

04/2019

Mod: NT22AL/T2V

Production code: P01IR04013

SPIRAL MIXER



EN Instruction, use and maintenance manual
(Translation of the original instructions)



INDEX

1 INTRODUCTION	23
2 SAFETY WARNINGS	23
Safety warnings for the installer	23
Safety warnings for the user	23
Safety warnings for the maintenance operator	23
Residual risks	24
3 MAIN SPECIFICATIONS	26
Technical data	26
Wiring diagrams	27
4 INSTALLATION	32
Discharging and handling the spiral mixer	32
Assembling the wheels	32
Positioning of the mixer	32
Electrical connection	33
Earthing	33
5 CONTROLS	33
6 METHOD OF USE	33
Functional tests	33
Starting the mixer	33
Mixing phase	34
Safety Devices	34
Shutting down the mixer	35
7 MAINTENANCE AND CHECKS	35
Safety precautions	35
Routine maintenance and cleaning in charge of the user	35
Extraordinary maintenance in charge of specialised technicians	35
How to order spare parts	37
8 TROUBLESHOOTING	37
9 INFORMATION ON DISMANTLING AND DISPOSAL	37

1 INTRODUCTION

Dear customer, we would like to start by saying thank you and congratulate you for having purchased our product. To make sure you are using your new spiral mixer at its best performances level, please follow closely the indications in this manual.

The mixers subject of this manual have been designed exclusively to meet the needs of pizza dough and similar products production.

The destination of use described above and the configurations envisaged for this equipment are the only ones permitted by the Manufacturer: do not use the equipment other than according to the instructions provided.

The installation has to be performed by qualified personnel only, able to ensure the highest operation and safety conditions.

2 SAFETY WARNINGS

Safety warnings for the installer

Check that the prearrangements necessary for the installation of the mixer comply with the local, national and European regulations

- Follow the prescriptions contained in this manual.
- Do not carry out loose electrical connections with temporary or not insulated cables.
- Check to make sure the earthing of the electrical system is efficient.
- Always use personal protection equipment and the other means of protection required by the legislation.

Safety warnings for the user

The environmental conditions of the mixer installation place must have the following characteristics:

- It has to be dry;
- The water and heat sources have to be positioned at a suitable distance;
- Ventilation and adequate lighting system compliant to the rules of hygiene and safety foreseen by the laws in force;
- The floor must be flat and compact to ease thorough cleaning;
- No obstacles of any kind that could affect the normal ventilation of the mixer must be located near it.

In addition, the user must:

- Prevent the access of children close to the mixer when it is running;
- Observe the prescriptions contained in this manual;
- Not remove or tamper with the safety devices of the mixer;
- Always use caution, meaning monitoring the process and do not use the mixer when distracted;
- Follow the instructions and warnings highlighted by the plates applied on the mixer.
The plates are accident-preventing devices, therefore they must always be perfectly legible. If damaged and unreadable, it is mandatory to replace them, requesting the original spare to the manufacturer.
- Disconnect the mixer from the power supply after each use and prior to any cleaning and maintenance operation.

Safety warnings for the maintenance operator

Follow the prescriptions referred to in this manual:

- Always use the personal protection equipment and the other means of protection.
- In case even one of the safety devices is incorrectly adjusted or not working, the mixer is to be considered faulty.
- Remove the power supply prior to working on electrical, electronic parts and on connectors.

Residual risks

SPIRAL MIXER RESIDUAL RISKS

The machine highlights the risks that were not fully eliminated during the design phase or when the suitable safety devices were installed.

In order for the customer to be fully informed of the machine's residual risks, those that are ever-present have been listed below: these actions are considered incorrect and are therefore strictly prohibited.

RESIDUAL RISK	HAZARDOUS SITUATION	WARNING	PPE
Description	Description	Description	Image
Noise	A sound power of less than or equal to 70 dB, produced when the machine is in operation.	If the environment is particularly noisy, wear appropriate protective equipment to protect your hearing (headphones).	
Slipping or falling	The operator may slip if the floor is wet or dirty.	Use the appropriate anti-slip personal protective equipment when using the appliance.	
		Keep the area in front of the oven clean.	
Crushing	The staff can crush their fingers or hand in moving parts.	Maintenance must only be carried out by qualified personnel wearing personal protective equipment (gloves).	
Cuts	Cutting injuries can occur when coming into contact with the machine frame's internal components during maintenance work.	Maintenance must only be carried out by qualified personnel wearing personal protective equipment (cut-resistant gloves and clothing that covers the forearms).	
Tipping loads	Moving the appliance or part of it without suitable equipment.	Use suitable lifting systems or accessories when handling the appliance or its packaging. (See chapter 4: INSTALLATION)	
Electric shocks (Electrocution)	Coming into contact with live electrical components during maintenance work that is carried out when the electric panel is live. The operator carries out the work (with an electric tool or without disconnecting the machine's power supply) whilst laying on a wet floor.	Appliance maintenance must only be carried out by qualified personnel wearing electric shock-resistant personal protective equipment.	
	Electrocution caused by the earthing system or electrical protective devices malfunctioning.	Install protective devices that conform with the current regulatory requirements, upstream of the appliance.	
Chemical	During the dry ingredient loading operations, airborne dust may be produced.	Minimise the loading height in the bowl. Use protective equipment to protect the respiratory tract and eyes (mask and glasses).	
Hygienic and microbiological	Caused by the machine and its installation site being inadequately cleaned.	Poor hygiene can pose a risk to human health. Pay special attention to the cleaning cycles.	
Improper use	Fixed guards or safety devices being removed.	Under no circumstances should the operator remove the fixed guards (panels) or safety devices (bowl grid, micro grid and bowl sensor).	

PERSONAL PROTECTIVE EQUIPMENT FOR FLAME OVENS

A summary table of the Personal Protective Equipment (PPE) to be used during the various phases of the appliance's service life, is provided below.

Phase	Protective clothing	Safety footwear	Gloves	Glasses	Hearing protectors	Mask	Hard hat or safety helmet
							
Transportation	X	X	X				
Handling	X	X	X				
Unpacking	X	X	X				
Assembly	X	X	X				
Normal use							
Adjustments		X	X	X			
Routine cleaning		X	X	X			
Non-routine cleaning		X	X	X		X	
Maintenance	X	X	X	X			
Disassembly	X	X	X	X		X	
Dismantling	X	X	X	X		X	

