

# AQUARIUS II S T – USER AND INSTALLATION MANUAL FOR TOWEL RAIL MANUFACTURER OR PROFESSIONAL INSTALLER ONLY (WITH TIMER)



## Supplied parts in each packaging

AQUARIUS II
Instruction leaflet

## APPLICABLE EUROPEAN STANDARD

- Electrical tests according to EN 60335-1
- Applicable directives: 2002/95/CE RoHS Directive, 2006/95/CE Low Voltage Directive, 2004/108/CE EMC Directive

## CAUTION

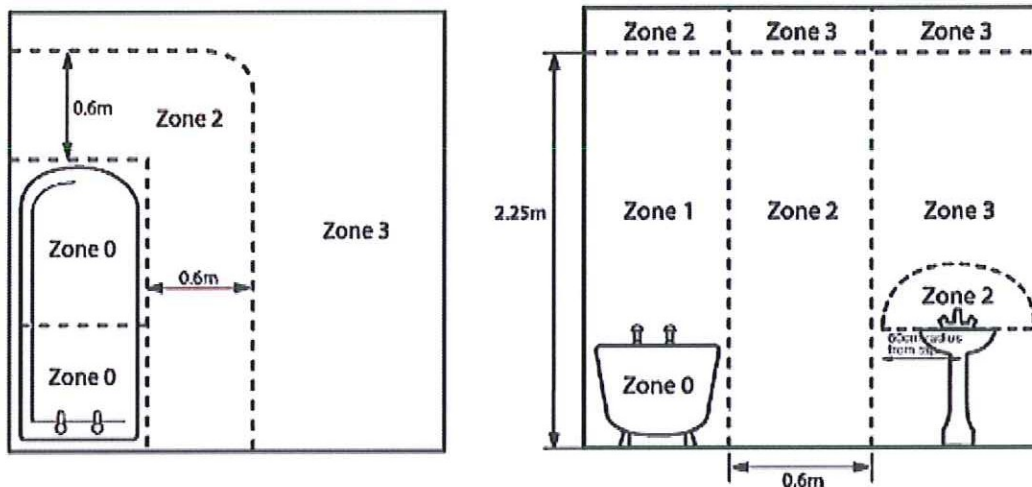
### GENERAL CAUTION

- Read the instructions carefully before install and use AQUARIUS II.
- AQUARIUS II must be installed only by expert technicians and installation must be compliant with all applicable rules, and national safety regulations and laws in force in the country where the product is installed.
- AQUARIUS II is intended to be used and installed into a towel rail. Any other use is strictly forbidden and potentially dangerous.
- Do not connect AQUARIUS II to the power supply until the installation into a properly filled towel rail is completed.
- AQUARIUS II must only be fitted vertically from the bottom of the towel rail.
- Do not cut the power supply cable to switch AQUARIUS II off.
- Any contact between plastic parts of AQUARIUS II and chemical products or alcohol (including the water inside the tower rail) must be avoided.
- Installation must be carried out in accordance with conditions described in the Technical specification table.

- AQUARIUS II power must be carefully selected in **proportion to** function of the towel rail size and thermal output. To select AQUARIUS II electrical power, **please** refer to the towel rail manufacturer instructions when a certification related to the complete system (according to EN 60335-2-43) issued by an European recognised institute (like SEMKO, VDE, IMQ...) is available. In case of missing towel rail manufacturer certification, refer to EN 60335-2-43 to determine the correct AQUARIUS II power to install in the towel rail.
- For any other technical details and requirements, **please** refer to the distributor/seller.
- In case of **any** doubts or **insufficient** information, please, do not install or use AQUARIUS II and contact the distributor/seller.

## SAFETY WARNINGS

- AQUARIUS II is a class I device and is protected against water **ingress** according to its IP X4 degree of protection. The towel rail where AQUARIUS II is fitted must be mounted inside the zone of the bathroom according to its IP degree of protection and electrical legislation in force. In case of doubt to determine the correct installation zone, refer to the relevant public institution.
- Switch the mains off before any installation, de-installation or maintenance operation on AQUARIUS II.



