

***TK GUIDELINE***

***HEATER  
REPLACEMENT  
IN R290 CHILLERS***

**MODELS :**

***TK500 – TK1000 – TK 2000***

# BEFORE STARTING

**WARNING! Before mounting the heater, make sure to install only heaters suitable for chillers containing flammable gas (R290)**

*How to make sure:*

1) *check the name of the gas indicated on the technical label situated at the back of the chiller. It can be R290 or R134A.*

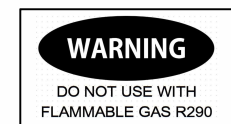
2) *check the label on the Heater. There are two kind of heaters:*

- KRES01# *The heater that can't be placed inside R290 chillers has the label:  
"Warning, do not use with flammable gas R290" (img. 1)  
This heater can be placed inside R134a chillers.*

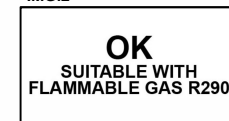
- KRES03# *The heater that must be placed inside R290 chillers has the label:  
"OK, Suitable with flammable gas R290" (img. 2)*

*If you don't find one of these labels, please consider that the heater can't be placed in R290 chillers.*

IMG.1



IMG.2



# BEFORE STARTING

3) *read the serial number indicated on chiller technical label and check to have the proper spare part:*

*- before s/n F21B2099, the proper heaters are  
KRES03#TK24 for 230V  
KRES03#TK25 for 115V  
that have 2 poles connector and lead ground stripped wire*



*- after s/n F21B2099 (included) the proper heaters are  
KRES03#TK34 for 230V  
KRES03#TK35 for 115V  
that have 3 poles connector*



**WARNING! Installation may be carried out only by qualified persons. If this are not performed properly, they can cause electric shock, burns and fires**

# EQUIPMENT AND INITIAL STEP

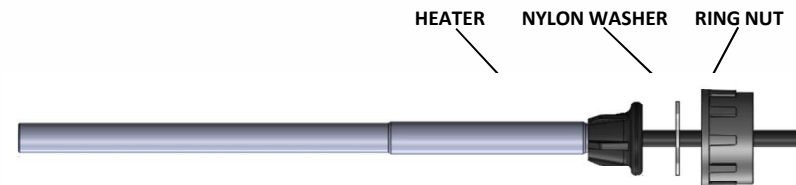
## EQUIPMENT

- Big Crosshead Screwdriver
- Small Crosshead Screwdriver



## SPARE PARTS

- Heater KRES03# (spare part)



## INITIAL STEP

- Turn OFF the chiller and let it OFF for twenty minutes before proceeding
- Disconnect the chiller from power supply
- Never touch internal part or dismount chiller when it is connected to power supply to avoid potential electric shock.
- Disconnect chiller from water pipe, by using squeeze tube clamps and let some water flow away from chiller exchanger.



