

Operating Instructions

Deionized Water Filter Unit EP-06-045



& Deionized Water Filter Cascade EP-06-049

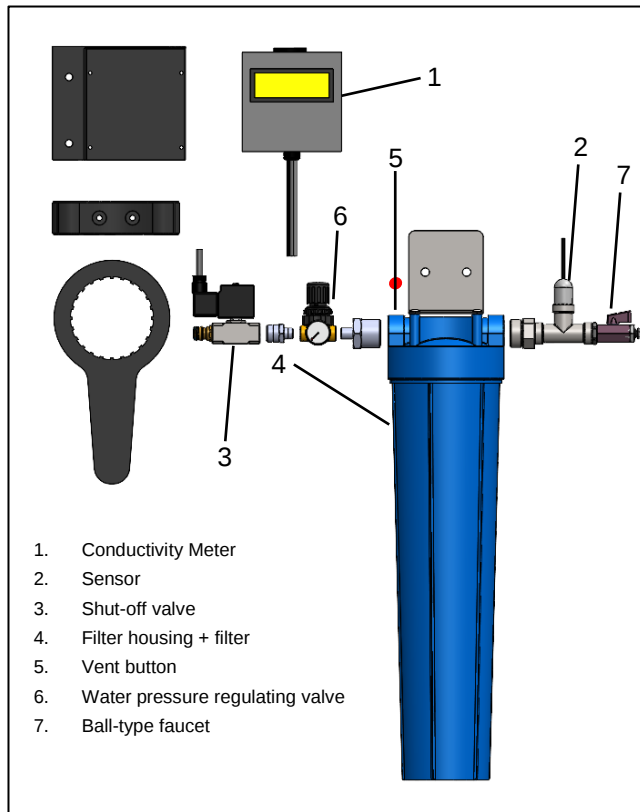


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1 Setup, Installation, and Safety Precautions EP-06-045



The filter unit consists of the (1) conductivity meter with (2) sensor + (3) shut-off valve and the (4) filter housing + filter. The lid of the filter housing has a (5) button for venting the "chamber." In addition, a water pressure regulating valve (6) and a ball valve (7) are installed.

Both the cartridge and the conductivity meter can be wall-mounted.

The conductivity meter must be installed by a qualified electronics technician, as the housing must be opened.

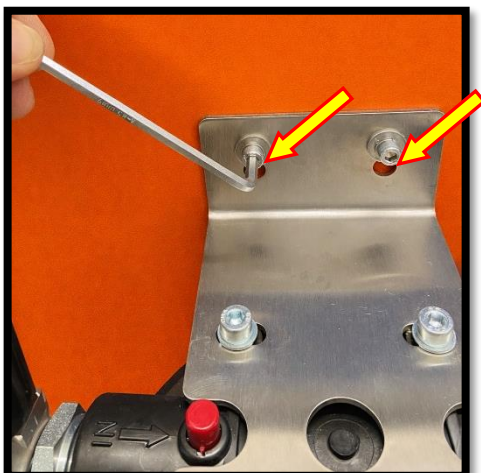
Position the conductivity meter above the filter unit to prevent water from entering the housing.

When wall-mounting the filter, make sure to position it high enough to allow for filter replacement. Position the filter upright as shown in the illustration!



- Assembled filter unit.

1.1 Installation of the filter housings



- Securing the filter housing.
 - Use a 5-mm Allen wrench for this.

