



# **ISM 10-25-35-50 L**

## **SPIRAL MIXER**

MODEL: ISM 10-25-35-50

User manual - Instructions

EN

## **“CE” Declarations of Conformity**

## MANUFACTURER'S DATA

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## TECHNICAL CHARACTERISTICS

Model	Code	V	A	Hz	Phases	kW	Weight
ISM 10-32	300S010001	400V	0.93	50 HZ	3	0,26-0,37	60 KG
ISM 10-VE	300S010002	230V	1.38	50-60 HZ	1	0,55	60 KG
ISM 25-32	300S025001	400V	1.5	50 HZ	3	0,4-0,6	120 KG
ISM 25-VE	300S025002	230V	2.75	50-60 HZ	1	1,1	120 KG
ISM 35-32	300S035001	400V	1.9	50 HZ	3	0,6-0,9	140 KG
ISM 35-VE	300S305002	230V	3.75	50-60 HZ	1	1,5	140 KG
ISM 50-32	300S050001	400V	2.75	50 HZ	3	0,9-1,1	160 KG
ISM 50-VE	300S050002	230V	6.88	50-60 HZ	1	2,2	160 KG

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# 1 Warning

Read this instruction manual before switching the machine on. Keep this instruction book together with the appliance for future consultation.

These warnings were drafted for your safety and for that of others. Please read them carefully before installing or using the appliance.

The appliance is intended for professional use and must be utilized by qualified personnel trained to use it.

Any modification which may be necessary on the electrical system to enable installation of the appliance, must be carried out solely by competent personnel.

It is dangerous to modify or attempt to modify the characteristics of this appliance. Starting up. This unit must be grounded for your protection to avoid the risk of electrical discharges. It should be connected directly to the ground terminal of the control cabinet. The ground cable must not be cut or disconnected from the machine.

The introduction of an object or foreign body other than that necessary in the manufacture of the dough is totally forbidden.

Before doing any maintenance or cleaning jobs, disconnect the appliance from the electrical mains and allow it to cool. The acoustic power emitted by the machine is lower than 70 dB.

**NOTE:** The manufacturer will not be held responsible for the following:

- Incorrect installation of the machine
- Use of non-original spare parts
- Electrical supply problems
- Non authorized alterations
- Lack of daily maintenance
- Improper and/or incorrect use of the machine
- Non-compliant use according to current regulations in the country where the machine will be installed.

## 2 Preassembly Instructions

### 2.1 Storage and Transport

The machine has been sent completely assembled and packaged on a wooden platform with a plastic wrapping to protect the appliance from possible sporadic exposure to rain.

The machine must be transported in a completely closed vehicle with platform and must not be left outside.

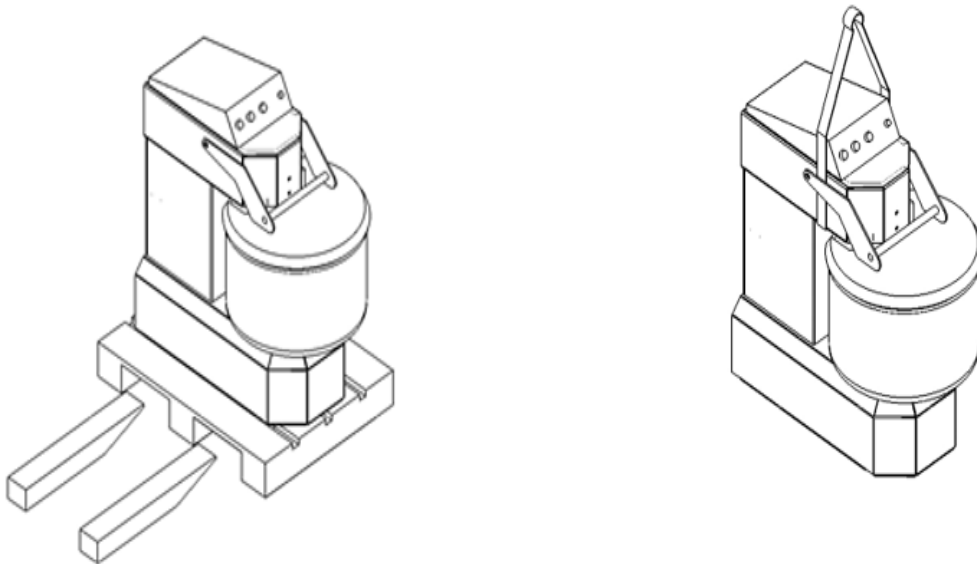
In any case, the operations to package and secure the different accessories to the machine must be carried out before transporting and moving.

**PAY ATTENTION AT ALL TIMES WHEN UNLOADING THE MACHINE AS THE PACKAGING AND THE MACHINE ITSELF COULD BE DAMAGED.**

Unloading the two-arm mixer from the truck or method of transport used, should be carried out with the help of a forklift truck, a rolling crane or derrick, however if two systems are available the first system should be used.

**FORKLIFT TRUCK:** Place the truck forks below the packaging pallet, as far in as possible. Lift the forks gently and place the packaged machine onto the floor, then unpack. If the forks from the truck appear not to go in far enough, then another unloading method should be considered.

**ROLLING CRANE:** Pass the slings underneath the two-arm mixer packaging; insert the sling handles onto the crane hook, ensuring it is well supported so that it does not fall. Then place the machine onto the floor and unpack. Bear in mind the center of gravity of the machine is situated near the main body of the machine.



## 2.1.1 Unpacking

The two-arm mixer comes wrapped in a sticky plastic layer (retractile film), which stops dirt and dust from getting inside during transport. It is then tied to the pallet with GREEN NYLON strapping and WOODEN BOARDS which impede any movement of the machine inside the packaging. Finally, it is then placed inside a wooden cage specially designed for its transport.

