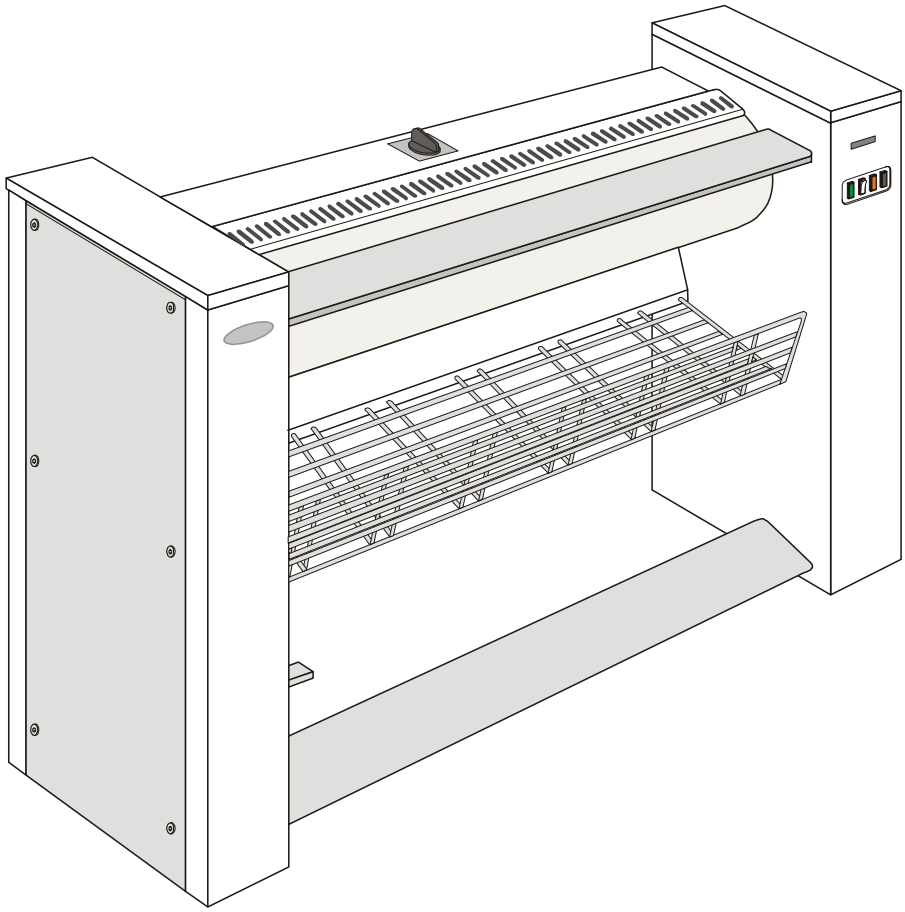
INSTRUCTION HANBOOK

IRONERS

IB32310 - IB32314 - IB32316

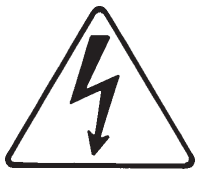


Electrolux

01405002gb

Chapter

Explanation of graphic symbols



Inside the equilateral triangle is a flash of lightning with an arrow at its end, warning the user of the presence of non-insulated "dangerous current" sufficient in intensity to cause electrocution.

Inside the equilateral triangle is an exclamation mark offering the user important advice on use, servicing and hazardous use conditions.

This symbol warns the user that there are mechanisms inside the machine which can be dangerous. The protective housing must be in place during use.

This symbol warns the user of the presence of high temperatures which could cause severe burns. Some surfaces can reach close to 200° C (392° F).

The manufacturer reserves the right to modify construction and equipment characteristics.

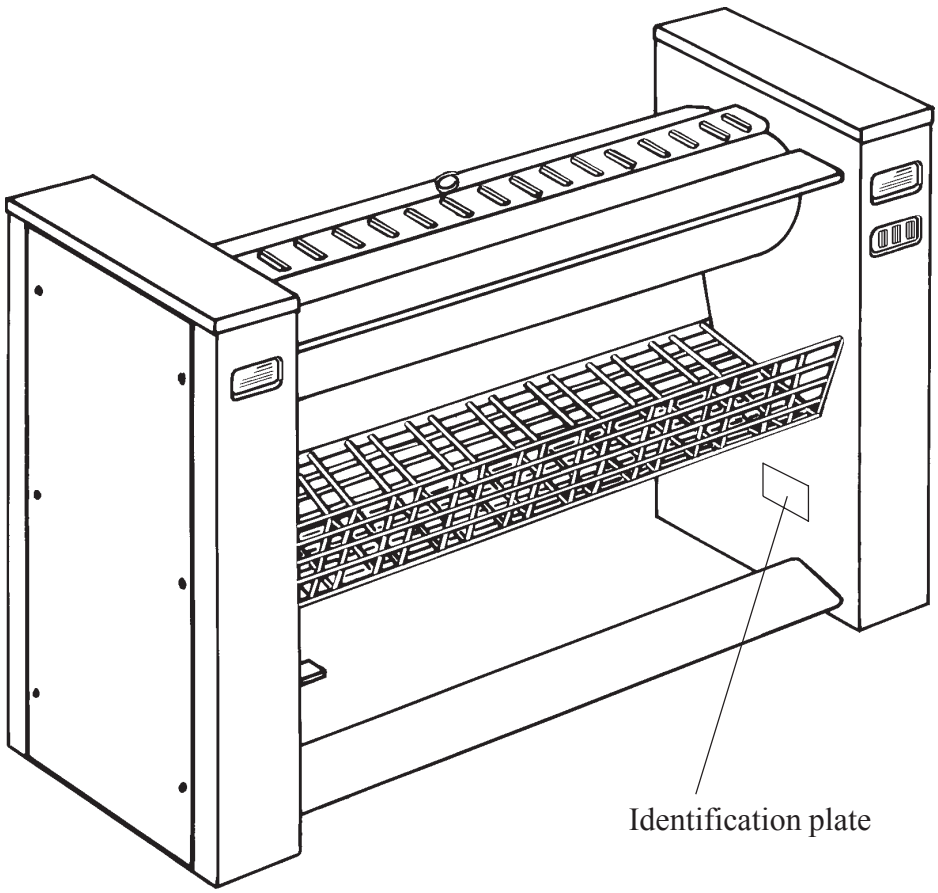
This manual describes a heated ironer, available in 1 m, 1.40 m or 1.60 m ironing widths.

The tray is heated by heating elements.

This ironing machine is also available with a coin operating system.

The 1.40 m and 1.60 m ironing machines are supplied with an evacuation system.

An ironing speed variator is also available on option.



D0343

Note about the A.C. power

- According to the EN 60204-1:1997 standard, the machine is provided for AC supplies corresponding to the extracted caracteristics below :

  4.3.2 AC supplies

  Voltage :
  Steady state voltage : 0,9…1,1 of nominal voltage.

  Frequency :
  0,99…1,01 of nominal frequency continuously.
  0,98…1,02 short time.

  Harmonics :
  Harmonic distorsion not to exceed 10% of the total r.m.s. voltage between live conductors for the sum of the second through to the fifth harmonic. An additional 2% of the total r.m.s. voltage between live conductors for the sum of the sixth through to the 30th harmonic is permissible.

  Voltage unbalance :
  Neither the voltage of the negative sequence component nor the voltage of the zero sequence component in three-phase supplies shall exceed 2% of the positive sequence component.

  Voltage interruption :
  Supply interrupted or at zero voltage for not more than 3ms at any random time in the supply cycle. There shall be more than 1s between successive interruptions.

  Voltage dips :
  Voltage dips shall not exceed 20% of the peak voltage of the supply for more than one cycle. There shall be more than 1s between successive dips.

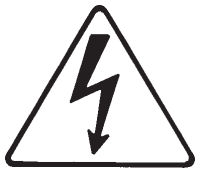
This page is left blank on purpose.

Installation

Prior to use, you must read the instructions for use.

SAFETY

The mechanical and electrical installation of the machine should only be done by qualified personnel.



CAUTION

Prior to use, the machine should be plugged into a correctly earthed power socket complying with the standards in force.

Use

The identification plate is located at the bottom of the inside face of the RH casing.

This ironing machine should only be used for previously washed and dried, machine-ironable textiles.

Use of the machine by children is prohibited.

Prior to use, all users should have learned how the machine operates.

CAUTION

For your personal safety, never use the machine without the protective housings.

Never iron if the hand protection bar is not operating.

When ironing, do not wear loose or billowing garments (e.g. wide sleeves, ribbons, ties, etc...).

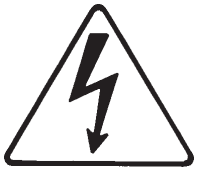
Never smooth out linen by holding on to the inner corners of quilt covers, pillow cases, the shoulder straps of underwear or any other straps. Do not put your hands in the pockets of clothing.

Do not put your hands between the raised tray and the cylinder to adjust or smooth out linen.

Servicing

The supervisor should be immediately informed if the machine does not work properly.

All repairs or servicing should be done by a qualified person.



CAUTION

Make sure the machine is disconnected from the mains before repairing or servicing.

CAUTION

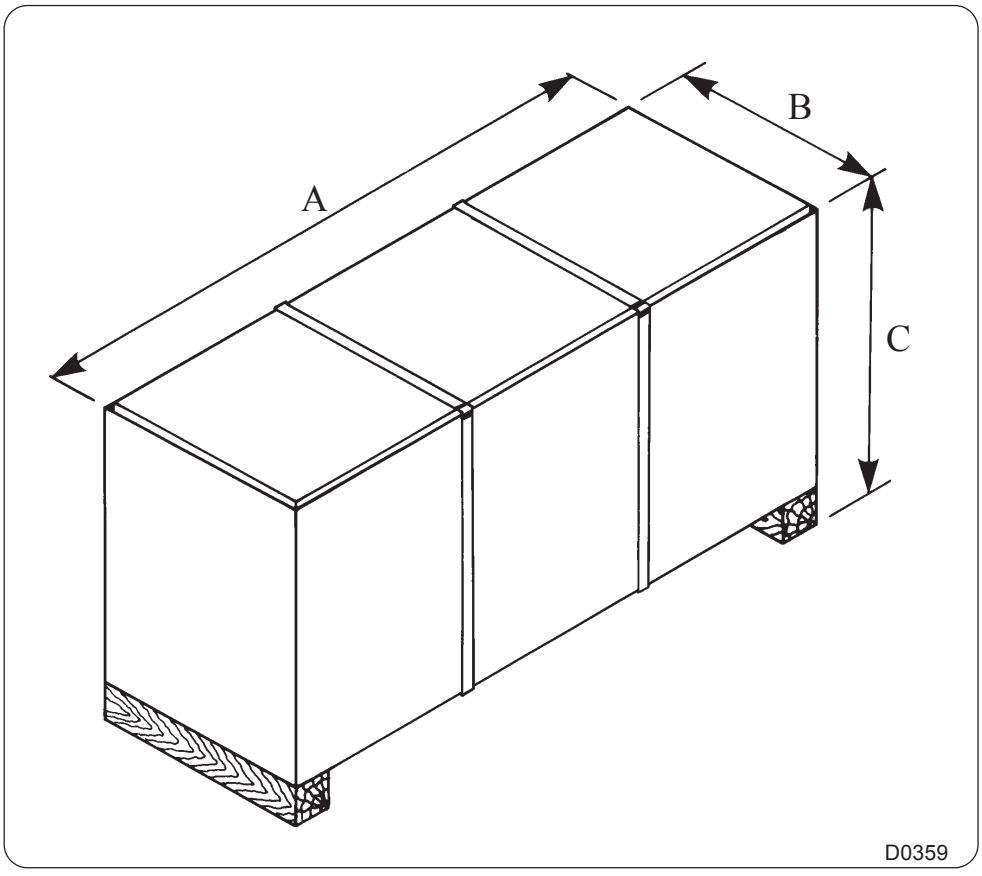
The temperature of the ironing tray can, after use, reach 200 °C (392 °F) and, if touched, can cause serious burns. Let the machine cool down before carrying out any repairs or servicing.

To prevent the risk of fire or explosion, never use flammable products to clean the machine.

NB: this machine contains no asbestos.

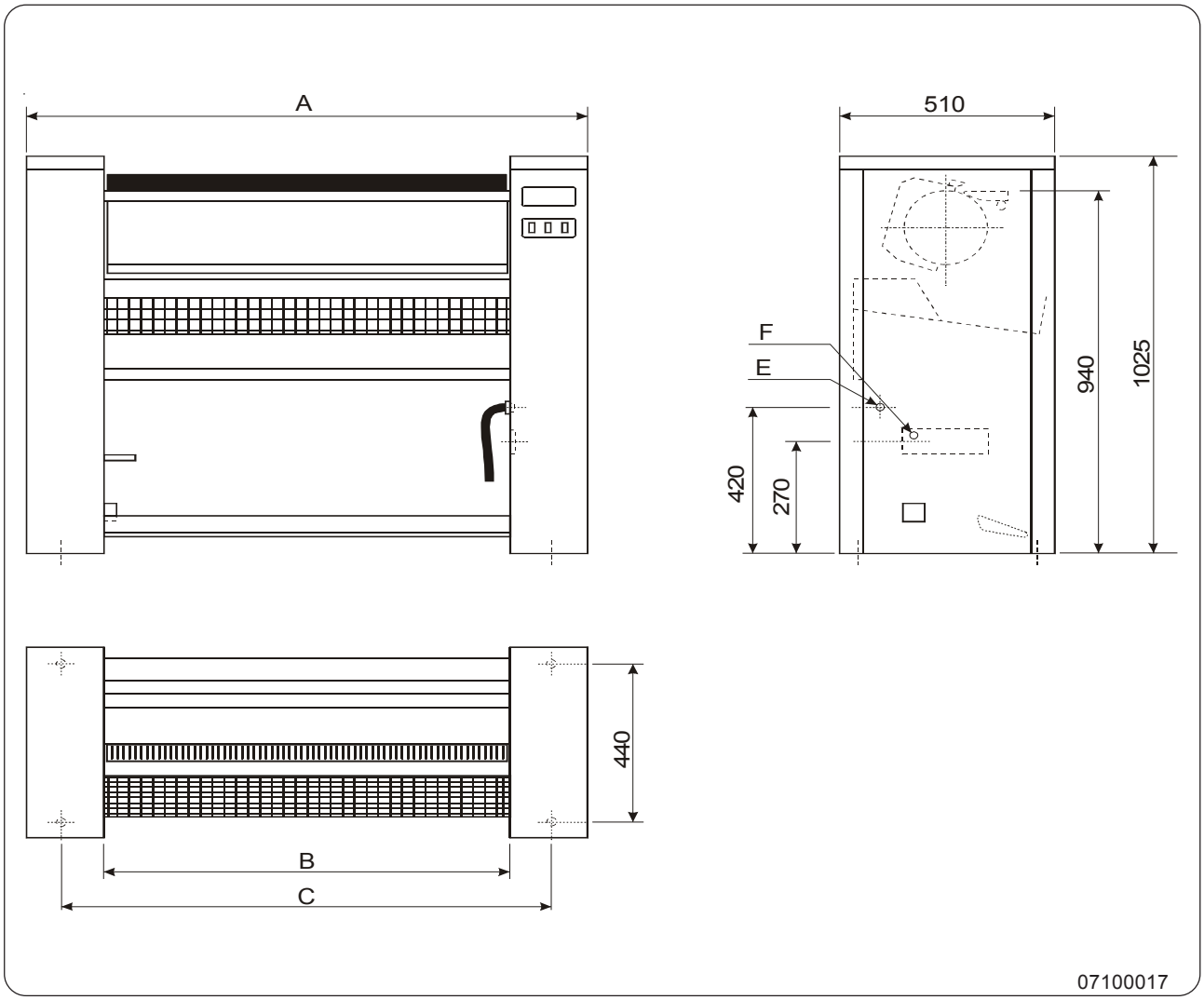
The ironing machining is secured to a transport pallet and packaged in a cardboard box.

Machine type		**1 m**	**1.4 m**	**1.6 m**
Packaging dimensions (boxed)				
Length (A)	mm	1435	1835	2085
Width (B)	mm	550	550	550
Height (C)	mm	1160	1160	1160
Weight	kg	137	160	185



Neither base nor sealing are indispensable.

It is yet possible to fix the ironer to tje floor.
To do so, use the holes made to block the machine on the transport pallet.

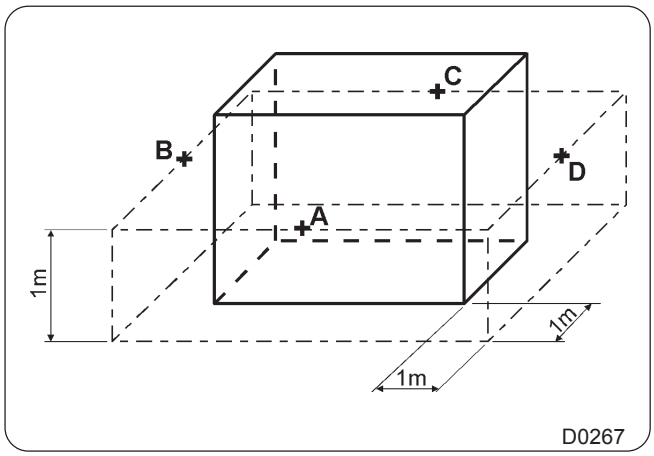


Machine type	Units	1 m	1.4 m	1.6 m
(A) = Overall length	mm	1395	1795	2045
(B) = Length of insertion table	mm	1000	1400	1650
Cylinder diameter	mm	230	230	230
(C) = Distance between adjusting blocks	mm	1220	1620	1870
Evacuation diameter	mm	nothing	36/40	36/40
Electrical connection		3N AC	3N AC	3N AC
Mains voltage	V	see table	see table	see table
Frequency	Hz	50/60	50/60	50/60
(E) = Power supply cable	mm²	see table	see table	see table
Electric power, total load	kW	5.20	7.50	8.70
Electric heating power	kW	5.00	7.20	8.40
Max. hourly consumption	kWh/h	4.28	5.82	7.27
Capacity max. water evaporation	l/h	5.00	6.78	8.05
With 20 % residual moisture content and 100 % roller utilization (according to ISO 93.98 standard).				
Heat loss	W	150	225	260
(F) = Control fuse (250 V)	A	1.25	1.25	1.25
Movement motor power	kW	0.18	0.18	0.18
Fan motor power	kW	nothing	0.06	0.06
Ironing speed (at 50 Hz)	m/min	3.4	3.4	3.4
Heating surface	m²	0.164	0.230	0.270
Weight	kg	120	140	154

Machine type	Supply Voltage	Rated Intensity	Main Switch	Connection Cable Section	Fuse
1 m	400/415V 3+N+E ~ 50/60 Hz	7.4 A	4 x 20 A	5 x 2.5 mm²	10 A
1 m	400/415V 3+E ~ 50/60 Hz	7.4 A	3 x 20 A	4 x 2.5 mm²	10 A
1 m	220/240V 3+E ~ 50/60 Hz	12.8 A	3 x 20 A	4 x 2.5 mm²	16 A
1 m	200/208V 3+E ~ 50/60 Hz	14.8 A	3 x 20 A	4 x 2.5 mm²	16 A
1 m	440/460V 3+E ~ 50/60 Hz	6.7 A	3 x 20 A	4 x 2.5 mm²	10 A
1 m	220V single 2+E ~ 50/60 Hz	23.2 A	2 x 32 A	3 x 6 mm²	35 A
1 m	208V 1+E ~ 50/60 Hz	25 A	2 x 32 A	3 x 6 mm²	35 A
1.4 m	400/415V 3+N+E ~ 50/60 Hz	10.7 A	4 x 20 A	5 x 2.5 mm²	16 A
1.4 m	400/415V 3+E ~ 50/60 Hz	10.7 A	3 x 20 A	4 x 2.5 mm²	16 A
1.4 m	220/240V 3+E ~ 50/60 Hz	18.5 A	3 x 25 A	4 x 2.5 mm²	25 A
1.4 m	200/208V 3+E ~ 50/60 Hz	21.3 A	3 x 25 A	4 x 2.5 mm²	25 A
1.4 m	440/460V 3+E ~ 50/60 Hz	9.7 A	3 x 20 A	4 x 2.5 mm²	16 A
1.4 m	220V single 2+E ~ 50/60 Hz	33.6 A	2 x 40 A	3 x 6 mm²	50 A
1.6 m	400/415V 3+N+E ~ 50/60 Hz	12.5 A	4 x 20 A	5 x 2.5 mm²	16 A
1.6 m	400/415V 3+E ~ 50/60 Hz	12.5 A	3 x 20 A	4 x 2.5 mm²	16 A
1.6 m	440V 3+E ~ 50/60 Hz	11.5 A	3 x 20 A	4 x 2.5 mm²	16 A

NOISE LEVEL

Airborne noise emitted by the machine (values established as from measurements made on the machine at points A,B,C,D).



