



# SPIRAL MIXERS WITH GUARDS

**#348SM80** • 80 Qt.      **#348SM100** • 100 Qt.  
**#348SM130** • 130 Qt.      **#348SM160** • 160 Qt.

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CONFORMS TO UL-763  
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# SAFETY INFORMATION

**When using electrical appliances, basic safety precautions should always be followed, including the following:**

1. Keep the working area around the machine clean and organized.
2. Consider environmental conditions surrounding the machine. Do not use the machine in humid, wet, or poorly lit environments. Do not use the machine close to flammable liquids or gas.
3. Keep machine away from children and non-authorized personnel. Do not permit them to go near the machine or its working area.
4. Do not touch the switch or cable with wet hands.
5. Only utilize the machine with the correct voltage to achieve optimum results.
6. Do not wear low-hanging clothing or items that may get caught in the machine. Wear non-slip shoes while working with the machine. For hygiene and safety, keep hair tied back and wear protective gloves.
7. Do not tug on the cable to remove the plug from the outlet. Do not leave the cable near sharp objects, water, or solvents.
8. Remove the plug when the machine is not in use, you are cleaning the machine, or when you need to move the machine.
9. Check that the machine is not damaged prior to each use. Carefully check that all safety devices are working, the removable parts are not blocked, there are no parts damaged, all the parts have been set up correctly, and all conditions that could influence the regular function of the machine are in working order.
10. If the machine is damaged or there are issues during its use, turn off the machine immediately and contact the manufacturer for assistance or repair. Repairs should only be made by qualified technicians, using the correct manufacturer parts. Non-compliance with these rules may void the warranty.

# MIXER WIRING INSTALLATION INSTRUCTIONS (3 PHASE)

**Important:** Follow all safety codes while completing this procedure. All electrical connections must be completed by an electrician or a licensed and insured food service technician.

## PREPARATION

1. Verify Voltage: Ensure the incoming voltage matches the specifications on the serial plate.

## WIRING THE POWER CORD

2. Connect the Wires:  
Inside the junction box, connect:
  - L1
  - L2
  - L3

**Note:** Green wire is for grounding only.

## SETUP

3. Close the Safety Guard: Ensure it's securely closed.
4. Set to Manual Mode: Switch the mixer to manual mode (timer won't operate).
5. Check Emergency Stop: Ensure the red button is unlocked.

## STARTING THE MIXER

6. Start the Mixer: Press the green low-speed button.
7. Observe Rotation: The bowl and spiral hook must rotate counterclockwise as indicated.

**IMPORTANT!** If rotation is incorrect, follow the Rotation Change Procedure.

## ROTATION CHANGE PROCEDURE

8. Turn Off Power: Confirm no electricity is present using a meter.
9. Swap Wires:
  - Move L1 to L2.
  - Move L2 to L1.
  - Do not move L3.
10. Reconnect Power: Restore power and retest the rotation.

## OPERATION

1. Before use, confirm the power supplied to the unit is correct. Run the machine empty for a few seconds to confirm that no moving parts are colliding and there is no abnormal noise. Failure to do so may cause damage to your machine and void the warranty.
2. In a clean bowl, first add water, then add flour. Return the protective cover to the closed and locked position.
3. The safety guard must be closed for the mixer to start. Whenever the safety guard is opened, the machine will stop automatically.
4. The red emergency stop button must be popped up in order to operate the other controls. If the red emergency stop button is not popped up, rotate the button to the right.

## MANUAL CONTROL

**Note:** The timer does not work in manual control.

1. Turn the automatic/manual switch to the manual position. Ensure the safety guard is closed.
2. Press the green low-speed button to start mixing.
3. Press the yellow high-speed button to increase mixing speed, if desired.
4. Once dough is mixed into desired state, press the red stop button to stop the machine.
5. Press the yellow reverse button to reverse the bowl while the hook rotates forward at a slow speed. This helps divide the dough into pieces for easy removal.

## AUTOMATIC CONTROL

In automatic control, the machine will always start with the slow speed (in this setting the slow button functions as the start button). If the desired timer setting of the high speed is not set prior to pushing the slow button (starting the machine), the operation from low to high speed will not be completed.

1. Ensure the safety guard is closed.
2. Turn the automatic/manual switch to the automatic position.
3. Set the low-speed & high-speed timers each to a desired time.