## SAFETY INFORMATION

- Don't install AQUARIUS II into a towel rail fitted in ZONE 0 or ZONE 1.
- **IMPORTANT:** Always disconnect the electricity supply from the mains during installation and maintenance. It is recommended that the fuse is withdrawn or circuit breaker switched off at the distribution board while work is in progress (turning off the switch is not sufficient).
- Verify that the rated voltage of AQUARIUS II is the same **as** the supply voltage.
- Make sure that the AQUARIUS II is correctly **earthed** according to the standards in force.
- Check that the electricity supply system is connected through an MCB (Magnetothermic Circuit Breaker) and RCCB (Residual Current Circuit Breaker) devices.
- System AQUARIUS II **MUST NOT BE POWERED IN AIR.**
- AQUARIUS II must work only if completely immersed in the liquid (water) inside the towel rail.
- Do not touch the metallic parts of AQUARIUS II if it is powered; before maintenance and de-installation operation await the necessary time to **ensure** it is cold when it is switched off.
- In 'Electric only' AQUARIUS II installation, the towel rail **MUST** have a sufficient air gap to allow **for** water expansion.

## Main recommendation on electrical towel rail (Applicable standard EN 60335-2-43)

- The electrical towel rail is intended only for drying towels washed in water. Any other use is forbidden.
- In 'Electric only' AQUARIUS II installation, fill the towel rail with a certain percentage of water according to the towel rail manufacturer instructions. In case of missing instructions, we recommend to fill the towel rail approximately 90% with water to allow for expansion; **making** sure that the AQUARIUS II heating element is completely immersed in water. Addition of glycol and possibly an inhibitor is recommended, **as part of this percentage mix.**
- It is recommended to use in each installation (Electric only and Dual fuel installations) a self relief pressure valve (like 3 Bar valve) on the top part of the rail in the opposite side where the AQUARIUS II is installed. In case of valve intervention, it is quite normal **for** liquid relief and water excess **to possibly** reach the floor. Please, take this aspect into consideration.
- In 'Dual-fuel' installation **with** central heating and AQUARIUS II, at least one of the rail valves must **always** be left open, when the electrical element is switched on.
- For all other aspects, refer to EN 60335-1 and EN 60335-2-43.

## GUARANTEE

- **Guarantee**  
AQUARIUS II is guaranteed for **12** months from any manufacturing defects, from the date marked on it.
- The warranty of AQUARIUS II is not valid in case of improper use or installation.

## CONTACTS DETAILS

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31029 Vittorio Veneto (TV) Italy  
Tel. +39 0438 9101  
Fax +39 0438 912236  
Website: www.rica.it

## PRODUCT PRESENTATION

AQUARIUS II is a heating element integrating an electronic control with timer to regulate water temperature **in the towel rail**. It incorporates an NTC sensor to **measure** the water temperature and a thermal fuse.

AQUARIUS II is complete with:

- an LED which is ON or blinking when the product is working.
- a rotating knob to select three different mode:

- 1) – Stand-by
- 2) – Regulation of water temperature
- 3) – 2 hours timer

AQUARIUS II **senses** the water temperature around the area where the NTC is located and is not intended to create a uniform thermal distribution over the **whole** electrical towel rail surface.

NOTE: According to the geometry, treatment, construction material **and** liquid (water or water and glycol) of a specific electrified towel rail with AQUARIUS II the thermal distribution can be significantly different. For specific performance, you must refer to the towel rail manufacturer or carry out specific tests.

## SYMBOLS AND GLOSSARY

AQUARIUS II: is a heating element integrating an electronic control with timer to regulate water temperature **in the towel rail**.

AQUARIUS II REGULATING BOX: the cylindrical plastic parts which contains the electronics.