Machine type			**1 m**	**1.4 m**	**1.6 m**
Weighted acoustic pressure level (A)	point A	dB(A)	52	54	54
	point B	dB(A)	57	57	57
	point C	dB(A)	52	54	54
	point D	dB(A)	59	59	59

This ironing machine should only be used for previously washed and dried, machine-ironable textiles.

In this normal case of use, it is not necessary to connect the exhaust duct to the open air.

In the opposite case, the exhaust duct must be connected to the open air, by the shortest way, and with as few bents as possible.

Incline the flexi-hose, as compared to the machine.

Protect the end of the exhaust duct from the bad weather.

Do not connect the exhaust duct to a gas, coal, fuel oil furnaces chimney. Separate it also from a tumble drier exhaust duct.

Installation

The ironer must be transported to its final position in the laundry before the pallet is removed.

Remove the cardboard box and the two side panels (key included).

Fig. 1 Remove the 2 fixing screws (1 screw per casing) which fix the machine to the transport pallet, and unload the machine.

Fig. 2 Install the ironing machine whereby access is facilitated for both operators and servicing personnel.

Make sure that the side of the machine is at least 100 cm away from walls or other machines.

In addition, leave a minimum of 10 cm between the machine and any rear wall.

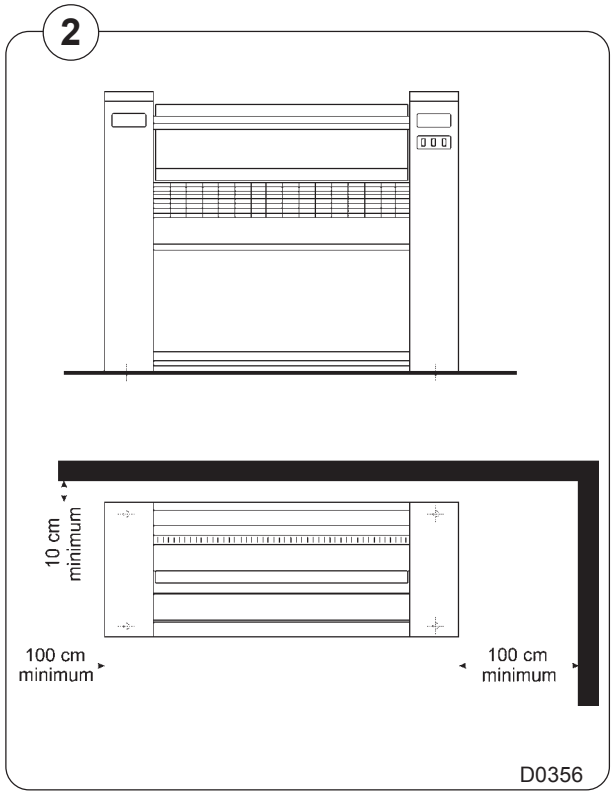


Fig. Install the four adjusting blocks and the counternuts in the foreseen places.

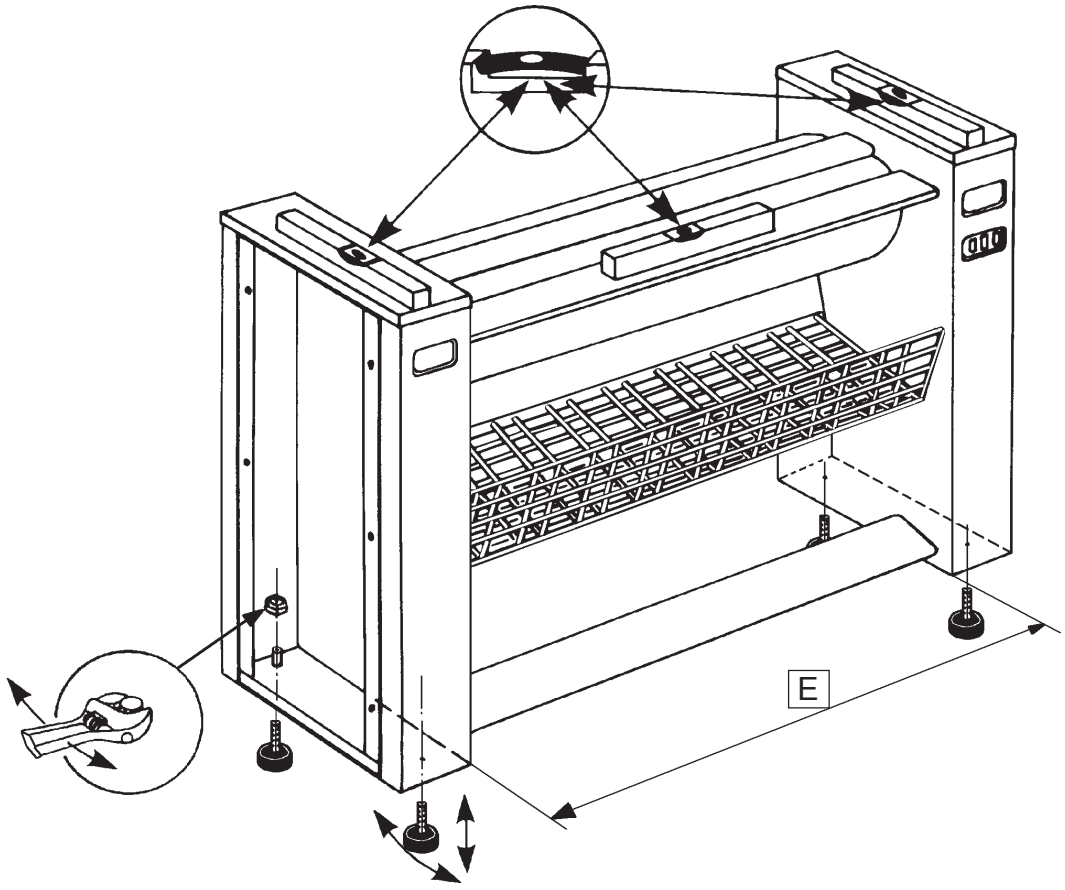
(3) Place the machine on a perfectly stable and level floor. Check the horizontality of the machine using a spirit level at both its centre and ends.

If required, use the adjusting blocks to level the machine then lock with the counternuts.

Control the floor space (E) between the two casings in order for the treadle to move correctly.

Control manually the functionning of the treadle which has to move freely with no jamming.

3



Work station lighting

Lighting should be designed and installed so as to prevent operator eye fatigue (good all over uniform lighting without bothersome glare) and provide a correct working light.

The average lighting recommended by European organisations is **300** lux.

The work station should have as much natural lighting as possible.

Electrical connection

CAUTION

Prior to use, the machine should be plugged into a correctly earthed power socket complying with the standards in force.

SAFETY

The mechanical and electrical installation of the machine should only be done by qualified personnel.

CAUTION

Make sure that both the power voltage is correct and the power supply of your installation is sufficient before connecting the machine.

Use only a cable to supply the machine.

Connect the machine to a four-pole switch and protective fuses (customer supply). The openning distance of the four-pole switch contact should be 3 mm minimum.

The values of these apparatus are indicated in chapter 4 -technical characteristics.

Install the main switch in an easily accessible position.

Insert the power cable into the stuffing box provided for this purpose.

Fig. 4 Connect the machine's power cable to the terminal block on the printed circuit provided for this purpose.

L1 Phase n° 1

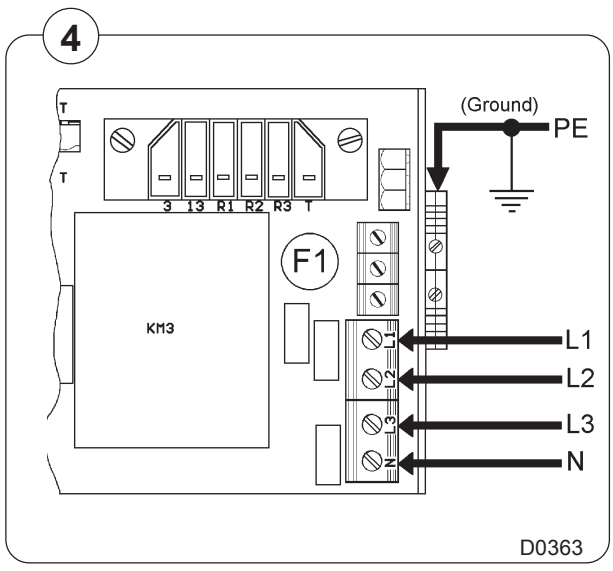
L2 Phase n° 2

L3 Phase n° 3

N Neutral

PE Earth connection

F1 Control fuse to protect the electrical control circuit (1.25 A).



Mains transformer connection diagrams according to the customer's various mains voltages (machines equiped with a transformer only).

400 Volts supply

Fig. 5

Measure the mains voltage at the primary with a voltmeter between 0 and 400 Volts of the transformer.

- If the voltage is equal to 400 Volts, do not touch the transformer connection which should be as indicated in the margin.

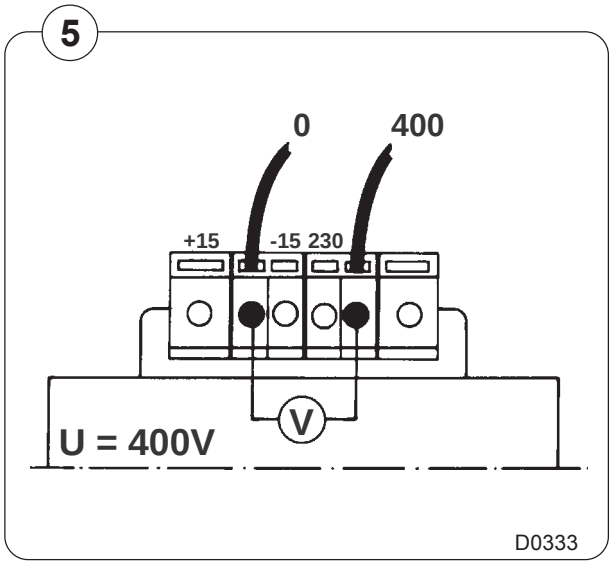


Fig. 6

- If the voltage is > à 400 Volts (example : 420/430 Volts), connect the threads to the transformer as indicated in the margin..

Note : the latter solution is advised even it the voltage is normally equal to 400 Volts, but may be subject to time variations ; your machine electrical equipment will not be overfed.

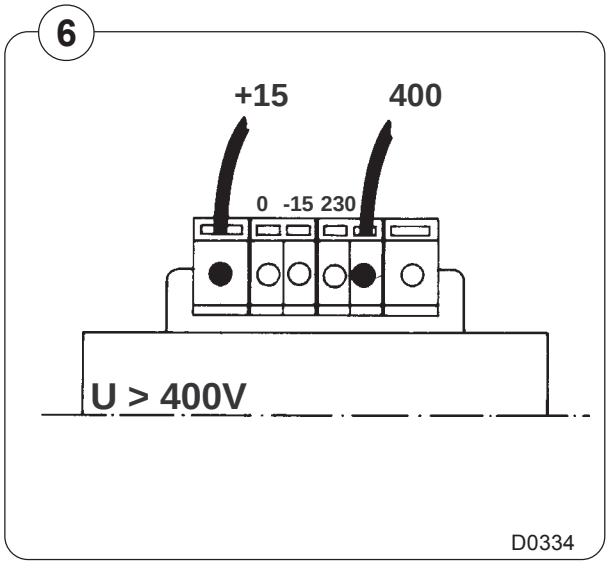
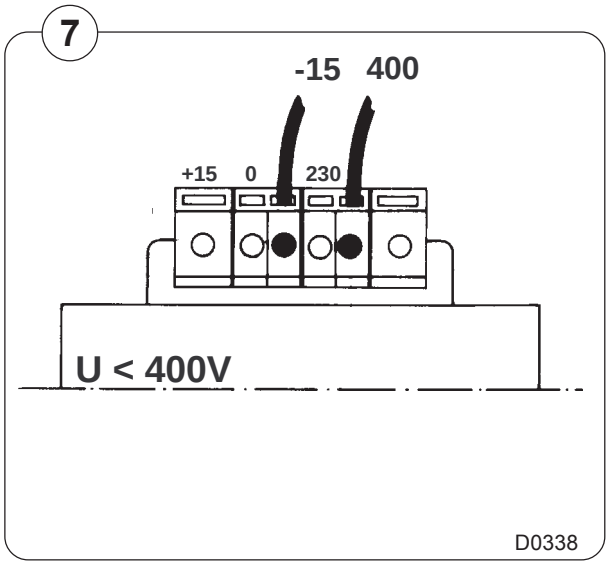


Fig. 7

- If the voltage is far < 400 Volts (example: 370/380 Volts), connect the threads to the transformer as indicated in the margin.



NB:

Once connected, make sure to check the correct order of phase connections.

CAUTION

If the phases are not connected the right order, when switching on the machine, the bed remains in contact against the cylinder, this last rotates clockwise (see from the machine right side), but the safety hand device is inoperative. You must not, in any case, continue to operate the ironer. Stop the machine and invert the phases.

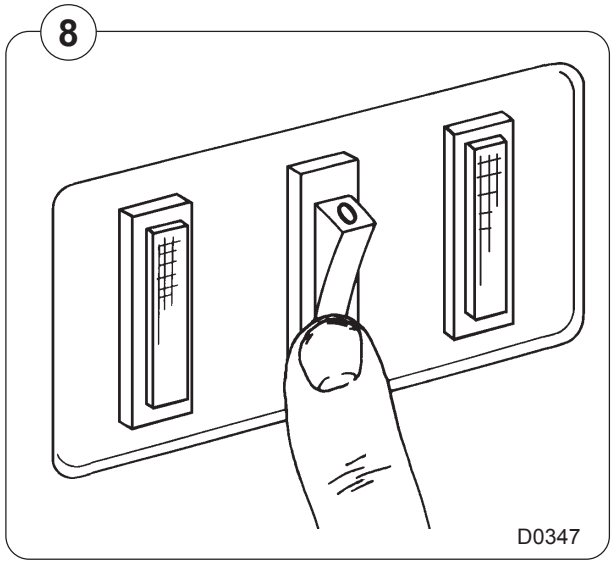
Check before use

The ironing machine is delivered with the tray in contact with the cylinder.

1. Check that the machine's on/off switch is to "**0**".

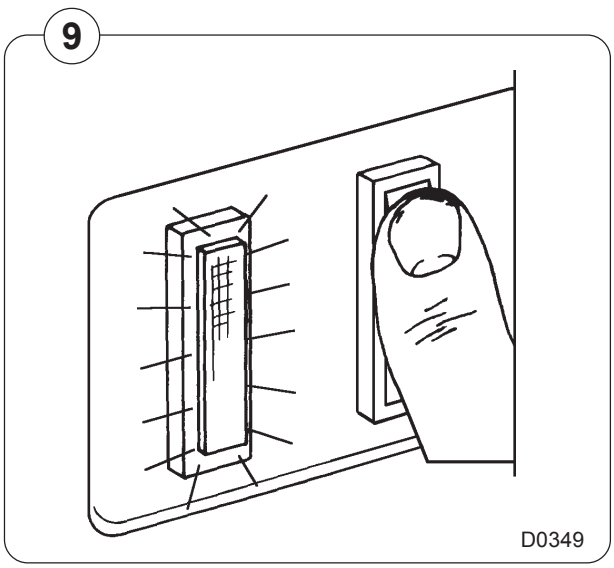
2. Turn on the main switch of the machine.

Fig. 8



3. Push on the "on/off" button, the green light is on, 4 cases (A, B, C or D) can now arise.

Fig. 9



CAUTION

The control pedal must not be operated before making the following checks.

A

Phases in good order and bed closed

When starting up the ironer, the cylinder does not rotate and the bed moves away from the cylinder.

Everything is OK.

You can operate the ironer.

B

Phases in good order and bed opened

When starting up the ironer, the cylinder does not rotate and the bed does not move.

Everything is OK.

You can operate the machine.

C

Inverted phases and bed closed

When starting up the ironer, the bed remains closed, the cylinder rotates the right way but the hand safety device is inoperative.

Do not use the machine.

Modify the phases order (see below)

D

Inverted phases and bed opened

When starting up the ironer, the cylinder rotates the wrong way and the bed blocks in rear position.

Release the bed and modify the phases order (see below and next page).

If the functionning of the machine does not correspond to either case (A) or (B), stop the machine with the On/off switch (fig.8), put the main switch to off and invert the 2 phase wires on the power supply terminal block (fig.4).

4. Repeat operations points 1, 2 and 3, the tray should now move back.

5. Turn the main switch off.

6. Reinstall the side panels and lock the fixing screws.

7. Remove the protective paper from around the cylinder.

8. The ironing machine is now ready to be used.

Nota : At the first use, it is necessary to leave the cylinder heated turn for about one hour to allow the padding to ram. This running in allows to get a space between the tray and the cylinder in order to feed the linen easily.

Disconnecting the machine.

N B:

If you wish to disconnect the electrical supply cable, it si more wise to do it once the machine is cooled down and to stop the ironer with the tray in contact with the cylinder.

Fig. 10

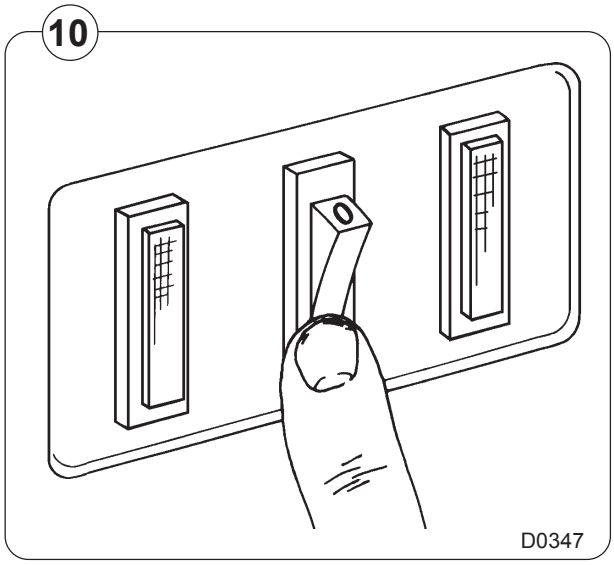
Proceed as follows :

When the tray is cold, move it against the cylinder by pressing on the control pedal and activate the on/off switch to stop the electrical supply.

