

POWER SOURCE NERTAJET HP150 - HP300 N. W000274520 - W000274518

EDITION : EN
REVISION : E
DATE : 10-2019

Instructions for use

REF : **8695 4599**

Original instructions

Thank 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 will not be held responsible where items not recommended by themselves are associated with this product.

For your safety,there follows a non-restrictive list of recommendations or requirements, many of which appear in the employment code.

Finally we would ask you kindly to inform your supplier of any error which you may find in this instruction manual.

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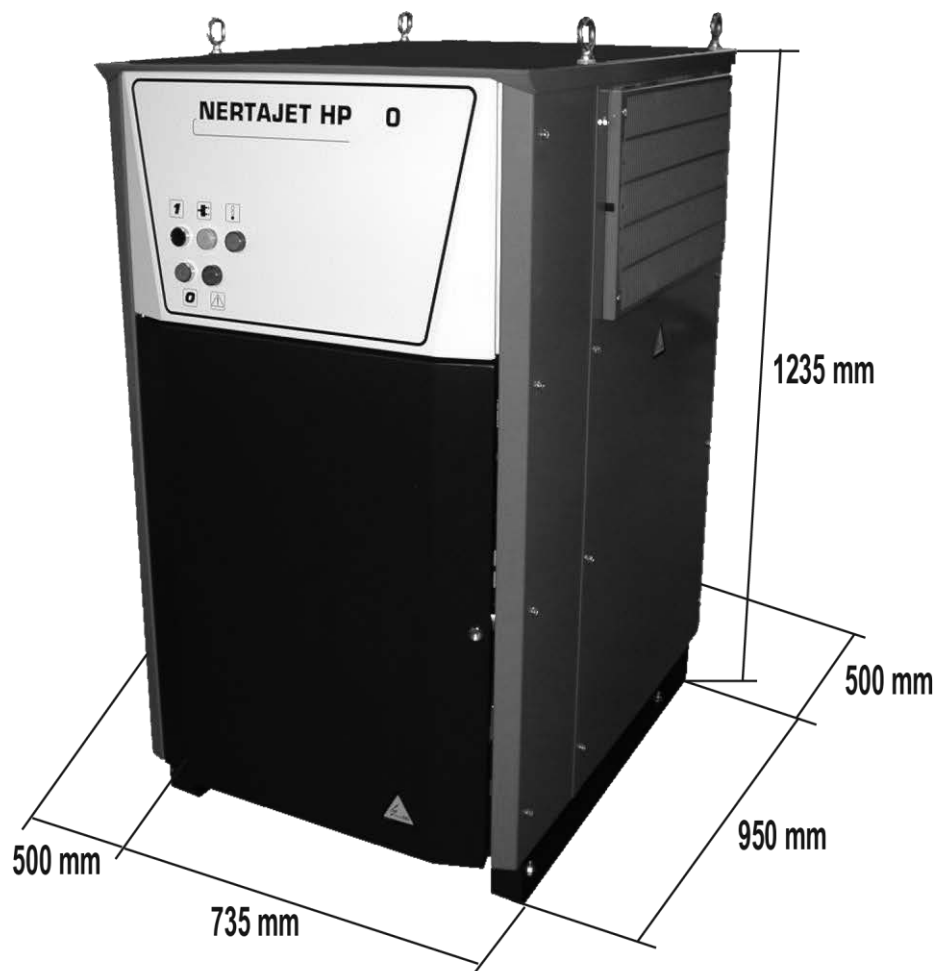
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1 - DESCRIPTION



S. Place le Châtelier BP 80089 60722 Pont Saintte Maxence Cedex.		Fabriqué en France	
TYPE: NERTAJET HP 0		W0002745	
3~		153859-339	
EN 60974-1/-10		16A/75V - 300A/230V	
X (40°C)		100%	
Us (V)		I2	300A
351		U2	230V
Us (V)		Ur (V)	
U1 (V)		I1 max(A)	I1 eff(A)
230V		207.4	207.4
400V		124.3	124.3
440V		108.7	108.7
50Hz			
IP21S	CTR 21	EMB 21	04190404

Power source **NERTAJET HP** is a source allowing the automatic plasma cutting torch to be supplied with direct current from the mains supply.

HP150

3-phase power supply + ground	230 V	400 V	440 V
Maximum intensity	101.2 A	64.3 A	55.2 A
Fuse rating	125 A aM	100 A aM	63 A aM
Fuse size	22*58	22*58	22*58
Section of the power supply cable	4x16 mm ²	4x10 mm ²	4x10 mm ²
Cable part number	W000010104	W000010103	W000010103

HP300

3-phase power supply + ground	230 V	400 V	440 V
Maximum intensity	207.4 A	124.3 A	108.7 A
Fuse rating	250 A aM	125 A aM	125 A aM
Fuse size	with strips size 1	22*58	with strips size 0
Section of the power supply cable	4x50 mm ²	4x25 mm ²	4x25 mm ²
Cable part number	4 x W000260270	W000010105	W000010105

The **NERTAJET HP** power source is a direct current supply whose intensity is constantly set. The stability of the system relies on an electronic current control that can respond as fast as the arc.

- Intensity is remote controlled :

	HP150	HP300
For OCP 150	15 A, 30 A, 40 A, 60 A, 90 A, 120 A	15 A, 30 A, 40 A, 60 A, 90 A, 120 A, 180 A, 240 A, 300 A
For CPM 360	30 A, 60 A, 90 A, 120 A	30 A, 60 A, 90 A, 120 A, 180 A, 240 A, 300 A
For CPM 400	35 A, 50 A, 80 A, 100 A, 130 A, 140 A	35 A, 50 A, 80 A, 100 A, 130 A, 140 A, 200 A, 260 A
For CPM 450	20 A, 40 A, 60 A, 90 A, 120 A, 140 A	20 A, 40 A, 60 A, 90 A, 120 A, 140 A, 200 A, 280 A
For CPM 300 _{wi}	60 A, 90 A, 120 A	60 A, 90 A, 120 A, 180 A, 240 A, 300 A

	HP450	HP600
For CPM 450	20 A, 40 A, 60 A, 90 A, 120 A, 140 A, 200 A, 280 A, 400 A	30 A, 60 A, 90 A, 120 A, 180 A, 240 A, 300 A, 420 A, 500 A, 600 A
For CPM 720		30 A, 60 A, 90 A, 120 A, 180 A, 240 A, 300 A, 420 A, 500 A, 600 A

	HP750	HP900
For CPM 720	30A, 60A, 90A, 120A, 180A, 240A, 300A, 420A, 500A, 600A, 720A	//
For CPM 900	//	30A, 60A, 90A, 120A, 180A, 240A, 300A, 420A, 500A, 600A, 720A, 900A

NERTAJET HP is cooled by mechanical ventilation that can be switched off. The ventilation starts when the plasma arc appears. The ventilation stops 4 minutes after the plasma arc disappears.

It is designed to operate with filters on the air inlets in order to improve the lifetime of the components of the power source functioning in dusty environments.

The cooling air is taken in by the openings on the side and rear panels and a fan propels it to the base of the power source.

This current source is connected to the plasma cutting installation by sockets and rapid action couplings that facilitate its interchangeability.

The **NERTAJET HP** has several power supplies for the auxiliary equipment. These are alternating low voltage sources which supply the **NERTAJET** cycle unit the Tool Holder, the **BRT**...

The power source has an inside visualization of its working condition and a galvanically insulated interactive interface allowing dialogue with the "exterior".

