

**INSTALLATION / OPERATION
MANUAL**

**Spiral Mixers
Electronic Controller**

SM2-25

SM2-50T

SM2-80T

SM2-120T



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NOTICE

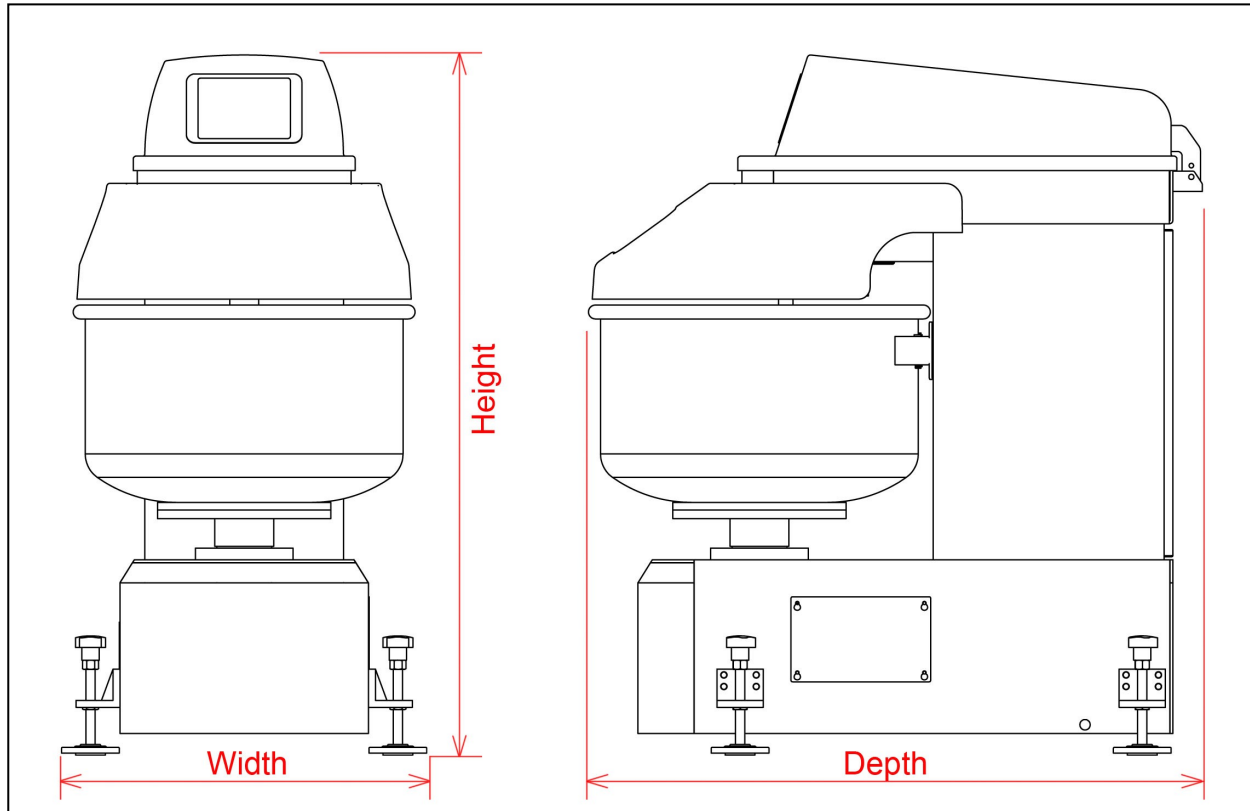
The use of this or any industrial equipment may involve hazards such as hot surfaces, sharp objects or danger from exposure to the electrical power. This manual is provided to assist you in the safe and efficient use of this equipment.

All equipment, whether considered hazardous or not, should be used in accordance with principles of good manufacturing practice.

The operator for this equipment must be of legal age. Before operation, please read and follow the instructions carefully for maximum safety and to make the best use of our equipment.

If you have any questions or comments, please contact us or the local dealer to **KNOW HOW TO USE THIS MACHINE SAFELY BEFORE STARTING THE OPERATION.**

Technical Specifications



		SM2-25	SM2-50T	SM2-80T	SM2-120T
Dimensions	Depth	850mm	1080mm	1280mm	1470mm
	Height	1120mm	1220mm	1330mm	1520mm
	Width	560mm	640mm	765mm	830mm
Bowl Capacity	Dough	25kg	50kg	80kg	120kg
	Flour	12.5kg	25kg	50kg	75kg
Bowl Speed	1st Speed	140rpm	135rpm	125rpm	110rpm
	2nd Speed	280rpm	270rpm	250rpm	220rpm
Electrical Specifications		400-415, 3P, 2.20kW.	400-415, 3P, 3.37kW.	400-415, 3P, 5.25kW.	400-415, 3P, 9.55kW.
Noise Level During Operation		<70db	<70db	<70db	<70db
Spiral Mixer Weight (kg)		140kg	330kg	400kg	640kg

Introduction

Introduction

We are confident that you will be delighted with your Spiral Mixer and it will become a most valued appliance in your commercial kitchen.

The Warnings, Cautions and Notes shown in this manual are intended to alert the user to the presence of important safety and operating instructions.

Before using your new equipment, read and understand all the instructions, Warnings and Cautions associated with this appliance prior to operating the unit. Make sure that all people associated with its use, understand the safe operating procedure before they use the oven.

To ensure that you receive the utmost benefit from your new Spiral Mixer, there are two important things you can do.

Firstly:

Please read this instruction book carefully and follow the directions given. The time taken will be well spent.

Secondly:

If you are unsure of any aspect of the installation, instructions or performance of your appliance, contact your Moffat dealer promptly. In many cases a phone call could answer your question.

This manual must be kept by the owner for future reference, and a record of the ***Date of Purchase, Date of Installation*** and ***Serial Number of the Appliance***. This information should be carefully read and understood before proceeding, and should be recorded below. ***(These details can be found on the Rating Plate located on the rear service panel, top right hand corner of the panel, refer to the 'Installation' section of this manual for further details).***

Contact your local authorised service agent for service or required maintenance. Please record the model number, serial number, voltage, gas type and purchase date in the area provided below and have this information readily available when you contact your authorised service agent.

For a list of Authorised Service Agents, please refer to the list on the reverse of the front cover.

Model Number:

Serial Number:

Dealer:

Service Provider:

Date Purchased:

General and Safety Information

General Information

This handbook will show how to install, operate and maintain your Spiral Mixer. Thank you for choosing PARAMOUNT as your supplier. Any questions, please contact our local office or distributor who will provide you with whatever assistance you require.

Product Description

The Paramount Second Generation Spiral Mixers are used for mixing dough for today's modern bakeries. The SM2-25 has only one motor to control the speed of the hook and bowl, where the SM2 50T / SM2-80T and SM2-120T use two motors that separately control the speed of the hook and bowl.

The Spiral Mixers are used for mixing dough which has a Water Ratio higher than 55%.

Water Ratio = water / flour weight.

Dough Weight = flour weight + water + other additives (yeast and salt etc).

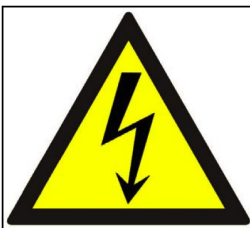
NOTE:- Do not overload the mixer. Please reduce the total mixing weight if the water ratio is lower than 55%

Each part of the mixer which comes into contact with the product is of food grade quality material to ensure the highest quality of hygiene is maintained.

Rating Plate (SM2-80T shown as example)

MODEL	SM2-80TW				
MACHINE NO	1901038				
MFG. DATE	2019.04				
kW	5.25				
POWER SUPPLY	415	V	50	Hz	3 PH

Safety Symbols



For your safety, please pay attention to the following symbols marked on the machine.

This label warns that only qualified service persons can access this position and the operator must disconnect the power before carrying out any cleaning or servicing.

Introduction

Safety Precautions

To ensure maximum safety and optimum performance from this appliance, it is essential that you or any other operator of the appliance, read and understand the contents of this manual before starting the appliance. Pay particular attention to the SAFETY INSTRUCTIONS highlighted by these symbols.

These safety alert symbols mean CAUTION, WARNING or STOP / DANGER - a personal safety instruction. Failure to comply with the instruction may result in personal injury or death.

WARNING: ELECTRICITY CAN KILL
Test and tag electrical cables to workplace safety standards.



CAUTION
Serious injury possible



WARNING
Electric shock



STOP
DANGER

User Instructions and Precautions

The manufacturer declines all responsibility for any injury to persons or animals or damage to objects resulting from the failure to observe any of the previous or following information and instructions on the use or maintenance of the appliance:

- Do not use equipment for any purposes and / or loads different to those stated by the manufacturer;
- Every day, check the safety devices and general state of the equipment;
- Every day clean the equipment thoroughly;
- Take all necessary precautions and safety measures when loading, adjusting, changing parts or carrying out repair or maintenance work on the appliance, to make sure that the appliance or any parts of it are not accidentally started up by other persons;
- Do not tamper with the guards and safety devices on the appliance;
- Do not remove the guards and safety devices on the appliance unless actually necessary for work purposes and without adopting the measures designed to reduce the risk to the minimum possible, as described fully and frequently in this manual;
- Refit all guards and safety devices as soon as the reason for their temporary removal no longer exists;
- All operators must comply with applicable workplace safety procedures.

Definitions

According to this manual, the following definitions are used:

1. **"Danger Area"** Any area inside or near a appliance which might be dangerous for a bystander.
2. **"Bystander"** Any person entirely or partly situated in a 'Danger Area'.
3. **"Operator"** The person or persons installing, running, adjusting, cleaning, repairing, transporting or performing maintenance work on an appliance.

Working Safety

The appliance must only be used by personnel suitably trained for the purpose and who have been trained in the contents of this publication.

To ensure safe work, comply with the following instructions:-

- Install the machine in compliance with workplace safe work requirements.
- Don't place the machine near a source of heat and this machine must not be used in a place where the surrounding environment may have a potential risk of explosion.
- Use the machine with great care and never be distracted.
- Do not wear loose fitting clothing or clothing with wide and open sleeves.
- Dust-proof masks should be worn during normal operation and cleaning. Careful handling of flour and the minimal generation of dust should be practiced during operation and cleaning.
- Do not remove, cover or modify the identification plates placed on the machine body.
- Do not modify or bypass the mechanical and electrical protection devices.
- Work on the products permitted and not on other types.
- Do not use the machine as a working top and do not place any objects on it that are not required for normal working operations.
- Do not use the machine with temporary electrical connections or non-insulated cables.
- Periodically check the state of the power cable and the cable clamp on the machine body, replace it as soon as necessary by qualified personnel. Do not pull on or bend the power cable.
- Stop the machine immediately as soon as there is defective or abnormal operation, a breakage is suspected, there are incorrect movements, or unusual noises.
- Before cleaning or carrying out maintenance, disconnect the machine from the electricity mains.
- Use protective working gloves for cleaning and maintenance.
- For all extraordinary maintenance consult the manufacturer or qualified or authorised personnel.
- Do not use water jets or spray to clean the machine.
- When sharp accessories are manipulated, use cut-resistant gloves.
- Ensure that the machine is disconnected from the power source after daily use.

Summary Safety Notes for Owners / Operators of this Machine

- • Always operate within the limits of use of the machine.
- • Always carry out constant and diligent maintenance.
- • Have the machine used by a single trained person.
- • Avoid distractions while operating the machine.



Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

The manufacturer declines all direct and indirect liability deriving from:

- Use by un-trained personnel.
- Non-observance of the instructions contained in this manual.
- Unauthorized modifications and / or repairs carried out on the appliance.
- The use of accessories and parts that are not genuine.
- Exceptional events.

Installation

General Installation Requirements

NOTE: It is most important that this appliance is installed correctly and that the operation is correct before use. Installation shall comply with local electrical, fire and health and safety requirements.

PARAMOUNT MIXERS are designed to provide years of satisfactory service. Correct installation is essential to achieve the best performance, efficiency and trouble-free operation.

This appliance shall be installed with sufficient ventilation to prevent the occurrence of unacceptable concentrations of health harmful substances in the room, the appliance is installed in.

Installations must be carried out by qualified service persons only. Failure to install equipment to relevant codes and manufacturers specifications in this section will void the warranty.

Components having adjustments protected (e.g. paint sealed) by manufacturer are only to be adjusted by an authorised service agent. They are not to be adjusted by the installation person.

It is the responsibility of the owner to supply and arrange for the connection of all services to the oven.

Unpacking

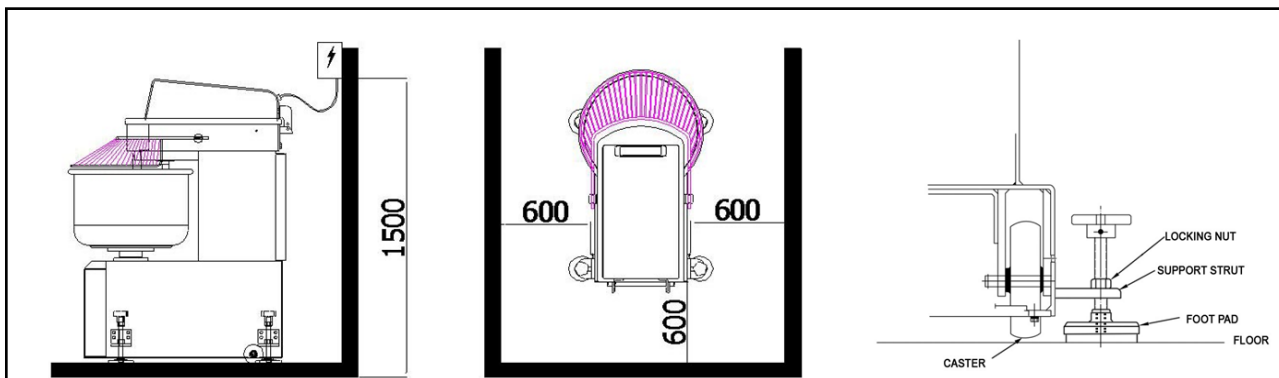
On receipt of the Mixer, carry out the following:-

- Carefully examine the packaging and the appliance for any signs of external damage that may have occurred during transit.
- Remove all packaging and transit protection from the appliance including all protective plastic coating from outer panels.
- Check equipment and parts for damage. Report any damage immediately to the carrier and distributor. Never attempt to operate the machine with damaged parts.
- Report any deficiencies to the distributor who supplied the appliance.



Before installing the mixer, check that the available electrical supply match that of the mixer as stated on the mixer's rating plate.

Location



1. Select a location for the Mixer with a minimum of 0.6m space around the machine for operating, cleaning and servicing.
2. Position the mixer in its approximate working position. The mixer must be installed on a horizontal, solid and dry floor.
3. Install the four anchors and lifting feet supplied with your mixer. Make certain that, during the installation these feet are completely supporting the mixer and that the weight of the machine is off the front and rear castor wheel assemblies.
4. Adjust the mixer feet to ensure that the mixer is level and seats firmly on all four corners.
5. Also, during this procedure it is recommended that the mixer is levelled from front to back and from side to side. This will ensure the greatest stability and mixing performance.
6. The final step in installation is to lock the anchor and lifting feet in place. This is done by tightening the locking nuts securely to the mixer supporting strut.

Electrical Connection



Warning

THIS APPLIANCE MUST BE EARTHED. IF THE SUPPLY CORD IS DAMAGED, IT MUST BE REPLACED BY A SUITABLY QUALIFIED PERSON IN ORDER TO AVOID A HAZARD.

1. An electrical supply should be available within the reach of the power cord. Do not use extensions to connect the machines power cord to the electrical supply.
2. Before making the electrical connections, read the specifications on the rating plate to ensure that they comply with those of the electrical supply. Electrical connection should be made by a qualified service technician who will observe all applicable safety codes and the national electrical codes.

Australia / New Zealand - AS/NZS3000 Wiring Rules.

When connecting this electric appliance to the mains supply, ensure that the following is carried out:-

- An isolating switch is fitted within 2m of the appliance, but not on the appliance and in such a position that the user does not have to reach across the cooking surface.
- Supply cord shall be oil-resistant, sheathed flexible cable and not lighter than ordinary polychloroprene or other equivalent synthetic elastomer sheathed cord (as per AS / NZS 3191 part 2.10.11. or IEC 60245-IEC-57) e.g. HO5 RN-F Type.
- The branch supply line shall be individually overload protected to the correct current rating and the supply cord shall be protected against any mechanical or thermal damage.
- A grommet is fitted for the power supply cord entry hole into the appliance.
- All wiring connections must be tight.

Refer to the appropriate wiring standards for the size of cable that is to be supplied to an appliance for the current drawn on that line.

Once the electrical connection has been made, the mixer is ready for use.

Electrical Supply Requirements - refer to the 'Specifications' Section.

Commissioning

Before using the Spiral Mixer, make sure it is rotating in the correct direction.

1. Connect the electrical supply to an appropriate socket and turn 'On'.
2. Start the mixer to check the direction of rotation of the kneading spiral and the bowl. When viewed from above, both kneading spiral and bowl should rotate clockwise. The arrow on the bowl indicates the correct rotation of the bowl. If the rotation direction is incorrect, swap any two phases to reverse the rotation direction.
3. Test the operation of the safety emergency stop button. The machine must stop operating immediately.
4. Test the operation of the microswitch cut-out on the bowl safety cover. When the cover is lifted the machine must stop immediately.

Operation

Operational Safety Precautions

Installation:

1. The stabilizing feet should be used to level the appliance.



Daily Checks:

2. The Mixing Bowl Safety Cover micro-switch should be checked for correct operation.

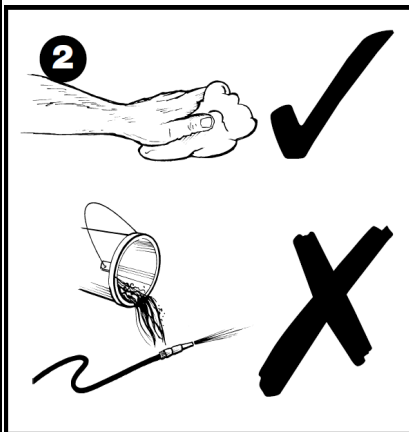


	Max Dough Capacity (kg)	Max Flour Capacity (kg)
SM2-25	25	12.5
SM2-50T	50	25
SM2-80T	80	50
SM2-120T	120	75

NOTE: Overloading the appliance will void the warranty.

