the cutting tools, the energy supplies must absolutely be shut off

Caution! The rotary switch to the right of the console only isolates the gantry machine, but not the plasma cutting process.

F - MAINTENANCE

1 - SERVICING

In order for the machine to continue to provide good service for as long as possible, a certain minimum of care and maintenance is necessary

The frequency of such maintenance work is given on the basis of production in one shift per day. Maintenance should be more frequent if production is greater.

Your maintenance department may photocopy these pages so that it can follow up maintenance dates and operations (tick as appropriate)



IMPORTANT: While handling sheets, take the necessary precautions to avoid impacts on the machine and the rolling tracks.

Impacts on any of the elements can lead to squareness faults or the malfunctioning of the electrical shaft and therefore incorrect cutting of the workpieces.



IMPORTANT!






BEFORE ANY MAINTENANCE OPERATION, REMEMBER TO:

- Switch off and lock out the electricity supply
- Switch off, flush and lock out the gas and compressed air supplies.

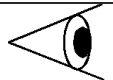


IMPORTANT: All work at heights (maintenance, troubleshooting etc.) on the machine must be carried out with appropriate personnel lifting equipment.

Weekly

Maintenance date: / /	
	<ul style="list-style-type: none"> - Brush the racks to remove any adhering material.
	<ul style="list-style-type: none"> - Regularly clean all the rails: - guide rails of the beam and the cutting table. <p>Clean with a dry cloth or a cloth moistened with solvent, such as solvent naphtha or white spirit. (If needed, spray Molykote 3402 C coating (Dow Corning) on the sides of the racks.</p>
	<p>General cleaning of the machine to eliminate cutting dust</p>
	<p>Cleaning the screen:</p> <ul style="list-style-type: none"> - switch off the machine - use soap solution and a lint-free cloth - do not use solvents or abrasive products.
	<ul style="list-style-type: none"> - Lubricate the ball bearings on each axis (4 on the transverse carriage and 4 on the machine X axis). <p>We recommend the use of NLGI grade 2 lithium soap grease (e.g. WYNN'S type HPG, HAFA type MOUWAN GREASE)</p> <p>Lubricate each ball bearing at the operating temperature by moving it.</p> <p>It is better to lubricate several times with small quantities of lubricant.</p>

Monthly

Maintenance date: / /	
	<ul style="list-style-type: none"> - Check the condition of all electrical cables, particularly close to the cutting tools and in the cable drag chain (change them if required).

2 - TROUBLESHOOTING

Please refer to:

- ⇒ The electrical diagram supplied or,
- ⇒ The instructions of **HPC II DIGITAL PROCESS HPI** (8695 4944) or,
- ⇒ The instructions of the different options.

