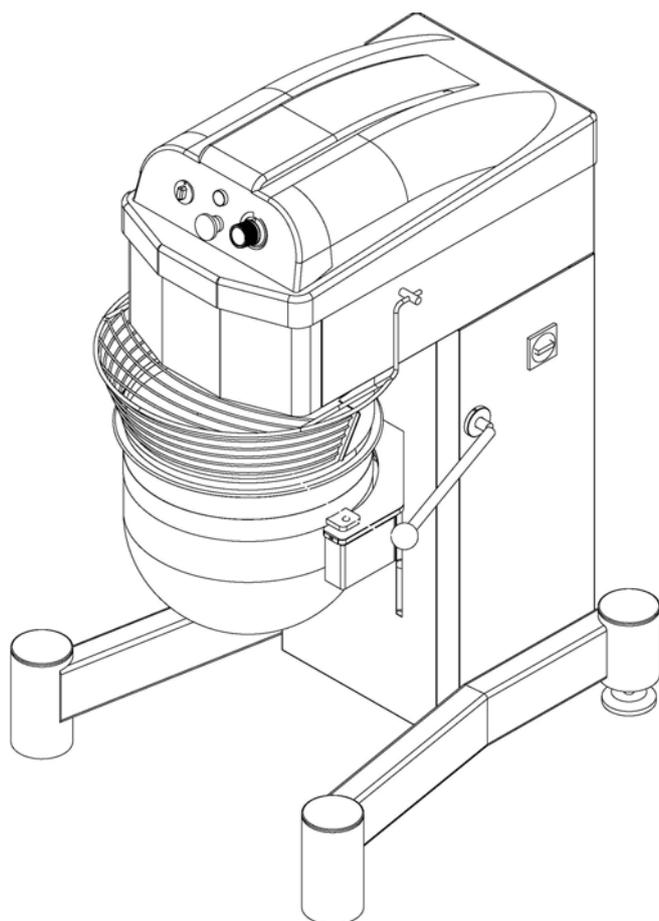


## USE AND MAINTENANCE MANUAL

### PLANETARY DOUGH MIXER

**MODEL**  
 PM 40-V  
 Serial Number 13/05547



MACHINE DESIGNED FOR PASTRY SHOPS – IDEAL FOR MIXING SMALL QUANTITIES OF DOUGH AND FOR FOOD PROCESSING

#### INTRODUCTION

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### SPARE PARTS ENQUIRY

*Always mention:*

- Machine model
- Serial number
- No. of reference table
- ⇒ Position in the list of the spare part requested
- ⇒ Piece description
- ⇒ Quantity needed
- ⇒ Code

## INTRODUCTION

### P.1 PERSONNEL INVOLVED, PURPOSE AND USE OF THE MANUAL

This booklet is addressed to:

- The personnel in charge of the confectionery unit and the maintenance
- The personnel in charge of installation
- The user
- The personnel in charge of machine dismantling

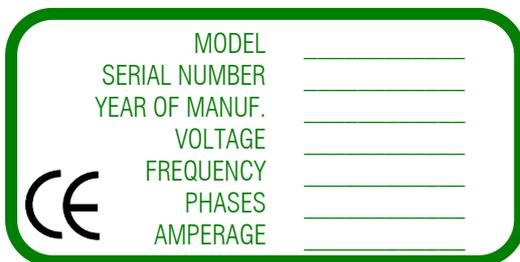
The user must handle the manual with care, prevent it from being damaged, and store it in a suitable and handy place where it can easily be consulted.

The manual is subdivided into four parts: the introduction and three sections regarding safety, use and maintenance.

- INTRODUCTION: This part contains details on the manufacturer and machine data to which one must refer to at all times in case of need.
- SECTION A: Regards safety rules and information.
- SECTION B: Illustrates machine features – operation – handling – assembly and equipment..
- SECTION C: Regards maintenance, lubrication and diagram of the different systems.

For any further information please contact the manufacturer or the person authorized by the manufacturer - details are marked on the machine plate.

### P.2 DATA MARKED ON MACHINE PLATE



The Instruction Manual of the machine specified above has been written in compliance with EEC/89/392 Directive, Enclosure I, paragraph 1.7.4.

## SECTION A: GENERAL INFORMATION

### A.1 INSTRUCTIONS

To ensure utmost operating efficiency of the machine, ESCHER MIXERS has selected quality materials and components to be used for its construction and submits each machine to regular inspections before delivery. Long-term efficiency of the machine depends also on proper use and a good maintenance plan in accordance with the instructions given in the manual.

Keep in mind however:

- To not operate the machine nor carry out any servicing on it before having thoroughly read and understood all parts of the manual.
- It is prohibited to tamper, alter or modify, any part of the machine, especially by removing protections.

- It is prohibited to use the machine under conditions or for uses that differ from those stated in the manual. In such case, the manufacturer cannot be held responsible for breakdowns, inconveniences or accidents caused by the non-observance of this warning.

The EC label is located at the back on the lower part of the machine

### A.2 GENERAL DESCRIPTION OF THE MACHINE

The machine has been designed for professional use, in the processing of food products.

Planetary mixers are ideal for confectionery units for the production of small quantities of dough and food processing such as whipping, blending and beating.

Later on in chapter B.4 you will find tables with related technical data, use of the machine and control functions.

#### A.2.1 WORK ENVIRONMENT

Admitted environmental values for proper operation of the machine:

- *Temperature*: from +5° to +40°C, with average temperature not above 35°C within a 24 - hour span.
- *Relative humidity*: between 30% and 95% (without condensation).

