AFTER
SALES
SERVICE

FAGOR

TECHNICAL STUDY

technical Documentation

PRODUCT: Washing machines

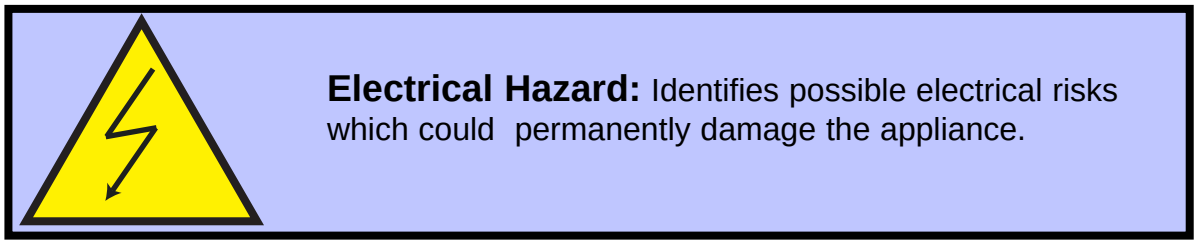
RANGE: Innova top-loading

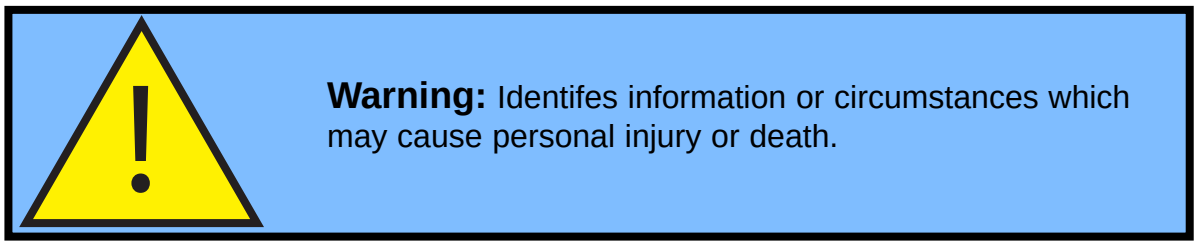
Date: 15/04/2003

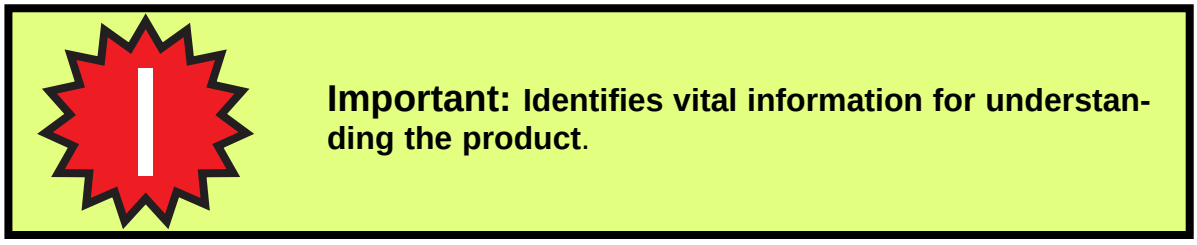
Document Nº: 3956

This document is for use by all persons providing technical assistance service (T.A.S.). It is an aid for repairing the product described, and provides back-up documentation for technical consultations.

The following safety warnings are given in this manual:







Contents

1.- Warnings and precautions

1. This manual must NOT be considered an overall guide to the repair / maintenance of the appliance.

2. It must only be used by duly qualified persons with technical knowledge applicable to this product and with suitable testing equipment and tools.

3. Before any electrical appliances are repaired they must be disconnected (unplugged) from the mains.

4. Before servicing the appliance, its earth connection and insulation resistance must be checked.

5. Safety precautions must be taken for protection against accidents caused by sharp metal or plastic edges.

6. After servicing, the electrical safety of the appliance must be checked again. In the case of appliances connected to a water intake (i.e. washing machines, dishwashers, cooking centres), check for any leaks in the pipes and valves and rectify where necessary.

7. Attempting to carry out DIY maintenance and repair work on complex equipment can be dangerous. The company recommends consulting your Service Centre in case of any problems with these appliances.

8. Although the company has made every effort to guarantee the accuracy of the information given in this guide, they have no liability for any inconveniences or losses arising from errors in the same.

2.- Features

Removable detergent drawer

Drum open button

Lever for placing on wheels

Drain pump access hatch

Cover positioner

Short wash

Hand wash

Extra rinse

Anti-crease stop

Adjustable 100-1100 r.p.m. drain

3.- Description of functioning

3.1.- General description

Dimensions

Height: 85 cm

Length: 60 cm

Width: 40 cm

Weight: 57 Kg

Draining

Maximum height: 90 cm

Minimum height: 65 cm

Length of drain hose: 1.40 maximum 2.50 m

Capacity 5Kg

Electrical Characteristics

230V

50H

10 Amp

2250W

Water Consumption according to model

59 litres

64 litres

74 litres

Temperature control

By adjustable cold thermostat to 90º

By potentiometer (10 Kohms)

By temperature thermostat to 74º which detects temperature via tub wall

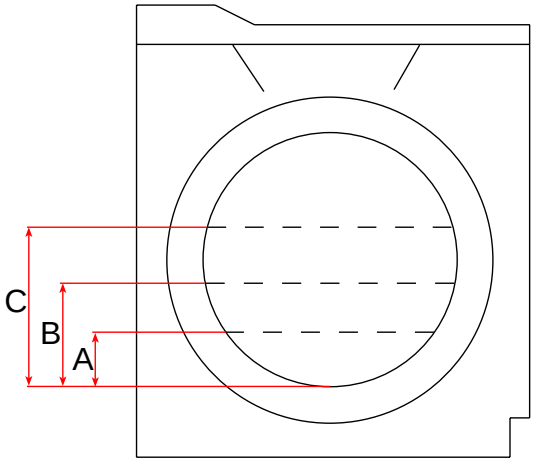
A 10K potentiometer allows the temperature selection from cold to 90º by means of the module reading the information transmitted by the sensor (NTC)

Water levels

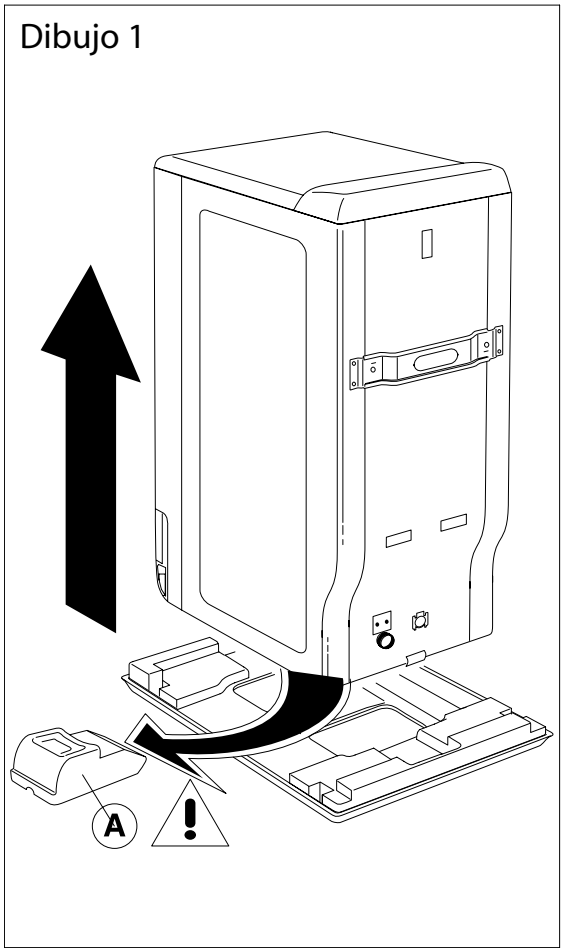
Average wash level 72 mm (A) (11-12 Pressure switch)

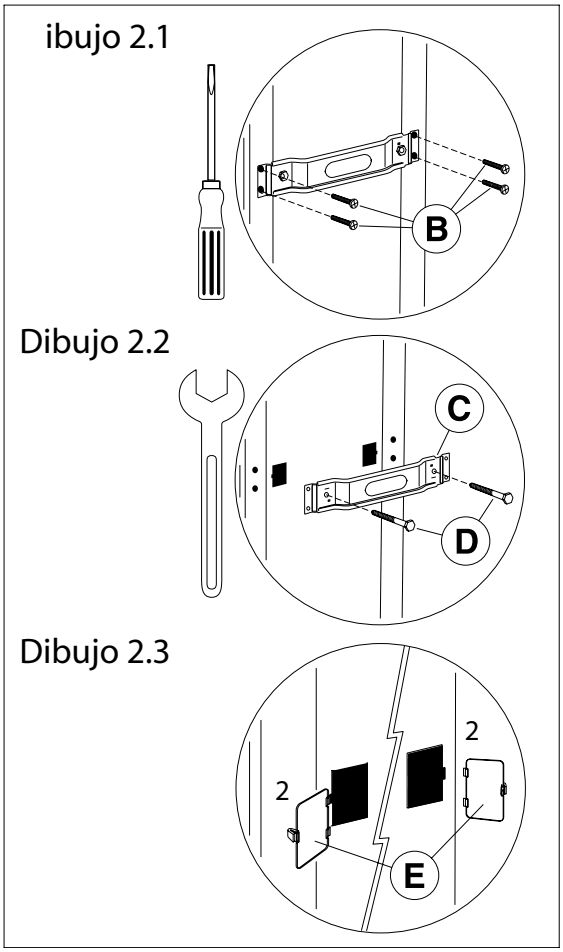
Average rinse level 167 mm (B) (11-14 Pressure switch)

