CELLI®

Italian design for better drinking

# USE AND MAINTENANCE MANUAL

CE

## POLO L POST-MIX

Polo 20/L

Polo 50/L

Polo 30/L

ORIG

ode 077190

30/10/2017

@celli.ch

# 2 - General information

The Use and Maintenance Manual is an integral and essential part of the machine and must be given to the user. It must be kept in a safe place and read carefully, as it provides specific information concerning the operation, maintenance and safety of the machine and of persons and/or objects that come into contact with it.
If in doubt concerning the instructions supplied in the manual, contact CELLI S.p.A.
The manufacturer cannot be held liable, within or outside the terms of the contract, for any damage caused by inappropriate machine installation and usage, or failure to observe the instructions provided.

*The manufacturer reserves the right to modify the product and the relative technical documentation at any time and without notification, and cannot be held liable for any errors or inaccuracies in the contents of this manual.*
*This version of the Use and Maintenance Manual describes the characteristics of the standard production machine as of the date of printing.*

## 2.1 Manufacturer's details

**Post-Mix AG**

Fªrbereigasse 14
8304 - Wallisellen - Schweiz
Tel. (+41) 044 4221930
www.postmix.com
info@postmix.com

Contact CELLI S.p.A. for any technical queries or to order spare parts.
When replacing machine parts, you are advised to use original spare parts; the manufacturer cannot be held liable for any reduction in machine performance or damage caused by the use of non-original parts.

*This manual refers to the standard version of the machine.*
*Non-standard machines may display minor differences not described in this manual.*
*If you have any doubts, please contact CELLI .*

## 1.3 List of hazards

The following list of hazards draws attention to safety aspects which must be considered at all times by anyone using the machine.

**DANGER**

**$CO_2$ (CARBON DIOXIDE)**

$CO_2$ bottles must always be stored in a well-ventilated place where the air can flow in and out. Great care must be taken to prevent $CO_2$ leaks throughout the system, including the gas bottles. If a $CO_2$ leak is suspected, especially in a small area, ventilate the contaminated area at once. Persons exposed to high concentrations of $CO_2$ will experience trembling, swiftly followed by unconsciousness and suffocation.

**DANGER**

**MAINS ELECTRICITY**

Always disconnect the machine from the electricity supply before doing any work on it, to prevent damage and health hazards.

**DANGER**

**GAS BOTTLE POSITION**

To prevent the risk of injury or damage, the $CO_2$ bottle must always be kept in a vertical position against a wall, held in place by a chain fixed to a bracket.
Do not expose the bottle to heat sources or very low temperatures.
If a disposable $CO_2$ bottle is used, secure it vertically to prevent it from falling or overturning.

**DANGER**

**REFRIGERANT**

The refrigerant used is R290 or R134a. To verify which of these two is used, refer to the compressor label inside the machine, and the nameplate.
In the case of R290 refrigerant, this is a natural gas with a high degree of environmental compatibility, but it is also combustible. During the transport and installation of the machine, be careful not to damage any part of the refrigerating circuit.
If the refrigerant spurts out, it may catch fire or cause injury to the eyes. If you notice a leak, do not take any naked flames or potential ignition sources near the machine; air the room for a few minutes.

**WARNING**

**REFRIGERANT**

To avoid the formation of an inflammable mix of gas and air in the event of a leak in the refrigerating circuit, the size of the room where the machine is located will depend on the amount of refrigerant used.
Never switch the machine on if you notice any trace of damage. If you have any doubts, please contact CELLI S.p.A.
The room must measure at least $1m^3$ for every 8g of R290 refrigerant used in the machine.
The amount of refrigerant in the machine is shown on the nameplate.

## WARNING

### AUTHORISED TECHNICAL STAFF

Only technical staff skilled in the electric, hydraulic or refrigeration field may carry out work on the machine. All wiring and plumbing components must comply with national and local legal requirements (when replacing components, use only genuine parts certified by CELLI S.p.A.).

## CAUTION

### ELECTRICAL REQUISITES

The electrical circuit must be correctly earthed and connected by means of a suitable differential safety breaker.

## CAUTION

### PLUG SUPPLIED

Connect the machine to the electricity mains using the plug provided.
If you need to replace the plug, use an equivalent model type-approved for the country of use.

## CAUTION

### SANITISATION

Before sanitising the machine, carefully read the instructions given by the sanitisation product manufacturer and put on all the necessary personal protective equipment (gloves, masks, etc.).
Ensure that the premises are well ventilated.
Sanitisation procedures must only be carried out by skilled technical service staff.

## CAUTION

### LOW TEMPERATURE

If the machine is exposed to temperatures below 0°C, the water inside it may freeze and cause damage to the machine itself.

## CAUTION

### SYRUP CONTAINED IN PRESSURISED KEGS

To avoid any harm to people or damage to property, do not remove the cover from the syrup keg until you have discharged the $CO_2$ pressure inside.

## CAUTION

### LIQUID CHECK VALVE

The carbonator liquid check valve should be inspected after any interruption in the water supply (plumbing work, earthquakes, etc.), and at least once a year in normal conditions. If particles are trapped in the control valve, the $CO_2$ might flow back into the water supply system.

## 1.4 Residual risks

During regular operating conditions the machine is safe. There are still residual risks, listed in the hazard list, which are reduced if the machine is used correctly and according to the instructions given in the user's manual.

# 2 - General information

The Use and Maintenance Manual is an integral and essential part of the machine and must be given to the user. It must be kept in a safe place and read carefully, as it provides specific information concerning the operation, maintenance and safety of the machine and of persons and/or objects that come into contact with it.
If in doubt concerning the instructions supplied in the manual, contact CELLI S.p.A.
The manufacturer cannot be held liable, within or outside the terms of the contract, for any damage caused by inappropriate machine installation and usage, or failure to observe the instructions provided.

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*This version of the Use and Maintenance Manual describes the characteristics of the standard production machine as of the date of printing.*

## 2.1 Manufacturer's details

Contact CELLI S.p.A. for any technical queries or to order spare parts.
When replacing machine parts, you are advised to use original spare parts; the manufacturer cannot be held liable for any reduction in machine performance or damage caused by the use of non-original parts.

*This manual refers to the standard version of the machine.*
*Non-standard machines may display minor differences not described in this manual.*
*If you have any doubts, please contact CELLI S.p.A.*

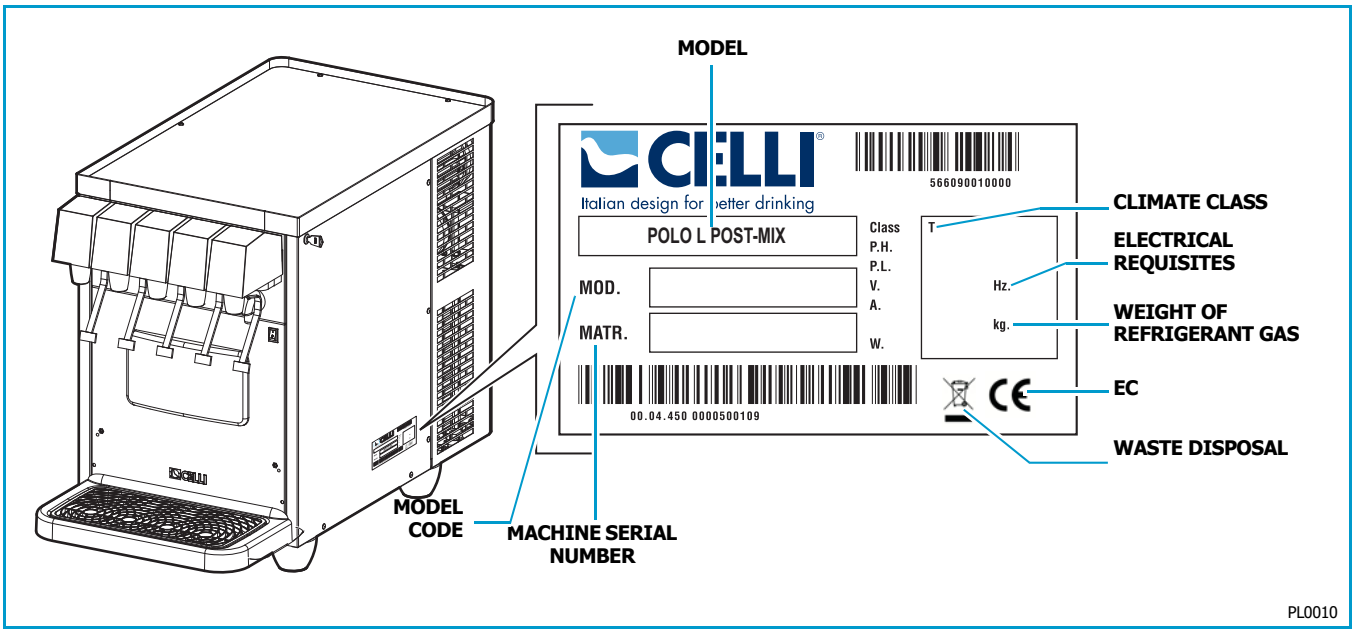
## 2.2 Machine identification

This manual refers to the following machines:

**POLO L POST-MIX range**

Models: **- 20**
**- 30**
**- 50**

Check that the machine delivered to you carries the nameplate (EC nameplate) shown below:




This indicates the model, the serial number and all the machine technical data necessary for ordering spare parts or reporting technical problems to the technical support service.

## 2.3 Warranty

For the warranty terms, please refer to the general conditions of sale in the CELLI S.p.A. price list.

## 2.4 Symbols used in the manual

The manual uses the following safety symbols to draw the operator's attention to all operations which must be strictly observed in order to prevent injury to persons or damage to the machine.

**DANGER**

Indicates the existence, on or around the machine, of a real risk of death or severe injury for the operator and other persons; it is therefore essential to take the greatest care and proceed with the greatest caution.

**WARNING**

Indicates the existence, on or around the machine, of a potential risk of death or severe injury for the operator or other persons; it is therefore essential to take great care and proceed with the greatest caution.

**CAUTION**

Indicates the existence, on or around the machine, of a potential risk of minor injury for the operator or other persons; it is therefore essential to take great care and proceed with the greatest caution.

## 2.5 Staff qualification

To ensure that all works performed on the machine are carried out in conditions of safety, the operators must have the qualifications and meet the requirements for performing the tasks assigned.

The operators are classified as follows:

**SPECIALISED MAINTENANCE TECHNICIAN**
Operator qualified to perform complex operations in particular situations.
This is an operator properly trained through specific activities.

**MACHINE OPERATOR**
Non qualified operator or operator without specific skills, assigned to perform only simple tasks or to use the machine by means of the controls of the same and to carry out simple cleaning and replacement of products, following the instructions in this user's manual when using the machine.
He/she cannot carry out the operations assigned to specialised maintenance operators.

*The symbol at the beginning of each section indicates the staff authorised to perform the operations described.*

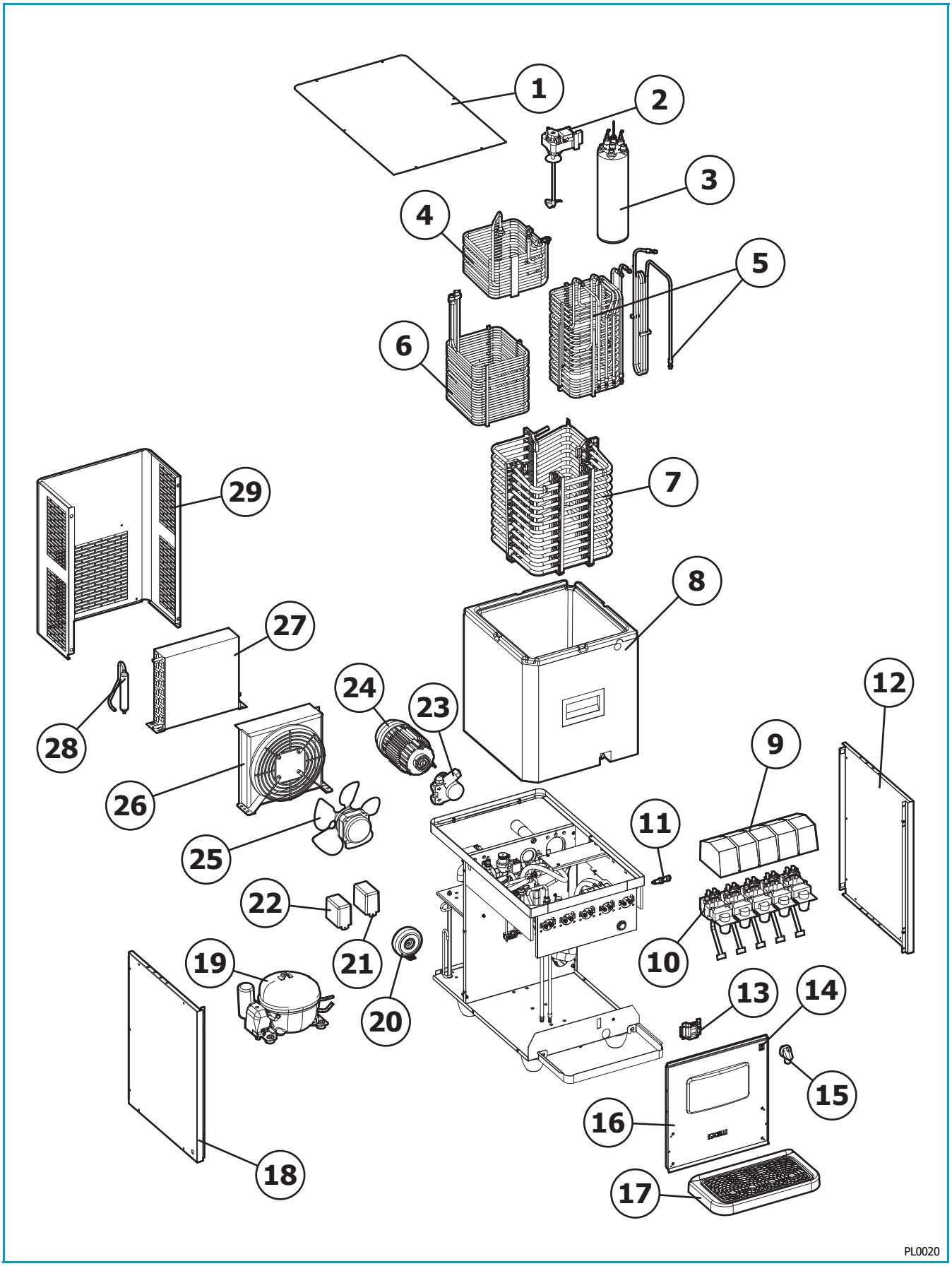
# 3 - Description of the machine

The machines of the **POLO L POST-MIX range** are coolers that dispense sparkling and still drinks obtained by mixing water and syrups.
These machines must be connected to the water supply and to the syrup containers.

Inside the machine, the syrups and water are cooled via a cooling unit. In addition, carbon dioxide can be added to natural water thanks to a carbonation process, and will thereby become sparkling. Sparkling water may also be referred to as "soda" elsewhere in this manual.

The sparkling/still water and the syrups are conveyed via plastic tubes to the dispensing valves. The mixing of water and syrups takes place inside the valves, at the time of dispensing.
This machine is configured to be positioned in OVERCOUNTER mode.

## 3.1 Main components of the POLO L POST-MIX range



1 - *UPPER COVER*
2 - *STIRRER*
3 - *CARBONATOR*
4 - *STILL WATER COIL*
5 - *SYRUP COILS*
6 - *SODA COIL*
7 - *EVAPORATOR*
8 - *INSULATING TANK*
9 - *DISPENSING VALVE COVERS*
10 - *DISPENSING VALVES*
11 - *DISPENSING VALVE ON/OFF KEY*
12 - *SIDE PANEL*
13 - *DRAINAGE POINT FOR EMPTYING TANK*
14 - *LIGHT PANEL ON/OFF SWITCH (OPTIONAL)*
15 - *OVERFLOW DRAINAGE*
16 - *FRONT PANEL*
17 - *DRIP COLLECTOR WITH GRILLE*
18 - *SIDE PANEL*
19 - *COMPRESSOR*
20 - *TRANSFORMER*
21 - *ELECTRONIC THERMOSTAT*
22 - *LEVEL CONTROL UNIT*
23 - *CARBONATION PUMP*
24 - *CARBONATION PUMP MOTOR*
25 - *FAN UNIT*
26 - *DUCT*
27 - *CONDENSER*
28 - *DEHYDRATOR FILTER*
29 - *REAR PANEL*

## 3.2 Operating principle

The machine consists of a cooling unit and a hydraulic unit. The cooling unit cools the water in the insulating tank, thanks to an evaporator (**A**) immersed in the tank itself.

The water in the insulating tank acts merely as a means of heat exchange between the coils and the evaporator.

The evaporator is cooled until its temperature is lower than zero, so a layer of ice (the "ice bank") then forms around it; this is in practice a cold reserve, to be used when consumption levels increase.

The thickness of the ice bank is controlled by an electronic thermostat (**B**) which starts and stops the compressor (**C**) as necessary.

*The thermostat has a 4-minute delay to allow the pressure levels in the cooling circuit to even out after a brief electricity supply failure. This means that, when the machine is switched on, the compressor will start up about 4 minutes later. The compressor will not start up if the tank is empty.*

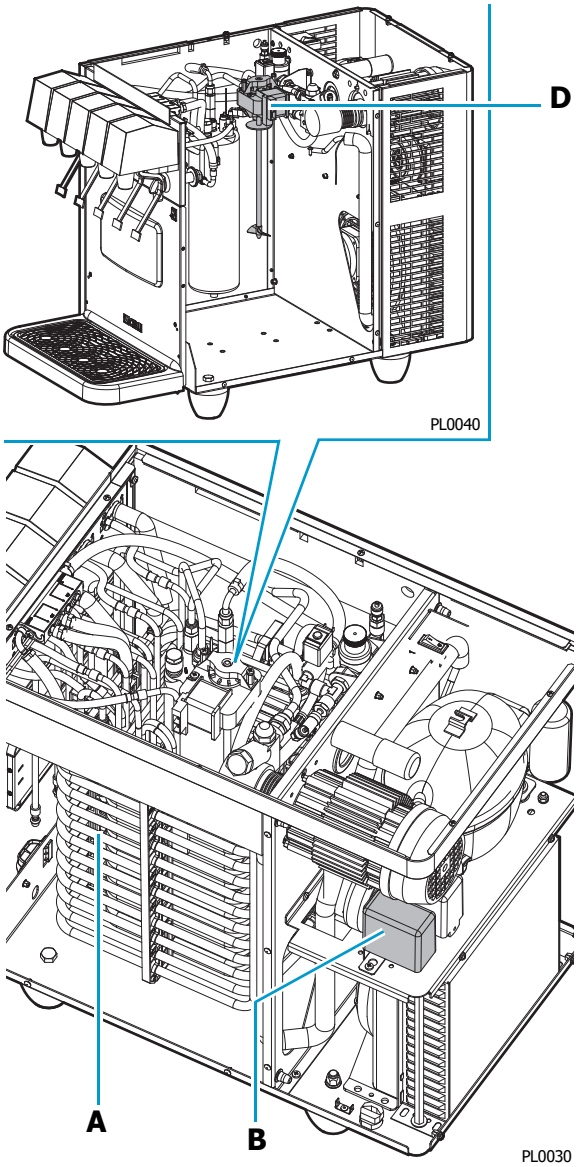
The coils (that the water and syrups pass through) are immersed in the water in the tank.
The water in the tank is always kept moving thanks to a stirrer (**D**); this facilitates the heat exchange between the coils and the ice bank.

