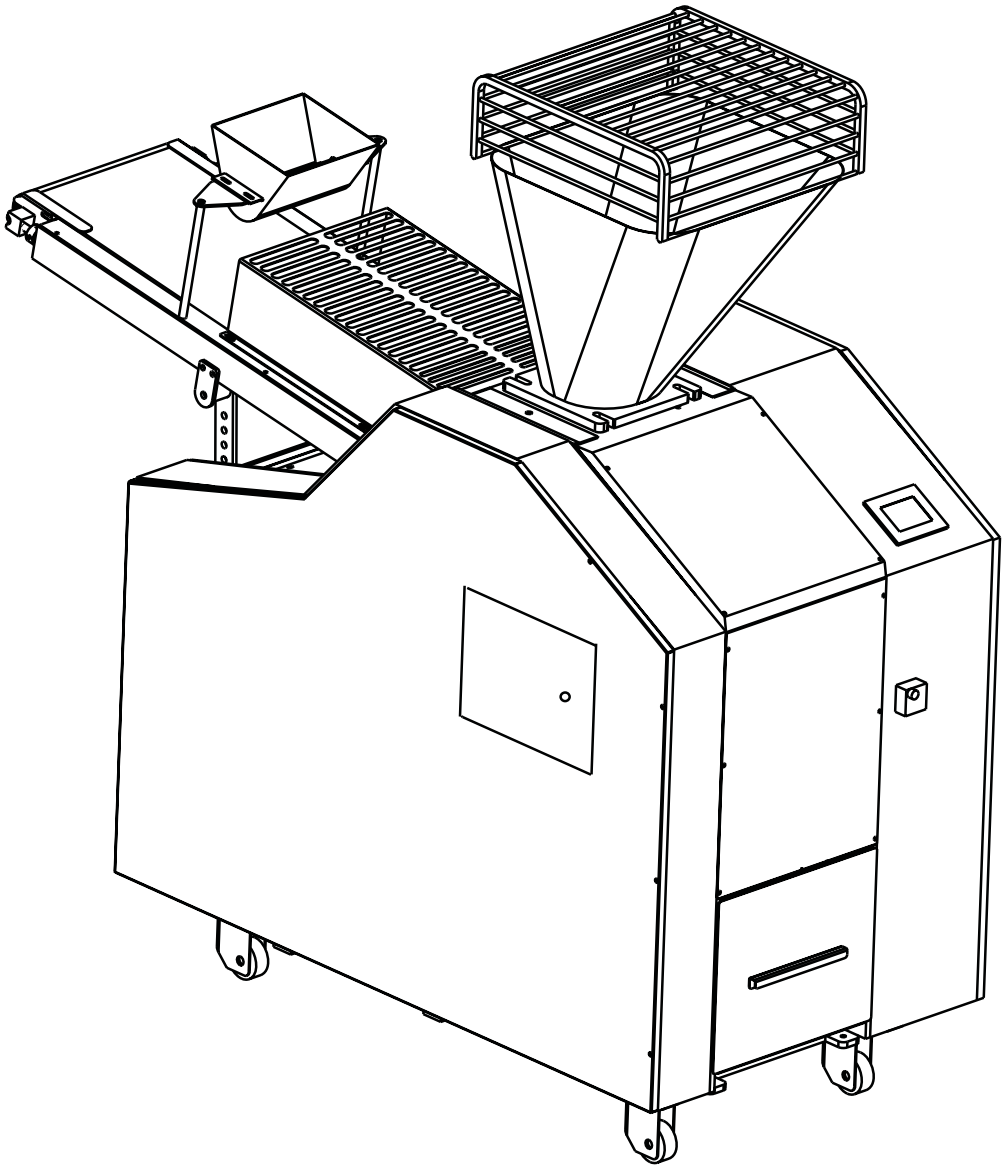
PESADORA PARA MASA FERMENTADA

STRESS LESS DOUGH DIVIDER

SPEZZATRICE PASTA LIEVITATA



INSTRUCTIONS MANUAL

MACHINE PARTS

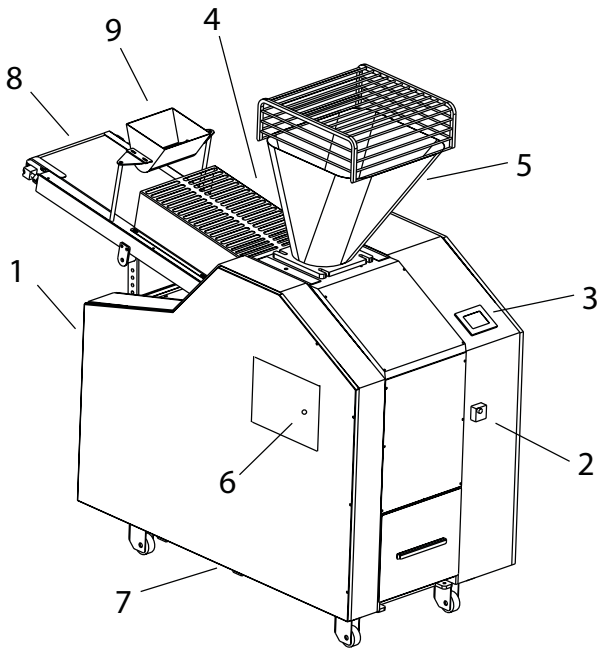


Figure 1. Parts of the machine.

1. Power plug.
2. Main switch.
3. Control panel.
4. Emergency stop.
5. Hopper for dough.
6. Door for access to oil tank.
7. Tray to collect oil drops.
8. Conveyor belt.
9. Flour duster.

1. GENERAL DESCRIPTION

This is a volumetric type divider, designed to work with soft and fermented bread dough, and high content of water. The weight range that can be produced is determined by the diameter of the chosen piston, as it is shown on this table (for fresh dough, not fermented):

Piston (mm)	Weight max. (g)	Weight min. (g)
110	50	1000
120	60	1300
135	80	1600

2. INITIAL INSTALLATION

2.1 TRANSPORT AND UNPACKING

The machine is delivered completely assembled only lacking placing the hopper and connecting the safety system. For the transport of the machine there are two steel bars screwed in the bottom of the machine, and besides there is a metal cage that protects it against any impact.

