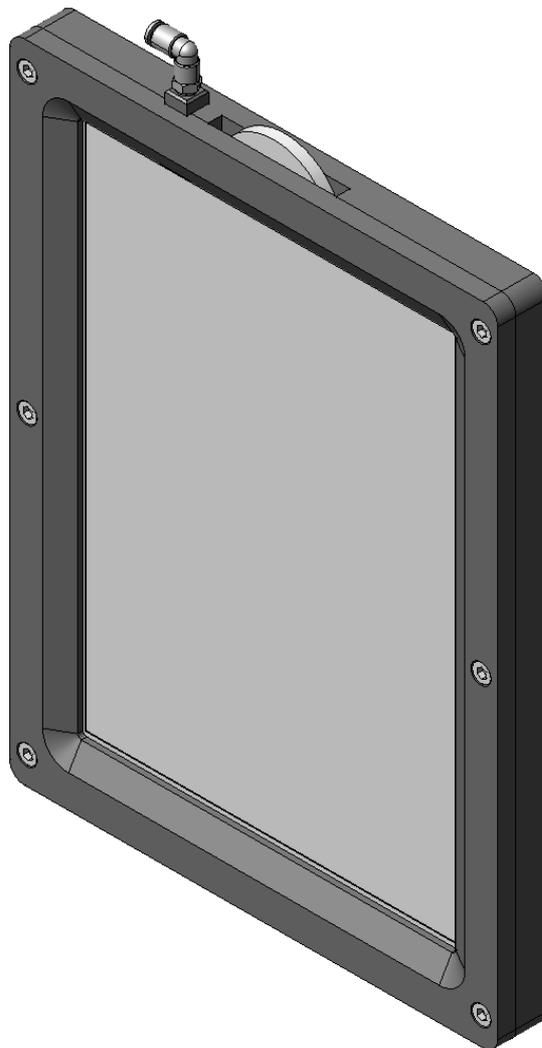


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Mounting instructions

FM-Case/PC Filter/PC



PurCon filter and frame for P 700 IQ

Parts list

Pos.	FM-Case/PC	Quantity
1	Frame parts	2
2	Adapter	1
3	Allen screws (hexagon socket head cap screws)	6
4	Special brush	1
5	Mounting instructions	1

Pos.	Filter/PC	Quantity
6	PurCon filter plate	1
2	Adapter (pre-assembled)	1



ATTENTION

If possible, never dismount the adapter from the filter plate as otherwise dirt might penetrate and the sealing be damaged.

