



Via Artigianato 85 – 25030 Torbole Casaglia (BRESCIA) ITALY – Tel. 0302650479 – Fax 0302650143

# INSTRUCTION BOOK

## PLANETARY MIXER BM60



Зип Общепит

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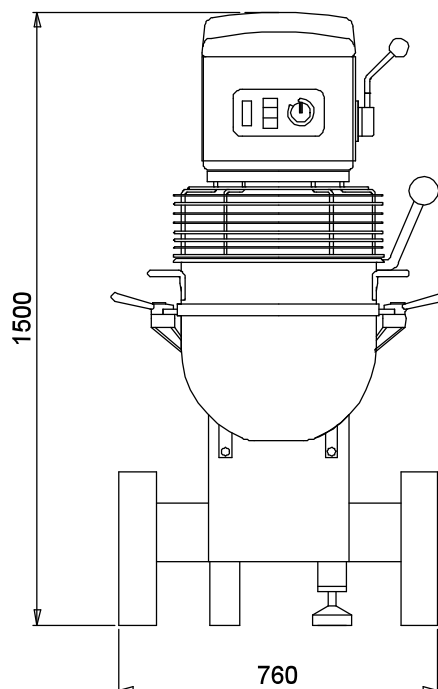
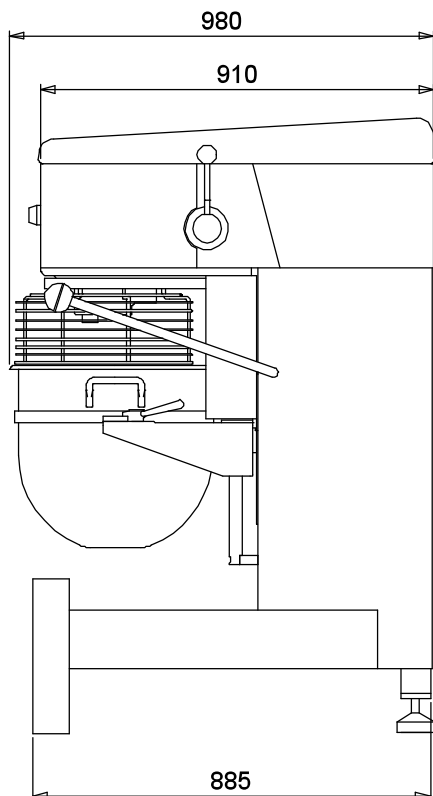
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## TECHNICAL SPECIFICATIONS BM60

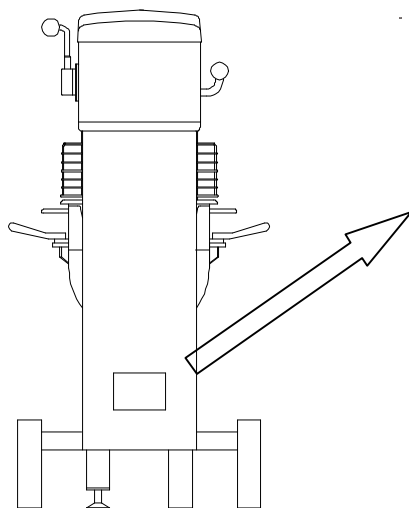
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Net weight: Kg 280  
Bowl capacity: Lt. 60  
Power: Kw 2,2  
Tool speed: rpm max 160  
rpm min 40



## RATING PLATE



Mod.	<input type="text"/>	N°	<input type="text"/>
Hz	<input type="text"/>	Kw	<input type="text"/>
Volt	<input type="text"/>		
	<input type="text"/>		Manufactured in: ITALY
<b>SIGMA</b> <small>BAKERY PASTRY PIZZA EQUIPMENT</small>			
Via Artigianato, 85 - 25030 Torbole Casaglia - BRESCIA - ITALY Tel. 030/2650479-488 - Fax 030/2650143			

## MACHINE DESCRIPTION

The planetary mixers BM60 are machines for high professional use and capable of excellent performances. They are driven by a high-capacity motor and the special belt speed change variator features a great velocity ratio that provides a wide spread between the maximum and minimum speed of the planetary with consequent tool speed.