Alarm display list 1/2

0x1001 Registre erreur	0x603F Code erreur	0x2001 0x2002 Code	Nom de l'alarme	Contenu de l'alarme	Operations détection	Reset alarme
Bit4	0x7510	0x10	Erreur frame Port 0 Rx non valide	* Réception successive de frame non valide sur le Port 0	SB	Oui
		0x11	Erreur frame Port 1 Rx non valide	* Réception successive de frame non valide sur le Port 1	SB	Oui
		0x12	Erreur Rx CRC Port 0	* Erreur Rx successive Port 0	SB	Oui
		0x13	Erreur Rx CRC Port 1	* Erreur occurrence Rx Port 1	SB	Oui
		0x14	Erreur Tx Port 0	* Erreur Tx successive Port 0	SB	Oui
		0x15	Erreur Tx Port 1	* Erreur occurrence TX Port 1	SB	Oui
	0x7520	0x18	Perte de liaison Port 0	* Câble Port 0/1 débranché ou non raccordé	SB	Oui
		0x19	Perte de liaison Port 1	État Servo-on. Arrêt de l'alimentation hôte.	SB	Oui
0x7510	0x1A	Expiration communication	* Données de sortie non reçues durant le temps de cycle réglé	SB	Oui	
Bit1	0x5400	0x21	Erreur dispositif d'alimentation circuit principal (Erreur dispositif d'alimentation)	* Surintensité du module d'entraînement * Anomalie alimentation d'entraînement * Surchauffe du module d'entraînement	DB	Oui
	0x5210	0x22	Erreur détection courant 0	* Anomalie valeur de détection du courant électrique	DB	Oui
		0x23	Erreur détection courant 1	* Anomalie circuit de détection du courant électrique	DB	Oui
		0x24	Erreur détection courant 2	* Anomalie de communication avec le circuit de détection du courant électrique	DB	Oui
	0x8312	0x25	Erreur 1 Absence sûre du couple (force) (STO)	* Erreur de synchronisation entrée Absence sûre du couple (force) (STO)	SB	Non
	0x26	Erreur 2 Absence sûre du couple (force) (STO)	* Défaut circuit Absence sûre du couple (force) (STO)	SB	Non	
Bit1	0x8311	0x41	Surcharge 1	* Défaut circuit Absence sûre du couple (force)	SB	Oui
	0x2220	0x42	Surcharge 2	* Surcharge de calage	DB	Oui
	0x3212	0x43	Surcharge régénérative	* Excès rapport de charge régénération	DB	Oui
	0x7300	0x44	Erreur de détection position pôle magnétique	* Erreur de détection CS	—	Oui
	0x8400	0x45	Vitesse excessive continue moyenne	* Vitesse excessive de la vitesse de rotation moyenne	SB	Oui
Bit3	0x4110	0x51	Erreur température servo-amplificateur	* Détection surchauffe de la température ambiante de l'amplificateur	SB	Oui
	0x4210	0x52	Surchauffe RS	* Détection de surchauffe résistance prévention courant d'appel	SB	Oui
		0x53	Surchauffe résistance frein dynamique	* Détection de surchauffe résistance frein dynamique	SB	Oui
	0x4310	0x54	Surchauffe résistance régénérative interne	* Détection de surchauffe de la résistance régénération interne	DB	Oui
	0x4310	0x55	Erreur externe	* Anomalie de la résistance régénérative externe, etc.	DB	Oui
0x4210	0x56	Surchauffe dispositif d'alimentation circuit principal	* Détection de surchauffe du module d'entraînement (15, 30, 50A)	DB	Oui	
Bit2	0x3211	0x61	Surtension	* Tension CC excessive sur circuit principal	DB	Oui
	0x3220	0x62	Sous-tension circuit principal ※1)	* Tension CC basse sur circuit principal	DB	Oui
	0x3130	0x63	Défaut de phase alimentation principale ※1)	* 1 phase de l'alimentation triphasée du circuit principal est déconnectée	SB	Oui

0x1001 Registre erreur	0x603F Code erreur	0x2001 0x2002 Code	Nom de l'alarme	Contenu de l'alarme	Operations détection	Reset alarme
Bit2	0x5114	0x71	Sous-tension alimentation de commande ※2)	* Tension alimentation de commande basse ou coupure momentanée	DB	Oui ※3
	0x5115	0x72	Sous-tension alimentation de commande 1	* Sous-tension de ±12V de l'alimentation de commutation de commande	SB	Oui
	0x5113	0x73	Sous-tension alimentation de commande 2	* Sous-tension de ±5V de l'alimentation de commutation de commande	DB	Oui
Bit0	0x7305	0x81	Connecteur codeur 1 ※4) déconnecté	* Coupure ligne de signal codeur incrémental (A, B, Z) * Rupture câble d'alimentation	DB	Non
	0x7306	0x83	Connecteur codeur 2 ※4) déconnecté	* Coupure ligne de signal codeur fermeture complète (A, B, Z) * Rupture câble d'alimentation	DB	Oui
	0x7300	0x84	Erreur communication codeur série	* Erreur de commande CRC, SYNC, FORM, dans la communication avec le capteur	DB	Non
		0x85	Erreur processus initial codeur	* Défaut lecture de données CS du codeur incrémental * Anomalie de traitement initial du codeur absolu * Rupture de câble	-	Non
		0x86	Erreur CS	* Saut de position de données CS	DB	Non
		0x87	Déconnexion signal CS	* Coupure ligne de signal CS	DB	Non