Use a fork lift to take down the machine from the truck. Once the machine is on the ground it can be moved with a hand lift.

To unpack the machine all the screws that join the metal cage fixed must be removed. Once the metal cage is removed the screws that fix the machine to the supports in the bottom must be removed, and very carefully take the machine down, placing wooden pieces under the machine frame and using the help of a lever to gradually remove the machine from the supports.

2.2 FIRST CONNECTION

The machine has been designed to be employed with tri-phases current.

Before connecting the machine it should be verified that the net tension is the appropriate according to the connection of the motors. It should be verified the connection of the terminals of the motors. Depending if the net tension is 3x220V or 3x380V they will be connected according to the figure:

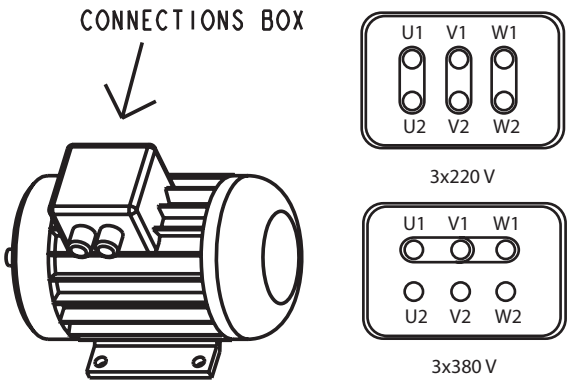


Figure 2. Verification of the connection.

Once this is done it will be verified that the turning sense of the motors is the appropriate. If it is not then two of the phases will be changed to invert the turning sense.

These operations should be carried out by qualified personnel, and always with the machine disconnected.