Stop the electrical supply by the main switch.

You can now disconnect the electrical sypply cable.

To reconnect the machine, it is imperative to check the order of connection of the phases before starting the ironer (see previous page).



Releasing process to follow in case of connection while the tray is in back position.

Fig. 11

If you connect the machine with the tray in back position and the control pedal activated (when two wires of phase are inverted), an electrical device doubled with a mechanical system of locking prevents to deteriorate essential mechanism organs.

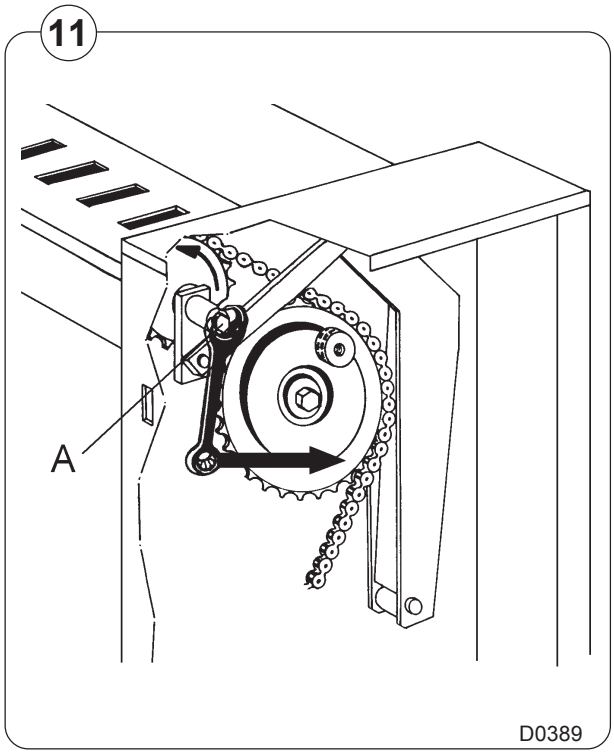
1- Stop the machine's electrical supply by the main switch.

2- Invert two wires of phase (see previous page).

3- Remove the right lateral casing.

4- Unscrew the screw (A) while holding the tray, this last comes automatically in position against the cylinder.

5- Block the screw again (A) and reassemble the lateral casing.



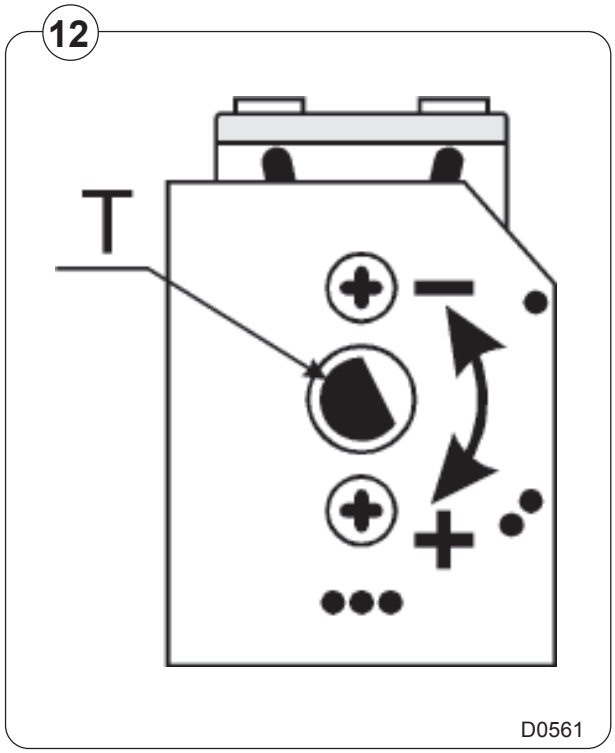
Safety Thermostat's adjustment

This ironer has a an adjustable safety thermostat in order to avoid damages of the cotton covering in case of machine stop with the bed closed.

This safety thermostat is adjusted in our plant so that the regulation thermostat doesn't go above the temperature corresponding to the position which is aproximatly 150 °C ; even when it is set on a higher temperature.

Fig. (12) If you want to increase the ironing temperature, dismantle the bed's back casing and turn the rod (T) of the safety thermostat.

This way, you can limit the maximum ironing temperature as you want.



Description of the machine

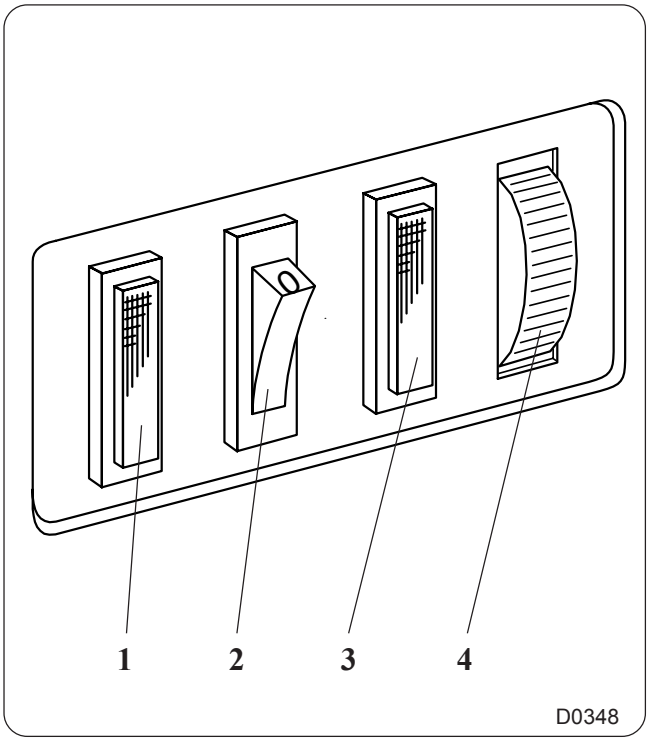
1 - **"On"** indicator lamp

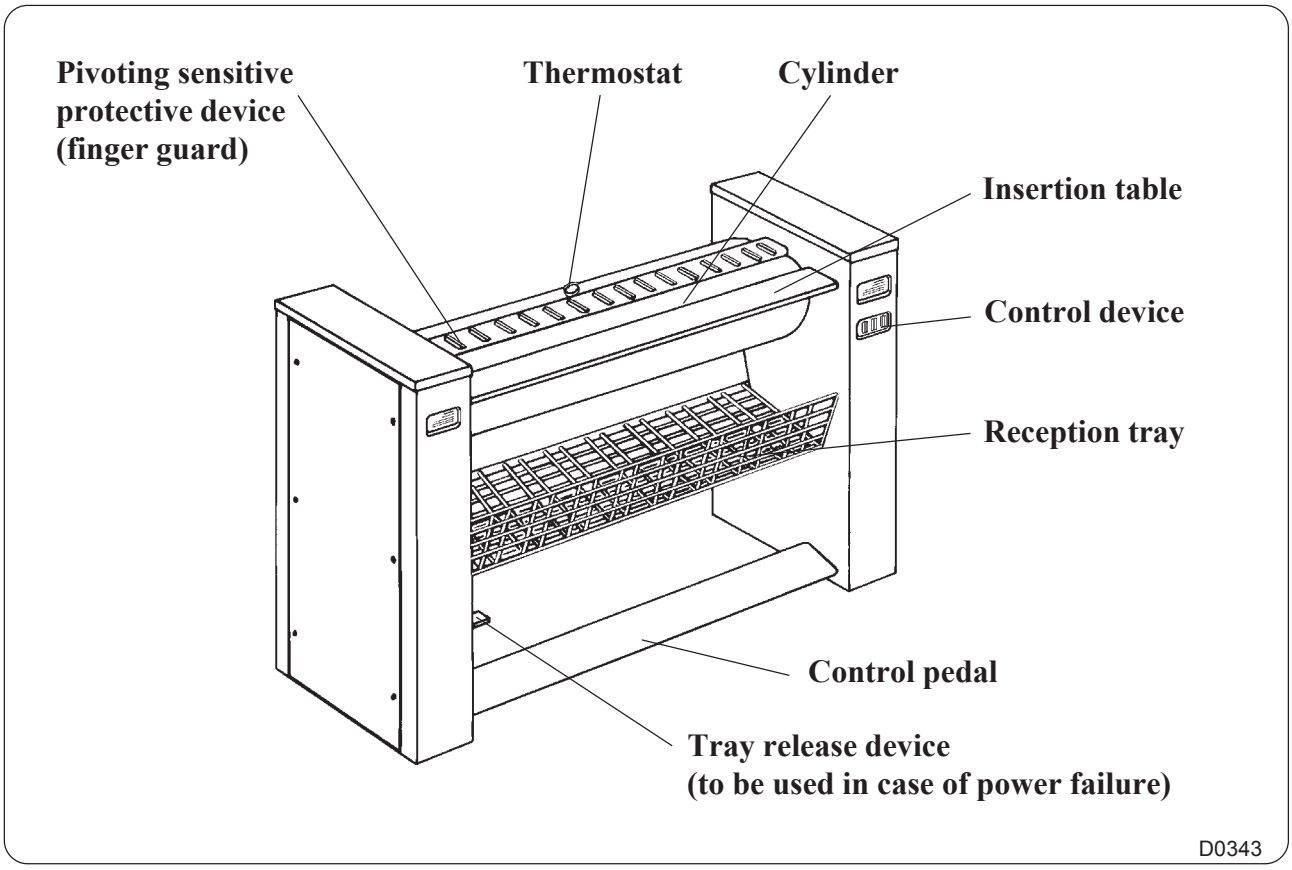
2 - **"On-Off"** switch

3 - **"Heating"** indicator lamp

4 - Potentiometer button

"Ironing speed adjustment"
(option with variator, speed adjustment from 1 to 4 m/min.)





Control devices

Fig. 1 **"ON-OFF"** switch.
This switch turns the ironing machine on and off.
The green indicator light comes on as soon as the switch is on.

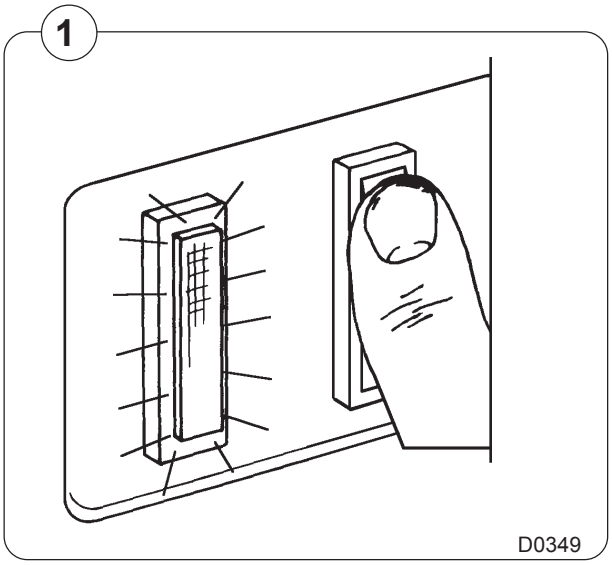


Fig. 2 The yellow **"HEATING ON"** indicator light indicates that the heater is operating. This indicator light goes out after a few minutes when the desired working temperature has been reached.

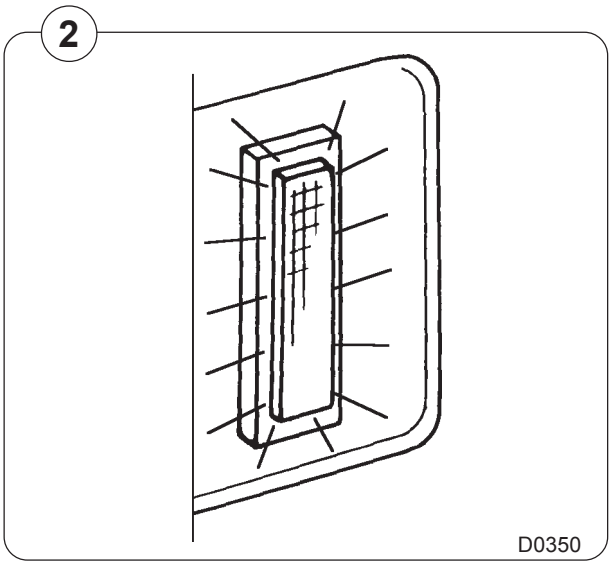
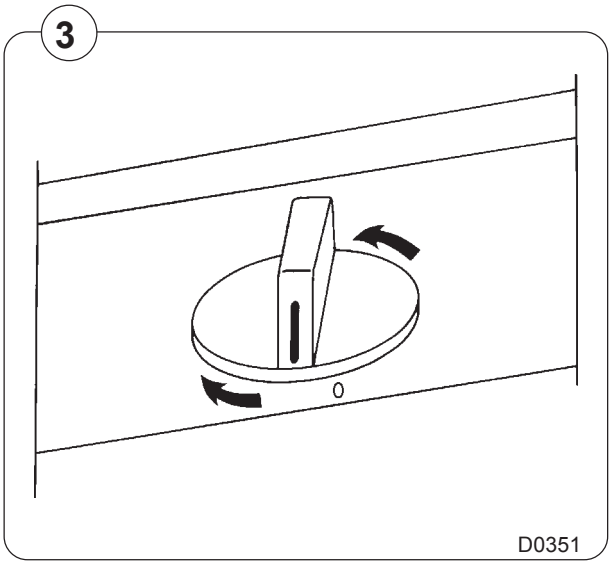


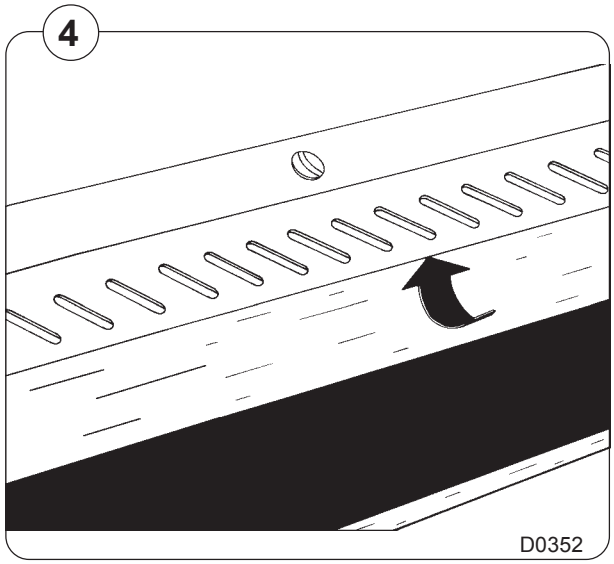
Fig. 3 The **"TEMPERATURE SELECTION"** knob on the thermostat is used to set the temperature in function of the washing to be ironed.

0		(zero) Heating off.
	0 to 50 °C	-Tepid.
	50 to 100 °C	-Nylon, etc...
	100 to 150 °C	-Silk, Wool.
	150 to 170 °C	-Cotton, Linen, Polycotton.



Finger protection device

Fig. 4 **Check that the finger protection device is operating prior to each use.**
When this device is activated, the ironing machine stops, the cylinder stops turning and the tray moves back.
Press down on the control pedal to continue ironing.

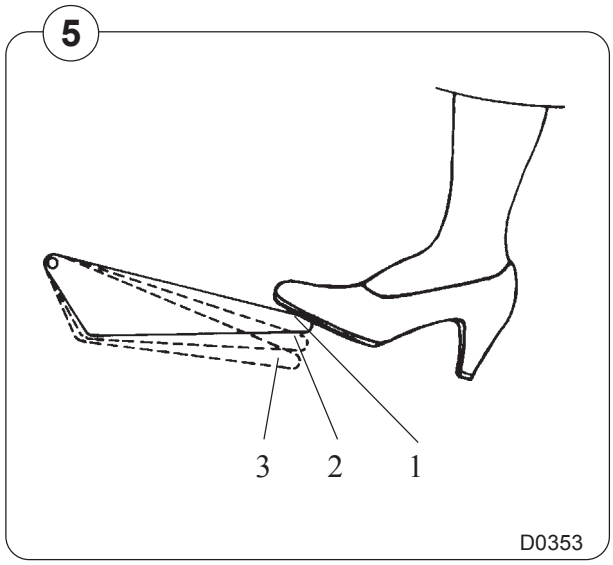


Control pedal

Fig. 5 3 - position control pedal

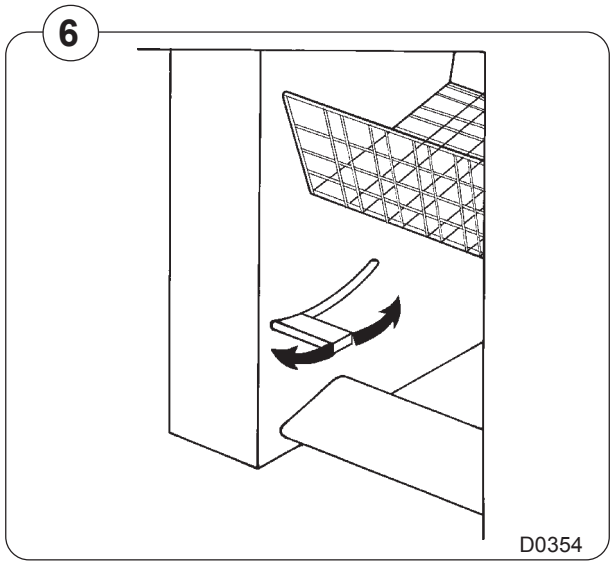
- ☞ Position **1** up (rest position)
- ☞ Position **2** intermediary (cylinder stop for pressing function)
- ☞ Position **3** down (ironing function or moving away of tray)

NOTE : Push <u>gently</u> on the control pedal with your foot.



Release device

Fig. 6 In the event of power failure, any garment in the machine can be removed by activating and then releasing with your foot this lever which separates the tray from the cylinder.



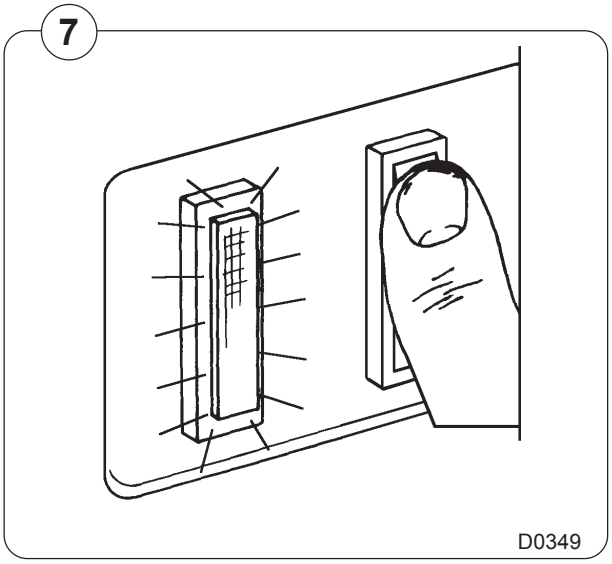
Use

Fig. Turn on the main switch.

(7) Press on the machine's white start button.

The green indicator lamp comes on.

Press down on the pedal to start ironing.