Liste d'affichage des alarmes 2/2

0x1001 Registre erreur	0x603F Code erreur	0x2001 0x2002 Code	Nom de l'alarme	Contenu de l'alarme	Operations détection	Reset alarme
Bit0	0x7300	0xA0	Erreur interne codeur série 0	* Dépassement rotation codeur absolu * Dépassement fréquent compteur de rotation	DB	Non
		0xA1	Erreur interne codeur série 1	* Erreur multi-tour * Tension batterie faible	DB	Oui
	0x7310	0xA2	Erreur interne codeur série 2	* Erreur accélération	DB	※ 5
	0x7310	0xA3	Erreur interne codeur série 3	* Erreur vitesse excessive	DB	※ 5
	0x7300	0xA4	Erreur interne codeur série 4	* Erreur accès EEPROM interne codeur	DB	※ 5
		0xA5	Erreur interne codeur série 5	* Détection de coefficient rotation unique incorrecte	DB	※ 5
		0xA6	Erreur interne codeur série 6	* Détection de coefficient rotation multiple incorrecte	DB	※ 5
		0xA9	Erreur interne codeur série 9	* Surchauffe codeur avec servo-moteur intégré	DB	※ 5
	0x7320	0xAA	Erreur interne codeur série 10	* Erreur incrémentale (erreur données de position)	DB	※ 5
	0x7300	0xAC	Erreur interne codeur série 12	* Génération erreur multi-rotation	DB	※ 5
		0xAD	Erreur interne codeur série 13	* Données EEPROM intégrée codeur non paramétrées	DB	※ 5
	0x7303	0xAE	Erreur interne codeur série 14	* Anomalie sortie résolveur	DB	※ 5
	0x7304	0xAF	Erreur interne codeur série 15	* Résolveur déconnecté	DB	※ 5
Bit0	0x8400	0xC1	Vitesse excessive	* La vitesse de rotation du moteur est supérieure de 120 % à la vitesse limite la plus haute	DB	Oui
		0xC2	Erreur de commande vitesse	* Non-conformité des signaux commande de courant et accélération	DB	Oui
	0x7122	0xC3	Erreur de feedback vitesse	* Alimentation servo-moteur déconnectée ※6)	DB	Oui
	0x8500	0xC5	Erreur commande de suppression des vibrations suivi modèle	* Temps de cycle machine incompatible avec la commande de suppression des vibrations suivi modèle.	DB	Oui
Bit0	0x8611	0xD1	Écart de position excessif	* Écart de position supérieur à la valeur de consigne.	DB	Oui
	0x8500	0xD2	Erreur commande de position 1	* Commande de position hors plage de réglage 0x201D	SB	Oui
		0xD3	Erreur commande de position 2	* Entrée commande de position supérieure à la plage de traitement	SB	Oui
	0xFF01	0xDE	Modification de paramètres terminée ※7)	* La modification de paramètres des codes moteur et capteur est terminée	-	Non
	0xFF00	0xDF	Essai de fonctionnement terminé ※7)	* Détection état « fin de mode test »	DB	Oui

0x1001 Registre erreur	0x603F Code erreur	0x2001 0x2002 Code	Nom de l'alarme	Contenu de l'alarme	Operations détection	Reset alarme	
Bit7	0x5530	0xE1	Erreur EEPROM	* Anomalie de l'amplificateur avec EEPROM intégrée	DB	Non	
	0x6310	0xE2	Erreur somme de contrôle EEPROM	* Erreur d'accès dans EPROM RAM intégrée CPU (zone entière)	—	Non	
	0x5510	0xE3	Erreur mémoire 1	* Erreur d'accès dans RAM intégrée CPU	—	Non	
	—※8)	0xE4	Erreur mémoire 2 ※7)	* Erreur somme de contrôle de la mémoire flash	—	Non	
	0x6320	0xE5		Erreur paramètre système 1	* Paramètre système hors plage de réglage.	—	Non
		0xE6		Erreur paramètre système 2	* Combinaison d'un paramètre système anormale. * Non-concordance paramètre système et amplificateur	—	Non
		0xE7		Erreur paramètre moteur	* Somme de contrôle d'un paramètre moteur anormale.	—	Non
	0x5220	0xE8		Erreur circuit circonférence CPU	* Accès anormal au CPU et périphériques	—	Non
		0xE9		Erreur code système	* Non-concordance réglage code carte de commande et capteur	—	Non
	0x6320	0xEA		Erreur réglage code moteur	* Code moteur hors plage de réglage	—	Non
		0xEB		Erreur réglage code capteur	* Code capteur hors plage de réglage.	—	Non
		0xEE		Erreur réglage automatique paramètre moteur 1	* Réglage automatique paramètre moteur désactivé.	—	Non
		0xEF		Erreur réglage automatique paramètre moteur 2	* Le résultat d'un réglage automatique de paramètre moteur présente une anomalie.	—	Non
	Bit7	0x8700	0xF1	Erreur processus tâche	* Erreur de processus d'interruption du CPU	DB	Non
0x6010		0xF2	Dépassement temps de processus initial	* Processus initial non terminé pendant le temps de traitement initial	—	Non	
—※9)	—※8)	0xFF	Temporisation self flash ※7)	* Procédure de réécriture self-flash terminée dans le temps spécifié.	—	Non	