2 - INSTALLATION

1 - UNPACKING - HANDLING

450 daN



Operator's protection :
Helmet - Gloves - Safety shoes

1) Unpacking

- Cut the box straps
- Remove the cover plate and protective cover (cardboard).
- Disunite the power supply from the pallet (8 mm nuts).

2) Handling

You can now install the power supply either :

- with a fork lift truck or a pallet truck,
- or using the 2 slinging rings intended for that purpose with a crane or a lifting bridge.

3) LOCATION OF THE CURRENT SOURCE (POWER SUPPLY) :

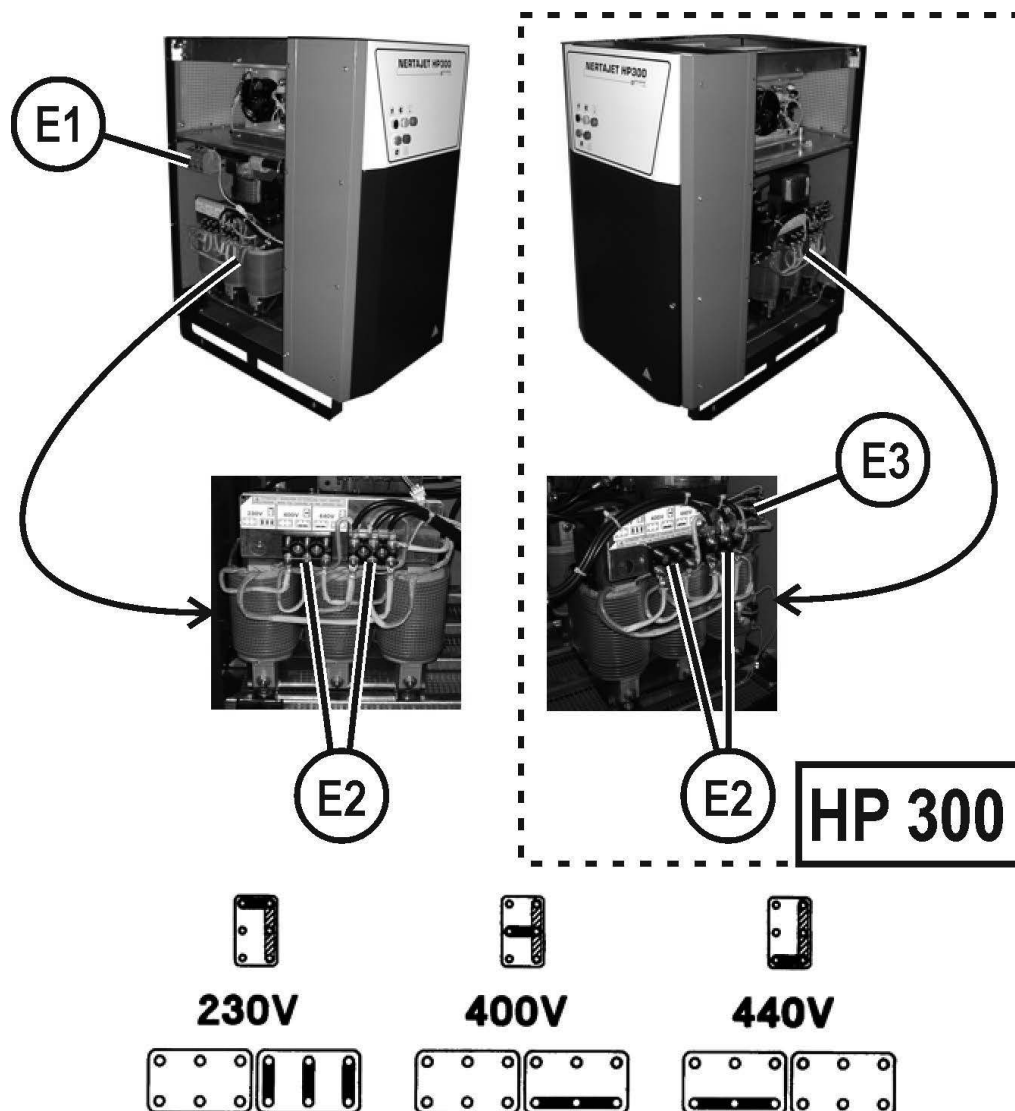
The current source is to be placed in an area that is not too damp and relatively clean. The place must be ventilated and it should be easy to move around the operator's stand.

2 - CONNECTION

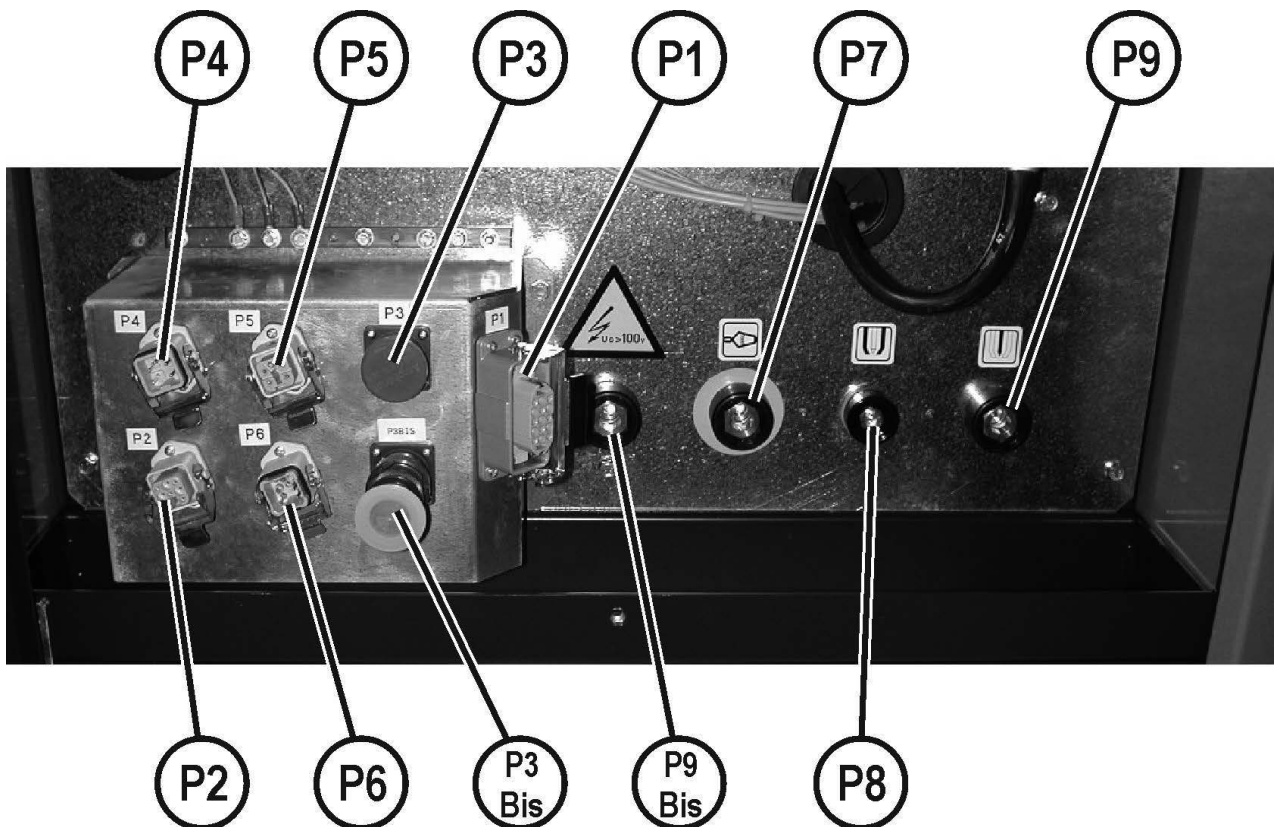


IMPORTANT :

