



Article No.: ADC01

Articlename: AZURA Detector DAD 2.1L

## **Basic Diode Array Detector for Liquid Chromatography and Process Technology**

### **190 - 700 nm, diode array detector**

The AZURA DAD 2.1L is a highly competitive diode array detector which combines high performance with easy handling at an affordable price. A wide range of easily exchangeable cartridge flow cells make this device the right choice for fast, standard analytical, semi-preparative and preparative separations with bio-inert or stainless steel wetted parts. State-of-the-art total reflection flow cells (LightGuide technology) are available for this device providing maximum light throughput (due to total internal reflection) with minimal peak dispersion (due to the small cell volume) to guarantee an optimized S/N ratio. An optional fiber optics adapter offers the possibility to separate the flow cell spatially from the device and thus provides enhanced

**Help** for hazardous, explosive or toxic work processes, as protecting the device from leakages at high flow

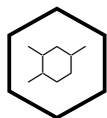
rates. The newly developed optical unit and intelligent temperature management ensure for maximum sensitivity combined with minimal baseline drift. Furthermore, easy frontal access and improved safety features enable effortless lamp replacement. This eases maintenance and guarantees short downtimes. The DAD 2.1L comes installed with a deuterium lamp which covers a wavelength range from 190 to 700 nm. This detector can be controlled with OpenLab® EZChrom, ClarityChrom®, Chromeleon® and PurityChrom® software, as well as with the Mobile Control software (stand-alone operation), via LAN or through analog input/output, allowing it to be integrated into almost any LC system.



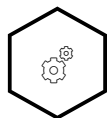
**Help**

*AZURA Detector DAD 2.1L*

## KEY FEATURES



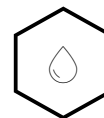
Wide application range



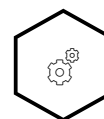
Large choice of flow cells



Fiber optics adapter available



Leak management



Made in Germany

**Help**

## TECHNICAL DATA

**Help**

**Detection**

<b>Detector type</b>	Diode array detector
<b>Number of diodes</b>	256
<b>Pixel pitch</b>	2 nm/diode
<b>Detection channels</b>	8 (Digital)/4 (Analog)
<b>Light source</b>	Deuterium (D <sup>2</sup> ) lamp with integrated GLP chip
<b>Wavelength range</b>	190 - 700 nm
<b>Spectral bandwidth</b>	<10 nm at H <sub>α</sub> line (FWHM) /Note: digital bandwidth 1 - 32 nm
<b>Wavelength accuracy</b>	± 1 nm
<b>Noise</b>	± 5 µAU at 254 nm (ASTM E1657-98)
<b>Drift</b>	400 µAU/h at 254 nm (ASTM E1657-98)
<b>Linearity</b>	> 2.0 AU at 274 nm (ASTM E1657-98)
<b>Maximum data rate</b>	100 Hz (LAN)/12.5 Hz (analog)
<b>Help</b>	Not included (see Accessories / Spare parts)

<b>Time constants</b>	0.00 / 0.01 / 0.02 / 0.05 / 0.1 / 0.2 / 0.5 / 1.0 / 2.0 / 5.0 / 10.0 s
<b>Integration time</b>	Automatic
<b>Wavelength verification</b>	Internal holmium filter and deuterium lines
<b>Leak sensor</b>	Yes

## Communication

<b>Inputs</b>	Error (IN), Start (IN), Autozero
<b>Outputs</b>	Events 1 - 2 (Relay and TTL compatible, respectively), Error (OUT), + 5 V, Valve + 24 V, Valve (OUT)
<b>Analog outputs</b>	4 x 0 - 5 V, 20 bit, offset adjustable
<b>Control</b>	Mobile Control, software, event control, analog, terminal protocol
<b>Interfaces</b>	LAN (RJ-45), USB (service only), multi-pin connector, analog (RCA cinch connector)

