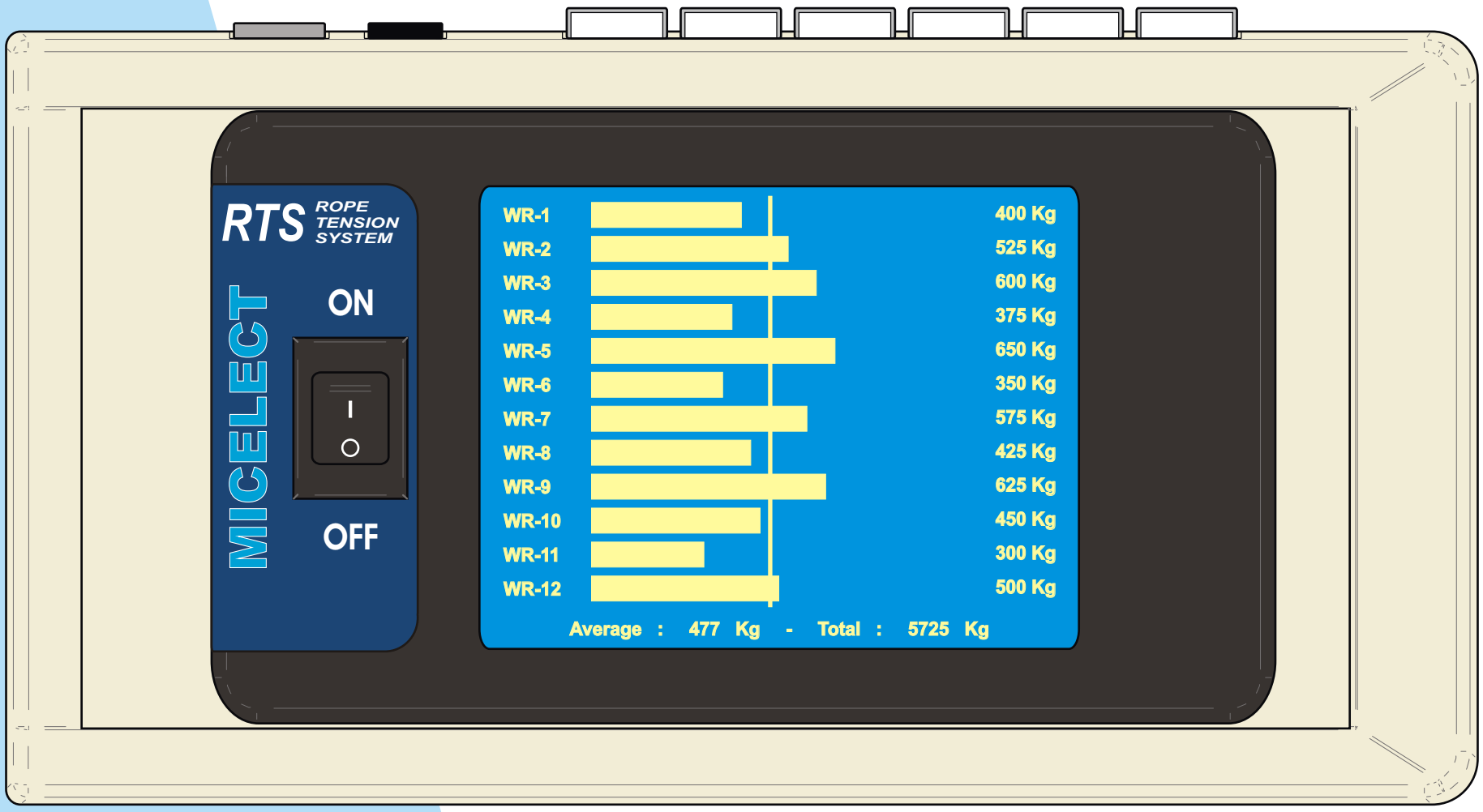
MICELECT

Microelectrónica y Sensores

ROPE TENSIONING SYSTEM



RTS TOUCH v.B02

MICELECT S.L. Excellence in Weighing Technology

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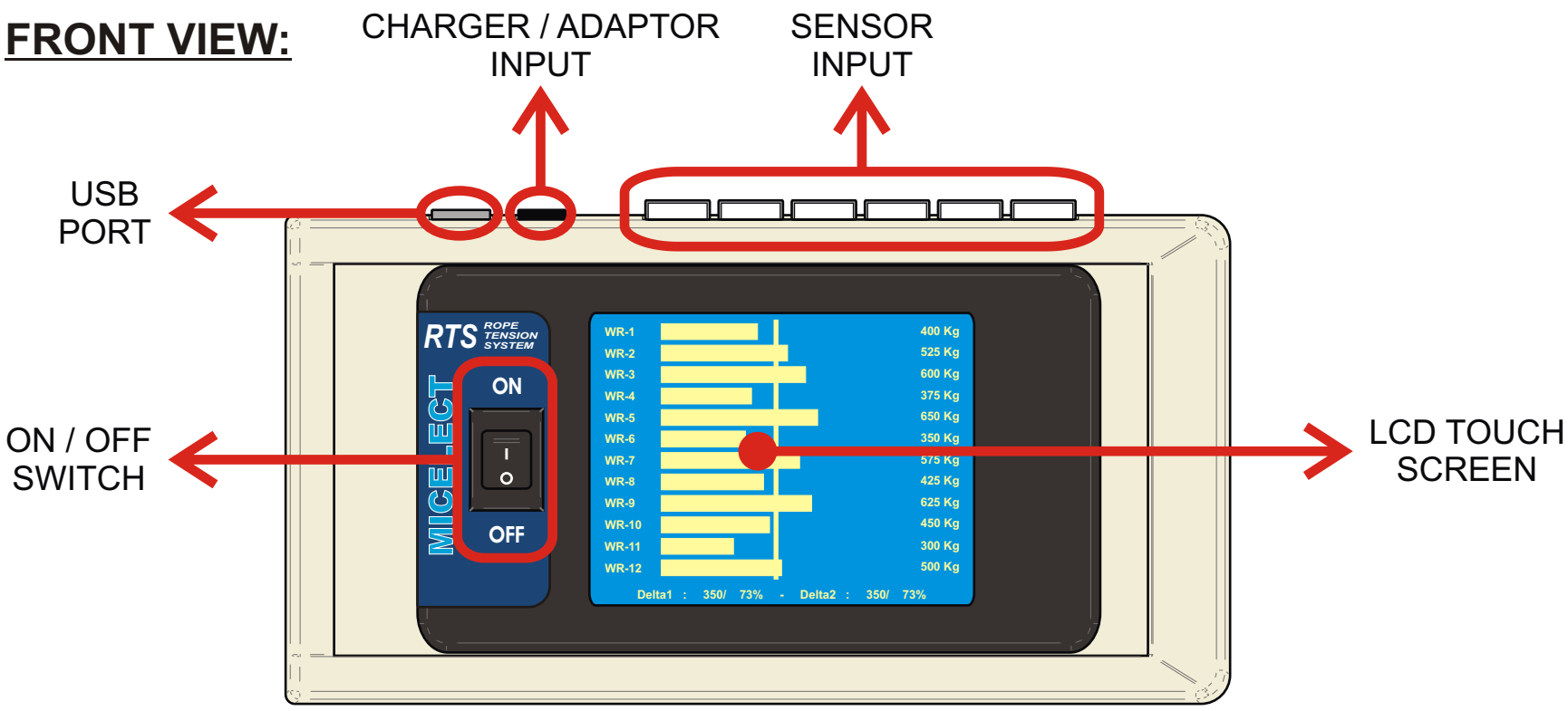
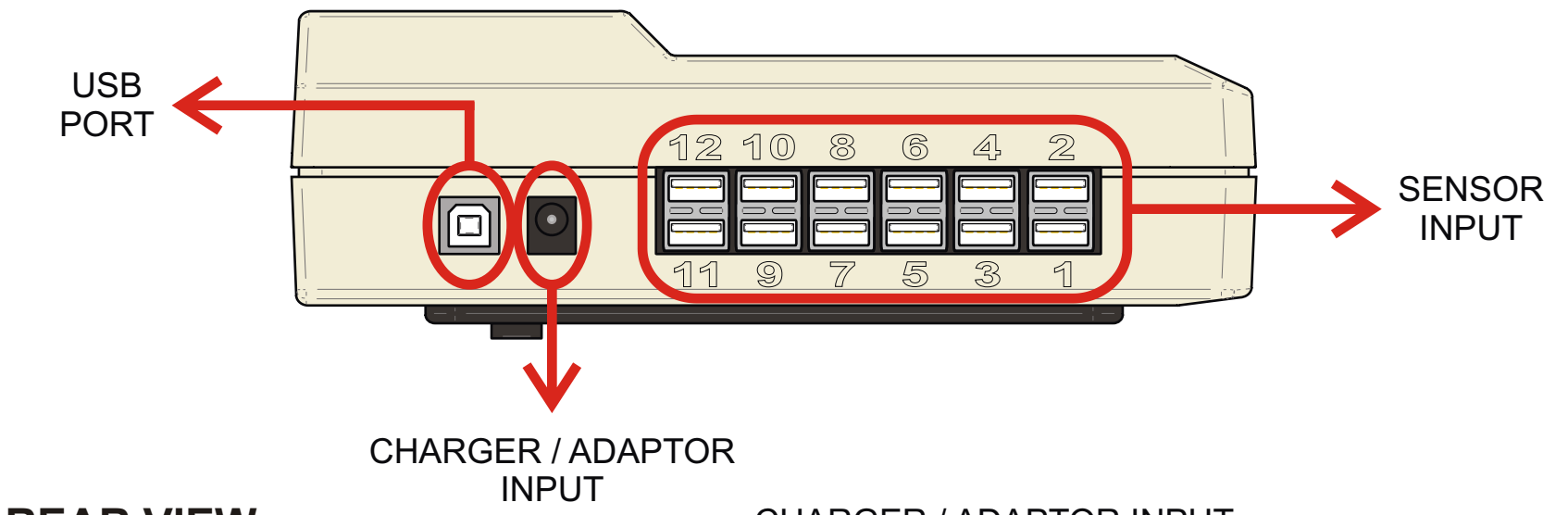
1.- VIEWS:

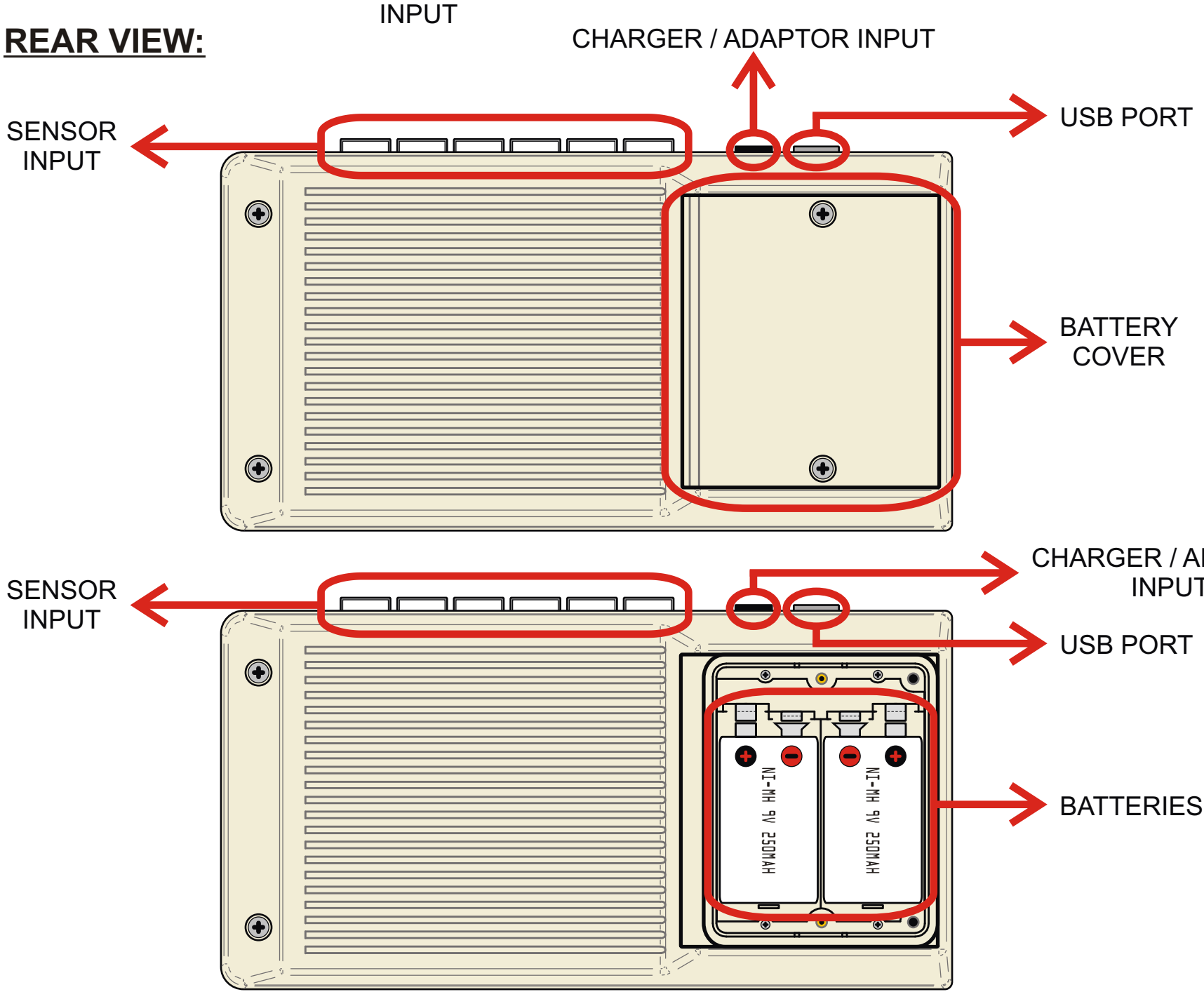
① FRONT VIEW:



② UPPER VIEW:



③ REAR VIEW:



2.- BATTERIES:

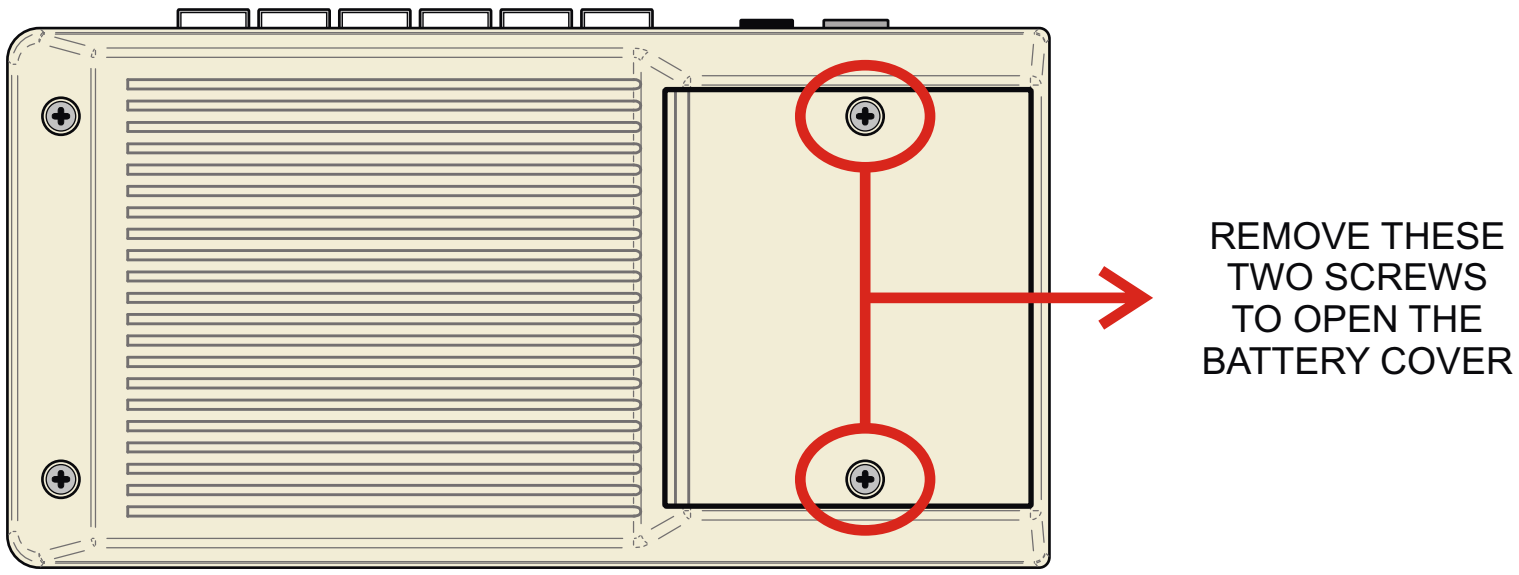
Before turning on the **RTS** unit, make sure that the batteries are charged and correctly placed in their compartment.

