



EFFEGI BREGA®

- DENTAL CLEANER -



- Translation of the original instructions -

Before operating the machine or performing maintenance interventions, carefully read and understand the procedures and warnings described in this

INSTRUCTION MANUAL FOR USE AND MAINTENANCE

drawn up according to the EC Directives



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FOREWORD

This manual is an integral part of machine and must be kept until resale. It must at all times be readily available to the Qualified Installer, Qualified User and Qualified Maintenance Technician.

Reading and understanding this manual before starting to operate the machine will prevent usage errors.

Pay special attention to the WARNING and DANGER indications regarding those operations that could cause harm to people or damage to the machine, if improperly carried out.

SYMBOLS IN THE TEXT, MEANING AND USE



DANGER

It indicates a potentially fatal accident risk for the operator.



**OBLIGATION
SIGN**

It warns of potential deterioration to the machine or to the user's personal belongings.



REMARK

This indicates a warning or a note concerning key functions or useful information. Pay the utmost attention to the text indicated by this symbol.



**PROHIBITION
SIGN**

Attention! Improper use may cause harm to the user and/or damage to the machine.



0981

Data carrier

WARRANTY

Every machine produced by the manufacturer EFFEGI BREGA S.r.l. is duly tested and covered by a **12-month warranty** starting from delivery date.

► Warranty terms:

- 1a. The purchaser must be up-to-date with the contractual and administrative conditions and terms.
- 2a. The machine must be installed and used according to the directions laid down in this Use and Maintenance Manual in general and, in particular, to those described under the following headings:
 - INTENDED AND IMPROPER USES
 - TRANSPORT AND INSTALLATION
 - STARTING AND USE
 - DAILY AND SCHEDULED MAINTENANCE
- 3a. The machine must not be tampered with in any way, and only original spare parts must be used.

Under this warranty, the manufacturer undertakes to repair or replace, free of charge, those parts that might have suffered manufacturing faults. In this regard, only the assessment made by the authorized service technician shall be considered as final and irrevocable.

► This Warranty shall not extend to:

- 1b. Labour costs, which will be charged to the Purchaser.
- 2b. Replacement of parts that are subject to normal wear and tear.
- 3b. Transport, inspection, disassembly and reassembly expenses relating to interventions of the authorized service technician, in the case that the faults cannot be ascribed to the manufacturer, EFFEGI BREGA S.r.l.

► This Warranty shall lapse if:

- 1c. The machine is used improperly.
- 2c. The machine has been tampered with in whatever way or modified without prior authorization from the manufacturer EFFEGI BREGA S.r.l.
- 3c. The machine has been repaired by unauthorized service technicians.
- 4c. The machine has been repaired by using non-original spare parts.
- 5c. The energy supply lines (electric, pneumatic, water supplies) are not in compliance with the standards in force.
- 6c. The connection with the energy supply lines (electric, pneumatic, water supplies) is not in compliance with:
 - TECHNICAL DATA
 - TRANSPORT and INSTALLATION



1. This warranty does not, in whatever case, extend to the replacement of the machine.
2. The warranty does not extend to any liability whatsoever for direct or indirect damages to people or things arising from improper use of the machine and/or improper maintenance, and is restricted to manufacturing faults only.

CE DECLARATION OF CONFORMITY

The Company EFFEGI BREGA S.r.l. based in SARMATO (PC) – Italy, via Magellano, 7 (Phone ++390523887702, Fax ++390523887013) declare under its sole responsibility that the machine hereof meets the requirements laid down in:

- **Directive 2006/42/EC** as subsequently amended (Machinery Directive)
- **Directive 2014/30/EU** (Electromagnetic Compatibility Directive)
- **Directive 2014/35/EU** (Low Voltage Directive)



EFFEGI BREGA srl

Via F. Magellano, 7 - 29010 SARMATO (PC) - ITALIA

mod. SOFT-RELAX

230 V 50 Hz 2,0 kW

Massa: 45 kg

anno produz.