Couple on both sides of the **HP 300** power source



HP150	HP300
<ul style="list-style-type: none"> ♦ Take off the left side panel (10 mm wrench). 	<ul style="list-style-type: none"> ♦ Take off the side panels (10-mm wrench)
<ul style="list-style-type: none"> ♦ Couple the transformer E2 and the auxiliaries E3 according to the coupling plate depending on your power supply voltage. The unit is supplied coupled for 440V 	<ul style="list-style-type: none"> ♦ Couple the transformers E2 and the auxiliaries E3 according to the coupling plate depending on your power supply voltage. The unit is supplied coupled for 440V
<ul style="list-style-type: none"> ♦ Connect the power supply cable to the terminal block E1 	



- Connection **on the front panel**, of the plasma cycle control circuits, of the torch electric circuits, of the circuit of the part to be cut.

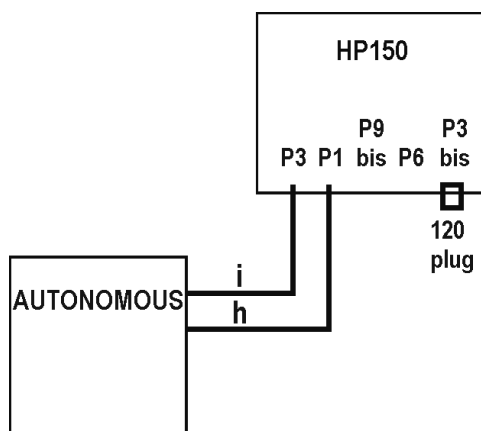
- Connection of the part to be cut (+) on yellow socket type DINSE 95 Rep. **P7**
- Nozzle connection (+) on black socket type DINSE 25 Rep. **P8**
- Electrode connection (-) on black socket type DINSE 95 Rep. **P9**
- Connection of the power supplies of control unit and power source control unit to the socket Rep. **P1**
- « Dialogue » connection with the control cycle to socket Rep. **P3**
- Connecting the second electrode cable with HP 150 Rep. **P9B**
- Connection of the power supply of the torch connection unit to the plug Rep. **P2**
- Connection to the cooling unit (safety contact) Rep. **P4**
- Connection to the cooling unit Rep. **P5**
- Connection to another power source (start-up) on connector Rep. **P6**
- Connection to another power source (dialogue termination) to socket Rep. **P3B**

Please refer to the connections section of the manual for the complete installation (8695 4595).

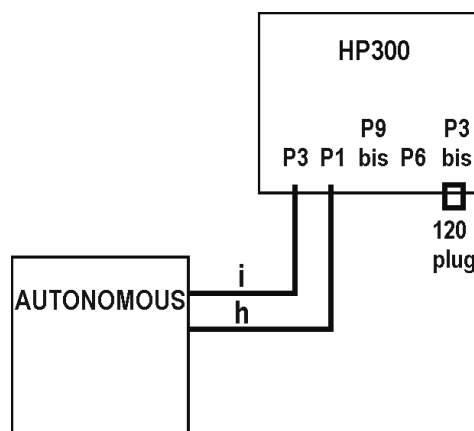
The letter marks give you better visualization of the cable layout.

3 - CONFIGURATION AND CONNECTION IN PARALLEL

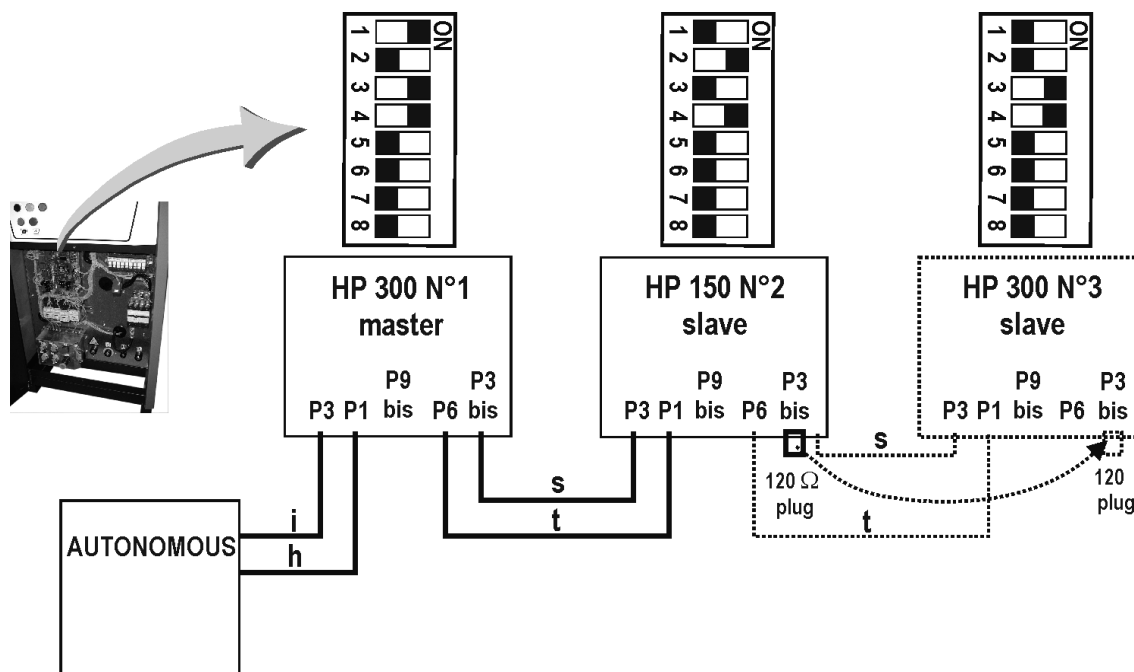
HP150



HP300



Principle of parallel connection



Cable **i** is used for the dialogue between the cycle and the power source.

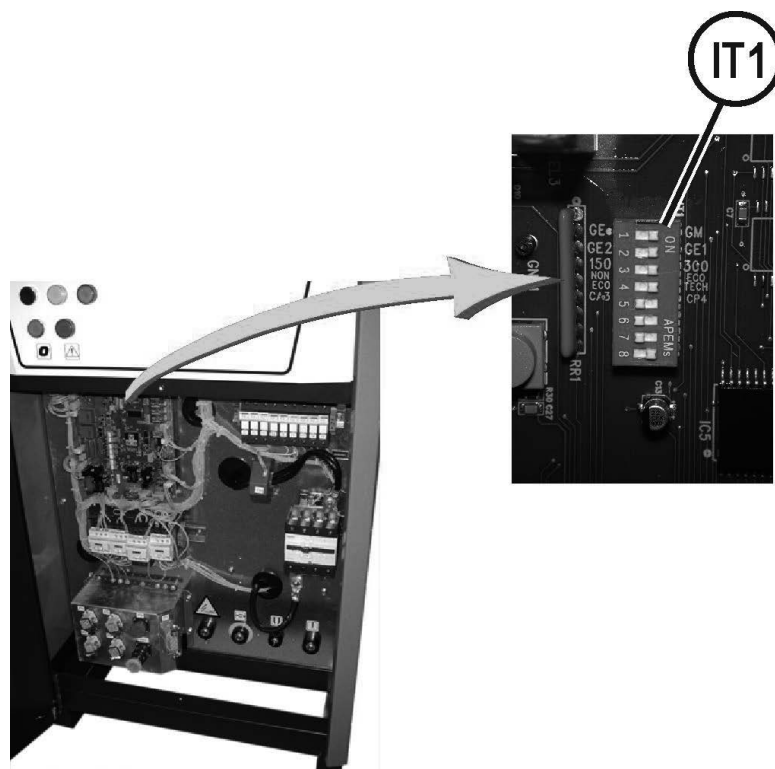
The latter is set up as the master by a switch on the interface board.