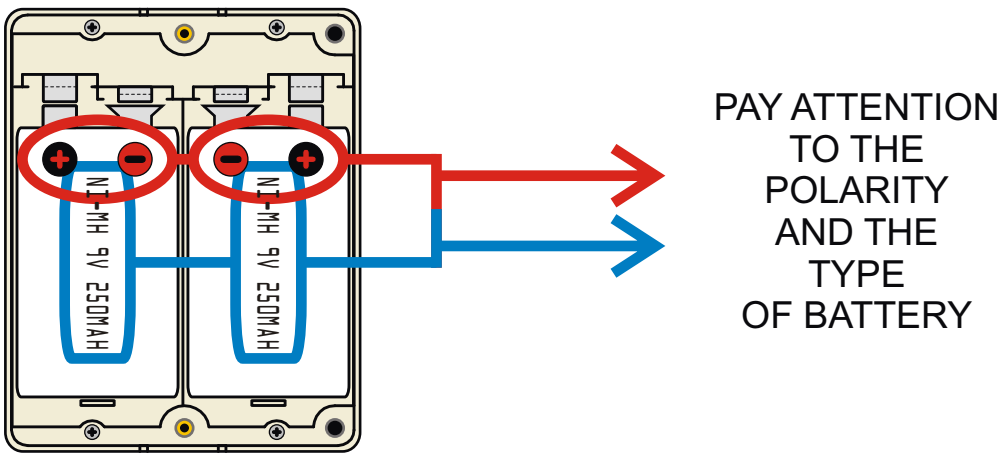
1 REMOVING THE BATTERIES:

A) Switch off the **RTS** using On / Off power switch.

B) Remove the battery cover.

C) Remove the batteries.





2 CHARGING THE BATTERIES:

The batteries can be charged without having to remove them from the **RTS** control unit by following these steps:

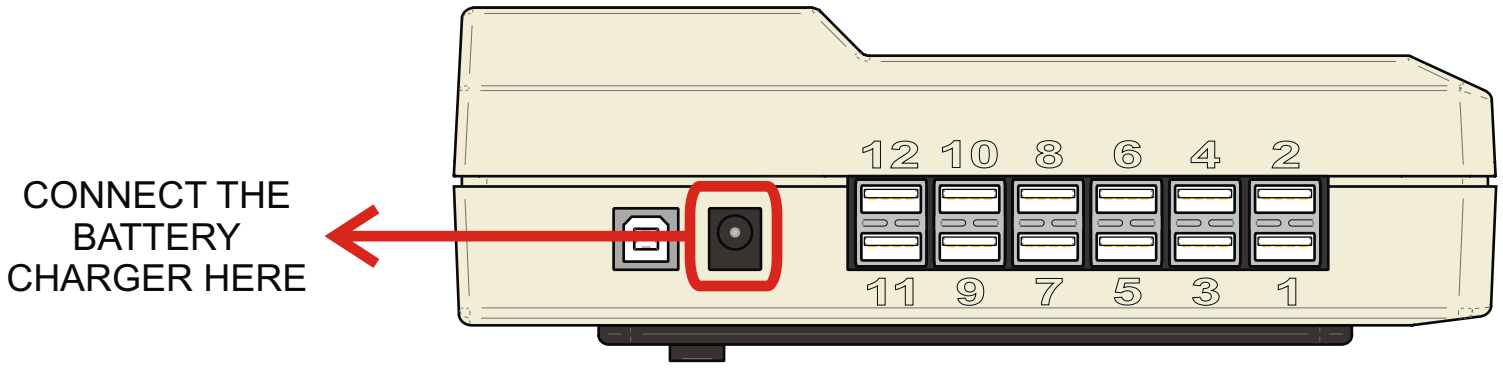
A) Switch off the **RTS** using On / Off power switch.

B) Connect the **RTS** charger to the control unit.

C) Connect the charger to a 220 Va.c. power supply until the batteries are fully charged.

D) Once the charging is complete, remove the charger from the power supply, and then from the **RTS**.

NB: The On / Off switch should remain in the **"OFF"** position whilst charging batteries.

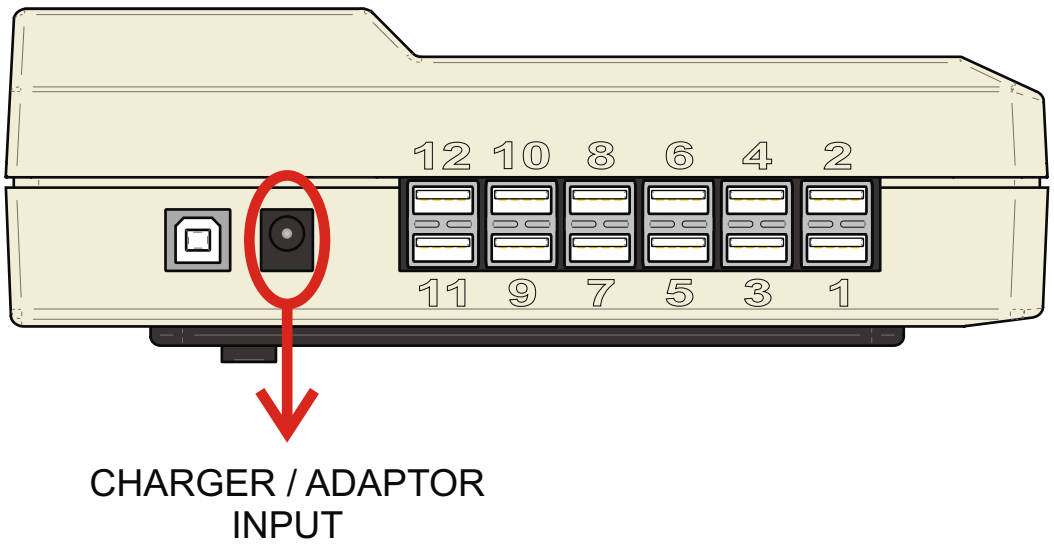


NB: THE APPROXIMATE CHARGING TIME IS 14 TO 16 HOURS.
(WITH A 25 mA CHARGING CURRENT)

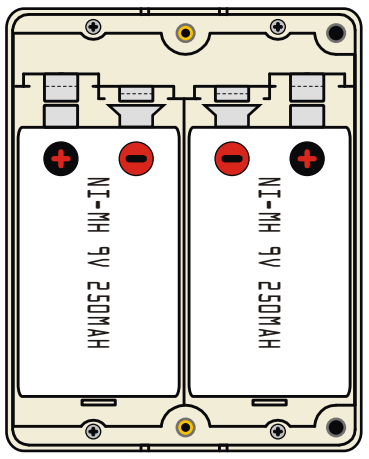
3.- OPERATION:

① POWER SUPPLY:

Before turning on the **RTS**, please make sure that the power supply is correctly applied, either by using the internal batteries or connecting the external adapter supplied by MICELECT.



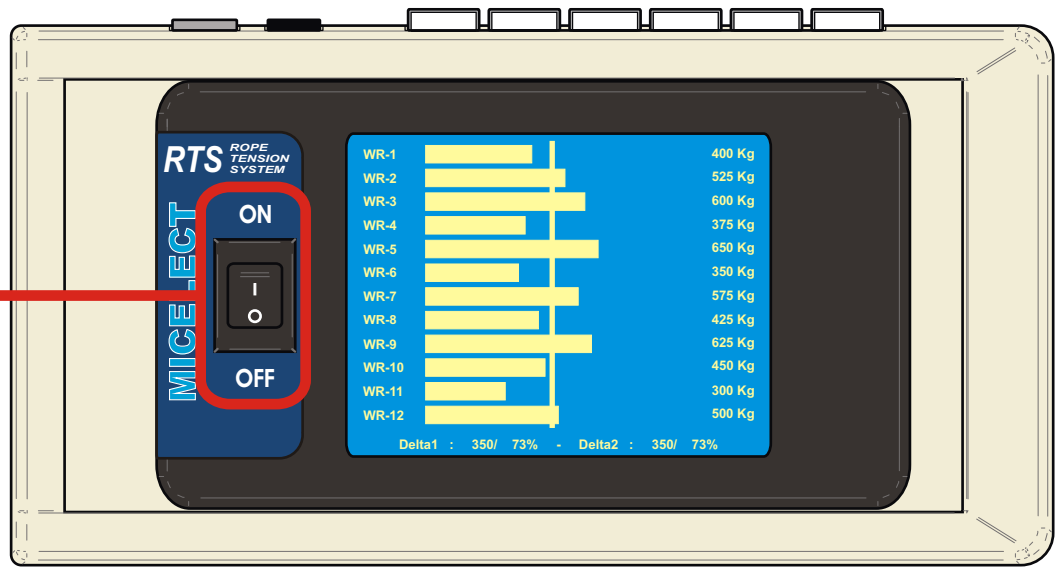
CHARGER / ADAPTOR INPUT



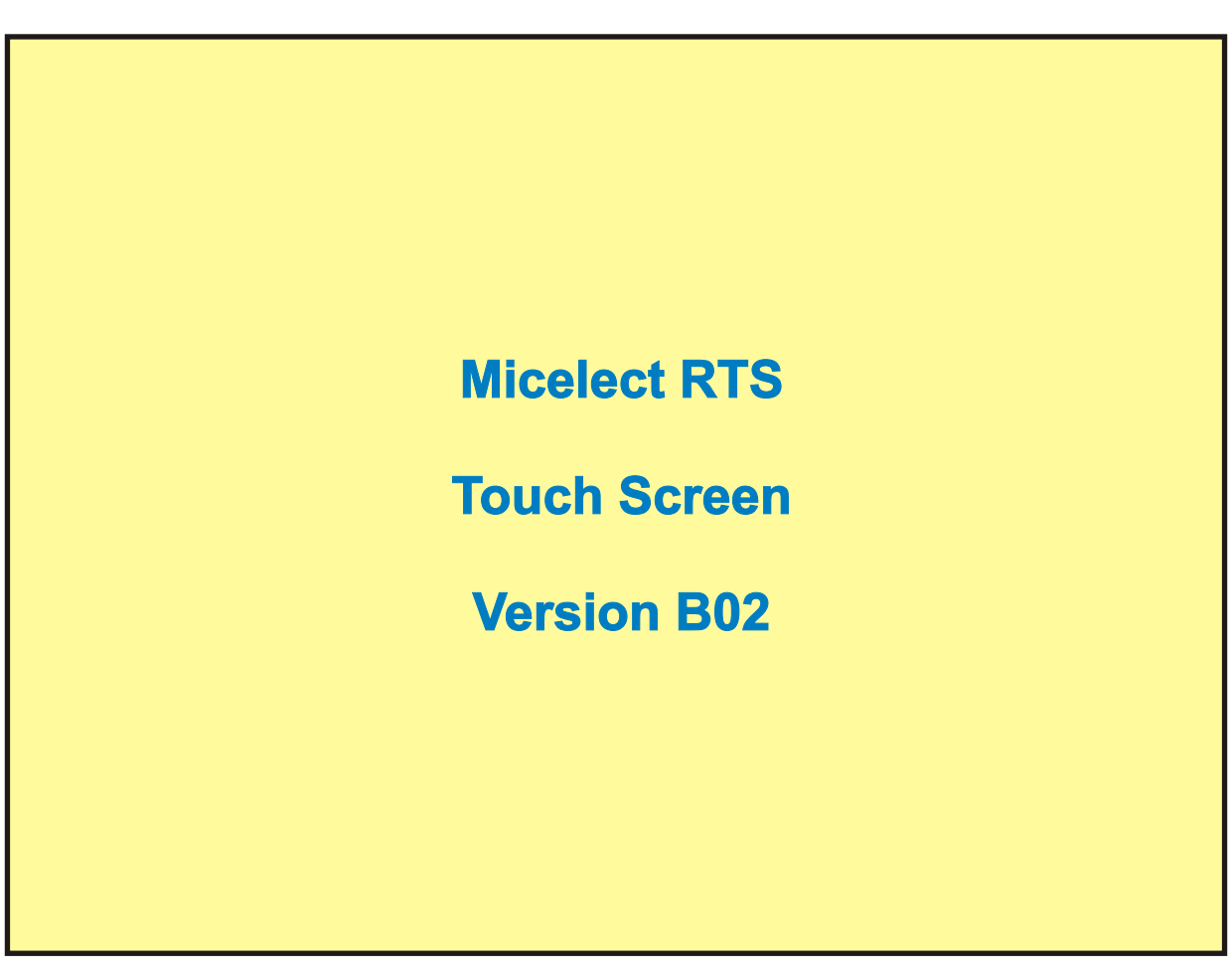
② SWITCH ON:

Just put the **"ON / OFF"** switch in the **"ON"** position.

ON / OFF SWITCH



The **RTS** will display the start-up screen, showing the software version of the device:



The start-up screen will disappear once all the internal components are initialised.

