CELLI

DISPENSING EQUIPMENT

USE AND MAINTENANCE MANUAL

CE

BRAVE 30 ES

BRAVE 60 ES

BRAVE 90 ES

TRANSLATION OF THE ORIGINAL

ED. 6
25/09/2014

Code 070344

Celli S.p.A.
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CERMET SISTEMA DI GESTIONE CERTIFICATO

SK 240.01

1 - General information

The Use and Maintenance Manual is an integral, essential part of the appliance and must be consigned to the user. It must be kept safe and read carefully since it provides specific information concerning the operation, maintenance and safety of the appliance and/or the people and/or property which come into contact with it.
If in doubt concerning the instructions supplied in the manual, contact CELLI S.p.A..
The manufacturer accepts no liability, within or outside the terms of the contract, for damage caused by errors in the use and installation of the appliance, or in any way arising from failure to comply with the instructions provided.

The manufacturer reserves the right to modify the product and the relative technical documentation without any obligations in relation to third parties, and does not accept liability for any errors or inaccuracy in the contents of this manual.
This version of the operator's manual describes the technical characteristics of the standard production appliance as of the date when this publication is approved for printing.

1.1 Manufacturer's details

CELLI S.p.A.

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CELLI S.p.A. is at users' service for any technical problems, and for the supply of spare parts.
When replacing parts of the appliance, genuine parts must be used. The manufacturer declines all responsibility for any deterioration in the appliance's performance or damage caused to it due to the use of non-genuine 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.

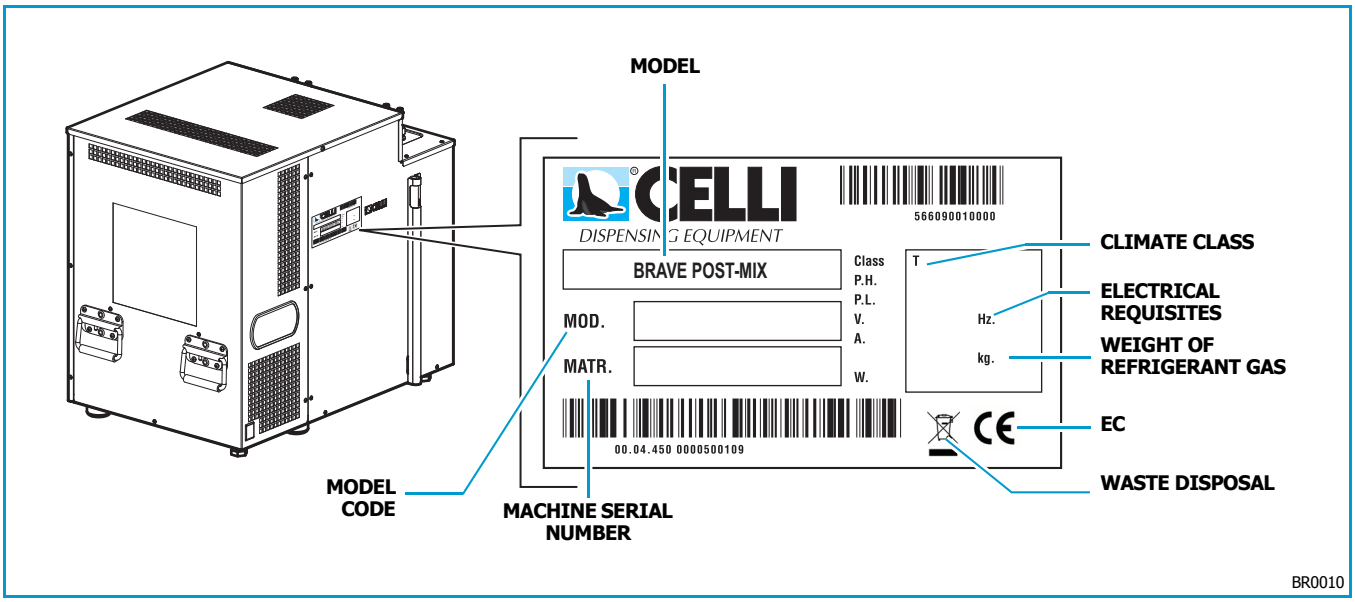
1.2 Machinery identification

This manual refers to the following machines:

BRAVE ES range

Models: **- BRAVE 30 ES**
- BRAVE 60 ES
- BRAVE 90 ES

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



It contains the model, the serial number and all the machine technical data necessary for ordering spare parts or reporting technical problems to the service centre.

1.3 Warranty

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

1.4 Declaration of Conformity

CELLI DISPENSING EQUIPMENT

Cod. 042921 - Rev. 04 – 06/05/2013

DICHIARAZIONE DI CONFORMITÁ CE

Il fabbricante **Celli S.p.A.** con sede in via Casino Albini, 605 San Giovanni in Marignano (Rimini - Italia), **dichiara** che la macchina per spillatura di bevande (riferimento in alto a destra) **è conforme** alle seguenti Direttive:

- **2006/42/CE** del Parlamento Europeo e del Consiglio del 17 maggio 2006 relativa alle macchine e che modifica la direttiva 95/16/CE.
- **2004/108/CE** del Parlamento Europeo e del Consiglio del 15 dicembre 2004 concernente il riavvicinamento delle legislazioni degli Stati membri relative alla compatibilità elettromagnetica.
- **2006/95/CE** del Parlamento Europeo e del Consiglio del 12 dicembre 2006 concernente il riavvicinamento delle legislazioni degli Stati membri relative al materiale elettrico destinato ad essere adoperato entro taluni limiti di tensione.
- **1935/2004/CE** del Parlamento Europeo e del Consiglio del 27 ottobre 2004 riguardante i materiali e gli oggetti destinati a venire a contatto con i prodotti alimentari.
- **D.M. 174/2004** Regolamento concernente i materiali e gli oggetti che possono essere utilizzati negli impianti fissi di captazione, trattamento, adduzione e distribuzione delle acque destinate al consumo umano.

Persona autorizzata a costituire il fascicolo tecnico: Celli Goffredo, via Casino Albini 605 (47842 - San Giovanni in Marignano, RN).

EC CONFORMITY STATEMENT

The manufacturer **Celli S.p.A.** seated in via Casino Albini, 605 San Giovanni in Marignano (Rimini - Italy), **declares** that the beverage dispensing machine (reference serial number on top right side of this page), **complies with** the following Directive:

- **2006/42/EC** of the European Parliament and of the Council of 17 May 2006 on machinery and amending Directive 95/16/EC.
- **2004/108/EC** of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility.
- **2006/95/EC** of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.
- **1935/2004/EC** of the European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with food.

Authorized person to draw up the technical construction file: Celli Goffredo, via Casino Albini 605 (47842 - San Giovanni in Marignano, RN).

KONFORMITÄTSERKLÄRUNG EG

Der Hersteller **Celli S.p.A.** mit sitz in via Casino Albini, 605 San Giovanni in Marignano (Rimini - Italien), **erklärt** dass das Gerät zum Zapfen von Getränke (Referencenummer oben rechts) den folgenden Richtlinien **entspricht**:

- **2006/42/EG** des Europäischen Parlaments und des Rates vom 17. Mai 2006 über Maschinen und zur Änderung der Richtlinie 95/16/EG.
- **2004/108/EG** des Europäischen Parlaments und des Rates vom 15. Dezember 2004 zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit.
- **2006/95/EG** des Europäischen Parlaments und des Rates vom 12. Dezember 2006 zur Angleichung der Rechtsvorschriften der Mitgliedstaaten betreffend elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen.
- **1935/2004/EG** des Europäischen Parlaments und des Rates vom 27. Oktober 2004 über Materialien und Gegenstände, die dazu bestimmt sind, mit Lebensmitteln in Berührung zu kommen.

Autorisierte person für die Erstellung technischer Dokumentation: Celli Goffredo, via Casino Albini 605 (47842 - San Giovanni in Marignano, RN).

DECLARATION DE CONFORMITÉ CE

Le fabricant **Celli S.p.A.** avec siège en via Casino Albini, 605 San Giovanni in Marignano (Rimini - Italie), **déclare** que la machine pour le tirage des boissons (numéro de série en haut à droite de cette page) **est conforme** aux directives suivantes:

- **2006/42/CE** du Parlement Européen et du Conseil du 17 mai 2006 relative aux machines et modifiant la directive 95/16/CE.
- **2004/108/CE** du Parlement européen et du Conseil du 15 décembre 2004 relative au rapprochement des législations des États membres concernant la compatibilité électromagnétique.
- **2006/95/CE** du Parlement européen et du Conseil du 12 décembre 2006 concernant le rapprochement des législations des États membres relatives au matériel électrique destiné à être employé dans certaines limites de tension.
- **1935/2004/CE** du Parlement Européen et du Conseil du 27 octobre 2004 concernant les matériaux et objets destinés à entrer en contact avec des denrées alimentaires.

Personne authorisé à dresser le dossier technique de construction: Celli Goffredo, via Casino Albini 605 (47842 - San Giovanni in Marignano, RN).

DECLARACIÓN DE CONFORMIDAD CE

El fabbricante **Celli S.p.A.** con lugar en calle Casino Albini, 605 San Giovanni in Marignano (Rimini - Italia), declama que el equipo para dispensar bebidas (referenzia arriba a la derecha) **corrisponde a** las siguentes instrucciones:

- **2006/42/CE** del Parlamento Europeo y del Consejo, de 17 de mayo de 2006 , relativa a las máquinas y por la que se modifica la Directiva 95/16/CE.
- **2004/108/CE** del Parlamento Europeo y del Consejo, de 15 de diciembre de 2004, relativa a la aproximación de las legislaciones de los Estados miembros en materia de compatibilidad electromagnética.
- **2006/95/CE** del Parlamento Europeo y del Consejo, de 12 de diciembre de 2006 , relativa a la aproximación de las legislaciones de los Estados miembros sobre el material eléctrico destinado a utilizarse con determinados límites de tensión.
- **1935/2004/CE** del Parlamento Europeo y del Consejo, de 27 de octubre de 2004, sobre los materiales y objetos destinados a entrar en contacto con alimentos.

Persona autorizada a construir el expediente técnico de construcción: Celli Goffredo, via Casino Albini 605 (47842 - San Giovanni in Marignano, RN).

San Giovanni in Marignano, 06.05.2013

CELLI S.p.A.
GOFFREDO CELLI
Executive President

CERMET SISTEMA DI GESTIONE CERTIFICATO
REG.N°045 AZIENDA CERTIFICATA UNI EN ISO 9001 : 2008 UNI EN ISO 14001 : 2004 UNI EN ISO 22000 : 2005

CELLI S.p.A.
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C.F. e Reg. Impr. RN 04072020409 - R.E.A. 323876

BR0010

CELLI DISPENSING EQUIPMENT

Rev. 01 – 06/05/2013

DICHIARAZIONE DI CONFORMITÁ CE

Il fabbricante **Celli S.p.A.** con sede in via Casino Albini, 605 San Giovanni in Marignano (Rimini - Italia), **dichiara** che la macchina per spillatura di bevande (riferimento in alto a destra) **è conforme** alle seguenti Direttive e standard armonizzati EN:

- **2006/42/CE** del Parlamento Europeo e del Consiglio del 17 maggio 2006 relativa alle macchine e che modifica la direttiva 95/16/CE.
- **2004/108/CE** del Parlamento Europeo e del Consiglio del 15 dicembre 2004 concernente il riavvicinamento delle legislazioni degli Stati membri relative alla compatibilità elettromagnetica.
- **2006/95/CE** del Parlamento Europeo e del Consiglio del 12 dicembre 2006 concernente il riavvicinamento delle legislazioni degli Stati membri relative al materiale elettrico destinato ad essere adoperato entro taluni limiti di tensione.
- **1935/2004/CE** del Parlamento Europeo e del Consiglio del 27 ottobre 2004 riguardante i materiali e gli oggetti destinati a venire a contatto con i prodotti alimentari.
- **D.M. 174/2004** Regolamento concernente i materiali e gli oggetti che possono essere utilizzati negli impianti fissi di captazione, trattamento, adduzione e distribuzione delle acque destinate al consumo umano.
- **EN 60335-1** Sicurezza degli apparecchi elettrici d'uso domestico e similare.
- **EN 60335-2-75** Norme particolari per distributori commerciali e apparecchi automatici per la vendita.
- **EN 60335-2-89** Norme particolari per apparecchi per la refrigerazione commerciale comprendenti un unità di condensazione del fluido frigorifero, o un compressore, incorporato o remoto.

Persona autorizzata a costituire il fascicolo tecnico: Celli Goffredo, via Casino Albini 605 (47842 - San Giovanni in Marignano, RN).

EC CONFORMITY STATEMENT

The manufacturer **Celli S.p.A.** seated in via Casino Albini, 605 San Giovanni in Marignano (Rimini - Italy), **declares** that the beverage dispensing machine (reference serial number on top right side of this page), **complies with** the following Directive and harmonised EN standard:

- **2006/42/EC** of the European Parliament and of the Council of 17 May 2006 on machinery and amending Directive 95/16/EC.
- **2004/108/EC** of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility.
- **2006/95/EC** of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.
- **1935/2004/EC** of the European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with food.
- **EN 60335-1** Safety of household and similar electrical appliances.
- **EN 60335-2-75** Particular requirements for commercial dispensing appliances and vending machines.
- **EN 60335-2-89** Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor.

Authorized person to draw up the technical construction file: Celli Goffredo, via Casino Albini 605 (47842 - San Giovanni in Marignano, RN).

San Giovanni in Marignano, 06.05.2013

CELLI S.p.A.
GOFFREDO CELLI
Executive President

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BR0010

1.5 Symbols used in the manual

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

DANGER

Indicates the existence, on or around the appliance, of imminent danger for the operative and people in general, which may cause death or very serious injury; it is therefore essential to take the greatest care and proceed with the greatest caution.

WARNING

Indicates the existence, on or around the appliance, of potential danger for the operative or people in general, which may cause death or very serious injury; it is therefore essential to take great care and proceed with the greatest caution.

CAUTION

Indicates the existence, on or around the appliance, of potential danger for the operative or people in general, which may cause minor, non-serious injury; it is therefore essential to take great care and proceed with the greatest caution.

2 - Description of the machine

The machines of the **BRAVE ES** range (models **30** - **60** - **90**) are coolers that dispense sparkling and non-sparkling drinks, obtained by mixing water and syrups.
These machines must be connected to the water supply (via a filter) and to the syrup containers.

They allow the dispensing of:

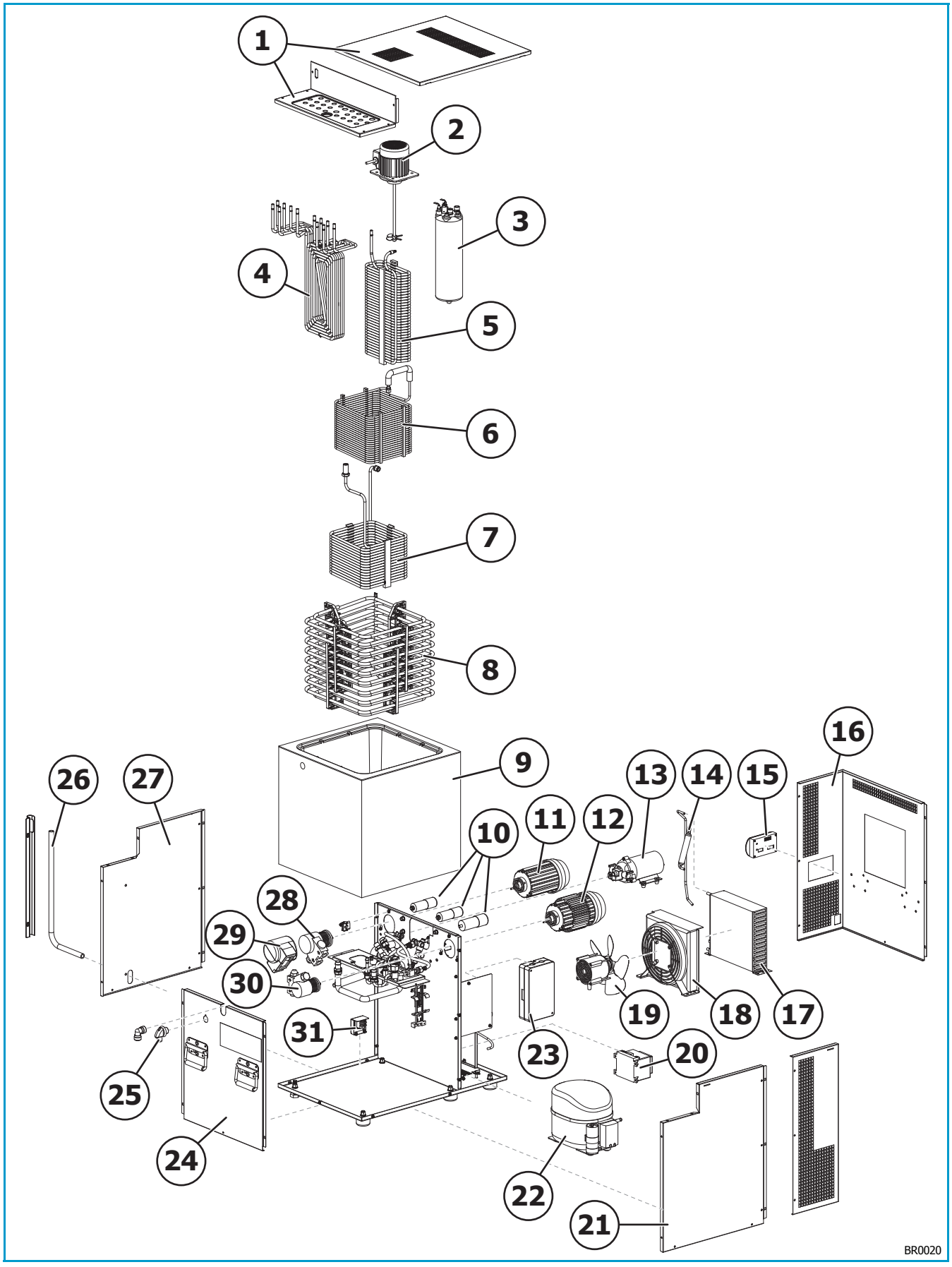
- still chilled water;
- sparkling chilled water;
- chilled syrups.

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 will also be referred to as "soda" elsewhere in this manual.

The natural water, sparkling water and syrups are carried via plastic tubes (thermically insulated from the external environment) to the dispensing tower. The mixing of water and syrups takes place in the dispensing valves.