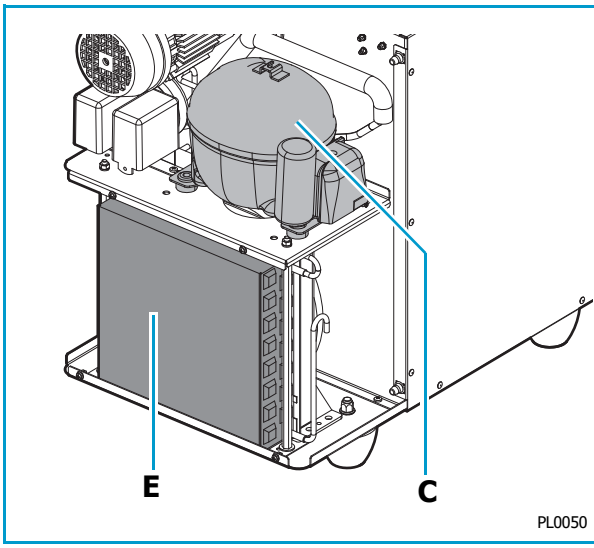
The water and syrups pass through different coils, and never come into contact with each other inside the machine: the mixing of water and syrups takes place in the spout of the dispensing valve.

The syrup is contained in a bag-in-box, or in steel kegs (outside the machine).

The condenser (**E**) eliminates the heat taken from the water and generated by the compressor motor. For more effective heat dispersal, the condenser has a cooling fan unit.

*It is important not to obstruct the condenser surface, and regularly inspect it for dirt so it can always function well (see 6.7 - "Cleaning the condenser").*



In order to operate well, the machine must be continuously powered; switching off the motor of the pump-stirrer, or the machine itself during brief periods of non-use, will jeopardise both the machine's lifespan and the quality of the first water subsequently dispensed. Furthermore, the machine consumes much more energy to restore the ice bank than to maintain it, so you are advised to leave the machine switched on during the night and during any brief periods of non-use.

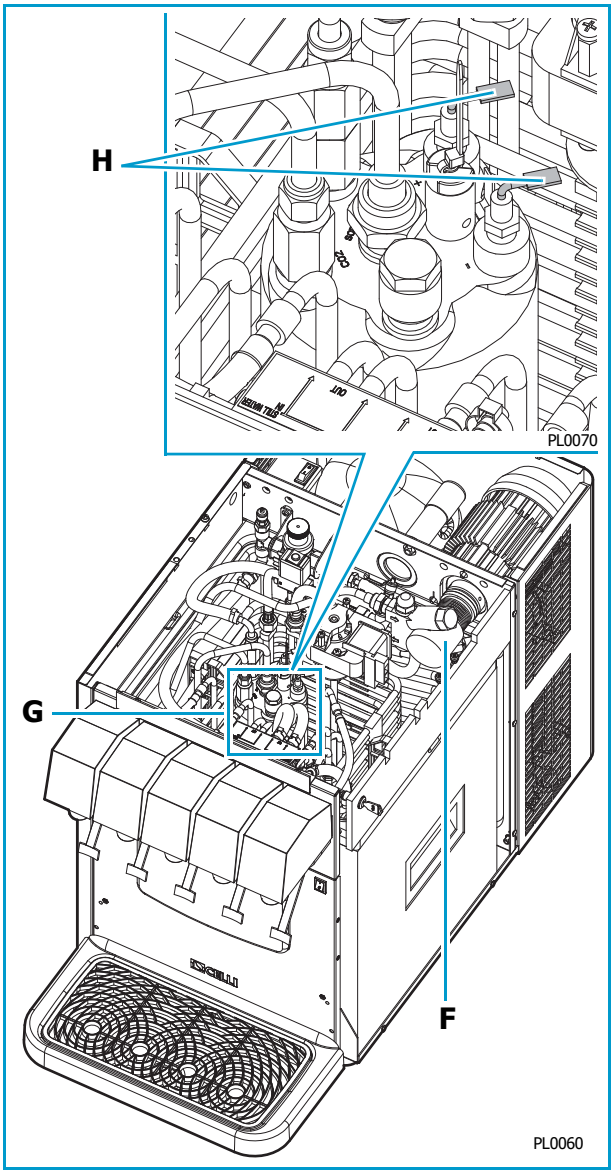
**Sparkling water**

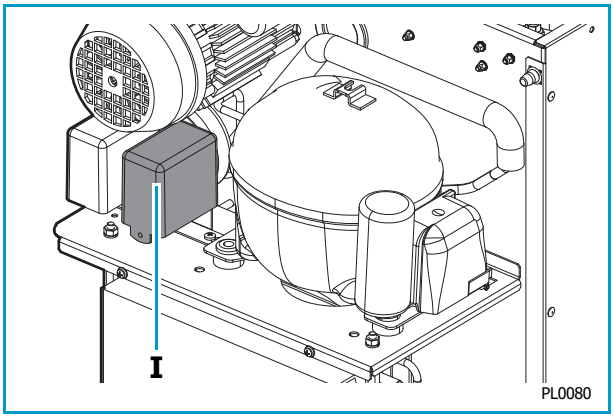
When there is a request for sparkling water, the water (taken directly from the mains supply after being filtered) is driven by the pump (**F**) through a coil, to the carbonator (**G**); here it comes into contact with the $CO_2$ (carbon dioxide), instantaneously absorbing it and becoming fizzy.

Inside the carbonator, immersed in the chilled water, there are two level probes (**H** - max. and min.) connected to the level control unit (**I**) that starts and stops the pump, guaranteeing the correct supply of water to the carbonator.

The level control unit is fitted with a protection system that stops the motor after a 4-minute period of CONTINUOUS operation.

This condition is usually considered irregular and may result from a lack of water entering the machine, or a water leak in a pipe between the carbonator and the dispensing valve. The motor shutdown protects the pump from any risk of dry operation (which would damage it irreparably) and also protects the room from being flooded in the event of a water leakage. If the pump shuts down because the cut-out device is tripped, the machine must be switched off for a few seconds (by disconnecting the power supply cable) and then turned back on to restart it.



**Sparkling water with Water Switch (optional)**

If you want to switch from still water to sparkling water or viceversa, you can use the Water Switch (**L** - optional) observe the following procedure.

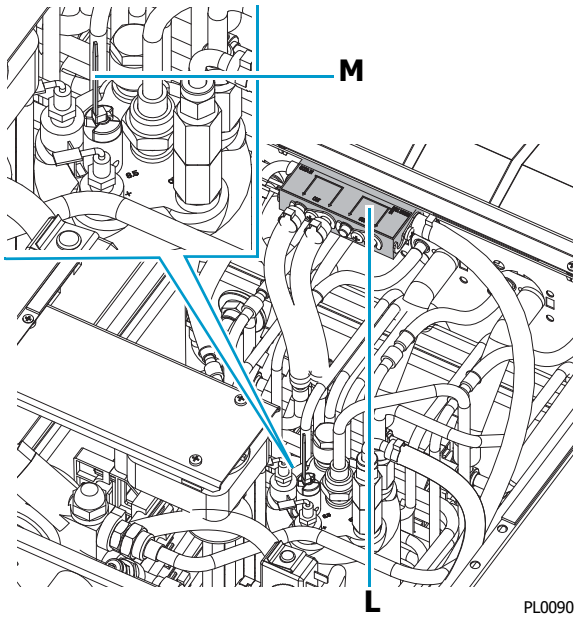
Shut of the supply of water and $CO_2$ to the machine and disconnect the power cable.

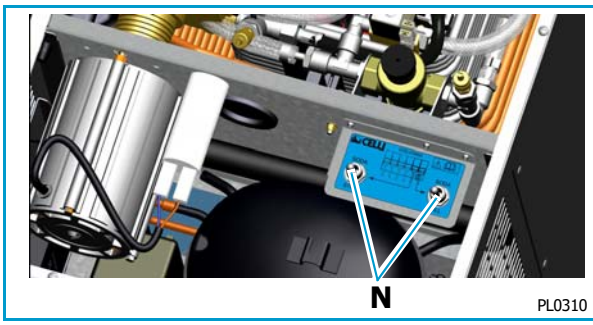
Dispense water from the valves until the soda and still water circuits are completely drained. Use the vent valve (**M**) of the carbonator to fully drain the pressure from the soda circuit.

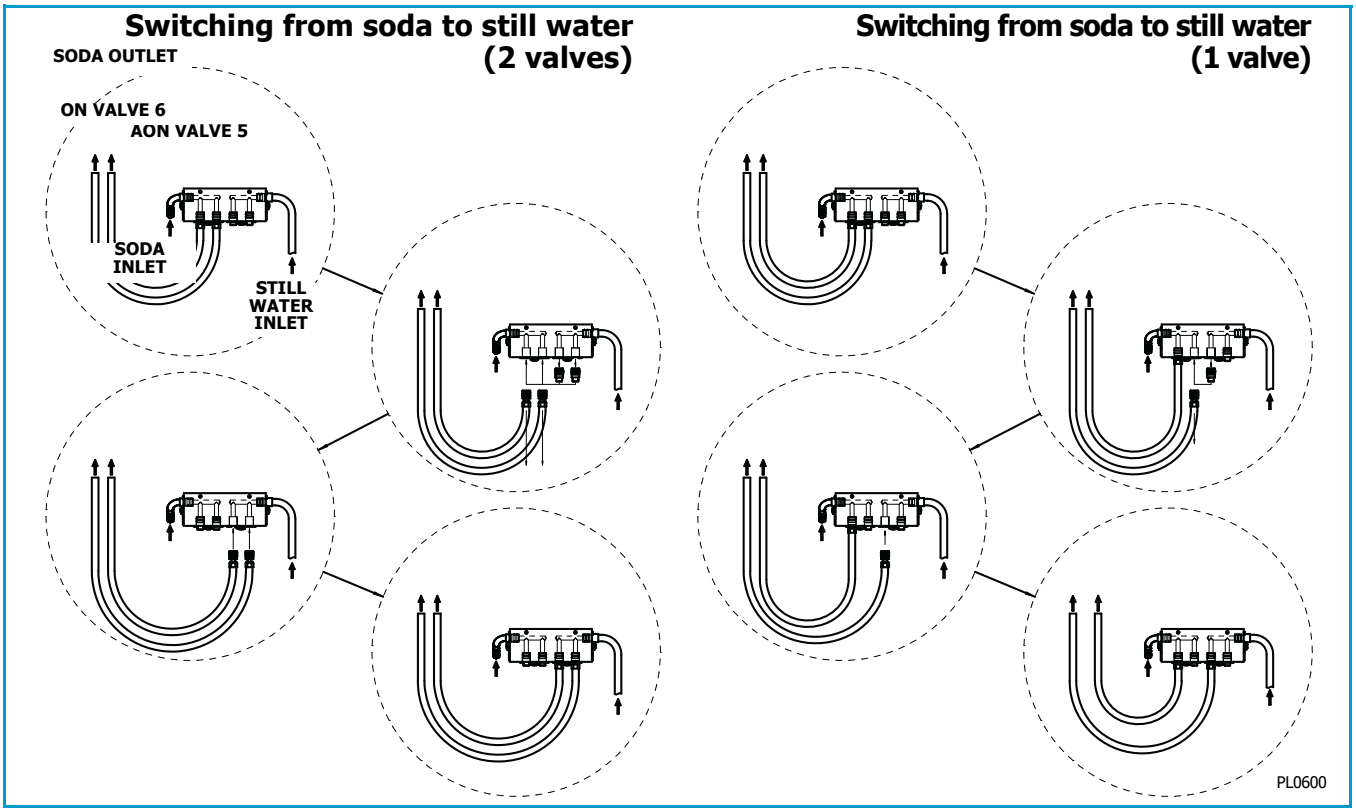
Invert the Water Switch connections, as show below.

Depending on the product to be dispensed, set the switches relevant to the valves (**N**).

After making the connections, restore the supply of water and $CO_2$, connect the power cable of the machine. Dispense from the valves until soda and still water circuits are filled.



**Technical data**

| | POLO 20-L | POLO 30-L | POLO 50-L |
|---|---|---|---|
| Housing | Stainless steel / AISI 430<br>Optional:<br>AISI 304 or SKIN PLATE | Stainless steel / AISI 430<br>Optional:<br>AISI 304 or SKIN PLATE | Stainless steel / AISI 430<br>Optional:<br>AISI 304 or SKIN PLATE |
| Power supply | 230V ~ 50/60Hz | 230V ~ 50/60Hz | 230V ~ 50/60Hz |
| Height | 520mm (20.4 in) | 590mm (23.2 in) | 600mm (23.6 in) |
| Width | 360mm (14.1 in) | 385mm (15.1 in) | 440mm (17.3 in) |
| Depth | 753mm (29.6 in) | 770mm (30.3 in) | 856mm (33.7 in) |
| Shipping weight | 34kg (74.9 lb) | 59kg (130 lb) | 68kg (149.9 lb) |
| Tank capacity | 18 L (4.7 U.S. gal) | 25 L (6.6 U.S. gal) | 45 L (11.8 U.S. gal) |
| Ice bank | 8kg (17.6 lb) | 12kg (26.4 lb) | 22kg (48.5 lb) |
| Compressor | 1/4 Hp | 1/3 Hp | 1/2 Hp |
| Compressor cooling power | 513W | 571W | 905W |
| Refrigerant | R134a / R290 | R134a / R290 | R134a / R290 |
| Carbonation pump | 300 l/h (100 U.S. gph) | 400 l/h (140 U.S. gph) | 400 l/h (140 U.S. gph) |
| Carbonation pump motor | 180W | 250W | 250W |
| Carbonator volume (total) | 1600 cc | 1710 cc | 2000 cc |
| Transformer | 50 VA | 160 VA | 160 VA |
| Logo lighting | Optional | Optional | Optional |
| Coil material | AISI 304 STAINLESS STEEL (**) | AISI 304 STAINLESS STEEL (**) | AISI 304 STAINLESS STEEL (**) |
| No. of valves (max.) | 4 | 5 | 6 |

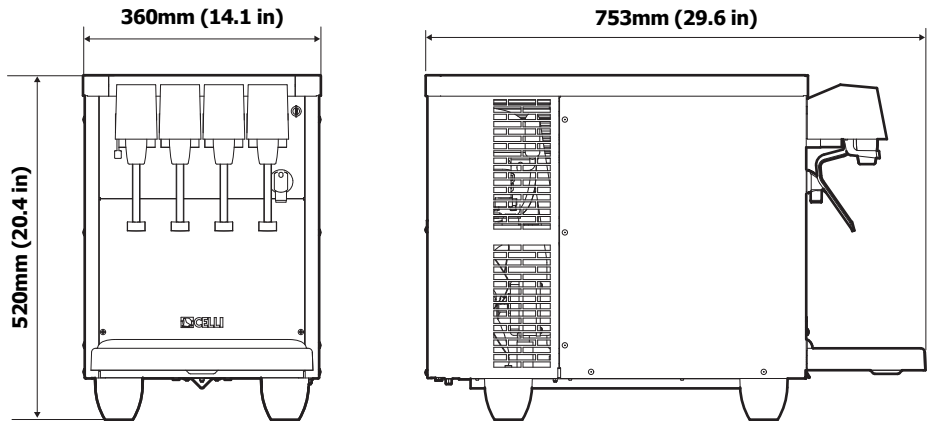
(*) ENVIRONMENTAL TEMPERATURE 32°C
(**) PICKLED AND PASSIVATED

### 3.2.1 Sound emissions

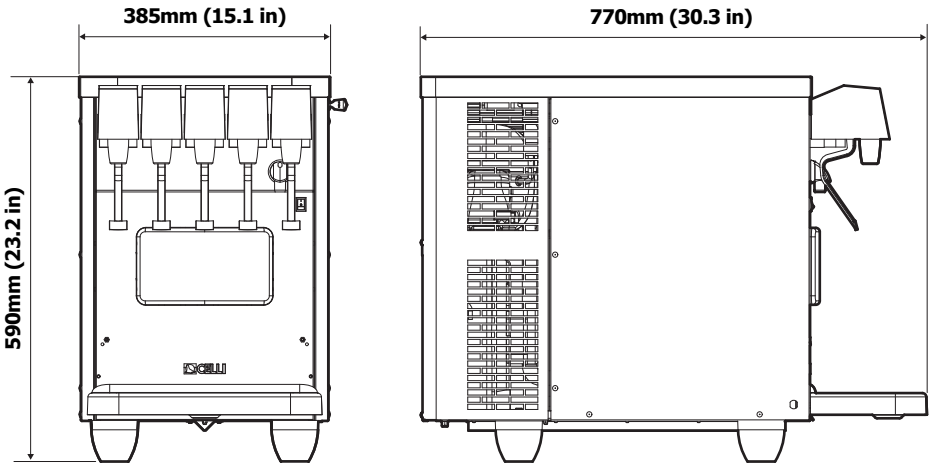
The machine is designed and built in such a way as to reduce the noise level at the source.
The weighted sound pressure level "A" is lower than 70 dB (A).