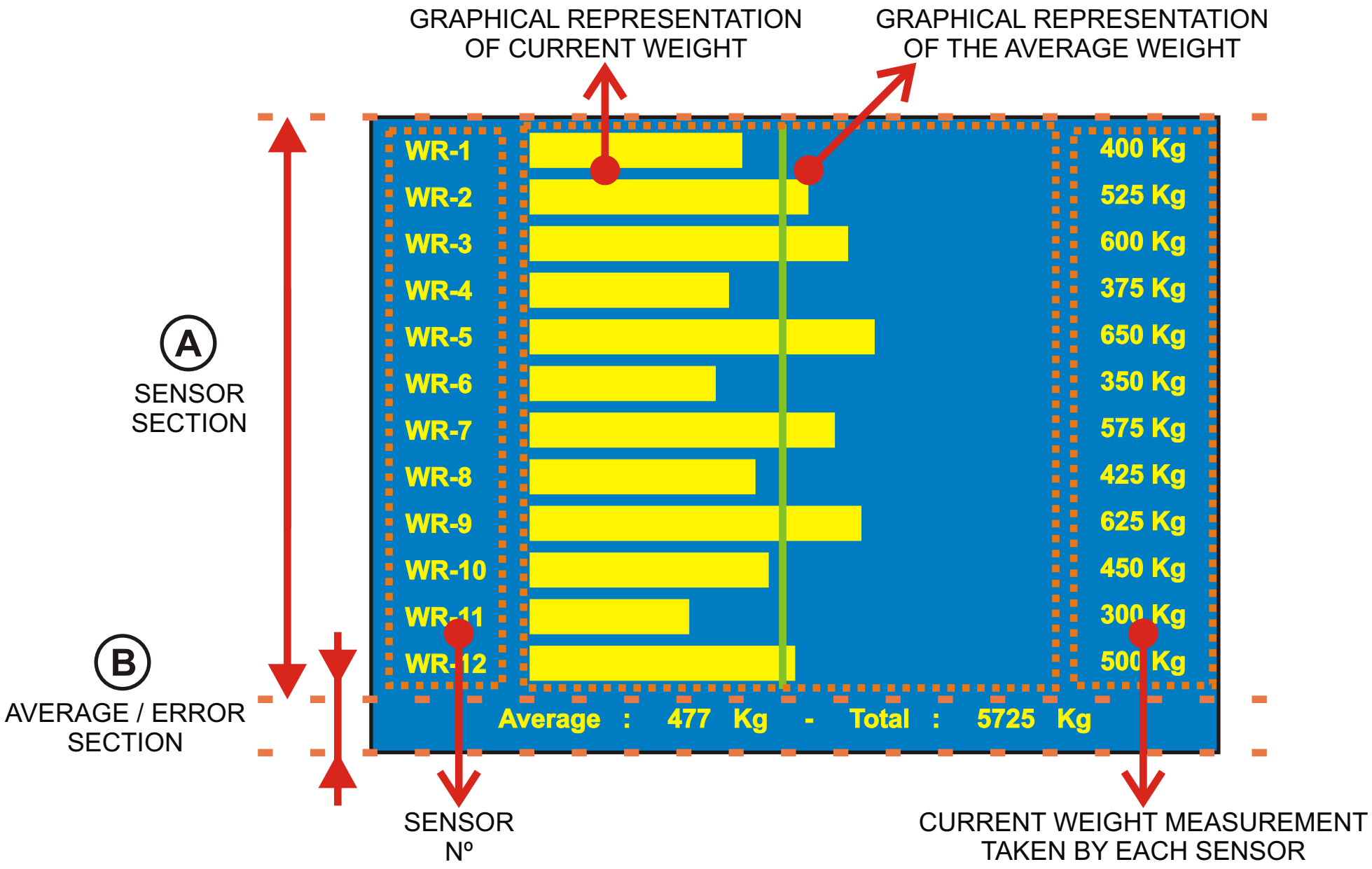
3.- OPERATION:

3 WEIGHING MODE:

After the start-up screen, the system will move on to the weighing mode.

In this mode the measurements taken by the **RTS** are displayed graphically and numerically.

The layout of the on-screen image will be as shown in the following image:



In the first section of the screen **("A")**, called **"Sensor Section"**, is where the individual measurements of every sensor is shown.

The number of visible sensors will depend on the number of sensors being used at the time:

- **1, 2, 3 or 4 sensors selected:** only data from sensors 1-4 will be displayed.

- **5, 6, 7 or 8 sensors selected:** only data from sensors 1-8 will be displayed.

- **9, 10, 11 or 12 sensors selected:** the data from all the sensors will be shown, as can be seen in the image.

On the right-hand side of the screen, the measurements from the sensors will be displayed (in kilograms or in pounds), except in the following circumstances:

- **If the value is negative:** the value will appear as **"< 0 Kg"** or **"< 0 Lb"**, and the reading will be taken as zero.

- **If the measurement taken is above the weight range specified in calibration:** the screen will display **"> 200"**, **"> 400"**, **"> 800"** or **"> 1200"** depending on the range selected. **"> 400"**, **"> 800"**, **"> 1200"** or **"> 2400"** if pounds are selected as measurement units.

- **If the measurement taken is above 1200 (if kilograms are selected) or 2400 (if pounds are selected):** the value on screen will show **"> 1200"** or **"> 2400"**, and the reading will be taken as **"1200"** or **"2400"**.

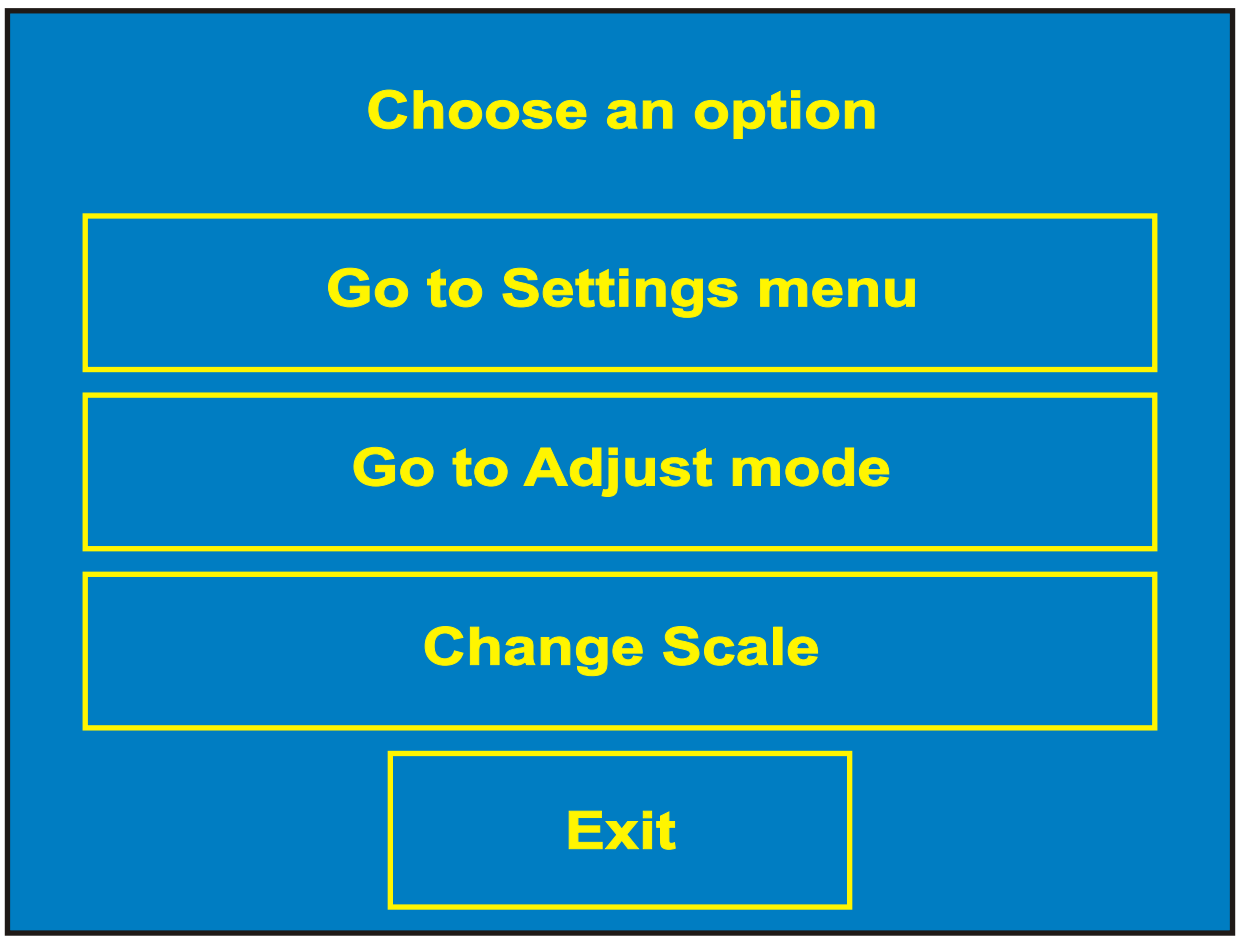
The lower section of the screen **("B")**, called **"Average / Error Section"**, displays the current total and average weight taking into account all the sensors connected.

3.- OPERATION:

④ MAIN MENU:

To enter the menu of the **RTS**, just touch the screen of the device at any point.

The menu screen will be displayed as seen below:

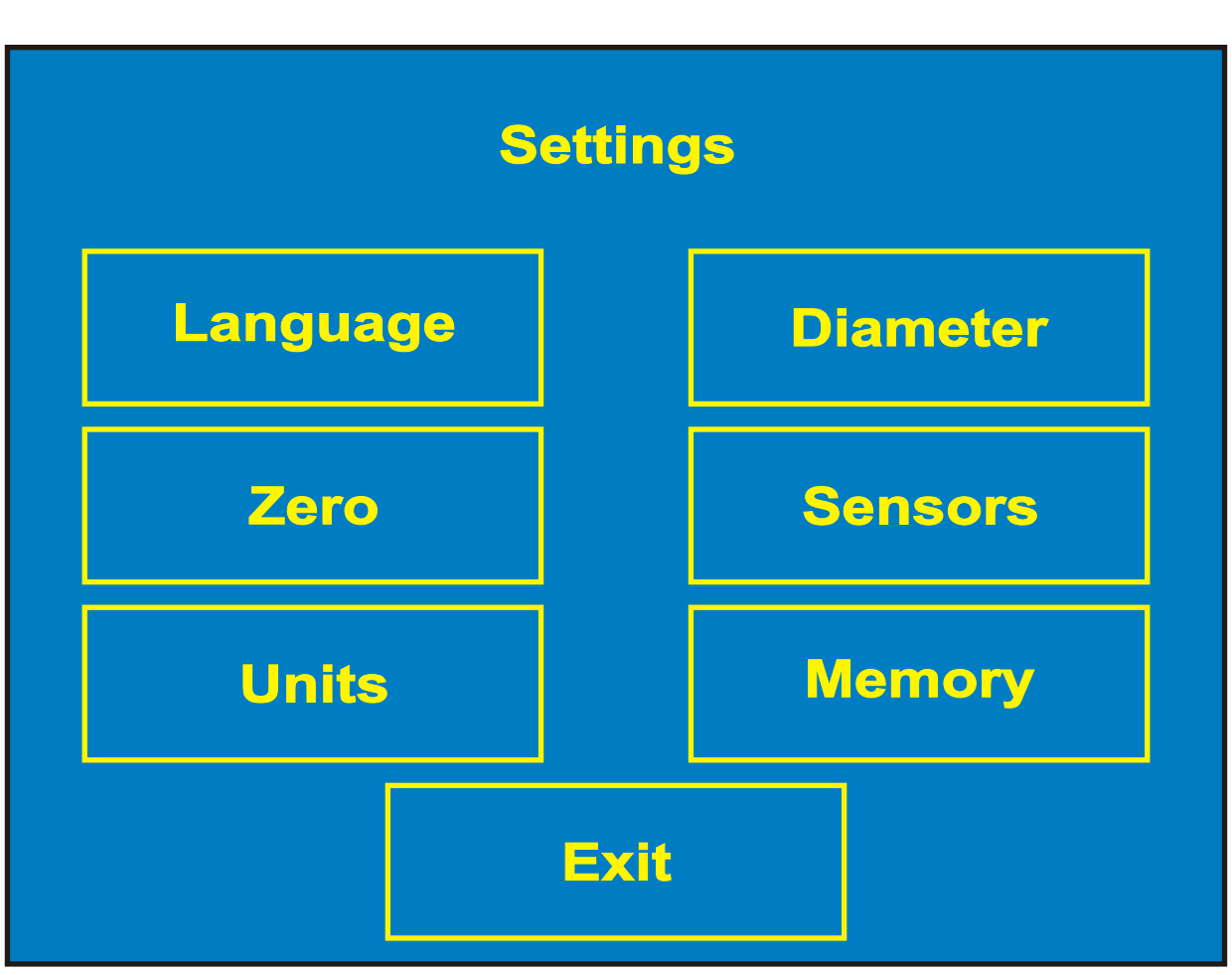


To select an option just touch the screen at the corresponding area, and the device will move on to the corresponding section.

⑤ SETTINGS MENU:

This section is where all the parameters of the device can be configured.

A main screen will be shown displaying all the available options:



3.- OPERATION:

5 SETTINGS MENU:

THE DIFERENT OPTIONS CAN BE SELECTED TOUCHING THE SCREEN AT THE CORRESPONDING AREA.

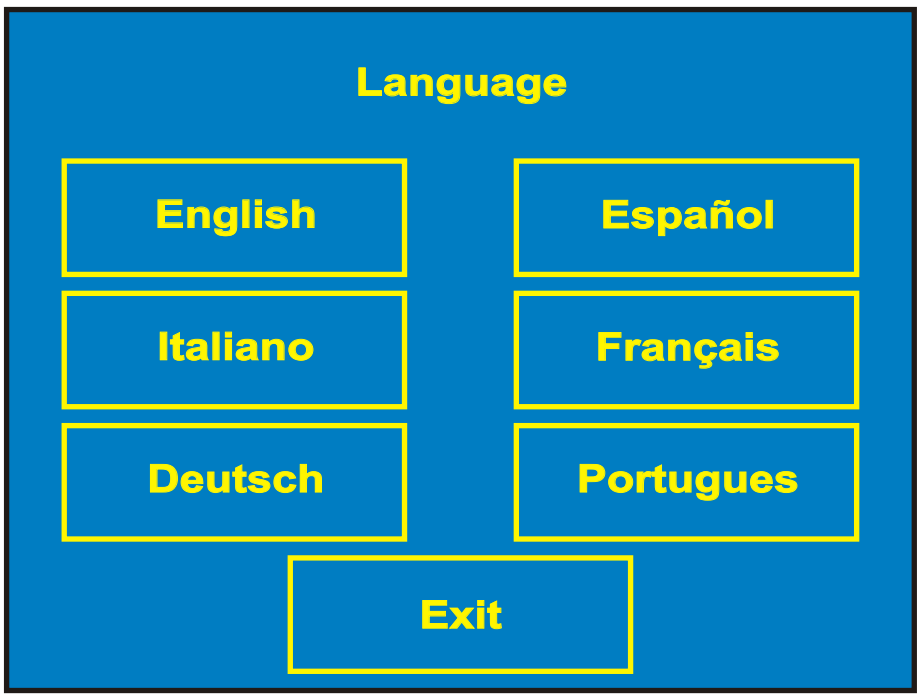
ONCE AN OPTION IS SELECTED, A NEW SCREEN WILL APPEAR SHOWING THE DIFFERENT VALUES THAT CAN BE CHOSEN FOR THE CURRENT PARAMETER. AGAIN, THIS NEW VALUE CAN BE SELECTED DIRECTLY TOUCHING THE SCREEN. IF THE VALUE IS GOING TO STAY UNMODIFIED THE OPTION **"EXIT"** MUST BE SELECTED IN ORDER TO COME BACK TO THE MAIN SETTINGS SCREEN WITHOUT MODIFYING THE MEMORY OF THE **RTS**.

ONCE ALL THE DESIRED PARAMETERS ARE ADJUSTED, THE OPTION **"EXIT"** MUST BE SELECTED IN THE SETTINGS SCREEN, AND THEN THE DEVICE WILL RETURN TO WEIGHING MODE AND WILL SHOW THE CORRESPONDING SCREEN.

