



pH and Chlorine Disinfection Controller

# ASIN Aqua ASIN Aqua Ext

Manual



ASIN AQUA automatically regulates pH and the concentration of free chlorine in water. A standard glass electrode measures the pH level, and a membrane probe measures free chlorine to determine the quantity of chlorine disinfectant. The measured values appear on a display. You can adjust all necessary settings using two buttons with a simple conversational mode. During operation, the measured levels are used to calculate the required dosage of chemical agents that are added to the water at appropriate intervals. ASIN AQUA is a compact system consisting of the control unit, electrode sensors and dosage pumps with an output of 60 ml/min. The system is mounted on the wall. The version ASIN Aqua Ext is equipped with a connector for the connection of an external display and thermometer of the pool water (the temperature is displayed together with the other values on the external display).

Technical specification	
Power supply	230 V, 50 Hz
Power demand	20 VA
Fuse	T32 mA (2ks), T80 mA
Overvoltage category	II
Protection	IP30
Climatic resistance	0-40°C
Weight	2268 g
Location	wall mounted
Levels measured	pH, volný chlor
Levels controlled	pH, volný chlor

## Installation


The connecting of the ASIN AQUA system to a pool filtration circuit is illustrated in Fig. 1. Water leading to the measuring cells with electrodes should be hooked up after the cleaner pump (ideally during filtration), and the outlet should be placed before the cleaner pump or should go to the drain. Water is forced around the probes by the resulting pressure difference. The intake of the dosing pump is attached to the tank for the proper chemical agent, and the outlet leads through the feeding valves to pipes after the filter and into the pool but after the water intake into the measuring cells.

Screw the pH probe into the measuring cell on the side of the machine marked "pH", then screw the contact onto the probe connector. Only use your hands (no pliers or wrenches) for any tightening. First, fill the free chlorine probe with electrolyte following the instructions in the manual, then screw it into the measuring cell and follow the same procedure as for pH.


ASIN AQUA is turned on by plugging the electric cord into a power outlet. ASIN AQUA must have the same power source as the circulating pump of the cleaning device. Turning off the circulating pump for the cleaning device must also turn off ASIN AQUA to prevent incorrect dosing of chemical agents. Connect to the power source using an ordinary three-core cable. The cable is connected to a power outlet on the TNS network, equipped with an earth-leakage circuit breaker (ELCB) with a rated interrupting current of  $\Delta I_n = 30$  mA and a current capacity of at least 1A.

## Operating Instructions




Put ASIN AQUA into operation using only pure water without any additives. Do not add any other pool cleaning products. Turn on ASIN AQUA by plugging it into a power outlet. This activates both the control unit and the dosing pumps. Two displays on the panel will light up, one showing the amount of free chlorine in mg/l, and the other showing the pH level.

1. Pressing the button  on the pH side will bring up individual menus on the display:

2. Pressing the button  on the Cl side will bring up individual menus on the display:

0.5 + CL + CUB + dOS + CAL + 0.5

3. In the PH menu enter the desired pH level. The best range is from 6.8 to 7.2. By pressing  invoke the number on the display and adjust it by pressing  and  to the value required:

PH  7.0  7.1 PH


4. In the **CL** menu enter as the required value zero (only in the case of the first installation). The chlorine probe is not calibrated in the production.

CL  0.2  0.3 3 s. CL


5. In the **CUB** menu enter the pool volume in m3:

CUB  020  021 3 s. CUB

The entered value is after 3s automatically stored and the system returns back.

6. In the DOS menu dose chemical agents manually so that the chlorine content in the water is nearly equal to the desired level. Press the button  to automatically apply a dose of 20 ml/m3 of water. The tubes are transparent to allow observing of the inflow.
7. Once the pH level settles, **but no earlier than 4 hours after installation and turning on the ASIN AQUA machine**, measure the chlorine content in the water manually (by the DPD method). The measured level must be between 0.5 and 1.2. At those levels, the free chlorine probe can be calibrated by entering the measured value into the Cal menu:

CAL  7.0  7.1 3 s. CAL

8. If the level is under 0.5, put in another dose of disinfectant while in the DOS menu. After completion of dosing, let the disinfectant dissolve in the water for at least 30 minutes, then calibrate in the menu CAL menu as already described.
9. **If the level is over 1.2**, wait until the chlorine concentration falls to below **1.2**.
10. Return to the normal mode by .