A 120-ohm cap is placed at the end of the CAN bus line.

A power source is added :

- For CAN bus control by moving the 120-ohm cap and putting in place the cable **s**.
- For switching the power source 2 on and off using the cable **t**. The latter is set up as the slave by a switch on the interface board.

4 - INTERFACE BOARD CONFIGURATION



SWITCH	OFF	ON
IT1-1	Slave power source	Master power source
IT1-2	Slave power source 2	Slave power source 1
IT1-3	HP150 power source	HP300 power source
IT1-4	non ECO power source	ECO power source
IT1-5	CA2 / CA3 interface	CP4 interface
IT1-6	Not used	Not used
IT1-7	Not used	Not used
IT1-8	Not used	Not used

- : ECO power source => W000274520 and W000274518
- : non ECO power source => W000325087 and W000325051

NOTE :

The power source is set up in the factory. The position of the switches on the interface board may only be modified by qualified technicians.

3 - OPERATOR'S MANUAL

FRONT PANEL CONTROLS



	START
	POWER ON
	STOP
	READY TO OPERATE
	SAFETY FAULT

4 - MAINTENANCE


1 - SERVICING

- So that the machine continues to provide good service for as long as possible, a certain minimum of care maintenance is necessary.
- The frequency of this maintenance work is given on the basis of the production of one work station 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)

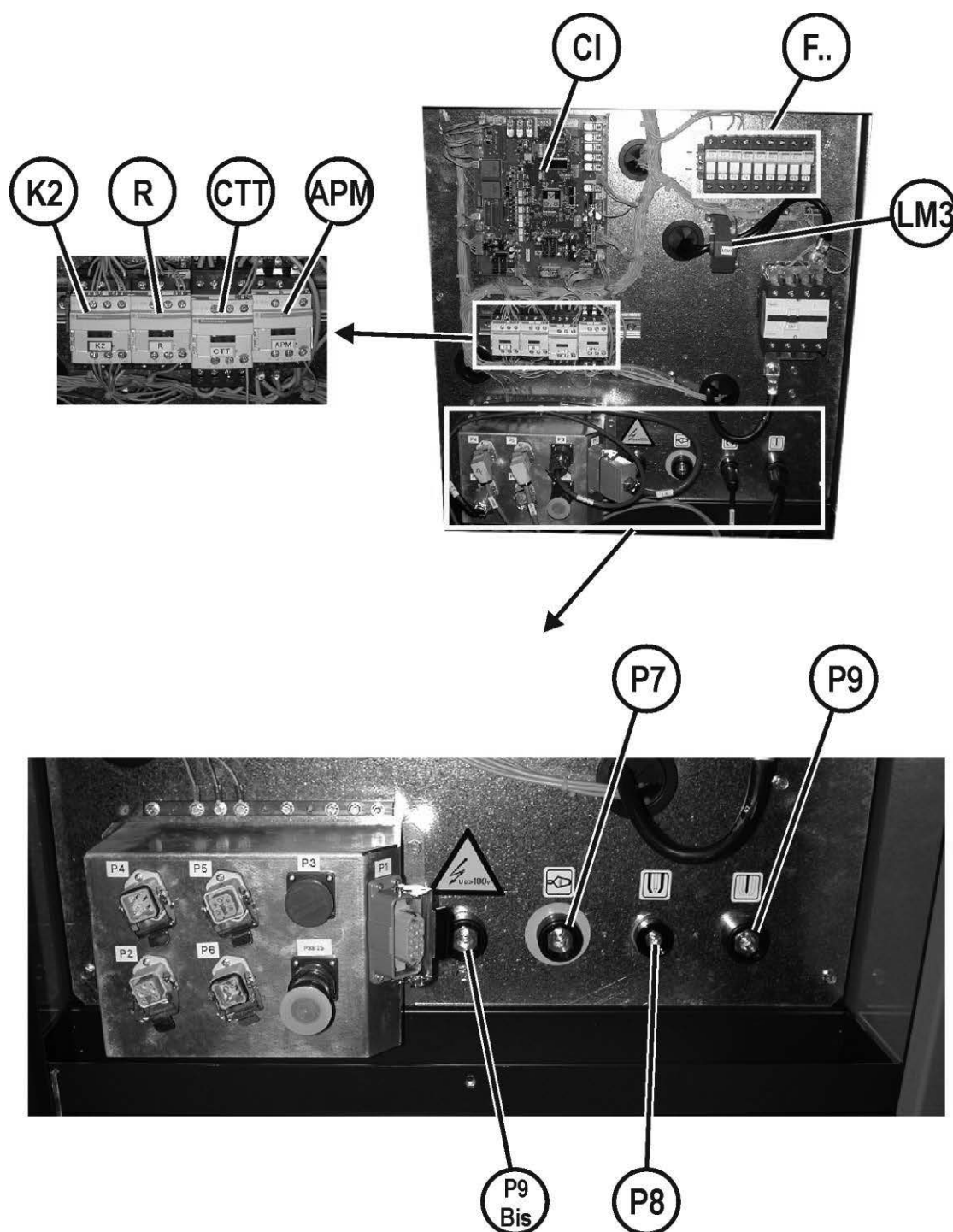
**Note : the items in reference are those of the power source diagram.
The diagram is on the door of the power source**

every 60 hours

	<p>- Check if the air filters are dirty, clean them or change them.</p>
	<p>NOTE : use a vacuum nozzle to clean the power source</p>