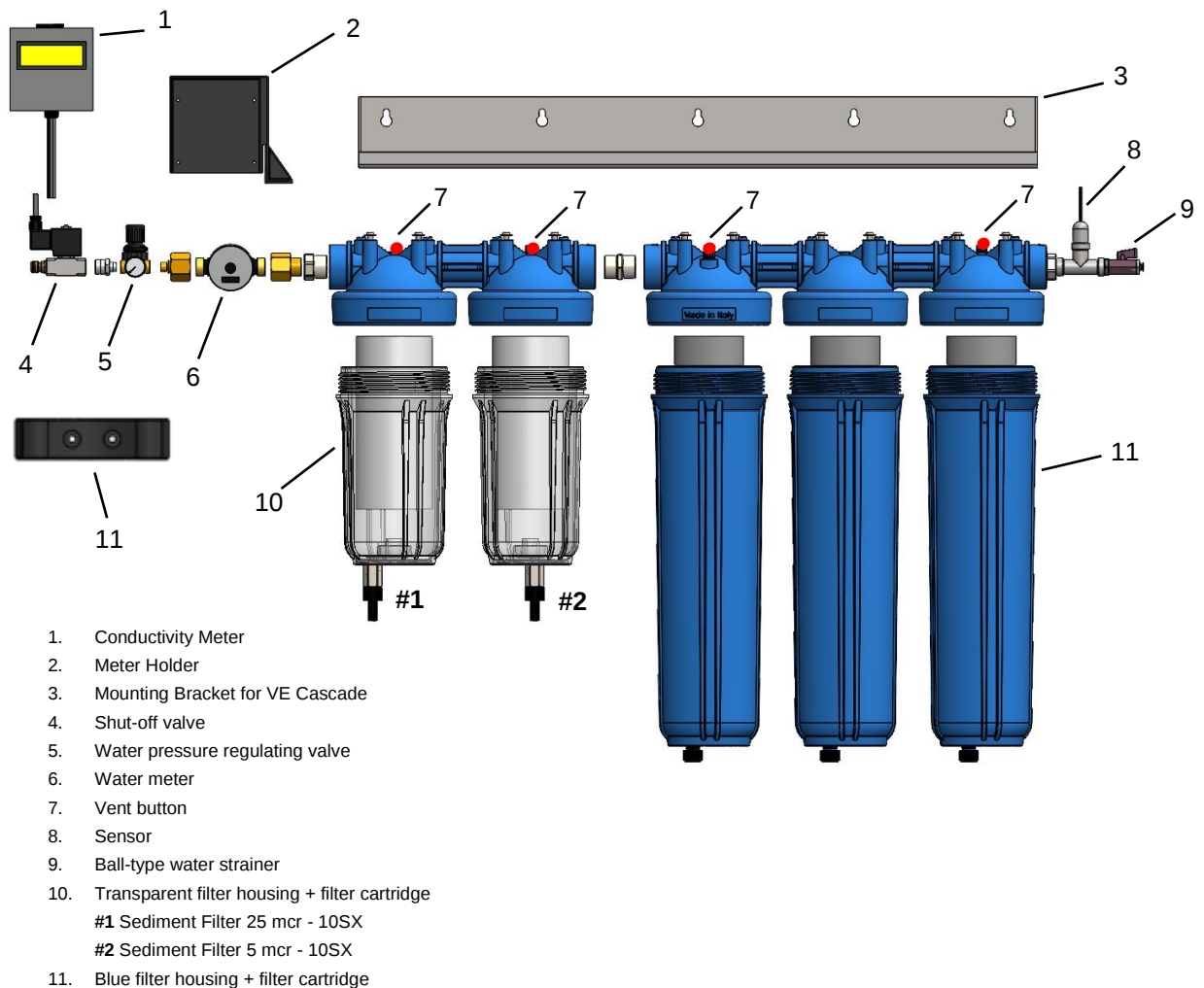


- If the cables are too long after installing the filter unit, route the excess cable length through the cable channel.

1.2 Safety precautions in the event of a malfunction

		Turn off the device immediately and unplug it from the power outlet.
		Secure and label the device to prevent it from being turned back on. ➤ After any repair, ensure that the device is fully functional again. ➤ Inspect cables for damage. ➤ Check that all safety devices are functioning properly.