## 3.3 Dimensions in mm (inches)

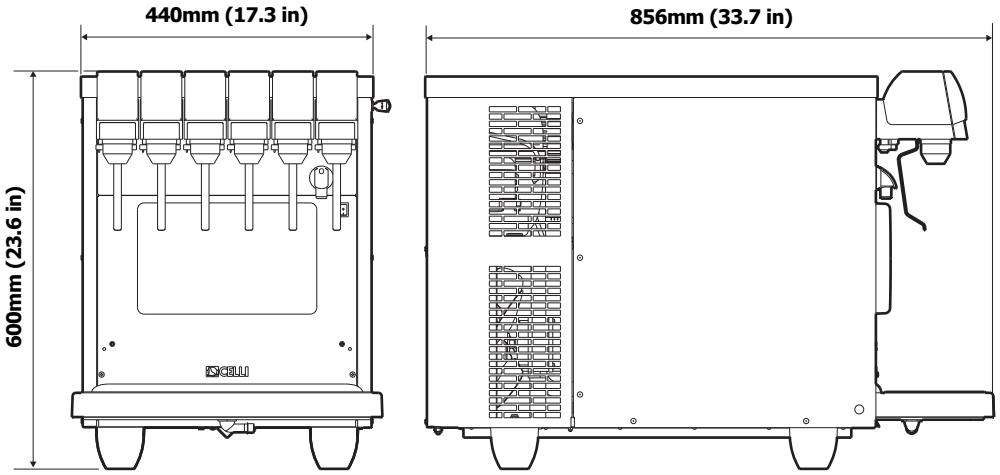
### 3.3.1 POLO 20-L




### 3.3.2 POLO 30-L




### 3.3.3 POLO 50-L

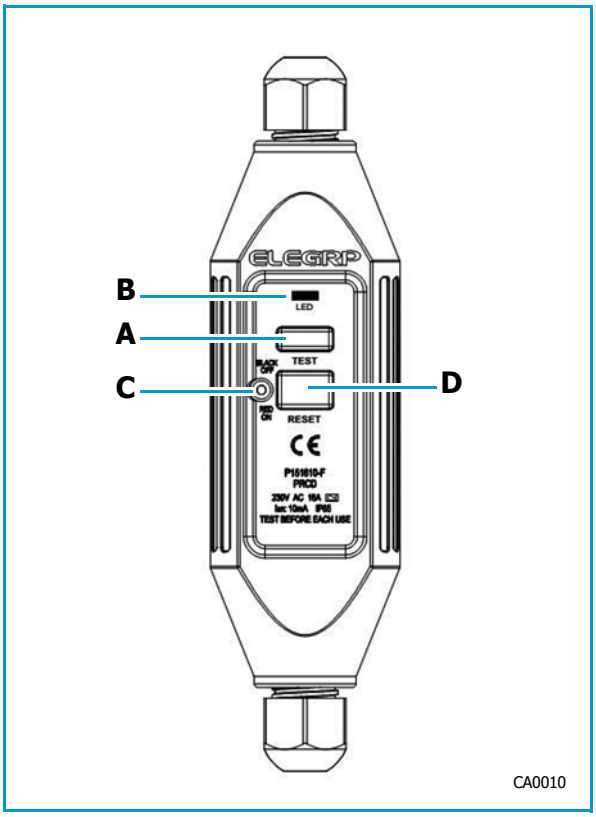


## 3.4 Differential-switch power cord (optional)

The differential switch is a safety device designed to cut off power to the machine in the event of a ground fault (electrical leakage) or phase-ground electrocution, thus protecting the people at risk against both direct and indirect electric shock. It does not offer any protection against overload or short circuit between phase and neutral.

The differential switch is equipped with a TEST (**A**) button that allows you to verify its proper functioning (test before each use).
When you press the TEST button, the power supply to the machine is cut off; the LED (**B**) turns off and the indicator light (**C**) next to the RESET (**D**) button (D) turns black.

Press RESET to reset the differential switch: the machine will be powered, the LED will turn on and the indicator light next to the RESET button will turn red.



# 4 - Installation

## 4.1 Checks and Unpacking

Always check that the appliance received is as stated in the accompanying document.
The machine is shipped in a cardboard box. Once the packaging has been removed, check the machine has not been damaged in transit; if damage is found, notify the carrier.

**CELLI S.p.A. declines any liability in the event of damage in transit.**

Users are advised to contact CELLI S.p.A. or authorised dealers for genuine components or spare parts.

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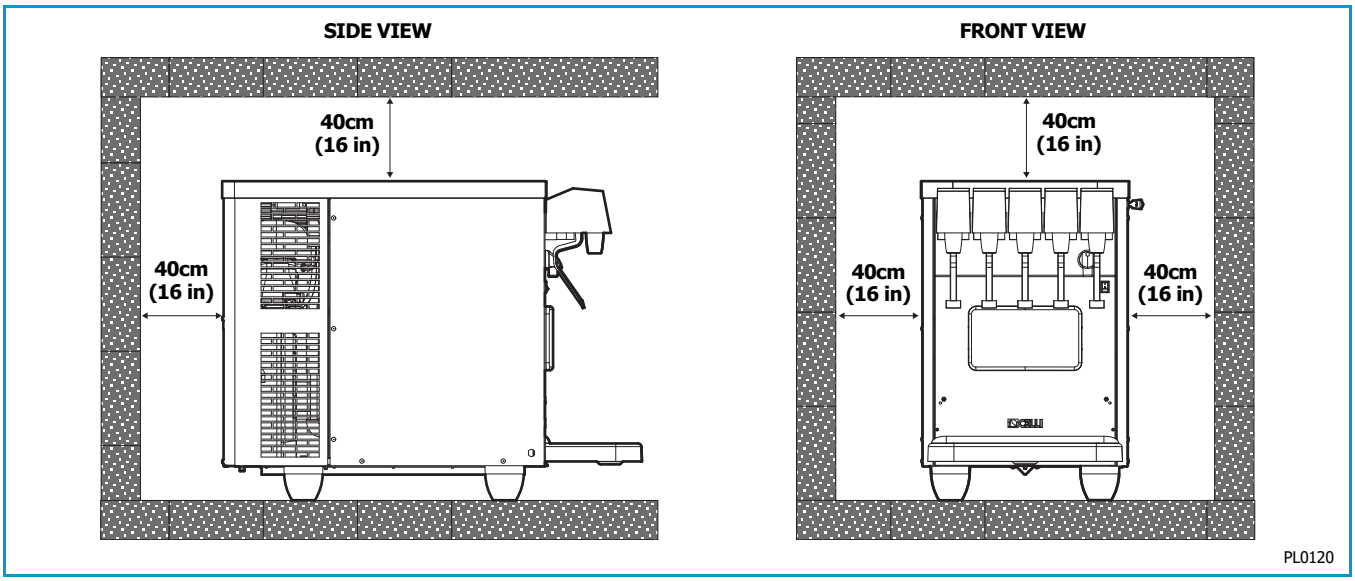
*The machine's packaging consists of a cardboard box and a suitable amount of padding material. Dispose of this in accordance with the relevant local legislation.*
*Do not burn packaging components or dump them in the environment.*

## 4.2 Positioning

The machine must be placed in a hygienically suitable environment, on a surface capable of bearing the weight of the dispenser complete with water. The chosen position must in any case allow satisfactory ventilation; in particular, there must be a gap of at least **40cm** (16 in) around the back and top for ventilation.

The machine must not be placed close to direct or indirect heat sources (ovens, stoves, radiators, etc.). The electricity and water supply points must be close to the dispenser, and located so that the power cable and water hose do not form an obstruction.



## 4.3 Environmental conditions

The machine must be installed in a place protected from rain and water splashes, and in a location with the temperature appropriate to its climate class (stated on the EC nameplate); otherwise, warranty rights are forfeited and malfunctions may occur.
The possible climate classes are:

SN - For ambient temperatures from 10°C to 32°C
N - For ambient temperatures from 16°C to 32°C
ST - For ambient temperatures from 18°C to 38°C
T - For ambient temperatures from 18°C to 43°C

**CAUTION**

**LOW TEMPERATURE**

If the machine is exposed to temperatures below 0°C, the water inside it may freeze and cause damage to the machine itself.

## 4.4 Electrical requisites

*Check that all electrical equipment complies with the data provided on the machine's nameplate.*

**DANGER**

**MAINS ELECTRICITY**

Always disconnect the machine from the electricity supply before doing any work on it, to prevent damage and health hazards.

**CAUTION**

**ELECTRICAL REQUISITES**

The electrical circuit must be correctly earthed and connected by means of a suitable differential safety breaker.

**CAUTION**

**PLUG SUPPLIED**

Connect the machine to the electricity mains using the plug provided.
If you need to replace the plug, use an equivalent model type-approved for the country of use.

**If you need to use extensions, multiple sockets or adapters in general, use only material with a quality certification mark; the power rating of such material must always be higher than the machine's rated power absorption.**

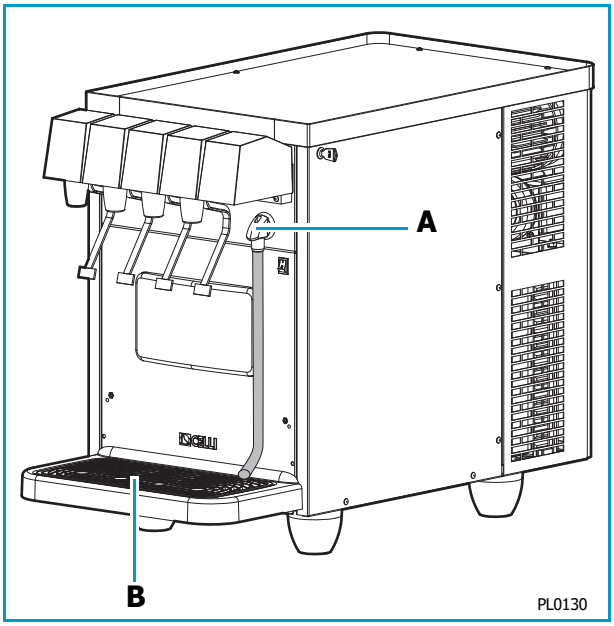
## 4.5 Connections

Carry out the connections described with the machine switched off and the power cord unplugged.

### 4.5.1 Preparing the machine

**Overflow connection**

Position a tube to connect the overflow connector (**A**) to the drip collector (**B**) or to a drainage point, after making sure the overflow connector is not obstructed.



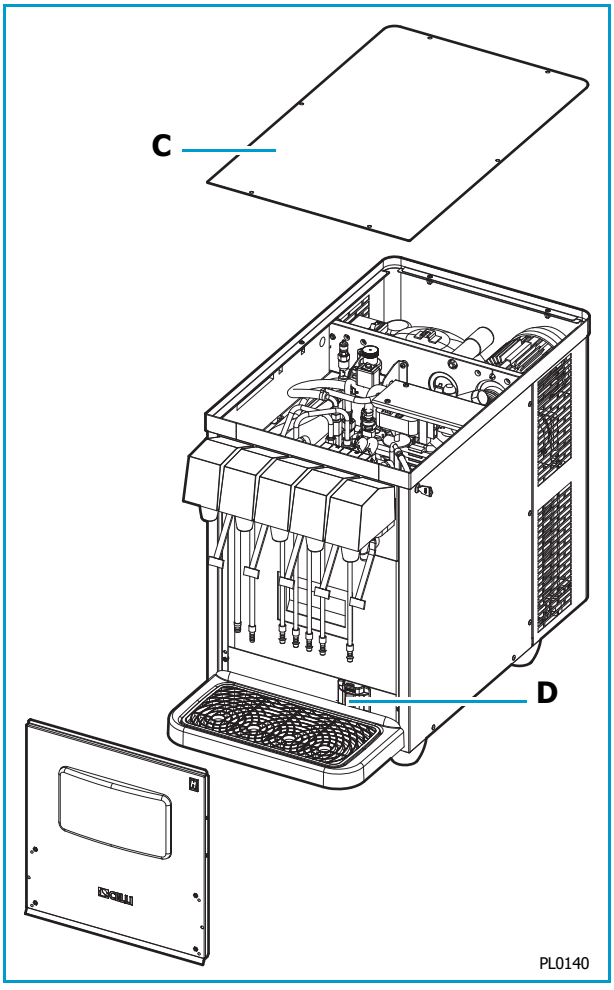

**Filling the water tank**

**1 -** Remove the upper cover (**C**) by loosening the fixing screws.

**2 -** Fill the tank with clean water, to about 2cm (1 inch) below the overflow hole.

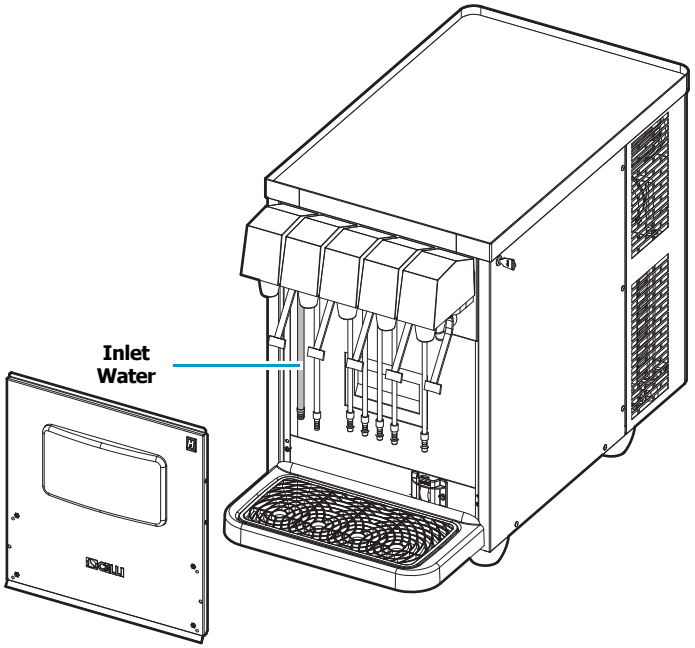
Make sure no foreign bodies are left in the tank.

Check the level of the water in the tank, ensuring it is correct and visible from the tube (**D**). The water must cover the coils in the tank.



### 4.5.2 Water intake connection

Remove the front panel from the machine so you can access the tank and the intakes for water, syrups and carbon dioxide.
Connect the intakes and relative outlets on the basis of the layout found on the machine itself. Use only tubes certified for food use, with an internal diameter of at least 9.5mm for the water and 6.7mm for the syrups.
Make sure the water, syrup and $CO_2$ tubes, and the wires, pass outside the machine's perimeter.

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***When connecting the machine to the water supply system, use only tubes and fittings certified for use with food, and in particular for contact with water destined for human consumption. Refer to the relevant legal provisions (in Italy - Ministerial Decree 174/2004 - "Regulations concerning the materials and objects that can be used in fixed systems for the uptake, treatment, transfer and distribution of water intended for human consumption").***

***The machine should be connected to a supply line of drinking water (Leg, Decree 31/2001 implementing directive 98/83/EC regarding the quality of the water intended for human consumption).***

***To ensure good dispensing, do not allow the tubes to come into contact with heat sources, and avoid any restrictions which may obstruct the water flow.***

You are advised to use an activated carbon filter, a check valve on the water supply line, and a water pressure regulator complete with gauge.

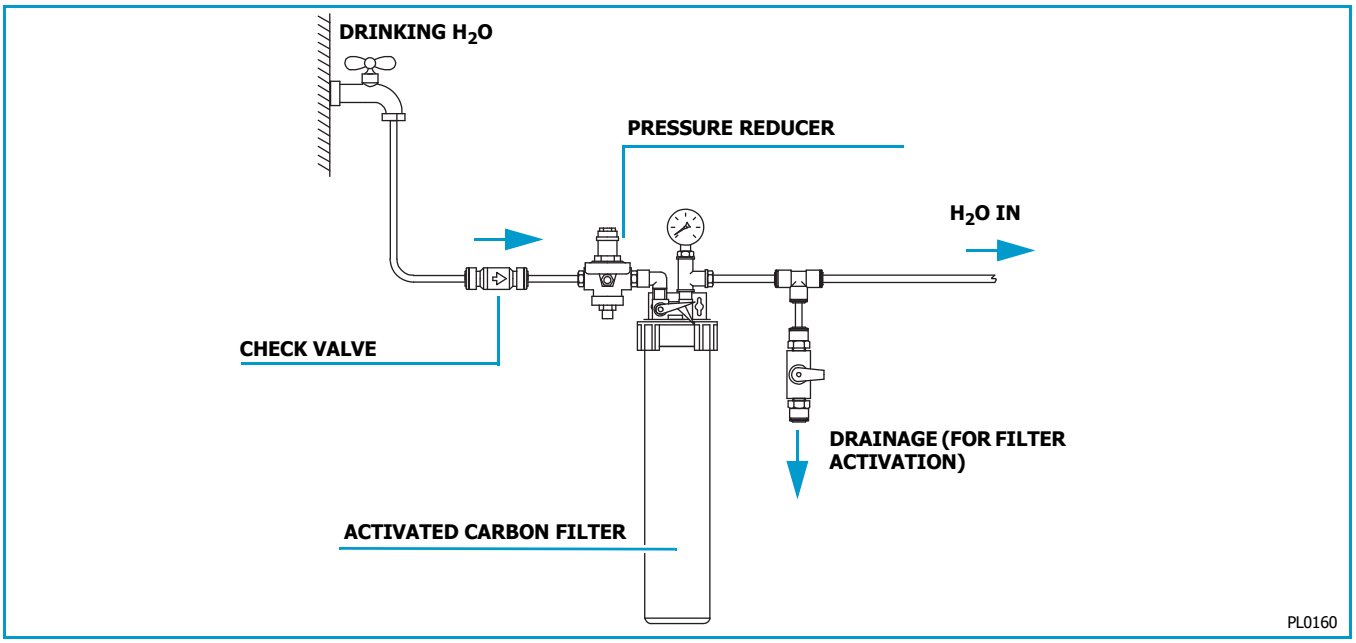
*For filter installation, lifetime and replacement procedure, always comply strictly with the instructions supplied by the filter manufacturer.*

**ACTIVATING THE FILTERS**

**After fitting or replacing the filter, allow the water to flow from the drain tap (located just after the filter) until all traces of cloudiness or sediment have disappeared. Do not dispense any water until this has been done.**

## CAUTION

**If the machine is connected to a filter, make sure the filter respects the regulations in force (in Italy, it must comply with Ministerial Decree 25/2012 "Technical provisions relating to equipment used for the treatment of water for human consumption" and Ministerial Decree 174/2004 "Regulations concerning the materials and objects that can be used in fixed systems for the uptake, treatment, transfer and distribution of water intended for human consumption").**




*The filtering system must comply with the local regulations in force (in Italy - Ministerial Decree 25/2012 "Technical provisions relating to equipment used for the treatment of water for human consumption" and Ministerial Decree 174/2004 "Regulations concerning the materials and objects that can be used in fixed systems for the uptake, treatment, transfer and distribution of water intended for human consumption"). To make the correct connection with the water supply, proceed as follows:*

**1 -** Connect the machine's water intake to the water supply system, or to a filtering system.

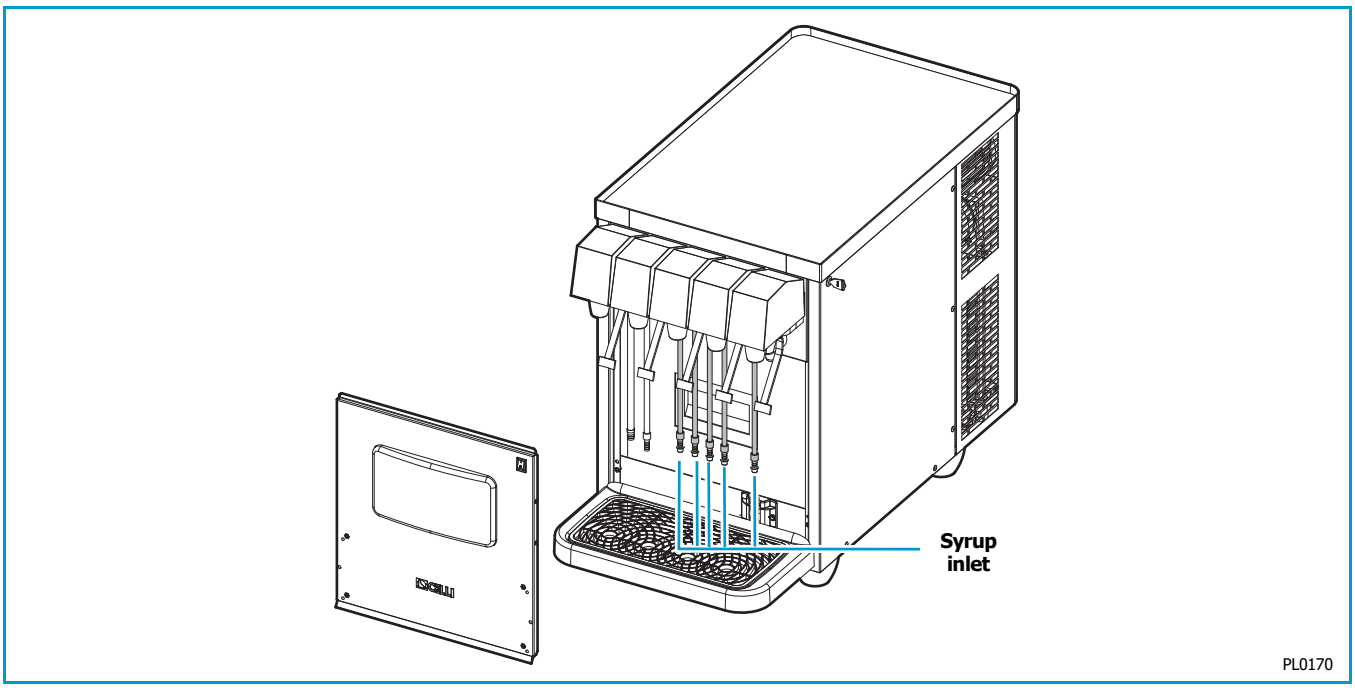
*Check there are no leaks in the water circuit.*

Inside the machine there is a branch that separates the water to be used for making soda from the water that will remain still.