The speed change variator enables a perfect whipping, beating, mixing, combining and airing of all ingredients thus assuring excellent final products.

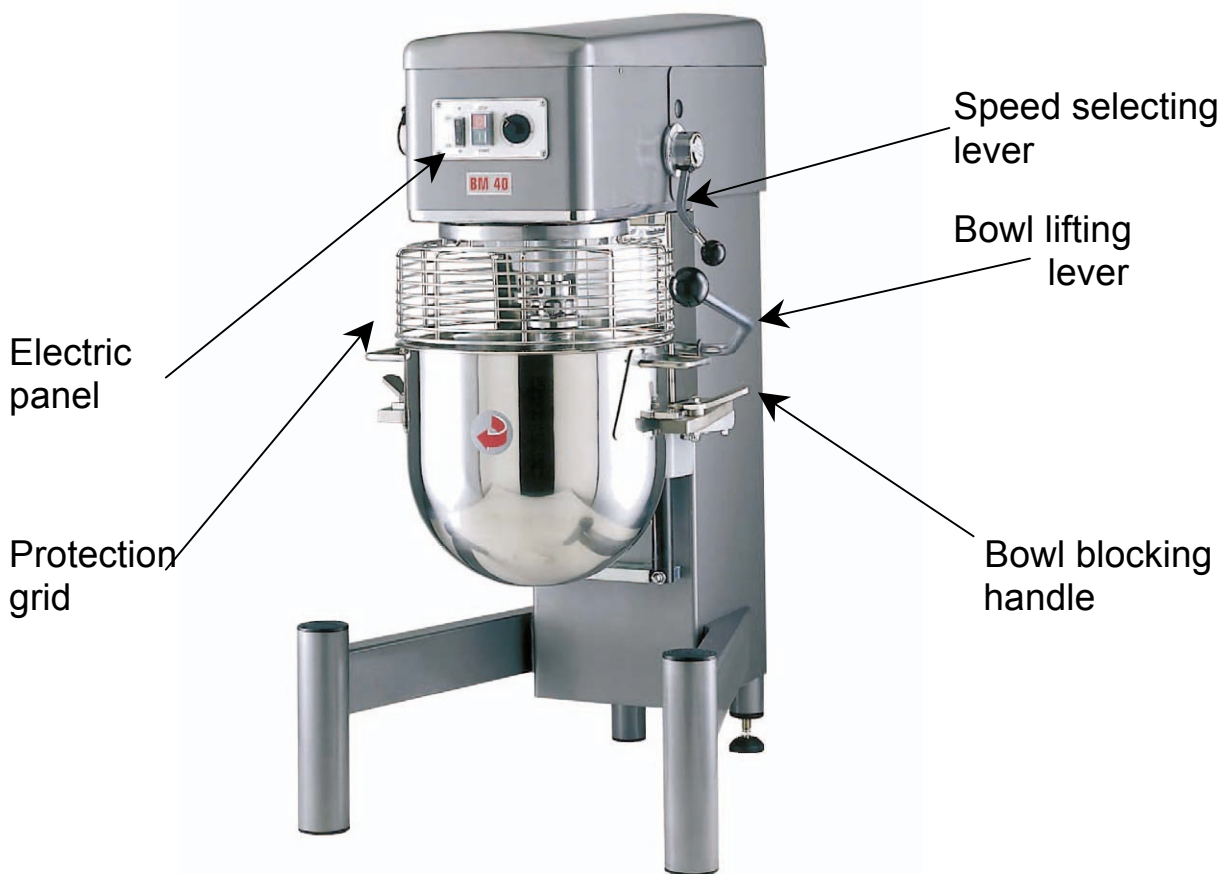
The properly hardened and ground gear unit and the wide size of the belt allow full use of installed power. The steel structure of the machines make them stout and reliable.