Unpacking should be carried out in the following manner:

- Place the packaged machine totally flat on the floor.
- Remove the nails which hold down the lower part of the cage with the packaging pallet.
- Lift the top part of the cage with the help of a forklift truck or a rolling crane.
- Cut the GREEN NYLON strapping and remove the boards, the machine can be removed from the pallet.
- Remove the retractile film covering.
- Place the slings over the head of the bedplate of the machine and lower it onto the floor.

## 2.1.2 Site

The machine should be placed in a light, accessible place, where the operator can move freely with no difficulties.

## 2.2 Condition of Use

The machine is manufactured to be used inside. It is not designed to work outside. It must be protected from falling water.

**ATTENTION!**

Machine storage: -25°C to +50 °C

Ambient temperature during operation: +4 °C to +40 °C.

This machine is for professional use and must be used by staff trained to use, clean, and maintain it, in terms of reliability and safety.

Use the machine in adequately lit premises (See applicable technical standard for the country of use. In Europe, refer to standard EN 12464-1)

When handling the machine, always check that the parts taken hold of are not mobile elements: risk of dropping and injury to the lower limbs.

The machine is not designed for use in explosive atmospheres.

### 2.2.1 Positioning the machine

The machine is placed directly on the floor, ensuring that this is completely flat. It does not need to be fixed to the floor.

The rear of the machine should be 35 cm out from the wall to enable the protection unit to be raised and also the aeration of the motor ventilation grids.

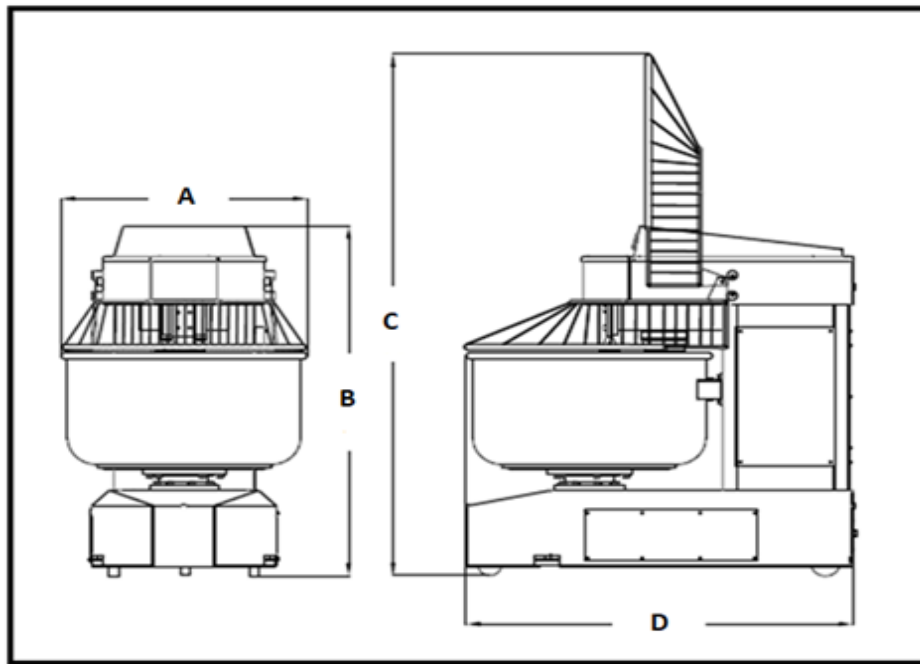
### 2.2.2 Operator Position

For maximum safety and comfort and for the machine to work properly operators should place themselves on the operation side, here the operator can easily reach the Emergency Stop and the rest of the controls.

For the final operation of removing the dough, the operator should stand in front of the bowl once the protection has opened.



### 3 General Dimensions



Model	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)
ISM 10	300	650	800	650	60
ISM 25	400	800	950	950	120
ISM 35	480	1000	1150	950	140
ISM 50	540	1100	1250	1000	160

### 4 Technical Specifications

The technical specifications of capacities and electrical powers of the machines are detailed below.

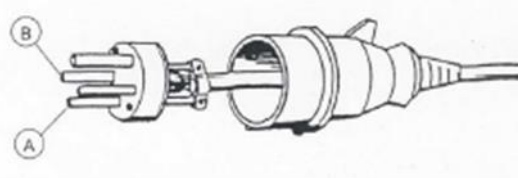
Model	Kneading Cap. (kg)	Flour Cap. (kg)
ISM 10-32	6	4
ISM 10-VE	6	4
ISM 25-32	15	10
ISM 25-VE	15	10
ISM 35-32	22,5	15
ISM 35-VE	22,5	15
ISM 50-32	30	20
ISM 50-VE	30	20

## 5 Electrical Connection

The electrical connection must be carried out by authorized professionals, in accordance with the standards in force in the country where the machine is installed. The premises must be fitted with the adequate circuit breaker for the total load. The appliance must be fitted with a power plug for disconnection.

Before working on any electrical part of the machine, the Plug must be disconnected from the ELECTRICAL SUPPLY.

The electrical equipment that makes up the machine has been constructed in compliance with the standards in force on Safety of Machinery - Electrical Equipment of Machines EN 60204-1. Apply the connections cable of the machine to a retention plug, suitable for the disconnection device installed, and Plug into the socket. In line with the operation instructions, start up the machine and check that the spiral rotates in the direction indicated by the arrow positioned on the spiral support cover. Otherwise invert the position of the two-phase wires in the plug: e.g., wire A to wire post B or vice versa. The machine does not require any other type of preparation and is ready for use.