Plan the possibility of carrying-out cleaning and maintenance operations.

Segregate the machine so as to not allow any untrained personnel to run the machine.

The noise produced by the machine during heavy duty is less than 70 db.

#### A.2.2 WASTE DISPOSAL

In case machine needs to be scrapped, parts will have to be disposed of *separately for recycling purposes*, taking into account the nature of each and in observance of the waste management laws regarding handling and recycling of industrial wastes.

*No components are classified as toxic/harmful.*

### A.3 PROHIBITED USE CONDITIONS

Some reasonably foreseeable conditions to be avoided when using the machine can be:

- Exceeding the capacity for which the machine has been designed.
- Tampering with safety systems.
- Use of equipment not supplied with the machine, not suitable for handling of food products or that can scratch the surface of the bowl.
- Use of machine in inappropriate environments.

### A.4 CLEANING

The cleaning, on account of the processing of food products must be carried out scrupulously and on a daily basis.

Use a non-abrasive sponge with water only. Scrape off dried food deposits with a plastic spatula. The area around the machine as well as underneath the machine must periodically be cleaned.

## A.5 REFERENCE PROVISIONS

The machine model described in the hereby manual is in compliance with the EEC/89/392 Directive, and to its subsequent modifications and refers to the following regulations:

- UNI EN 292-1, UNI EN 292-2. *Basic concepts for machine safety and general designing principles.*
- UNI EN 294 *Safety distances.*
- UNI EN 349 *Minimum distance to avoid squashing.*
- EN 60204-1 *Electro technical aspects*
- EN 454 *Machines for the processing of food products - Planetary dough mixers.*

## A.6 PERSONNEL IN CHARGE

The machine has been designed and manufactured for professional use only, therefore:

- The operator must be aware and understand the functions on the panelboard, the safety systems installed and periodically test their efficiency. He must know the processing cycles and the quantity of products to be used. Daily cleaning of the machine is also the operator's task.
- The routine maintenance engineer (see point C.1) can be someone appointed by the user that has the task to check the control and safety devices and regularly checks the wear of the belts.
- The extraordinary maintenance and servicing engineer (see point C.1), throughout the machine warranty period, must be someone appointed by the manufacturer.  
Consult the chapter regarding Maintenance (Sec. C).

## SECTION B: INFORMATION ON USE OF MACHINE

### B.1 TECHNICAL FEATURES

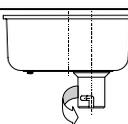
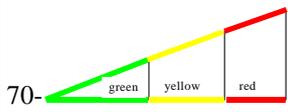
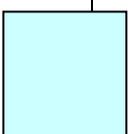
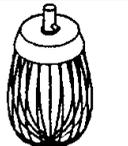
MODEL	FEATURES AND BOWL			MACHINE FEATURES				MOTOR POWER		SPEED	
	volume	diameter	reducer	width	length	height	weight		Inverter	3-speed	Inverter
	L	mm	L	mm	mm	mm	daN		kw	r.p.m.	r.p.m.

PACKAGING DIMENSIONS [cm]				
	pallet	Carton on pallet	Wooden crate	Wooden box
Length				
Width				
Height				
Gross weight				

## B.2 MAXIMUM QUANTITIES

PRODUCT	COMPONENTS	BOWLS 40/20 L	TOOLS UTENSILS
Cold water paste (60% water)	Flour	10/5 Kg	Spiral
Pizza (40% water)	Dough	8/4 Kg	Spiral
Shortcrust pastry	Flour	10/5 Kg	Spiral
Sweet pastry	Flour	9/4 Kg	Spiral
Croissant pastry	Flour	9/5 Kg	Spiral Flat beater
Brioche pastry	Flour	10/5 Kg	Spiral Flat beater
Choux pastry	Water	8/4 l	Spiral Flat beater
Meat		20/10 Kg	Flat beater
Purée	Potatoes	20/10 Kg	Flat beater
Fondant	Sugar	12/6 Kg	Flat beater
Mayonnaise	Oil	12/6 l	Flat beater Whip
Egg whites	Number of eggs	70/30	Whip
Fran Genoese	Number of eggs	60/30	Whip
Biscuits	Number of eggs	60/30	Whip
Meringues	Sugar	3/1.5 Kg	Whip
Butter cream	Powder	6/3 Kg	Whip