Average overflow level 287 mm (C) (11-16 Pressure switch)

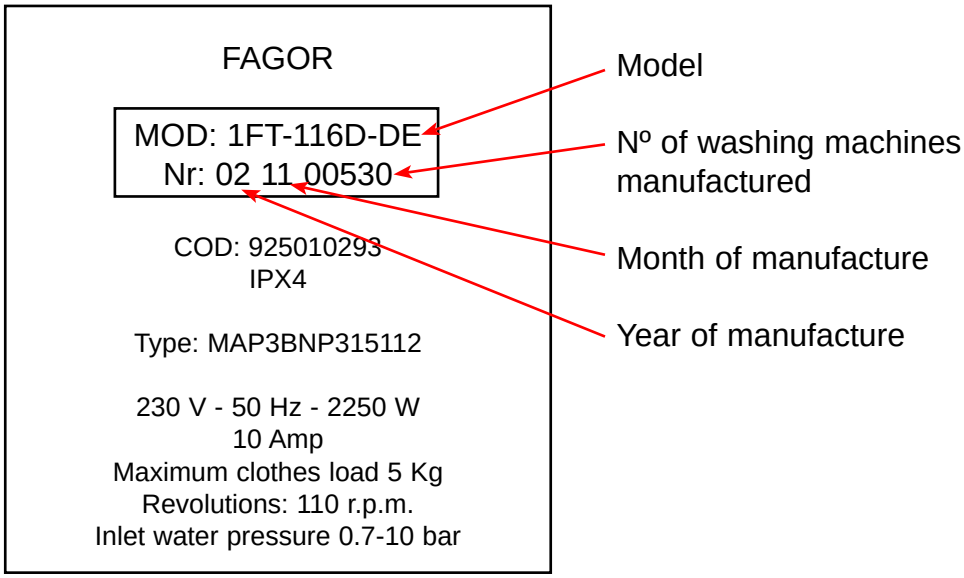


Packaging and blocking



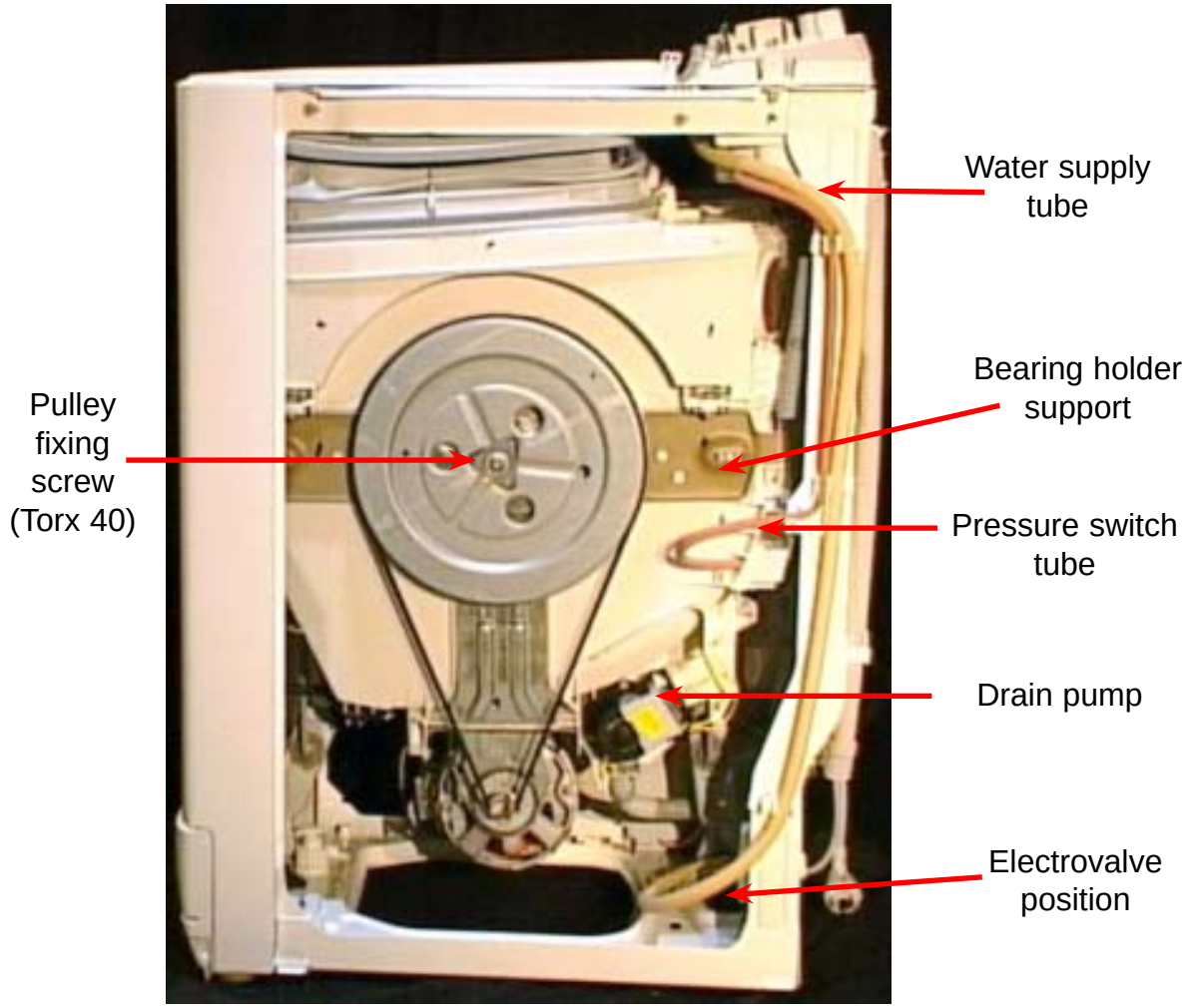


Reference plate

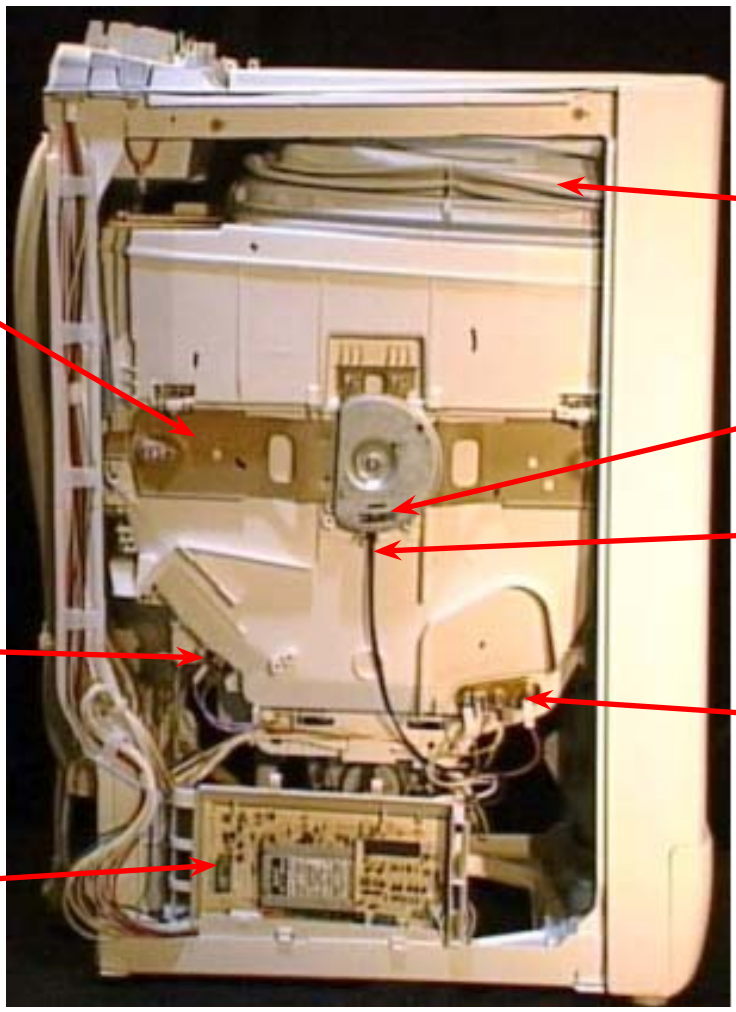


NOTE: The reference plate is located on the rear of the washing machine. There is another label indicating the model and and date of manufacture which can be viewed by removing the detergent drawer.

