

# metos

## PEELING MACHINE

MF

TYPE: 5, 5L, 10, 10L, 15, 15L

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### Installation and operation manual

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S/N:

Rev.: 2.0

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Dear Customer,

Congratulations on deciding to choose a Metos appliance for your kitchen activities. You made an excellent choice. We will do our best to make you a satisfied Metos customer like thousands of customers we have around the world.

Please read this manual carefully. You will learn correct, safe and efficient working methods in order to get the best possible benefit from the appliance. The instructions and hints in this manual will give you a quick and easy start, and you will soon note how nice it is to use the Metos equipment.

All rights are reserved for technical changes.

You will find the main technical data on the rating plate fixed to the equipment. When you need service or technical help, please let us know the serial number shown on the rating plate. This will make it easier to provide you with correct service.

For your convenience, space is provided below for you to record your local Metos service contact information.

METOS TEAM

Metos service phone number:.....

Contact person:.....



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# 1. General

Carefully read the instructions in this manual as they contain important information regarding proper, efficient and safe installation, use and maintenance of the appliance.

Keep this manual in a safe place for eventual use by other operators of the appliance.

The installation of this appliance must be carried out in accordance with the manufacturer's instructions and following local regulations. The connection of the appliance to the electric supply must be carried out by qualified persons only.

Persons using this appliance should be specifically trained in its operation.

Switch off the appliance in the case of failure or malfunction. The periodical function checks requested in the manual must be carried out according to the instructions. Have the appliance serviced by a technically qualified person authorized by the manufacturer and using original spare parts.

Not complying with the above may put the safety of the appliance in danger.

## 1.1 Symbols used in the manual



This symbol informs about a situation where a safety risk might be at hand. Given instructions are mandatory in order to prevent injury.



This symbol informs about the right way to perform in order to prevent bad results, appliance damage or hazardous situations.



This symbol informs about recommendations and hints that help to get the best performance out of the appliance.

## 1.2 Symbols used on the appliance



This symbol on a part informs about electrical terminals behind the part. The removal of the part must be carried out by qualified persons only.

## 1.3 Checking the relationship of the appliance and the manual

The rating plate of the appliance indicates the serial number of the appliance. If the manuals are missing, it is possible to order new ones from the manufacturer or the local representative. When ordering new manuals it is essential to quote the serial number shown on the rating plate.

## 2. Safety

### 2.1 Safe use of the appliance

This machine is intended for peeling and washing root vegetables, cleaning mussels and drying salad.



ON NO ACCOUNT put a hand or implement into the machine, or wedge the door open while discharging.



Don't sit or stand on top of the peeler.



Don't use the unit outdoors.

### 2.2 Safet devices

All MF-Range machines are fitted with a number of safety features to prevent operator injury.

No-volt release: If the electricity supply is interrupted the machine will not restart until the green start button is pressed again.

Lid interlock: If the lid is opened during operation the motor automatically cuts out and cannot be restarted until the lid is closed and the green start button has been pressed.

Door interlock: If the chute door is opened during operation the motor automatically cuts out and cannot be restarted until the chute door is closed and the green start button has been pressed. To discharge the door must be held open and the green button depressed ensuring two handed operation.

Door baffle: An inner door baffle prevents the operator reaching into the peeling chamber through the discharge door.

### 2.3 Safety instructions in case of malfunction

If the appliance doesn't work properly or in case of malfunction, turn off the power and call for service.

## 2.4 Disposal of the appliance

The destroying of the appliance when its economical lifetime has been reached may be harmful to the environment if not properly handled. Utilization of materials that are reusable is best done by professional personnel specialized in recycling

### **3. Functional description**

The MF multi-functional peeler is designed to peel, wash or clean a full load of vegetables in under a minute. Three models are available, with capacities of 5, 10 and 15kgs. The body of the unit is made from stainless steel and painted aluminium castings are used for chute, door, lid and waste discharge. Stands and filter baskets are standard on MF10 / MF15 models and are available as an option on MF5 models. Interlocks are fitted on the door and lid for total operator safety. A Class A air break is also fitted. A liner version is also available for faster peeling of root vegetables.

## 4. Operation instructions

### 4.1 Using the appliance

MF Range Universal Peelers are particularly easy to use, and feature a safety specification that prevents the operator touching any moving parts during operation.

- 1 Fit the appropriate bottom plate, ensuring that it is properly located on the drive shaft.
- 2 Load the peeling chamber with the vegetables to be peeled



Do not fill the chamber above the top of the deflector

- Too high chamber fullness causes extended peeling time and poor peeling result
- 3 Close the lid and switch on the water at the tap to a steady flow. Experience will suggest how much water is required: if too little water is used waste will collect underneath the bottom plate; if too much water will splash out of the opening in the lid.
  - 4 Switch the timer on the control panel to the time desired - two minutes is normally more than adequate - and press the green start button. The machine is now operating.
  - 5 On completion of the cycle, switch off the water supply, open the chute door and while keeping the door open, press the start button. This will discharge the potatoes only when the start button is depressed.



Before peeling earthy potatoes or roots, please wash the roots with a washing plate. This would save a lot of cardboard or knife peeling plates



ON NO ACCOUNT put a hand or implement into the machine, or wedge the door open while discharging.

#### 4.1.1 Optional plates

1. Washing Plate - used for washing new crop potatoes and carrots, or main crop potatoes that are to be cooked without peeling, for example jacket potatoes. Cannot be used with liner versions.
2. Mussel Washing Plate - this plate cleans all but the most stubborn dirt from mussels prior to cooking. Cannot be used with liner versions.
3. Knife Peeling Plate - used for achieving a smoother finish on, particularly, potatoes and carrots. A filter basket (or sink skip) must be used. Cannot be used with liner versions.
4. Onion Peeling Plates - for peeling onions and shallots. A filter basket (or sink skip) must be used. Cannot be used with liner versions.
5. Salad Spinning Basket - gently spins excess moisture from lettuce leaves after washing.

## 4.2 Cleaning



It is essential to clean the machine at least once a day, preferably at the end of each period of operation.

1. Switch off at the socket or isolator.
2. Open the peeler chamber lid.
3. Lift out the peeling plate.
4. Clean the peeling plate in a sink, dishwasher, potwash or by hosing with a spray.
5. Rinse the inside of the peeling chamber, door and lid with warm water, using a mild detergent if necessary. Do not forget to clean the area between the two doors.
6. Wipe the exterior of the machine with a damp cloth, again using a mild detergent if required.