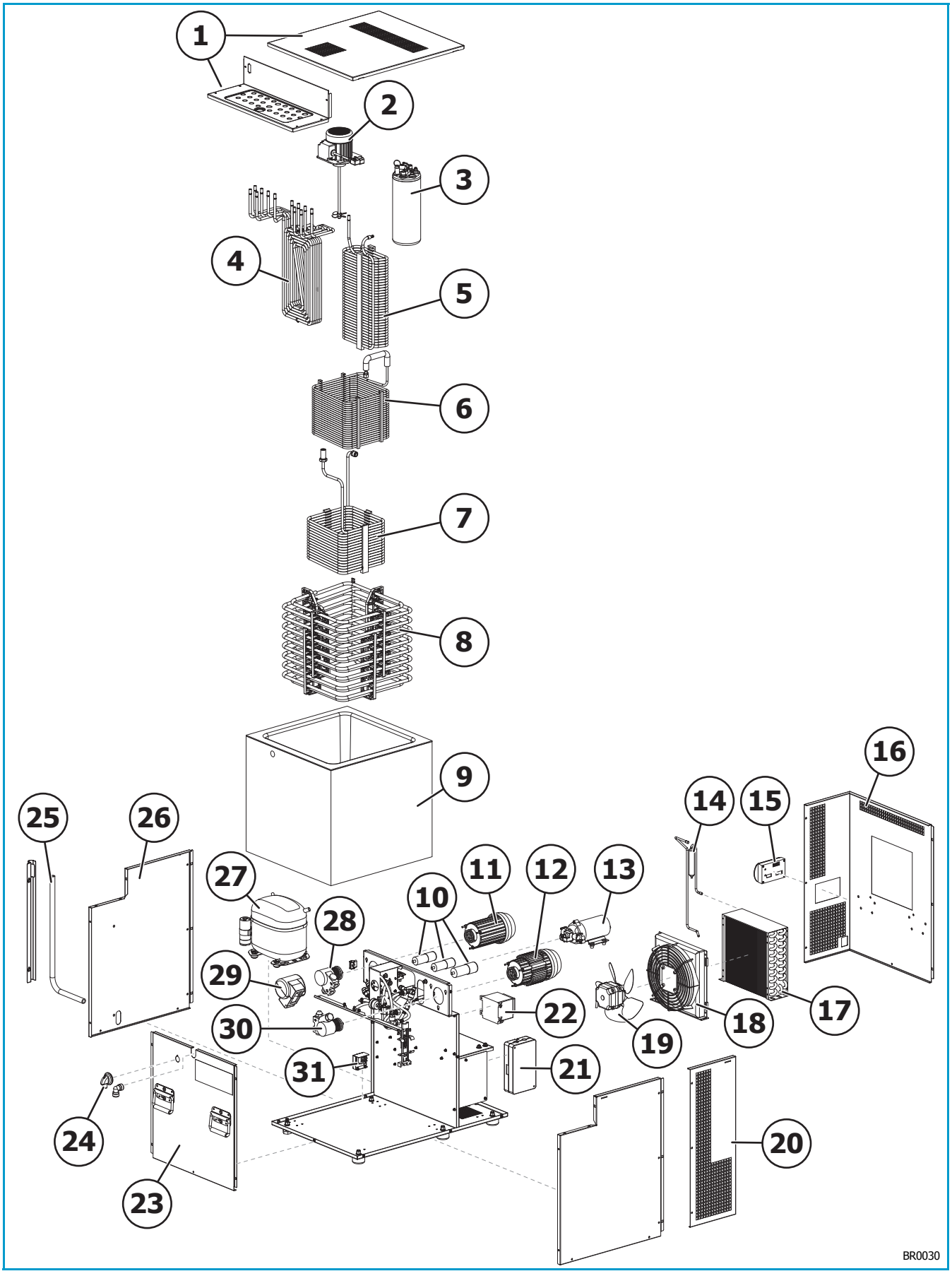
The insulating tube (known as the "python") and the dispensing tower are not included with the machine.

2.1 Main components of the BRAVE 30 ES



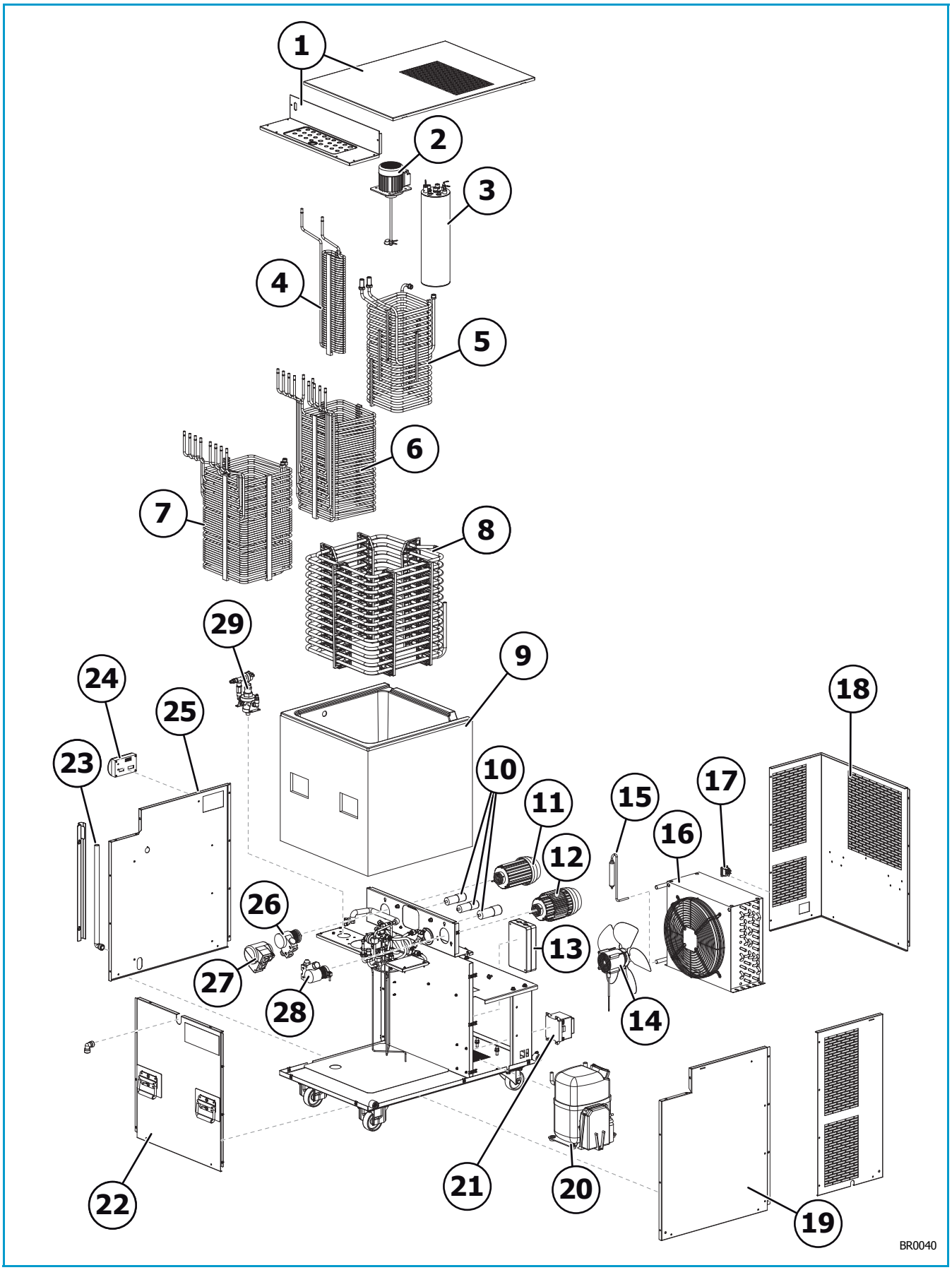
1 - *UPPER COVER*
2 - *STIRRER*
3 - *CARBONATOR*
4 - *SYRUP COILS*
5 - *STILL WATER COIL*
6 - *SODA COIL*
7 - *SODA RECIRCULATION COIL*
8 - *EVAPORATOR*
9 - *INSULATING TANK*
10 - *CONDENSERS FOR THE STIRRER AND PUMP MOTORS*
11 - *PUMP MOTOR FOR SODA RECIRCULATION*
12 - *PUMP MOTOR FOR THE CARBONATOR*
13 - *STILL WATER PUMP*
14 - *DEHYDRATOR FILTER*
15 - *BUTTON PAD WITH DISPLAY*
16 - *FRONT PANEL*
17 - *CONDENSER*
18 - *DUCT*
19 - *FAN UNIT*
20 - *TRANSFORMER*
21 - *SIDE PANEL*
22 - *COMPRESSOR*
23 - *ENERGY SAVING CONTROL UNIT*
24 - *REAR PANEL*
25 - *OVERFLOW DRAINAGE*
26 - *TANK LEVEL/DRAINAGE*
27 - *SIDE PANEL*
28 - *SODA RECIRCULATION PUMP*
29 - *INSULATION FOR SODA RECIRCULATION PUMP*
30 - *CARBONATOR PUMP*
31 - *ON/OFF LIGHT SWITCH*

2.2 Main components of the BRAVE 60 ES



1 - *UPPER COVER*
2 - *STIRRER*
3 - *CARBONATOR*
4 - *SYRUP COILS*
5 - *STILL WATER COIL*
6 - *SODA COIL*
7 - *SODA RECIRCULATION COIL*
8 - *EVAPORATOR*
9 - *INSULATING TANK*
10 - *CONDENSERS FOR THE STIRRER AND PUMP MOTORS*
11 - *PUMP MOTOR FOR SODA RECIRCULATION*
12 - *PUMP MOTOR FOR THE CARBONATOR*
13 - *STILL WATER PUMP*
14 - *DEHYDRATOR FILTER*
15 - *BUTTON PAD WITH DISPLAY*
16 - *FRONT PANEL*
17 - *CONDENSER*
18 - *DUCT*
19 - *FAN UNIT*
20 - *SIDE PANEL*
21 - *ENERGY SAVING CONTROL UNIT*
22 - *TRANSFORMER*
23 - *REAR PANEL*
24 - *OVERFLOW DRAINAGE*
25 - *TANK LEVEL/DRAINAGE*
26 - *SIDE PANEL*
27 - *COMPRESSOR*
28 - *SODA RECIRCULATION PUMP*
29 - *INSULATION FOR SODA RECIRCULATION PUMP*
30 - *CARBONATOR PUMP*
31 - *ON/OFF LIGHT SWITCH*

2.3 Main components of the BRAVE 90 ES



1 - *UPPER COVER*
2 - *STIRRER*
3 - *CARBONATOR*
4 - *PRE-MIX COILS*
5 - *SODA RECIRCULATION COIL*
6 - *COIL FOR PRE-MIX + 4 SYRUPS*
7 - *COIL FOR SODA + 4 SYRUPS*
8 - *EVAPORATOR*
9 - *INSULATING TANK*
10 - *CONDENSERS FOR THE STIRRER AND PUMP MOTORS*
11 - *PUMP MOTOR FOR SODA RECIRCULATION*
12 - *PUMP MOTOR FOR THE CARBONATOR*
13 - *ENERGY SAVING CONTROL UNIT*
14 - *FAN UNIT*
15 - *DEHYDRATOR FILTER*
16 - *CONDENSER*
17 - *ON/OFF LIGHT SWITCH*
18 - *FRONT PANEL*
19 - *SIDE PANEL*
20 - *COMPRESSOR*
21 - *TRANSFORMER*
22 - *REAR PANEL*
23 - *TANK LEVEL/DRAINAGE*
24 - *BUTTON PAD WITH DISPLAY*
25 - *SIDE PANEL*
26 - *SODA RECIRCULATION PUMP*
27 - *INSULATION FOR SODA RECIRCULATION PUMP*
28 - *CARBONATOR PUMP*
29 - *PRESSURE SWITCH AND PRESSURE REDUCER FOR STILL WATER*

2.4 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 the energy saving control unit (**B**), which starts and stops the compressor (**C**) as necessary.

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.

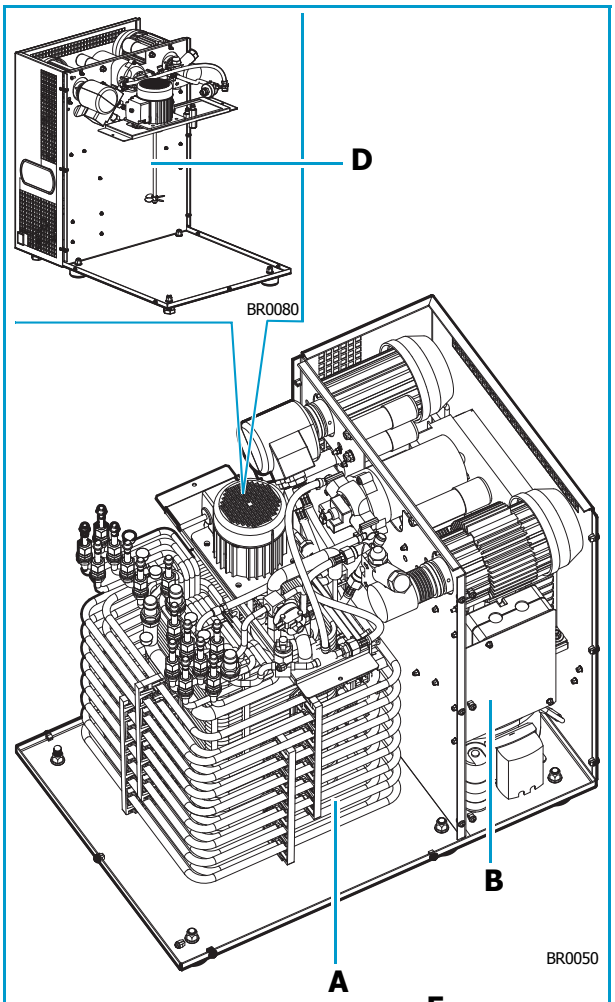
The water and syrups pass through different coils, and never come into contact with each other inside the machine: the mixing of water and syrup takes place in the spout of the dispensing valve, located in the dispensing tower (not included).

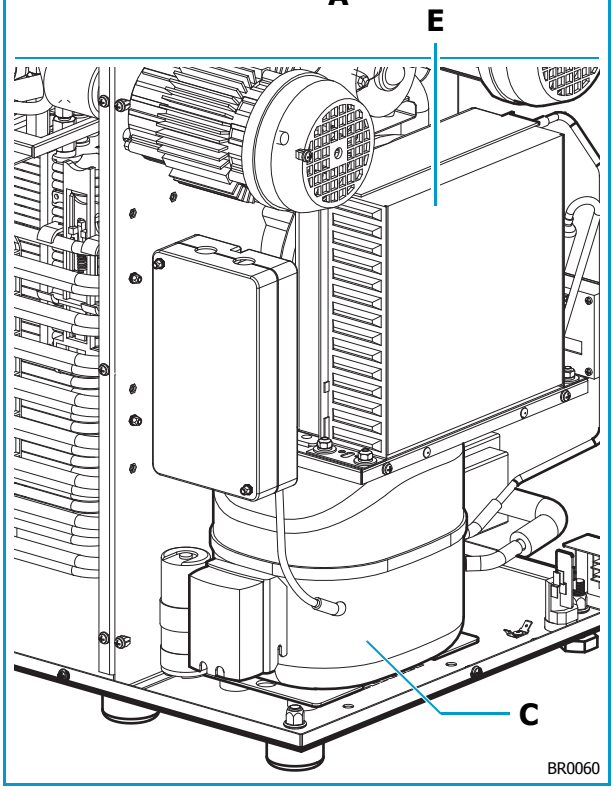
The syrup is contained in a bag-in-box, or in steel kegs (outside the machine).

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 pump-stirrer motor, or the machine itself, during brief periods of non-use will jeopardise both the machine's lifespan and the quality of the first drinks subsequently dispensed. What's more, 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.





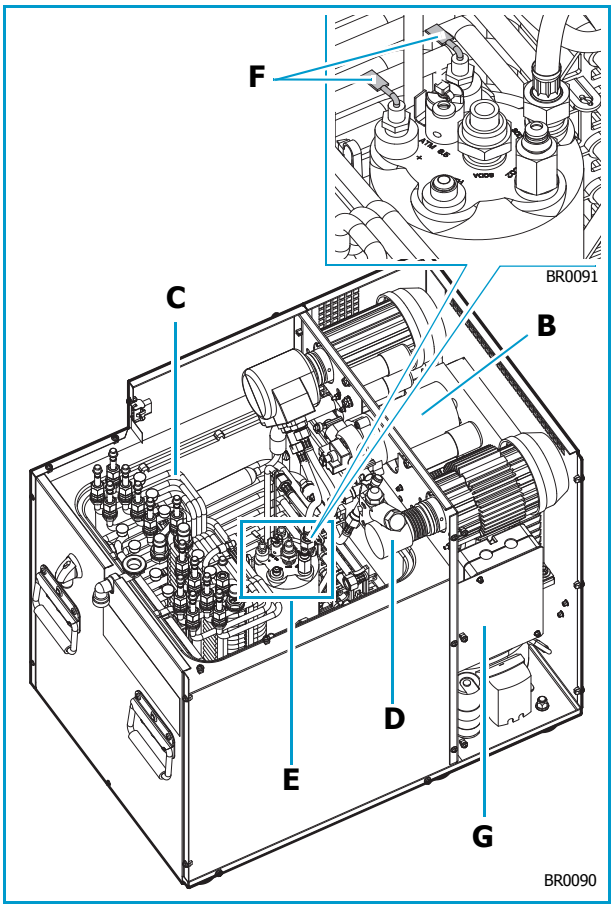
Sparkling water (soda)
When you make a dispensing request for sparkling water, the still water is pushed by the pump (**D**) into the carbonator (**E**); it comes into contact with the CO_2 (carbon dioxide), absorbing it immediately and becoming sparkling.
Inside the carbonator, immersed in the chilled water, there are two level probes (**F** - max. and min.) connected to the energy saving control unit (**G**) that starts and stops the pump, guaranteeing the correct supply of water to the carbonator.

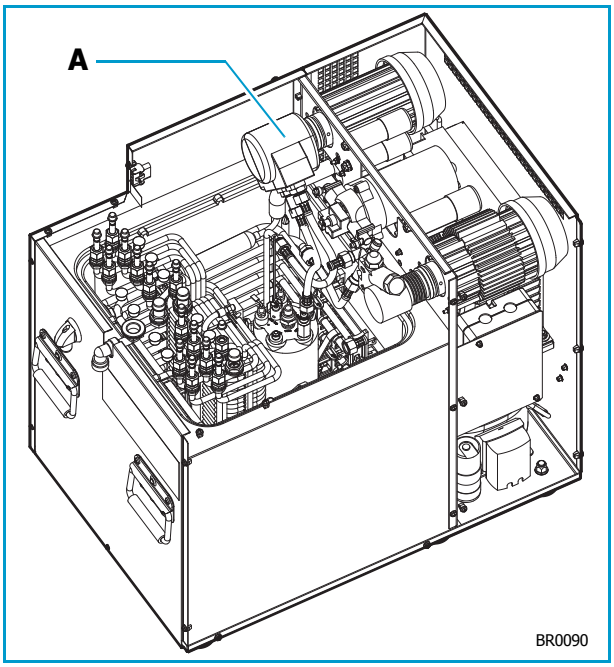
On the carbonator there is a double check valve that prevents the soda (sparkling water) from flowing back and mixing with the still water.

The machine is equipped with a pressure switch that produces a machine stoppage if there is no incoming water.
There is also another pressure switch, that disconnects the power supply to the valves (thereby stopping the dispensing operation) if the CO_2 pressure falls below 3.5 bar (0,35 MPa).