20

n.



EN ISO 12100: 2010 - Safety of machinery – General principles for design – Risk assessment and risk reduction

EN 60335/1 - Electric tests

The person appointed to hold the Technical Construction File is Piero Rebecchi, available at Effegi Brega S.r.l. in via Magellano 7, Sarmato (PC).

SAFETY STANDARDS

This "Use and Maintenance Manual" must be carefully read and fully understood. In case of any doubt, do not hesitate to contact the AFTER SALES SERVICE.

INTENDED USERS

Various skilled workers will make use of this Use and Maintenance Manual, in the following intervention order.

- Qualified Installer, who will check that the premises and wiring are suitable for installation.
However, the qualified installer is not authorized to carry out repair.
- Qualified User, who has to be familiar with all the general and specific safety norms described in this manual, and with all the necessary operations relating to proper use and scheduled maintenance.
However, the qualified user is not authorized to carry out installation procedures, supplementary maintenance and repair.
- Service Technician, who can carry out supplementary maintenance and repairs.

INTENDED AND IMPROPER USES

► Intended use

The machine has been designed and manufactured to remove hydrocolloids used in 3-D-printers as support material and external coating during 3-D-printing of dental elements.

After the printing process, the hydrocolloid needs to be removed from the external surface of the printed element: thanks to the combined action of the drum rotation and the water jet under pressure, the hydrocolloid (water-soluble) is removed from the dental elements inserted in the SOFT RELAX cleaner.

► Improper uses

- a) Do not use the machine to remove any substances other than hydrocolloids from the printed elements.
- b) Made solely for professional dental laboratory use, the machine cannot be employed for any other different uses.

WARNINGS

When the machine is placed on the market, it is guaranteed to be totally safe from a technical point of view. In order to maintain this condition and ensure a safe use, the user must comply with the warnings and remarks described in this manual.

- The operator must be acquainted with the warnings and methods of use in order to avoid damaging people and/or materials. In case of damage due to improper use and/or to use not corresponding to instructions, all claims of responsibility and guarantee will be forfeited.
- Before switching on the machine, make sure that the voltage indicated on the CE plate corresponds to the line voltage.
- The machine is intended for use in the dental field. Installation and use must be carried out according to the instructions. The manufacturer will not accept any liability for damage or breakage arising from different or improper uses.

- The plug of the power cable must be connected only to a socket with protection (ground contact).
- Should adjusting, maintaining, repairing or components replacing require that the machine be opened, before proceeding it is compulsory to unplug the machine from the power supply and disconnect it from the water system and the compressed air system.
- Maintenance procedures can be performed on the open machine by skilled and authorized personnel only.
- If the machine:
 - is evidently damaged
 - does not carry out its primary functions
 - has been stored for a long period in unsuitable conditionsunplug the machine from the power source, disconnect it from the water system and from the compressed air system and make sure it cannot be started accidentally. Contact the Technical assistance.
- Use original spare parts only.
- A room temperature from +5 °C to +35 °C ensures a trouble-free functioning.
- The machine can be used at altitudes up to 2000 m asl.
- The machine can be used indoors only.
- Do not place any objects on the machine.
- Clean the machine only with a dry or slightly damp cloth. Never use solvents! Before proceeding with the cleaning operation, unplug the machine.
- For transport purposes use the original packing.
- The machine cannot be used in areas with danger of explosion.



Do not handle liquids over the machine; should any liquid be accidentally poured on the machine, unplug it from mains supply and call the After Sales Service. Do not start the machine.



Any interruption in the protection wire either inside or outside the machine or the disconnection of the ground wire can be dangerous for the user.

REQUESTING FOR ASSISTANCE

EFFEGI BREGA S.r.l. is always ready to give the customer any information regarding use, maintenance, installation and so on. The questions should be put clearly, with reference made to this manual, and always with the indication of the data carried on the identification plate (serial number and year of construction).

For the telephone and fax numbers of the Qualified Technicians entitled to carry out maintenance interventions, please refer to your Fitter.