Ironing machine with coin operating system

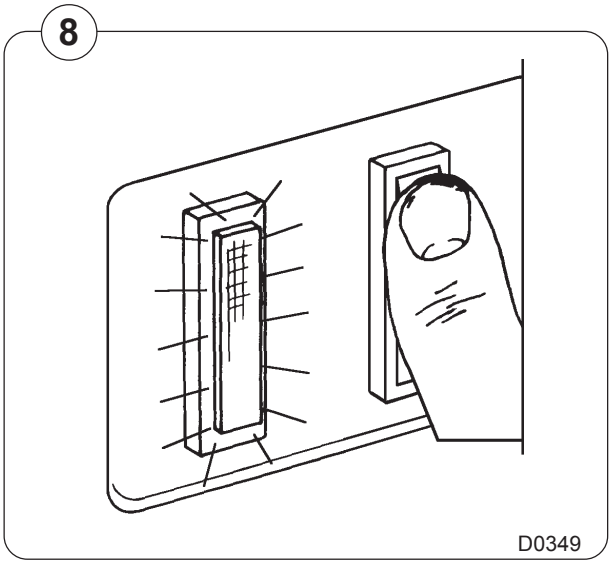
Fig. Turn on the main switch.

(8) Press on the machine's white start button.

Insert a coin.

The green indicator lamp comes on.

Press on the pedal to start ironing.



Coin operating system (option)

Fig. (9)

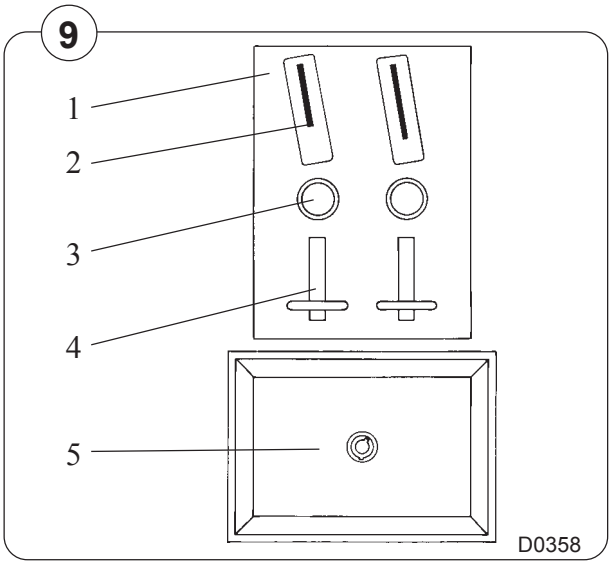
1 = Coin machine

2 = Insertion of coin

3 = Coin return button

4 = Coin return slot

5 = Money collection box



Temperature setting

Fig. 10 Select the temperature in function of the article to be ironed.

0 (zero) Heating off.

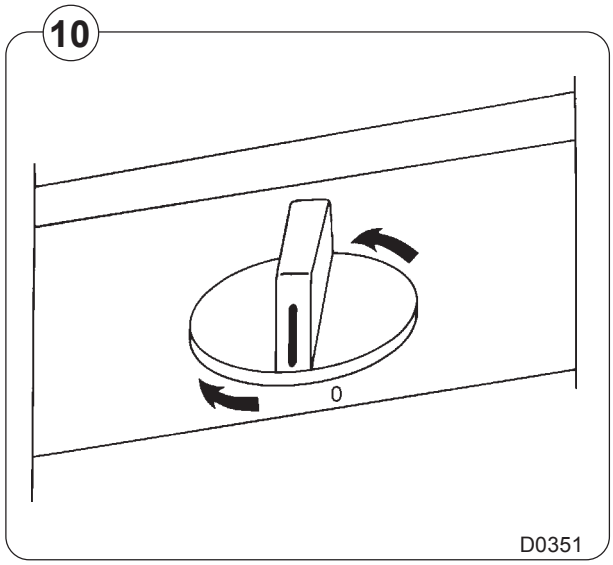
0 to 50 °C -Tepid.

50 to 100 °C -Nylon, etc...

100 to 150 °C -Silk, Wool.

150 to 170 °C -Cotton, Linen, Polycotton.

As soon as the yellow **"heating on"** indicator light goes off, ironing can commence.

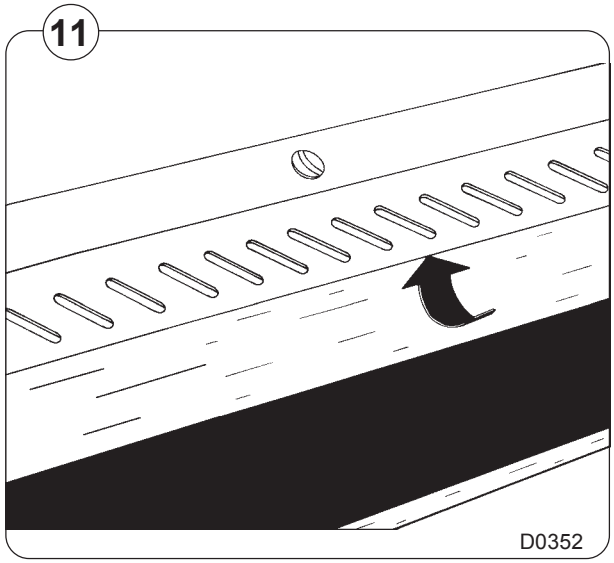


Finger protection device

Fig. 11 **Check that the finger protection device is operating prior to each use.**

When this device is activated, the ironing machine stops, the cylinder stops turning and the tray comes away.

Press on the control pedal to continue ironing.



Ironing

NOTE : Push <u>gently</u> on the control pedal with your foot.

Fig. 12 When the pedal is in position **1** (rest position), the cylinder is stopped and the bed is in the rear position.

Press down then release the pedal a first time in position **2** or **3**, the cylinder starts to turn and the tray advances towards it.

A new action in position **3** stops the cylinder, the bed moves back allowing the ironing to be placed on the cylinder.

Again press down on the pedal in position **2**, the bed advances, the cylinder turns, taking up the article being ironed.

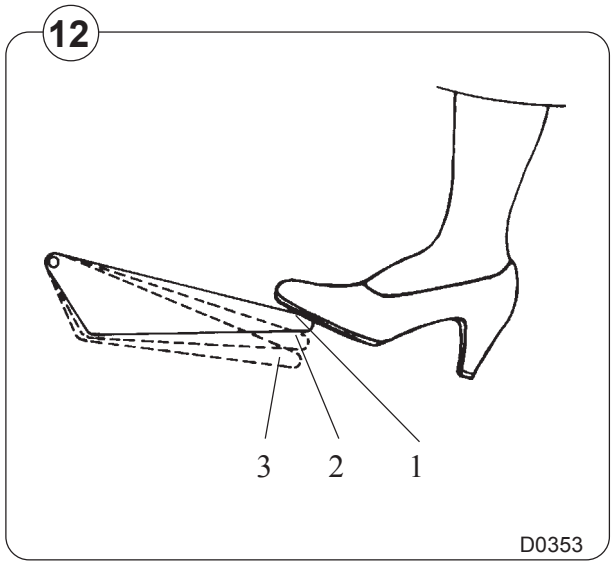
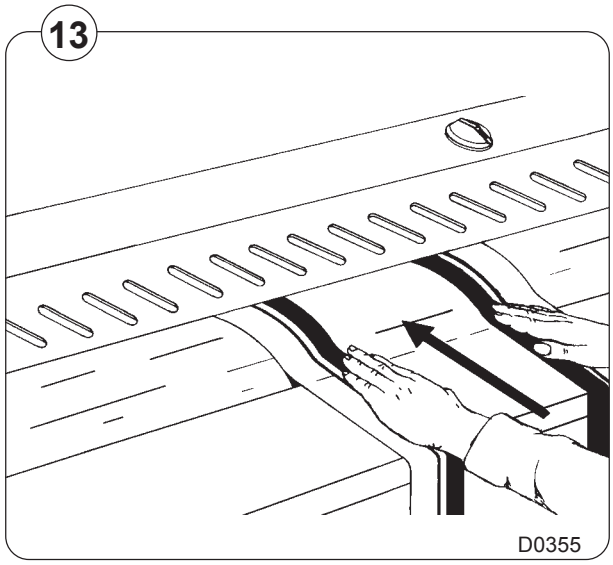


Fig. 13 Place the ironing on the insertion table and push it so that it is taken up by the cylinder.

Smooth out the linen starting at the centre and moving towards the edges.

When there are buttons, they should be placed against the cylinder to protect them and the tray.

For zippers and metal buttons, cover with a cloth to protect the tray.



Pressing function

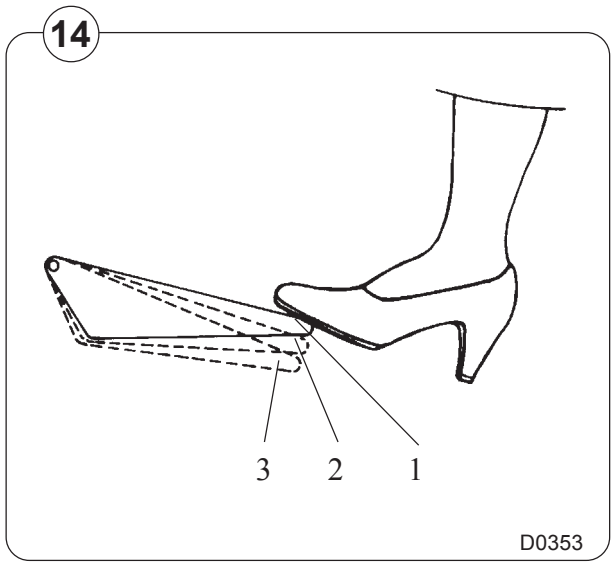
Fig. 14 For the pressing function, move the control pedal to position **2**; the cylinder stops.

To continue ironing, release the pedal.

To insert thicker items, press the pedal down to position **3**, the cylinder stops and the tray moves away.

Position the article to be ironed and again press on the pedal to continue ironing.

NOTE : Push <u>gently</u> on the control pedal with your foot.



Stopping the machine

To get the maximum service life from the cylinder coverings, use the following procedure to stop ironing:

1. Position the thermostat to **0** to cut off the heating.

2. Let the cylinder turn in contact with the tray for a few minutes so as to eliminate the moisture from the coverings.

3. Press completely down on the pedal to move back the tray.

4. Turn off the switch to stop the machine.

5. Turn off the main switch.

Releasing of the cylinder

Fig. 15 In some conditions of humidity or static electricity, it may happen that the piece of linen being ironed winds around the cylinder.

The cylinder can only rotate in one way ; it si so, necessary in this precise case, to act on the machine.

1 - Turn off the heating and stop the ironer.

2 - Cut off the electrical supply by the main switch.

3 - Remove the right lateral casing.

4 - Unscrew and remove totally the knurled button (A) as well as the conical washer (B), the cylinder is now released.

5 - Pull to you the piece of linen to unwind.

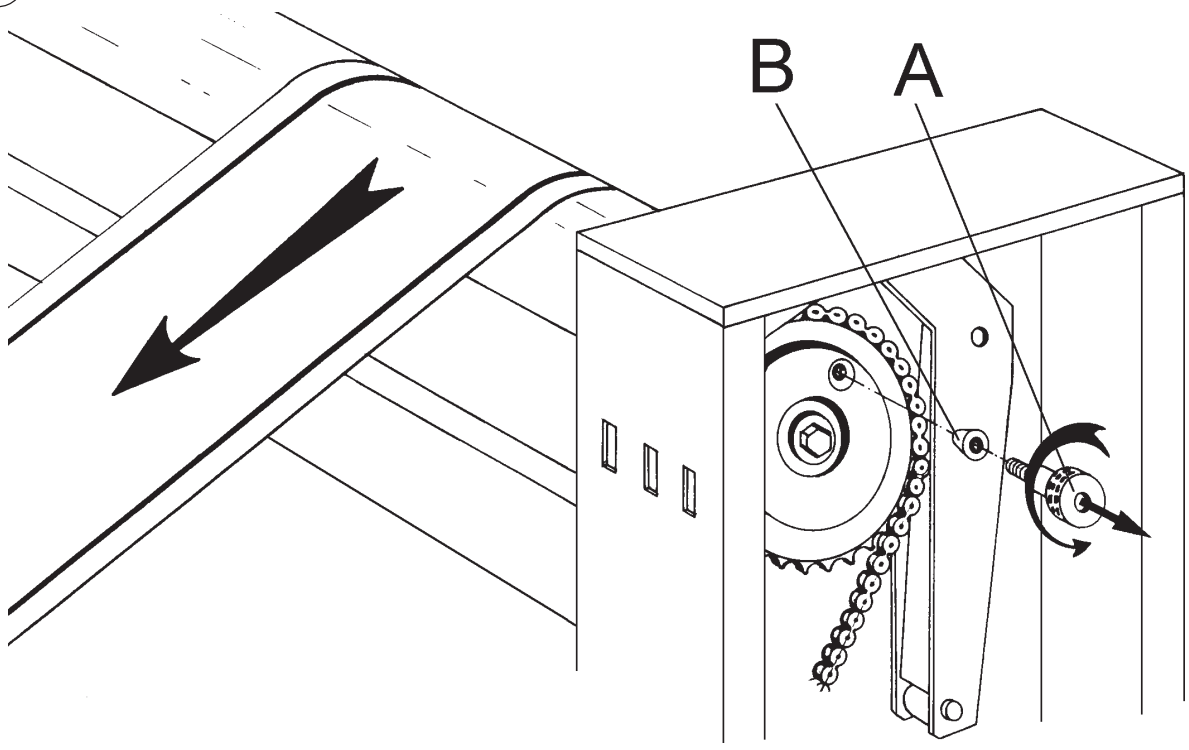
6 - Make the cylinder turn slowly until seing the threading of the knurled button.

7 - Reassemble the conical washer (B) and the knurled button (A) .

8 - Reassemble the right lateral casing.

9 - Rearm the main switch and start again the ironing.

15



Use recommendations

Make sure that the fabric can be ironed, and check which temperature should be used.

Take care with synthetic and printed fabrics as these can melt and stick to the tray.

It is advisable to commence ironing with the most delicate fabrics finishing off with the most heat-resistant ones, by progressively increasing the temperature with the thermostat button.

When ironing small articles, use the entire width of the cylinder so that heat is evenly distributed, preventing wear on only one side of the covering.

Iron starched articles last, to prevent any eventual residue on the tray from damaging other items.

Do not iron overly thick linen or covers.

Do not iron non heat-resistant or overly voluminous buttons (round buttons, for example).

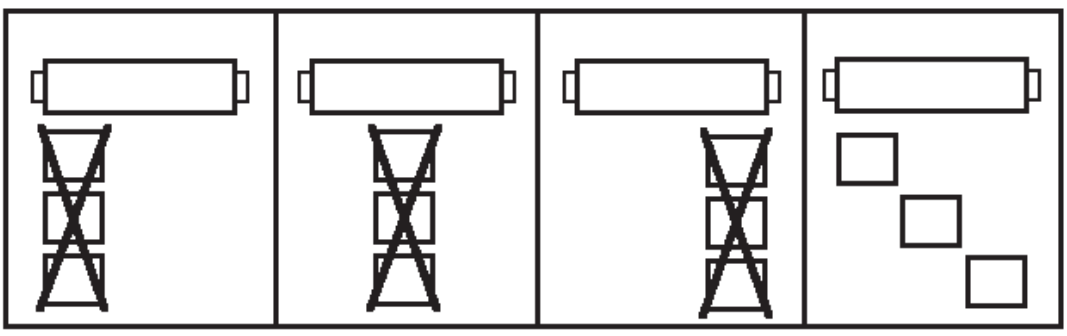
Carefully inserting the articles to be ironed will improve results.

Make sure that the width of the ironing does not exceed the useful width of the ma chine.

When ironing small items, be sure to alternatively use the full width of the roller (and not simply the middle); this prevents depressions from forming in the middle of the covering. This can effect the quality of the ironing (see figure below).

When ironing is finished, let the cylinder turn for a few minutes to allow for the evaporation of any humidity absorbed during ironing.

Let the tray move back before turning off the machine.



P0010

CAUTION

It is very important that the machine is not running cold, the grip between the cylinder and the chest is too important which can prematurally wear out the cylinder padding and deteriorate the free wheel. Failure to follow this recommendation would void the warranty of the parts in question.

The outer padding being a consummable, it is normal to replace it periodically.

This page is left blank on purpose.

Safety devices

Finger safety system

The space between the finger guard and the ironing cylinder does not allow fingers to pass through. As soon as the device is triggered, the tray moves away and the cylinder stops.

Accessibility

Housings can only be dismantled with a special tool.

Heating safety

Two safety thermostats limit the temperature of the tray.

Electrical protective devices

The motor is protected by a thermal contact.
A fuse protects the machine's electrical control circuit (see page 2 chapter 4).

The heating works incorrectly or not at all

- # Check the preselected temperature.
- # Check the adjustment thermostat.
- # Check the activation of the heating contactor.
- # Check the intensity of the heating elements.
- # Check heating element connections.
- # Check the phases (voltage and intensities).
- # Check and reset the safety thermostat (see figures below).

D1054

D1055

The machine suddenly stops

- # Check the protective fuse.
- # Check the electric power supply.
- # Check the limit switches.
- # Check the operating of the movement motor.

The temperature of the tray is too high

- # Check the thermostat by measuring the temperature of the tray with a thermometer.
- # Check that the thermostat's sensor is in contact with the tray.

CAUTION

Disconnect the power supply and leave the ironing tray to cool down prior to any repair work or servicing.

To get the best results and optimum safety from your machine, observe all the servicing instructions.

CAUTION

The tray has to be maintained with care so that the ironing is easy and of good quality.

The removal of detergent or fur deposits should be done as soon as these are prejudicial to the ironing quality.

The use of emery cloth or steel wool is strictly unadvised.

We recommend you to only use a 3M product such as Scotch-Brite Ref. CFR A MOYEN.

Each day

Check finger guard operating.
This safety device must be checked before each use.
If the device is activated, the cylinder should stop and the tray draw back.
Press on the pedal to reactivate the ironing machine.

Every week

Clean the ventilation grille of the movement motor and fan.

Every 6 months

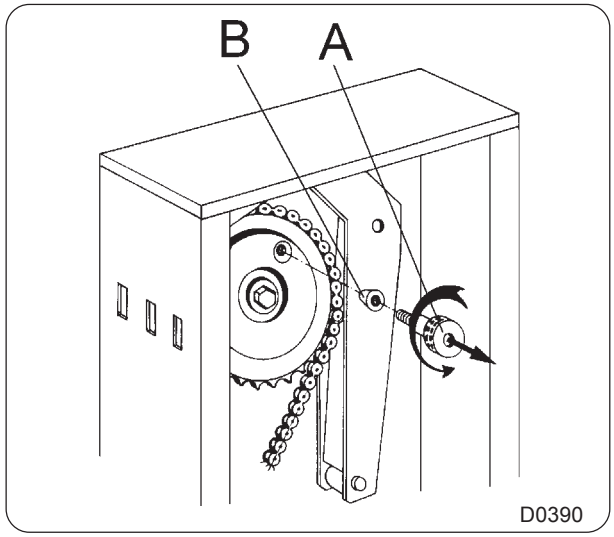
To obtain the best ironing results, it is essential that the covering of the cylinder is kept clean and in good condition.
Wash the cotton cloth with hot water.
Replace the cloth slightly damp without ironing it (see next page).
Check the circumference of the cylinder (see next page). Clean the machine inside and out.