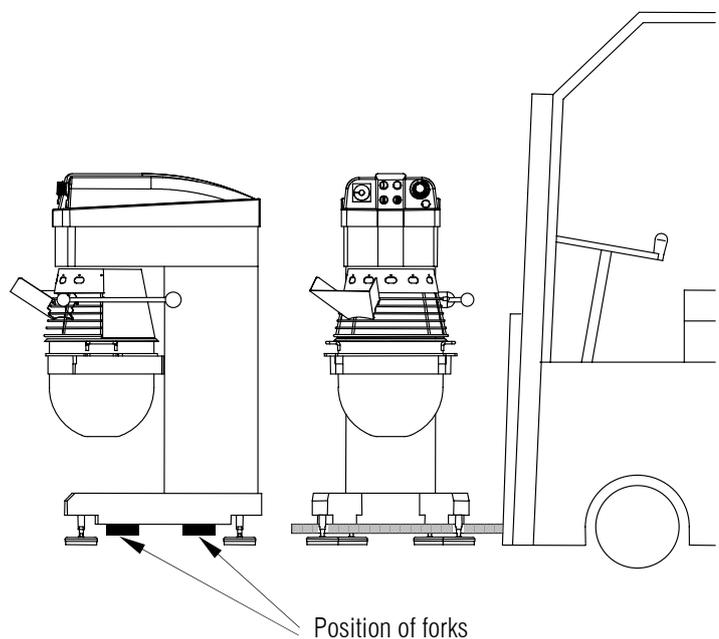
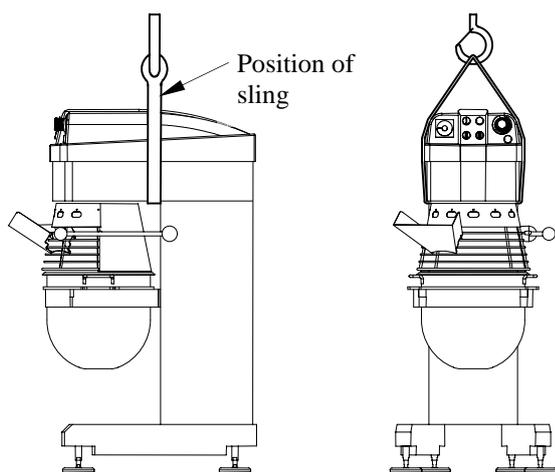
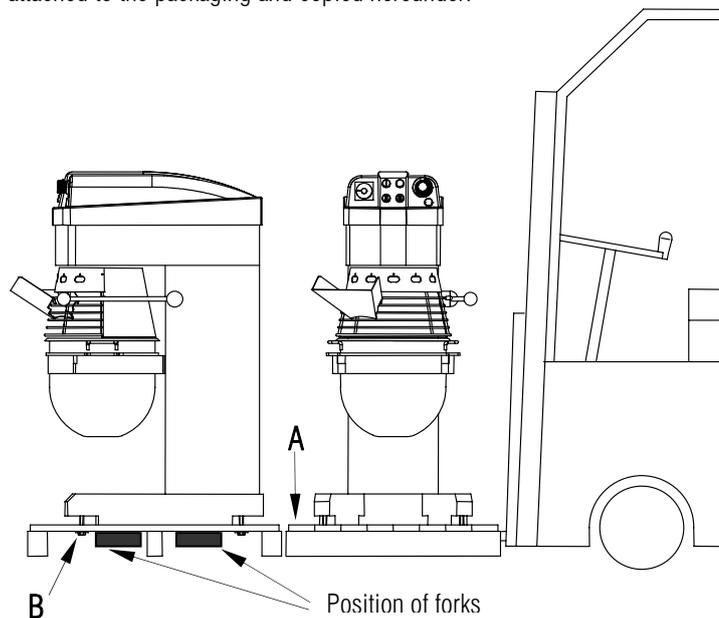
## B.3 SPEEDS FOR THE UTENSILS

	1	2	3	Variable
	70	137	276	
				
				
				

## B.4 TRASPORTATION AND HANDLING

Use *appropriate means and equipment* to lift the machine, avoiding any sort of oscillation.

During lifting, follow the instructions given in the *specific table* found attached to the packaging and copied hereunder.



### 1. HOISTING OF MACHINE WITH PACKAGING

The machine is supported by a wooden pallet (A), fastened to the bottom with four screws (B).

When using a forklift or pallet truck for the lifting of the machine make sure the forks enter inside the grooves indicated in the figure.

*Before starting make sure the handling means is appropriate..*

#### NOTE:

The material used for the packaging, except for the screws, can be recycled or disposed of together with solid domestic waste.

### 2. HOISTING OF MACHINE WITHOUT PACKAGING

#### With sling

Positioned between the column and utensil post, as indicated in the picture.

#### NOTE:

*Avoid the machine from oscillating during this operation.*

#### With lift truck

Insert forks in the spaces indicated.

Lift machine keeping forks in horizontal position.

## B.5 INSTALLATION – PREPARING FOR START-UP

- The machine must be located in an environment suitable for the processing of food products and that allows efficient cleaning.
- The machine does not require fixed anchorage but needs to stand on a flat surface and needs to be leveled through adjustment of leveling feet.
- Check proper connection to the mains, through power plug (in compliance with the standards in force).
- Check all controls as well as the correct functioning of the microswitch (factory set) that protects the mobile shield. In case you wish to change the setting contact an authorized engineer.

- Before start-up, check on tables B.2 and B.3, for maximum quantity of product the bowl can contain and the different speeds of the utensils.

## B.6 REGULAR STOP AND SAFETY STOP

### 1. REGULAR STOP

- *In manual working mode:* the machine can be stopped by striking the stop push-button.
- *In automatic working mode:* the machine stop is automatically controlled by the timer.

### 2. SAFETY STOP

- This occurs each time the mobile protection shield of the bowl is moved or when the bowl is lowered with the help of the lever located on the side.
- NOTE:  
*In any case, even though rotation stop is gradual, it occurs within a time of 4 seconds.*



THE MACHINE MUST ALWAYS BE STARTED WITH THE POTENTIOMETER SET AT MINIMUM SPEED TO STOP FLOUR FROM ESCAPING THE BOWL AND TO PREVENT MECHANICAL STRESS. SUBSEQUENTLY, ADAPT SPEED TO DESIRED MIXING.

## SECTION C: MAINTENANCE INFORMATION

### C.1 MAINTENANCE

#### 1. ROUTINE: Includes:

- Daily cleaning
- Verifying the belt tension ( monthly)  
For instructions see chapter C.2.
- Checking efficiency of controls and safety devices (at each start-up).