*The internal diameter of the water inlet tube must be at least 9.5mm.*

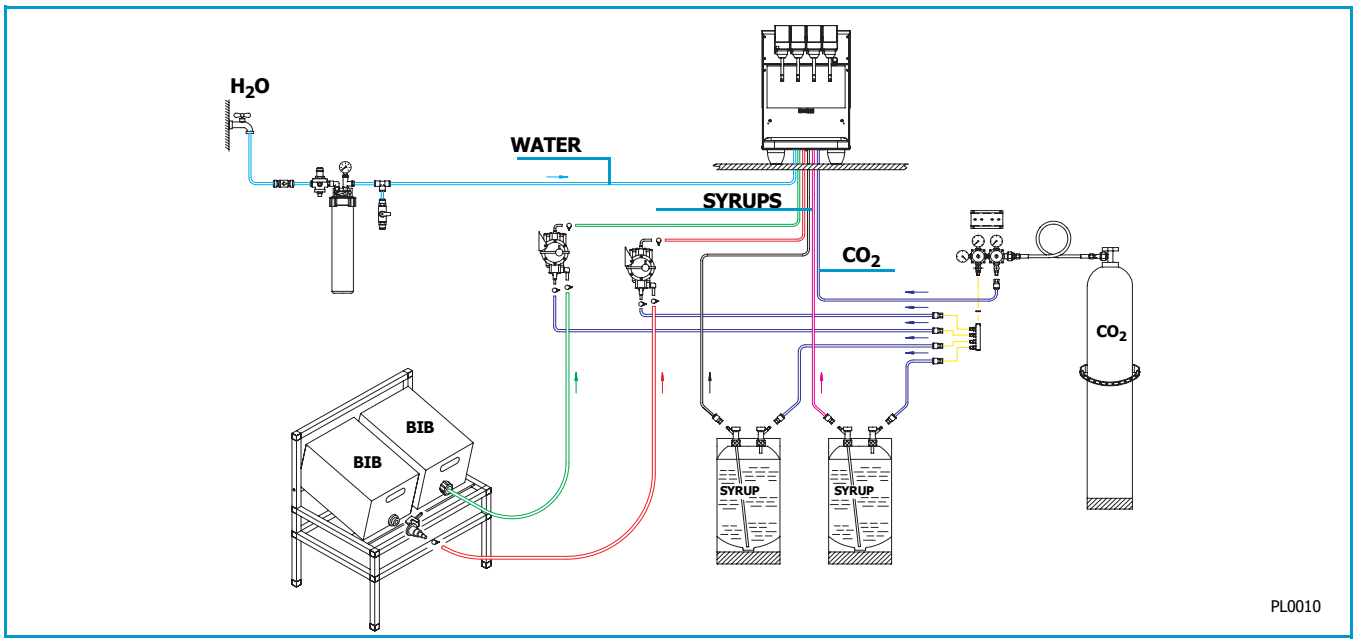
*The inlet water pressure must be between 2 and 4 bar.*

## 4.5.3 Connecting the syrup lines




The connection of the syrup lines differs according to whether the syrup is contained in a bag-in-box (BIB) or in stainless steel kegs.

- syrup contained in a bag-in-box (BIB): use pneumatic pumps powered with $CO_2$ or compressed air
- syrup contained in steel kegs: use $CO_2$ to push the syrup along to the valves




*If you use carbon dioxide ($CO_2$), be sure to air the room.*

### 4.5.4 Carbon dioxide ($CO_2$) connection

**DANGER**

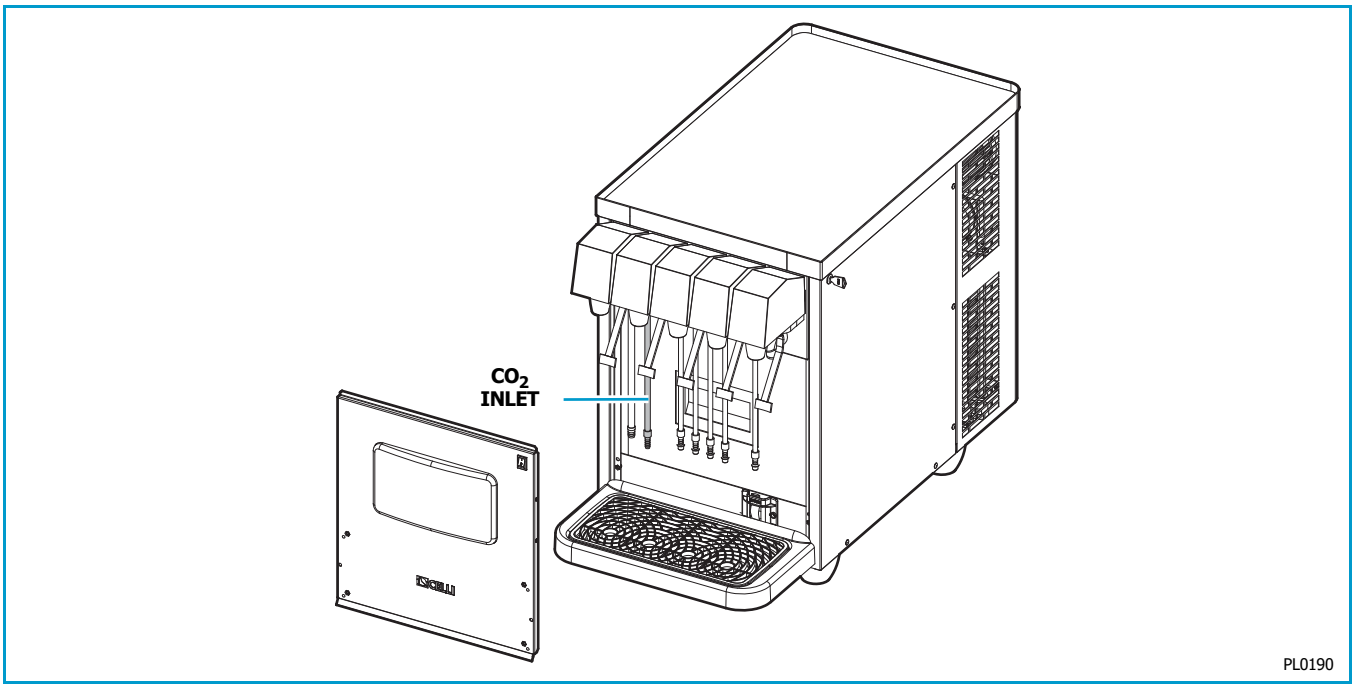
**$CO_2$ (CARBON DIOXIDE)**

$CO_2$ bottles must always be stored in a well-ventilated place where the air can flow in and out. Great care must be taken to prevent $CO_2$ leaks throughout the system, including the gas bottles. If a $CO_2$ leak is suspected, especially in a small area, ventilate the contaminated area at once. Persons exposed to high concentrations of $CO_2$ will experience trembling, swiftly followed by unconsciousness and suffocation.

**DANGER**

**GAS BOTTLE POSITION**

To prevent the risk of injury or damage, the $CO_2$ bottle must always be kept in a vertical position against a wall, held in place by a chain fixed to a bracket.
Do not expose the bottle to heat sources or very low temperatures.

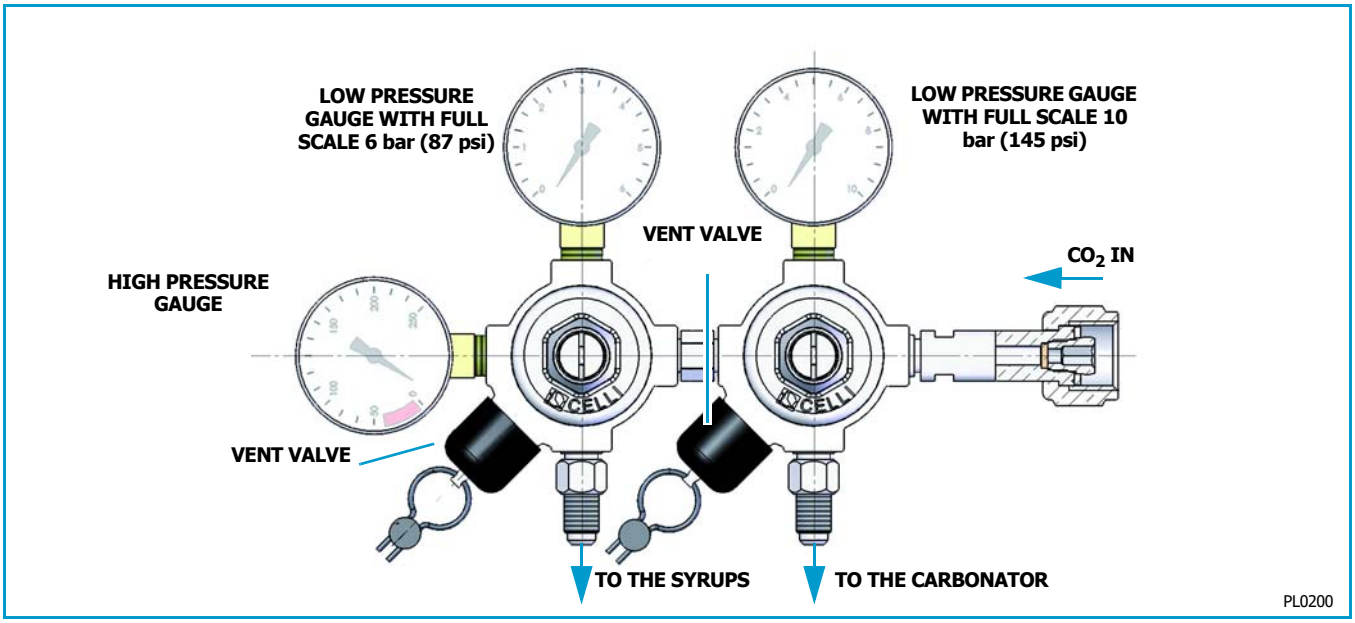



***Only super-dry food grade $CO_2$ should be used.***

***Before connecting the pressure regulator to the cylinder, check that there is no dirt on the valve. If so, remove it carefully.***

***There are different types of $CO_2$ bottles on the market.***
***Always obtain a pressure reducer suitable for the type of valve on the cylinder.***

Use a pressure reducer with at least two bodies (depending on your needs), one with a pressure gauge that has a 10 bar full scale (145 psi) and a 7 bar vent valve (102 psi) and the others with a pressure gauge that has a 6 bar full scale (87 psi) and a 4.8 bar vent valve (70 psi). Connect the body with the 10 bar full scale pressure gauge (145 psi) to the $CO_2$ intake on the machine. Connect the body (or bodies) with the 6 bar full scale pressure gauge (87 psi) to the steel kegs (if the syrups are contained in kegs) or to the pneumatic pumps (if the syrups are in BIBs).

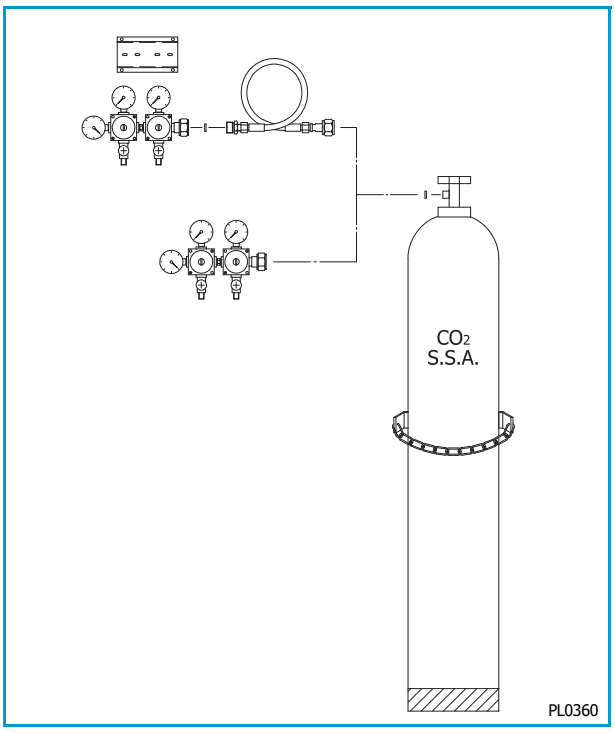



When using pneumatic pumps, you are anyway advised to use compressed air and hence a reducer with only one body, with a pressure gauge that has a 10 bar full scale (145 psi).
To make the carbon dioxide connection correctly, proceed as follows:

**1 -** Check the pressure reducer adjuster screw is fully loosened.

**2 -** Connect the pressure reducer to the bottle valve using the gasket provided.
If you are using a high pressure tube for the connection, ensure that the correct gaskets are fitted on both joints. The reducer must be secured to the wall by means of a suitable wall bracket. Use a suitable spanner to firmly fix the reducer to the gas bottle, or the high pressure tube to the bottle and pressure reducer, if installed.

**3 -** Fit the hose onto the connection provided on the reducer, then connect it from the pressure gauge to the connection in the rear of the machine.




***Never exceed the pressure of 6.5 bar at the outlet of the reducer in order to prevent compromising the circuit.***

### 4.5.5 Electrical connection

**CAUTION**

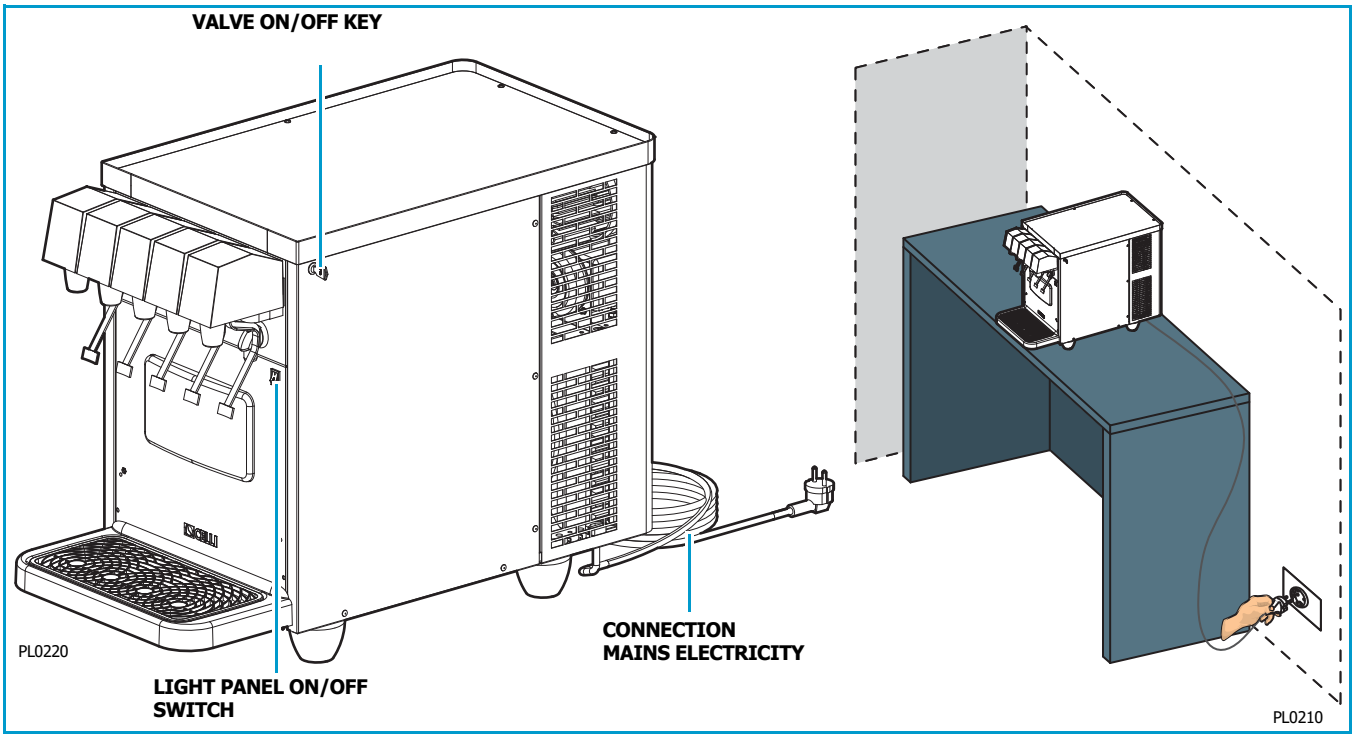
**ELECTRICAL REQUISITES**

The electrical circuit must be correctly earthed and connected by means of a suitable differential safety breaker.