3 MAIN SPECIFICATIONS

General features

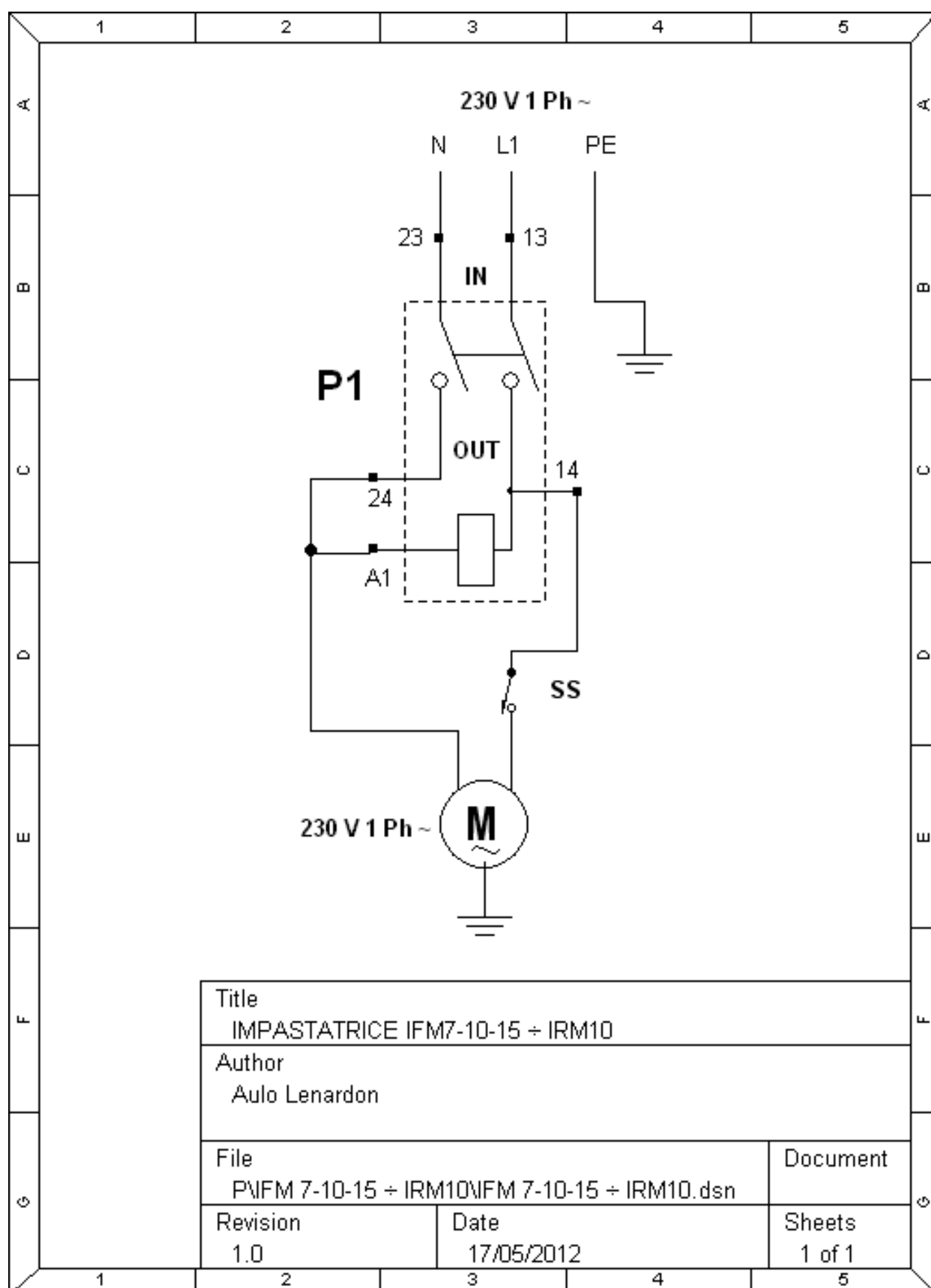
1. Front control panel;
2. Safety grid;
3. Bowl;
4. Front swivelling wheels with brake;