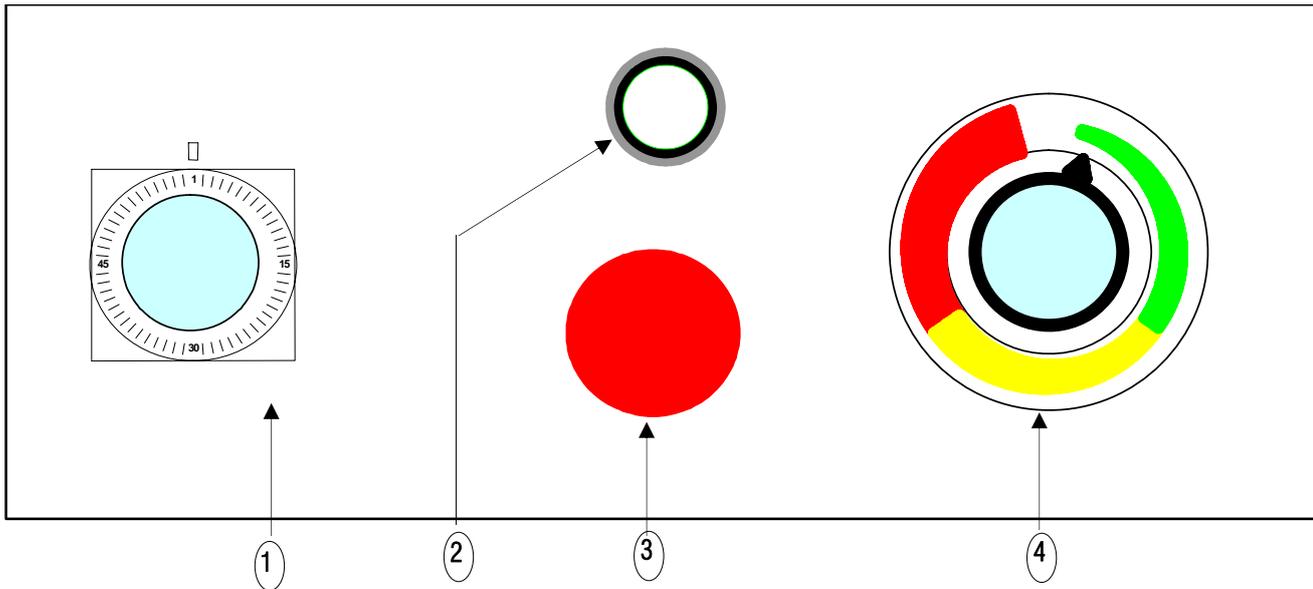
#### 2. EXTRAORDINARY

It can be conceived for a *precautionary purpose* as well as in case of *faulty operation and/or breakdowns*.

This type of after-sales-assistance must be performed by personnel *authorized by the manufacturer* or by an authorized retailer. In case the user can rely on duly-trained and skilled personnel, upon expiry of the warranty, he may request diagrams and detailed parts lists as well as blowups of the mechanical parts from the manufacturer. In this case the user *is responsible for any possible damages* to people and/or to the machine.

After 2000 working hours: it is advisable to check the wear of the bearings and of the other transmission members by an expert.

## CONTROL PANEL



### ① *Timer*

With the timer you can have two different work modes:

- **MANUAL WORK MODE**  
(Timer (1) disabled in the position of the symbol "HAND" on the left)  
The machine is stopped using the stop push-button (3).
- **AUTOMATIC WORK MODE**  
(Timer (1) enabled rotating the knob to the right and pointing the desired time)  
The stop is set by the timer (1).

### ② *Start push-button*

It is disabled when bowl protection shield is open.

### ③ *Emergency push-button*

It cuts out any function.

### ④ *Potentiometer*

It adjusts the speed in non-stop mode.