2.3 HOPPER INSTALLATION

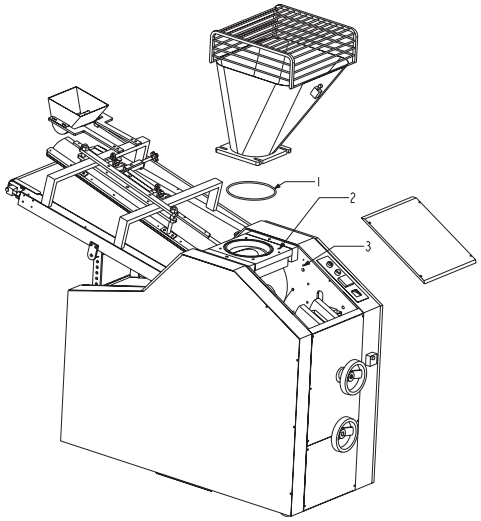


Figure 3. Hopper installation.

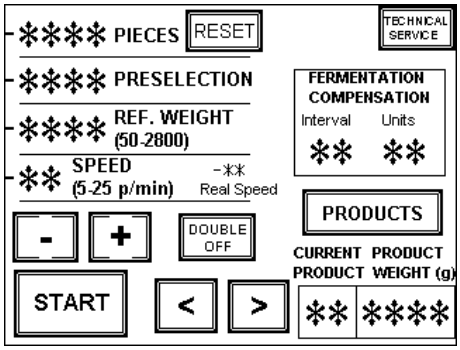
To install the hopper the following steps must be followed:

1. Place the sealing o-ring in the groove over the drum tile.
2. Thread the screws until half of its length, place the hopper and place the rings and the nuts and tighten the four screws.
3. Connect the 2 wires of the safety system for the hopper opening in the plug inside the machine.

3. INSTRUCTIONS FOR USE

3.1 TOUCH SCREEN

The divider is completely controlled with a touch screen. When the machine is turned on, the touch screen will light on and it will take approximately 30 seconds to load the program and be ready to work.



Main screen.

From the main screen we can control all the working of the machine. This is the function of each control:

PIECES: This number shows the number of pieces already produced. This is the counter.

RESET: This button sets the actual count to 0.

PRESELECTION: This is the number of pieces that we want to produce. If it is set to 0 the divider will not stop until it is stopped by the user. If it is set to a number then when the number of pieces is produced the divider will automatically stop.

SPEED: This is the speed of the divider, this value can be set on a range from 5 to 25. The real speed of the machine is shown at the right.

START/STOP: This button will start the machine. It will also stop the machine if it is working.

TECHNICAL SERVICE: This button gives access to the technical service screen. Only technical staff will have access to this menu because it is protected with a password.

< >: These buttons change the active program, from 1 to 40.

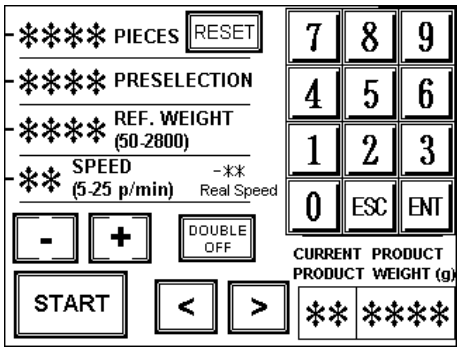
- +: These buttons will increase or decrease the weight reference in 10 units, for quick edition.

DOUBLE OFF: This button activates the double piece mode, in this model the divider will join 2 pieces in 1.

COMPENSATION FERMENTATION: This is the automatic compensation for the loss of weight due to the fermentation of the dough. The value of the left is the interval and the value on the right is the units that the weight reference will be increased. If any of the two values is set to 0 then there is no compensation of the fermentation, the weight reference will be always the same. For example if we set the values to 15, and 1, this means that each 15 pieces the weight reference will be increased in 1 unit.

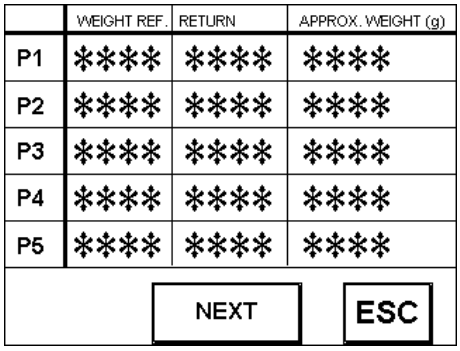
PRODUCTS: This button will change the screen to the products editor.

