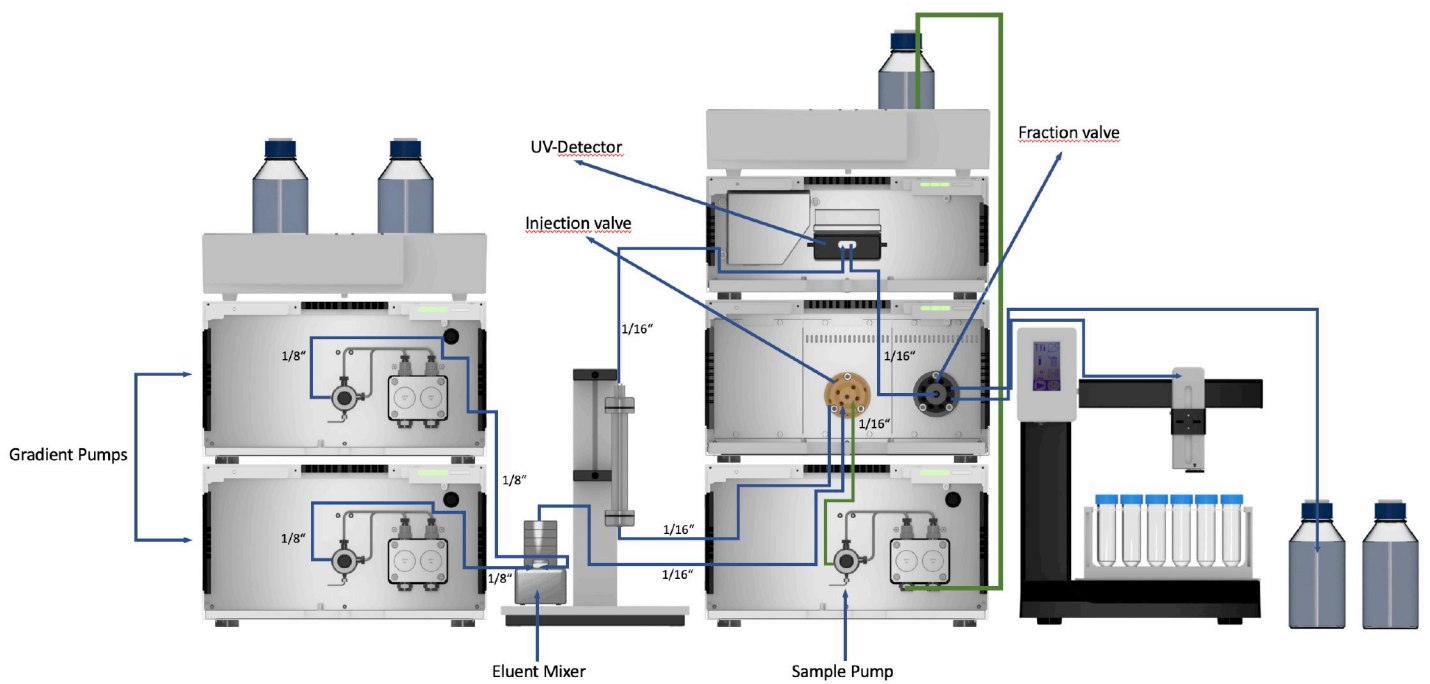
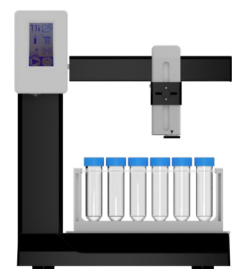
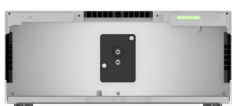


# AZURA Prep.-LC Systems overview



## AZURA PREP.-LC SYSTEMS

MASTER THE DIVERSE CHALLENGES OF YOUR EVERYDAY LABORATORY LIFE WITH THE FLEXIBLE POSSIBILITIES OF THE NEW AZURA PREP.-LC SERIES. AZURA IS THE ONLY LC-PLATFORM ON THE MARKET THAT CAN MEET ALL YOUR NEEDS. NO MATTER WHETHER YOU OPERATE UHPLC, HPLC, FPLC OR PREPARATIVE HPLC / SMB.



thinkLC.thinkKNAUER.