2 - SPARE PARTS

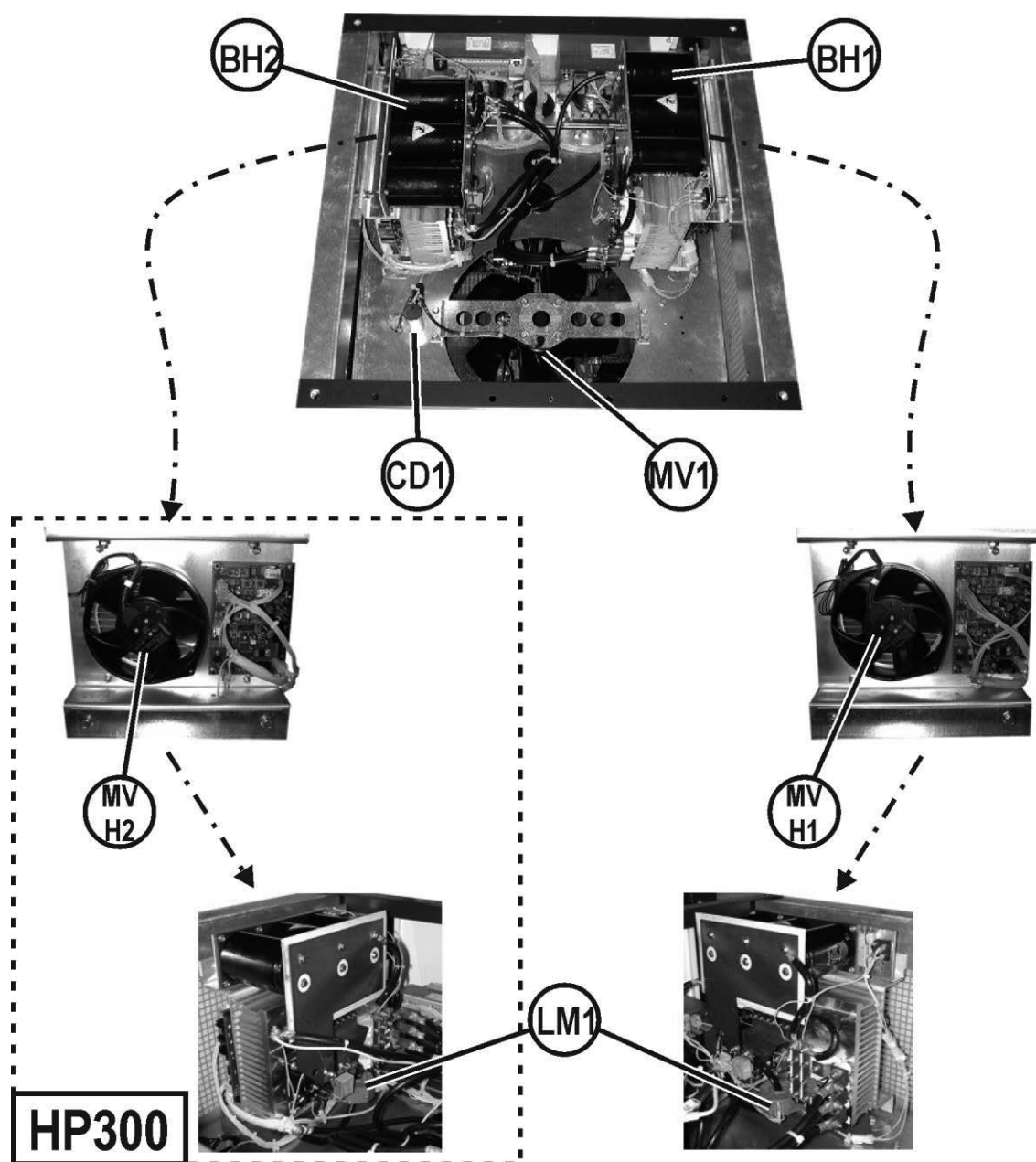


✓	normally in stock
✗	limited stock
	on request

item	Part no.	Stock	Order	Description
CI	W000276212	✓		Interface board
	W000148736	✓		FST 5*20 2A fuse
F1 to F9	W000137850	✓		10*38 fuse holder
F1 to F3	W000137848	✓		10A aM 10*38 fuse holder
F9	W000137847	✓		6A aM 10*38 fuse holder
F4 to F8	W000137849	✓		4A aM 10*38 fuse holder
LM3	W000137867	✓		LA 305S current sensor (for HP300)
	W000147384	✓		Current sensor TH260P (for HP150)
K2 R,AP M	W000148729	✓		LC1D09B7 contactor
CTT	W000147097	✓		4X25A 24 V contactor
P7	W000138464	✓		95 yellow female connector
P8	W000147170	✓		95 black female connector
P9	W000147574	✓		95 black female connector
P9 bis	W000147574	✓		95 black female connector

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

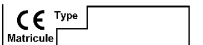
 Type <input type="text"/> Matricule <input type="text"/>	TYPE :
	Number :

UPPER PART

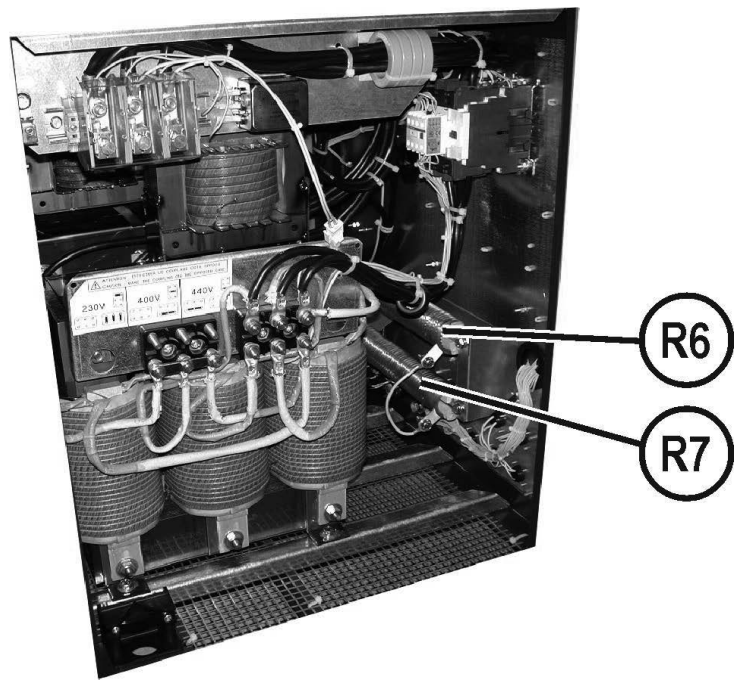
✓	normally in stock
✗	limited stock
	on request

item	Part no.	Stock	Order	Description
BH1	W000276457	✓		Chopper unit
MV H1	W000147086	✓		Chopper ventilation
LM1	W000147384	✓		Current sensor (LT 200S)
BH2	W000276457	✓		Chopper unit
MV H2	W000147086	✓		Chopper ventilation
LM1	W000147384	✓		Current sensor (LT 200S)
CD1	W000147160	✓		3.5Mf capacitor (for HP150)
MV1	W000276315			230 V 50-60 Hz ventilation motor (for HP150)
	W000147565	✓		Propeller (for HP150)
MV1	W000148716	✓		Ventilation motor + capacitor (for HP300)

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

	TYPE :
	Number :

LOWER PART



✓	normally in stock
✗	limited stock
	on request

item	Part no.	Stock	Order	Description
R6 R7	W000147295	✓		Resistor 2,2 Ω - 1,2 KW 10%

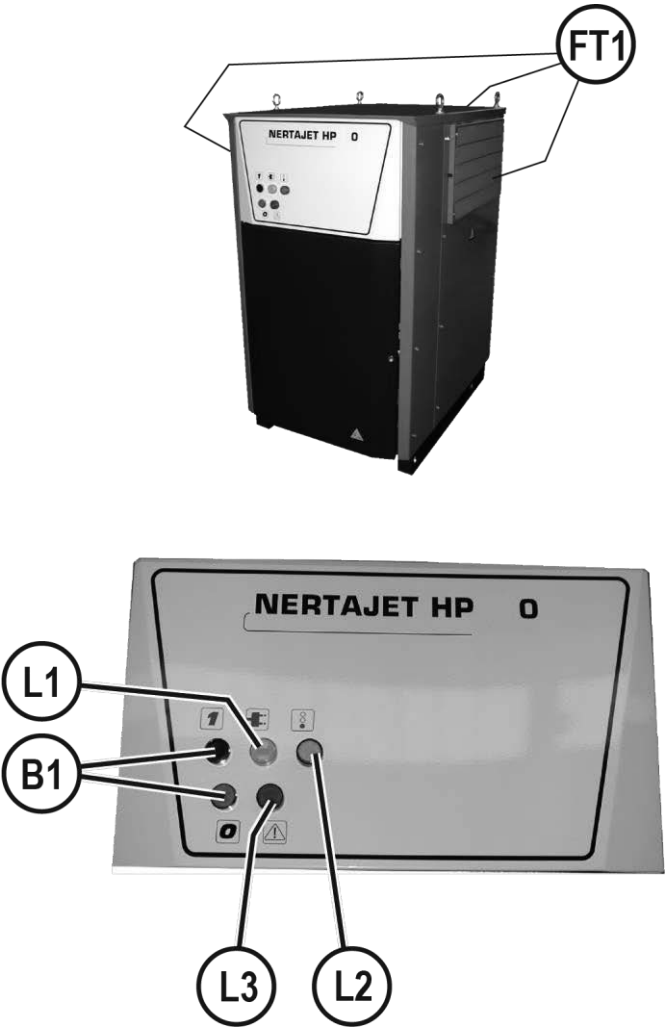
➤ For parts order, give the quantity required and put the number of your machine in the box below.