1.3 Setup, Installation, and Safety Measures EP-06-049

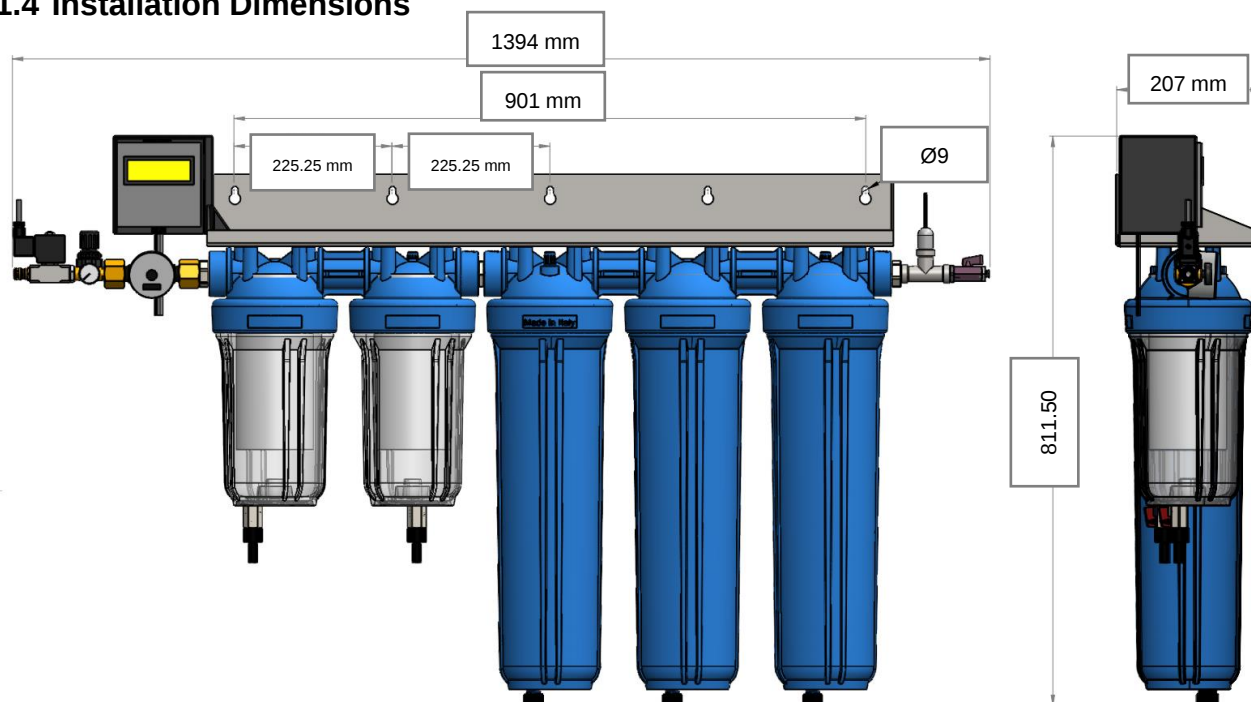


The filter cascade consists of the following components: conductivity meter (1), meter holder (2), mounting bracket for the deionization cascade (3), shut-off valve (4), water pressure regulating valve (5), water meter (6), vent button for the respective chamber (7), sensor (8), and ball valve (9). Additionally, two transparent filter housings + filters (10) and three blue filter housings + filter cartridges (11) are installed.



The filter cascade and the conductivity meter are mounted on the wall as a single unit. The installation of the conductivity meter must be performed by a qualified electronics technician, as the housing must be opened.

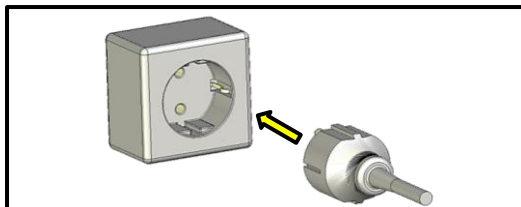
1.4 Installation Dimensions



When mounting the Cascade on the wall, make sure to position it high enough to allow for easy filter replacement. Position the filter upright, as shown in the illustration. Maintain a minimum distance of 20 cm from the floor.