5. Rear swivelling wheels with brake;
6. Technical data plate.

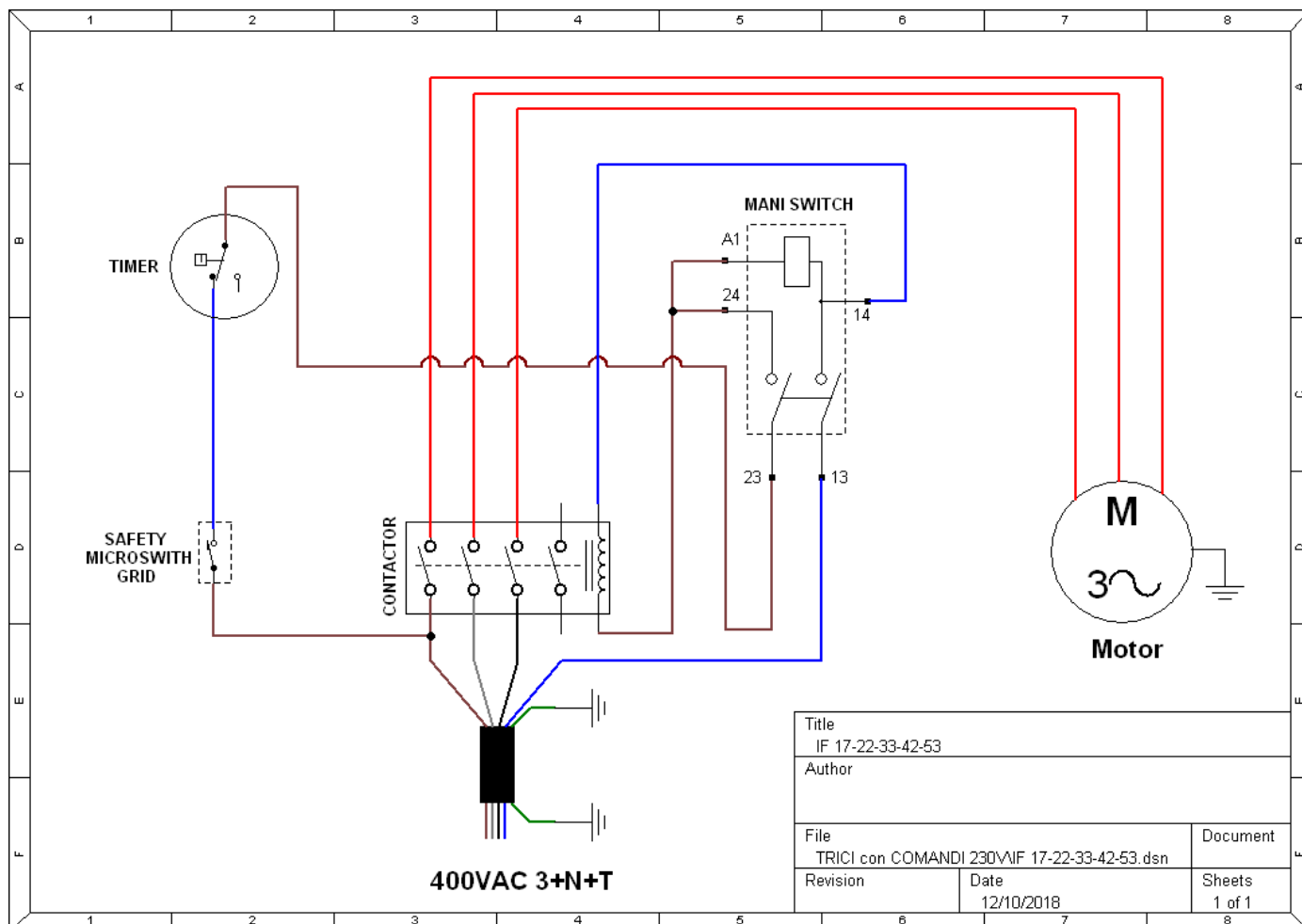
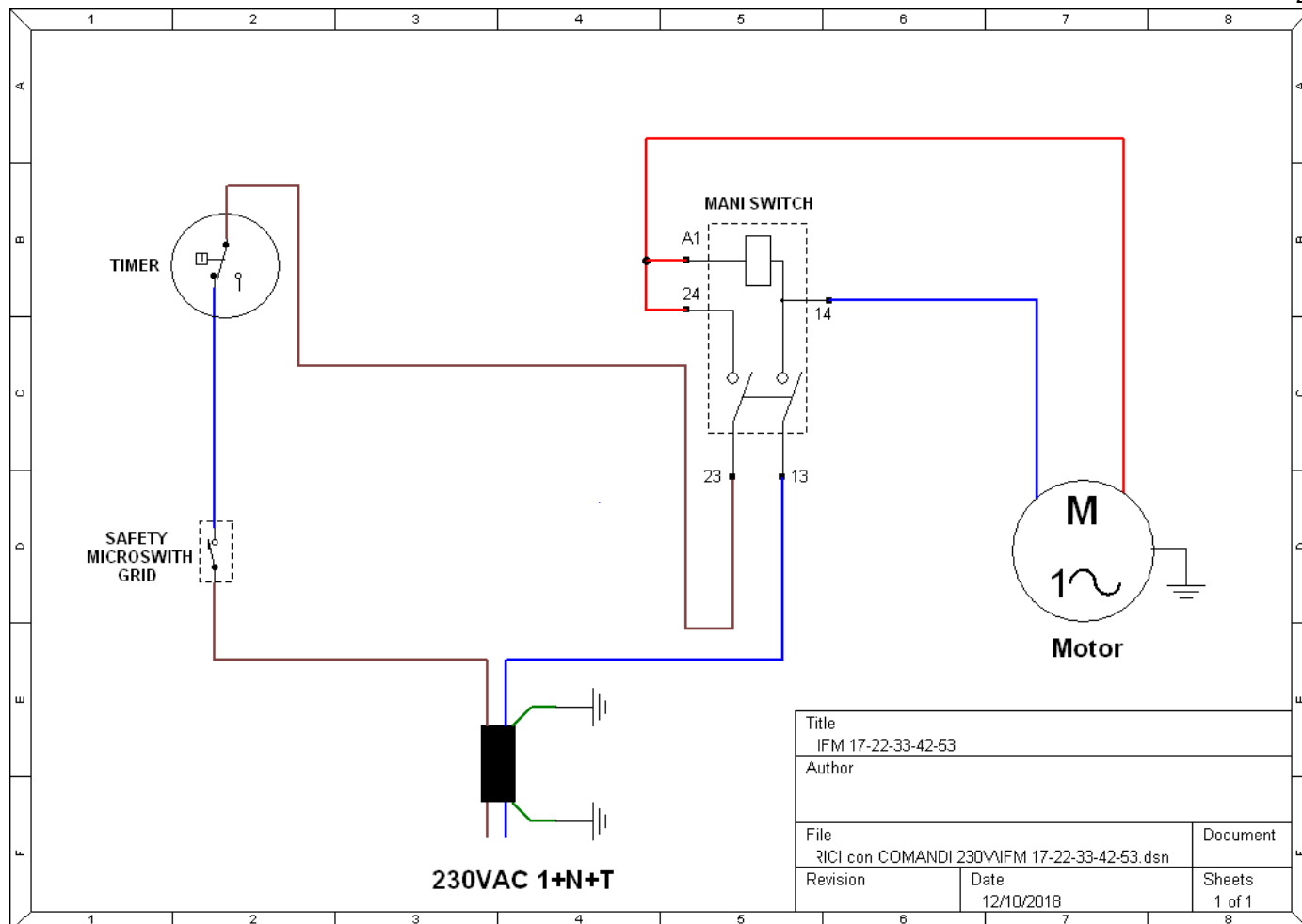


