

Operating Instructions

Carbonator dry
Carbonator wet
Warm carbonator

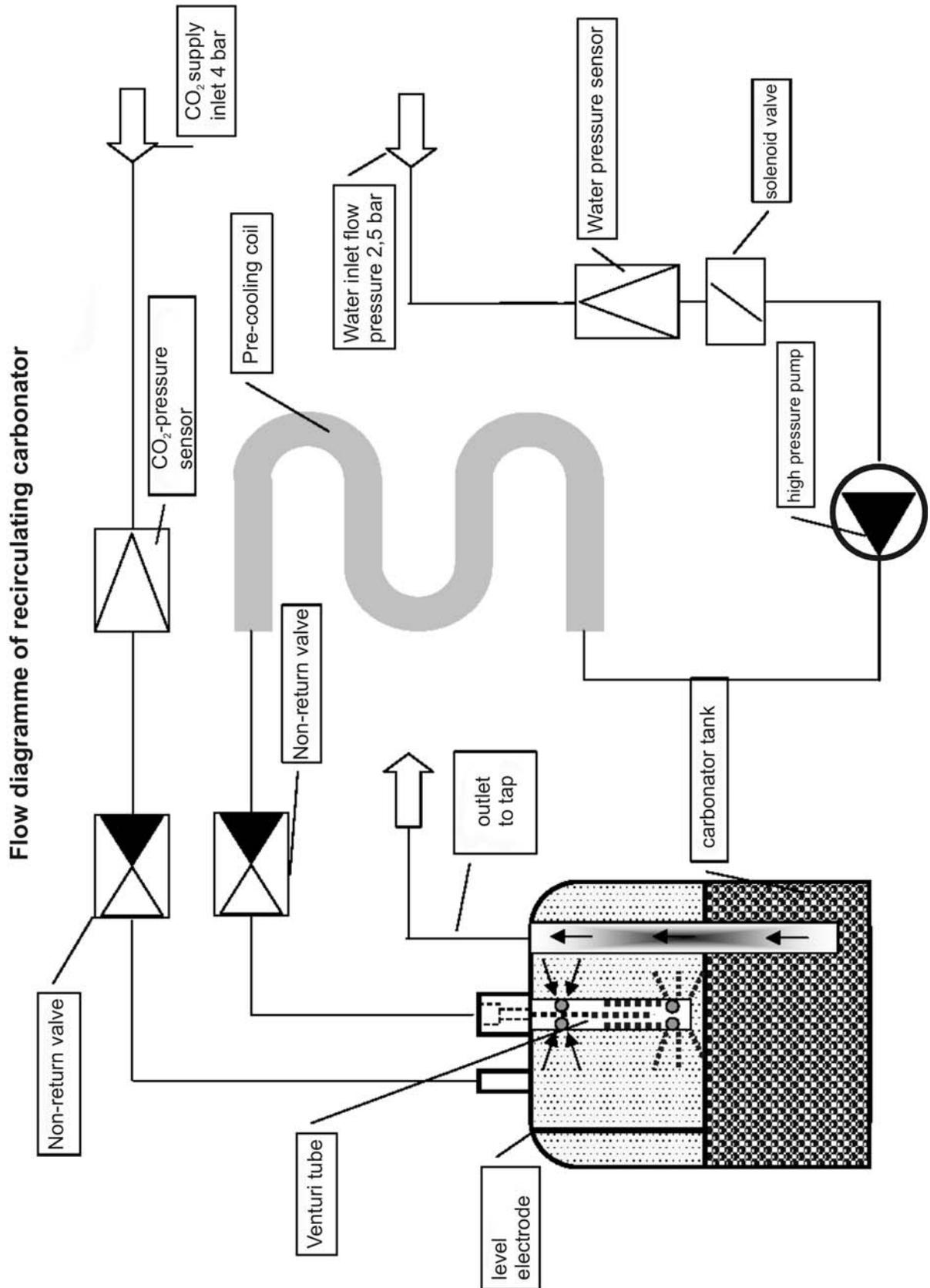
The appliance described here may only be used by properly trained operators and maintenance staff who have closely studied the instructions for use.