**CAUTION**

**PLUG SUPPLIED**

Connect the machine to the electricity mains using the plug provided.
If you need to replace the plug, use an equivalent model type-approved for the country of use.



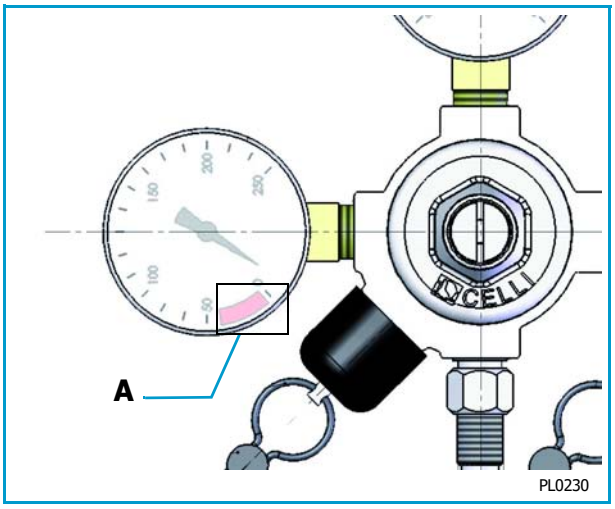

The POLO L POST-MIX machines comply with current safety standards and bear the EC marking.

**CAUTION**

**If the machine is installed in a kitchen, European Standard EN 60335-2/75 specifies that it must be connected to an equipotential circuit via a wire with a section measuring 2.5-10mm$^2$. This connection must be made by a skilled technician, in compliance with the regulations in force.**

## 4.6 Adjusting the carbon dioxide ($CO_2$) supply

**1 -** Slowly open the valve of the $CO_2$ bottle until it is fully open. Check the gas bottle pressure is always above the red segment (**A** - in reserve) of the pressure reducer pressure gauge; otherwise, the bottle will have to be changed.




**2 - $CO_2$ supply to the machine**: turn the adjuster screw until the needle of the corresponding pressure gauge reaches 5 bar (73 psi). This value will depend on the degree of carbonation required.

**3 - $CO_2$ supply to the syrup lines:**

- **Syrup in a bag-in-box (BIB):** adjust the supply pressure of the pneumatic pumps to 3 bar (42 psi) - do not exceed 4.8 bar (70 psi).
  (Refer to the specifications of the type of pneumatic pump actually used).
- **Syrup in a steel keg:** adjust the pressure to 3 bar (42 psi) for standard syrups, and 1 bar (14.5 psi) for diet syrups. (Refer to the specifications of the type of syrup actually used).

## 4.7 Checking for leaks

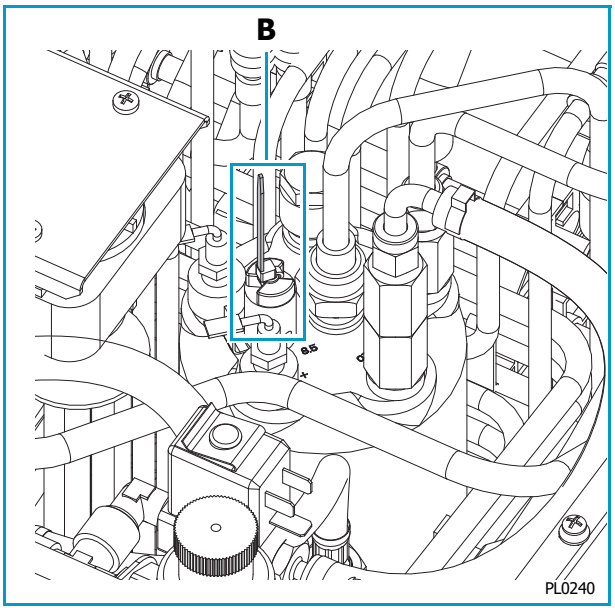
**1 -** Bleed the air from the system lines by opening the dispensing valves (turning the key switch, if installed, to ON).

**2 -** Vent the air from the carbonator by opening the vent valve (**A**) until only water comes out.

**3 -** Check for gas leaks by pressurising the system and closing the gas bottle valve.
Wait a couple of minutes, then check the pressure gauges to see whether the set pressure level has fallen.

**4 -** Check there are no leaks of water or syrup in the system.

**5 -** If no leaks are found, open the gas bottle valve again and replace the upper cover and front panel on the machine.



## 4.8 Adjusting the dispensing valves

*This operation must only be carried out by specialised technical personnel authorised by the system owner.*

Make the adjustment when the ice bank is already in the tank. To adjust the ratio of water-syrup supplied to the valves, remember to respect the indications provided by the syrup manufacturer.

**1 -** Remove the cover from the valve.

**2 -** Turn on the water tap on the valve or intervene on the adjuster screws and turn off the syrup tap on all the valves.

**3 -** Work on the first valve, dispensing a few glasses of water only.
If sparkling water is present, work on the ring vent valve (located on the carbonator) to eliminate any air. In this way, the carbonator is full of sparkling water and is ready to use.

**4 -** First of all, adjust the flow of sparkling water with the syrup tap turned off.
Adjust the maximum amount of product needed for dispensing in a specific space of time.

***For example: if the required ratio is 5:1, the water flow must be 5 times greater than the syrup flow. If the required drink flow is 84g/s (3oz/s), the water flow will be 70g/s (2.5oz/s) while the syrup flow will be 14g/s (0.5oz/s), because 70 is 5 times 14.***

| **Flow levels based on a ratio of 5:1** | | |
|---|---|---|
| **Drink g/s (oz/s)** | **Water g/s (oz/s)** | **Syrup g/s (oz/s)** |
| 42g/s (1.5oz/s) | 35g/s (1.25oz/s) | 7g/s (0.25oz/s) |
| 56g/s (2oz/s) | 47g/s (1.67oz/s) | 9.4g/s (0.33oz/s) |
| 70g/s (2.5oz/s) | 60g/s (2.08oz/s) | 12g/s (0.42oz/s) |
| 85g/s (3oz/s) | 70g/s (2.5oz/s) | 14g/s (0.5oz/s) |
| 99g/s (3.5oz/s) | 83g/s (2.92oz/s) | 16.5g/s (0.58oz/s) |
| 113g/s (4oz/s) | 95g/s (3.33oz/s) | 19g/s (0.67oz/s) |
| 128g/s (4.5oz/s) | 42g/s (3.75oz/s) | 21g/s (0.75oz/s) |

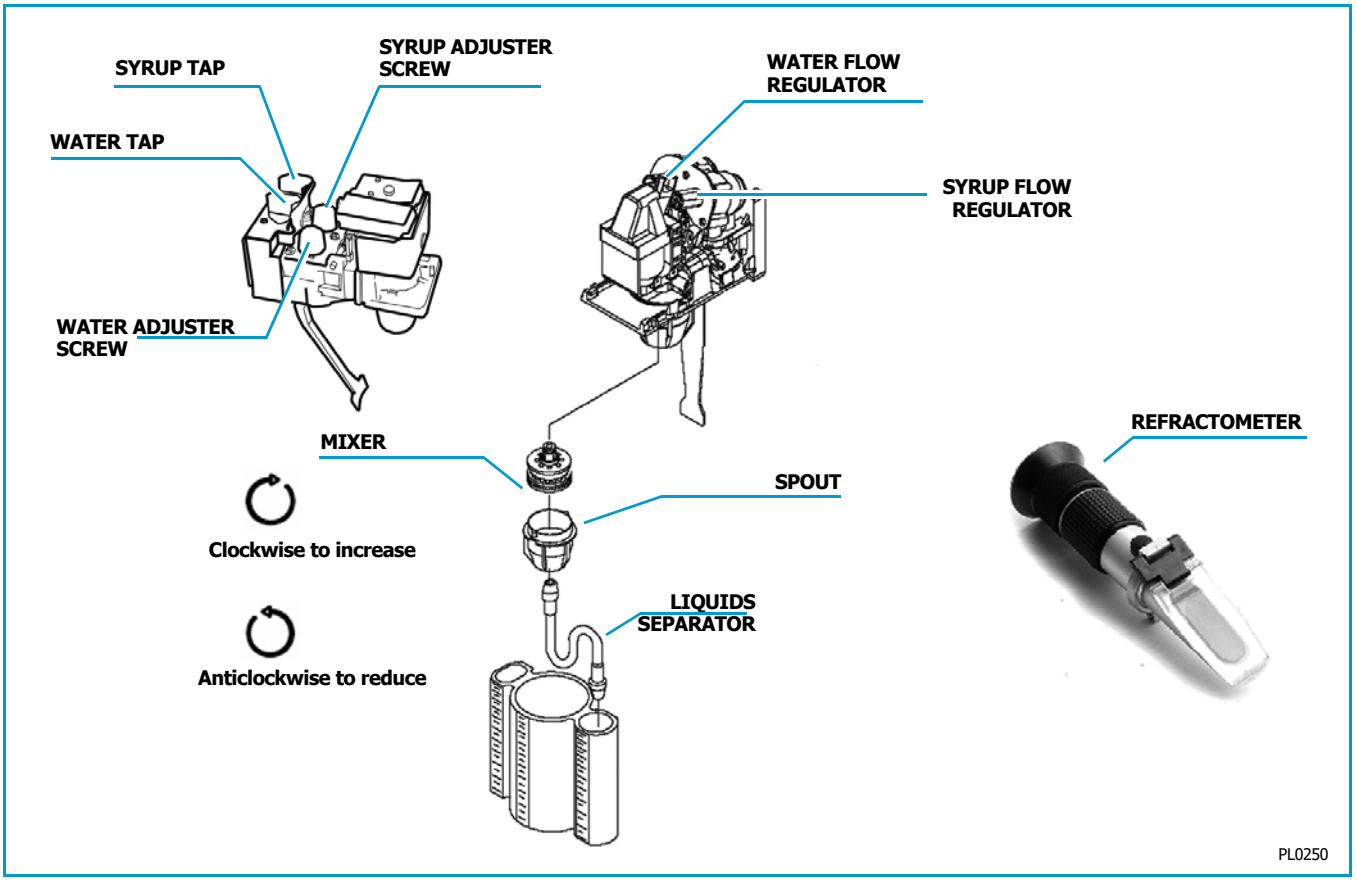
**5 -** Once you have adjusted the water flow to the required pressure, turn on the syrup tap and adjust the syrup flow using the special double scaled glass and the water-syrup separator, affixed directly on the valve (specific for each type of valve and water-syrup ratio).

- Check the quantity of liquids dispensed, using the product specifications as a reference.
  The glasses must fill up simultaneously, reaching the same level. If this does not happen, intervene on the taps or adjuster screws to increase/reduce the syrup flow.

- An alternative method involves checking with the aid of a tool known as a refractometer. This has a scale giving a reading that must be compared with the specifications provided by the syrup manufacturer.

**6 -** After adjusting the water-syrup ratio, remove the separator and close the valve cover.

**7 -** Do the same for the other valves.




**After making all the connections and adjustments, you must sanitise the syrup lines (see 6.8 - "Sanitising the dispenser").**

## 4.9 First start-up

When using the machine for the first time, you are advised to:
**-** carry out the system sanitisation procedure (see 6.8 - "Sanitising the dispenser")
**-** dispense a few litres of water before using the dispenser
This is essential, in order to flush out the internal circuits and ensure that the machine has been prepared correctly.

# 5 - Using the machine

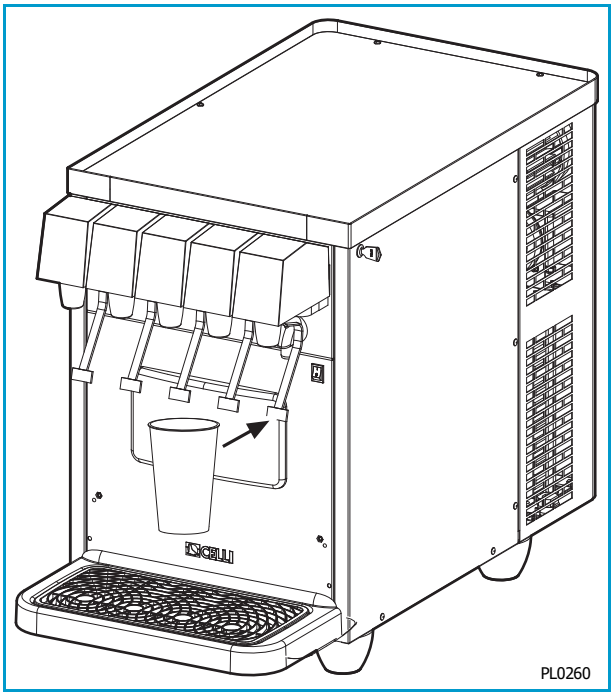
**1 -** After checking that all the connections and adjustments are correct, connect the machine to the electricity supply by inserting the plug in the nearest suitable socket.

**2 -** Turn the key (if installed) to ON, in order to power the electric circuit that activates the dispensing valves.

**3 -** If there is a light panel, activate the ON/OFF button to light up the logos.

**4 -** Wait the length of time needed for the ice bank to form (about 3 hours), and for the cooling unit to get up to its optimum working speed.

**5 -** Use a glass to press the lever corresponding to the dispensing valve with the required drink. Once the right level has been reached, pull the glass away; this will stop the flow of liquid.
In the case of timed dispensing valves, for information about how to program the quantities refer to the valve instruction manual supplied by the manufacturer.




**DAILY START-UP**

To enable the daily start-up and hence activate the dispensing valves, turn the key switch (if installed) to ON. Activate the ON/OFF button to enable the light panel.

## 5.1 Stopping the machine

**DAILY STOP**

At the end of the day, you can disconnect the dispensing valves from the electricity supply by turning the key switch (if installed) to OFF.
Deactivate the ON/OFF button to disable the light panel (if installed).
Do not take out the electricity plug, as this would stop the cooling unit and ice bank.

**REGULAR STOPS**

If the machine is to be left unused for a medium-long period, in addition to deactivating the switches as described in DAILY STOP, you must also remove the plug from the electricity mains and completely empty the tank. Disconnect the machine from electricity sources and protect it from heat and bad weather. Cover it so that dust and/or splashes of any kind cannot damage it. Turn off the water supply and the valve of the $CO_2$ bottle. Detach the syrup container connections.

**If the machine has to be shipped, stored or shifted, the circuit containing the syrup must be sanitised (see 6.8 - "Sanitising the dispenser") and all the sanitising solutions must be fully removed from the circuit by rinsing with abundant clean water. All water must be removed from both the still water circuit and the sparkling water circuit.**
**Very low temperatures might freeze any residues of sanitiser solution or water, which are hazardous since they may damage internal components.**

*If the machine is out of order due to a fault or maintenance, or for any other reason, you are advised to inform everyone of this fact by affixing a sign.*

Make sure the syrup tanks respect the conditions indicated by their suppliers, so the specific characteristics of the product stored inside are not jeopardised (check the conditions for proper conservation, and the expiry dates on the products).

# 6 - Maintenance

This chapter contains the complete list of requisites and procedures relating to machine maintenance. Proper maintenance requires daily checks and inspections by the operative and/or staff trained in routine maintenance, and regular procedures including cleaning, adjustment and replacement operations carried out by authorised skilled technical staff.

**When replacing components, use only genuine CELLI spare parts.**

**If the information or procedures in this chapter are not clear, contact CELLI S.p.A. for explanations before proceeding.**

**If machine maintenance is carried out in such a way as to breach the instructions supplied, using non-original parts or without the written authorisation of the manufacturer, or in any way such as to damage the machine or modify its characteristics, CELLI S.p.A. cannot be held liable for the safety of persons or machine malfunctioning.**
**Any unauthorised modification invalidates the contractual warranty.**

*Do not carry out any procedure, modification or repair of any kind that is not indicated in this manual.*

**DANGER**

**MAINS ELECTRICITY**

Always disconnect the machine from the electricity supply before doing any work on it, to prevent damage and health hazards.

## 6.1 Scheduled maintenance

To always ensure good machine operation, certain maintenance procedures (described below) are required.

**DAILY MAINTENANCE PROCEDURES:**

**1 - wash the drip collector basin**

**2 - inspect the pipelines**

check the tubes of the water, $CO_2$ and drain lines are not obstructed or crushed

**3 - check the $CO_2$ supply lines and pressure settings**

check the $CO_2$ sources are full and in good working order, and that the set pressure values are correct (see 4.6 - "Adjusting the carbon dioxide (CO2) supply")

**4 - check the syrup expiry dates**

check the conditions for proper conservation, and the expiry dates on the products

*Do not clean the machine with water jets, which might reach electrical parts.*

### 6.1.1 Cleaning

To keep the machine in good condition, it should be cleaned every day.
Remove any marks using a cloth dipped in warm water and neutral detergent, drying thoroughly before putting the machine back into operation.
Do not wash the machine with solvents, thinners, alcohol, etc. as they may damage external or internal parts.

*Do not clean the machine with water jets, which might reach electrical parts.*

## 6.2 Table of procedures

The table below details the maintenance procedures required at the stated intervals. These periods refer to normal conditions of use.

| Maintenance Check Table | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Operation required | | | | Needed | | | |
| **Component** | **Inspection** | **Replacement** | **Sanitisation** | **Cleaning** | **at end of day** | **every 3 months** | **every 6 months** | **once a year** |
| **ROUTINE MAINTENANCE** | | | | | | | | |
| Syrup tanks (chapter "6.3" page 37) | | ✓ | | | **as necessary** | | | |
| $CO_2$ gas bottle (chapter "6.4" page 38) | | ✓ | | | **as necessary** | | | |
| Water filter cartridge (chapter "6.5" page 38) | | ✓ | | | | | | ✓ |
| Clean the spouts and mixers (chapter "6.6" page 38) | | | | ✓ | ✓ | | | |
| Condenser (chapter "6.7" page 39) | | | | ✓ | | ✓ | | |
| Dispenser (chapter "6.8" page 40) | | | ✓ | | | | ✓ | |
| Liquid check valve (chapter "6.9" page 42) | ✓ | | | | | | | ✓ |
| Syrup connections (chapter "6.10" page 42) | | | | ✓ | **as necessary** | | | |
| Tank water (chapter "6.11" page 43) | | ✓ | | | **as necessary** | | | |
| Check for leaks (chapter "4.7" page 29) | ✓ | | | | | | | ✓ |
| **EXTRAORDINARY MAINTENANCE** | | | | | | | | |
| | **Specialised CELLI technician** | | | | | | | |

## 6.3 Replace the syrup tank

When the syrup runs out, replace the tank (steel keg or bag-in-box).
To replace it, proceed as follows:

### 6.3.1 Replacing a steel keg

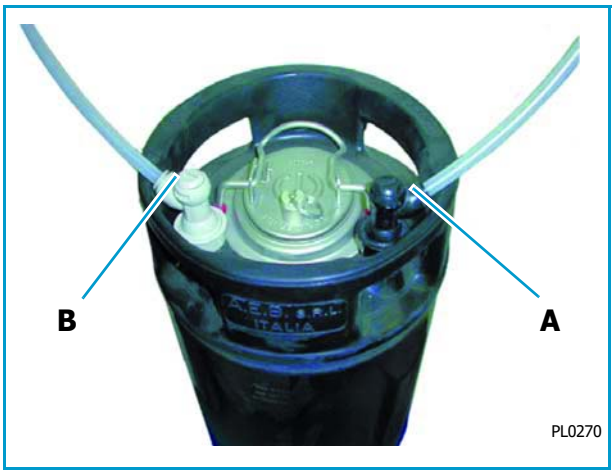
**CAUTION**

**SYRUP CONTAINED IN PRESSURISED KEG**
To avoid any harm to people or damage to property, do not remove the cover from the syrup keg until you have discharge the $CO_2$ pressure inside.

