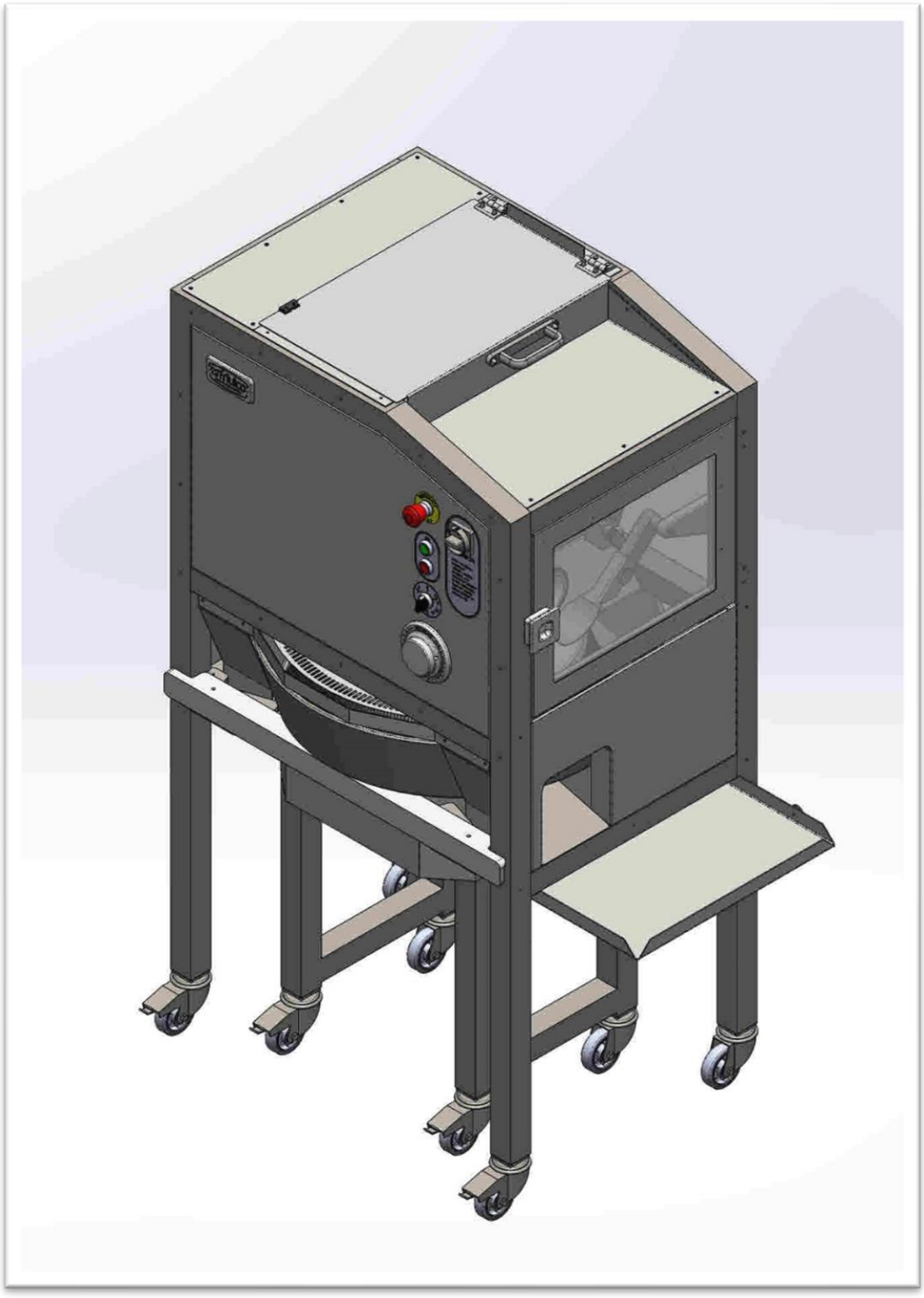
M48

DOUGH DIVIDER + ROUNDER

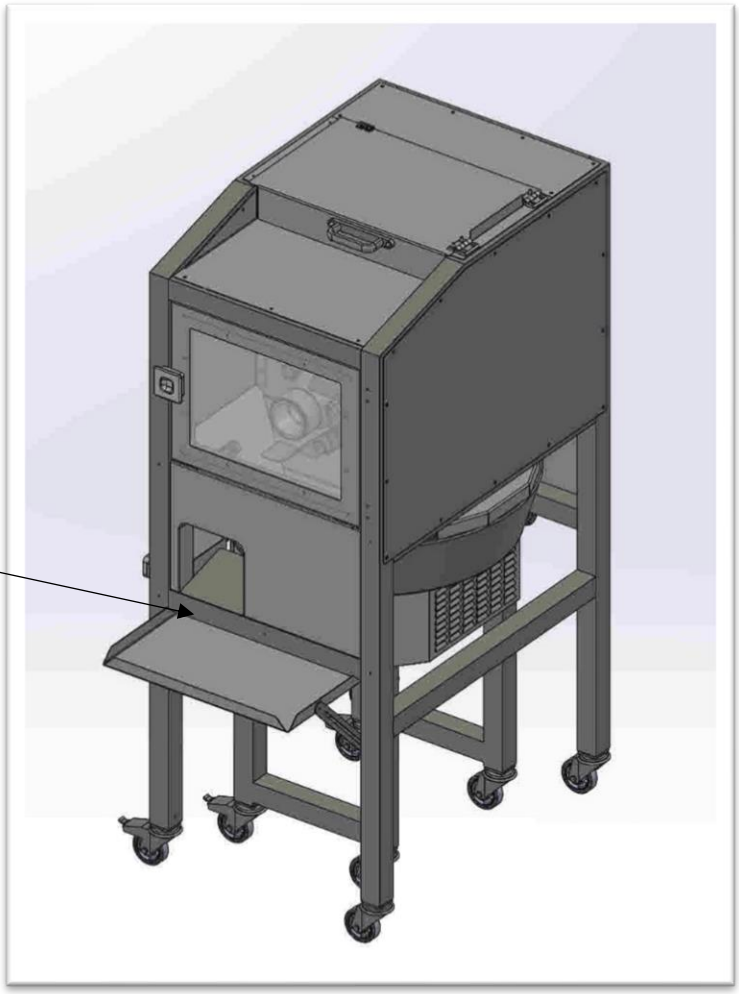


1. GENERAL INFORMATION AND SAFETY SPECIFICATIONS

The dough divider M48 + rounder has been designed and manufactured to cut and round pizza and some types of bread dough portions (at room temperature).
The dough is extruded through an auger, cut by a knife and then rounded.
This machine must be used ONLY after having carefully read this manual.
The protection covers and doors of the M48 prevent any possibilities of reaching dangerous or moving parts.

2. INDICATION OF DANGEROUS POINTS, OF RESIDUAL RISKS AND OF THE PRECAUTIONS TO BE TAKEN

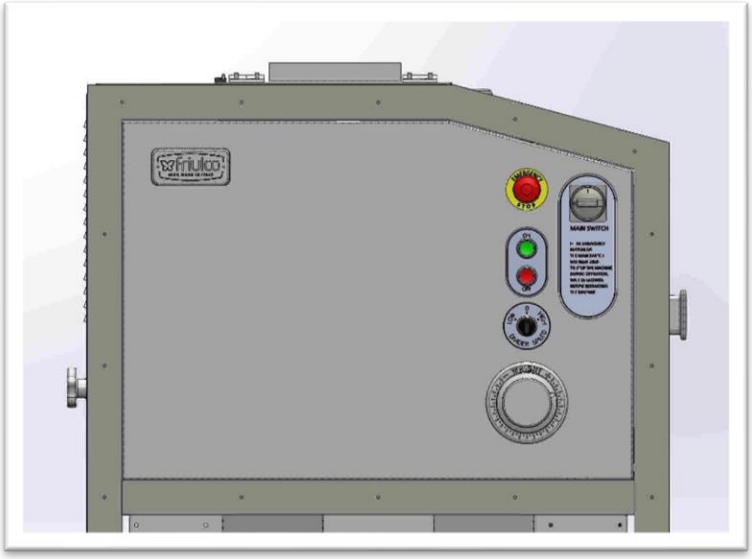
CAUTION: **through the dough exit hole you can reach a dangerous part of the machine with your hand, i.e.the knife.**
DO NOT introduce your hand in this hole.