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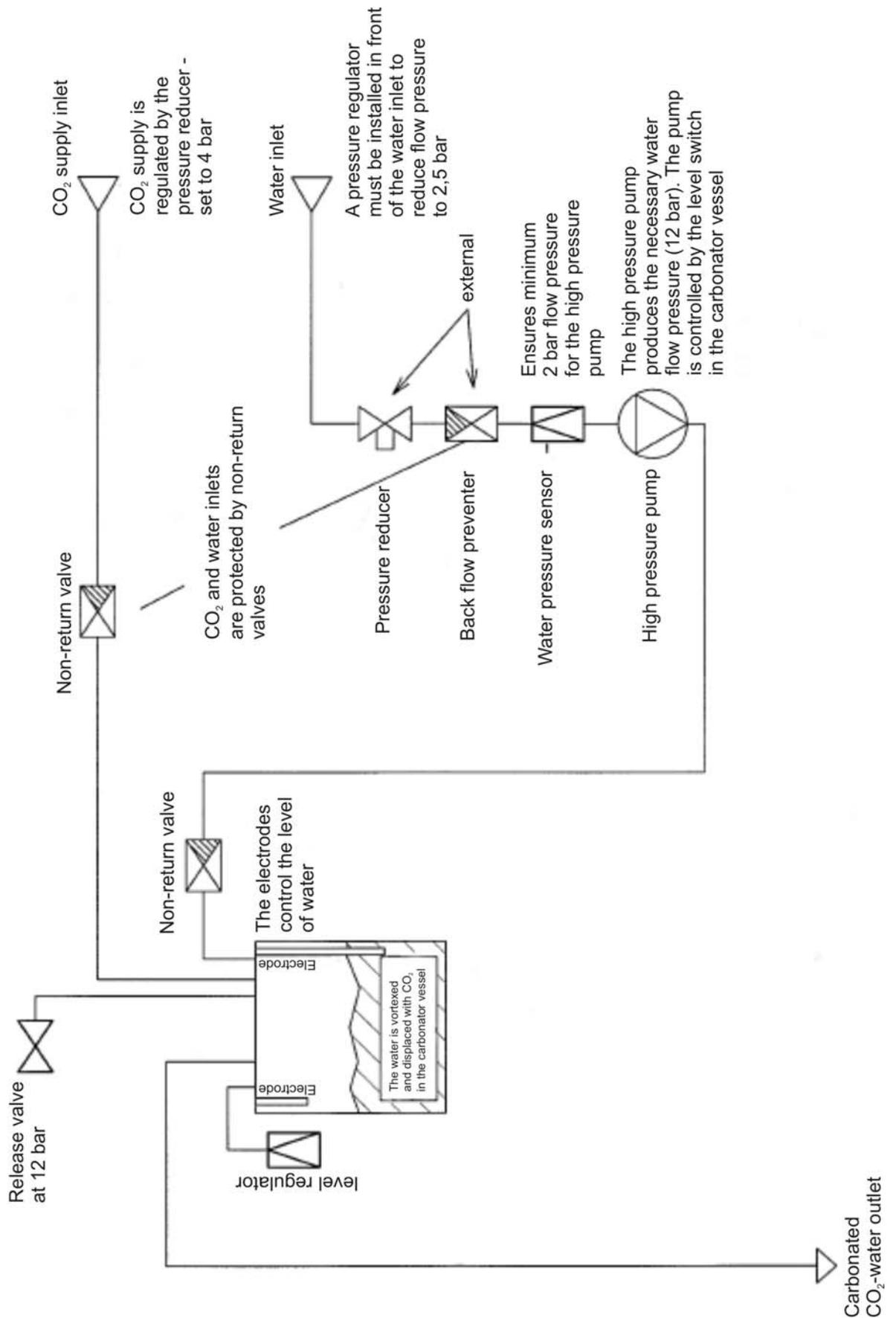
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1.00 Technical Data