CE Type
Matricule

TYPE :

Number :

Note : the items in reference are those of the power source diagram.
The diagram is on the door of the power source



		<input checked="" type="checkbox"/>	normally in stock
		<input checked="" type="checkbox"/>	limited stock
			on request

Rep	Ref.	Stock	Cde	Désignation
FT1	W000276313			Filter
L1 L2 L3	W000147129	<input checked="" type="checkbox"/>		LED
B1	W000147190	<input checked="" type="checkbox"/>		Button

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

CE Type

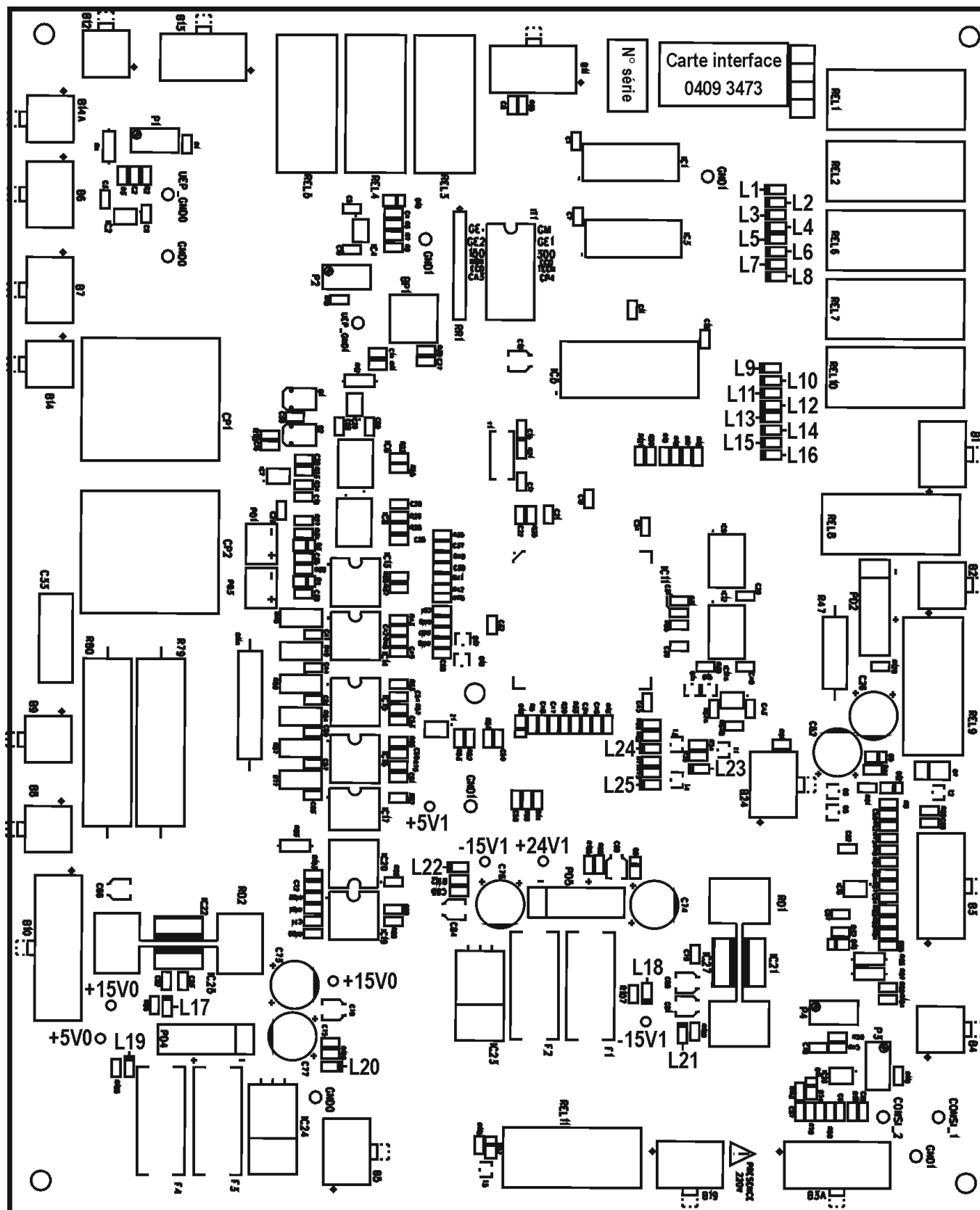
Matricule

TYPE :

Number :