The survey of the control orders is shown in the fig. 2.

During the first days until the probe will be stabilized, levels measured in the water may be different from the levels displayed by ASIN AQUA. After 24 hours, the levels should be measured again using a manual tester, and calibration should be performed in the CAL menu. Thereafter, the machine should be calibrated once a month for Cl levels.

**Do not dose any chemicals (including flocculants) directly into the skimmer (they would be drawn directly into the measuring probes, which would be destroyed). If it is necessary to pour any chemicals into the pool, turn off ASIN AQUA and shut off the water intake and outlet for the probes.**


It is recommended to let on the circulation pump at least 6 hrs. a day in order that the sufficient filtration is ensured.

## Error message

Should the message Err appear on the display, the reason is in one of following problems:

- out of chemical agent
- dosing pump malfunction
- clogged feeding valve

- water is not flowing to the probes
- a probe is not working.

In all these cases ASIN Aqua does not dose chemicals and only measures. The error message must be deleted as soon as possible by holding down the button  and by correcting the problem. If the error message is deleted and the cause is corrected, ASIN AQUA will resume measuring dosing. If the cause of the error is not corrected, ASIN AQUA will again indicate an error and will not dose chemical agents.

## Maintenance

ASIN Aqua requires regular visual inspection and maintenance. Do not forget to test the water quality regularly and to calibrate the level readings. Regularly check the connection points of pipes and chemical pumps for leaks.

### Feeding valves for chlorine disinfection

During operation, feeding valves for chlorine disinfection may frequently become clogged, causing increased pressure in the spray tubing. This shortens the service life of the tubes in the pump. Complete blockage may cause a tube in the pump to burst. We therefore recommend cleaning the valves and replacing the pump tubes twice a year.

### pH probe

The probe for measuring pH does not require any maintenance. During long periods between uses, it is best to keep the probe in its airtight case so that it does not dry out. The probe's service life is 1-2 years. We therefore recommend replacing it promptly.

### Probe for free (total) chlorine

The free chlorine probe has an unlimited service life, but it requires replacement of the electrolyte ca. once a year. If the probe's sensitivity decreases and is not improved by filling it with new electrolyte, you must replace the covering semi-permeable membrane. Follow the instructions for operation and maintenance of the chlorine probe.

### Peristaltic pump

During the off season, remove the pump head from the motor shaft. This protects the pump tubes. We recommend changing the pump tubes approximately once a year given normal operations. This prevents possible tube bursting that can damage the equipment.

The machine can be used at temperatures between +5° and +40°C. The water absolutely must not be allowed to freeze! Freezing can damage or completely destroy the probe in the machine.

## Occupational safety

ASIN Aqua may operate persons without electronic qualification.

Removing covers and exchanging any of the machine's parts is forbidden. To clean the machine, use a cloth dampened with water or detergent. Use ethyl alcohol to remove stubborn stains. The use of other organic solvents is forbidden, as well as the use of any cleaners that would cause abrasion of the surface of the plastic case or the front cover.

Persons working with Asin Aqua must be informed that using the machine in a manner not intended by its manufacturer can render ineffective the electrical safety features of the device.

### !!! WARNING !!!

All of the chemicals used for water quality treatment are caustic. Do not allow them to come in contact with your skin! Wear rubber gloves and work with all due care when refilling chemical supplies and when changing pump tubes. Stains on clothing from these substances will cause irreparable damage! Always obey the safety instructions for the individual chemicals (see the safety sheets) when handling them or performing repairs.

