LM Series Spiral Mixers

ATTENTION

- New use or repair of this product must be performed by experts or by a qualified person or those who have gotten the licence of installation, or those who are authorized by the manufacturer.
- When performing installation or maintenance, please obey the following instructions carefully to ensure the safe use of this appliance.
- Please keep this instruction manual for future reference, or hand it to next user.
- Put off the package to make sure none of the parts is missing or damaged. If there is any doubt about the product, please do not use it. Consult experts.
- Keep packaging material out of reach of the children to avoid accident (especially the plastic bag, screws, etc.)
- This appliance could be only operated by the person who is familiar with the unit.
- When not using the appliance or if the operator is absent, please turn off unit to avoid any accidental injury or damage.
- When it needs to be repaired, please ask expert and use original spare parts. It will be dangerous if you are not following the above requirements.
- This appliance is just for commercial use, not for any other use. Otherwise, it may be dangerous.
- Do not rinse the equipment with water directly.
- Clean stainless steel surfaces periodically with appropriate method to prevent any damage brought by oxidization or any other chemical interference.

1. DESCRIPTION

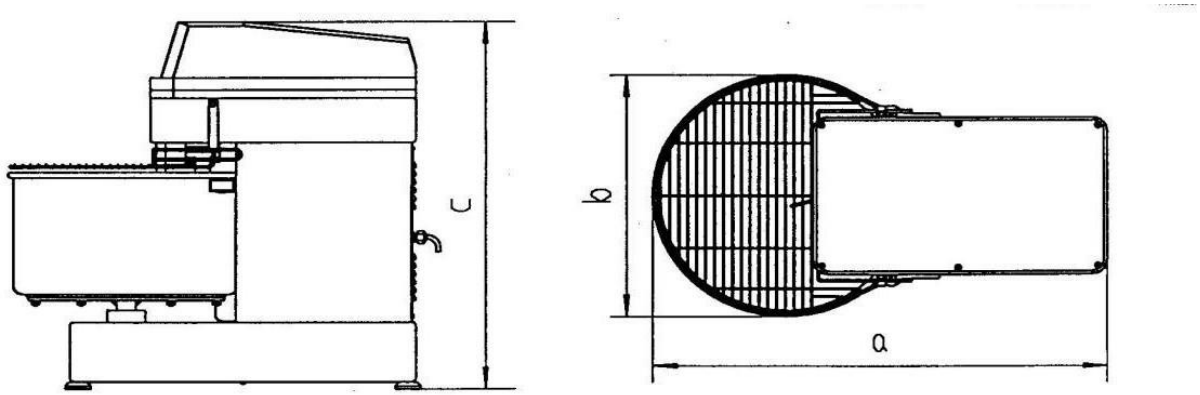
The LM spiral mixer is a new type of kneader. Both the dough arm and bowl are running, which raises the mixing speed and efficiency greatly. The machine is equipped with a protection cover that is easy to operate and safe. Overall, the machine is good looking, easily operable and very efficient, suitable for food preparation in hotels, restaurants, food processing factories and for material preparation in medicine making factories, chemical working facilities, etc.

2. FOREWORD

We reserve the right to alter the design of this product without prior notice, while every effort is made to ensure this publication reflects the latest design.

Technical specifications

Model	Mixing speed (r/min)	Bowl speed (r/min)	Voltage (V/Hz)	Power (kw)	Dimensions (mm)	Weight (kg)
LM20T	202	16	110/60	0.75	690x380x730	70
LM30T	202	16	220/ 60	1.5	730x430x770	90
LM40T	202	16	220/60	2.2	870x480x935	127
LM50T	202	16	220/60	2.2	920x530x935	130



Capacity Chart

Model	Bowl capacity		Dry Flour Capacity*		Kneading Dough Capacity*	
LM20T	20 L	21 Qt.	5 kg	11 lbs	8 g	17.5 lbs
LM30T	30 L	32 Qt.	8 kg	17.5 lbs	13 kg	28.5 lbs
LM40T	40 L	42 Qt.	10 kg	22 lbs	16 kg	35 lbs
LM50T	50 L	52 Qt.	12 kg	26.5 lbs	19 kg	42 lbs

*Capacities in the above chart refer to recommended batch loads for optimal machine longevity. Calculations based on 60% AR (Hydration Ratio).