1
LANGUAGE SELECTION
"Language"

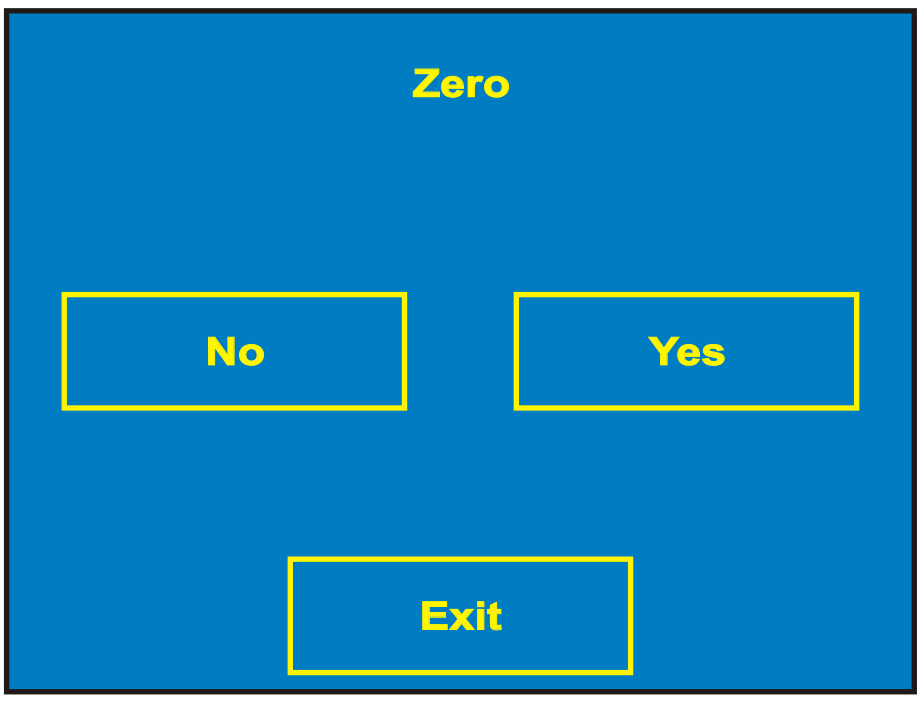
Select your preferred language:

- **"English":** the language selected will be English.
- **"Español":** the language selected will be Spanish.
- **"Italiano":** the language selected will be Italian.
- **"Français":** the language selected will be French.
- **"Deutsch":** the language selected will be German.
- **"Português":** the language selected will be Portuguese.



2
ZERO CALIBRATION
"Zero"

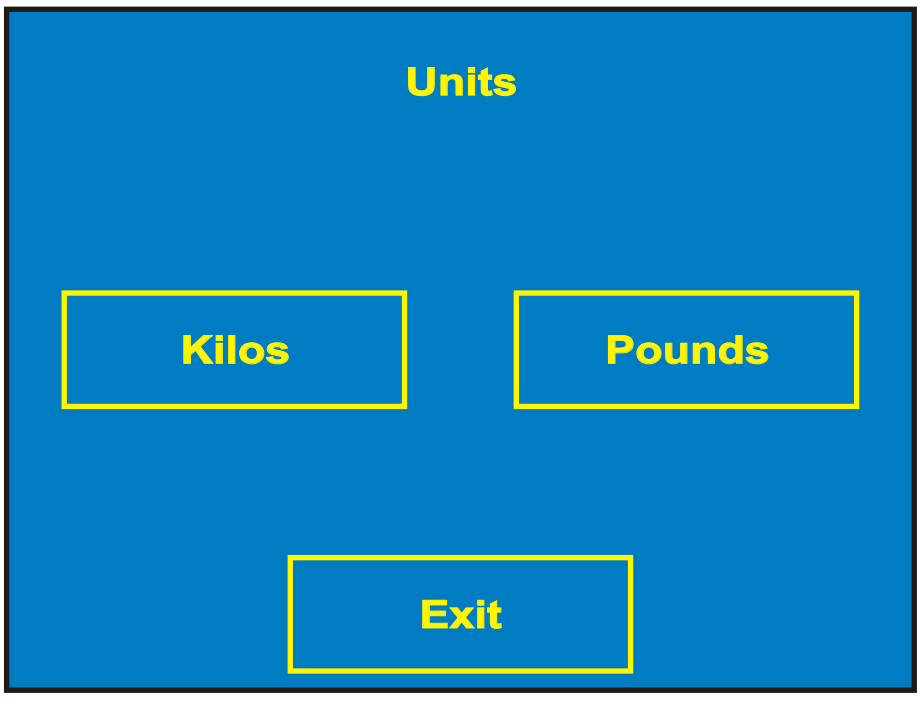
It is possible to perform a "**Zero**" calibration in order to adapt the **RTS** measurements to each individual installation. To do this, simply select **"YES"** in the menu. Once this is done, a 10-second countdown will start to allow the user to leave the cabin before the **Zero** reading is taken for all the sensors and then stored in the memory.



3
UNITS OF MEASUREMENT
"Units"

Select the preferred units that the **RTS** will use to visualise the measurements:

- **"Kilos":** measurements in Kilograms.
- **"Pounds":** measurements in Pounds.

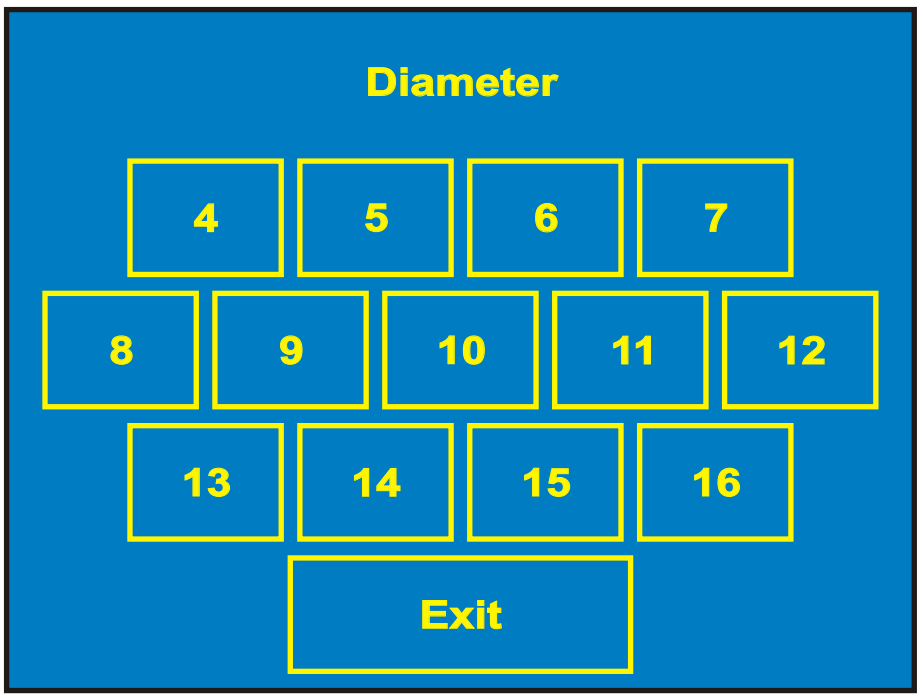


5 SETTINGS MENU:

4
DIAMETER OF THE WIRE ROPES "Diameter"

The diameter of the ropes should be entered into the system in milimetres.

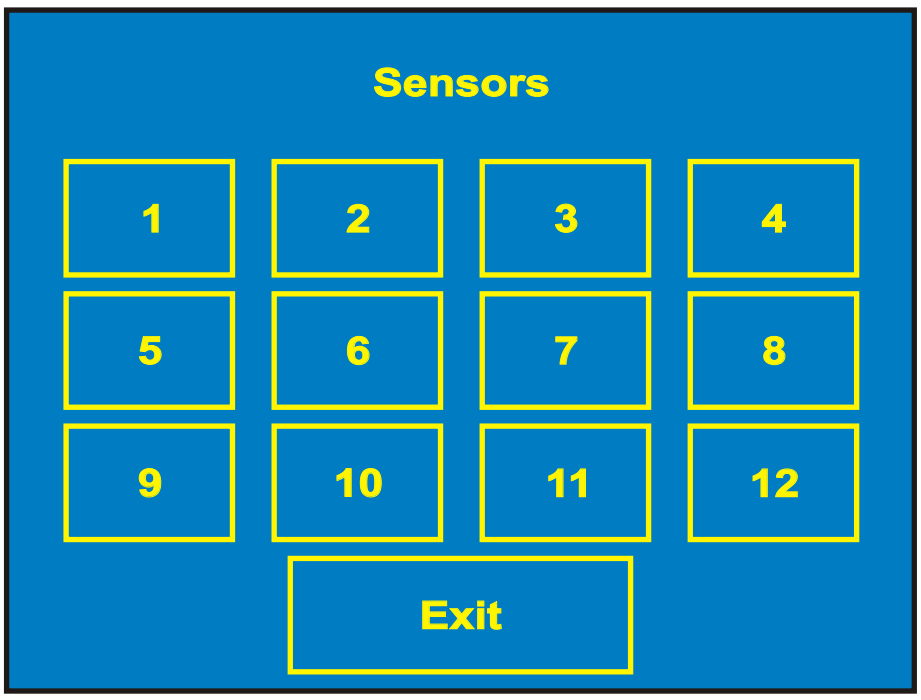
The available options are from **4 to 16 mm.**



5
NUMBER OF SENSORS "Sensors"

The user selects the number of **RTS** sensors being used, from **1 to 12 sensors**.

NB: The sensors should be connected to the **RTS** control unit starting with sensor input **"#1"**. For example, if four sensors are being used, the sensors should be connected to the **RTS** control unit in the following order: **"#1"**, **"#2"**, **"#3"** & **"#4"**.

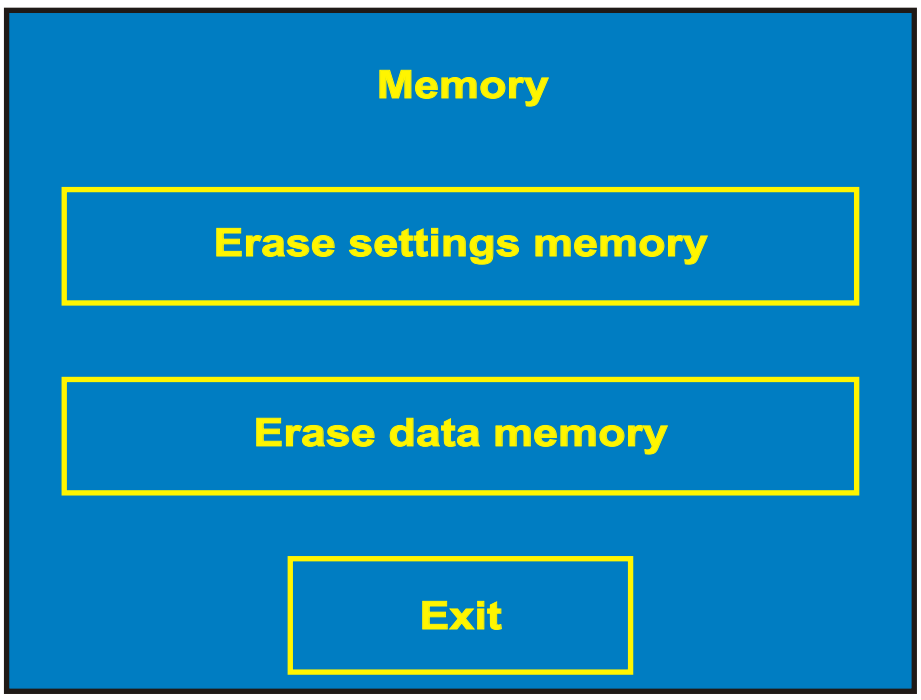


6
ERASE MEMORY "Memory"

This menu allows the user to erase the contents of the memory. There are two separate sections that can be erased independently:

- "Erase settings memory": Here is where the values for the settings parameters are stored. If erased, the **RTS** will return to factory status.

- "Erase data memory": The initial and final measurements saved for all installations are stored here. If erased, all that data will be deleted leaving space to store data from new installations.



3.- OPERATION:

6 ADJUST MODE:

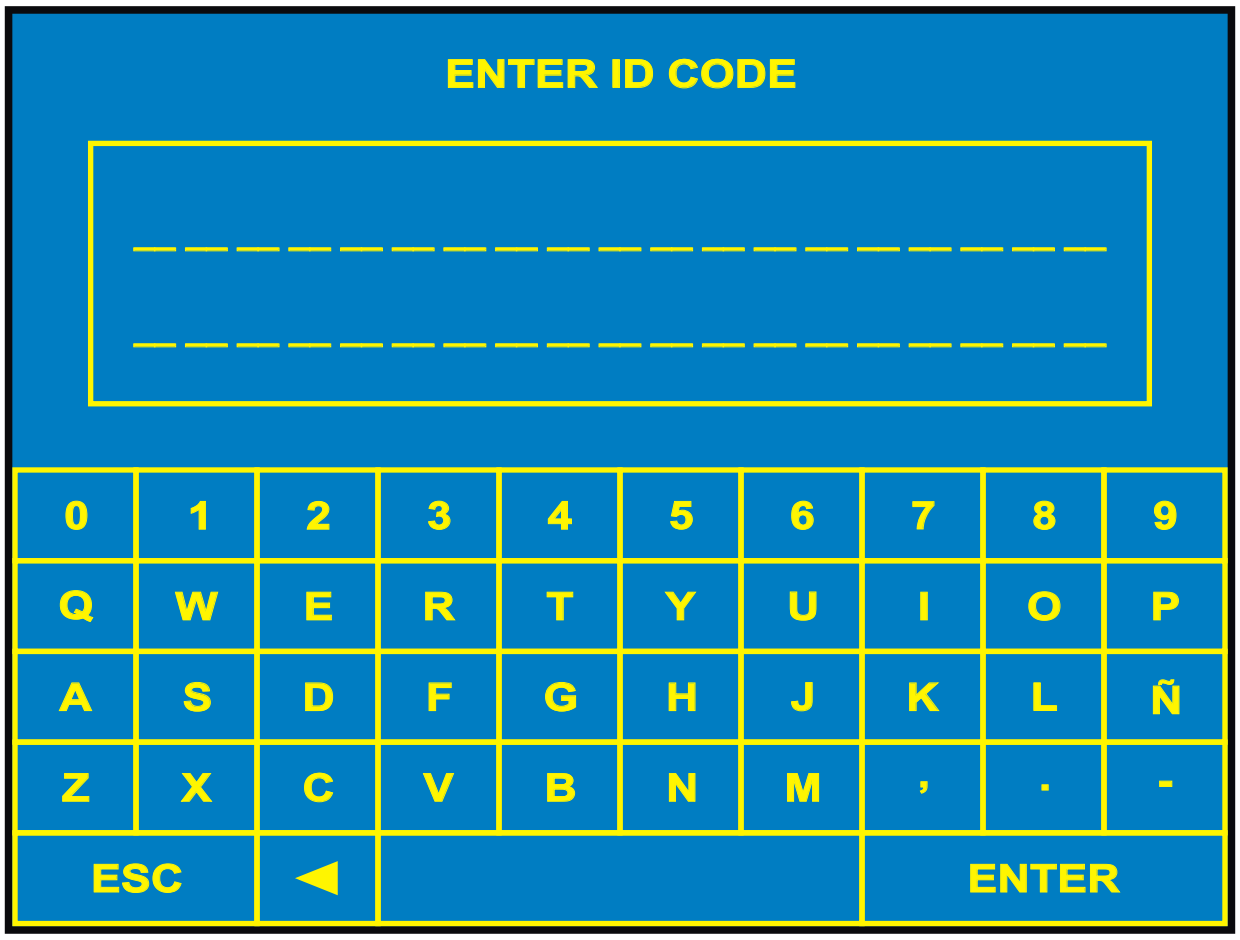
This special mode allows the user to check the error of the current installation and to adjust it.

