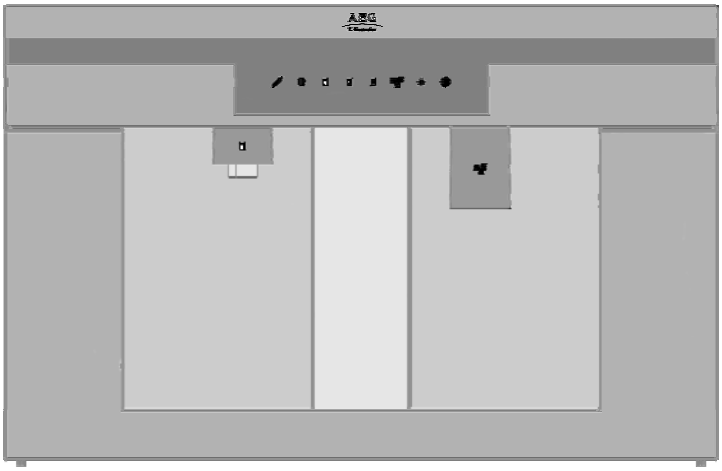
Electrolux

Distriparts

SERVICE MANUAL

REFRESHMENT CENTER



©ELECTROLUX HOME PRODUCTS Corso Lino Zanussi, 30 I-33080 PORCIA /PN (ITALY) Tel +39 0434 394850 Fax +39 0434 394096	Publication No. 599 38 97-33 EN	Refreshment Center for built-in installation
Date: 05,2007 *Rev.: 1.1.0*		

Table of contents

SAFETY 3
PURPOSE OF THIS MANUAL 3
DIMENSIONS 4
APPLIANCE DESCRIPTION 5
HYDRAULIC CIRCUIT 8
ELECTRICAL CIRCUIT 9
COOLING UNIT SCHEMA 10
MAIN COMPONENTS 11
MAIN FEATURES 20
STRUCTURE 25
1. Accessibility (general) 25
2. Access to components compartment 26
3. Access to the water tank compartment 34
4. Access to command panel and light bar 36
5. Removing the water dispense nozzle 37
6. Access to the cooling unit 38

TROUBLESHOOTING 39

Safety

Before accessing the internal components of the appliance and effecting repairs or maintenance, ensure that the plug is disconnected from the power socket and that parts subject to heating are allowed to cool down.

If electrical measurements should be necessary, it is preferable to measure the resistance; if possible, avoid measuring voltages or currents.

IMPORTANT: This appliance is built partly in metal. It is therefore advisable to take great care during repairs or maintenance to avoid scratches, abrasions or cuts.

Purpose of this manual

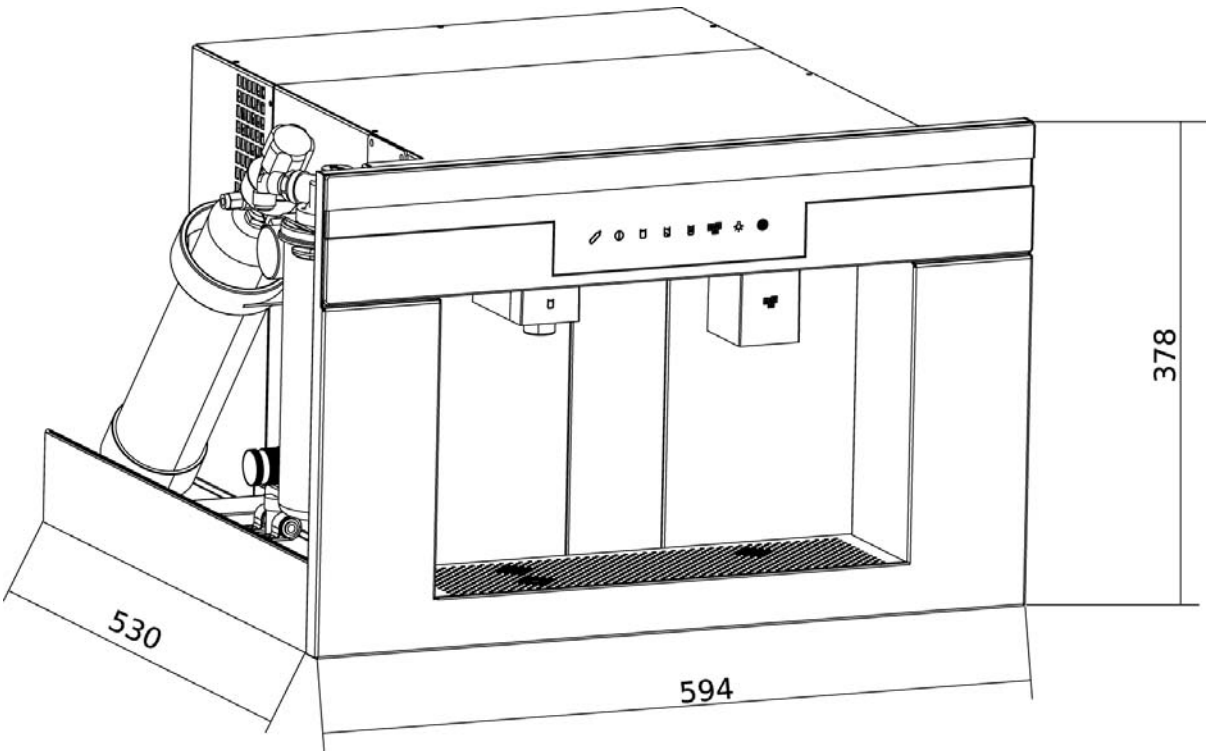
This Manual is intended for use by service engineers who already have experience in repairing household water and cold appliances.

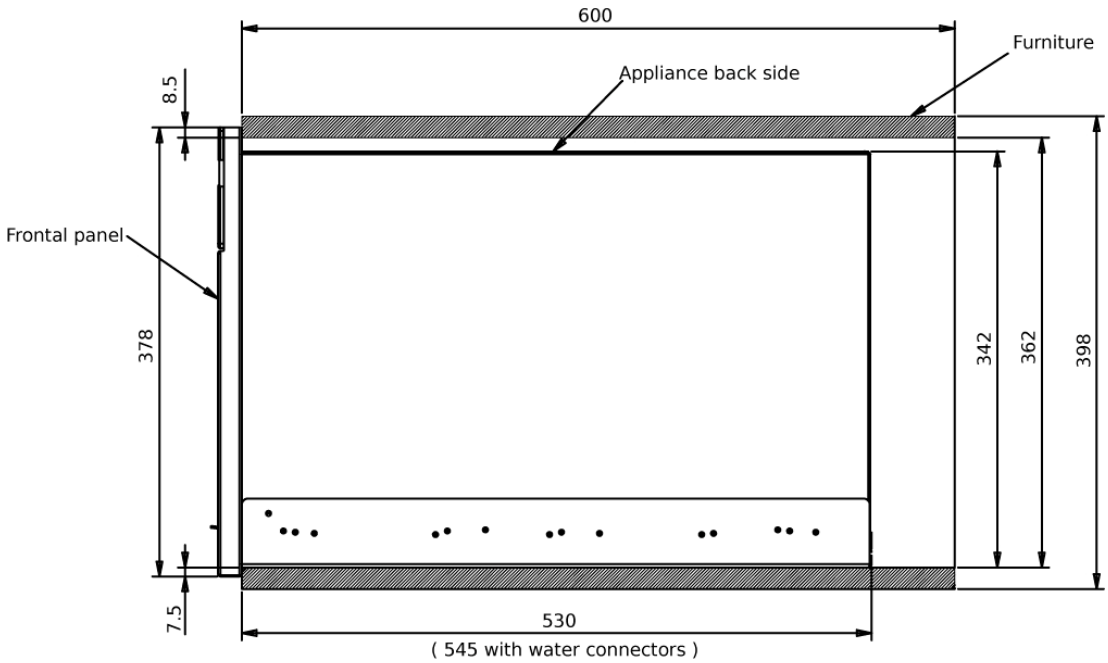
The purpose of this Manual is to provide general information about this new product and thus to facilitate repairs.

For more detailed information regarding specific aspects, refer to the specific technical documents for the appliance:

- Spare parts list
- Exploded view

Dimensions


378
530
594


600
Furniture
Appliance back side
8.5
Frontal panel
378
342
362
398
7.5
530
(545 with water connectors)

What does it do?

The Refreshment Unit is a domestic appliance designed to dispense purified cold, carbonated and ambient temperature water and ice-cubes.

