AZURA® pH flow cell

The AZURA® pH flow cell is designed for both micro and semi-preparative applications.

Combined with an inserted AZURA® pH electrode, which is connected to the AZURA® Conductivity Monitor CM 2.1S, it allows continuous pH monitoring of fluid streams in FPLC systems or other flow applications.

The AZURA® pH flow cell is delivered with various mounting screws and capillary-fitting sets to allow flexible assignment into an AZURA® FPLC system according to your needs.

Scope of delivery

Legend

① Universal AZURA® Click mounting rail holder

② Adapter plate

③ AZURA® pH flow cell

④ Cap nut of the AZURA® pH flow cell

⑤ Capillary fitting set for 1/16" tubing

⑥ Capillary fitting set for 1/8" tubing

⑦ Blind fittings

⑧ Screws, size M3x6

⑨ Screws, size M3x10

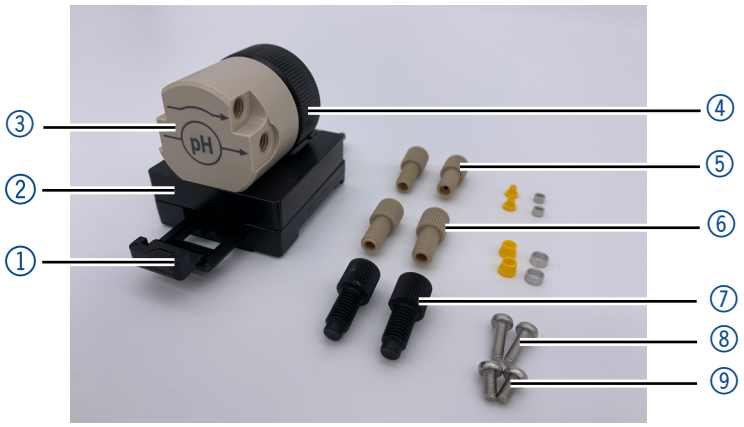


Fig. 1: AZURA® pH flow cell, scope of delivery

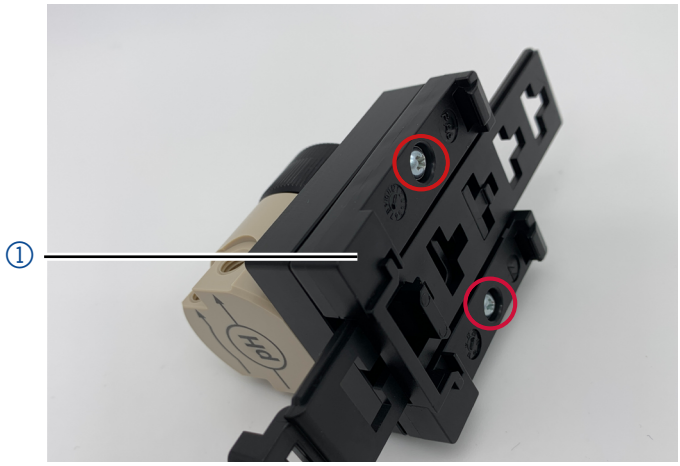
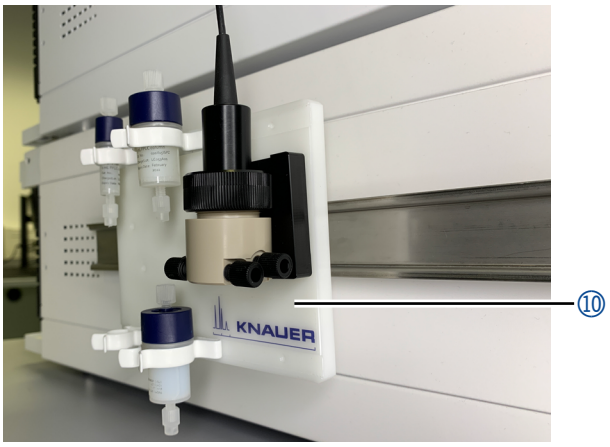
Mounting