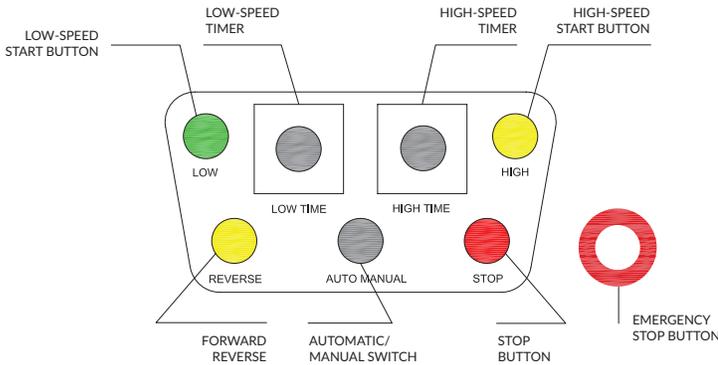
**Note:** The machine will start with the low-speed until its time is up and then switch to high speed until its time is up.

**Note:** The low-speed timer requires a setting greater than 0 in order for the mixer to operate in automatic mode.

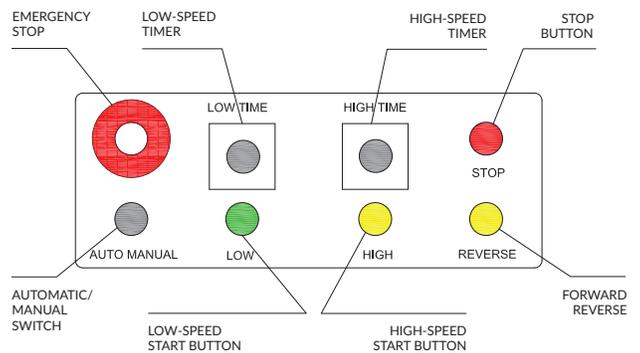
**Note:** Time is set in minutes and seconds.

4. After the timers are set, press the green low speed button to begin mixing. The machine will run on low speed until its set time is up and then automatically switch to high speed until its set time is up. The machine will automatically stop when time is up for both speeds. Once dough is mixed into desired state, press the red stop button to stop the machine. The machine will also stop if you lift the safety guard or press the emergency stop button. Emergency stop button will need to be rotated to the right and popped back up in order to operate again.
5. Press the yellow reverse button to reverse the bowl while the hook rotates forward at a slow speed. This helps divide the dough into pieces for easy removal.

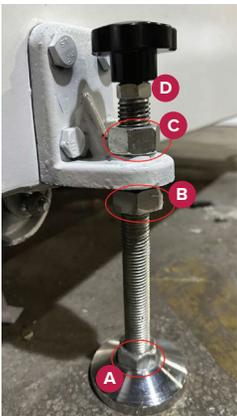
**348SM80 Control Panel**



**348SM100/348SM130/348SM160 Control Panel**



# RAISING & LOWERING THE DOUGH MIXER



Follow this procedure to raise or lower the dough mixer.

1. Use a wrench to fix screw A.
2. Use a wrench to tighten screw C to the position close to screw D.
3. Use external force to lift one side of the dough mixer or place the dough mixer on a high platform, and use a wrench to slowly tighten screw B to the required height.
4. When the machine reaches the required height, tighten screw C to tighten screws B and C to fix the bracket.
5. Repeat the above steps for the other feet to get the desired machine height.

**Note:** For a more stable operation, it is recommended that the feet be adjusted to the lowest height position.

# CAPACITY CHART

PRODUCT	348SM80		348SM100		348SM130		348SM160	
	FLOUR/ LB.	BATCH/ LB.						
<b>Bread 60% AR</b>	72.6	116.2	88	140.8	110	176	143	228.8
<b>Whole Wheat</b>	72.6	/	88	/	110	/	143	/
<b>Thin Pizza 40% AR</b>	35.2	49.3	44	61.6	55	77	71.5	100.1
<b>Med. Pizza 50% AR</b>	70.4	105.6	88	132	110	165	143	214.5
<b>Thick Pizza 60% AR</b>	72.6	116.2	88	140.8	110	176	143	228.8
<b>Pie Dough</b>	72.6	/	88	/	110	/	143	/
<b>Bagel 50% AR</b>	70.4	105.6	88	132	110	165	143	214.5
<b>Minimum Capacity</b>	8.8	13.2	11	16.5	14.3	21.5	17.6	26.4