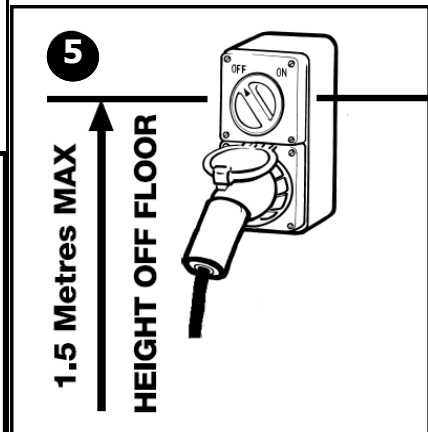
Appliance In Use:

1. Mixing Bowl Safety Guard should be raised and pushed back fully against stops to avoid injury. Do not throw Protective Cover back against the stops.
2. Cleaning of the appliance should only be carried out with a damp cloth. Buckets of water or a hose should not be used.

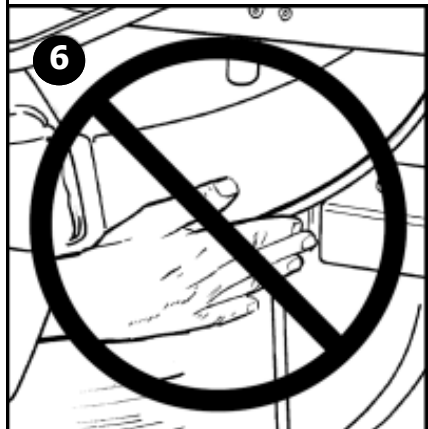


3. Take all possible precautions against the risk of creating dust, e.g.
 - Use a vacuum cleaner with the appropriate filter instead of using a brush.
 - Do not use pressurized air.
 - Handle dry products carefully so as not to produce dust, e.g. open and discharge flour bags at the lowest possible level within the mixing bowl, or use temporary bowl covers to minimize the creation of dust.
 - Consult the dry products suppliers Hazard Data Sheet for health risks and handling procedures.

4. The internal microswitch on Mixing Bowl Safety Cover mechanism should never be removed or tampered with in any way.
5. Electrical isolation switch should be fully accessible to the operator. 1.5 metres above the floor is a recommended height.



6. Hands or arms should not be placed behind bowl whilst appliance is in operation.



Operational Safety Precautions (Cont'd)

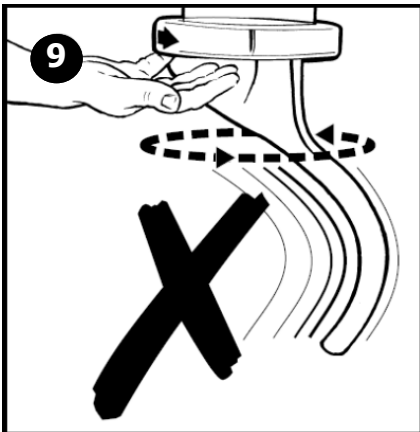
7. The Mixing Bowl Protective Cover should not be removed.



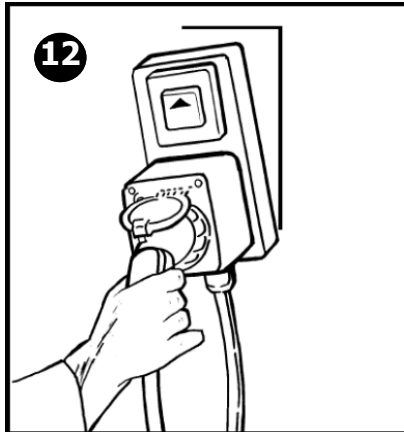
8. The appliance must not be operated with any service access panels removed.



9. Hands should never be placed near Dough Hook whilst Hook is in motion (Only possible if Mixing Bowl Safety Cover is opened quickly with no product in the bowl).



12. The appliance must be connected to the correct designated power outlet.



13. STOP THE OPERATION IMMEDIATELY IN THE EVENT OF AN ACCIDENT, BREAKDOWN OR BLOCKAGE OF THE APPLIANCE.

14. OBSERVE AND CARRY OUT ALL APPLICABLE PREVENTATIVE MAINTENANCE MEASURES AS SHOWN IN THE 'CLEANING/ MAINTENANCE' SECTION.

10. Appliance cleaning should not take place whilst it is in operation.



11. Thermal overloads within the Paramount Series Mixers electrical circuitry should not be tampered with or changed from original manufacturer's setting.



Operation

Before Operation



THE OPERATOR IS OBLIGED TO COMPLY WITH ANY LOCAL ENVIRONMENTAL REQUIREMENTS THAT ARE IN FORCE.

Before starting the appliance, carry out a general safety check;

- Check the machine is clear of all objects, all switches are off and any danger area is clear of bystanders.
- Area must be clean and free from obstructions, e.g. nothing placed on top of the appliance such as a dough knife, etc.
- Operator must not be wearing loose fitting clothing etc.
- Ensure the power supply is plugged in / connected correctly, then turn power 'On'.

Preparation

- **Lift the Bowl Safety Cover.**

Safety Cover should be raised and pushed back fully against stops to avoid injury. The mixer has safety interlocks to prevent mixer operation when the Safety Cover is lifted.

- **Ingredient Check.**

Complete ingredient check to ensure accuracy in scaling.

- **Add Ingredients.**

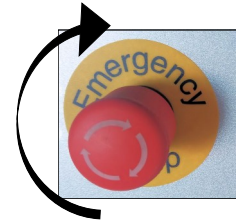
Operators should use their own workplace recipes.

Safety

Emergency Stop Button. A red mushroom safety switch. Push to operate - Twist clockwise to release.

In-built safety microswitch in the lid hinge mechanism.

Four lock down feet for extra stability and levelling.



Manual Control Buttons

SM2-25T / SM2-50T Only



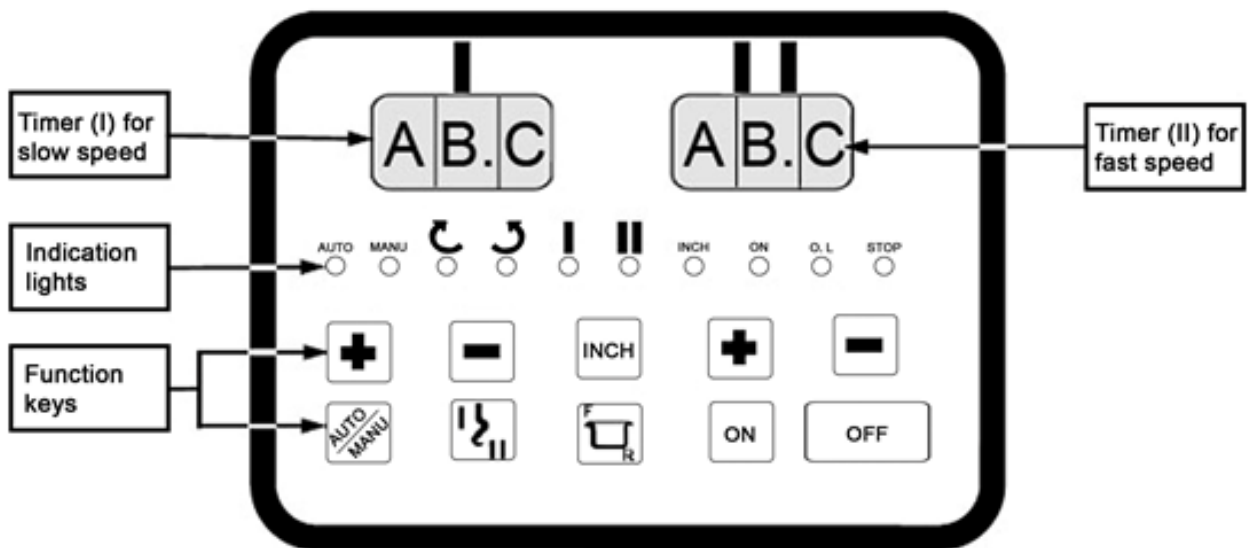
SM2-80T / SM2-120T Only



- 1 Manual (Slow - Fast) Speed Switch.
- 2 Manual 'Reset' Control Button.
- 3 Emergency Stop Button.
- 4 ON / OFF Switch.

If the digital panel is damaged, the mixer can still be operated by using the manual switch located as shown above. Slow or fast speed can be selected manually without using the timer.

Control Panel and Function Keys - SM2-25 Spiral Mixer



Timers

On top of the operation panel, there are three timers:

- Timer **I** is for slow speed;
- Timer **II** is for fast speed.

Each Timer has three digits.

The unit of A and B is minute while C is 10 seconds, for example: 0.1 means 10 seconds, 1.2 means 1 minute and 20 seconds.

The timers can be set by **+** and **-** buttons.

Press **+** button to increase the value, the maximum set time is 20 minutes. After 20 minutes, the timer will start from 0 minute again.

Press **-** button for the opposite operation.

When the spiral mixer is switched ON, timers will show the set time. The timer will only be operative when mixer is in AUTO mode. The timer will start automatically when the ON button is pressed.



The slow speed timer **I** will run first and then the fast speed timer **II** begin to run when the timer **I** run to zero. When all the timer value reach zero, the bowl will stop rotating.

When the spiral mixer safety guard is lifted, the timer will stop with the mixer and resume when the guard is moved down and the ON button is pressed.

When the OFF button is pressed, the timer will return to the set time.

Indication Lights

Indication lights indicate the running state of the spiral mixer:

1. AUTO/MANUAL lights:
 - When "AUTO" lamp lights up, spiral mixer is in AUTO operation.
 - When "MANU" lamp lights up, spiral mixer is in MANUAL operation.
2. Bowl direction lights:
 - When  lamp lights up, the bowl is in forward direction.
 - When  lamp lights up, the bowl is in reverse direction



3. Mixer speed lights:

- When 1 lamp lights up, the hook is in the slow speed state.
- When 2 lamp lights up, the hook is in the fast speed state.

4. Bowl inching light:

- When inch lamp lights, the hook stops while the bowl runs slowly. This button is also operative when the safety guard is lifted.

5. 'ON' model light:

- When "ON" lamp lights up, spiral mixer is in mixing mode.







6. O.L. Light:

- When "O.L." (OVERLOAD) lamp lights up, the overload relay is on. It informs you that the mixer is overload, please switch off the mixer and decrease the mixing weight, then restart the machine.

7. Stop mode light:

- When "STOP" lamp lights up, safety cover has been raised during mixing mode.











Function Keys

	AUTO / MANUAL selection		Speed selection button
	Bowl direction selection		Inching button
	Start button		Stop button





Operation

Control Panel and Function Keys - SM2-25 Spiral Mixer (Cont'd)

Operation Steps


1. Press   button below **I** timer to set the desired time for reverse slow mixing speed.
2. Press   button below **II** timer to set the desired time for forward slow mixing speed.
3. Press   button below **III** timer to set the desired time for forward fast mixing speed.
4. Press  button until the "AUTO" lamp lights up.
5. Press  button until the  lamp lights up.
6. Press  button to start machine.

Manual Operation

1. Press  button until the "MANU" lamp lights up.
2. Press  buttons to select the desired direction.
3. Press  to start.
4. Press  button when you want to stop the machine.

The timer will stop function under manual operation.

The bowl can not be reversed under fast speed.

The mixer will always start with slow speed even if you have selected fast speed to start. When the mixer is running at slow speed, you can press  button to shift the mixer to the fast speed.

Control Buttons

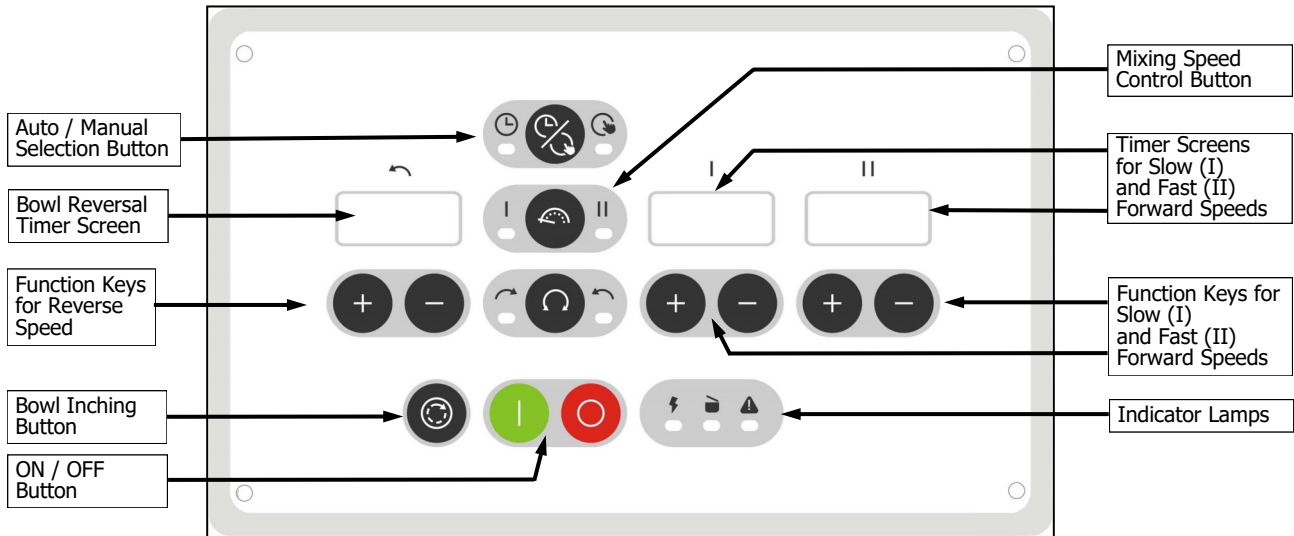
When digital panel is damaged, the mixer can be operated by manual switch located at left side of top cover. You can select slow speed or fast speed manually without timer.

1. Press "ON" to start the machine.
 2. "1" means slow speed, "2" means fast speed.
- In this state, the bowl can only rotate clockwise.



Pressing the emergency button or opening the safety guard will stop the mixer, at any stage.

Control Panel and Function Keys - SM2-50T / -80T / -120T Spiral Mixers



Function Keys

AUTO / MANUAL Selection Button.



When **Left Lamp is Lit**, the machine will work in **Auto Mode**.

When **Right Lamp is Lit**, the machine will work in **Manual Mode**.

BOWL SPEED / DIRECTION DISPLAY SCREENS.



Bowl Reversal Timer Screens. (This will only display if **Slow Speed** is being used).



Timer I - Bowl Forward Operation - **Slow Speed** Timer Screen.



Timer II - Bowl Forward Operation - **Fast Speed** Timer Screen.

Each TimerDisplay has three digits. The units of **A** and **B** are in minutes, while **C** is 10 seconds.

For Example: 0.1 means 10 seconds, 1.2 means 1 minute and 20 seconds.

TIME SETTING Buttons.



Each of the timers can be set using these buttons, and the maximum setting time is 20 minutes.

NOTE: The timers can only be used when the mixer is in **AUTO Operation Mode**.

MIXING SPEED Control Button.



Press the button to choose the mixing speed.

When **Left Lamp is Lit**, the mixer hook will rotate in **Slow Speed Mode**.

When **Right Lamp is Lit**, the mixer hook will rotate in **Fast Speed Mode**.

BOWL ROTATION DIRECTION Control Button.



Press the button to choose the bowl rotation direction.

When **Left Lamp is Lit**, the mixer bowl will rotate in **Clockwise Direction**.

When **Right Lamp is Lit**, the mixer hook will rotate in **Anti Clockwise**.

BUTTONS and INDICATION LAMPS.

Inch Button:



After completing the dough mixing, this button can be used to turn the bowl little by little so that the dough can be removed easily from the bowl.

On / Off Button:



Press the **Green Button** to start the mixing operation, or press the **Red button** to stop the operation.

Indicator Lamps:



Left Indicator Lamp is the power lamp, it illuminates when the machine is connected to the power supply and the machine is switched 'ON'.




Centre Indicator Lamp is a safety lamp, it illuminates when the safety guard is 'Open'.

Right Indicator Lamp is a **Warning Lamp**, it illuminates if the machine is overloaded.





Operation

Operating the Mixer using the Touch Control Panel


Auto Operation

1. Press the  button until the left lamp lights up, to choose the AUTO Mode.
2. Press the  button below the three timers, to set the desired time for the three mixing speeds.
3. Press the  green 'On' button to start the operation.
4. During operation, the safety guard can be lifted to check the quality of the dough. Once the safety guard is lifted, the machine will stop automatically. Once the safety guard is lowered press the 'On' button and the machine will re-start and will continue to work with the remaining time left.

Manual Operation



1. Press the  button until the right lamp lights up, to select the MANUAL Mode.
2. Press the  button to choose the desired bowl rotation direction.
3. Press the  green 'On' button to start the operation.
4. Press the  red 'Off' button to stop the appliance.


The bowl can only be rotated in a clockwise direction under fast speed.

The mixer will always start in slow speed even if a fast speed is chosen to start. When the mixer is running at slow speed, press the  button to change the mixer to the fast speed.

Control Buttons

If the Control Panel is damaged, the mixer can still be operated by the manual control switch located on the left side of the top cover. (SM2-25 / SM2-50T). For SM2-80T / SM2-120T the manual control switch is located on the front left face of the top cover. Slow speed or fast speed can be manually selected without using the timer.

1. Press the  'Reset' button to start the appliance.
2. Select "1" for slow speed, or "2" for fast speed. 

Using this Mode of Operation, the mixer bowl can only rotate clockwise. The mixer can be stopped by either pressing the Emergency Stop Button  or by opening the mixer bowl safety guard.

Daily Cleaning Procedure



Warning

Ensure that the Appliance is electrically isolated from the power supply before commencing cleaning.



Caution

**THIS UNIT IS NOT WATER PROOF.
DO NOT USE WATER JET OR SPRAY TO CLEAN INTERIOR OR EXTERIOR OF THIS UNIT.**

General

1. Close the cover of the spiral mixer and isolate the mixer from the electrical supply.
2. Brush off all external surfaces. Use a banister brush and work from top to bottom.
3. Wipe all surfaces with a damp cloth. Dry all external surfaces.