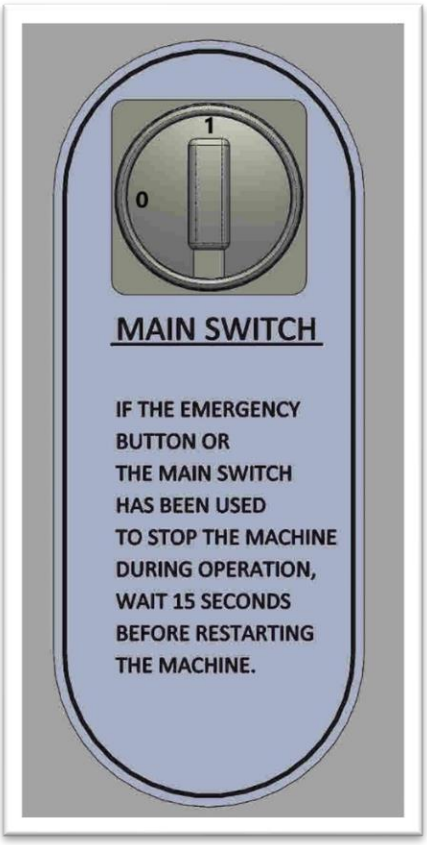
Always place the machine on an even (level) flooring.
In order to ensure a correct ventilation of the motors which are placed at the back, make sure to leave at least twenty centimetres clearance between the machine and the wall or other equipment.

3. DESCRIPTION OF THE CONTROL DEVICES AND OF THEIR FUNCTION

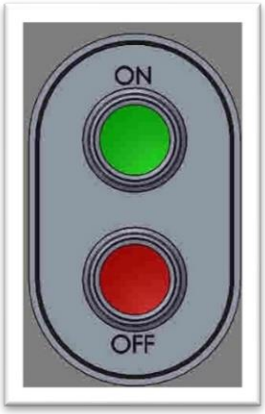
The machine has a general disconnector (Ref.57), a start push button (Ref.52), a stop push button (Ref.53), an emergency push button (Ref.51), a speed regulation knob (Ref.45) and a weight regulation knob (Ref.55).



To start the machine, turn the general disconnector to position 1.



Press on the green start push button (with flashing green light) in order to operate (with fixed green light).
To stop the machine, press on the red push button.

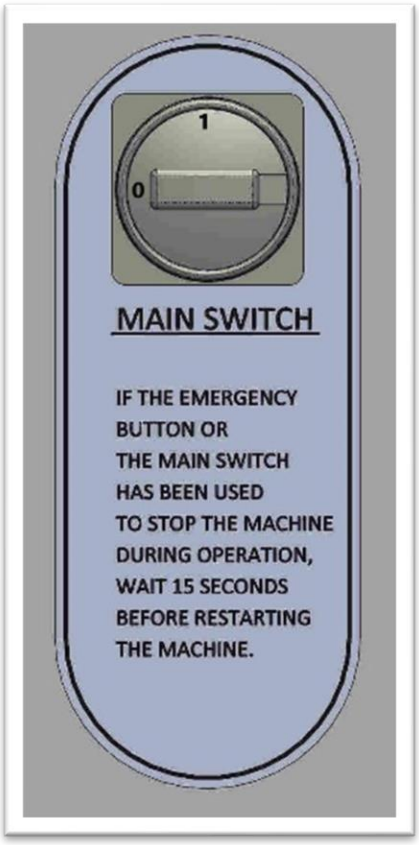


The speed regulation knob (Ref.54) has three positions: “LOW” for the minimum speed; “HIGH” for the maximum one; the “0” position stops the dough divider and it allows the dough rounder to work alone.

The weight regulation knob (Ref.55) is used to increase or decrease the portions weight but if turned beyond the minimum point (-), it can work as a “reset” device: the knife is brought back to its original position, if displaced.

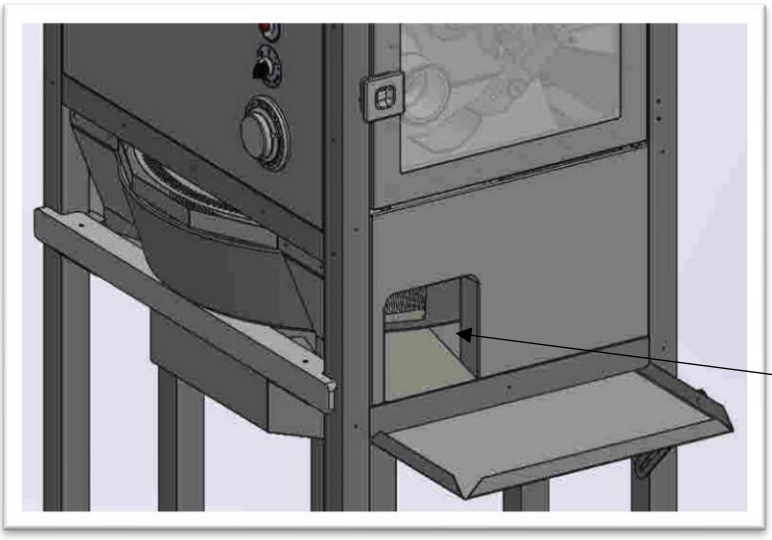
The emergency push button (Ref.51) must be used **ONLY in case of emergency**. If activated, it must be unblocked turning it clockwise.

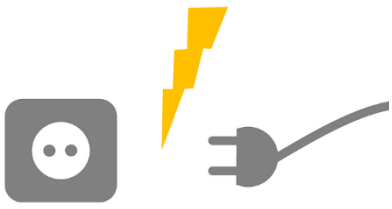
Then, turn the general disconnector to position 0 and **wait 15 seconds** before restarting the machine.



4. FORBIDDEN USES AND REASONABLY FORESEEABLE INCORRECT USES

WARNING: do not introduce into the machine frozen, half frozen dough or other products which are not foreseen in this manual.
Should there be one or more dough balls accumulated on the tray, thus blocking the dough exit hole, do not take them away while the machine is on. Turn off the machine or open the door before proceeding.
DO NOT wash the machine with water jets.





5. TRANSPORT, LIFTING AND INSTALLATION

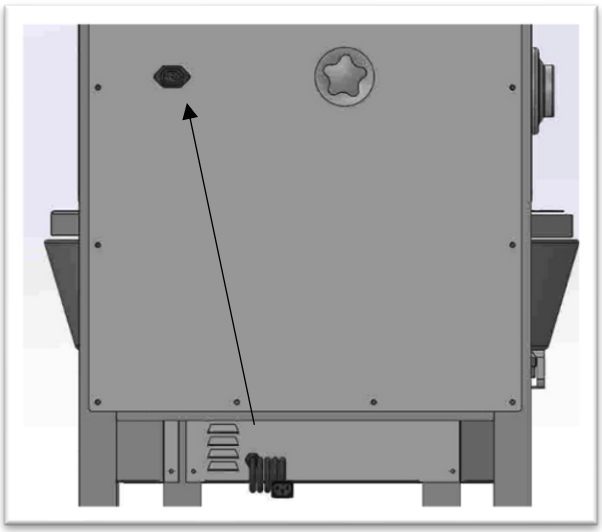
5.1. The machine is placed on a wooden pallet, fixed onto it with iron angles and plastic band.
It is then closed from above with a cardboard box without bottom and strapped to the pallet.
Each cardboard box contains a complete machine, its operating and maintenance manual with declaration of conformity.

5.2. To extract the machine out of its packing, you need to cut the straps, to lift the cardboard box up and to cut the plastic bands which block the machine to the pallet.

Two persons are necessary to take away the dough rounder (lower part of the machine) from the pallet using the two handles (Ref.28).
These two persons can then take away the upper part of the machine (dough divider) from the pallet.
They should wear gloves and get hold tightly of the machine.
Place again the dough rounder under the dough divider and plug it into the socket of the divider.

5.3. In order to ensure a correct ventilation of the motors which are placed at the back, be sure to leave at least twenty centimetres clearance between the machine and the wall or other equipment.
The machine is provided with three motors and a regulatory “Schuko” plug.

Before connecting the machine, plug the dough rounder into the socket (Ref.47) of the divider placed at the back.