※1	When the main power voltage increases or decreases gradually or is suspended, main circuit low voltage or main power failed phase may be detected.
※2	Control power supply under-voltage or servo ready OFF is detected during instantaneous break of 1.5 to 2 cycles. Detection of control power supply under-voltage and servo ready OFF can be delayed by setting larger value of PFDDL (GroupB ID16).
※3	When moment cutting of a control power source is long, it regards in power supply interception and re-input, and does not leave detected control power supply under-voltage to an alarm history. (If cutting exceeds 1 second at the moment, it will be certainly judged as power supply interception.)
※4	Alarm 0x81 detection becomes invalid with EN1, EN2 input frequency of 100 kHz or more at the time of linear encoder setting.
※5	Detecting only Synchronization encoder. Due to abnormality in encoder main body, encoder clear may sometimes be needed. "An encoder clear and the alarm reset method" change with motor encoders in use. Please refer to "11.5 Encoder clear and the alarm reset method."
※6	When there is a rapid motor slow down simultaneous with servo ON, there is a possibility that a break in the motor's power line cannot be detected.
※7	Alarm activated at test mode completion, motor code, sensor code, alarm when changing, memory error 2, and self-flashtimeout are not stored in alarm-record.
※8	"Memory Error 2" shall not be set to object dictionary "0x603F."
※9	Self-flash timeout shall not be set to object dictionary "0x1001."

3 - SPARE PARTS

How to order

The photos or sketches identify nearly every part in a machine or an installation

The descriptive tables include 3 kinds of items:

- those normally held in stock: ✓
- articles not held in stock: ✗
- those available on request: no marks

(For these, we recommend that you send us a copy of the page with the list of parts duly completed. Please specify in the Order column the number of parts desired and indicate the type and the serial number of your equipment.)

For items noted on the photos or sketches but not in the tables, send a copy of the page concerned, highlighting the particular mark.

For example:

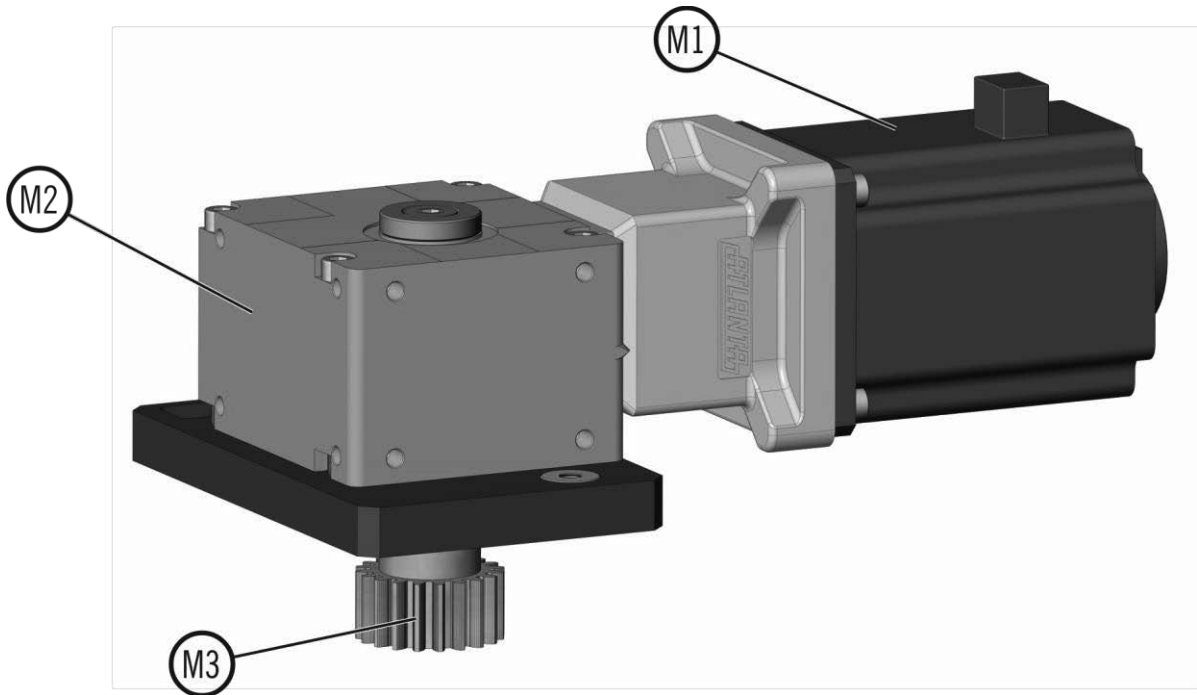
Item	Ref.	Stock	Order	Designation
1	W000XXXXXX	✓		Machine interface board
2	W000XXXXXX	✗		Flowmeter
3	9357 XXXX			Silk-screen printed front panel