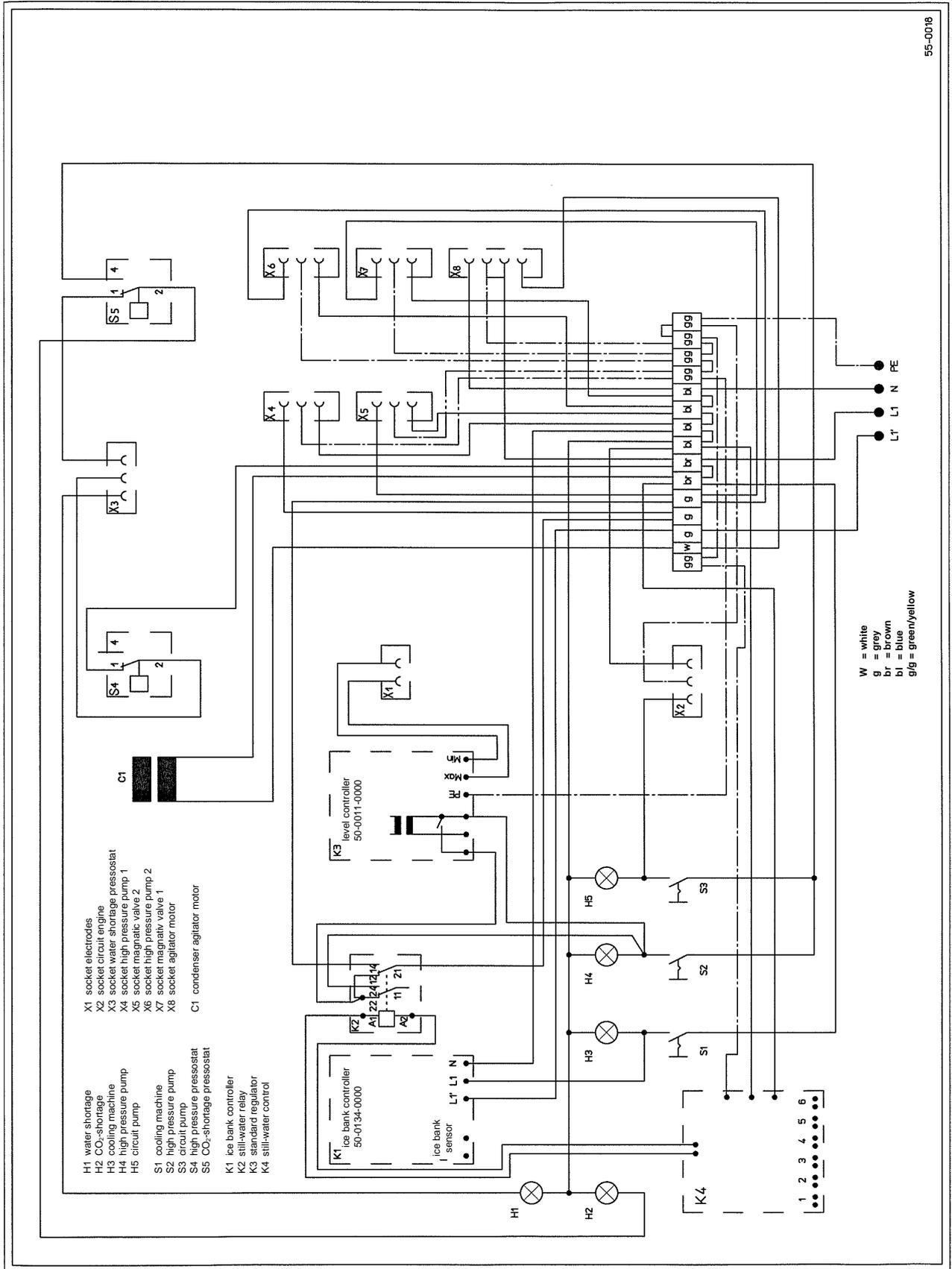


1.10 Flow diagramme warm carbonator

Flow diagramme carbonator CW

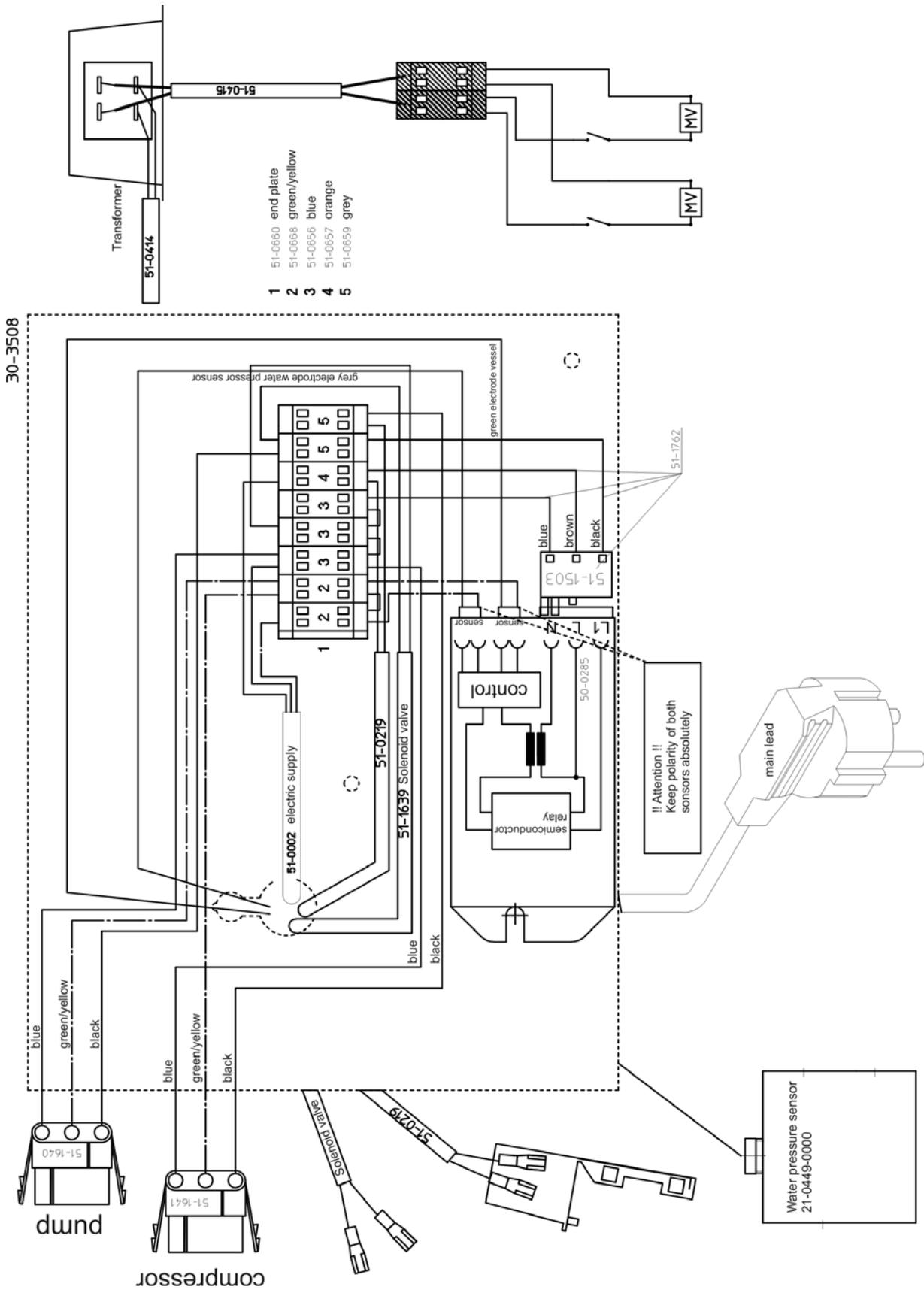


1.20 Circuit diagramme



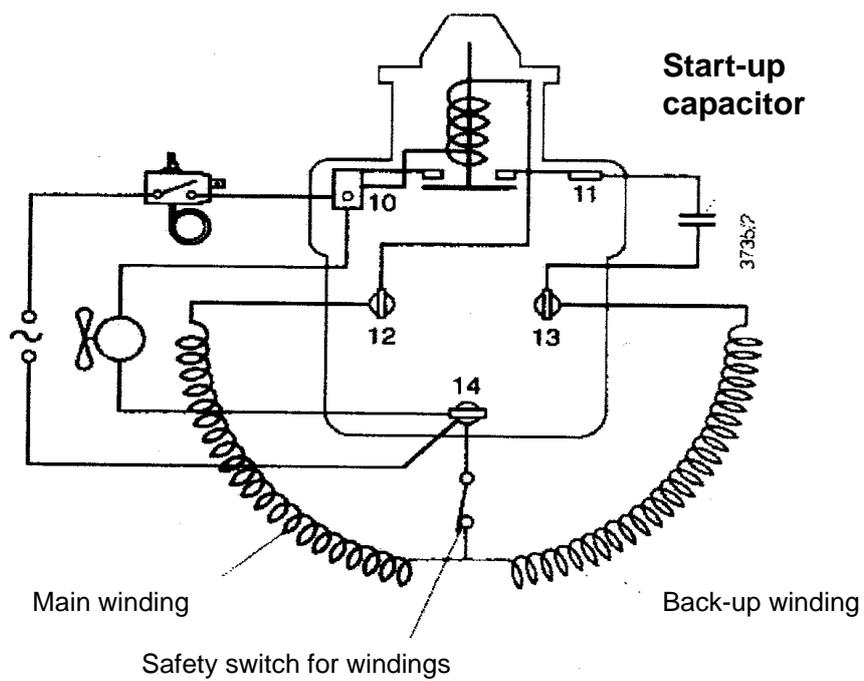
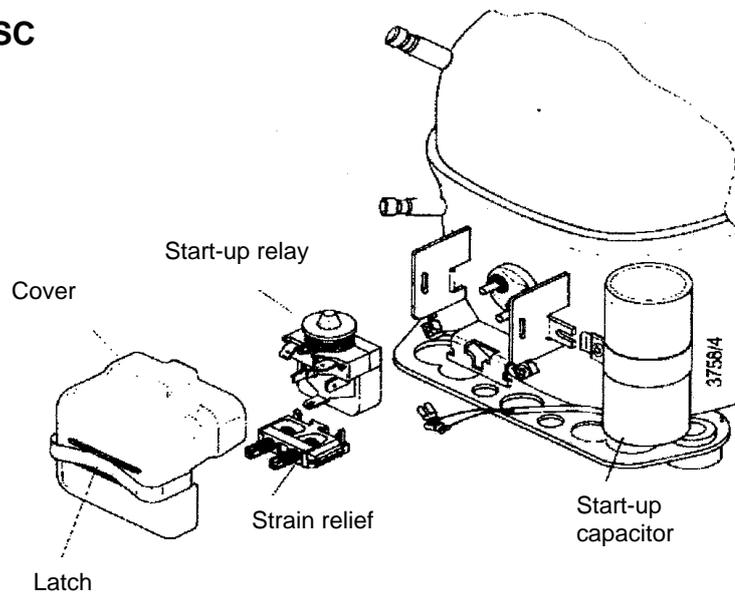
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1.30 Circuit diagramme CT 30/60



1.40 Schematic - Compressor Connections

FR-SC



2.00 Handling

2.10 Assembly

Place the device on an even, dry and clean surface. Make sure the connecting cable leads directly to the socket, and that it cannot be bent or squashed. Only use the original hoses for the water supply. The device must be adequately ventilated at all times! Make sure no objects are placed on or under the device!

The following safety measures must be observed without fail:

- Operating temperature range +5 to +40 degrees Celsius
- Do not allow dirt (dust, fibres, etc.) to get inside the device
- Only connect to the prescribed supply voltage
- If using in extreme electrical conditions, ensure adequate filtration of the mains voltage
- Protect the assemblies from moisture, especially penetrating liquids
- Observe the hazard warnings and safety instructions on the electrical components and in the manual
- Observe the warnings and service instructions in this manual

2.20 Safety instructions

The device described in the manual may only be operated and connected by suitably trained personnel. Adjustments, maintenance and repair work on the open or live device may only be performed by a specialist.

As with all technical equipment, this device is only guaranteed to work properly and safely provided the general applicable safety precautions and the specific safety instructions in this manual are observed during operation and service.