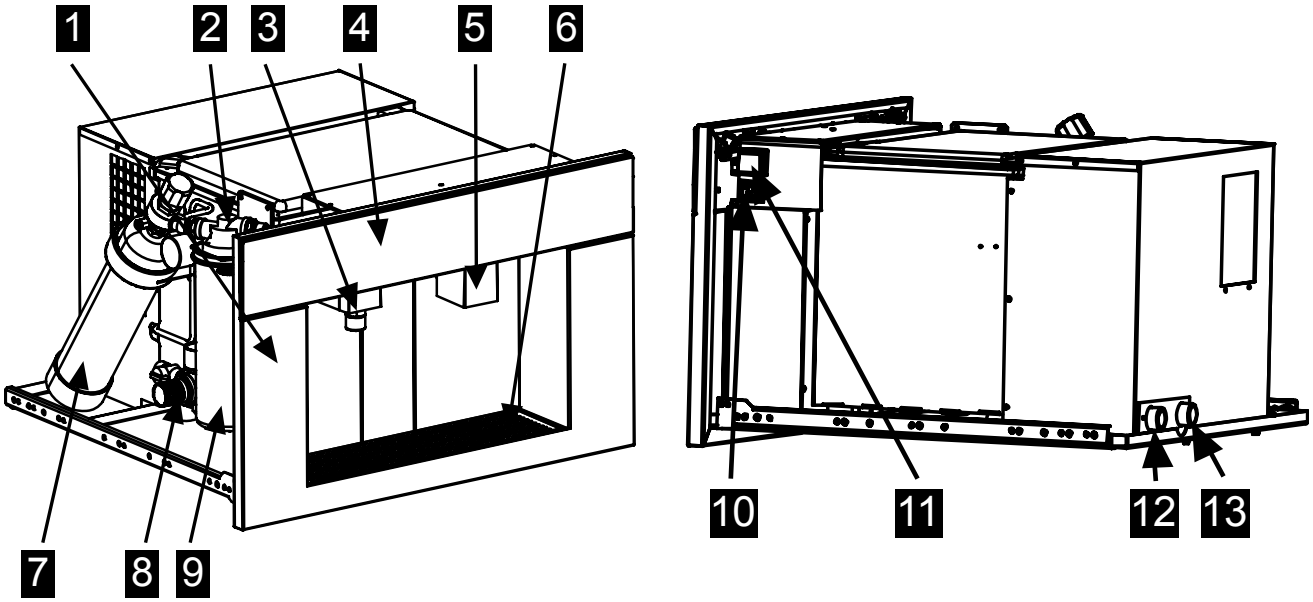
The appliance has 2 nozzles from which the following products can be dispensed:

- Filtered ambient water
- Filtered cold water
- Filtered sparkling water
- Ice-Cubes.

Models

BRAND	MODEL	PNC	TARGET
AEG	PWE9038-M	942 490 062	EUROPE
AEG	PWE9038-M	942 490 084	UK - Ireland
AEG	PWE9038-M	942 490 105	Scandinavia
Rex-Electrolux	WID636XE	942 490 061	IT
Electrolux	EIW60000X	942 490 065	EUROPE
Electrolux	EIW60000X	942 490 104	Scandinavia
Electrolux	EIW60002X	942 490 083	UK - Ireland
Juno-Electrolux	JWA60000X	942 490 066	DE

Description

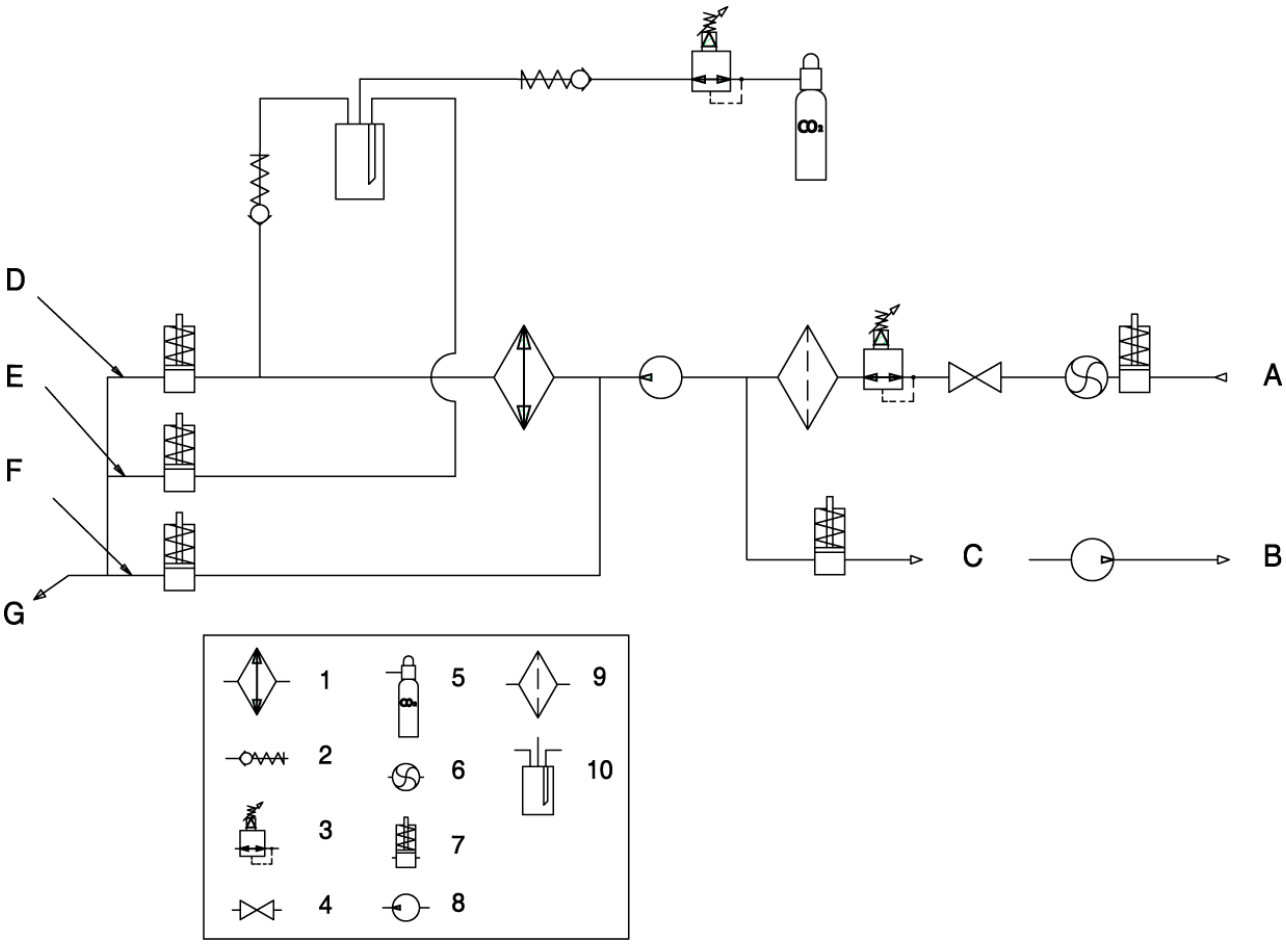


1 St. Steel front display
2 Filter head
3 Water dispense nozzle
4 Glass touch command panel
5 Ice dispense outlet
6 Drip tray
7 CO_2 bottle
8 H_2O pressure regulator with gauge
9 Filter cartridge
10 Power supply socket
11 Main on/off switch
12 H_2O inlet
13 H_2O drainage

Technical Characteristics

Power Supply	230-240 V
Frequency	50 Hz
Power consumption	190 W
Cold water dispense capacity	2lt @ 1 l/min.
Carbonated water dispense capacity	2lt @ 1 l/min
Dispense temperature	< 13°C
Water mains pressure (water inlet)	> 2.0 bar
CO_2 pressure	2.5-4 bar
Filtration	0.5 micron
Filter capacity	3000 litres
Ambient temperature conditions range	18°C-32°C
Unit dimensions L x P x H (mm)	594x530xH378
Weight	38 Kg
Refrigerant gas	R134a – 60gr

Hydraulic circuit

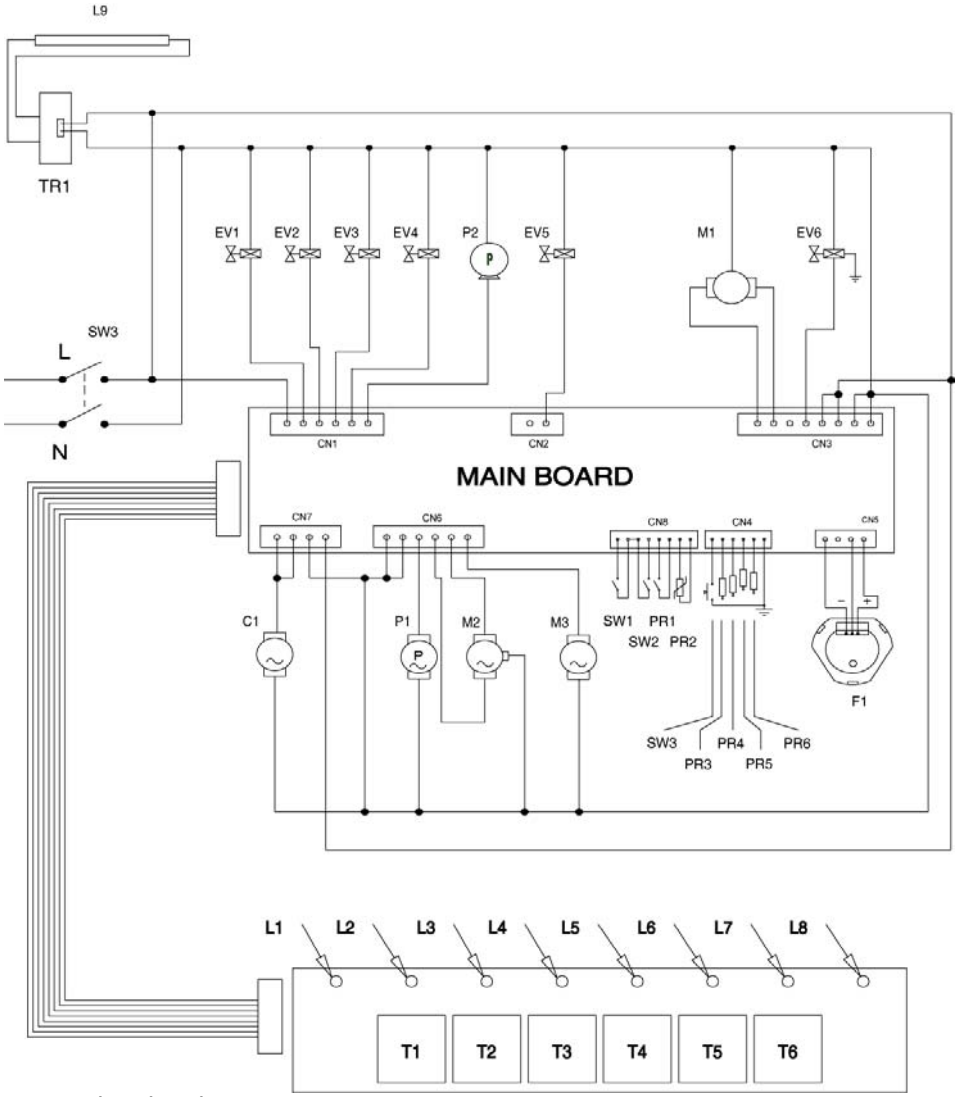


A	Water inlet
B	Water drainage
C	Ice cube tray
D	Cold water
E	Carbonated/Sparkling water
F	Ambient water
G	Water dispense nozzle