The **RTS** will store in the memory the initial and final values, which can be downloaded later to a **PC** via the USB connection, to check the improvements made.

The capacity of the internal memory is enough to store data from 150 different installations.

To enter this mode, touch the screen at the **"Go to Adjust mode"** area of the main menu.

The **RTS** will display an on-screen message requesting the identification code of the installation.



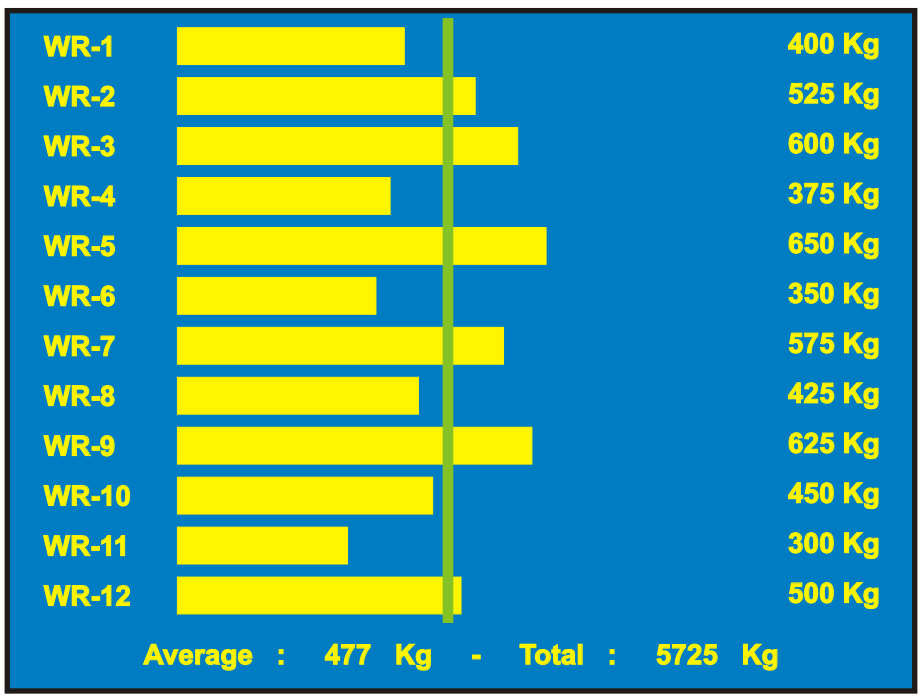
The characters can be introduced touching the virtual keyboard in the lower area of the LCD.

The key **"<"** can be used to delete the last character.

Once the ID code has been introduced, the **"ENTER"** key must be pressed. The device will then start the adjustment process, and save the initial values.

If the user prefers to skip the process and return to the **"weighing mode"**, the **"ESC"** key must be pressed.

BEFORE ENTERING ADJUST MODE



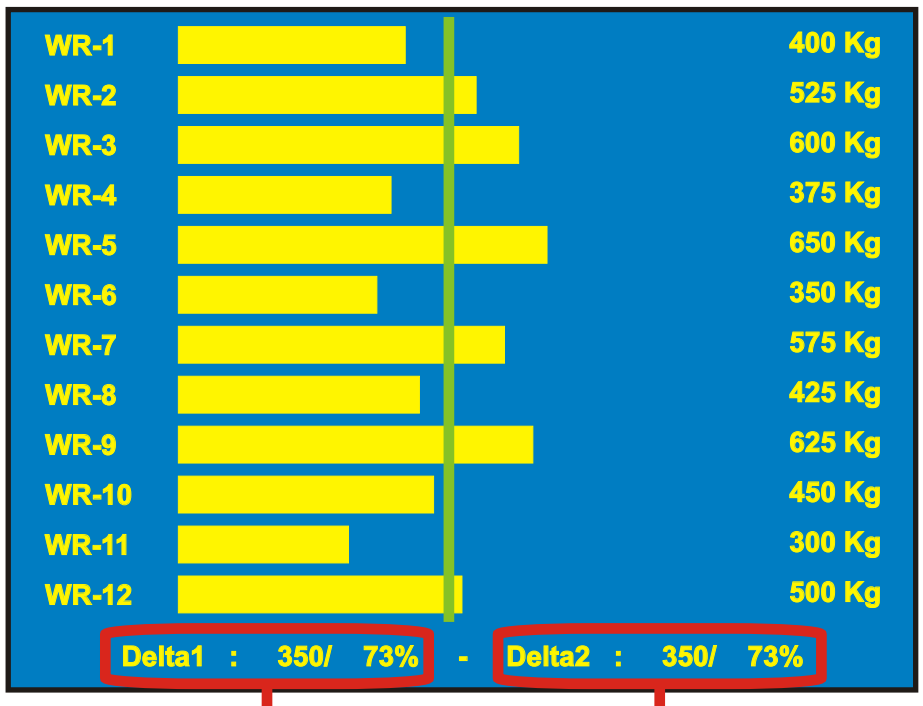
3.- OPERATION:

6 ADJUST MODE:

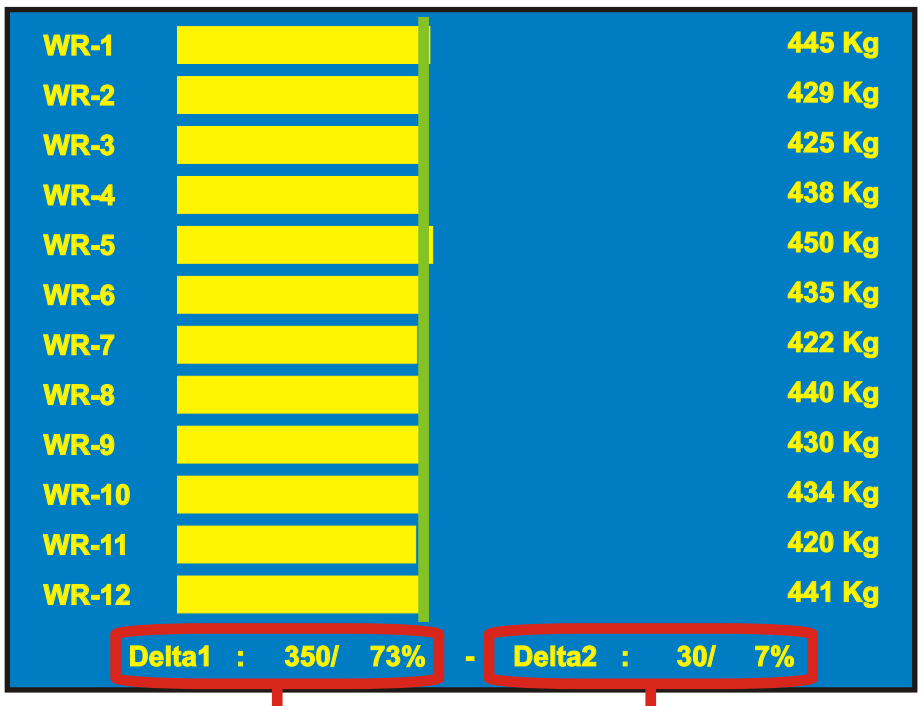
A new screen similar to the screen of the weighing mode will be shown.

The only difference is that at the bottom of the screen, the **RTS** will display the initial error **(Delta1)** and the current error **(Delta2)**, in units and as a percentage, so that the user can adjust the tension in the ropes, using the initial values as a reference.

ADJUST MODE - INITIAL VALUES



ADJUST MODE - FINAL VALUES



Once the tension adjustment is complete, touch the screen to return to the initial **"weighing mode"**, which allows the **RTS** to save the final values.

Finally, the **RTS** should be connected to a **PC** using the **USB** cable in order to obtain the saved data which can then be saved into a text file and kept for future reference, depending on the requirements of the user.

In order for the **PC** to recognise the **RTS**, two programs must be installed: the USB driver and the software which will be used to manage the communication between the **PC** and the **RTS** (both of these programs are provided by **MICELECT**, and can be found on our website: www.micelect.com).

Once the necessary software has been installed, the user should follow the following steps to obtain the data from the **RTS**:

1.- Turn on the **RTS**.
2.- Connect the **RTS** to the **PC** using the **USB** cable.
3.- Check that the **PC** has recognised the **RTS** unit correctly, and note down which **"COM"** port number it has been assigned.
4.- Start-up the **MICELECT** software, named **RTS-B02**.
5.- Select your language pressing the appropiate button.
6.- Select the **"COM"** port which is assigned to the **RTS**, and press the **"Start"** button.
7.- Press the **"Read installation data"** button to read the data.
8.- A new window will open which allows the user to select the location where he wishes to save the text file (ending ".txt"), which will contain the data extracted from the **RTS**.

3.- OPERATION:

⑦ SCALE MENU:

The graphical and numerical representation of the measurement are referenced to a maximum value that can be adjusted at any time by the user.

These scales are dependant on the unit of measurement in use:

- For **KILOGRAMS**, the maximum value can be adjusted **to 200, 400, 800 or 1200**.

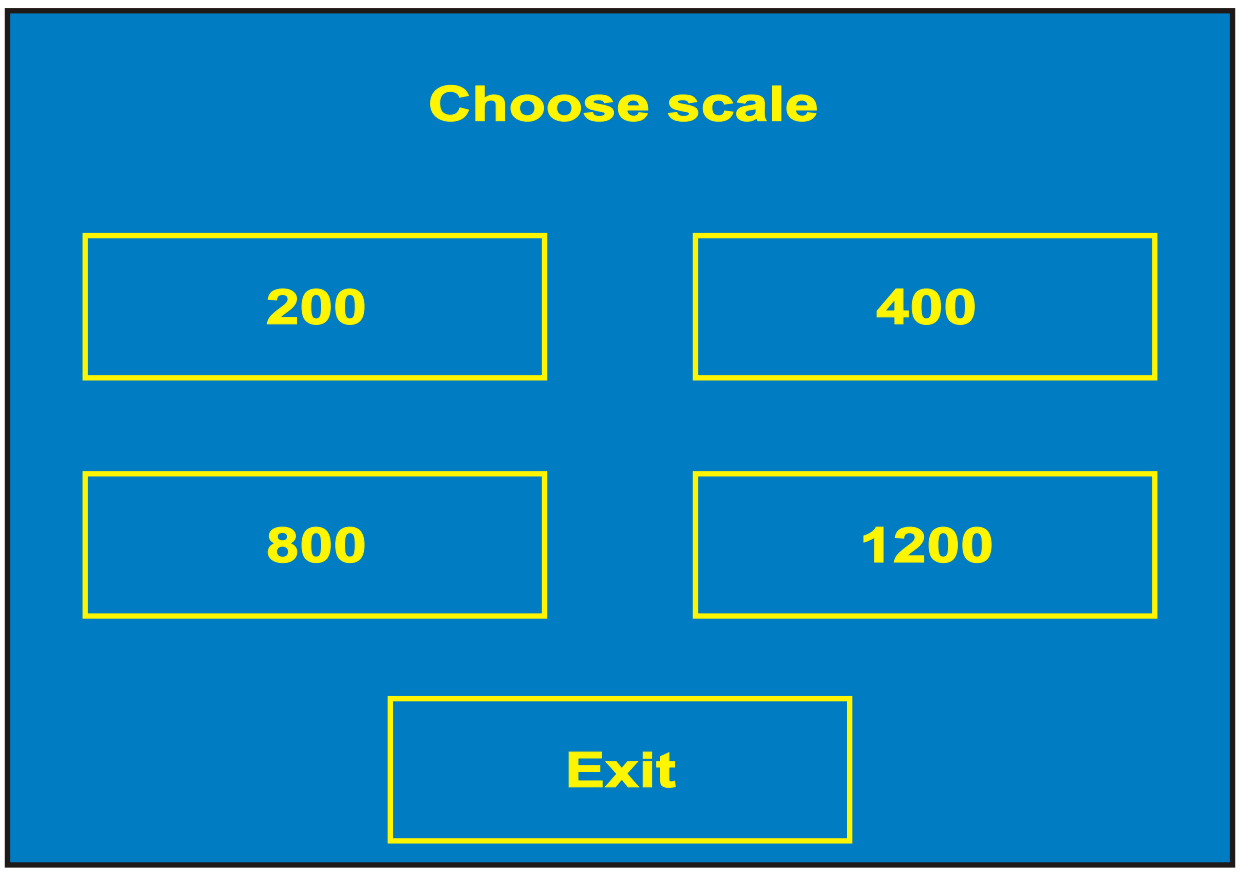
- For **POUNDS**, the maximum value can be adjusted **to 400, 800, 1600 or 2400**.

To change the scale, touch the screen at the **"Change Scale"** area of the main menu.

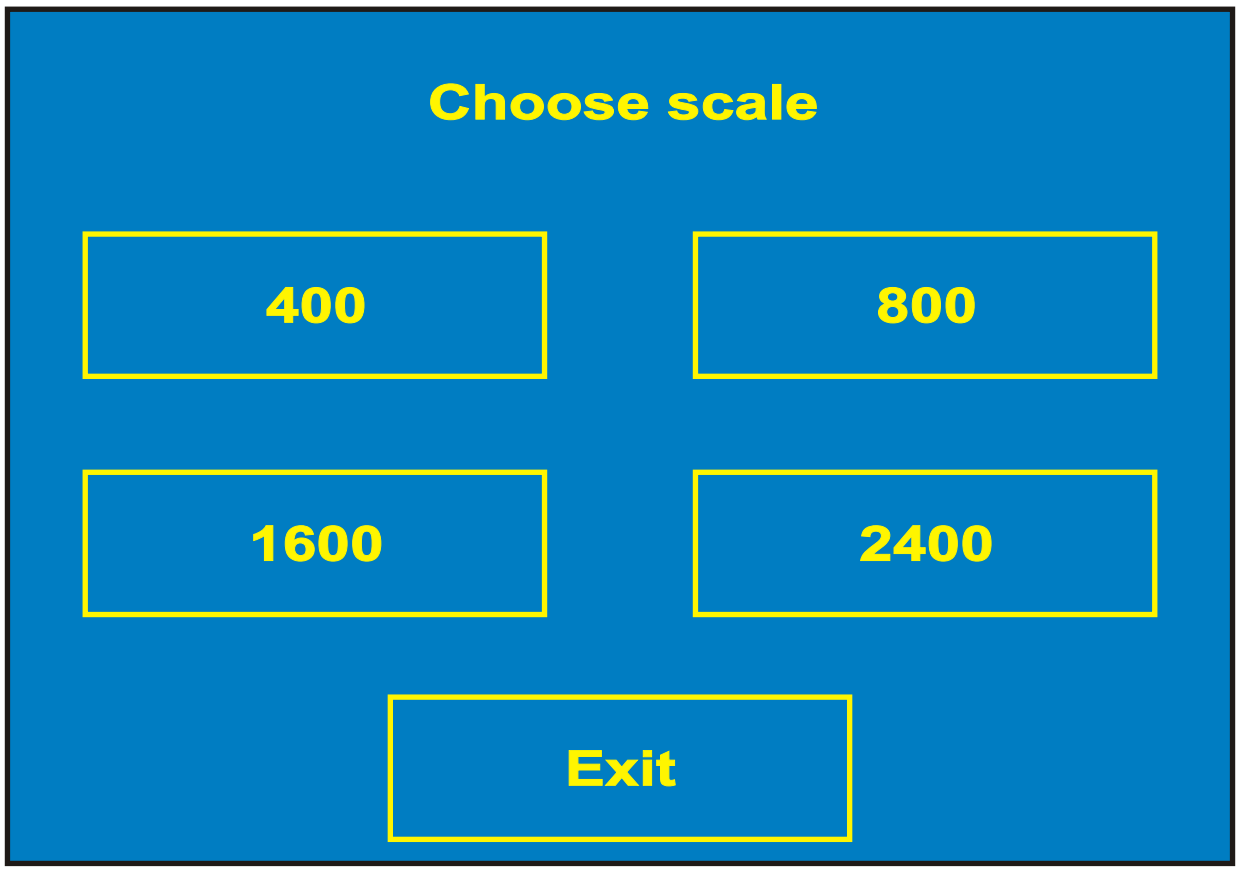
A new menu will be shown displaying the available options.