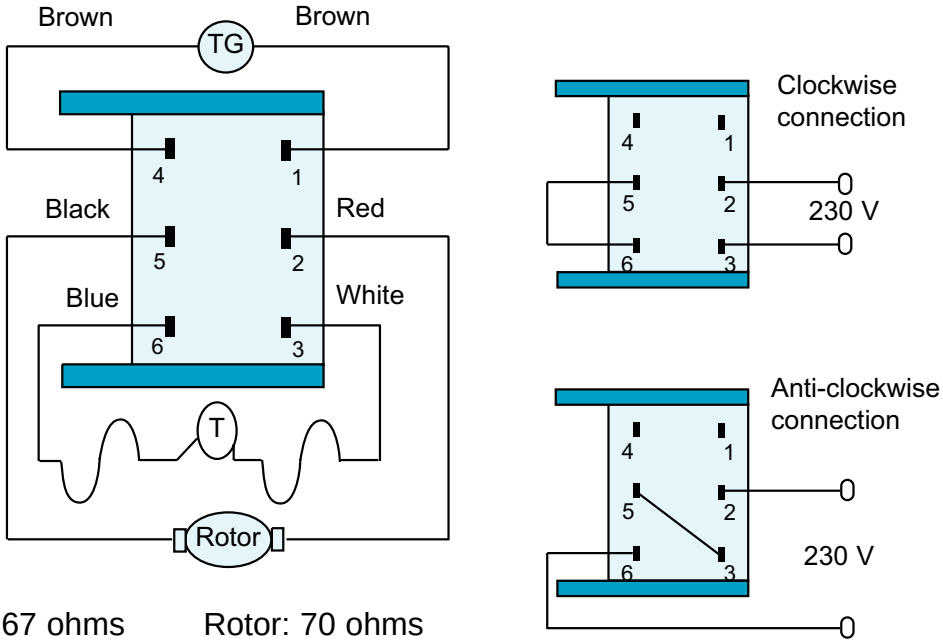
Right side view



Left side view

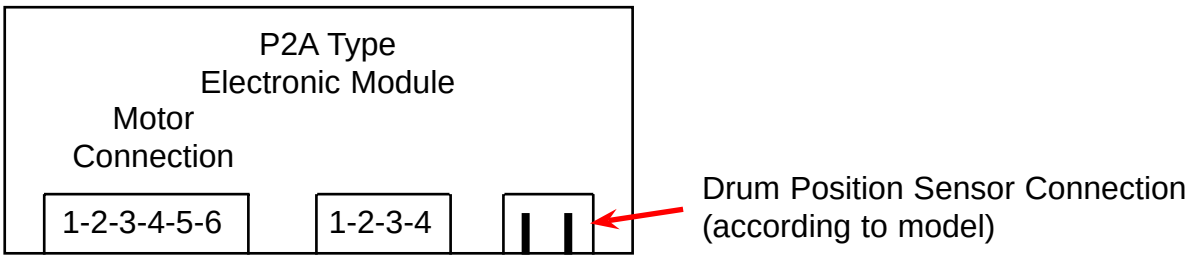


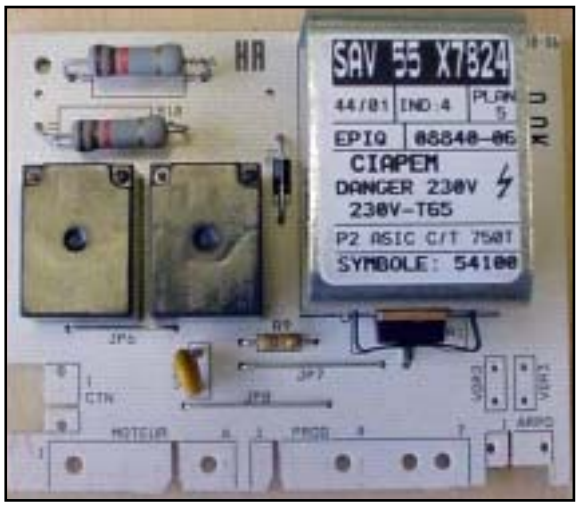
1150 r.p.m. universal type motor connection

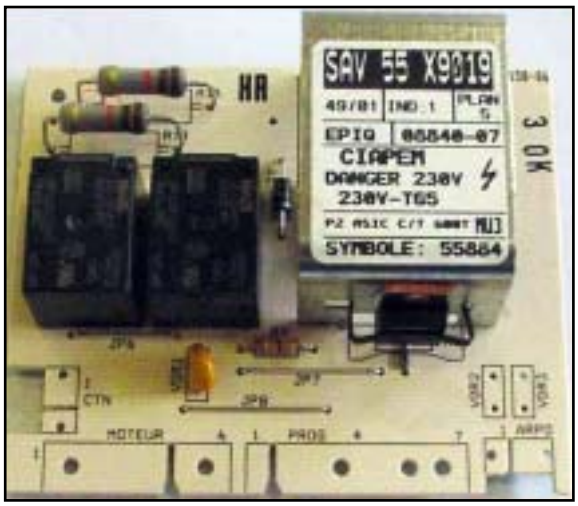


E1 (Stator): 1.67 ohms Rotor: 70 ohms
E2 (Stator): 0.84 ohms TG (Tacho-generator): 1.6 ohms
T: Motor heating thermostat

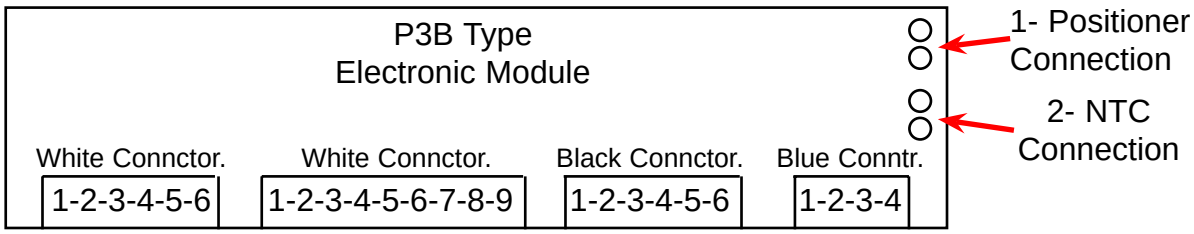
Modules





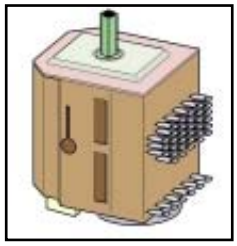


P3B Type Module



Electro-mechanical Programmer

A micro-motor displaces the cams, allowing the contacts supplying the different elements to open or close.



Electrovalve

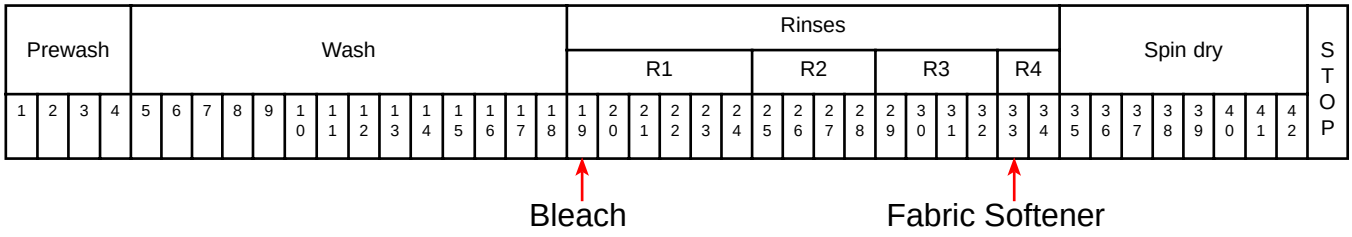
Element

Drain pump

Door lock

Supplies and controls motor reversal (low spin speed washing machines)

Wash Programme and duration times for a 500 r.p.m. model.



Prewash 12´- 1.5´- 7.5” - 82.5”

Wash: 3´- 12´- 6´- 6´- 6´- 12´- 3´- 3´- 6´- 12´- 12´- 1.5´- 7.5” - 82.5”

Rinse R1 6´- 1.5´- 7.5” - 37.5” - 7.5” - 37.5”

Rinse R2 6´- 1.5´- 7.5” - 82.5”

Rinse R3 6´- 1.5´- 7.5” - 82.5”

Rinse R4 6´- 7.5”

Spin 7.5”/90” - 7.5” - 37.5” - 7.5” - 37.5” - 12´- 1.5´

Programming types

Model	R.P.M.	Card type	Programming type	Reference
1FT-116	1100	MB-311	P3B	LB55X9066
1FT-96	900	MB-313	P3B	LB55X9067
1FT-76	700	ASIC	P2A	LB55X9020
1FT-53	500	NO	P1B	-
1FT-51	500	NO	P1B	-
1LT-86	400-800	ASIC	P2A	LB55X9020
1LT-63	600	ASIC	P2A	LB55X9019
1LT-53	500	NO CARD	P1B	-
1LT-51	500	NO CARD	P1B	-
LA-363	600	ASIC	P2	LB55X9019
LA-343	400	NO CARD	P1A	-
LA-143	400	NO CARD	P1A	-

P1A	P1B
Constant speed at 400 r.p.m.	Constant speed at 500 r.p.m.
Heating chronometric or by thermostat	
1/2 Load	1/2 Load
Anti-crease	Anti-crease
Eco on chronometric heating	Eco on chronometric heating
1 wash cycle	2 wash cycles
Spin dry	Spin dry
Consumption 84 litres	Consumption 74 litres

P2A
Variable speed at 750 r.p.m.
Heating chronometric or by thermostat
1/2 Load
Anti-crease
Eco on chronometric heating
2 wash cycles
Spin dry
Consumption 74 litres

3.2.- Assembly and disassembly instructions

Removing the side panels

Tools required:

- Nº 7 hex key

Removal procedure

- Place the appliance on the wheels

- Remove the screws in the rear of the appliance (3 per panel)

- Carefully lift off the left or right panel by sliding it completely towards the rear.

To replace the panels:

- Place the bottom of the panel on the support tabs and fold it towards the appliance.

- Push it towards the front and replace the fixing screws.

Removing the control panel

Tools required:

- Medium-sized screwdriver for countersunk screws.

Removal procedure:

- Turn the programming dial and selectors to downwards position.

- Remove the rear fixing screw ().

- Unclip the control panel cover, separating it from the rear part and tilting it forwards.

To replace it:

- Place the largest flat surface facing downwards

- Line up the selector indicator in downwards position.

- Place the front part first and then fix the decorative part in place.

- Check the various selectors are turning properly.