1	Cooling coil
2	No return valve
3	Pressure reducer
4	Valve
5	CO2 Cylinder
6	Turbine
7	Electric valve
8	Pump
9	Cartridge filter
10	Carbonizing device

Electric circuit

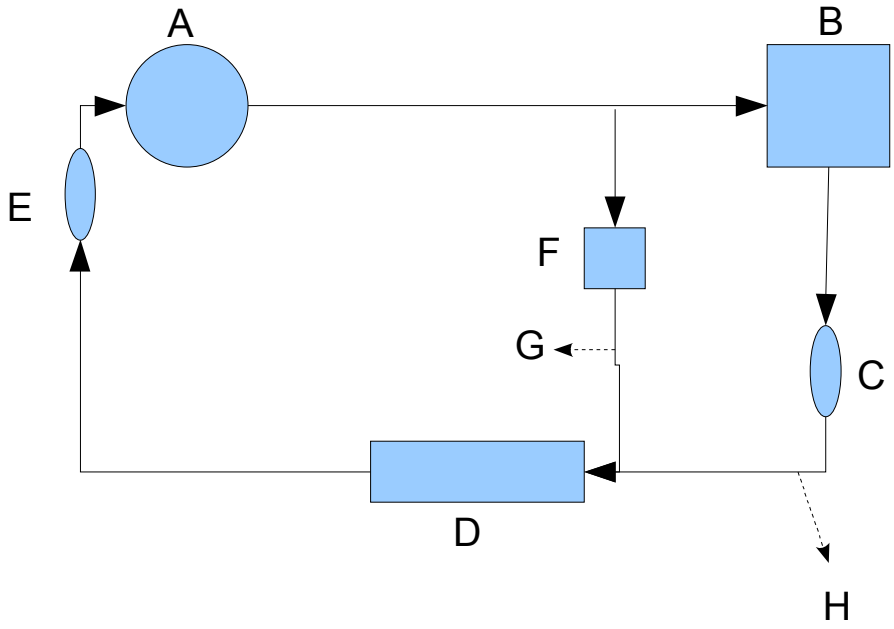
The light bar and its adapter are not present in models *PWE9038-M and* WID636XE.



EV1	Ambient water electric valve	C1	Compressor
EV2	Carbonated water electric valve	PR1	Ice sensor probe
EV3	Cold water electric valve	PR2	Dryer filter sensor probe
EV4	Water main electric valve	PR3	Flooding probe
EV5	Hot gas cycle electric valve	PR4	Minimum water tank level probe
EV6	Ice bin water charge electric valve	PR5	MAX Carbonator level probe
SW1	Microswitch work position	PR6	MIN Carbonator level probe
SW2	Microswitch discharge position	M1	Auger motor
SW3	CO2 pressure switch	M2	Water ice bin motor
SW4	Main on-off double pole switch	M3	Motor fan
L1-L8	Command panel LEDs	F1	Flow meter
L9	Light bar	T1-T6	Command panel buttons
P1	Carbonator pump	TR1	AC-DC adapter
P2	Tank discharge pump		

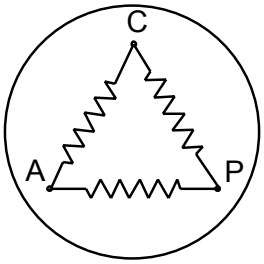
Cooling unit schema

The cooling unit schema is the same in all models of Refreshment Center.



A	Compressor
B	Condenser
C	Dryer filter
D	Evaporator
E	Boiler
F	Solenoid valve
G	Capillary tube 1,36x0,30m
H	Capillary tube 0,55x1,40m

Compressor

Function:	Works in refrigerant circuit pushing the gas through the capillary. In this appliance, the compressor works also in reverse cycle.
Technical data:	Ref.: GD30MB-D Power: 1/12 Hp 220V-50Hz Gas type: R134a Resistance: AC 25Ω, CP 25Ω, AP 50Ω
	 

Pump

Function:	In hydraulic circuit, it pushes the water through the heat exchanger and into the carbonizing device.
Technical data:	Ref.: Acquatec 5873 2K01 V704 Flow: 1,3 GPM Bypass: 120 PSI Diode measure type: 980 mV Inar Lock connector
	

Hot gas valve

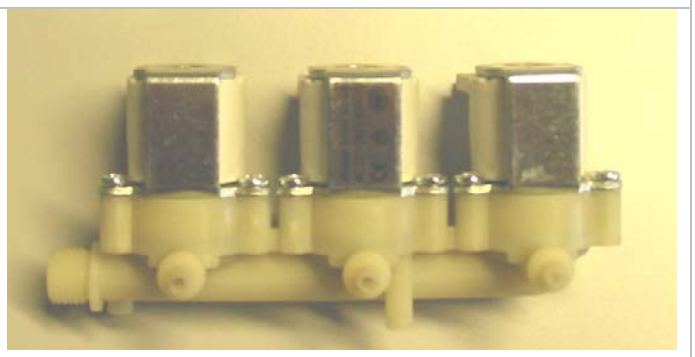
Function:	The main board tells it to open, to allow the gas to go into the thickest capillary tube and then in evaporator. When the gas passes through this capillary tube, it heats up and arrives very hot in the evaporator. In this way, the ice cubes come off.
Technical data:	Ref.: NEV-2020 Z144 220-240V 50Hz
	

Electric valve

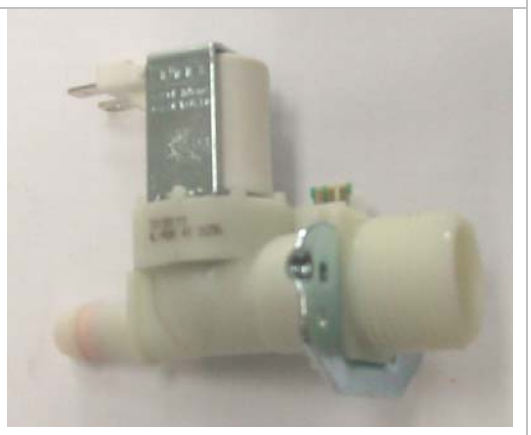
Function:	In general, allows the water to go through when the main board tells it to do so.
Technical data:	Ref.: E135KA30 /// 40E 220V-50Hz Electric connectors: FASTOM Water plugs: for 6mm tube Water tube diameter: 6mm Resistance: 1,4KΩ
	

Triple electric valve

Function:	Dispenses water when the main board gives it the signal.
Technical data:	220V-50Hz Electric connectors: FASTOM Water plugs IN: M10 Water plugs OUT: 1/4'

	Resistance: 3,9KΩ x 3
	

Electric valve + turbine

Function:	This is the valve at the beginning of the hydraulic circuit. It's plugged to the water inlet. It also send pulses to the main board when water passes by.
Technical data:	Ref.: ELTEK 10155170 220V-50Hz Electric connectors: FASTOM Water IN: ¾" Water OUT: 10mm 4l/min Tm 90°C 3/5min Tm 25°C 100% ED Resistance: 3,7KΩ
	

Gaiser Jet

Function:	Loads CO2 gas into the water, thanks to the pressure of the pump.
Technical data:	Capacity: 0.66l Height: 160mm 2 level probes (MAX / MIN) Water connectors: For 6mm tube Probe connectors: FASTOM

Manual thermostat

Function:	
Technical data:	Ref.: Ranco K50P1115.012 220V-50Hz. Manual temperature setting knob. Electric connectors: FASTOM
	

Ice tray electric motor

Function:	Turns the ice tray from the charge to the discharge position and the other way round.
Technical data:	Ref.: RAP100 375 rpm – 5W Ratio: 100 Electric connectors: none Resistance: 11,7KΩ x 2
	

Auger electric motor

Function:	Turns the auger that pushes the ice from it's compartment to the ice nozzle
Technical data:	Ref.: RAP25/2 375 rpm – 5W Ratio: 25/2 Electric connectors: none Resistance: 11,7KΩ x 2
	

Microswitch

Function:	It gives a signal to the main board when the ice tray arrives to the charge and to the discharge position.
Technical data:	Ref.: 83161338 + 70507524 Electric connectors: FASTOM Resistance: none
	

Touch panel board

Function:	Gives a signal to the main board when a button in frontal glass panel is touched. Moreover, it receives the signal of the main board to switch on the LEDs
Technical data:	Resistance: none

LED board

Function:	Illuminates the glass placed between the two nozzles in frontal panel. It's plugged to the main board, that gives it power when someone touch the button on the glass panel.
Technical data:	Ref.: 70507524 DC 12V 3xLED Electric connectors: Resistance: none
	

Lightbar

Function :	Illuminates the light line in frontal glass panel. It illuminates when the light button is touched.
Technical data:	Ref.: DC 12V xLED Electric connectors: Resistance: none
	