Touch the screen at the area corresponding to the desired scale and the weighing screen will be automatically adjusted to the new values:

FOR KILOGRAMS



FOR POUNDS



4.- WRT SENSOR:

① ASSEMBLING THE SENSOR:

A) UPPER HOOK (“UP”):

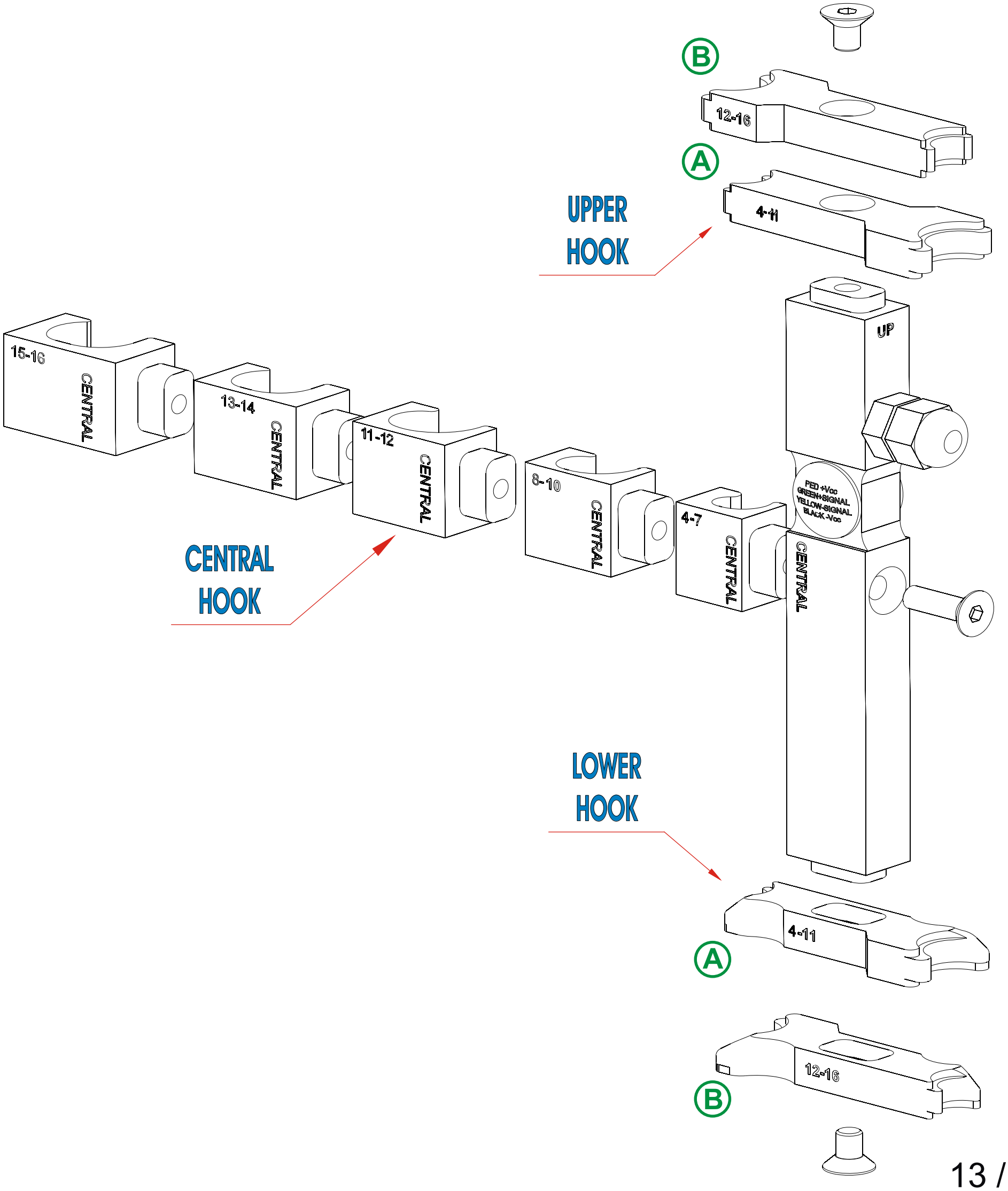
- Attach in position “A” for rope diameters 4-11mm.
- Attach in position “B” for rope diameters 12-16mm.

B) CENTRAL HOOK (“CENTRAL”):

- Use the corresponding hook according to the rope diameter.

C) LOWER HOOK (“DOWN”):

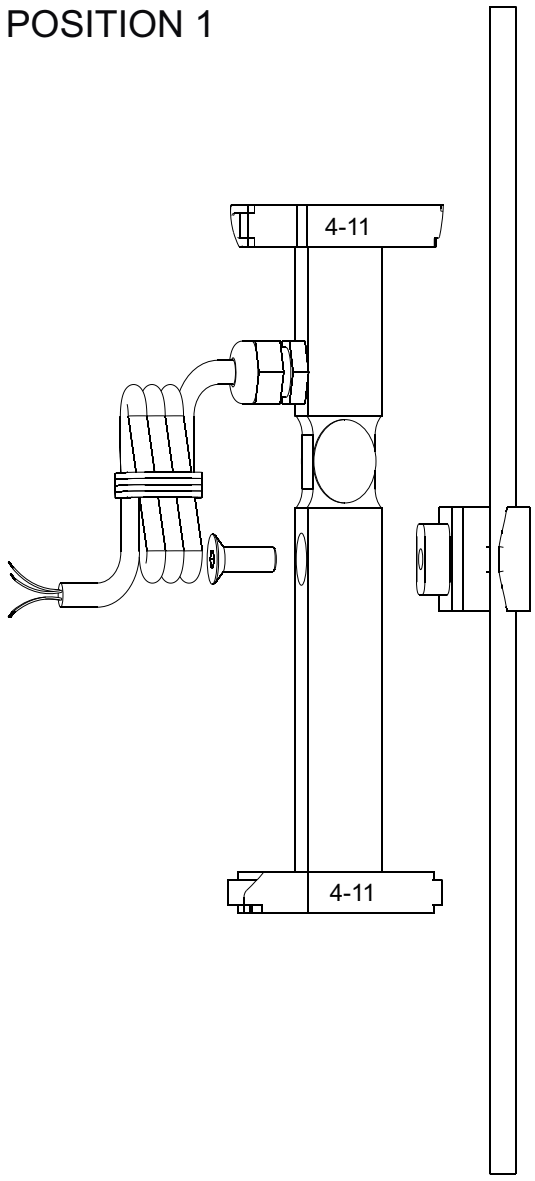
- Attach in position “A” for rope diameters 4-11mm.
- Attach in position “B” for rope diameters 12-16mm.



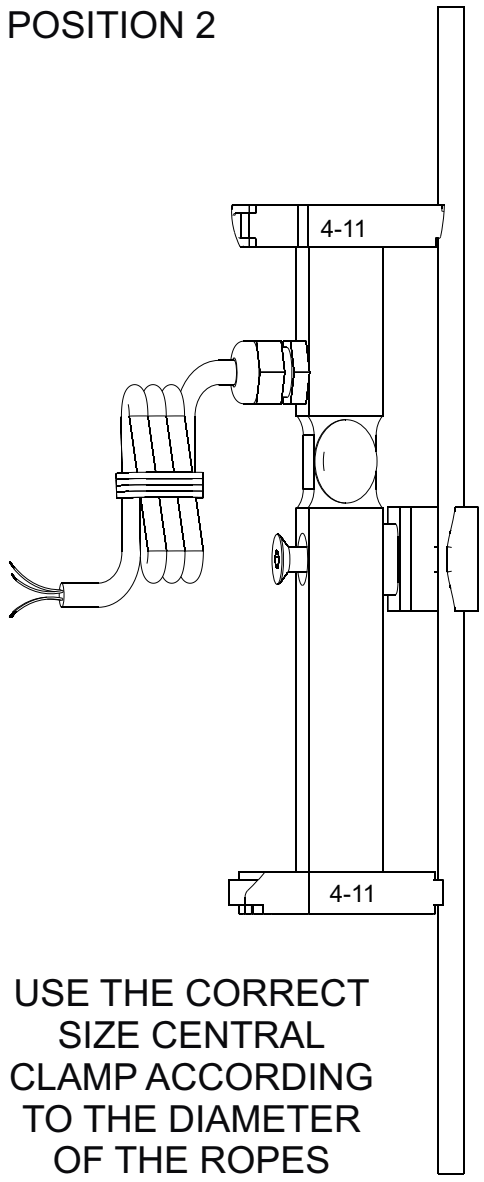
4.- WRT SENSOR:

② INSTALLATION - MODEL 4-11:

POSITION 1



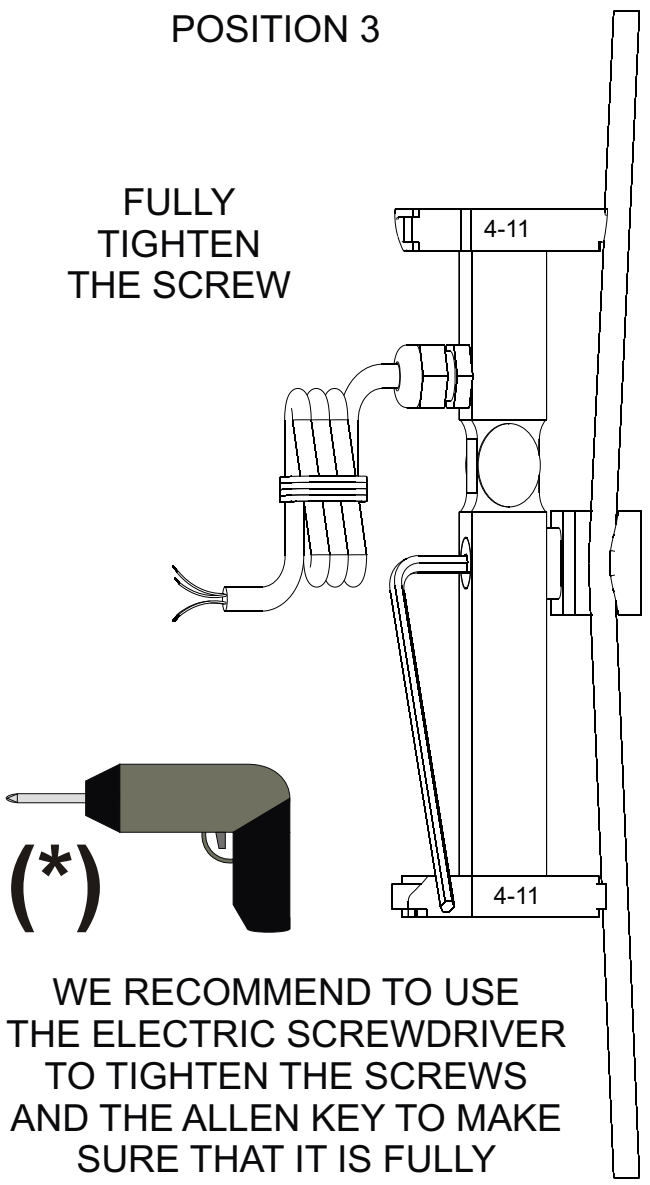
POSITION 2



USE THE CORRECT SIZE CENTRAL CLAMP ACCORDING TO THE DIAMETER OF THE ROPES

POSITION 3

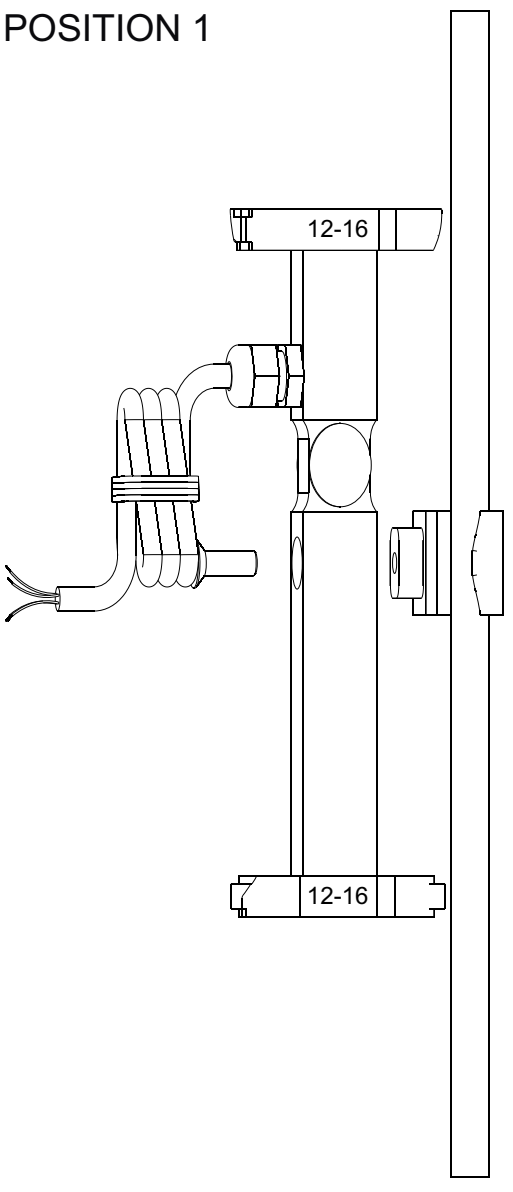
FULLY TIGHTEN THE SCREW



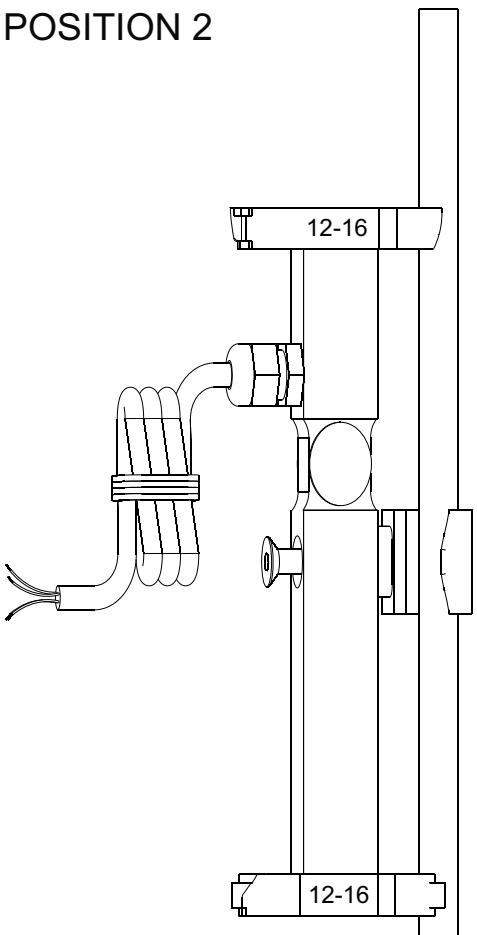
WE RECOMMEND TO USE THE ELECTRIC SCREWDRIVER TO TIGHTEN THE SCREWS AND THE ALLEN KEY TO MAKE SURE THAT IT IS FULLY TIGHTENED