Cleaning the Mixer Bowl, Breaker Bar and Dough Hook

1. Remove all old dough / built up deposits using a plastic scraper.
2. Scrape the Mixing Bowl, the Breaker Bar, the Dough Hook, the upper inside mixing bowl cowling and behind the mixing bowl.
3. Wipe all surfaces with a cloth soaked in warm water.
4. Apply a detergent / sanitizer and leave on all the surfaces (for length of time specified by the supplier and / or manufacturer).
5. Scrub to loosen and remove any loose material.
6. Rinse the Bowl and Dough Hook thoroughly with hot water.
7. Remove excess moisture with a clean squeegee or paper towels. Dry all surfaces.
8. Re-examine all surfaces to evaluate effectiveness of cleaning.
9. If further cleaning is required, start from Step 1 and repeat cleaning process.

Maintenance

It is recommended that an authorised service agent carries out the following maintenance on the Spiral Mixer at the intervals shown, to maintain the mixer in good working order:-

2 Months - Check and re-tighten any loose screws on the machine.
Check the four feet supports and adjust to make sure that the machine is level and even.

3 Months - Drive belts are checked and re-tensioned.
- Open the Top Cover and clean out any flour dust using an air pressure gun. Taking care not to damage any electrical components.

Fault Finding

Machine Based Fault Finding

Fault	Possible Cause	Remedy
The mixer does not operate / start.	Not plugged in to the socket at main switch. The main switch is "Off". The bowl Safety Cover is open. The mixer overload has been activated. Emergency Stop button is still locked in the down position.	Plug in and switch 'On'. Turn main switch 'On'. Place in down position. Contact supervisor / service agent. Release by rotating and pulling.
The mixer starts and then stops.	Both high and low speed timers are set to zero. The mixer overload has been activated. Fuse overload at the power board.	Reset mix cycle on both timers. Contact supervisor / service agent. Contact supervisor / service agent.
The mixer labours under load.	Dough too stiff / tight. Mechanical malfunction.	Review and adjust dough consistency, e.g. add more liquid. Contact supervisor / service agent.
The mixer moves or rocks during operation.	Floor not level or the adjustable feet are located incorrectly.	Re-adjust level and stabilise by means of adjustable foot.
Excessive flour dust coming from mixer.	First speed timer set too short.	Extend first speed mix / blending cycle.
The mixer does not stop.	Electrical / mechanical malfunction.	Switch 'Off' power at main switch. Isolate mixer by removing wall plug. Attach danger tag to machine. Contact service agent.
The mixer bowl and dough hook operate in the wrong direction.	Inserting the mixer plug into the incorrect socket after cleaning. Relocating the mixer in another position after maintenance.	Return to correct position. Consult authorised electrical service to rewire plug.

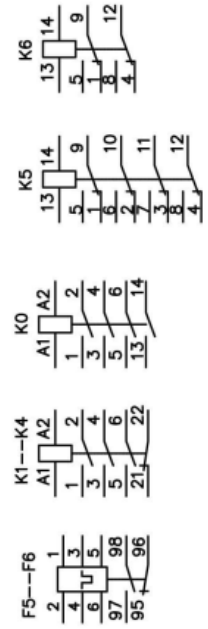
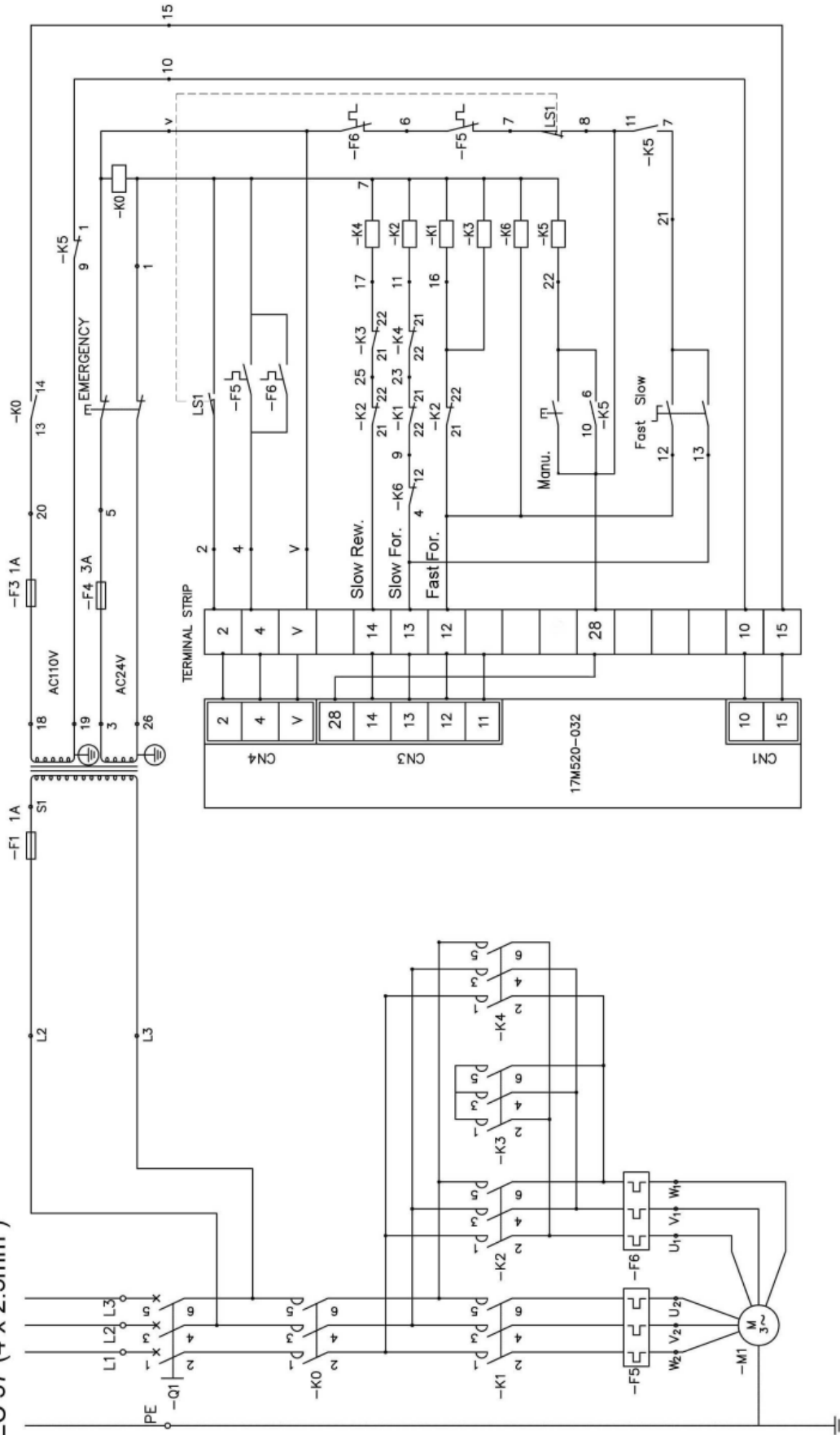
Product Based Fault Finding

Fault	Possible Cause	Remedy
Bread dough too soft.	Excessive water used in dough (human error). Incorrectly metered / measured through water meter (equipment error). Over-mixed dough.	Review recipe and adjust dough consistency. Contact authorised maintenance. Review / check / change mix cycle.
Final dough temperature too hot.	Water temperature too warm. Dough mixed too long.	Reduce water temperature. Shorten mix cycle.
Final dough temperature too cold.	Water temperature too cold. Dough mix too short.	Increase water temperature. Lengthen mix time.
Foreign matter found / seen in dough.	Mixer not cleaned as per cleaning instructions. Poor ingredient quality. Poor personal/bakery hygiene.	Thoroughly scrape and check between dough. Review cleaning instructions. Contact ingredient supplier. Review and reinforce correct procedures.
Dough is difficult to remove from the mixing bowl.	Dough left in bowl too long. Dough too soft. Dough over-mixed.	Remove from bowl earlier. Refer - dough too soft. Run food grade oil between dough and bowl at end of mix cycle to stop dough sticking.

Wiring Diagrams

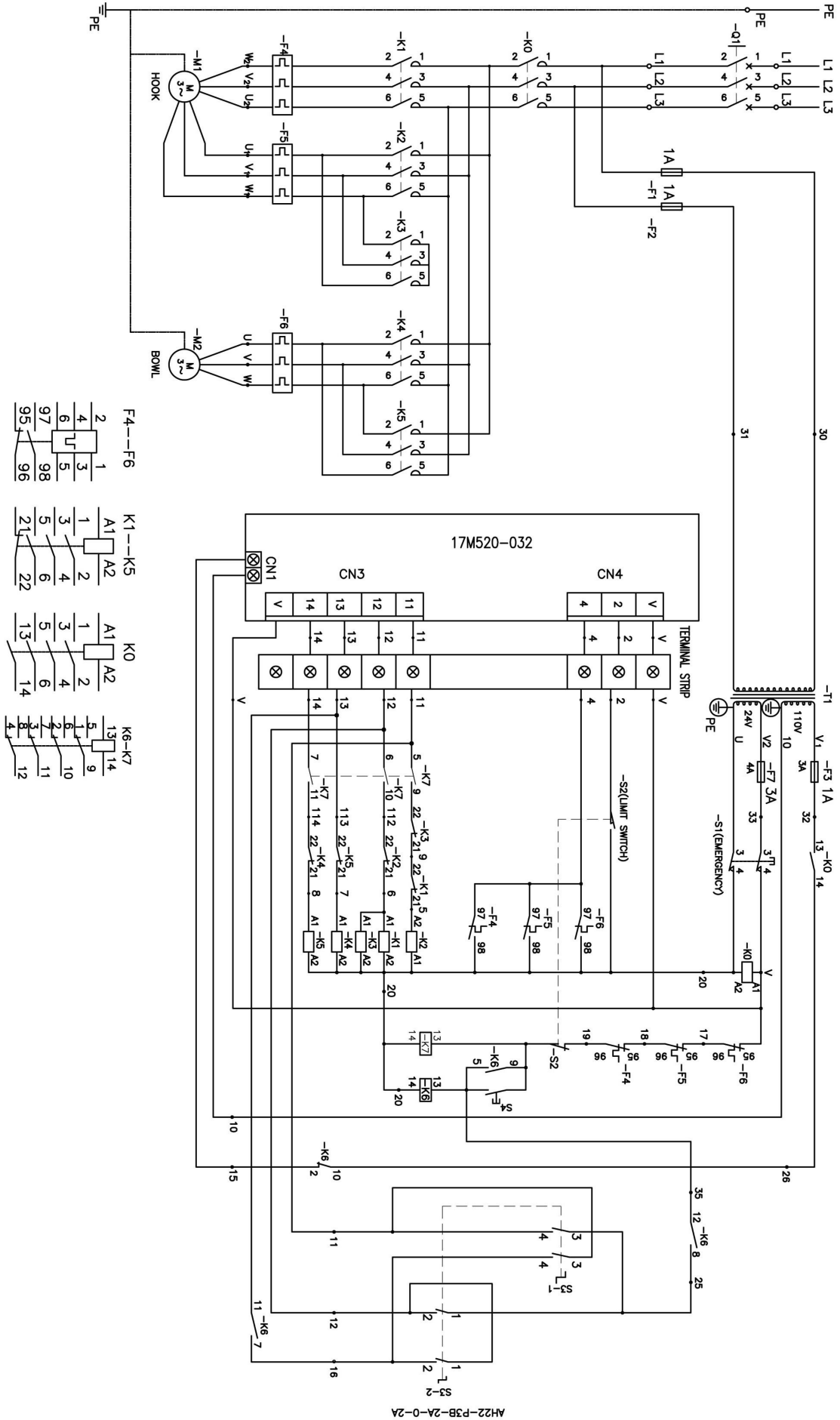
Wiring Diagram SM2-25 Spiral Mixer - 400 -415Vac, 3PH +PE

60245 IEC 57 (4 x 2.5mm²)



Wiring Diagrams

Wiring Diagram SM2-50T / SM2-80T / SM2-120T - Spiral Mixer - 400 -415Vac, 3PH + PE



Competency Checklists

Guide Sheets for Staff Training

The pages in the following section of this manual should be copied and used when training staff to operate the Paramount Spiral Mixer. It is recommended that the competency assessment checklists be completed, signed, and a copy kept in the personnel files for future reference.

Supervisors to ensure

- Competency check lists are copied and completed as part of the training of staff.
- Correct training of staff to the required competency expectations.
- The verification section of the competency check list is signed off.
- A copy of the completed and signed competency check list is placed in personnel records as evidence of operator competence.

Operation Competency Checklist

Paramount Spiral Mixer

Element: Implement Safe Work Procedures



Assessment Criteria

"Can the operator"

Identify the purpose and use of:

- Equipment guards
- Warning signs
- Safety features

Related to this machinery?

Identify:

- Machine-related health and safety risks of this equipment?
- Emergency procedures to be used with this equipment?

Operate this equipment correctly in normal and emergency situations?

Identify:

- OH&S reporting procedures related to hazard reporting for this machine?

Comments:

To gain competency in the use of the **PARAMOUNT SPIRAL MIXER**, the assessor must be satisfied that the operator has consistently applied the knowledge and skills in all of the above elements.

This form should be signed off only when the assessor is satisfied that the employee / trainee is competent to carry out all of the tasks described above.

Applicant's signature _____ Date / /

Assessor's signature _____ Date / /

SUGGESTION — Use this form to train staff, and place a copy in personnel files.

Competency Checklists

Operation Competency Checklist

Paramount Spiral Mixer

Element: Implement Essential Hygiene and Sanitation Procedures.

SUGGESTION — Use this form to train staff, and place a copy in personnel files.

✓ **Assessment Criteria**

"Can the operator"

Maintain sound personal hygiene at all times when working with the **PARAMOUNT SPIRAL MIXER?**

Use appropriate protective and work clothing while working with the **PARAMOUNT SPIRAL MIXER?**

Identify:

- Product handling requirements during production process?
- Critical points in the process where contamination can be introduced?
- Why it is important to monitor hygiene and sanitation performance?
- The effect of poorly maintained equipment on the control of contamination and spoilage?
- Company policies and procedures regarding hygiene and sanitation?
- Actual and potential contamination and spoilage hazards?
- Solutions to rectify contamination and spoilage problems?

Use work practices and methods that reduce the risk of product contamination?

Remove contamination where appropriate in accordance with:

- Workplace hygiene and sanitation procedures?
- Procedures specific to the **PARAMOUNT SPIRAL MIXER?**

Comments:

To gain competency in the use of the **PARAMOUNT SPIRAL MIXER**, the assessor must be satisfied that the operator has consistently applied the knowledge and skills in all of the above elements.

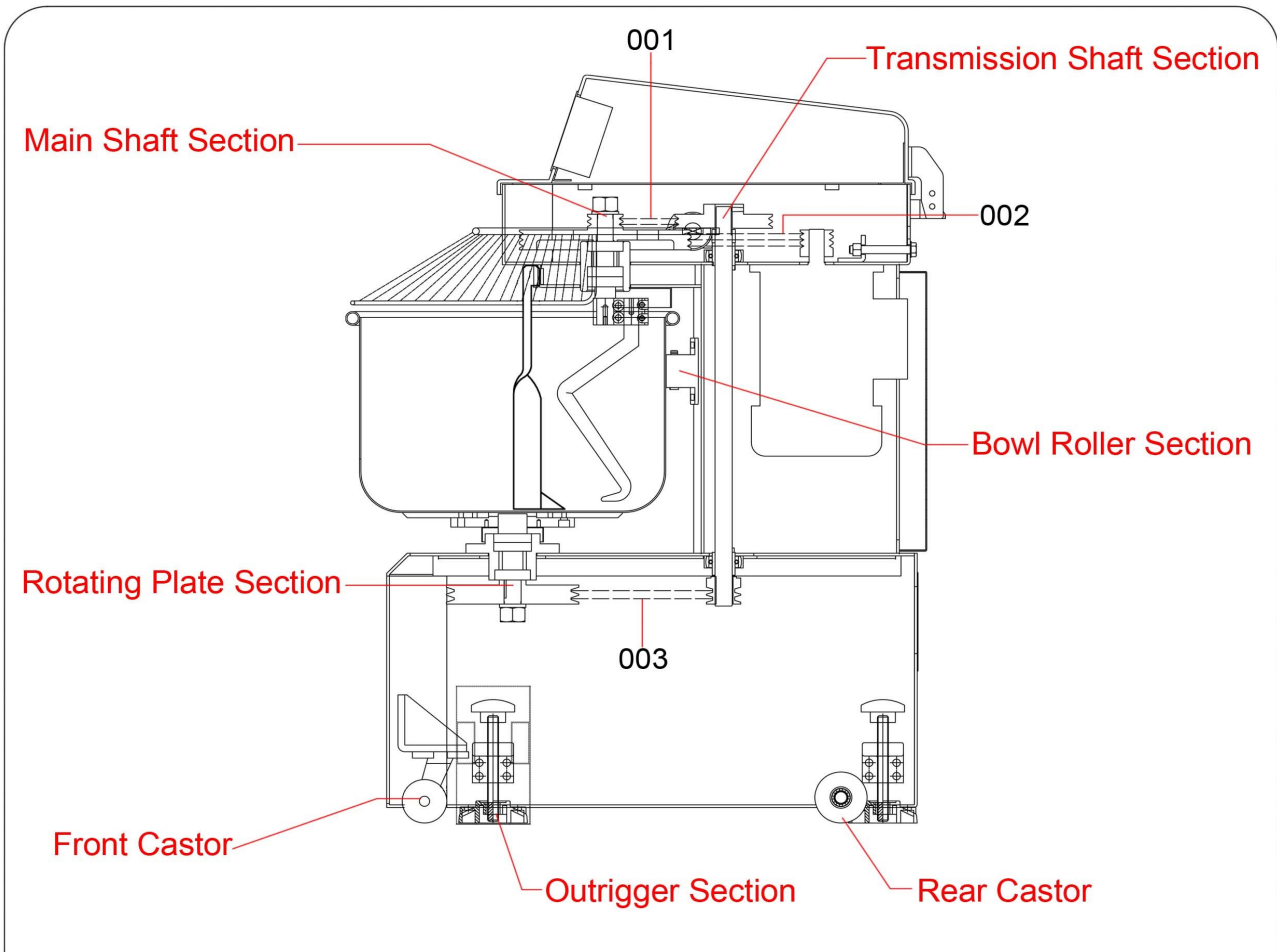
This form should be signed off only when the assessor is satisfied that the employee / trainee is competent to carry out all of the tasks described above.

