TECO®
REFRIGERATION TECHNOLOGIES

**Cod. 6.1.051.0.01e**
**Ed. 04/2012**

# INSTRUCTION MANUAL FOR REFRIGERATORS AND CONDITIONERS

Models

TR10 TC10
TR15 TC15
TR20 TC20

ATTENTION!
This appliance is not intended for use by person (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.

NOTE : KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCES.

NOTE : KEEP THE PACKING FOR FUTURE TRANSPORTS.

| TECHNICAL DATA | | | | | | |
|---|---|---|---|---|---|---|
| **Characteristic** | **Model** | | | | | |
| | **TR10** | **TC10** | **TR15** | **TC15** | **TR20** | **TC20** |
| Supply | 230V-50Hz<br>230V-60Hz<br>115V-60Hz | | 230V-50Hz<br>230V-60Hz<br>115V-60Hz | | 230V-50Hz<br>230V-60Hz<br>115V-60Hz | |
| Electric power | 270 W | 400 W | 330 W | 400 W | 560 W | 560 W |
| Water inlet/outlet | 16/20 mm – 1” | | 16/20 mm – 1” | | 16/20 mm – 1” | |
| Flow rate suggested | 400 l/h | | 400 l/h | | 400 l/h | |
| Heater | - | Yes | - | Yes | - | Yes |
| UV-C lamp | - | Yes | - | Yes | - | Yes |
| Weight | 16 Kg | | 17 Kg | | 19 Kg | |
| Dimensions | 430x270x400 (h) mm | | 430x270x400 (h) mm | | 430x270x400 (h) mm | |

***STATEMENT OF CONFORMITY TO EEC STANDARDS***

*WE:*

***TECO S.r.l. - TECNOLOGIE DI REFRIGERAZIONE***

*Sede Legale, Amministrativa e Commerciale: Via A. Sansovino, 35 - 48124 RAVENNA - C. F. / P. IVA 01075610392*

*HEREWITH DECLARE UNDER OUR RESPONSIBILITY THAT OUR PRODUCTS:* ***MODD.: TR10, TC10, TR15, TC15, TR20, TC20***

*TO WHICH THIS STATEMENT REFERS, ARE MANUFACTURED IN ACCORDANCE WITH THE FOLLOWING REGULATIONS:*
2004/108/EC ELECTROMAGNETIC COMPATIBILITY DIRECTIVE
2006/95/EC LOW VOLTAGE SAFETY DIRECTIVE

THE FOLLOWING TECHNICAL STANDARDS AND SPECIFICATIONS HAVE BEEN OBSERVED:

**Safety**
Regulations used: EN 60335 - 1 / EN 60335 - 2 - 55 AND RELATED AMENDMENTS
**EMC directive**
Regulations used: EN 61000 -6 - 1 / EN 61000 - 6 -3 AND RELATED AMENDMENTS

Turci Bruno
Manager

RAVENNA 08/ 03/ 2011

CE

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## OPERATIVE INSTRUCTIONS

**ATTENTION**
**Do not connect the unit to the current socket if the fairing is not assembled.**

| Step | Figure | Description |
|---|---|---|
| **Instructions for the installation** | **1 - 2** | **ATTENTION**<br>**To grant the right functioning of the unit (C) in safe conditions, it is absolutely forbidden its exposition at atmospheric conditions and direct sources of heat.**<br>**The maximum ambient temperature allowed is 35°C.**<br>**The unit must be placed in a dry place.**<br>**If the supply cord is damaged, it must be replaced by the manifacturer, its service agent or similarly qualified persons in order to avoid a hazard.** |
| | **3** | **ATTENTION**<br>**The place in which the unit (C) will be installed must have the following characteristics.**<br>**Side (LG) shifted from the wall (L1):** if the side (LG), on which the ventilation grate is present, could be shifted from the wall (L1) the quote (A1) must be of at least 40 cm;<br>**Side (LG) leaned against the wall (L1):** if the side (LG), on which the ventilation grate is present, have to be leaned against the wall (L1) it is necessary to create on it a grate/hole for the air outlet (GU1) of dimensions and position equal to the unit's grate.<br>**Distance from the side walls:** the unit (C) can be leaned against the side walls of the installation place, therefore the distances (A2) and (A3) are not influential.<br>**Points of air inlet:** if the front side of the unit (C) have to be closed, it is necessary to create an air inlet (PA1) corresponding to the side wall (L3) or to the bottom (L2), reference (PA2). |
| **Assembling and installation** | **4** | Place the carton box/packing (S) on a stable horizontal surface, near the aquarium.<br>Open manually the carton box (S), keeping attention to do not cut yourself with the borders of the carton box and draw out the instruction leaflet (IU). |
| | **5** | Draw out the valves (R1) and (R2). |
| | **6** | Draw out with care the unit (C) and place it near the aquarium.<br>Remove the lateral protections (P1) and pull out from one of them the cable power supply (A). |
| | **7** | Unscrew the ring nuts (GR1) and (GR2), remove the valves (TP) and pick up the rubber rings (OR). |
| | **8** | Insert the ring nuts (GR1) and (GR2) in the valves and then the rubber rings (OR). |
| | **9** | Connect the valves (R1) and (R2) to the inlet and outlet pipes of the hydraulic circuit as indicated in the scheme of the hydraulic circuit, fig. 12 and 13, tightening them with the appropriate ring nuts (G1) or (G2) according to the pipe's dimensions (T) (Ø internal 16 ~ 20 mm) (MAX thickness 3 mm). |
| | **10** | Put the valves (R1) and (R2) on the inlet (IN) and outlet (OUT) joints, tightening them rotating clockwise the lower ring nuts (GR1) and (GR2). |
| **Following movements after the first installation** | | ***NOTE***<br>***If you need to move the unit to another place, you just have to follow the above instructions proceeding from fig. 10 to fig. 1.*** |