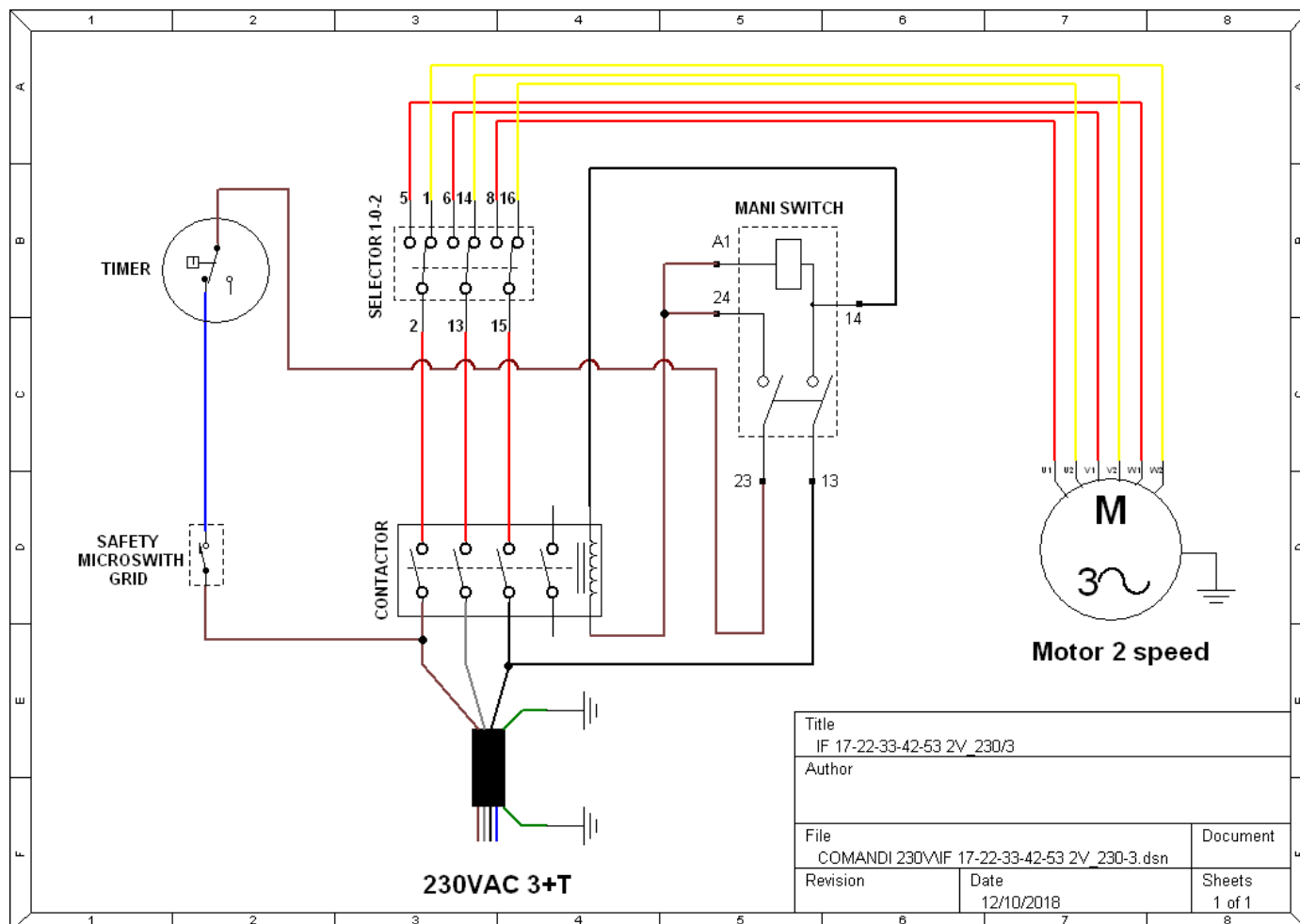
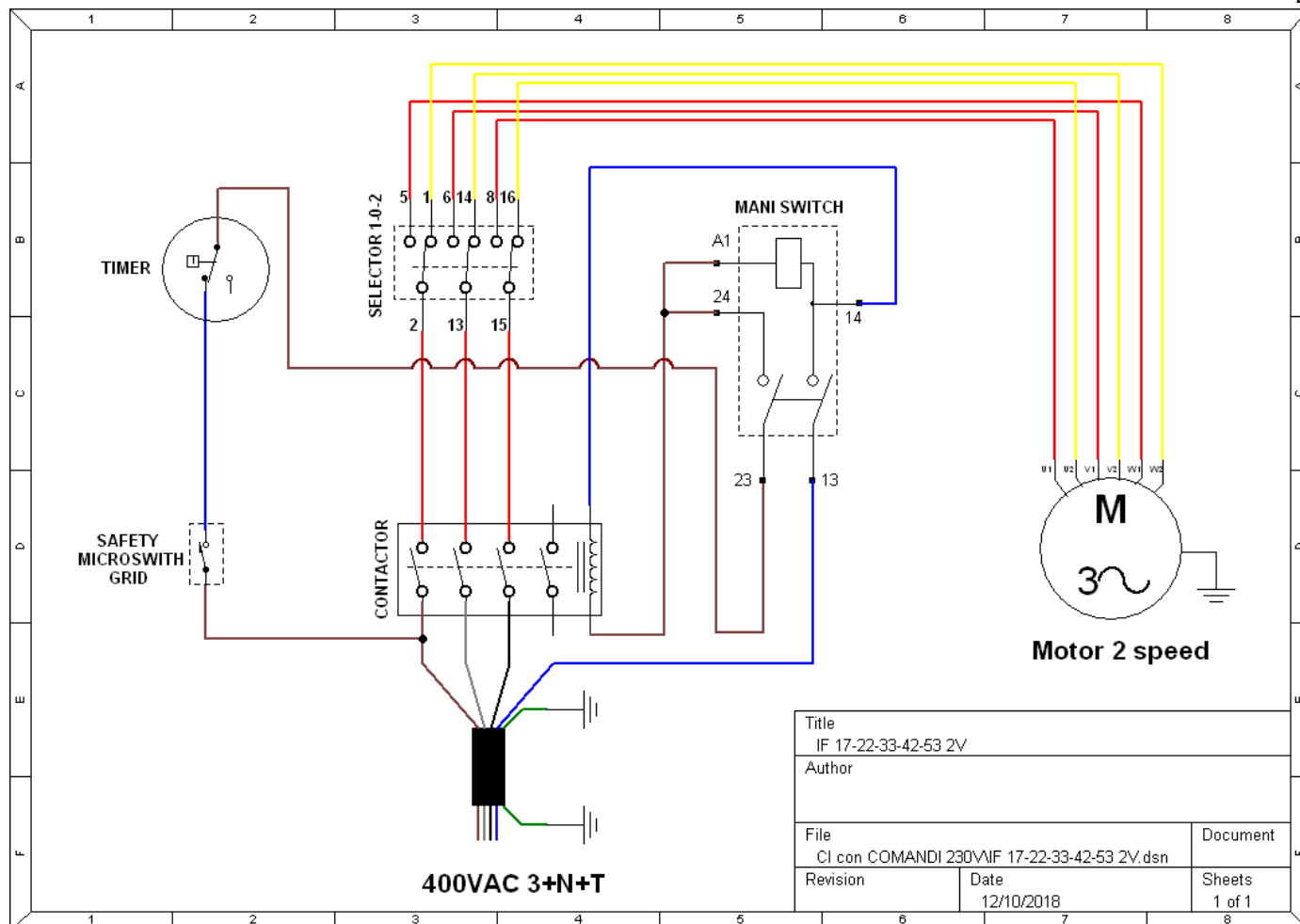
Technical data