AQUARIUS II ELECTRONIC CONTROL: the electronic board within the Regulating box

AQUARIUS II NIPPLE: the metallic part of AQUARIUS II connecting **the** AQUARIUS II heating element and AQUARIUS II regulating box.

NTC: the sensor integrated into AQUARIUS II which **measures** the water temperature.

LED: the small lamp placed over the knob to show the AQUARIUS II status.

GLYCOL: a substance **which can be** mixed with water and **is** used normally as antifreeze protection of the electrical towel rail.

3 BAR VALVE: a self relief **pressure** valve which is limiting the pressure **at** 3 bar.

## TECHNICAL DATASHEET

### Specification for class I type

RAL 9016 (White regulating box)		
Part number (p/n)	Power (W)	Length(mm)
1CTBWxxxxxxx	150	280
1CTBWxxxxxxx	300	330
1CTBWxxxxxxx	600	530
1CTBWxxxxxxx	900	730
1CTBWxxxxxxx	1200	930

### Technical specification table

Operating voltage	230V ±10% AC 50 Hz
Heating Element Power	150-300-600-900-1200W
Insulation class	Class I
IP Degree of protection	IPX4
Operating Temperature	0 – 50°C
Storage Temperature	- 20 ÷ +70°C
Operating relative humidity	0 – 80% without condensation
Electronic Regulation	Hysteresis : [20 ÷ 65°C] +/- 2°C with relé 10A 230 Vac
Nipple thread	½" Gas cylindrical

## INSTALLATION

### Before you start

- Check the pack to ensure you have all of the parts listed on pag.1 with no visible signs of damage. If any of the part is missing or appears damaged, you should return them to the point of purchase.
- Check that you have the correct size AQUARIUS II for your towel rail. IT IS ESSENTIAL that the correct size AQUARIUS II is installed in line with the recommendation stated on the packaging or instruction of your towel rail CERTIFIED BY A EUROPEAN RECOGNISED APPROVAL INSTITUTE. IF YOU ARE NOT SURE OF THAT, PLEASE REFER TO CONTACT SECTION OR FOLLOW GENERAL WARNINGS SECTION.
- When you are ready to start, make sure that you have the right tools at hand, plenty of space and a clean dry area for assembly.
- Installation must be carried out in accordance with current standards and laws book rule of the country in which the system is installed.
- Make sure that the towel rail female ½" GAS thread is sufficiently deep (minimum 10mm) in order to secure a watertight AQUARIUS II gasket.

### Installation warnings

**THIS APPLIANCE IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL SENSORY AND MENTAL CAPABILITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THIS APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY**

- **All-pole disconnection from the supply is required, incorporated in the fixed wiring. Switches intended to ensure all-pole disconnection must be directly connected with the supply terminals and must have a contacts distance of at least 3 mm in each pole.**
- Electrical towel rails must not be installed with the AQUARIUS II regulating box located **at the top**. This can seriously damage the electronic control box and create a dangerous situation with a risk of fire.
- Respect the conventional colours for wiring operations, if no plug is present.

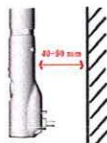
Brown	Live Wire
Blue	Neutral Wire
Yellow - Green	Earth

- Protect the electrical supply with a high sensitivity differential device.
- All metallic parts of the electrical towel rail fitted with AQUARIUS II and powered must not exceed the temperature limits according to the standard applicable EN 60335-2-43.
- AQUARIUS II yellow/green earth wire must be connected to the corresponding yellow/green ground wire of the electricity supply at the mains. **(THIS PRODUCT MUST BE EARTHED)**
- Don't use the AQUARIUS II regulating box to lean the electrical towel rail on the floor as you can damage the plastic and water can penetrate inside with a risk of electrical shock.
- The electrical heating element must be permanently connected to a suitable electricity supply by way of the cable provided. This should be via a fused spur in accordance with the IEE Wiring Regulations (BS7671). If sited in the bathroom, the Fused Connection Unit must be located out of reach of persons using the basin, shower or bath. If in doubt, consult a qualified electrician.
- Connect the electronic control unit to the mains using a BS Fused Connection Unit.
- The Fused Connection Unit should be fitted with a 5 Amps fuse to BS1362.

