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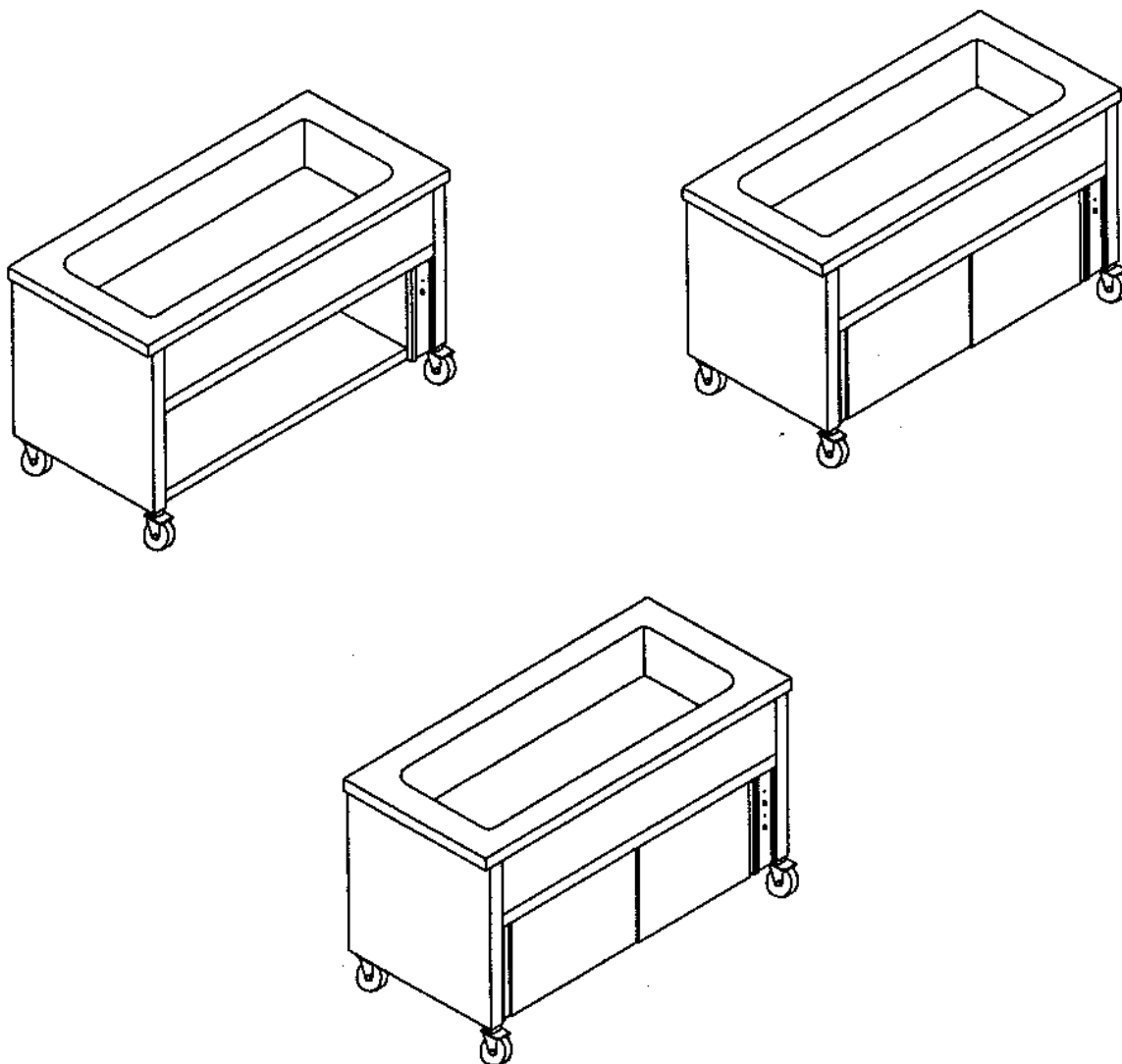
Diamond
catering equipment

“SELF-RO 70”



GB

**- INSTALLATION, OPERATING AND MAINTENANCE MANUAL
FOR BAIN-MARIE UNITS**





INSTALLATION, OPERATING AND MAINTENANCE MANUAL FOR BAIN-MARIE UNITS ON NEUTRAL OR HEATED CABINETS “SELF-SERVICE 700”

1. WARNINGS

Read this manual carefully before starting installation.

The manual has been devised to furnish the user with all the information required to operate with the equipment safely, from its transportation to its scrapping.

The manual must be looked after carefully so that it is available for future references. If the equipment is sold, the manual must also be handed over to the new user.

In order to use the equipment correctly:

- Do not tamper with the safety devices;
- Use the equipment only for the purpose for which it was specifically designed;
- Do not use the basin for heating without water;
- Keep unauthorized personnel away from the equipment;
- Have maintenance performed by qualified personnel only;
- Switch off the equipment in the event of a fault or irregular operation;
- Only use spare parts supplied by the Manufacturer or by stockists indicated by the Manufacturer.

WARNING: ONLY QUALIFIED ELECTRICIANS ARE AUTHORIZED TO ACCESS THE MAIN CONTROL BOARD AND ANY OTHER ELECTRICAL PARTS, WHETHER FOR INSTALLATION OR MAINTENANCE PURPOSES.

The Manufacturer declines all responsibility for damage to property or bodily injury as a result of non-compliance with the instructions and warnings contained herein.