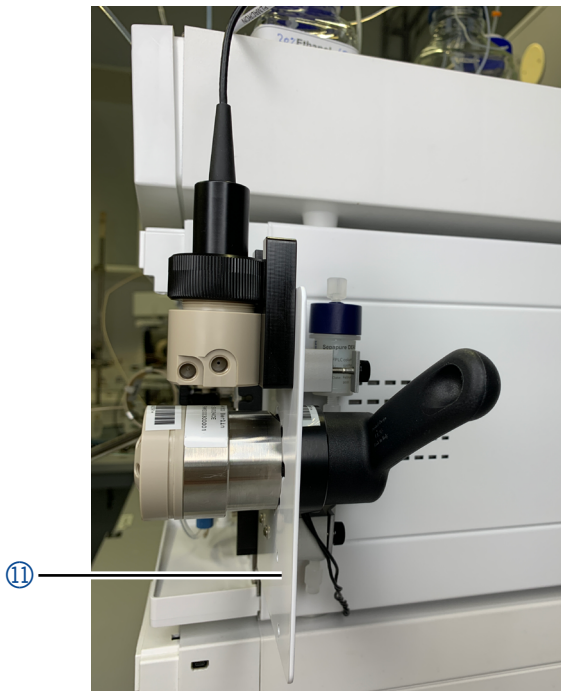
The AZURA® pH flow cell ③ can be implemented into the AZURA® FPLC system via the AZURA® Click system, the AZURA® Organizer ⑩ or the AZURA Mounting Bracket Bio L ⑪ .
For further information on how to install the flow cell refer to the supplementary sheet of the assembly of your choice (www.knauer.net/library).

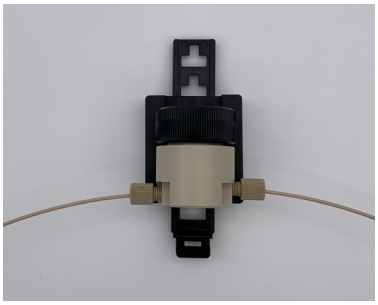
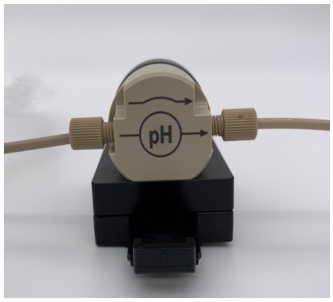
Note: In order to mount the AZURA pH flow cell onto the AZURA® Organizer or Mounting Bracket Bio L, the universal AZURA® Click mounting rail holder ① has to be unsrcewed first.

Tools

- Phillips screwdriver, PH1
- Torx screwdriver, T10
- 2 screws, size M3x06
- 2 screws, size M3x10

Process	Figure
1. Loosen the two screws on the back of the assembly with a Phillips screwdriver (PH1). 2. Remove the universal AZURA® Click mounting rail holder ① .	 **Fig. 2:** Loosen two screws
3. Now you can mount the pH flow cell to the AZURA® Organizer ⑩ by using the two screws (size M3x10) and the T10 torx screwdriver.	 **Fig. 3:** pH flow cell mounted to AZURA® Organizer

Process	Figure
4. Or you can mount the pH flow cell to the AZURA® Mounting bracket Bio L ⑪ by using the two screws (size M3x06) and the T10 torx screwdriver.	 **Fig. 4:** pH flow cell mounted to AZURA® Mounting bracket Bio L
5. If you want to mount the pH flow cell to the AZURA® Click mounting rail ⑫ , you do not have to remove the AZURA® Click mounting rail holder.	 **Fig. 5:** pH flow cell mounted to AZURA® Click system

Process	Figure
6. Connect the AZURA® pH flow cell to the liquid capillary by using the included flat-bottom fitting set with either 1/16 or 1/8" OD polymer capillaries.	  **Fig. 6:** AZURA® pH flow cell with connected liquid capillaries, (1/16" or 1/8" OD)

Operation

Inserting a pH electrode

To implement an AZURA® pH electrode, unlock the cap nut ④ from the pH flow cell ③ . Insert the pH electrode and screw the cap nut hand tight back onto the pH flow cell.