3. GENERAL INFORMATION

The following instructions may not cover all details or variations of the equipment, nor cover every problem that one may encounter during installation or use. If additional information is required, please contact Eurodib.

4. SAFETY INFORMATION

The following procedures and instructions should always be carried out in order to prevent injuries. If the machine is not used as recommended, the operator will be responsible for his own safety and for the safety of other persons who may be involved.

The information in this manual aims at assisting the operator to understand, maintain, and operate the mixer correctly. In order to prevent accidents, please ensure to read, understand and follow all precautions and warnings contained in this manual before installation or operating. To gain a clear understanding of your mixer, it is imperative to study this manual carefully.

Rotating machinery and electricity are dangerous and may cause injuries if sufficient precautions are not taken prior to operating or servicing the mixer. Ensure that the power supply is not connected to the mixer and that it is isolated before starting to clean or service the machine. In certain troubleshooting situations, it may be necessary to operate the mixer. In such cases, extreme caution must be used. Only suitably qualified personnel must service the mixer.

4.1 SAFETY GUIDELINES

Ensure that sufficient precautions are observed when manually handling the mixer, particularly when moving the mixer into position or installation. Ensure to comply with manual handling regulations.

- This appliance is only for commercial and not for domestic use.
- The mixer is not intended for use by children.
- While the machine is in operation, do not remove any cover.
- When mixing products that develop dust, extreme care must be taken.
- Exposure to dust (including flour) may be harmful to health and cause rhinitis (running nose), watery eyes and possibly occupational asthma.
- If dust is a hazard, ensure that appropriate PPE (personal protective equipment) is used by operators, i.e., a mask.
- All operators must be trained in the safe operation of the mixer and attachments.
- This appliance is not to be used by anyone who with a lack of knowledge. Ensure that all operators have been appropriately trained.
- This appliance is not intended to be used by those whose sensory, physical or mental capabilities prevent them from being able to operate it safely.
- Ensure that the electrical supply has been isolated and the power cord disconnected before attempting to move or service the mixer.
- Be aware of the start capacitor situated behind the rear motor cover. In normal circumstances this should discharge when the mixer is switched off. In case of doubt, discharge the capacitor following adequate safety precautions.
- When accessing electrical components inside the mixer, be cautious of exposed conductors that could be 'live'.
- Always have your mixer and attachments regularly serviced, that is at least twice a year, depending on the frequency of use.
- Ensure that this manual is kept in an easily accessible place near the mixer for future reference.

4.2. SAFETY INSTRUCTIONS

A FULLY TRAINED AND COMPETENT PERSON MUST ONLY USE THE ATTACHMENT AND/OR MIXER.

When manoeuvring or lifting a bowl and its contents with a total weight in excess of 500 kg, a bowl truck must be used. As far as reasonably possible, avoid tasks concerned with manual handling that involves a risk to health. This equipment should only be stored in or transported through an environment with an ambient temperature above 5°C and below 55°C. Note: The mixer must only be used to the purpose for which it was designed and in line with operating instructions.

When mixing ingredients, care must be taken to avoid the inhalation of dust particles e.g. flour. Reference should be made to product supplier's data sheets to ensure adequate precautions and protections are taken.

The following instructions must be observed when operating the mixer

4.3. NEVER

- Wear loose clothing that may become caught in the mixer while it is in operation.
- Attempt to reach into the bowl while it is mixing.
- Access rotating parts.
- Use excessive force when operating which could affect the stability of the mixer.
- Operate the mixer if parts are disassembled.
- Override safety switches fitted to the mixer.
- Open the guard to stop the machine.
- Use the mixer in an unsafe condition.
- Operate the mixer or attachment if a fault develops or if the mixer is unsafe.
- Attempt to repair the appliance. A qualified technician must service the machine.
- Clean the mixer with scouring powder or a scouring pad.
- Clean aluminum agitators in a dishwasher.
- Inhale mixing ingredient dust particles.