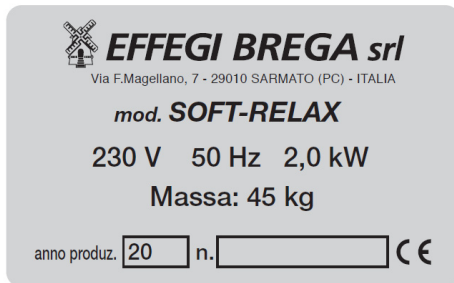
ORDERING SPARE PARTS

Please contact the Sales Point where the machine was purchased whenever you need to:

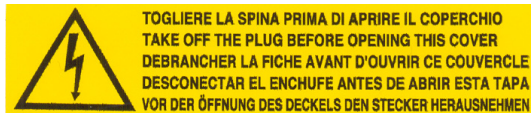
- make enquiries about use, maintenance and installation of the machine
- order spare parts (always quote the serial number and year of manufacture engraved on the CE identification plate)
- When asking for spare parts under warranty in a dental depot other than the one where the part was bought, the applicant is requested to provide a copy of the purchase invoice.

PLATES

- 1 Plate on the rear side of the machine.



- 2 Plate on the rear side of the machine.



- 3 Plate on the rear side of the machine.



- 4 Plate on the front side of the machine.

Colour combinations and meaning of led signals				
No.	LED A	LED B	LED C	Machine status / alarm
1	●	○	○	Machine ready for use
2	○	●	○	Single cycle running
3	○	●	●	Double cycle running
4	●	●	●	Triple cycle running
5	●	●	○	Lid open
6	●	●	●	Warning: service required within 30 hours
7	●	●	●	Alarm: call technical service

TECHNICAL DESCRIPTION

Soft-Relax is a cleaner specifically intended for use in the dental field. Thanks to an adjustable medium-pressure water jet, which is directed towards the rotary drum, the hydrocolloid used as support material is removed.

The machine is a prismatic body enclosed by 4 fixed guards on the 4 sides. It consists of a painted stainless steel frame and a circular lid closing the access to the drum on the upper front side.

F 1 – Technical description



1. Lid locking lever
2. Lid
3. Handles for rotating the lid
4. Manometer
5. Pressure regulator
6. Nozzle
7. Soft drum
8. Control panel

The front control panel includes two buttons and three LEDs: their functions are described below the figure.

F 2 – Control panel



1. LED A
2. LED B
3. LED C
4. START button
5. STOP button

The lid [2, F 1] is equipped with a safety microswitch for the immediate stop of the machine whenever opening the lid.

After closing the lid, press START to restart the machine.

The cycle with running time of 4'30" will start.

► **Main components:**

- High-pressure pump
- Drum rotation reduction gear
- Electronic drive and control unit
- Drum for dental elements
- Water shut-off solenoid valve
- Safety sensors
- Delivery pipes

The machine is also fitted with:

- the pipe for connection to the water supply
- PVC elbow for waste water draining

F 3 – Rear view



1. Water inlet pipe connection
2. Power supply cable
3. Main I/O switch
4. Water drain pipe connection

TECHNICAL DATA

Voltage	230	V
Frequency	50	Hz
Absorbed power	1800	W
Electric supply plug	16	A
Working temperature	from +5 to +35	°C
Water consumption	7	l/min
Drum rotation speed	5	rpm
Working pressure	1 ÷ 6 (10 ÷ 60)	MPa (bar)
Maximum working pressure	6 (60)	MPa (bar)
Depth	400	mm
Width	320	mm
Height	450	mm
Net weight	32	kg
Weight with packing	35	kg
Acoustic pressure level in the atmosphere	78	dB(A)
Standard balls supplied (Ø 25 mm)	20	No.
Kit of optional balls (Ø 20 mm)	30	No.
Kit of optional balls (Ø 30 mm)	12	No.