3 - TROUBLESHOOTING

1- INTERFACE BOARD



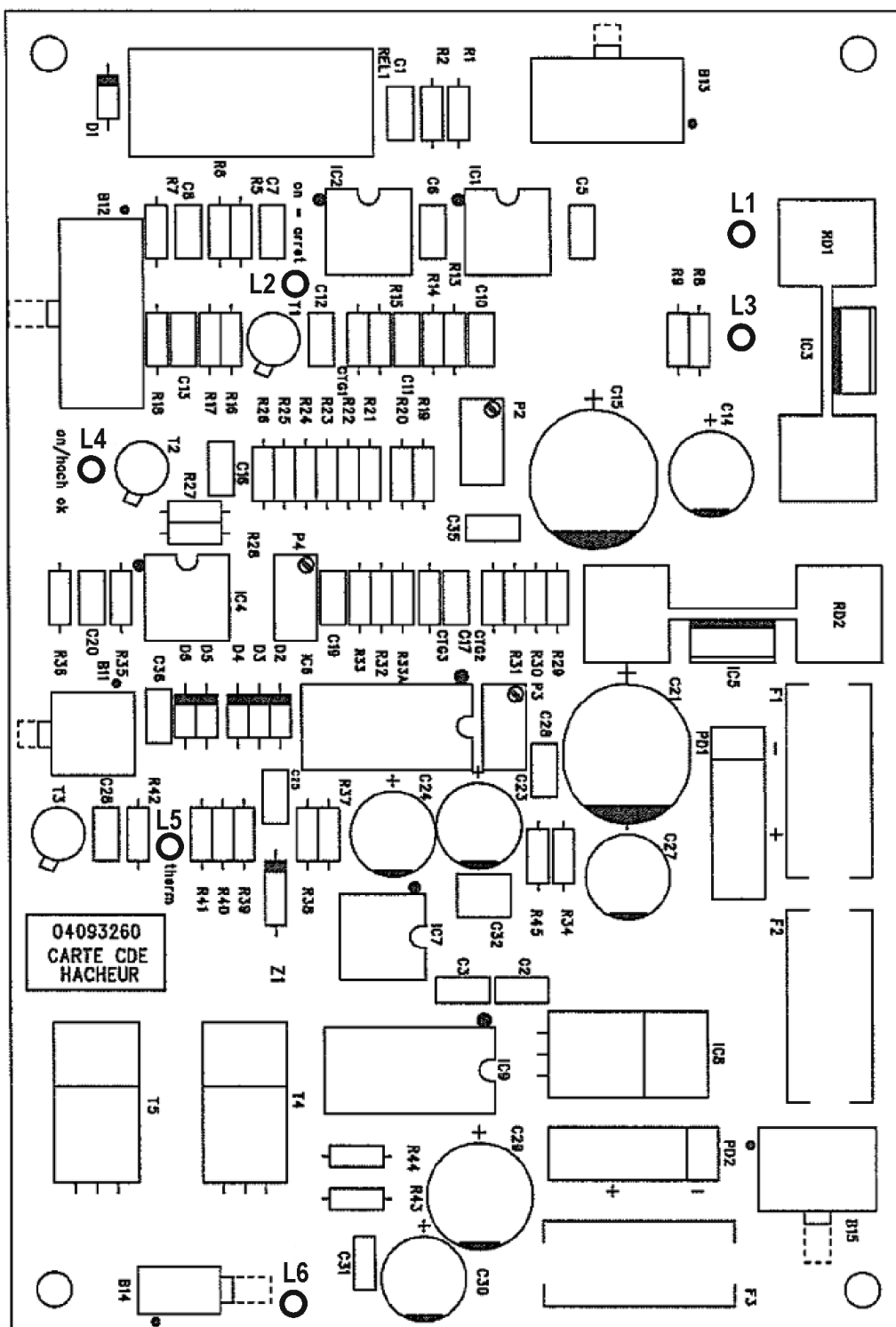
DESCRIPTION OF LEDS ON THE INTERFACE BOARD

Cycle LEDs (red)		Fault LEDs (green)		Power LEDs (red)	
L1	Chopper 2 On/Off	L12	Water safety	L17	+15 V0
L2	CTT	L13	Ventilation safety	L18	+15 V1
L3	Counter	L14	Rectifier safety	L19	+5 V0
L4	CTP	L15	Chopper safety	L20	-15 V0
L5	Master power source (on)	L16	Overvoltage safety	L21	+5 V1
	Slave power source 1 (flashing)			L22	-15 V1
	Slave power source 2 (off)				
L6	Chopper 1 On/Off				
L7	K1 control				
L8	Main safety				
L9	APM				
L10	RT				
L11	Anomaly				
L23	RIC				
L24	RIP				
L25	Watchdog				

INTERFACE BOARD FAULTS

Item	Signs	Causes	Remedies
L13	LED OFF	Main ventilation fault	Check that the main fan is operating properly. Clean air filters
L14	LED OFF	Rectifier bridge fault	Check that the main fan and that of the rectifier bridge are operating properly. Clean air filters
L16	LED OFF	Mains U > 10% fault	Check mains voltage. Check power source couplings
L18	LED OFF	+15 V power supply fault	Check fuses F1/F2 of the board
L22	LED OFF	- 15 V power supply fault	Check fuses F1/F2 of the board
L21	LED OFF	+ 5 V power supply fault	Check fuses F1/F2 of the board
L19	LED OFF	+ 5 V power supply fault	Check fuses F3/F4 of the board
L17	LED OFF	+ 15 V power supply fault	Check fuses F3/F4 of the board
L20	LED OFF	- 15 V power supply fault	Check fuses F3/F4 of the board

2- CHOPPER CONTROL BOARD



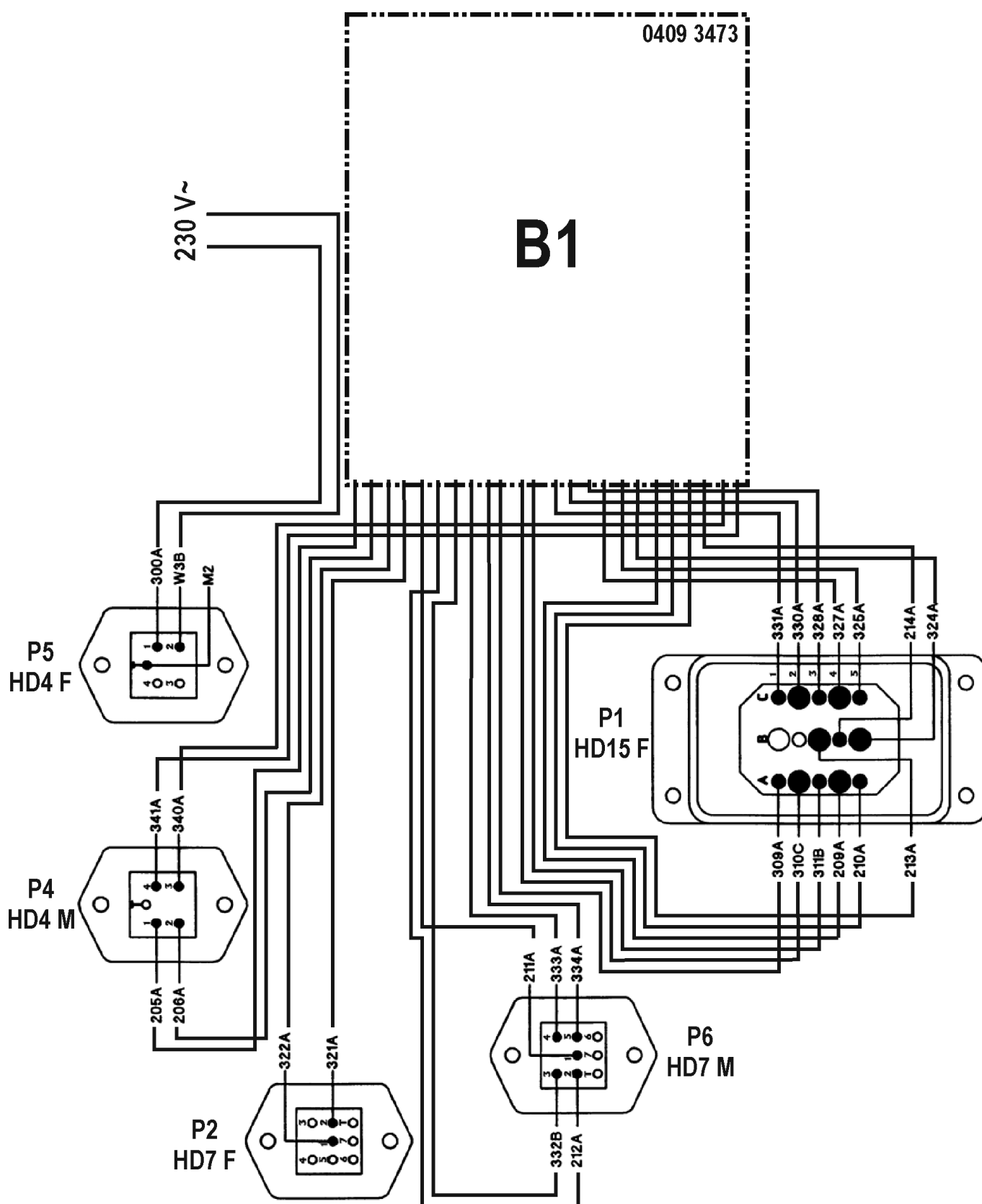
DESCRIPTION OF LEDS ON THE CHOPPER CONTROL BOARD

Red LEDS		Yellow LEDS		Green LEDS	
L5	Thermal safety	L2	ON / OFF	L1	-15 V
				L3	+15 V
				L4	Chopper safety
				L6	+15 V0