4.4. ALWAYS

- Use the mixer as intended and in line with the operating instructions.
- Use the mixer in a well-lit area.
- Stop the mixer before adding more ingredients.
- Use the stop button to stop machine.
- Disconnect the mains electricity supply before cleaning the mixer.
- Clean the bowl, agitators and after use.
- Clean the mixer using mild soap and water.
- Clean the mixer daily.
- Inspect the power cable and appliance regularly. If a fault is found, do not operate. Disconnect the main electricity supply before cleaning the mixer.

4.5. LIABILITY

Installations and repairs which are not carried out by authorized technicians or the use of other than original spare parts, and any technical alterations to the machine, may affect the warranty set out in the standard conditions of sale

ATTENTION! DO NOT hose or pressure clean this appliance. It is vital to follow the cleaning procedures detailed later in section 7 of this manual.

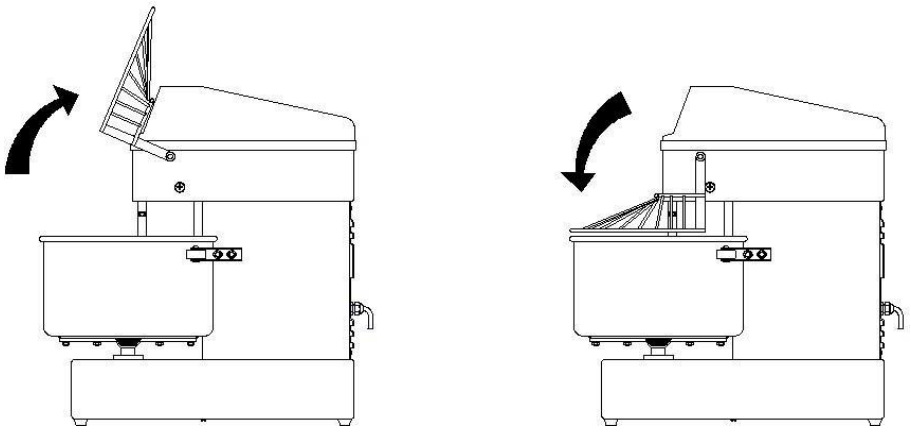
5. Operation and Notes:

- Place the machine on the horizontal floor, keep it stable, and maintain the environment in a suitable temperature.
- Check whether the power supply corresponds to what the machine requires, and whether wires are connected properly.

Warning: The machine must be grounded properly (the user's power supply must come with a ground wire).

- Check the protective cover.

Open the cover and if the machine can't be started, fix it so it can be started



A. Open the protective cover. Use suitable flour into the bowl every time (the capacity of the flour can't exceed the determined maximum).

B. Fill the bowl with water. Water weight is equal to 45%-50% of the required flour weight.

C. Put down the protective cover and start the machine.

D. When the dough has been kneaded (probably for 8 minutes), push stop button to stop the machine. Open the protective cover and take out the dough.

E. When the machine is working, it is forbidden to put one's hands or a hard object into the bowl and taking out the dough with one's hands is dangerous.

F. During working, do not clean, oil or lubricate the machine.

6. MAINTENANCE

Important: All machine work should be carried out after having unplugged the machine.

During service and maintenance, the motor and parts should be dismounted gradually. The machine should be cleaned and chains and bearings should be lubricated regularly.

Advice:

A. After each use, clean the machine carefully. Make sure to keep the machine clear and to pour lubricating oil into lubrication points.

B. Do not start the machine repeatedly to prolong the machine's life time. The continuous running time should not be too long.

C. Lubricate chains and main moving parts about once a mouth.

D. Check belt and chain tension about once every six months.

E. Check the electric circuit about once a year.

Trouble shooting:

Trouble	Solution
The machine cannot start	1. Electric connections are loose. 2. The protection cover is not close.
Safety switch does not work	1. Open the cover, and check if the press plate of safety switch is loose. 2. Check the electric circuit of safety switch.
The machine temperature is too high	1. Working time is too long. 2. Check if the supply voltage is lacking. 3. Overload or machine running is wrong.
Low efficiency	1. Something is wrong with the machine. 2. Transmission parts are worn off excessively. 3. Something is wrong with the motor. 4. Belt and chains are loose. The belt and chains must be tightened or replaced.