### ATTENTION!

Connection to the electrical power supply must be done according to proper professional practice by a qualified and authorized person (see current standards and legislation in the country of installation). If an adapter is used on the socket, a check must be made that the electrical characteristics of this adapter are not lower.

than those of the machine.

Do not use multiple plugs.

The AC power supply to the machine must comply with the following conditions.

- Maximum voltage variation:  $\pm 5\%$
- Maximum frequency variation:  $\pm 1\%$  on a continuous basis,  $\pm 2\%$  over short periods

**ATTENTION: the electrical installation must comply (for design, creation, and maintenance) with the legal and standard requirements in the country where used.**

Check that the electric mains voltage, the value shown on the specification plate and the label on the power cable are the same.

- The machine's electrical power supply must be protected against voltage surges (short-circuits and excess voltages) by using fuses or thermal relays of the appropriate gauge relative to the place of installation and machine specifications.

**ATTENTION: Concerning protection against indirect contact (depending on the type of power supply provided and connection of the exposed conductive parts to the equipotential protection circuit), refer to point 6.3.3 of EN 60204-1 (IEC 60204-1) with the use of protection devices for automatic shut-off of power in the event of an insulation fault with a TN or TT, system, or for the IT system, with the use of a permanent insulation or differentials controller for automatic shut-off. The requirements of IEC 60364-4-41, 413.1 must apply for this protection.**

**ATTENTION: Failure to comply with these instructions means the customer runs the risk of machine failure and/or accidents due to direct or indirect contacts.**

## 5.1 Grounding

Check the efficiency of grounding on the installation itself. The grounding cable must not be with the gas or water pipes or with telephone cables. Connect the plug and the respective grounding cables in accordance with the local electrical standards.

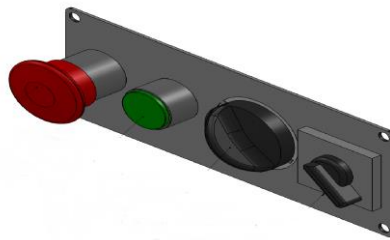
## 5.2 Warnings

Any operation that requires access to the parts under voltage must be done by a qualified ELECTRICAL TECHNICIAN, and the following procedure must be carried out.

- Switch of the machine.
- Disconnect the electricity at the mains switch.
- Remove the plug from the socket.
- Carry out the maintenance or repair work.
- Connect the machine to the mains supply.

## 6 Mixer Functioning

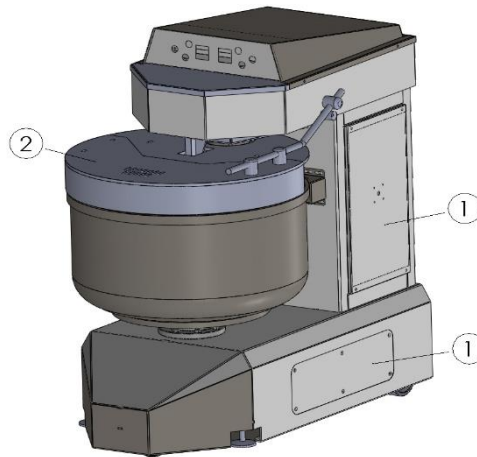
### 6.1 Machine Controls



- Emergency Stop ( Red Mushroom Button ): Stops operation. Turn the button and re-operate.
- Start ( Green Button ): Provides to start operation of the machine.
- Time Relay (Timer): Provides to operate the machine in set time, and stops automatically at the end of the cycle.
- Protector Switch: Provides not to operate if protector is not closed. It is designed for the safety of operator.
- Bowl Switch: Provides non-operation if the bowl is not in operation position.

### 6.2 General Circuit Breaker

To provide power to the control panel of the machine turn the main switch to “I”



## 7 How to use the mixer

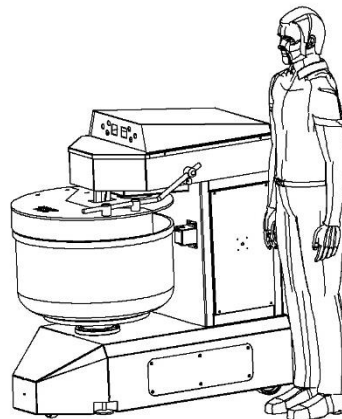
NOTE: When reading this chapter refer to the pictures of the control panels given in Chapter Functioning.

### 7.1 Operator Qualification

The machine should be operated only by trained, qualified and authorized personnel who have read and understood the information contained in this manual.

### 7.2 Workstation

The Fig. Workstation shows the work area in which the operator can safely use the machine. The machine control position is in front of the control console from which the operator manages all the processing parameters.



### 7.3 Commissioning

#### Machine loading

Lift the guard and, according to the recipe, pour the ingredients into the bowl without exceeding the maximum dough mixing capacity. The ingredients can be put in in any order.

#### Controls adjustment

Set the working times for the first and second speeds of the relevant timing devices.

#### Operation

Turn the main switch on to energize the power board, lower the safety guard, select the bowl counterclockwise rotation direction (see the arrow) for standard use of the machines and press the button Fig. Controls.

#### **CAUTION**

If the machine is stopped to carry out maintenance, there is a residual risk that when the protective grille is opened the spiral will continue to turn by inertia. This risk is not present if the machine is working with a full

load. This is because when the grille is opened in this mode, the inertia of the spiral will be annulled by the processed product (dough). Moreover, if the machine is carrying out a complete idle cycle, the spiral will take a few seconds to stop completely because of the force of inertia. In this case the operator must take care when entering the risk zone.

NOTE: Rotate the bowl clockwise (selector 2 Controls) for small quantities of dough.

