Please keep these operating instructions in a safe place.

Dear Customer:

Check this product for visible damage immediately upon receipt. Inform the shipper if there is any shipping damage.

Note that damage resulting from improper handling or operation is not covered under the warranty.

Before putting the device into operation:

Read all the operating instructions carefully.
Familiarize yourself with all controls.
Ask the service company installing the device to write its address down here for any subsequent repairs, emergencies, etc.

Address of your technical service company:

Name: .....

City: .....

Street address: .....

Telephone: .....

Contact person: .....

Table of Contents

1. Introduction

Our foremost aim is to produce a quality product. If you should encounter any difficulty which these operating instructions do not help you with, call or write us. We will be glad to be of assistance. If you write, please include the model and serial number of the device.

Our address:

IMI Cornelius Deutschland GmbH
Carl-Leverkus-Strasse 15
D-40764 Langenfeld, Germany
Tel. 0(xx49) 2173 793-0
Fax: 0(2173) 2173 77438

2. Safety Regulations

2.1 General Safety Regulations

This device is of leading-edge design and manufacture. If used and maintained in accordance with these operating instructions, it will be safe to operate. Please comply with the following safety instructions to avoid hazards and damage.

The device must be in satisfactory condition whenever operated. Any modifications which detrimentally affect the safety of the device are therefore strictly prohibited. Please contact your service company if you wish to obtain more information about safety.

No safety equipment (such as safety valves, overload protection devices, etc.) is to be removed, modified or put out of commission (risk of injury or death!).

Take care that only authorized persons work on the device and that the operators are trained. Make certain that no unauthorized persons change the settings on the device or tamper with it.

You are obligated to check the device on a daily basis for externally discernible damage and defects. Immediately report modifications which affect safety and function to the service company nearest you.

Note that only original CORNELIUS replacement parts and accessories which have been checked and approved are to be used. IMI Cornelius Deutschland GmbH assumes no liability whatsoever for damage resulting from the use of non-original parts and accessories or from improper handling.

2.2 Safety Instructions Electricity

An electric shock may be fatal or result in serious injury. For this reason, any unauthorized tampering is strictly prohibited. Water and electricity are a fatal mixture.

Always pull out the mains plug before any cleaning work on or near the device. As delivered, it features a moulded earthing-pin plug and it must be connected to a socket outlet with an earthing contact. If no appropriate socket outlet with an earthing contact is available, the connection must be made by authorized persons only, with the regulations applicable at the installation site (VDE standards in Germany, for example) being observed.

2.3 Safety Instructions CO_2

Place the carbon dioxide cylinder in an upright position next to the workstation and secure it against falling over. Protect it against heat (e.g., against sunshine). Minimum distance from heater 0.5 m (TRSK).

Escaping carbon dioxide is heavier than air and may present danger of suffocation if large quantities collect in enclosed spaces. Remember that parts of the device are at operating pressure. Do not loosen or dismantle any components at operating pressure.

3. Installation Requirements

3.1 Installation Sites

Comply with the valid national regulations for installation sites and electrical connections. Ventilation of the installation sites must be appropriate for device output. Inadequate ventilation of the device will result in its overheating and being destroyed. Always make certain that no intake or discharge vents are covered.

	Triton 150	Triton 350	Triton 700	Triton 2500
Heat output in watts	1100	1600 / 1700 [1)]	2000	3000
Air flow in m^3/hour	400	400	500	700

[1)] 2/3 HP Version

3.2 Electrical Connections

A socket outlet with an earthing contact featuring a maximum protection of 16 amps is required.

The line voltage must always be within following tolerances: 230 VAC +6%/-10% / 50 Hz

	Triton 150	Triton 350	Triton 700	Triton 2500
Power consumption in watts	540	920 / 1000 [1]	1150	1550

[1] 2/3 HP Version

4. Installation

The device must be installed by a trained service technician.
Please take care, that the socket for the unit is always accessible.
There is no user serviceable items inside the equipment.
If the power supply cable to the unit is damaged, it has to be replaced by the manufacturer, the service partner or any other qualified person to avoid safety hazard.

4.1 Water Connection

Connecting only to drinkable water
Connect the device to a feed line with an inner diameter of 10 mm. We recommend using a water filter and a water pressure regulator for the water input. To permit flushing of the filter, a T-piece should be mounted downstream of the water pressure regulator. The water flow pressure should be 3 bar (mount control pressure gauge on water pressure regulator). A flow rate of 560 litres / hour is required. Due to the high flow rate, it may be necessary to install several water filters and water tubes in parallel.

4.2 CO_2 Connection

You will require a two-wire pressure regulator, 7 bar. Using tubing with an inner diameter of 4 mm, connect the pressure regulator to the carbonator. Set the CO_2-pressure to 3,5 to 4,5 bar.
The unit include a CO_2-pressure switch to switch off the dispensing valves at a CO_2-pressure less than 3 bar.

4.3 Connecting Soda Water and Still Water Premix/Postmix Syrup

Connect one tube with an inner diameter of 6 mm to each device connection. Connect the tube end to the correct cooling coil inputs of the cooler circuit carbonator.

4.4 Connection of Still Water Control

For still water, one switching cable (1 x 0.75 $mm^{2)}$ per still water tap must run from the soda circuit carbonator to the still water tap. The electronic control system is actuated via this cable. An addition cable from one of the still water valves is necessery.
Alternativley, there are some units which are controlled by a pressure switch for the still water. It is recommended to adjust the still water flow pressure to 3.2 bar and the switching point of the pressure switch to 4.2 bar. If a different flow pressure is required the switching point of the pressure switch must be set 1 bar above the flow pressure.
Refer to the circuit diagram for the connection. The flow rate of the still water should be 170 ml in 4 to 5 seconds.

5. Putting into and out of Service

5.1 Putting into Service

Comply with the cleaning regulations defined by law before beginning each operation.