PURCHASER'S DUTIES

For a proper installation of the machine, it is necessary to use:

- a power supply line with the following features:
 - 230 V – 50 Hz
 - ground connection
 - minimum guaranteed power: see CE plate
 - magnetothermal differential switch and fuses
- 16 A plug
- a water supply line with the following features:
 - minimum flow rate of water: 10 l/min at 1.5 bar
 - 3/4" GAS tap with face seal
- water discharge pipe with the following features:
 - Ø min. 32 mm
 - the drain pipe must be placed near a sink, so that the waste water falls into a basket for waste collection

F 4 – Water discharge



1. Water discharge

TRANSPORT AND INSTALLATION

► Transport conditions:

- a) Covered means of transport.
- b) Temperature higher than 5 °C.
- c) Max. relative humidity of 80%.
- d) The machine is packaged in a cardboard box. Keep upright!
- e) Avoid violent impacts.
- f) After removing the packing, make sure that the machine is intact. Keep the packaging in case of future transportation.

Before moving and installing the machine, check the data regarding weights, dimensions and electric specifications given in paragraph TECHNICAL DATA.

Keep the machine in a dry place having the following technical features: max humidity of 60%, temperature between +10 °C and +50 °C and air pressure between 500 and 1060 mbar. Do not place any items on the package.

► List of items inside the package

- Soft-Relax
- Connection pipe to the water supply
- PVC elbow Ø 32 for water drain
- Use and maintenance manual
- Kit of 20 rubber balls

► Installation

Each machine is delivered only after having successfully passed a series of tests and trial runs; for this reason, some water may be present inside it.

Installation procedure:



Make sure that the mains voltage corresponds to the voltage indicated on the CE plate of the machine.



Never use a narrow-pitch 6 A plug. The machine is supplied with a 16 A plug.

- a) Open the cardboard box and remove all movable parts. Keep all the packaging.
- b) Check to make sure that all items are included in the package. Refer to the paragraph "List of items inside the package".
- c) Extract the machine and place it as close as possible to the point intended for water connection and discharge.
- d) Connect the filling pipe to the tap: 3/4" GAS connection with face seal.
- e) Connect the drain pipe (Ø 32 mm).
- f) Open the water tap and ensure there is no leakage.
- g) Connect the plug to the mains power socket.

STARTING AND USE

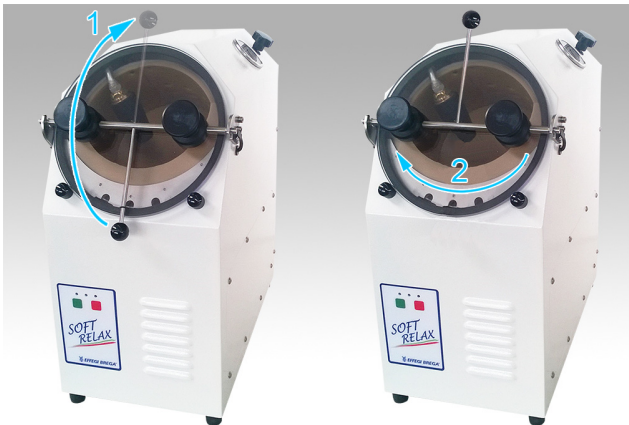
Starting procedure:

- a) Open the water tap.
- b) Set the main green switch [1, figure on the right], located on the rear side of the machine, to position "I". The lamp in the switch will light up: the machine is live.
- c) Verify LED A (red) [1, F 2] is the only one to be lit.
- d) Open the lid according to the following procedure:
 1. Turn the lever 180° to unlock the lid
 2. Turn the lid clockwise and remove it