### Installation

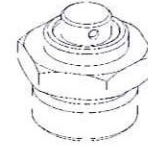
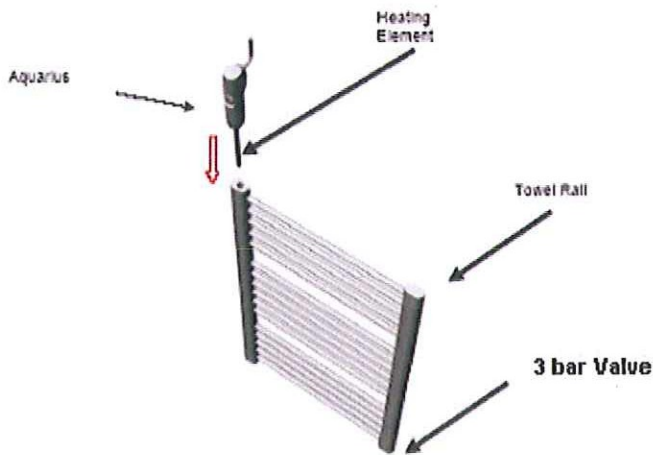
#### Installation of AQUARIUS II

- The Towel rail has to be mounted parallel to the wall using the brackets recommended by the towel rail manufacturer. The distance between AQUARIUS II and the wall must be between 40 and 80 mm. In order to avoid a hazard for younger children, the electrical towel rail should be installed so that its bottom part is at least 600mm above the floor according to EN 60335-2-43/A1.



- AQUARIUS II must be fitted to the towel rail before mounting the rail to the wall.

- Wrap a small quantity of PTFE tape around the AQUARIUS II heating element thread and the T-piece thread (in case of Dual Fuel installation).



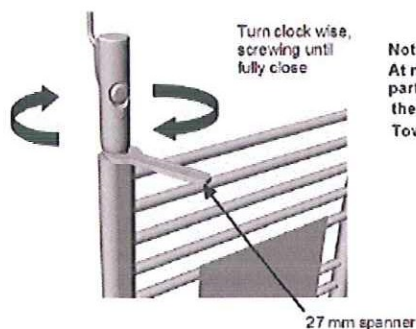
- Make sure that the towel rail is fitted with a component (like 3BAR Valve) which limits the risk of excessive pressure.
- The 3BAR valve must be installed on the top part of the towel rail

In case of 'Dual fuel' installation, a T-piece of 40mm maximum length (male thread excluded) is **required**.

#### Installation steps:

#### ELECTRIC ONLY AQUARIUS II INSTALLATION

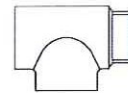
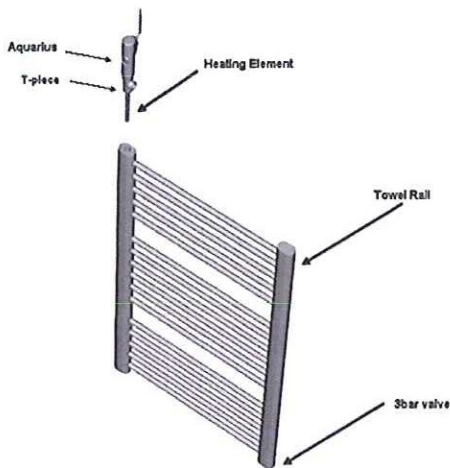
1. Reverse the empty towel rail carefully leaning it on a soft cloth/surface and fill it properly.
2. Take the AQUARIUS II from the package, handling with care.
3. Insert the tip of the AQUARIUS II heating element into the bottom hole of the towel rail as shown and make sure to select the female ½" GAS thread of the towel rail in the opposite vertical tube **to** where the 3 Bar valve is installed.
4. Insert the AQUARIUS II heating element all the way
5. Then using a 27 mm spanner screw **the AQUARIUS II heating element** until the last nipple thread turn and if necessary continue in order to have the regulating box facing **forward**.
6. Make sure that the AQUARIUS II gasket is fully **sealed** to the female thread of the towel rail.