DO NOT USE CLEANING MATERIALS CONTAINING ABRASIVES OR BLEACHES. DO NOT STEAM CLEAN

### 4.2.1 Maintenance

Other than regular cleaning the MF-Range peelers require no maintenance by the end user. It is recommended that the unit is serviced by an IMC approved engineer at least once a year

## 5. Installation

### 5.1 General

Before taking the mixer into use, check that all parts are delivered.

The packaged machine consists of:

Peeler Unit	1
Peeling plate	1
Stand and filter basket	1 (MF10 and MF15 only)
Water supply pipe and fixings	1
Instruction Booklet	1

Please notify both the carrier and the supplier within three days of receipt if anything is missing or damaged.

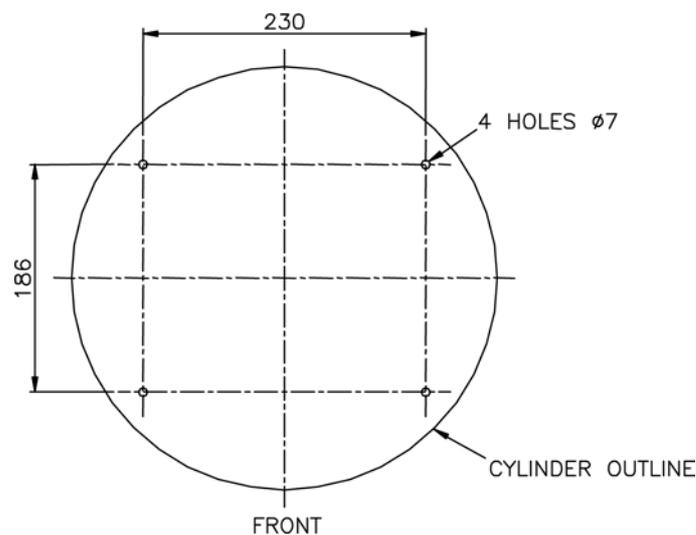
Check that the correct machine has been supplied and that the voltage, marked on the rating plate, is suitable for the supply available. The rating plate is located at the back of the cylinder near the supply cable inlet.

## 5.1.1 Positioning the appliance

### MF5 Bench installation

The MF5 is designed to stand on a bench, table, or on a draining board. DO NOT mount or operate the unit in a sink. Ensure that whatever is used for this purpose is sturdy and rigid and not more than 750 mm high. A higher table makes it difficult to load the machine. If the bench is sloping, or on a ship, the machine should be bolted to the bench using four M6x25 bolts and washers. All models are supplied with the waste pipe at the back, a longer pipe is available for MF5 bench top locations. A stainless steel stand, which includes a filter basket is available as an option.

### MF5 Bench mounting points



### Stand installation

The MF10 & MF15 are supplied mounted on floor standing stands that incorporate filter baskets. The stand should be levelled using the adjustable feet. It is possible to fix the stand to the floor, if required, by screwing through to holes in the feet. The waste is discharged from the waste hose via a Filter Basket into the drain tray of the stand, which has a 38mm waste pipe connection. This pipe may either discharge into a gully beneath the machine or it may be connected via a shallow seal waste trap and fixed pipework into the waste water system of the building.

## 5.2 Electrical connections

All electrical work must be carried out by a qualified electrician and in accordance with the IEE Codes of Practice. Before connecting, examine the rating plate attached to the machine to ensure that the characteristics shown are correct for the supply available. The peeler should be connected to a 32A isolator providing at least 3mm separation in all poles, ensure that the isolator is accessible with the peeler in place. The isolator should be fused at the ratings shown below:

Supply	MF5	MF10	MF15
230V - 1 - 50	10	16A	16A
400V - 3 - 50	-	4A	4A
230V - 3 - 50	-	16A	16A
208V - 3 - 60	-	16A	16A

The supply to the machine should also be protected by a 30mA RCD.

A new mains supply run to the machine should always be undertaken by an approved electrician. The IEE Codes of Practice must be observed.

The mains lead fitted to the machine is the minimum required for individual connection to the mains supply. Site conditions may vary with additional length of cable run, encapsulation in trunking, bunched with other cables etc. being required. Should this apply, the qualified electrician must alter the lead accordingly in accordance with the IEE Codes of Practice.



This machine must be earthed

The wires in the mains lead for single phase supply are coloured:

Green and Yellow	Earth
Brown	Live
Blue	Neutral

The wires in the mains lead for three phase supply are coloured:

Green and Yellow	Earth
Black	Phase 1
Blue	Phase 2
Brown	Phase 3

The 3 phase machines do not have a neutral wire, if the supply has a neutral wire isolate it and only wire the unit to the 3 phases and earth.

An equipotential bonding terminal is provided at the back of the unit near the cable outlet for external earth bonding. Provision of an earth bond does not remove the requirement for an earth in the electrical supply.

### 5.3 Water supply

The water pipe is packed inside the machine for transit and should be fitted to the top of the lid using the screws provided. The water supply pipe should be connected to an adjacent cold water supply using an IMC Inlet Hose Kit (Part No S58/062) or a 12mm (1/2") bore hose.



PLEASE NOTE: these machines are fitted with a Type A air-break to prevent back siphonage into the mains supply, but some local authorities may nevertheless require connection to a storage cistern rather than direct to the mains supply.

### 5.4 Commissioning test

After making the electrical connection, switch on the machine, and ensure that the unit will only run with the lid and the chute door closed. Then check that the direction of rotation of the shaft is **CLOCKWISE** when viewed from above.

The direction of rotation of single phase units is set at the factory, if it is not rotating in the correct direction contact METOS. To change the direction of rotation of three phase units, switch off the machine, isolate the supply and interchange any two phase wires.