Motorfan

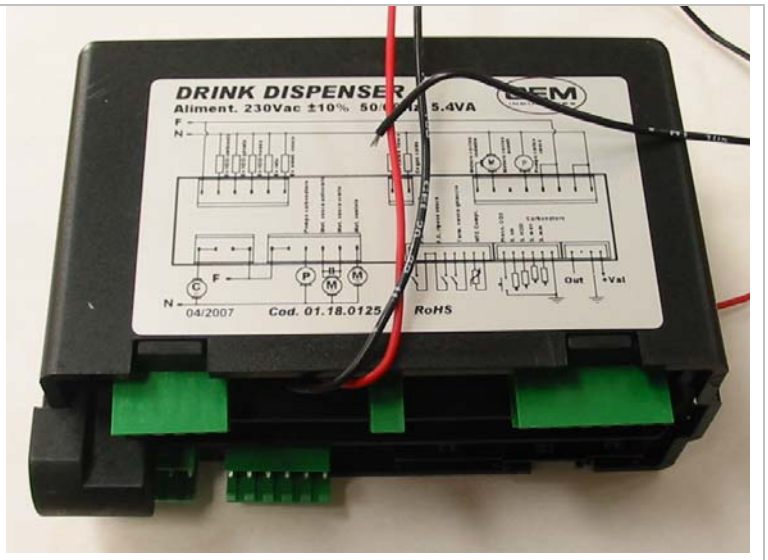
Function:	It moves the fan that refrigerate the condenser in the cooling unit
Technical data:	Electric connectors: FASTOM Resistance: 0,85KΩ
	

Pressure switch

Function:	Feels the pressure of a gas and it gives a signal to the main board when arrived to the programmed value.
Technical data:	T 1.5 NA-20/06 Electric connectors: FASTOM Resistance: none
	

Main board

Function:	Controls all sensors and probes, and decides to switch on or off all components plugged to it when its software says so.
Technical data:	Ref.: Power connectors: none Resistance: 0,82KΩ

Discharge pump

Function:	When it receives the signal from the main board, it pushes the water to the discharge.
Technical data:	Ref.: MJ 750 220-240V 50Hz – 7,5W 670l/h Hmax 1,65m Power connectors: none Resistance:
	

CO2 cylinder + pressure reducer

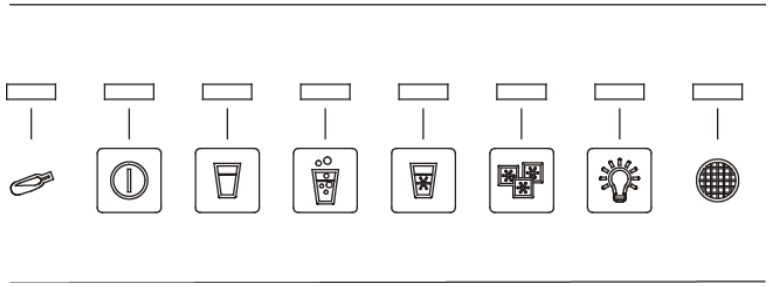
Function:	This appliance can use two types of CO2 cylinder: - CO2 cylinder (E290, 600g) no rechargeable (right). - CO2 cylinder (E290, 450g) rechargeable. It must be plugged with an adaptor (left)




CO2 E290
DO NOT REFILL
NICHT NACHFÜLL
CO2 E290
BOMBOLA NON RICARICABILE

Normal mode

Once the appliance is on, dispensing of water and ice is always available. Just touch the buttons in frontal glass panel to obtain the water or ice cubes.



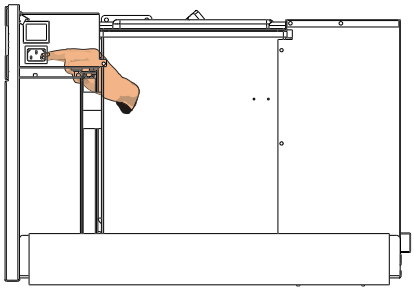
1. Empty CO_2 bottle led
2. On/Off switch
3. Water ambient temperature button
4. Carbonated water button
5. Cold water button
6. Ice dispense button
7. Light button On/Off
8. Exhaust filter led

It's possible to enter a special working mode to clean the tubes and nozzles of the appliance. This mode is described later in this section.

Normal startup mode or lack of power startup mode

Turn unit on through main on/off switch on side of unit. The unit will undergo an initialization process which will take approx. 4 minutes.

This preliminary operation will be carried out every time the unit is turned off and on through the main on/off switch inside the cabinet. During this process the touch control panel is inactive.



Sanification mode

When the exhaust filter led turns on, it is time to replace the filter cartridge:

1. Turn unit off through main on/off switch (Fig. 14).
2. Pull unit from cabinet (Fig. 6) and look for valve near the CO_2 cylinder.
3. Close valve (Fig. 18).
4. Position under the water dispense nozzle a container and dispense water to empty filter cartridge and tubes.
5. Remove the filter cartridge form its housing by rotating counter clock-wise about a quarter turn (Fig. 19). This will free the filter. Pull downward and remove it.
6. Fill sanitizing cartridge with *Neutral Detergent*. Insert the sanitizing cartridge on the filter head by rotating clock-wise a quarter turn.
7. Open valve on the base of the unit (Fig. 12).
8. Dry any water from the base, that could have leaked during this operation.
9. Position under the water dispense nozzle a container or large cup.
10. Turn main switch. Wait approx. 5 seconds and press "light" button until sanitizing mode is entered. This will be shown in the display as a moving red led through all the buttons. During this operation, the inside of the unit will be sanitized. After this initial cleaning cycle, the unit will dispense automatically some cold and ambient water.
11. Shut off unit from main on/off switch.
12. Close valve on base of unit (Fig. 18).
13. Position under the water dispense nozzle a container and dispense water to empty sanitize cartridge and tubes.
14. Install new filter cartridge as shown on filter cartridge instructions (Fig. 20). Turn main on/off switch on and push appliance into cabinet.
15. Wait 4 minutes before turning unit on through the touch button.
16. Dispense 1 liter of cold, ambient and carbonated water to fully rinse any sanitizing residue.

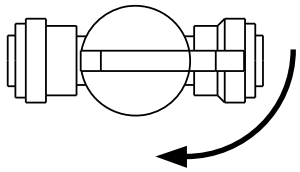


Fig. 18

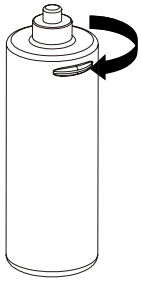


Fig. 19

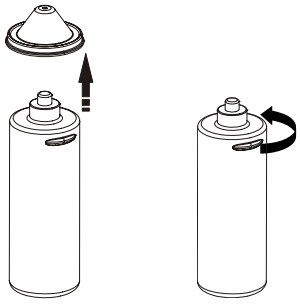
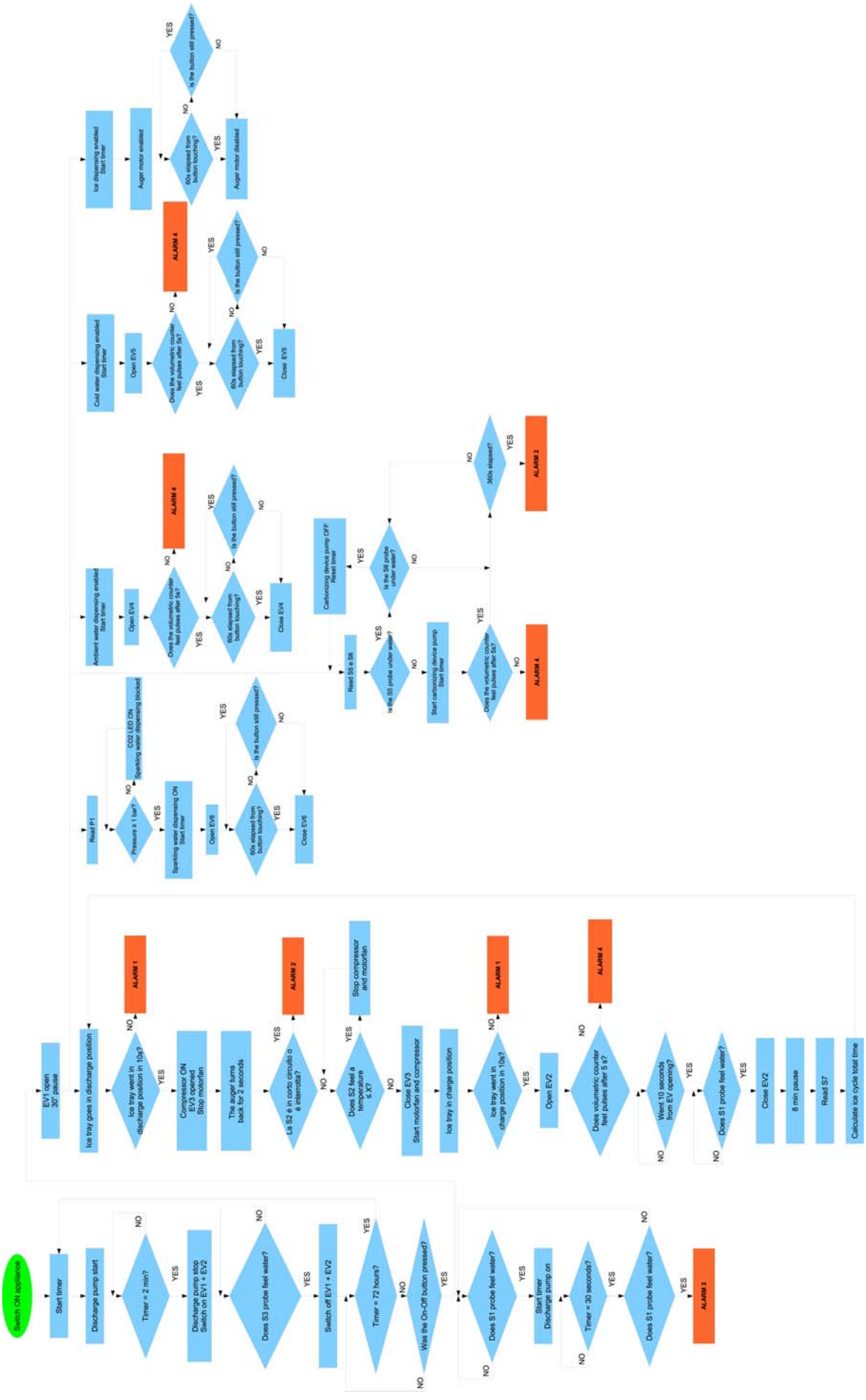
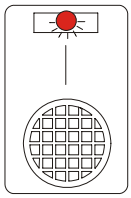
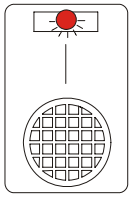
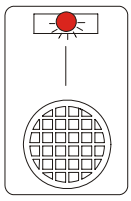
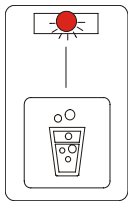
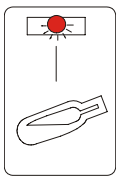
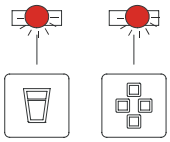
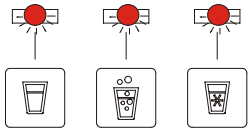
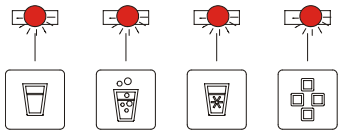