7. Install properly the electrified towel rail with **the AQUARIUS II** into the wall according to towel rail manufacturer instructions. Make sure that the towel rail has **the AQUARIUS II** bottom side.
8. Verify that no water leakages occur and re-tighten joints as necessary. Make sure that AQUARIUS II parts are completely dry before to proceed in installation (in case of water leakage refer to DANGEROUS CONDITION AND RISK section).
9. Make sure that the socket-outlet (models with plugs only) and the power lines are appropriate for the load required.
10. The socket-outlet must be compatible with the AQUARIUS II plug (models with plug only).
11. Connect the AQUARIUS II cable to the mains power according to current wiring regulations in force in the country where the product is installed.

## DUAL FUEL INSTALLATION CENTRAL HEATING AND AQUARIUS II

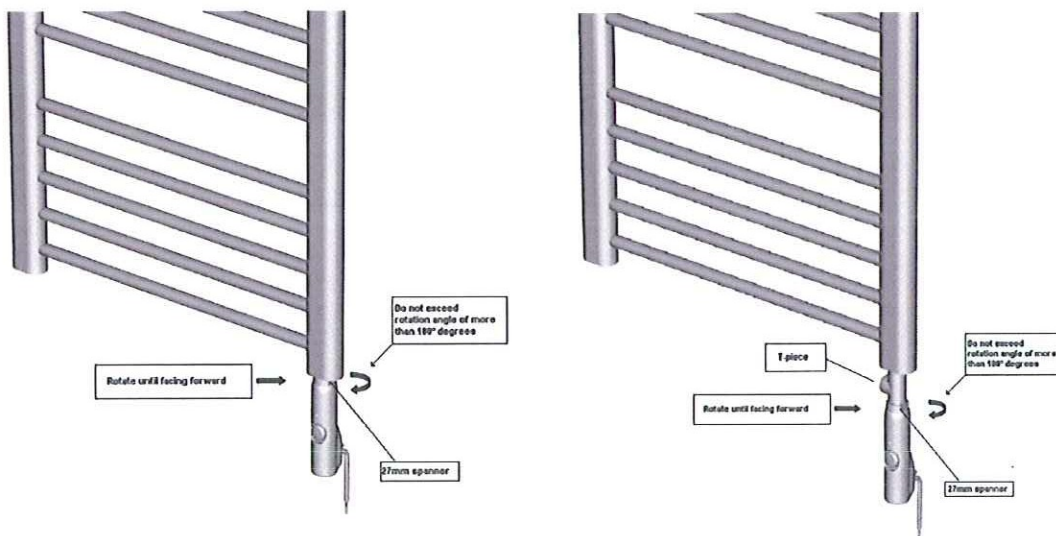
- 1. Reverse the empty towel rail carefully leaning it on a soft cloth/surface.
- 2. Take **the** AQUARIUS II from the package, handling with care.
- 3. Screw the AQUARIUS II heating element into the T-piece and tighten it into place with 27mm spanner.
- 4. Insert the tip of **the** AQUARIUS II heating element into the bottom hole of the towel rail as shown and make sure to select the female ½" GAS thread of the towel rail in the opposite vertical tube **to** where the 3 Bar valve is installed.