A wall adapter is included to prevent the filter housings from bending or being pushed in. This adapter should be mounted behind the middle blue housing. Position the adapter so that it prevents the housing from being pushed in, and then secure it to the wall with screws.

2 Start-up



Plug the conductivity meter's power cord into a suitable 230V outlet.

Follow the general safety instructions for connecting electronic devices.



The device is ready for operation once the plug has been inserted into the outlet.

You will hear a "click"

→ as the valve opens.

For safety reasons, the valve is closed when the power is off. The valve may heat up during continuous operation.

Before connecting the filter to the water supply, turn off the conductivity meter. The valve will close, preventing water damage.

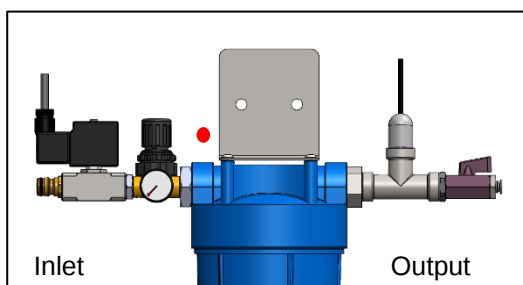


Illustration for illustrative purposes only

Connect the filter's inlet side to a fixed water supply with a maximum line pressure of 4 bar via the hose coupling. Use a 6x4 external-calibrated hose that is approved for the applied pressure.

Connect, for example, an EP-06-040 Hydrojet gun to the outlet side.

If you do not connect a hose with a shut-off valve or similar device to the output side, water will flow out of the IQS connector when the measuring device is turned on.

After connecting the inlet and outlet, turn on the fixed water supply and check the IQS connector on the inlet side for leaks. Next, turn on the conductivity meter. The filter will fill with water. Check again to ensure that all connections are tight. Before putting the system into operation, it must be thoroughly vented to prevent inaccurate sensor readings. Please vent the filter chamber by pressing the red button.

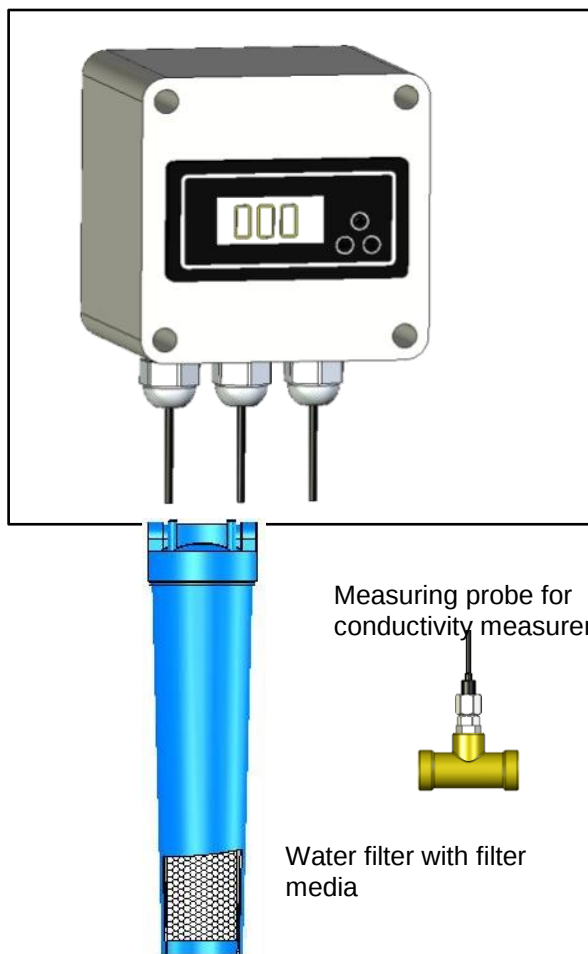


Safety Note:

After completing your work, shut off the permanent water supply and turn off the conductivity meter. This will prevent a leak from occurring unattended and causing significant damage!

Regularly check (during operation) all connections for leaks! If a connection begins to leak, seal it properly with PTFE sealing tape.