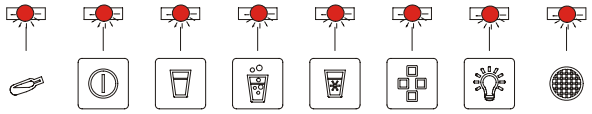
Fig. 20

Flowchart


Switch ON appliance
Start timer
Discharge pump start
Timer = 2 min?
Discharge pump stop
Switch on EV1 + EV2
Does S3 probe feel water?
Switch off EV1 + EV2
Timer = 72 hours?
Was the On-Off button pressed?
Does S1 probe feel water?
Start timer
Discharge pump on
Timer = 30 seconds?
Does S1 probe feel water?
ALARM 3
EV1 open
30" pause
Ice tray goes in discharge position
Ice tray went in discharge position in 10s?
ALARM 1
Compressor ON
EV3 opened
Stop motorfan
The auger turns back for 2 seconds
La S2 è in corto circuito o è interrotta?
ALARM 2
Does S2 feel a temperature ≤ X?
Stop compressor and motorfan
Close EV3
Start motorfan and compressor
Ice tray in charge position
Ice tray went in charge position in 10s?
ALARM 1
Open EV2
Does volumetric counter feel pulses after 5 s?
ALARM 4
Went 10 seconds from EV opening?
Does S1 probe feel water?
Close EV2
8 min pause
Read S7
Calculate ice cycle total time
Read P1
Pressure ≥ 1 bar?
CO2 LED ON
Sparkling water dispensing blocked
Sparkling water dispensing ON
Start timer
Open EV6
60s elapsed from button touching?
Is the button still pressed?
Close EV6
Ambient water dispensing enabled
Start timer
Open EV4
Does the volumetric counter feel pulses after 5s?
ALARM 4
60s elapsed from button touching?
Is the button still pressed?
Close EV4
Read S5 e S6
Is the S5 probe under water?
Carbonizing device pump OFF
Reset timer
Is the S6 probe under water?
Start carbonizing device pump
Start timer
Does the volumetric counter feel pulses after 5s?
ALARM 4
360s elapsed?
ALARM 2
Cold water dispensing enabled
Start timer
Open EV5
Does the volumetric counter feel pulses after 5s?
ALARM 4
60s elapsed from button touching?
Is the button still pressed?
Close EV5
Ice dispensing enabled
Start timer
Auger motor enabled
60s elapsed from button touching?
Is the button still pressed?
Auger motor disabled

Alarms

Led indications	Message
Led blinks slowly 	Filter is about to exhaust. 2900 liters have been dispensed. Please change filter as described in the following chapters.
Led is lit 	Filter is about to exhaust. 2980 liters have been dispensed. Please change filter as described in the following chapters.
Led is lit 	All dispense buttons disabled. 3000 liters have been reached. Please change filter as described in the following chapters.
Carbonated water led blinks slowly 	Carbonated water is disabled. Time-out protection on carbonation pump activated. To reset status please turn unit off/on on touch control panel.
CO_2 bottle led on 	Carbonated water is disabled. CO_2 bottle is empty. Replace CO_2 bottle to restore Carbonated water dispensing. Please change CO_2 bottle as described in the following chapters.
Leds - ambient water - ice blink simultaneously	 Ice forming bin blocked. Turn unit on/off through main on/off switch on side of unit.
Leds - ambient water - cold water - carbonated water blink simultaneously	 Volumetric turbine malfunctioning. Dispense functions enabled but during dispense operation the 3 leds will blink.
Leds - carbonated water - ambient water - cold water - ice blink simultaneously	 Main water tank fill time-out. Please check water supply to unit. Make sure filter shut off valve to be open. To reset status turn unit on/off through main switch inside cabinet.

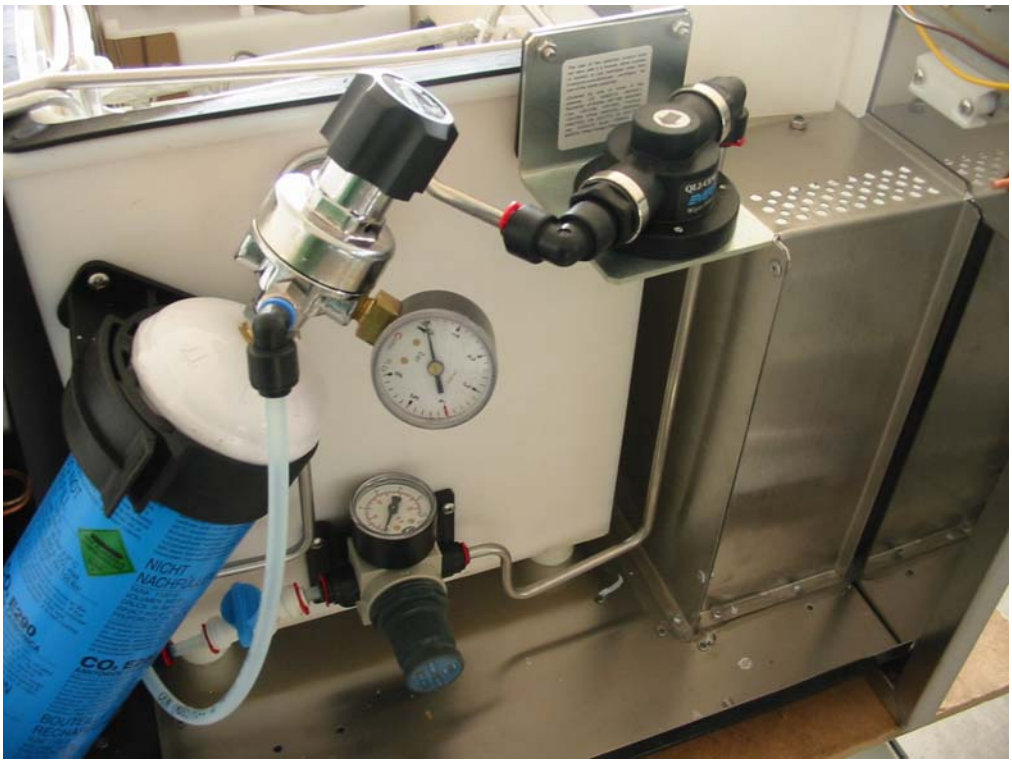
All leds on simultaneously	 All dispense buttons disabled. 2 main causes: 1. Water present on base of unit. Possible leak. 2. Water level too high inside water tank. Water discharge blocked. For the first case switch off and dry the base of the unit. For the second case turn unit on/off through main switch inside cabinet.

Accessibility

BEFORE OPENING THE APPLIANCE, ALWAYS DISCONNECT IT FROM THE POWER SUPPLY. ALSO SWITCH OFF THE MAIN WATER VALVE AT HOME TO AVOID FLOODING.

To access the internal parts of the appliance, proceed as described on instructions manual:

- Take the drip tray lifting the front side first.
- Lift locking spring placed under drip tray
- Pull appliance from cabinet by pulling



At this point we have access to the water pressure reducer / filter / CO2 bottle side. We can then apply some adjustments or procedures like:

- Change filter (as described in instructions manual)
- Change CO2 bottle or adjust level of carbonation by adjusting the CO2 bottle reducer knob.
- Reducing the water pressure, adjusting the manometer knob.
- Start sanitizing procedure installing a sanitizing cartridge instead of filter (as described in instructions manual)
- Switch on/off the inlet manual valve to operate or change water tubes or 'wet' components.

Accessibility to components compartment

To access to the component compartment, placed on the rear side of the machine, we need to remove the rear sheet metal panel.