**1 -** Remove the empty steel keg by first detaching the syrup tube (**A**) (black), then the $CO_2$ tube (**B**) (grey).

**2 -** Rinse the connections in hot water to remove all the syrup residue.

**3 -** Position a full steel keg, and connect first the $CO_2$ tube then the syrup tube.




### 6.3.2 Replacing a BAG-IN-BOX

**1 -** Disconnect the syrup tube and remove the empty bag-in-box.

**2 -** Rinse the connections in hot water to remove all the syrup residue.

**3 -** Install a full bag-in-box and reconnect the syrup tube.

## 6.4 Replacing the carbon dioxide ($CO_2$) bottle

When the needle of the reducer high pressure gauge is in the red segment, the bottle needs replacing.

**1 -** Note down the pressure values set on the pressure reducer, then fully close the bottle using its valve.

**2 -** Slowly loosen the nut of the pressure reducer or the high pressure hose connected to the cylinder. Verify that the cylinder pressure is zero. Remove the pressure reducer (or disconnect the high pressure hose from the cylinder, if present). Check the condition of the gaskets between the reducer and the cylinder or between the high pressure hose and the cylinder. If the gasket is deformed or cracked, call a specialist for replacement.

**3 -** Replace the $CO_2$ cylinder, restore the connections, open it slowly and make sure there are no leaks and then fully open the valve and check that the pressure values are those set initially.

Once you have replaced the cylinder, check that there are no leaks. $CO_2$ is an asphyxiant gas, heavier than air, and it tends to accumulate in enclosed areas (chapter "4.5.4" page 26) .

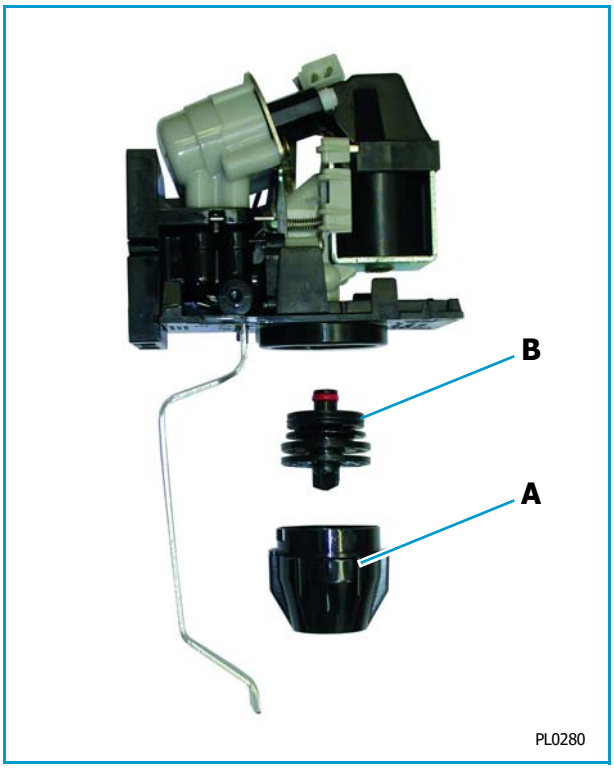
## 6.5 Replacing the water filter cartridge

For the times and procedures for changing the water filter cartridge, follow the instructions provided by the filter manufacturer.

**After fitting or replacing the filter, allow the water to flow from the drain tap (just after the filter) (see 4.5.2 - "Water intake connection") until all traces of cloudiness or sediment have disappeared. The machine must not be supplied with filtered water until this has been done.**

## 6.6 Cleaning the spouts and mixers

Remove the spouts (**A**) and mixers (**B**) from the dispensing valves and immerse them in a sanitising solution; wash them well, then rinse thoroughly with warm drinking water before reassembling them on the valves.



## 6.7 Cleaning the condenser

*The build-up of dust and grease on the cooling condenser may cause overheating, and this in turn could damage the compressor beyond repair.*
*The condenser must always be cleaned when necessary.*

**1 -** Disconnect the machine from the electricity supply.

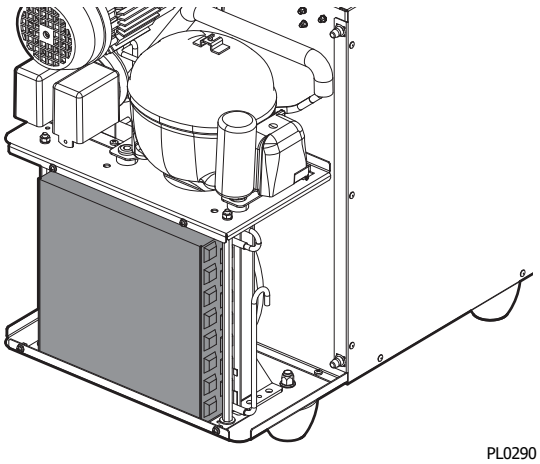
**2 -** Remove the front/side panel.

**3 -** Use a soft brush, a vacuum cleaner or low-pressure compressed air to clean the condenser fins.

**4 -** Remove any dust from the cooling and electrical components.

**5 -** Refit the upper panel.

**6 -** Reconnect the machine to the electricity supply.




*Do not use high pressures, as they may bend the condenser fins.*

## 6.8 Sanitising the dispenser

**CAUTION**

**SANITIZATION**
Before sanitizing the machine, carefully read the instructions given by the sanitization product manufacturer and put on all the necessary personal protective equipment (gloves, masks, etc.).
Ensure that the premises are well ventilated.
**The sanitization of the product lines must only be carried out by specialized Technical Service personnel.**

**The dispenser should be sanitized completely every 4 months; contact the retailer or an Authorized Service Centre for this purpose.**

Sanitization is also required after long periods of non-use.

After short periods of non-use, you are advised to dispense a few litres of water before using the machine.

You must use suitable products (detergent and sanitizing solution).
Detergent solution can be prepared mixing 3 gr of liquid dish washing detergent per liter of potable water (20-40°C temperature).

Sanitizing solution can be prepared mixing 5 gr of 4% sodium hypo chlorite solution (non scented liquid house hold bleach) per liter of potable water (20-40°C).

**CAUTION**

After the sanitizing solution has passed through the lines, you must rinse very well with clean water until every trace of the sanitizing agent is completely eliminated.
Check the pH of the output water is the same as that of the input water (use litmus paper or a pH meter).

The procedures to follow will differ according to whether the syrup is contained in a steel keg or in a bag-in- box.

**LINES WITH STEEL KEGS**

**7 -** Remove the cover from the dispensing valves, and turn off the water taps.

**8 -** Disconnect the connector (black) from the syrup container, rinse it in clean hot water and connect a tank containing clean potable water.

**9 -** Run clear water through the connector, at the same pressure level as for the syrup.

**10 -** Intervene on the lever of the dispensing valve that corresponds to the line you want to sanitize; dispense until only water comes out of the valve.

**11 -** Disconnect the connector from the clean water container and connect a tank containing the detergent solution described above to syrup circuit at the same pressure level as for syrup.

**12 -** Run the detergent solution through the connector, at the same pressure level as for the syrup.

**13 -** Be sure to respect the concentration level according the above information

**14 -** Dispense from the valve until the detergent solution begins to come out (typically after 30 seconds); open the valve for 15 sec and stop for 5 sec: repeat for 4 times, open the valve for 30 sec.

**15 -** Disconnect the connector (black) from the detergent solution container, and connect a tank containing clean potable water to syrup circuit at the same pressure level as for the syrup.

**16 -** Dispense from the valve to flush the syrup circuit.

**17 -** Disconnect the connector (black) from the clean water container, and connect a tank containing the sanitizing solution described above to syrup circuit at the same pressure level as for the syrup.

**18 -** Dispense from the valve until the sanitizing solution begins to come out (typically after 30 seconds);

**19 -** Once the contact time has elapsed (15-20 min), thoroughly rinse the line with clean water (see points 3 - 4 of this procedure). Check the pH of the output water is the same as that of the input water (use litmus paper or a pH meter).

**20 -** Reconnect the connector to the syrup container, and intervene on the dispensing valve until only syrup comes out of it.

**21 -** Turn on the water tap on the dispensing valve again, and replace the cover.

**22 -** Check the soda - syrup mix ratio of the valve (chapter ”4.8” page 30).

**23 -** Repeat these operations for all the syrup lines.

**LINES WITH A BAG-IN-BOX (BIB)**

**1 -** Remove the cover from the dispensing valves, and turn off the water taps.

**2 -** Disconnect the connector from the syrup container, and rinse it in clean hot water.

**3 -** You will need to acquire an adapter (for example, recovering one from an old BIB), to be connected to the suction line in place of the BIB in order to keep the connector permanently open.

**4 -** Stop the supply of CO2 or compressed air to the pneumatic pumps.

**5 -** Intervene on the lever of the dispensing valve that corresponds to the line you want to sanitize; discharge the residual pressure from the syrup line.

**6 -** Insert the suction tube (with the coupled connector) in a bucket containing clean warm water only.

**7 -** Power the pneumatic pumps with a pressure of approximately 1.4 bar (21 psi - 0.14 MPa), so that water flows through the syrup line and inside the pumps themselves, removing any encrustations and every trace of syrup from the line.

**8 -** Replace the warm water with the detergent solution with concentration level as described above.

**9 -** Dispense from the valve until the detergent solution begins to come out; (typically after 30 seconds); open the valve for 15 sec and stop for 5 sec; repeat for 4 times, open the valve for 30 sec.

**10 -** Repeat points 6 & 7 to rinse the syrup line with clean water.

**11 -** Replace the warm water with the sanitizing solution described above.

**12 -** Dispense from the valve until the sanitizing solution begins to come out (typically after 30 sec);

**13 -** Once the contact time has elapsed (15-20 min), thoroughly rinse the line with clean water (see points 6 - 7 of this procedure). Check the pH of the output water is the same as that of the input water (use litmus paper or a pH meter).

**14 -** Disconnect the suction tube adapter and connect a syrup BIB. Restore the pneumatic pump supply pressure to its usual set value (chapter ”4.6” page 29), then dispense syrup from the taps until all the water has been totally eliminated.

**15 -** Reconnect the connector to the syrup container, and intervene on the dispensing valve until syrup begins to come out.

**16 -** Turn on the water tap on the dispensing valve again, and replace the cover.

**17 -** Check the soda - syrup mix ratio of the valve (chapter "4.8" page 30).

**18 -** Repeat these operations for all the syrup lines.

## 6.9 Cleaning and checking the liquid check valve

The liquid check valve may be on the outside or inside, depending on the carbonator used.

**CAUTION**

**LIQUID CHECK VALVE**

The carbonator liquid check valve should be inspected after any interruption in the water supply (plumbing work, earthquakes, etc.), and at least once a year in normal conditions. If particles are trapped in the control valve, the $CO_2$ might flow back into the water supply system.

**1 -** Disconnect the machine from the electricity supply.

**2 -** Remove the upper cover.

**3 -** Shut off the water and $CO_2$ supplies.

**4 -** Disconnect the water coil from the liquid check valve.

**5 -** Remove the liquid check valve.

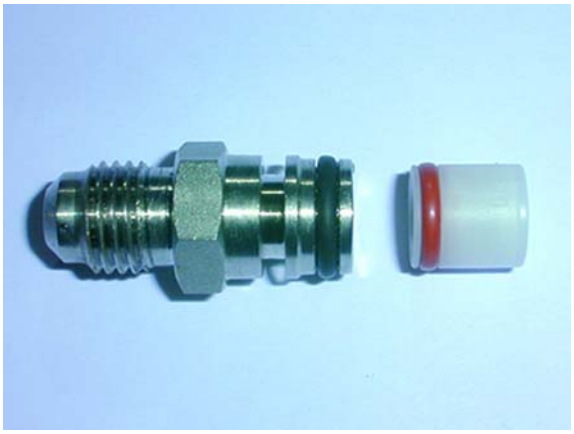
**6 -** Clean and check the O-rings and every single part, and in particular check there is no damage to the surface of the ball. Replace any damaged parts.

**7 -** Reassemble the liquid check valve, taking care to put it back in its original position.

**8 -** Turn on the water and $CO_2$ supplies.

**9 -** Refit the upper cover.

**10 -** Reconnect the machine to the electricity supply.



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## 6.10 Cleaning the syrup connectors

**1 -** Remove the syrup connectors.

**2 -** Immerse them in a mixture of warm water and sanitising solution, then rinse them well.

**3 -** Reassemble the syrup connectors.

## 6.11 Replacing the water in the tank

**1 -** Disconnect the machine from the electricity supply.

**2 -** Remove the upper cover and front panel.

**3 -** Wait until the ice bank has fully melted.

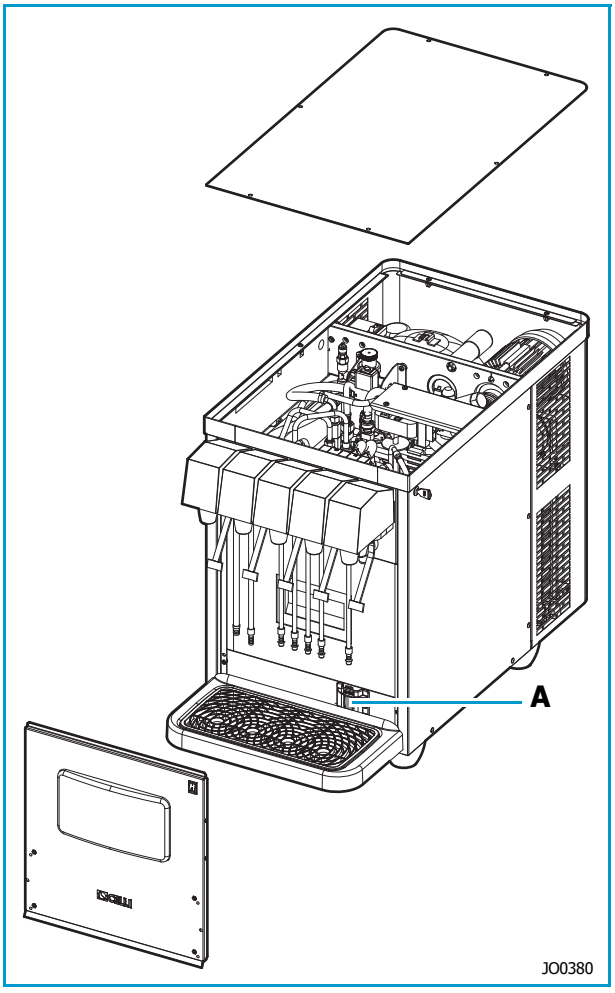
**4 -** Empty the tank via the drainage tube (**A**) near the filter.

**5 -** Remove any residues from the inner tank components (do not use pointed or sharp tools to do this).

**6 -** Fill the tank with clean water until it begins to seep out of the overflow connector.

**7 -** Replace the upper cover and front panel.

**8 -** Reconnect the machine to the electricity supply.




*If the machine is to be left unused for a long time, always empty the tank.*

**CAUTION**

**Do not put your hands inside the tank if the machine is running.**

### 6.11.1 Extraordinary maintenance

Extraordinary maintenance procedures are those performed in response to failures or malfunctions, and which may involve the replacement of certain components by authorised, skilled technical staff.

*All extraordinary maintenance interventions must be carried out by CELLI-authorised technical personnel.*

# 7 - Troubleshooting

| TROUBLESHOOTING THE DISPENSER SYSTEM | | |
|---|---|---|
| **PROBLEMS FOUND** | **PROBABLE CAUSE** | **SOLUTIONS** |
| The product is not dispensed by any valve. | **1 -** The cooler is not correctly powered.<br>**2 -** Power supply plug disconnected.<br>**3 -** Power cable to the dispensing valves disconnected.<br>**4 -** 24V AC valve supply transformer faulty - blown fuse.<br><br>**5 -** Key switch for powering the dispensing valves (if present) is OFF. | **1 -** Check and restore the electricity supply.<br>**2 -** Connect the power supply plug.<br>**3 -** Check and restore the 24V AC connections to the valves.<br>**4 -** Check the supply fuse of the transformer and replace it if necessary, or contact an authorised technician.<br>**5 -** Turn the key switch to ON to power the dispensing valves (if present). |
| Only water is dispensed. | **1 -** The syrups have run out.<br><br>**2 -** Dispensing valves not working.<br>**3 -** The syrup line regulator on the valves is not correctly calibrated.<br>**4 -** The syrup lines are obstructed<br><br>**5 -** Quick connections not connected.<br>**6 -** No $CO_2$ | **1 -** Replace the syrup tanks with new ones.<br>**2 -** Call an authorised technician.<br><br>**3 -** Adjust the syrup flow.<br><br>**4 -** Sanitise the syrup lines, as indicated in the relevant paragraph.<br>**5 -** Connect the quick connections.<br>**6 -** Replace the $CO_2$ bottle. |
| Only syrup is dispensed. | **1 -** Carbonator not working.<br>**2 -** No inlet water - pressure switch intervention. | **1 -** Call an authorised technician.<br>**2 -** Check the correct water supply to the system. Disconnect the machine from the electricity supply for a few seconds, then reconnect it. |
| The dispensed product has a good mix, but poor quality carbonation (the carbonation disappears very quickly). | **1 -** The ice bank has run out.<br><br>**2 -** Incorrect adjustment on the $CO_2$ pressure regulators.<br>**3 -** Dispensing valves clogged or dirty.<br>**4 -** Possible clogging on the lines.<br>**5 -** $CO_2$ not super-dry food grade. | **1 -** Wait until the ice bank has fully reformed.<br>**2 -** Adjust the $CO_2$ pressure regulators correctly.<br>**3 -** Sanitise the system.<br><br>**4 -** Sanitise the lines.<br>**5 -** Use only super-dry food grade $CO_2$. |

| | | |
|---|---|---|
| The dispensed product is not cold enough. | **1 -** The ice bank has run out.<br><br>**2 -** The water entering the machine is too hot. | **1 -** Wait until the ice bank has fully reformed.<br>**2 -** Check the incoming water temperature is lower than 32°C |
| **PROBLEMS FOUND** | **PROBABLE CAUSE** | **SOLUTIONS** |
| The adjustment of the valves does not provide the right product mix. | **1 -** No syrup in the lines.<br>**2 -** Clogged valves.<br><br>**3 -** Unsuitable syrup.<br>**4 -** Faulty dispensing valve.<br>**5 -** The dispensing valves are not correctly set.<br>**6 -** Insufficient pressure on the syrup lines.<br>**7 -** Insufficient pressure to the pneumatic pumps.<br><br>**8 -** Syrup tubes crushed or clogged. | **1 -** Replace the syrup tanks.<br>**2 -** Sanitise the line, as explained in the instructions.<br>**3 -** Replace the syrup.<br>**4 -** Call an authorised technician.<br>**5 -** Calibrate the valves as indicated.<br>**6 -** Check the pressure on the syrup lines, and adjust it if necessary.<br>**7 -** Check the pressure on the pneumatic pumps for the syrup lines, and adjust it if necessary.<br>**8 -** Straighten out any crushed parts, or remove any clogging. |
| The product forms too much head in the glass. | **1 -** The ice bank has run out.<br><br>**2 -** Incorrect pressure adjustment on the $CO_2$ connections.<br>**3 -** Dispensing valves clogged or dirty.<br>**4 -** Glass too hot.<br><br>**5 -** The syrup has expired. | **1 -** Wait until the ice bank has fully reformed.<br>**2 -** Adjust the pressure levels on the $CO_2$ connections.<br>**3 -** Sanitise the system.<br><br>**4 -** Use glasses at the right temperature.<br>**5 -** Replace the syrup container with a new one. |
| **FOR ANY OTHER PROBLEMS NOT COVERED HERE, CONTACT THE SERVICE CENTRE** | | |

# 8 - Additional instructions

## 8.1 Waste disposal

Please note that residues from industrial processing are to be considered special waste that, in terms of quality or quantity, are not intended as municipal waste.
Deteriorated or obsolete machines are also special waste.