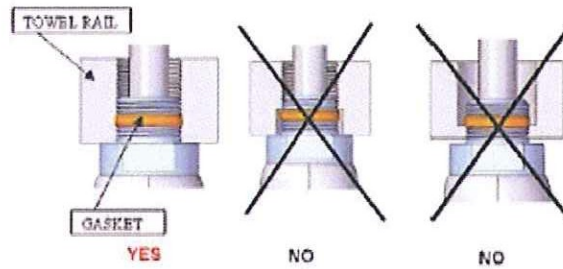


G ½ T PIECE NIPPLE

- 5. Then using a 27 mm spanner turn the T-piece with screwed AQUARIUS II heating element until the last nipple thread turn and if necessary continue in order to have the regulating box facing forward.
- 6. Make sure that **the** AQUARIUS II gasket is fully **sealed** to the female thread of the towel rail.
- 7. Install properly the electrified towel rail with **the** AQUARIUS II into the wall and connect it to the central heating system according to towel rail manufacturer instructions. Make sure that the towel rail is properly filled and **the** AQUARIUS II is bottom side.
- 8. Verify that no water leakages occur and re-tighten joints as necessary. Make sure that AQUARIUS II parts are completely dry before to proceed in installation (in case of water leakage refer to DANGEROUS CONDITION AND RISK section).
- 9. Connect the AQUARIUS II cable to the **mains** power according to current wiring regulation in force in the country where the product is installed.

NOTE: If **the** AQUARIUS II regulation box is not facing **forward**, it is possible to rotate the element until it faces the correct position; however do not exceed the rotation angle by more than 180° degree. If the rotation angle is exceeded, the gasket seal must be replaced.





**THE GASKET MUST BE COMPLETELY  
SCREWED INTO TOWEL RAIL THREAD**

## USAGE

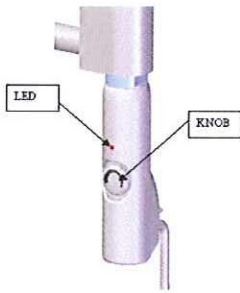
### USAGE WARNINGS

The AQUARIUS II incorporates an NTC sensor to measure the water temperature. If the LED is fast blinking, this may indicate the NTC sensor fault or a towel rail water temperature outside operating temperature limits (see Technical specification table). If the towel rail water temperature is in the operating temperature limits (see Technical specification table), please switch the electrical towel rail OFF and contact the seller to replace AQUARIUS II.

### Working description

#### HOW TO USE

- AQUARIUS II ( shown in figure below on the left) has a knob which is mostly used to select the desired temperature of the Towel rail water: temperature setting between 20°C to 65°C ( see Figure below on the right).
  - The led indicates the AQUARIUS II status but is also an indication that the towel rail is being supplied with electrical power
1. Standby mode
    - 1.1. The load is OFF.
    - 1.2. LED off.
    - 1.3. **If the NTC sensor is sensing a temperature out of standard range [-10°C ÷ 75°C] the load is OFF and the LED is fast blinking**
  2. Regulation mode
    - 2.1. Water temperature regulation range 20°C ÷ 65°C
    - 2.2. LED on.
    - 2.3. After the desired temperature is reached, the heating element is switched off and on intermittently to maintain the temperature set
    - 2.4. **If the NTC sensor is sensing a temperature out of standard range [-10°C ÷ 75°C] the load is OFF and the LED is fast blinking**
  3. Timer mode
    - 3.1. The load is on regulation for 2h to the set programmed temperature as defined on section 4. After two hours the load is OFF
    - 3.2. When selected, 2h timer is repeated every 24 hours
    - 3.3. LED is slow blinking
    - 3.4. When no set temperature is programmed, or when the timer function is selected without setting the water temperature the half range temperature value is considered as default set temperature programmed: [40°C for the standard range]
    - 3.5. **If the NTC sensor is sensing a temperature out of standard range [-10°C ÷ 75°C] the load is OFF and the LED is fast blinking**
  4. Timer programming:
    - 4.1 Set the knob on the stand-by position
    - 4.2 Set the water temperature for the timer mode
    - 4.3 Wait 3 second.
    - 4.4 Led is blinking for 5 seconds
    - 4.5 Within this period, turn the knob on timer 2h position to set the start time for 2h timer function, otherwise repeat the operation described in paragraph 4.1
    - 4.6 The water temperature is regulated as described on 3.1
    - 4.7 If you wish to regulate the water temperature outside the programmed 2h timer, turn the knob on the regulation position for the necessary timing and go back to timer 2h position to maintain the 2h timer start memory.  
Turn the knob on the stand-by position to stop the 2h timer mode: set temperature and 2h timer mode are reset.