Remove 6 screws to take off the rear panel. Three from one side,

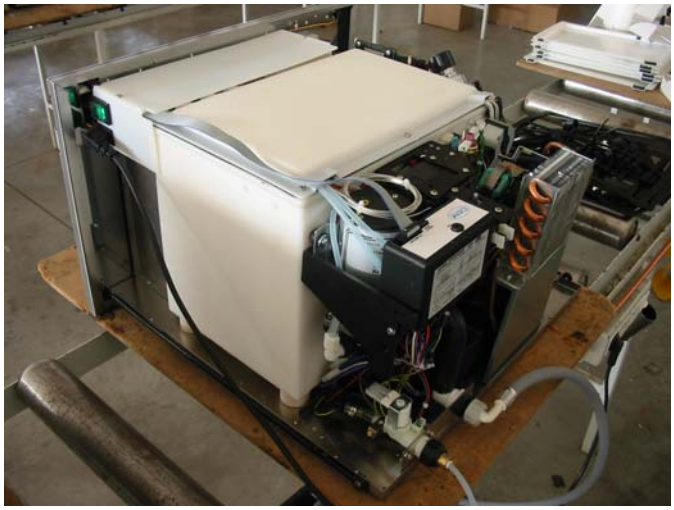


three from the other side. At this point the rear panel is free and can be removed firmly but carefully.



Removal of the rear panel gives access to components: compressor, gas and water valves, motors, main board, pump, etc…





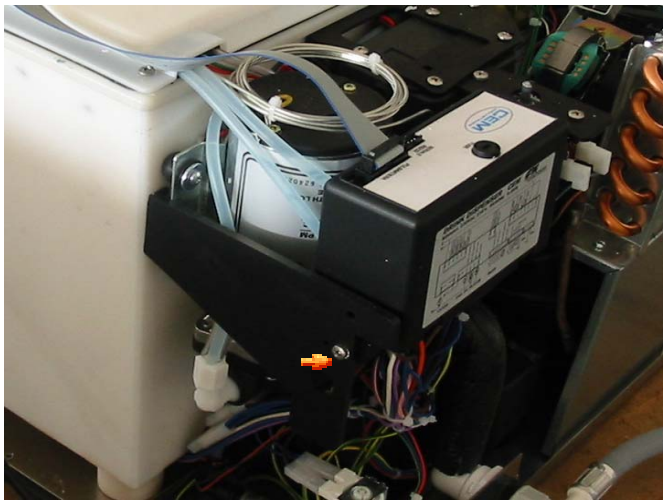
1. Filter and filter head
2. Water pressure reducer
3. CO2 cylinder
4. On/Off water valve
5. Compressor
6. Condenser
7. Water and gas valves
8. Ice bin motor and auger motor
9. Pump
10. Main board
11. Pressure switch
12. Microswitch

To remove the **main board** please do the following steps:

Remove the cable that connects the main board case to the control panel. Afterwards unplug also the connectors from the bottom side.



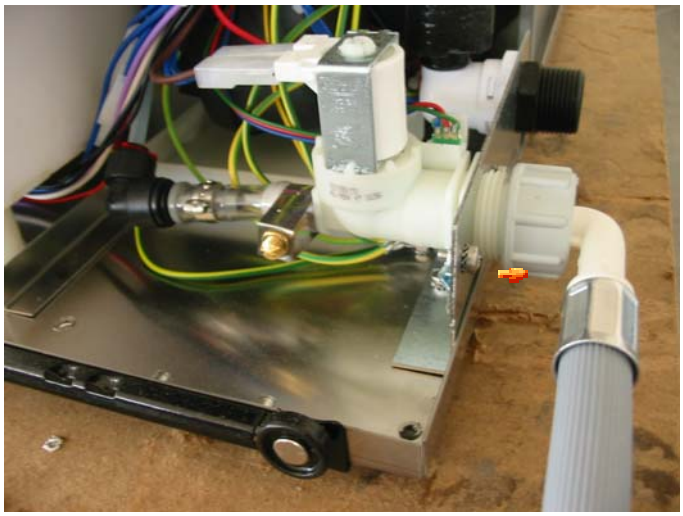
Remove the screw that fixes the main board case to its support



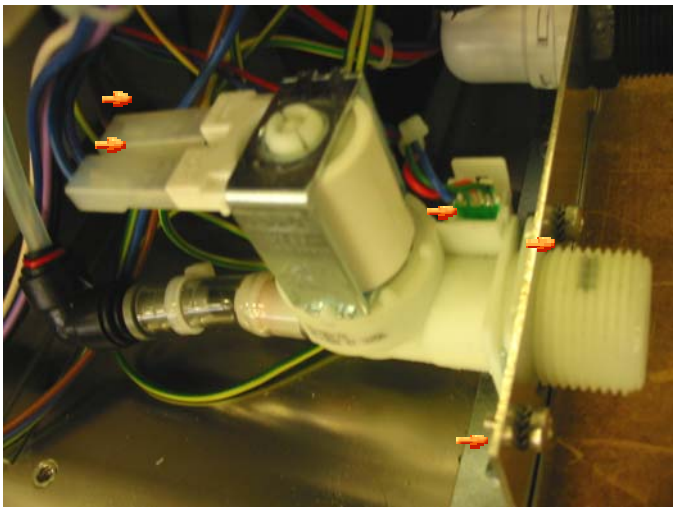
At this point, it's possible to remove also the main board support that is attached to the water tank by two screws.

To remove **water inlet valve**, do the following:

BE SURE THE WATER MAIN VALVE IS CLOSED, IN ORDER TO AVOID FLOODING

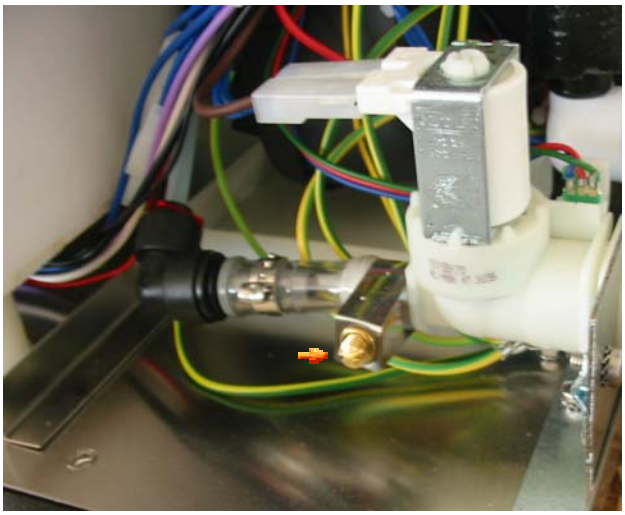


Unplug the inlet water tube from the connector.



Unplug also the signal and power cables from the water inlet valve pulling gently the connectors.

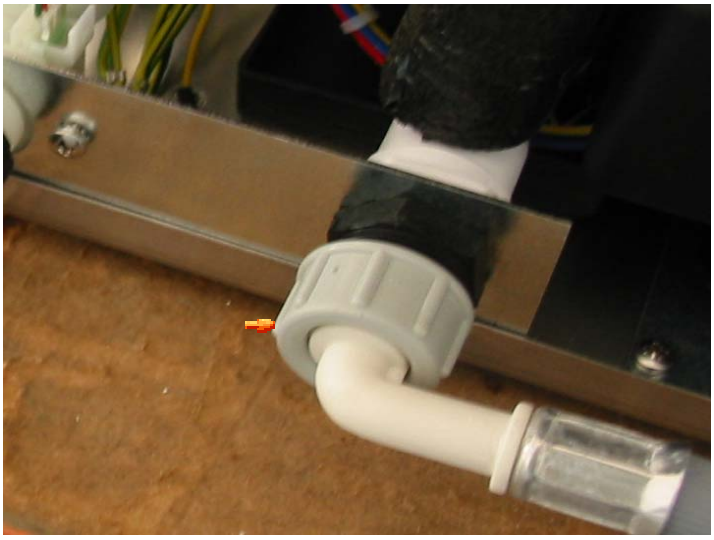
Remove both screws that tighten the valve to the support.



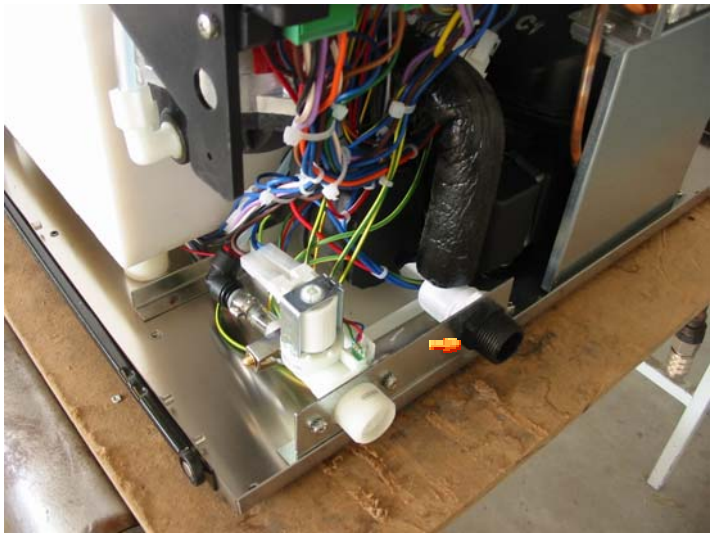
At this point, remove the plastic tube by unscrewing the metal wrapper that fixes the tube to the valve. Be careful about rests of water inside tubes to avoid flooding the appliance.

To remove the **drainage kit**, do the following (be sure that the water tank is empty):

Remove the drainage tube by turning the connector bolt anticlockwise.

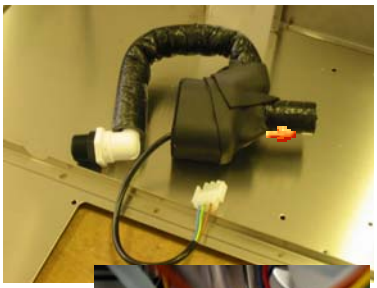


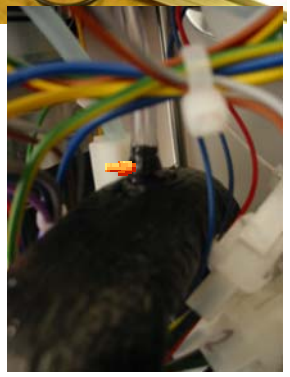
Remove the black external plastic bolt in order to unplug the plastic drainage connector from the support.