Mounting

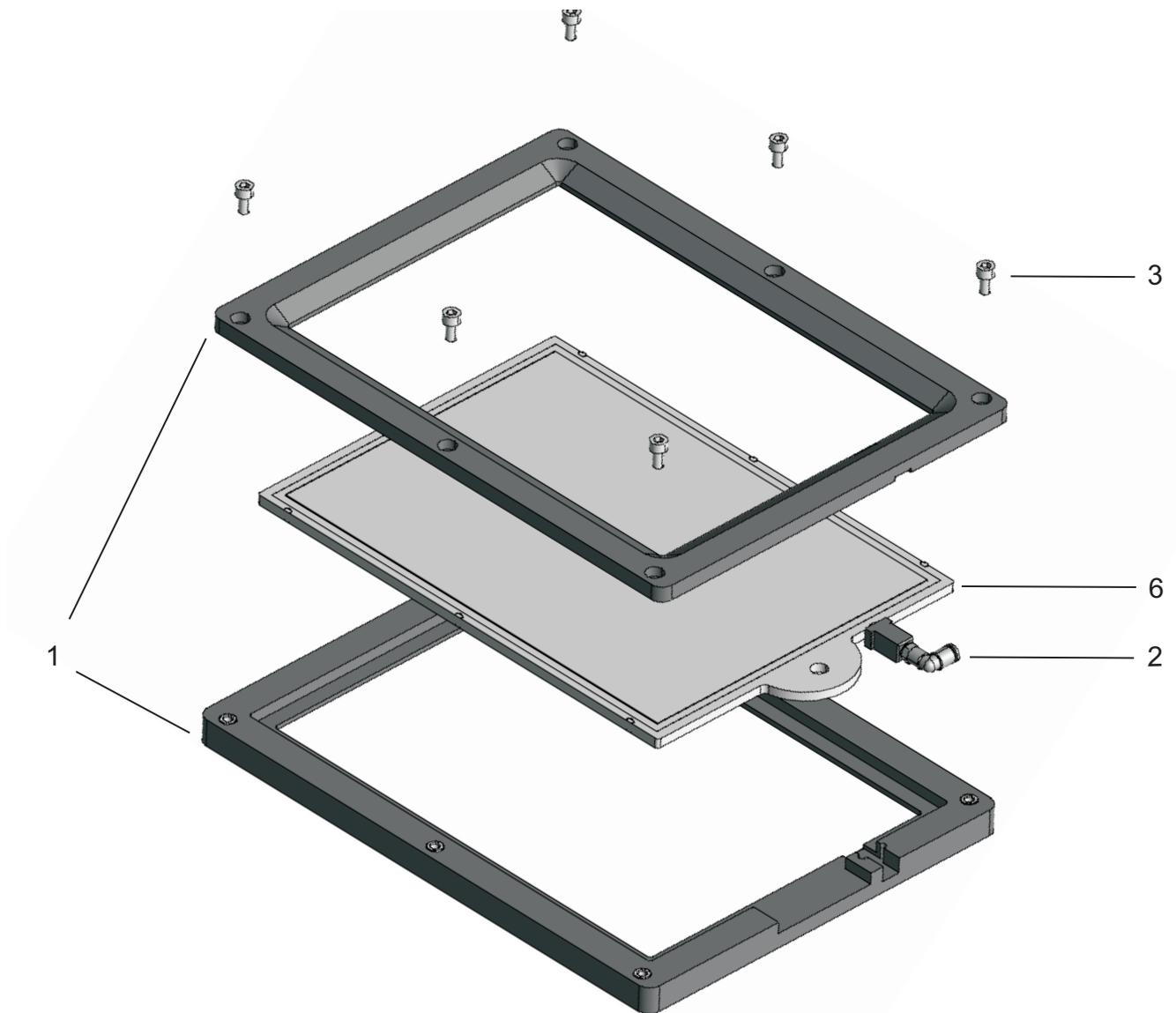


Figure 1 Mounting of frame and filter plate

- 1 Put the lower frame part (1) on a flat surface. When doing so, the cut-out for the adapter must point upward.
- 2 Insert the filter plate (6) with the mounted adapter (2). When doing so, press the adapter into the cut-out of the lower frame part.
- 3 Put on the upper frame part (1) and fix it to the lower frame part with the supplied Allen screws (3) (Allen wrench size: 5).

**Note for mounting:**

The frame only serves as a bracket, not as a seal. The filter plate is tight itself.

**ATTENTION**

Make sure that the frame is clean for the mounting. If solid particles such as sand grains are between the frame and filter plate, the membrane could be damaged when the frame parts are screwed together.

Installation



Figure 2 Installation of the filter membrane module on the slide

- 1 Fix the filter membrane module to the height adjustable slide (scope of delivery: suction tube) with the aid of 2 Allen screws (Allen wrench size 4). The tube connections must point downward.
- 2 Connect the blue tube (the tube must be clean, especially where it is connected) to the quick coupling of the adapter of the filter plate. The adapter (see pos. 2 in Figure 1) is freely rotatable.
- 3 Submerge the filtration unit in the basin or channel.

- 4 Continue as described in operating manual P 700 IQ, chapter COMMISSIONING.



Figure 3 Filtration unit

Maintenance / cleaning

Cleaning the filter plate membrane

When to clean the filter membrane can be determined empirically based on the negative pressure display on the filtration pump.