CURRENT PRODUCT / PRODUCT WEIGHT (g): These values show the active product and the desired weight in grams (this is only for reference).



Keyboard screen.

There are some fields that can be edited and admit the input of a numeric value, like for example the PRESELECTION, SPEED, and product programs. When the number is pressed it will appear a keyboard on the right part of the screen. To input a value just input the desired value and press ENT. Use ESC on the keyboard to cancel the value input.



Product editor screen.

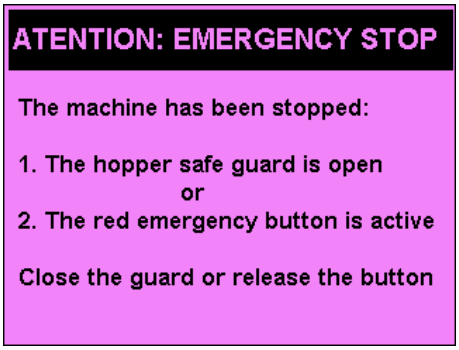
This screen lets the user introduce the parameters for each product. There are 40 different products that can be set, 5 on each screen, so there are 8 different screens like this one. Each product has 3 different parameters that can be configured:

WEIGHT REF.: this is the weight reference, it can be set from 300 to 2800.

RETURN: this is the extra margin that the piston will absorb. If it is set to 0, this means that the piston will expel all that it absorbs, the return to the hopper will be 0. Normally the margin set to 0 will not work well except for bigger pieces. A good value to start is 200. If with 200 we don't see that the piston is full of dough then it must be increased until we can see that the piston is full.

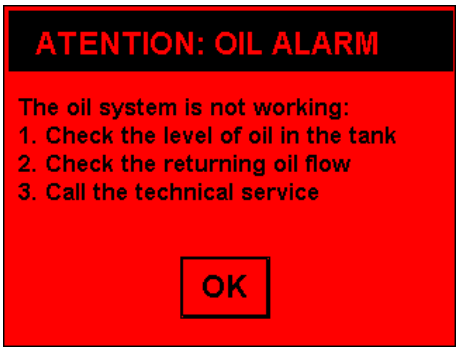
APPROX. WEIGHT (g): this is the desired weight in grams, this is just a reference for the user.

At the bottom of each screen there are the **NEXT** and **PREVIOUS** buttons, to change to next or previous program configuration screen, and the **ESC** button to return to the main screen.



Emegency stop alarm screen.

This screen will appear if the safety grid of the hopper has been opened or if the emergency stop red button has been pressed. It will only disappear when the grid is closed or if the emergency stop button is released.



Oil alarm screen.

This screen will appear if the oil flow sensor detects that there is not oil, this screen will appear each few minutes until the problem with the oil flow is solved. Pressing **OK** will hide this screen.1.

3.6 LOADING THE HOPPER WITH DOUGH

Before filling the hopper with dough it should be greased with edible oil. This avoids the dough sticking to the hopper, and eases the dough absorption.

At the end of each mixing a small amount of dough will remain in the hopper which should be removed manually.

3.8 FLOUR DUSTER

The function of the flour duster is to dust flour on the portion once it has been rounded, so that it is not sticky to the hands or machines that will process it subsequently.

The amount of flour is regulated from the adjustable cover for the exit, depending on the requirements of the dough or mixture used.

4. MAINTENANCE

4.1 OILING SYSTEM

The machine is equipped with an alarm system that detects if the oiling system is working ok. If there is any problem the alarm will noise continuously. Then the machine must be stopped and fix the problem, otherwise the machine will be damaged.

In order to ensure that the oiling system works ok it is very important to respect the following recommendations:

1. *Daily:* Check the level of oil. By means of the door (n.9 Fig. 1) the oil tank can be reached, it is transparent, so the level of oil can be seen. The level of oil must always be over the indicated minimum.
2. *Monthly:* Clean the oil tank. Extract the tank and clean the rests of flour that are accumulated in the bottom.
3. The oil that must be used is olive oil if it is possible, otherwise sunflower oil can be used. Never use soya oil.