7. INSTALLATION

A qualified person must install this machine in accordance with current regulations.

7.1. UNPACKING AND HANDLING

Wherever possible, the mixer should be transported to the installation position inside its packaging to avoid any damage. Do not use a sharp knife to open the box to prevent damaging the machine. Upon the first inspection, check for any possible shipping damages. If any damage is found, save the packaging material and contact us.

Caution: The mixer is heavy and must be correctly handled and lifted to avoid personal injuries.

When the machine is in the vicinity of its final position, remove from the transportation pallet. The machine is fastened to the pallet with four retaining bolts reaching into threaded feet of the base. Care must be taken during this operation to ensure:

- All required safety measures are taken to ensure correct lifting and handling to avoid risk of injury, which may be through dropping, falling or tilting.
- No damage is done to the machine which could impair its normal operation.

7.2. LOCATION

The mixer is not suitable for outdoor installation and must not be installed where a water jet could be used for cleaning. The mixer must only be operated by trained staff and must be installed in an area where the use and maintenance are restricted to trained personnel.

Ensure that the mixer is at a height with the bowl handles approximately between knuckle and elbow height. This will reduce the need to bend at waist level.

Select a suitable flat level surface that can support the weight of the mixer and bowl contents when full. It is recommended to secure the mixer in position. Ensure the table, stand or work surface is firmly fixed to the floor. The appliance must be restrained to prevent any movement during use.

Ensure that there is sufficient space around the mixer to ensure the safe operation. Servicing may also become an issue if there is a greatly reduced clearance. For this reason, ensure that service access on the top, side and rear of the mixer are clear.

7.3. ELECTRICAL INSTALLATION.

The electrical installation of the mixer must comply with the local or national electricity board regulations.

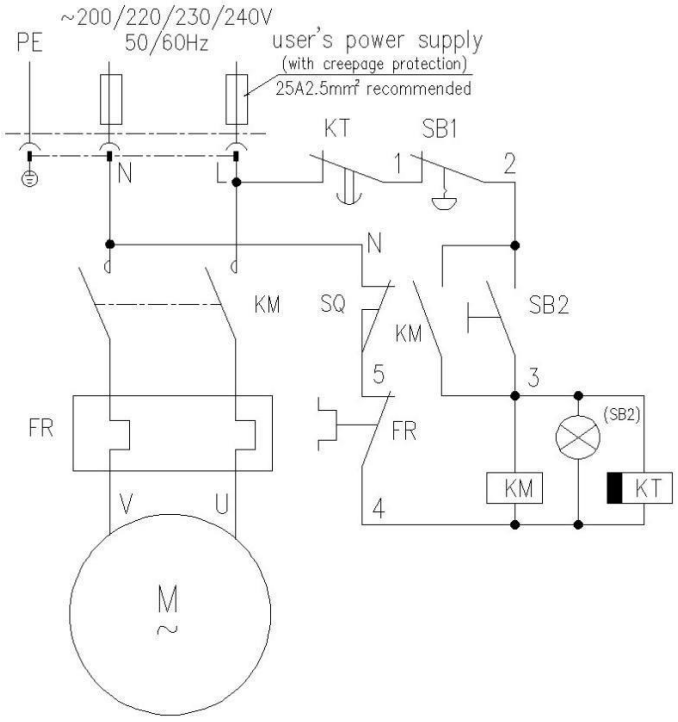
A competent person must carry out the electrical installation. Ensure that the electrical supply agrees with machine specifications prior to connecting it.

The mixer is a Class l appliance, since the protection against electric shock does not rely solely on basic insulation. An external electrical isolator and MCB/fuses (both supplied by others) must be fitted to the incoming electrical supply of the mixer. In addition, a 35 mA residual current device is strongly recommended to provide extra protection.

“This appliance should be connected to a supply source with an impedance value Zsys less than (0.05+j0.03) Ω.