If in any doubt, and whenever the need arises, contact the DEALER.

2. INTRODUCTION

The equipment conforms to the EEC Directives 2004/108 CEE e 2006/95 CEE.

In addition, the following standards have also been applied: CEI EN 60335-1, CEI EN 60335-2-49, CEI EN 60335-2-50, EN 55014, EN 61000-3-2 and EN 61000-3-3.

3. DESCRIPTION OF THE EQUIPMENT

Our BAIN-MARIE UNITS are made up of a basin inserted in a support cabinet, the heating unit housed in the part under the basin and an operating and control unit for regulating the basin and the cabinet temperature, inserted in a vertical instrument panel located to the side in the compartment underneath.

The heating unit is made up of a number of heating elements (between 2 and 6) varying depending on the size of the basin.

The BAIN-MARIE UNITS are available in unified GASTRONORM sizes 2 1/1, 3 1/1, 4 1/1 and 6 1/1 as can be seen in Tab. A, and designed to be incorporated into group catering systems in various configurations.

4. TRANSPORTATION AND HANDLING

If the equipment is transported on a pallet, it must be unloaded using a lift truck or other appropriate lifting means operated by trained personnel. The maximum weight is given in Table A.

Manoeuvring errors might cause injury as a result of crushing. Any knocking of the surfaces of the equipment will result in immediate damage.

During this phase, anyone not directly involved in the operation must not be allowed to hang around.

The personnel handling the equipment must wear appropriate personal safety gear (e.g. work gloves, safety boots).

5. OPERATING CONDITIONS AND TECHNICAL FEATURES

Our BAIN-MARIE UNITS have been designed solely for the preservation and display of warm foods, contained in special unified containers, for use in rooms used for group catering. Any other use shall be considered improper.

The max. operating temperature of the basin is 90°C; the max. operating temperature of the heated compartment is 60°C.

The BAIN-MARIE UNITS are available in the configurations featured in Table A.

5.1 Controls

The control devices are grouped together on the instrument panel illustrated in Fig. 1. The electrical components conform to standards.

5.2 Protection and safety devices

- Safety devices:
Manual-reset safety thermostat in the heated cabinet only, set to a temperature of 150°, it trips when operation is anomalous.
- Personal safety gear:
The food containers and warmed crockery can become very hot, and it is therefore advisable to use pot-holders or oven gloves.
- Special provisions guarding against residual hazards:
Make sure authorized personnel only are allowed access to the unit, and that they are suitably instructed as to the potential dangers owing to high temperatures.

6. INSTALLATION

6.1 Preliminaries

The user must install the power supply in accordance with the instructions given in Fig. 3 (in the case of fixed assembly) and in compliance with the standards in force.

There must be a water supply pipe with a pressure in the range 1.5 to 3 bar, featuring a shutoff cock, for filling the basin. Drinking water must be used and, where possible, should be demineralized. The water may be preheated to no more than 50°C. A pipe complete with trap must be provided for draining the basin. The fitted pipes are of ½" GAS for supply and of ½" GAS for waste.

6.2 Positioning

Move the equipment into place with the aid of a pallet truck, where necessary. If the unit is moved after it has been unpacked, protect the surfaces from knocks.

The standard equipment is issued on adjustable feet to obtain the desired height and compensate for any unevenness or slope of the floor. During this phase, make sure any doors on the lower compartment are properly closed. Once installation is complete, the protective film can be removed. This operation should be performed very slowly to prevent the glue remaining attached to the surfaces. If this happens, use kerosene or petrol to remove it.

6.3 Plumbing (fixed assembly)

Two supply and waste pipes can be seen under the lower shelf. Connect the supply pipe C to the water supply pipe using a flexible hose.

Connect the basin's waste pipe S to the trap of the waste pipe installed in the room.

Once installation is complete, the protective film can be removed from the surfaces. This operation should be performed very slowly to prevent the glue remaining attached to the surfaces. If this happens, use kerosene or petrol to remove it.

6.4 Electrical connections

Connections must be made by a qualified electrician in accordance with the local standards in force. The equipment's electric circuit is designed to work with the supply voltage shown in Tab A, with a frequency of 50/60 Hz. See the wiring diagram in Fig. 2 referring to the model purchased.

The equipment is connected by means of the plug under the instrument panel: simply plug it into a portable socket-outlet connected to the room's power mains.

The cable must have the features of type H05 RNF or better, and must feature an efficient earth wire of an appropriate size for the total power of this unit and any other units or accessories connected on the same terminal board (**see rating plate**).

The unit's electrical supply system must feature an appropriately sized automatic omnipolar circuit breaker upstream that assures a gap between the contacts of at least 3mm. There must not be any breaks in the earth cable.

The electrical safety of this equipment is only assured when the above-mentioned conditions are met and if the system's equipotential situation is also in order (use the connection screw located near the power cable entry and the label featuring the symbol) 

The manufacturer declines all responsibility in the event these safety standards are not complied with.

7. OPERATION / USE

7.1 Operating tips

- This equipment must be used solely for the use for which it was expressly designed: i.e., for keeping foods in GN containers in a bain-marie. The lower compartment is used to hold or warm crockery. Any other use shall be considered improper. The size of the basin means that, lengthwise, it can accommodate 2, 3, 4, 6 GN 1/1 modules respectively.

- Before using the equipment for the first time, clean it inside with lukewarm water and neutral soap, rinse and dry thoroughly. Avoid using abrasive detergents or scouring powders.