CHOPPER CONTROL BOARD FAULTS

Item	Signs	Causes	Remedies
L4 L5	LED OFF	Thermal fault	Check that the main fan and that of the rectifier bridge are operating properly. Clean air filters
L3	LED OFF	+ 15 V power supply fault	Check fuses F1 / F2 of the board Call LINCOLN ELECTRIC Customer Service
L1	LED OFF	- 15 V power supply fault	Check fuses F1 / F2 of the board Call LINCOLN ELECTRIC Customer Service
L6	LED OFF	+ 15 V0 power supply fault	Check fuses F3 of the board Call LINCOLN ELECTRIC Customer Service
L7	LED OFF	Chopper fault	Check that the main fan and that of the rectifier bridge are operating properly. Clean air filters Call LINCOLN ELECTRIC Customer Service

4 - EXTERNAL CONNECTION DIAGRAM



CONNECTION BETWEEN INTERFACE BOARD B1 / CONNECTOR P1, P2, P4, P5, P6

Socket P1	
A1	Power source OFF
A2	Power source common ON/OFF
A3	Power source ON
A4 / A5	Not used
B5 / C5	24V~ supply for machine EV
C1 / C2	24V~ supply for machine power
C3 / C4	24V~ supply for Autonomous Cycle

Socket P2	
1 / 2	24V~ supply for BRT

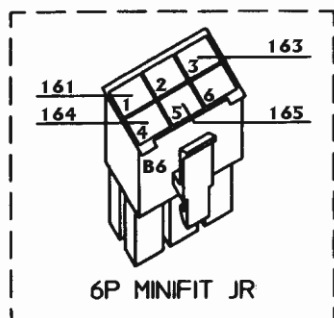
Socket P4	
1 / 2	Safety input GRE
3 / 4	Contact K1 for external GRE authorization

Socket P5	
1 / 2	230 V / 10 Amps GRE supply

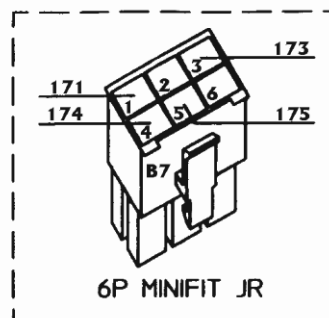
Socket P6	
1 / 2	Not used
3 / 4 / 5	ON/OFF relaying for connection in parallel with a slave power source.

CONNECTION BETWEEN INTERFACE BOARD B1 / CONNECTOR P3 and P3 B

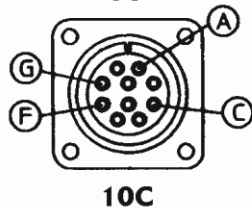
B6 / P3



B7 / P3 bis

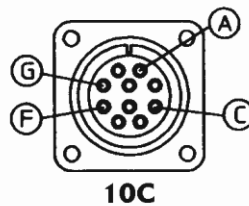


P3



REPÈRE	N° de FILS
A	161
B	
C	163
D	
E	
F	164
G	165
H	
I	
J	

P3 bis

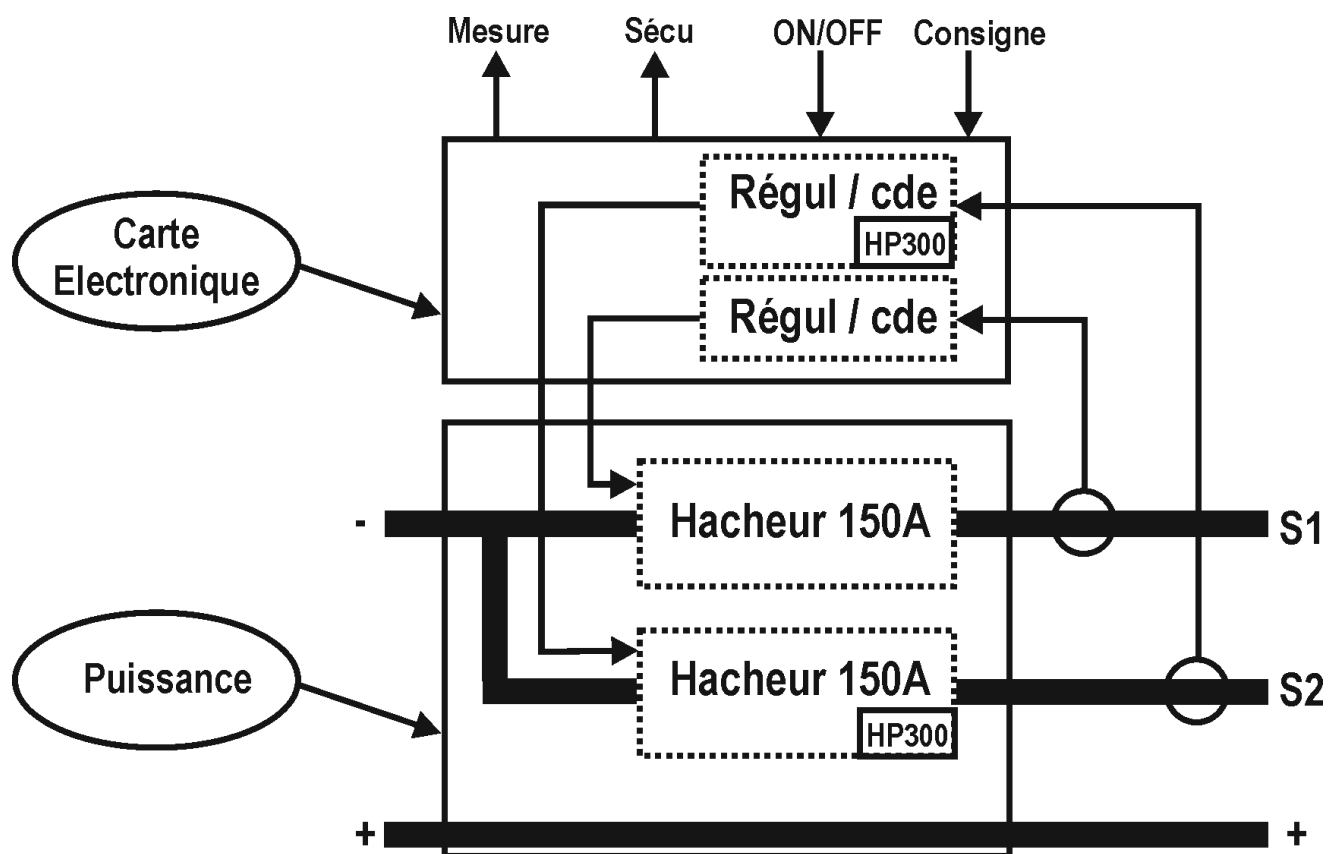


REPÈRE	N° de FILS
A	171
B	
C	173
D	
E	
F	174
G	175
H	
I	
J	

Socket P3 and P3 B

A	Electrode./part U measurement 9V for 300V	
C	Measurement common	
F	CAN L	CAN Bus link
G	CAN H	

CHOPPER UNIT BLOCK DIAGRAM



This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page, providing a template for writing or drawing. There are no margins, text, or other markings on the paper.

-30