Make sure that the tension and the frequency correspond to those indicated on the machine data plate and that the intake is grounded and properly protected against overloading.

N.B. The protection grade is I.P.55.

The dough rounder must be correctly coupled with the divider.

The casters with brake of both the divider and rounder MUST be blocked.

Place the machine far from any heat sources, the temperature around the machine should never be higher than 55° C.

6. CLEANING AND SANITATION

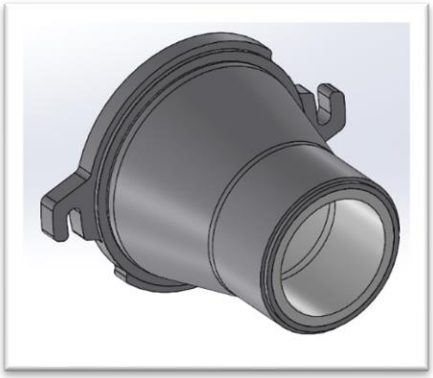
Before using the machine for the first time, wash all the parts that come into contact with food with a sponge, warm water and liquid detergent.
CAUTION: DO NOT wash the machine with water jets.

7. REGULATION

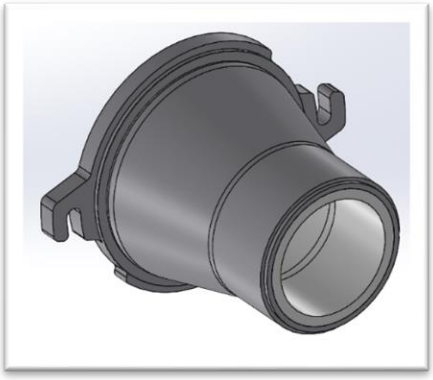
The best regulation for the M48 is done by steps since it should suit the different types of dough.

7.1. The M48 can prepare dough portions from 180 to 550 grams.

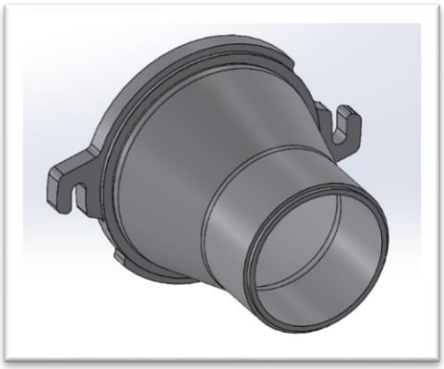
7.2. For portions from 180 to 250 grams, use the low speed and check that the reducer in white POM is duly placed inside the aluminum cone (Ref.17).



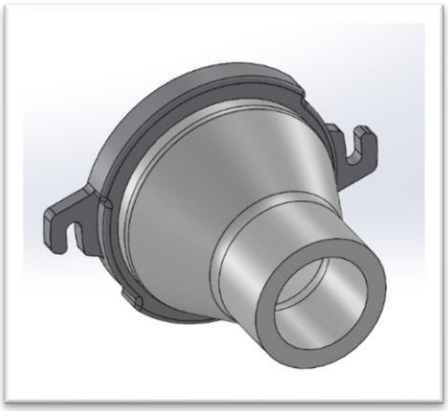
7.3. For portions from 250 to 450 grams, use the high speed and the reducer in white POM.



7.4. For portions from 450 to 550 grams, use the high speed and take away the reducer in white POM: use ONLY the aluminum cone (Ref.22).



With the ***optional cone*** (small cone in POM- Ref.23), the machine can prepare portions from 70 to 180 grams, using the low speed.



7.5. For more accuracy in the regulation of the weight, use the knob (Ref.55).

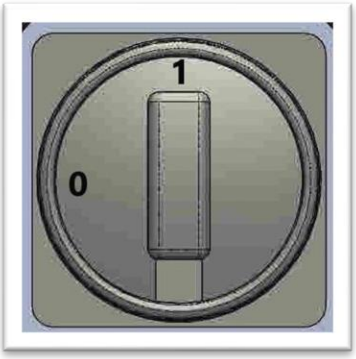
7.6. After having cut some portions, stop the dough divider turning the speed regulation knob to "0" (Ref.54).

7.7. Weigh the first dough balls, if they are smaller than foreseen, turn the knob "Weight" towards +, if they are bigger, turn the knob towards -.

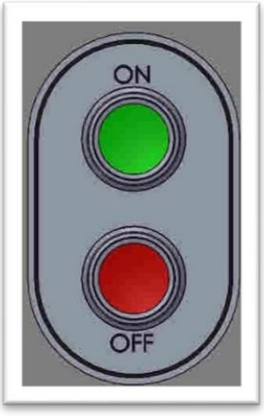
7.8. Repeat this operation until you get the required weight.

8. USE

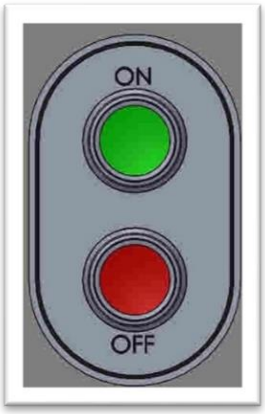
8.1. Prepare the dough with a normal spiral mixer.
8.2. The mixing time should be 5 – 10% less than for a manual dough portioning and rounding.
8.3. IMMEDIATELY place the dough just prepared into the divider hopper without adding flour or oil.
8.4. Begin at once the cutting and rounding operation of the dough without stopping the machine until the dough hopper is empty. DO NOT leave part of the dough inside of the hopper.
The above suggestions are to prevent the rising process of the dough.
8.5. To start the machine, turn the general disconnector to position 1.



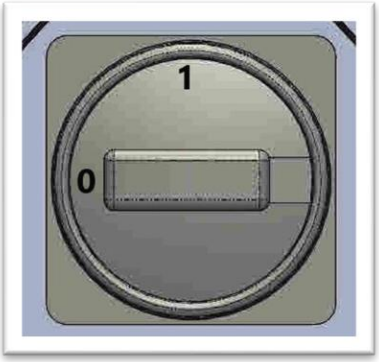
8.6. Press on the green push button (with flashing green light) in order to operate (with fixed green light).



8.7. Take the portions from the tray and place them into their proving drawers.
8.8. Stop the machine pressing on the red push button.



8.9. To disconnect the machine, turn the general disconnector to position 0.

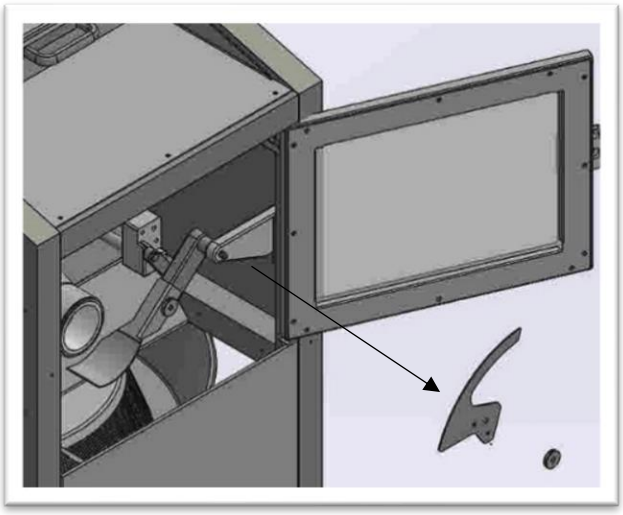


9. DISASSEMBLY AND CLEANING

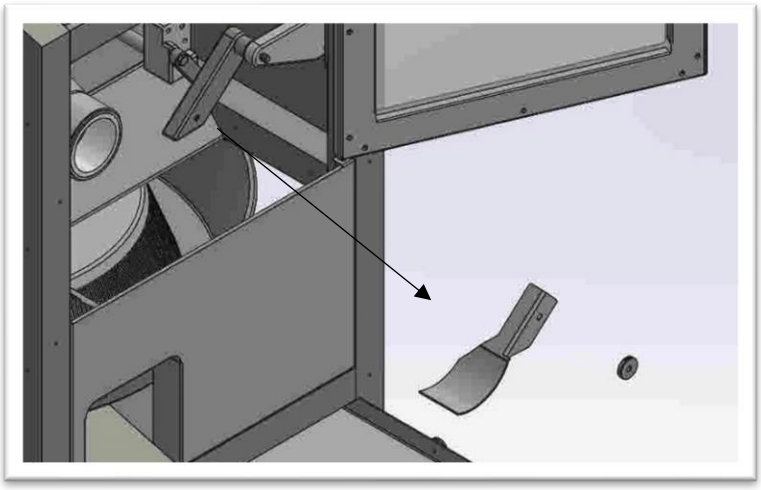
DOUGH DIVIDER

WARNING: before opening any part of the machine, switch the machine off and pull the plug. Before opening or disassembling any part of the machine, be sure that the motors are off.