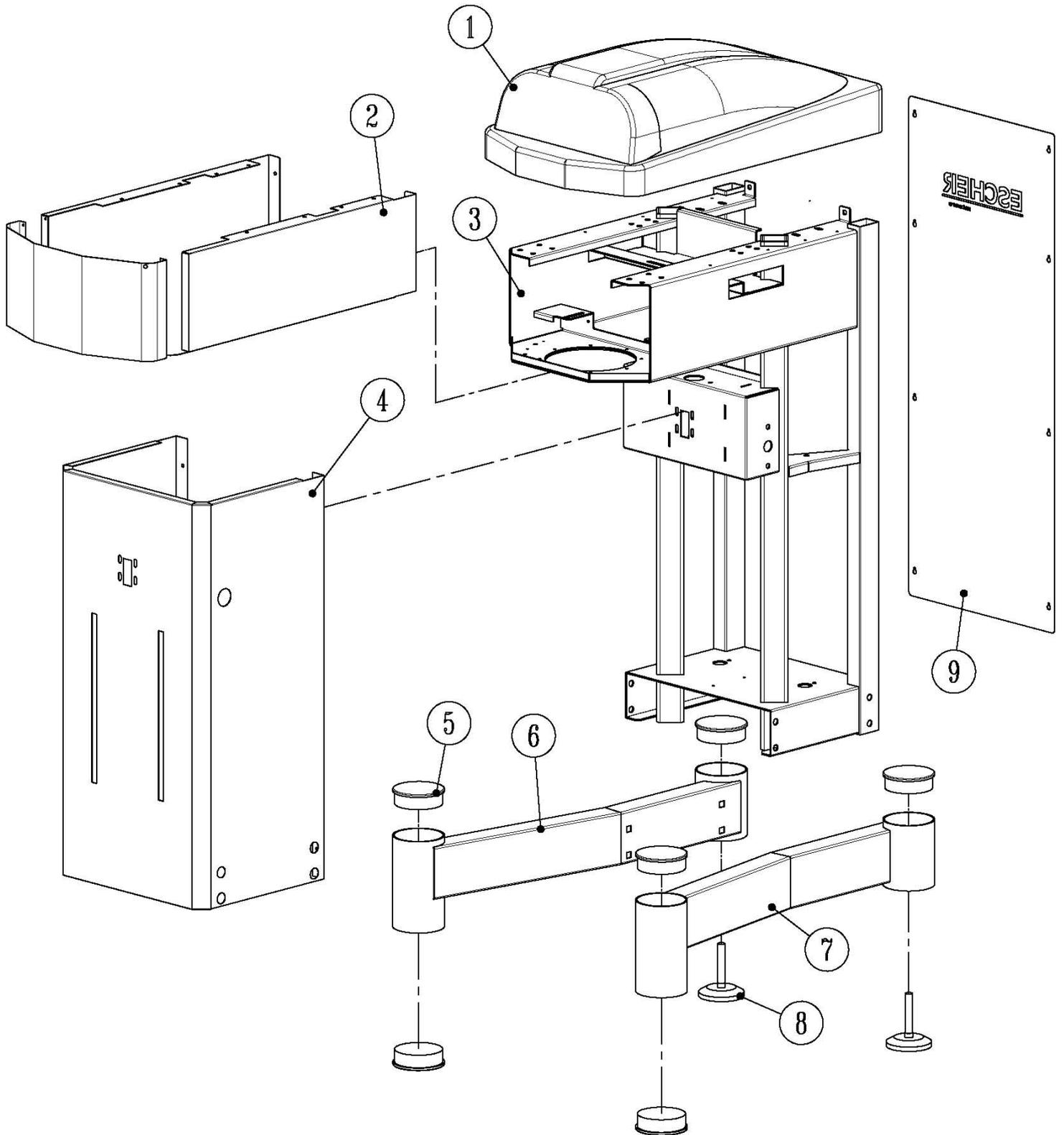
### Spare parts list for 220 V 50/60 Hz system

ID	DESCRIPTION	MANUFACTURER	CODE	Q.TY
M1	MOTOR 112 B14 4 poles 2.2 KW			1
	Box IP 55	APO		1
INV	INVERTER	MITSUBISHI	FR-D720S-100-EC	1
FU1	FUSE HOLDER	ITALWEBER	PCH 2 10x38	1
	FUSE	ITALWEBER	16A AM	4
SQ1	LIMIT SWITCH	TELEMECANIQUE	XCKN2103D20	1
SQ2	LIMIT SWITCH	TELEMECANIQUE	XCKN2103D20	1
J1	15- POLE CONNECTOR P/F	MOLEX		1

### Spare parts list for control panel

ID	DESCRIPTION	MANUFACTURER	CODE	Q.TY
J1	16- POLE CONNECTOR P/M	MOLEX		1
SB1	EMERGENCY-STOP PUSH BUTTON	MOLLER	M22 PVT	1
		MOLLER	M22 K01	2
		MOLLER	M22 A	1
SB2	SPEED PUSH BUTTON	MOLLER	M22 DX	1
		MOLLER	M22 K10	1
		MOLLER	M22 A	1
		MOLLER	M22 XDW	1
KT1	SPEED TIMER	TEMPOMATIC	Meccanico	1
POT	POTENTIOMETER	SPECTROL	10 K	1