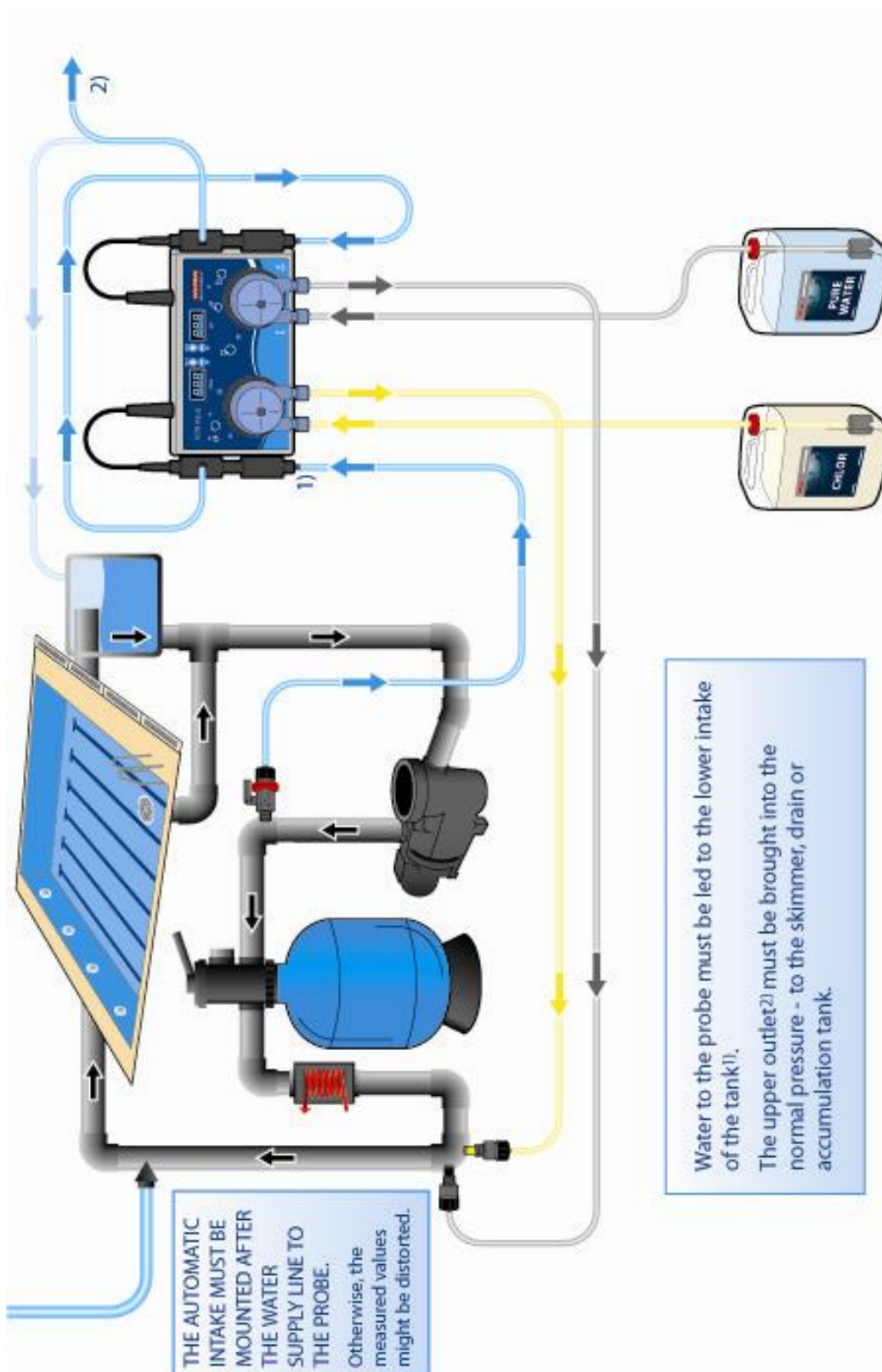


Fig. 1. Connecting ASIN Aqua Sanosil to