Bowl lowering device and easy removal of bowl and tools give to this machine a professional aspect.

Upmost care has been put in the construction of all fixtures provided, whisk, blade and spiral in stainless steel, which together with the peculiar form of the bowl, assure best results in mixing.

The safety devices and an electric control equipment complying with all European regulations crown these machines.

## MACHINE COMMANDS



## INSTALLATION

The machine must be placed on the floor regulating its steadiness by means of the little foot that can be regulated in its highness..

Next to the machine, a lead must be installed; wires section of 1,5 mm<sup>2</sup> at least and tap with blocked plug.

Make sure that volt, Hz, kw comply with the ones indicated on the rating plate of the machine.

ATTENTION: At the start of the power supply a differential must be fitted with leakage current of 0,03A (Ampere).

## OPERATING INSTRUCTIONS

The machine must have the bowl attached and the protection grid closed otherwise the protections and safety devices prevent the mixer from working.

**DO NOT REMOVE OR TAMPER THE PROTECTIONS AND THE SAFETY DEVICES, EITHER ELECTRIC OR MECHANIC, THE MACHINE IS EQUIPPED WITH.**

1. The bowl must be attached to the mixer BEFORE attaching the agitators. Make sure that the bowl lift lever is in the down position.



2. Place the bowl onto the mixer making sure that the holes on each side are securely placed over the pins on the bowl support. Secure the bowl by pushing the bowl clamps on either side back so that the clamps rests on the bowl handles.



3. Rotate the bowl guard so that it rests in the open position and lower the bowl in its resting position. Select the appropriate tool and insert it onto the tool shaft rotating the tool clockwise. Insert the entrainment pin as shown in the figure. Low and insert the tool blocking ring.



4. Lift completely up on the bowl lift lever until it locks into position. Insert the ingredients and start the mixing process.



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5. Press the main button (see pos.1 of the exploded view). Rotate the timer ( pos.3) into ON position so to have a continuous movement of the mixer or set the timer for the appropriate time, then press the start/stop button (pos.2). ATTENTION: when lifting the safety grid the machine immediately stops working, but the timer does not return to zero and goes on counting the elapsing time. It is therefore always advisable to wait for the end of the set time. After any mixing process reset the timer.



6. The mixer has a speed control lever to change the speed of the tools rotation. ATTENTION: NEVER move the speed control lever unless the mixer is operating otherwise the mixer will be damaged.



7. When the ingredients have been thoroughly mixed, press the stop button. Lower the bowl by pushing the bowl lift lever back and down to its resting position. Rotate the bowl guard so that it is in the open position. Rotate the tools anticlockwise for unhooking it and use levers to take the bowl with the tool out.



Many problems rise from an improper use of the machine by the end user. The overcoming of the advised quantities will be prejudicial to the quality of the working process and to the endurance of the mechanical parts of the machine. It will be useful to take as an indication about the maximum advised quantities the following capacity chart.