Applicant's signature _____ Date / /

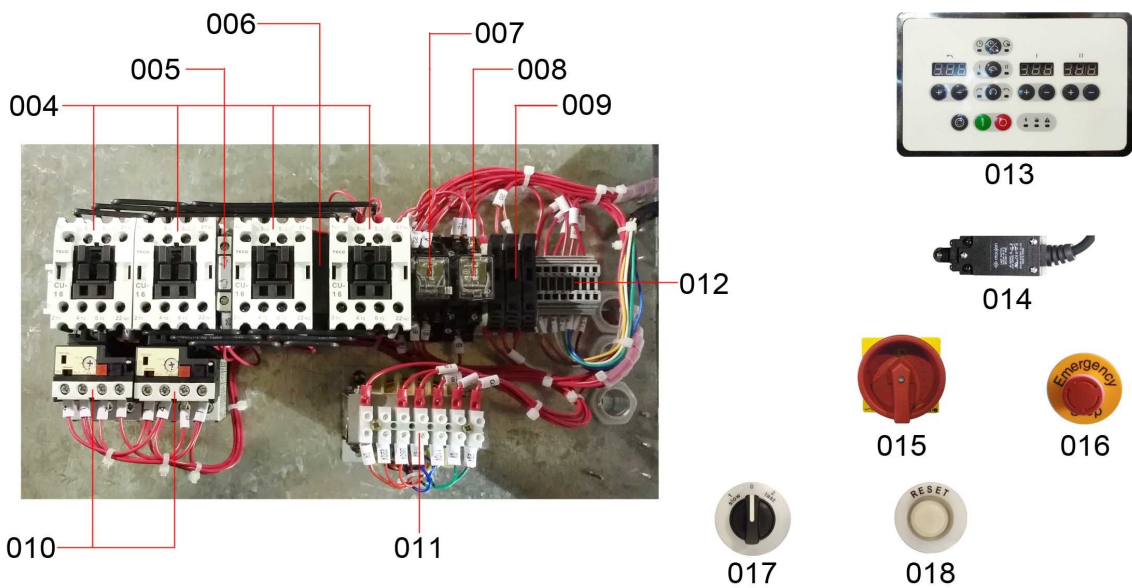
Assessor's signature _____ Date / /

Replacement Parts List

SM2-25 Spiral Mixer

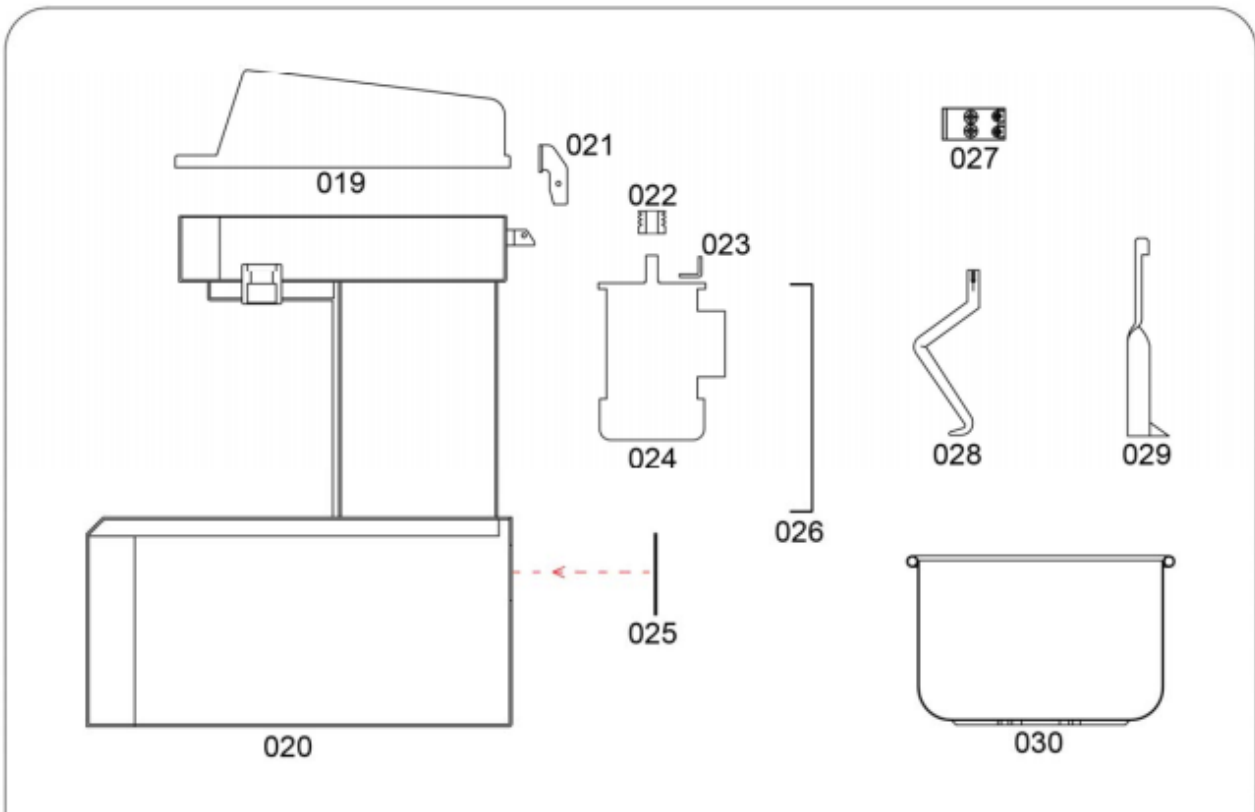


Electric Elements

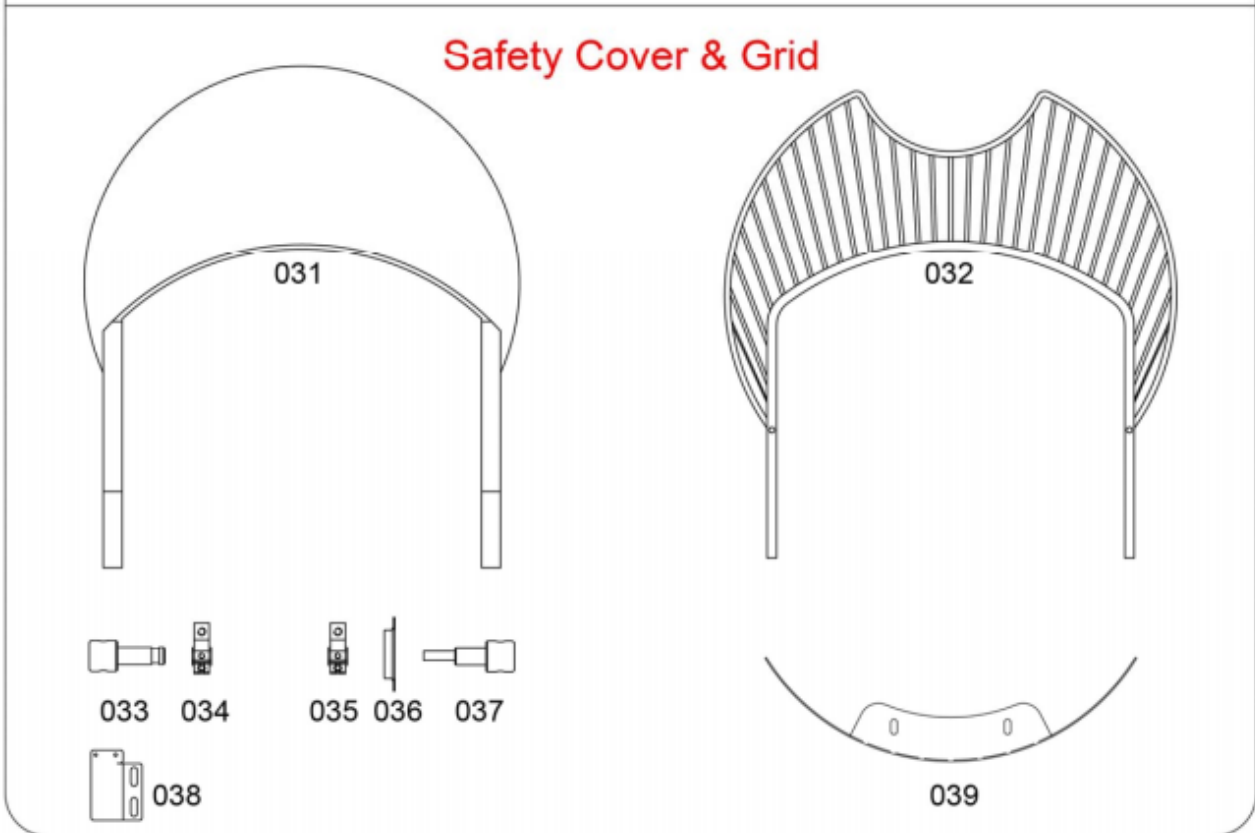


Replacement Parts List

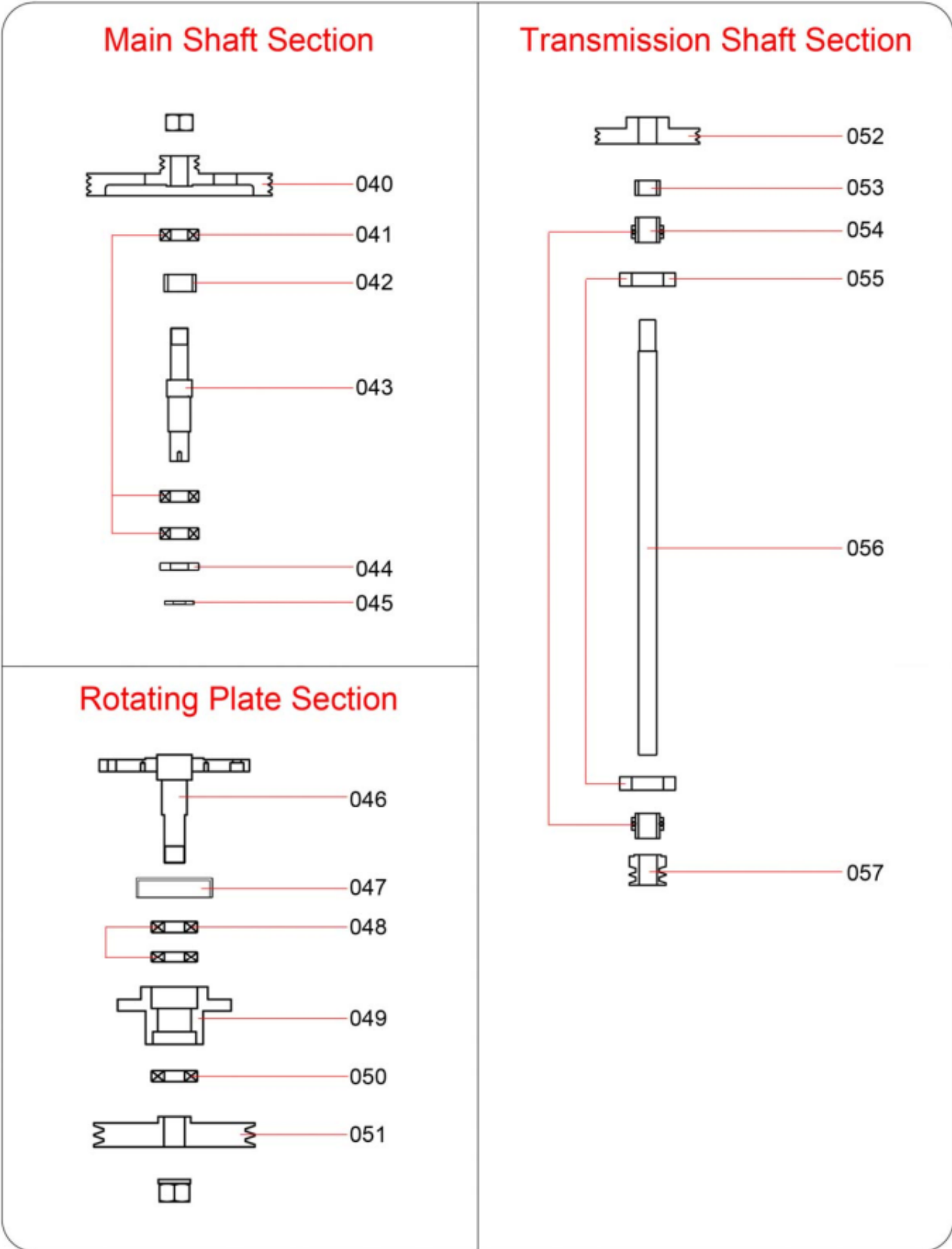
SM2-25 Spiral Mixer (Cont'd)



Safety Cover & Grid



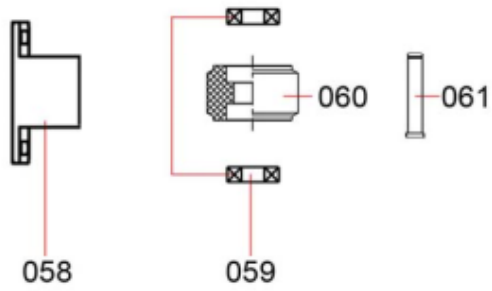
SM2-25 Spiral Mixer (Cont'd)



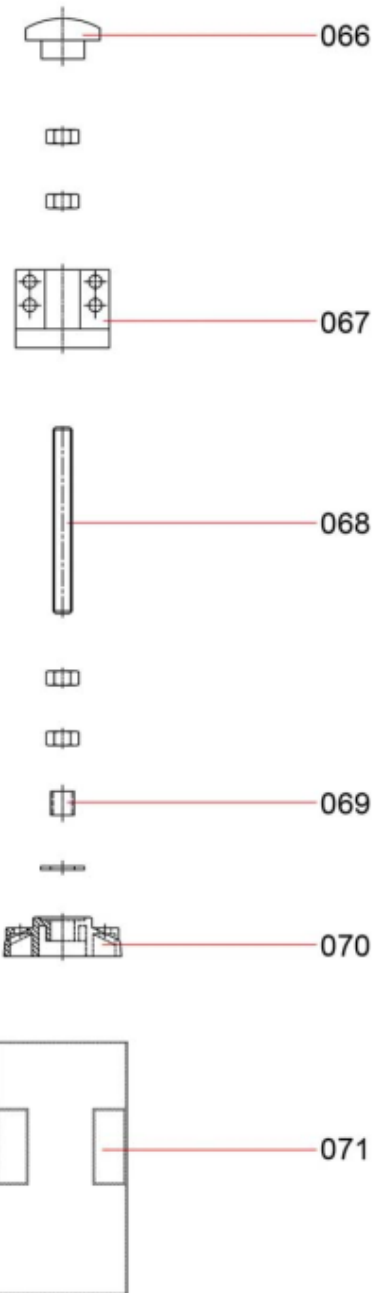
Replacement Parts List

SM2-25 Spiral Mixer (Cont'd)