Serious damage to persons and property can be caused by:

- Improper use
- Incorrect installation or operation
- Unauthorised removal of the necessary protective coverings or housing
- Unauthorised opening of the device during operation

2.21 Safety risks

If a safety risk is considered to exist for any reason, the device must be taken out of operation and suitably marked in order to prevent it from being started up again inadvertently by a third party. The customer service department must also be notified accordingly.

Examples of safety risks include failure to operate in the prescribed manner or visible signs of damage.

2.22 Safety directives

The device may only be operated with a properly connected PE conductor.

2.30 Spare parts

If component assemblies or components are changed, only identical component assemblies or components may be used.

2.40 Transport / storage

Any damage noted following delivery should be immediately reported to the transport company. If necessary, do not bring into service. The appliance may only be stored in a dry, dust free environment at temperatures from 0 to 60 degrees.

2.50 Electrical connection

Work may only be carried out if:

- Electrical equipment is not connected to the electricity supply and is protected against unintentional reconnection
- Checks have been made to ensure that there is no voltage
- Checks have also been made to ensure that additional monitoring and protective devices provided for the operating are correctly installed.

When connecting, ensure that the applicable norms and prescriptions have been adhered to.

2.60 Operation

In the event of changes in normal operation, the appliance shall be placed out of order, if there is any doubt. The appliance shall be marked 'out of order', to prevent accidental use by third parties. Customer services shall also be informed.

2.70 Service

All data in the operating instructions regarding services shall be adhered to.

3.00 Use in accordance with regulations

Selbach beverage cooling and dispensing head appliances are designed for dispensing cooled beverages. The areas of application for these units are in the restaurant and leisure industries, among others. Selbach cooling appliances are only permitted for the above mentioned areas of application and are therefore not suited to cooling hot fluids, chemicals or similar.

4.00 Functional description

Carbonator with and without still water

In principle, the carbonator comprises a circulation pump¹⁺², a carbonator vessel with a CO₂ and water inlet and a carbonated water outlet. A high pressure pump, regulated by a level sensor and protected against running dry and at excessive pressure, provides the necessary doses of water. The water and CO₂ inlets² are monitored by pressure sensors. Signal lamps illuminate² to show if the pressure threshold is not reached and the machine switches off. The CO₂ inlet is regulated by the main pressure reducer and should be adjusted to the required pressure. Both inlets are protected by check valves.

The high pressure pump produces the necessary water flow pressure of 12 bar and is controlled by a level regulator in the carbonator vessel. A solenoid valve is fitted in front of the carbonator vessel. It is switched in parallel with the pump motor to prevent the carbonator vessel from operating with a full volume of water when there is insufficient CO₂. The water is agitated and carbonated in the vessel.

¹ does not apply to warm carbonator, CT 60 and CT 30

² only for recirculating carbonator

4.10 Safety features

- This machine is designed and built following the latest technical standards and practices. Safe operation is assured, provided it is used and maintained in accordance with these operating instructions.
- The removal, alteration or by-passing of any safety feature is prohibited.
- Ensure that any maintenance work is conducted only by authorised personnel and that those operating the machine have been trained.
- Take care to fit and use only original spare parts.
- Selbach carbonators are protected by numerous safety features:

Water inlet

Backflow preventer ³ :	The water can only flow through the backflow preventer in the direction of the pump.
Water pressure sensor ³ :	Monitors a minimum flow pressure of 2 bar for the high pressure pump.
Solenoid valve:	Switched in parallel with the pump motor. Prevents the carbonator from running at full volume when CO ₂ supply is inadequate.
Check valve:	Prevents carbonated water from entering the high pressure pump.

CO₂ inlet

CO ₂ shortage monitoring ³ :	Monitors the minimum pressure of 4 bar.
Check valve:	Prevents carbonated water from flowing back.

Carbonator

Over-pressure switch:	Switches off the carbonator at 10 bar (e.g. in case level regulator is defective).
Release valve:	Opens automatically at 12 bar.