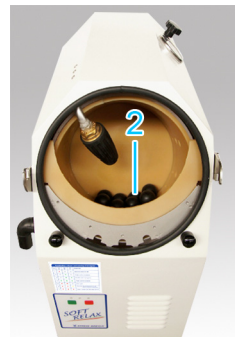
1. I/O main switch

F 5 – Opening the lid



F 6 – Rubber balls

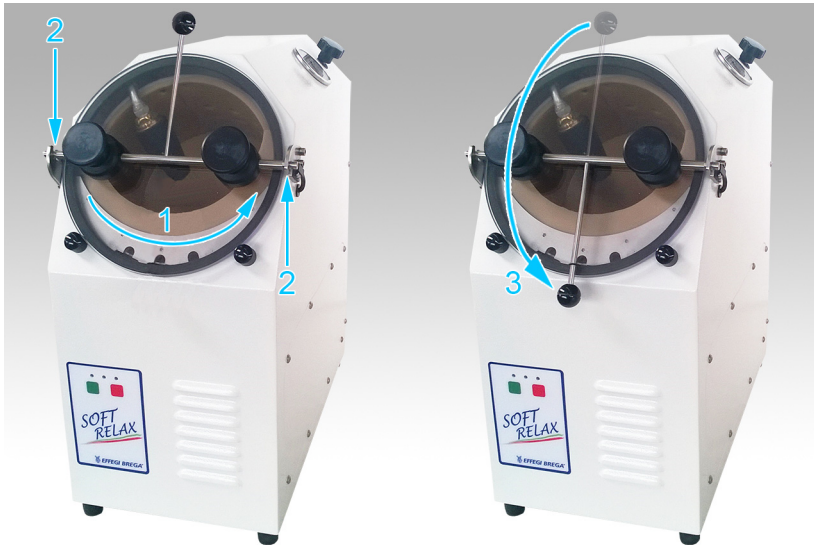
- e) Insert the black rubber balls [2, F 6] supplied with the machine (code 080070) (they have a fall-damping and noise-reducing effect).
- f) Insert a maximum of 10 elements in order to avoid compromising the quality of washing results.



2. Rubber balls

g) Close the lid according to the following procedure:

F 7 – Closing the lid



1. Turn the lid anti-clockwise
2. Make sure the pins of the lid are properly engaged
3. Turn the lever 180° to lock the lid

h) Press START: LED B (green) [2, F 2] will light up.

i) The automatic washing cycle will start.

l) Wait approx. 4'30" (average running time of cleaning cycle) until LED A (red) [1, F 2] lights up.



Do not open the lid when the cycle is in progress: the elements are washed by means of a high-pressure water jet.

m) Open the lid exclusively when the LEDs are lit as follows:

LED A	LED B	LED C
●	●	●


SIGNALS AND ALARMS


The control panel includes 3 LEDs to signal the machine operational status and any alarm. The following chart shows the possible combinations of the LED colours as well as their meanings.


F 8 – Signals and alarms

Colour combinations and meaning of led signals				
No.	LED A	LED B	LED C	Machine status / alarm
1	●	○	○	Machine ready for use
2	○	●	○	Single cycle running
3	○	●	●	Double cycle running
4	●	●	●	Triple cycle running
5	●	●	○	Lid open
6	●	●	●	Warning: service required within 30 hours
7	●	●	●	Alarm: call technical service


	
Meaning	Machine ready for use

	
Meaning	Single cycle in progress (running time: 4'30")
Effect	<p>The machine automatically stops at the end of the cycle.</p> <p>The cycle can be manually interrupted by pressing STOP button</p>

	
Meaning	Double cycle in progress (running time: 9' 00")
Effect	<p>The machine automatically stops at the end of the cycle.</p> <p>The cycle can be manually interrupted by pressing STOP button</p>

	
Meaning	Triple cycle in progress (running time: 13' 30")
Effect	<p>The machine automatically stops at the end of the cycle.</p> <p>The cycle can be manually interrupted by pressing STOP button</p>

	
Meaning	Lid open
Effect	The cycle does not start
Solution	Close the lid and press START

	
Meaning	Contact the After sales Service to schedule the maintenance of the machine
Cause	Warning: 30 working hours to go before the machine shutdown

	
Meaning	Machine shutdown
Solution	Contact the After sales Service to carry out the maintenance

INITIAL START-UP

Once the machine has correctly been installed, it is not necessary to make any particular test when starting-up because the manufacturer EFFEGI BREGA S.r.l. has already tested it before delivery.