Soda recirculation
To ensure that chilled and adequately sparkling soda is always available for the dispensing valves, the soda is recirculated by means of a pump (**A**).
The soda leaves the machine, passes through the entire python tube, and arrives at the dispensing tower; inside the tower there is a diffuser that carries the soda to each single valve.
The soda then travels back to the machine via the diffuser and the python tube. As it passes through the python, it cools the other tubes that carry the syrups.
The soda arrives back in the machine, where it is cooled by passing through a cooling coil, and enriched with CO_2 by passing through the carbonator (see the hydraulic diagrams for further details).

Still water, with special pump
In machines that use this type of technical solution, to obtain chilled water the pump (**B**) pushes the water through a cooling coil (**C**) located inside the insulating tank.





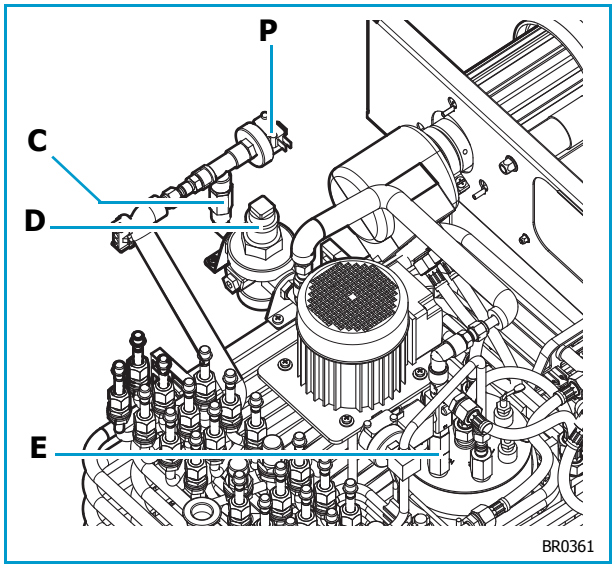
Still water, with pressure switch and solenoid valve

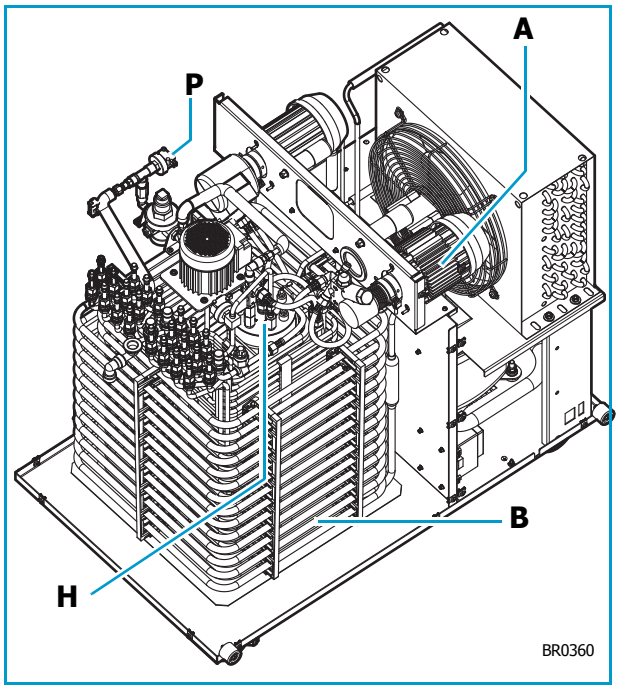
The machines that adopt this technical solution use the same pump for the carbonator and for the still water (see the electric and hydraulic diagrams for further details).

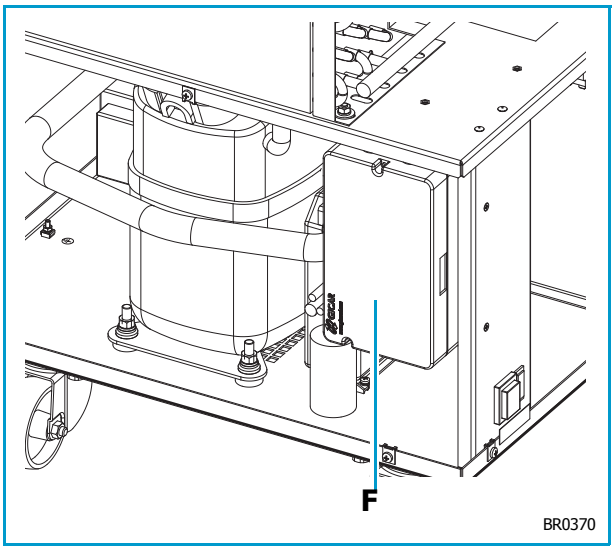
When the still water dispensing valve on the tower is activated, a pressure switch (**P**) activates the pump (**A**); the water passes through the cooling coil (**B**), the check valve (**C**), and the pressure reducer (**D**). The solenoid valve (**E**) remains closed.

When soda needs to be dispensed, the energy saving control unit (**F**) activates the pump (**A**) and opens the solenoid valve (**E**). The water passes through the cooling coil (**B**), the solenoid valve (**E**) and the double check valve, and enters the carbonator (**H**).

Inside the carbonator, the water immediately becomes sparkling. As a result, when it leaves the carbonator it is soda.



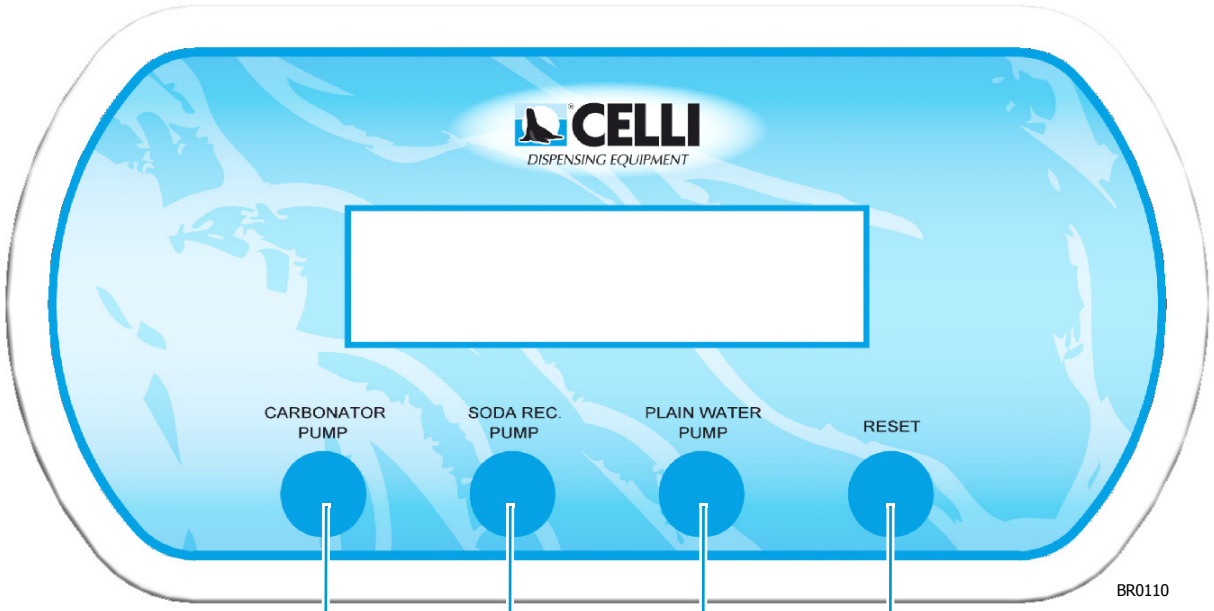




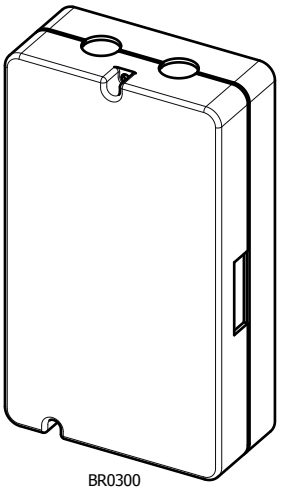
2.5 Energy Saving control unit, and button pad with display

All the machines in the BRAVE ES range are fitted with an Energy Saving electronic control unit. A button pad with a screen, which can be accessed from the external panel of the machine, is connected to the control unit. Alarm messages may appear on the screen, informing the user and maintenance technician of any anomalies or faults.
Some functions are standard and are therefore included on all machines in the BRAVE ES range, whereas others are optional and require connection to add-on devices which are installed during manufacturing (e.g. temperature probes, pressure switches, flowmeters).
The control unit has been configured for connection to a telemetry module (an optional service - contact CELLI SpA for more information) which allows the remote monitoring of machine functions and management of anomalies and alarms by optimising routine and special maintenance work.

DISPLAY



CONTROL UNIT



2.5.1 Standard functions

Carbonation pump button
This button enables or disables operation of the carbonation pump.
Still water pump button
This button enables or disables operation of the still water dispensing pump.
Soda recirculation pump button
This button enables or disables operation of the soda recirculation pump.
Alarm RESET button
The screen connected to the control unit indicates possible malfunctioning. The alarm messages are listed below. With some alarms, the RESET button must be pressed to resume normal machine operation.
Carbonator level check
The control unit checks the level of soda in the carbonator, activating the carbonation pump if necessary. The control unit can be used to control both dual-probe (standard version) and single-probe carbonators (by modifying the programming parameters).
Ice bank check with 4-minute compressor start delay
The control unit checks the thickness of the ice bank by means of two probes appropriately placed on the evaporator. Compressor start-up is always delayed by 4 minutes to ensure that pressure in the refrigerator circuit is balanced in all conditions (even if the electricity supply is momentarily disconnected). This reduces the mechanical stress of the compressor and extends its service life.
Compressor time-out
Continuous operation of the compressor for 24 hours is considered an anomaly (time-out). The alarm message "*COMPR TIME OUT*" will appear on the screen. The power supply to the dispensing tower and compressor is cut off. The alarm condition can be removed by pressing the RESET button once you have checked that the system is working correctly. The alarm is transmitted via telemetry, if present.
Carbonation pump time-out
Continuous operation of the carbonation pump for 4 minutes is considered an anomaly (time-out). The alarm message "*CARB P TIME OUT*" will appear on the screen. The power supply to the dispensing tower is cut off, and the water inlet valve is closed (if present). Any acoustic or light signal present on the dispensing tower is activated. The alarm condition can be removed by pressing the RESET button once you have checked that the system is working correctly. The alarm is transmitted via telemetry, if present.
Still water pump time-out
Continuous operation of the still water pump for 4 minutes is considered an anomaly (time-out). The alarm message "*PL WT P TIME OUT*" will appear on the screen. The power supply to the dispensing tower is cut off, and the water inlet valve is closed (if present). Any acoustic or light signal present on the dispensing tower is activated. The alarm condition can be removed by pressing the RESET button once you have checked that the system is working correctly. The alarm is transmitted via telemetry, if present.
Energy Saving Management
If drinks are not dispensed for more than 45 minutes, the speed of the stirrer motor and the soda recirculation motor is automatically reduced in order to limit energy consumption. However, the lower speed continues to guarantee correct python cooling, and the dispensing of drinks with a temperature and carbonation which comply with standards.

2.5.2 Optional functions

Compressor delivery tube temperature check
This function allows you to monitor the compressor delivery temperature: if the safety limit is exceeded, the warning message *"HIGH TEMP COMPR"* is displayed. The machine functions are not interrupted, and the message disappears as soon as the temperature returns within acceptable limits. This message can be transmitted via telemetry, if present.

Carbonation pump body temperature check
This function allows you to monitor the carbonation pump body temperature: if the safety limit is exceeded, the warning message *"HIGH T CARB PUMP"* is displayed. The machine functions are not interrupted, and the message disappears as soon as the temperature returns within acceptable limits. This message can be transmitted via telemetry, if present.

Soda recirculation temperature check
This function allows you to monitor the soda recirculation temperature: if the safety limit is exceeded, the warning message *"HIGH T REC SODA P*" is displayed. The machine functions are not interrupted, and the message disappears as soon as the temperature returns within acceptable limits. This message can be transmitted via telemetry, if present.

Tank water temperature check
This function allows you to monitor the temperature of the water in the tank: if the safety limit is exceeded, the warning message *"HIGH T H_2O* BATH" is displayed. The machine functions are not interrupted, and the message disappears as soon as the temperature returns within acceptable limits. This message can be transmitted via telemetry, if present.

Anti-flooding check (with probe)
This function detects the presence of water in the machine area or immediate vicinity, thanks to a probe. The presence of water in these areas indicates a possible water leakage. In this case an alarm (*"WATER LEAKAGE"*) is displayed on the screen, the power supply to the dispensing tower is cut off, and the water inlet valve is closed (if present). Any acoustic or light signal present on the dispensing tower is activated. The alarm condition can be removed by pressing the RESET button once you have checked that the system is working correctly. The alarm is transmitted via telemetry, if present.

Anti-flooding control (with flow meter)
This function detects a continual ingress of water into the machine for a prolonged period (time-out). The continual ingress of water, for a period exceeding a certain value, indicates a possible leak in the water circuit. In this case an alarm (*"IN H_2O TIME OUT"*) is displayed on the screen, the power supply to the dispensing tower is cut off, and the water inlet valve is closed (if present). Any acoustic or light signal present on the dispensing tower is activated. The alarm condition can be removed by pressing the RESET button once you have checked that the system is working correctly. The alarm is transmitted via telemetry, if present.

Inlet water measuring function
This function uses an optional flowmeter to measure the quantity of water entering the machine. This function is useful for controlling the water filter and calculating drink consumption levels. The quantity of dispensed water can be monitored via telemetry.

Inlet water pressure check
This function allows you to monitor the inlet water pressure. If the pressure is too low, there may be problems with the pumps and dispensing of drinks which are not up to standard. In this case an alarm (*"H_2O IN PR LOW"*) is displayed on the screen, the power supply to the dispensing tower is cut off, the water inlet valve is closed (if present), and the drainage function is disabled (see "Bacteria proliferation prevention"). Any acoustic or light signal present on the dispensing tower is activated. The machine functions are restored, and the message disappears as soon as the water pressure returns within acceptable limits. The alarm is transmitted via telemetry, if present.

Inlet CO_2 pressure check
This function allows you to monitor the inlet CO_2 pressure. If the pressure is too low, there may be problems with the dispensing of drinks which are not up to standard. In this case an alarm (*"CO_2 IN PR LOW"*) is displayed on the screen, and the power supply to both the dispensing tower and the carbonation and still water pumps is cut off. Any acoustic or light signal present on the dispensing tower is activated. The machine

functions are restored, and the message disappears as soon as the CO_2 pressure returns within acceptable limits. The alarm is transmitted via telemetry, if present.

Carbonation pump pressure check

This function allows you to monitor the carbonation pump delivery pressure, to ensure it is operating correctly. If the pressure is below the optimum level, a warning message *"CARB P LOW PR"* is displayed. The machine functions are not interrupted, and the message disappears as soon as the pressure returns to the optimum level. This message can be transmitted via telemetry, if present.

Water inlet enabling

This function uses a special solenoid valve to stop water entering the machine in conditions in which this may be hazardous (e.g. flooding, low water pressure, pump time-out).

Water drainage (bacteria proliferation prevention)

This function periodically discharges a specific volume of water. The time interval and volume of water can be set. This prevents water from stagnating in the filter, with the consequential proliferation of bacteria.

CO_2 bulk level check

This function allows you to monitor the external CO_2 tank level (bulk), if the tank is fitted with a level sensor with a 4-20mA output signal. If the level drops below a given value (25%), the warning message *"CO_2 BULK LEV LOW"* appears on the screen. This message can be transmitted via telemetry, if present. When the level drops to zero, the warning message *"CO_2 BULK LEV EMPTY"* appears on the screen: the power supply to both the dispensing tower and the carbonation and still water pumps is cut off. Any acoustic or light signal present on the dispensing tower is activated. The machine functions are restored, and the message disappears as soon as the CO_2 level in the bulk returns to normal. The alarm is transmitted via telemetry, if present.

Monitoring of mains voltage

The control unit continually monitors the machine power supply.

If the mains voltage goes outside the range considered safe for operation of all the components for more than 30 seconds, the machine stops and the alarm message *"L VOLTAGE PROTECT"* or *"H VOLTAGE PROTECT"* appears on the screen (according to whether the voltage is too low or too high). The power supply to the dispensing tower and all electrical components is cut off. Any acoustic or light signal present on the dispensing tower is activated.

Once 10 minutes have elapsed, the mains voltage is monitored and checked to ensure it remains within the safety range for at least 30 seconds. If the voltage is constant and stable for 30 consecutive seconds, all the machine functions are automatically restored. If not, it remains switched off for another 10 minutes, and so on. The alarm is transmitted via telemetry, if present.

Summary table

ALARM / ANOMALY	MESSAGE ON THE DISPLAY	RESET
Compressor delivery tube T° too high	ALTA TEMP COMPR HIGH TEMP COMPR	Automatic
Carbonation pump body T° too high	ALTA T POMP CARB HIGH T CARB PUMP	Automatic
Soda recirculation T° too high	ALTA T POMP RICS HIGH T REC SODA P	Automatic
Tank water T° too high	ALTA T H2O VASCA HIGH T H_2O BATH	Automatic
Wet anti-flooding probe	ALLAGAMENTO WATER LEAKAGE	RESET button
Time-out for inlet of water into machine (10 min)	ING H_2O TIME OUT IN H_2O TIME OUT	RESET button
Inlet water pressure too low	PR H_2O ING BASSA H_2O IN PR LOW	Automatic
Inlet CO_2 pressure too low	PR CO_2 ING BASSA CO_2 IN PR LOW	Automatic
Carbonation pump pressure too low	PR P CARB BASSA CARB P LOW PR	Automatic
Time-out for compressor operation (24 h)	COMPR TIME OUT COMPR TIME OUT	RESET button
Time-out for carbonation pump (4 min)	P CARB TIME OUT CARB P TIME OUT	RESET button
Time-out for still water pump (4 min)	P A/P TIME OUT PL WT P TIME OUT	RESET button
Low CO_2 BULK tank level	LIV BULK BASSO CO_2 BULK LEV LOW	Automatic
Inadequate mains voltage	PROTEZ VOLTAGGIO VOLTAGE PROTECT	Automatic

Display language

The display is factory-programmed in English (EN).
You can visualise the display in Italian by altering the control unit programming parameters. Contact Celli for further details.