Next step is to disconnect the drainage tube from the water tank. Just pull gently the drainage tube that is connected to the water tank discharge nozzle.

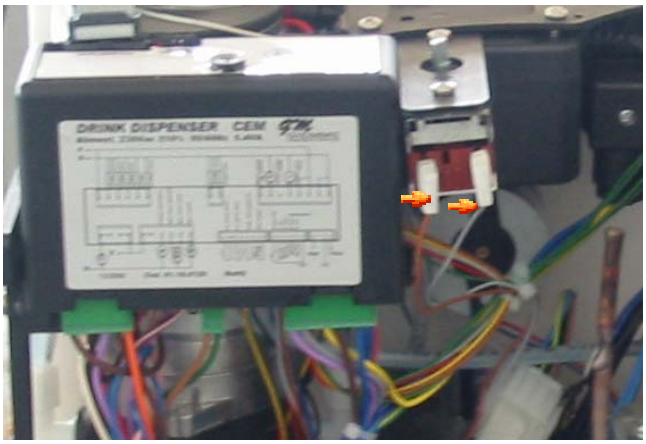
Finally, remove by pulling the little return tube in water tank.



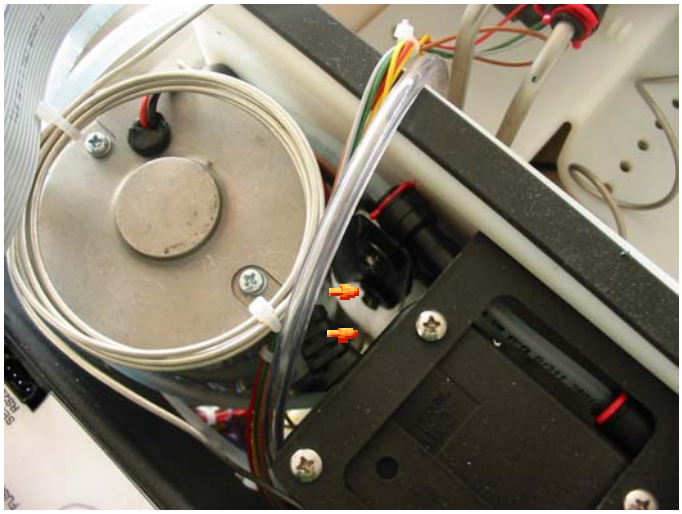




The **thermostat** needs no calibration. In case there's a need to change the thermostat, just unplug the two probe connectors and remove the two screws on the top side of the thermostat support.



To change or remove the **pump**, just remove the 4 screws that tighten the pump to the rear side of the water tank.



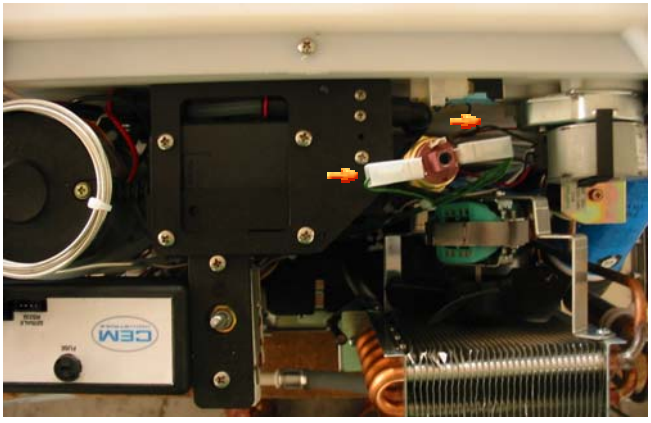
The **pump adapter** could also be changed. Remove the four screws on the top side of the support in order to free the adapter.



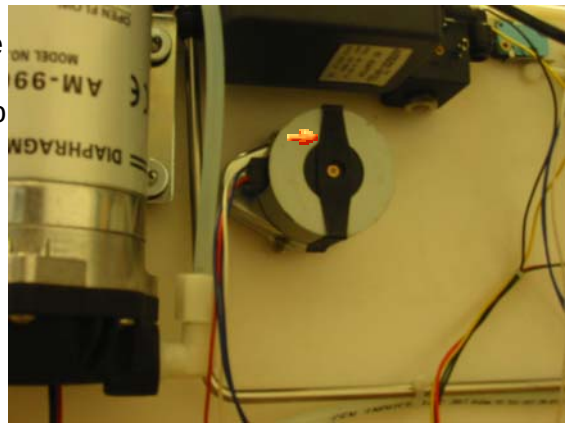
Opposite we find a photo from the first assembly steps, where we could see the adapter support, that supports also an electric water valve. To change this valve, remove two screws on the top side of the support.



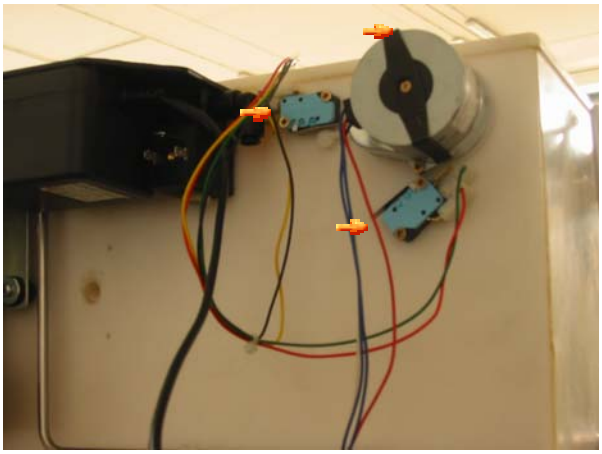
It's possible to change the **pressure switch**. Be sure the CO2 bottle valve is closed. Remove the electrical connectors pulling carefully but gently. There aren't screws that fix the pressure switch, but a support. To remove it just pull the pressure switch.



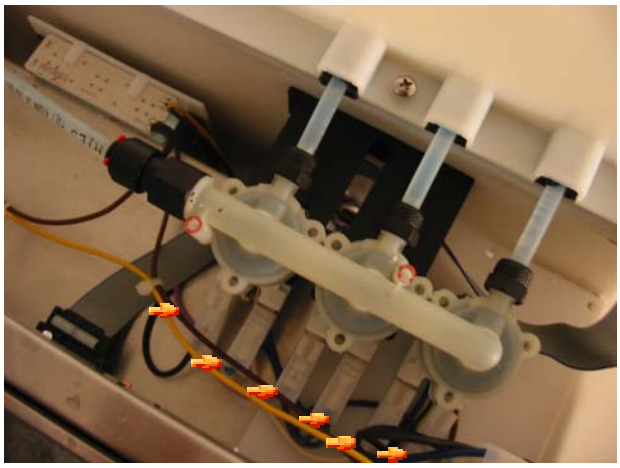
This is the **motor** that turns the auger to dispense the ice cubes. It can be changed removing two screws that fix it to the water tank. Afterwards pull gently to separate the motor from the auger support. Disconnect signal cables from the main board connector.



The same for the **motor** that turns the ice tray. Remove the screws and the connector on main board. The micro switches could be also changed removing the screws that fix them to the water tank and unplugging the connectors.



To replace the **water dispense valve**, do as follows:



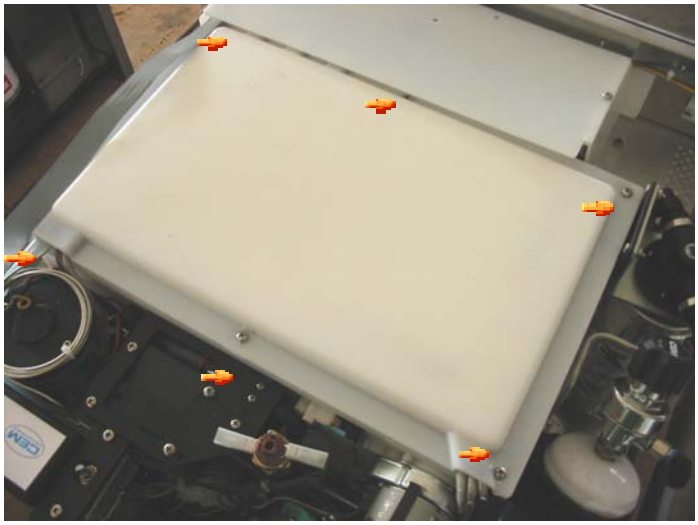
Remove all cables pulling firmly the connectors.

Then, pull the plastic water tubes from the valve making attention to not flood the appliance (there could be some water inside the water tubes).

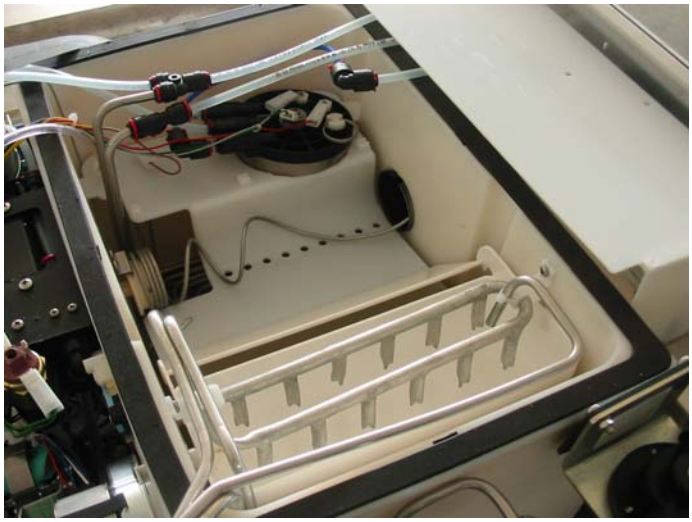
Pull the valve out from its support.