Removing the Control Panel Support

Tools required:

- Thin flat screwdriver; Nº 7 hex key; Nº 20 torx screwdriver.

Removal procedure:

- Remove the control panel

- Remove the buttons

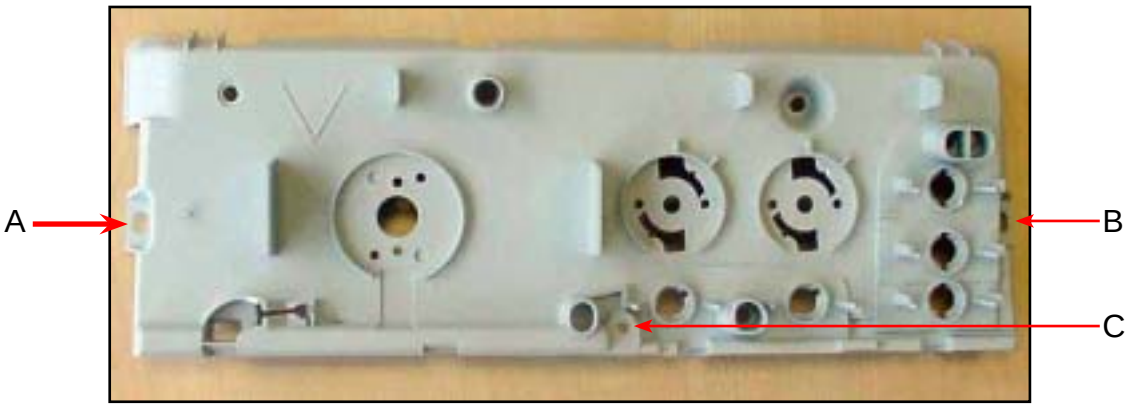
- Remove the screws (A,B,C)

- Unclip the component support and tilt it towards the rear.

- Remove all the parts in order to release the component support.

To put it back in place:

- Ensure the component support screws are not blocked preventing the side panels from being adjusted.



Removing the door

Tools required:

- Thin flat screwdriver

Removal procedure:

- Open the door

- Remove the hinge pins (make sure you do not scratch the top with the screwdriver shaft)

- Pull upwards to remove the door.

To replace it again:

- Repeat the above steps in reverse order.

Pins

Removing the Single / Dual Pressure switch

Tools required:

- Thin flat screwdriver, screwdriver for countersunk screws, Nº 7 hex key, Nº 20 torx screwdriver

Removal procedure:

- Remove the control panel

- Remove the component support

- Remove the right side panel

- Remove the pressure switch connection hose. For ease of removal, carefully push the tub unit towards the front part.

- To remove the pressure switch, free it from its housing located under the component support with the aid of a small flat screwdriver.

- Carry out the above operation in reverse order.

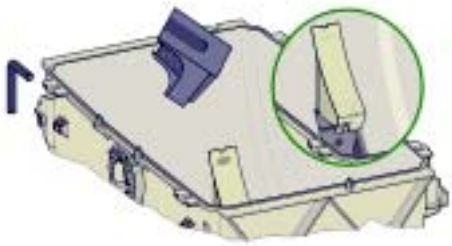
To replace it again:

Carry out the above operation in reverse order.

Removing the Compression Chamber

Tools required:

- Nº 7 nut wrench, flat screwdriver, tool for fastening door leaves



Removal procedure:

- Remove the right side panel.

- Disconnect the compression chamber tube

- Fasten the two leaves of the drum door with the aid of the tool.

- Remove the moving omega.

- Remove the drain filter.

- Reach inside the opening on the left next to the moving omega and release the compression chamber, pressing on the grooved part while using a flat screwdriver for leverage.

To replace it again:

- Carry out the above operation in reverse order.

Removing the sleeve cover

Tools required:

- Nº 20 torx screwdriver

Removal procedure:

- Remove the 5 screws located under the edge of the sleeve.

- To remove the sleeve cover, carefully detach it from the top of the sleeve.

To replace it again:

- Carry out the above operation in reverse order.

Very important: for safety reasons, the screws must be put back in the same fixing holes.

Removing the muffle / load door rubber

Tools required:

- Nº 20 torx screwdriver, Nº 6 tightening wrench

Removal procedure:

- Remove the side panels.

- Remove the sleeve cover

- Remove the collar of the spring holding the seal around the distributor in place.

- Unscrew the sleeve fixing collar from the upper half of the tub (A).

- Remove the sleeve

To replace it again:

- Carry out the above operation in reverse order.

Removing the tub lining cover

Tools required:

- Nº 7 hex key, flat screwdriver, Nº 20 torx screwdriver

Removal procedure:

- Remove the side panels.

- Remove the control panel

- Remove the control cable from the cam pin.
- Remove the door.
- Release the pressure switch.
- Tilt the component support towards the rear.
- Remove the sleeve cover.
- Remove the sleeve from around the distributor.
- Remove the distributor fixing screw.
- Remove the fixing screws from the upper part.
- Remove the door safety device.
- Remove the upper part.

To replace it again:

- Carry out the above operation in reverse order.

Important: *For ease of handling, first place the sleeve around the distributor. Do not block the fixing screws of the sleeve cover. Remember to pass the cable through the component support.*

Removing the distributor

Tools required:

- Nº 20 torx screwdriver, medium flat screwdriver

Removal procedure:

- Remove the control panel
- Remove the left side panel
- Remove the detergent drawer and support.
- Release the distributor control cable.
- Tilt the component support.
- Remove the sleeve cover.
- To remove the upper part of the distributor sleeve:
- Remove the spring.
- Remove the 2 distributor fixing screws.
- To release the distributor, free it by pulling it out towards the front and lifting it up.
- To release the distributor, cut the fixing collar of the water intake.

To replace it again:

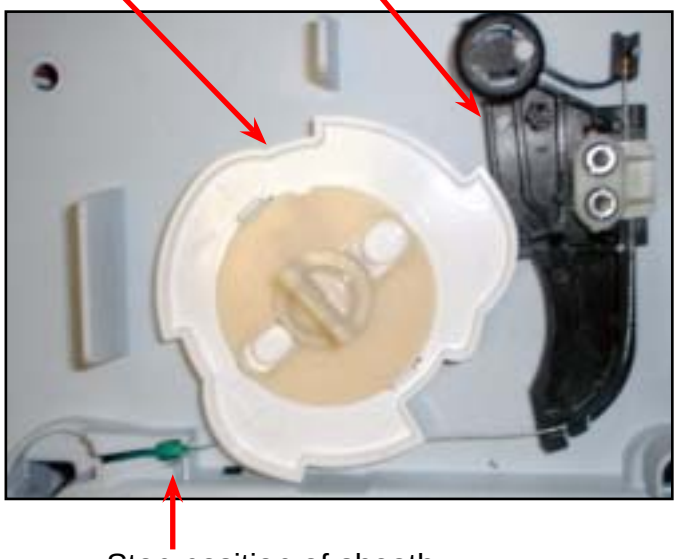
- Carry out the above operation in reverse order.

Important: *The collar must be replaced by another one of identical characteristics.*

Adjusting the Distributor

Thread the cable under the cam and then insert the end in the distributor housing.

Place the distributor pin in the widest part of the cam (corresponding to prewash)



1- Prewash position

2- Wash position

3- Fabric softener position

4- Bleach position

Door lock and Omega

Tools required:

- Nº 20 torx screwdriver

Removal procedure:

- To release the door locking device, press bracket and slide unit out to the right.

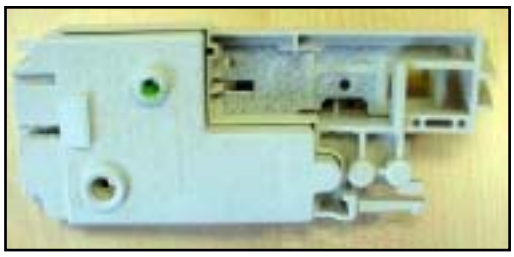
- Remove the sleeve cover.

- Remove the upper part of the sleeve.

- Remove the cabling in order to release the door lock.

To replace it again:

- Carry out the above operation in reverse order.



4.4 Kohms

Omega

Depending on the model, the omega may be fixed to the drum in one of two ways, with a screw or with a swing-out device

Removing the drain pump

Tools required:

- Nº 7 hex key, Nº 20 torx screwdriver

Removal procedure

- Drain the remaining water out through the drain arch (use a bowl).
- Tilt the machine to the left (remember to protect it).
- Remove the right side panel.
- Disconnect the cabling.
- To remove the drain pump, remove the three fixing screws.

To replace it again:

- Carry out the above operation in reverse order.
- Connect the cabling again before re-adjusting the pump.

155 Ohms

30 W

16 Litres

Synchronous

Removing the belt or pulley

Tools required:

- Nº 7 hex key, Nº 40 torx screwdriver for countersunk screws

Removal procedure:

- Remove the right side panel
- If necessary, remove:
    - the belt, releasing it from the drum control pulley,
    - the pulley, removing screw A

To replace again:

- Carry out the above operation in reverse order.

Important: *Clean the threaded hole and remove all thread brake remains. The fixing screw must always be replaced when the pulley is removed.*

Removing the element with or without thermistor (depending on model)

Tools required:

- Nº 7 and 10 nut wrench

- Tool for holding drum door leaves in place.

Removal procedure:

- Remove the left side panel

Either:

- Disconnect element cabling

- Remove element fixing nut

- Remove immersion heater.

or:

- Disconnect connection cables leading from thermistor to power card

-Remove element fixing nut

- To remove the thermistor, pull it carefully forwards.