7.2 Starting up the BAIN-MARIE BASIN

- Turn on the circuit breaker located upstream from the equipment.
- Make sure the overflow is properly inserted in the waste.
- Open the water supply valve located under the basin, or use the water filling button to be found on the instrument panel (**Fig. 1**); always fill the basin at least to the highest level notch marked on the overflow pipe (approx. 2 or 3 cm from the bottom).
- **Switch on the basin digital thermostat A (basin) and B (heated compartment if there is any) of Fig. 1 and press the button 4 for at least 5" (see picture of thermostat)**
- Regulate the digital thermoregulator **A (basin)** and **B (compartment)** to the required temperature (the basin thermoregulator is set on 85°C, the compartment thermoregulator is set on 50°C).
- The digital thermoregulator **A** indicates the temperature inside the basin.
- The digital thermoregulator **B** indicates the temperature inside the compartment.

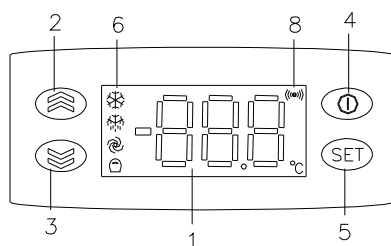
WARNING: a) DO NOT HEAT THE BASIN WITHOUT WATER INSIDE. Overheating will damage the basin and the heating elements.

b) CHECK periodically to make sure that THE WATER LEVEL is not allowed to fall below the lowest level notch marked on the overflow pipe;

WARNING:

If the digital thermostat **B** of the heated cupboard turns off and even pressing the button **4** (see picture of digital thermostat) it doesn't run, the working **IS NOT CORRECT**, the manual-reset safety thermostat goes off. Switch off the general switch and call the assistance service.

7.3 Digital thermoregulator



Legend

- 1- Display
- 2- "Increase value" button
- 3- "Decrease value" button
- 4- **Press at least " " to activate the stand-by function , "Exit function" button**
- 5- "Enter setpoint" button, enter controls confirmation menu and alarms view menu
- 6- Red led alight, heating element on working
- 8- Red led alight, active alarm; if lightening, silenced alarm

USE

During the usual working the instrument shows the temperature pointed out by the feeler which is in contact with the basin or inside the cabinet.

To visualize the present setpoint value: (value of established temperature) push and release **set** button, the word "**set**" appears, push again "**set**" button.

To modify the setpoint value push and release **set** button, the word "**set**" appears, push again "**set**" button and the set value appears. To modify it push by 15 seconds the ▲(2) ▼(3) buttons to increase or decrease the value. After the change push **set** button to save the new value.

The setpoint can be set by settled limits of the highest and lowest temperature.

SIGNALS AND ALARMS

"**E1**" on the display indicates **damaged thermostat feeler** and there could be one of the following anomaly: basin feeler type not correct, basin feeler defective, connection defect. Check if the feeler is intact and if connection between instrument and feeler is correct.

"**AH1**" **high temperature alarm** on display indicates that the reading value is higher then the pre-setted max. value; it causes no effect to the regulation, the alarm stops when the temperature decreases under the presetted max. value.

"**AL1**" **low temperature alarm** on display indicates that the reading value is lower then the presetted minimum value, it causes no effect to the regulation, the alarm stops when the temperature rises over the presetted minimum value.

Only qualified personnel can modify the CONFIGURATION PARAMETERS of the thermostat, established by the Manufacturer, using the instructions of the instrument.

7.4 Switching off

Switch the equipment off by switching the **digital thermostat A (basin) and B (compartment) off.**

A (basin) and B (heated compartment, where fitted), in Fig. 1, anticlockwise all the way, making sure that lights A (basin) and B (heated compartment, where fitted) go off.

Turn off the circuit breaker upstream from the equipment and close the supply pipe valves (if connected to a fixed system).

THE BASIN MUST ONLY BE DRAINED ONCE THE EQUIPMENT HAS COOLED.

In the event the unit is to be left off for a lengthy period:

- a) disconnect the power and water supply;
- b) empty the basin and clean thoroughly;
- c) protect the stainless steel surfaces by smearing them with Vaseline oil, rubbing vigorously with a cloth soaked in the oil;
- d) air the room periodically, leaving the doors of the cabinet open to prevent undesirable smells from forming.

8. CLEANING AND MAINTENANCE

8.1 Routine maintenance

The routine and preventive maintenance basically consists in the weekly cleaning of the stainless steel parts with lukewarm soapy water, rinsing abundantly and drying thoroughly. The unit must only be cleaned after first disconnecting the power supply upstream from the equipment.

Should lime scale form on the bottom of the basin, clean with a vinegar solution or special products before rinsing abundantly with water and drying.

Warning:

- Under no circumstances should you use abrasive or corrosive detergents and utensils such as steel wool, brushes or metal scrapers.
- Bleach, hydrochloric acid and other compounds containing chlorine will damage the stainless steel.
- The coloured parts must be cleaned with silicone wax.
- The floor under the unit must not be washed with corrosive substances that might generate vapours damaging the equipment.
- During cleaning, **do not wash the equipment with jets of water.**

8.2 Non-routine maintenance

The non-routine maintenance must be performed **by qualified personnel** in the event of a fault or anomaly, **wherever possible with the equipment disconnected from the power mains.**

In this case, repairs or replacements might be required. The faulty parts must only be replaced with materials and components identical to the originals or specified by the Manufacturer.