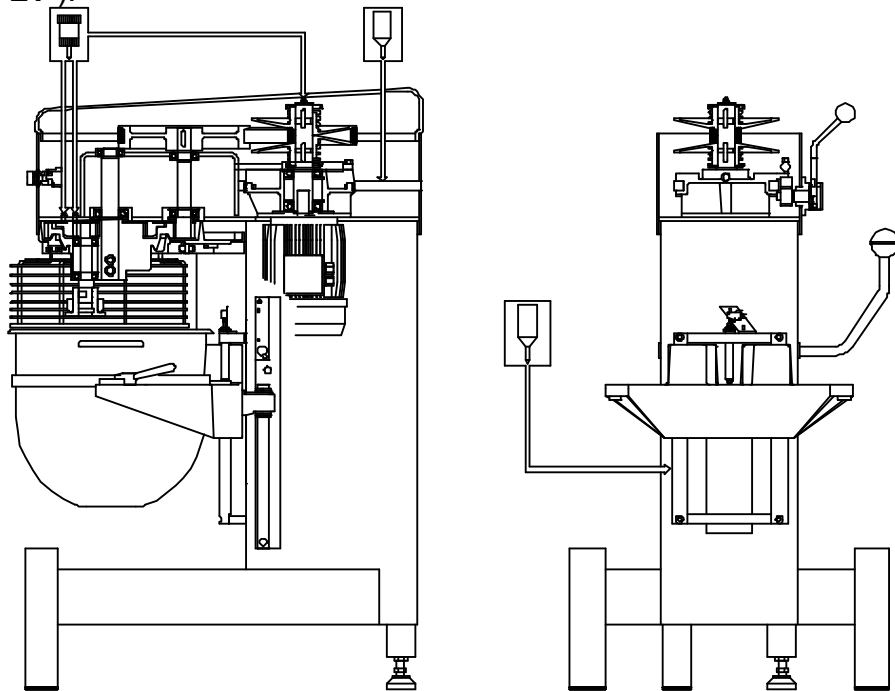
APPLICATION	INGREDIENTS	BM 10	BM 20	BM 30	BM 40	BM 60	TOOL	SPEED
Dough 55% water	Kg of flour	3	6	9	12	18	Spiral	1
Croissants dough	Kg of flour	2,5	5	7	9	15	Spiral	1
Cream puff dough	Kg of flour	2	4	6	8	12	Spiral	1
Meat	Kg.	5	10	15	20	30	Spiral/blade	1-2
Mashed potatoes	Kg of potatoes	5	10	15	20	30	Blade/Whisk	1-2
Albumen	Number of eggs	16	32	50	70	96	Whisk	1-4
Biscuits	Number of eggs	15	30	45	60	90	Whisk	1-3
Meringues	Kg of sugar	0,75	1,5	2,25	3	4,5	Whisk	1-4
Whipped cream	Lt of cream	2	4	5,5	7	10	Whisk	1-4

## MAINTENANCE

ANY CHECK OR MAINTENANCE OPERATION SHOULD BE CARRIED OUT ONLY WHEN THE MIXER IS UNPLUGGED AND POWER IS DISCONNECTED.

The machine does not need particular maintenance operations. Check worn-out level of the belt after the first three months.

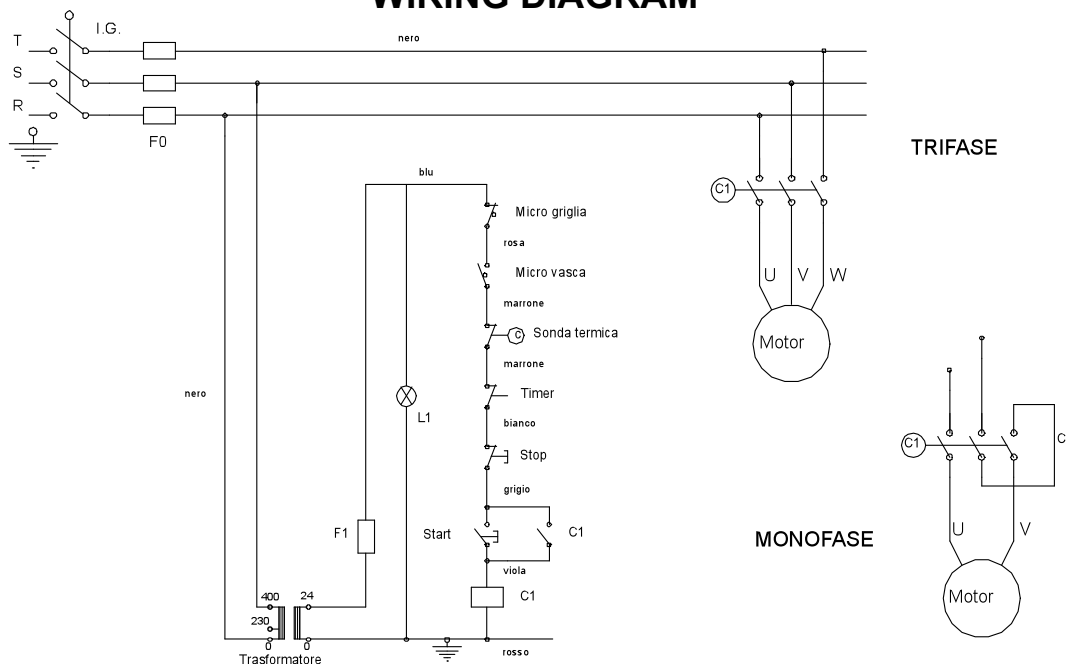
Periodically grease every 4 ÷ 6 months the points shown in the following sketch (use **MOLYKOTE 165 LT** ).