To replace it again:

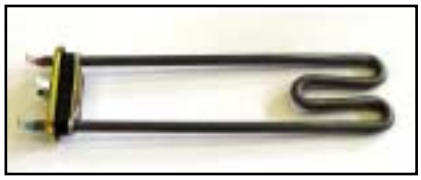
- Carry out the above operation in reverse order.

Important: *- The earth connection tab must be facing upwards.*

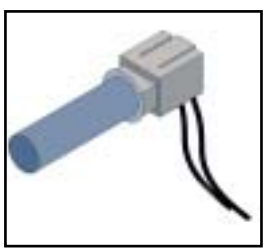
- It must be ensured that the element is correctly inserted in the bracket located inside the tub. To do this, remove the moving omega and then immobilise the drum door leaves.

- Check the correct position of the element in the bracket located in the lower part of the tub. If the bracket is loose, there is a hole for fixing it with a 3.5 x 12 stainless steel screw.

- The cabling route must be correctly followed.



2000 W - 25 Ohms
Internal thermofuse



NTC
12 Kohms at 20ºC

Removing the Motor

Tools required:

- Nº 7 nut wrench, Nº 20 bent torx wrench, flat screwdriver

Removal procedure:

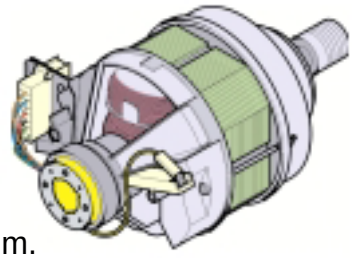
- Remove side panels.

- Remove belt.

- Disconnect motor cabling.

- Remove the motor, releasing the two flanges with a flat screwdriver.

To replace again:



- Carry out the above operation in reverse order.

Adjusting pulley alignment:

- Loosen the four motor support screws.

- Adjust the alignment so that the belt has a play of 1 - 2 mm.

- Tighten the four screws.

Removing the Electrovalve

Tools required:

- Nº 7 hex key, flat screwdriver

Removal procedure:

- Remove the right side panel.

- Unscrew the water inlet hose located at the electrovalve inlet. Ensure the water inlet valve is closed.

- Unclip and remove the cover.

- Remove the plastic guard from the electrovalve.

- Disconnect the electrovalve cabling.

- Pull the solenoid valve upwards to release it.

- Cut the collar to remove the solenoid valve.

To replace it:

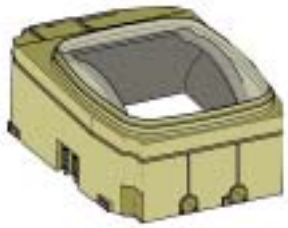
Carry out the above operation in reverse order.

Removing the Upper Tub

Tools required:

- Nº 7 nut wrench, Nº 20 torx screwdriver, wide flat screwdriver, heat-resistant putty, after sales service reference: 55X2935

Removal procedure:



- Remove decorative cover.
- Remove sleeve cover
- Release sleeve from upper half of tub.
- Remove screws from cross-piece.
- Tilt the upper part with the component support and sleeve.
- Remove the belt and control pulley from the drum.
- Remove the reed switch sensor (depending on model).
- Remove the screws located on each side of the tub half.
- Separate the two tub halves, making leverage on the four fixing points.

Note: It may appear difficult to separate the two halves of the tub due to the sealing cord sticking.

Washing machines of over 1000 r.p.m have a 20Kg injected tub and those of under 1000 r.p.m. a 16Kg injected tub.

Making leverage

- Lift off the upper half of the tub.

To replace it again:

- Carry out the above operation in reverse order.

Very important: *To ensure water-tightness:*

- The bottom half of the tub must be cleaned.

- A sealing cord must be evenly applied in the groove of the lower half of the tub.

Removing the Drum

Tools required:

- Nº 7 hex key
- Wide flat screwdriver
- Nº 20 torx screwdriver
- Nº 40 torx screwdriver
- Screwdriver for countersunk screws
- If possible, a nº 6 ratchet wrench

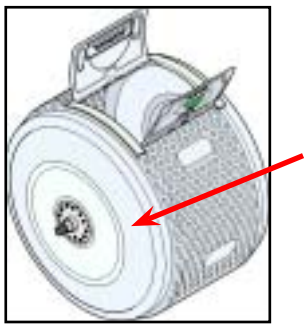
Removal procedure:

- Remove decorative cover
- Remove sleeve cover
- Tilt the upper part with the component support.
- Remove the sleeve from the upper part of the tub
- Remove the belt and control pulley from the drum.
- Remove the reed switch sensor (depending on the model).
- Remove the upper half of the drum.
- Remove the two bearing support cross-pieces.
- Remove the drum, separating the lower half of the tub in the drum axis holes.

To replace it again:

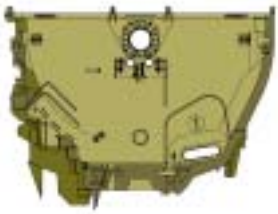
- Carry out the above operation in reverse order.
- Before putting the drum in place, the right and left drum lids must be bent inwards.

Important: *to ensure water-tightness, the two tub halves must be cleaned before applying a new sealing cord.*



Capacity 42 litres

Removing the lower tub



Tools required:

- Nº 7 hex key
- Wide flat screwdriver
- Nº 20 torx screwdriver
- Nº 40 torx screwdriver
- Screwdriver for countersunk screws
- If possible, a nº 6 ratchet wrench

Removal procedure:

- Remove control panel.
- Remove sleeve cover.
- Tilt the upper part with the component support.
- Remove the sleeve from the upper part of the tub
- Remove the belt and control pulley from the drum.
- Remove the reed switch sensor (depending on model).
- Remove the upper half of the drum.
- Remove the two bearing support cross-pieces.
- Remove the drum.
- Disconnect the motor cabling and the drain pump.
- Remove the thermostat bulb.
- Remove the unit consisting of the lower half of the tub, the motor and the drain pump by lifting it up and releasing the springs.
- Remove all the parts.

To replace it again:

- Carry out the above operation in reverse order.

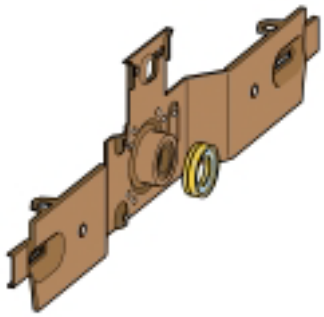
Important: *to ensure water-tightness, the two tub halves must first be cleaned.*

Removing the bearing from the pulley side

REMOVE THE BEARINGS SEPARATELY

Tools required:

- nº 7 hex key
- Nº 20 torx screwdriver for countersunk screws
- Nº 40 bent wrench for countersunk screws
- Torch



Bearing holder support

Removal procedure

- Remove the right side panel.
- Remove the belt and control pulley.
- To remove the reinforcement plate, loosen the 3 screws around the drum shaft
- Remove the fixing screws from the cross-piece.
- Remove the interface and then the V ring restrictor
- Remove the cross-piece and the roller bearing

Motor support

To replace them again:

- Carry out the above operation in reverse order.
- Important: the pulley fixing screw must be changed.
- Clean the drum shaft before applying the detergent.
- Clean the V ring restrictor, being careful not to damage the edges.
- Check with the torch.
- Place the reinforcement plate, with the lower part first.
- Tighten the screws in the order shown.

Screw tightening order:

- 4 screws around the shaft (cross-tighten them).
- 2 screws on the ends of the cross piece.
- 2 fixing screws for tub halves.

Important: *Do not forget the washers. Screw them back in using the holes which have not yet been used.*

Removing bearing from side opposite pulley

REMOVE THE BEARINGS SEPARATELY

Tools required:

- nº 7 nut wrench

- Nº 20 torx screwdriver for countersunk screws

- Nº 40 bent wrench for countersunk screws

- Torch

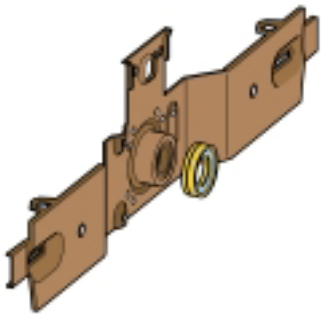
Removal procedure:

- Remove the left side panel.

- Remove the bearing support fixing screws.

- Remove the interface and then the V ring restrictor

- Remove the bearing support and the ball bearing



Bearing holder support

To replace it again:

- Carry out the above operation in reverse order.

- Clean the drum shaft.

- Cover the V ring restrictor, taking care not to damage the edges. Check with the torch.

- Tighten the screws in the order shown.

Order for tightening screws:

- Central nº 40 torx screw

- 4 screws around shaft (cross-tighten them).

- 2 screws on the ends of the bearing support

- 2 fixing screws for tub halves.