3 Control Unit for AFT SDK Conductivity Meter



Use the "AFT SDK Conductivity Meter" controller to monitor the conductivity of the deionized rinse water.

- To achieve optimal results, the conductivity of the rinse water must not exceed the limit value of 50 $\mu\text{S}/\text{cm}$.
- This limit value is preset upon delivery of the workbench.
- If the set conductivity value is exceeded, an audible alarm sounds and a valve shuts off the water supply.
 - The filter must be replaced.
- The filter's service life depends on the quality of the incoming water.
- The supplied water passes through the deionization cartridge, after which its conductivity is tested.
- Cation and anion resins are used to remove unwanted salts from the water.
- The mixed-bed resin is a combination of strongly acidic cation resin (40%) and strongly basic anion resin (60%). Thanks to this special mixture, 99.9% % from the water.
- The mixed-bed resin is regenerable and ensures optimal water quality for rinsing during electrochemical cleaning
- With suitable incoming water having a hardness of $<5^\circ\text{dH}$, it is possible to filter up to 1,350 liters



Note:

For information on changing the filter, see Chapter 5.

4 Setting the Conductivity Meter

Menu navigation:

Use the “SET” and arrow keys to navigate through the 7 menu levels.

Factory settings:

Menu 1. x SET, Temperature in C -----
 Menu 2. x SET, Code 230 ----- **230**
 Menu 3. x SET, C=0.997 is displayed. Set the value to the sensor conductivity in $\mu\text{S}/\text{cm}$ ----- (See sensor label)
 Menu 4. x SET, decimal point. Display value resolution ----- **00.0**
 Menu 5. x SET, alarm value in $\mu\text{S}/\text{cm}$ (threshold) ----- **50 $\mu\text{S}/\text{cm}$**
 Menu 6. x SET, Alarm hysteresis / delay in seconds ----- **35 sec.**
 Menu 7. x SET, save. Conductivity is displayed ----- -

Use only the arrow keys to set values.

Changes to the sensor calibration are not permitted.



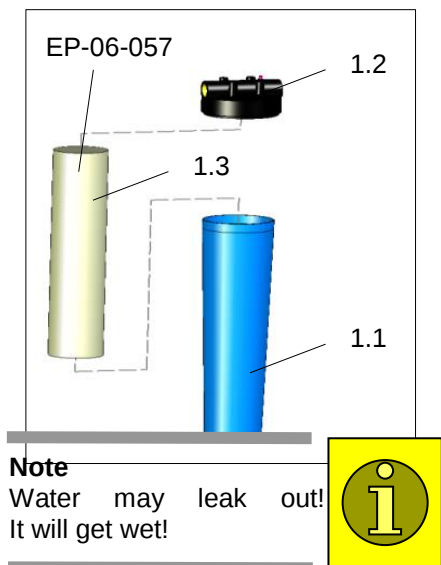
For more information, see the “AFT Conductivity Meter SDK” manual.

5 Consumables

Part Number	Description	Suitable for
EP-06-057	Filter cartridge for deionized water, including granules	EP-06-045 & EP-06-049 Blue filter housing
EP-06-058	Refill granules—filter media for deionized water	EP-06-045 & EP-06-049 Blue filter housing
EP-B-06-154-25	Sediment Filter 25 μm - 10SX	EP-06-049 Transparent Filter Housing #1
EP-B-06-154-5	Sediment Filter 5 mcr - 10SX	EP-06-049 Transparent Filter Housing #2

See Chapter 1.3, “Design, Installation, and Safety Measures,” EP-06-049, for a clearer overview

6 Filter Replacement to Maintain Water Quality



To achieve optimal results, the conductivity of the rinse water should not exceed the limit of 50 $\mu\text{S}/\text{cm}$.

- The threshold value is already set when the worktable is delivered.

If the set conductivity value is exceeded, an alarm sounds and the filter must be replaced.