③ INSTALLATION - MODEL 12-16:

POSITION 1



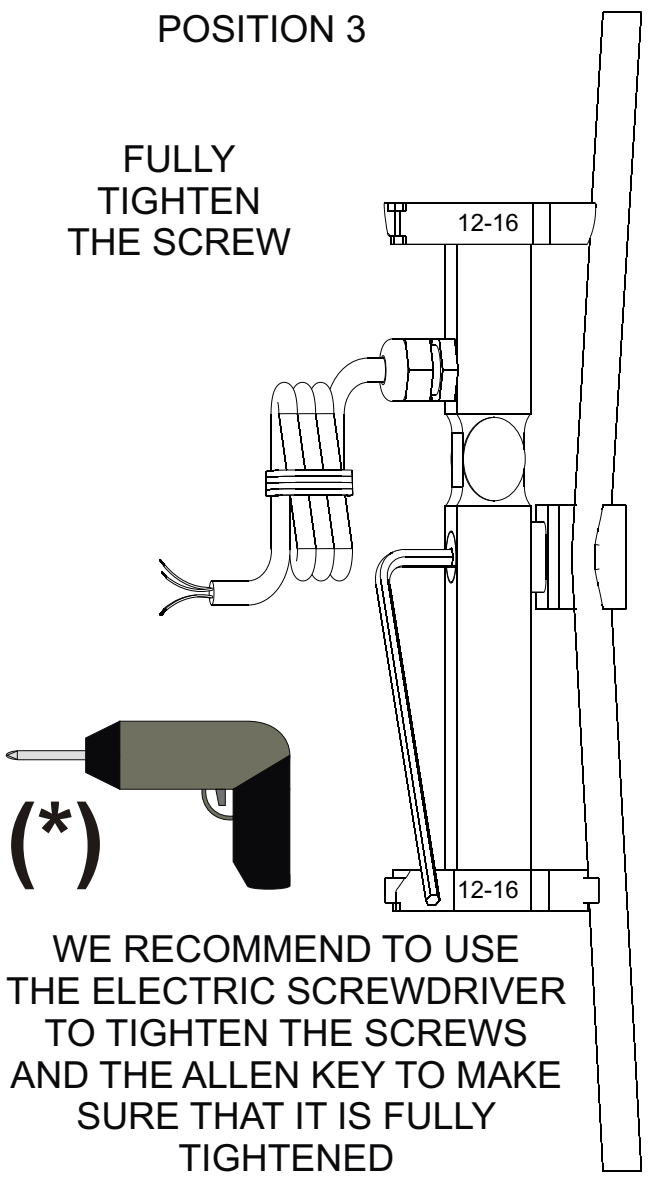
POSITION 2



USE THE CORRECT SIZE CENTRAL CLAMP ACCORDING TO THE DIAMETER OF THE ROPES

POSITION 3

FULLY TIGHTEN THE SCREW

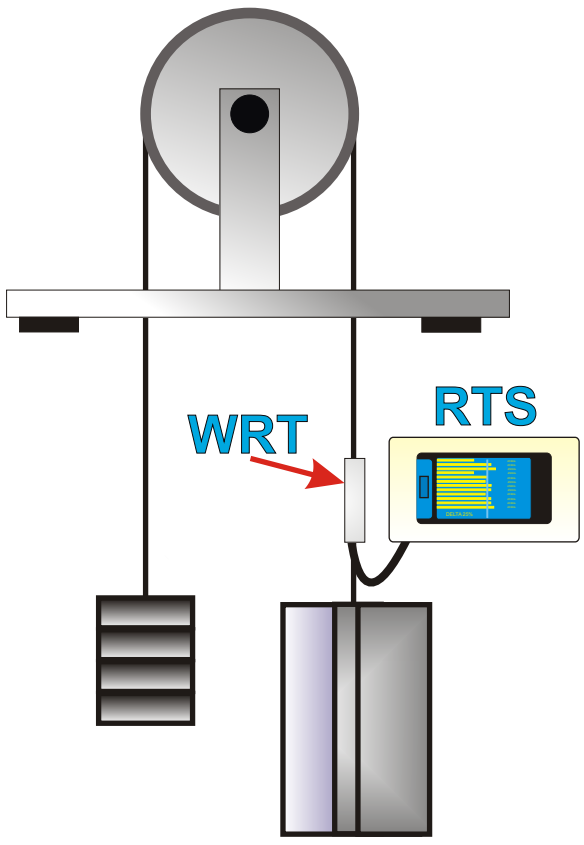


WE RECOMMEND TO USE THE ELECTRIC SCREWDRIVER TO TIGHTEN THE SCREWS AND THE ALLEN KEY TO MAKE SURE THAT IT IS FULLY TIGHTENED

5.- MEASUREMENT OF HANGING LOADS:

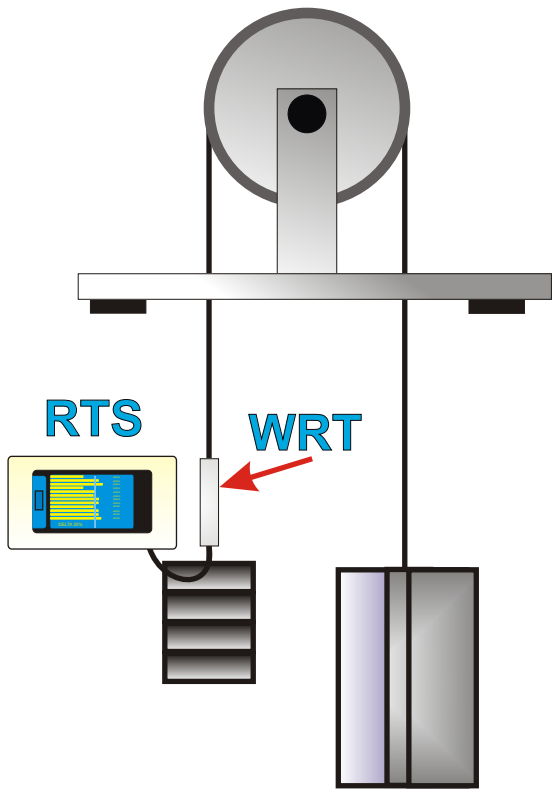
1 1:1 INSTALLATIONS:

A WITHOUT COMPENSATING CHAIN:



1.- Situate the cabin at the same level as the counterweight.

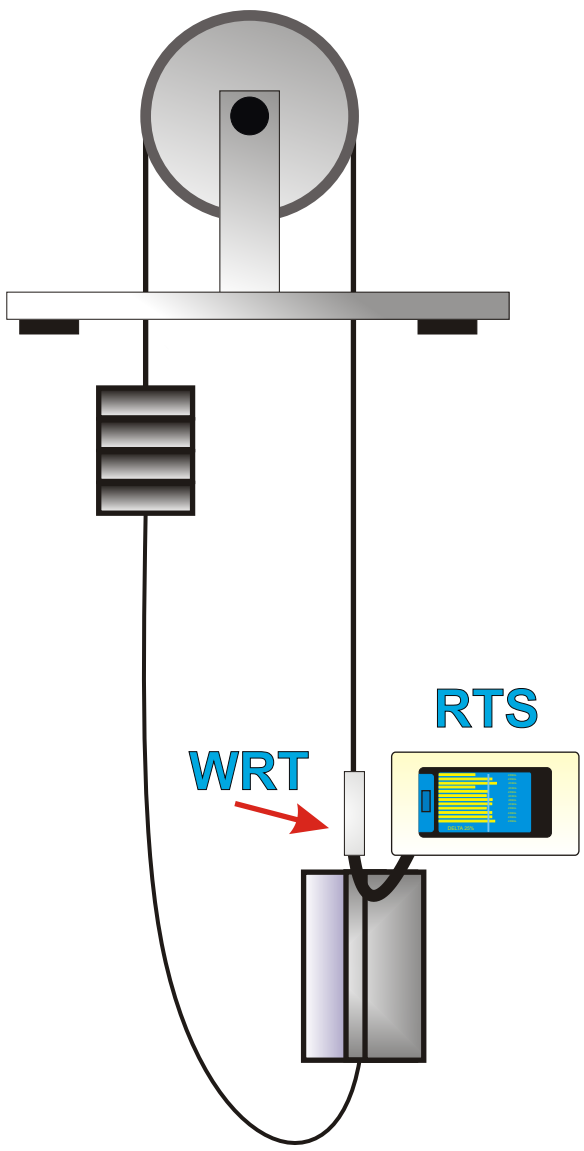
2.- Weigh the **cabin** mounting the sensors on the ropes on the cabin side.



1.- Situate the cabin at the same level as the counterweight.

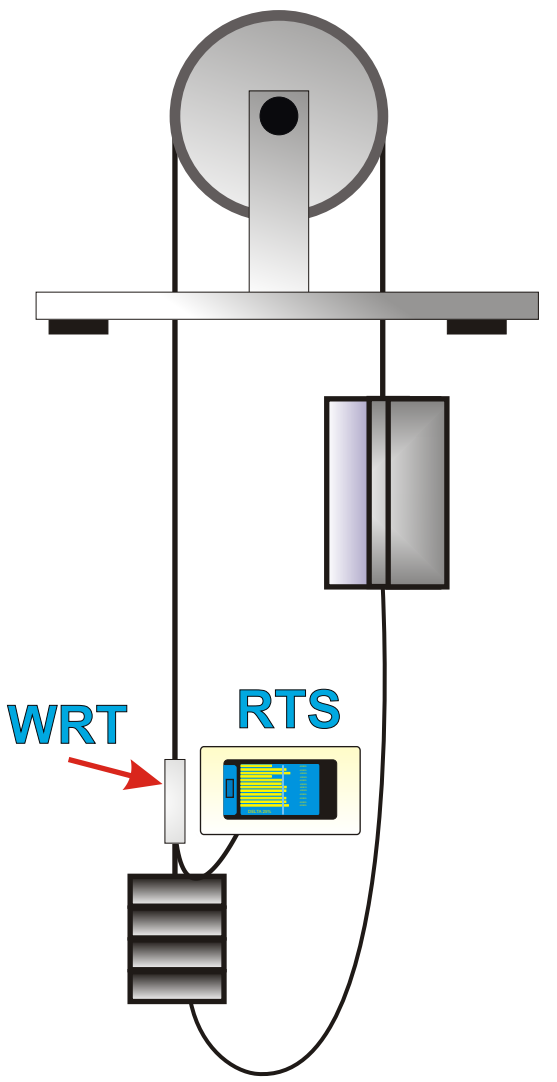
2.- Weigh the **counterweight** mounting the sensors above the counterweight.

B WITH COMPENSATING CHAIN:



1.- Take the cabin to the bottom floor

2.- Weigh the **cabin** mounting the sensors above the cabin.

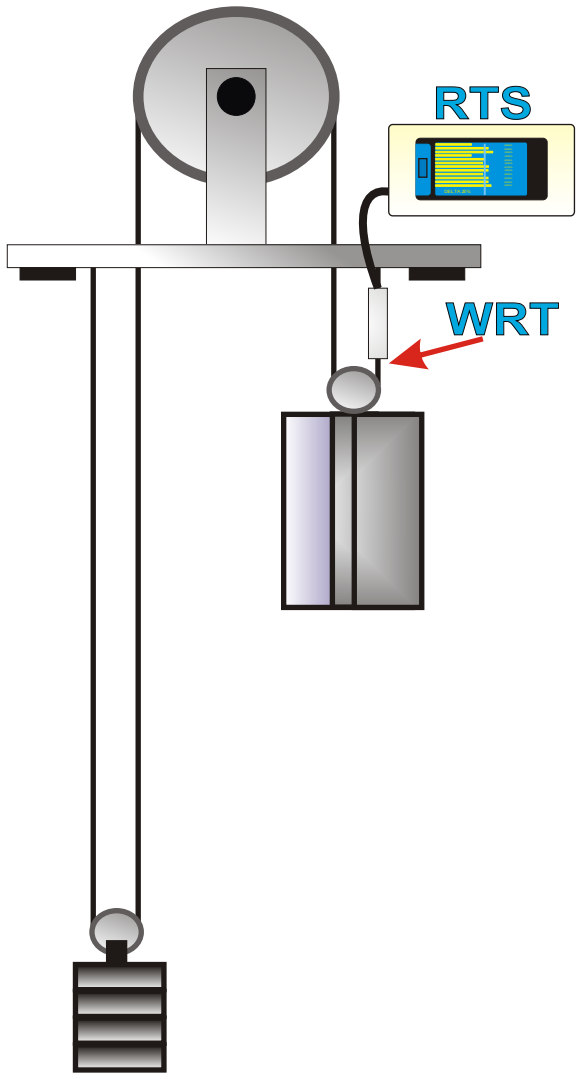


1.- Take the cabin to the top floor.

2.- Weigh the **counterweight** mounting the sensors above the counterweight.

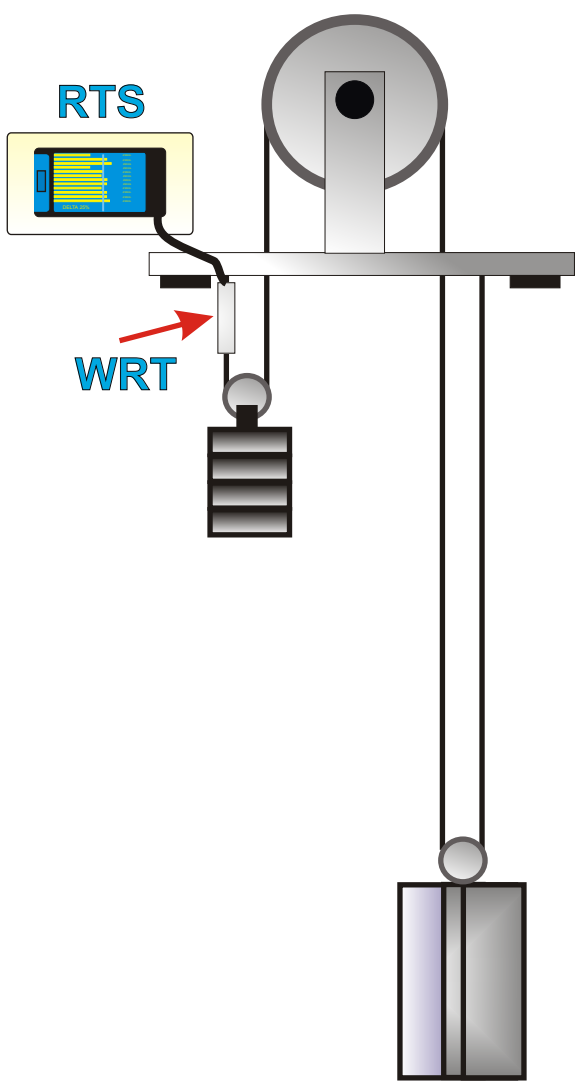
5.- MEASUREMENT OF HANGING LOADS:

② 2:1 INSTALLATIONS WITHOUT COMPENSATING CHAIN:



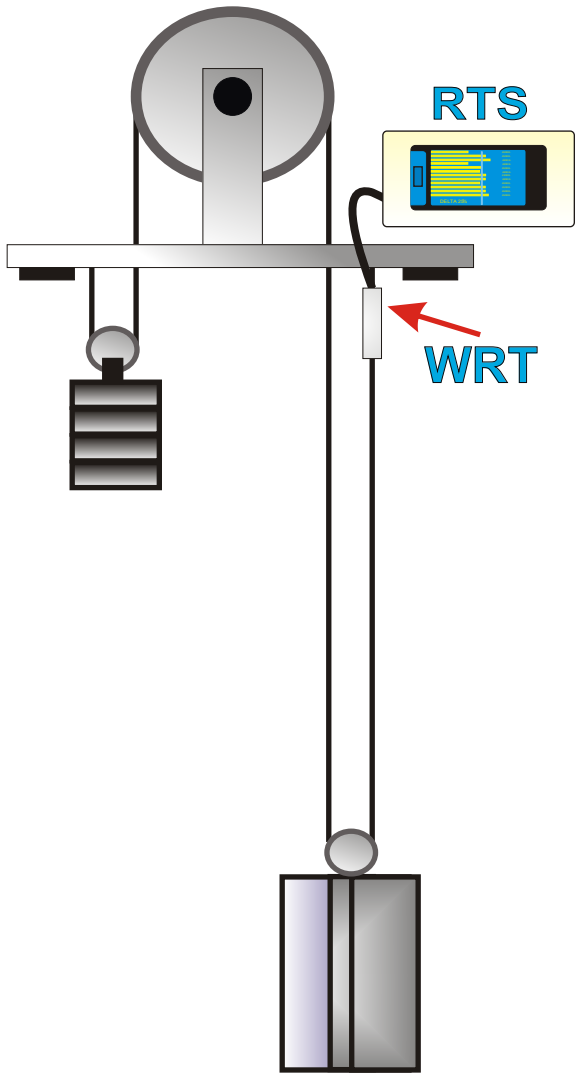
1.- Take the cabin to the top floor.