Next steps:

Connect the BNC plug to the BNC connector of the CM 2.1S.

For further information refer to the instructions of the AZURA® Conductivity Monitor CM 2.1S.

Note: Always ensure not to build up a pressure inside the pH flow cell that exceeds 5 bar. The max. pressure rating of the AZURA® pH flow cell is higher than the burst pressure of classic pH electrodes, which is usually around 5 bar. The max. pressure of the bypass is only limited by the utilized capillary-fitting set.

Removing a pH electrode

In order to remove the pH electrode, unlock the cap nut and store the pH electrode in a buffered solution as recommended in the corresponding instruction manual.

Inserting and removing a dummy electrode

Lock or unlock, respectively the cap nut. Clean the dummy electrode with water and store dry in a clean environment.

Tipps for FPLC system operation without inserted pH electrode

pH electrodes have to be removed from the system flow, either because they:

- have to be replaced or recalibrated
- do not withstand the used eluent or cleaning solvent

In order to still be able to operate the FPLC system you can either:

- connect the fluid capillaries to the integrated bypass (use blind-fittings during the tubing switching to prevent leckages, see figure 7) or
- insert the dummy electrode (order separately) after removing the pH electrode (see figure 8).

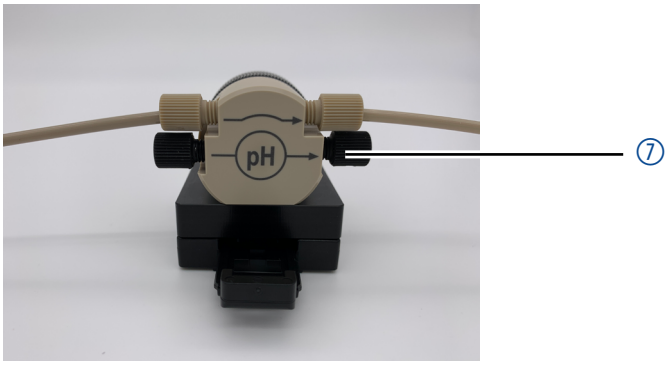


Fig. 7: AZURA® pH flow cell with blind fittings

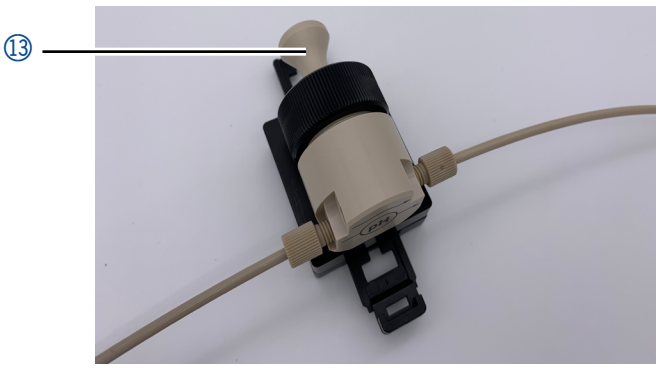


Fig. 8: AZURA® pH flow cell with dummy electrode

When utilizing the integrated bypass, the overall system volume minimizes. To keep the dwell volume constant (for fractionation purposes), utilize the AZURA® pH dummy elctrode ⑬ instead.

Repeat orders

Name	Order Number
pH electrode, round tip, with quality control certificate	A1933-1
AZURA® pH flow cell incl. mounting set, 1/4-28" UNF FB fittings for 1/16" & 1/8" OD tubing and blind fittings	A1943
AZURA® pH dummy electrode, PEEK, incl. cap for AZURA pH sensor (A70091-2)	A1942-1
O-ring for A1943, FFKM	A1943-1