the filtration circuit

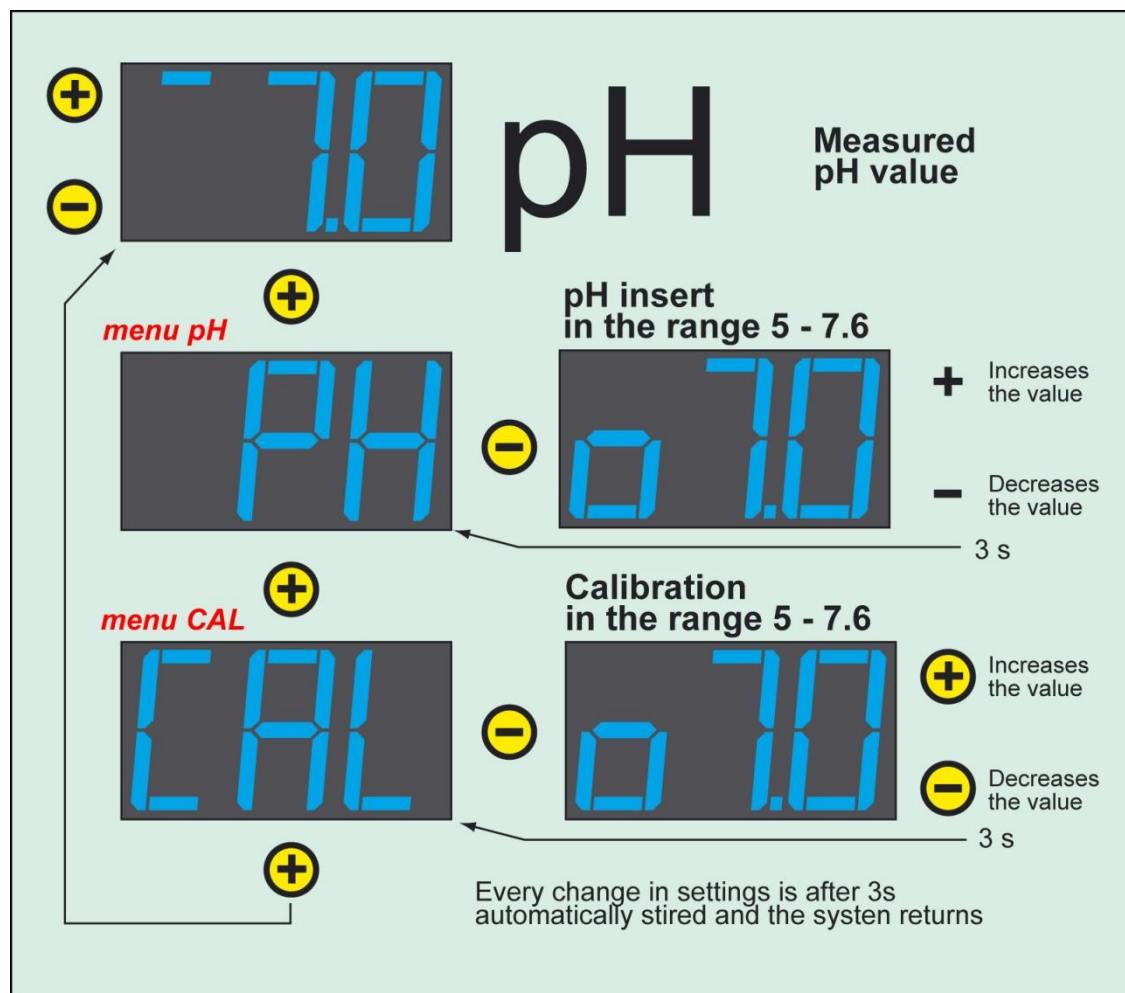


Fig.2. Survey of the menu pH