The user, in accordance with national legal regulations, will have to take special precautions regarding the disposal of materials, such as:

- Guards' material (PVC, acrylic)
- Plastic of pneumatic pipes
- Coated wires
- Rubber belts
- Used oil
- Refrigerant gas R134a (HFC)

## 8.2 Dismantling of the machine

The operations of removal and demolition must be performed by qualified personnel.

The machine must be dismantled after disassembling of the various parts, and recovery of refrigerant, if the same is R134a.

For disassembly, wear the personal protective equipment mentioned in the user's manual, and also refer to the instructions and diagrams in this manual, or request specific information to the manufacturer.

CFC, HCFC and HFC refrigerant gases cannot be discharged into the atmosphere, but must be collected and recovered for disposal or recovery as special hazardous waste (under the CER code 140601*).

The above gases must be sent to companies authorised to dispose of such products.

Once you have disassembled the various parts, sort the different components, separating metal from plastic, copper etc., depending on the type of differentiated disposal regulations in force in the country where the machine is dismantled.

The waste resulted from the demolition of the machine can be classified as special waste.

If the various components should be stored awaiting admission into landfills for recovery, pay attention to keep them in a safe place and protected from the weather, to prevent soil and groundwater contamination.

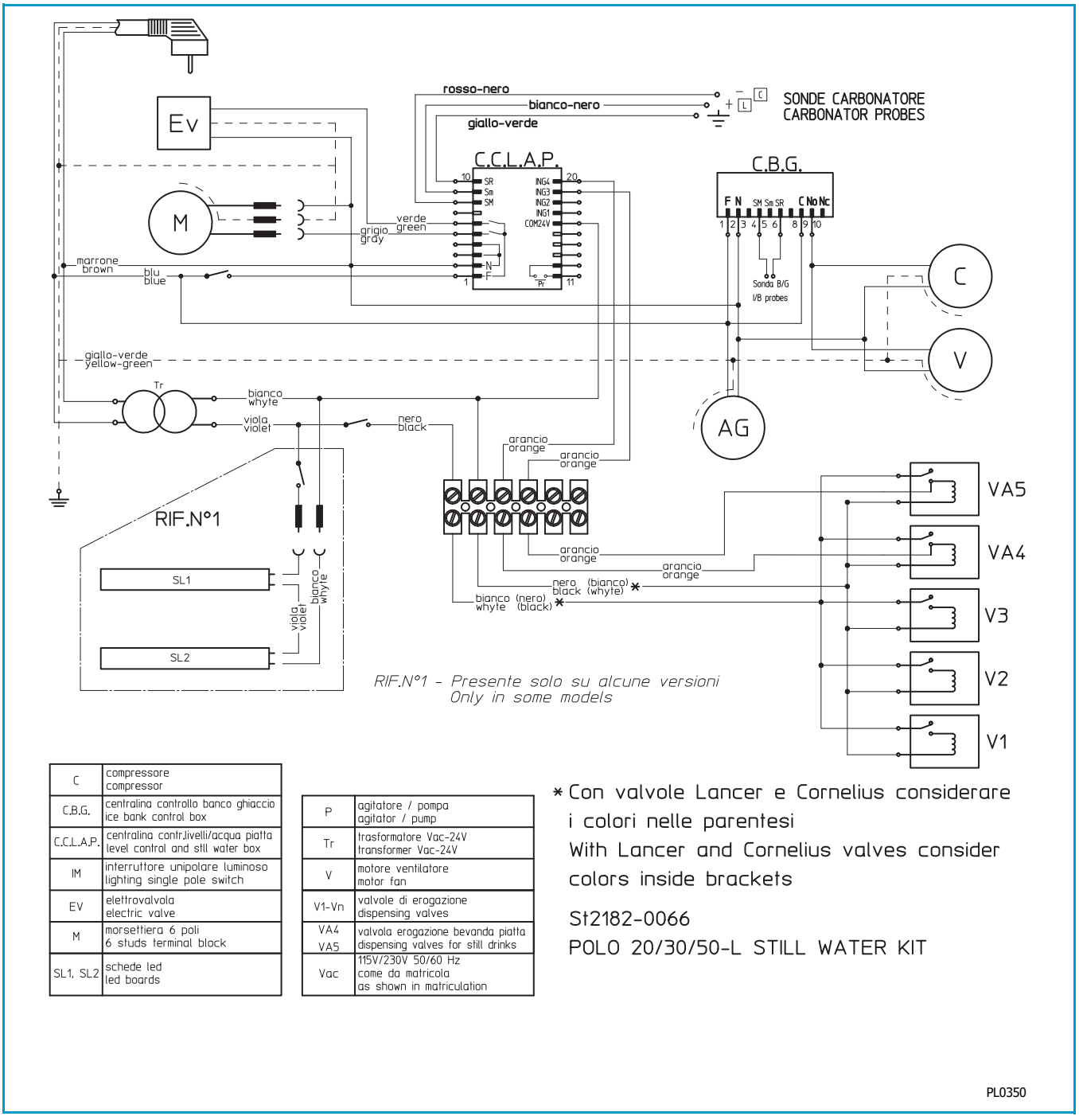
Dispose of the waste following the local regulations in force on waste disposal.

## 8.3 Disposal of electronic equipment (WEEE directive)

The EU Directive 2002/96/EC (WEEE), requires manufacturers and users of electrical and electronic equipment a number of obligations relating to the collection, treatment, recovery and disposal of such waste. It is recommended to strictly follow the said rules for disposal of such waste. Illegal dumping of the product by the user entails the administrative sanctions stated by current legislation.

# 9 - Annexes

## 9.1 POLO L POST-MIX (still water kit) electrical diagram




| | |
|---|---|
| C | compressore<br>compressor |
| C.B.G. | centralina controllo banco ghiaccio<br>ice bank control box |
| C.C.L.A.P. | centralina contr.livelli/acqua piatta<br>level control and still water box |
| IM | interruttore unipolare luminoso<br>lighting single pole switch |
| EV | elettrovalvola<br>electric valve |
| M | morsettiera 6 poli<br>6 studs terminal block |
| SL1, SL2 | schede led<br>led boards |

| | |
|---|---|
| P | agitatore / pompa<br>agitator / pump |
| Tr | trasformatore Vac-24V<br>transformer Vac-24V |
| V | motore ventilatore<br>motor fan |
| V1-Vn | valvole di erogazione<br>dispensing valves |
| VA4<br>VA5 | valvola erogazione bevanda piatta<br>dispensing valves for still drinks |
| Vac | 115V/230V 50/60 Hz<br>come da matricola<br>as shown in matriculation |

* Con valvole Lancer e Cornelius considerare i colori nelle parentesi
With Lancer and Cornelius valves consider colors inside brackets

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POLO 20/30/50-L STILL WATER KIT

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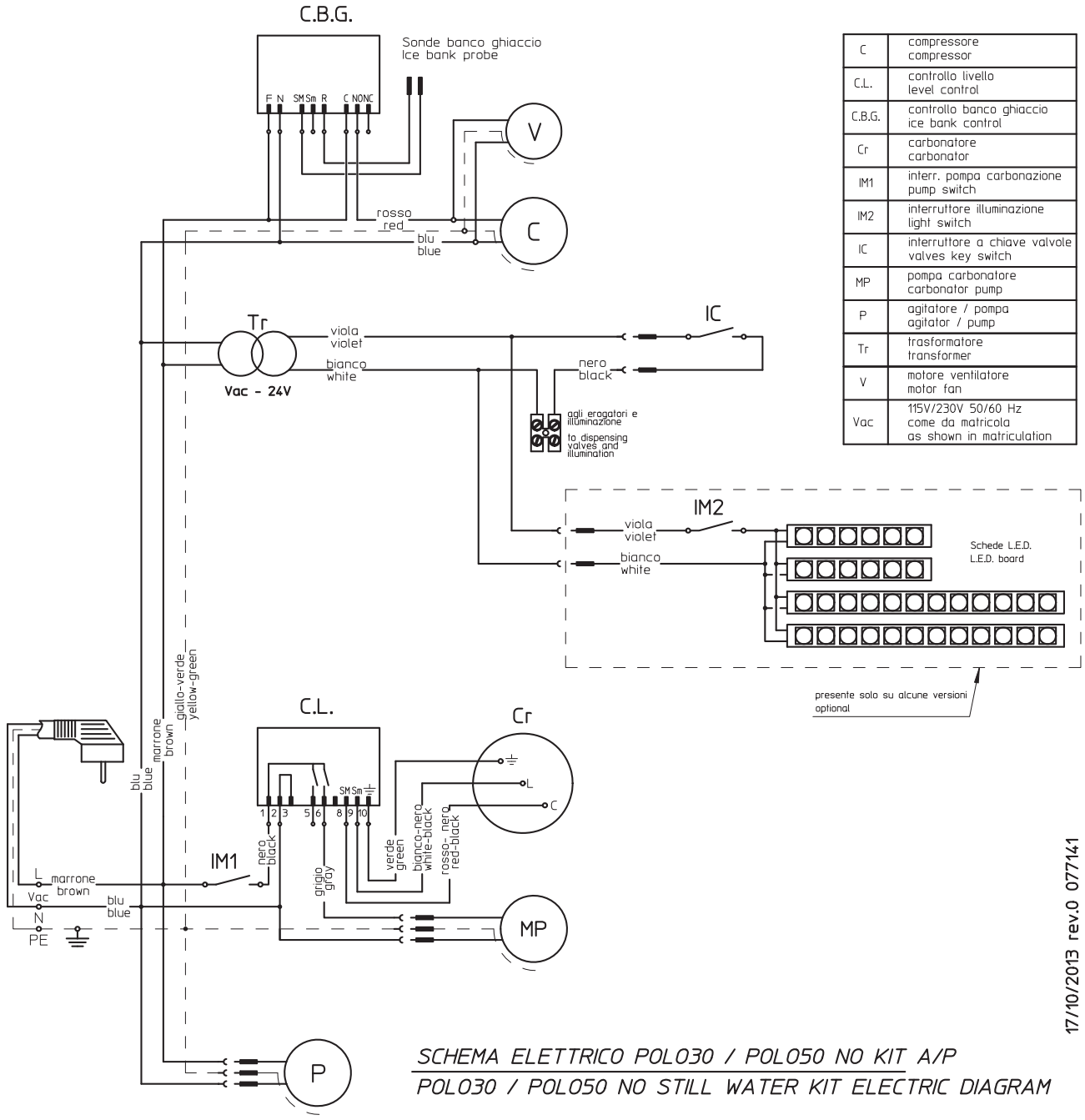
*The electrical diagram can also be found on the inner part of the insulating tank cover. Refer to that diagram if there are any differences compared with the one above.*

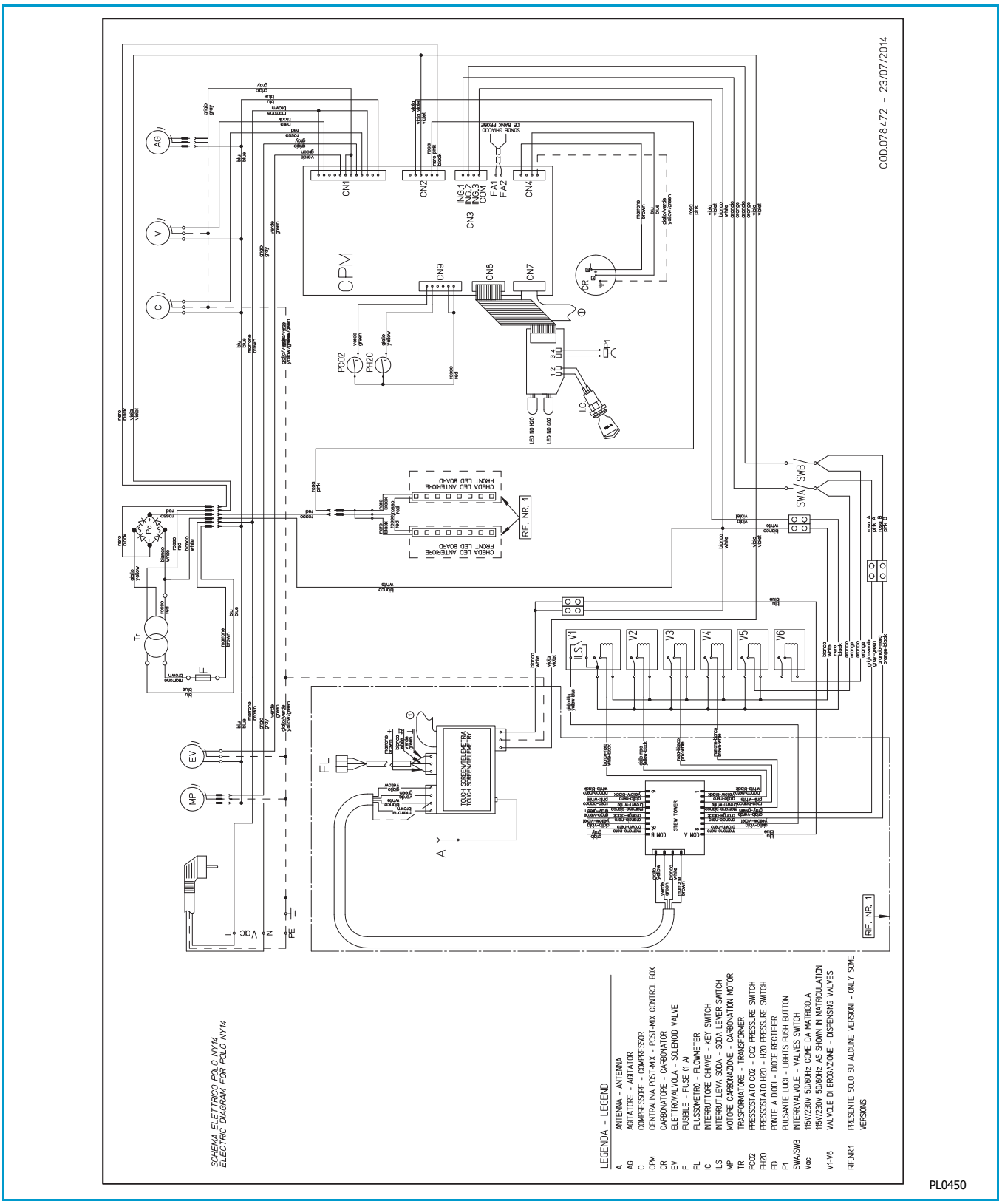
## 9.2 POLO L POST-MIX (external still water pump) electrical diagram




| | |
|---|---|
| C | compressore<br>compressor |
| C.L. | controllo livello<br>level control |
| C.B.G. | controllo banco ghiaccio<br>ice bank control |
| Cr | carbonatore<br>carbonator |
| IM1 | interr. pompa carbonazione<br>pump switch |
| IM2 | interruttore illuminazione<br>light switch |
| IC | interruttore a chiave valvole<br>valves key switch |
| MP | pompa carbonatore<br>carbonator pump |
| P | agitatore / pompa<br>agitator / pump |
| Tr | trasformatore<br>transformer |
| V | motore ventilatore<br>motor fan |
| Vac | 115V/230V 50/60 Hz<br>come da matricola<br>as shown in matriculation |