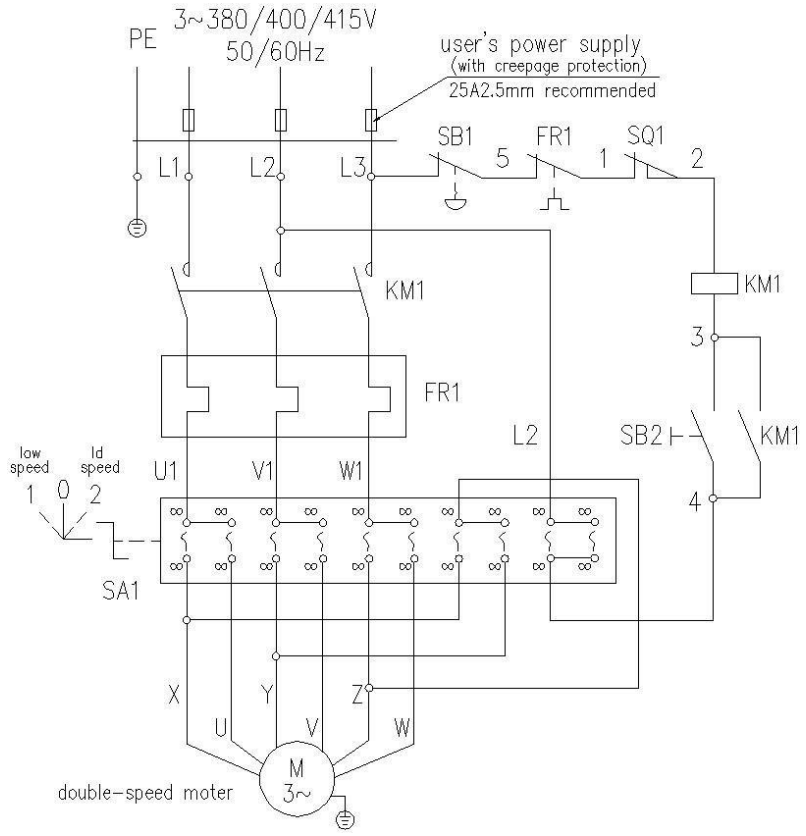
If the supply cord is damaged, it must be replaced with a special cord or assembly available from the manufacturer or its service agent.”

LM20, LM30, LM40, LM50 Circuits (Single Phase)



Code	Name	Qty.
M	Motor	1
KM	Contactor	1
SB1	Emergency Stop button	1
SB2	Start Button with light	1
SQ	Journey Switch	1
KT	Timer	1

LM30A, LM40A, LM50A Circuits (Three Phase)