The replacement of components or the modification of the equipment by the user without written permission from the Manufacturer, or the use of non-authorized spare parts, shall instantly cause the warranty to be void.

8.3 Possible errors

If the BASIN does not heat, check the power supply and make sure the working thermostat is not at the minimum setting.

If the HEATED COMPARTMENT does not heat, check the power supply and make sure the working thermostat is not at the minimum setting, or that the heated cabinet's vents are obstructed.

If, after performing the checks indicated, correct operation is still not achieved, switch off the equipment and **contact the supplier without delay**.

9 SCRAPPING

At the end of its service life, the equipment must be disconnected from the power mains before disassembling the various components. Special care must be taken to avoid the risk of accidents associated with the form and weight of each component.

The various parts (electrical components, rubber piping, fairlead linings etc.) must be sorted so as to make the best possible contribution to the protection of the environment in compliance with the laws in force.

Tabelle A: TECHNICAL FEATURES OF BAIN-MARIE UNITS

TECHNICAL DATA	EGB8	EGB 12	EGB 15	EGB 23	EAB 8	EAB 12	EAB 15	EAB 23	ECB 8	ECB 12	ECB 15	ECB 23
Compartment type	OPEN	OPEN	OPEN	OPEN	CABINE T	CABINE T	CABINE T	CABINE T	HEATED	HEATED	HEATED	HEATED
Overall dimensions mm:												
• L = length	800	1200	1500	2300	800	1200	1500	2300	800	1200	1500	2300
• P = depth	700	700	700	700	700	700	700	700	700	700	700	700
• H = height	900	900	900	900	900	900	900	900	900	900	900	900
Depth with tray slide mm	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Compartment dimensions mm:												
• length	520	920	1220	1880	520	920	1220	1880	520	920	1220	1880
• depth	590	590	590	590	590	590	590	590	590	590	590	590
• height	400	400	400	400	400	400	400	400	400	400	400	400
Compartment capacity – litres	122	217	287	443	122	217	287	443	122	217	287	443
Door type	/	/	/	/	Hinged	Sliding	Sliding	Sliding	Hinged	Sliding	Sliding	Sliding
N° of doors	/	/	/	/	1	2	2	2	1	2	2	2
Number of basins	1	1	1	1	1	1	1	1	1	1	1	1
Basin dimensions mm:												
• length	630	960	1280	1930	630	960	1280	1930	630	960	1280	1930
• depth	510	510	510	510	510	510	510	510	510	510	510	510
• height	210	210	210	210	210	210	210	210	210	210	210	210
Basin capacity GN	2 1/1	3 1/1	4 1/1	6 1/1	2 1/1	3 1/1	4 1/1	6 1/1	2 1/1	3 1/1	4 1/1	6 1/1
Water inlet diameter	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Water outlet diameter	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Basin power kW	2,4	3,6	3,6	7,2	2,4	3,6	3,6	7,2	2,4	3,6	3,6	7,2
Compartment power kW	/	/	/	/	/	/	/	/	1,1	1,6	1,6	2,2
Total power kW	2,4	3,6	3,6	7,2	2,4	3,6	3,6	7,2	3,5	5,2	5,2	9,4
Supply voltage	230V 1N	380V 3F+N	380V 3F+N	380V 3F+N	230V 1N	380V 3F+N	380V 3F+N	380V 3F+N	230V 1N	380V 3F+N	380V 3F+N	380V 3F+N
Max. weight (Kg).	70	85	100	135	85	108	115	146	90	110	120	150