2.- Weigh the **cabin** mounting the sensors in the fixed point below the rope hitch on the cabin side.



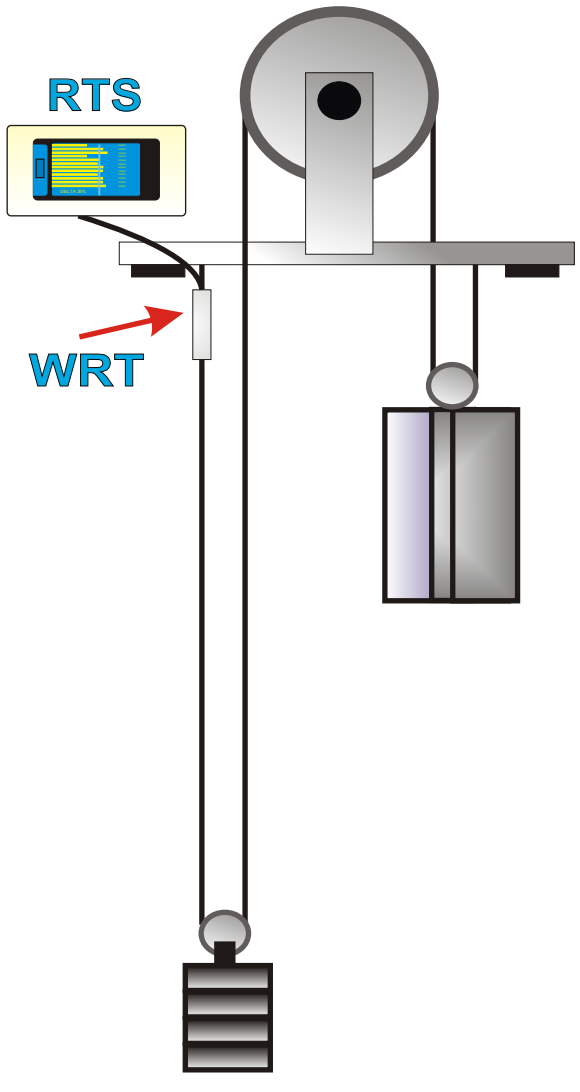
1.- Take the cabin to the bottom floor.

2.- Weigh the **counterweight** mounting the sensors in the fixed point below the rope hitch on the counterweight side.



1.- Take the cabin to the bottom floor.

2.- Weigh **cabin and wire ropes** mounting the sensors in the fixed point below the rope hitch on the cabin side.

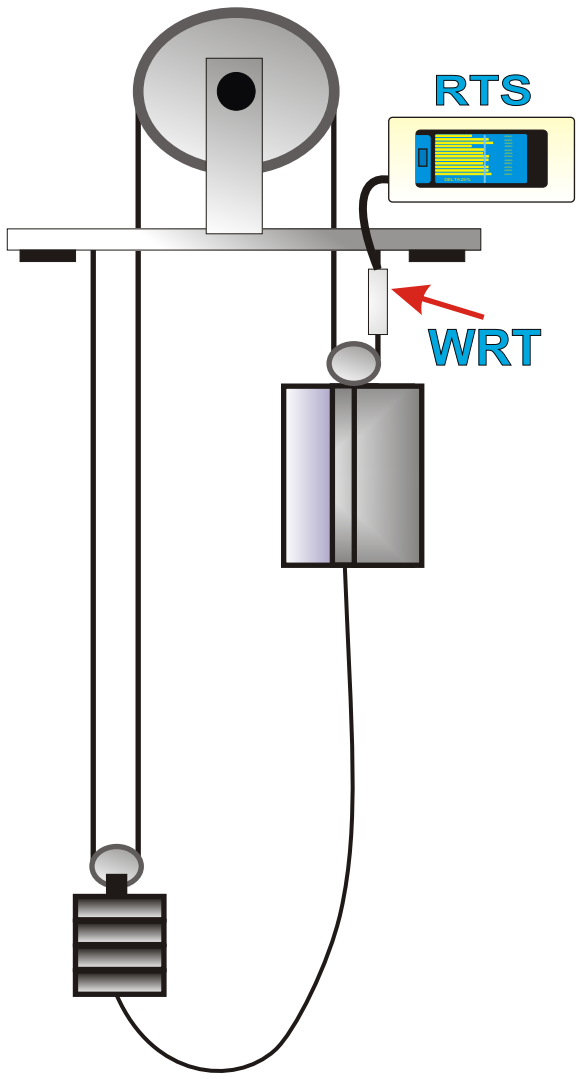


1.- Take the cabin to the top floor.

2.- Weigh **counterweight and wire ropes** mounting the sensors in the fixed point below the rope hitch on the counterweight side.

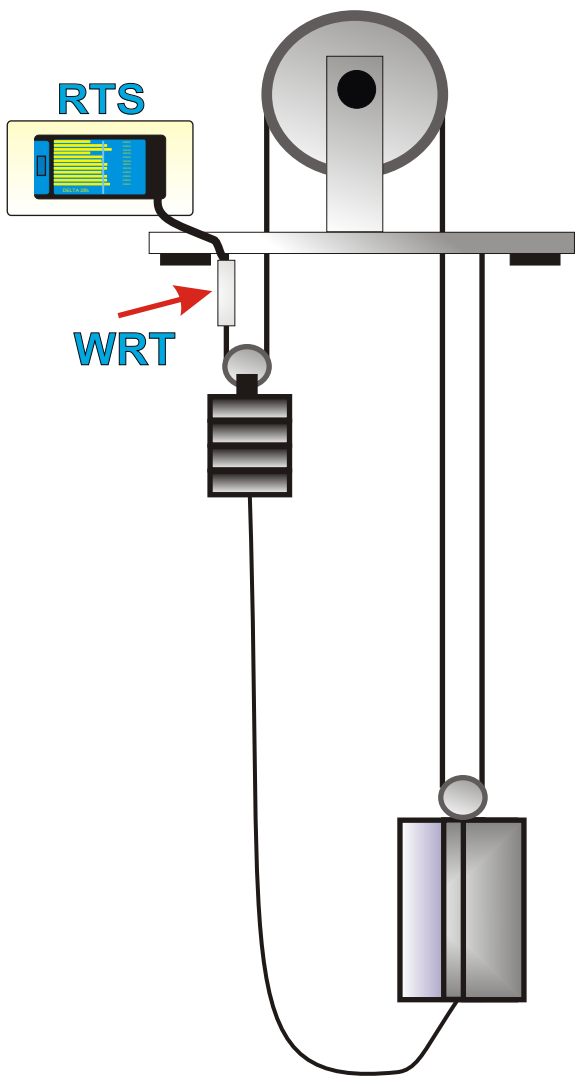
5.- MEASUREMENT OF HANGING LOADS:

3 2:1 INSTALLATIONS WITH COMPENSATING CHAIN:



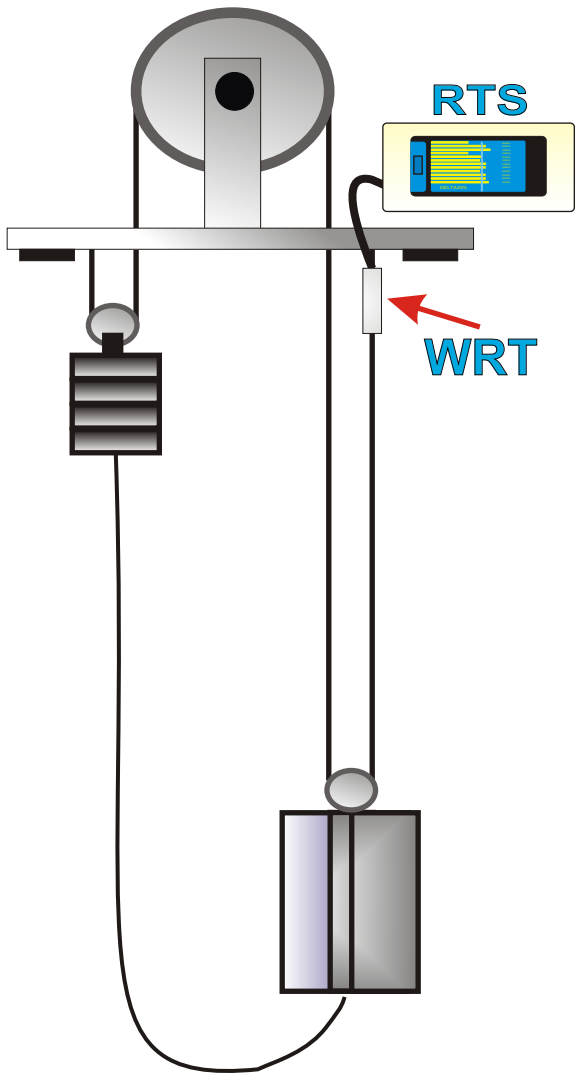
1.- Take the cabin to the top floor.

2.- Weigh **cabin and compensating chain** mounting the sensors in the fixed point below the rope hitch on the cabin side.



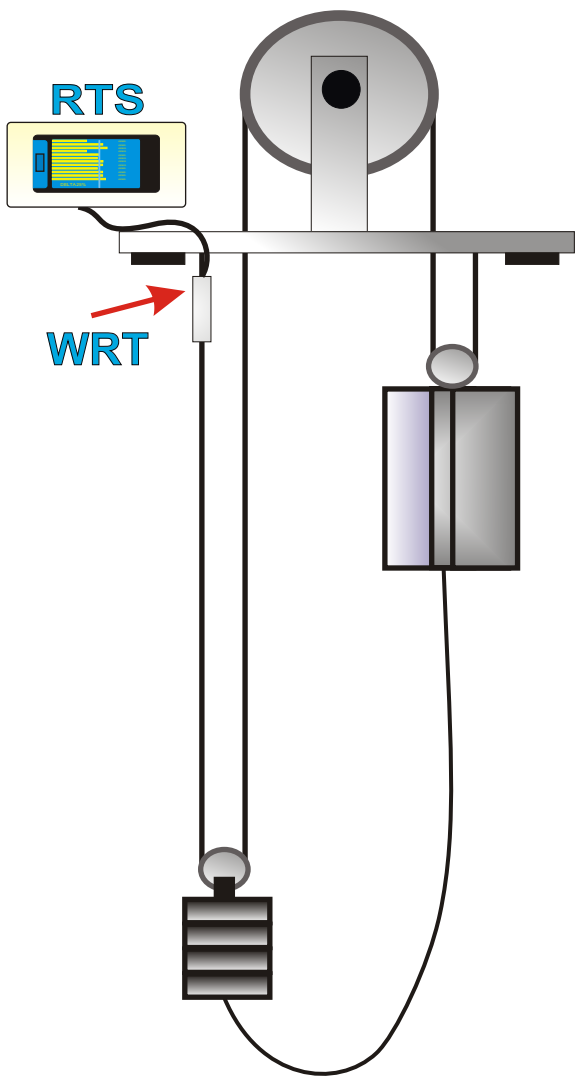
1.- Take the cabin to the bottom floor.

2.- Weigh **counterweight and compensating chain** mounting the sensors in the fixed point below the rope hitch on the counterweight side.



1.- Take the cabin to the bottom floor

2.- Weight **cabin and wire ropes** mounting the sensors in the fixed point below the rope hitch on the cabin side.



1.- Take the cabin to the top floor

2.- Weigh **counterweight and wire ropes** mounting the sensors in the fixed point below the rope hitch on the counterweight side.

6.- SUGGESTIONS FOR OPTIMISING PERFORMANCE:

We recommend that the user follows the following steps **(A & B)** to optimise the performance of the **RTS** in the balancing of the wire ropes.

(A) ROPE BALANCING WITH AN EMPTY CABIN:

1.- Before attaching the **WRT** sensors to the wire ropes and turning on the **RTS** control unit, the sensors must be connected to the **RTS** control unit with the **USB** connectors.

2.- Once all the sensors are connected to the **RTS** control unit, switch on the power and follow the following 5 programming steps:

STEP 1: Select the appropiate language.

STEP 2: Perform the zero setting.

STEP 3: Select the unit of measurement (Kilos / Pounds).

STEP 4: Select the number of sensors connected to the **RTS**.
(1-2-3-4-5-6-7-8-9-10-11-12)

STEP 5: Select the diameter in milimetres of the wire rope.
(4-5-6-7-8-9-10-11-12-13-14-15-16)

3.- Once the programming procedure is finished, without disconnecting the sensors or switching off the unit, the user must then proceed the mount all of the sensors connected to the **RTS** onto the wire ropes. In doing this, the user will then see on the display the weight which each rope is supporting with the empty cabin.

Now the user can proceed to adjust the tension in all of the wire ropes.

Once the ropes have been balanced, it is recommendable to send the cabin to the top floor and then return to the floor on which the ropes were initially balanced in order to allow the ropes to absorb any possible imbalance whilst in movement.

(B) BALANCING THE ROPES WITH A NOMINAL LOAD:

Once the ropes have been balanced with an empty cabin, it is recommendable to repeat the balancing procedure with a load inside the cabin (we recommend using at least half the useful load of the cabin for this function.)

Before loading the weight into the cabin, the initial 5 steps from section **"A"** should be repeated. To return to the calibration menu, simply touch the screen.

Once the programming procedure is complete the weights should be placed inside the cabin, and the **RTS** unit will show the distribution of weight across the wire ropes.

At this point the rope tension should be adjusted to finalise the balancing procedure.

MICELECT S.L. Excellence in Weighing Technology

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