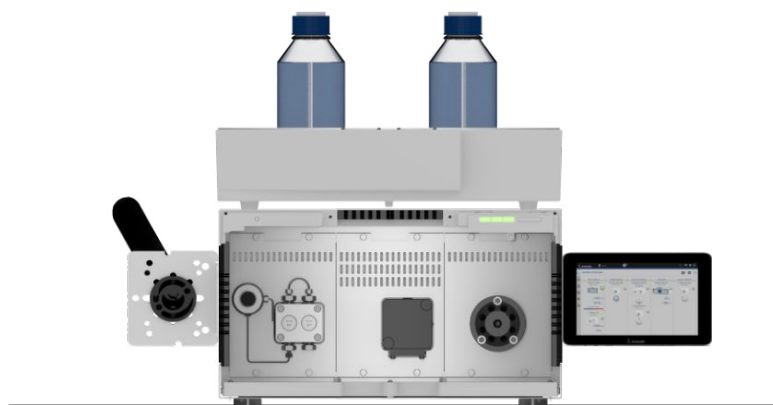
## AZURA Compact Prep. 50 isocratic

The AZURA® Compact Prep. 50 system qualifies for fast and reliable isocratic semi-preparative chromatography. The system offers outstanding performance and ease of use thanks to its compact design and user-friendly MobileControl software. The system can easily be upgraded to a gradient system; in this case, the isocratic pump will be used as a sample pump, too fully automatize repetitive purification tasks.

Your products of interest are detected by UV and automatically collected via the fractionation valve. Pre-designed methods and cleaning steps are included in the software and can be easily adapted.

### Key Features:

- Outlet valve (16 ports) for fractionation
- Flow rate: 0.01 - 50 ml/min; 1 - 40 ml/min (recommended)
- Variable single wavelength UV-detector (190 - 500 nm)
- Columns from all vendors can be used
- Fraction collector valve 16-Port
- Intuitive MobileControl software
- System suitable for cold room usage
- Maximum system pressure: 150 bar (15.0 MPa)



711 101 114

Art.-Nr.:	Description		
711 101 114	AZURA Compact Prep. 50 isocratic		

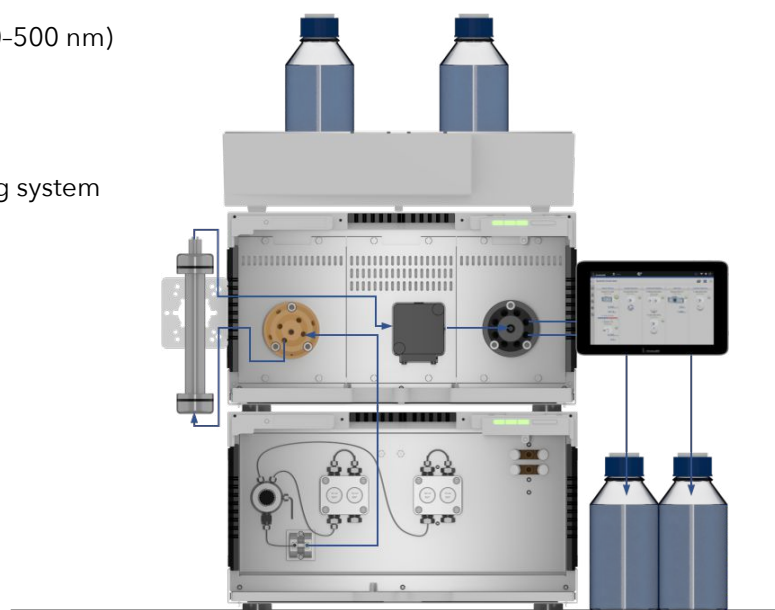
## AZURA Compact Prep. 50 gradient

The AZURA® Compact Prep. 50 gradient system qualifies for fast and reliable semi-preparative chromatography. The system offers outstanding gradient performance and ease of use thanks to its compact design and user-friendly MobileControl software. The system can easily be upgraded with a fraction collector or additional detectors.

Your products of interest are detected by UV and automatically collected via the fractionation valve. Pre-designed methods and cleaning steps are included in the software and can be easily adapted.