STAND-BY  
POSITION



REGULATION  
POSITION (20°C – 65°C)



TIMER 2H  
POSITION

## Improper use

All different usages which are not described in the "PRODUCT PRESENTATION" section according to the USAGE section, are to be intended as improper usage. In case of doubts refer to the seller.

Never switch **the AQUARIUS II ON** if the towel rail is empty.

Before installation, never switch **the AQUARIUS II ON** to verify heating effectiveness.

## DANGEROUS CONDITION AND RISKS

During installation, de-installation and maintenance, ensure working place **safety** until the operations are completed.

Don't **use** excessive force to turn the knob as you risk to break it.

In case of anomalous or strange working condition or if AQUARIUS II has visible signs of damage disconnect the AQUARIUS II and send it to the seller for investigation or replacement.

If the AQUARIUS II regulating box shows some plastic cracks, please, contact the seller for replacement.

AQUARIUS II power supply cable cannot be repaired. If it is damaged, contact the seller to replace the complete AQUARIUS II unit.

Never try to modify or repair **the AQUARIUS II** in any of its parts by yourself.

Never try to remove the knob as water can penetrate inside the AQUARIUS II regulation box with a risk of electrical shock.

Never knock **the AQUARIUS II** against anything. Handle with extreme care during every operation and never leave it in wet areas.

## MAINTENANCE

### Ordinary

At regular periods of time, depending on the usage of the product AQUARIUS II

- Turn the regulating knob to the three different mode to **check** if working properly.

- Pay particular attention to verify that there is no water leakage checking the visible and exposed AQUARIUS II parts.

If at least one of the above controls fails, refer to Dangerous condition and risks section.

### Extraordinary

We recommend the replacement of AQUARIUS II (into the specific towel rail) every 5 years.

## CLEANING

To clean AQUARIUS II, use only a dry and clean soft cloth.

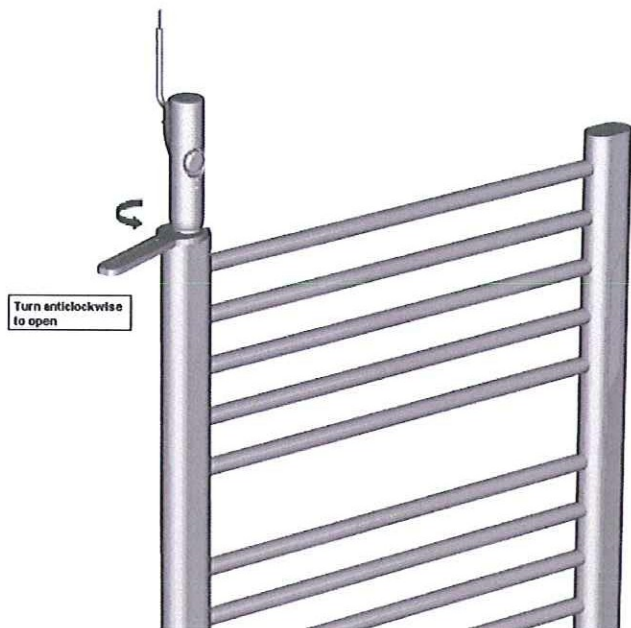
Make small locally round movements.

Apply a **light** pressure especially to the chrome plastic surfaces to avoid potential scratches.