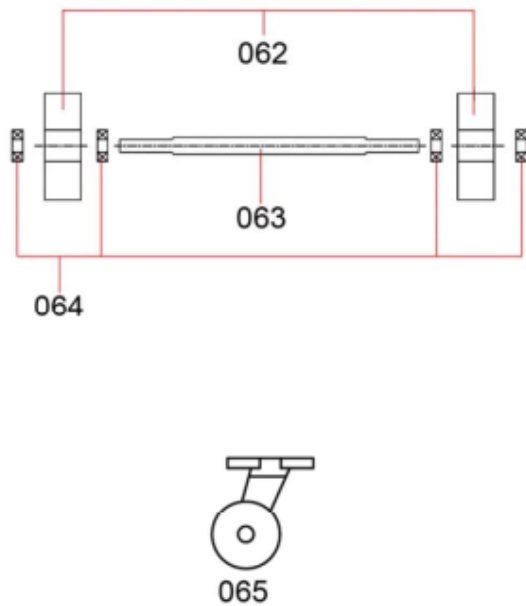
Bowl Roller Section



Outrigger Section



Castor



Replacement Parts List

SM2-25 Spiral Mixer - Parts List

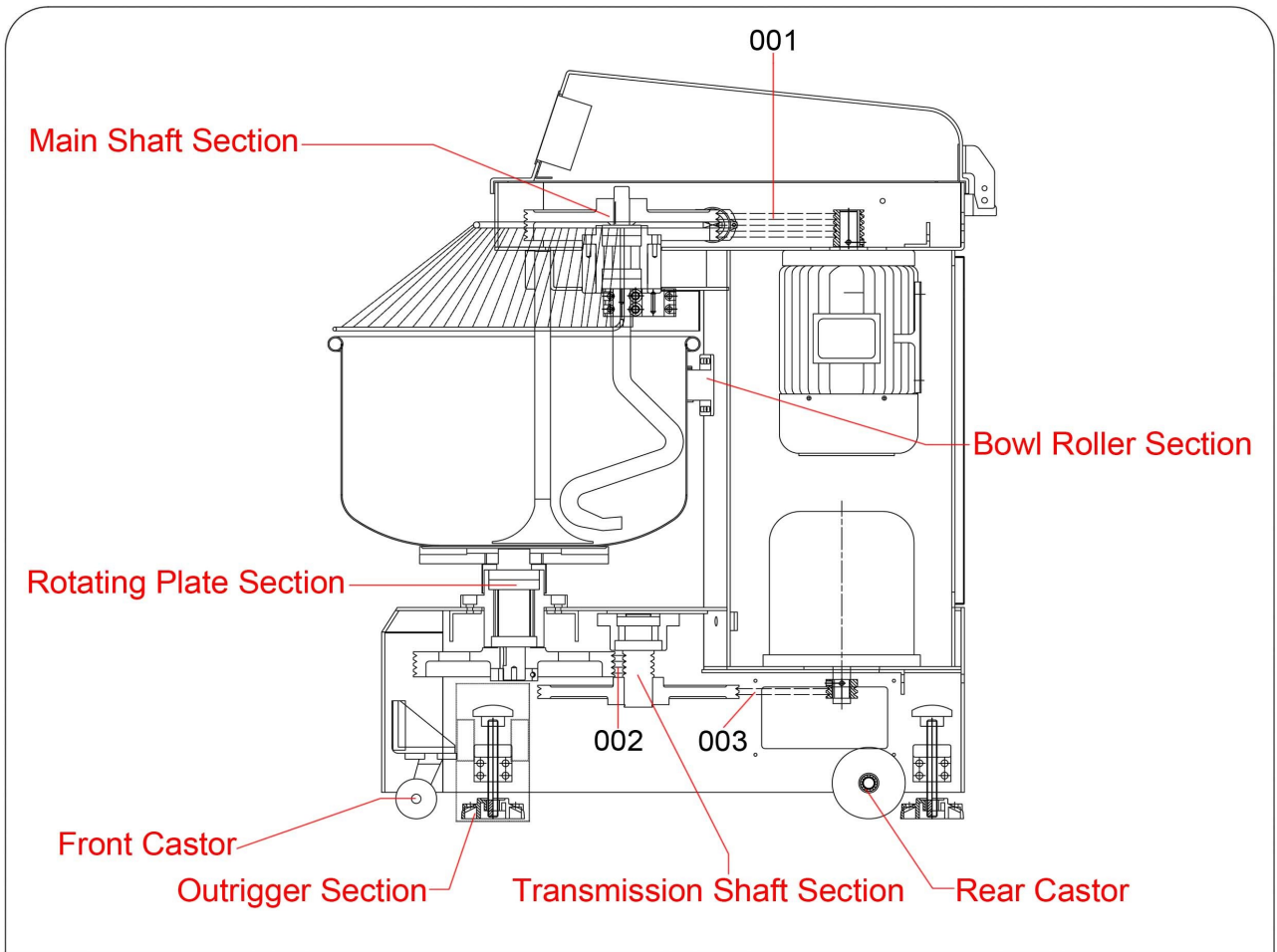
Part No.	Part Name	Part Code	Specification
001	Belt	15PDL670	7M-670
002	Belt	15PDL1120	7M-1120
003	Belt	15PDLRPF2405	9.5*1025
004	Contactora	16JCQCN16-1	3A1b 24V/50Hz
005	Auxiliary contacts	16ZB2BE102C	
006	Mechanical interlock	16LSLCI-18	
007	Relay	16JDQMY2-24V	
	Relay seat	16JDQPYF-08	
008	Relay	16JDQMY4-24V	
	Relay seat	16JDQPYF-14	
009	Fuse seat	16BXSZG	
010	Thermal relay	16JDQRHU10A-3-0	5.5A-7.5A
011	Transformer	16BYQJBK63-2	415V-110/26V
012	Wire connection	16DZP280101	
013	Control panel	16MBOMX-005	
014	Limit switch	16KGLMEA9112G	
015	Power switch	16KGL3P20A	
016	Emergency stop	16KGLZA2-BS54	
017	Knob	16KGLZB5-AD3	
	Knob seat	16CDLZBE101	
018	Button switch	16KGLBE101	
019	Top cover	14M444-18	
020	Machine body	11M010-18	
021	Connection	12M461-18	Left
		12M471-18	Right
022	Motor pulley	14M325-03	50Hz
023	Motor plate	11M290-05	
024	Motor	16MDL25-5	415V-50Hz-3ph
025	Cover plate	12M880-18	
026	Back cover	11M870-18	
027	Clamping Block	13M640-08	
028	Hook	14M630-08S	
029	Centre pillar	11M650-09VDB	
030	Bowl	11M620-09	
031	Safety cover	14M800-25G	
032	Safety grid	11M750-25GN	
033	Fixing pole	14M680-07VDB	

Replacement Parts List

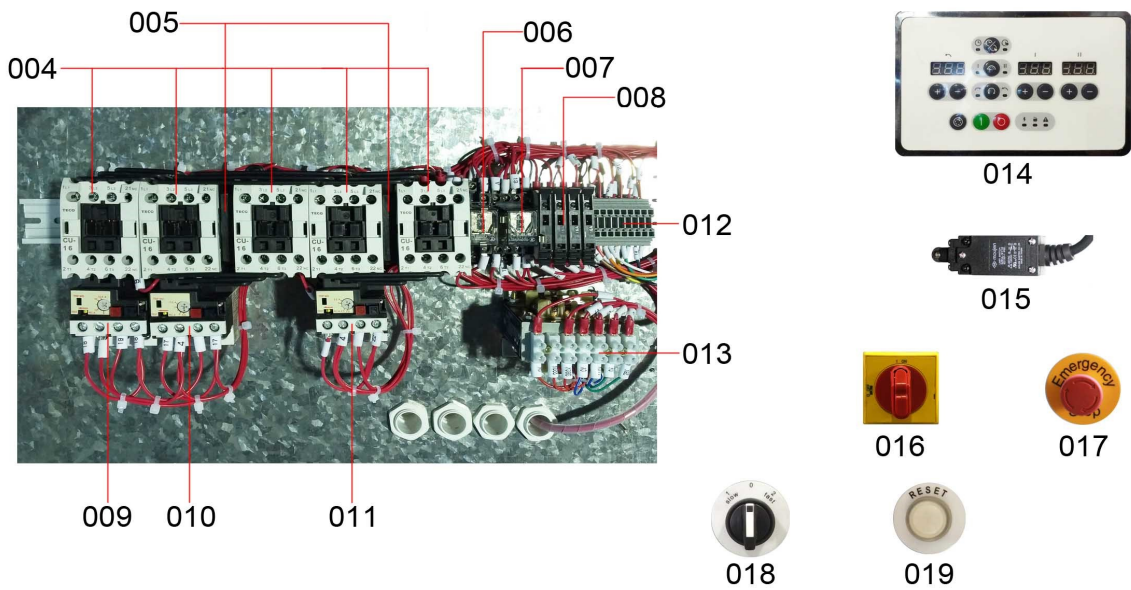
SM2-25 Spiral Mixer - Parts List (Cont'd)

Part No.	Part Name	Part Code	Specification
034	Limit switch wheel	14M710-18	
035	Damper wheel	14M700-02VDB	
036	Damper	15DBS-57A-470	
037	Fixing pole	14M670-07VDB	
038	Limit switch seat	12M040-18	
039	Back safety cover	11M800-25-HG	
040	Pulley	14M381-01-0	
041	Bearing	15ZCL6205VV-02	6205VV
042	Sleeve	14M375-01	
043	Main shaft	14M370-07	
044	Oil Seal	15YFL30*52*8	TC30*52*8
045	Washer	14M371-01	
046	Rotate plate	14M560-18	
047	Waterproof cover	11M570-18-01	
048	Bearing	15ZCL6006VV-02	60062RS
049	Bearing house	14M530-18	
050	Bearing	15ZCL6205-01	6205
051	Pulley	14M590-03	
052	Pulley	14M250-06-0	
053	Sleeve	14M200-05	
054	Bearing	15ZCLUC205	UC205
055	Bearing house	14M220-06	
056	Shaft	14M190-18	
057	Pulley	14M260-04-02	
058	Bowl roller seat	11M830-49-01	
059	Bearing	15ZCL6200VV	6200VV
060	Bowl roller	14M840-08	
061	Bowl roller shaft	13M830-50	
062	Back castor	15LZLH3	
063	Shaft	14M180-18	
064	Bearing	15ZCL6002VV	60022RS
065	Front castor	15LZLHD3	3"
066	Butterfly nut	15BSLHY01	
067	Foot pad	14M140-06	
068	Thread rod	14M142-01	
069	Sleeve	14D9016150-03	
070	Foot pad seat	14D9016150-01	
071	Cover	11M-00-VDB	

SM2-50T Spiral Mixer

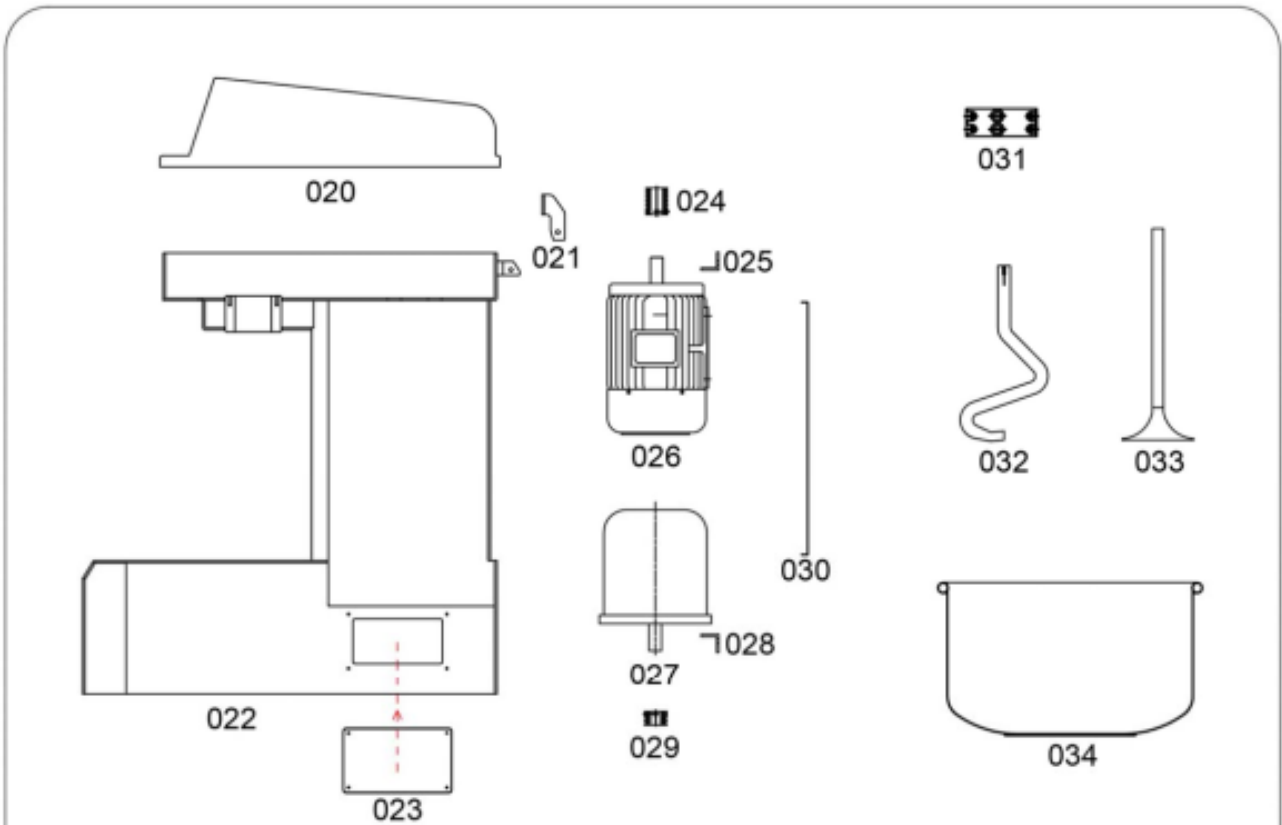


Electric Elements

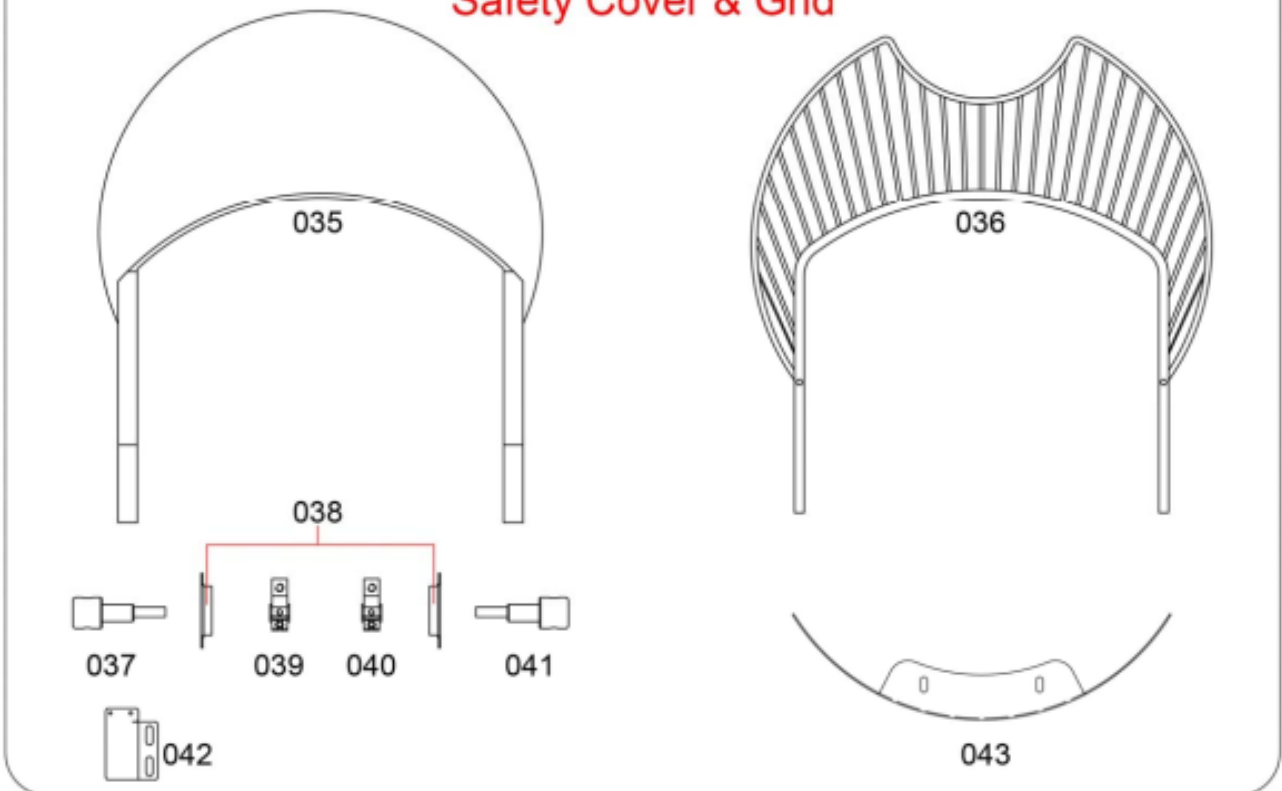


Replacement Parts List

SM2-50T Spiral Mixer (Cont'd)

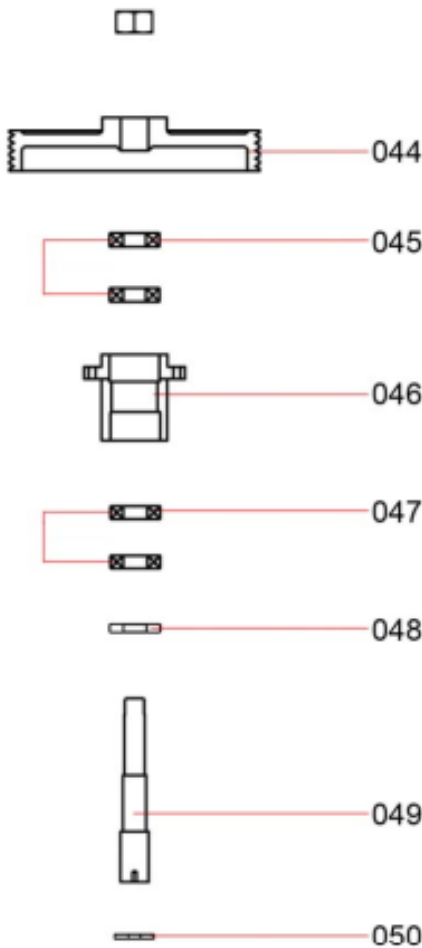


Safety Cover & Grid

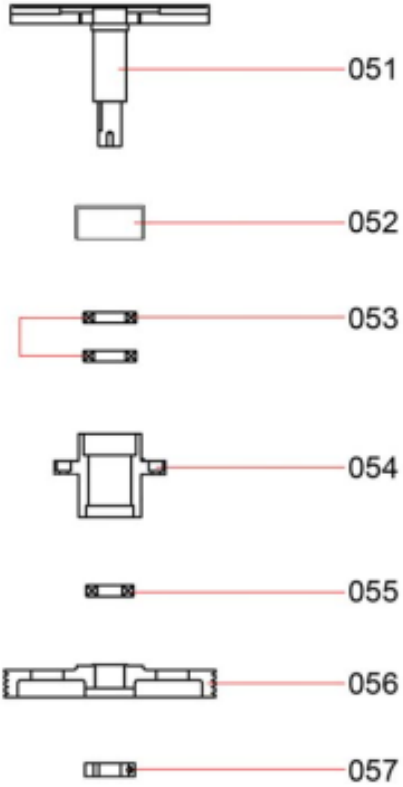


SM2-50T Spiral Mixer (Cont'd)

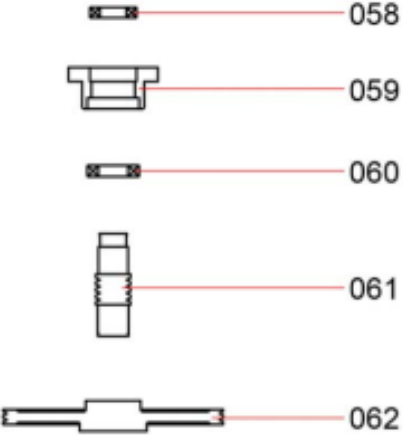
Main Shaft Section



Rotating Plate Section



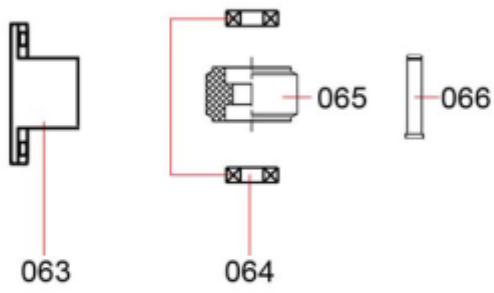
Transmission Shaft Section



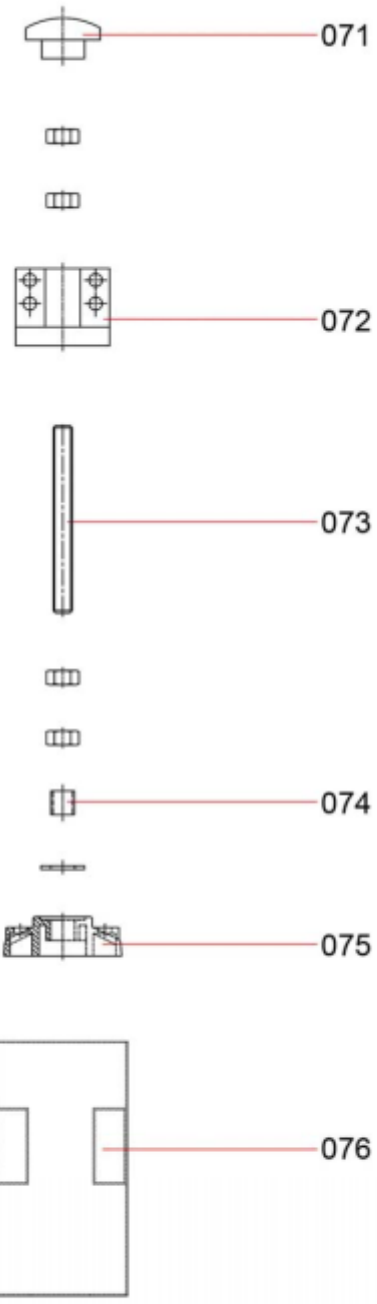
Replacement Parts List

SM2-50T Spiral Mixer (Cont'd)