Fig. 1: PANNELLO COMANDI – CONTROL PANEL – SCHALTFELD - PANNEAU DE COMMANDES

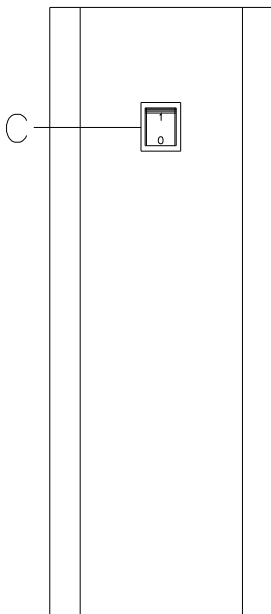
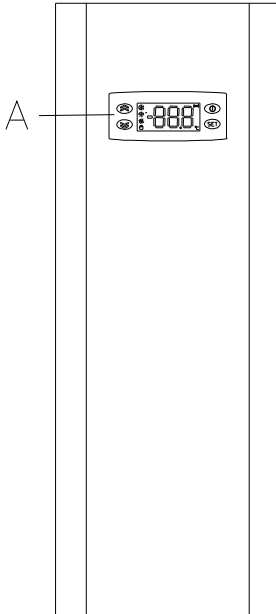
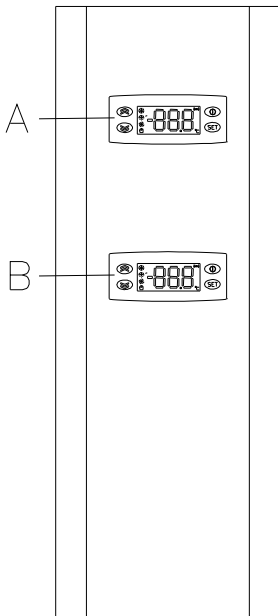
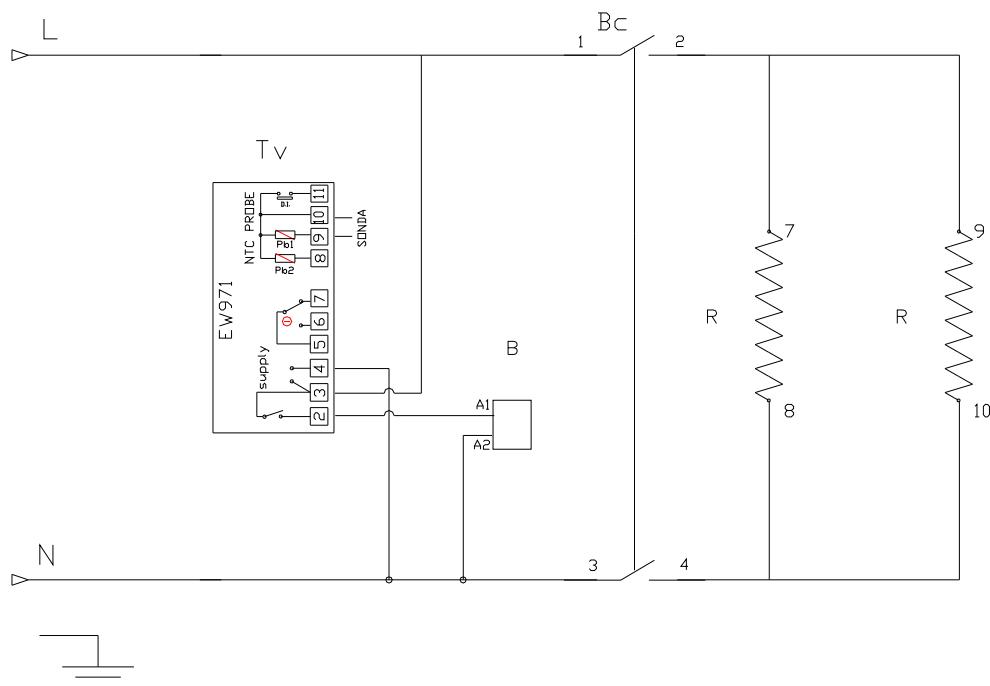
CRUSCOTTO SINISTRO ELEMENTO BAGNOMARIA MOD ...23	ELEMENTI BAGNOMARIA SU VANO A GIORNO / ARMADIO NEUTRO	ELEMENTI BAGNOMARIA SU VANO CALDO
LEFT INSTRUMENT BAIN-MARIE UNIT PANEL MOD ...23	BAIN-MARIE UNITS ON OPEN SHELVING / NEUTRAL CABINET	BAIN-MARIE UNITS IN HEATED COMPARTMENT
LINKES BEDIENFELD BAINMARIE-ELEMENT MOD. ...23	BAINMARIE-ELEMENTE AUF OFFENEM FACH / NEUTRALEM UNTERSCHRANK	BAINMARIE-ELEMENTE AUF BEHEIZTEM FACH
TABLEAU DE COMMANDES GAUCHE ELEMENT BAIN-MARIE MOD ...23	ELEMENTS BAIN-MARIE SUR COMPARTIMENT A JOUR/ARMOIRE NEUTRE	ELEMENTS BAIN-MARIE SUR COMPARTIMENT CHAUD
		
		
		
A = TERMOREGOLATORE DIGITALE VASCA B = TERMOREGOLATORE DIGITALE ARMADIO C= PULSANTE CARICO ACQUA		
A = BASIN HEATING ON LIGHT B = COMPARTMENT HEATING CONTROL SWITCH AND THERMOSTAT C = WATER FILLING BUTTON		
A = KONTROLLLAMPE BEHEIZUNG WANNE B = SCHALTER UND THERMOSTAT STEUERUNG BEHEIZUNG FACH C = TASTE WASSEREINLAUF		
A = VOYANT CHAUFFAGE BAC B = INTERRUPTEUR ET THERMOSTAT CONTROLE CHAUFFAGE COMPARTIMENT C = BOUTON REMPLISSAGE EAU		

Fig. 2: SCHEMA ELETTRICO – WIRING DIAGRAM – SCHALTPLAN - SCHEMA ELECTRIQUE

BAGNOMARIA SU VANO A GIORNO / ARMADIO NEUTRO - BAIN-MARIE UNITS ON OPEN SHELVING / NEUTRAL CABINET
- BAINMARIE-ELEMENTE AUF OFFENEM FACH / NEUTRALEM UNTERSCHRANK
- BAIN MARIE SUR COMPARTIMENT A JOUR / ARMOIRE NEUTRE

Mod. : L=800



BAGNOMARIA SU VANO A GIORNO / ARMADIO NEUTRO - BAIN-MARIE UNITS ON OPEN SHELVING / NEUTRAL CABINET
- BAINMARIE-ELEMENTE AUF OFFENEM FACH / NEUTRALEM UNTERSCHRANK
- BAIN MARIE SUR COMPARTIMENT A JOUR / ARMOIRE NEUTRE