- With a delivery height of approx. 2 m and a new filter membrane, the negative pressure is approx. -0.3 bar.
Every meter of delivery height increases the negative pressure by approx. -0.1 bar.
If the negative pressure increases by a further -0.3 ... -0.4 bar with time, the membrane is covered with solid matter from the sample and has to be cleaned.
- When the contamination of the filter plate grows, the negative pressure in the non-active condition of the pump increases.
- If there is still negative pressure after cleaning, the suction line may possibly be blocked.



The mechanical or chemical cleaning of the filter membrane may take some time.

We recommend: Use a replacement filter membrane module (FM-Case/PC + Filter/PC) during the cleaning process to keep the downtime of the analyzer as short as possible.

Prior to starting the cleaning process, switch off the filtration pump (with the Start/Stop key, or switch off the analyzer completely).

ATTENTION	
	<p>The filter membrane is easily damaged. Never touch the membrane with sharp-edged objects or place any objects on it.</p> <p>Pressure on the filter membrane must only be applied from the outside. No counter pressure may build up through the suction line.</p>

The filter membrane can be cleaned either mechanically or chemically.



Prior to removing or plugging in the sample tube, clean it with water and a cloth, for example.

Dirt particles in the sample flow can block the valves of the photometer unit.

Maintenance interval 2 to 8 weeks, depending on the application

Mechanical cleaning

- Preparations**
- 1 Carry out the steps 1... 11 in section 5.3.4 Maintenance and cleaning work on the open P 700 IQ.
 - 2 Switch off the filtration pump (with the Start/Stop key, or switch off the whole analyzer).
 - 3 Pull the filtration unit out of the basin or channel.
 - The filter membrane module does not have to be separated from the guide slide.
 - Do not remove the filter membrane from the PVC housing.
 - 4 Rinse off any coarse contamination with low water pressure (e.g. with a watering can or wash bottle).
 - 5 Then carefully remove the coating from the filter membrane using the soft special brush. Normally it is easy to see the brownish coating coming off while the lighter membrane surface appears.

	ATTENTION
	<p>Do not press the special brush too firmly on the membrane surface and do not change the moving direction of the brush (do not scrub).</p>

- 6 After cleaning, check both sides of the membranes for damage.
- 7 Thoroughly clean the special brush under running water, dry it and store in a dust free place until the next use.
- 8 Submerge the cleaned filter membrane module in the basin or channel.

- 9 Switch on the filtration pump with the Start/Stop key.

Restarting the measuring operation

Carry out the steps 15...20 in section 5.3.4 Maintenance and cleaning work on the open P 700 IQ.

Chemical cleaning

Chemical cleaning is recommended if mechanical cleaning no longer achieves any significant improvement, i.e. the negative pressure on the manometer no longer decreases significantly after mechanical cleaning.

In this case, the filter membrane is blocked. The blockage is mostly organic and can only be removed by chemical cleaning.

The chemical cleaning is carried out with the aid of a suitable container (Filter-CL) for the cleaning bath. The amount of cleaning solution required depends on the shape and size of the cleaning container.

Detergent concentrates

The base solutions for the chemical cleaning of the filter membrane can be purchased in household or specialist shops, e.g. household hygienic cleaners based on sodium hypochlorite (sources of supply see operating manual P 700 IQ).

Cleaning solution

In most cases, organic blockages can easily be removed with an aqueous sodium hypochlorite solution (chlorine bleaching agent, NaClO, 1 % active chlorine). In some cases, NaOH 4 % (sodium hydroxide) has proven effective.

In the event of calcification, diluted hydrochloric acid (HCl) is recommended (0.01 mol/l HCl, 0.036 %, pH 2).

Preparing the cleaning solution

The membrane cleaner can be made from different detergent concentrates by diluting with water. Prepare the cleaning solution according to the following table. It can be mixed in the cleaning container.