## 7.4 Standart stopping procedure

Stopping procedure:

1. Make sure the work cycle is finished.
2. Turn the main switch to position 0.

## 7.5 Emergency Stop

Press the EMERGENCY button to stop the machine in an emergency:

- The machine stops.
- The emergency button remains blocked.

## 7.6 Starting the machine again after a manual emergency stop

1. Eliminate the cause of the emergency stop.
2. Release the EMERGENCY button.
3. The machine is now ready to be used again.

## 7.7 Switching off the machine

To switch the machine off:

1. Turn the main switch to position 0.
2. Turn the knife-switch situated upstream from the outside power supply cable to position 0.

# 8 Maintenance

**IMPORTANT:** Repair and maintenance work must be carried out by the Official Technical Service from DIRMAK MAKINA or those authorized by them.

**IMPORTANT:** Before carrying out any maintenance, cleaning, or repair operations on the electrical part of the appliance, the electrical supply must be disconnected at the mains switch and the appliance must be unplugged from the electrical supply. As far as possible, work must be carried out with the machine disconnected and with no voltage. For all operations that could be dangerous the operator must have the possibility of checking that the plug remains always removed from the electrical supply. If the machine halts to carry out maintenance, there is a residual risk when opening spiral protection grille that this will continue to rotate through inertia. This risk does not exist if the machine is working fully loaded, since in this case the inertia of the spiral when opening the grille will be cancelled out by the product being prepared (kneading).

Moreover, if the machine is carrying out an empty work cycle, there is the possibility that the spiral, due to inertia, takes a few seconds to come to a complete halt. In this case the operator should take great care when accessing the hazardous area.

## **8.1 When the machine is new**

The machine should be tested with a little product so that possible manufacturing residues can be removed before starting the production phase.

## **8.2 Daily Operations**

Clean using hot water and food-safe degreaser, and dry with a clean cloth., after each day's work parts that come into direct contact with the dough.: contacts column, spiral and bowl.

## **8.3 15 hours of work**

Check the tautness of the spiral movement transmission belts and the tautness of the bowl movement transmission belts.

### **8.3.1 Spiral Movements belts tautness**

The belts must be regulated if, during the work cycle, the deceleration of the spiral is observed.

1. Release the screws (A)
2. Tighten the belts effectively use the screws (B).
3. Tighten the screws (A).

### **8.3.2 Others Models**

The belts must be regulated if, during the work cycle, the deceleration of the spiral is observed.

1. Remove the head casing.
2. Release the four motor support screws (pos. A), without fully unscrewing, and then loosen the nut (pos.B).
3. Tighten the belts properly using the screw (pos.C) and lock the nut (pos.B).
4. Tighten the four motor support screws (pos.A).
5. Replace the head casing.

## 8.4 Month of work

Alter one month of work you must check again the bowl movement belts tautness and check the clean and the regulation of the drive bearings for the bowl.

If the bowl is not properly supported with the bearings, regulate as described below:

- Operation 1: release the screws ref. 8 and bring in the support.
- Operation 2: fasten all loose screws.

## 8.5 Each two years

Internal cleaning will be carried out ONLY by SPECIALIZED PERSONNEL.

## 8.6 Cleanning

### Routine maintenance

Any operation that can be carried out by the user is considered routine maintenance. These interventions include cleaning, regular and preventive inspections carried out to ensure safe operation of the machine.

### Operator's qualifications

Operator: Before carrying out routine maintenance safely, the user should first carefully read and understand the instructions and recommendations given in this section.

## 8.7 Motor Maintenance

As the motor is the part that makes the machine work, it needs special care.

- Clean every three months with compressed air, in this way the particles that block the passage and remain in the ventilation output causing the motor to heat up unnecessarily, will be dislodged.
- Once a year the motor will be serviced by a technician.

### Cleaning

**Danger:** Cleaning operations should only be carried out with the machine switched off and disconnected from the electric power supplies.

Regular cleaning of your machine will ensure its good working order.

We recommend the following:

- Clean the machine at the end of each shift.
- The cleaning of the machine keeps the most delicate parts in good working order and helps to spot any loosening of parts and any abnormal wear and tear.

Caution: Do not use jets of water to clean the control panels and the electric control box.

## Cleaning method

Only use water to clean the machine. The use of diluent or chemical products in general is forbidden

Parts to be cleaned	Method and tools
Painted steel	Use warm water and food-friendly degreaser. Dry with a clean cloth
Control panels	Clean with a soft dry cloth
Electrical parts	Clean using a vacuum cleaner
Bowl and spiral	Use hot water and food-friendly degreaser. then dry using a clean cloth

## Cleaning Frequency

Frequency	Parts to be cleaned
Daily	Cleaning of the bowl, of the spiral and of the contrasting column
Weekly	Control panels and all the exterior part of the machine
Monthly	Motors
Monthly	Electrical components

Everything that is excluded in the previous section does not need special maintenance, but it is advisable.

- With the aid of a soft brush the dust that has been left on the surfaces can be removed. Under no circumstances can hard hairbrushes, abrasive, pointed or metal tools be used as they may damage the surface.
- To clean the inside of the bowl, and the spiral, use only hot water.

Do not use toxic products, solvents, irritants, abrasives, and products that may damage the surfaces.

Plastic spatulas or clothes may be used. Before starting up the machine, pay special attention that none of the material used for cleaning has been left inside the protection.