4.2 TRAY FOR COLLECTING OIL DRIP

In the centre of the lower part of the machine there is a tray that can be taken out from the side, and which collects the oil that by the drip system protects the moving pieces of the machine. Although the amount of oil collected is minimal, the tray should be removed and cleaned once a week.

4.3 CLEANING

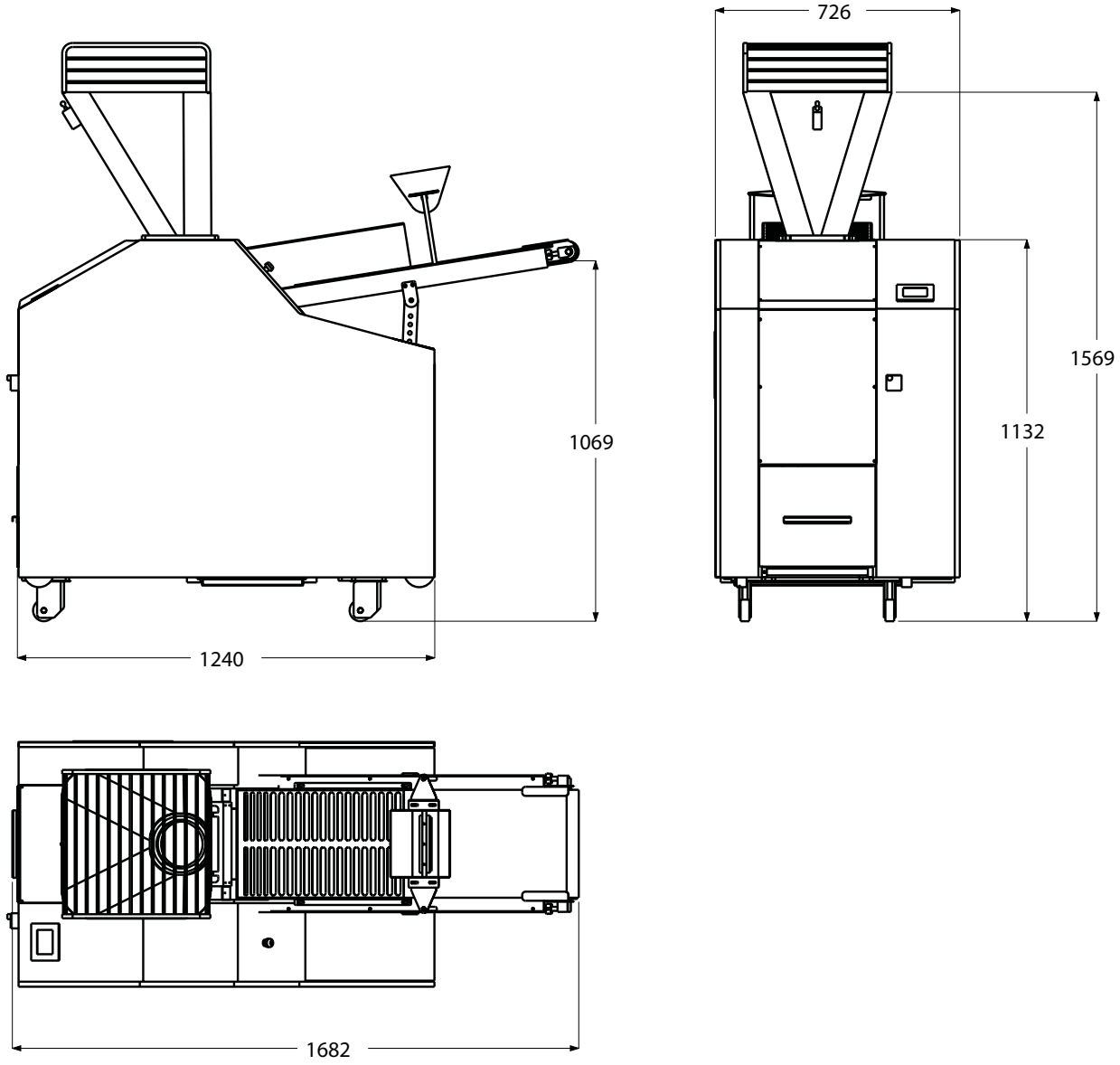
The machine is easy to clean. When the work is finished the inside of the hopper, the exit roller and the PVC belt should be cleaned with a plastic spatula (metal instruments should never be used).