## Help

## Technical parameters

<b>GLP</b>	Detailed report including lamp recognition, operating hours, lamp operating hours, number of lamp ignitions
<b>Display</b>	Mobile Control (optional)
<b>Ambient conditions</b>	Temperature range: 4 - 40 °C, 39.2 - 104 °F, Humidity: below 90 % noncondensing

## General

<b>Power supply</b>	100 – 240 V, 50 – 60 Hz, 75 W
<b>Dimensions</b>	361 x 158 x 523 mm (W x H x D)
<b>Weight</b>	12.2 kg

## Other

<b>Note</b>	Flow cells are not included and must be ordered separately (see Accessories / Spare parts)
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## Help

## ACCESSORIES & SPARE PARTS



### Deuterium Lamp

Deuterium lamp, replacement, for  
S2520, 10D, 40D, UVD 2.1S, UVD  
2.1L, DAD 2.1L, MWD 2.1L

**Article No.: A5193**



### Tool kit AZURA

Tool Kit AZURA® for systems with  
PEEK or pre-cut capillary kits

**Article No.: A1033**



**Accessory kit AZURA DAD 6.1L,  
DAD 2.1L, MWD 2.1L  
included in shipkit**

**Article No.: FDC**

**Help**





**Accessory kit AZURA large devices**  
cable kit for all devices with  
footprint "L" included in shipkit

**Article No.: FZA02**



**Standard KNAUER LightGuide UV**  
**Flow Cell Cartridge**  
10 mm path length, 2µl, 1/16", 50  
bar, LightGuide Flow cell cartridge  
for AZURA® Detector DAD/MWD

**Article No.: AMC19XA**



**High Sensitivity KNAUER**  
**LightGuide UV Flow Cell Cartridge**  
50 mm path length, 6 µl, 1/16", 50  
bar, High Sensitivity LightGuide  
Flow cell cartridge for AZURA®  
Detector DAD/MWD

**Article No.: AMD59XA**

**Help**



**Analytical KNAUER PressureProof  
UV Flow Cell Cartridge**  
10 mm path length, 10µl, 1/16", 300  
bar, PressureProof Flow cell  
cartridge for AZURA® Detector  
DAD/MWD  
**Article No.: AMC38**



**Semi-preparative KNAUER  
PressureProof UV Flow Cell  
Cartridge**  
3 mm path length, 2µl, 1/16", 300  
bar, PressureProof Flow cell  
cartridge for AZURA® Detector  
DAD/MWD  
**Article No.: AMB18**



**Fiber Optics Adapter Kit**  
Fiber optics adapter kit for AZURA®  
Detector DAD/MWD, with fiber optic  
cables (1x 400 mm and 1x 750  
mm) and mounting bracket  
**Article No.: AMKX8KIT**



**Analytical UV Flow Cell**  
10 mm path length, 10  $\mu$ l, 1/16",  
300 bar, stainless steel, fiber optic  
connectors, classical KNAUER flow  
cell

**Article No.: A4074**



**Semi-preparative 3 mm UV Flow Cell**  
3 mm path length, 2  $\mu$ l, 1/16", 300  
bar, stainless steel, fiber optic  
connectors, classical KNAUER flow  
cell

**Article No.: A4044**



**Semi-preparative bio-compatible 3 mm UV Flow Cell**  
3 mm path length, 2  $\mu$ l 1/16", 30  
bar, biocompatible, fiber optic  
connectors, classical KNAUER flow  
cell

**Article No.: A4047**

**Help**



**Preparative UV Flow Cell**  
0.5 mm path length, 3  $\mu$ l, 1/16", 200 bar, stainless steel, fiber optic connectors, classical KNAUER flow cell

**Article No.: A4089**



**Preparative UV Flow Cell**  
0.5 mm path length, 3  $\mu$ l, 1/16", 100 bar, biocompatible, fiber optic connectors, classical KNAUER flow cell

**Article No.: A4096**



**Preparative UV Flow Cell**  
2 mm path length, 1/8", 200 bar, stainless steel, fiber optic connectors, changeable to 0.5/1.25 mm, classical KNAUER flow cell