### Key Features:

- Flow rate: 0.01-50 ml/min; 0.1 - 40.0 ml/min (recommended)
- Maximum system pressure: 300 bar up to 10 ml/min (30.0 MPa)
- Maximum system pressure: 200 bar from 10 - 50 ml/min (20.0 MPa)
- Injection valve for sample injection via sample loop
- Fraction collector valve 16-Port
- Variable single wavelength UV detector (190-500 nm)
- Compatible with columns from all vendors
- Intuitive MobileControl software
- System suitable for cold room usage
- Easily upgradeable to an automatic sampling system



762 103 112

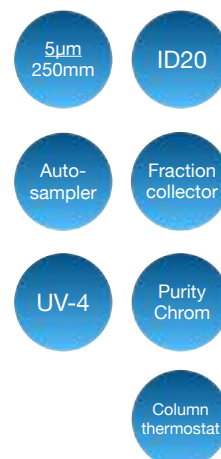
Art.-Nr.:	Description		
762 103 114	AZURA Compact Prep. 50 gradient		

## AZURA Automated Multi-Method Prep. 50 gradient

The AZURA Automated Multi-Method Prep. 50 gradient system is designed for complex purifications of small molecules in a laboratory scale. It is designed and optimized for all Prep.-LC applications in RP/NP mode, ion exchange, hydrophobic interaction and size exclusion chromatography. All system modules can be freely exchanged and further modules can be added optionally, to give more flexibility.

### Key Features:

- Flow rate: 0.01-50 ml/min; 0.1 - 40.0 ml/min (recommended)
- Maximum system pressure: 300 bar up to 10 ml/min (30.0 MPa)
- Maximum system pressure: 200 bar from 10 - 50 ml/min (20.0 MPa)
- Preparative autosampler for injections up to 10 ml
- Variable Multi-wavelength UV detector (190-700 nm)
- Fraction collector for fractionation
- Rack for Fraction collector 15 ml tubes
- Compatible with columns from all vendors
- Intuitive PurityChrom® software
- System suitable for cold room usage



746 403 222

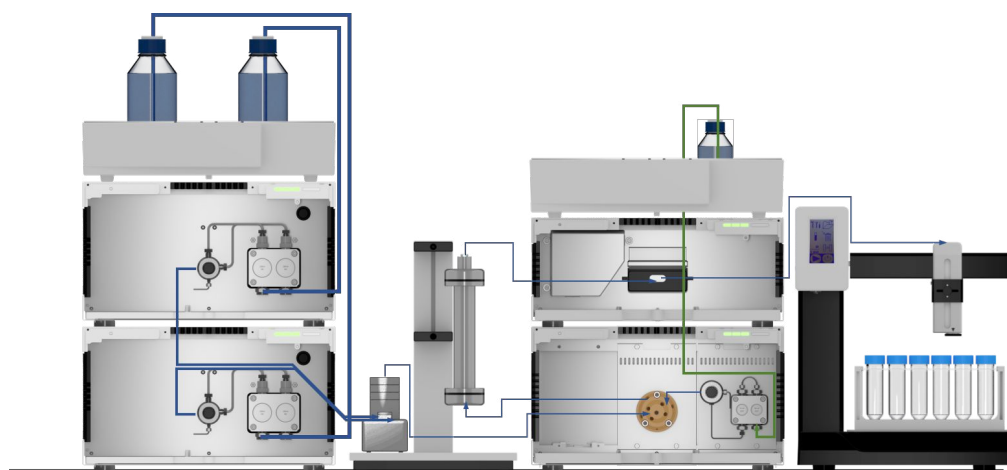
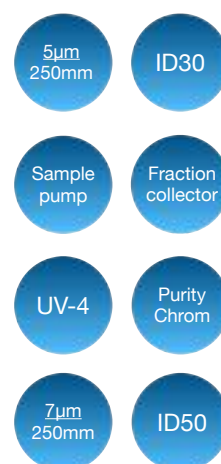
Art.-Nr.:	Description		
764 403 222	AZURA Automated Multi-Method Prep. 50 gradient		

## AZURA Prep. 100 / 250 gradient HPG

The AZURA Prep. 100/250 gradient system is designed for complex purifications of small molecules in pilot scale. It is designed and optimized for all Prep.-LC applications in RP/NP mode, ion exchange, hydrophobic interaction and size exclusion chromatography. All system modules can be freely exchanged, and further modules can be added optionally, to give more flexibility.