2.6 Technical data

	BRAVE 30 ES	BRAVE 60 ES	BRAVE 90 ES
Body	STAINLESS STEEL / AISI 430	STAINLESS STEEL / AISI 430	STAINLESS STEEL / AISI 430
Power supply	230V ~ 50/60Hz	230V ~ 50/60Hz	230V ~ 50/60Hz
Height	583 mm (22.9 in)	607 mm (23.8 in)	950 mm (37.4 in)
Width	436 mm (17.1 in)	491 mm (19.3 in)	552 mm (21.7 in)
Depth	632 mm (24.8 in)	722 mm (28.4 in)	887 mm (34.9 in)
Shipping weight	~ 60 kg	~ 95 kg	~ 130 kg
Tank capacity	36.5 L (9.64 US gal)	56 L (14.79 US gal)	92.5 L (24.44 US gal)
Ice bank	12 kg (26.5 lb)	22 kg (48.5 lb)	36 kg (79.4 lb)
Compressor	1/3 (Hp)	5/8 (Hp)	1 (Hp)
Compressor cooling power	440W	720W	1200W
Refrigerant	R134a/R290	R134a/R290	R134a/R290
Carbonation pump	400 l/h (250 US gph)	400 l/h (250 US gph)	400 l/h (250 US gph)
Carbonation pump motor	250 W	250 W	250 W
Carbonator volume (total)	1650 cc	2000 cc	3500 cc
Transformer	160 VA	160 VA	160 VA
Coil material	STAINLESS STEEL AISI 304*	STAINLESS STEEL AISI 304*	STAINLESS STEEL AISI 304*

(*) PICKLED AND PASSIVATED

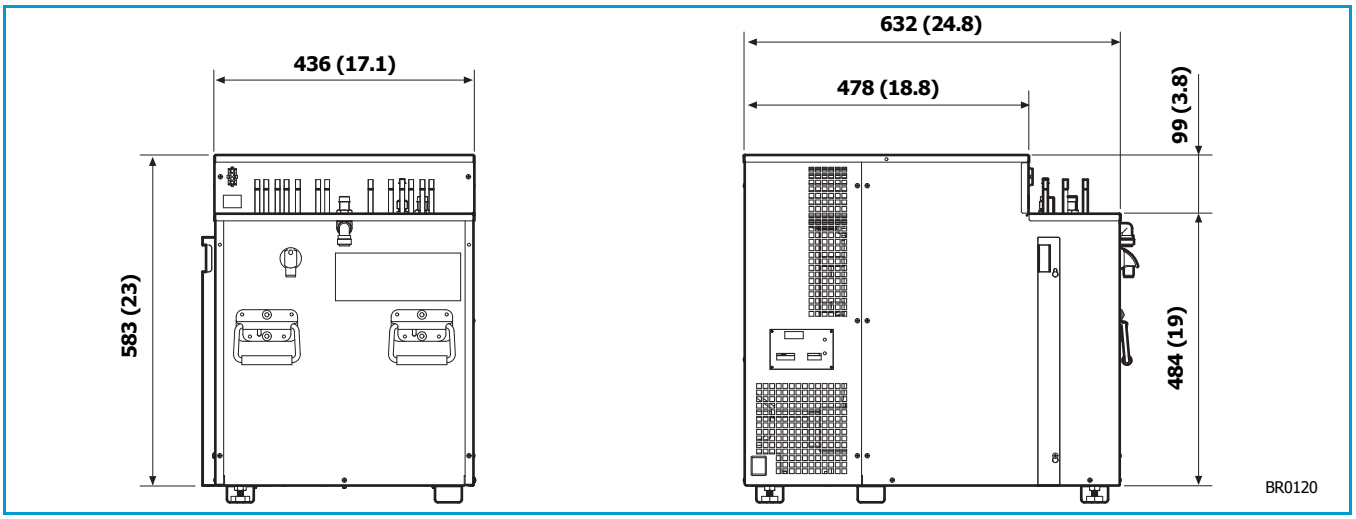
2.6.1 Sound emissions

The machine is designed and built in such a way as to reduce the noise level at the source.

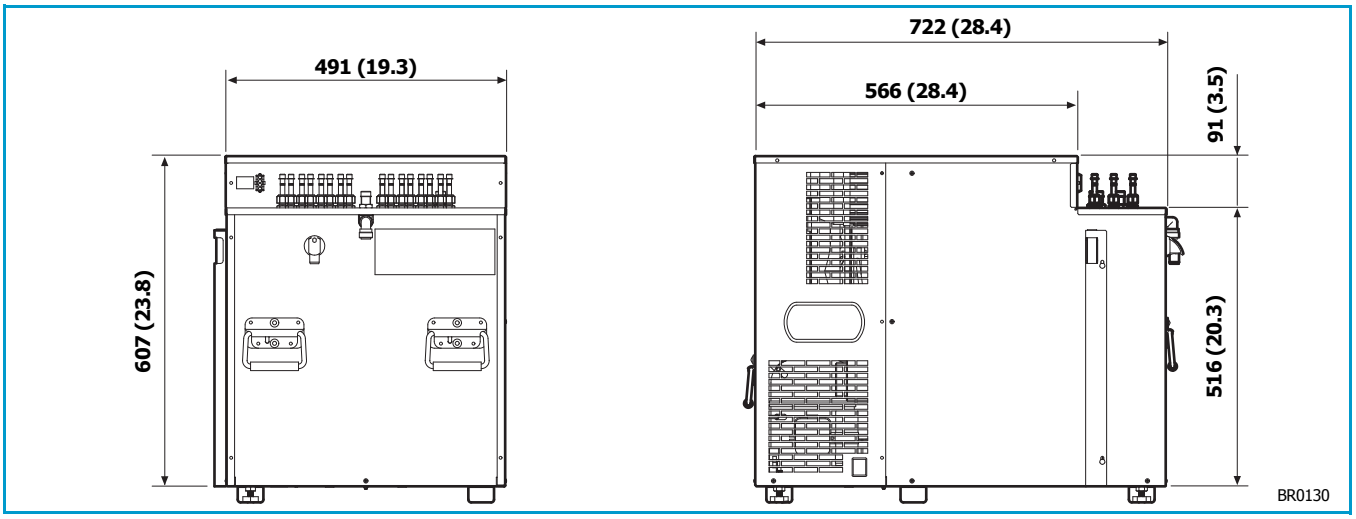
The weighted sound pressure level "A" is lower than 70 dB (A).

2.7 Dimensions in mm

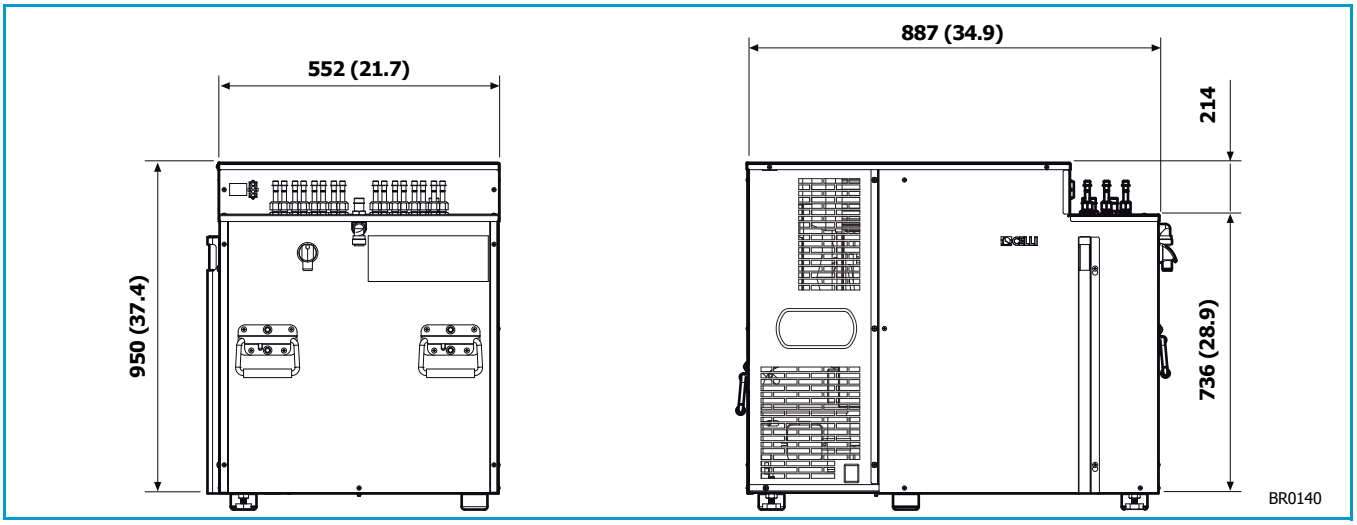
2.7.1 BRAVE 30 ES



2.7.2 BRAVE 60 ES



2.7.3 BRAVE 90 ES



3 - Safety

Do not allow anyone to operate the machine unless suitably trained.

Keep the machine in good working order and do not allow any modifications to it unless these have been authorised by the manufacturer.

Before using the machine, read this section of the manual carefully; it instructs operators in the correct use of the machine, and warns of improper use which may be hazardous.

3.1 Intended use

The POST-MIX system mixes sparkling water or still water with concentrated syrup to obtain a sparkling or still drink at the time of dispensing.
The machines dealt with in this manual are used to cool water and syrups, and to produce sparkling water for creating post-mix drinks.

3.2 Improper use

This machine is designed for the use and conditions envisaged in this manual, in compliance with Machine Directive 2006/42/EC.
The use of the dispenser for any purposes other than those for which it was designed is not allowed, under any circumstances. Likewise, its use in any way other than that indicated in this manual is forbidden.

This machine is not intended to be used by people (including children) with reduced physical or sensory capacities, or with a lack of experience and knowledge, unless under supervision and with the instructions of someone responsible for their safety.

For the purposes of your safety, and in accordance with the current legislation, any repair operations on the machine must be carried out by the Service Centre.

- Do not alter or tamper with the internal dispenser components; if they do not work well, contact the Service Centre.
- Do not place any objects on the dispenser.
- Do not place the dispenser on top of any other object.
- Do not use liquids other than those indicated.
- If you believe the dispenser to be damaged, contact the Service Centre.

3.3 List of hazards

The following list of hazards details the safety factors which the appliance users must bear in mind.

DANGER

CO_2 (CARBON DIOXIDE)

The place where the CO_2 cylinders are stored must always be well ventilated, with an air flow inlet and outlet. Great care must be taken to prevent CO_2 leaks throughout the system, including the gas cylinders. If a CO_2 leak is suspected, especially in a small area, ventilate the contaminated area at once. People exposed to a high concentration of CO_2 will experience trembling, swiftly followed by loss of consciousness and suffocation.

DANGER

ELECTRICITY SUPPLY

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

DANGER

GAS CYLINDER POSITION

To prevent damage or hazards, always place the CO_2 cylinder vertical, against a wall, securing it with a chain fixed to a bracket.
Do not expose the gas cylinder to heat sources or excessively low temperatures.
If a disposable CO_2 cylinder 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 who are skilled electricians or plumbers, or with expertise in cooling systems, 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 it needs replacing, use an equivalent model homologated in the country of use.

CAUTION

SANITISATION

Before proceeding with sanitisation, carefully read the instructions provided by the manufacturer of the sanitisation product and make sure that all personal protection equipment (gloves, masks, etc.) is worn. 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, causing 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 water supply system failure (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.

3.4 Residual risks

In operating conditions, the machine is safe and does not present any residual risk.
If it is not used in accordance with this Use and Maintenance Manual, hazards to people or property may arise.

4 - Installation

4.1 Checks and Unpacking

Always check that the machine received corresponds to the model indicated 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, claim against the carrier for any problems.

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

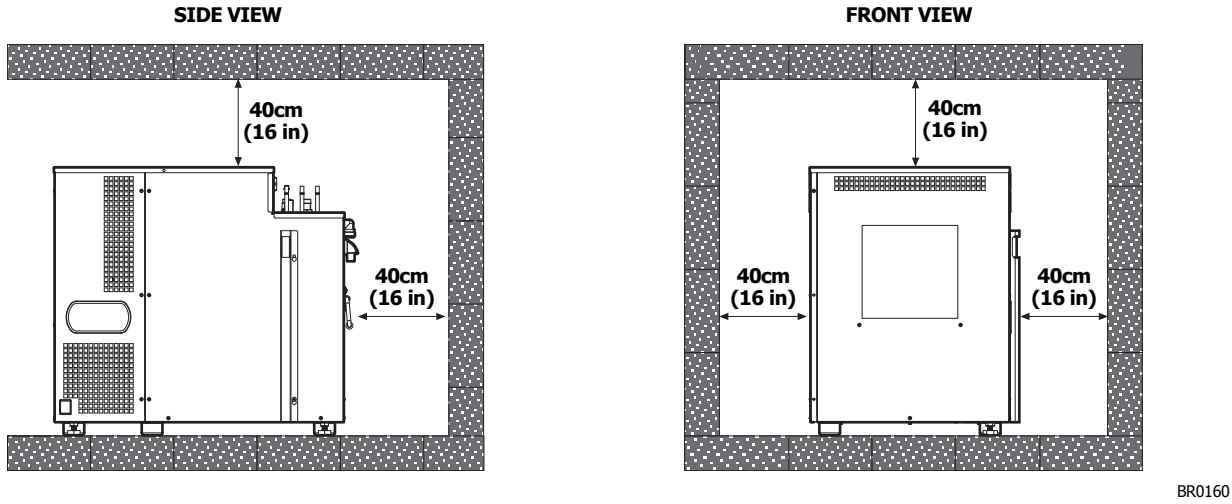
Users are advised to contact CELLI S.p.A. or authorised dealers for genuine components or spare parts.

BR0150

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 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 appliance 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 positioned so that the electric cable and water hose do not create obstacles.



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4.3 Environmental conditions

The machine must be positioned so it is 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, causing damage to the machine itself.

4.4 Electrical requisites

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

DANGER

ELECTRICITY SUPPLY

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 it needs replacing, use an equivalent model homologated in the country of use.

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

4.5 Connections

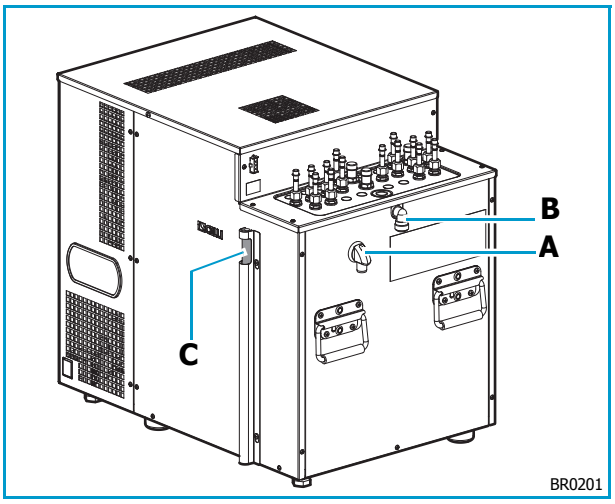
4.5.1 Preparing the machine

Overflow connection

Use a tube to connect the overflow drainage connector (**A**) of the tank, and that of the condensate from the inlet/ outlet tube connection panel (**B**), to a large container or a drainage point.

Check the overflow connector is not obstructed.

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

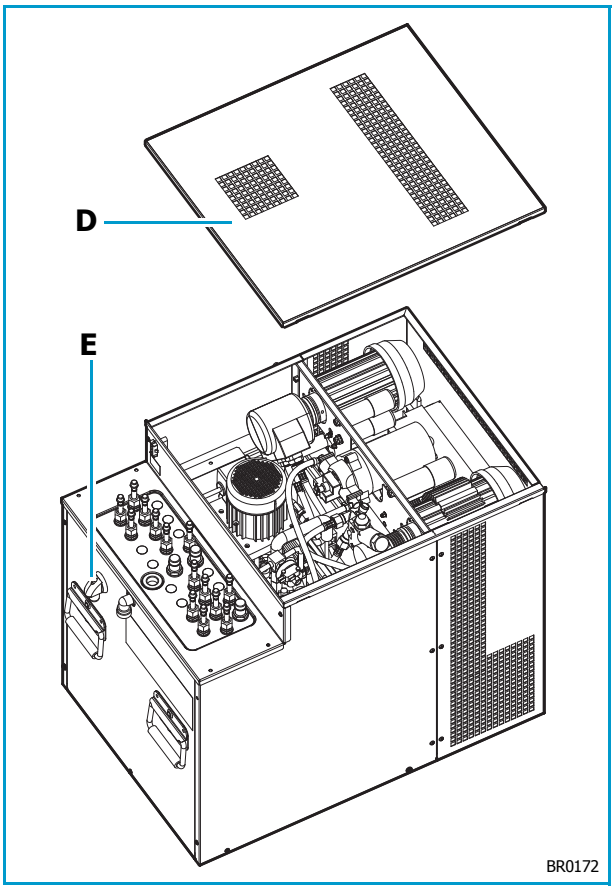


Filling the water tank

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

2 - Fill the tank with clean water until the level is about 2 cm (1 in) below the hole (**E**) of the overflow connector.

Make sure no foreign bodies are left in the tank.



4.5.2 Water intake connection

To facilitate the connections, the inlets and outlets are identified by special adhesives.

condensing unit or compressor.

WATER INTAKE

Authorized person to draw up the technical construction file: Celli Goffredo, via Casino Albini 605 Marignano, RN).

San Giovanni in Marignano, 06.05.2013

CELLI S.p.A.
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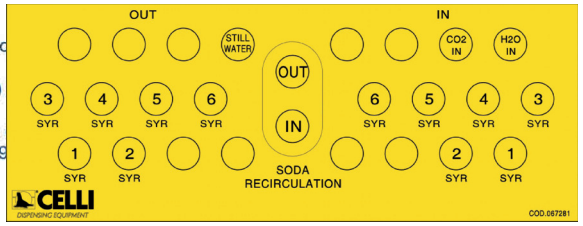
IN/OUT ADHESIVE



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Use only food-approved tubes and fittings when connecting the machine to the water supply system.

The machine must be connected to a drinking water supply line.

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

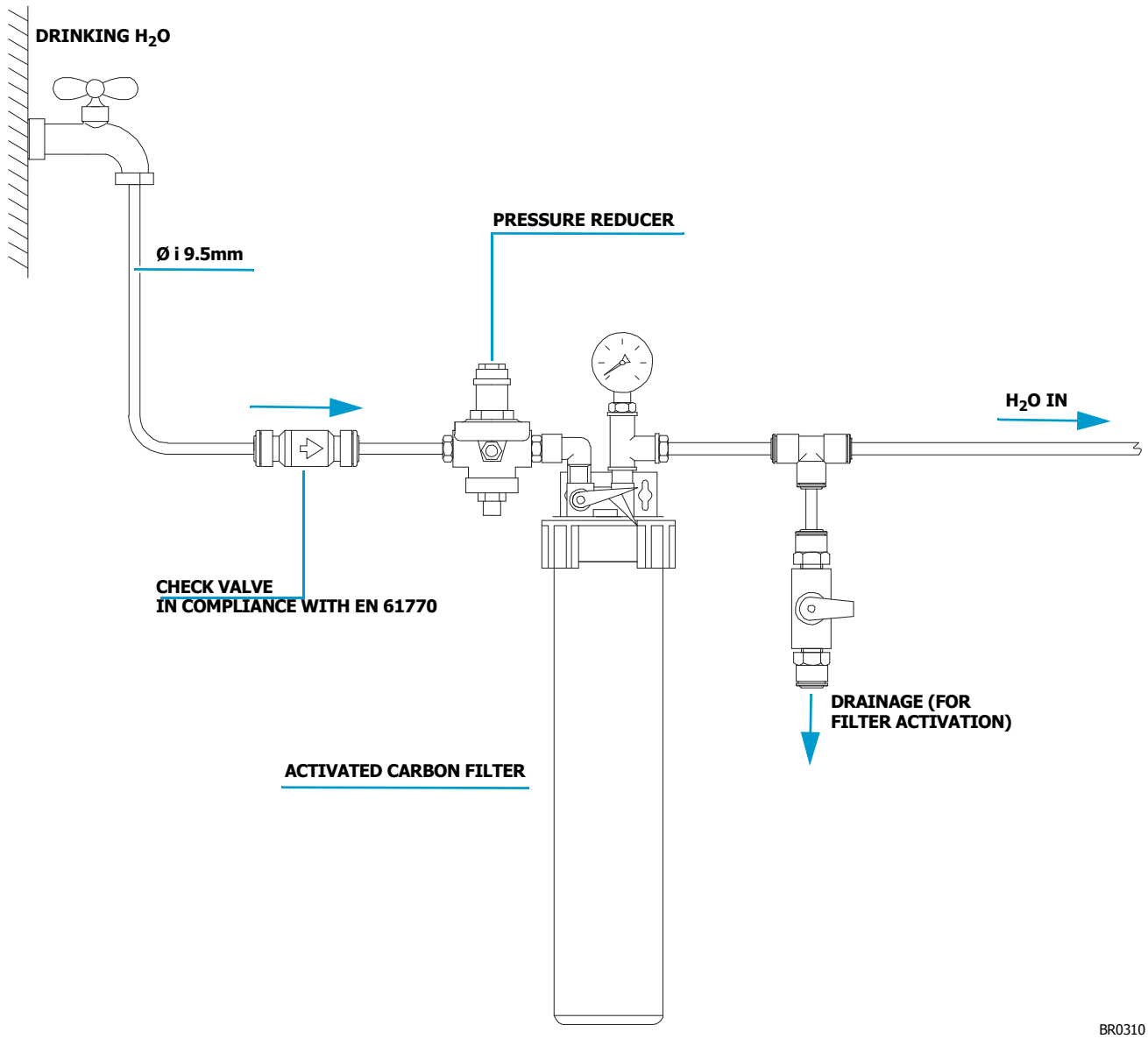
ACTIVATING THE FILTERS

After fitting or replacing the filter, allow the water to flow from the drain tap (just after the filter) until the water leaving the appliance is free from all cloudiness or sediment. Do not use any water from the appliance until this has been done.