Important: *Do not forget the washers. Screw them back in using the holes which have not yet been used.*

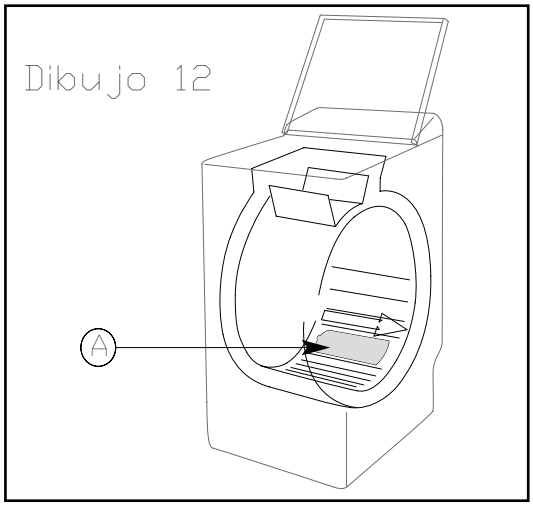
3.3.- Maintenance

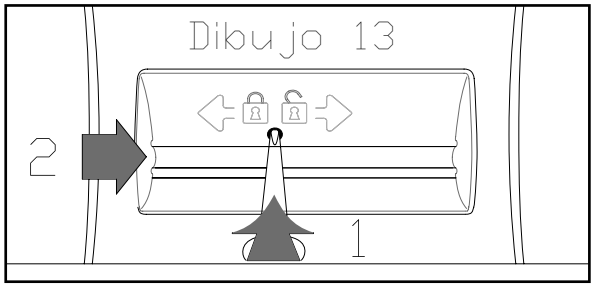
Cleaning the pump filter

This filter traps any small objects which may have been left in the clothes and prevents pump malfunctioning as a result.

The filter is cleaned as follows:

- Open the flap doors to the drum. At the bottom of the drum you will see a plastic part, “A” (Picture 12)





- Unblock this plastic part. (Picture 13).

To do this: -Insert a rod-shaped object (a pencil or bolt, for example) in the hole in the top of part “A”.

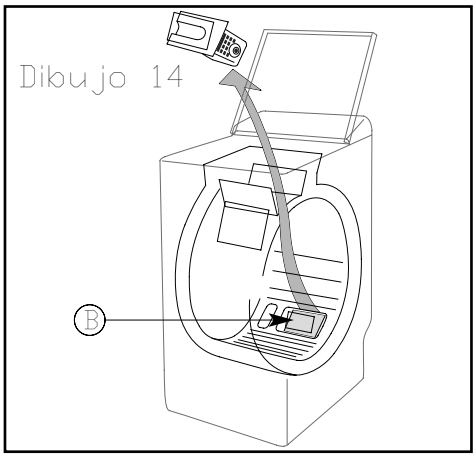
- Press this rod down vertically, pushing part “A” towards the right at the same time until it comes out of its housing.

- Remove part “A”.

- Turn the drum slightly with the flap doors open towards the front of the machine (Picture 14).

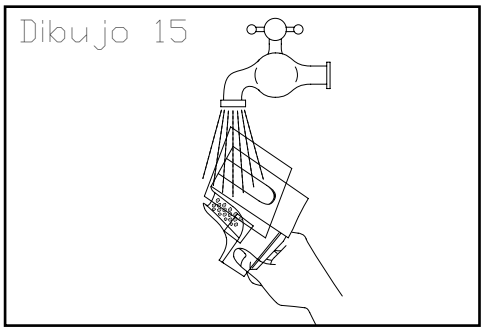
When part “A” is removed the openings are freed allowing access to the pump filter “B”.

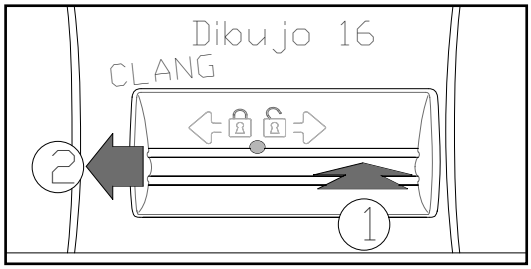
- Remove the filter (Picture 14)



- Remove the objects trapped inside it.

- Rinse it under the tap (Picture 15).



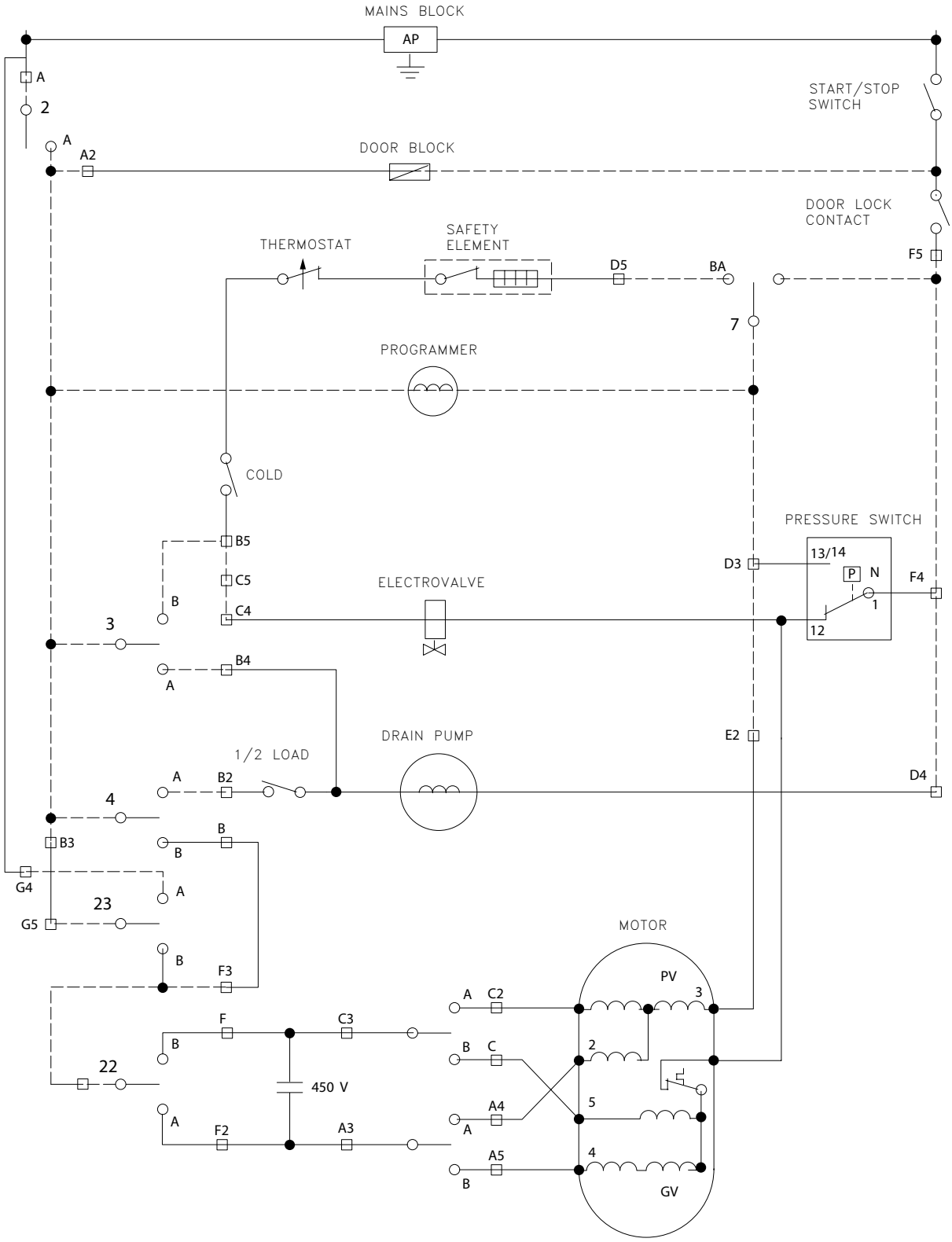


- Ensure the filter housing is clean and then replace the filter, pressing it into the housing.

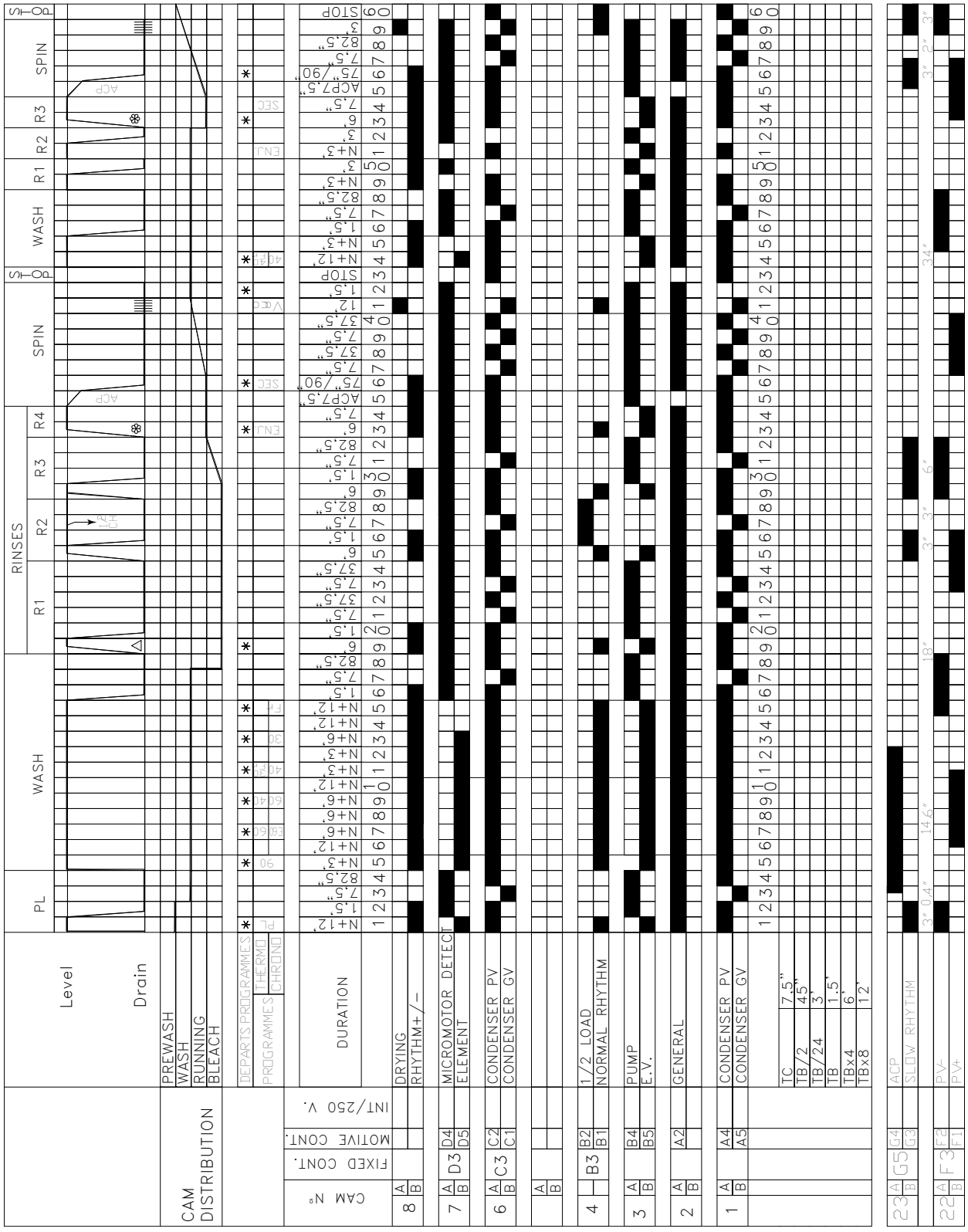
- Put part “A” back in place, ensuring it is correctly positioned in the openings at the bottom of the drum, and pressing it towards the left until it is perfectly fitted in place (Picture 16).