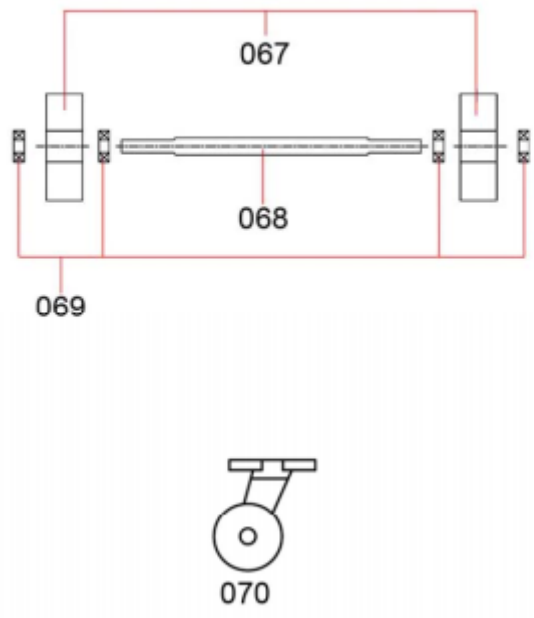
Bowl Roller Section



Outrigger Section



Castor



Replacement Parts List

SM2-50T - Spiral Mixer - Parts List (Cont'd)

Part No.	Part Name	Part Code	Specification
001	Belt	15PDL1320	7M-1320
002	Belt	15PDL1120	7M-1120
003	Belt	15PDL1220	7M-1220
004	Contactora	16JCQCN16-1	3A1b 24V/50Hz
005	Mechanical Interlock	16LSLCI-18	
006	Relay	16JDQMY2-110V	
	Relay Seat	16JDQPYF-08	
007	Relay	16JDQMY4-24V	
	Relay Seat	16JDQPYF-14	
008	Fuse Seat	16BXSZG	
009	Thermal Relay	16JDQRHU10A-4-0	9.0A-12.5A
010	Thermal Relay	16JDQRHU10A-3-0	5.5A-7.5A
011	Thermal Relay	16JDQRHU10A-2-02	2.3A-3.2A
012	Wire Connection	16DZP280101	
013	Transformer	16BYQJBK63-1	220/380V-26/110V
013	Transformer	16BYQJBK63-2	415V-110/26V
014	Control Panel	16MBOMX-005VDB	
015	Limit Switch	16KGLMEA9112G	
	Power Switch	16KGL0T25ET3	
017	Emergency Stop	16KGLZA2-BS54	
018	Knob	16KGLAR22PR-322B	
018	Knob Seat	16CDLZBE101	
019	Button Switch	16KGLBE101	
020	Top Cover	14M444-19	
021	Connection	12M461-18	Left
		12M471-18	Right
022	Machine Body	11M010-19	
023	Cover Plate	12M880-18	
024	Motor Pulley	14M325-04-01	50Hz
025	Motor Plate	11M290-02	
026	Top Motor	16MDLKP50-06	415V-50Hz-3ph
027	Bottom Motor	16MDL80X-8	230/400V-50/60Hz
028	Motor Plate	11M290-06	
029	Motor Pulley	14M330-03	
030	Back Cover	11M870-19	
031	Clamping Block	13M640-10-40	
032	Hook	14M630-01S	
033	Centre Pillar	11M650-19-02	
034	Bowl	11M620-01	
035	Safety Cover	14M800-50G	
036	Safety Grid	11M750-50GN	
037	Fixing Pole	14M670-80T	
038	Damper	15DBS-57A-470	
039	Limit Switch Wheel	14M710-80T	
040	Damper Wheel	14M700-02VDB	
041	Fixing Pole	14M670-07VDB	

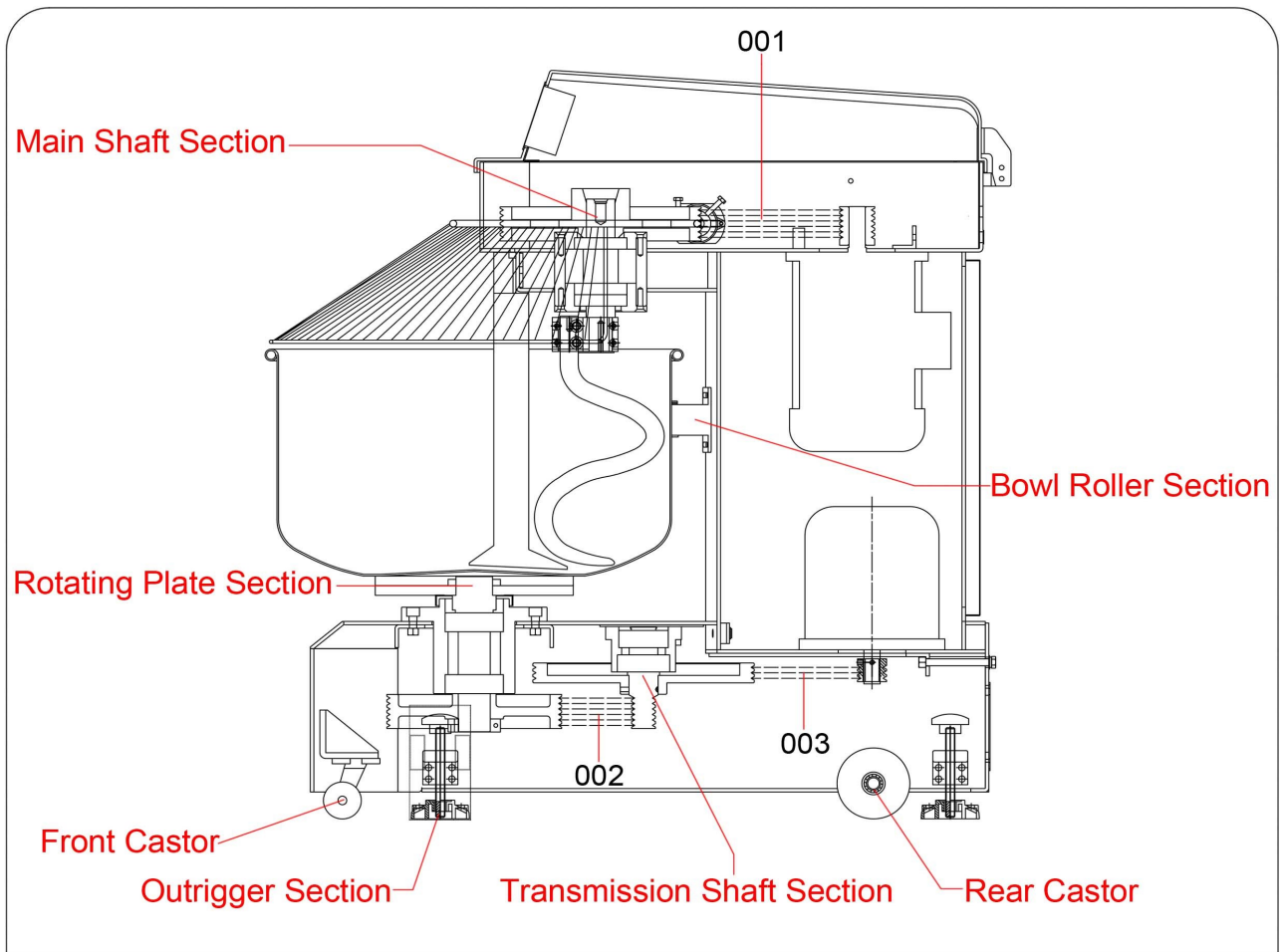
Replacement Parts List

SM2-50T - Spiral Mixer - Parts List

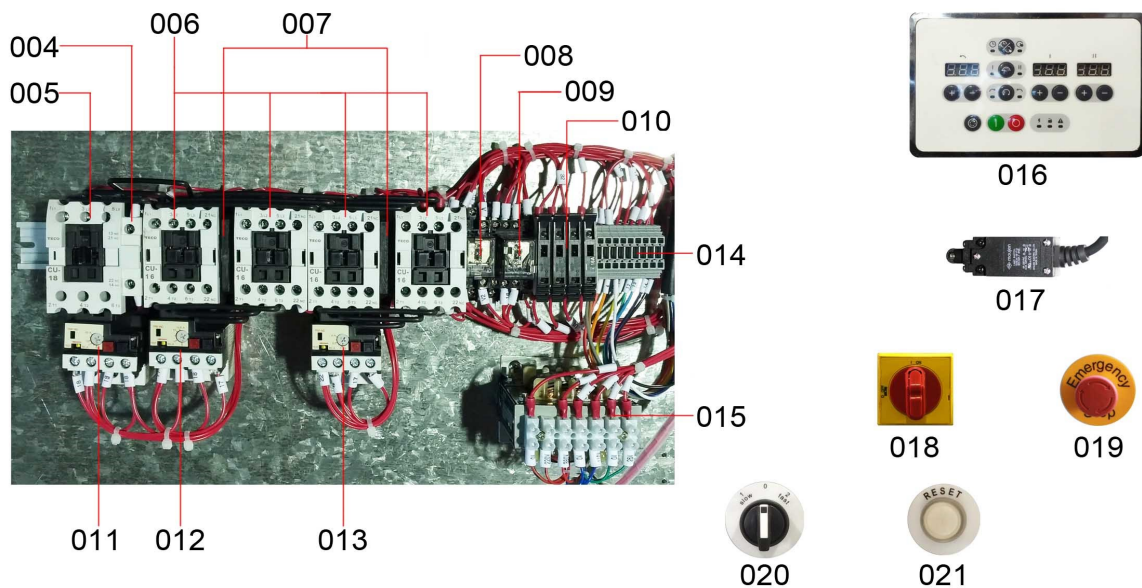
Part No.	Part Name	Part Code	Specification
042	Limit Switch Seat	12M040-19	
043	Back Safety Cover	11M800-50-HG	
044	Pulley	14M380-12-01	
045	Bearing	15ZCL6206VV-NSK	6206VV
046	Bearing House	14M340-02-40	
047	Bearing	15ZCL6007VV-NSK	6007VV
048	Oil Seal	15YFL40*62*7	TC40*62*7
049	Main Shaft	14M370-11T-40	
050	Washer	12M371-03-40	
051	Rotate Plate	14M560-19	
052	Waterproof Cover	11M570-19-01	
053	Bearing	15ZCL6010VV	6010VV
054	Bearing House	14M530-19	
055	Bearing	15ZCL6207VV	6207VV
056	Pulley	14M590-08-01	
057	Screw	14M600-01	
058	Bearing	15ZCLG6008GVV	6008GVV
059	Bearing House	14M420-04	
060	Bearing	15ZCL6009VV	6009VV
061	Shaft	14M410-02-01	
062	Pulley	14M400-02-01	
063	Bowl Roller Seat	11M830-49-01	
064	Bearing	15ZCL6200VV	6200VV
065	Bowl Roller	14M840-08	
066	Bowl Roller Shaft	13M830-50	
067	Back Castor	15LZL5	5"
068	Shaft	14M180-19	
069	Bearing	15ZCL6203VV	6203VV
070	Front Castor	15LZLS4-3312	
071	Butterfly Nut	15BSLHY01	
072	Foot Pad	14M140-06	
073	Thread Rod	14M142-01	
074	Sleeve	14D9016150-03	
075	Foot Pad Seat	14D9016150-01	
076	Cover	11M-00-VDB	

Replacement Parts List

SM2-80T - Spiral Mixer

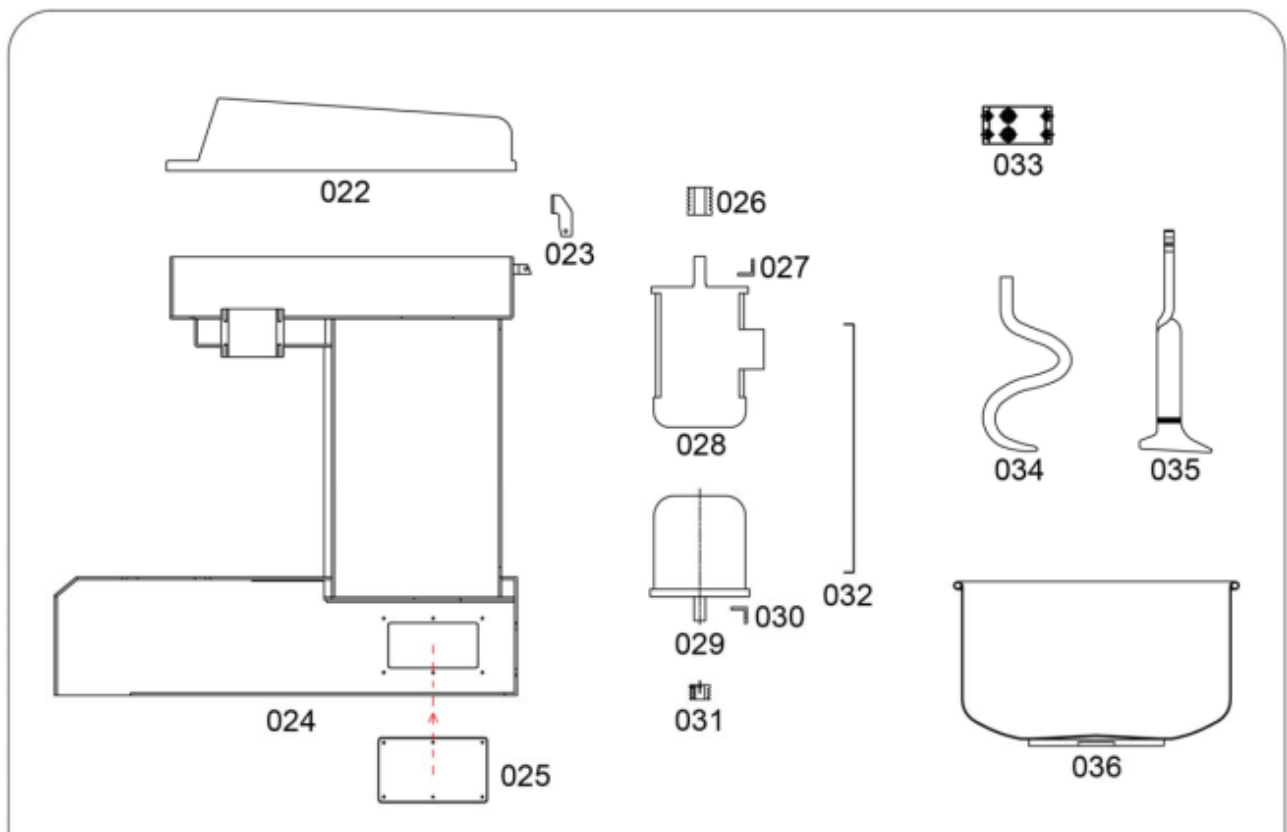


Electric Elements

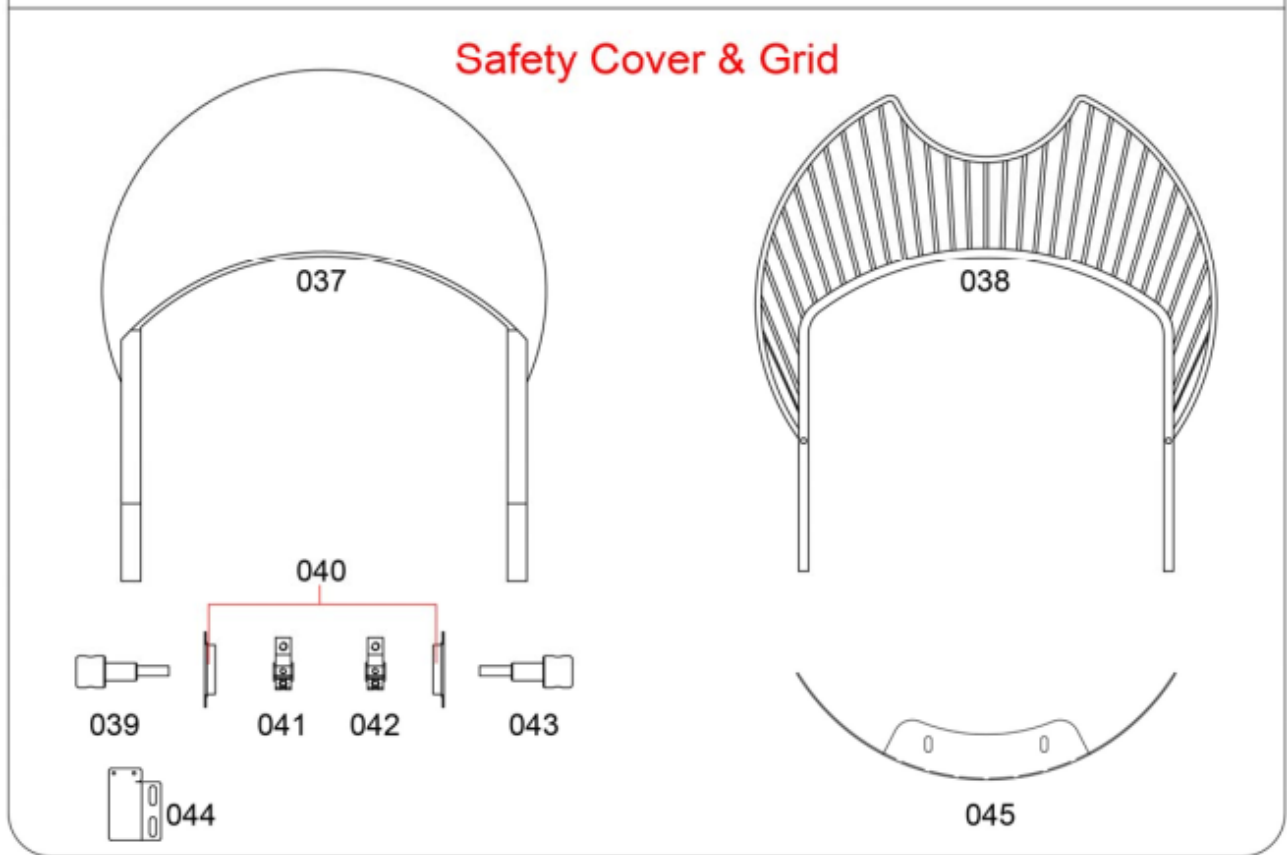


Replacement Parts List

SM2-80T - Spiral Mixer (Cont'd)