### Key Features:

- Flow rate: 0.01–100 ml/min; 1 - 80 ml/min (recommended)
- Flow rate: 0.01–250 ml/min; 5 - 160 ml/min (recommended)
- Maximum system pressure: 400 bar (40MPa) / 200 bar (20.0 MPa)
- Injection valve for sample injection via sample loop or sample pump
- Sample pump, 0,1 - 50 ml/min max. 150 bar (15.0 MPa)
- Variable Multi-wavelength UV detector (190–700 nm)
- Fraction collector for fractionation
- Rack for Fraction collector for 15 or 50 ml tubes
- Compatible with columns from all vendors
- Intuitive PurityChrom® software
- System suitable for cold room usage
- 1/16" Tubing on the high-pressure site



744 403 122

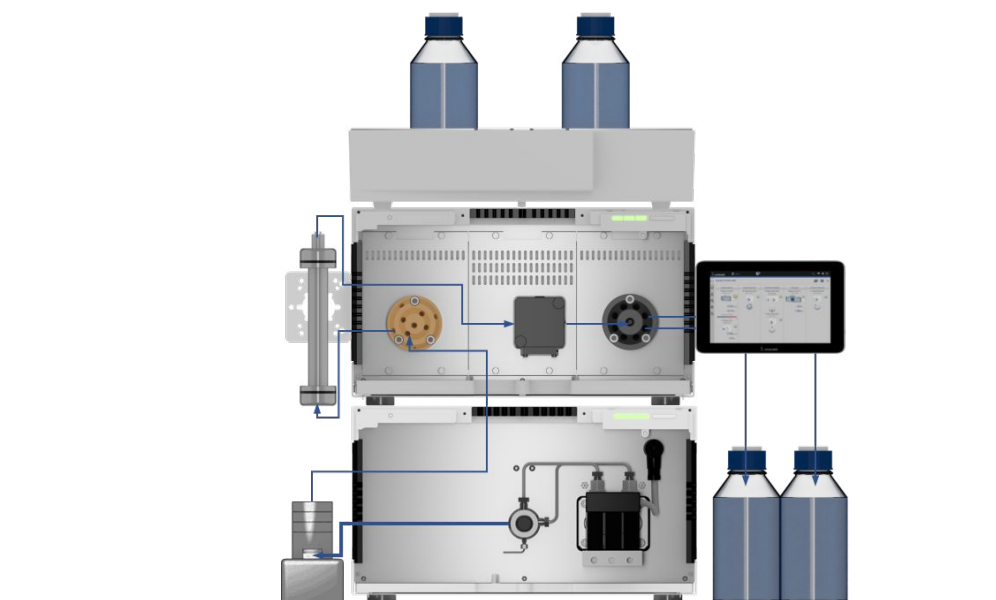
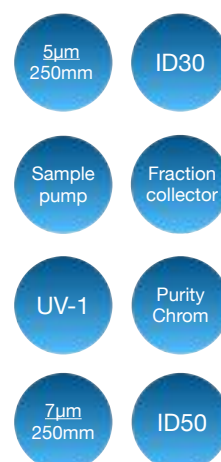
Art.-Nr.:	Description		
754 403 122	AZURA Prep. 100 gradient HPG (400 bar / 40 MPa)		
744 403 122	AZURA Prep. 250 gradient HPG (200 bar / 20 MPa)		

## AZURA Prep. 100 / 220 gradient LPG

The AZURA Prep. 100/220 gradient system is designed for complex purifications of small molecules in pilot scale. It is designed and optimized for all Prep.-LC applications in RP/NP mode, ion exchange, hydrophobic interaction and size exclusion chromatography. All system modules can be freely exchanged, and further modules can be added optionally, to give more flexibility.