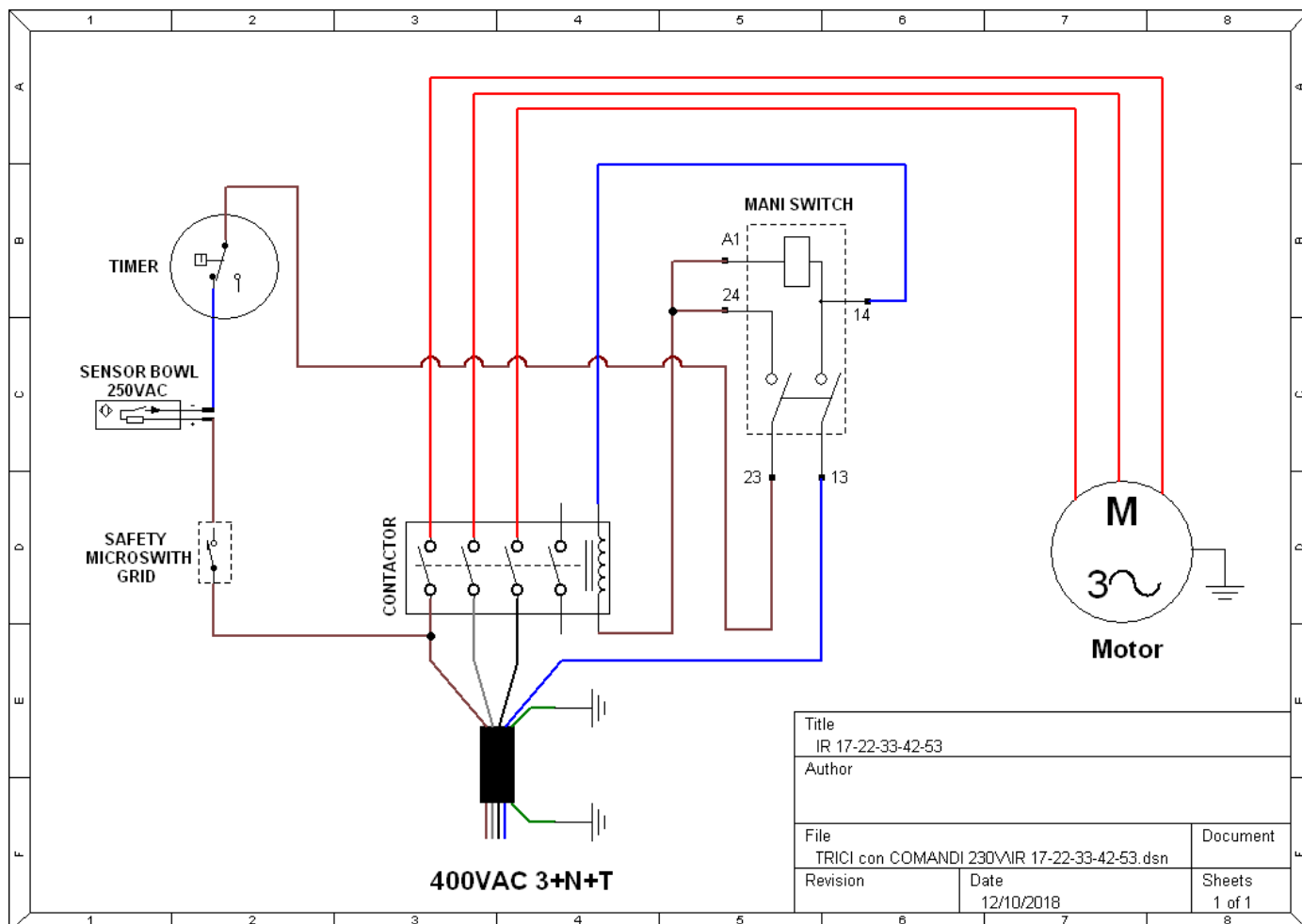
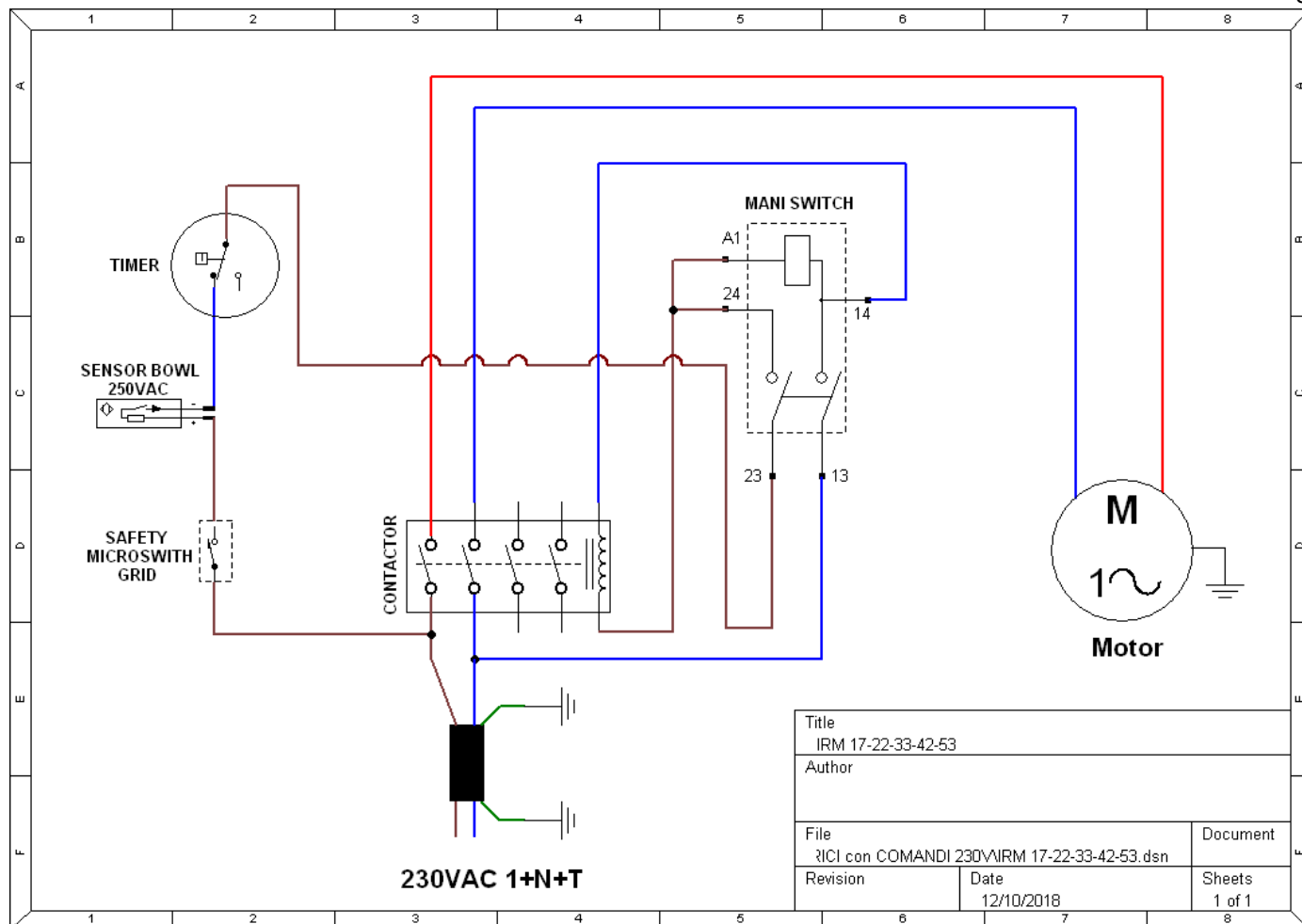
Model	Dough weight (kg)	Bowl capacity (l)	Dimension Bowl (Øxh cm)	Speed Bowl (rpm)	Spiral speed (rpm)	Power (kW)	Power supply (Volt - Hz)	Current Nominal (A)	Weight Net (kg)	Model
P01IF01025	NT10/M1	8	10	26x20	10	75	0,37	230/1 - 50	27x54x56	42
P01IF01026	NT22/M1	18	22	36x21	9	93	0,75	230/1 - 50	40x69x63	76
P01IF04019	NT22/T2V	18	22	36x21	9-14	92-139	0,75÷1,1	400 - 50	40x69x63	73
P01IR04013	NT22AL/T2V	18	22	36x21	9-14	92-139	0,75÷1,1	400 - 50	42x72x64	93
P01IF01027	NT33/M1	25	33	40x26	9	93	1,3	230 - 50	44x83x72	109
P01IF04020	NT33/T2V	25	33	40x26	9-14	92-139	1,3÷1,8	400 - 50	44x83x72	103
P01IR04014	NT33AL/T2V	25	33	40x26	9-14	92-139	1,3÷1,8	400 - 50	46x84x73	124,5
P01IF04021	NT42/T2V	38	42	45x26	9-14	92-139	1,5÷2	400 - 50	47x85x72	106
P01IF02032	NT42/T2V 230/3	38	42	45x26	9-14	92-139	1,5÷2	230/3 - 50	47x85x72	106
P01IR04015	NT42AL/T2V	38	42	45x26	9-14	92-139	1,5÷2	400 - 50	49x86x73	128,5
P01IR02030	NT42AL/T2V 230/3	38	42	45x26	9-14	92-139	1,5÷2	230/3 - 50	49x86x73	128,5
P01IF04022	NT53/T2V	44	53	50x27	9-14	92-139	1,5÷2	400 - 50	53x86x72	109
P01IF02033	NT53/T2V 230/3	44	53	50x27	9-14	92-139	1,5÷2	230/3 - 50	53x86x72	109
P01IR04016	NT53AL/T2V	44	53	50x27	9-14	92-139	1,5÷2	400 - 50	55x87x73	133
P01IR02031	NT53AL/T2V 230/3	44	53	50x27	9-14	92-139	1,5÷2	230/3 - 50	55x87x73	133

