

Science Together

Azura

Nano Flow Cell
Supplement



Document no. V6717A



Note: Please read the corresponding technical documentation for handling and safety reasons.

Technical Support:

Phone: +49 30 809727-111 (9-17h, Central European Time)
Fax: +49 30 8015010
E-Mail: support@knauer.net
Languages: German, English

Publisher:

KNAUER Wissenschaftliche Geräte GmbH
Hegauer Weg 38
D-14163 Berlin
Phone: +49 30 809727-0
Fax: +49 30 8015010
Internet: www.knauer.net
E-Mail: info@knauer.net



Version information:

Article number: V6717A
Version number: 2.0
Last update: 2019/01/21

The information in this document is subject to change without prior notice.
For latest version of the document, check our website:

<https://www.knauer.net/en/Support/User-manuals>

For the printed version of our instructions, we use environmentally friendly paper from sustainable forests.

Copyright:

© KNAUER Wissenschaftliche Geräte GmbH 2019. All rights reserved.
AZURA® is a registered trademark of KNAUER Wissenschaftliche Geräte GmbH.

Table of contents

| | |
|-------------------------------------|----------|
| 1. Product information | 1 |
| 2. Installation | 1 |
| 3. Maintenance | 3 |
| 3.1 Routine maintenance tasks | 3 |
| 3.2 Cleaning the flow cell | 3 |
| 3.3 Cleaning fibre optic ends..... | 4 |
| 3.4 Storage..... | 4 |
| 4. Troubleshooting | 5 |
| 5. Technical data | 5 |
| 6. Repeat orders..... | 6 |

1. Product information

The KNAUER nano flow cell with fiber optic connectors combined with KNAUER AZURA® UV detectors is the perfect choice for UV monitoring at low flow rates, particularly in connection with an MS detector.

Location in system: The flow cell can be located directly behind the column in order to minimize extra column volume and consequently improve peak shape.

Compatible detectors: This nano flow cell is compatible with the following KNAUER fiber optic version detectors:

- AZURA® UVD 2.1S, UVD 2.1L, DAD 6.1L, DAD 2.1L, MWD 2.1L
- Smartline 2520 and 2600.

Biocompatibility: As all wetted parts are biocompatible, the flow cells are suitable for LC and Bio LC applications.

2. Installation

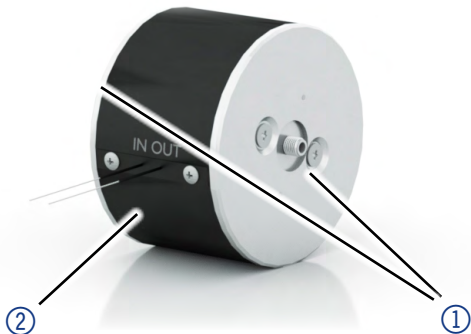


Note: Before connecting the flow cell to your system, flush your column with mobile phase to keep your flow cell clean.

Process and figure

1. Unpack the flow cell.
 2. Remove the protective hoods from the flow cell's fiber optic connectors ① .
 3. Remove the protective hoods from the fiber optic cables.
 4. Connect the detector and flow cell via fiber optic cables.
 5. Connect the capillaries to the flow cell ② .
-

Process and figure



Protective hoods: Keep the protective hoods for storage purposes. The hoods protect the fiber optic connectors from contamination and solarization.

Fiber optics: Observe the following regarding the use of fiber optics:

- Do not touch the ends of the fiber optics with your fingers, as this could falsify the measurement and affect the flow cell performance.
- Handle the fiber optics with care, avoid impacts or hard actions.
- Move the fiber optics carefully without using pressure or bending it.

NOTICE**Component defect**

The capillaries are brittle and can get damaged.

- Handle the capillaries with care.
- Flow cells with damaged capillaries must be replaced (no repair possible)

3. Maintenance

3.1 Routine maintenance tasks

In order to obtain optimal performance, minimal routine maintenance of the flow cell is required.

- It is very important to flush buffered mobile phase out of the flow cell each time the system is shut down. This safeguards the flow cell from clogging.
- Filtered and degassed mobile phase is recommended in order to reduce baseline noise and drift, decrease fluctuations of the system pressure and prolong operating life of the column.
- Make sure fiber optic ends are clean. Never touch the ends with your fingers as this could lead to contamination which reduces the performance of the flow cell (intensity, wavelength accuracy). Should this occur however, clean with a lens cloth moistened with alcohol or a cotton swab.
- Use methanol, ethanol or isopropanol to fill the flow cell to prevent microbial growth when the flow cell is not in use (see "Storage" on page 5).

3.2 Cleaning the flow cell

The contamination of the flow cell can lead to:

- decreased light intensity
- increased baseline noise and drift
- calibration failure

Therefore, the flow cell should be periodically flushed or cleaned. The following solvents are recommended for cleaning:

- pure water (when using buffers)
- ethanol or methanol



Note: When the mobile phase is not mixable in water, you can use an intermediary solvent (e.g. isopropanol) before resuming flow.

3.3 Cleaning fibre optic ends

WARNING

Eye injury

Eye irritation by UV light. Bundled UV light can escape from the flow cell or fiber optic cables.

→ Before replacing the flow cell, switch off the detector and disconnect it from the power supply.

Never touch fiber optic ends with your fingers as this could lead to contamination which reduces the performance of the flow cell (intensity, wavelength accuracy). Should this occur however, clean with a lens cloth moistened with alcohol or a cotton swab.

3.4 Storage



Note: Never store the flow cell in pure water to prevent microbial growth.

Process

1. Flush the flow cell with an appropriate solvent.
2. Disconnect the capillaries.
3. Disconnect the fiber optic cables.
4. Seal the fiber optic connectors and cables with hoods.

4. Troubleshooting

| Problem | Possible cause and solution |
|--|--|
| Increased flow cell back pressure | <ul style="list-style-type: none"> ■ Pressure due to dirty flow cell: clean flow cell |
| Leak | <ul style="list-style-type: none"> ■ Leak due to overpressure: reduce flow ■ Leak due to damaged flow cell: flow cell must be replaced (no repair possible) |
| Increased baseline noise/ sensitivity | <ul style="list-style-type: none"> ■ Contamination due to dirty flow cell: clean flow cell ■ Contamination due to dirty fiber optic ends: clean fiber optic ends |

5. Technical data

| Parameter | Value |
|----------------------|----------------|
| Path length | 3 mm |
| Capillary connection | 375 μ m OD |
| Flow cell volume | 6 nl |
| Inner diameter | 50 μ m |
| Maximum flow rate | 1 μ l/min |
| Maximum pressure | 300 bar |
| Wetted parts | Fused silica |

6. Repeat orders

| Name | Order no. |
|--|-----------|
| KNAUER Nano Flow Cell, 3 mm, 6 nl | A4104 |
| 2 x fiber optic cables, 750 mm | A0740 |
| 2 x fiber optic cables, custom made length | A0743 |

Science Together



Latest KNAUER instructions online:
<https://www.knauer.net/en/Support/User-manuals>

© KNAUER 2019

KNAUER
Wissenschaftliche Geräte GmbH
Hegauer Weg 38
14163 Berlin

Phone: +49 30 809727-0
Fax: +49 30 8015010
E-Mail: info@knauer.net
Internet: www.knauer.net