Accessibility to water tank compartment

To access to the water tank, just remove all six screws from the top of the water tank.



We can see the inside the water tank the ice bin evaporator and the water evaporator. There's also the pump, the ice tray and the auger that pushes the ice into the ice nozzle.



The next step give us access to the command panel and to the water dispense valves. Remove the plastic cover by unscrewing two screws on the top side of the plastic cover.



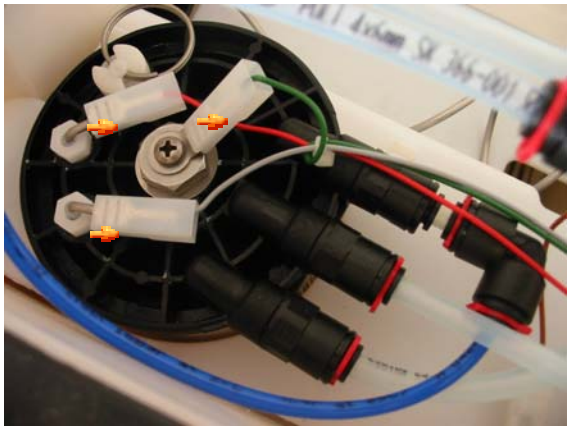
Remove also the screw on the side panel of the plastic cover.



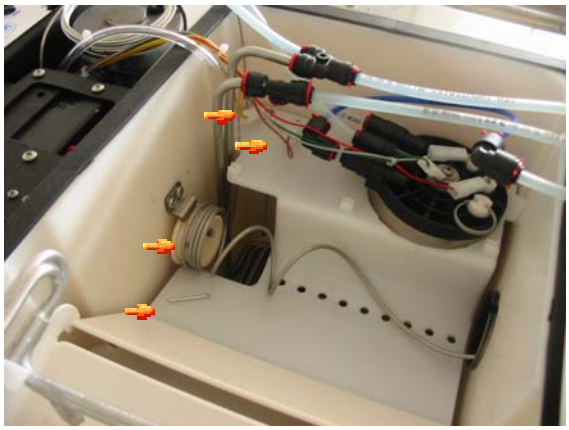
At this point it's possible to take off the plastic cover.



The **carbonator** could be removed just pulling it upwards. First unplug all signal cables.

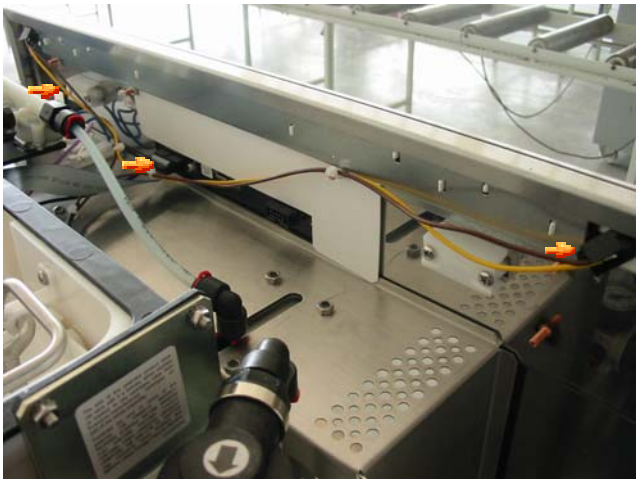


Opposite, we can see the **water level probes** (1), the **auger** and **auger support**(2), and the **thermostat probe**(3).

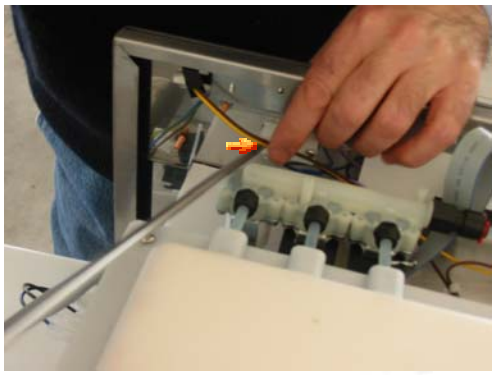


Accessibility to command panel and light bar

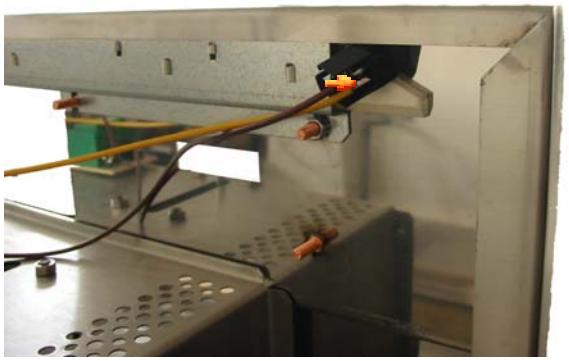
To remove the command panel, first unplug the main board cable. Then, we must free the command panel from its supports.



To do it, just remove the screws (2 + 2) from the command panel supports. Please make attention, the command panel could fall if not held properly



To remove the light bar, first unplug the connectors on both sides .



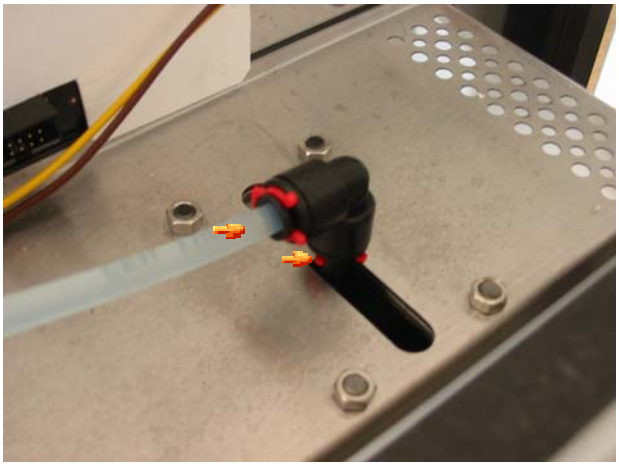
Remove the light bar support bolts. At this point it's possible to remove the light bar and the light bar support pulling the support.



Removing the water dispensing nozzle

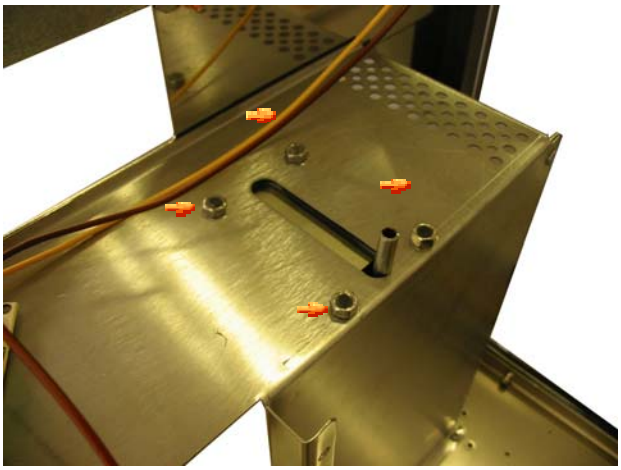
To remove the water dispensing nozzle:

First disconnect plastic tube from the speed fitting pulling the tube while pulling the small red flap. With the apposite tool, remove the speed fitting from stainless steel tube.

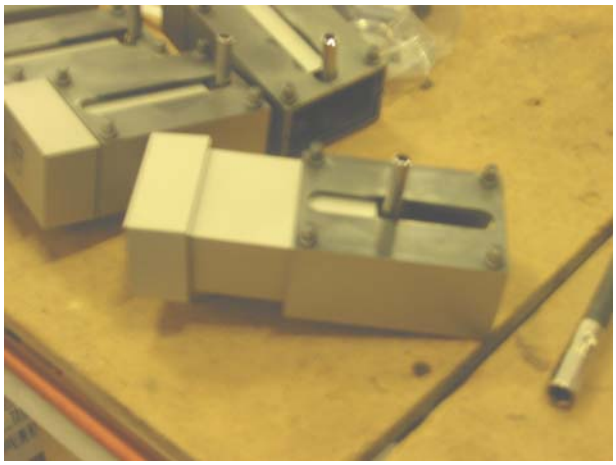




Remove the four bolts from the water nozzle.



Now it's possible to replace this component



Access to the cooling unit

To remove the cooling unit from this appliance, be sure you have opened the top of the water tank. Then, please do as follows:

First, free the ice evaporator from the side supports; remove the two screws.



Second, cut or remove the wrappers that hold the stainless steel tubes together



To free the compressor and condenser support from the base, we must remove all 4 screws that fix the support to the base. Two screws should be removed from the bottom side and two ones from the upper side of the base.

When the fridge part is free, to take it off we must just pull upwards carefully, making attention to not pulling up also the ice tray filler stainless steel tube.



Troubleshooting

The following is a troubleshooting section for malfunctions that are not in the alarms list section:

SYMPTOM	PROBABLE CAUSE	RESOLUTION
Water is not dispensed	No power supply	Check electric power supply
	Water mains inlet solenoid valve failure	Call technical assistance
The unit has been on for over 3 hours, but no cold water nor ice is available	Probable refrigerant gas leak	Call technical assistance
	Motor fan failure	Call technical assistance
	Compressor failure	Call technical assistance
Low carbonation level	Brand new appliance	Utilize for few days and check carbonation
	Low CO_2 pressure	Increase CO_2 pressure by rotating knob on CO_2 pressure regulator clock-wise
	Air inside carbonator	Dispense few liter of carbonated water and check carbonation
Cold water occasionally sprays CO_2 gas	Non return valve on carbonator dirty	Call technical assistance