Clean the couplings on the container for beverage / syrup every time before you attach them. Connect coupling to container for beverage / syrup. Note: Gray = CO_2, black = beverage / syrup.
Open the cylinder globe valve on the CO_2-cylinder and the globe valve on the pressure regulator. Check the CO_2-pressure at the pressure regulator. It should be within the following standard values:

Syrup:	3.5 to 4.0 bar
CO_2 carbonization pressure:	3.5 to 4.5 bar
Light product:	0.5 to 1.0 bar
Drinking water:	4.0 to 4.5 bar

Set the CO_2-pressure by turning the control screw:
Clockwise to increase the pressure
Counter-clockwise to reduce the pressure
Afterwards check the CO_2-lines for leaks by closing the CO_2-globe valve. The admission pressure displayed at the pressure regulator should not drop. If it does, notify the service technician immediately. Do not forget to re-open the CO_2-globe valve after the check.
Open the water feed line and check the flow pressure in it. Standard value: 2.0 to 3.0 bar. Set it at the control screw on the water pressure regulator:
Clockwise to increase the pressure
Counter-clockwise to reduce the pressure

Check the beverage / syrup lines for leaks. Only a visual inspection is possible. If liquid is leaking, call a service technician.

Close the water feed line. The pressure displayed should not drop. If it does, notify the service technician immediately. Afterwards, re-open the water feed line.

5.2 Turning On the Device

The water bath must be filled to overflowing with tap water. Refer to the technical data for the amount required. To prevent algae from forming in the water, add the disinfectant Molco (PN 14-9670-150). The 150 ml container of disinfectant is sufficient for 30 liters of water.

Insert the mains plug for the cooler into the socket outlet with an earthing contact.

Ice bank controlled units start working after the water bath fills with water and switch off automatically after the ice bank is built up. The control board of the unit has a time delay for switching on and off the cooling sytem, when it runs in ice bank mode. After the cooling system is switched on the running time is not less then 5 minutes. Switch off signals will be ignored during this time. After the cooling system is switched off the break time is not less then 3 minutes. Switch on signals will be ignored during this time. The break time of 3 minutes is valid for turning on the device and after a break down of the power supply.
This unit contains a 3-pin icebank probe. Take care that the probe is always correctly adjusted. Wrongly adjusted probes can be adjusted by using the adjusting device 22-0055-X99.

The agitator motor is a closed version. Temperatures up to 80°C are normal.

The carbonator pump switches on automatically and fills the carbonator container. The carbonator pump switches off when the water has reached its highest level in the carbonator container but after no more than 20 minutes. Long run periods are signs of leaks or insufficient water. It is then only possible to turn the pump back on by executing a network reset (pulling out the mains plug briefly).

Release air from the carbonator container by pulling the safety valve for about 2 to 4 seconds. The circulation pump has to be switch on manual by using the switch at the leval control board (not Triton 150).

5.3 End of Operation

It is imperative that the CO_2 cylinder and water line be turned off each time operation is ended.

5.4 Daily Inspection

Check whether carbon dioxide and water lines are open. Working with closed water feed lines results in draining of the python and the carbonator container. The air must then be carefully bled from the python by opening the soda water tap, as the circulation pump will not move the water otherwise.

Check the beverage / syrup lines for leaks. Only a visual inspection is possible. If liquid escapes, call a service technician.

Check the CO_2 lines for leaks by closing valve on the CO_2 cylinder. The inlet pressure indicated on the pressure regulator should not drop. If it does, call a service technician immediately. Do not forget to re-open the CO_2 cylinder valve afterwards.

5.5 Putting out of Service

Perform the following steps in case of protracted standstill periods:
Close the CO_2-cylinder, the CO_2-stopcocks on pressure regulators and the water feed line.
Pull the mains plug out of socket outlet with earthing contact.
Detach the couplings from beverage containers.
Have the device cleaned and emptied.
Only trained specialists are carry out this procedure.

6. Instructions for Cleaning

Comply with the national regulations for cleaning bar equipment which are valid at the particular installation site.

Clean connection parts and tap fittings in advance whenever making connections or changing the type of beverage.

Clean parts coming into contact with air and beverage, the mouth of the tap for example, on a daily basis.

The risk of serious etching exists when handling liquid cleaners. Always wear safety glasses and appropriate clothing during cleaning jobs. Follow the instructions of the cleaner manufacturer.

The liquefier louvres must be cleaned at regular intervals which vary according to the amount of contamination at the erection site (approximately every three months). This is best done with a brush and a vacuum cleaner.

The level of the water bath must be checked regularly and the contents must be exchanged at least once annually. Algae formation can be reduced by adding disinfectant.

The device is to be cleaned and emptied by trained specialists only on the basis of the following recommendations:

To be cleaned by trained personnel	CO_2-lines	Beverage lines	Syrup lines	Soda water lines
Before commissioning		X	X	X
Before each change of type of beverage		X	X	
Before and after a pause		X	X	
Every 2 weeks		X		
Every 3 months			X	X
Every 12 months	X			

7. Problems and Troubleshooting

Before looking for problems with the dispensing equipment, first check:
Is the flow of electricity to the device interrupted?
Is the flow of water to the device interrupted?
Are the beverage containers empty?
Is the CO_2-cylinder empty?

Type of problem	Cause	Remedy
Beverage too warm, compressor running	Condenser dirty or covered. Too much beverage being removed	Use brush to clean condenser between louvres. Note out-put capacity
Beverage too warm, compressor not running	Compressor not turned on.	Turn compressor on, otherwise call service technician
Beverage foams at a tap	Syrup stored too long and enriched with CO_2	Connect container with fresh basic material
Beverage foams at all taps	CO_2-pressure too high All syrups enriched with CO_2 All beverages too warm	Set pressure Connect container with fresh basic materials. Check storage temp See “Beverage too warm ...”
Tap just outputs concentrate	Carbonator pump is not running	Check if water feed line is open Check water flow pressure of 3bar Check whether the carbonator motor is running; if not, call service technician
CO_2-volume in the beverage is too low	Air in carbonator Too much beverage being removed CO_2-cylinder empty Globe valve on CO_2-cylinder closed Stopcock on pressure regulator closed CO_2-pressure too low Water temperature too high	Bleed air Watch output capacity Change CO_2-cyl. Open globe valve Open stopcock Adjust pressure Adjust to lower temperature
Too much or not enough syrup in the beverage	Regulator in tap is clamping Delivery pressure for syrup too low or too high	Call service technician Adjust CO_2-pressure