3.4.- Diagrams

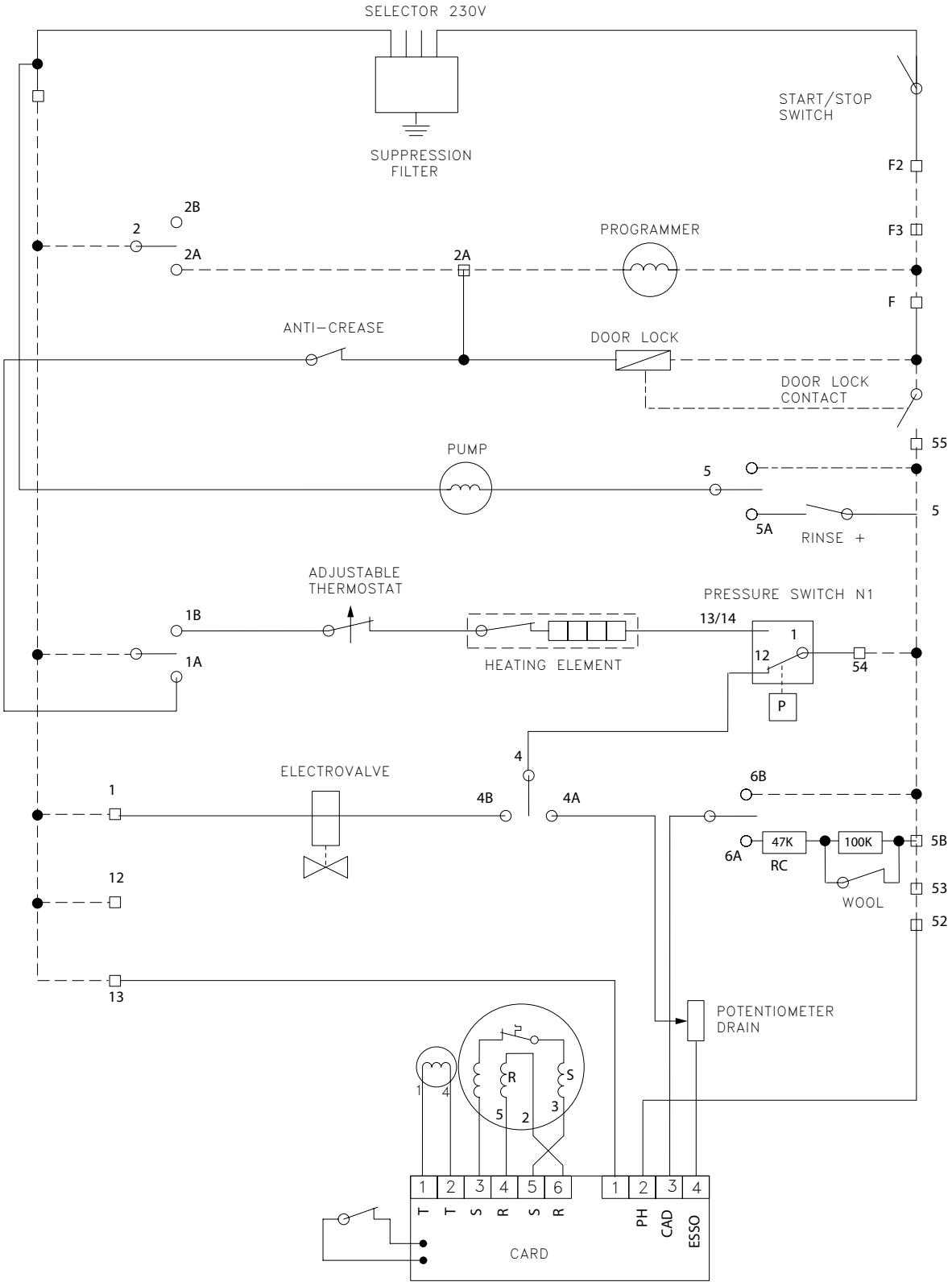
500 r.p.m

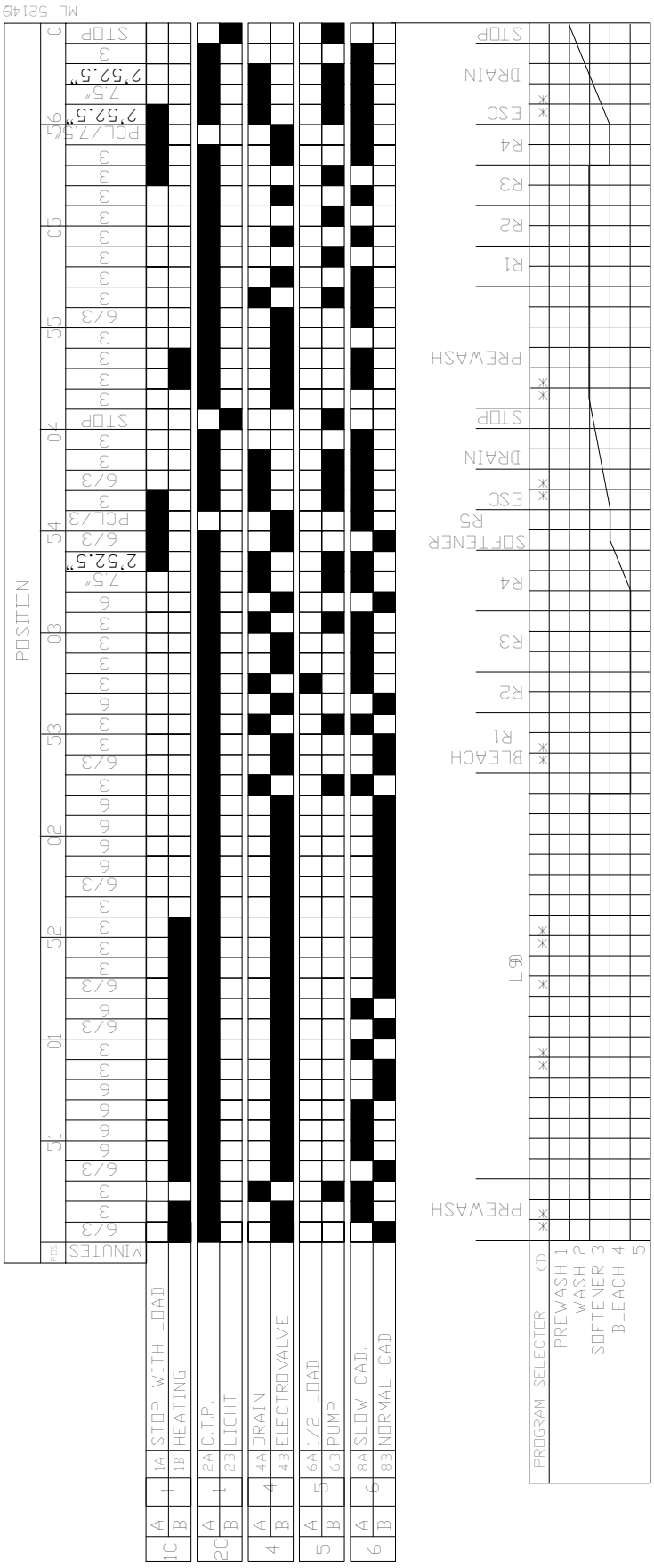


Mod. 1LT-51 Y 1LT-53

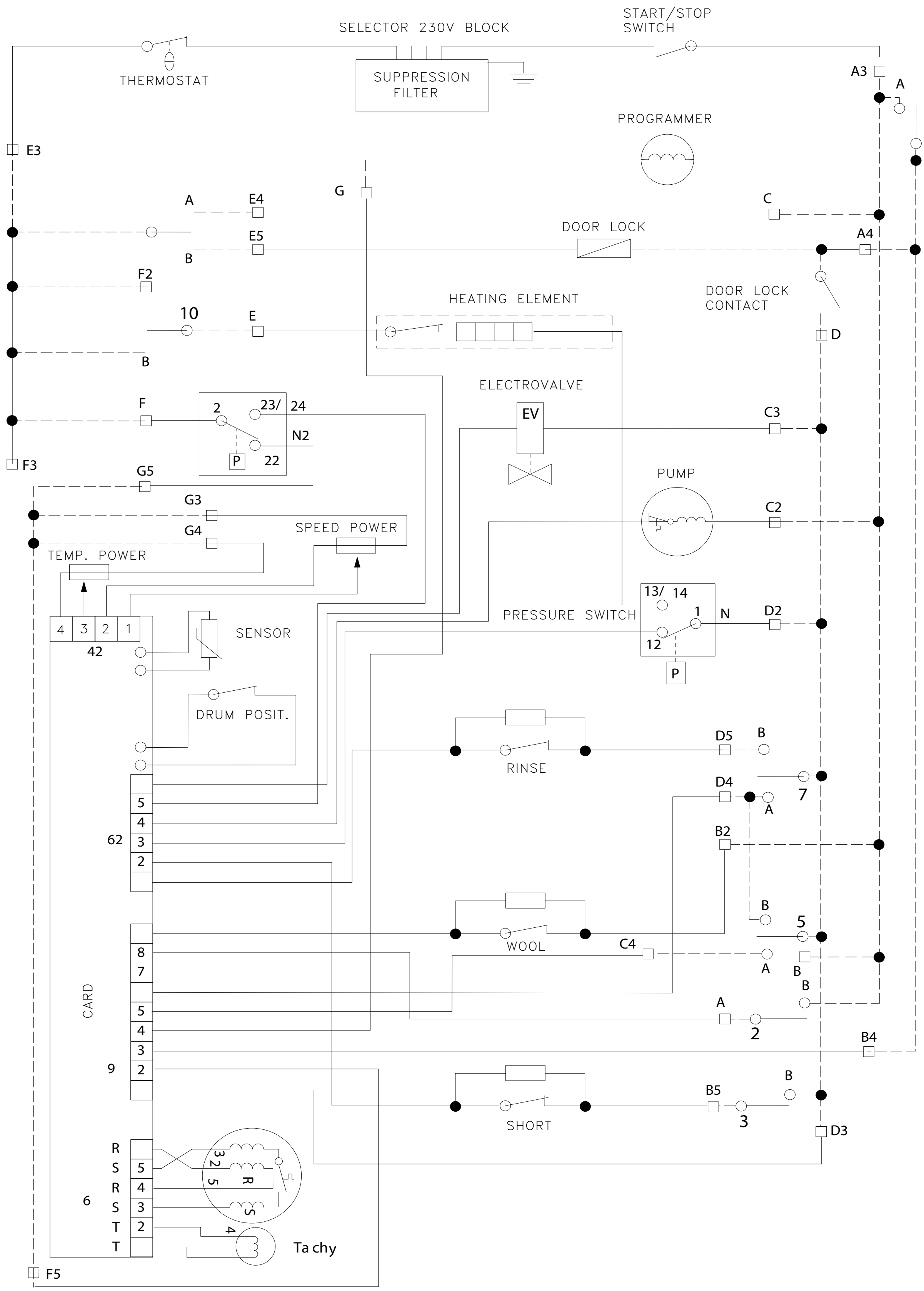


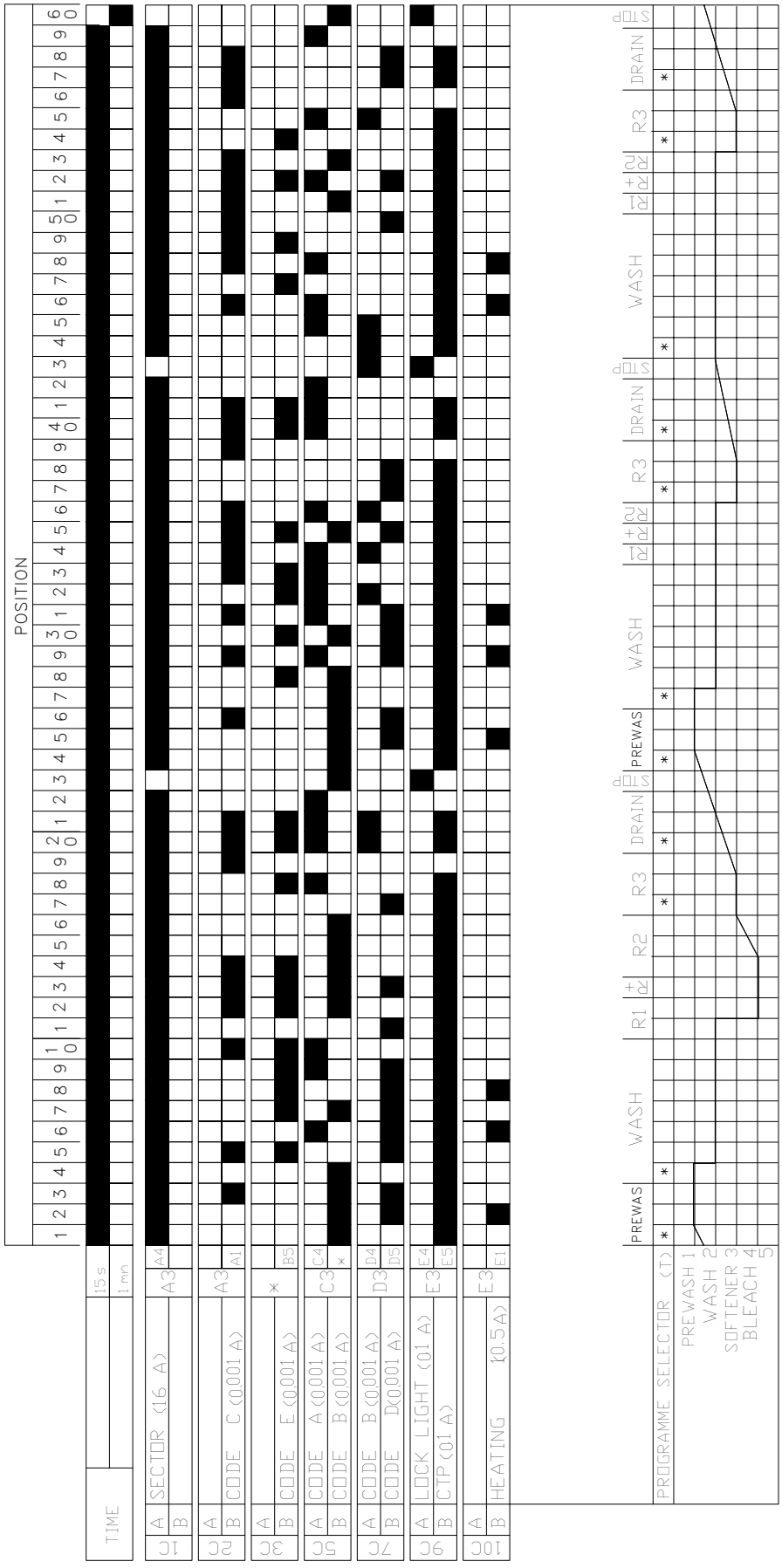
700 r.p.m.


SELECTOR 230V
SUPPRESSION FILTER
START/STOP SWITCH
F2
F3
F
2B
2
2A
2A
PROGRAMMER
ANTI-CREASE
DOOR LOCK
DOOR LOCK CONTACT
55
PUMP
5
5A
5
RINSE +
ADJUSTABLE THERMOSTAT
PRESSURE SWITCH N1
1B
1A
13/14
1
12
54
HEATING ELEMENT
P
4
ELECTROVALVE
1
4B
4A
6B
6A
47K
RC
100K
5B
53
WOOL
52
12
13
POTENTIOMETER DRAIN
R
S
5
2
3
1
4
1 2 3 4 5 6
T T S R S R
1 2 3 4
PH CAD ESSO
CARD


ML 52149
POSITION
MINUTES
STOP
DRAIN
ESC
R4
R3
R2
R1
PREWASH
SOFTENER R5
BLEACH
PROGRAM SELECTOR
PREWASH 1
WASH 2
SOFTENER 3
BLEACH 4
5
STOP WITH LOAD