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

The filtering system must comply with the relevant local regulations.

EXAMPLE OF A CONNECTION TO THE WATER SUPPLY VIA THE FILTER



To make the connection to the water system correctly, 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.

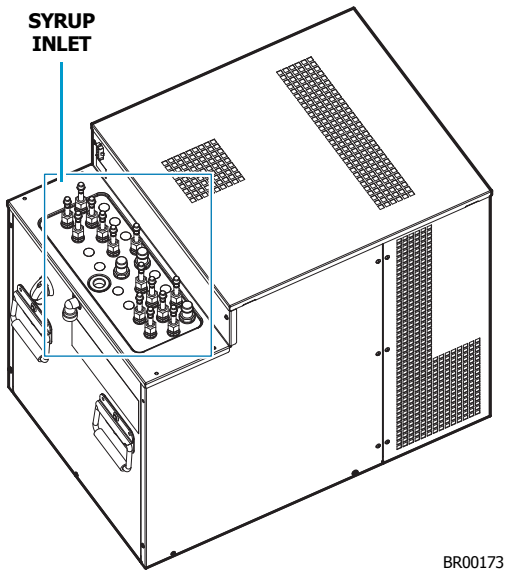
2 - Connect the still water coil outlet and the soda recirculation outlet to the python.

The internal diameter of the water inlet tube must be at least 9,5 mm.

Inlet water pressure must be between 2 and 4 bar (0,2 MPa and 0,4 MPa).

4.5.3 Connecting the syrup lines

To facilitate the connections, the inlets and outlets are identified by special adhesives.



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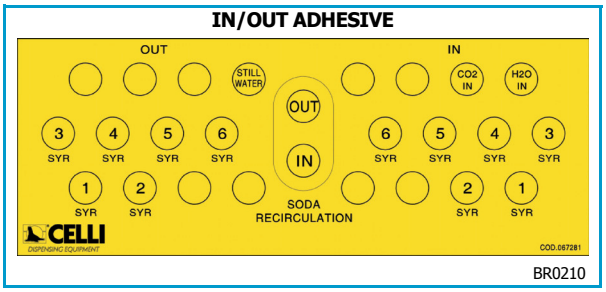

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The connection of the syrup lines differs according to whether the syrup is contained in a bag-in-box or in stainless steel kegs.
The bag-in-box is a plastic bag in a cardboard box; the syrup is held in the plastic bag.

- **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

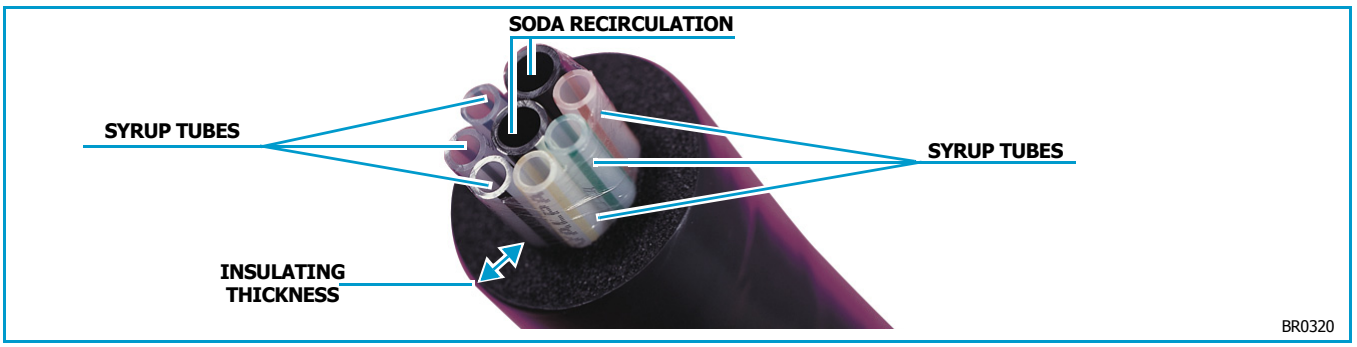
If you use carbon dioxide (CO_2), be sure to air the room.

4.5.4 Connecting the soda recirculation line

The soda recirculation tubes in the python can be recognised by their larger diameter; they are usually red (IN soda recirculation) and blue (OUT soda recirculation).
Connect the soda system output and input using the two python tubes with the bigger diameter.
The supply of soda to the dispensing valves takes place directly, via the soda recirculation line.

4.5.5 Connecting the python

Connect the python to the dispensing tower (not included) with the soda recirculation line.
When positioning the python, keep it away from heat sources, particularly tight bends, or any point where it may get crushed.
The tubes in the python are marked with numbers (or different colours) to facilitate the connection between the coils and the respective dispensing valves.



The thickness of the python insulation depends on the environmental temperature and the degree of humidity.
Refer to the tables below.

INSULATING THICKNESS (mm)	HEAT ACQUIRED BY THE DRINK (W/25m)	
	ENV.TEMP. / DRINK AT 32°C	ENV.TEMP. / DRINK AT 43°C
9	388	521
13	288	387
19	197	265
25	141	189
32	97	131

ENVIRONMENTAL TEMPERATURE OF 30°

NOMINAL INSULATING THICKNESS (mm)	RELATIVE HUMIDITY				
	60%	70%	75%	80%	85%
9	✓	×	×	×	×
13	✓	✓	×	×	×
19	✓	✓	✓	✓	×

ENVIRONMENTAL TEMPERATURE OF 23°

NOMINAL INSULATING THICKNESS (mm)	RELATIVE HUMIDITY				
	60%	70%	75%	80%	85%
9	✓	✓	×	×	×
13	✓	✓	✓	×	×
19	✓	✓	✓	✓	✓

4.5.6 Carbon dioxide (CO_2) connection

To facilitate the connections, the inlets and outlets are identified by special adhesives.

DANGER

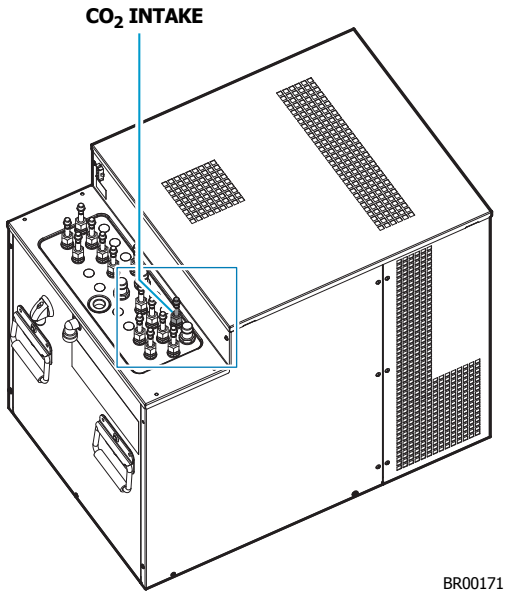
CO_2 (CARBON DIOXIDE)

The place where the CO_2 cylinders are stored must always be well ventilated, with an air flow inlet and outlet. Great care must be taken to prevent CO_2 leaks throughout the system, including the gas cylinders. If a CO_2 leak is suspected, especially in a small area, ventilate the contaminated area at once. People exposed to a high concentration of CO_2 will experience trembling, swiftly followed by loss of consciousness and suffocation.

DANGER

GAS CYLINDER POSITION

To prevent damage or hazards, always place the CO_2 cylinder vertical, against a wall, securing it with a chain fixed to a bracket.
Do not expose the gas cylinder to heat sources or excessively low temperatures.



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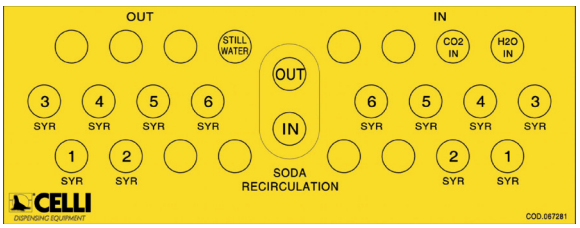
IN/OUT ADHESIVE



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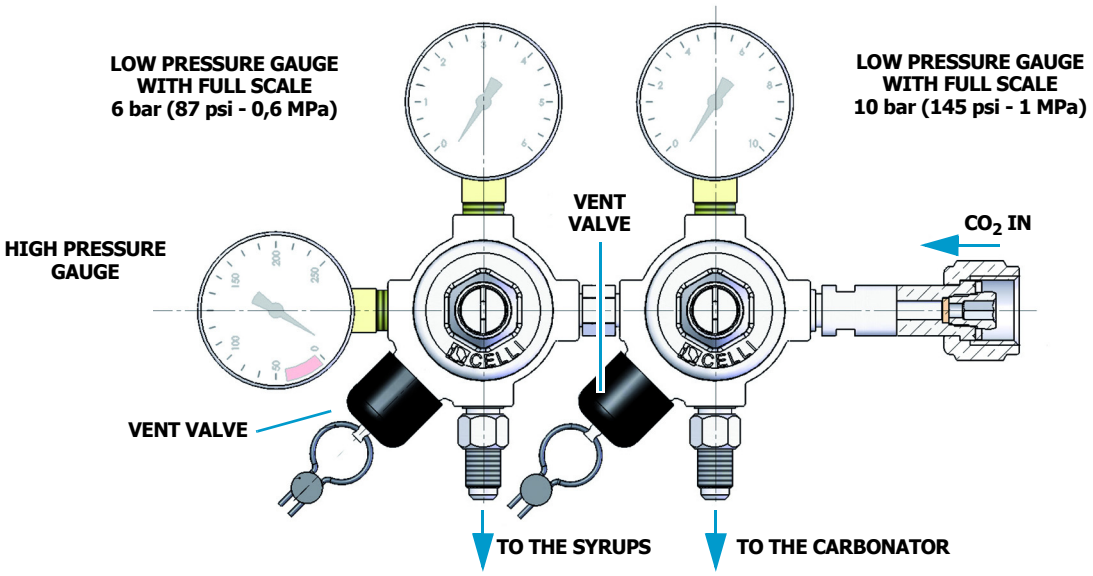
Only super-dry food grade CO_2 should be used.

Before connecting the pressure reducer to the gas cylinder, always vent any dirt from the valve. Close the cylinder valve after a few seconds.

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



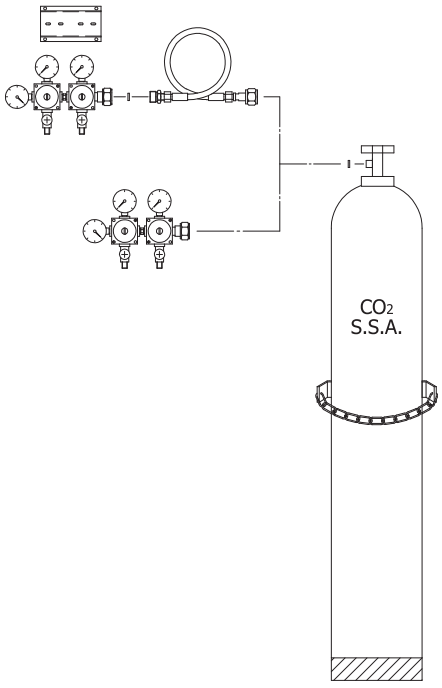
To make the carbon dioxide connection correctly, proceed as follows:

1 - Check the pressure reducer adjuster screw is completely unscrewed.

2 - Connect the pressure reducer to the cylinder valve using the gasket provided.
If you are making the connection by means of a high pressure tube, make sure 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 cylinder, or the high pressure tube to the cylinder and pressure reducer, if installed.

3 - Insert the tube in the appropriate connection point on the reducer, then connect it between the pressure gauge and the CO_2 inlet connection on the machine itself.

EXAMPLE OF CO_2 CYLINDER REDUCER CONNECTION



4.5.7 Electrical connection

CAUTION

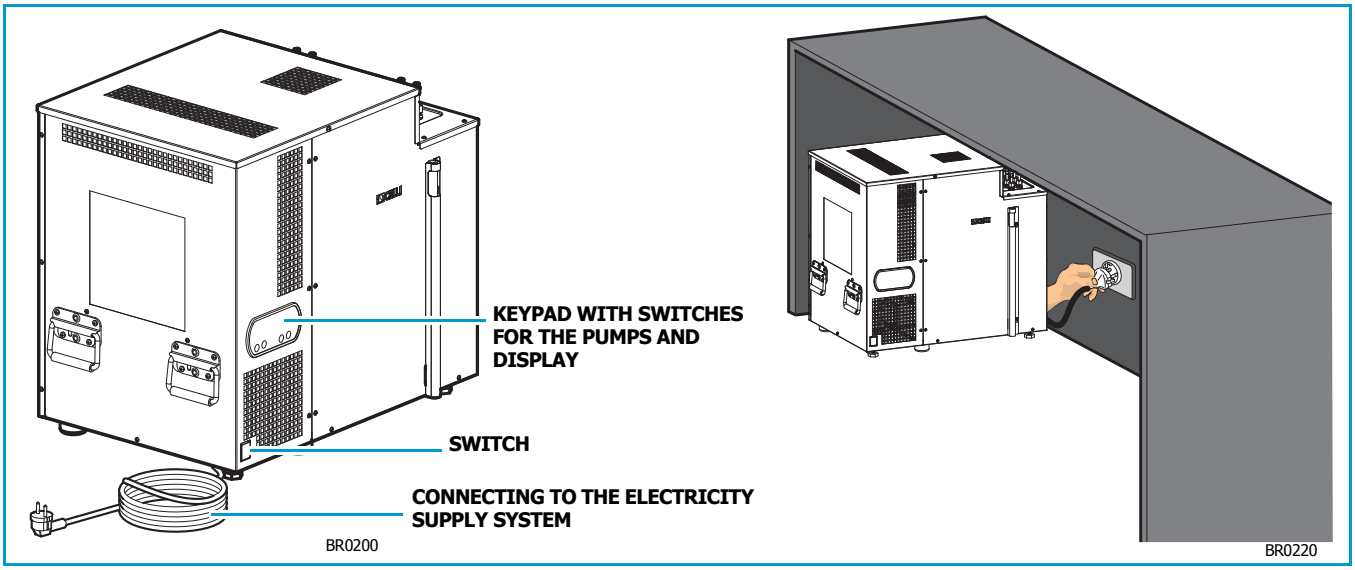
ELECTRICAL REQUISITES

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 it needs replacing, use an equivalent model homologated in the country of use.

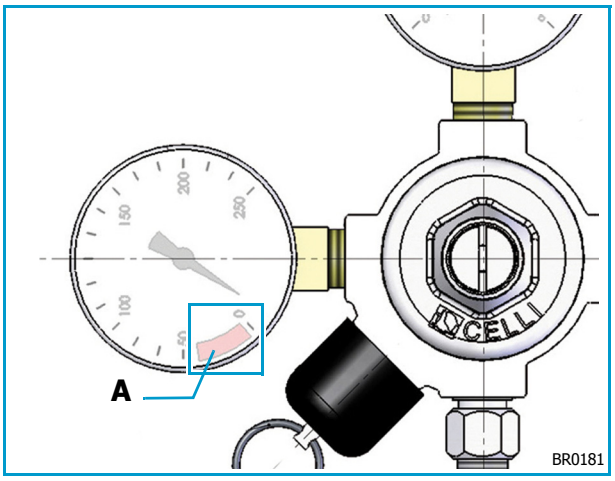


The machines of the BRAVE ES range comply with the safety standards in force, and carry the EC mark.

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 2.5-10 mm^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 cylinder until it is fully open. Check the gas cylinder pressure is always above the red segment (**A** - low level) of the pressure reducer pressure gauge; otherwise, the cylinder 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 - 0,5 MPa). 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 - 0,3 MPa) - do not exceed 4.8 bar (70 psi - 0,48 MPa). (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 - 0,3 MPa) for standard syrups, and 1 bar (14,5 psi - 0,1 MPa) for diet syrups. (Refer to the specifications of the type of syrup actually used).

Connect the plug to a suitable power supply socket, checking that the characteristics of the electricity supply system correspond to the appliance's technical data.

Make sure the I/0 switch is on **I**, and the pump buttons on the keypad are **ON**.

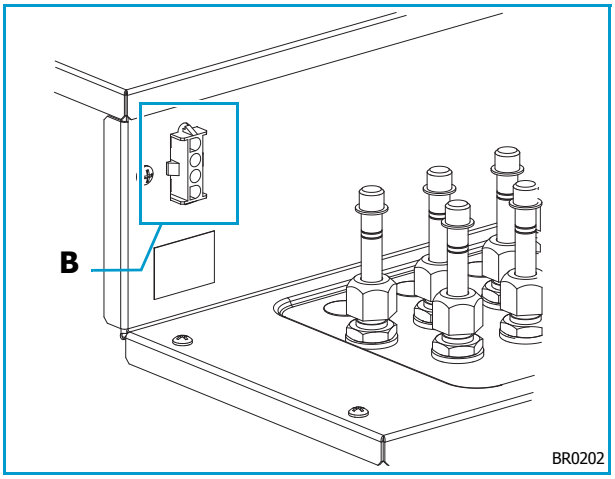
Check the fan unit and compressor are working. The compressor and fan unit will start with a 4-minute delay to allow the pressure levels in the circuit to become stable.

After a few minutes, the surface of the condenser starts to heat up; check that this is happening.

If the fan unit and/or compressor are not working, call the after-sales service.

The machine is equipped with an external connector that can be used to obtain a 24V power supply.