## 6. Troubleshooting

PROBLEM	possible cause	
Machine don't work	Fuse gone	Ask authorized person to check them
Poor peeling result	-Peeling plate rotates in the wrong direction -Chamber too full	-Ask authorized person to change direction -Reduce loading



## 7. Spare parts

**External parts ..... 17**

**Internal parts ..... 21**

**Control panel and electrical panel..... 23**



## 7.1 Voltage codes

Voltage	Voltage code
A	3/N/PE~400/230V 50Hz
B	~250V 16A 50Hz
C	3/N/PE~380/220V 50Hz
D	3/PE~200V 50-60Hz
F	2/PE 220-240V 50Hz
G	3/N/PE~415/240V 50Hz
H	3/PE~230V 50Hz
I	3/PE~220V 60Hz
J	3/PE~380 50Hz
K	3/PE~400V 50Hz
L	3/PE~415V 50Hz
M	3/PE~440V 60Hz
N	3/PE~460V 60Hz
O	3/PE~480V 60Hz
P	1/N/PE~220-240V 50Hz
R	2/PE~220-230V 60Hz
S	3/N/PE~400/230V 50Hz
T	3/PE~230V 60Hz
U	1/N/PE~100V 50-60Hz

## 7.2 Product codes

Product code	Full name
Model codes	
1	MF
Type codes	
MF5	5
MF5L	5L
MF10	10
MF10L	10L
MF15	15
MF15L	15L
Accessory codes	



## Spare parts

ID	Code	Type	Description
<b>Module: External parts</b>			
10	S59/133	MF5	MF5 Lid Assembly
10	S59/134	MF10,MF15	MF10/MF15 Lid Assembly
20	A29/002		Slam Catch
30	A00/057		Flange Bearing
40	A13/078 M2	MF5	MF5 Lid seal (1.1m)
40	A13/078 M3	MF10,MF15	MF10/MF15 Lid seal (1.5m)
50	D21/044		Screw M5x12 Pan SS
60	D25/004		Washer M5 Shakeproof SS
70	E59/136	MF5	MF5 Water pipe
70	E59/137	MF10,MF15	MF10/MF15 Water Pipe
80	D18/098		Screw M4x12 CSK SS
90	M59/002		Inner door
100	S59/140		Control Panel Assembly
110	D21/037		Screw M4x10 Pan SS
120	S59/132		Chute Door Assembly
130	C59/019 M1 Z		Chute Door
140	A00/057		Flange Bearing
150	A13/078		Door Seal (0.6m)
160	E59/114		Handle Side Plate
170	L59/024		Door Handle
180	D18/056		Screw M8x16 CSK SS
190	L59/023		Door Hinge Pin
200	L02/014		Barrel Nut
210	D19/039		Screw M6 x 16 Hex SS (for LH Barrel Nut)
210	D19/040		Screw M6 x 20 Hex SS (for RH Barrel Nut)
220	D18/051		Screw M6 x 20 CSK SS
230	L21/048		Eccentric
240	M79		Door Roller