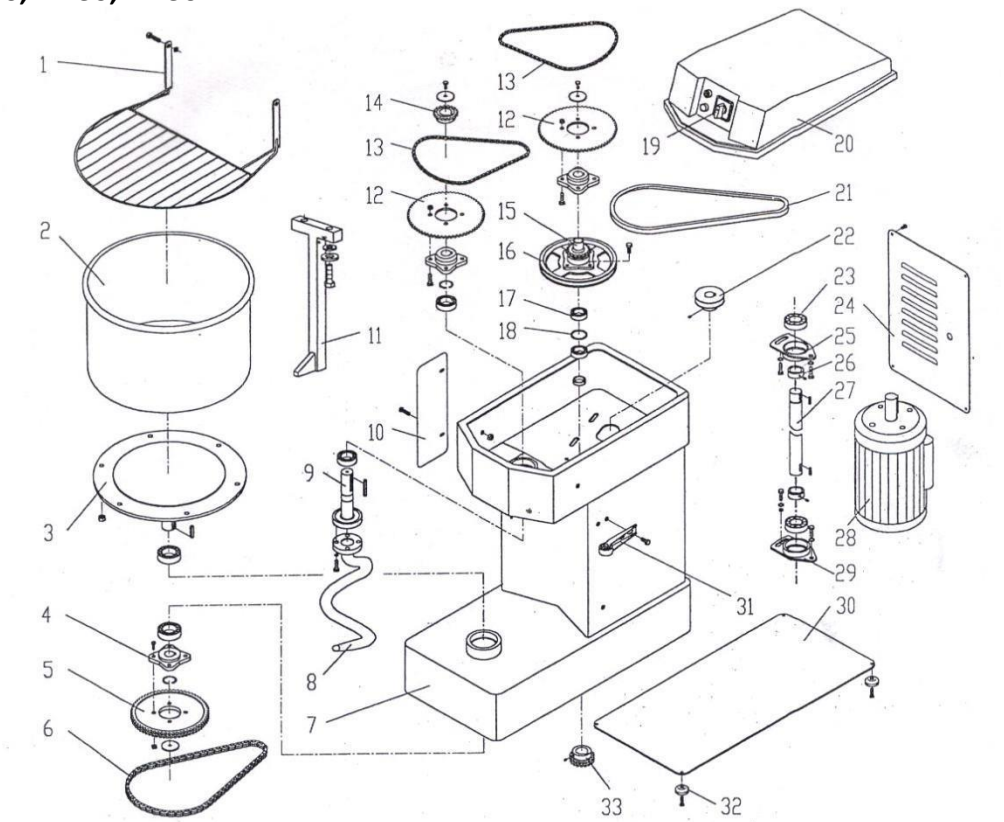


Code	Name	Qty.
M	Motor	1
KM	Contactor	1
SB1	Emergency stop button	1
SB2	Start button with light	1
SQ1	Journey switch	1
SA1	Omnipotent change switch	1

8. MACHINE ILLUSTRATION:

If you want to replace parts, you can give us the list of required parts by referring to the parts list below.

