

## User's guide to operation and adjustment of the Fleck 5600 Control Unit



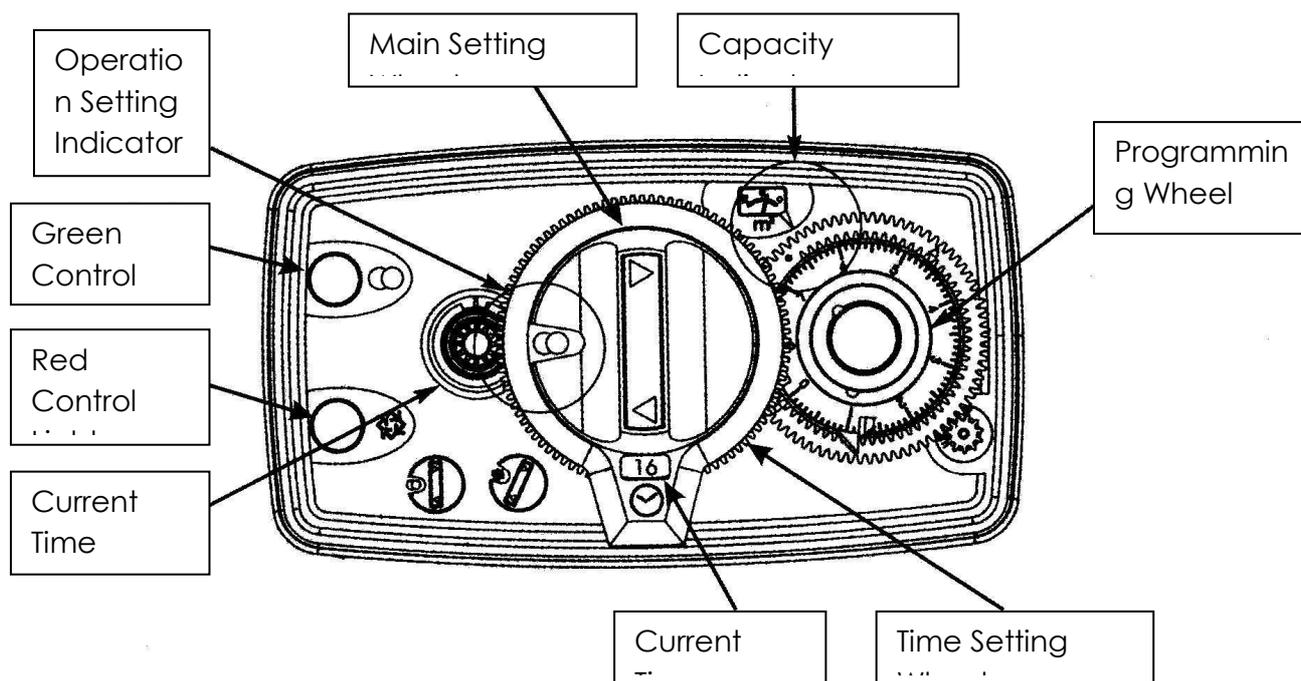
The Fleck Control Unit is an inseparable part of the Aquina Automatic Water Treatment System. The Fleck Control Unit ensures proper water treatment and accurate time measurement including the subsequent automatic activation of the treatment system regeneration and its fully automatic operation until it is switched back to the operational mode.

In order to function properly it is necessary to follow these adjustment instructions:

### Content:

1. Setting the Fleck 5600 control valve
2. The Fleck 5600 control valve regeneration activation
3. The Fleck 5600 control valve setting for drinking water treatment
4. Technical notes
5. Solutions of possible problems

## 1. A - Setting the Fleck 5600 Control Valve with volume control



1. If the green control light on the panel is on, go to point 2. If the red control light is on, turn the main control wheel clockwise to the basic position until the green light comes on (see picture).
2. Push the red time knob for setting the current time. This will release the time setting wheel. Turn this wheel until the little window at the bottom shows the current time at the arrow. Now release the red knob.
3. Set the cbm (m<sup>3</sup>) volume of water for regeneration. The programming wheel has a pronounced white dot. Grab the inner ring of the water m<sup>3</sup> counter and pull it towards yourself. Now turn the counter until the desired cbm (m<sup>3</sup>) water volume for regeneration appears against the white dot on the programming wheel. Now release the ring, which will settle back to its original position.

The volume of water for regeneration is determined in the following manner:

We know the treatment system capacity (for instance 40°dH x m<sup>3</sup>) or we know the number of resin liters (number of liters times 4 = capacity, for example 10 l x 4 = capacity 40°dH x m<sup>3</sup>). We divide the capacity by water hardness in °dH (e.g. hardness of 20°dH). If we know the water hardness value in the mmol/l units, we use the conversion formula mmol x 5.6 = °dH. Round the result up to the nearest whole number. Now you know the capacity and the water hardness in °dH.