## 9 Fault Finding

BREAKDOWN	REASON	SOLUTION
Machine doesn't work.	Energy does not come to machine.	Check the supply voltage.
	Supply fuse blown.	Check the fuse.
	Engine heat blown.	Wait thermal cool, and switch on
	Circuit breaker is open.	Close circuit breaker.
Engine working noise is coming, but it is not suitable	One of the feeding phase is missing.	Check phase one by one.
	Drive belts are missing or loose	Check the belt tension.
	There is a congestion in the mechanical movement	<b>Turn off energy!</b> and check manually spiral mixing tool. Inform technical service if there is congestion.
Machine receives energy but the machine is not activated.	Engine heat is blown	Wait for thermal cooling and switch on.
	Safety Switches are not active.	Make sure that the bowl is above and protective closed.
	Switch mechanical adjustment damaged or broken.	Contact with technical service.
	Defective part in the control circuit (contactor-thermal-Button-etc ..)	Contact with technical service.

## 10 Safety

### 10.1 Safety Criteria

During the design and construction of this machine the manufacturer has adopted the criteria and devices needed to satisfy the essential safety requirements imposed by the Machinery Safety Directive 2006/42/EEC and subsequent amendments, by the Low Voltage Directive 2006/95/EEC and subsequent amendments and by the Electromagnetic Compatibility Directive 2004/108/EEC and subsequent amendments.

The manufacturer strongly recommends careful observation of the instructions, procedures and recommendations contained herein as well as strict observation of the current safety regulations regarding the work environment. This also applies to the use of both the correct personal safety equipment and machine protection devices.

**Danger:** Do not wear loose clothing, ties, chains, or watches that could get caught in the moving parts of the machine.

**Note:** The manufacturer will not be liable for any damage or injury to persons, animals or things caused by nonobservance of the safety rules and/or recommendations given in the documentation supplied.

### 10.2 Hazardous areas and residuals risks

This manual indicates all the procedures during which residual risks for the operator are present. The residual risks can be eliminated by carefully following the procedures indicated in this manual and by using the recommended personal safety equipment.







Obligation to use protective gloves.



Obligation to use protective footwear.



Obligation to use work aprons.

RESIDUAL RISKS		
OPERATING STAGE	RISKS	PPE to use:
INSTALLATION		
Area around the machine when moving it  Area in which the machine is handled, packed or unpacked	Risk of striking and crushing the operator	
OPERATING STAGE	RISKS	PPE to use:
USE		
Use of the machine	<ul style="list-style-type: none"> <li>• Risk of striking and crushing the operator.</li> <li>• Risk of entanglement in the machine spiral (*)</li> </ul>	
OPERATING STAGE	RISKS	PPE to use:
ROUTINE MAINTENANCE		
Areas in which routine machine maintenance is carried out	Risk of blows and abrasions.	
SCHEDULED MAINTENANCE	Risks of blows and abrasions.	
Areas in which scheduled machine maintenance is carried out		

**(\*) CAUTION:** If the machine is stopped to carry out maintenance, there is a residual risk that when the protective grille is opened the spiral will continue to turn by inertia. This risk is not present if the machine is working with a full load. This is because when the grille is opened in this mode, the inertia of the spiral will be annulled by the processed product (dough). Moreover, if the machine is carrying out a complete idle cycle, the spiral will take a few seconds to stop completely because of the force of inertia. In this case the operator must take care when entering the risk zone.

### 10.3 Mixer Safety measures

The safety measures used by the spiral kneading machine with fixed bowl are the following:

Fixed and moveable guards

- All power transmission components are shielded by fastened guards 1, in compliance with the EN 953 standard.
- Protective grille 2 which prevents access to the bowl during the work process.

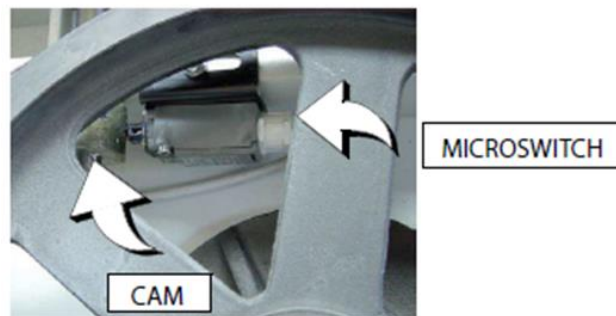
NOTE All the fixed and moving covers do not cause ulterior hazards.

All the moving covers, including when they are open, are firmly attached to the machine and cannot be removed.

Passive safety devices

- Passive safety devices are devices or resources that eliminate or reduce risks to operators without any active intervention by the operators. Limit switch devices

The machine is equipped with the following limit microswitch actuated by means of a cam. Its purpose is to stop the machine if the protection grille is opened.



Reset and Circuit protection: In accordance with EN 60204-1, mixer circuits, the control and power circuit are protected by fuses. All the electrical components are within the fixed protectors, thus impeding direct contact with them.

Compliance with the EN-453 guarantees the application of all the Standards mentioned within it (Electricity, Safety Distances, Acoustics, Electromagnetic compatibility, Hygiene, Cleanliness, Indicators, etc...)

Active safety devices:

Emergency stop: The emergency button is located on the control panel and allows the operator to stop the machine in an emergency.

## 11 Disactivating the machine

The machine must be deactivated when it reaches the end of its technical and operational life. It should be put out of service and no longer used for the purposes for which it was planned and constructed, allowing the possible reuse of the primary products of which it is made up.

Deactivation procedure:

All machine deactivation and demolition operations must be carried out by duly trained, properly equipped staff.

1. Turn off the machine
2. Disconnect all electrical power sources.
  - a. Electrical power supply. Disconnect the power cable from the switchboard terminals.
3. Remove the following parts:
  - a. Electrical and electronic parts.
  - b. Hydraulic installation.
  - c. Non-metallic parts and components.