**ATTENTION:** The machine is not waterproof, therefore whatever cleaning process must not involve a jet of water.

If the power supply cable becomes damaged it must be substituted with a **H07RN/F** cable with a cross-sectional measurement of  $3 \times 1,5 \text{ mm}^2$  .

## WIRING DIAGRAM



## POSSIBLE FAULTS AND REPAIRS

FUNCTIONING ANOMALIES	POSSIBLE CAUSES	REPAIRS
When turning switch into position 1 the warning lamp does not light.	<ol style="list-style-type: none"> <li>1) The plug or the wires are not correctly connected.</li> <li>2) The warning light is burnt.</li> </ol>	<ol style="list-style-type: none"> <li>1) Check right connection.</li> <li>2) Replace the light.</li> </ol>
When pressing start button the machine does not start.	<ol style="list-style-type: none"> <li>1) Timer is not set or it's damaged.</li> <li>2) The safety grid is lifted.</li> <li>3) The bowl is not in the correct position.</li> <li>4) The safety microswitches are damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1) Set time again or turn the handle on the ON position. Press START button. If the anomaly is still present replace the timer.</li> <li>2) Turn it completely close again and block it.</li> <li>3) Check the position.</li> <li>4) Replace the microswitches.</li> </ol>
Small intermittent noise.	<ol style="list-style-type: none"> <li>1) No grease in the transmission gears..</li> </ol>	<ol style="list-style-type: none"> <li>1) Grease as indicated in the lubricating sketch..</li> </ol>
Continuous noise .	<ol style="list-style-type: none"> <li>1) Check roller bearings.</li> </ol>	<ol style="list-style-type: none"> <li>1) Repalce the bearings.</li> </ol>
Hard speed change.	<ol style="list-style-type: none"> <li>1) Leak of lubrication .</li> <li>2) The shock absorber is broken or the lever is blocked.</li> </ol>	<ol style="list-style-type: none"> <li>1) Grease as indicated in the sketch.</li> <li>2) Replace the shock absorber or the spring.</li> </ol>
It is impossible to change speed.	<ol style="list-style-type: none"> <li>1) The variable pulley is blocked.</li> <li>2) The belt is worn out.</li> </ol>	<ol style="list-style-type: none"> <li>1) Check if there are mechanical problems that block the pulley.</li> <li>2) Replace the belt.</li> </ol>
The tool does not do its normal revolution on the tool shaft.	<ol style="list-style-type: none"> <li>1) The entrainment pin is broken.</li> </ol>	<ol style="list-style-type: none"> <li>1) Replace the pin..</li> </ol>