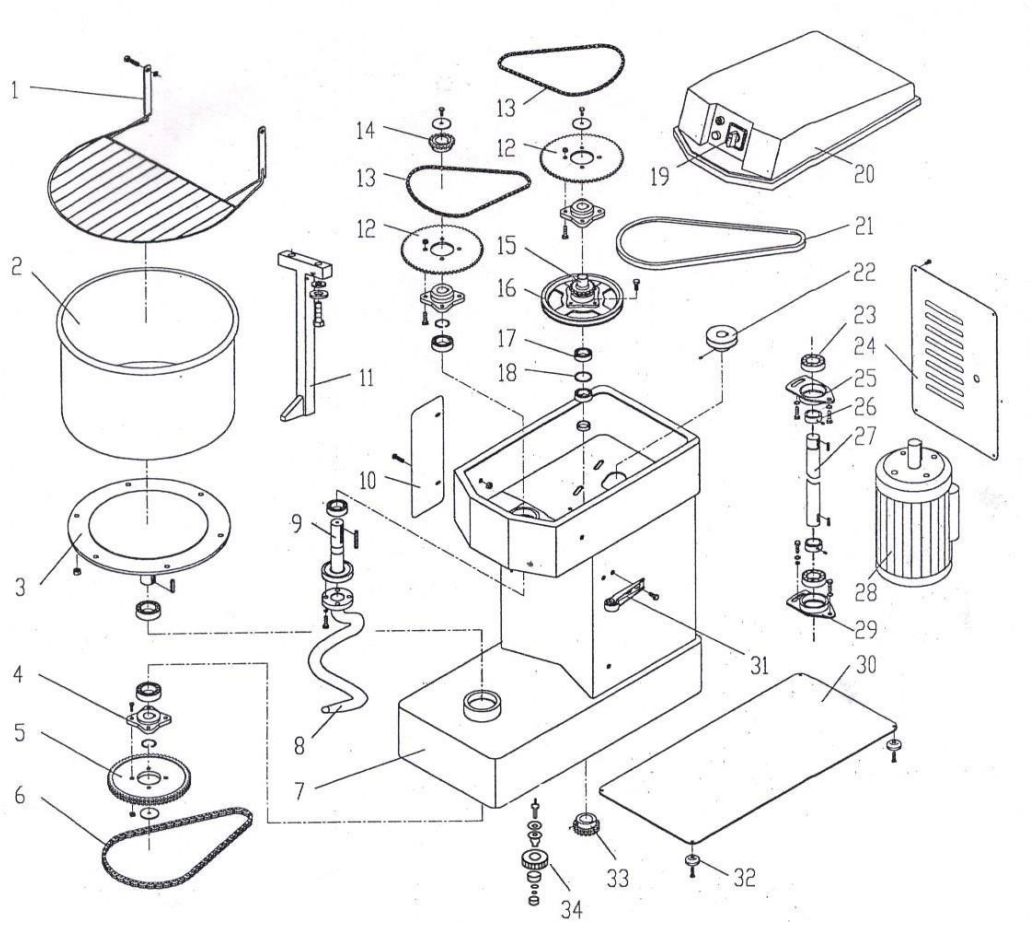
LM20, LM30, LM30A



No.	Part No.	Name of part	Qty.	No.	Part No.	Name of part	Qty.
1	LM20 30 -13	Protective casing	1	18	LM20 30 -35	Washer	1
2	LM20 30 -11	Bowl	1	19		Switch	1
3	LM20 30 -10	Bowl support	1	20	LM20 30 -09	Top cover	1
4	LM20 30 -25	Chain seat d25	1	21		Belt	1
5	LM20 30 -24	Chain pulley	1	22	LM20 30 -18	Small belt pulley	1
6	GB1243.1-83	Chain	1	23	GB281-64	Bearing 1204	2
7	LM20 30 -01	Frame	1	24	LM20 30 -04	Back cover	1
8	LM20 30 -19-2	Dough arm	1	25	LM20 30 -33A	Upper bearing seat	1
9	LM20 30 -19-1	Shaft	1	26	LM20 30 -05	Locking ring	2
10	LM20 30 -22	Protective plate	2	27	LM20 30 -17	Transmission shaft	1
11	LM20 30 -20A	Center rod	1	28	LM20 30 :YSP711-4 B144 LM30:YSP801-4B14	Motor	1
12	LM20 30 -41	Big chain pulley Z=59	2	29	LM20 30 -33B	Lower bearing seat	1

13	GB1243.1-83	Chain	2	30	LM20 30 -07	Bottom plate	1
14	LM20 30 -41	Chain pulley Z=18	1	31	LM20 30 -12	Guiding wheel	2
15	LM20 30 -32	Belt pulley seat	1	32		Rubber foot	4
16	LM20 30 -38	Big belt pulley	1	33	LM20 30 -31	Small pulley Z=20	1
17	GB278-82	Bearing 80204	2				

LM40, LM50, LM40A, LM50A



No.	Part No.	Name of part	Qty.	No.	Part No.	Name of part	Qty.
1	LM40 50 -35	Protective casing	1	18	LM40 50 -35	Washer	1
2	LM40 50 -25	Bowl	1	19		Switch	1
3	LM40 50 -28	Bowl support	1	20	LM40 50 -09	Top cover	1
4	LM40 50 -27	Chain seat d25	1	21		Belt	1
5	LM40 50 -16	Chain pulley	1	22	LM40 50 -18	Small belt pulley	1
6	GB1243.1-83	Chain	1	23	GB281-64	Bearing	2
7	LM40 50 -02	Frame	1	24	LM40 50 -04	Back cover	1
8	LM40 50 -24	Dough arm	1	25	LM40 50 -37	Upper bearing seat	1
9	LM40 50 -19	Shaft	1	26	LM40 50 -06	Locking ring	2
10	LM40 50 -22	Protective plate	2	27	LM40 50 -05	Transmission shaft	1
11	LM40 50 -23	Center rod	1	28	LM40/LM50 :YL1001L -4-85	Motor	1
12	GB1243.1-83	Big chain pulley Z=59	2	29	LM40 50 -38	Lower bearing seat	1
13	LM40 50 -17	Chain	2	30	LM40 50 -39	Bottom plate	1
14	LM40 50 -13	Chain pulley Z=18	1	31	LM40 50 -21	Guiding wheel	2
15	LM40 50 -10	Belt pulley seat	1	32		Rubber foot	4
16	LM40 50-12	Big belt pulley	1	33	LM40 50 -31	Bottom chain pulley Z=19	1
17	GB278-82	Bearing 80204	2	34	LM40 50 -29	Tension chain pulley Z=19	

CLEANING INSTRUCTIONS;

1. Take off any remaining debris.
   - Use a nylon brush or a cloth towel to gently remove any piece of dough.
2. Wipe down to clean.
   - Use an approved detergent and water solution OR a vinegar and water solution to wipe down the bowl and hook.
3. Rinse down.
   - Use clean water and cloth to wipe down.
4. Sanitize.
   - Use approved sanitizers. Follow manufacturer's instructions exactly, be sure to wipe entire machine.

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