After the cleaning it is advisable to drop a small quantity of oil in the bottom of the hopper and leave the machine work empty for half a minute.

5. PROBLEM SOLVING

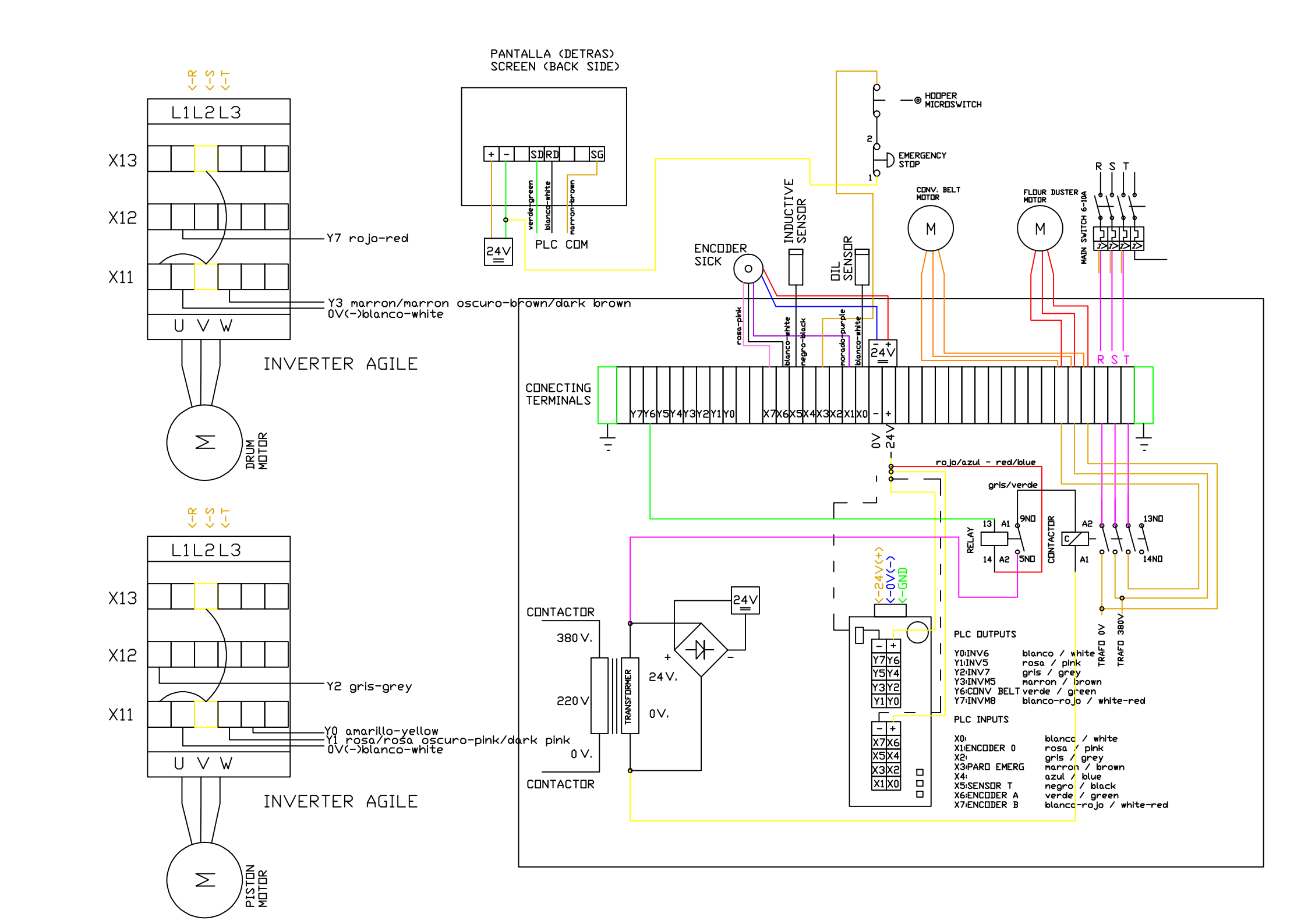
The machine does not start
-Check that it is correctly connected and that it is receiving power from the net. -Check that the emergency stop is not pressed and that the hopper is closed.
The oil system alarm is on
-Check that there is oil in the tank. -If it keeps appearing call the technical service.
There is not a good weight accuracy
-Check that the dough has at least 50% water. -Check that always before filling the hopper with dough it is impregnated with oil to ease the dough absorption. -If the problem is not solved contact the technical service.