Now divide the capacity by the water hardness in °dH and round the result down to an increment of 0.5 m<sup>3</sup>. (Our result in our example is 40/ 20 = 2). Now lower this

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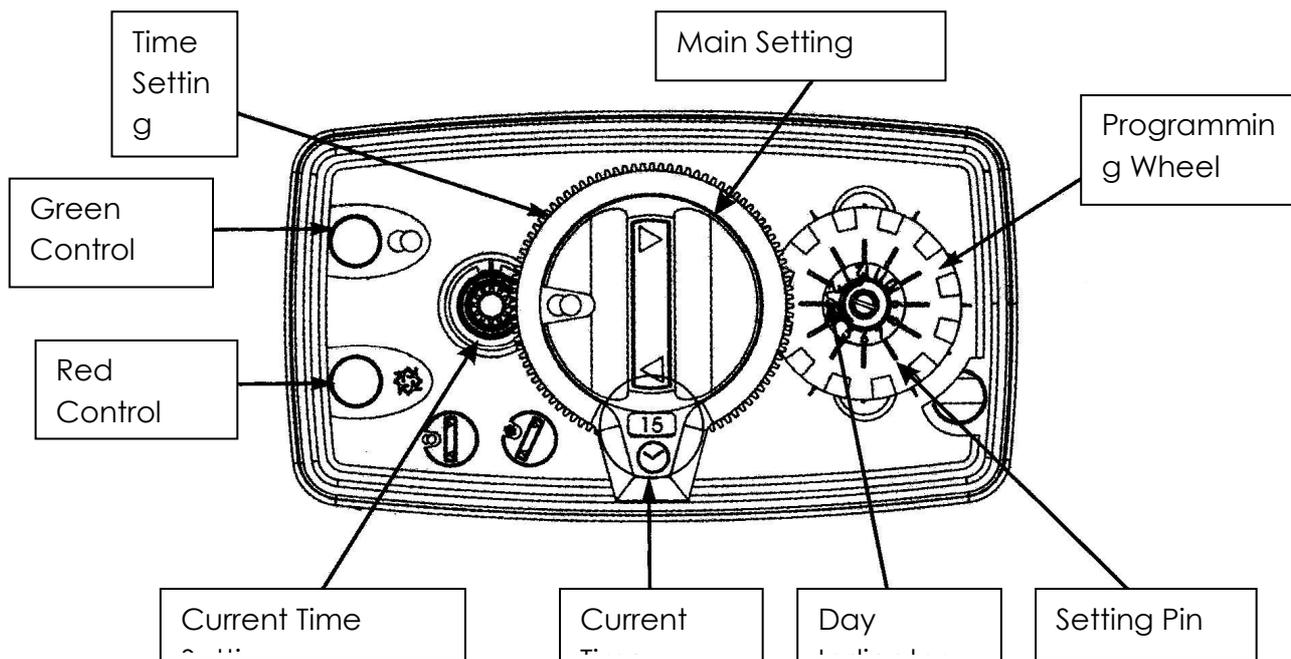
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result (2) by 20% in order to compensate for regeneration output reserve at night. That means that in our example the value set against the white dot on the program wheel will be approximately 1.6. Every time 1.6 m<sup>3</sup> is used, the treatment system will regenerate.

The control valve is now set.

## 1. B - Setting the Fleck 5600 Control Valve with time control



1. If the green control light on the panel is on, go to point 2. If the red control light is on, turn the main control wheel clockwise to the basic position until the green light comes on (see picture).
2. Push the red cog for setting the current time. This will release the time setting wheel. Turn this wheel until the little window at the bottom shows the current time at the arrow. Now release the red cog.
3. Set the number of days until regeneration. The setting wheel has preset positions, which determine number of days till the next regeneration.

The number of days until regeneration is determined in the following manner:

We know the treatment system capacity (for instance 40 $\text{dH} \times \text{m}^3$ ) or we know the number of resin liters (number of liters times 4 = capacity, for example 10 l x 4 = capacity 40 $\text{dH} \times \text{m}^3$ ). We divide the capacity by water hardness in  $\text{dH}$  (e.g. hardness of 20 $\text{dH}$ ). If we know the water hardness value in the mmol/l units, we use

the conversion formula  $\text{mmol} \times 5.6 = \text{°dH}$ . Round the result up to the nearest whole number. Now you know the capacity and the water hardness in °dH.

Now divide the capacity by the water hardness in °dH and round the result down to an increment of  $0.5 \text{ m}^3$ . (Our result in our example is  $40 / 20 = 2$ ). Now lower this result (2) by 20% in order to compensate for regeneration output reserve during night time. Every time  $1.6 \text{ m}^3$  is used, the treatment system will regenerate.