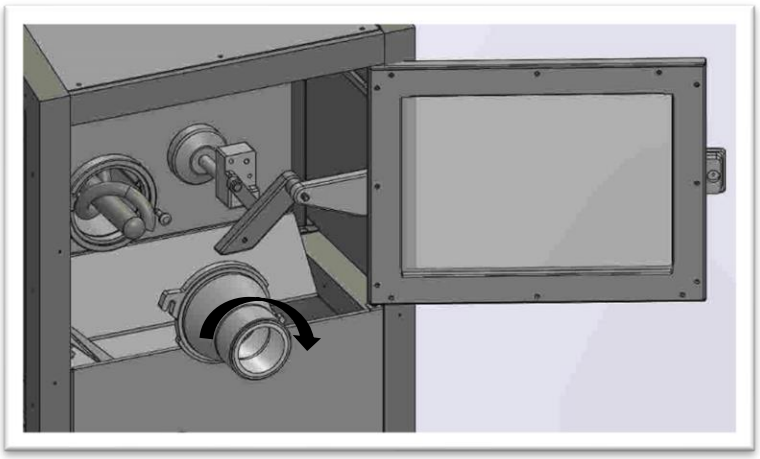
9.1. Open the front door (Ref.2).
9.2. Unscrew the knob (Ref.4) and take away the knife (Ref.11).



9.3. Unscrew the knob (Ref.4) and take away the dough support (Ref.6).

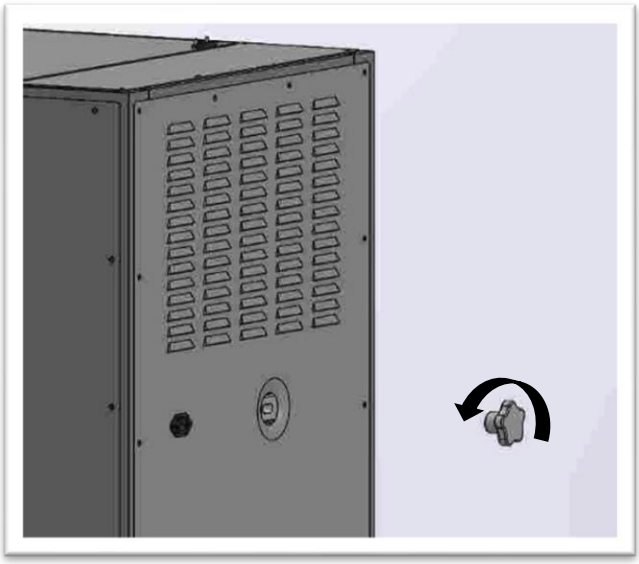


9.4. Loosen the knob (Ref.16) in order to free the cone (Ref.17), turning it slightly(clockwise) and take it out of its place.

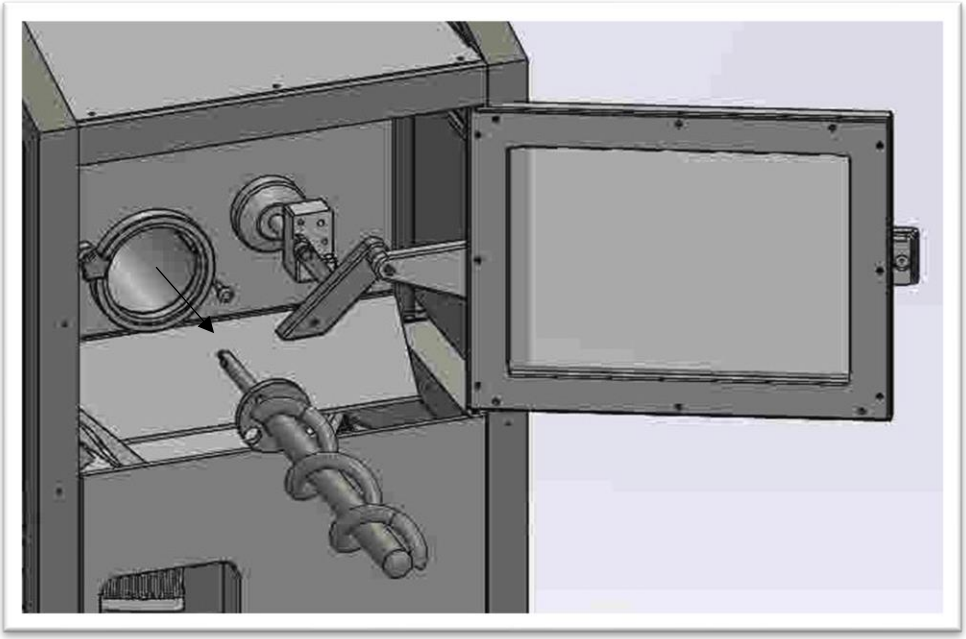


9.5. Clean the sensor (Ref.45) with a soft cloth.

9.6. Unscrew the knob (Ref.48) placed at the back of the machine.



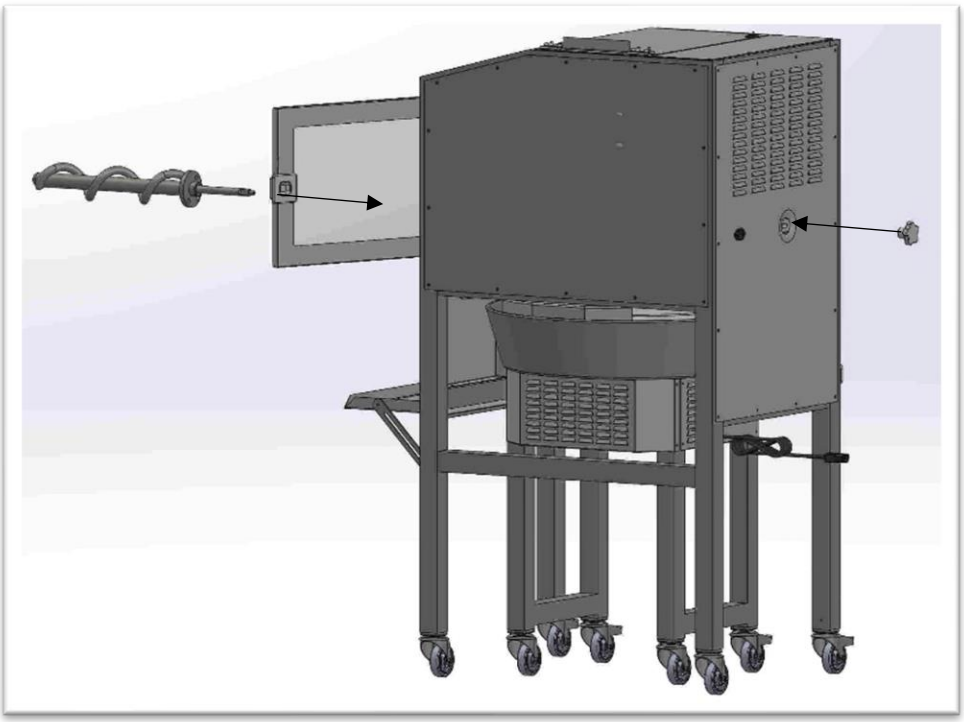
9.7. Take out the oval section bar and the auger (Ref.19).



9.8. Clean everything and before reassembling, remove possible dough remains from the interlocking areas.

9.9. Reposition the central bar inside the auger (Ref.19) which must fit at the two pins of the flanged shaft support (Ref.42).