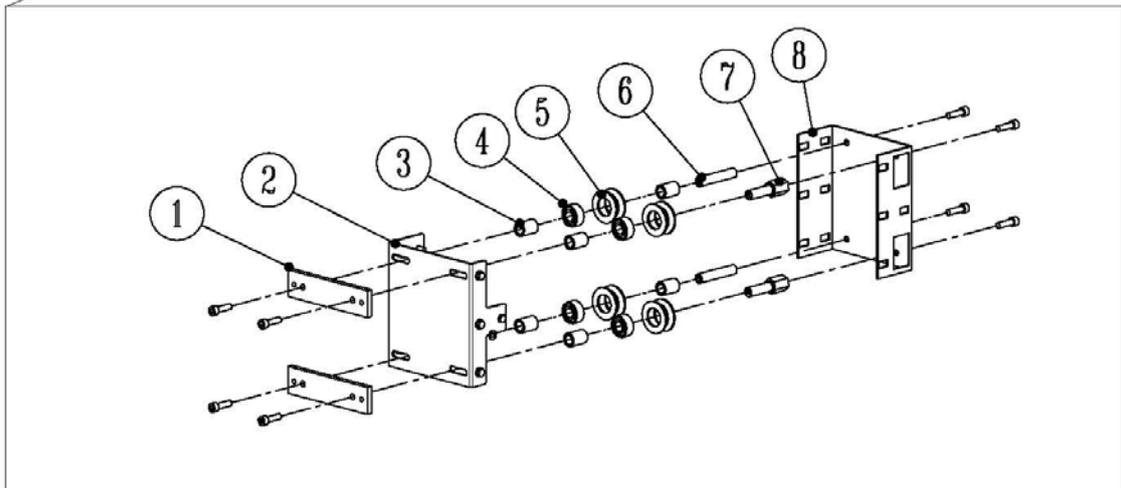
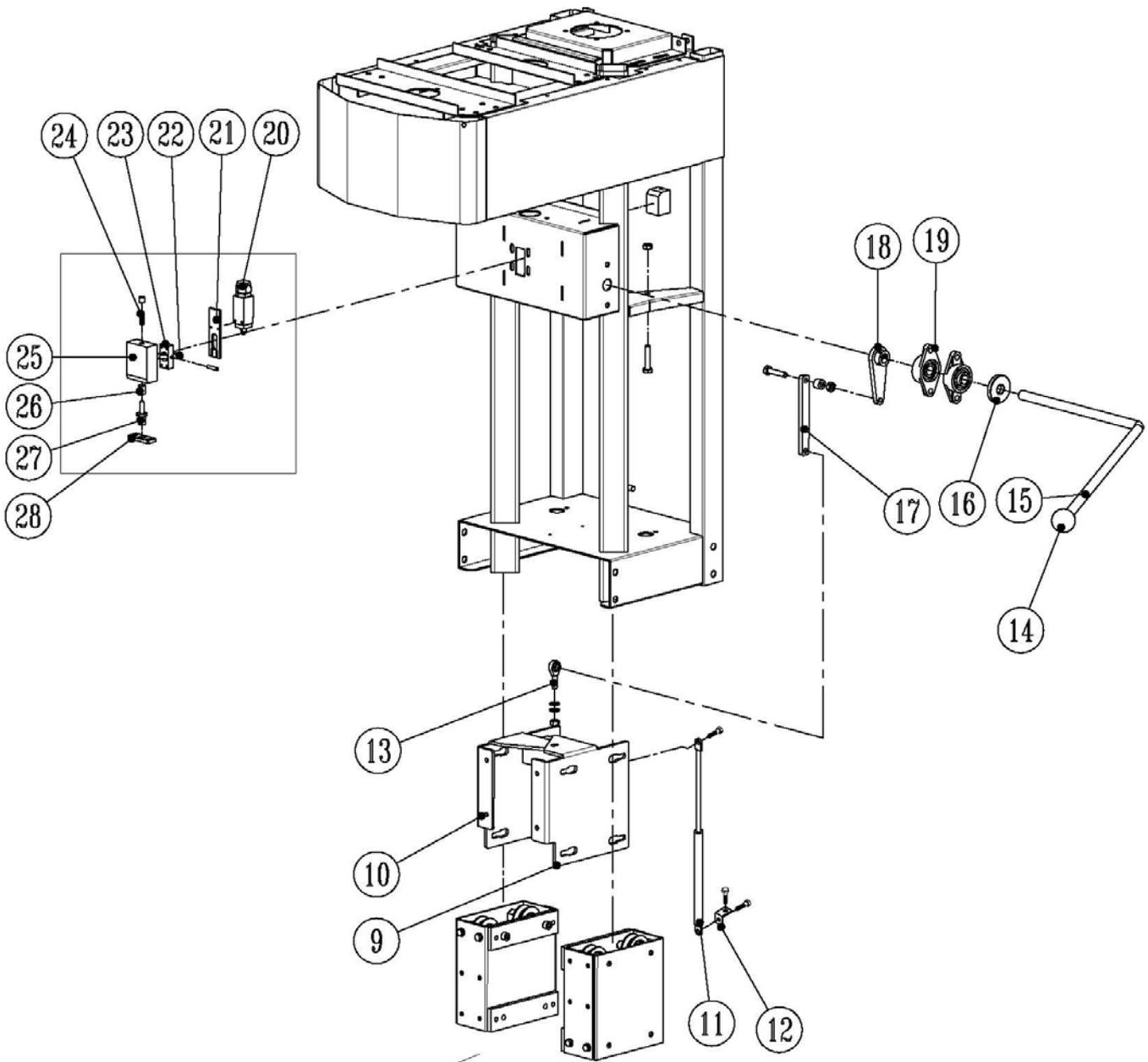
TABLE No.1: Carpentry group



LIST OF TABLE No.1

POS.	DESCRIPTION	Q.ty	CODE
1	Head cover	1	D08029
2	Cloak head	1	D07800
3	Lower body	1	D03400F
4	Mantle column	1	D07801
5	Cap	6	C08405
6	Left leg	1	D16003F
7	Right leg	1	D16002F
8	Adjustable food	2	C01010
9	Rear closing plate	1	D07497