8. Technical Datas

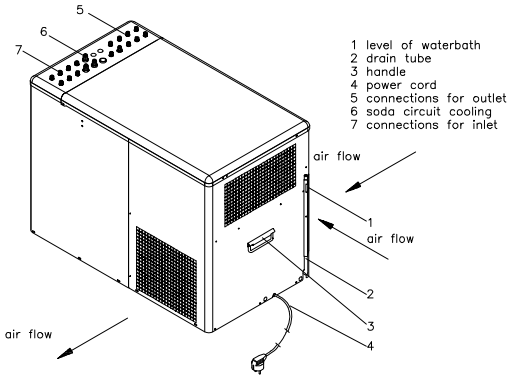
	Triton 150	Triton 350	Triton 700	Triton 2500
Output capacity at a tap rate of 4 drinks of 0.3 L each per minute	130	340 / 500 [1)]	670	2500
Weight of ice bank in kg	9	18	30	55
Ice bank performance in kcal	720	1440	2400	4400
Ice build up in minutes without python	110	160 / 145 [1)]	220	240
Supply voltage		230 V / 50 Hz		
Power consumption in watts	540	920 / 1000 [1)]	1150	1550
Compressor output in watts (hp)	400 (1/3)	500 / 680 [1)] (1/2) / (2/3) [1)]	790 (3/4)	1370 (1)
Refrigerant R134 a in kg	0,240	0,350 / 330 [1)]	0,410	0,800
Carbonator pump output in L / hour at 10 bar	280	280	280	2x280
Circulation pump output in liters / hour at 2 bar	240	320	320	320
Cooling / ice bank performance				
in watts	483	659 / 675 [1)]	767	1163
in Kcal	415	567 / 580 [1)]	660	1000
Number of cooling coils				
Syrup	5	6	8	10
Premix	1	1	1	1
Drinking water		1	1	1
Still water	1	1	1	1
Dimensions in mm				
Height	580	595	640	710
Width	385	780	840	1040
Depth	585	433	490	600
Shipping weight in kg	50	85	95	105

[1)] 2/3 HP Version

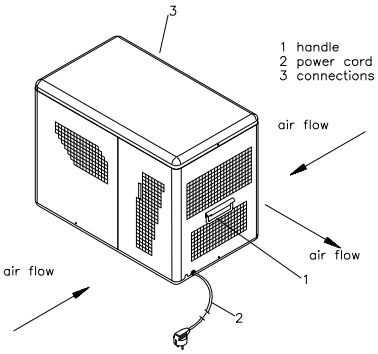
* at -10°C evaporation temperature
** with 10 m SC python

Cooling capacities and output capacity at 24°C ambient temperatures and water or syrup inlet temperatures of 24°C and beverage outlet temperatures of less than 5°C.
When Cornelius pythons are used, a cooling loss of 13 kcal/hour per running meter must be included in calculations.
We reserve the right to make modifications.

9. Illustration of the Triton



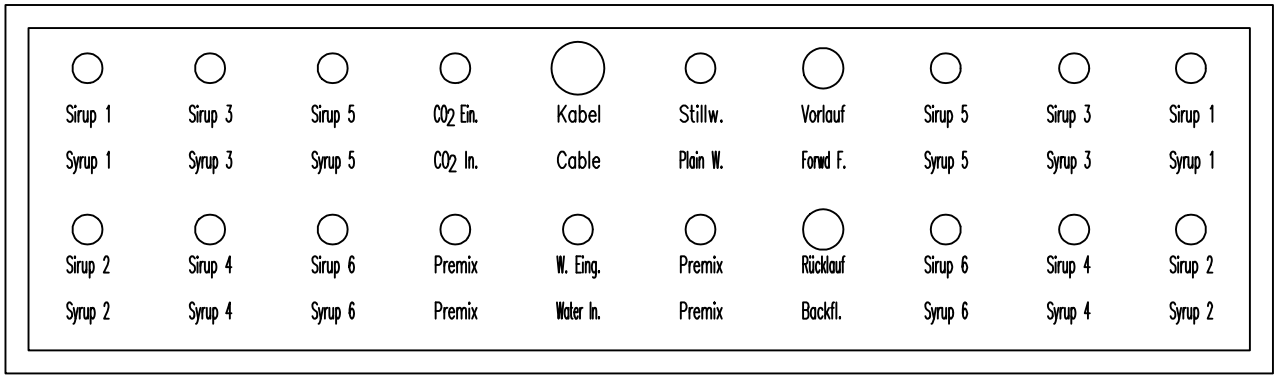
Triton 350, Triton 700 Triton 2500 (for example Triton 350)