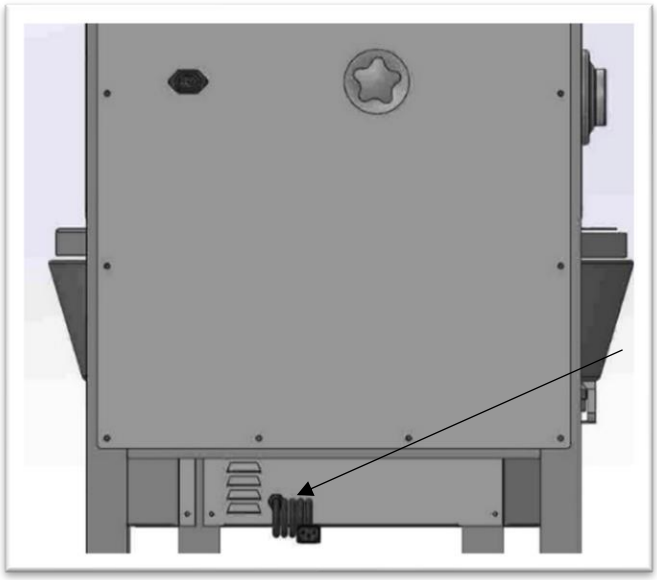
9.10. Make sure that the central bar is correctly fitted in the groove of the reducer bridge (Ref.41) and fix everything with the black knob (Ref.48).

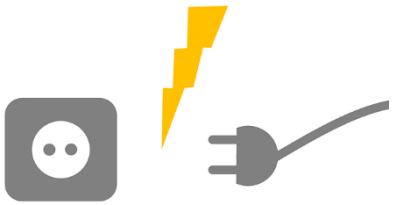


9.11. Clean and remove all possible remains of dough and/or flour from the dough hopper.

DOUGH ROUNDER

9.12. Pull the plug (Ref.29).

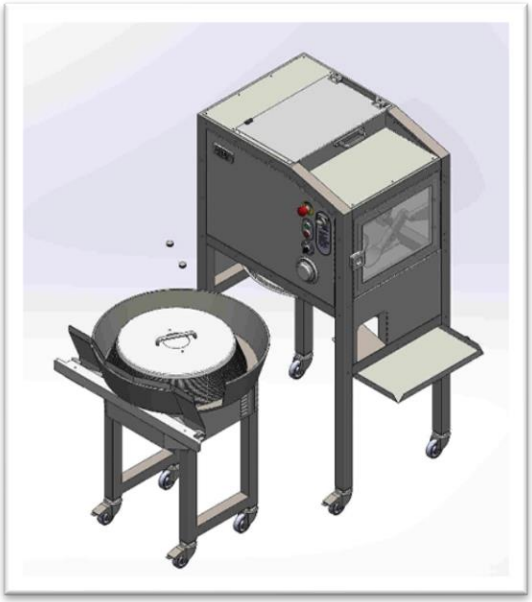




9.13. Grip the two levers (Ref.28) on the bar and pull out the dough rounder towards the operator in order to take out the central cone (Ref.3).

9.14. Unscrew the two knobs (Ref.1) and take out the central cone (Ref.3) by its handle (Ref.2).

WARNING: this part is very heavy.



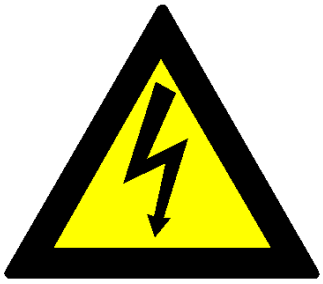
9.15. The central cone (Ref.3) and the base (Ref.14) may be cleaned with a damp cloth with water and food sanitizer.

9.16. The reassembly is in reverse of the disassembly.

Always remember to try the machine without dough after each cleaning.

As far as the cleaning of the housing is concerned, a daily dry cleaning of all dough and flour remains is sufficient. We remind you that the housing of the machine should NEVER be washed with sodium hypochlorite-based solutions or with abrasive detergents since these could damage the external parts of the machine.

WARNING: do not wash the machine with water jets for safe working.



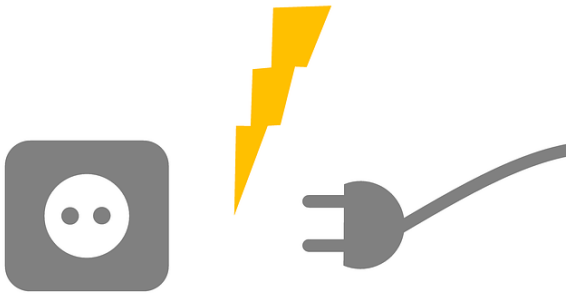
10. REGULAR MAINTENANCE

The machine does not need any peculiar lubrications and maintenance.
Regularly check the good state of the mains cable.
Turning the weight regulation knob beyond the minimum point (beyond the sign -), the knife (Ref.11) and the dough support (Ref.6) go back to their original position.

11. REPAIR

For repairs, controls or replacement of damaged parts, we suggest you to apply directly to the manufacturer or to replace the damaged parts with equivalent materials, especially as far as safety is concerned:
- power cord with plug (2 phases + ground)
- switch (push button)

Before any mechanical or electrical maintenance, it is compulsory to switch the machine off and to pull the plug.



WARNING: the repairs are to be carried out by qualified people.
Regularly check that the emergency push button is correctly working and check the good conditions of the power cord and plug.

12. LOUDNESS

The pondered equivalent continuous level of acoustic pressure A produced by the machine while operating under load is under 70 decibels(A) and that the maximum pondered instantaneous value of acoustic pressure C is under 130 decibels.

13. ESSENTIAL REQUIREMENTS

All our machines have been designed and manufactured strictly in compliance with the current national and international norms, more particularly:
UNI EN ISO 7010: 2015.
UNI EN ISO 12100: 2010.
UNI EN ISO 13849-1: 2016.
UNI EN ISO 13857: 2008 + EC1: 2010.
UNI EN ISO 14119: 2013.
UNI EN ISO 14120: 2015.
CEI EN 60204-1: 2006 + EC1: 2010.
UNI EN 1672-2: 2009.

Once assembled and before being packed, all our machines undergo a checking test to control:
Earth continuity
Dielectrical rigidity
Insulation
Starting of the machine empty, recording: the absorbed power, the applied tension, absorbed Ampères.

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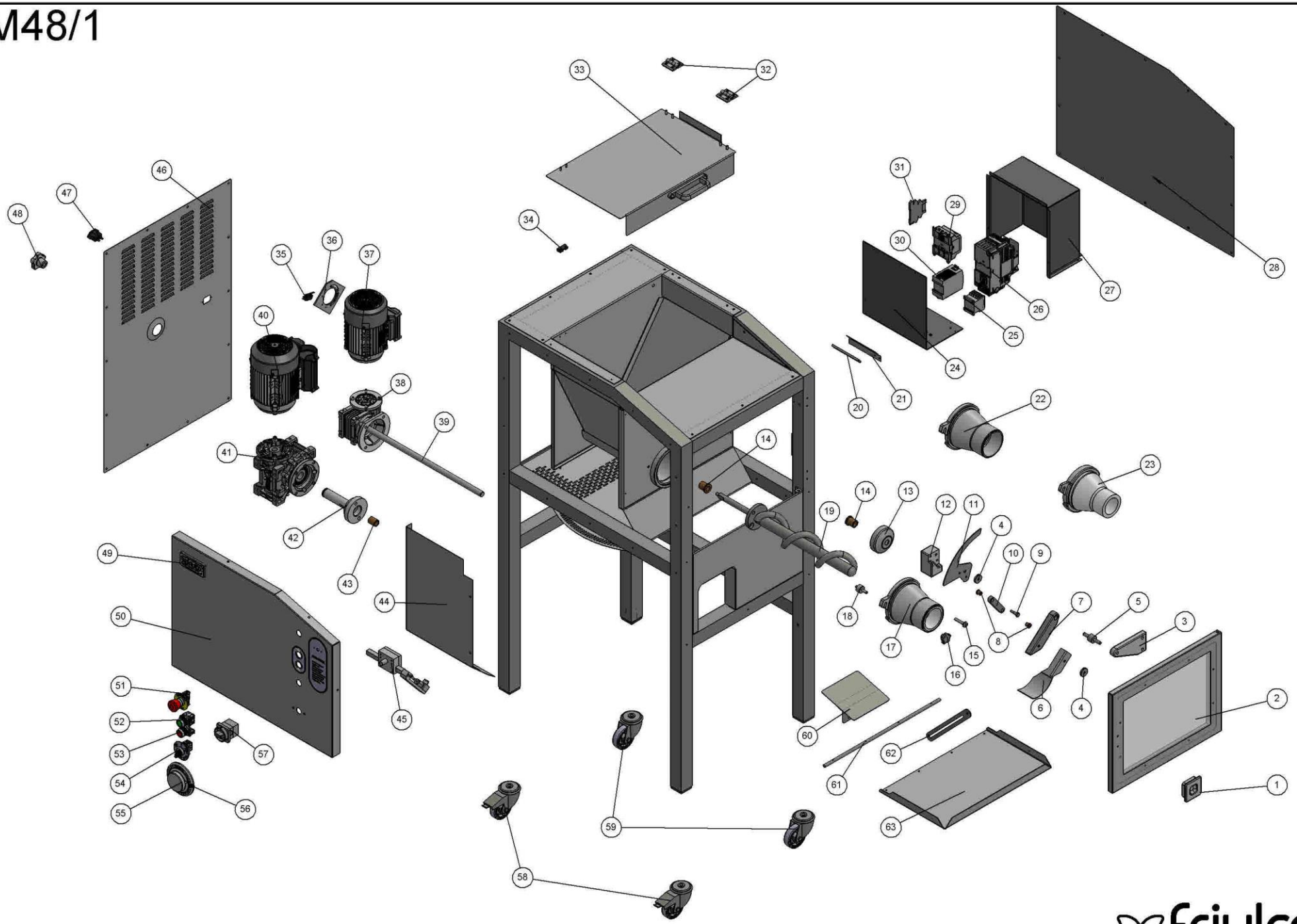