# STEP n. 1



*Remove the conveyor from the top part of the chiller.*

*You can see the metal black grid and the red or grey fan support.*



*Remove the air filter grid and air filter from their position.*

# STEP n. 2



5



6

*Using the screw-driver, remove the 4 INOX screws indicated in the picture*



7



8

*Remove the red or grey fan support lifting it up from the bottom edge.*

*Leave it temporarily on the metal cover, as you can see in the picture.*

*Pay attention not to hurt yourself, the metal sheet is sharp*



# STEP n. 3

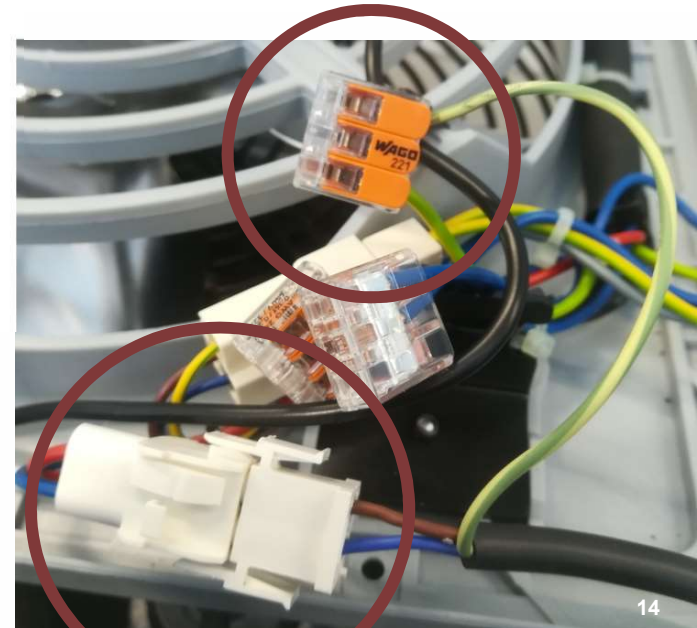
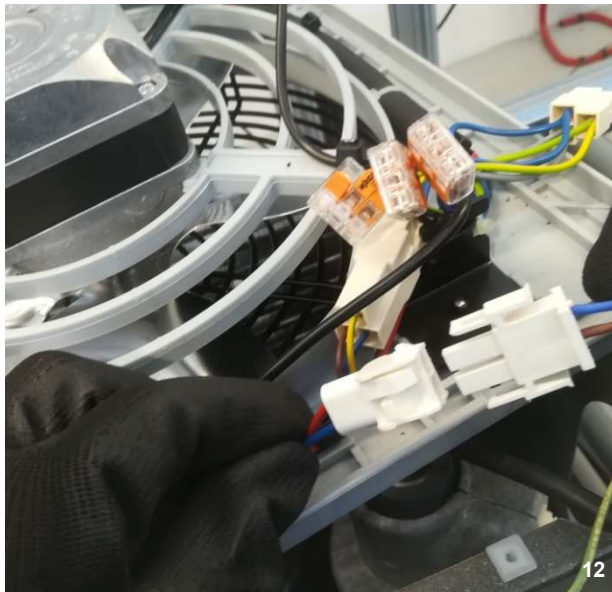


*Unscrew the Ring nut and remove it from the top of the exchanger (img.9)*

*Place the heater inside the exchanger with its nylon washer and screw very well the ring nut (img.10-11)*

# STEP n. 4 - A

For **KRES03#TK24** or **KRES03#TK25**



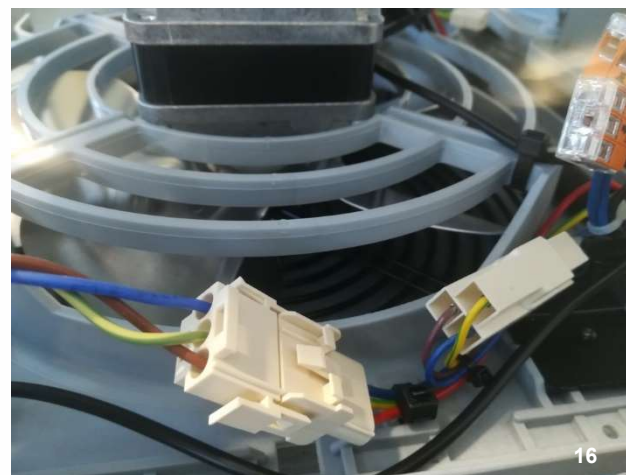
Connect the heater to the two poles connector in the cable assembly that you find in the grey or red fan support (img.12)

Connect the yellow-green ground wire into the wago (Ground Terminal) with the other yellow-green wires (img.13)



# STEP n. 4 -B

For *KRES03#TK34* or *KRES03#TK35*



*Connect the heater to the three poles connector in the cable assembly that you find in the grey or red fan support (img.12)*

# STEP n. 5



*Assemble dismantling parts following the indicated sequence:*

- 1) *Four inox screw (fix the fan support on the metal cover)*
- 2) *Conveyor*
- 3) *Air filter*
- 4) *Air filter grid*

# STEP n. 6

## CHECKS IN WATER CIRCUIT

*Connect chiller joints to water pipes and turn on the pump.*

*Check that there is required real water flow trough chiller exchanger.*

*Minimum is 500 l/h for TK500, TK1000, TK2000*

*The real water flow is the effective flow of water that you find when aquarium is assembled (when pumps and pipes are connected to tank and chiller). The real water flow is NOT the nominal one, that you read on the pump (with H=0 m).*

*Never run the chiller without required water flow otherwise the heater will stop to work permanently*

## HOW TO ACTIVATE HEATING FUNCTION (O1 PARAMETER)

*Connect chiller to Power Supply*

*Turn on chiller display*

*Enter the programming mode by pressing **SET+ARROW DOWN** keys for more than 3 sec (**Hy** or **o1** will be displayed).*

*Find **o1** parameter pressing **ARROWS** and display its value pressing **SET**.*

*Use **ARROW** to change **o1** value from **OFF** to **ON**, then wait for 15 sec without pressing any key. The water temperature will be displayed again and the heating function is now ON.*