Mod. : L=1200 / 1500

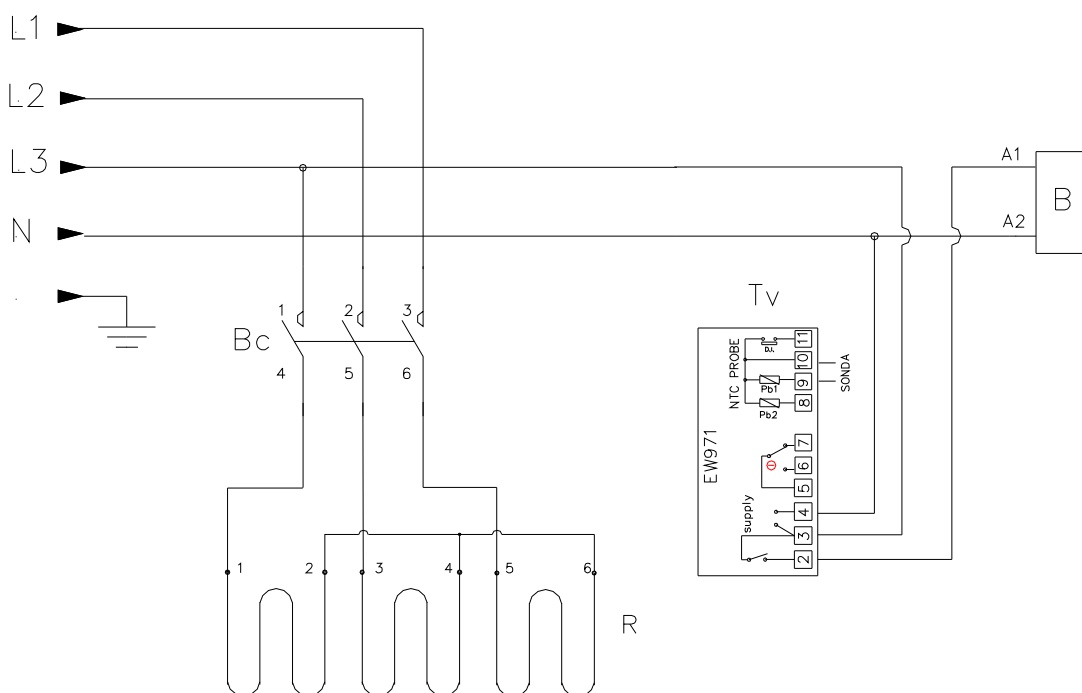
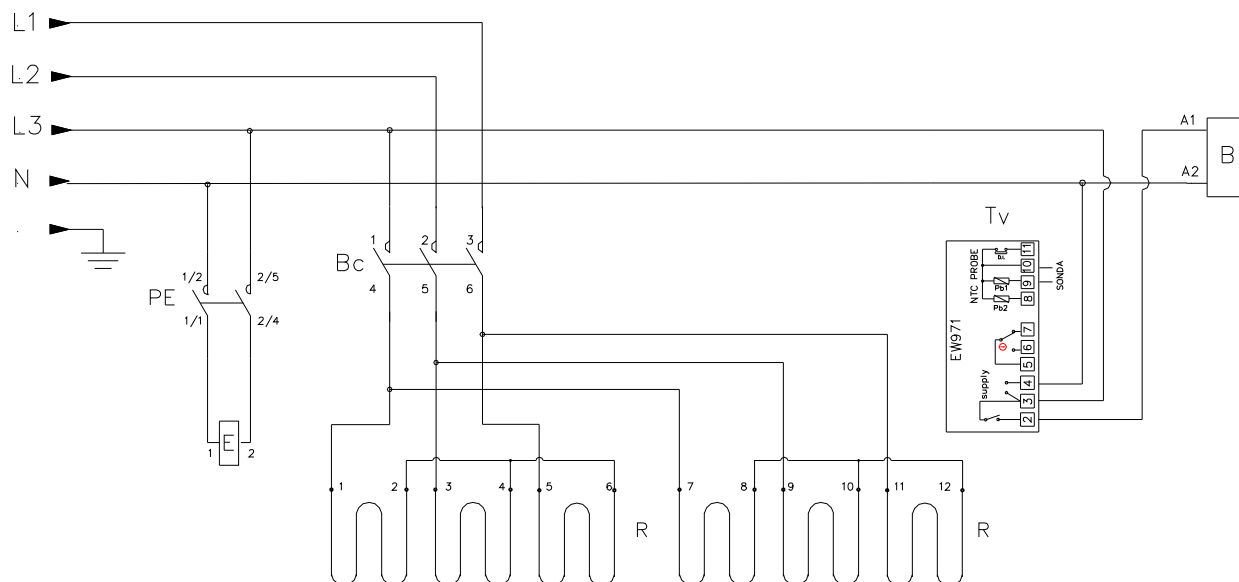


Fig. 2: SCHEMA ELETTRICO – WIRING DIAGRAM – SCHALTPLAN - SCHEMA ELECTRIQUE

BAGNOMARIA SU VANO A GIORNO / ARMADIO NEUTRO - BAIN-MARIE UNITS ON OPEN SHELVING / NEUTRAL CABINET
 - **BAINMARIE-ELEMENTE AUF OFFENEM FACH / NEUTRALEM UNTERSCHRANK –**
 - **BAIN MARIE SUR COMPARTIMENT A JOUR / ARMOIRE NEUTRE**

Mod. : L=2300



ELEMENTI BAGNOMARIA SU VANO CALDO – BAIN-MARIE UNITS IN HEATED COMPARTMENT
 - **BAINMARIE-ELEMENTE AUF BEHEIZTEM FACH – ELEMENTS BAIN-MARIE SUR COMPARTIMENT CHAUD**