HEATING
C.T.P.
LIGHT
DRAIN
ELECTROVALVE
1/2 LOAD
PUMP
SLOW CAD.
NORMAL CAD.

1100 r.p.m.


SELECTOR 230V BLOCK
START/STOP SWITCH
THERMOSTAT
SUPPRESSION FILTER
PROGRAMMER
DOOR LOCK
DOOR LOCK CONTACT
HEATING ELEMENT
ELECTROVALVE
EV
PUMP
SPEED POWER
TEMP. POWER
SENSOR
DRUM POSIT.
PRESSURE SWITCH
RINSE
WOOL
SHORT
CARD
Ta chy
E3
E4
E5
F2
F3
F5
G
G3
G4
G5
A3
A4
B4
B5
C
C2
C3
C4
D
D2
D3
D4
D5
N
N2
P
42
62
9
6


POSITION
TIME
15 s
1 mn
SECTOR (16 A)
CODE C (0.001 A)
CODE E (0.001 A)
CODE A (0.001 A)
CODE B (0.001 A)
CODE B (0.001 A)
CODE D (0.001 A)
LOCK LIGHT (0.1 A)
CTP (0.1 A)
HEATING (0.5 A)
PROGRAMME SELECTOR (T)
PREWASH 1
WASH 2
SOFTENER 3
BLEACH 4
5
PREWAS
WASH
R1
R2
R3
DRAIN

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