Connector (B)



To use for connecting to a dispensing tower (dispensing valves, any lighting, eventual buzzer alarm).
The connector supplies 24VAC and 160VA.
For the connection between the machine and the dispensing tower use cables with a cross-section of 1.5 mm^2 of the H05 VV-F variety.
Do not connect devices different from the dispensing tower.

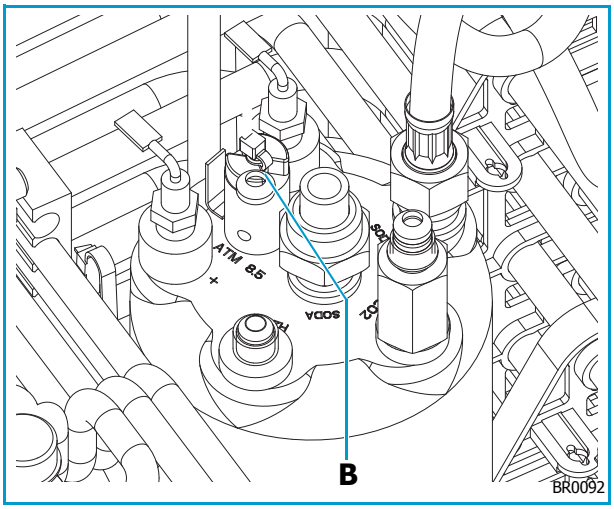
4.7 Checking for leaks

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

2 - Check for gas leaks by pressurising the system and closing the gas cylinder valve.
Wait a couple of minutes, then check whether the reading on the pressure reducer pressure gauges has dropped below the set value.

3 - Check there are no leaks of water, CO_2 or syrup in the system.

4 - If no leaks are found, open the CO_2 cylinder valve and put the top panel back 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)

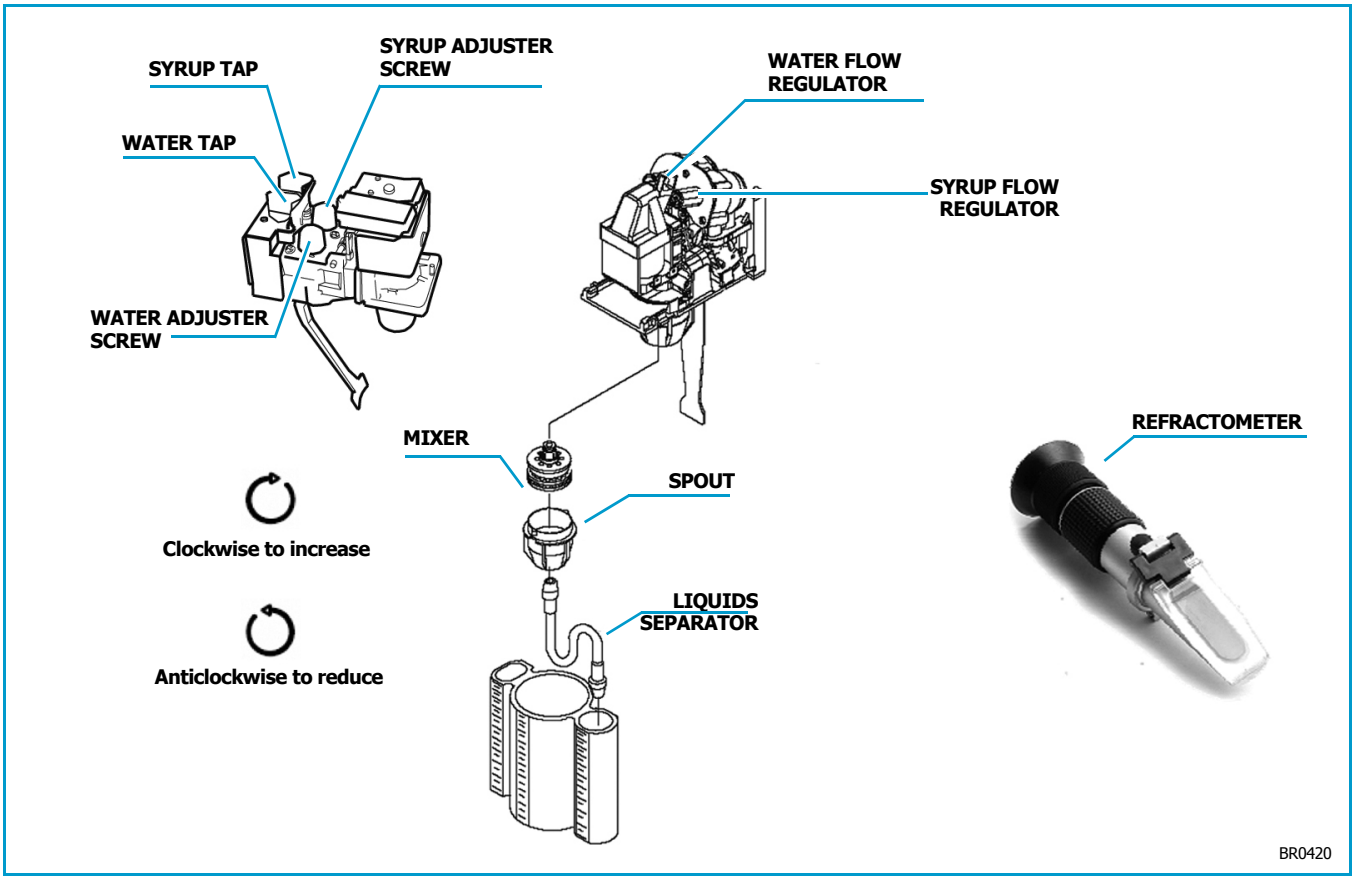
5 - Once you have adjusted the water flow to the required pressure, turn on the syrup tap and adjust the syrup flow using the special double scaled glass and the water-syrup separator, affixed directly on the valve (specific for each type of valve and water-syrup ratio).

- 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 (chapter ”6.8” pag. 49).

4.9 First start-up

When you are ready to use the machine for the first time, we recommend you sanitise the system (see 6.8 “Sanitisation”) and dispense a few litres of water before using the dispenser.
This is essential to flush out the internal circuits and ensure that the appliance has been prepared correctly.

At first start-up only, it will take about 2 hours (after the machine is connected to the electricity supply) in order to obtain water with just the right sparkle and at the chosen temperature.

5 - Using the machine

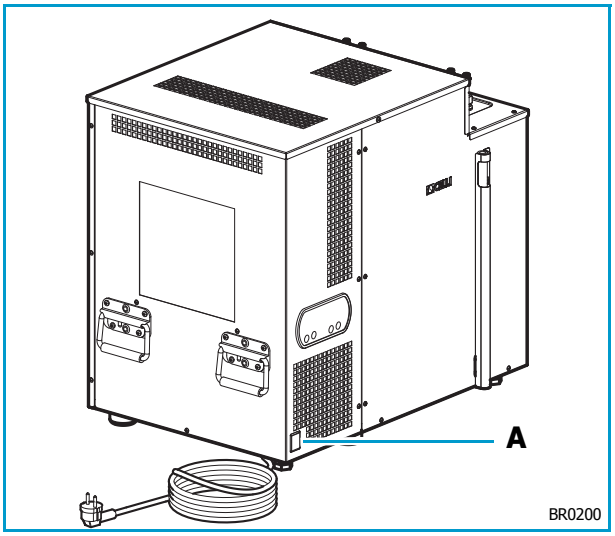
5.1 Start-up

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 - Press the I/0 switch onto **I** (**A**).

3 - 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.

At this point, you can dispense water or drinks.



5.2 Stopping the machine

REGULAR STOPS

If the machine is to be left unused for a medium-long period, disconnect the plug from the electricity mains. Disconnect the machine from electricity sources and protect 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 cylinder.
Remove the syrup containers connections, and wash them.

If the machine needs to be shipped, stored or moved, the circuit must be sanitised (see 6.8 - "Sanitising the dispenser").
All the water must be removed; 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 section contains the complete list of requisites and procedures relating to the maintenance of this appliance. 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 you cannot understand the information or procedures in this section of the manual, 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-genuine parts or without the written authorisation of the manufacturer, or in any way such as to damage the appliance or modify its characteristics, CELLI S.p.A. will consider itself relieved of any responsibility for people's safety or machine malfunctioning.
Any unauthorised modification invalidates the contractual warranty.

Do not carry out any procedure, modification or repair of any kind, except for those described in this manual.

DANGER

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

6.1 Routine maintenance

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

DAILY MAINTENANCE

1 - line check

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

2 - CO_2 supply and pressure check

check that 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").

3 - syrup expiry date check

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.

6.2 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" pag. 46)		✓			**as necessary**			
CO_2 cylinder (chapter "6.4" pag. 46)		✓			**as necessary**			
Water filter (chapter "6.5" pag. 47)		✓			**manufacturer's recommendations**			
Cleaning spout and post-mix valve diffuser (chapter "6.6" pag. 47)				✓	✓			
Condenser (chapter "6.7" pag. 48)				✓		✓		
Dispenser (chapter "6.8" pag. 49)			✓				✓	
Liquid check valve (chapter "6.9" pag. 51)	✓							✓
Syrup connections (chapter "6.10" pag. 51)				✓	**as necessary**			
Tank water (chapter "6.11" pag. 51)		✓			**as necessary**			
Check for leaks	✓							✓
EXTRAORDINARY MAINTENANCE								
	Specialised CELLI technician							

6.3 Replacing 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

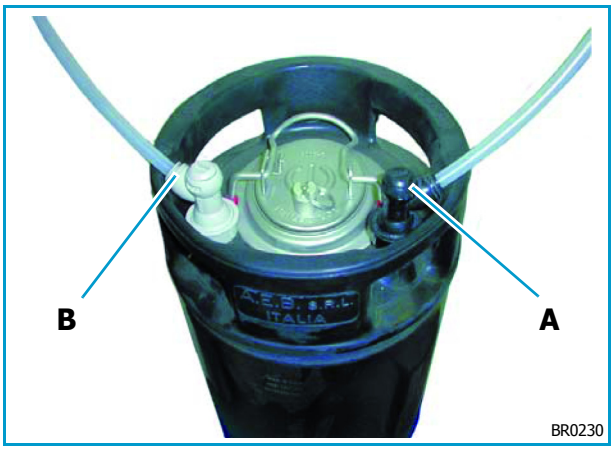
SYRUP CONTAINED IN PRESSURISED KEGS

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.

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 cylinder (CO_2)

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

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

2 - Remove the pressure reducer (or disconnect the high pressure tube from the cylinder, if fitted). Check the condition of the gaskets between the reducer and the cylinder, replacing them if necessary.

3 - Replace the CO_2 cylinder, slowly open the valve to the fully open position, and check that the pressure values are as originally set.

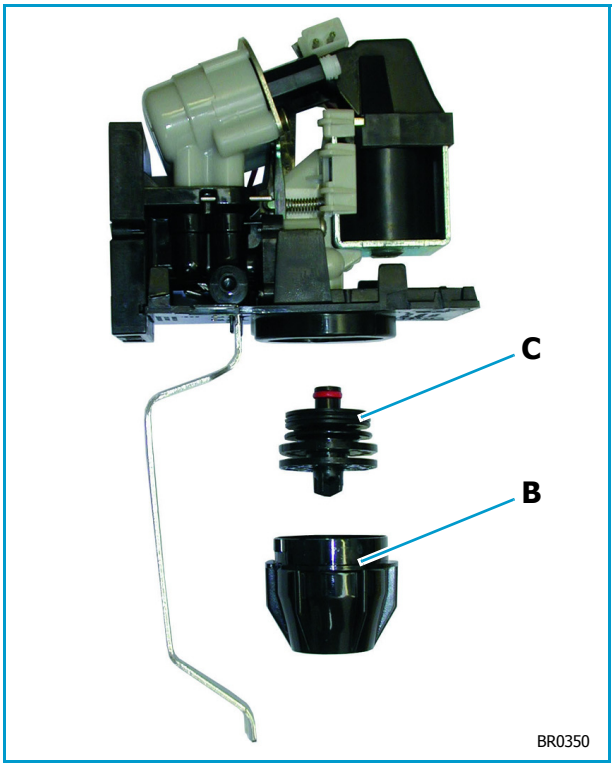
6.5 Replacing the water filter

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) until the water leaving the appliance is free from all cloudiness or sediment. The machine must not be supplied with filtered water until this has been done.

6.6 Cleaning the spout and post-mix valve diffuser

Remove the spout (**B**) and mixer (**C**) 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.

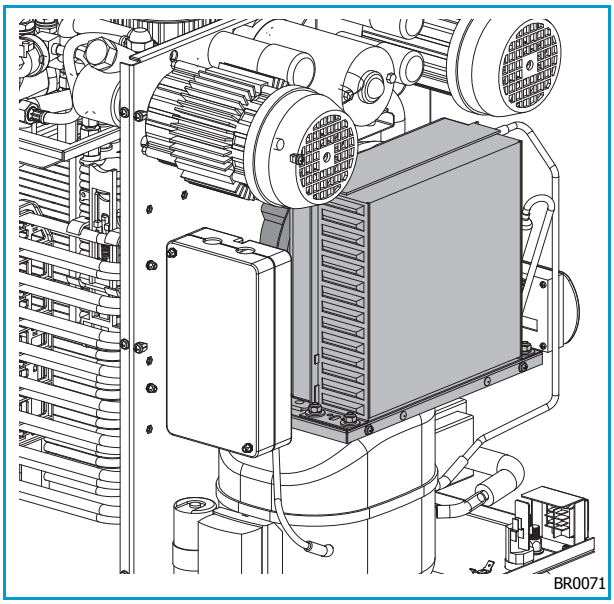
2 - Remove the upper and front panels.

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

6.8 Sanitising the dispenser

CAUTION

SANITISATION

Before proceeding with sanitisation, carefully read the instructions provided by the manufacturer of the sanitisation product and make sure that all personal protection equipment (gloves, masks, etc.) is worn. Ensure that the premises are well ventilated.
The sanitisation of the product lines must only be carried out by skilled technical service staff.

The dispenser should be sanitised completely every 6 months; contact the retailer or an Authorised Service Centre for this purpose.

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

At the first start-up, and after short periods of non-use, you are advised to dispense a few litres of water before using the machine.

You must use a suitable product (that not only cleans but is also anti-bacterial), mixing it with water in the proportions recommended by the manufacturer.
Never exceed the contact times and maximum dosage concentrations recommended by the manufacturer.
After the cleaning liquid has passed through the lines, you must rinse very well with clean water until every trace of the sanitising 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

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

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

3 - Run clean water through the connector, at the same pressure level as for the syrup.

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

5 - Run sanitising solution through the connector, at the same pressure level as for the syrup.

6 - Be sure to respect the concentration levels and contact time recommended by the sanitising agent manufacturer.

7 - Dispense from the valve until the sanitising solution begins to come out; you will recognise it by its chlorine smell or, in some cases, by its colour.

8 - Once the contact time has elapsed, 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).

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

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

11 - Check the soda-syrup ratio of the valve (see 4.8 - "Adjusting the dispensing valves").

12 - 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 CO_2 or compressed air to the pneumatic pumps.

5 - Intervene on the lever of the dispensing valve that corresponds to the line you want to sanitise; 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 - Dispense from the valve until warm water begins to come out; dispense about 5 litres (1.3 US gal).

9 - Replace the warm water with the sanitising solution, using a bucket. Dispense about 3 litres (0.8 US gal) intermittently, then stop the dispensing and wait for the residual contact time (as indicated on the technical sheet of the sanitising agent used) to elapse.

10 - Stop the pressure to the pneumatic pump again, and dispense from the valves to eliminate the residual pressure in the line. Rinse the line with clean warm water (from a bucket), then power the pneumatic pump.

11 - Dispense about 5 litres (1.3 US gal) of warm water from the valves, to rinse away all the sanitising liquid still present in the line. Check the pH of the output water is the same as that of the input water (use litmus paper or a pH meter).

12 - Disconnect the suction tube adapter and connect a syrup BIB. Restore the pneumatic pump supply pressure to its usual set value (see 4.6 - "Adjusting the carbon dioxide (CO2) supply"), then dispense syrup from the taps until all the water has been totally eliminated.

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

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

15 - Check the soda-syrup ratio of the valve (see 4.8 - "Adjusting the dispensing valves").
Repeat these operations for all the syrup lines.

6.9 Cleaning and checking the liquid check valve

CAUTION

LIQUID CHECK VALVE

The carbonator liquid check valve should be inspected after any water supply system failure (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 panel.

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 (**A**).

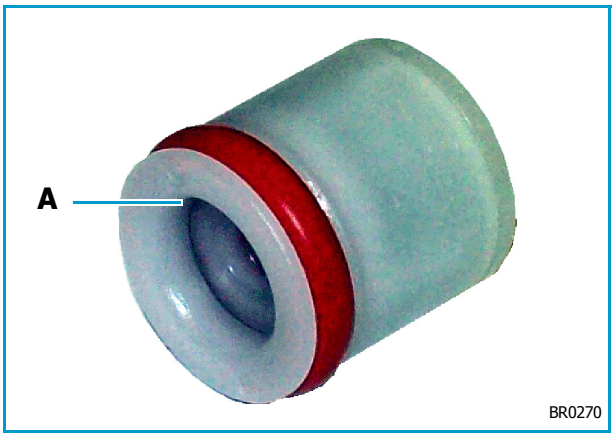
6 - Clean and check the O-rings and every single part, and in particular check there is no damage to the surface of the ball. Replace any damaged parts.

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

8 - Turn on the water and CO_2 supplies.

9 - Refit the upper panel.

10 - Reconnect the machine to the electricity supply.



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.

3 - Wait until the ice bank has fully melted.

4 - Draw the water out of the tank, emptying it completely.

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, to about 2cm (1 inch) below the overflow hole.

7 - Refit the upper cover.

8 - Reconnect the machine to the electricity supply.

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

6.12 Extraordinary maintenance

Extraordinary maintenance procedures are those performed in response to failures or malfunctions; they 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

PROBLEM	PROBABLE CAUSE	REMEDIES
The dispenser does not start up	Power supply failure	Check that power is present. If the power is OK, call an authorised technician.
	Thermostat failure	Call an authorised technician
The cooling unit operates continually, and the water delivered is warm	Refrigerant gas leak	Call an authorised technician
The cooling unit operates continually, and the water freezes	Thermostat failure	Call an authorised technician
Noisy water pump	Water supply failure	Check that water is reaching the appliance
The dispenser does not deliver water	Main water tap turned off	Turn on the water tap
	Water supply connection tube crushed or obstructed	Inspect the path of the tube
	No electricity supply	Check the plug is well inserted
The dispenser does not deliver sparkling water	CO_2 cylinder has run out	Replace the CO_2 cylinder
	Electronic control unit malfunction	Call an authorised technician
	Pump failure	Call an authorised technician
	CO_2 cylinder shut off	Open the CO_2 cylinder valve
The dispensed product is not cold enough	The ice bank has run out	Wait until the ice bank has fully reformed
	The water entering the machine is too hot	Check the incoming water temperature is lower than 32°C
	Soda recirculation pump malfunction	Call an authorised technician
	Inadequate insulation on the python	Call an authorised technician
Only water is dispensed	The syrups have run out	Replace the syrup tanks with new ones
	The syrup lines are obstructed	Sanitise the syrup lines, as indicated in the relevant paragraph
	No CO_2	Replace the CO_2 cylinder
FOR ANY OTHER PROBLEMS NOT COVERED HERE, CONTACT THE SERVICE CENTRE		

8 - Additional instructions

8.1 Waste disposal

CELLI S.p.A. urges users to comply with environmentally friendly waste storage and disposal practices. Do not discharge liquids into the ground, into sewers or into tanks. Collect liquids in suitable containers then store and/or dispose of the waste using approved, safe procedures. Check and comply with all government and/or local waste storage, disposal and recycling regulations.