| Step | Figure | Description |
|---|---|---|
| **Operations of predisposition to the starting** | **11** | Open the hydraulic circuit rotating anti clockwise the valves (R1) and (R2) (One turn).<br>Start the functioning of the aquarium's pump to let water flow inside the circuit. |
| | **12 - 13** | Assure yourself that the water flows regularly inside the circuit and that there are not looses, according to the scheme fig. 12 and 13.<br>(flow rate suggested 400 l/h).<br>In case of anomalies in the hydraulic circuit or looses, check all the connections. |
| | **14** | Assure yourself that the characteristics of the electric supply are the same indicated on the technical data label (SA), which you can see opening the air filter (FA). |
| | **15** | When the aquarium's pump is functioning, connect the cable power supply (CA) first to the connection point (PC) on the unit with the plug (C1), then to the current socket with the plug (C2).<br>Start at this point the unit pressing the switch (INT) to the position "1". |
| **Starting, temperature's regulation and stop of the unit** | **16** | After about 5 seconds the unit will start to function.<br>On the display (D) is showed the actual water's temperature in °C (Celsius degrees);<br>A. push the button (SET);<br>B. using the arrow (▼) or (▲) set the water's temperature desired.<br>C. After 5 second the value will be automatically memorized.<br>☞ ***NOTE***<br>***The lighting green led (L1) indicates the eventually starting of the cooling function.***<br>***The lighting red led (L2) indicates the eventually starting of the heating function (if present).***<br>Once the unit reaches the set temperature it will stop in stand-by mode; the lighting led (L1) and (L2) are off.<br>Every time the temperature will change the unit will start automatically.<br>To stop the functioning of the unit press the switch (INT) to the position "0", fig. 15. |
| **"UV" Function** | **16** | If is present the optional kit for the water's sterilisation, pushing the button (UV) the related function of sterilisation through the "U.V.C." rays will be activated.<br>If the "UV" system is functioning the related led will light up.<br>☞ ***NOTE***<br>***If the optional kit of water's sterilisation is not present when you will push the button (UV), the led will not light up.*** |
| **Change unit of measure for temperature** | **16** | Press buttons (▼) and (▲) to change the unit of measurement of temperature from ° C to ° F and vice versa. |

## MAINTENANCE OPERATIONS

| Step | Figure | Description |
|---|---|---|
| **Cleaning operations** | **14** | **ATTENTION**<br>**These operations must be done only with the unit off, pushing the switch (INT) to the position "0", fig. 15.**<br>Frequency: at least once a month and in anyway according to the level of dust in the installation place.<br>Draw out the filter (FA) and proceed with its cleaning using a vacuum cleaner. |

## PROBLEMS AND SOLUTIONS

| Problem | Cause | Solution |
|---|---|---|
| The display (D) does not light up | Lack of electric supply | Check if the plug (C1) fig. 15, is correctly connected with the point of connection (PC), if the plug (C2) is correctly connected to the current socket and if the switch (INT) is on "1" position.<br>Check if the fuse (FU) is not burned. |
| On the display appears the message "AL1" | Dirty air filter. | Clean the air filter following the instruction "Operation of cleaning". |
| | Ambient temperature too high. | Re-establish the optimal ambient conditions.<br>(The maximum ambient temperature allowed is 35 °C) |
| | Obstructed ventilation grate. | Free the grate of place the unit in a suitable ambient. |
| | Broken ventilation system. | Contact a TECO S.r.l. retailer. |
| On the display appears the message "AL2" | If the optional kit for the sterilisation is present this message indicates that the UV-C lamp is exausted. | Replace the UV-C lamp available by TECO S.r.l. retailers. |
| On the display appears the message "E1" | Damage of the water's temperature probe. | Contact a TECO S.r.l. retailer. |
| On the display appears the message "E2" | Damage of the overheating probe. | Contact a TECO S.r.l. retailer. |
| The temperature displayed is not the real one. | The water does not circulate correctly inside the hydraulic circuit. | Check eventually pipes obstructions. |
| | | Check the efficiency of the aquarium's pump. |
| | Long and not insulated pipes. | Reduce as much as possible the pipes and insulate them. |
| | ***NOTE***<br>***If the water's temperature on the display (D) is too different from real one you can correct it as follow:***<br>A. Keep pushed the button (SET) for 10"<br>B. On the display will appear the value of hysteresi (1 o 1,5).Do NOT change this value!<br>C. Push again (SET).<br>D. On the display will appear the water temperature lightening.<br>E. Pushing the arrow (▲) or (▼) change the water's temperature as desired.<br>F. After 5 seconds the water's temperature is memorized, the display stops to lighten and will start the normal functioning of the unit. | |

## WARRANTY CONDITIONS

The units manufactured by TECO S.r.l. are on WARRANTY, according to the laws of the country in which are commercialised.
If during warranty period, it should arise defective working or damages of the unit, which will be part of the cases indicated in the warranty, TECO S.r.l. , after the proper inspections on the unit, will provide at the reparation or replacement of the defective parts.
The warranty is valid only if the document (invoice, ticket or equivalent), which will assure the date of purchasing of the unit, will be presented to a retailer or an authorized TECO assistance centre.

**ATTENTION**
**Please remember that eventual changes done by the end user, without explicit written TECO S.r.l. authorisation, will invalid the warranty and TECO S.r.l. will not be responsible of damages caused by the defective unit. The same conditions are valid also in case of use of not originally spare parts or different from the ones explicitly indicated by TECO S.r.l..**