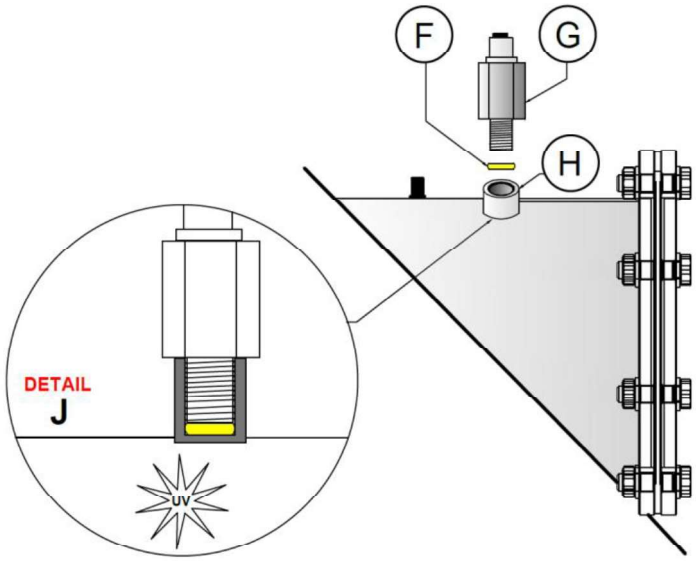
18 UV sensor

A UV sensor is subject to fouling, just like the quartz sleeve. See section 14.3 Reactor chamber – Maintenance (pg.18).

The UV sensor is also subject to wear due to exposure to UV-C radiation. To guarantee the operation of the device, it is important to follow the replacement period for the UV sensor.



Overview of the different components

F O-ring UV sensor
G UV sensor
H UV sensor chamber
J Detailed illustration, light intensity measurement

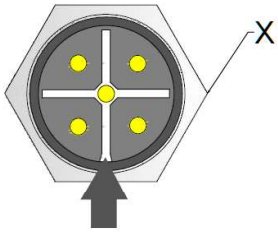
18.1 Type of UV sensors

A device can be equipped with a UV sensor, review the properties of the device for more information. The system uses the following type of sensor.

Relative

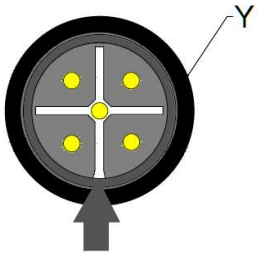
This type of UV sensors is used in single UV-C lamp devices and measured directly by the control PCA equipped with an option board. The sensor measures relative UV-C intensity which is displayed in percentages (%) starting at 100% when a new lamp is installed.

18.2 UV sensor cable



The UV sensor has a 5-pin plug **(X)** and the UV cable **(Y)** has a counterpart that can only be mounted in one way.
The fixing is done by tightening the plug in the UV sensor housing.

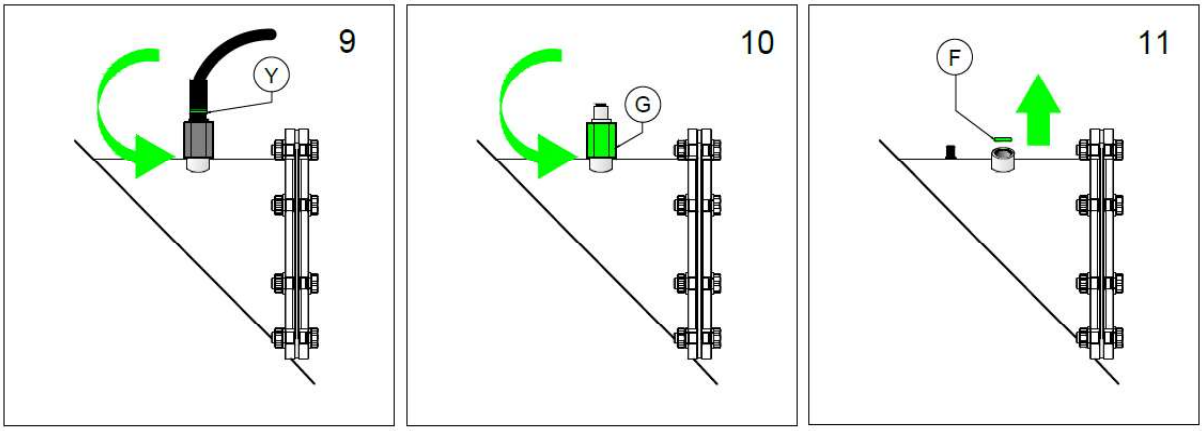
Relative UV sensor cable
This cable is characterized by 2-wires.
For more information, see the section 21. Option Board (pg.28).