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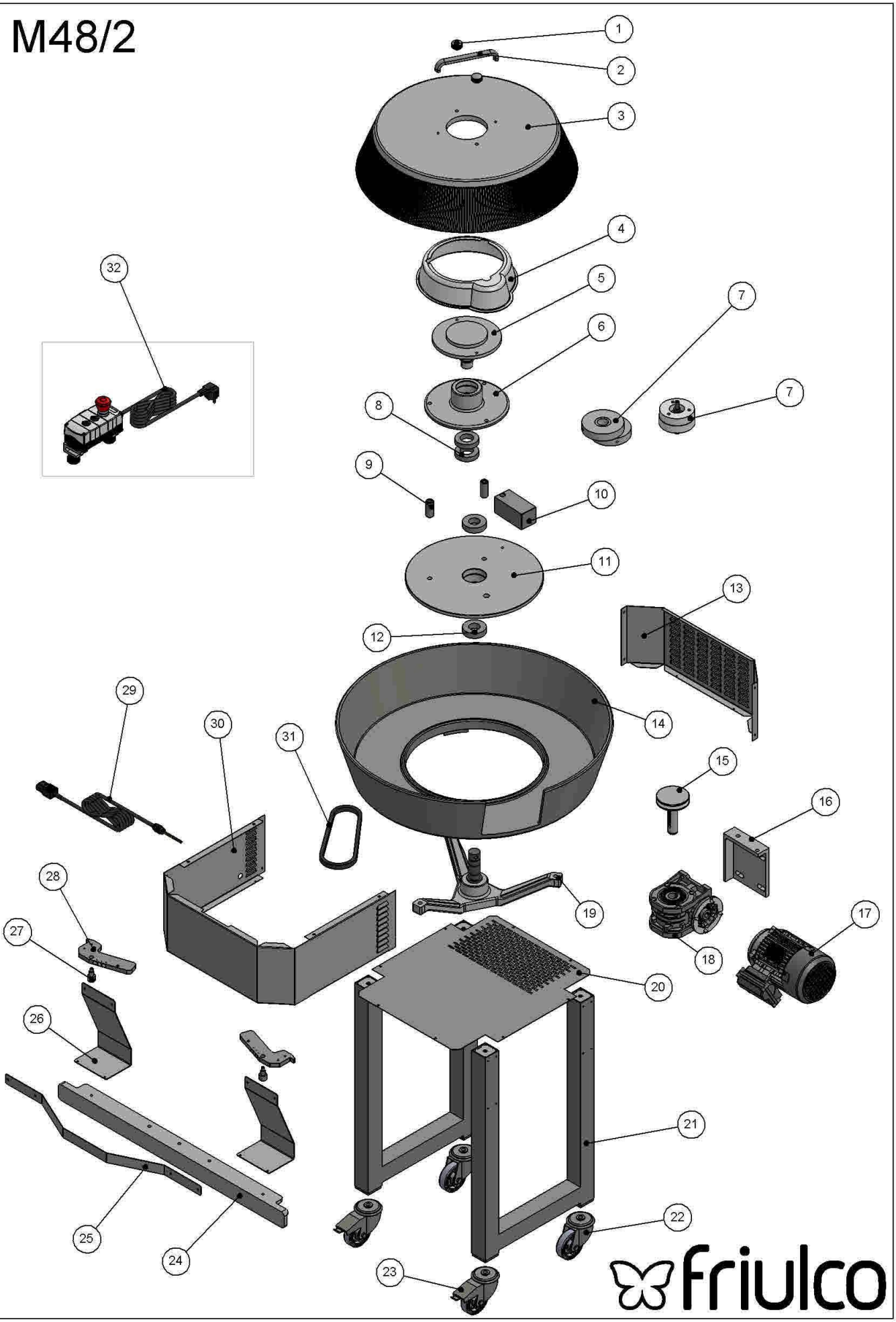
REFERENCE	CODE	DESCRIPTION	QUANTITY
1	A.602.409.2	DOOR HANDLE	1
2	A.200.013.0	DOOR ASSEMBLY	1
3	A.602.203.0	DOUGH SUPPORT BLOCK SUPPORT	1
4	X.802.0198	S/S KNOB	2
5	A.602.204.0	DOUGH SUPPORT BLOCK SHAFT	1
6	A.600.214.0	DOUGH SUPPORT	1
7	A.602.205.0	DOUGH SUPPORT BLOCK	1
8	X.802.1122	FLANGED BRONZE BUSHING	2
9	A.602.207.0	CONNECTING ROD PIN	1
10	A.602.206.0	CONNECTING ROD	1
11	A.602.208.0	KNIFE	1
12	A.602.201.0	KNIFE SUPPORT BLOCK	1
13	A.602.202.0	REDUCER PIN SUPPORT	1
14	X.802.0046	MIXER FLANGED BRONZE BUSHING	2
15	A.602.125.0	PIN	1
16	S.602.115.0	KNOB	1
17	A.602.228.0	CONE WITH REDUCER	1
18	A.602.026.0	BLOCKING SPACER	1
19	A.200.003.0	AUGER ASSEMBLY	1
20	X.803.0150	REFLECTOR	1
21	A.600.213.0	REFLECTOR SUPPORT	1
22	A.200.009.0	BIG CONE	1
23	A.200.010.0	SMALL CONE	1
24	C.600.153.0	ELECTRIC SYSTEM SUPPORT	1
25	X.803.0050	MINICONTACTOR	1
25B	X.803.0172	CONTACTOR	1
26	X.803.0160	INVERTER 230 V 50 HZ	1
26B	X.803.0161	INVERTER 115 V 50 HZ	1
27	C.600.154.0	ELECTRIC SYSTEM COVER	1
28	A.600.202.0	RIGHT PANEL	1
29	X.803.0182	PLC TRANSISTOR 2080-LC10-12QBB	1
30	X.803.0168	FEEDER 24V	1
31	X.803.0179	RELAY 700 HLT 12U24	2
32	X.802.0224	HINGE	2
33	A.600.209.0	HOPPER COVER	1
34	X.803.0116	MAGNET	1
35	X.803.0020	MICROSWITCH	1
36	A.602.118.0	MICRO SUPPORT CLAMP	1
37	R.005.001.0	KNIFE MOTOR 230V 50HZ	1
37B	A.005.004.0	KNIFE MOTOR 115V 60HZ	