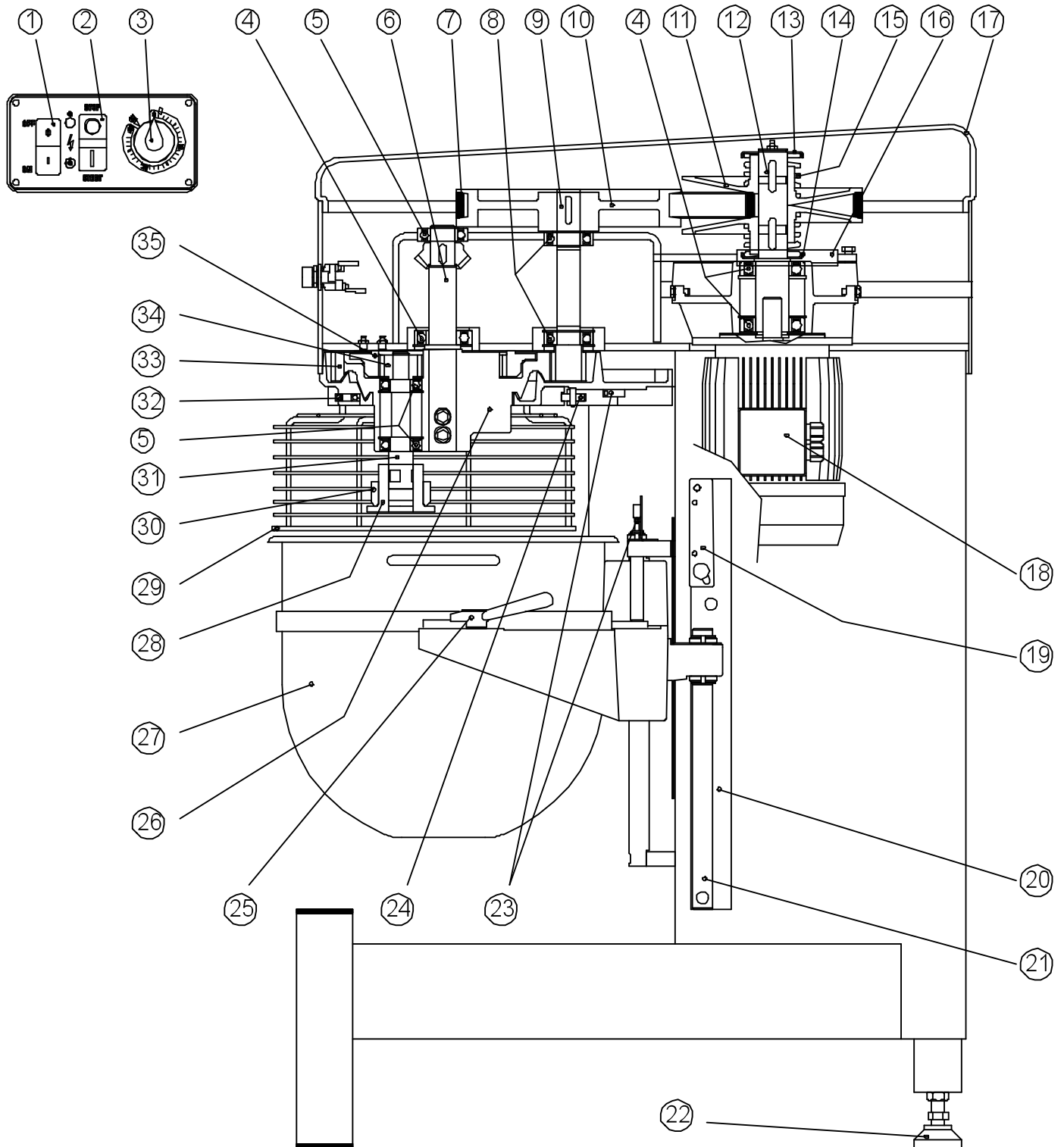


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ESPLODED VIEW BM60 - ITA