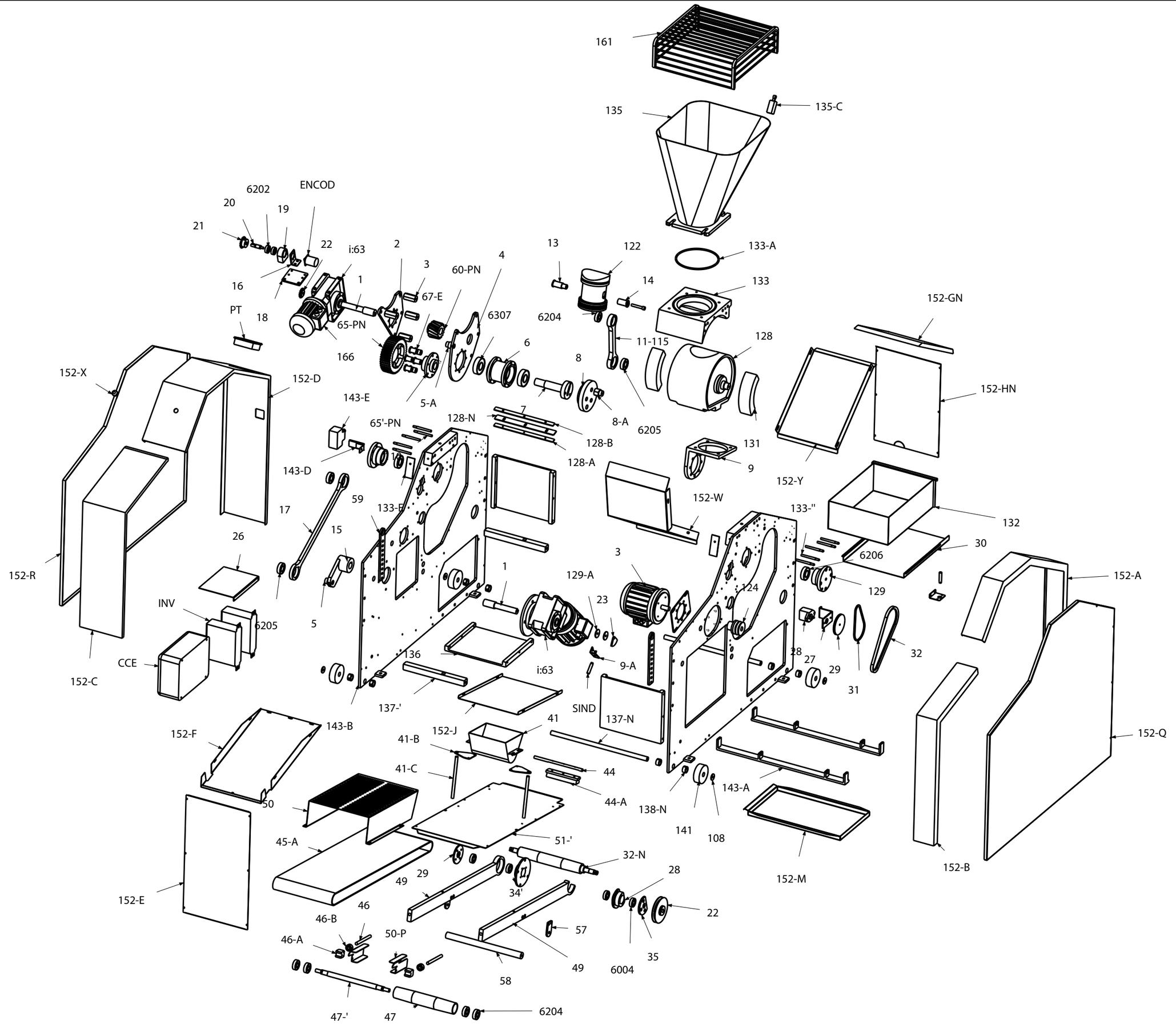
6. MACHINE DIMENSIONS



7. MACHINE SPECIFICATIONS

Weight (KG)	**650**
Installed Power (KW)	**1,5**
Electric Voltage (V)	**230/380 3 Phase**
Production (pieces/hour)	**1000-2400**
Acoustic Radiation (DB)	**<85**


PANTALLA (DETRAS)
SCREEN (BACK SIDE)
+ - SD RD SG
verde-green
blanco-white
marron-brown
24V
PLC COM
HOOPER MICROSWITCH
EMERGENCY STOP
CONV. BELT MOTOR
FLOUR DUSTER MOTOR
MAIN SWITCH 6-10A
R S T
INDUCTIVE SENSOR
OIL SENSOR
ENCODER SICK
rosa-pink
blanco-white
negro-black
morado-purple
blanco-white
24V
CONECTING TERMINALS
Y7 Y6 Y5 Y4 Y3 Y2 Y1 Y0 X7 X6 X5 X4 X3 X2 X1 X0 - +
0V
24V
rojo/azul - red/blue
gris/verde
RELAY
CONTACTOR
13 A1 9NO
14 A2 5NO
A2 C A1
13NO
14NO
TRAFO 0V
TRAFO 380V
<-24V(+)
<-0V(-)
<-GND
CONTACTOR
380 V.
220 V
0 V.
TRANSFORMER
24V
24 V.
0V.
CONTACTOR
PLC OUTPUTS
Y0:INV6 blanco / white
Y1:INV5 rosa / pink
Y2:INV7 gris / grey
Y3:INVM5 marron / brown
Y6:CONV BELT verde / green
Y7:INVM8 blanco-rojo / white-red
PLC INPUTS
X0: blanco / white
X1:ENCODER 0 rosa / pink
X2: gris / grey
X3:PARO EMERG marron / brown