**Article No.: A4078**

**Help**



**Preparative UV Flow Cell**  
2 mm path length, 1/8", 100 bar,  
biocompatible, fiber optic  
connectors, changeable to 0.5/1.25  
mm, classical KNAUER flow cell

**Article No.: A4079**



**Preparative UV Flow Cell**  
2 mm path length, 1/4" angular  
connections, 200 bar, stainless  
steel, fiber optic connectors,  
changeable to 0.5/1.25 mm

**Article No.: A4081**



**Preparative UV Flow Cell**  
variable path length and variable  
volume, 1/4" straight connections,  
200 bar, stainless steel, fiber optic  
connectors

**Article No.: A4081V2**

**Help**



**Cartridge Test Cell**  
Test cell for AZURA® Detector  
DAD/MWD

**Article No.: AMLX8**

**Help**

## DOCUMENTS AND MORE INFORMATION

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### **AZURA Detector DAD 6.1L, DAD 2.1L, MWD 2.1L Instructions EN (V6700)**

Manual   English

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### **AZURA Detektor DAD 6.1L, DAD 2.1L, MWD 2.1L Betriebsanleitung DE (V6700)**

Manual   German

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### **AZURA Detecteur DAD 6.1L, DAD 2.1L, MWD 2.1L Instructions FR (V6700)**

Manual   French

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### **List of supported devices in chromatography data systems EN (V1663)**

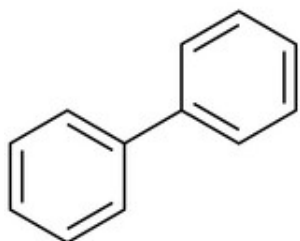
Device support in KNAUER CDS / KNAUER device support in 3rd party software

Information   English

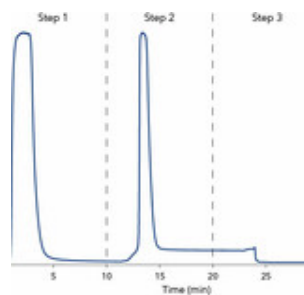
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**Help**

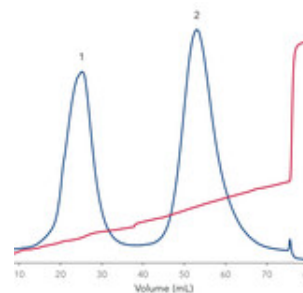
## APPLICATIONS FOR THIS PRODUCT



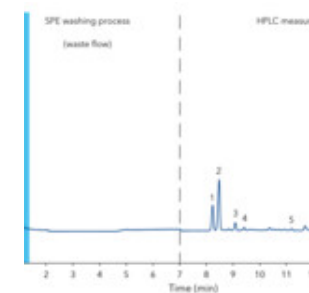
**Detection and qualification limits of biphenyl with diode array detection**



**Comparison of IgG purification by two different protein A media**



**Separation of two model proteins with Ion Exchange Chromatography**



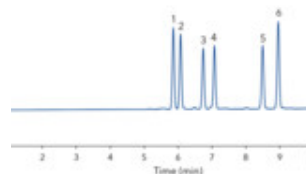
**Determination of six steviol glycosides using reversed phased HPLC and online SPE**

**Help**

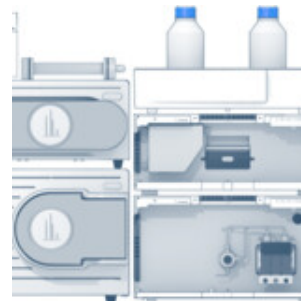




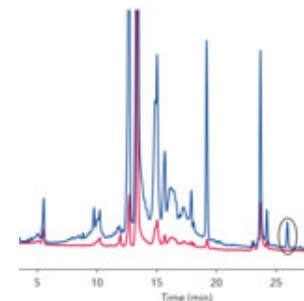
**Determination of retention behavior of cannabis extract by column screening**