Base solution	Preparation instructions	Yield
Household hygienic cleaner based on sodium hypochlorite	Add sufficient water to 1.5 l hygienic cleaner so that the volume is 6 l	6 l
Technical sodium hypochlorite solution (13 % active chlorine)	Add sufficient water to 300 l hygienic cleaner so that the volume is 5 l	5 l

 WARNING	
	<p>Dangerous chemicals.</p> <p>Improper use of chemicals can cause damage to your health.</p> <p>Heed the following rules:</p> <ul style="list-style-type: none"> · Read the labels of the chemical containers and follow the safety instructions · Wear protective equipment (lab coat, protective goggles, chemical resistant protective gloves)

Pre-cleaning

Prior to each chemical cleaning, pre-clean the membrane with the special brush and rinse it with water. See section MECHANICAL CLEANING.

Chemical cleaning

- 1 Dismount the filter membrane module from the slide.
- 2 Completely submerge the filter membrane module with the installed filter membrane in the cleaning container filled with the membrane cleaner.
- 3 Start with a reaction time of 30 minutes.
- 4 Monitor the success of the cleaning and extend the reaction time as necessary.
- 5 After the chemical cleaning, rinse the filter membrane module with clean water.



Even membranes that are supposedly irreversibly blocked may be restored by leaving them in the cleaning solution for a longer period of time and then rinsing them several times.

Restarting operation

- 1 Remount and secure the clean filter membrane module on the slide.
- 2 Submerge the filtration unit in the basin or channel.
- 3 Switch on the filtration pump with the Start/Stop key.
- 4 Leave the filtration pump to work for some time to completely remove the detergents from the filter membrane and suction hose.

Restarting the measuring operation

Carry out the steps 13...20 in section 5.3.4 Maintenance and cleaning work on the open P 700 IQ.

Exchanging the filter plate



ATTENTION

The filter membrane is easily damaged. Never touch the membrane with sharp-edged objects or place any objects on it.

Maintenance interval

As necessary, if cleaning does not achieve any improvement.

Proceed as follows to exchange the filter membrane:

Preparations

- 1 Carry out the steps 1...11 in section 5.3.4 Maintenance and cleaning work on the open P 700 IQ.
- 2 Switch off the filtration pump (with the Start/Stop key, or switch off the whole analyzer).
- 3 Remove the filtration unit from the medium.

- 4 Clean the filtration unit.
- 5 Dismount the filter membrane module from the slide.
- 6 Unscrew the Allen screws of the frame (6 hexagon socket screws).
- 7 Remove the used filter membrane with the adapter.
- 8 Clean the frame parts.
- 9 Put a new filter plate with adapter into the lower frame part.
- 10 Proceed as described in section MOUNTING and section INSTALLATION.
- 11 Submerge the filtration unit in the basin or channel.
- 12 Switch on the filtration pump with the Start/Stop key.

Restarting the measuring operation

Carry out the steps 13...20 in section 5.3.4 Maintenance and cleaning work on the open P 700 IQ.

Storing a used filter plate

Proceed as follows when you want to store the filter plate:

- 1 Clean the filter plate mechanically.
- 2 Clean the filter plate chemically.
- 3 Rinse the filter plate under running tap water.
- 4 Protect the filter plate against drying out by storing it in the Filter-CL cleaning container or in a closed plastic bag.

	ATTENTION
	Protect the filter plate against drying out. If the membrane of the filter plate dries out, it becomes hydrophobic, blocked and no more sample solution can go through.

Actions if the filter membrane has dried out

If the filter membrane has dried out anyway, proceed as follows:

Submerge the filtration unit in a 30 % ethanol or spirit solution for about 60 seconds (approx. 5 l solution are required for the filter membrane module to be completely submersed in the Filter-CL cleaning container).

This reduces the surface tension of the filter membrane, and the flow rate should come up to the usual value. For fault-free operation, the filter membrane must not dry out again, otherwise the procedure has to be repeated.

Technical data

Dimensions	Frame	L 355.5 mm x W 266.5 mm x D 27.5 mm (L 14.0 " x W 10.5 " x D 1.1 ")
Materials	Frame	PVC
	Screws	Stainless steel V4A
	Adapter	Stainless steel V4A, PVDF, PVC

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- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're 12,500 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

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