X4: azul / blue
X5:SENSOR T negro / black
X6:ENCODER A verde / green
X7:ENCODER B blanco-rojo / white-red
<-R <-S <-T
L1 L2 L3
X13
X12
X11
Y7 rojo-red
Y3 marron/marron oscuro-brown/dark brown
0V(-)blanco-white
U V W
INVERTER AGILE
DRUM MOTOR
<-R <-S <-T
L1 L2 L3
X13
X12
X11
Y2 gris-grey
Y0 amarillo-yellow
Y1 rosa/rosa oscuro-pink/dark pink
0V(-)blanco-white
U V W
INVERTER AGILE
PISTON MOTOR


161
135
135-C
6202
ENCOD
20
19
21
22
i:63
2
3
60-PN
4
13
122
133-A
16
1
67-E
14
133
PT
18
65-PN
6307
6204
152-GN
166
6
11-115
128
152-X
152-D
8
143-E
5-A
8-A
6205
152-HN
7
65'-PN
128-N
128-B
131
143-D
128-A
9
59
133-E
152-W
152-Y
17
15
133-"
132
26
30
6206
3
152-R
1
129-A
124
129
152-A
INV
6205
23
5
32
CCE
136
9-A
28
27
29
31
i:63
152-C
137-'
SIND
137-N
41
152-J
152-F
143-B
152-Q
41-B
41-C
44
50
143-A
44-A
138-N
45-A
51-'
141
108
32-N
152-M
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34'
152-E
22
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46-B
57
50-P
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6004
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152-B
47-'
47
6204