³ only for recirculating carbonator wet

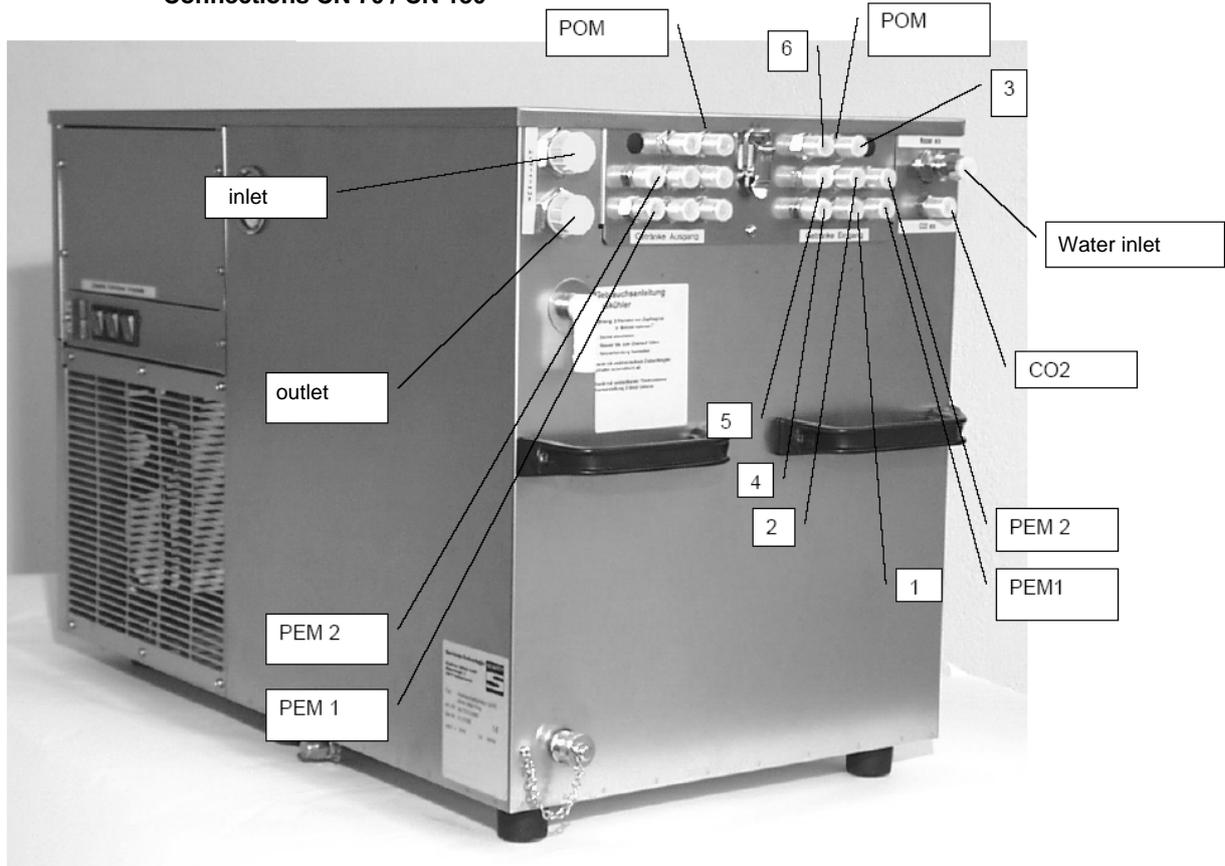
5.00 Installation

To guarantee correct functioning, it is necessary to place Selbach machines on a level surface. Ensure that there is sufficient space for connecting the drink pipes. The machines must be well ventilated so that heat can escape freely⁴. Do not cover air vents!

The location should be selected so that the equipment is protected from damp. Also, take care to ensure that the connection cable has an unrestricted run to the socket, avoiding bending and snagging. There must be easy access to the mains plug. The machines may only be operated and stored in places protected from frost.

⁴ does not apply to warm carbonator

Connections CN 70 / CN 130



5.10 Electrical requirements

Selbach machines require a 220-240 V 50 Hz supply.

Water connection: drinking water supply with 2,5 bar flow pressure. There is to use an one way valve certified according to the valid norms.

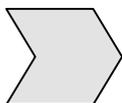
Turn off the water supply when the machine is not in use!