**HAZARD** Hand over all finished oils to the company for the disposal of waste. Eliminate in line with current regulations on electronic components, namely: batteries, condensers, etc... The machine is made using non-biodegradable materials. Take the machine to an authorized deposit for disposal.

**NOTE** manufacturer is in no way liable for any damage to persons, animals, or objects as a result of use of individual machine parts for functions or situations different to those originally envisaged.

## 12 Guarantee

Our products are guaranteed against every failure or manufacturing defect, within a correct use of them.

The guarantee does NOT apply to the substitutions and mending appearing from:

- A normal use of the machine
- Deterioration or accidents due to negligence.
- Lack of maintenance.
- External agents such as power supply voltage fluctuations or atmospheric elements such as storms or floods, or any other of similar origin.

The guarantee is limited to replacing and repairing parts which have failed because of manufacturer defects, without covering the corresponding labor and call-out costs (except in Spain, where these costs are included).

The following materials are excluded from the warranty: glass, light bulbs, gaskets, fabrics, ceramic tiles, refrigerant gas, oil changes, hinges and other parts that are subject to wear and tear.

The normal material guarantee for electrical and mechanical components is 12 months, except for:

- Heating elements in Kwik-co, Metro, Sirocco and Modular ovens, which are covered for 5 years.

## Guarantee conditions

The materials must be installed, used, and maintained in line with the conditions set out in this "Instructions Manual". Any problems which require the intervention of an engineer must be carried out by the Official After-Sales Service of DIRMAK MACHINERY L.L.C. or by one of our authorized distributors. Changing any part during the warranty period does not imply an extension of the warranty beyond the initially agreed period. In this case, only the warranty for the replaced part or piece will be extended by 6 months. Failure to meet these conditions implies the automatic invalidation of the guarantee. DIRMAK MACHINERY, in its continual search to improve its products, reserves the right to make amendments without prior notice.

## 13 Compliance with Regulations

The machine has been designed and manufactured in compliance with:

2014/30/EU

2014/35/EU

2006/42/EC

EN ISO 12100: 2010

EN ISO 13854:2019

EN ISO 13857: 2019

EN 60204-1:2018

EN ISO 14120: 2015

EN 1672-2:2020

EN 453:2014

REGULATION (EC) No 1935/2004

- European Standards:

EN 453 Beater Mixers. Safety and hygiene regulations.

**This compliance is certified by:**

- The CE compliance mark attached to the machine.
- The relative CE compliance declaration associated with the warranty,
- This instruction manual, which must be given to the operator.

**Protection indices as per the EN 60529-2000 standard:**

- IP54 electrical controls.
- IP32 overall machine.

**Integral safety:**

- The machine has been designed and manufactured in compliance with the relevant regulations and standards referred to above.
- Before using the machine, the operator must be trained in its use and informed of any possible residual risks.

**Food hygiene:**

The machine is made from materials that comply with the following regulations and standards:

- Standard EN 60204-1: cast aluminum alloy objects in contact with foodstuffs.

The surfaces of the food area are smooth and easy to clean. Use detergents that are approved for food hygiene and observe the instructions for their use.