Mod. : L= 800

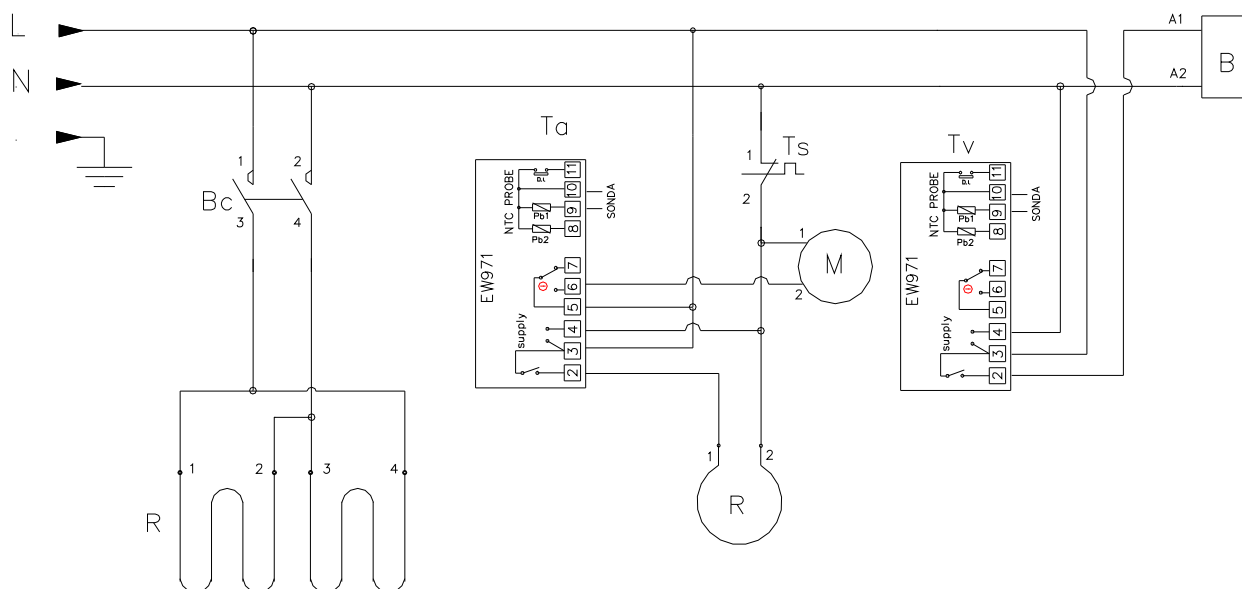
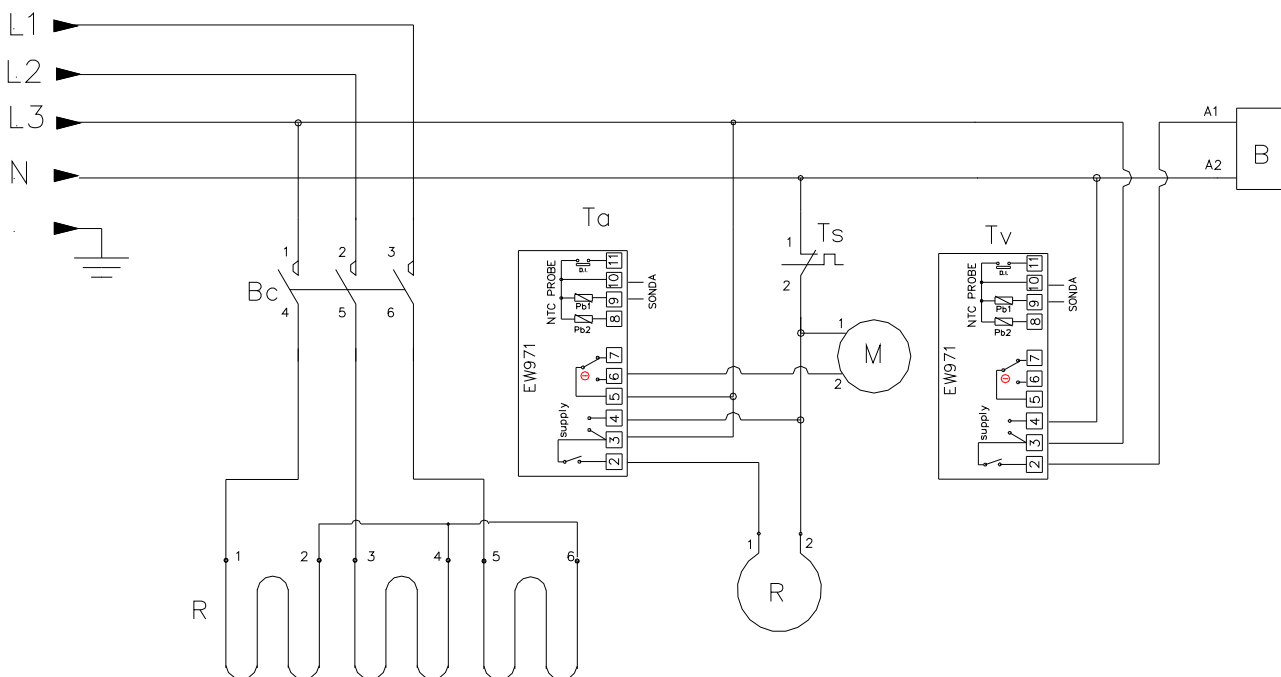