✓	normally in stock
✗	not in stock
	on request

- For parts order, give the quantity required and put the number of your machine in the box below.

CE Type <input type="text"/> Matricule <input type="text"/>	TYPE :
	Number :


LONGITUDINAL AND TRANSVERSAL POWER SYSTEMS



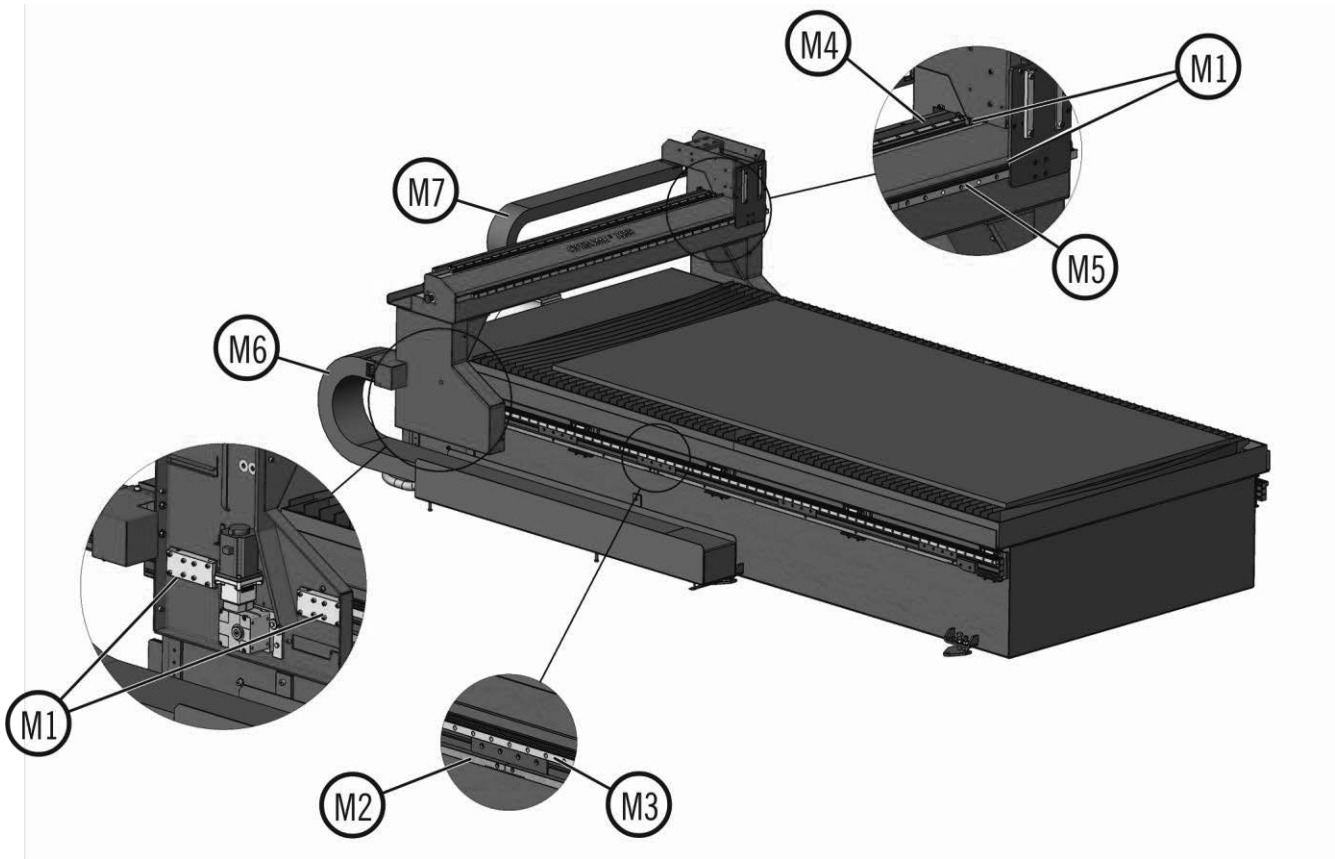
✓	normally in stock
✗	not in stock
	on request