1=MF

MF5=5, MF5L=5L, MF10=10, MF10L=10L, MF15=15, MF15L=15L

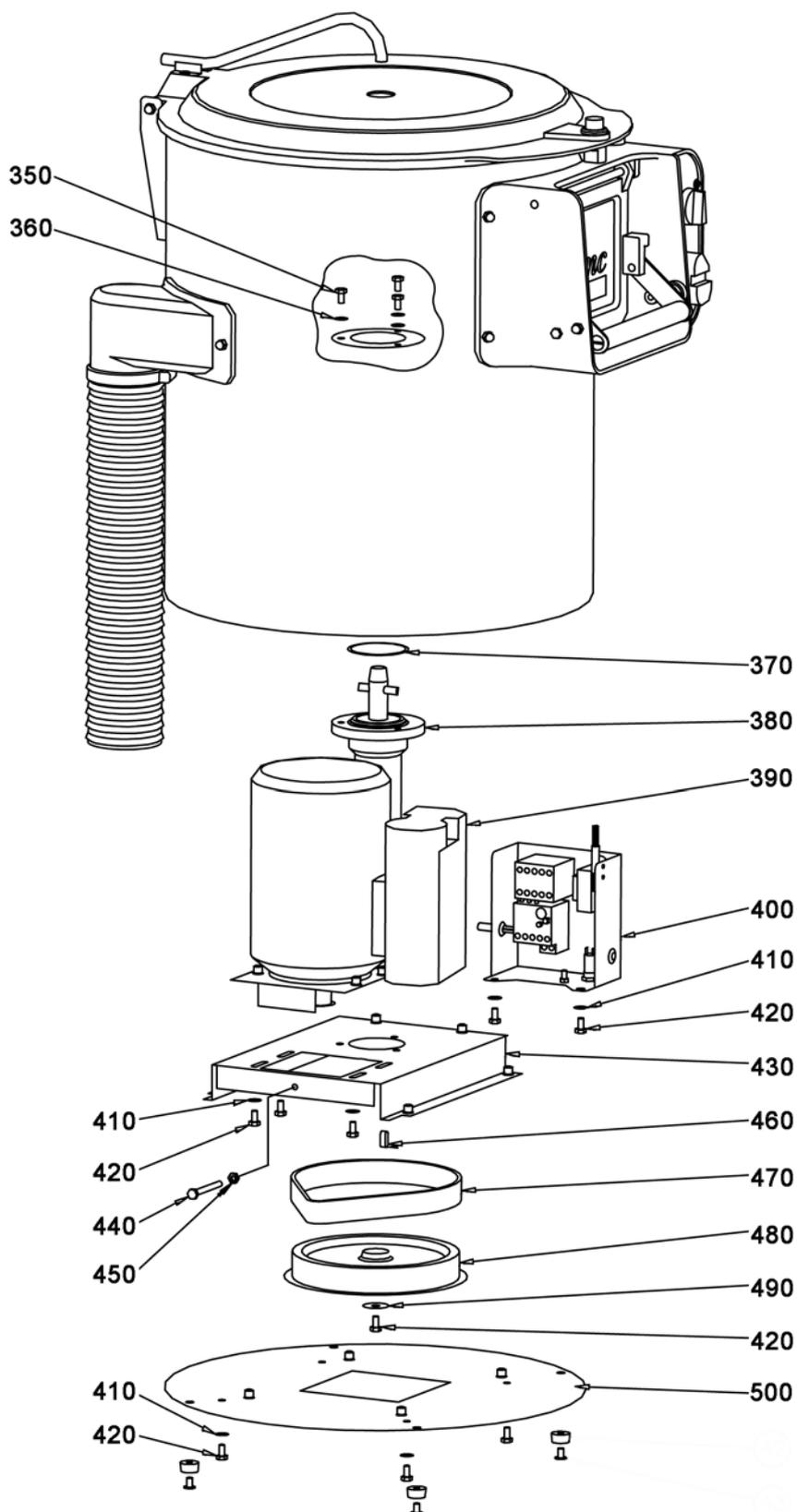


## Spare parts

ID	Code	Type	Description
<b>Module: External parts</b>			
250	D20/031		Dome Head Nut
260	C59/025 M1 Z	MF5	MF5 Deflector
260	C59/017 M1 Z	MF10	MF 10 Deflector
260	C59/023 M1 Z	MF15	MF 15 Deflector
270	G80/030		Grommet
280	L59/022		Hinge pin
290	E59/140	MF5	MF5 Hinge plate
290	E59/139	MF10, MF15	MF 10/MF 15 Hinge plate
300	D19/037		Screw M6x10 Hex SS
310	D25/052		Washer M6 Plain
320	C59/024 M1 Z	MF5	MF5 Waste Outlet
320	C59/016 M1 Z	MF10, MF15	MF 10/MF 15 Waste Outlet
330	J06/068		Hose clip
340	J06/045 M2		Waste pipe

1=MF

MF5=5, MF5L=5L, MF10=10, MF10L=10L, MF15=15, MF15L=15L

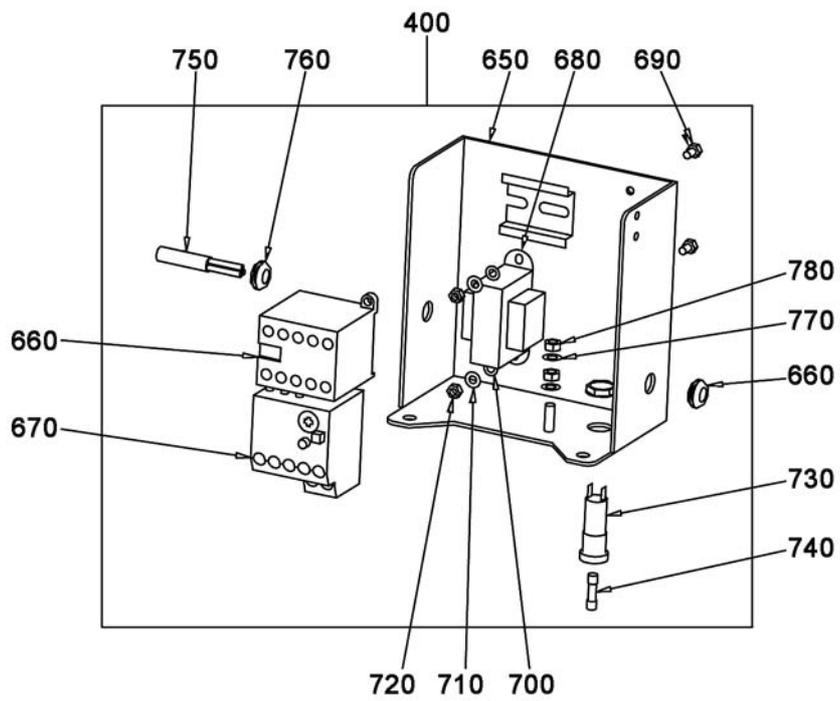
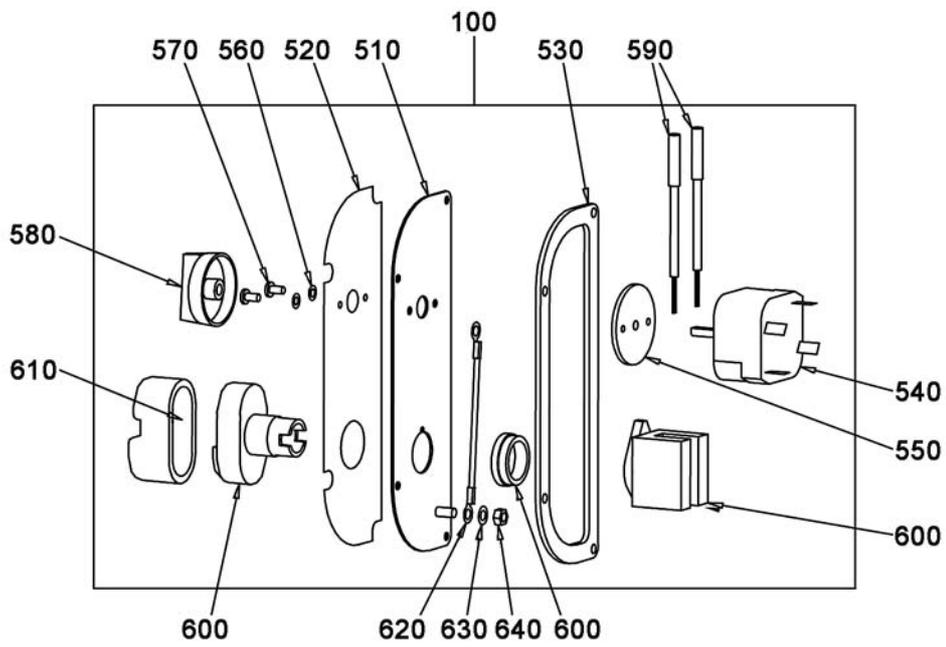


## Spare parts

ID	Code	Type	Description
<b>Module: Internal parts</b>			
350	D19/130		Screw M6x12 Hex Flange
360	D25/020		Washer M6 Nylon
370	A02/068		O Ring
380	S59/120		Bearing Housing Assy
390	S59/136	MF5	MF5 1ph Motor Assembly
390	S59/137	MF10	MF10/MF15 1ph Motor Assy
390	S59/139	MF15	MF10/MF15 3ph Motor Assy
400	S59/135	MF5	MF5 1ph Electrical Box
400	S59/141	MF10	MF10/MF15 1ph Electrical Box
400	S59/143	MF15	MF10/MF15 3ph Electrical Box
410	D25/005		Washer M6 S/proof SS
420	D19/039		Screw M6 x 16 Hex SS
430	E59/106	MF5	MF5 Motor Support Plate
430	E59/107	MF10,MF15	MF10/MF15 Motor Support Plate
440	D19/107		Screw M6 x 40 Hex SS
450	D20/013		Full Nut M6 SS
460	D27/031		Drive Key
470	A05/042	MF5	MF5 Drive Belt
470	A05/043	MF10,MF15	MF10 / MF15 Drive Belt
480	A06/091	MF5	MF5 Driven Pulley
480	A06/090	MF10,MF15	MF10/MF15 Driven Pulley
490	D25/019		Penny Washer M6 SS
500	E59/112	MF5	MF5 Base Plate
500	E59/113	MF10,MF15	MF10/MF15 Base Plate