Every year

Check thermostat operating.
Check the heating elements, cables and connections.
Lubricate the transmission chain (see lubrication table page 3 chapter 10).
The reducer requires no servicing because it is sealed and life-lubricated.

Replacing cylinder coverings

The cylinder is lined with steel wool, covered with a layer of felt and a layer of cotton material.
- Stop the machine with the tray in back position.
- Remove the right lateral casing.
- Unscrew and remove totally the knurled button (A) and the conical washer (B), the cylinder is now released.
- Untie the drawstrings at both ends of the cylinder.
- Pull on the cotton padding to unroll it from the cylinder.
- Do the same with the felt padding.
- Reassemble the conical washer (B) and the knurled button (A).
- Fit in a new felt padding as if it was a piece to iron, putting it edge to edge with the steel wool.
- Turn manually the cylinder to wind the padding on half a turn.
- Switch on the machine and turn the cylinder by pressing on the control treadle.



- During this operation, the felt padding has to be streched from the beginning to the end of the rolling-up.
- Let the cylinder turn against the chest for 5 to 10 minutes in order for the felt padding to set up correctly.
- Wash the cotton covering in hot water.
- Replace the slightly damp cloth without ironing it.
- Then, fit in the cotton cloth centering it on the cylinder as if it was a piece to iron, introducing it under the felt padding for about 10 cm.
- Turn the cylinder to roll-up the cotton cloth.
- Stop the machine, pull on the gather braids, tie them up correctly and fit them under the cotton cloth at the end of the cylinder.
- Leave the cylinder heated turn for about one hour to run in the padding.

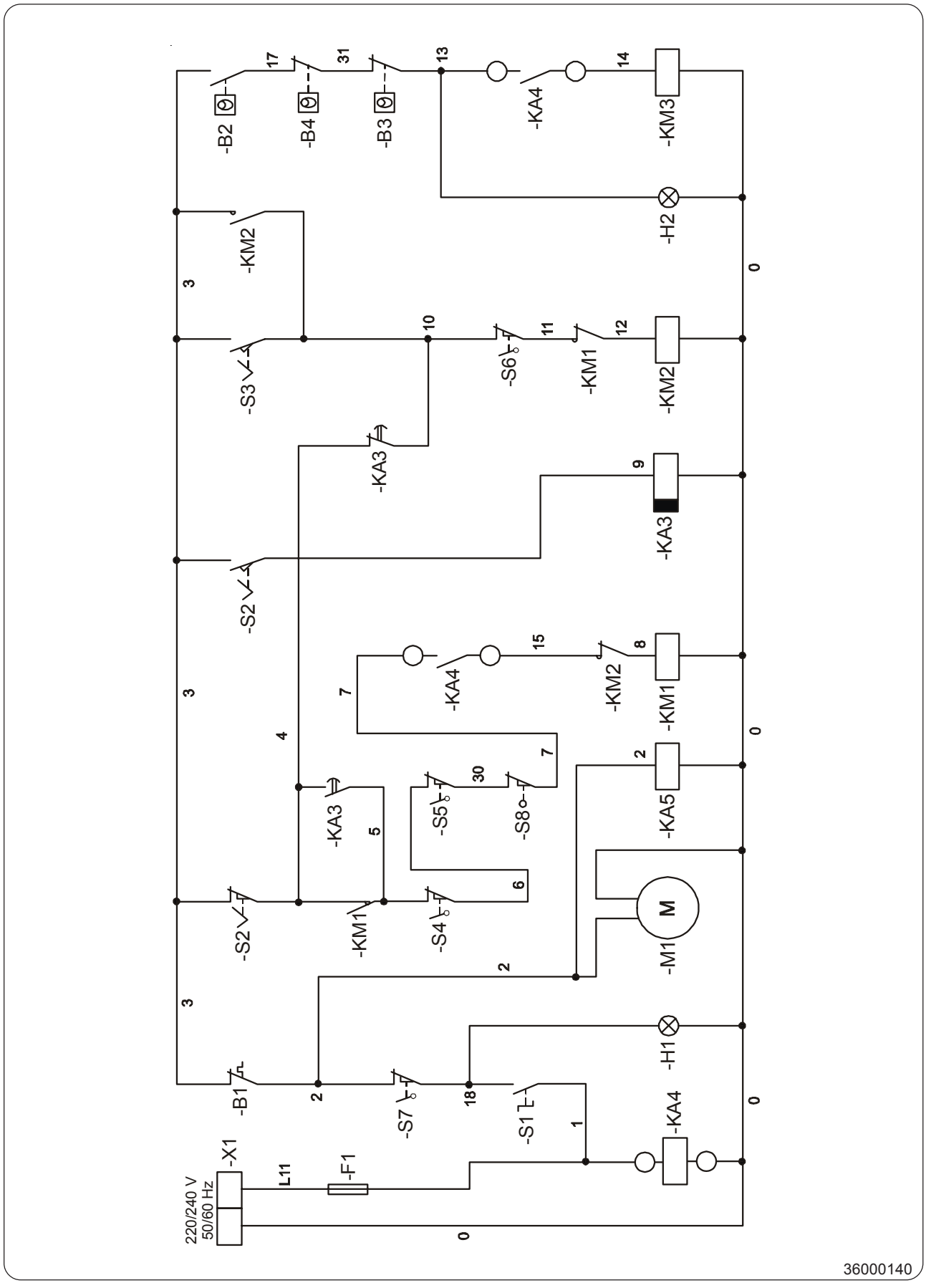
Check the diameter of the cylinder using a measuring tape.
The circumference of the cylinder should measure between : 690 mm min. - 730 mm max.

NB : If the steel wool lining is to be replaced, call on an after-sales service technician.

Care instructions for the NOMEX textile :
The quality MNF / F3 NOMEX textile (option) can be washed with neutral detergents at 60 °C, whereby heavy or long mechanical effects should be avoided.
For de-watering, the textile should either only short extraction or be hung up to let it drip off.
The textile is fitted onto the ironer in a damp condition and with light pressure and heating.

LUBRIFICATION TABLE

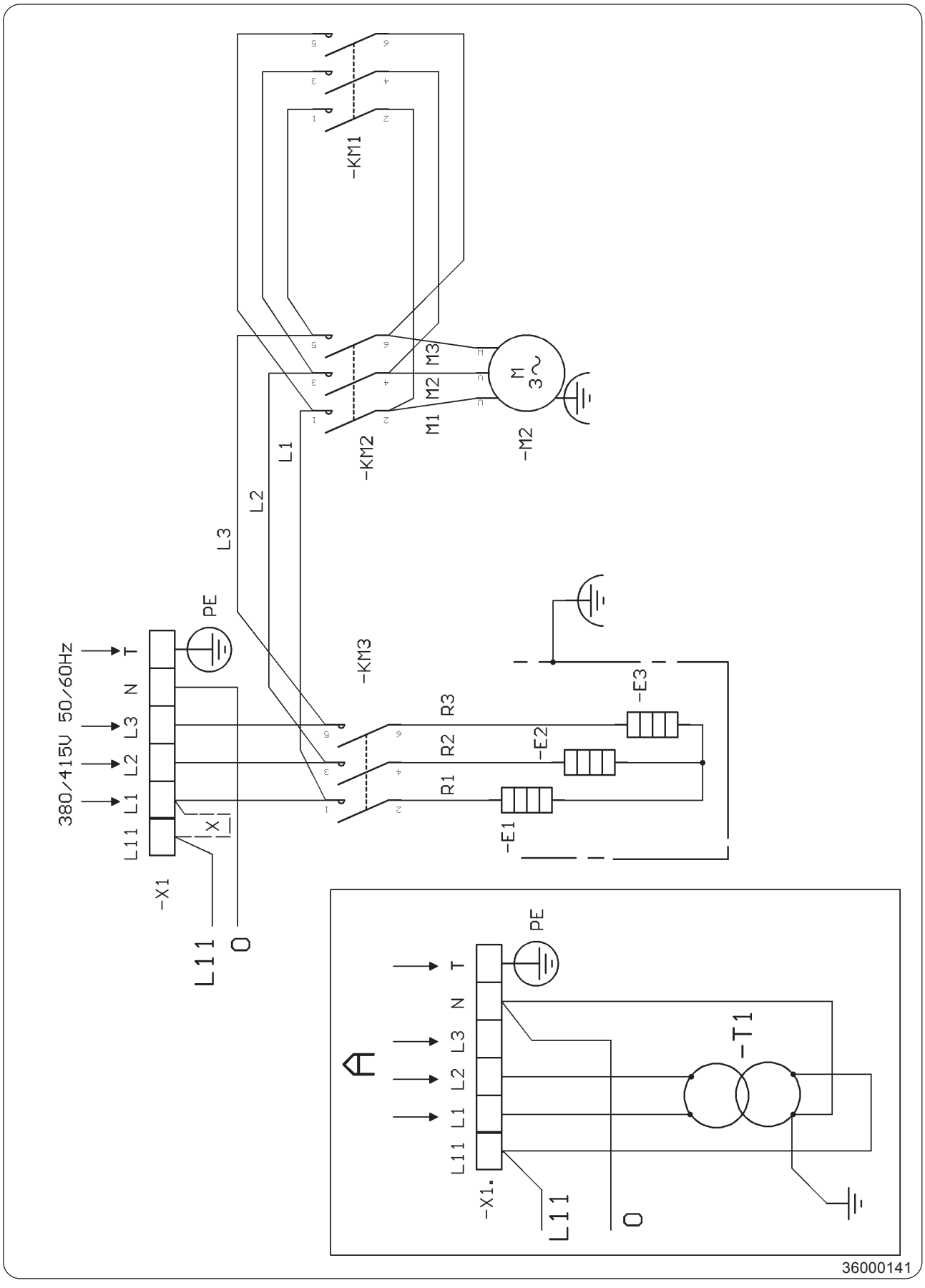
USES		Rolling bearings Bearings	Rolling bearings Bearings hight temperature	Assembly paste (fretting corrosion)	Bare gears Chains shafts Thread Slides	Flange joints Union pipes Steam circuits	Reducers with wheels and screws	Reducers with gears	Circuits and pneumatic devices
TYPES OF LUBRICANTS AND STANDARDIZATION		Lithium soap grease	Lithium soap grease + silicone oil	Lithium soap paste + mineral oil + mineral solid greases	Lithium soap grease with MOS2 additive	Graphite grease mini 60% graphite, special leakproof	Extreme hight pressure oil	Extreme hight pressure oil	Inhibited oil SAE5
		Grade ISO NLGI2	Grade ISO NLGI3	Grade ISO NLGI1	Grade ISO NLGI2	Grade ISO NLGI2	Grade ISO VG150	Grade ISO VG220	Grade ISO VG22
TEMPERATURE LIMIT RANGE		-20°C + 140°C -4°F + 284°F	-40°C + 200°C -40°F + 392°F	-20°C + 150°C -4°F + 302°F	-20°C + 135°C -4°F + 275°F	-30°C + 700°C -22°F + 1292°F	0°C + 100°C 32°F + 212°F	0°C + 120°C 32°F + 248°F	+10°C + 65°C +50°F + 149°F
RECOMMENDED		ALVANIA R2	**NTN SH44 M**	ALTEMP Q NB 50	MI-SETRAL 43N	GRACO AF 309	**REDUCTELF SP150**	**REDUCTELF SP200**	LUBRAK ATL SAE 5W
CODE PRODUCT		96 011 008	-	96 011 014	96 011 000	96 011 004	96 010 001	96 010 004	96 010 030
CORRESPONDENCE	ANTAR	ROLEXA 2			EPOXA MO 2		EPONA Z 150	EPONA Z 220	MISOLA AH
	BP	LS EP 2					ENERGOL CRXP 150	ENERGOL CRXP 220	SHF 22
	CASTROL	SPEEROL EP2					ALPHA SP 150	ALPHA SP 220	
	ELF	EP2			STATERMA MO10		REDUCTELF SP150	REDUCTELF SP220	SPINEF 22
	ESSO	BEACON EP2			MULTI PURPOSE GREASE MOLY		SPARTAN EP150	SPARTAN EP220	SPINESSO 22
	FINA	MARSON EP2					GIRAN SR150	GIRAN SR220	
	GBSA					BELLEVILLE N			
	GRAFOIL					GRACO AF 309			
	KLUBER	CENTOPLEX 2	UNISILKON L50Z	ALTEMP Q.NB50	UNIMOLY GL82	WOLFRACOAT C	LAMORA 150	LAMORA 220	CRUCOLAN 22
	MOBIL	MOBILUX					MOBILGEAR 629	MOBILGEAR 630	DTE 24
	KERNITE	LUBRA K LC			LUBRA K MP		TOP BLENB ISO 80W90	TOP BLENB ISO 220	LUBRA K ATL SAE5W
	SETRAL				MISETRAL 43N				
	SHELL	**ALVANIA R2**			RETINA AM		OMALA 150	OMALA 220	TELLUS 22
	TOTAL	MULTISS EP2					CARTER EP150	CARTER EP220	EQUIVIS 22
	MOLYKOTE		MOLYCOTE 44	PATE DX					
	OPAL	GEVAIR SP			SUPER MOS 2		GEAROPAL GM 65 ISO 150	GEAROPAL GM 75 ISO 220	HYDROPAL HO 110 HM++22
	ITECMA	GRL-ULTRA	VULCAIN		GMO	LHT-C	DURAGEAR 80 W 140	DURAGEAR 80 W 140	AEROSYN
	DOW CORNING		SH 44 N						


-B2
-B4
-B3
-KA4
-KM3
-H2
-KM2
-S3
-S6
-KM1
-KA3
-S2
-KA5
-S5
-S8
-M1
M
-S4
-H1
-B1
-S7
-S1
-X1
-F1
L11
220/240 V
50/60 Hz
0
36000140

CONTROL CIRCUIT

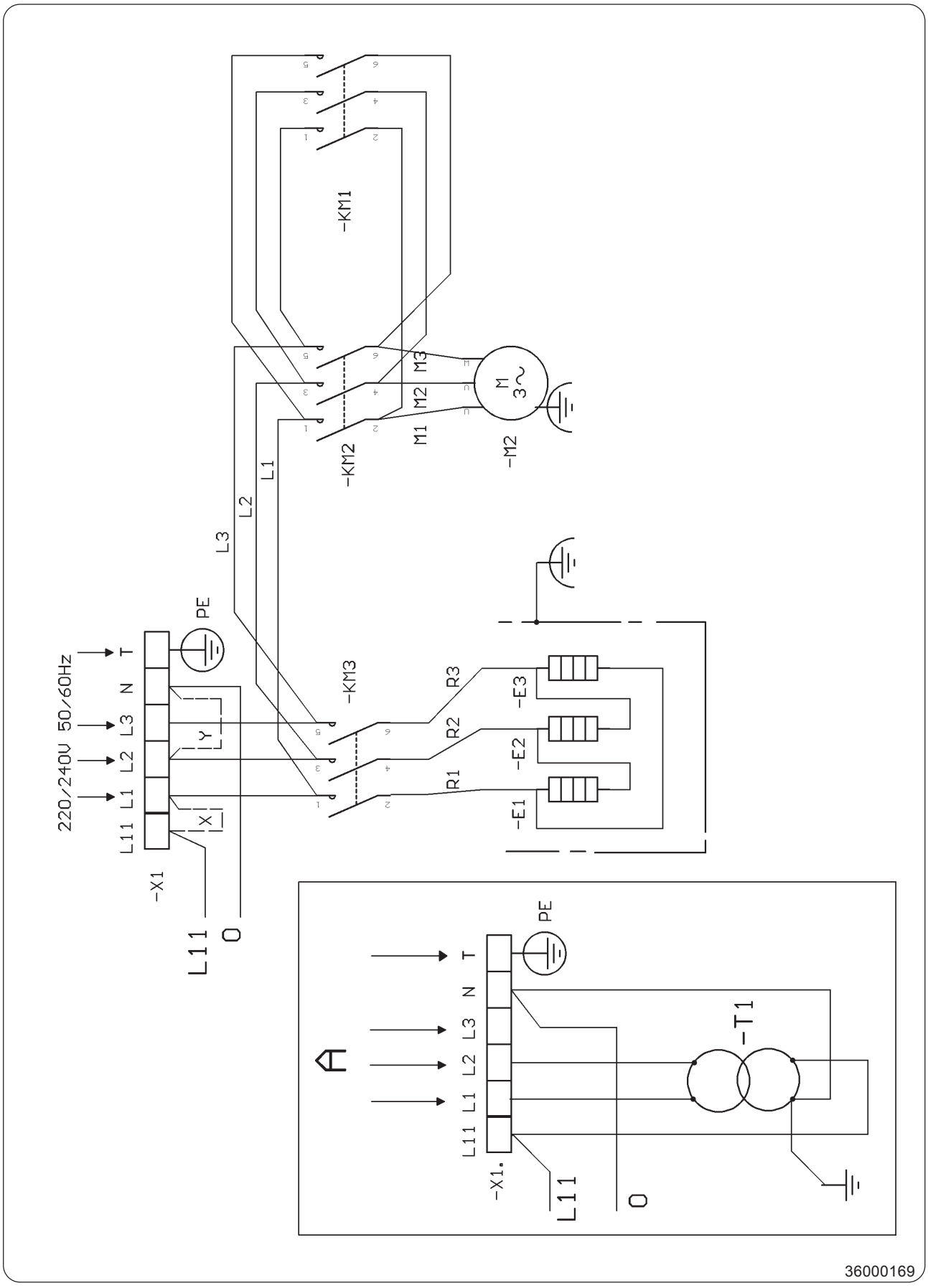
no. 36000140

B1	Ipso movement
B2	Adjustment thermostat
B3	Safety thermostat
B4	Safety thermostat with resetting
F1	Fuse
H1	On indicator lamp
H2	Heater on indicator lamp
KM1	Cylinder turning contactor
KM2	Tray open contactor
KM3	Heating contactor
KA3	0.5 second timed relay
KA4	Coin operating system (option)
KA5	Converter contactor (mono option)
M1	Fan motor (1.4 m and 1.6 m only)
S1	Main switch
S2	End switch pedal 1st position
S3	End switch pedal 2nd position
S4	Left hand end switch
S5	Right hand end switch
S6	Tray end switch
S7	Blockage safety end switch
S8	Strippers blockage end switch
X1	Power terminal block


380/415V 50/60Hz
L11 L1 L2 L3 N T
-X1
PE
L11
O
-KM1
-KM2
-KM3
L1
L2
L3
M1
M2
M3
M
3~
-M2
R1
R2
R3
-E1
-E2
-E3
A
-X1.
-T1
36000141

POWER CIRCUIT
380/415 V 50/60 Hz
no. 36000141

E1	Heating elements
E2	Heating elements
E3	Heating elements
KM1	Cylinder turning contactor
KM2	Tray open contactor
KM3	Heating contactor
M2	Movement motor
X1	Power terminal block
X	Shunt between L1/L11
A	Option transformer for particular tension or without neutral