## TO UNINSTALL

### IN ELECTRIC ONLY AQUARIUS II INSTALLATION

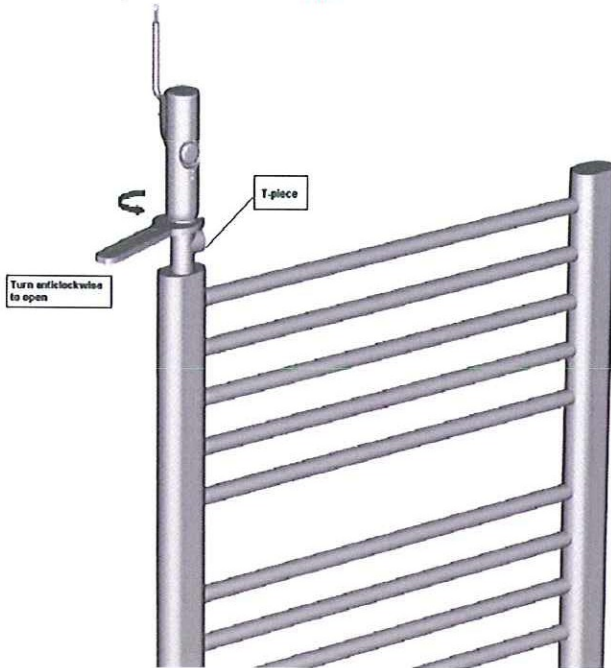
- Disconnect the cable from the mains power.
- Remove the electrical towel rail from the wall and reverse it carefully leaning it on a soft cloth/surface.
- Using a 27mm spanner unscrew **the** AQUARIUS II , rotating it anticlockwise until **the** AQUARIUS II thread is completely off from towel rail ½" GAS female thread.
- Remove **the** AQUARIUS II from the towel rail.



- **WARNING: AFTER DISCONNECTING, AQUARIUS II CANNOT BE REUSED. REPLACE THE PRODUCT WITH A NEW ONE.**

## DUAL FUEL INSTALLATION CENTRAL HEATING AND AQUARIUS II

- Disconnect the cable from the mains power.
- Close both rail valves, remove the water from the towel rail and dry the working area.
- Remove the towel rail from the wall and reverse it carefully leaning it on a soft cloth/surface.
- Using a 27mm spanner unscrew the T-piece with screwed the AQUARIUS II , rotating it anticlockwise until T-piece thread is completely off from towel rail ½" GAS female thread.
- Remove T-piece with screwed the AQUARIUS II from the towel rail.



- **WARNING: AFTER DISCONNECTING, AQUARIUS II CANNOT BE REUSED. REPLACE THE PRODUCT WITH A NEW ONE.**

## DIAGNOSTIC

The AQUARIUS II incorporates a thermal fuse. If the AQUARIUS II regulation mode is selected at maximum temperature and the towel rail doesn't heat at all, this may indicate operation failure and the product must be replaced.

The AQUARIUS II incorporates an NTC sensor to measure the water temperature. If the LED is fast blinking, this may indicate the NTC sensor fault: please switch the electrical towel rail OFF and contact the seller to replace AQUARIUS II.

## SPARE PARTS

AQUARIUS II must be replaced totally as it has no spare parts.

**IMPORTANT: In case of doubts, please, contact the Seller or refer to Contacts section.**

**IMPORTANT: Please, retain these instructions for future reference.**

## NOTES FOR DISPOSAL OF THIS PRODUCT VALID FOR THE EUROPEAN UNION

The crossed-out wheeled-bin symbol on your product reminds you that in the European Union all electrical and electronic products and batteries must be taken to separate collection at the end of their working life. Do not dispose of these products as unsorted municipal waste. Return the products to collection to prevent possible harm to the environment or human health from uncontrolled waste disposal and to promote the sustainable reuse of material resources. Collection information is available from the product retailer, local waste authorities or national producer responsibility organizations. For more information, see product country-specific information.



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