1=MF

MF5=5, MF5L=5L, MF10=10, MF10L=10L, MF15=15, MF15L=15L

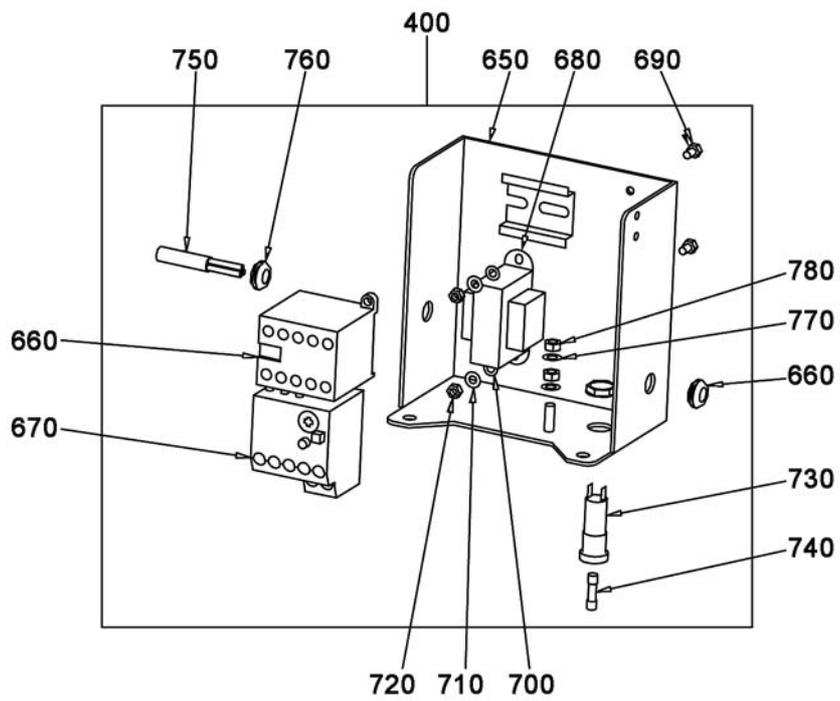
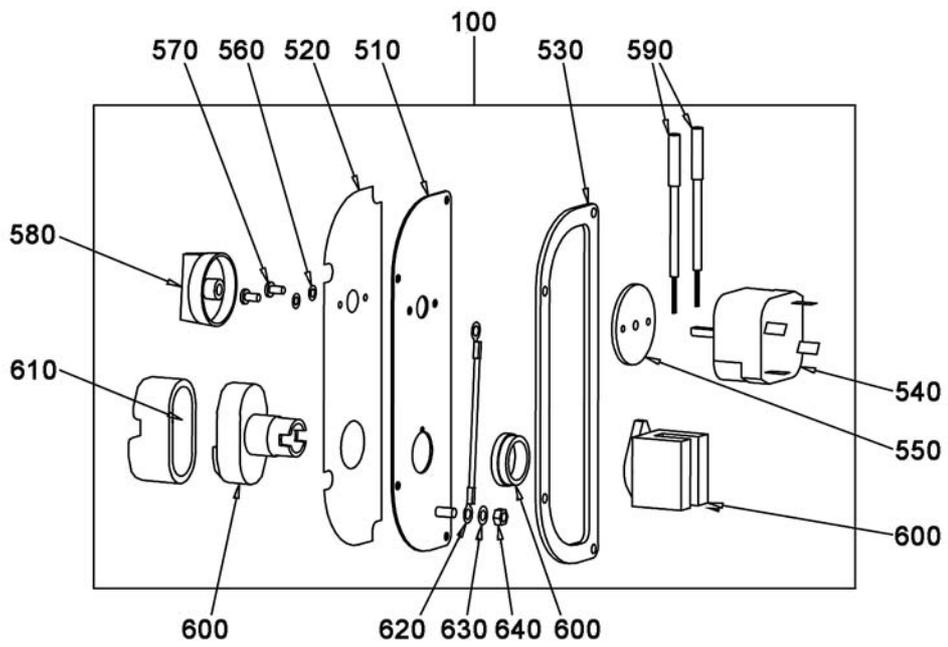


## Spare parts

ID	Code	Type	Description
<b>Module:Control panel and electrical panel</b>			
100	S59/140		Control Panel Assembly
510	E59/116		Control Panel
520	A08/535		Label Control Panel
530	A11/259		Gasket Control Panel
540	5381034		Timer
550	A11/219		Timer Gasket
560	D25/033		Washer M4 Shakeproof SS
570	D21/097		Screw M4x8 Pan SS
590	G45/069		Magnetic switch
600	G45/088		On / Off Button
610	G45/089		Button Cover
620	G60/310		Earth Wire
630	D25/004		Washer M5 Shakeproof SS
640	D20/038		Nut M5 SS
650	E59/138		Electrical panel
660	5385181		Contactactor 24V AC
670	G30/299	MF5	MF5 1ph Overload
670	G30/319	MF5	MF5 3ph Overload
670	G30/298	MF10,MF15	MF10/MF15 1ph Overload
670	G30/319	MF10,MF15	MF10/MF15 3ph Overload
680	G45/066		Timer Knob
680	G60/333		1ph Transformer
680	G60/334		3ph Transformer
690	D19/110		Screw M4x10 Hex SS
700	D25/015		Washer M4 Plain SS
710	D25/033		Washer M4 S/proof SS
720	D20/011		Nut M4 SS
730	G35/012		Fuse Holder

1=MF

MF5=5, MF5L=5L, MF10=10, MF10L=10L, MF15=15, MF15L=15L



ID	Code	Type	Description
<b>Module:Control panel and electrical panel</b>			
740	5740011		Fuse 0.5A 5 x 20
750	G60/330		1 ph Mains Cable
750	G60/331		3 ph Mains Cable
	G80/029		Cable Gland
	A10/224		Gland Backnut
760	G80/028		Dia 16 snap bush
770	D25/004		Washer M5 S/proof SS
780	D20/038		Nut M5 SS