### Key Features:

- Flow rate: 0.01–100 ml/min; 5 - 80 ml/min (recommended)
- Flow rate: 0.01–220 ml/min; 5 - 180 ml/min (recommended)
- Maximum system pressure: 400 bar (40MPa) / 200 bar (20.0 MPa)
- Injection valve for sample injection via sample loop or sample pump
- Sample pump (third channel of the main pump)
- Variable single wavelength UV detector (190–500 nm)
- Fraction collector valve 16-Port
- Compatible with columns from all vendors
- Intuitive MobileControl software
- 1/16" Tubing / high-pressure site



752 102 114

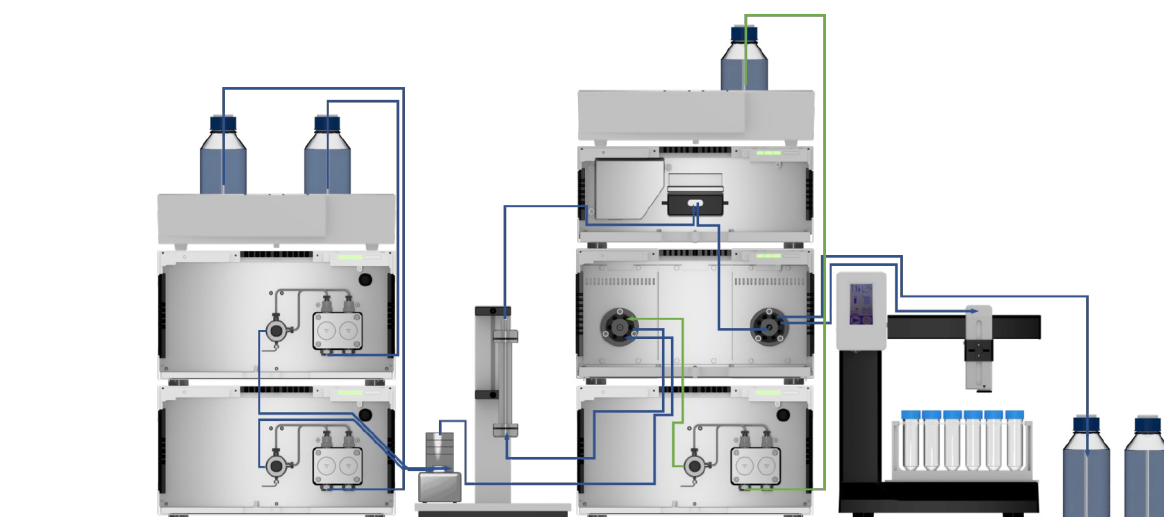
Art.-Nr.:	Description		
752 102 114	AZURA Prep. 100 gradient LPG (400 bar / 40 MPa)		
742 102 114	AZURA Prep. 220 gradient LPG (200 bar / 20 MPa)		

## AZURA Prep. 500 / 1000 gradient HPG

The AZURA Prep. 500/1000 gradient system is designed for complex purifications of small molecules in pilot scale. It is designed and optimized for all Prep.-LC applications in RP/NP mode, ion exchange, hydrophobic interaction and size exclusion chromatography. All system modules can be freely exchanged and further modules can be added optionally, to give more flexibility.

### Key Features:

- Flow rate: 0.01-500 ml/min; 10 - 420 ml/min (recommended)
- Flow rate: 0.01-1000 ml/min; 10 - 860 ml/min (recommended)
- Maximum system pressure: 100 bar (10.0 MPa) / 50 bar (5MPa)
- Injection valve for sample injection via sample loop or sample pump
- Sample pump, 0.01-500/1000 ml/min max. 100 bar (10.0 MPa) / 50 bar (5 MPa)
- Variable Multi-wavelength UV detector (190-700 nm)
- Fraction collector for fractionation
- Rack for Fraction collector for 15 or 50 ml tubes
- Fractionation valve (12-Port), to collect large fractions
- Compatible with columns from all vendors
- Intuitive PurityChrom® software
- System suitable for cold room usage
- 1/8" Tubing on the high-pressure site