5.20 Disposal

The materials used in Selbach machines are, for the most part, VA 1.4301 / 1.4016 / ST 12-ZE, which are generally recyclable. Many recycling organisations are able to dispose of the refrigeration components without difficulty. The machines are CFC free.

6.00 Maintenance

Make sure that maintenance will always be performed by a specialist!



Never operate the appliance with the case removed!

7.00 Commissioning

- 1) Remove lid and fill tank with water to just below overflow⁵.
- 2) Connect drinks pipes, water pipe and gas pipe as labelled and check for possible leaks.
- 3) Connect to mains supply.
- 4) Set CO₂ inlet pressure to required level at the pressure reducer on the bottle. Set the water inlet pressure to 2.5 bar at the external pressure reducer.
- 5) Using still-water products a control of the quiet water module is necessary.

A parallel connection (2-pole) of each electrical still water tap must be put on the still water module. Connect 6 still water taps at the most.

The level regulator automatically controls the preparation of soda water in the carbonator.

For cooling units:

Once the operating temperature is reached (thermostat mode) or the ice pack has built up sufficiently (ice pack regulator), the machine is ready for use.

A filter should be provided for the mains water supply.

7.10 Controls⁴

There are illuminated switches on the side panel of the Selbach carbonator, which control the high pressure and circulation pumps and the chiller circuit.

⁴ does not apply to warm carbonator

⁵ Only for wet coolers

8.00 Trouble shooting

Fault	Possible cause	Remedy
The machine does not switch on	No mains supply	Connect to mains supply
	Water pressure to low	Adjust pressure to 2.5 bar minimum
	Pump runs unevenly (running dry)	Adjust water pressure to 2.5 bar minimum
The machine does not cool	No water in tank (only wet coolers)	Fill with water
	Thermostat switch off ⁴	Switch on thermostat
	Thermostat defective ⁴	Replace thermostat*
	Condenser dirty ⁴	Carefully clean condenser
	Condenser fan defective ⁴	Replace condenser fan*
	Leak in refrigeration system ⁴	Cure leak, degas and fill with coolant**
The machine does not switch off	Compressor defective ⁴	Replace compressor**
	Thermostat or ice pack regulator defective ⁴	Replace thermostat or ice pack regulator*
	Level regulator defective	Replace level regulator
	Connection to electrode broken	Repair connection, replace electrode
Machine freezes up	Thermostat or ice pack regulator defective ⁴	Replace thermostat or ice pack regulator*

⁴ does not apply to warm carbonator

* This work may only be performed by a qualified electrician.

** This work may only be performed by a qualified refrigeration engineer.

9.00 Maintenance

Clean the vanes of the condenser regularly with a brush or compressed air and remove dust.

Only for wet coolers:

Check the water level in the tank at regular intervals.

Change the filter cartridges regularly in accordance with the manufacturer's instructions.

10.00 Decommissioning

- 1) Disconnect mains plug
- 2) Close the CO₂ supply
- 3) On units with connectors:
remove drink pipe connectors from the drinks container

On units without connectors:
close the drinks block taps
- 4) Open taps until pressure is equalised
- 5) Remove drink pipes
- 6) Only apply to wet coolers:
Drain water from the tank

11.00 Cleaning

Housing:

Disconnect the power supply before cleaning the machine!

Please do not bring water into direct contact with the machine. Instead, clean it with a damp cloth and a small amount of washing-up liquid.

11.10 Cleaning the dispensing equipment

The minimum requirements for cleaning of beverage pumps are stipulated in DIN 6650. Basically cleaning is stipulated "as and when needed". "Need" depends on output, type of beer, bar breaks and type of appliance.

In parts where the dispensing equipment comes into contact with beverage and air alternately, germs that occur in the ambient air may develop. It is therefore necessary that these parts of the dispensing equipment (in particular taps and drip trays) are cleaned on a daily basis. It is not possible to keep the dispensing equipment germ free. However, regular and thorough cleaning can prevent germs from multiplying, which would result in lower product quality (taste and smell) and lead to cloudiness. The environment of the dispensing equipment must also be kept clean.

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