Fig. 2: SCHEMA ELETTRICO – WIRING DIAGRAM – SCHALTPLAN - SCHEMA ELECTRIQUE

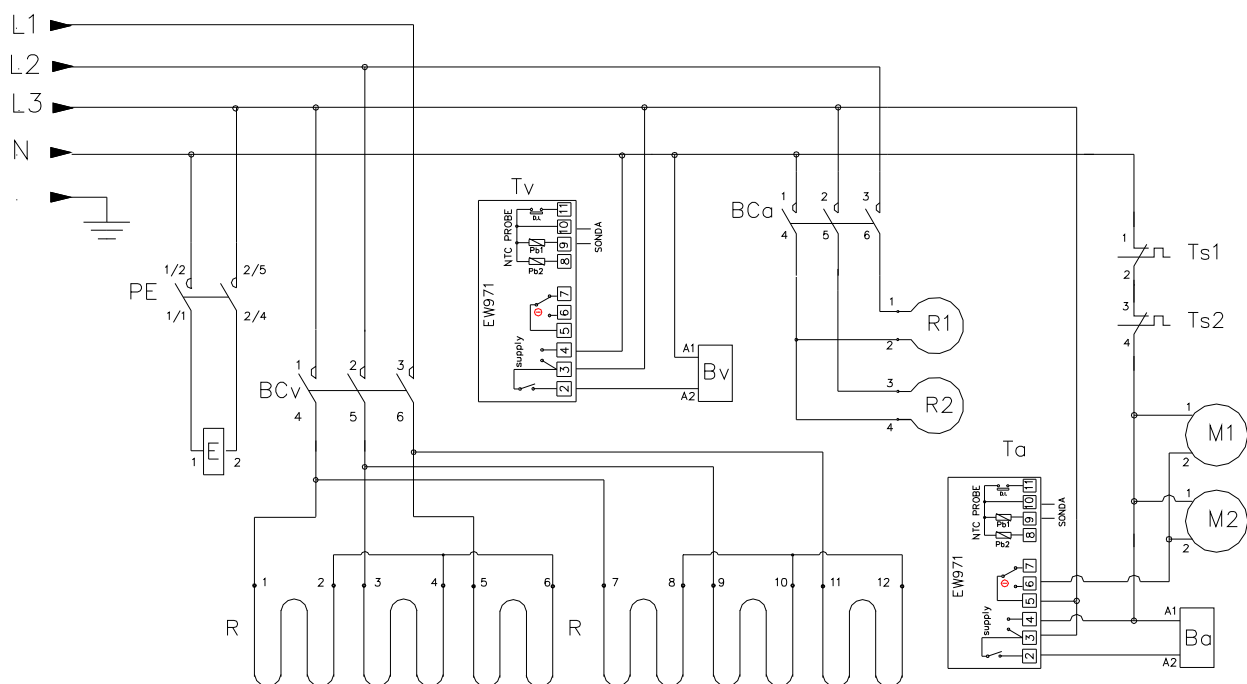
ELEMENTI BAGNOMARIA SU VANO CALDO – BAIN-MARIE UNITS IN HEATED COMPARTMENT
- BAINMARIE-ELEMENTE AUF BEHEIZTEM FACH – ELEMENTS BAIN-MARIE SUR COMPARTIMENT CHAUD

Mod. : L= 1200 / 1500



ELEMENTO BAGNOMARIA SU VANO CALDO - BAIN-MARIE UNIT IN HEATED COMPARTMENT
- BAINMARIE-ELEMENTE AUF BEHEIZTEM FACH – ELEMENTS BAIN-MARIE SUR COMPARTIMENT CHAUD

Mod. : L=2300



Tv	TERMOSTATO REGOLAZIONE VASCA	BASIN REGULATOR THERMOSTAT	THERMOSTAT EINSTELLUNG WANNE	THERMOSTAT REGLAGE BAC
Ts	TERMOSTATO DI SICUREZZA	SAFETY THERMOSTAT	SICHERHEITSTHERMOSTAT	THERMOSTAT DE SECURITE
Ta	TERMOSTATO REGOLAZIONE ARMADIO	BASIN REGULATOR SWITCH	THERMOSTAT EINSTELLUNG UNTERSCHRANK	THERMOSTAT REGLAGE ARMOIRE
B	BOBINA Teleruttore	ELECTROMAGNETIC SWITCH COIL	SPULE FERNSCHALTER	BOBINE Telerupteur
BC	CONTATTI Teleruttore	ELECTROMAGNETIC SWITCH CONTACTS	KONTAKTE FERNSCHALTER	CONTACTS Telerupteur
R	RESISTENZA RISCALDANTE	HEATING ELEMENT	HEIZKÖRPER	RESISTANCE CHAUFFANTE
M	MOTORE VENTILATORE	FAN MOTOR	VENTILATORMOTOR	MOTEUR VENTILATEUR
E	ELETTROVALVOLA	SOLENOID VALVE	E-VENTIL	VALVE ELECTRIQUE
PE	PULSANTE ELETTROVALVOLA	SOLENOID VALVE BUTTON	TASTE E-VENTIL	BOUTON VALVE ELECTRIQUE

Fig. 3: SCHEMA DI INSTALLAZIONE- INSTALLATION DIAGRAM - INSTALLATIONSSCHEMA - SCHEMA D'INSTALLATION

ELEMENTI BAGNOMARIA - BAIN-MARIE UNITS - BAINMARIE-ELEMENTE - ELEMENTS BAIN-MARIE