## 14 Electrical Scheme

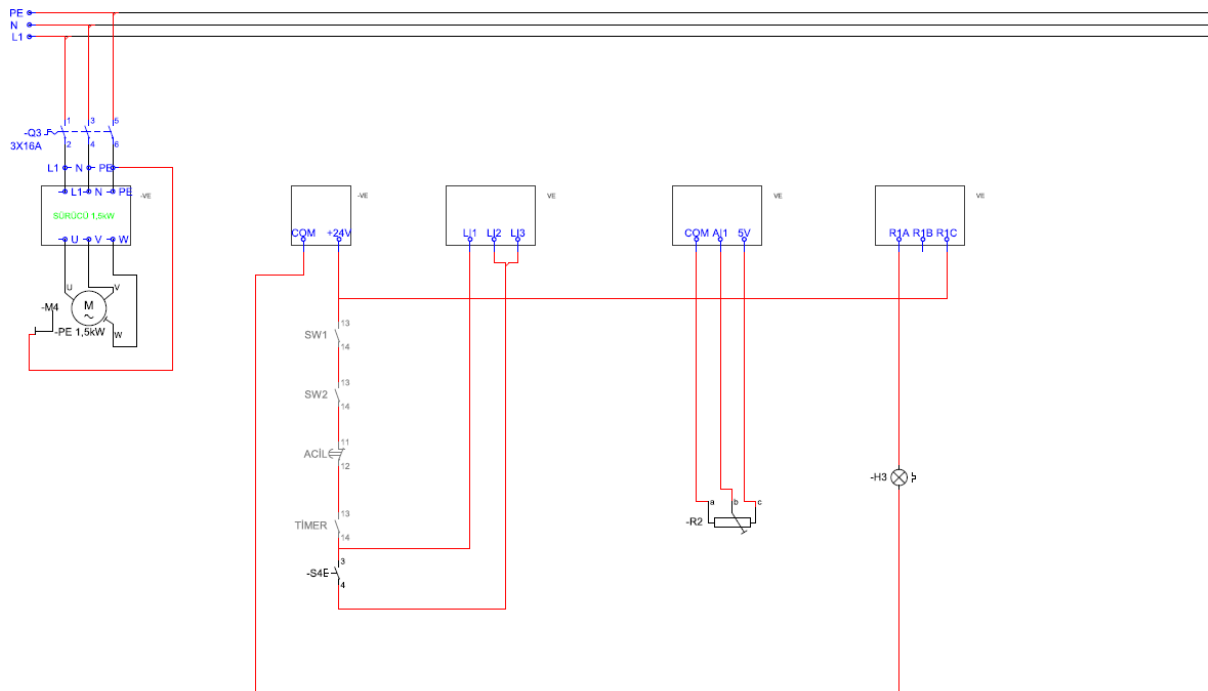


Figure 1 – ISM SERIES WITH FREQUENCY CONTROLLER

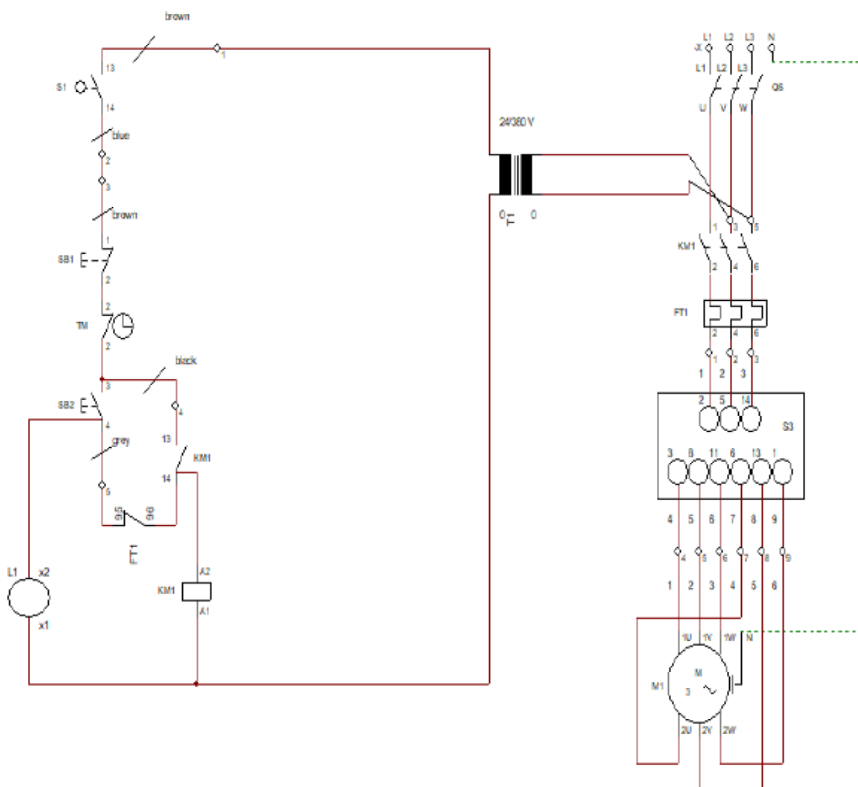
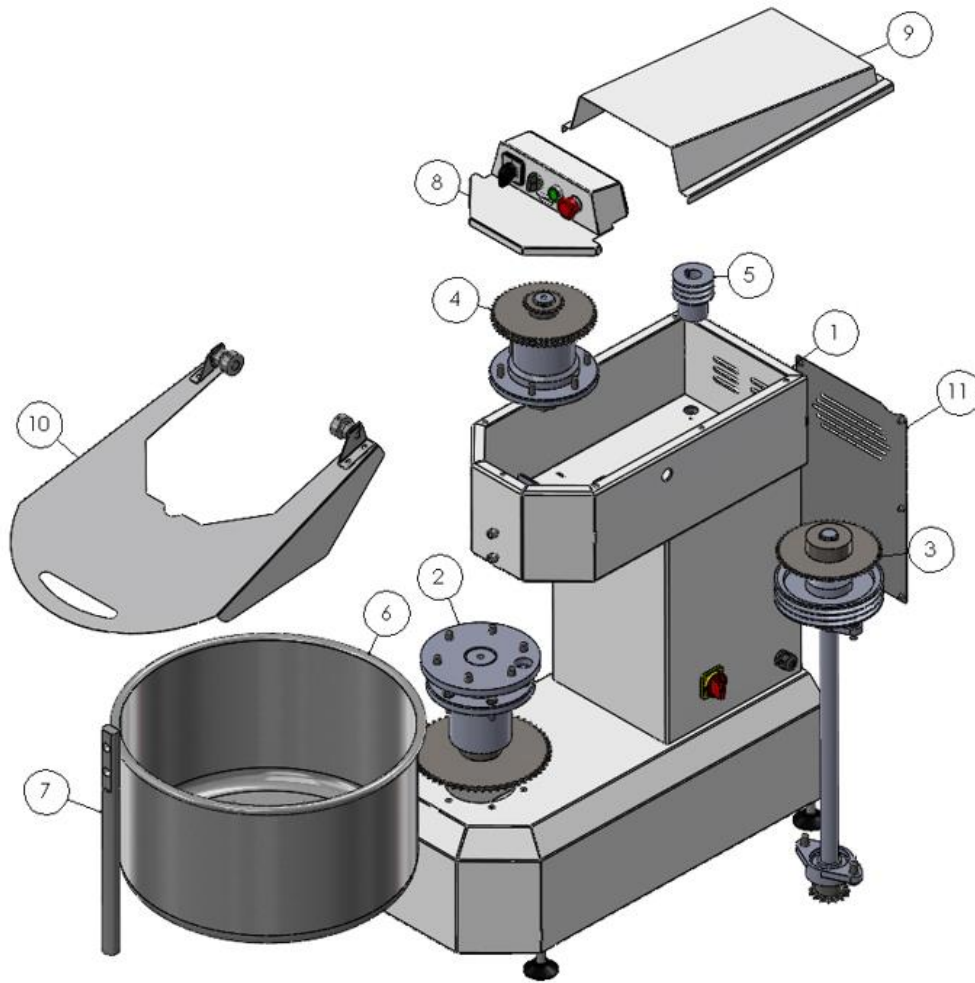