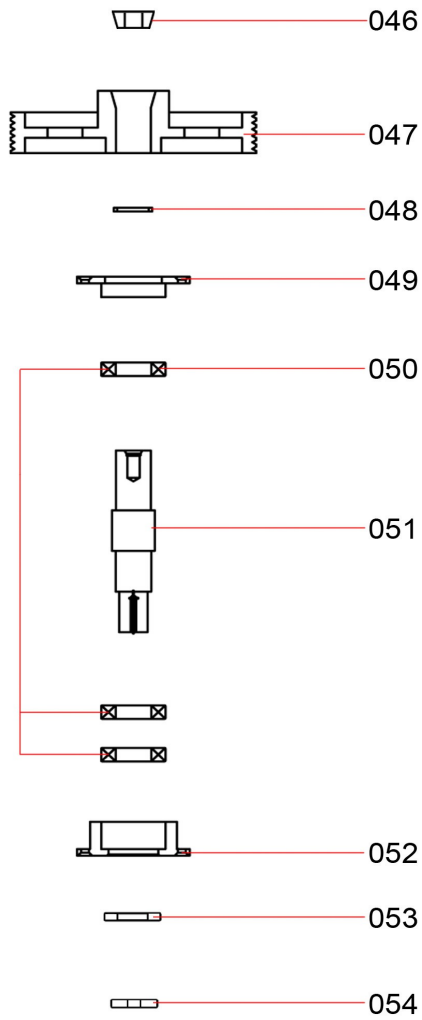
Safety Cover & Grid



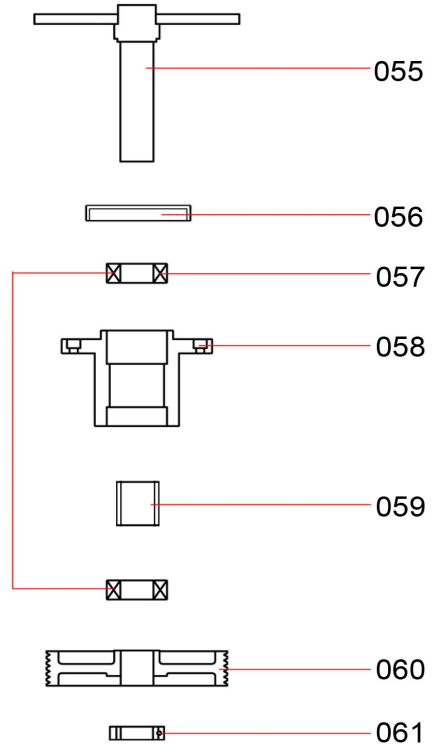
Replacement Parts List

SM2-80T - Spiral Mixer (Cont'd)

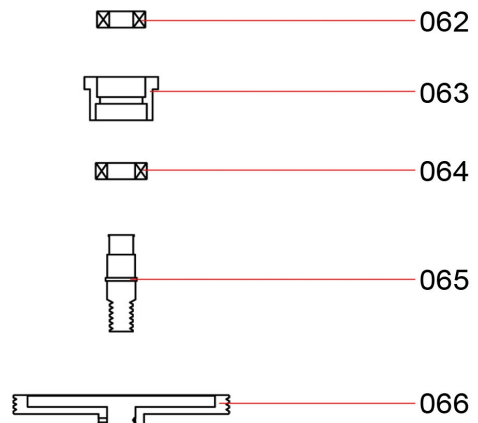
Main Shaft Section



Rotating Plate Section



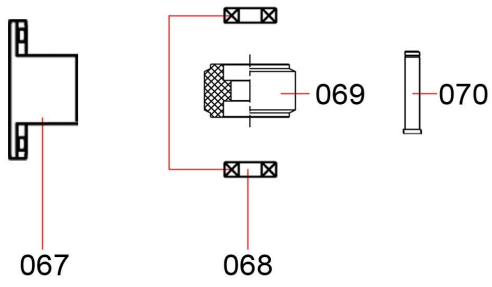
Transmission Shaft Section



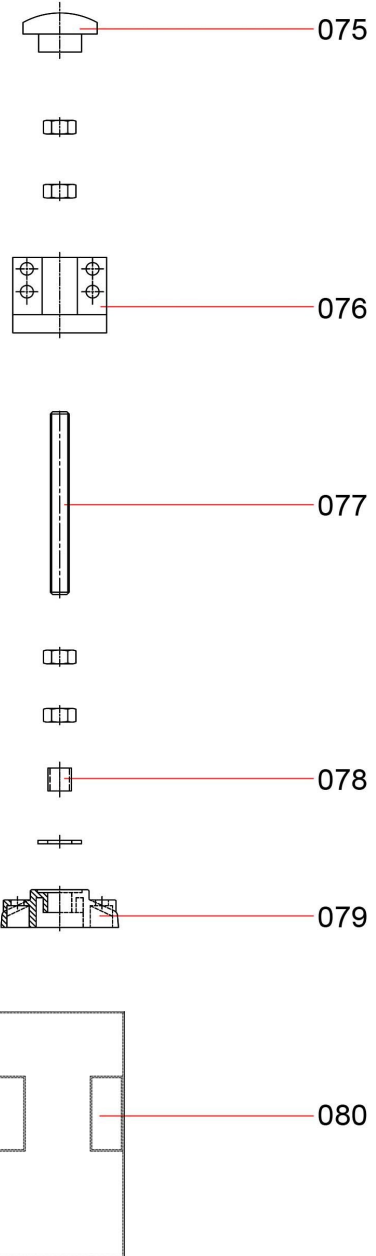
Replacement Parts List

SM2-80T - Spiral Mixer (Cont'd)

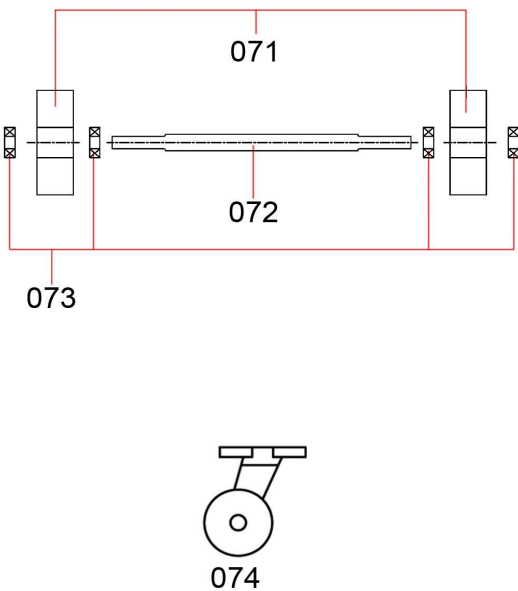
Bowl Roller Section



Outrigger Section



Castor



Replacement Parts List

SM2-80T - Spiral Mixer - Parts List

Part No.	Part Name	Part Code	Specification
001	Belt	15PDL1600	7M-1600
002	Belt	15PDL1220	7M-1220
003	Belt	15PDL1360	7M-1360
004	Auxiliary Contacts	16ZB2BE102C	
005	Contacto	16JCQCN18-1	3A1a1b 24V/50Hz
006	Contacto	16JCQCN16-1	3A1b 24V/50Hz
007	Mechanical Interlock	16LSLCI-18	
008	Relay	16JDQMY2-110V	
	Relay Seat	16JDQPYF-08	
009	Relay	16JDQMY4-24V	
	Relay Seat	16JDQPYF-14	
010	Fuse Seat	16BXSZG	
011	Thermal Relay	16JDQRHU10A-5-0	15A-20A
012	Thermal Relay	16JDQRHU10A-4-0	9A-12.5A
013	Thermal Relay	16JDQRHU10A-2-01	2.9A-4A
014	Wire Connection	16DZP280101	
015	Transformer	16BYQJBK63-2	415V-110/26V
016	Control Panel	16MBOMX-005VDB	
017	Limit Switch	16KGLMEA9112G	
018	Power Switch	16KGL0T63ET3	
019	Emergency Stop	16KGLZA2-BS54	
020	Knob	16KGLAR22PR-322B	
	Knob Seat	16CDLZBE101	
021	Button Switch	16KGLBE101	
022	Top Cover	14M444-22	
023	Connection	12M461-18	Left
		12M471-18	Right
024	Machine Body	11M020-30	
025	Cover Plate	12M880-19	
026	Motor Pulley	14M320-02A	50Hz
		14M320-02	60Hz
027	Motor Plate	11M290-21	
028	Top Motor	16MDLKP80S-02	415V-50Hz-3ph
029	Bottom Motor	16MDL80X-8	230/400V-50/60Hz
030	Motor Plate	11M290-22	
031	Motor Pulley	14M330-01	
032	Back Cover	11SM280T-870T	
033	Clamping Block	13M640-02	
034	Hook	14M630-02S	
035	Centre Pillar	11M650-16T-01	
036	Bowl	14M620-02	
037	Safety Cover	14M800-80G	

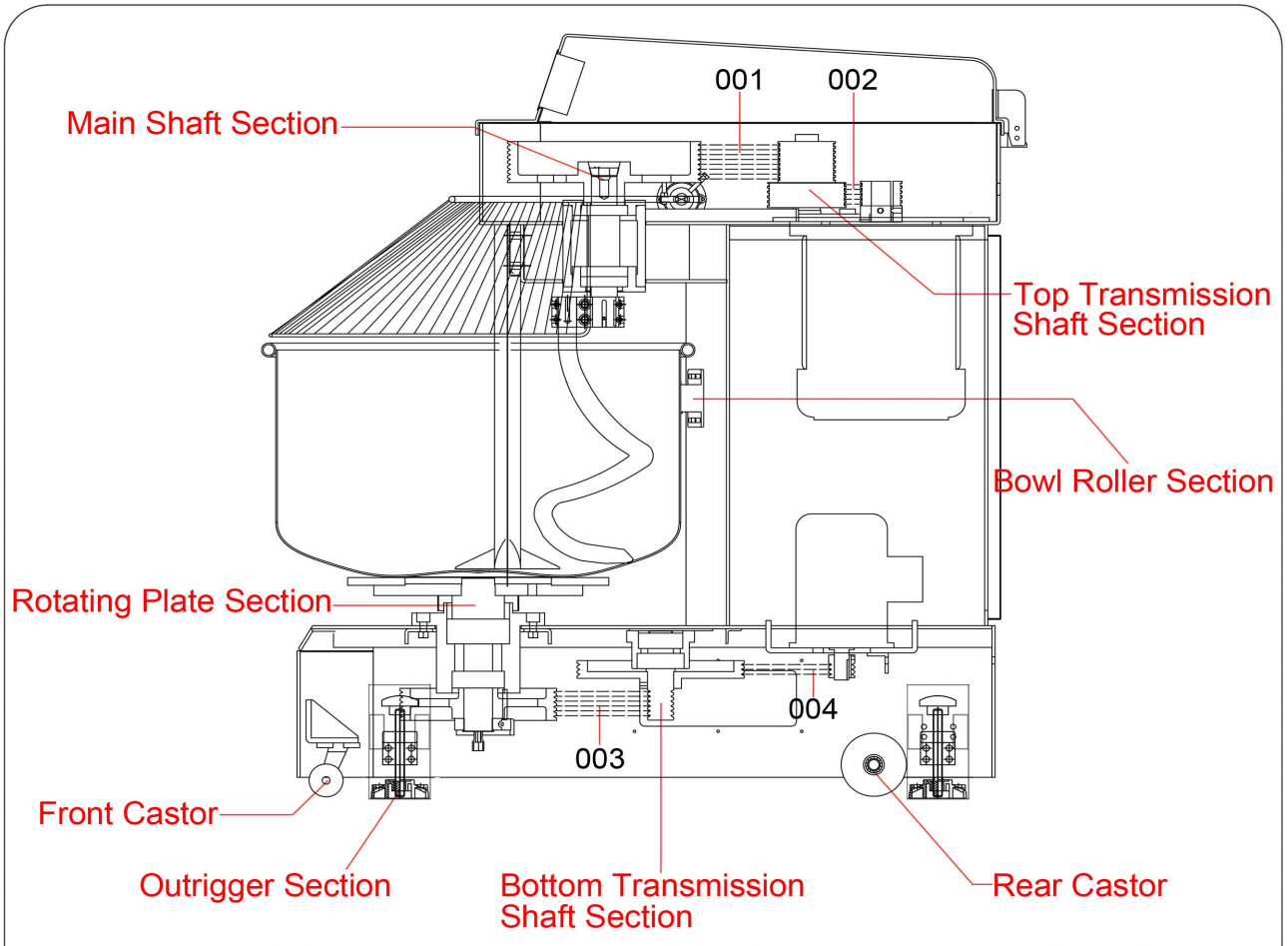
Replacement Parts List

SM2-80T - Spiral Mixer - Parts List (Cont'd)

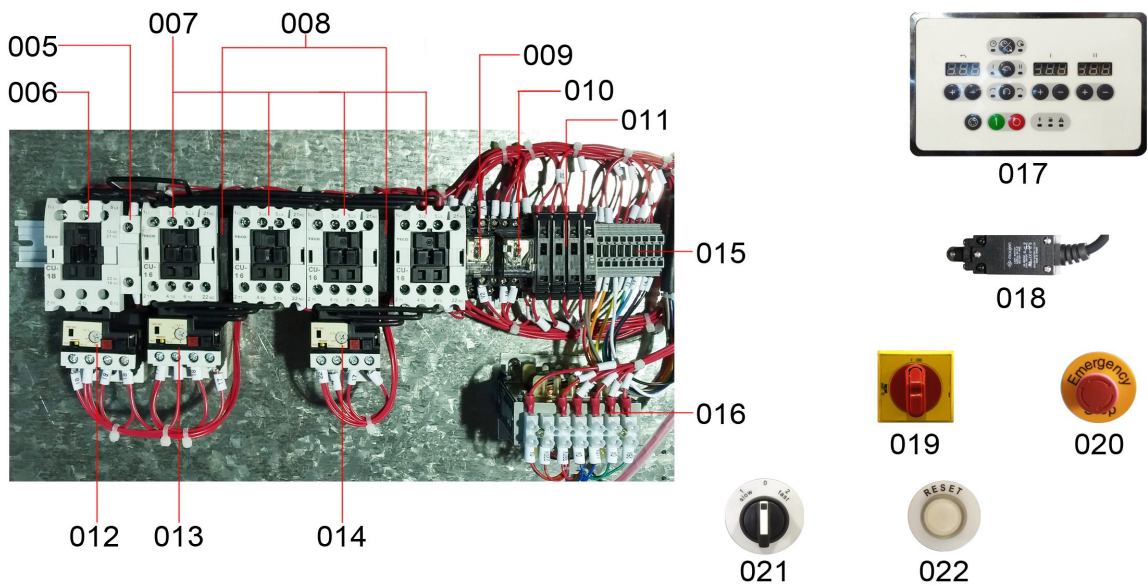
Part No.	Part Name	Part Code	Specification
038	Safety Grid	11M750-80GN	
039	Fixing Pole	14M680-80T	
040	Damper	15DBS-57A-470	
041	Limit Switch Wheel	14M710-120A	
042	Damper Wheel	14M700-02VDB	
043	Fixing Pole	14M670-07VDB	
044	Limit Switch Seat	12M040-18	
045	Back Safety Cover	11M800-80-HG	
046	Fixing Block	14M390-01	
047	Pulley	14M380-02	
048	Washer	14KM80-381	
049	Top Bearing House	14M350-01	
050	Bearing	15ZCL6210VV	6210VV
051	Main Shaft	14M370-02	
052	Bottom Bearing House	14M360-01	
053	Oil Seal	15YFL50*70*9-01	TC50*70*9
054	Washer	14M371-02	
055	Rotate Plate	14M560-11-06	
056	Waterproof Cover	11SM280T-T01	
057	Bearing	15ZCL3211VV	3211VV
058	Bearing House	14M530-03-06	
059	Sleeve	14M540-02-01	
060	Pulley	14M590-04-02	
061	Screw	14M600-02	
062	Bearing	15ZCL3209VV	3209VV
063	Bearing House	14M420-05-01	
064	Bearing	15ZCL3210VV	3210VV
065	Shaft	14M410-05-02	
066	Pulley	14M400-04-02	
067	Bowl Roller Seat	11M830-79	
068	Bearing	15ZCL6202VV	6202VV
069	Bowl Roller	14M840-09	
070	Bowl Roller Shaft	13M830-80	
071	Back Castor	15LZL5	5"
072	Shaft	13M180-21	
073	Bearing	15ZCL6203VV	6203VV
074	Front Castor	15LZLS4-3312	
075	Butterfly Nut	15BSLHY01	
076	Foot Pad	14M140-06	
077	Thread Rod	14M142-01	
078	Sleeve	14D9016150-03	
079	Foot Pad Seat	14D9016150-01	
080	Cover	11M-00-VDB	