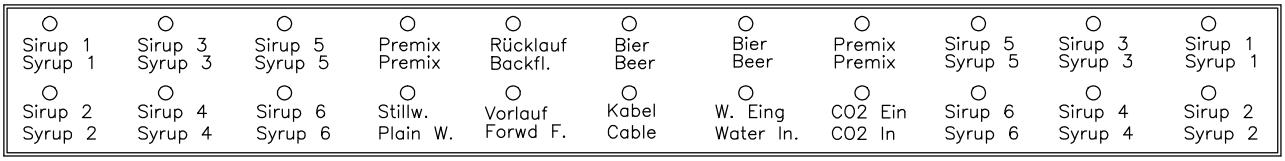
Triton 150

9.1 Connections at the unit

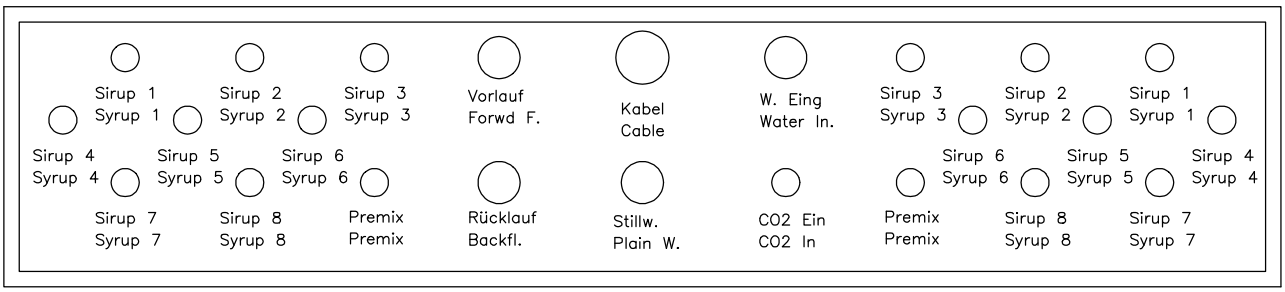
9.1.1 Triton 150



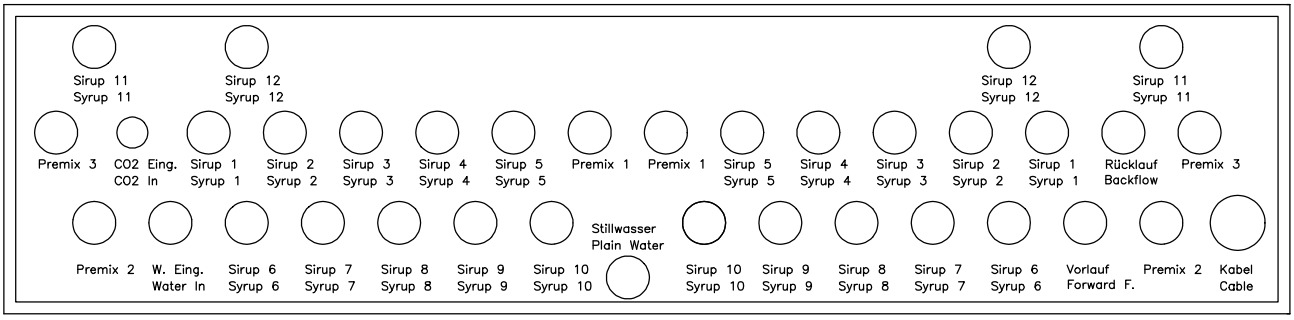
9.1.2 Triton 350



9.1.3 Triton 700

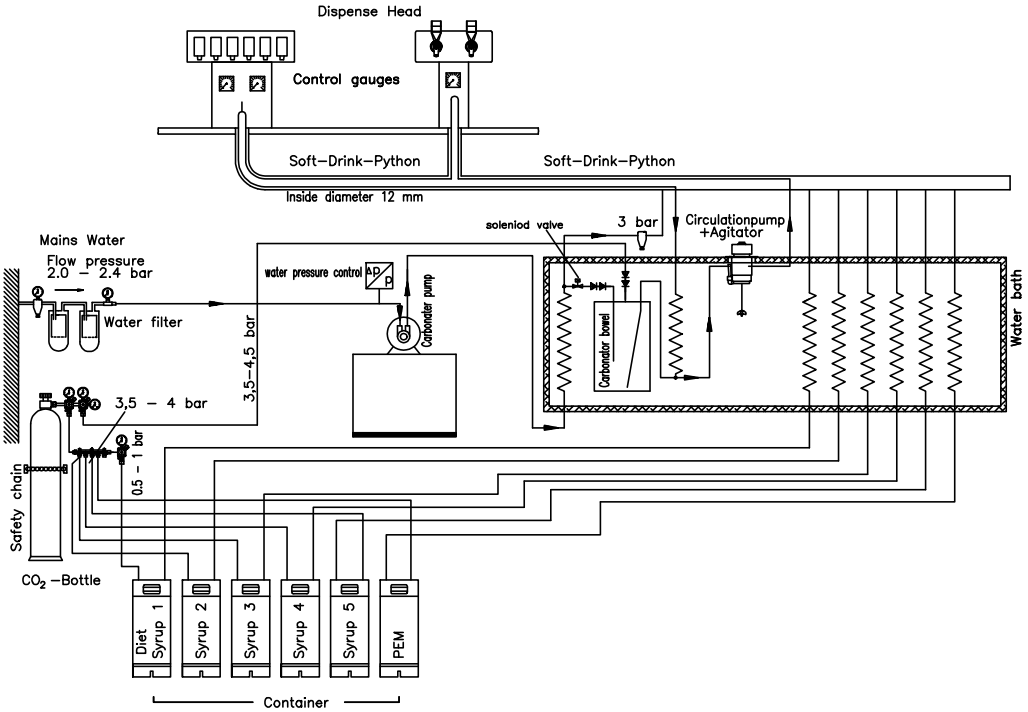


9.1.4 Triton 2500

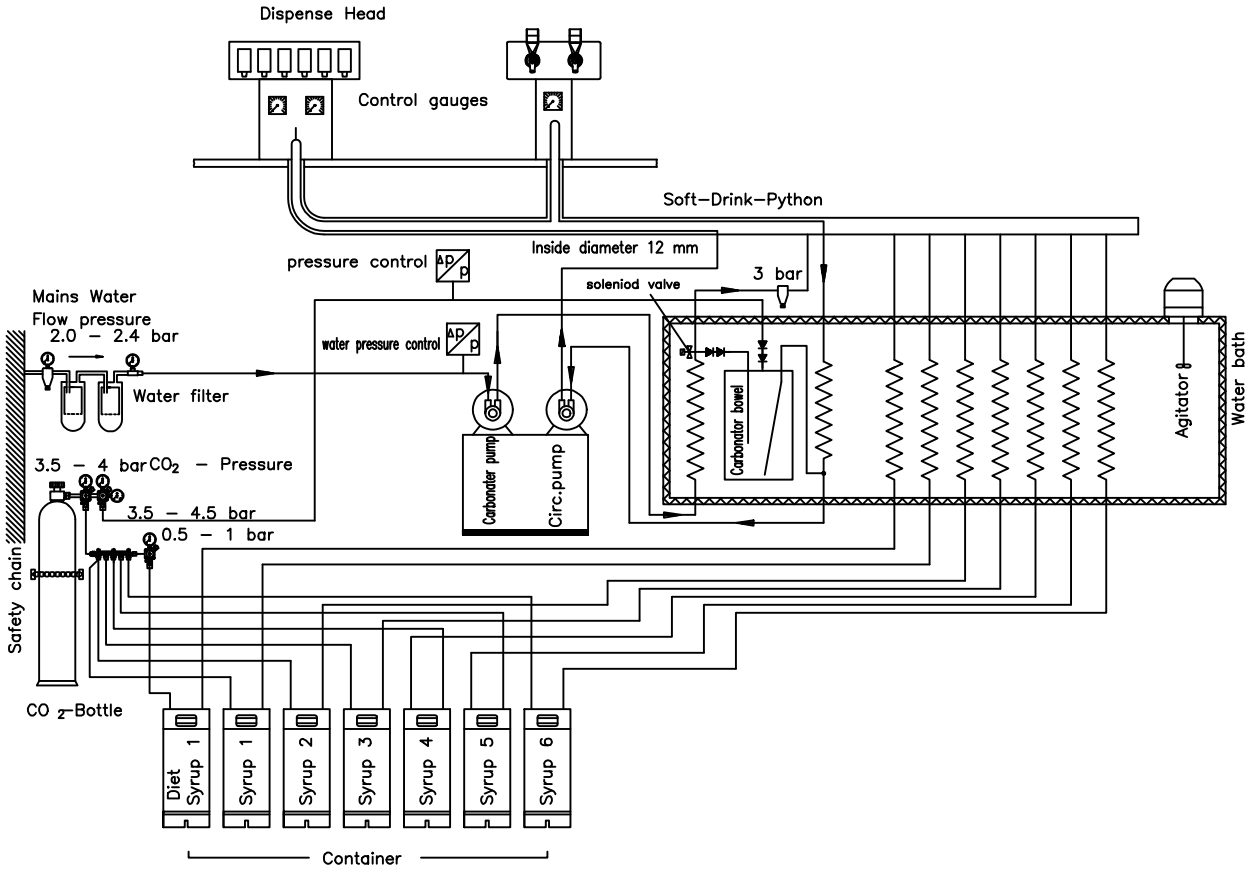


10. Flow Chart and Circuit diagram

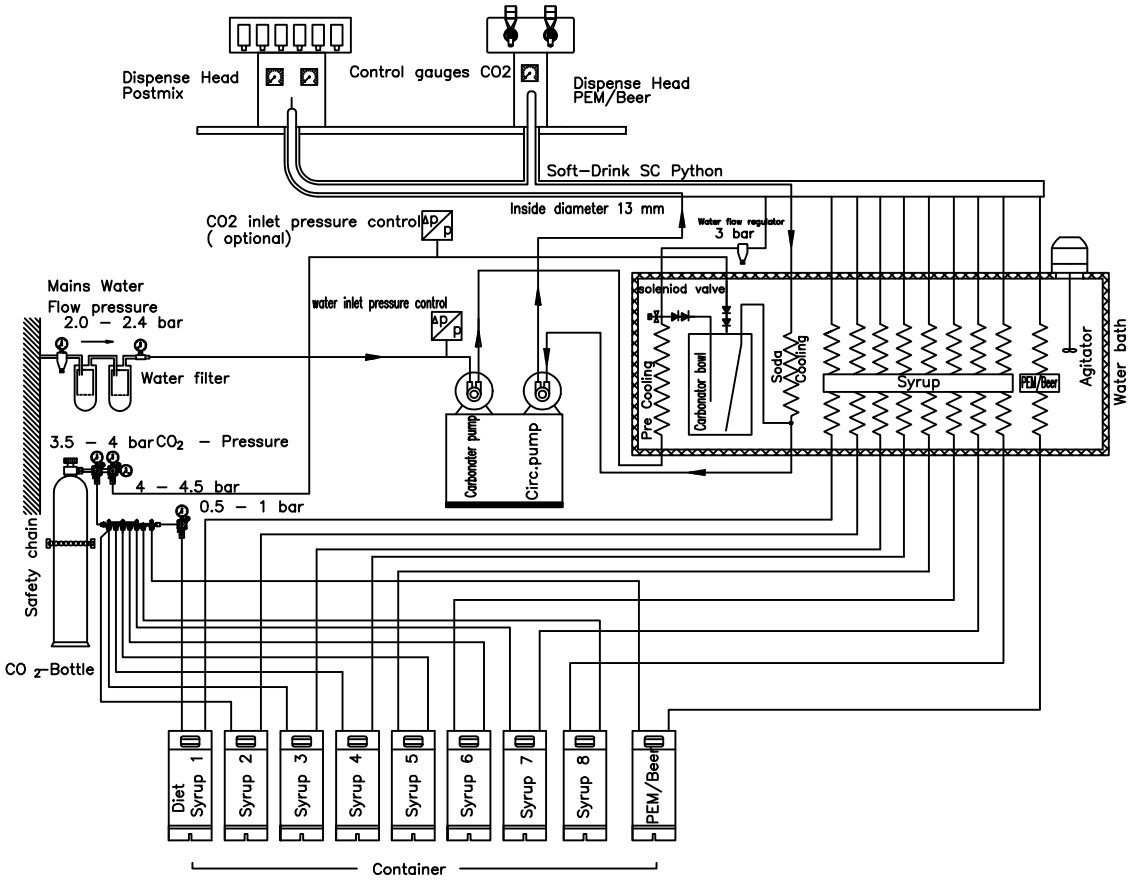
10.1 Flow Chart of Triton 150