# SPECIFICATIONS & CAPACITIES

	<b>348SM80</b>	<b>348SM100</b>	<b>348SM130</b>	<b>348SM160</b>
<b>Bowl Capacity</b>	80 QT.	100 QT.	130 QT.	160 QT.
<b>Flour Capacity</b>	73 LB.	88 LB.	110 LB.	143 LB.
<b>Minimum Flour Capacity</b>	8.8 LB.	11 LB.	14.3 LB.	17.6 LB.
<b>Dough Capacity (60% AR)*</b>	116 LB.	140 LB.	176 LB.	228 LB.
<b>Voltage</b>	220V	220V	220V	220V
<b>Wattage</b>	3200W	6350W	6350W	6350W
<b>Horsepower</b>	4.25HP	8.5HP	8.5HP	8.5HP
<b>Phase</b>	Three	Three	Three	Three
<b>Mixing Speed (Low)</b>	135 RPM	100 RPM	150 RPM	150 RPM
<b>Mixing Speed (High)</b>	200 RPM	200 RPM	200 RPM	200 RPM
<b>Bowl Speed</b>	12 RPM	12 RPM	12 RPM	12 RPM
<b>Machine Weight</b>	540 LB.	904 LB.	906 LB.	915 LB.
<b>Dimensions</b>	35" x 22" x 43"	43" x 26" x 54"	46" x 35" x 63"	46" x 35" x 63"

\*For best performance, it is recommended to use the mixers at least at 30% capacity.

\*When mixing dough (pizza, bread, or bagels), check your "AR" absorption ratio - water weight divided by flour weight. The above capacities are based on 12% flour moisture at 70°F water temperature. If high gluten flour is used, reduce above dough batch size by 10%.