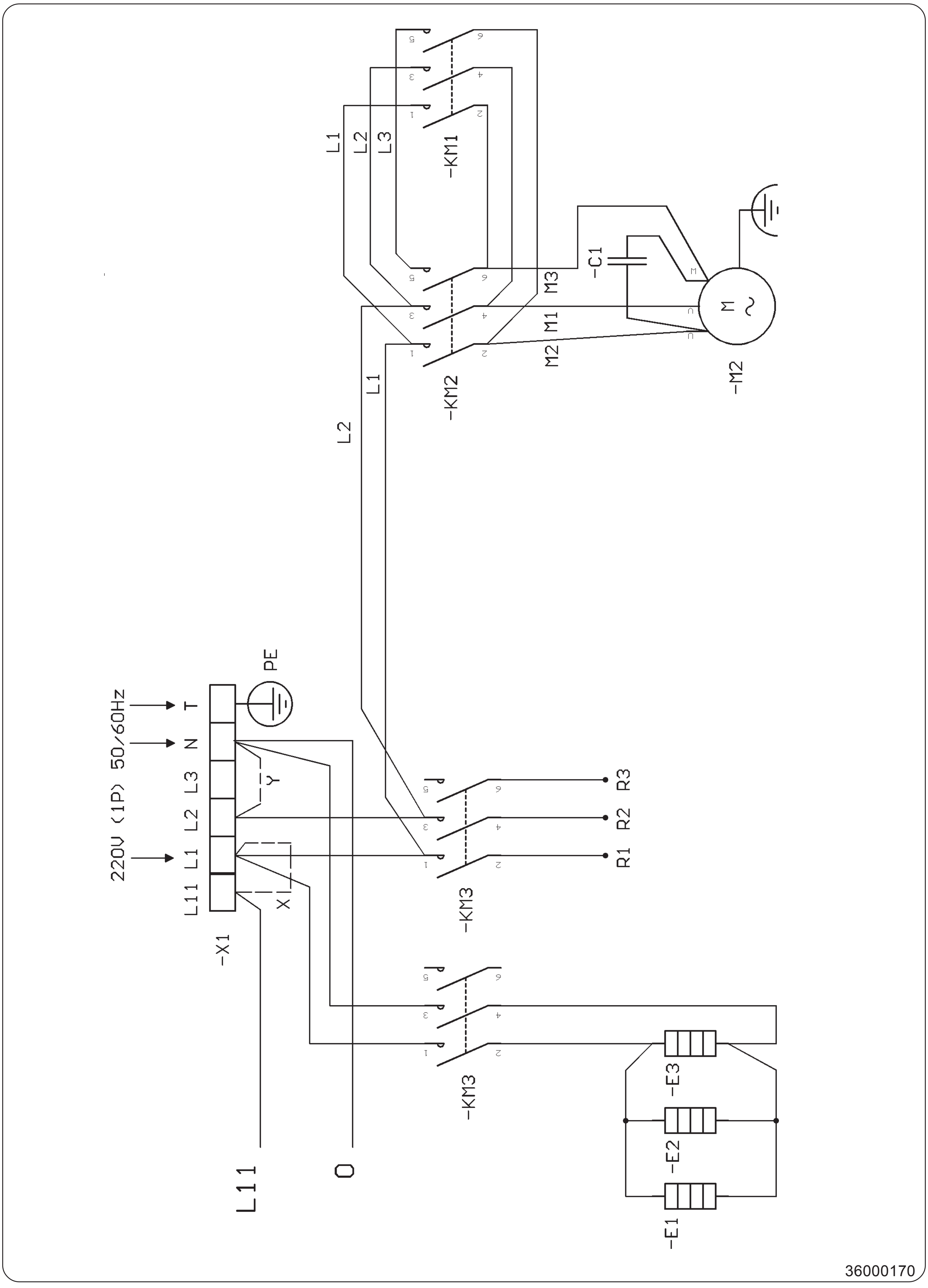

-KM1
-KM2
-KM3
M1
M2
M3
M 3~
-M2
L1
L2
L3
PE
220/240V 50/60Hz
L11 L1 L2 L3 N T
-X1
L11
0
R1
R2
R3
-E1
-E2
-E3
A
-X1.
-T1

36000169

POWER CIRCUIT
220/240 V 50/60 Hz
no. 36000169

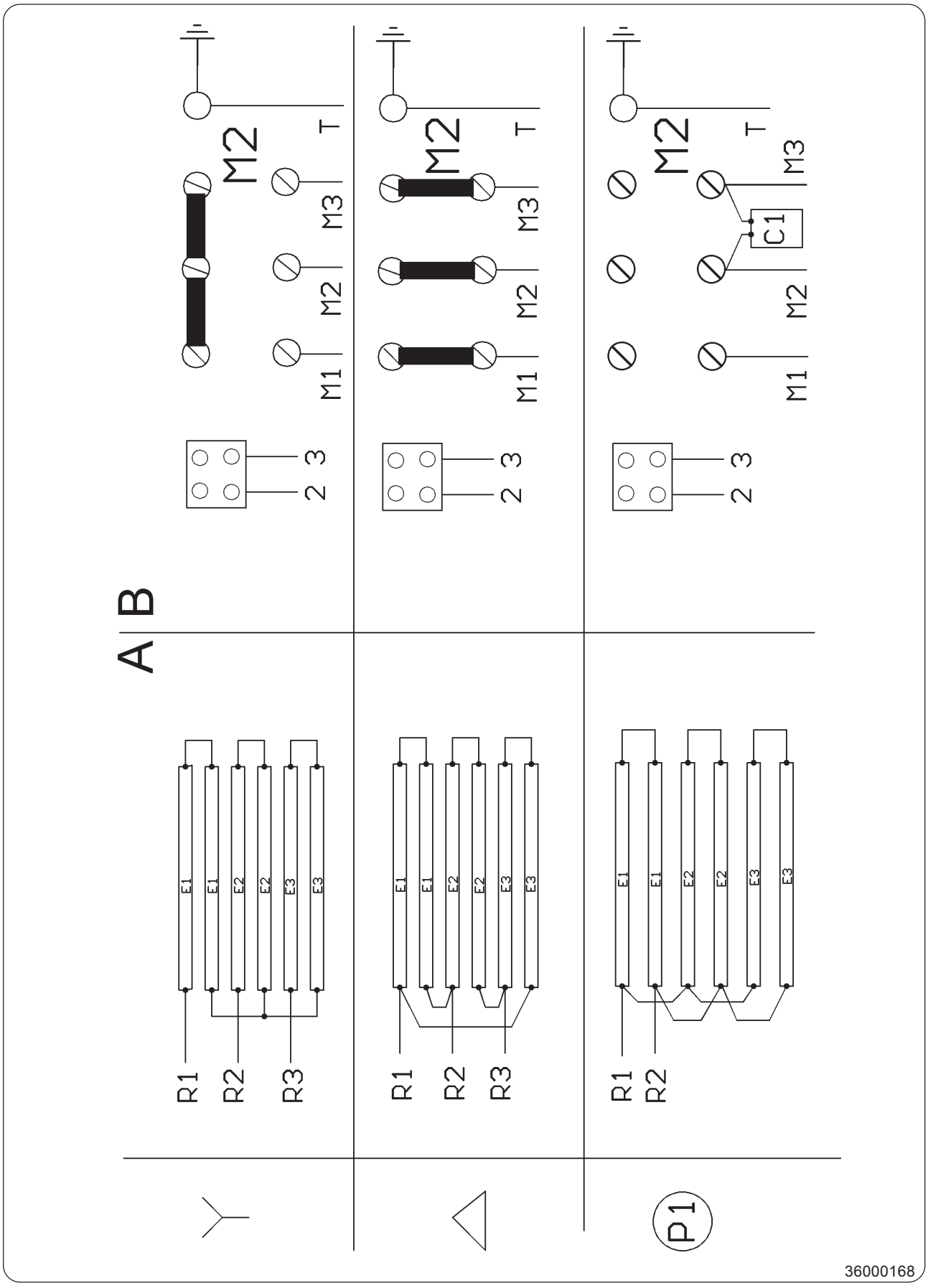
E1	Heating elements
E2	Heating elements
E3	Heating elements
KM1	Cylinder turning contactor
KM2	Tray open contactor
KM3	Heating contactor
M2	Movement motor
X1	Power terminal block
X	Shunt between L1/L11
Y	Shunt between L2/N
A	Option transformer for particular tension

11. Electrical diagrams



POWER CIRCUIT
220 V (1P) 50/60 Hz
no. 36000170

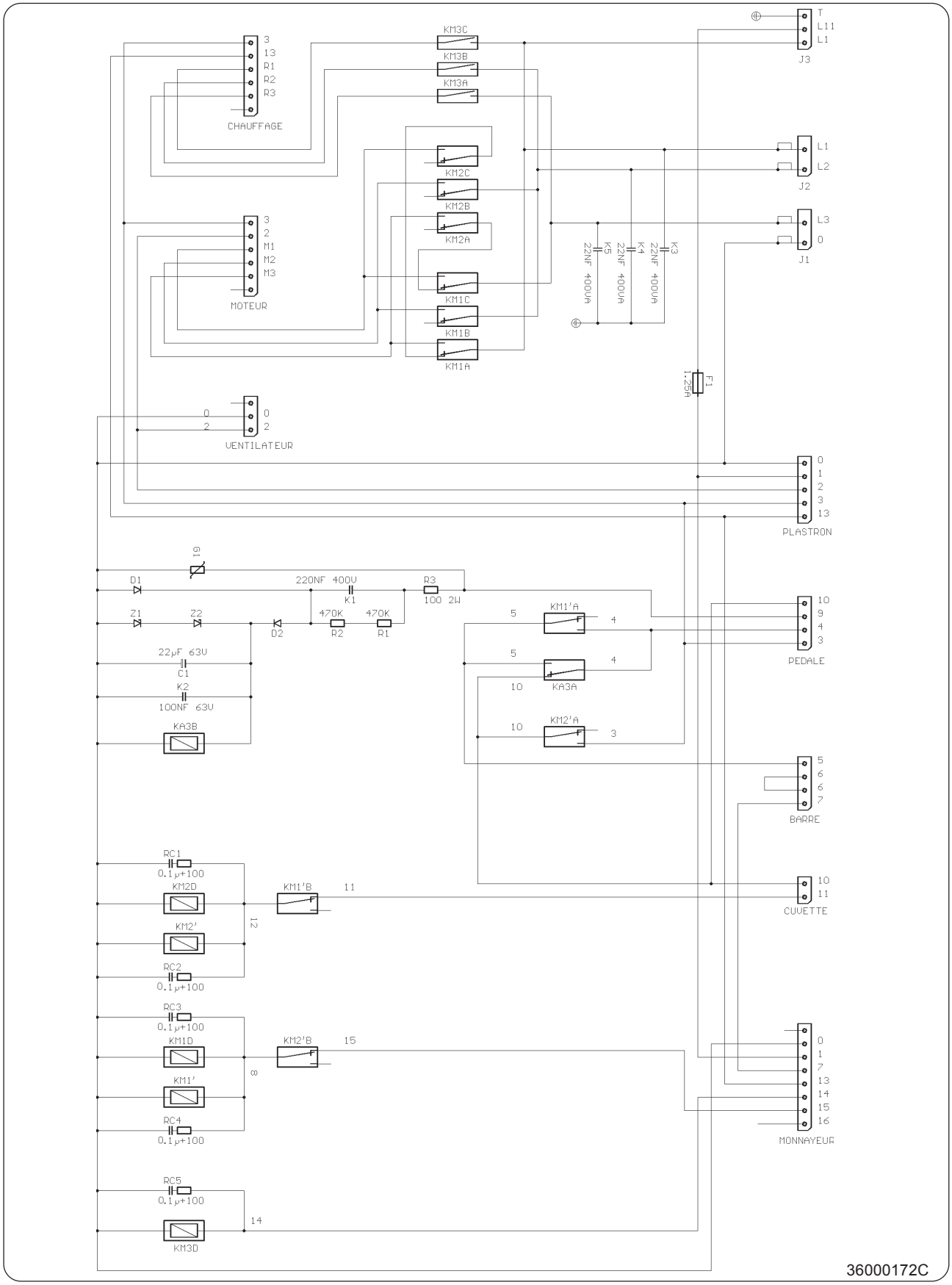
E1	Heating elements
E2	Heating elements
E3	Heating elements
KM1	Cylinder turning contactor
KM2	Tray open contactor
KM3	Heating contactor
M2	Movement motor
X1	Power terminal block
X	Shunt between L1/L11
Y	Shunt between N/L2


A
B
M2
T
M3
M2
M1
C1
2 3
E1
E2
E3
R1
R2
R3
P1
36000168

COMMUTATION DIAGRAM
no. 36000168

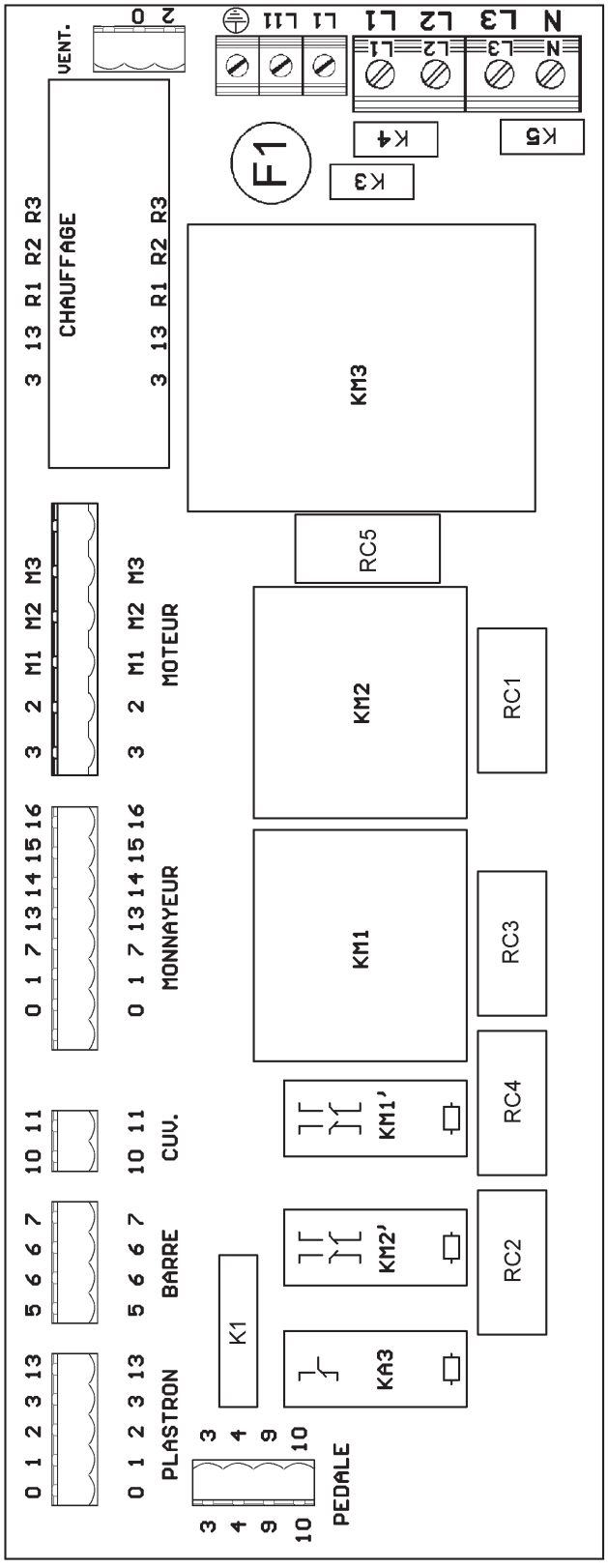
A	Heating resistor commutation
B	Motion motor commutation
★	"Star" commutation from 380 to 460 Volt three-phases
∇	"Triangle" commutation from 200 to 240 Volt three-phases
P1	Commutation from 200 to 240 Volt monophase
C1	Phase shifting capacitor

CONTROL DIAGRAM
PRINCIPDIAGRAM TRYKT KREDSLØB
PRINTED CIRCUIT



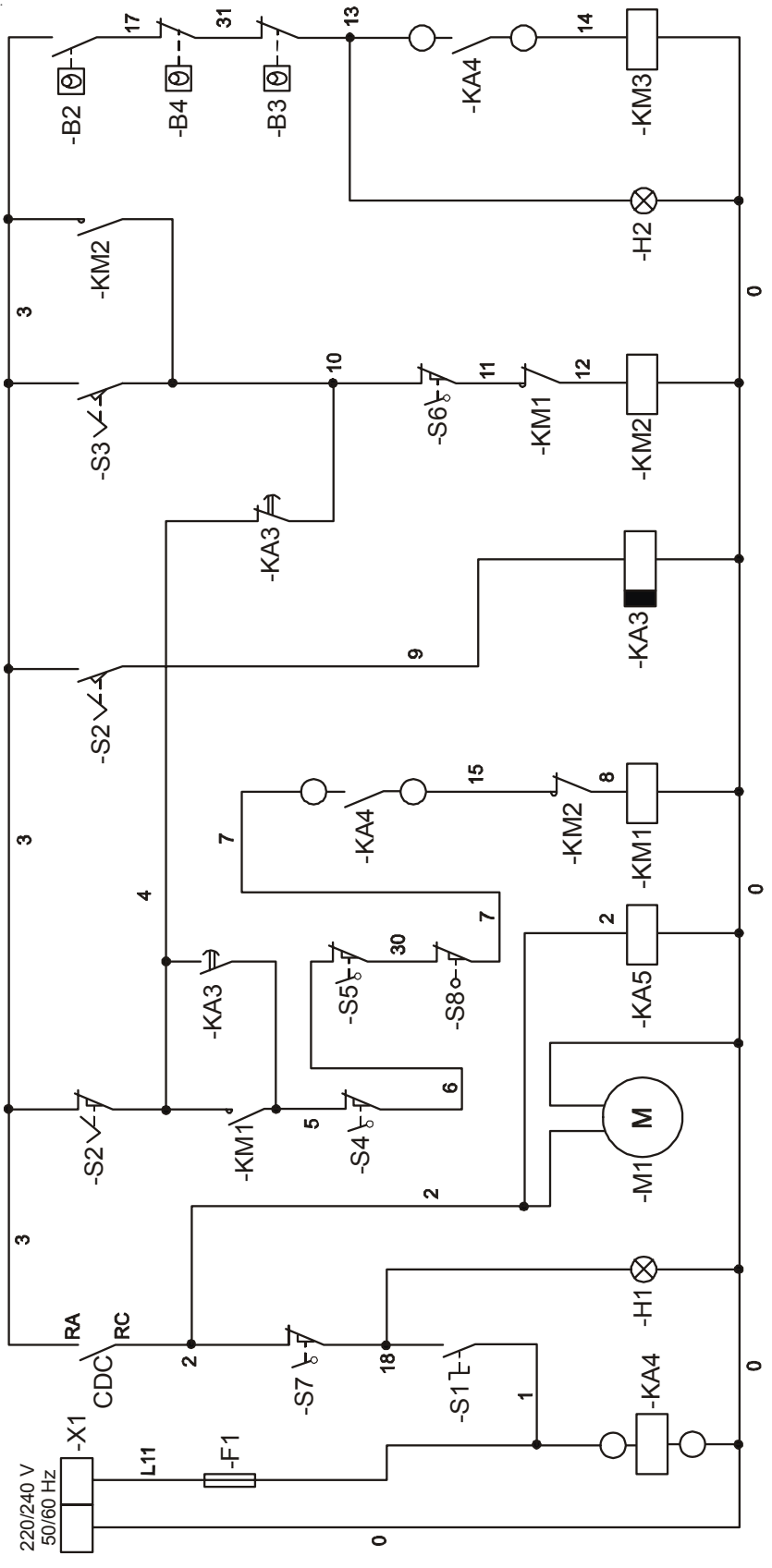
36000172C

COMPONENT IMPLANTATION
PRINTED CIRCUIT



PLASTRON = PANEL CONTROL
BARRE = BAR
CUV. = BED
MONNAYEUR = COIN OPERATING SYSTEM
MOTEUR = MOTOR
CHAUFFAGE = HEATING
VENTIL. = VENTILATOR
PEDALE = PEDAL