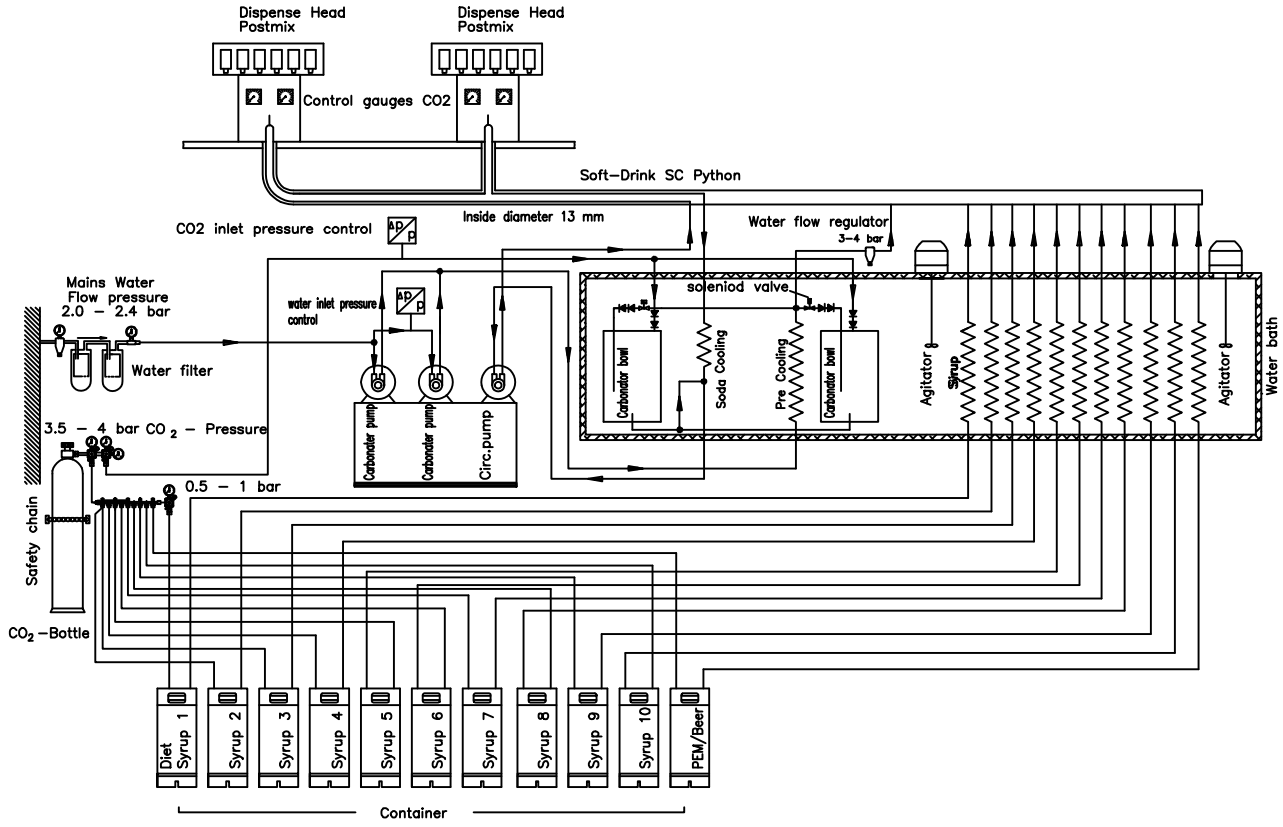
10.2 Flow Chart of Triton 350



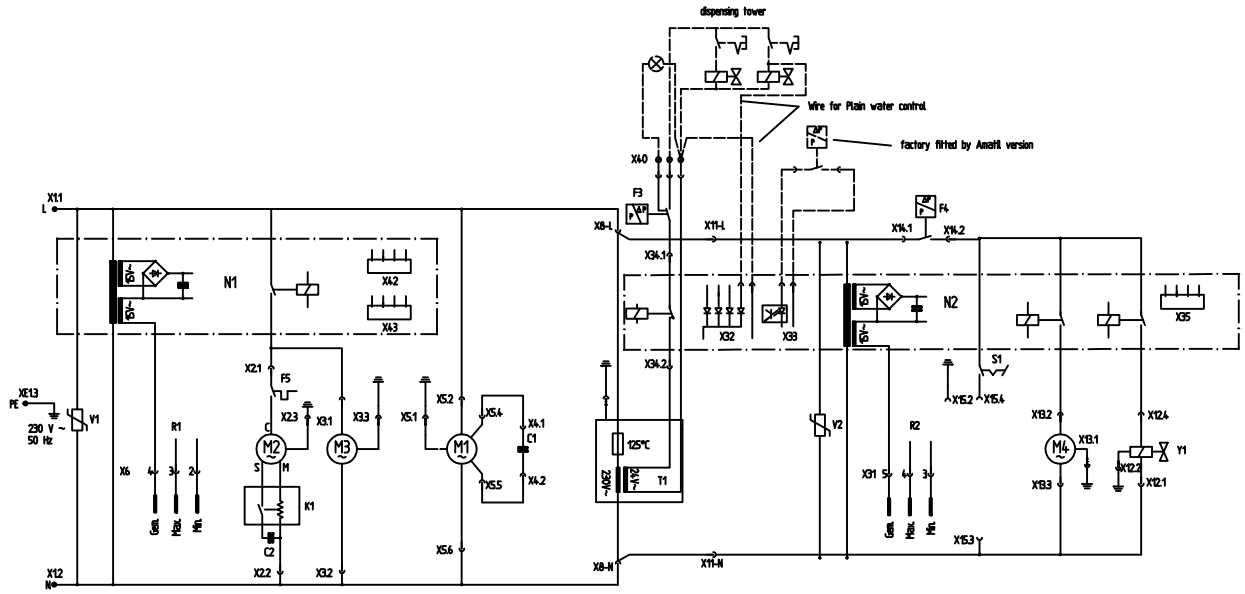
10.3 Flow Chart of Triton 700



10.4 Flow Chart of Triton 2500



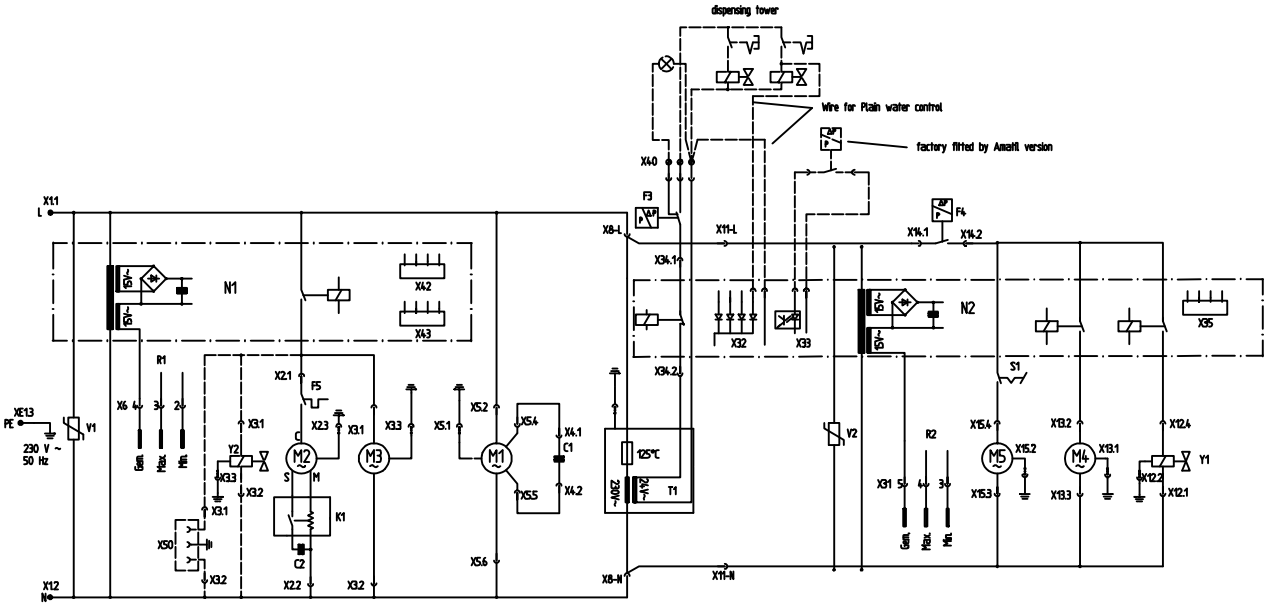
10.5 Circuit diagram of Triton 150



C1	Working capacitor	N1	Icebank control	X3	Plug fan motor	X31	Plug level probe
C2	Starter capacitor	N2	Level control	X4	Plug working capacitor	X32	Terminal Block (Stillwater Steering)