Figure 2 – ISM SERIES WITH TWO SPEED MOTOR

## 15 Spare Part list



Part No	Part Name	ISM 10	ISM 25	ISM 35	ISM 50
1	Body	ISM010G001B	ISM025G001B	ISM035G001B	ISM050G001B
2	Bowl Housing	ISM010K5001	ISM025K5001	ISM035K5001	ISM050K5001
3	Transfer Shaft	ISM01005002	ISM02505002	ISM03505002	ISM05005002
4	Spiral Housing	ISM010K5002	ISM025K5002	ISM035K5002	ISM050K5002
5	Engine Pulley	ISM01005004	ISM02505004	ISM03505004	ISM05005004
6	Bowl	ISM010K6001	ISM025K6001	ISM035K6001	ISM050K6001
7	Cutter	ISM010K6003	ISM025K6003	ISM035K6003	ISM050K6003
8	Control Board	ISM010K9001	ISM025K9001	ISM035K9001	ISM050K9001
9	Up Cover	ISM01003002	ISM02503002	ISM03503002	ISM05003002
10	Protector	ISM010K4001	ISM025K4001	ISM035K4001	ISM050K4001
11	Back Cover	ISM01003003	ISM02503003	ISM03503003	ISM05003003

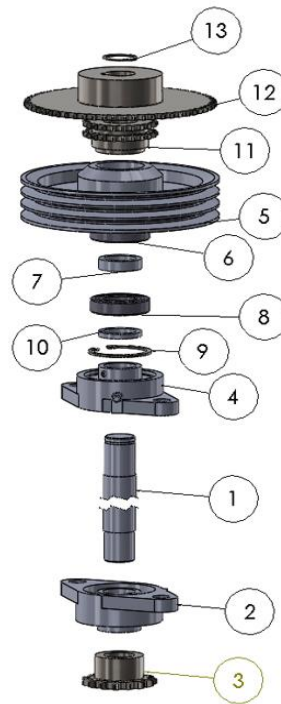


## Bowl Housing Spare Part List



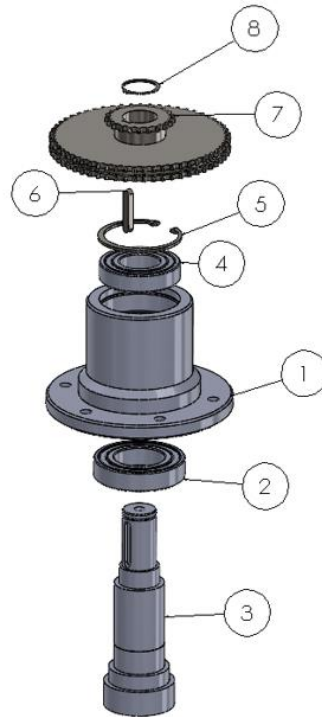
Part No	Part Name	ISM 10	ISM 25	ISM 35	ISM 50
1	Bowl Housing	ISM01005001	ISM02505001	ISM03505001	ISM05005001
2	Bearing	ISM01008001	ISM02508001	ISM03508001	ISM05008001
3	Bearing	ISM01008002	ISM02508002	ISM03508002	ISM05008002
4	Bowl Shaft	ISM01005003	ISM02505003	ISM03505003	ISM05005003
5	Bearing	ISM01008003	ISM02508003	ISM03508003	ISM05008003
6	Key	ISM01008004	ISM02508004	ISM03508004	ISM05008004
7	Gear	ISM01005005	ISM02505005	ISM03505005	ISM05005005

## Transfer System Spare Part List



Part No	Part Name	ISM 10	ISM 25	ISM 35	ISM 50
1	Transfer Shaft	ISM01005002	ISM02505002	ISM03505002	ISM05005002
2	Bearing	ISM01008005	ISM02508005	ISM03508005	ISM05008005
3	Gear	ISM01008006	ISM02508006	ISM03508006	ISM05008006
4	Bearing	ISM01008007	ISM02508007	ISM03508007	ISM05008007
5	Pulley	ISM01005010	ISM02505010	ISM03505010	ISM05005010
6	Bearing	ISM01005008	ISM02505008	ISM03505008	ISM05005008
7	Alinger	ISM01005009	ISM02505009	ISM03505009	ISM05005009
8	Bearing	ISM01005010	ISM02505025	ISM03505035	ISM05005050
9	Segment	ISM01005011	ISM02505011	ISM03505011	ISM05005011
10	Alinger	ISM01005012	ISM02505012	ISM03505012	ISM05005012
11	Gear	ISM01005013	ISM02505013	ISM03505013	ISM05005013
12	Gear	ISM01005014	ISM02505014	ISM03505014	ISM05005014
13	Segment	ISM01005015	ISM02505015	ISM03505015	ISM05005015

## Spiral Housing Spare Part List



Part No	Part Name	ISM 10	ISM 25	ISM 35	ISM 50
1	Spiral Housing	ISM01005017	ISM02502517	<b>ISM03502517</b>	ISM05005017
2	Bearing	ISM01005018	ISM02502518	<b>ISM03502518</b>	ISM05005018
3	Spiral Shaft	ISM01005019	ISM02502519	<b>ISM03502519</b>	ISM05005019
4	Bearing	ISM01005020	ISM02502520	<b>ISM03502520</b>	ISM05005020
5	Segment	ISM01005021	ISM02502521	<b>ISM03502521</b>	ISM05005021
6	Key	ISM01005022	ISM02502522	<b>ISM03502522</b>	ISM05005022
7	Gear	ISM01005023	ISM02502523	<b>ISM03502523</b>	ISM05005023
8	Segment	ISM01005024	ISM02502524	<b>ISM03502524</b>	ISM05005024