→ Starting and use, page 17

The machine is ready for use.

LENGTH OF THE WORKING CYCLE

Running time (single cycle): approx. **4'30"**

Up to 3 consecutive cycles can be executed by pressing START button and keeping it down until:

- the 2nd green LED lights up → *double cycle set* → ○ ● ●
(Running time: **9'**)

or

- all the three green LEDs light up → *triple cycle set* → ● ● ●
(Running time: **13'30"**).

The operator can interrupt the process at any time by simply pressing STOP button.

TROUBLESHOOTING AND SETTING

Only qualified personnel of the AFTER SALES SERVICE are allowed to look for the cause of a breakdown and take corrective actions. The Operator can carry out only the interventions described in the following chart.

In case of breakdown, contact your Authorized Service Centre and they will repair the machine by using adequate tools and original spare parts.



Should the following interventions be needed many times in a day, switch off the machine and contact a skilled technician.

PROBLEM	CAUSE	SOLUTION
LED A does not switch on	Main switch on position "O"	Set main switch to position "I"
	No supply current	Verify the plug is properly inserted in the socket
	No supply current	Verify the main switchboard
Excessive noise from the machine	Insufficient feed to high-pressure pump	Completely open the water-supply system tap. Clean the filter in the 3/4" fitting
The machine does not start	Verify the status of the LEDs	Refer to paragraph "SIGNALS AND ALARMS"
Poor quality of washing results	Problems for high-pressure pump	Contact the TECHNICAL ASSISTANCE
	Worn/obstructed nozzle	Contact the TECHNICAL ASSISTANCE
Presence of water under the machine	Leakages inside the machine	Secure the machine by turning it off and disconnecting it from the electric network. Contact the TECHNICAL ASSISTANCE
Water leak (lid)	Dirty seal	Clean the seal and its supporting surface

DISCONNECTION FOR DISMANTLING

No particular procedure is needed, except for the disconnection from the electric, water and air supplies.

DAILY AND SCHEDULED MAINTENANCE



Before any maintenance operation, disconnect the machine from the electric supply and close the water inlet tap.

Always use the proper PPE when performing maintenance and cleaning procedures or other operations.

► Daily maintenance

- clean all the surfaces
- empty the drum when it is half full
- at the end of every cycle, remove the residues remaining in the drum

► Scheduled maintenance

- LEDs lit as per colour combination no. 6: ● ● ●
- contact the authorized AFTER SALES SERVICE