F3	CO2 pressure control	R1	Icebank probe	X5	Plug motor SR4-pump	X33	Terminal Block (Stillwater Steering Mechanic)
F4	Pressure control water inlet	R2	Level probe	X6	Plug icebank probe	X34	Plug solenoid switch off
F5	Overload Protection	T1	Transformer	X8	Plug icebank control	X35	Plug Data Chip Leval
K1	Start relais	V1	Varistor S14 K275	X11	Plug Level control	X40	Terminal Block (24 V)
M1	Motor SR 4-pump	V2	Varistor S14 K275	X12	Plug solenoid valve	X42	Plug Temperature Display
M2	Compressor	X1	Plug power-in	X13	Plug carbonator pump	X43	Plug Data Chip Ice bank
M3	Fan motor	X2	Plug compressor	X14	Plug pressure control water inlet	Y1	Solenoid valve (not HK)
M4	Carbonator pump						

T1, F3, X40 not Amatil or Benelux

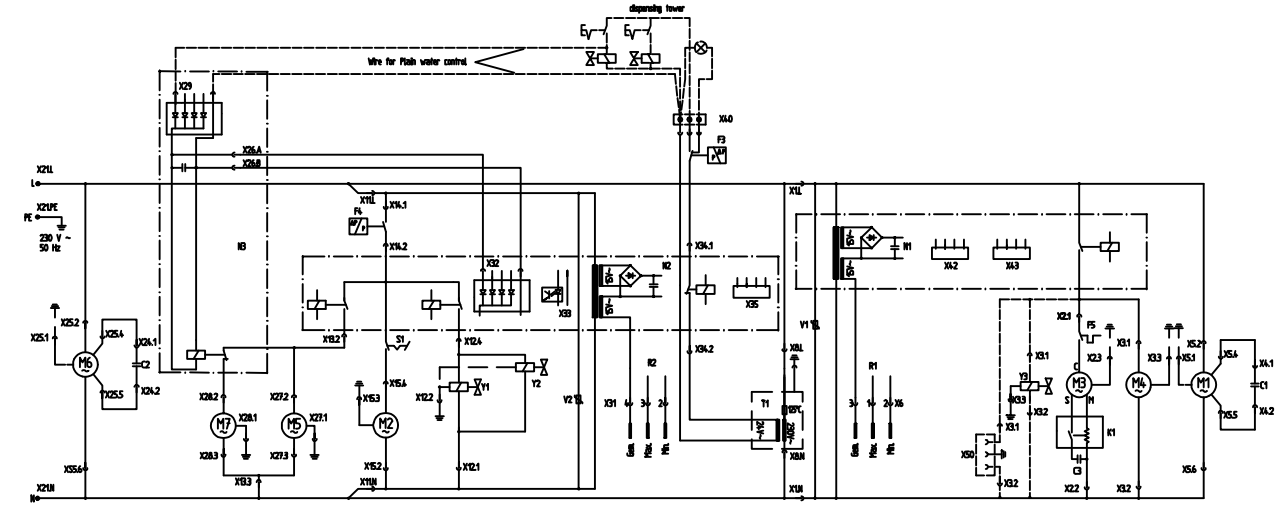
10.6 Circuit diagram of Triton 350 and 700