Information for correct disposal of the product in accordance with European Directive 2002/96/EC:

The symbol of the waste bin with a line through it, which appears on the appliance and the packaging, indicates that the product must be disposed of separately from other waste at the end of its working life.

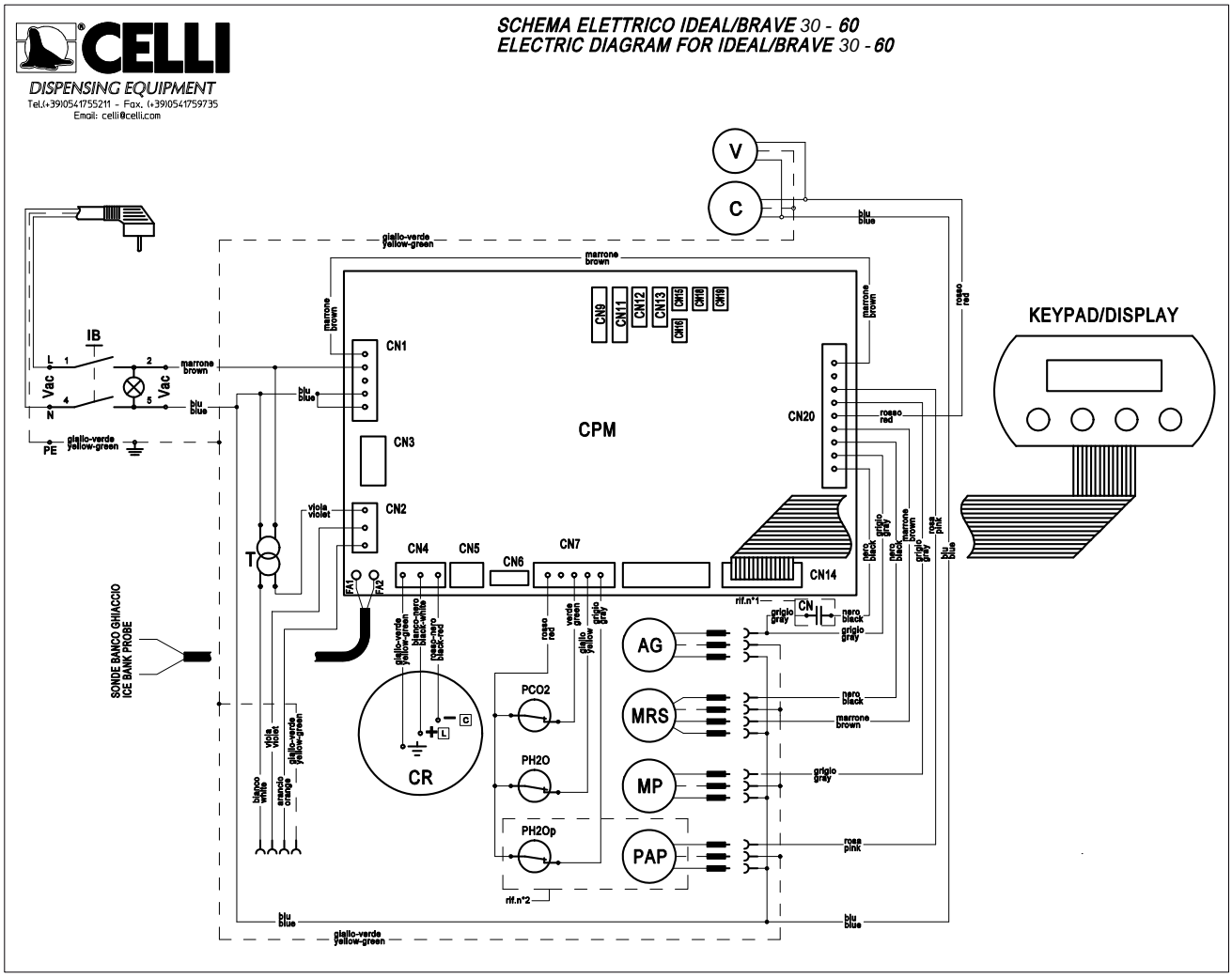
The separate disposal of this appliance at the end of its lifetime is organised and managed by the manufacturer. Any user wishing to dispose of this appliance must contact the manufacturer and follow the system it has established for the separate disposal of the appliance at the end of its life.

Appropriate separate disposal, allowing the scrapped appliance to be recycled, treated and disposed of in an environmentally friendly manner, helps to prevent any harmful effects for the environment and health and helps to ensure the recycling of the appliance's component materials.

The illegal disposal by the owner will lead to prosecution under the relevant legislation.

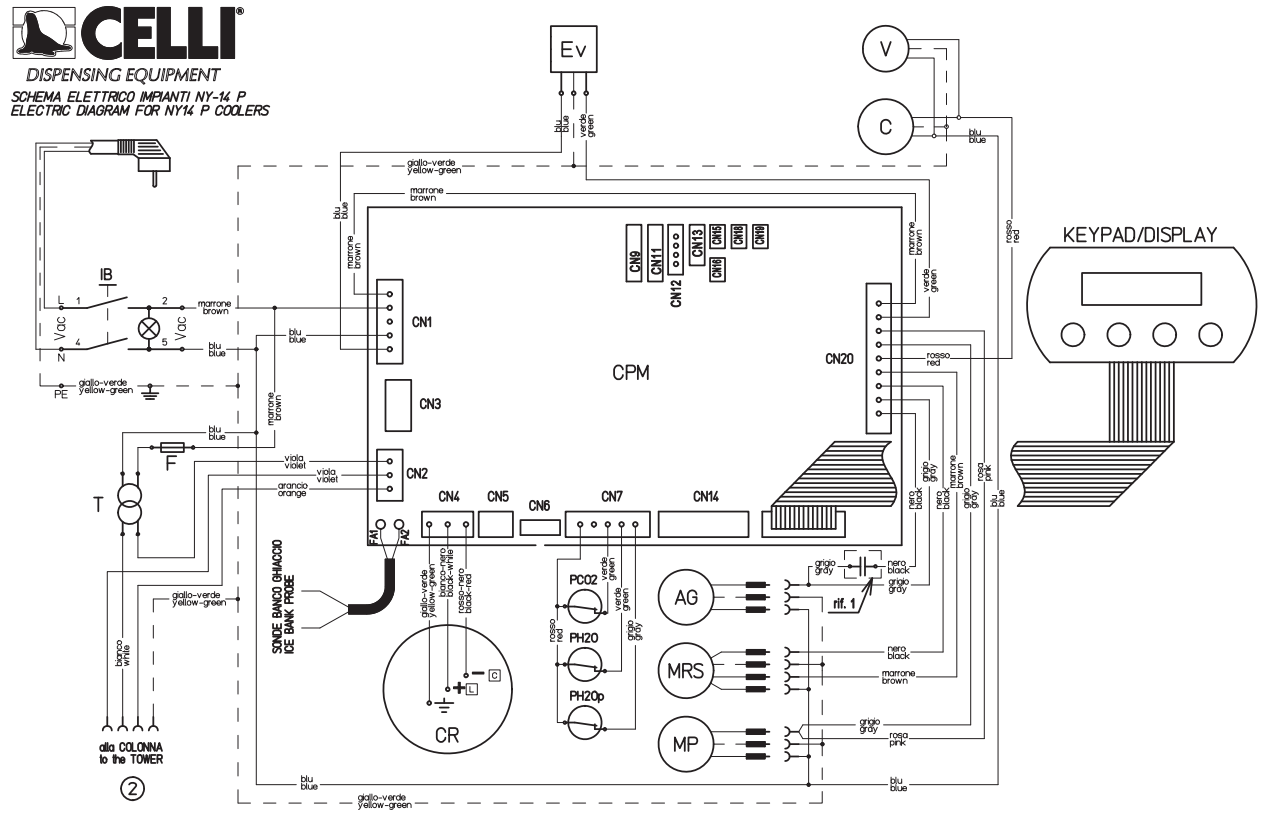
9 - Annexes

9.1 BRAVE 30-60 ES electrical diagram Version with still water and special pump



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 BRAVE 30-60 ES electrical diagram
Version with still water



LEGENDA - LEGEND

AG	*AGITATORE - AGITATOR*
C	*COMPRESSORE - COMPRESSOR*
CPM	*CENTR.POSTMIX - POSTMIX CONTROL BOX*
CR	*CARBONATORE - CARBONATOR*
Ev	*ELETTROVALVOLA - SOLENOID VALVE*
F	*FUSIBILE - FUSE*
IB	*INTERR.BIPOLARE- DUAL POLE SWITCH*
MP	*POMPA CARBONATORE - CARBONATOR PUMP*
MRS	*POMPA RIC. SODA - SODA RECIRCULATION PUMP*
PCO2	*PRESSOSTATO CO2 - CO2 PRESSURE SWITCH*
PH2O	*PRESSOSTATO H2O - H2O PRESSURE SWITCH*
PH2Op	*PRESSOSTATO H2O PIATTA - STILL WATER PRESSURE SWITCH*
T	*TRASFORMATORE - TRANSFORMER*
Vac	*COME DA MATRICOLA - AS SHOWN IN MATRICULATION*

rif. 1 - presente su alcune versioni
only some models

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REV. 1 11/03/2014

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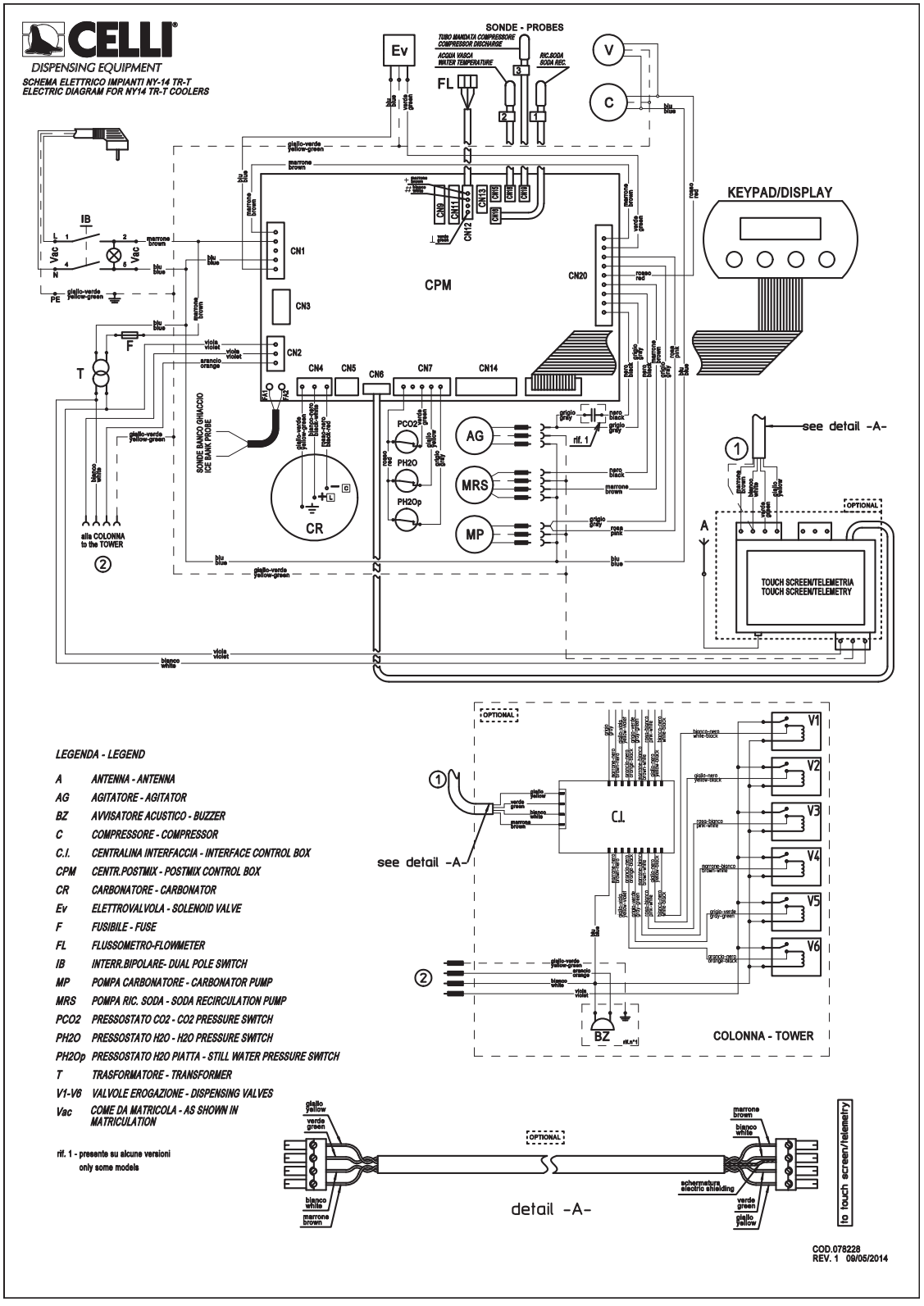
The electrical diagram can also be found on the inner part of the insulating tank cover. Refer to that diagram if there are any differences compared with the one above.

9.3 BRAVE 30-60 ES electrical diagram
Version with still water and telemetry



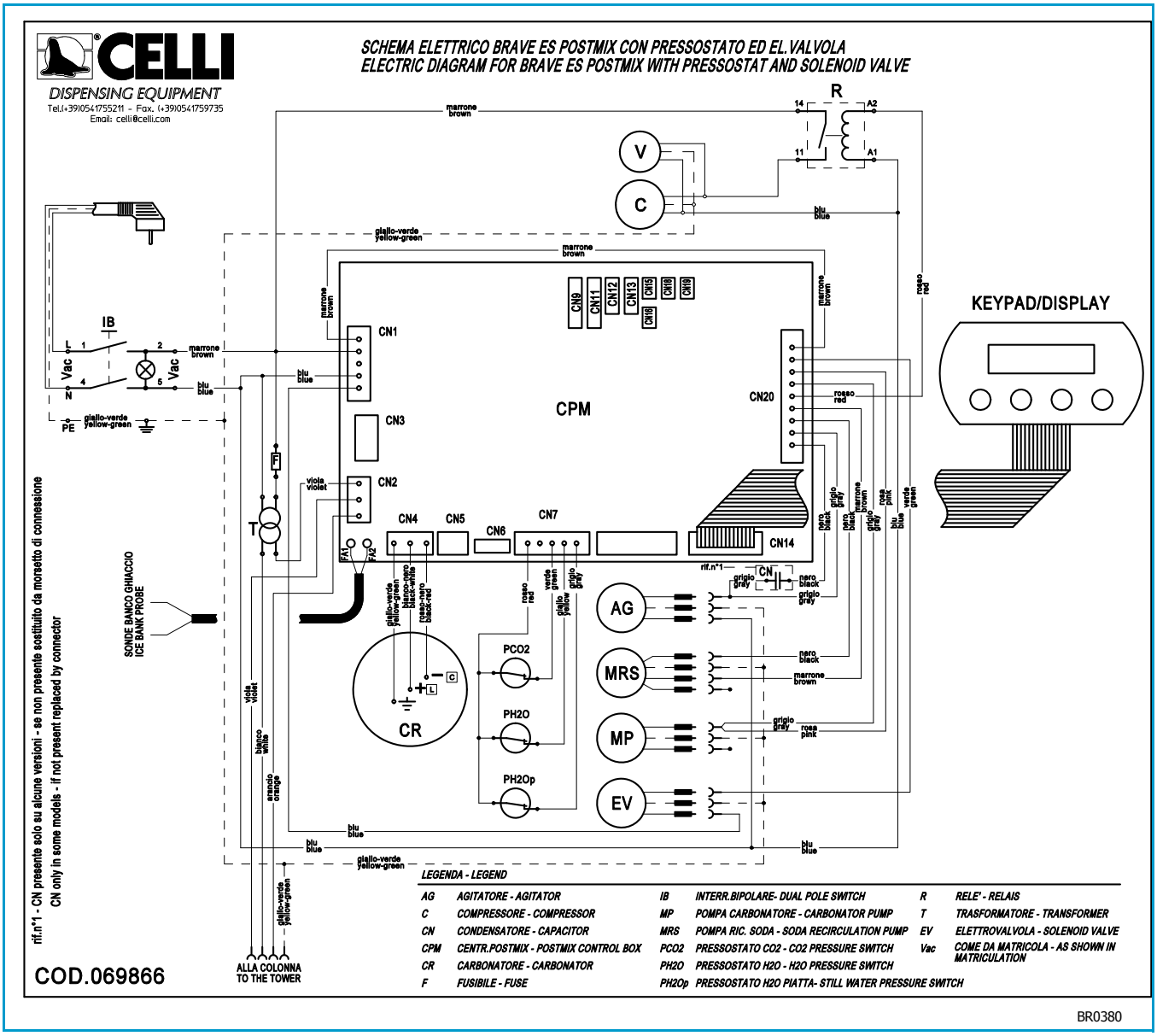
LEGENDA - LEGEND

A	ANTENNA - ANTENNA
AG	AGITATORE - AGITATOR
BZ	AVVISATORE ACUSTICO - BUZZER
C	COMPRESSORE - COMPRESSOR
C.I.	CENTRALINA INTERFACCIA - INTERFACE CONTROL BOX
CPM	CENTR.POSTMIX - POSTMIX CONTROL BOX
CR	CARBONATORE - CARBONATOR
Ev	ELETTROVALVOLA - SOLENOID VALVE
F	FUSIBILE - FUSE
FL	FLUSSOMETRO-FLOWMETER
IB	INTERR.BIPOLARE- DUAL POLE SWITCH
MP	POMPA CARBONATORE - CARBONATOR PUMP
MRS	POMPA RIC. SODA - SODA RECIRCULATION PUMP
PCO2	PRESSOSTATO CO2 - CO2 PRESSURE SWITCH
PH2O	PRESSOSTATO H2O - H2O PRESSURE SWITCH
PH2Op	PRESSOSTATO H2O PIATTA - STILL WATER PRESSURE SWITCH
T	TRASFORMATORE - TRANSFORMER
V1-V6	VALVOLE EROGAZIONE - DISPENSING VALVES
Vac	COME DA MATRICOLA - AS SHOWN IN MATRICULATION