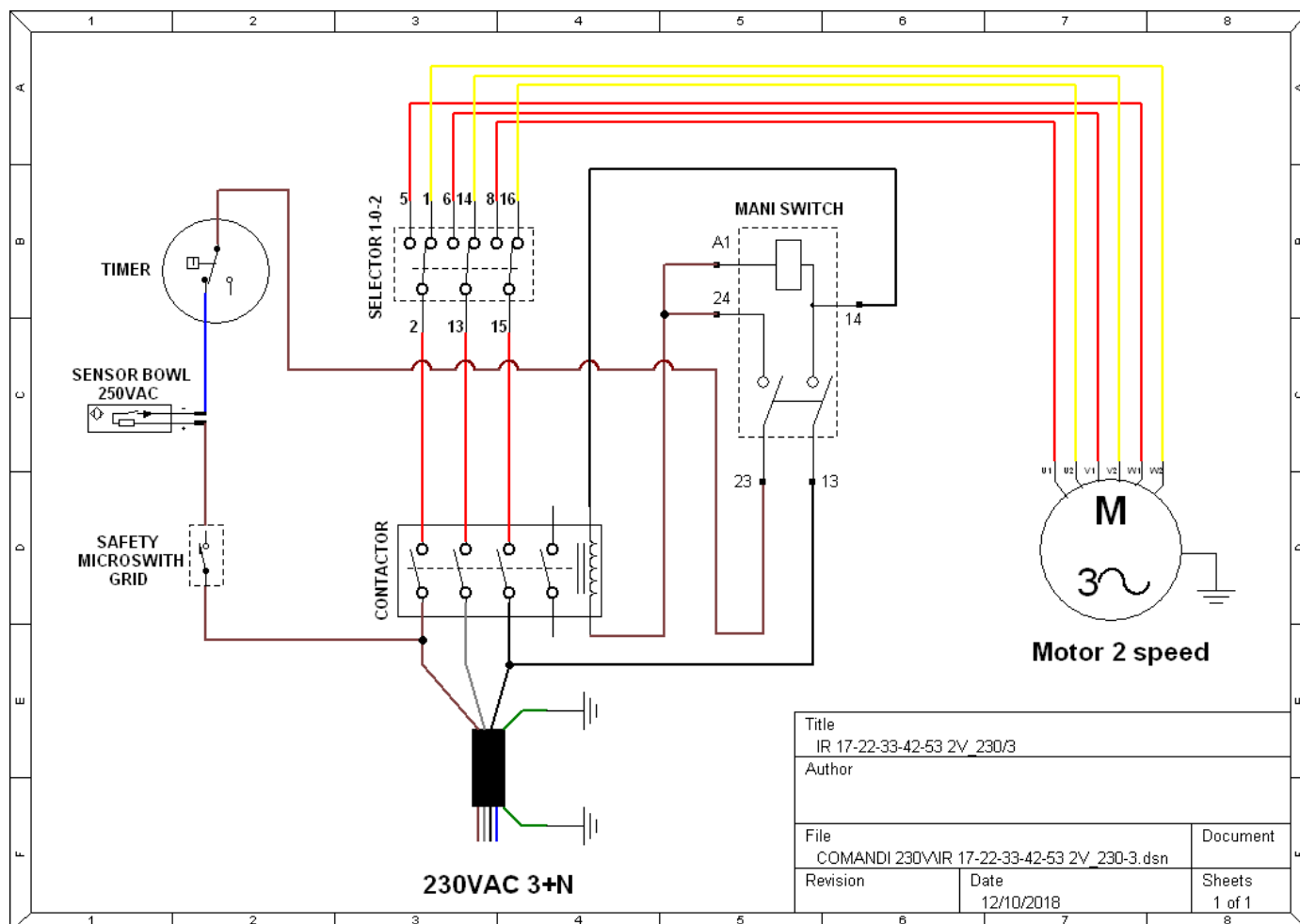
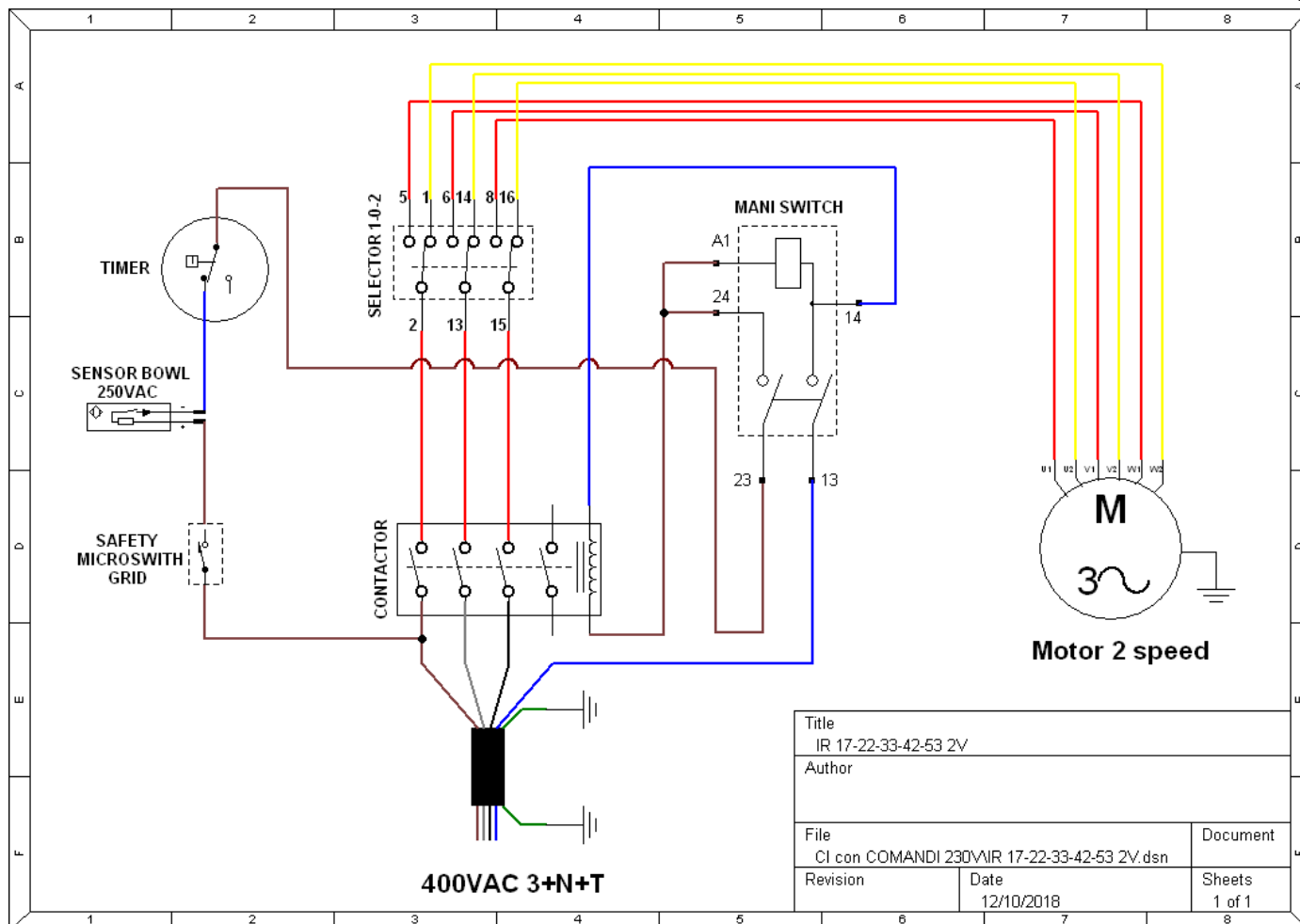
Wiring diagrams