C1	Working capacitor	N1	Icebank control	X5	Plug motor SR4-pump	X33	Terminal Block (Stillwater Steering Mechanic)
C2	Starter capacitor	N2	Level control	X6	Plug icebank probe	X34	Plug solenoid switch off
F3	CO2 pressure control	R1	Icebank probe	X8	Plug icebank control	X35	Plug Data Chip Leval
F4	Pressure control water inlet	R2	Level probe	X11	Plug Level control	X40	Terminal Block (24 V)
F5	Overload protection	T1	Transformer	X12	Plug solenoid valve	X42	Plug Temperature Display
K1	Start relais	V1	Varistor S14 K275	X13	Plug carbonator pump	X43	Plug Data Chip Ice bank
M1	Motor agitator	V2	Varistor S14 K275	X14	Plug pressure control water inlet	X50	Plug Glycol pump extern (only Glycol)
M2	Compressor	X1	Plug power-in	X15	Plug recirculation pump	Y1	Solenoid valve (not HK)
M3	Fan motor	X2	Plug compressor	X31	Plug level probe	Y2	Solenoid Valve (only for Setelill instead of C2, M2, M3 and F5)
M4	Motor Carbonator pump	X3	Plug fan motor	X32	Terminal Block (Stillwater Steering)		
M5	Motor Recirculation pump	X4	Plug working capacitor				

T1, F3, X40 not Amatil or Benelux

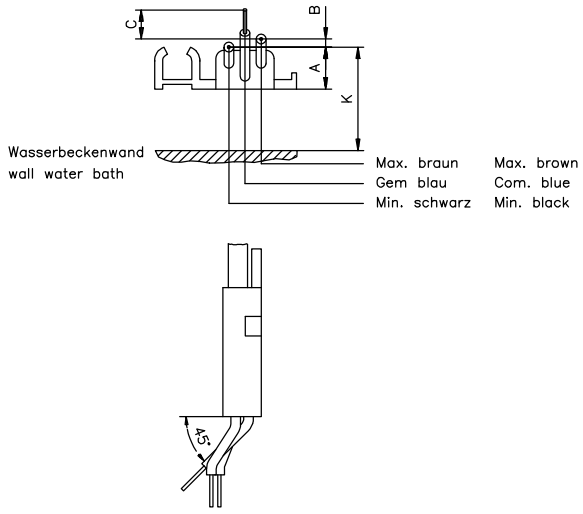
10.7 Circuit diagram of Triton 2500



C1	Working capacitor 1	M5	Carbonator pump 1	V2	Varistor S14 K275	X14	Plug pressure control w.inlet	X33	Terminal Block (Stillwater Steering Mechanic)
C2	Working capacitor 2	M6	Agitator Motor 2	X1	Plug icebank control	X15	Plug circulation pump	X34	plug solenoid valve switch off
C3	Starter capacitor	M7	Carbonator pump 2	X2	Plug compressor	X21	Plug pwer-in	X35	Plug Data Chip Leval
F3	CO2 pressure control	N1	Ice bank control	X3	Plug fan motor	X24	Plug working capacitor 2	X40	Terminal Block (24 V)
F4	Pressure control water inlet	N2	Level control	X4	Plug working capacitor 1	X25	Plug agitator 2	X42	Plug Temperature Display
F5	Thermo Switch	N3	Afst flow board	X5	Plug agitator 1	X26	Plug Still.w. Connection	X43	Plug Data Chip Ice bank
K1	Start relais	R1	Ice bank probe	X6	Plug ice bank probe	X27	Plug carbonator pump 1	X50	Plug Glycol pump extern (only Glycol)
M1	Agitator Motor 1	R2	Level probe	X8	Plug transformer	X28	Plug carbonator pump 2	Y1	Solenoid valve 1 (not HK)
M2	Circulation pump	S1	Switch Carbonatorpump	X11	Plug level control	X29	Terminal Block 2 (Still.w. Steering)	Y2	Solenoid valve 2 (not HK)
M3	Compressor	T1	Transformer	X12	Plug solenoid valve 1	X31	Plug level probe	Y3	Solenoid Valve (only for Schelll instead of C3, M3, M4 and F5)
M4	Fan motor	V1	Varistor S14 K275	X13	Plug carbonator pumps	X32	Terminal Block 1 (Still.w. Steering)		

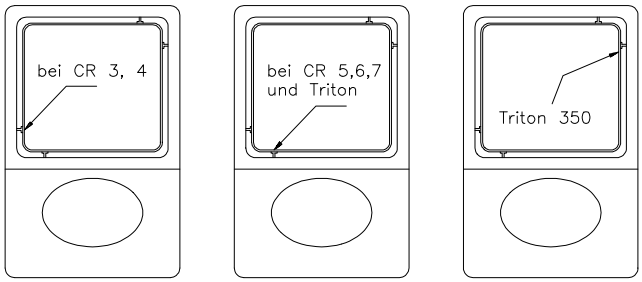
T1, F3, X40 not Benelux

11. Adjusting of the ice-bank-probe



C	minimal 5							
B	3.0							
A	ca. 3	ca. 6.5	ca. 12	ca. 12.5	ca. 13	ca. 21	ca. 21	ca. 15
K	17	21	28	32	33	50	69	73
X	CR 3.0	CR 4.0	CR 5.0	CR 6.0	CR7/Triton 150	CR9/Triton 350	Triton 700	Triton 2500
	Gerätetyp							

The dimension is critical for the adjustment.
The icebank probe adjustment tool is avaible under PN 22-0055-XXX



12. Installation Check List

You can use this check list to review the installation of the device. Fill out the check list and keep it with the operating instructions.

Part number of the device:	_____	
Serial number of the device:	_____	
Installation site:	_____	
Installation date:	_____	
Installed by:	_____	
Settings:	**Target**	**Actual**
Water flow pressure:	2 bar	____ bar
CO_2 pressure:	3.5 to 4.5 bar	____ bar
CO_2 volume at 4°C:	4.0% by vol.	____ % by vol
Carbonator filling time:	about 8 sec	____ sec
CO_2-pressure switch	3 bar	____ bar
Stillwater pressure switch	3.2 bar	____ bar
pressure switch stillwatercontrol	4.2 bar	____ bar