Table 1

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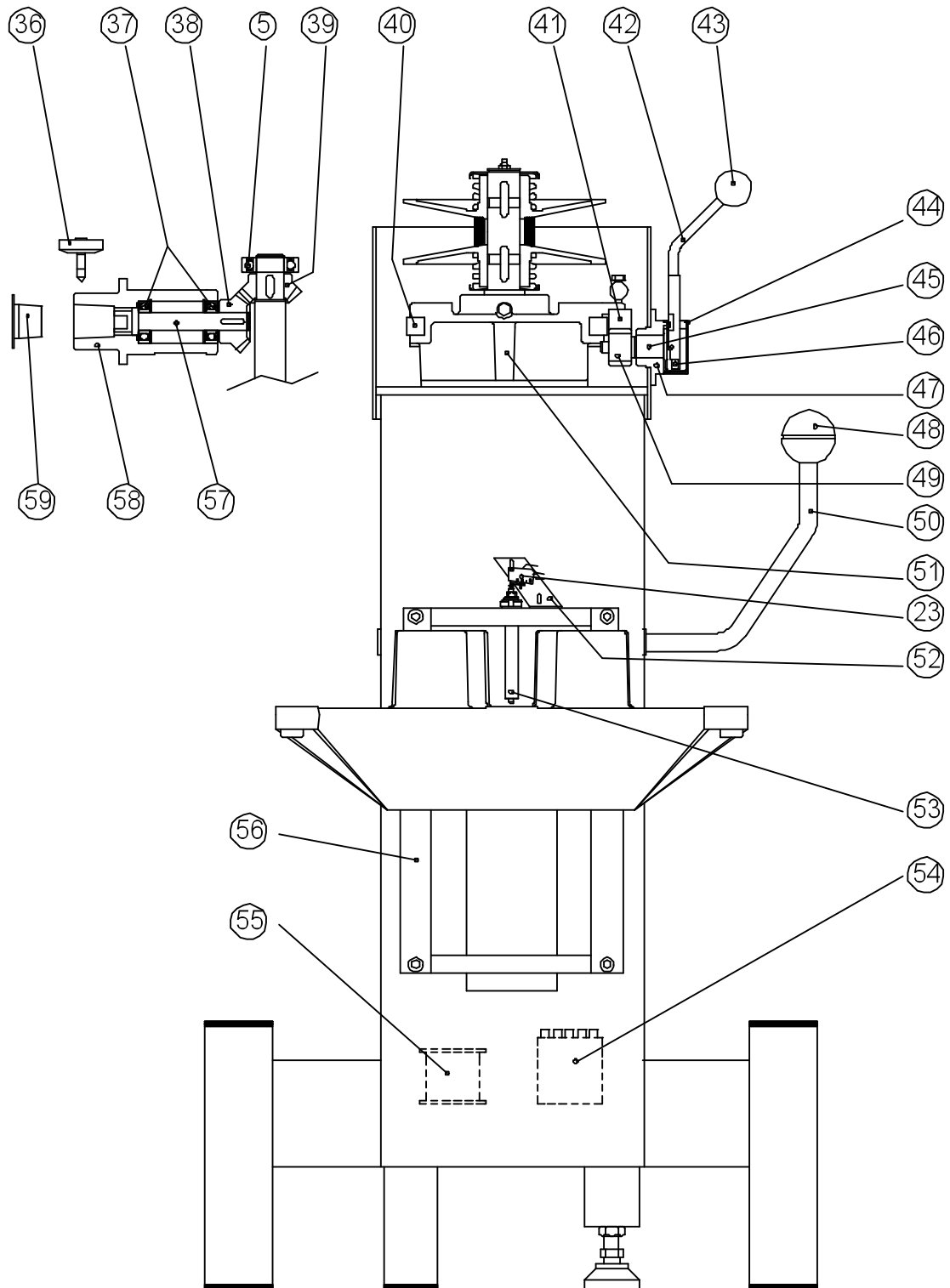