Now we know the daily consumption (e.g.  $0.5 \text{ m}^3$  per day). We calculate:  $1.6 / 0.5 = 3.2$ . After rounding downwards, the number on the programming wheel should be 3 – this is the number of days until regeneration. The programming wheel is set as follows: Push all the pins towards the wheel's center. Then pull out pins number 3, 6, 9 and 12 outwards. This sets every third day for the regeneration. If you want the system to regenerate every day, pull out all the pins. If you want the system to regenerate every other day, pull out multiples of two and so forth.

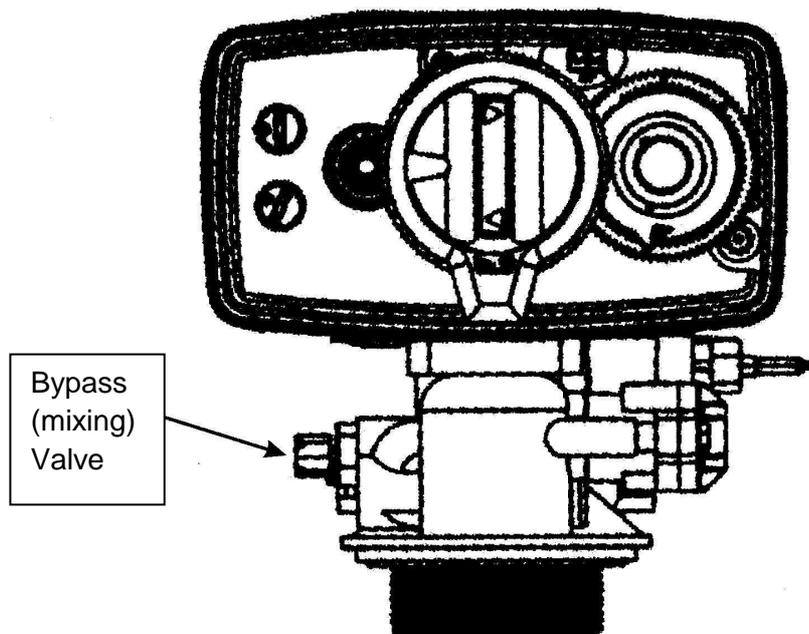
The control valve is now set.

## **2. Fleck 5600 Control Valve activation of regeneration**

After setting the Fleck control valve, activate regeneration manually this way: Turn the main control wheel clockwise overcoming some resistance until the red control light comes on.

This way we activated regeneration and from this point we continue according to the water treatment system manual, page 6, point 8.

## **3. Fleck 5600 Control Valve setting for drinking water treatment**



- The Fleck 5600 control valve has an integrated bypass (mixing) valve, which allows mixing of inflowing hard water into the outflowing soft water. This feature enables the user to achieve a state, when the outflowing mix meets all the hygiene regulatory requirements, especially the prescribed calcium and magnesium contents set for drinking water.
- During adjustment please be aware that this valve has the opposite (left) threading, it is opened (hardening the water) by turning the valve to the right and vice versa.
- You can find further instructions in the water treatment system manual.

#### 4. Technical notes

- During regeneration, untreated water flows through the inner bypass valve.
- In order to assure continuous operation, the control unit (treatment system) must be under constant water pressure of at least 2 bars and under 230V electrical voltage.
- You can use our service HOT-LINE, tel.582 333 960 and 602 530 478, for consulting and service.

#### 5. Solving possible problems

	<b>Problem</b>	<b>Cause</b>	<b>Correction</b>
<b>1</b>	Softener fails to regenerate.	<b>A</b> Electrical service to unit has been interrupted or breaks up.	<b>A</b> Assure permanent electrical service (check fuse, plug, pull chain or switch).
		<b>B</b> Faulty program switching.	<b>B</b> Replace program selector (switch).
		<b>C</b> Water meter cable is disconnected.	<b>C</b> Check water meter cable connection on the interface and on the water meter cover.
		<b>D</b> Water meter is blocked.	<b>D</b> Clean or replace the water meter.
		<b>E</b> Faulty motor.	<b>E</b> Replace the motor.
		<b>F</b> Incorrect programming.	<b>F</b> Check the programming and adjust as needed.
<b>2</b>	Softener delivers hard water.	<b>A</b> Bypass valve is open.	<b>A</b> Close bypass valve (set it into operation position).
		<b>B</b> No salt in brine tank.	<b>B</b> Add salt to brine tank and maintain salt level above water level.