4 INSTALLATION

Discharging and handling the spiral mixer

The mixer discharging and handling operations must be performed using a lift truck, by qualified personnel. Subsequently remove the machine from the packaging by lifting it with a hoist.



Assembling the wheels

Once the machine is unpacked, proceed as follows:

1. Lay the machine on the side;
2. Unscrew the existing feet;
3. Fit the wheels (front with brake, rear without brake).



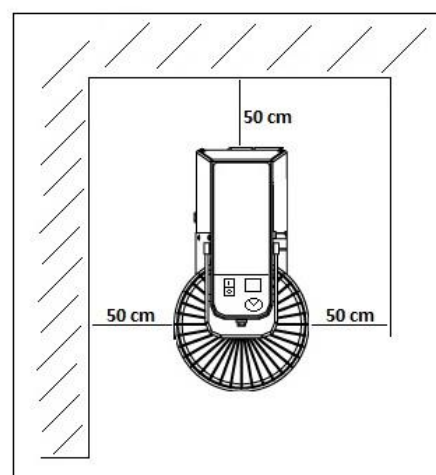
Positioning of the mixer

The mixer installation operations must be performed by qualified personnel according to the local, national and European regulations.

Make sure the floor or bearing surface is levelled.

After removing the machine from the special packaging, place it in the location envisaged, taking into account the minimum safety distances from the walls and/or other equipment to facilitate the use and cleaning operations. Please find on the side a diagram indicating how to position the machine.

Remove any polystyrene protections and protective film; avoid using tools that can damage the surfaces.



Electrical connection

The mixer is provided with a power cable with SCHUKO plug in single-phase version, without plug in the three-phase versions. The connection to the power network must be performed by interposing a differential circuit breaker switch having suitable features, and minimum opening distance between the contacts of at least 3 mm.

In the single-phase version it suffices to connect the machine to the power plug; in the three-phase version is necessary to apply a 4-pole plug 400V - 16A (not supplied).



ALSO FOLLOW THE PROVISIONS GIVEN BELOW:

- The mains socket must be easily accessible and should not require moving the mixer.
- The electrical connection must be easily accessible even after the mixer has been installed.
- The distance between the mixer and the socket must be such not to have the power supply cable stretched.
- If the power cable is damaged, have it replaced by the technical assistance service or by a qualified service technician in order to prevent any risk.

Earthing



It is mandatory for the system to be provided with an earthing system.

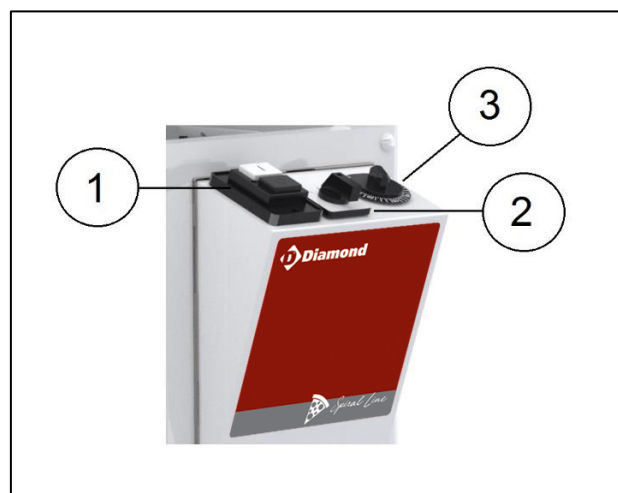
According to the regulations in force, it is required to connect the equipment to an equipotential system whose efficiency must be properly verified as prescribed by the rules in force.

5 CONTROLS

Description of the control panel

One or two speed spiral mixer:

1. Start/stop button;
2. 1st and 2nd speed switch (for two-speed machines);
3. Timer;



6 METHOD OF USE

Functional tests

Before turning on the mixer check to make sure:

- You have removed the protective film, if provided;
- The plug is properly inserted into the power supply wall socket;
- If the supply voltage, frequency and power of the system are compatible with the values reported on the plate applied on the rear panel of the machine;

Starting the mixer

Follow the indications below to switch on the mixer:

- For the model with fixed head, the safety grid of the bowl must be lowered;
- For the model with rising top, the bowl must be housed in its seat and the top must be lowered and locked with the appropriate locking handles;
- Position the timer (if provided) on the necessary time;
- Press 1 on the start/stop button;
- For the 2-speed machines, set the necessary speed using the 1-0-2 switch;
- For the variable speed machines, use the potentiometer to adjust the necessary speed.

Mixing phase

Before starting each work cycle, make sure the machine is perfectly clean, in particular the surfaces of the bowl, of the spiral and of the dough splitter in contact with the foodstuff. If necessary, carry out the cleaning according to the procedures described in Chapter 7.

After having lifted the protection, pour inside of the bowl the necessary ingredients type and quantity.

Lower the grid, set the timer for a defined time and press the button 1 to start.

The action performed by the spiral, whose motion is synchronised with the rotation of the bowl, allows to obtain the mixture of flour, water, salt, yeast and any other foodstuffs until the necessary consistency of the dough is obtained.

To slightly modify the characteristics and/or the consistency of the initial mixture, pour the ingredients in the bowl through the safety grid.



The raising top machine version with removable bowl, despite being functionally identical to the version with fixed head and bowl, differs from the latter as regards the possibilities offered at the end of each work cycle, i.e. a greater ease in the discharging of the dough and easier cleaning phase.

To raise the top and remove the bowl follow the indications below:

- Stop the machine by pressing the stop button;
- Remove the plug from the power socket;
- Raise completely the mobile protection;
- Pull the locking knobs of the head;
- Raise the head by means of the underlying piston;
- Unblock the bowl by turning the tub block disc;
- Raise the bowl.

After cleaning the machine, fit back the bowl by proceeding in reversed order.



Safety Devices

The mixer is equipped with some safety devices for the protection of the user that must never be removed.

The machine is equipped with the following safety systems:

- All transmission areas with moving parts are enclosed by a housing fixed with screws.
- The fixed head machine version is equipped with a microswitch that blocks the operation of the spiral when the safety grid is raised;
- The raising top machine version is equipped with two microswitches, which stop the operation of the spiral when the protection grid is risen and when the mixer head is risen.
- When the machine stops due to the tripping of one of the two safety microswitches, press again the button 1 to restart the machine.

Before starting the processing, check each safety devices to make sure they are effective:

- When raising the grid, the machine must stop;
- When raising the head, the machine stops or does not start;
- When extracting the bowl, the machine stops or does not start;
- The head must stay locked when pulled up slightly.

Shutting down the mixer

To switch off the mixer follow the procedure below:

- Press the stop button;
- Bring the timer to 0 (zero) if set differently;
- Remove the power plug.

7 MAINTENANCE AND CHECKS

Safety precautions

Before any maintenance operation, take the following precaution measures:

- **Make sure** the mixer is off;
- **Make sure** the mixer is not powered;
- **Make sure** the power supply cannot be accidentally reactivated; remove the plug from the power socket;
- **Use** the personal protection devices envisaged by Directive 89/391/EEC;
- **Do not use** chemicals to clean the mixer;
- **Do not use** water jets or high pressure washing devices;
- **Do not use** abrasive materials or sponges to clean the bowl and the mixer metal and plastic parts;
- **Install** and enable all protections and safety devices once the maintenance or repair operations are finished and prior to starting back up the mixer.

Routine maintenance and cleaning in charge of the user

Before performing any maintenance, disconnect from the power supply and follow the "Safety precautions".

To keep the mixer always clean and efficient, the routine maintenance must be carried out according to the schedule given below:

- **Once a day:** clean the machine and the work area after use;
- **Weekly:**
 - functional check of the safety devices;
 - functional check of the shut-off devices;
 - inspecting the ID plate and labels to make sure they are not damaged;
- **Monthly:**
 - check the integrity of the bowl, spiral and dough splitter;
 - check the chains stretching.