Item	Ref.	Stock	Order	Designation
M1	W000402582	✓		Motor SANYO R2AA 750W ABS
M2	0700 4221			Reduction gear
M3	0700 4229			Z=20 - M2 shaft pinion

➤ For parts order, give the quantity required and put the number of your machine in the box below.

 Type <input type="text"/> Matricule <input type="text"/>	TYPE :
	Number :

RAILS AND RACKS



✓	normally in stock
✗	not in stock
	on request

Item	Ref.	Stock	Order	Designation
M1	W000270653	✓		Ball slide, KWVE25
				For OPTITOME² 1530
M2	W000366563	✗		Longitudinal rack (length: 2000 mm)
	0700 4138			Longitudinal rack (length: 1432 mm)
M3	0703 2207			Rail for longitudinal ball slide (length: 3940 mm)
M4	W000366563	✗		Transverse rack (length: 2000 mm)
M5	0700 4118			Rail for transverse ball slide (length: 1380 mm)
	0700 4123			Rail for transverse ball slide (length: 600 mm)

➤ For parts order, give the quantity required and put the number of your machine in the box below.

CE Type <input type="text"/> Matricule <input type="text"/>	TYPE :
	Number :

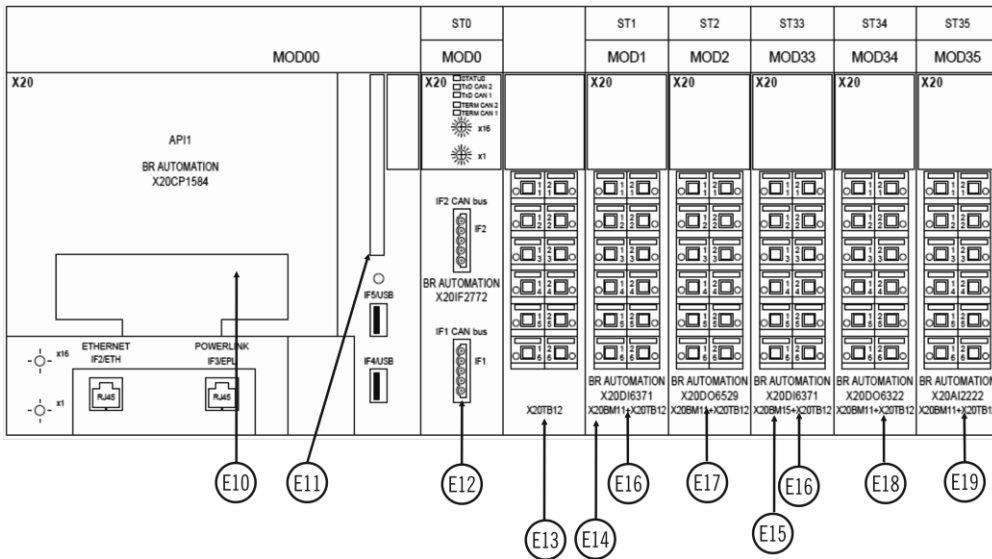
✓	normally in stock
✗	not in stock
	on request