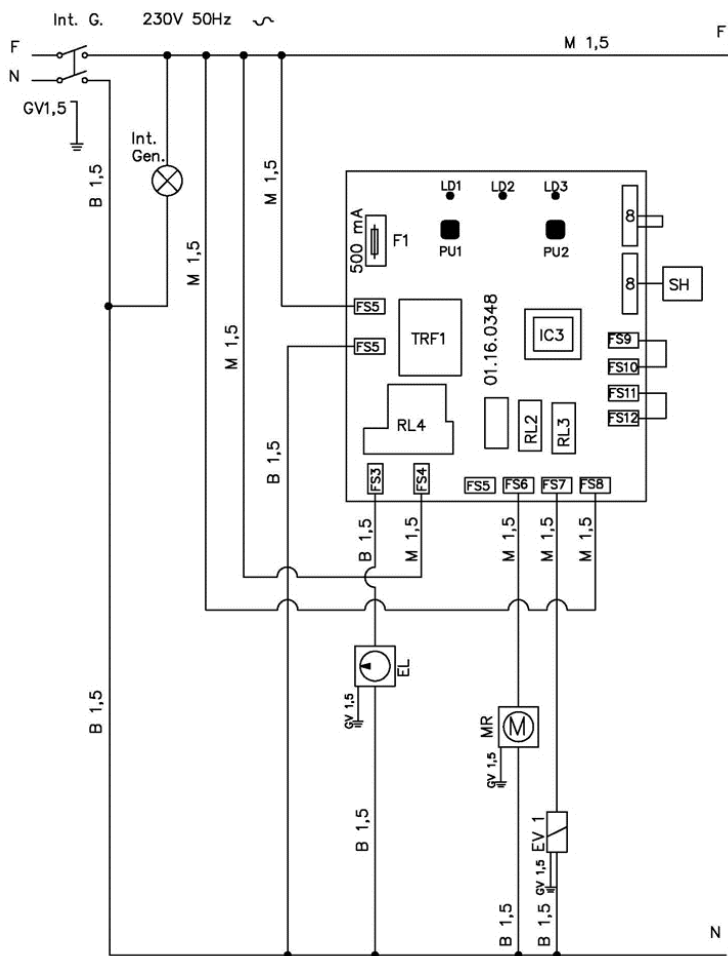
DEMOLITION AND DISPOSAL



The machine is composed mainly of metal and plastic parts: it should therefore be dismantled and the components grouped according to the type of metal (or alloy) and resin.

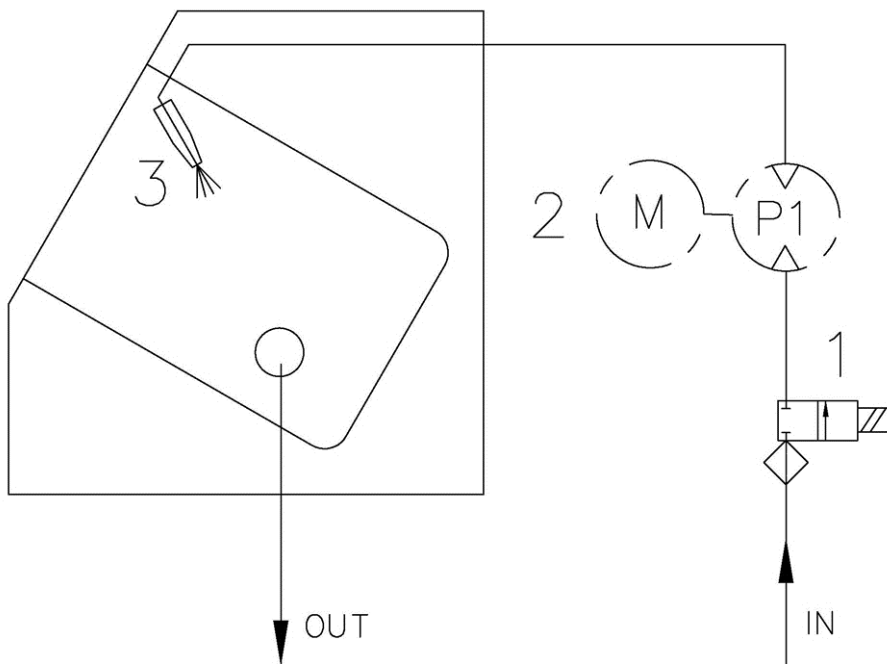
Plastic parts should be separated and disposed of in compliance with current regulations.

WIRING DIAGRAM



RL4	Motor pump relay	EL	Motor pump
RL3	Solenoid valve relay	EV1	Water inlet solenoid valve
RL2	Reduction gear relay	Int. G.	Main switch
LD3	LED No. 3	F 1	500 mA fuse
LD2	LED No. 2	TRF1	Transformer
LD1	LED No. 1	IC3	Microprocessor
PU2	STOP button	SH1	Sensor No. 1
PU1	START button	MR	Reduction gear

WATER SYSTEM DIAGRAM



REF.	CODE	DESCRIPTION
1	060613	Solenoid valve with filter
2	060391	Motor – high pressure pump
3	090820	Rotary nozzle

MAINTENANCE SCHEDULE

DATE	TYPE OF INTERVENTION	SIGNATURE

Code: 161832-02-A4



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