Replacement Parts List

SM2-120T - Spiral Mixer

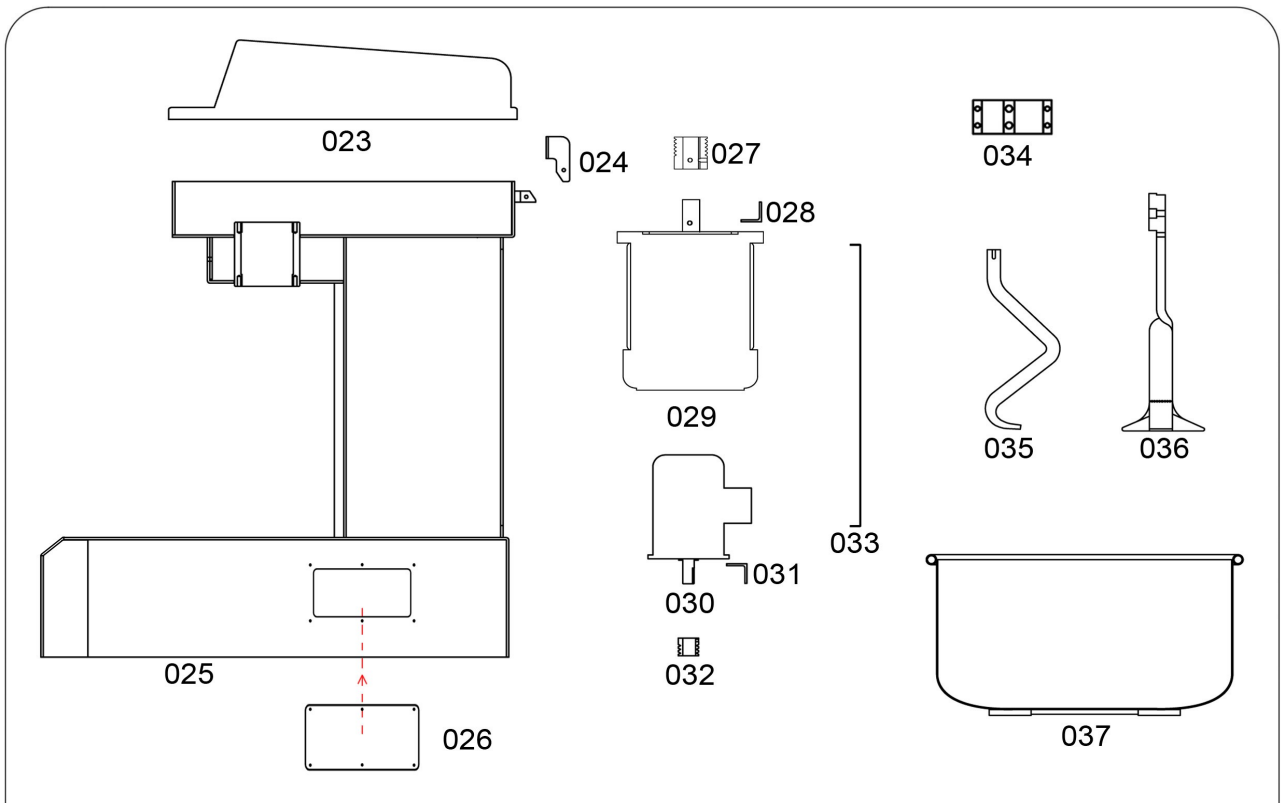


Electric Elements

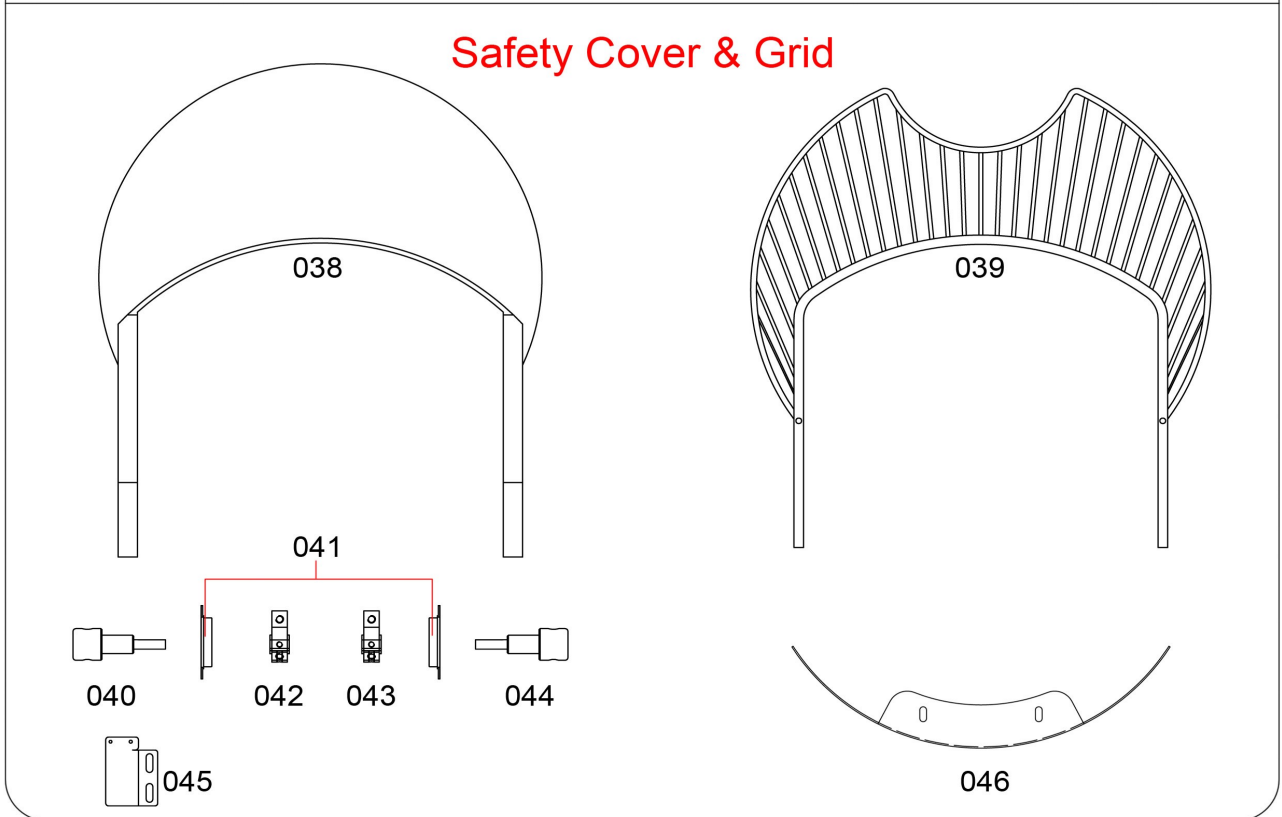


Replacement Parts List

SM2-120T - Spiral Mixer (Cont'd)



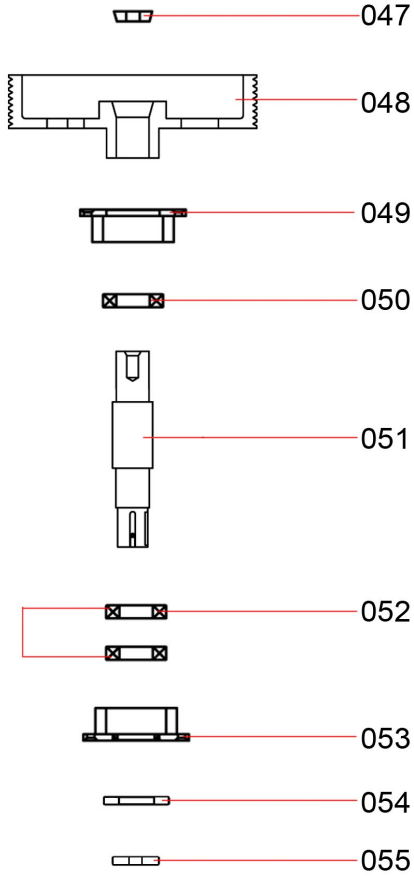
Safety Cover & Grid



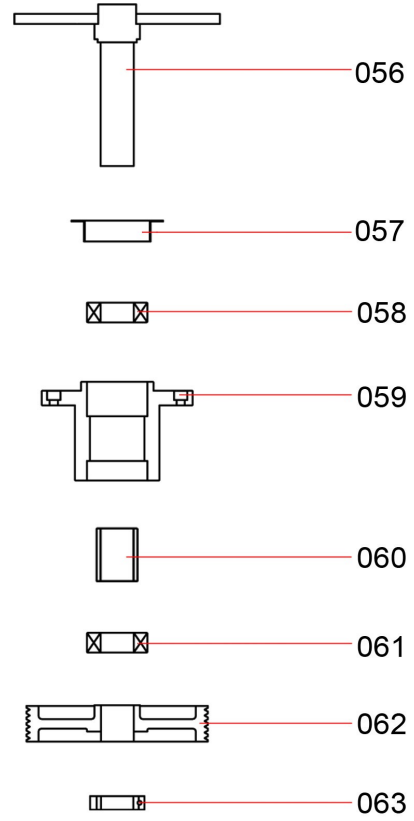
Replacement Parts List

SM2-120T - Spiral Mixer (Cont'd)

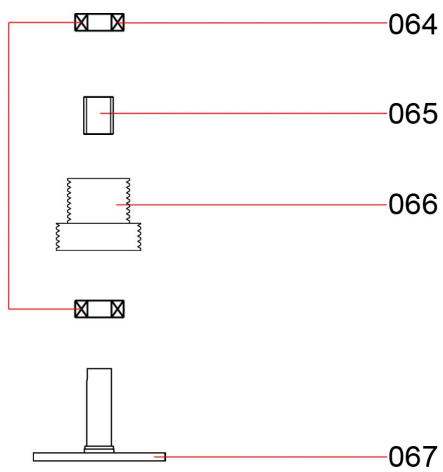
Main Shaft Section



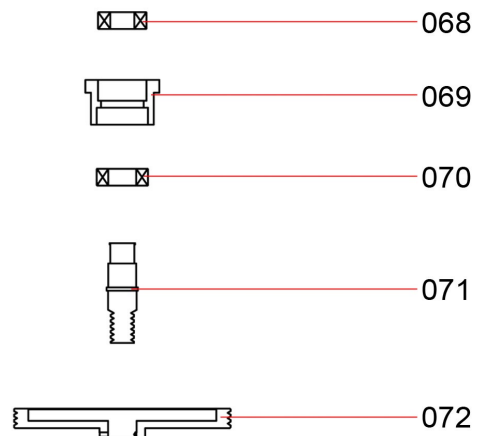
Rotating Plate Section



Top Transmission Shaft Section



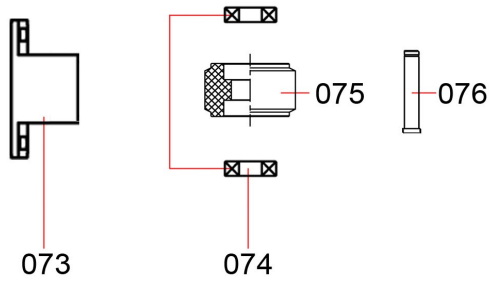
Bottom Transmission Shaft Section



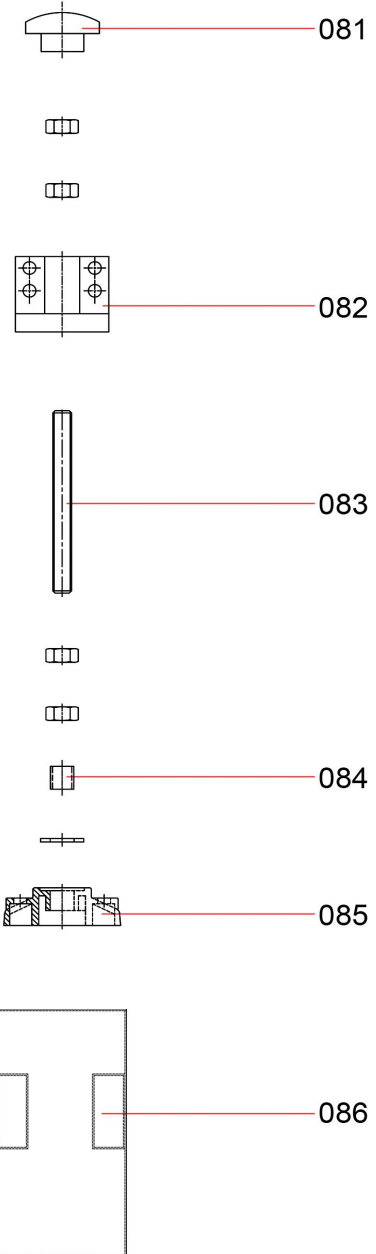
Replacement Parts List

SM2-120T - Spiral Mixer (Cont'd)

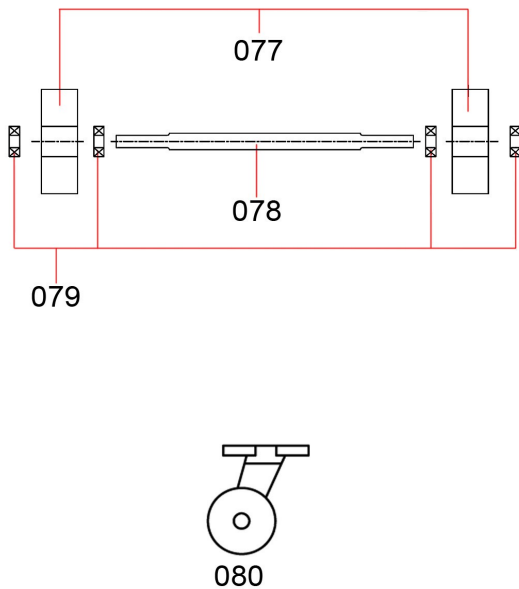
Bowl Roller Section



Outrigger Section



Castor



Replacement Parts List

SM2-120T - Spiral Mixer - Parts List

Part No.	Part Name	Part Code	Specification
001	Belt	15PDL1650	7M-1650
002	Belt	15PDL7M-925	7M-925
003	Belt	15PDL1320	7M-1320
004	Belt	15PDL1280	7M-1280
005	Auxiliary Contacts	16ZB2BE102C	
006	Contactora	16JCQCN18-1	3A1a1b 24V/50Hz
007	Contactora	16JCQCN16-1	3A1b 24V/50Hz
008	Mechanical Interlock	16LSLCI-18	
009	Relay	16JDQMY2-110V	
009	Relay Seat	16JDQPYF-08	
010	Relay	16JDQMY4-24V	
010	Relay Seat	16JDQPYF-14	
011	Fuse Seat	16BXSZG	
012	Thermal Relay	16JDQRHU10A-8-0	24.5A-30A
013	Thermal Relay	16JDQRHU10A-5-0	15A-20A
014	Thermal Relay	16JDQRHU10A-2-01	2.9A-4A
015	Wire Connection	16DZP280101	
016	Transformer	16BYQJBK100-13	415V-26/110V
017	Control Panel	16MBOMX-005VDB	
018	Limit Switch	16KGLMEA9112G	
019	Power Switch	16KGL0T63ET3	
020	Emergency Stop	16KGLZA2-BS54	
021	Knob	16KGLAR22PR-322B	
021	Knob Seat	16CDLZBE101	
022	Button Switch	16KGLBE101	
023	Top Cover	14M444-23	
024	Connection	12M461-21	Left
024	Connection	12M471-21	Right
025	Machine Body	11M020-21	
026	Cover Plate	12M880-19	
027	Motor Pulley	14M320-12TT-02	50Hz
028	Motor Plate	11M270-12TT	
029	Top Motor	16MDL120TS-3	415V-50Hz-3ph
030	Bottom Motor	16MDL120AX-12	230/400V-50Hz
031	Motor Plate	11M290-06	
032	Motor Pulley	14M330-09-02	
033	Back Cover	11M870-21	
034	Clamping Block	13M640-12T-04	
035	Hook	14M630-12TS-4	
036	Centre Pillar	11M650-12T-VDB	
037	Bowl	11M620-12T	
038	Safety Cover	14M800-120G	
039	Safety Grid	11M750-120GN	
040	Fixing Pole	14M888-120VDB-05	
041	Damper	15ZLNQ-FDT70A903	
042	Limit Switch Wheel	14M701-80VDB-01	
043	Damper Wheel	14M700-120VDB	

Replacement Parts List

SM2-120T - Spiral Mixer - Parts List (Cont'd)

Part No.	Part Name	Part Code	Specification
044	Fixing Pole	14M888-120VDB-06	
045	Limit Switch Seat	12M040-18	
046	Back Safety Cover	11M800-120-HG	
047	Fixing Block	14M390-01	
048	Pulley	14M380-12TT-02	
049	Top Bearing House	14M350-01	
050	Bearing	15ZCL6210	6210
051	Main Shaft	14M370-12T-01	
052	Bearing	15ZCL6210VV	6210VV
053	Bottom Bearing House	14M360-01	
054	Oil Seal	15YFL50*70*9-01	TC50*70*9
055	Washer	14M371-02	
056	Rotate Plate	14M560-21	
057	Waterproof Cover	11M570-21-01	
058	Bearing	15ZCL3311VV	3311VV
059	Bearing House	14M530-21	
060	Sleeve	14M540-12TT-01	
061	Bearing	15ZCL3211VV	3211VV
062	Pulley	14M590-12T-03	
063	Screw	14M600-02	
064	Bearing	15ZCL3209VV	3209VV
065	Sleeve	14M240-12T-02	
066	Transmission Pulley	14M250-12T-03	
067	Transmission Shaft	14M190-12T-03	
068	Bearing	15ZCL3209VV	3209VV
069	Bearing House	14M420-12TT-01	
070	Bearing	15ZCL3210VV	3210VV
071	Shaft	14M410-12TT-04	
072	Pulley	14M400-04-02	
073	Bowl Roller Seat	11M830-81	
074	Bearing	15ZCL6202VV	6202VV
075	Bowl Roller	14M840-09	
076	Bowl Roller Shaft	13M830-80	
077	Back Castor	15LZL5	5"
078	Shaft	14M180-22	
079	Bearing	15ZCL6203VV	6203VV
080	Front Castor	15LZLS4-3312	
081	Butterfly Nut	15BSLHY01	
082	Foot Pad	14M140-20	
083	Thread rod	14M145-20A	
084	Sleeve	14D9016150-03	
085	Foot Pad Seat	14D9016150-01	
086	Cover	11M-00-VDB	