Cleaning the mixer:

Using a wooden or plastic spatula, first remove the dough residues, then perform a thorough cleaning of the bowl, of the spiral, of the dough splitter, then clean the safety mobile grid using a soft sponge and hot water.

Dry with absorbent paper for food use, then clean first the surfaces mentioned above and, subsequently, the entire machine with a soft cloth.

Do not use chemicals or products not compatible with foodstuff, abrasive or corrosive. It is strictly forbidden to use water jets, various equipment, rough or abrasives means such as steel wools, sponges or similar that could damage the surfaces and compromise the hygiene.

Extraordinary maintenance in charge of specialised technicians

For any intervention not within the competence of the user, must be required the intervention of a specialized technician. Contact your dealer and/or customer service area.

Before performing any maintenance, disconnect from the power supply and follow the "**Safety precautions**".

Greasing the chains

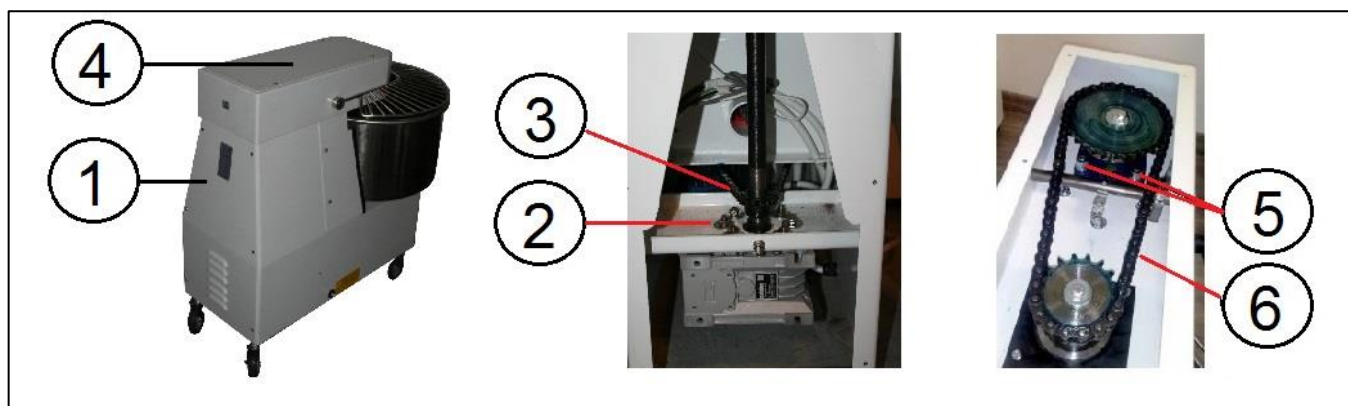
After the "**Safety Precautions**" have been taken, proceed as follows:

Remove the top and rear panel and clean, using a cloth, any residue of grease and dirt from the chains.

Then use a brush to spread a thin layer of grease on all chains parts, especially the area that comes into contact with the pinions teeth.

Do not perform this operation while the machine is running.

Stretching the chain

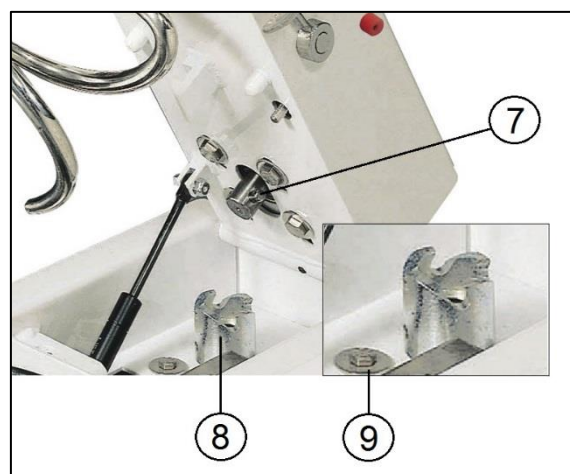


Bowl chain:

- Remove the rear panel (1) by unscrewing the screws;
- Loosen the nuts (2) of the geared motor;
- Stretch the chain (3) and tighten completely the nuts;
- Grease the chain if necessary.

Spiral chain:

- Remove the rear panel (1) by unscrewing the screws;
- Remove the top panel (4) of the head;
- Loosen the nuts (5) of the bearing support, then stretch the chain (6) and tighten the nuts (5);
- For the raising top machine version, after having stretched the spiral chain, align the plug connection (7) to the transmission coupling (8);
- For the adjustments, loosen the nuts (9), check if the joining is correct and tighten firmly the nuts (9);
- Grease the chain and the coupling if necessary.



To keep the machine efficient, it is recommended to perform maintenance according to the schedule given below:

- **Monthly:**
 - check the cleanliness of the internal compartments of the mixer, in particular the motor. Remove any flour, dust and dirt residues;
 - check the mechanical connections and tightening of the clamps, screws, nuts and joints. Adjust the chains stretching;
- **Every 3 months:**
 - check the functionality of the electrical components (start/stop buttons, relays, safety devices);
 - check to make sure the motor works properly (noise, electrical absorption);

How to order spare parts

To order spare parts, provide the following data indicated on the ID plate positioned on the mixer rear:

- Mixer model;
- Mixer serial number;
- Component code (see spare parts list);
- Quantity required.

8 TROUBLESHOOTING

Anomaly	Possible cause	Possible solution
The machine does not start	No power supply	Check the main contactor, the socket, the plug and the power cable
	The safety grid is raised	Lower the safety grid
	The mixer head is raised	Lower the mixer head
	The timer is in zero position	Set a time on the timer
	The bowl proximity sensor is too far from it (in the SR version)	Bring the sensor near the bowl
	The bowl sensor is faulty (SR version)	Replace the bowl sensor
	The start button is faulty	Replace the button
The mixer stops during the work cycle	The dough raises the safety grid	Adjust the grid
		Remove a small quantity of dough from the bowl
	The head rises during the work cycle	Tighten firmly the mixer head closure
		Adjust the mixer head microswitch
	The bowl moves away from the proximity sensor	Bring the sensor near the bowl
The bowl rotates unevenly	The bowl chain is loose	Stretch the bowl chain
The bowl does not rotate	The bowl chain is broken	Replace the bowl chain
The spiral rotates unevenly	The spiral chain is loose	Tighten the spiral chain
The spiral won't rotate	The spiral chain is broken	Replace the spiral chain

9 INFORMATION ON DISMANTLING AND DISPOSAL



According to Art. 13 of the Leg. Decree No. 151 of 25 July 2005 "Implementation of Directives 2002/95/CE, 2002/96/CE, 2003/108/CE on the restriction to the use certain hazardous substances in electrical and electronic equipment and also on waste disposal".

The crossed out wheeled bin symbol on the equipment or its packaging indicates that the product, at the end of its useful life, must be collected separately from other wastes.

The collection of this apparatus at the end of its technical life is organized and managed by the manufacturer. The user that intends to dispose off this equipment should, therefore, contact the manufacturer and follow the system he has adopted to allow separate collection of the equipment that has reached the end of its life.

Proper waste sorting for the subsequent recycling, treatment and environmental disposal of decommissioned equipment contributes to preventing potentially negative impact on the environment and on human health, encouraging the reuse and/or recycling of the materials composing the equipment. If the holder of this product disposes it of illegally, this involves the application of administrative sanctions provided by the laws in force.

Registered at the WEEE National Register under the number: IT08020000000645