**Oh so sweet - Quantification of steviol glycosides in Stevia samples with RP-HPLC**

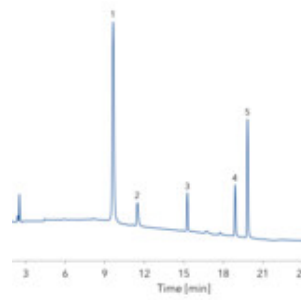
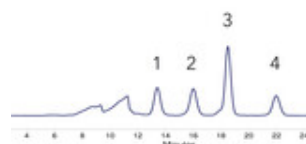
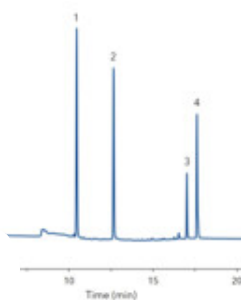


**Easy and fast isolation of rosmarinic acid from lemon balm with mass-directed purification**



**Traditional Chinese Medicine meets modern analytics - HPLC fingerprinting for the comparison of Radix Paeonia alba and Radix Paeonia rubra**

**Help**

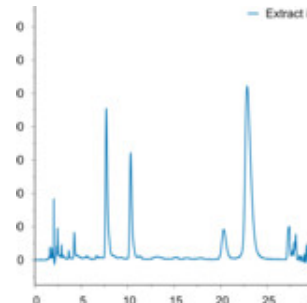
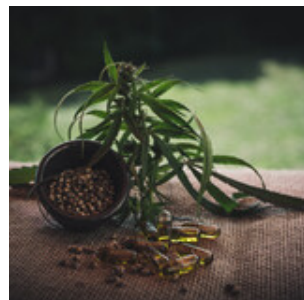
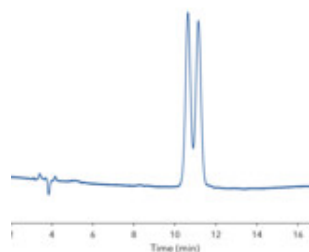


**Determination and quantification of acrylic acid derivatives**

**Xylitol Extraction via HPLC Purification from Fermented Biomass**

**Determination of biogenic amines with automated precolumn derivatization**

**Size exclusion chromatography of polylactic acid in three different solvents**



**Help**

.or, mirror... -

**Purification of**

**Purification of**

**Chiral column  
screening for  
enantioseparation of  
 $\alpha$ -ionone**

**cannabidiol from  
CBD oil by  
preparative HPLC**

**epigallocatechin  
gallate and other  
related polyphenols  
from green tea by  
mass-triggered  
fractionation**

## RELATED PRODUCTS



**High-End Diode Array Detector for  
Liquid Chromatography and  
Process Technology**

**AZURA® Detector DAD 6.1L** Diode  
array detector DAD 6.1L without  
flow cell 190 - 1000 nm, incl. test  
cell

**Article No.: ADC11**



**Versatile Multi Wavelength UV-  
Detector for Liquid  
Chromatography and Process  
Technology**

**AZURA® Detector MWD 2.1L**  
Multiwavelength detector MWD  
2.1L, without flow cell 190 - 700 nm,  
incl. test cell

**Article No.: ADB01**

**Help**

## RELATED FAQs

**How can I measure 3D data with my detector?**

Detection

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**How can I overcome communication problems with AZURA MWD/DAD 2.1L and DAD 6.1L?**

Detection | Troubleshooting

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**What is the bandwidth of a diode array detector?**

Detection

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**What is baseline correction?**

Detection

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**Which UV-wavelength is appropriate for my HPLC application?**

Challenges of HPLC separations

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**Where is my UV light?**

Detection

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## Certified Quality

**Help**

KNAUER is known for the quality of its products and has been certified several times. We produce high-tech laboratory



instruments for research, routine analysis and production for 59 years.

[See all Quality certificates](#)

In addition, we have extended documentation about all our products, including **CE Declarations of Conformity**.

[See all CE Declarations of conformity](#)

**Innovation and quality - since 1962. Made in Germany.**



## Do you need more details or a quote?

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