2	Softener delivers hard water.	<b>C</b> Injectors and/or screen are plugged.	<b>C</b> Replace injectors and screen.
		<b>D</b> Insufficient water flow into brine tank.	<b>D</b> Check brine tank fill time and clean brine line flow control if plugged.
		<b>E</b> Hot water tank hardness.	<b>E</b> Repeated flushing of the hot water tank is required.
		<b>F</b> Leak at distributor tube.	<b>F</b> Make sure distributor tubing is not cracked. Check the O-ring.
		<b>G</b> Internal valve leak.	<b>G</b> Replace seals and spacers and/or piston.
		<b>H</b> Water meter is blocked.	<b>H</b> Clean or replace the water meter.
		<b>I</b> Water meter cable is disconnected.	<b>I</b> Check water meter cable connection on the interface and on the water meter cover.
		<b>J</b> Incorrect programming.	<b>J</b> Check the programming and correct as needed.
3	Unit uses too much salt.	<b>A</b> Salt setting too high.	<b>A</b> Correct the salt setting.
		<b>B</b> Excess water in brine tank.	<b>B</b> See problem number 6.
		<b>C</b> Incorrect programming.	<b>C</b> Check the programming and correct as needed.
4	Loss of water pressure.	<b>A</b> Calcium build-up inside the incoming tubing.	<b>A</b> Clean or replace incoming tubing.
		<b>B</b> Iron build-up in the valve.	<b>B</b> Clean the valve.
		<b>C</b> Valve inlet is plugged-up.	<b>C</b> Disassemble and clean the valve.
5	Loss of resin through drain line.	<b>A</b> Missing or damaged upper injector.	<b>A</b> Insert or replace upper injector.
		<b>B</b> Air in water treatment system.	<b>B</b> Make sure that well system has proper air elimination control.
		<b>C</b> Unsuitable backwater screen (DLFC).	<b>C</b> Check the backwater flow.

	<b>Problem</b>	<b>Cause</b>	<b>Correction</b>
<b>6</b>	Iron sediment in the system.	<b>A</b> Fouled resin bed.	<b>A</b> Check backwash, brine draw and brine tank fill, increase frequency of regeneration, increase backwash time.
		<b>B</b> Iron content in raw water too high.	<b>B</b> Contact your dealer.
<b>7</b>	Excessive water in brine tank.	<b>A</b> Plugged backflow/ drain line.	<b>A</b> Check whether drain is not plugged-up. Clean the backflow screen. (DLFC)
		<b>B</b> Brine valve is damaged or dirty.	<b>B</b> Clean or replace the brine valve.
		<b>C</b> Incorrect programming.	<b>C</b> Check the programming and adjust as needed.
<b>8</b>	Salt water in service line.	<b>A</b> Plugged-up filter (screen)/ injector.	<b>A</b> Clean injector and replace screen.
		<b>B</b> Faulty program switching. (Timer not cycling.)	<b>B</b> Replace program control switch.
		<b>C</b> Brine valve is damaged or dirty.	<b>C</b> Clean or replace the brine valve.
		<b>D</b> Dirty backwater screen (DLFC).	<b>D</b> Clean the BLFC screen.
		<b>E</b> Water pressure too low.	<b>E</b> Minimum required pressure is 1.8 bars.
		<b>F</b> Incorrect programming.	<b>F</b> Check the programming and adjust as needed.
<b>9</b>	Softener fails to draw brine.	<b>A</b> Plugged backflow/ drain line.	<b>A</b> Check whether drain is not plugged-up. Clean the backflow screen. (DLFC)
		<b>B</b> Plugged-up filter (screen)/ injector.	<b>B</b> Clean injector and replace screen.
		<b>C</b> Water pressure too low.	<b>C</b> Minimum required pressure is 1.8 bars.

<b>9</b>	Softener fails to draw brine.	<b>D</b> Internal control valve leak.	<b>D</b> Change seals, spacers and/or piston assembly.
		<b>E</b> Incorrect programming.	<b>E</b> Check the programming and adjust as needed.
		<b>F</b> Faulty program switching. (Timer not cycling.)	<b>F</b> Replace program control switch.
<b>10</b>	Permanent regeneration. (Control cycles continuously.)	<b>A</b> Faulty program switching.	<b>A</b> Replace program control switch.
		<b>B</b> Faulty timer mechanism or cable.	<b>B</b> Replace timer mechanism or cable.
		<b>C</b> Control valve is broken or in the wrong position.	<b>C</b> Reset or replaced the valve.
<b>11</b>	Drain flows continuously.	<b>A</b> Foreign object in the control valve.	<b>A</b> Remove piston assembly and inspect bore, remove foreign material and check control in various regeneration positions. Reassemble.
		<b>B</b> Internal control leak.	<b>B</b> Replace seals, spacers and/or piston assembly.
		<b>C</b> Control valve jammed in Brine or Backwash position.	<b>C</b> Replace seals, spacers and/or piston assembly.
		<b>D</b> Timer motor stopped or jammed	<b>D</b> Replace timer motor.
		<b>E</b> Faulty program switching.	<b>E</b> Replace program control switch.