1=MF

MF5=5, MF5L=5L, MF10=10, MF10L=10L, MF15=15, MF15L=15L



## **8. Technical specifications**

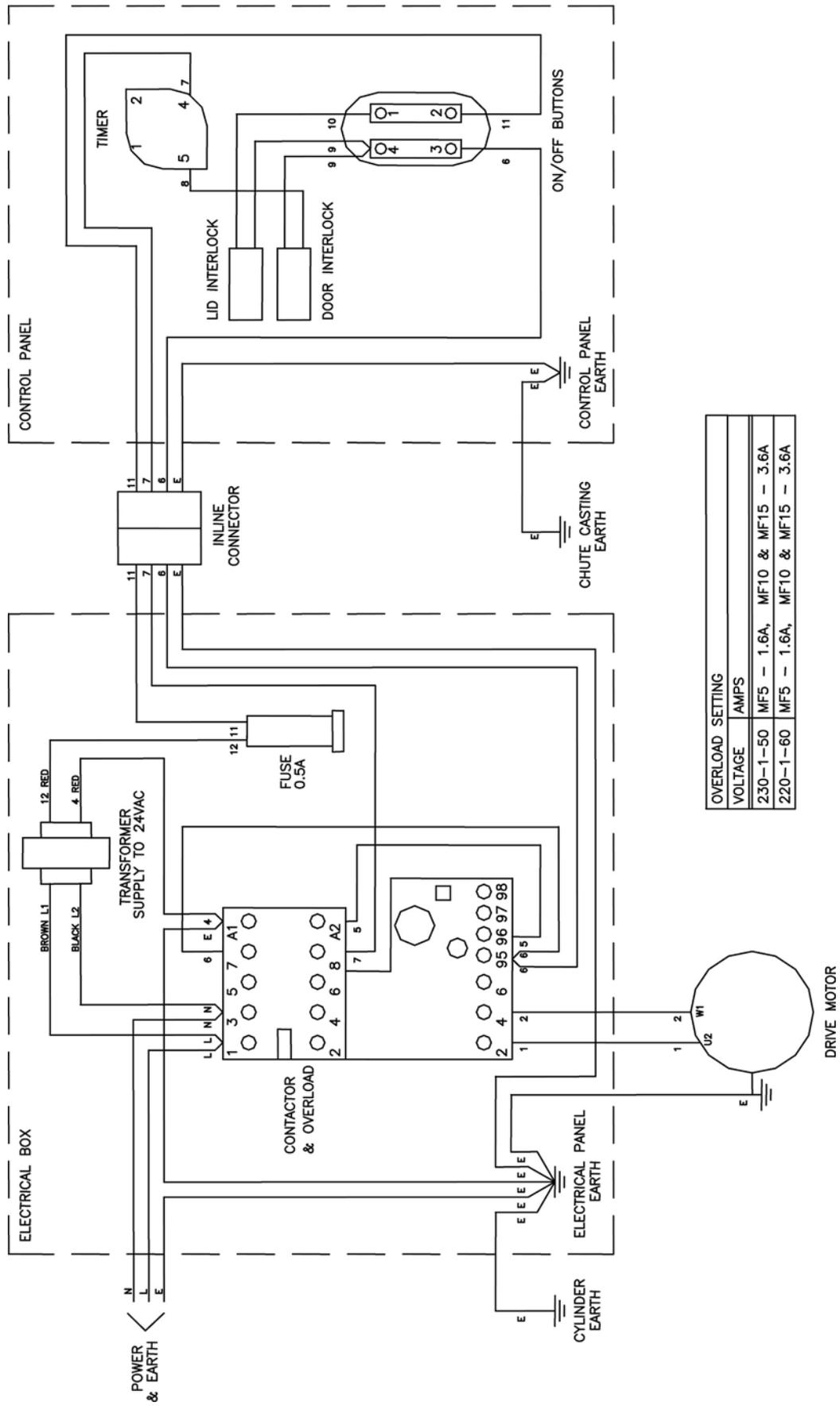
**Wiring diagram 1 phase**

**Wiring diagram 3 phase**

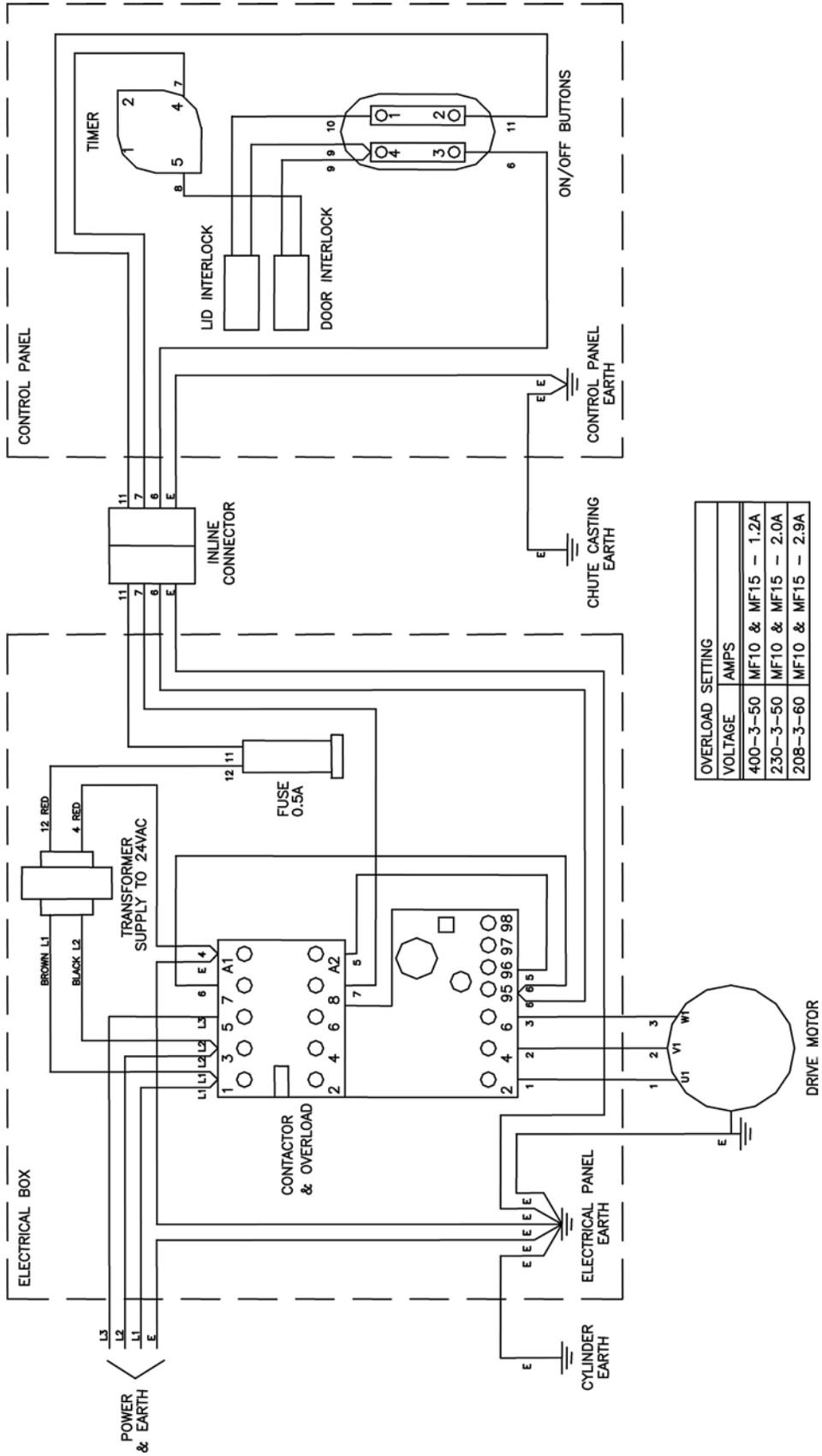
**Installation drawing, MF5**

**Installation drawing, MF10**

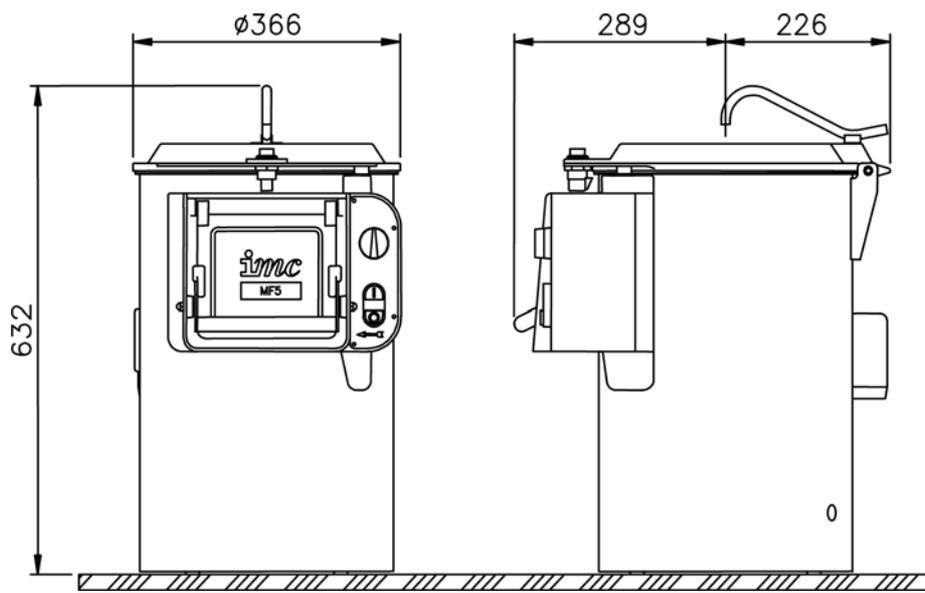
**Installation drawing, MF15**



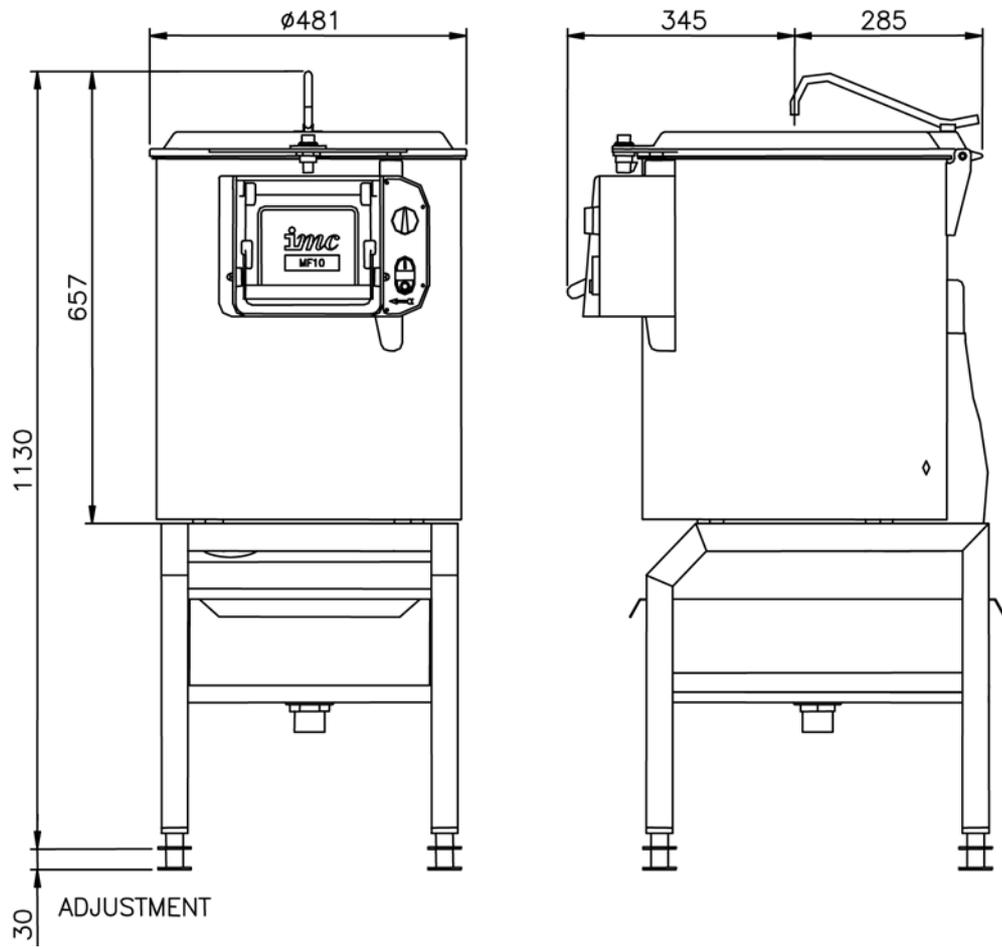
Wiring diagram 1 phase



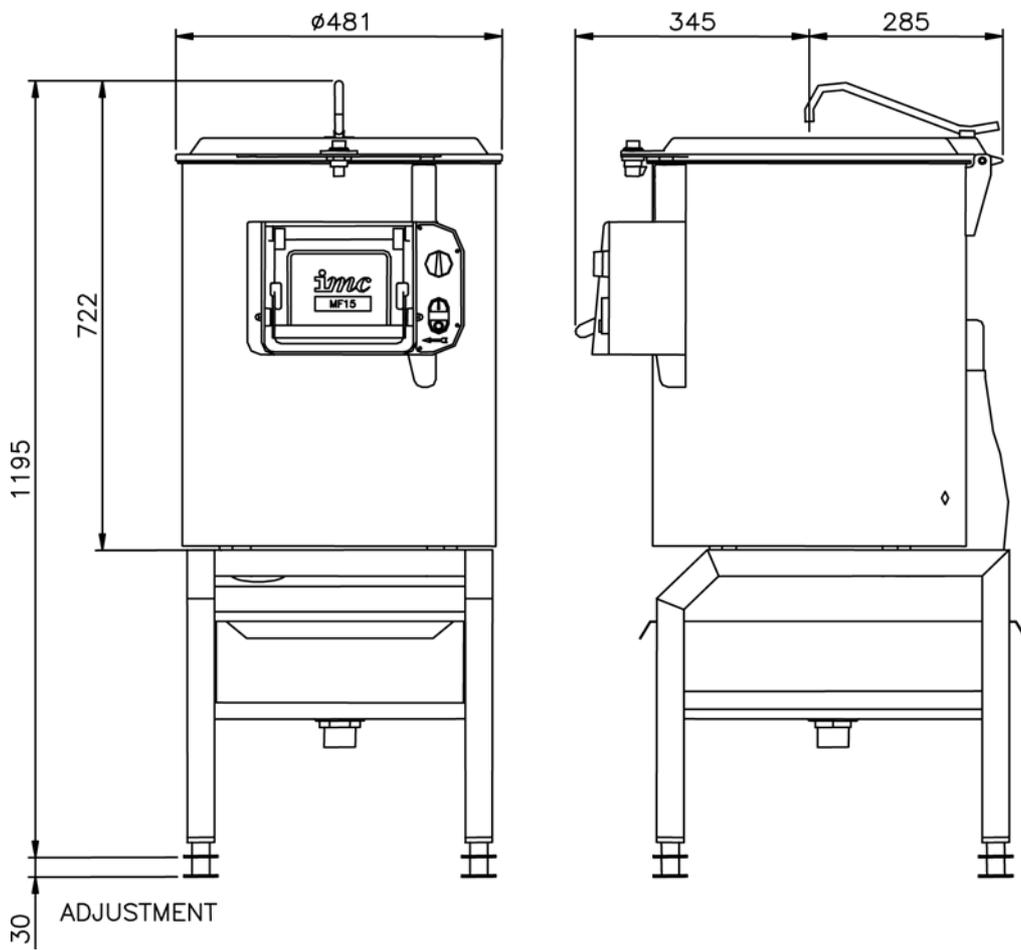
Wiring diagram 3 phase



Installation drawing, MF5



Installation drawing, MF10



Installation drawing, MF15

## Technical specifications

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Item	Model	Type	Accessory	Voltage	Specification
Measures		MF5,MF5L			366x515x632
Measures		MF10,MF10L			481x630x1130
Measures		MF15,MF15L			481x630x1195
Weight		MF5			30 kg