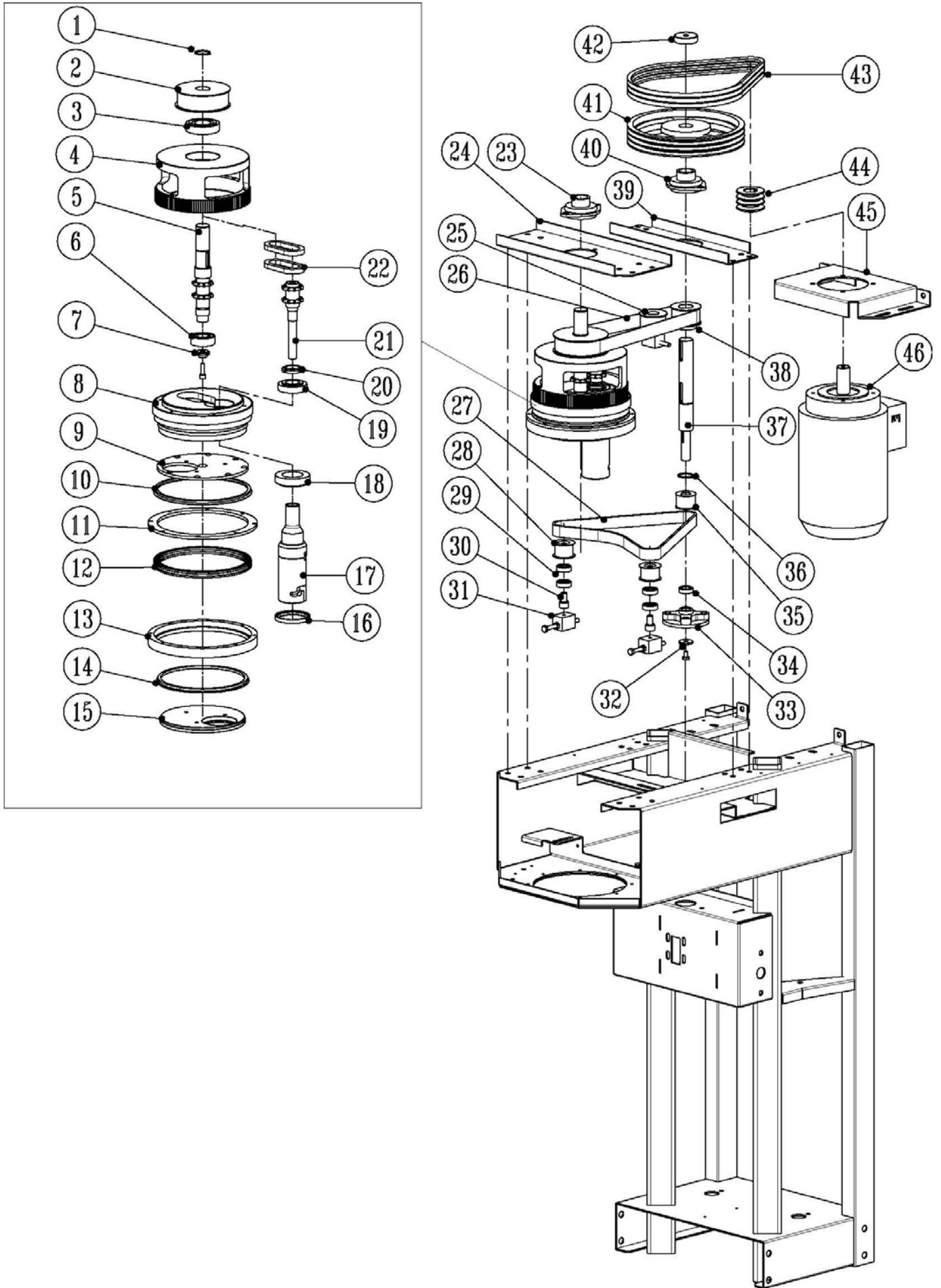
Table No.2: Group lifting and locking tub



LIST OF TABLE No.2

POS.	DESCRIPTION	Q.ty	CODE
1	Plate	4	D13079
2	Box door wheels	1	D07124_01F
3	Spacer	12	D10051
4	Bearing 3203 2RS	8	C00111
5	Wheel	8	D11004
6	Wheel axle	4	D01373
7	Eccentric axle	4	D01374
8	Box door wheels	1	D07124F
9	Right plate	1	D07498F
10	Left plate	1	D07499F
11	Gas spring	1	C06227
12	Bracket	1	D13335
13	Joint head M10 R	1	C00911
14	Knob	1	C02603
15	Handle	1	D01377
16	Washer	1	D08512
17	Rod	1	D13080
18	Cam	1	D06903
19	Support UCFL 204	2	C00405
20	Microswitch	1	
21	Microswitch support	1	D04437_01
22	Leverage for micro	1	D06904_01
23	Flat door lever	1	D13082
24	Spring	1	C01914
25	Support docking tub	1	D04436
	Spacer bloc	1	D04436_01
26	Spring 90 SHORE	1	C01915
27	Locking peg tub	1	D01908
28	Plate	1	D13081