36000173

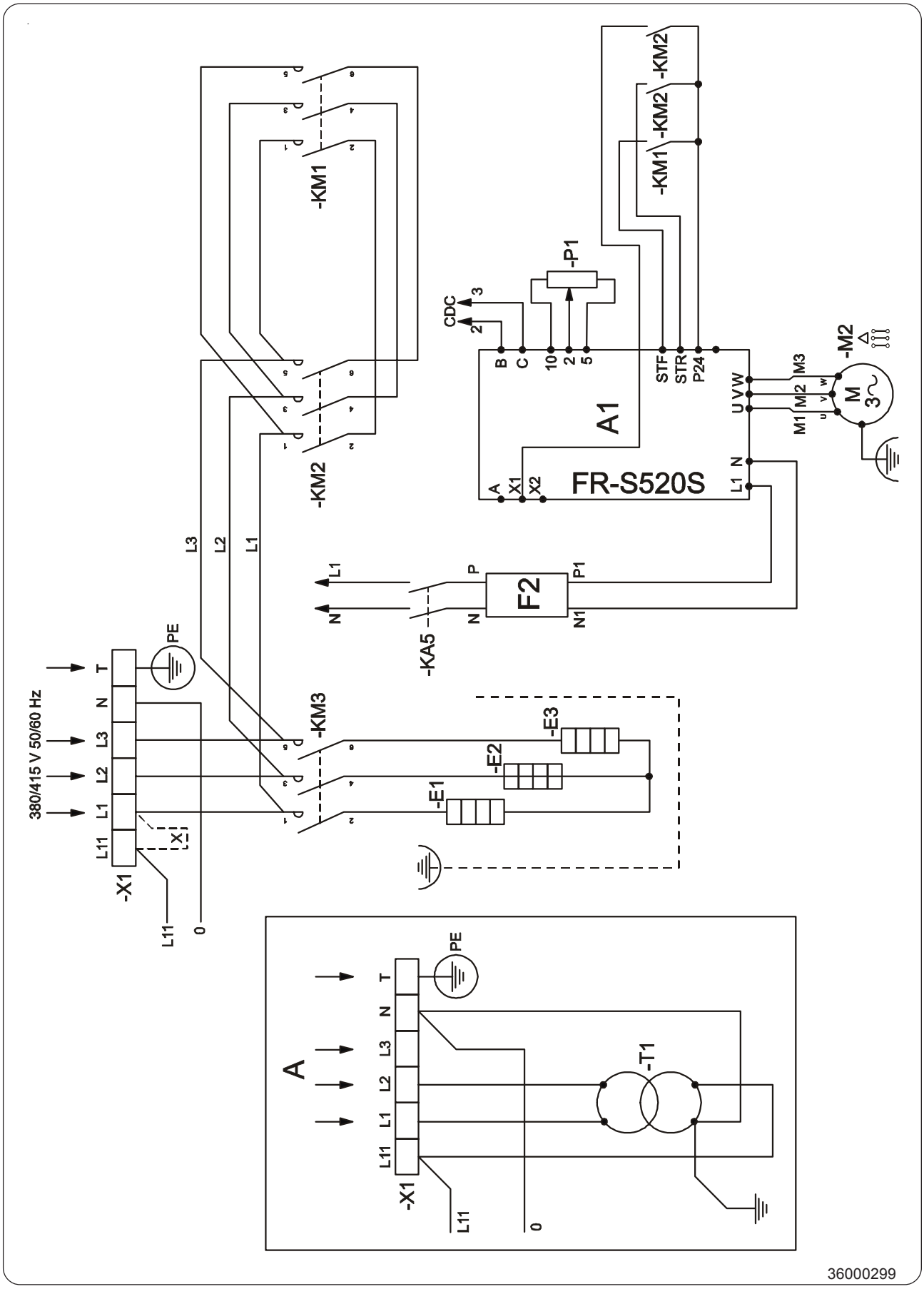

-B2
-B4
-B3
-KA4
-KM3
-H2
-KM2
-S3
-S6
-KM1
-KA3
-S2
-KA4
-KM2
-KM1
-KA3
-S5
-S8
-KA5
-S2
-KM1
-S4
M
-M1
-H1
RA
RC
CDC
-S7
-S1
-KA4
-X1
220/240 V
50/60 Hz
L11
-F1
0

36000298

CONTROL CIRCUIT WITH VARIATION OF SPEED

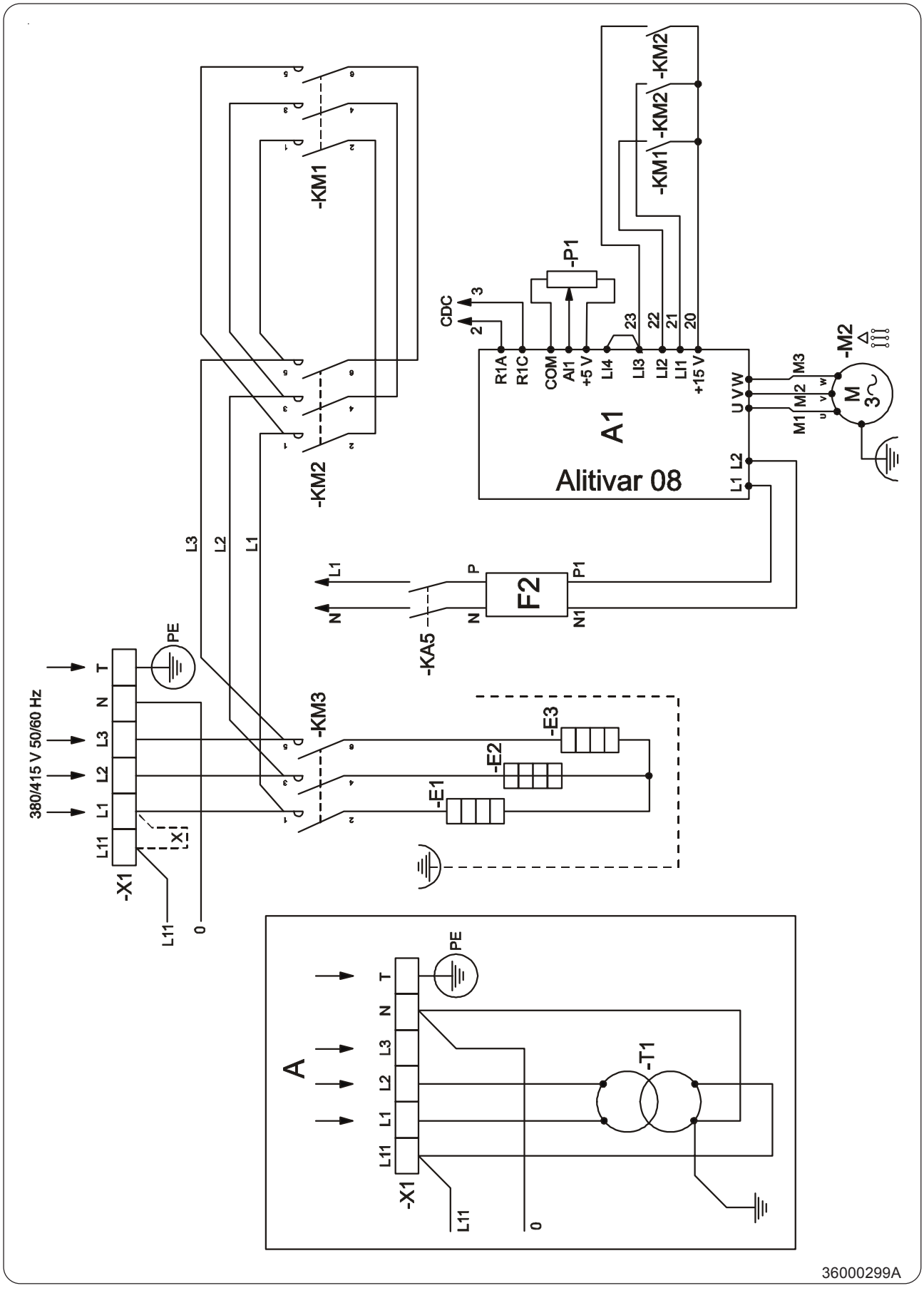
no. 36000298

B2	Adjustment thermostat
B3	Safety thermostat
B4	Safety thermostat with resetting
CDC	Frequency converter failure safety contact
F1	Fuse
H1	On indicator lamp
H2	Heater on indicator lamp
KM1	Cylinder turning contactor
KM2	Tray open contactor
KM3	Heating contactor
KA3	0.5 second timed relay
KA4	Coin operating system (option)
KA5	Converter relay
M1	Fan motor (1.4 m and 1.6 m only)
S1	Main switch
S2	End switch pedal 1st position
S3	End switch pedal 2nd position
S4	Left hand end switch
S5	Right hand end switch
S6	Tray end switch
S7	Blockage safety end switch
S8	Strippers blockage end switch
X1	Power terminal block


-KM1
-KM2
-KM2
-KM2
-KM1
-P1
CDC
2
3
B
C
10
2
5
STF
STR
P24
A1
FR-S520S
A
X1
X2
L1
N
U V W
M1 M2 M3
-M2
M
3~
L3
L2
L1
L1
N
P
P1
N
N1
F2
-KA5
PE
380/415 V 50/60 Hz
T
N
L3
L2
L1
L11
-X1
-KM3
-E3
-E2
-E1
L11
0
A
PE
T
N
L3
L2
L1
L11
-X1
-T1
L11
0
36000299

POWER CIRCUIT
WITH VARIATION OF SPEED (FR-S520S)
380/415 V 50/60 Hz
no. 36000299

A1	Electronic speed variator
CDC	Frequency converter failure safety contact
E1	Heating elements
E2	Heating elements
E3	Heating elements
F2	Filtre of electromagnetic compatibility
KA5	Converter relay
KM1	Cylinder turning contactor
KM2	Tray open contactor
KM3	Heating contactor
M2	Movement motor
P1	Potentiometer for variation of speed (adjutment speed from 1 to 4 m/min)
X1	Power terminal block
X	Shunt between L1/L11
A	Option transformer for particular tension or without neutral


-KM1
-KM2
-KM2
-KM2
-KM1
-P1
CDC
2
3
R1A
R1C
COM
AI1
+5 V
LI4
LI3
LI2
LI1
+15 V
23
22
21
20
A1
Alitivar 08
U V W
M1 M2 M3
-M2
M
3~
L1 L2
L3
L2
L1
L1
N
P
N
F2
P1
N1
-KA5
-KM3
-E3
-E2
-E1
380/415 V 50/60 Hz
T
N
L3
L2
L1
L11
PE
-X1
L11
0
A
-T1
36000299A

POWER CIRCUIT
WITH VARIATION OF SPEED (Altivar 08)
380/415 V 50/60 Hz
no. 36000299A

A1	Electronic speed variator
CDC	Frequency converter failure safety contact
E1	Heating elements
E2	Heating elements
E3	Heating elements
F2	Filtre of electromagnetic compatibility
KA5	Converter relay
KM1	Cylinder turning contactor
KM2	Tray open contactor
KM3	Heating contactor
M2	Movement motor
P1	Potentiometer for variation of speed (adjutment speed from 1 to 4 m/min)
X1	Power terminal block
X	Shunt between L1/L11
A	Option transformer for particular tension or without neutral

Ironer

Setting and configuration of variator Mitsubishi

The speed variator is configured in the factory during machine testing by our technicians.

The following table summarises the standard configuration of the various parameters.

List of functions

No of parameter	Function name	Setting range	Setting unit	Factory setting	User setting
0	Torque boost (manual)	0 to 15 %	1 %	6 %	10 %
1	Upper limit frequency	0 to 120 Hz	0.1 Hz	120 Hz	-
2	Lower limit frequency	0 to 60 Hz	0.1 Hz	0 Hz	-
3	Base frequency	50 to 120 Hz	0.1 Hz	50 Hz	-
4	Multi-speed 1	0 to 120 Hz	0.1 Hz	50 Hz	60 Hz
5	Multi-speed 2	0 to 120 Hz	0.1 Hz	30 Hz	-
6	Multi-speed 3	0 to 120 Hz	0.1 Hz	10 Hz	-
7	Acceleration time	0, 0.1 to 999 s	0.1 s	5.0 s	1 s
8	Decelaration time	0, 0.1 to 999 s	0.1 s	5.0 s	0 s
9	Electronic thermal relay	0 to 15 A	0.1 A	Courant nom.	2 A
10	PMW mode	0 to 15, ----	1	----	-
11	DC dynamic braking oper. time	0 to 10 s	0.1 s	0.5 s	-
12	DC dynamic braking voltage	0 to 15 %	1 %	8 %	-
14	Applied motor selection	0, 10	1	0	-
15	JOG frequency	0 to 120 Hz	0.1 Hz	5 Hz	-
16	JOG acceleration/decel. time	0, 0.1 to 999 s	0.1 s	0.5 s	-
17	External thermal relay input sel.	0, 1	1	0	-
19	Base frequency voltage	0 to 500 V, ----	1 V	----	-
20	Acceleration/decel. ref. frequ.	1 to 120 Hz	0.1 Hz	50 Hz	-
21	Frequency setting volt. bias	0 to 60 Hz	0.1 Hz	0 Hz	15 Hz*
22	Frequency setting volt. gain	0 to 120 Hz	0.1 Hz	50 Hz	60 Hz**
23	Stall prevention operation level	0 to 10	1	5	-
24	Multi-speed 4	0 to 120 Hz, ----	0.1 Hz	----	-
25	Multi-speed 5	0 to 120 Hz, ----	0.1 Hz	----	-
26	Multi-speed 6	0 to 120 Hz, ----	0.1 Hz	----	-
27	Multi-speed 7	0 to 120 Hz, ----	0.1 Hz	----	-
37	Speed display	0, 0.1 to 999 s	0.1 s	0	-
42	Up-to-frequency sensitivity	1 to 100 %	1 %	10 %	-
43	Output frequency detection	0 to 120 Hz	0.1 Hz	6 Hz	-
44	Output frequency detection during reverse rotation	1 to 120 Hz, ----	0.1 Hz	----	-

No of parameter	Fonction name	Setting range	Setting unit	Factory setting	User setting
46	No. 2 accele./decel. time	0, 0.1 to 999 s	0.1 s	----	-
47	No. 2 deceleration time	0, 0.1 to 999 s	0.1 s	----	-
48	No. 2 torque boost	0 15 %	1 %	----	-
49	No. 2 V/F (Base frequency)	50 120 Hz	0.1 Hz	----	-
50	Retry selection	0, 1, 2, 3	1	0	-
51	No. of retries at alarm	0, 1 to 10, 101 to 110	1	0	-
52	Retry execution wait time	0 to 360 s	0.1 s	1 s	-
53	No. of retry execution time display clear	0	0	0	-
55	Frequency monitor reference	0 to 120 Hz	0.1 Hz	50 Hz	-
56	Current monitor reference	0 to 200 %	1 %	150 %	-
59	Remote setting function selection	0, 1	1	0	-
60	Input terminal function selection	0 to 8	1	0	-
61	Input terminal allocation	111 to 999	1	----	111
62	STR terminal function	0 to 10	1	----	-
70	FM output terminal function selec.	0, 1	1	0	-
71	Tone selection	0, 1	1	0	-
72	PWM carrier frequency	2.3 to 14.5 kHz	0.1 kHz	7.0 kHz	-
73	Terminal 2 : 0-5V or 0-10V selec.	0, 1	1	1	0
75	STOP key function	0, 14	1	14	-
76	Output signal selection	0, 1, 2	1	0	-
77	Write prohibit selection	0, 1	1	0	-
78	Reverse rotation prevention selec.	0, 1, 2	1	0	0
79	Operation mode selection	1, 2, 3, 4	1	1	2
80	Multi-speed 8	0 to 120 Hz	0.1 Hz	----	-
81	Multi-speed 9	0 to 120 Hz	0.1 Hz	----	-
82	Multi-speed 10	0 to 120 Hz	0.1 Hz	----	-
83	Multi-speed 11	0 to 120 Hz	0.1 Hz	----	-
84	Multi-speed 12	0 to 120 Hz	0.1 Hz	----	-
85	Multi-speed 13	0 to 120 Hz	0.1 Hz	----	-
86	Multi-speed 14	0 to 120 Hz	0.1 Hz	----	-
87	Multi-speed 15	0 to 120 Hz	0.1 Hz	----	-
90	Ground fault detection	0, 1	1	1	-
91	Frequency jump 1A	0 to 120 Hz	0.1 Hz	----	-
92	Frequency jump 1B	0 to 120 Hz	0.1 Hz	----	-
93	Frequency jump 2A	0 to 120 Hz	0.1 Hz	----	-
94	Frequency jump 2B	0 to 120 Hz	0.1 Hz	----	-
95	Frequency jump 3A	0 to 120 Hz	0.1 Hz	----	-
96	Frequency jump 3B	0 to 120 Hz	0.1 Hz	----	-

* 15 correspond to a ironing speed of 1 m/min.

** 60 correspond to a ironing speed of 4 m/min.

Ironer

Setting and configuration of variator Télémécanique ALTIVAR 08

The speed variator is configured in the factory during machine testing by our technicians.

The following table summarises the standard configuration of the various parameters.