38	X.802.0211	GEARBOX	1
39	A.602.200.0	KNIFE GEARBOX SHAFT	1
40	P.005.003.1	MOTOR 230V 50HZ	1
40B	C.005.001.0	MOTOR 115V 60HZ	1
41	A.200.000.0	GEARBOX ASSEMBLY	1
42	P.686.002.1	FLANGED SHAFT	1
43	X.802.0047	BRONZE BUSHING	1
44	A.600.207.1	INTERNAL PANEL	1
45	A.206.027.0	REGULATION ASSEMBLY	1
46	A.600.208.0	REAR PANEL	1
47	X.803.0124	IEC SOCKET	1
48	A.602.412.0	KNOB	1
49	A.500.002.0	FRIULCO METALLIC PLATE	1
50	A.600.201.2	LEFT PANEL	1
51	X.900.0001	EMERGENCY PUSH BUTTON	1
52	X.900.0003	GREEN/ON PUSH BUTTON	1
53	X.900.0004	RED/OFF PUSH BUTTON	1
54	X.900.0005	SELECTOR	1
55	A.602.407.0	WEIGHT REGULATION KNOB	1
56	A.602.406.0	GRADUATED RING	1
57	X.900.0007	GENERAL DISCONNECTOR	1
58	X.802.0183	CASTER WITH BRAKE	2
59	X.802.0182	CASTER	2
60	B.602.107.0	CHUTE	1
61	A.602.217.0	PERNO TRAY	1
62	A.600.212.1	TRAY SUPPORT ROD	1
63	A.600.210.1	TRAY	1

M48/2



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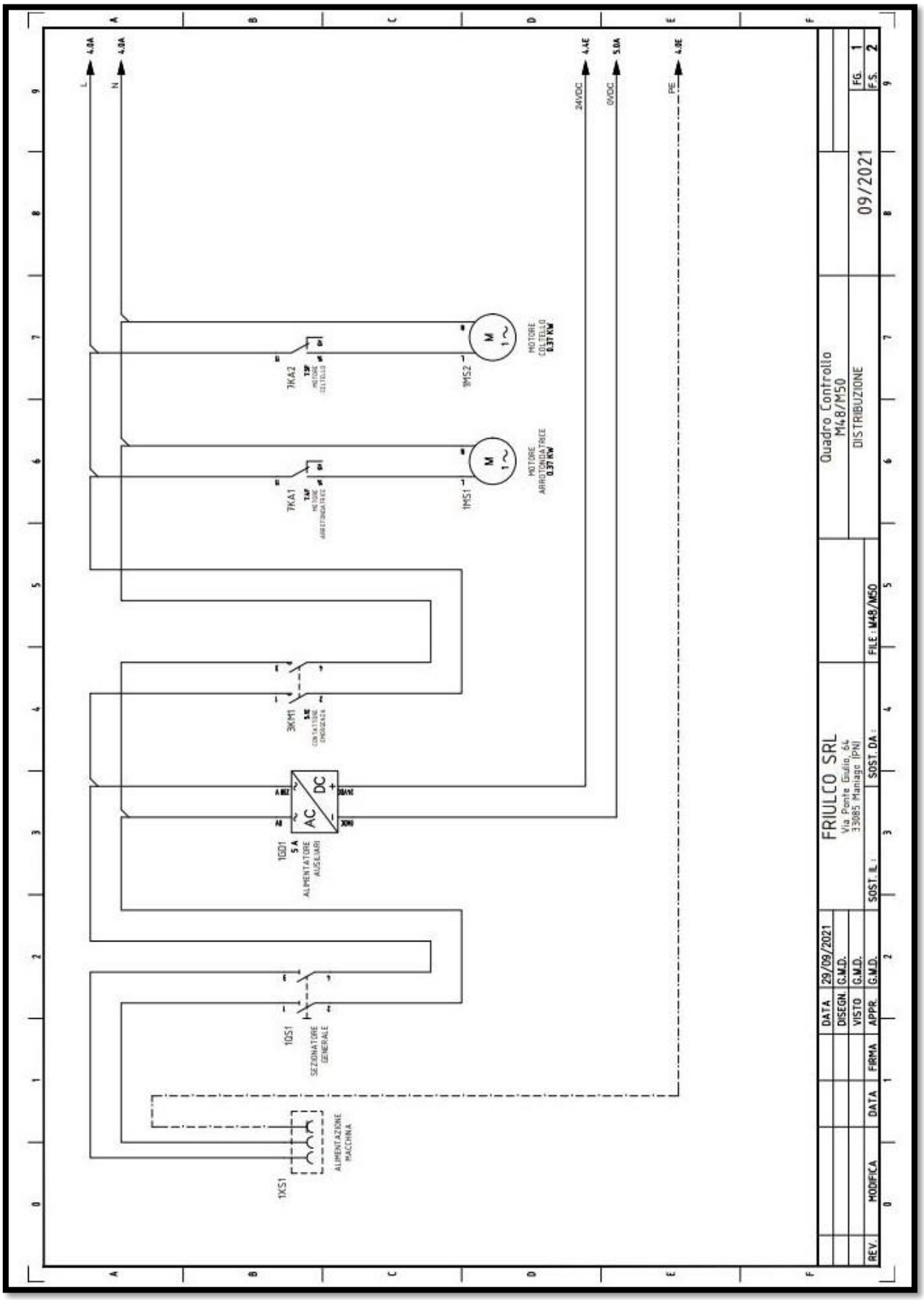
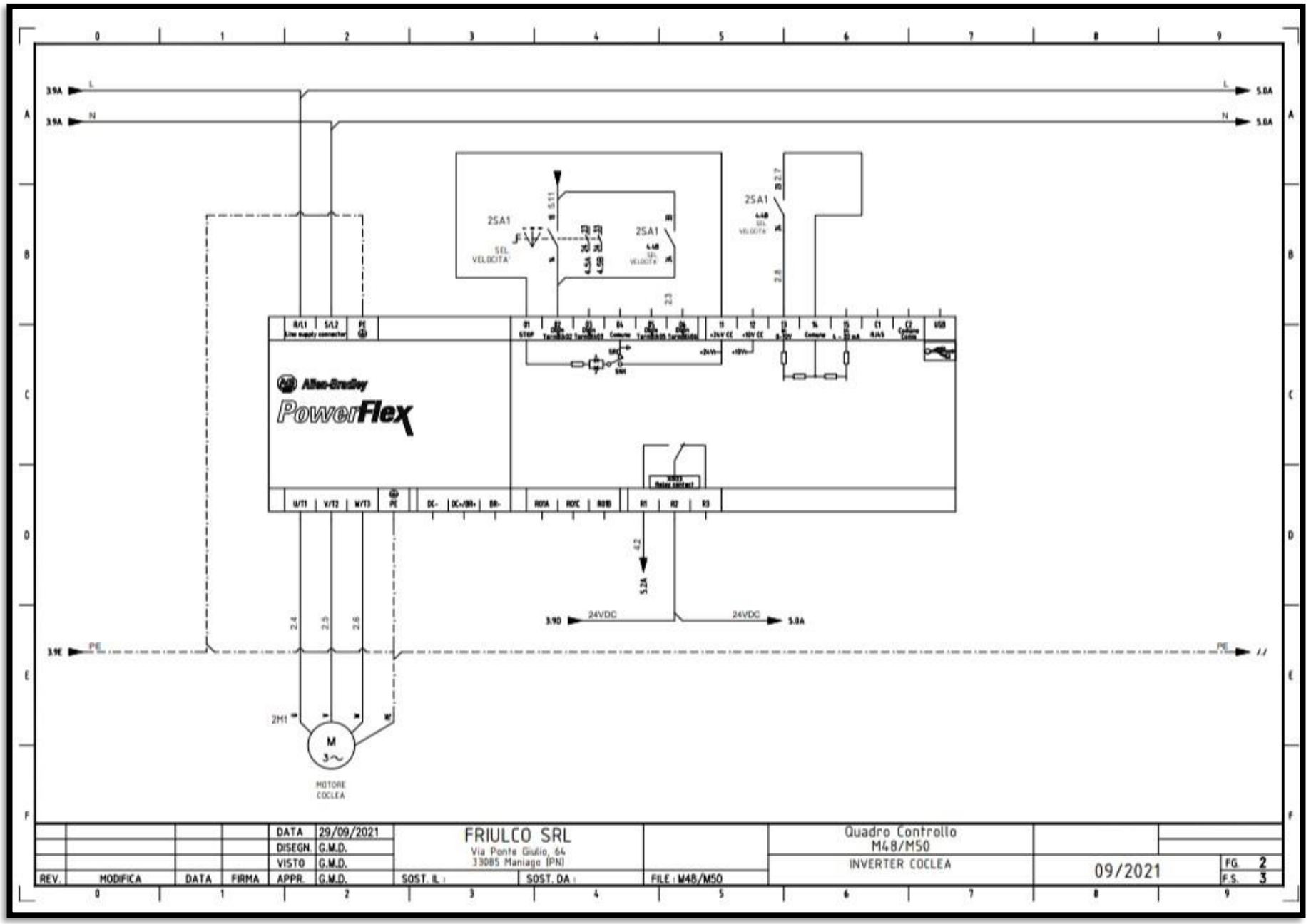
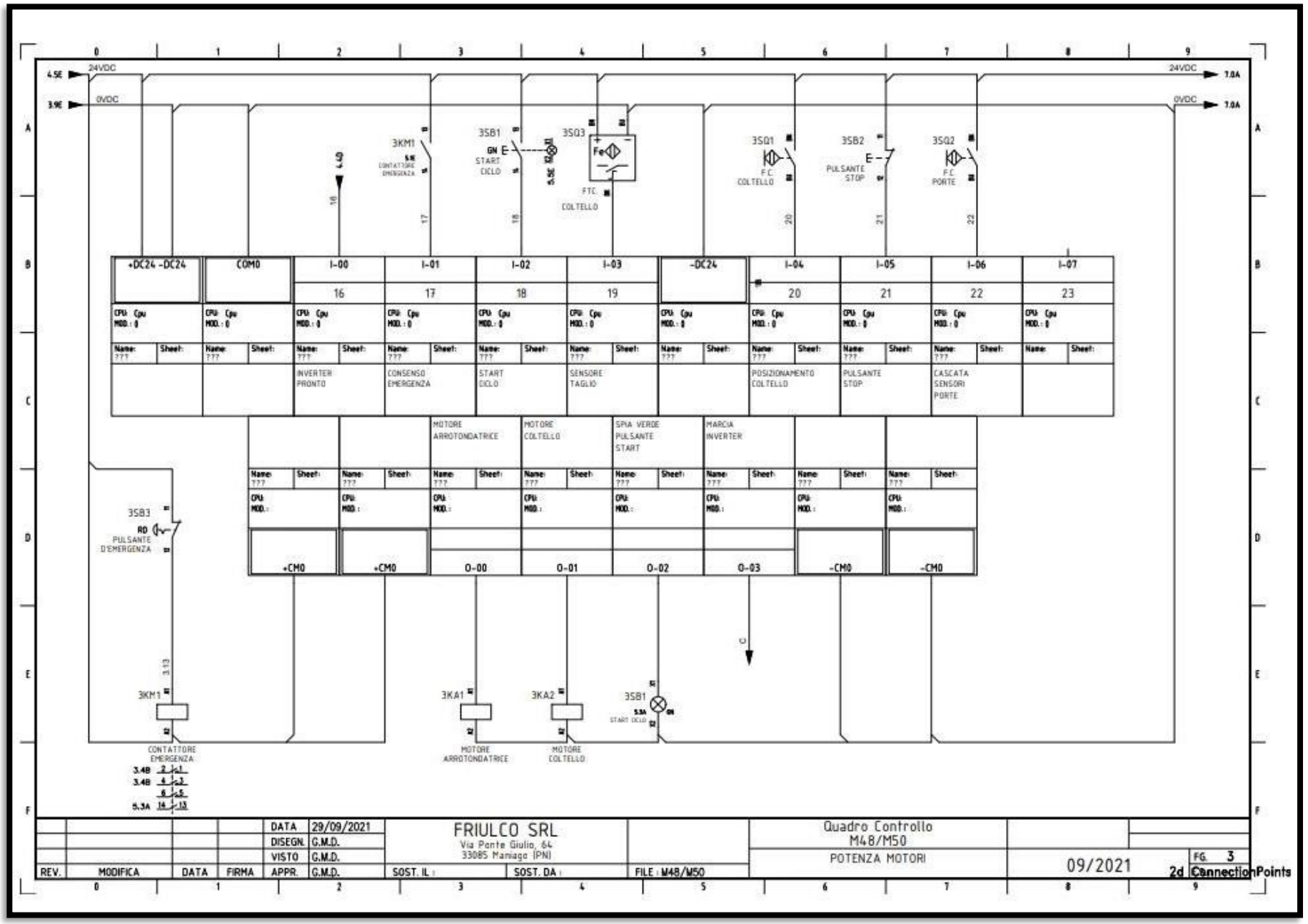
REFERENCE	CODE	DESCRIPTION	QUANTITY
1	X.802.0225	S/S KNOB	2
2	R.601.010.0	CONE HANDLE	1
3	R.681.004.0	CENTRAL CONE	1
4	R.900.001.0	GEARS PROTECTION	1
5	R.606.012.0	CONE DRIVE FLANGE	1
6	R.606.013.0	COUNTERFLANGE	1
7	R.200.003.0	GEARS ASSEMBLY	1
8	X.801.0010	BEARING	2
9	R.606.009.0	FLANGE SPACER	2
10	R.600.006.0	COUNTERWEIGHT	1
11	R.606.003.0	DRIVING FLANGE	1
12	X.801.0008	BEARING	2
13	R.600.011.0	REAR PANEL	1
14	R.681.003.0	LARGE CIRCULAR BASE	1
15	R.606.001.1	PULLEY	1
16	R.606.000.3	GEARBOX SUPPORT CLAMP	1
17	M.005.006.0	MOTOR 230 V 50 HZ	1
17 B	R.005.001.0	MOTOR 115 V 60 HZ	1
18	X.802.0171	GEARBOX	1
19	R.601.000.0 + R.606.002.0	SUPPORT SPOKE	1
20	R.600.012.0	PROTECTION BOTTOM	1
21	R.650.010.0	LEG	2
22	X.802.0182	CASTER	2
23	X.802.0183	CASTER WITH BRAKE	2
24	R.606.020.1	BLOCKING ROD	1
25	R.606.027.0	FRONT PROTECTION	1
26	R.606.021.2	GUARD	2
27	R.606.026.0	PIN	2
28	R.606.025.0	HANDLE	2
29	X.803.0171	CABLE WITH PLUG	1
30	R.600.010.0	FRONT PANEL	1
31	X.802.0006	BELT	1
32	R.200.002.0	REMOTE SWITCH POWER CORD	