Weight		MF10			57 kg
Weight		MF15			57 kg
Capacity max		MF5,MF5L			5 kg
Capacity max		MF10,MF10L			10 kg
Capacity max		MF15,MF15L			15 kg
Capacity/ hour max		MF5			130 kg
Capacity/ hour max		MF5L			160 kg
Capacity/ hour max		MF10			280 kg
Capacity/ hour max		MF10L			340 kg
Capacity/ hour max		MF15			400 kg
Capacity/ hour max		MF15L			480 kg
El. Connection		MF5,MF5L			230V1~0,18kW 10A
El. Connection		MF10,MF10L			400V3N~0,37kW 6A
El. Connection		MF15,MF15L			400V3N~0,37kW 6A

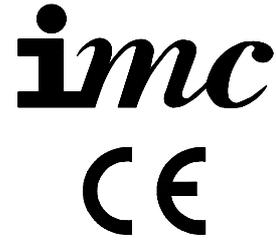
l=MF

MF5=5, MF5L=5L, MF10=10, MF10L=10L, MF15=15, MF15L=15L

**EC DECLARATION OF CONFORMITY**

(Guarantee of Production Quality)

We, Imperial Machine Company Limited of:  
Harvey Road, Croxley Green, Herts WD3 3AX, ENGLAND,  
Declare under our sole responsibility that the machine



**MF5, MF10 & MF15 – SERIES 1**

As described in the attached technical documentation is in conformity with the Machine Safety Directive 89/392/EEC as amended by 91/368/EEC and 93/44/EEC and is manufactured under a quality system BS EN ISO 9001. It is also in conformity with the protection requirements of the Electro Magnetic Compatibility Directive 89/336/EEC and is manufactured in accordance with harmonised standards EN 55014-1 Emission and EN 55014-2 Immunity (plus product specific standards).

It also satisfies the essential requirements of the Low Voltage Directive 73/23/EEC amended by 93/68/EEC and is manufactured in accordance with standards BS EN 60335-1 and BS EN 60335-2-64.

Approved by Z Iqbal, Engineering Manager

A handwritten signature in black ink, appearing to be 'Z Iqbal', written in a cursive style.

Signed at Croxley Green, Date

5<sup>th</sup> January 2004