- Filter Replacement
 - Turn off the system.
 - To do this, set the main switch to "0."
 - Disconnect the system from the power supply.
 - The MB1 main safety valve blocks the water supply.
 - Unscrew the filter housing 1.1 from the filter cover 1.2 (turn counterclockwise).
 - Remove the filter cartridge (EP-06-057) 1.3 and insert a new one, or replace the granules (EP-06-058 Refill Filter Media).
 - Screw the filter housing back onto the filter cover.
 - To continue, turn the system back on.
- The limit value of $>100\mu\text{ S}/\text{cm}$ must not be exceeded. This corresponds approximately to a water hardness of 10°dH

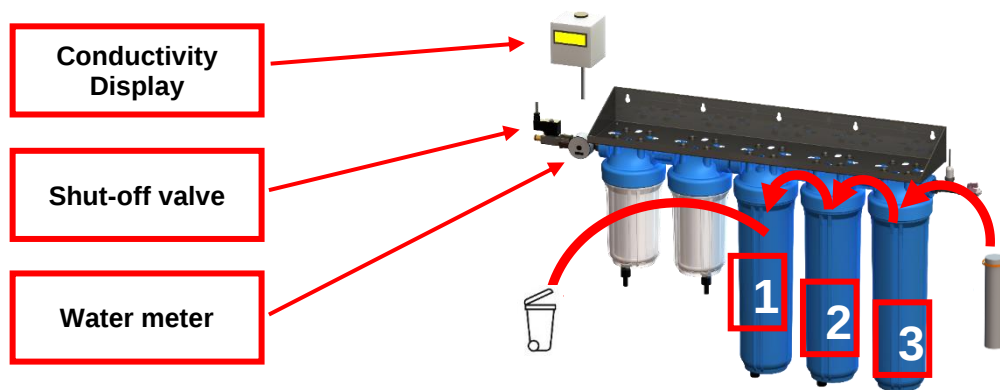
Note:

$50\mu\text{S}/\text{cm} \triangleq 0.05\text{ mS}/\text{cm} \triangleq 5^\circ\text{dH}$

5°dH corresponds to soft/softened water (VE)

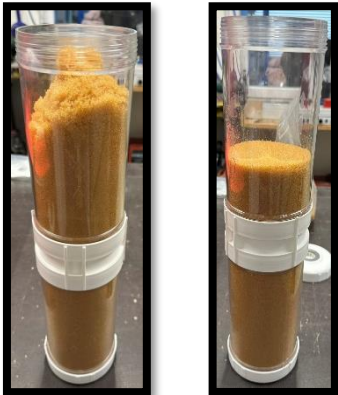


6.1 Special considerations when replacing filters in the deionized water filter cascade



1.	1. Open the cartridge housing and dispose of the VE cartridge.	The diagram shows the first housing (1) with its top cap removed. A red arrow points from the housing to a trash can icon, indicating disposal of the old cartridge.
2.	2. Open the cartridge housing and insert the second VE cartridge into cartridge housing 1 .	The diagram shows the first housing (1) with its top cap removed. A red arrow points from the second housing (2) to the first housing (1), indicating the insertion of the second cartridge.
3.	3. Open the cartridge housing and insert VE cartridge 3 into cartridge housing 2 .	The diagram shows the second housing (2) with its top cap removed. A red arrow points from the third housing (3) to the second housing (2), indicating the insertion of the third cartridge.
4.	Insert a new VE cartridge into cartridge housing 3 .	The diagram shows the third housing (3) with its top cap removed. A red arrow points from a new grey cartridge to the third housing (3). A red-bordered box labeled 'New VE cartridge EP-06-057' has a red arrow pointing to the new cartridge.

6.2 Refill cartridge with filter media / granules / mixed-bed resin

1.	Unscrew the top cover. Pay attention to the direction of the arrow! Dispose of the used resin properly.	
2.	Gradually pour in the mixed-bed resin, compacting it as you go to prevent air pockets.	
3.	The fill level should reach halfway up the thread.	
4	Finally, tighten the lid.	