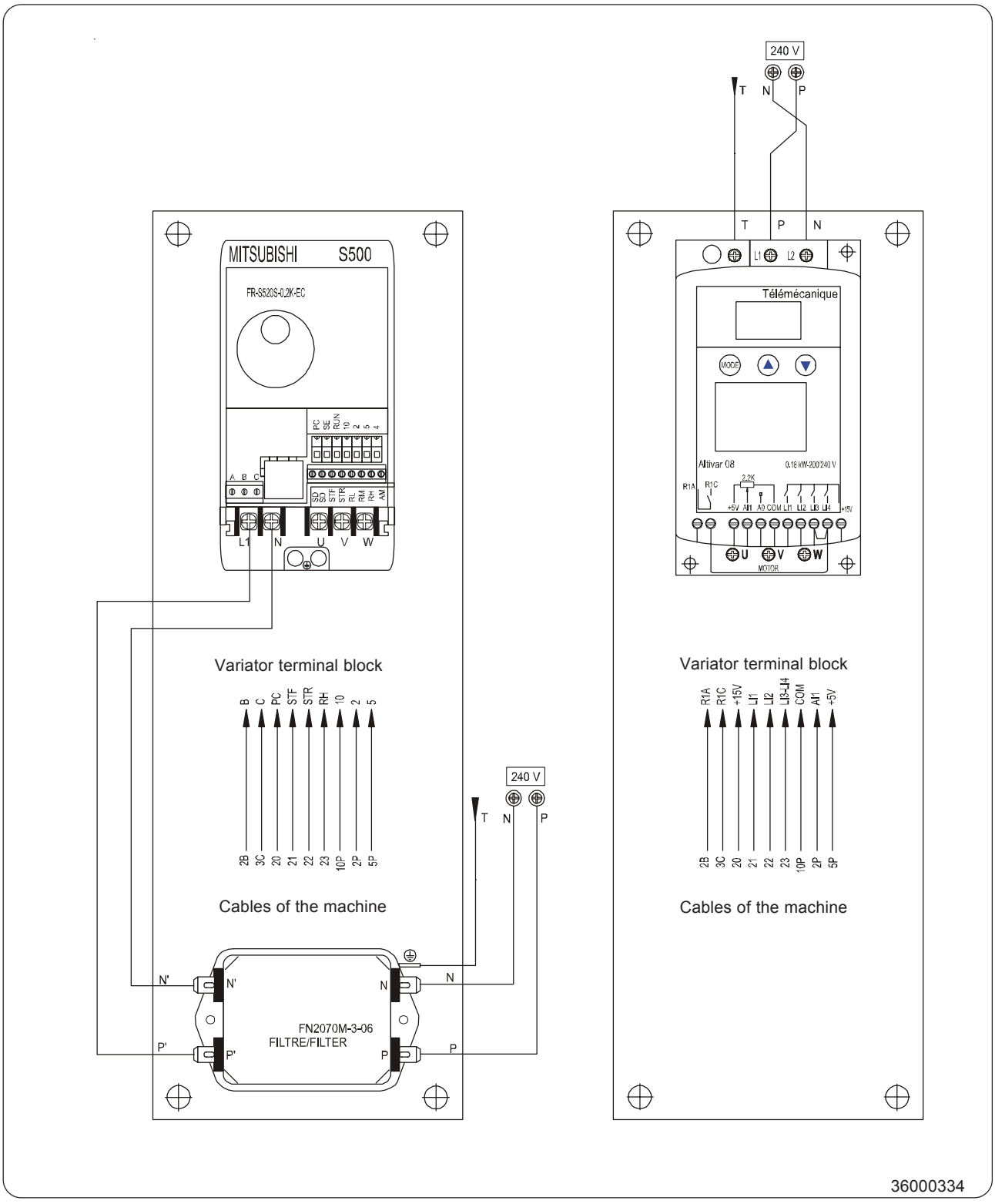
List of functions

Parameters	Function	Unit	Factory setting	User setting
bFr	Motor frequency	Hz	50	50
ACC	Acceleration ramp time	s	3	1
dEC	Deceleration ramp time	s	3	0.1
LSP	Low speed	Hz	0	15
HSP	High speed	Hz	50	60
SP2	2nd preset speed	Hz	5	5
SP3	3rd preset speed	Hz	25	5
ItH	Thermal protection current	A	Controller In	1.3
L2A	Access to level 2 parameters	-	no	yes
FrH	Display frequency setpoint	Hz	FrH	FrH
LCr	Display motor current	A		
ULn	Display supply voltage	V		
tHr	Display motor thermal state	%		
tHd	Display speed controller termal state	%		
UnS	Nominal motor voltage	V	230	230
FrS	Motor frequency	Hz	= bFr	= bFr
UFr	Minimum motor voltage at low frequency	%	20	20
Crl	IR comepensation	%	20	30
FLG	Frequency loop gain	%	33	nFL
SLP	Slip compensation	Hz	depends	0
LI	Configuration of logic inputs	-	2C4	2C4
AIT	Configuration of input AI1	-	SU	SU
Atr	Automatic restart after fault -	no	USF	
FCS	Return to factory settings	-	no	no
IdC	Automatic injection bracking current on stop	A	0.7 In var.	1.1
tdC	Automatic injection bracking time on stop	s	0.5	1.5
LOC	Locking of parameters	-	no	no

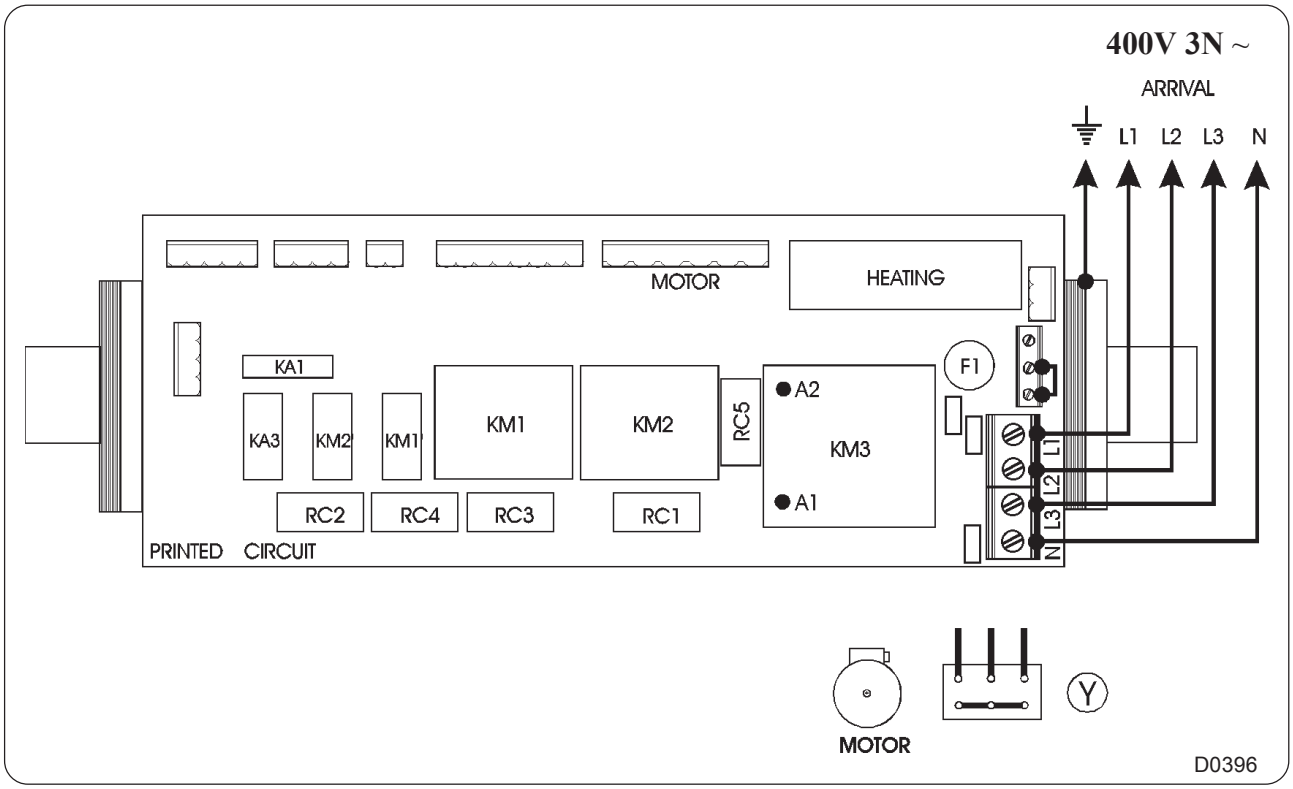
Make sure to disconnect the wire 20 from the converter prior to setting the parameters.

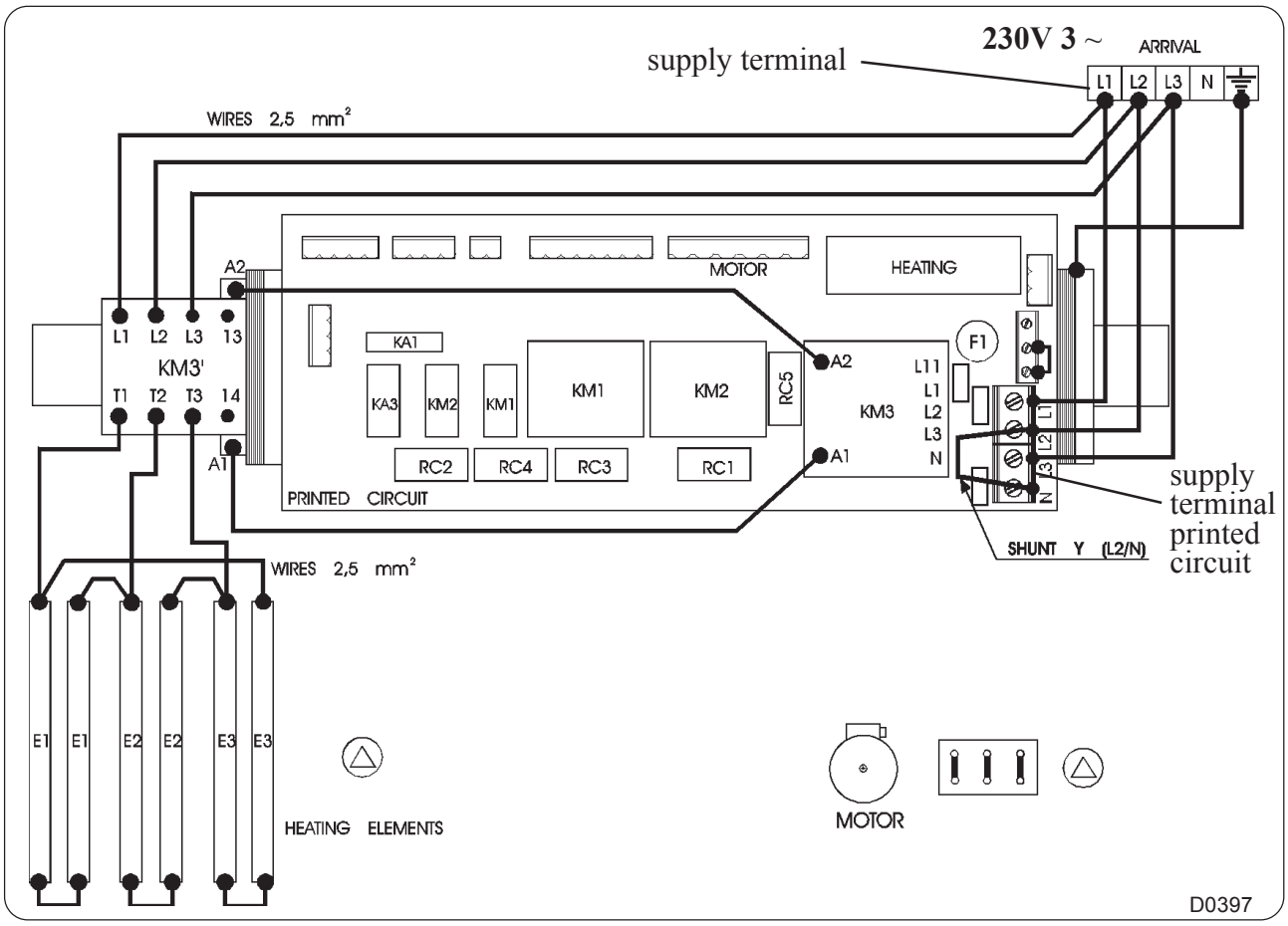
WIRING OF VARIATORS

no. 36000334



DRAWING OF TENSION MODIFICATION FROM 400 V 3N ~ TO 230 V 3 ~ IRONER 1.4 m





KIT TO CHANGE THE TENSION FROM 400 V THREE-PHASE TO 230 V THREE-PHASE (Ironer 1.4 m)

Kit including (code NO. 36 000 211) :

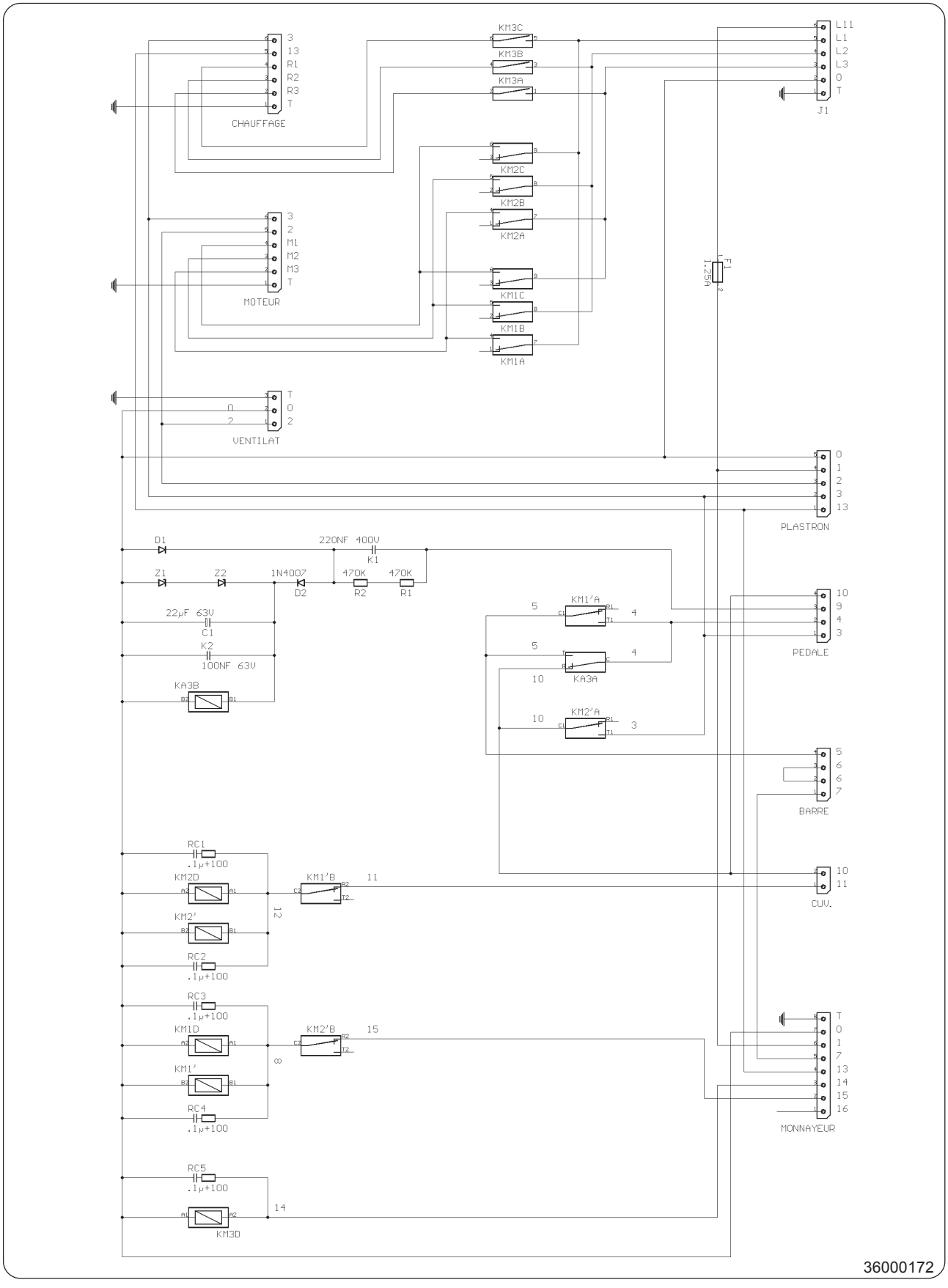
1/ A set strand heating code NO. 36000 176 including :
* terminal FV122 code NO. 71 074 128
* contactor LC1D012 code NO. 71 050 063
* wires for power and control wiring

2/ A set strand of wires for heating elements wiring code NO. 36 000 210

Modification process (drawing NO. D0397) :

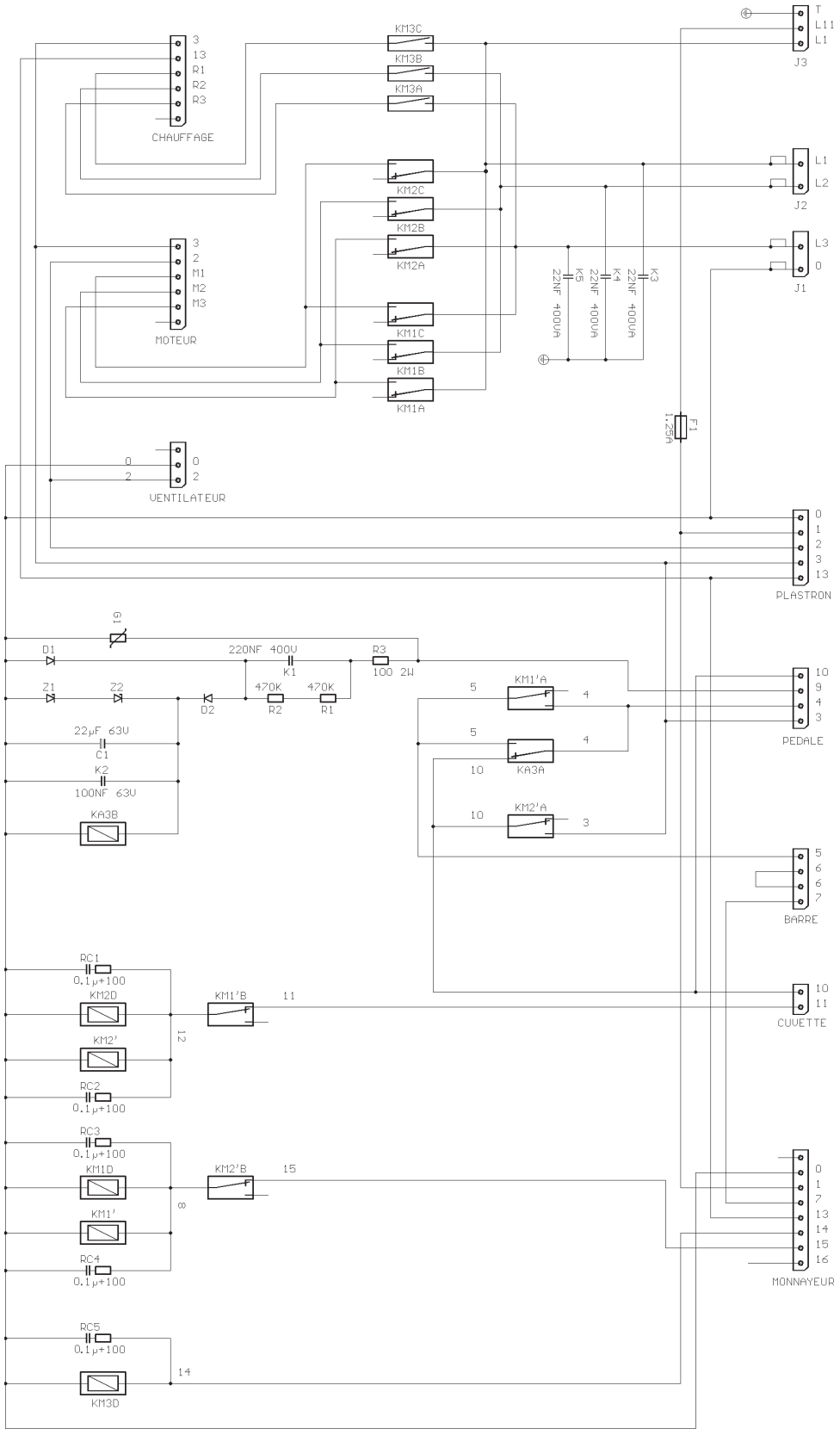
- fix the KM3' contactor to the DIN rail support printed circuit.
- fix the terminal supply on the machine's right caisson (drill 2 holes of diameter 6.5 mm).
- make the connection between the supply terminal and the contactor.
- make the connection between the supply terminal and the printed circuit terminal.
- make the Y shunt between terminals L2 and N located on the printed circuit terminal.
- make the connection between the KM3 and the KM3' coils (A2 / A2 and A1 / A1).
- connect the heating elements together with the strand of wires code NO. 36 000 210. These wires replace the already existing ones (commutation in triangle).
- make the commutation of the motion motor's terminal box (commutation in triangle).

CONTROL DIAGRAM
PRINTED CIRCUIT VERSION 01



36000172

CONTROL DIAGRAM
PRINTED CIRCUIT VERSION 02



36000172B

Thinking of you

Electrolux

www.electrolux.com/laundrysystems

Share more of our thinking at www.electrolux.com