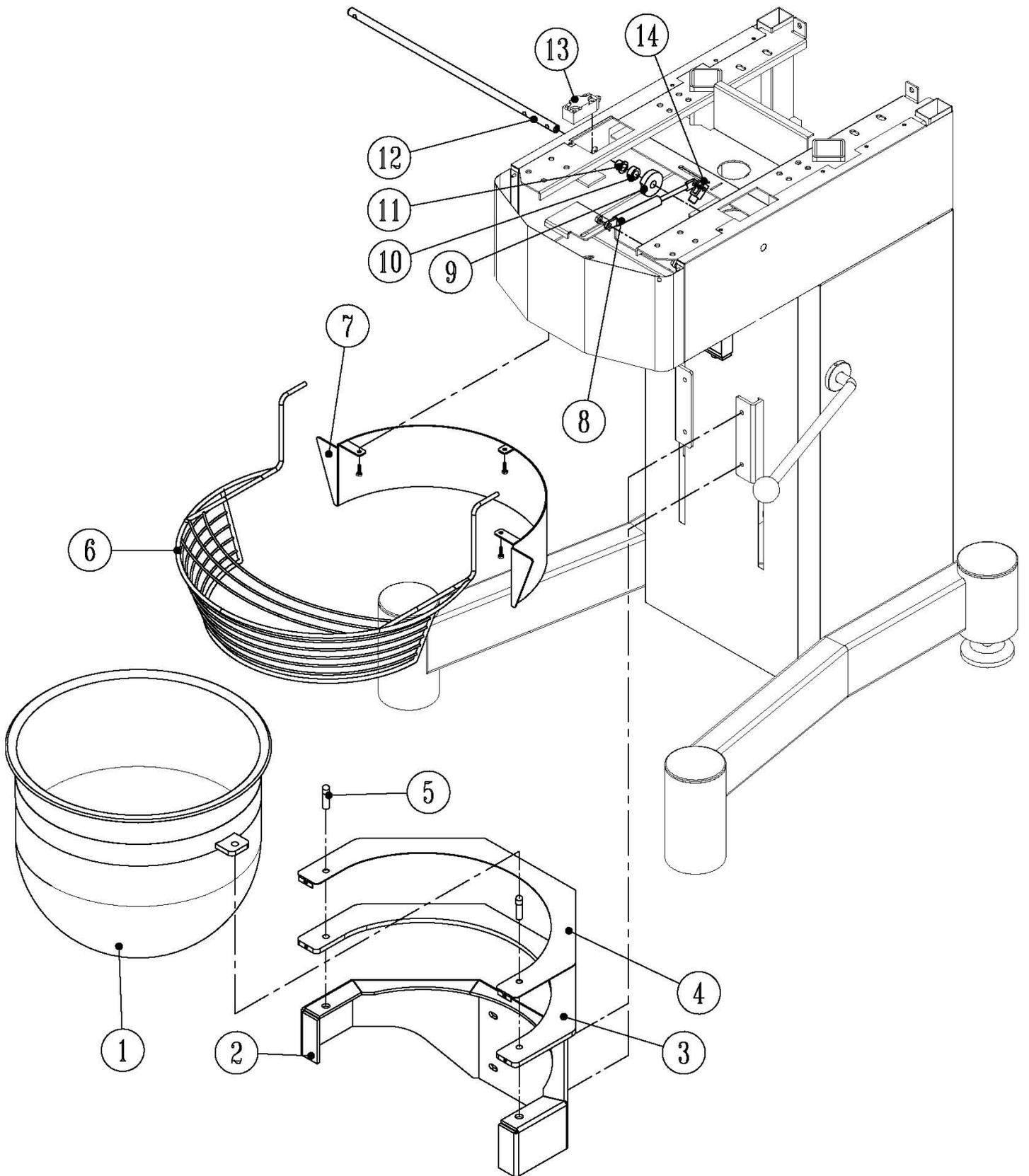
Table No.3: Group mechanical head



LIST OF TABLE No.3

POS.	DESCRIPTION	Q.ty	CODE
1	Seeger ring E 30 UNI 7435 DIN 471	1	C02904
2	Pulley 30 RPP8 Z44	1	D11192
3	Bearing 6207 2RS	1	C00029
4	Cup toothed planetary rotation	1	D11325
5	Central shaft gear	1	D11324
6	Bearing 2205 2RS	1	C00026
7	Collar sleeve bottom	1	D05015
8	Rotating support	1	D04020
9	Bottom flange sealing washer	1	D05336
10	Seal VL200	1	C11930
11	Upper flange sealing washer	1	D05335
12	Ralla LER KK 200	1	C00301
13	Ring	1	D05500
14	Seal VL180	1	C11932
15	Flange bottom closure	1	D05116
16	Seal MIM 60/75x8	1	C11931
17	Shaft	1	D01023
18	Bearing 32009	1	C00931
19	Bearing 30206	1	C00927
	NILOS 30206 AV	1	C11924
20	Ring nut KM6	1	C01112
	Washer MB6	1	C01159
21	Toothroller tool axis	1	D11181
22	Couple chains	1	C01824
23	Support SBPFL 206	1	C00410
24	Sheet metal reinforcement	1	D04344F
25	Pulley 30 RPP8 Z22	1	D11193
26	Belt 920 -8M 30	1	C01277
27	Belt 980 RPP5 25DD	1	C01273
28	Pulley 25 RPP5 Z28	1	D11184
29	Bearing 6201 2RS	6	C00028
30	Shaft	3	D01414
31	Bloc	3	D04434
32	Washer	1	D15112
33	Support UCFC 204	1	C00411
34	Spacer	1	D10052
35	Pulley 25 RPP5 Z26	1	D11183
36	Seeger ring E 30 UNI 7435 DIN 471	1	C02904
37	Shaft	1	D01218
38	Pulley 30 RPP8 Z24	1	D11191
39	Sheet metal reinforcement	1	D04350F
40	Support SBPFL 206	1	C00410
41	Pulley SPZ250 Z3 B.C.	1	D11187
42	Conic washer 2012	1	C01321
43	Belt SPZ 912	3	C01288
44	Pulley SPZ56 Z3	1	D11188
45	Slitta motore	1	D13122F
46	Motore	1	E00201

Table No.4: Bowl group



## LIST OF TABLE No.4

POS.	DESCRIPTION	Q.ty	CODE
1	Bowl	1	D12060
	Spiral tool	1	D12204
	Flat beater	1	D12302
	Whip tool	1	D12402
2	Support	1	D04362F
3	Plate	1	D04363F
4	Cover	1	D04363_01
5	Pin	2	D01376
6	Mobile guard	1	D07680_02
7	Fixed guard	1	D07358_01
8	Gas spring	1	C06228
9	Cam	1	D06000F
10	ABU ring 15	2	
11	DU bushes 15x12 F	2	
12	Pin	1	D01379
13	Microswitch	1	
14	Fork M8	1	C06229