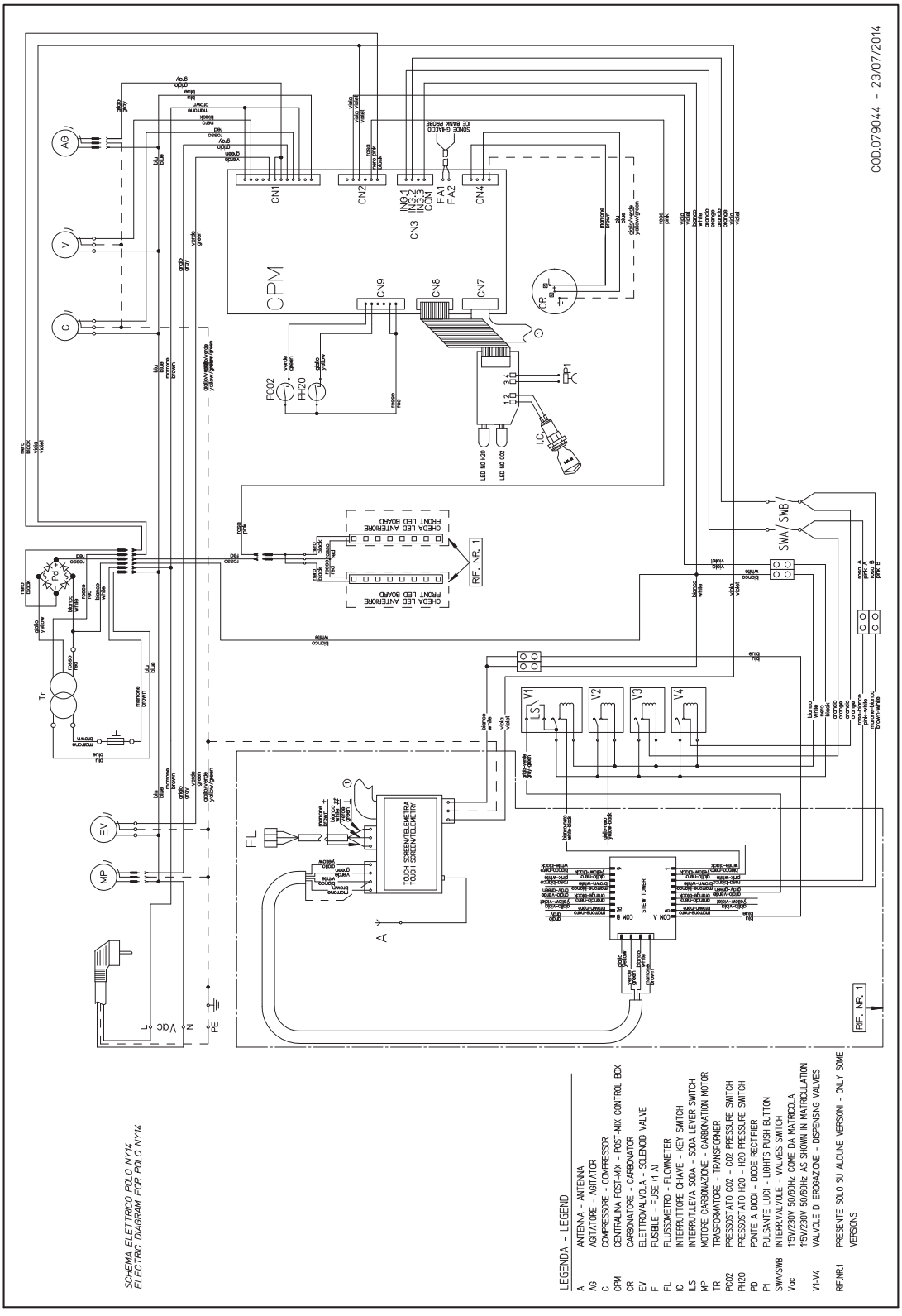
*The electrical diagram can also be found on the inner part of the insulating tank cover. Refer to that diagram if there are any differences compared with the one above.*

## 9.3 POLO L POST-MIX (6 valves with telemetry) electrical diagram



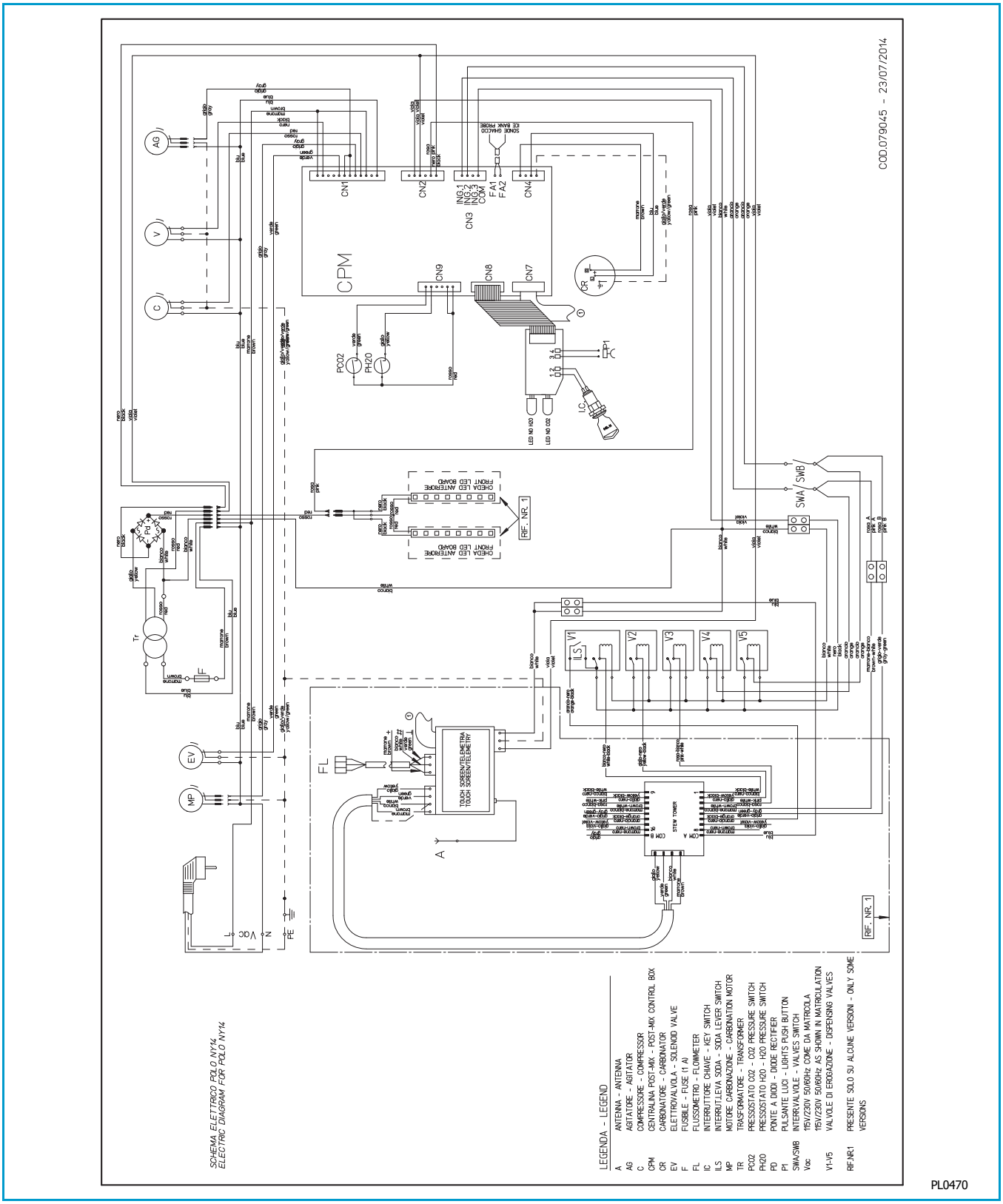

*The electrical diagram can also be found on the inner part of the insulating tank cover. Refer to that diagram if there are any differences compared with the one above.*

## 9.4 POLO L POST-MIX (4 valves with telemetry) electrical diagram



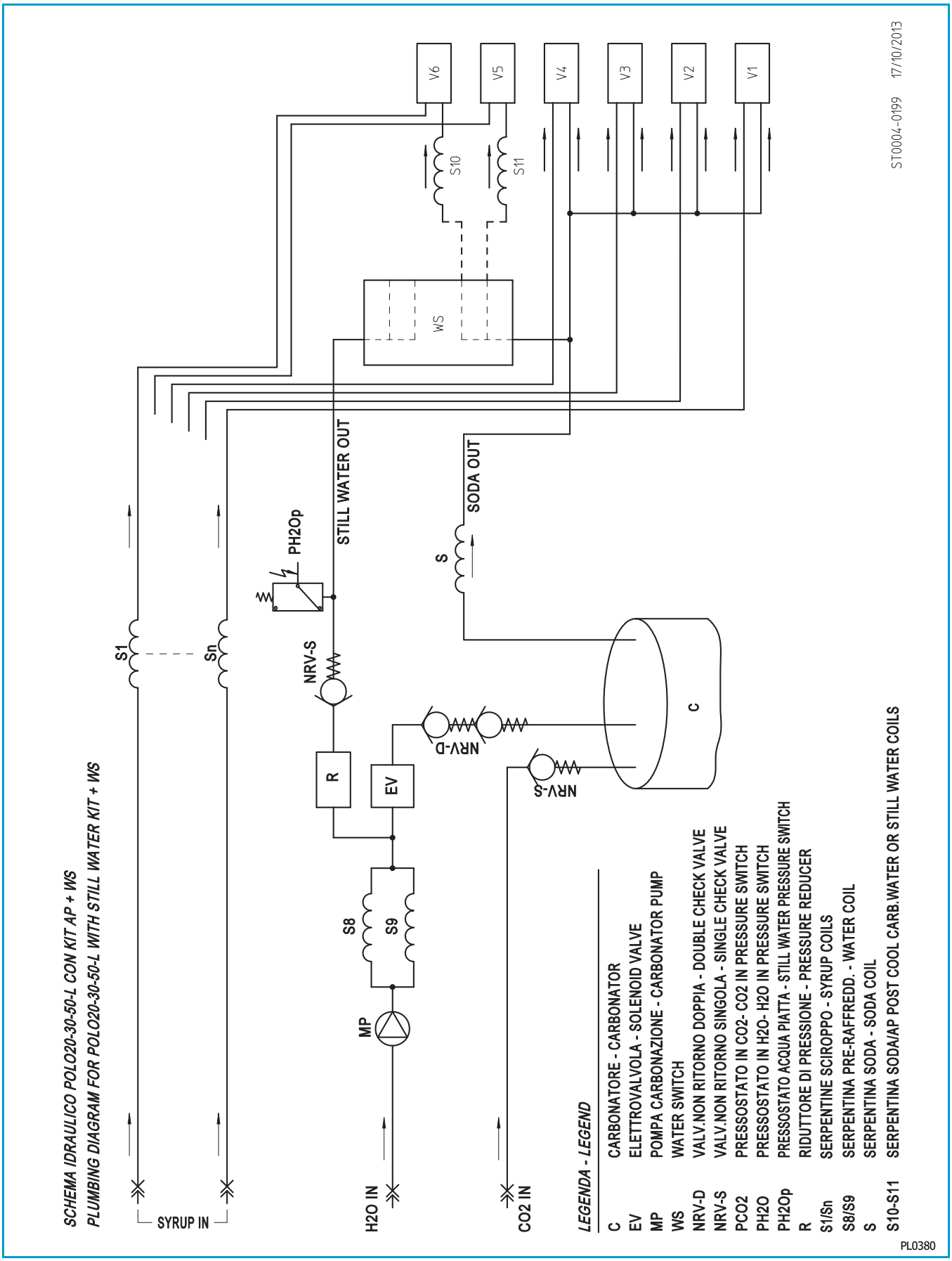

*The electrical diagram can also be found on the inner part of the insulating tank cover. Refer to that diagram if there are any differences compared with the one above.*

## 9.5 POLO L POST-MIX (5 valves with telemetry) electrical diagram

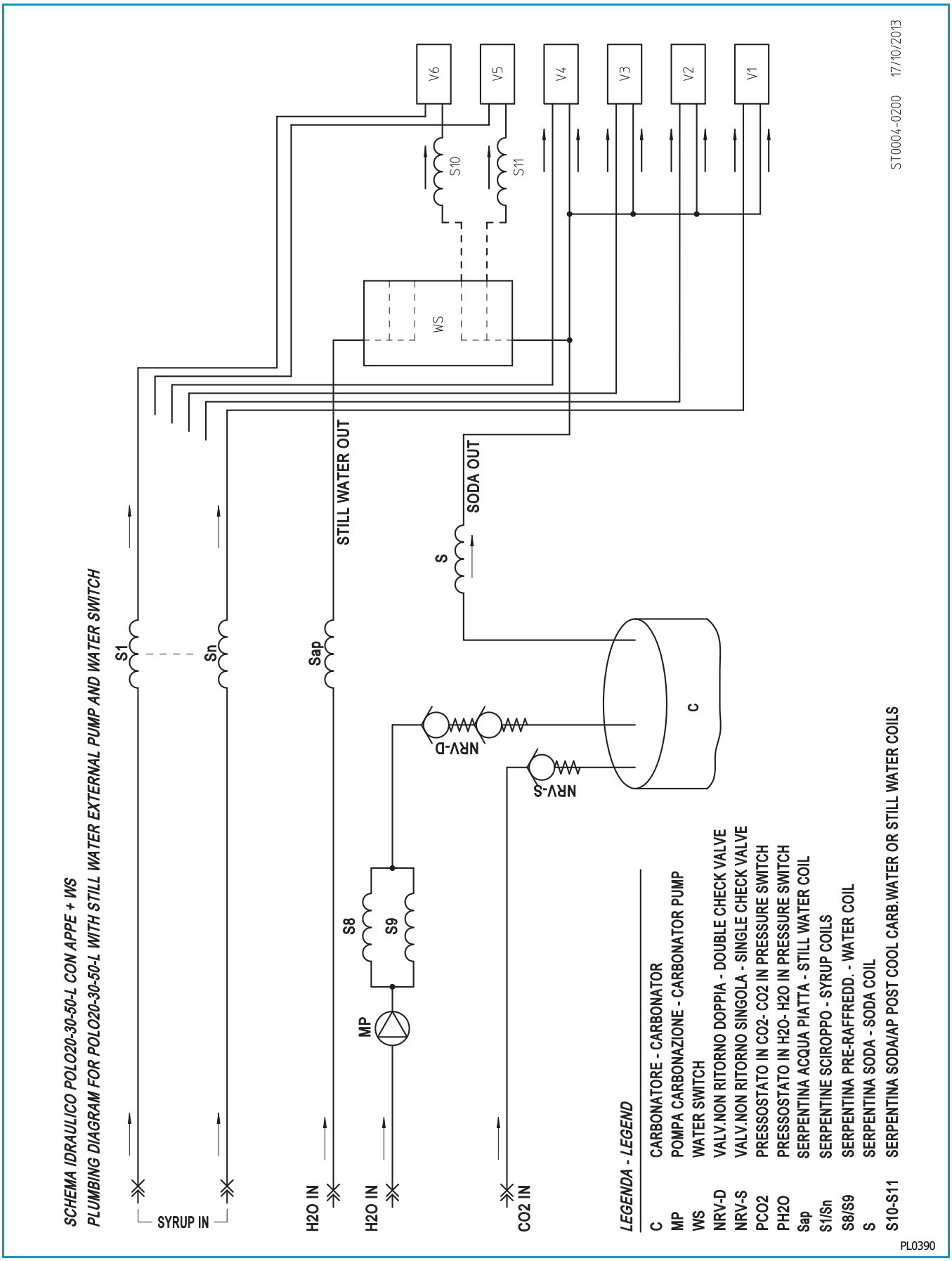



*The electrical diagram can also be found on the inner part of the insulating tank cover. Refer to that diagram if there are any differences compared with the one above.*

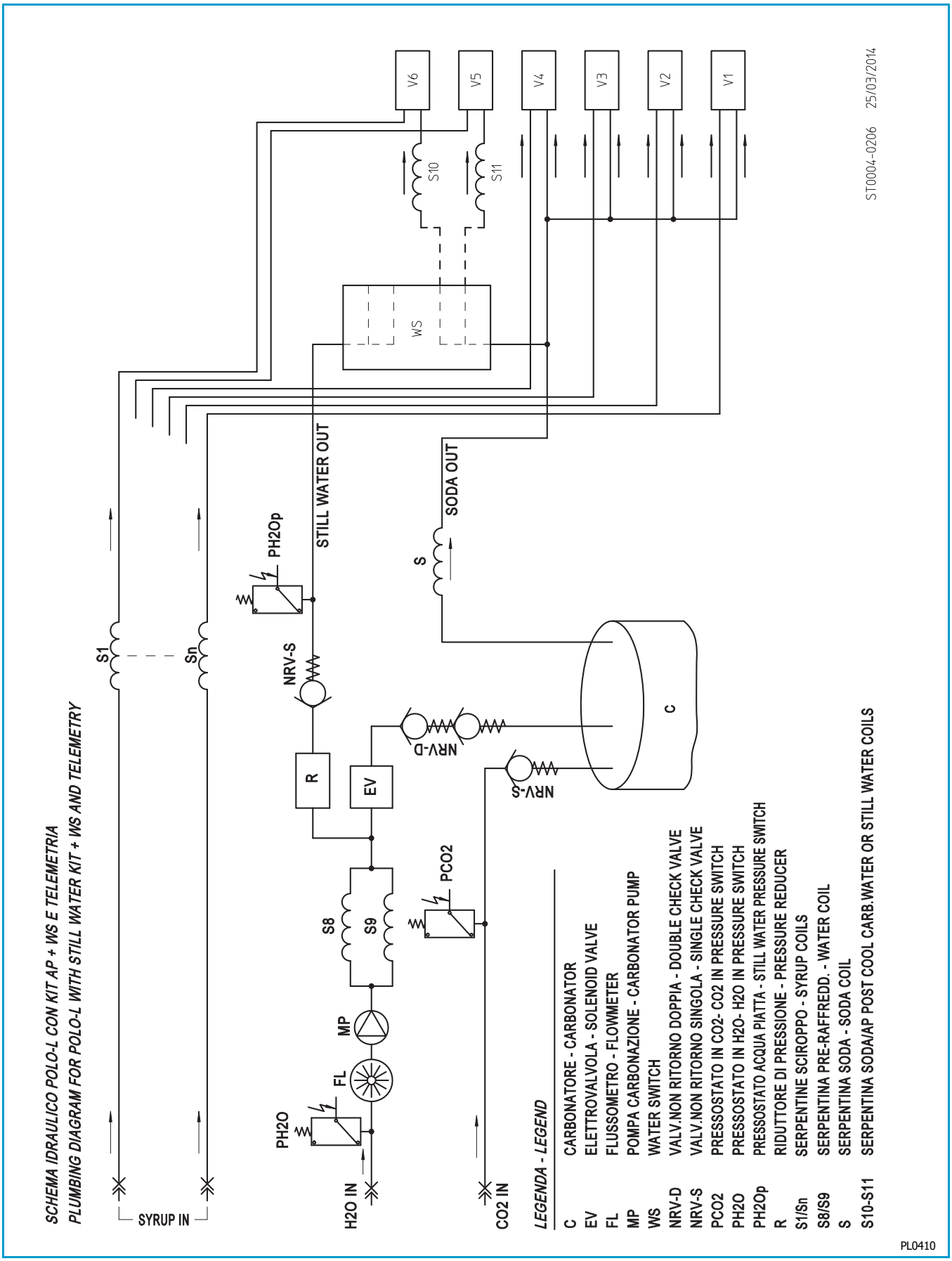
## 9.6 POLO L POST-MIX (still water kit) hydraulic diagram



## 9.7 POLO L POST-MIX (external still water pump) hydraulic diagram



## 9.8 POLO L POST-MIX (with telemetry) hydraulic diagram



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**Ed. 9 30/10/2017 - Code 077190**