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ESPLODED VIEW BM60 - ITA

Table 2

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## SPARE PARTS LIST FOR PLANETARY MIXER BM60

N° RIF.	N° CODE	DESCRIPTION	QUANTITY
01	25003045	Three phase switch + protection 25003047	1
02	25009058	Square button QT011	1
03	25007039	Timer + Knob 25007038	1
04	13000319	Ball bearing 6208 2RS 40-80-18	3
05	13000317	Ball bearing 6206 2RS 30-62-16	3
06	01101021	Planetary shaft	1
07	01101073	Variator belt 41,5x12x1419	1
08	13000326	Ball bearing 6305 2RS 25-62-17	2
09	01101070	Return shaft	1
10	01101016	Drive pulley	1
11	01101013	Variable half pulley	2
12	01101012	Variable pulley shaft	1
13	01101083	Variator spring upper cover	1
14	01101084	Variator spring lower cover	1
15	08101014	Variable pulley spring	2
16	08000001	Shock absorber 588434 700N	1
17	03101057	Upper cover	1
18	11001301	Motor G100 4P 2,2 Kw 230-400V/3 50Hz B5	1
19	01095052	Flat plate	4
20	01095049	Bowl lifting plate	2
21	01095050	Bowl lifting bar	1
22	14002822	Small foot M16 98/6364	1
23	25001323	Microswitch + lever 25001302	2
24	01095028	Round microswitch	1
25	01098108	Bowl blocking handle	2
26	01101019	Planetary	1
27	32022820	Bowl BM60	1
28	01101148	Sleeve	1
29	05101033	Protection grid	1
30	01101149	Tools blocking	1
31	01101080	Tool shaft	1
32	13000311	Ball bearing 6200 2RS 10-30-09	4
33	01101077	Toothed crown for planetary 50 Hz	1
34	01101020	Planetary pinion	1
35	01101018	Toothed crown	1
36	01097157	Wing nut	1
37	13000315	Ball bearing 6204 2RS 20-47-17	2
38	01097047	Bevel gear pair for reducer	1
39	01101023	Bevel gear for reducer	1
40	01101009	Motor chair bars	2
41	01101035	Rack pole	1
42	01101040	Speed selecting lever	1
43	14002203	Knob 40 M8 PB/41	1
44	01098041	Closure cover	1
45	01101037	Speed pin	1
46	08098055	Handle spring	1
47	01095065	Speed lever support	1

**SPARE PARTS LIST FOR PLANETARY MIXER BM60**

N° RIF.	N° CODE	DESCRIPTION	QUANTITY
48	14002205	Knob 60 M14 PB/CO	1
49	01101036	Toothed wheel	1
50	01101053	Bowl lifting lever	1
51	01095008	Motor chair	1
52	02047046	Micro square	1
53	01101066	Bowl blocking tube	1
54	25005103	Remote control switch A16 3010 230V AC	1
55	25008001	Transformer 10VA 0/230/440 – 0/24	1
56	01101044	Bowl lifting drive bars	2
57	01101025	Shaft for Hobart attach	1
58	01101024	Reducer support	1
59	01097148	Polyethylene cap for reducer	1

**LIST OF RECOMMENDED SPARE PARTS FOR BM60  
(2 YEARS OPERATION)**

N° RIF.	N° CODE	DESCRIPTION	QUANTITY
01	25003045	Three phase switch + protection 25003047	1
02	25009058	Square button QT011	1
03	25007039	Timer + Knob 25007038	1
04	13000319	Ball bearing 6208 2RS 40-80-18	3
05	13000017	Ball bearing 6206 2RS 30-62-16	3
07	01095080	Variator belt 33x10x1380	1
08	13000326	Ball bearing 6305 2RS 25-62-17	2
23	25001323	Microswitch +lever 25001302	2
54	25005103	Remote control switch A16 3010 230V AC	1
55	25008001	Transformer 10VA 0/230/440 – 0/24	1