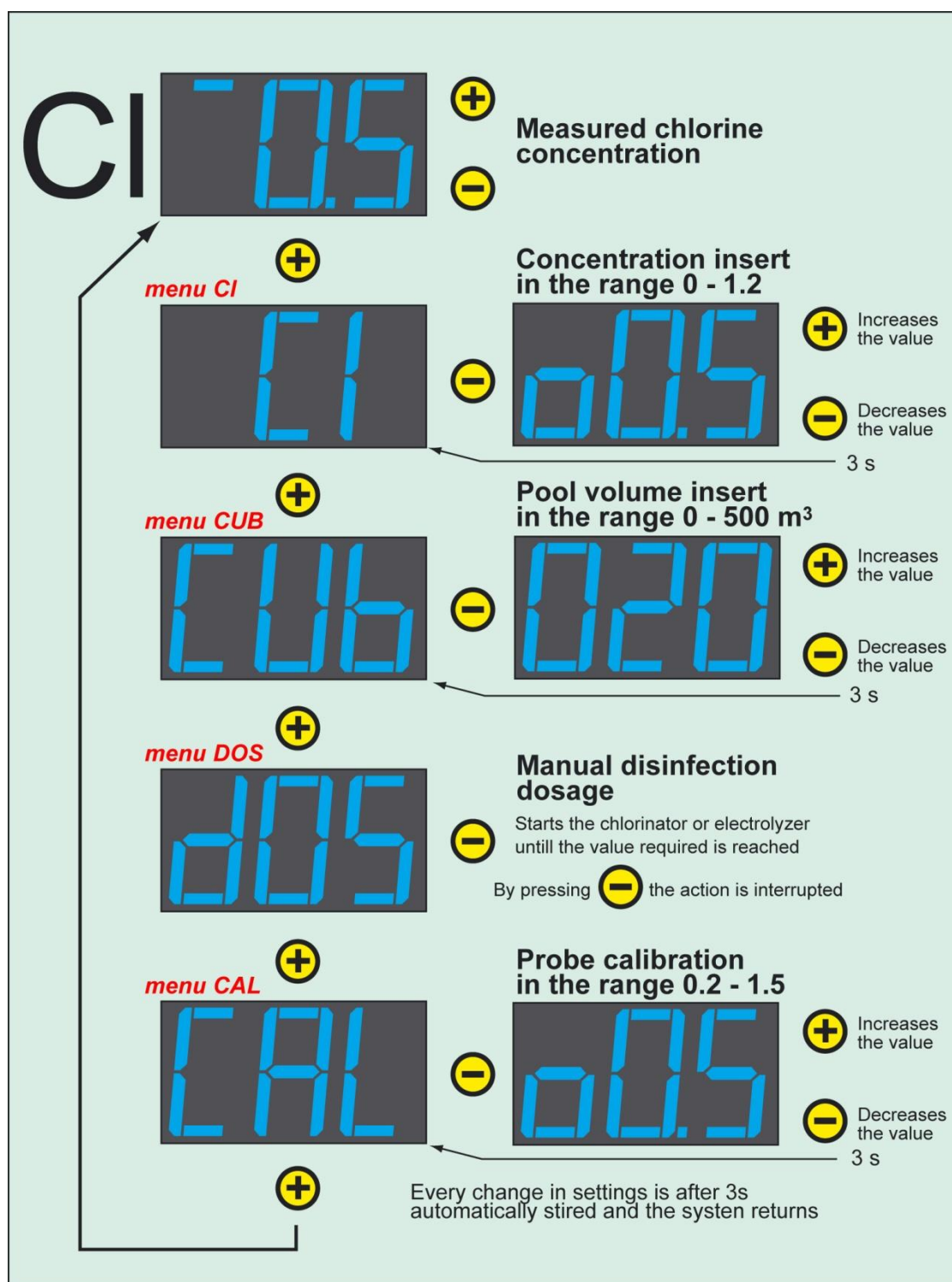


Fig. 3. Survey of the menu CI