18.3 Disassembly

WARNING

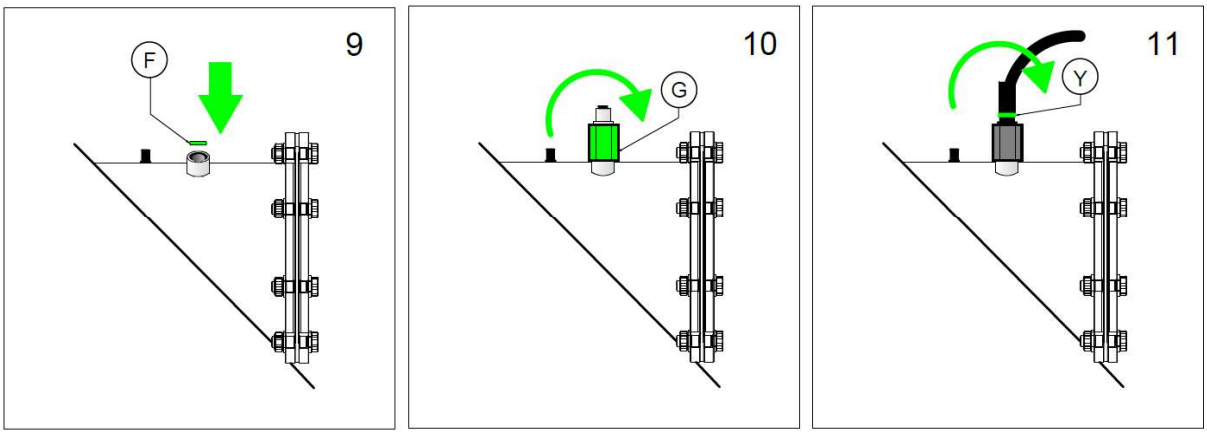
- Switch off the UV-C device and isolate the device electrically.
- Release the reactor chamber from water pressure and isolate it if possible within the pipe circuit.
- Drain the liquid present in the reactor chamber.
- Allow the device to cool for at least 10 minutes.



9. Disassemble the UV sensor plug **(Y)** by loosening it counter clockwise. Carefully pull on the plug during disassembly to facilitate this.
10. Loosen the UV sensor **(G)** by hand counter clockwise to disassemble it. If it cannot be unscrewed by hand, use a suitable spanner.
11. Remove the O-ring that is mounted in the UV sensor chamber with a narrow screwdriver or O-ring trigger. Be careful not to damage the threads of the chamber.

18.4 Installation

The installation of the UV sensor must be carried out in the reverse order of disassembly. Always replace the O-ring after disassembling the UV sensor.



9. Mount the O-ring in the UV sensor room. The O-ring can be fixed by pushing it in with a non-sharp object. Ensure that the thread of the chamber is not damaged.
10. Use stainless steel assembly paste on the thread of the UV sensor before it is mounted. Then tighten the UV sensor clockwise with a maximum tightening torque of 20Nm (hand tight).
11. Mount the UV sensor cable to the UV sensor by pressing the plug on the UV sensor and turning it clockwise.

WARNING

Perform a pressure test after completing assembly work to prevent damage to other parts.

Make the device operational for resumption of disinfection if applicable.

18.5 Set point UV sensor

The advice is to reset the set point after the following:

- Putting the device into operation.
- Replacing the UV-C lamp in combination with cleaning the quartz sleeve and sensor lens.
- Replacing the UV-C sensor.

Observe the following conditions for determining the set point:

- Stable transmittance of the liquid
- No air present in the reactor chamber
- UV-C lamp at operating temperature
- UV-C lamp wires not in front of the sensor lens

If a new UV-C lamp is installed, the set point must be set to 110% for the relative sensor. This is caused by the burn-in period of the UV-C lamp during which the output is higher than normal. After approximately 100 hours the lamp will stabilize on 100% output.

18.5.1 Determining the PCA set point control

Use the control PCA to determine the set point.

See section 20. Control PCA (pg.34) for the operation of this component.

UV CALC% : - - - % **DEFAULT 110%**	Scroll with the button **[↑]** or **[↓]** in the main menu to this screen.
UV CALC% : - - - % **DEFAULT 110%**	Use **[←]** for changing the parameters. Change the value with **[↑]** or **[↓]**and confirm this choice with **[←]**.
ARE YOU SURE? **UP=Y DWN=N**	Confirm the selected value with **[↑] YES** or **[↓] NO** and confirm this choice with **[←]**.
CALIBRATION OK	New set point successfully implemented.