WIRING DIAGRAM




L
N
PE
2SA1
SEL. VELOCITA'
Allen-Bradley
PowerFlex
24VDC
2M1
M
3~
MOTORE COCLEA
FRIULCO SRL
Via Ponte Giulio, 64
33085 Maniago (PN)
Quadro Controllo
M48/M50
INVERTER COCLEA
09/2021
DATA 29/09/2021
DISEGN. G.M.D.
VISTO G.M.D.
APPR. G.M.D.
FILE : M48/M50
FG. 2
F.S. 3


24VDC
0VDC
3KM1
CONTATTORE EMERGENZA
3SB1
START CICLO
3SQ3
FTC. COLTELLO
3SQ1
F.C. COLTELLO
3SB2
PULSANTE STOP
3SQ2
F.C. PORTE
+DC24 -DC24
COM0
I-00
I-01
I-02
I-03
-DC24
I-04
I-05
I-06
I-07
INVERTER PRONTO
CONSENSO EMERGENZA
START CICLO
SENSORE TAGLIO
POSIZIONAMENTO COLTELLO
PULSANTE STOP
CASCATA SENSORI PORTE
MOTORE ARROTONDATRICE
MOTORE COLTELLO
SPIA VERDE PULSANTE START
MARCIA INVERTER
3SB3
PULSANTE D'EMERGENZA
+CM0
+CM0
O-00
O-01
O-02
O-03
-CM0
-CM0
3KA1
3KA2
MOTORE ARROTONDATRICE
MOTORE COLTELLO
CONTATTORE EMERGENZA
FRIULCO SRL
Via Ponte Giulio, 64
33085 Maniago (PN)
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DISEGN. G.M.D.
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FILE : M48/M50
Quadro Controllo
M48/M50
POTENZA MOTORI
09/2021
FG. 3
2d ConnectionPoints