Item	Ref.	Stock	Order	Designation
				For OPTITOME² 2010
M2	W000366557	✗		Longitudinal rack (length: 1780 mm)
M3	0700 4122			Rail for longitudinal ball slide (length: 1920 mm)
	0700 4144			Rail for longitudinal ball slide (length: 180 mm)
M4	W000366563	✗		Transverse rack (length: 2000 mm)
	0700 4124			Transverse rack (length: 834 mm)
M5	0700 4122			Rail for transverse ball slide (length: 1920 mm)
	0700 4123			Rail for transverse ball slide (length: 600 mm)
				For OPTITOME² 2040
M2	0700 4147			Longitudinal rack (length: 1690 mm)
	0700 4146			Longitudinal rack (length: 1363 mm)
	0700 4145			Longitudinal rack (length: 1344 mm)
M3	0700 4122			Rail for longitudinal ball slide (length: 1920 mm)
	0700 4118			Rail for longitudinal ball slide (length: 1380 mm)
	0700 4144			Rail for longitudinal ball slide (length: 180 mm)
M4	W000366563	✗		Transverse rack (length: 2000 mm)
	0700 4124			Transverse rack (length: 834 mm)
M5	0700 4122			Rail for transverse ball slide (length: 1920 mm)
	0700 4123			Rail for transverse ball slide (length: 600 mm)
				For OPTITOME² 2060
M2	0700 4166			Longitudinal rack (length: 1357 mm)
	0700 4167			Longitudinal rack (length: 1771 mm)
	W000366563	✗		Longitudinal rack (length: 2000 mm)
M3	0700 4122			Rail for longitudinal ball slide (length: 1920 mm)
	0700 4118			Rail for longitudinal ball slide (length: 1380 mm)
	0700 4144			Rail for longitudinal ball slide (length: 180 mm)
	0700 4163			Rail for longitudinal ball slide (length: 2100 mm)
M4	W000366563	✗		Transverse rack (length: 2000 mm)
	0700 4124			Transverse rack (length: 834 mm)
M5	0700 4122			Rail for transverse ball slide (length: 1920 mm)
	0700 4123			Rail for transverse ball slide (length: 600 mm)
M6	0705 0650			1 metre of longitudinal chain with divider
	0705 0654			Chain attachment assembly
M7	.620 3522			1 metre of transverse chain
	.620 3515			Vertical divider
	.620 3520			Horizontal divider
	.620 3518			Chain attachment assembly

➤ For parts order, give the quantity required and put the number of your machine in the box below.

CE Type <input type="text"/> Matricule <input type="text"/>	TYPE :
	Number :


ELECTRICAL PART



✓	normally in stock
✗	not in stock
	on request

Item	Ref.	Stock	Order	Designation
E1	W000140748	✓		Sectioning switch, 3P 25A
E2	W000400308	✓		19" touch screen + power supply
E3	W000383976	✗		EL ETHERCAT CPU
E4	0705 3294			Encoder assembly
E5	.560 8042			1A electrical filter
E6	.560 8039			15A electrical filter
E7	W000383980	✓		30A brushless variable drive
E8	.5706056			230+400V/230+24V - 1650VA transformer
E9	0705 7400			HPI base PLC assembly
	0409 7510			Plasma base PLC
E10	W000383973	✓		X20 CPU PLC
E11	W000383701	✗		512MB CF MEMORY CARD
E12	W000383714	✗		X20 2 CAN INTERFACES MODULE
E13	W000383703	✗		X20 TERMINAL BLOCK TB12
E14	W000383702	✗		X20 BUS MODULE BM11
E15	W000383704	✗		X20 base module BM15
E16	W000383705	✗		X20 6E On/Off module
E17	W000383706	✗		X20 6S On/Off module
E18	W000383707	✗		X20 6S On/Off module
E19	W000383713	✗		X20 2E Analog module
E20	W000383972	✓		Safety module, XPSATE5110
E21	W000365963			Relay, 24VAC - 3A - 4RT
E22	W000383699	✗		LC1D09B7 contactor
E23	W000385169	✓		230V/24VDC/10A power supply

➤ For parts order, give the quantity required and put the number of your machine in the box below.

 Type <input type="text"/> Matricule <input type="text"/>	TYPE :
	Number :