rif. 1 - presente su alcune versioni
only some models

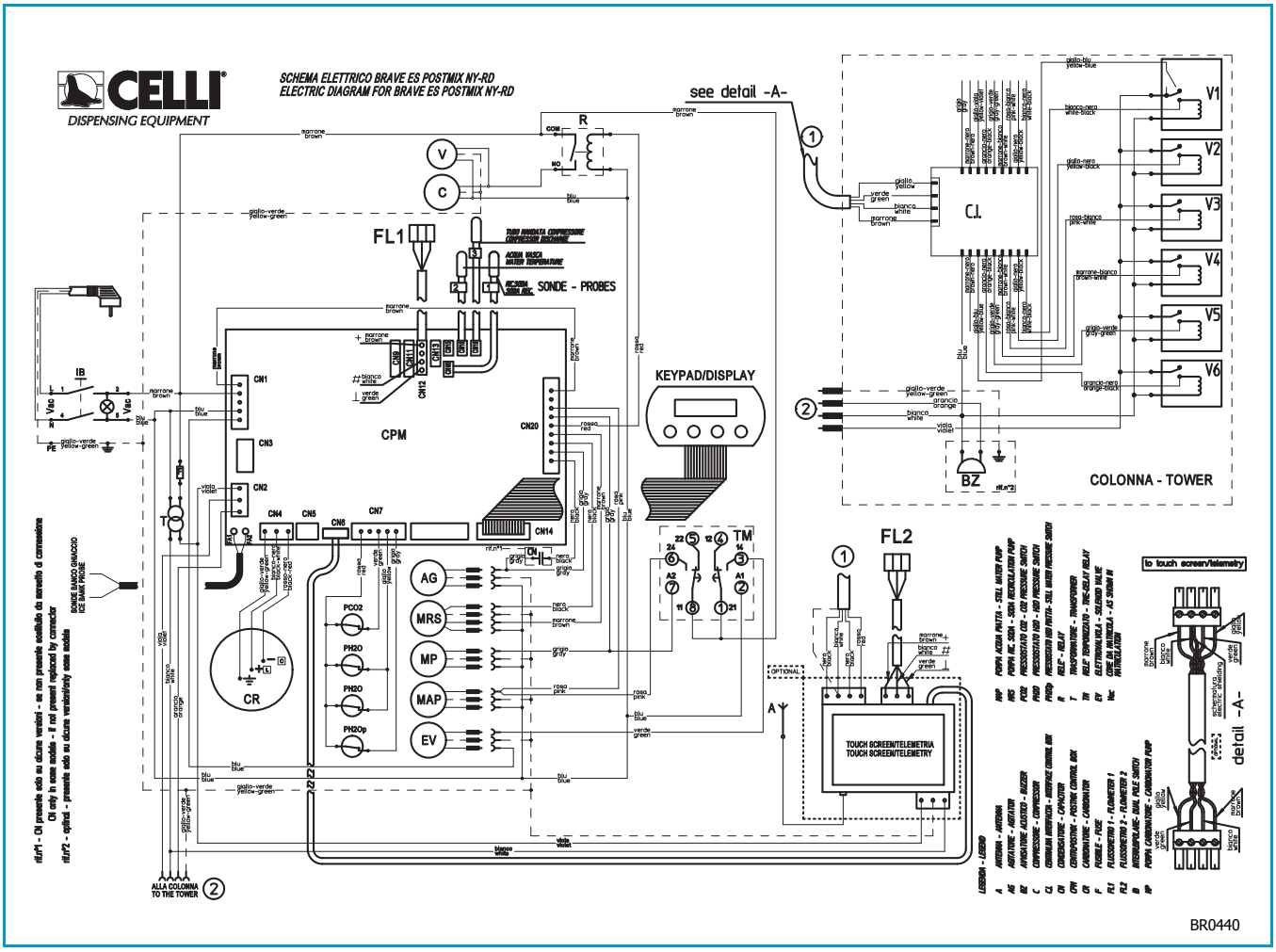
The electrical diagram can also be found on the inner part of the insulating tank cover. Refer to that diagram if there are any differences compared with the one above.

9.4 BRAVE 90 ES electrical diagram
Version with still water, pressure switch and solenoid valve



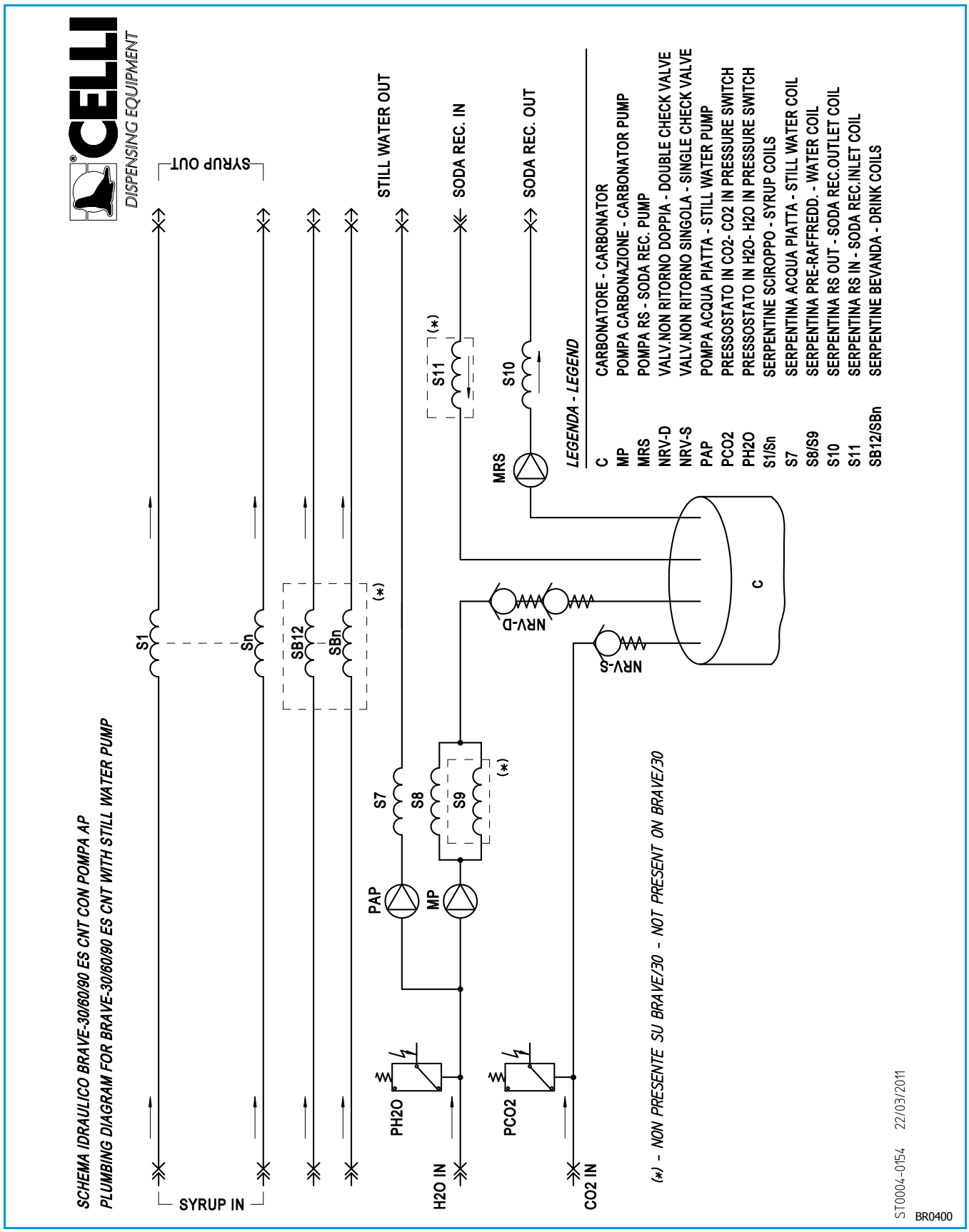
The electrical diagram can also be found on the inner part of the insulating tank cover. Refer to that diagram if there are any differences compared with the one above.

9.5 BRAVE 90 ES electrical diagram Version with still water and telemetry

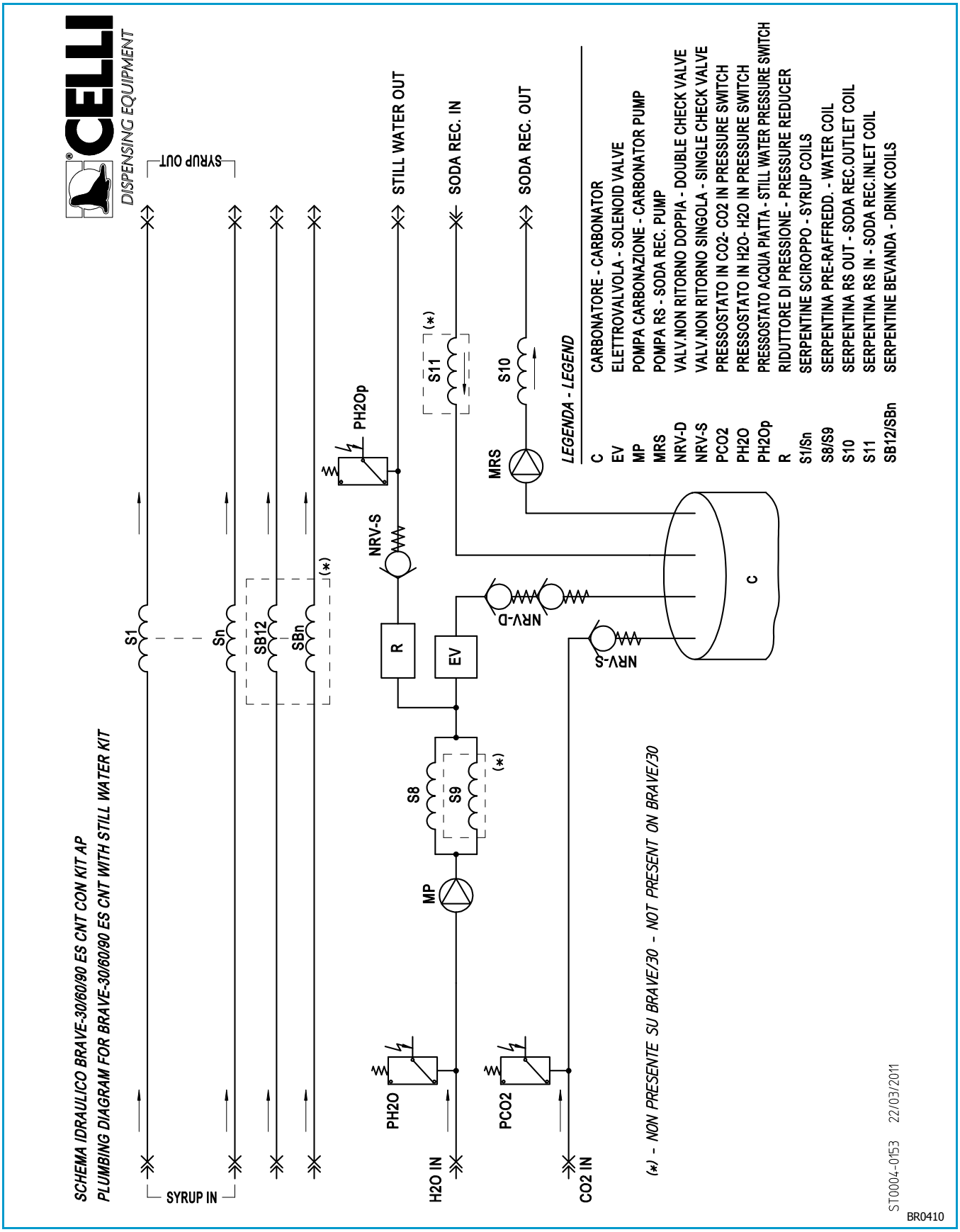


The electrical diagram can also be found on the inner part of the insulating tank cover. Refer to that diagram if there are any differences compared with the one above.

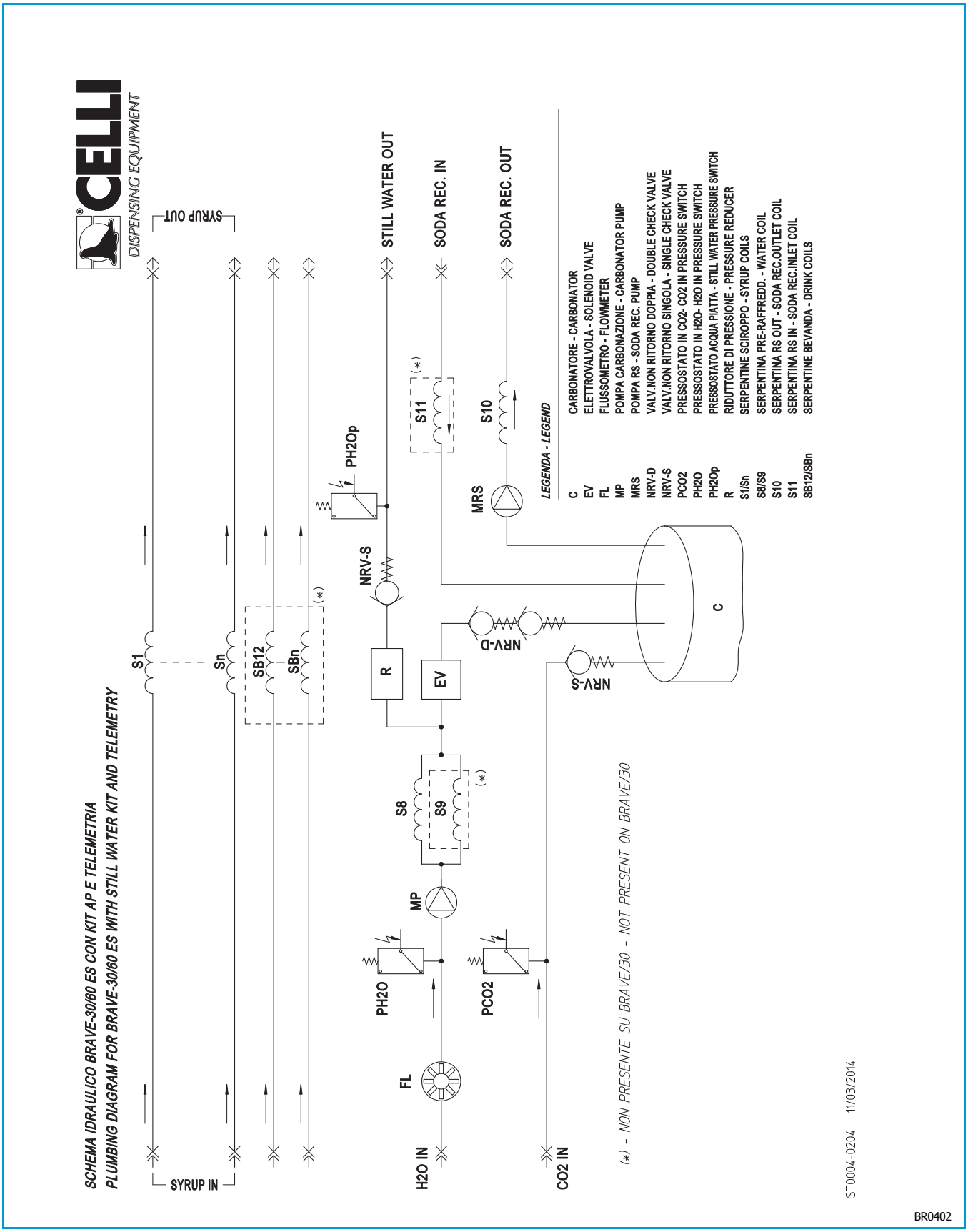
9.6 BRAVE ES hydraulic diagram
Version with special still water pump



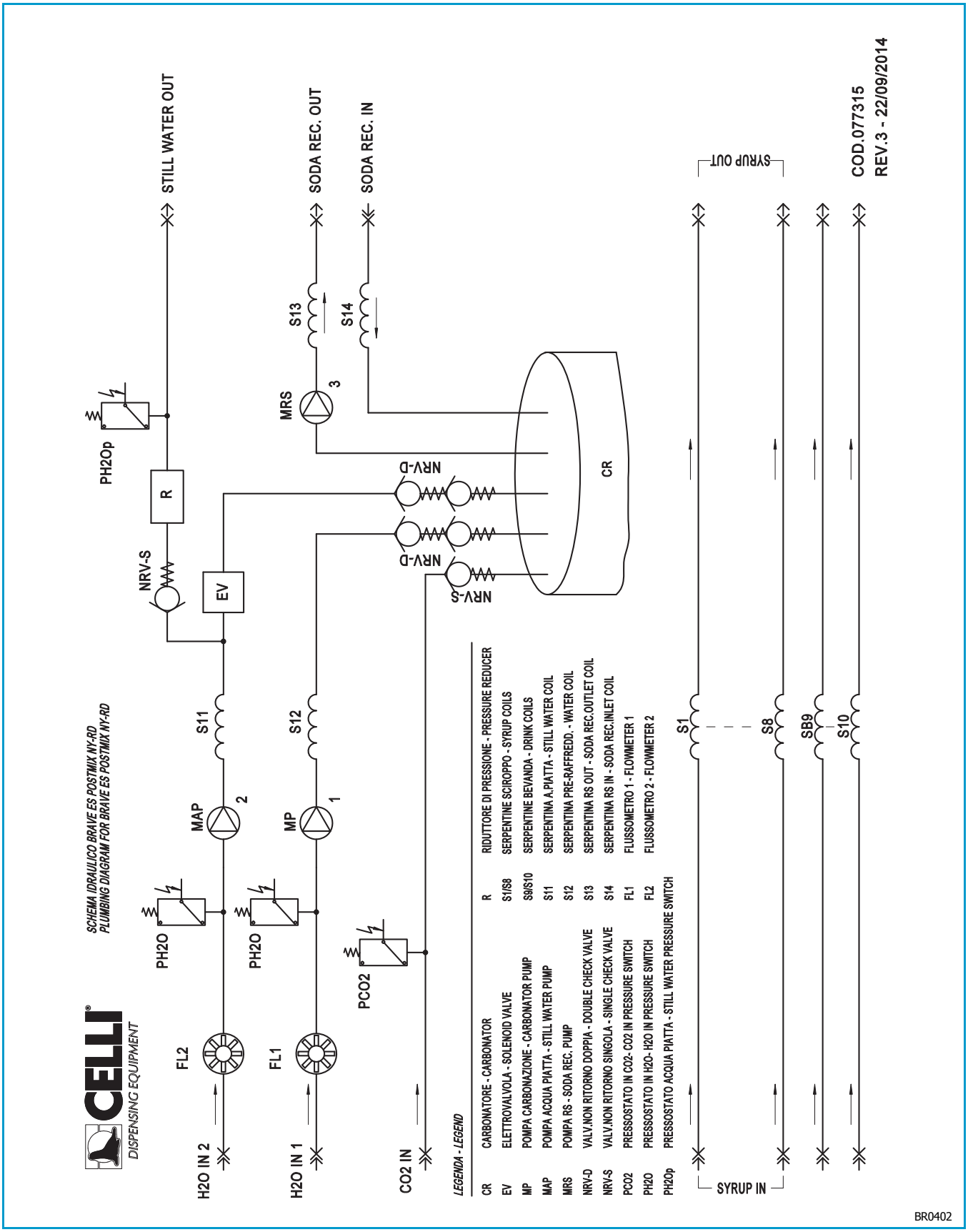
9.7 BRAVE ES hydraulic diagram
Version with still water kit, pressure switch and solenoid valve



9.8 BRAVE 30 - 60 ES hydraulic diagram
Version with still water and telemetry



9.9 BRAVE 90 ES hydraulic diagram
Version with still water/carbonator



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