**Example: If recipe calls for 6 lb. of water and 10 lb. of flour, then 6 divided by 10 = 0.6 (60% AR).**

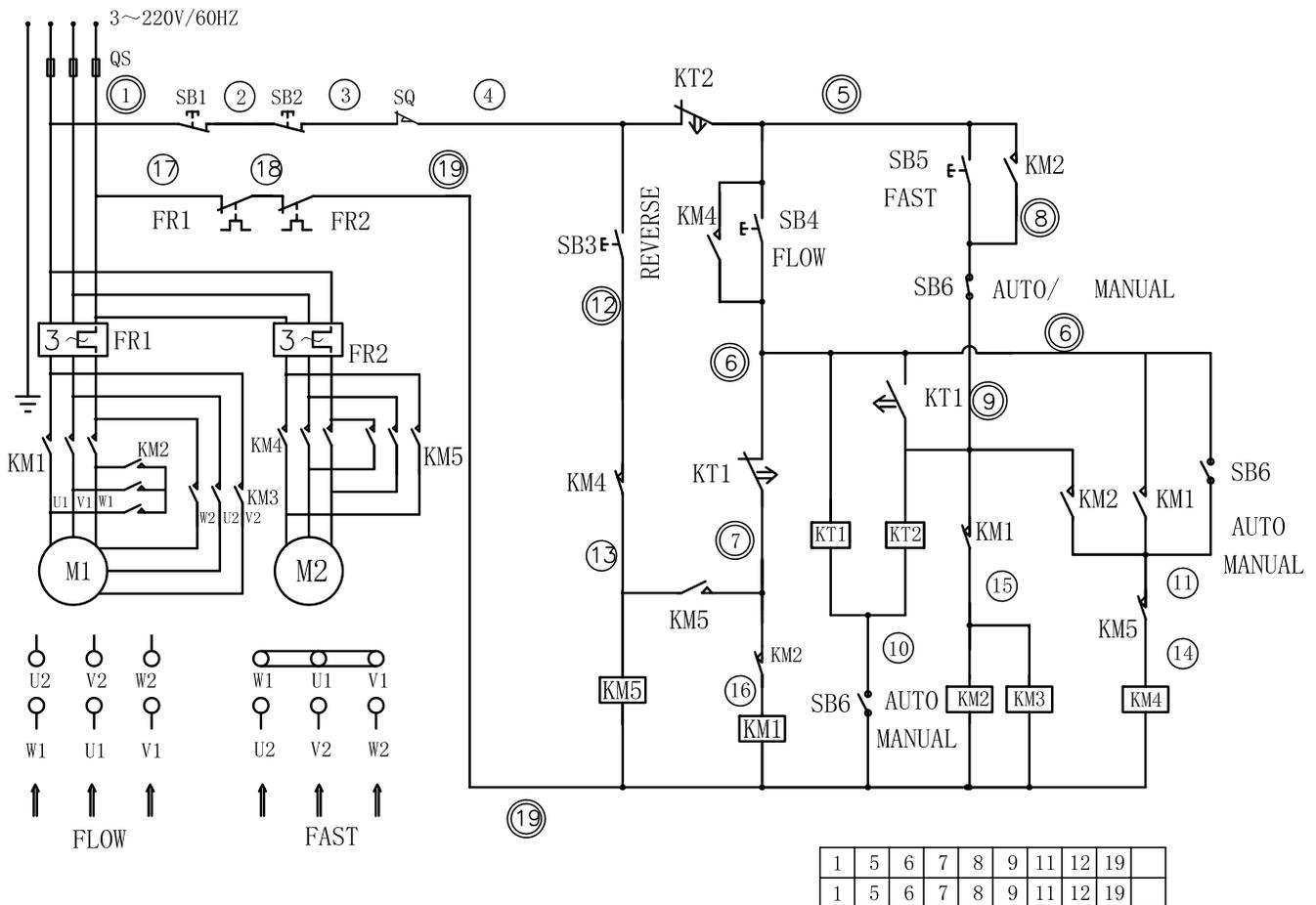
# CLEANING

1. After removing dough from the bowl, turn off the power and unplug the machine.
2. Use a cloth with a mild detergent and warm water to clean the inside of the bowl. Make sure to clean the spiral hook and auxiliary rod.
3. Use a clean cloth soaked in warm water to rinse the inside of the bowl. Try to avoid getting excess amounts of water inside the bowl.
4. Use a dry clean cloth to remove excess water and dry the machine.

**NOTE:** Cleaning should be done at the end of every work day and when switching between batches of product.

**NOTE:** It is NOT advised to remove the attachments from this unit.

# CIRCUIT DIAGRAM



## STOPPING THE MACHINE

In addition to the timer cycle completing, the machine will also stop while in use if:

1. The safety guard is lifted while in use.
2. The emergency stop button is pressed.

## RESETTING THE MACHINE

1. If the machine was stopped using the emergency stop button, rotate the button to the right and pop it back up in order to operate again.
2. If your machine stopped due to overload, proceed to the overload reset instructions to reset the machine.

### OVERLOAD RESET INSTRUCTIONS

3. In order to reset the overload switch, users must first wait for the machine to cool down (approximately 15-30 minutes).
4. Identify and press the overload protection switch on your machine:

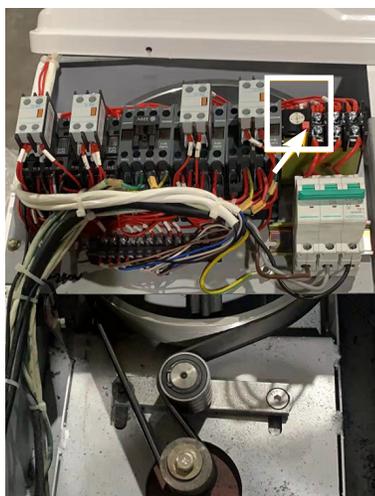
For **348SM80**:

1. Unscrew and open the lid.
2. Press the overload protection switch (reset button). Install the lid and turn on the machine.

For **348SM100/130/160**:

1. Open the side electricity box.
2. Press the overload protection switches (reset buttons). Both buttons need to be pressed.
3. Close the electricity box, and turn the machine back on.

### Overload Protection Switches



348SM80



348SM100/130/160

# TROUBLESHOOTING

ISSUE	CAUSE	SOLUTION
The axles do not work when operating the machine.	Poor contact of the electrical equipment.	Check that the plug is securely fitted into the outlet.
The mixing bowl is out of position.	Moving direction is not correct.	Check to see that everything is aligned correctly.
Leaks oil.	Sealing washer is damaged.	Replace the sealing washer.
Difficult to move the bowl up and down.	Slideway is dirty or rusted.	Clean and lubricate the slideway.
The motor is overheated, and the speed is down.	The voltage is not high enough, or the incorrect speed is set for the thickness of dough.	Check the voltage or use a lower speed.
Noisy and overheating.	Poor lubrication.	Add or change lubrication to moving parts.
Mixer touches bowl.	The mixing device or bowl is deformed.	Repair or change the bowl or mixing device.
Machine trips the breaker and does not turn on again.	Other machines in the kitchen start or work at the same time, resulting in voltage instability or voltage fluctuations. The overload protection switch pops up.	<p>For <b>348SM80</b>:</p> <ol style="list-style-type: none"> <li>1. Unscrew and open the lid.</li> <li>2. Press the overload protection switch (reset button).</li> <li>3. Install the lid, plug it back in, and turn on the machine.</li> </ol> <p>For <b>348SM100/130/160</b>:</p> <ol style="list-style-type: none"> <li>1. Open the side electricity box. Press the overload protection switches (reset buttons).</li> <li>2. Both buttons need to be pressed.</li> <li>3. Close the electricity box, plug it back in, and turn on the machine.</li> </ol>