733 403 152

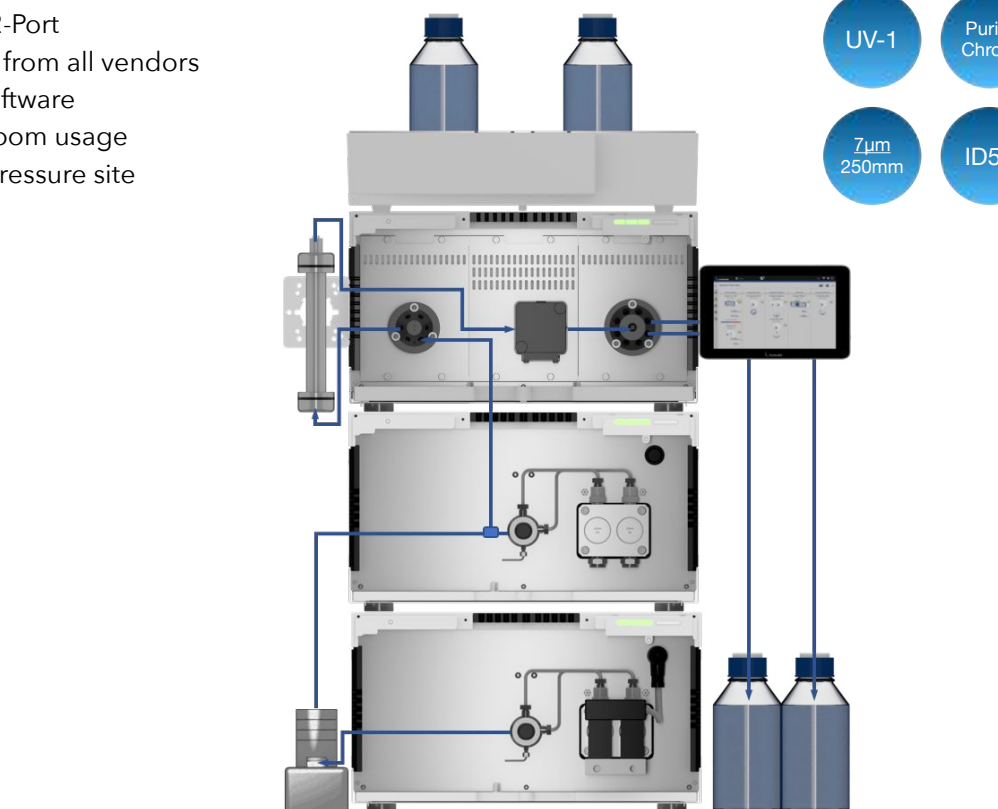
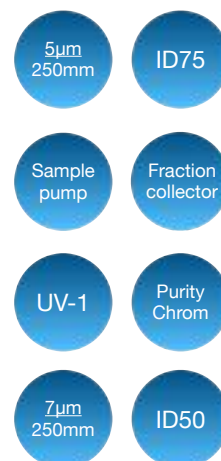
Art.-Nr.:	Description		
733 403 152	AZURA Prep. 500 gradient HPG (100 bar / 10 MPa)		
723 403 152	AZURA Prep. 1000 gradient HPG (50 bar / 5 MPa)		

## AZURA Prep. 500 / 1000 gradient LPG

The AZURA Prep. 500/1000 gradient system is designed for complex purifications of small molecules in pilot scale. It is designed and optimized for all Prep.-LC applications in RP/NP mode, ion exchange, hydrophobic interaction and size exclusion chromatography. All system modules can be freely exchanged, and further modules can be added optionally, to give more flexibility.

### Key Features:

- Flow rate: 0.01-500 ml/min; 20 - 420 ml/min (recommended)
- Flow rate: 0.01-800 ml/min; 40 - 660 ml/min (recommended)
- Maximum system pressure: 100 bar (10 MPa) / 50 bar (5 MPa)
- Injection valve for sample injection via sample loop or sample pump
- Sample pump, 2 - 500/1000 ml/min max. 100 bar (10 MPa) / 50 bar (5 MPa)
- Variable Multi-wavelength UV detector (190-500 nm)
- Fraction collector valve 12-Port
- Compatible with columns from all vendors
- Intuitive MobileControl software
- System suitable for cold room usage
- 1/8" Tubing on the high-pressure site

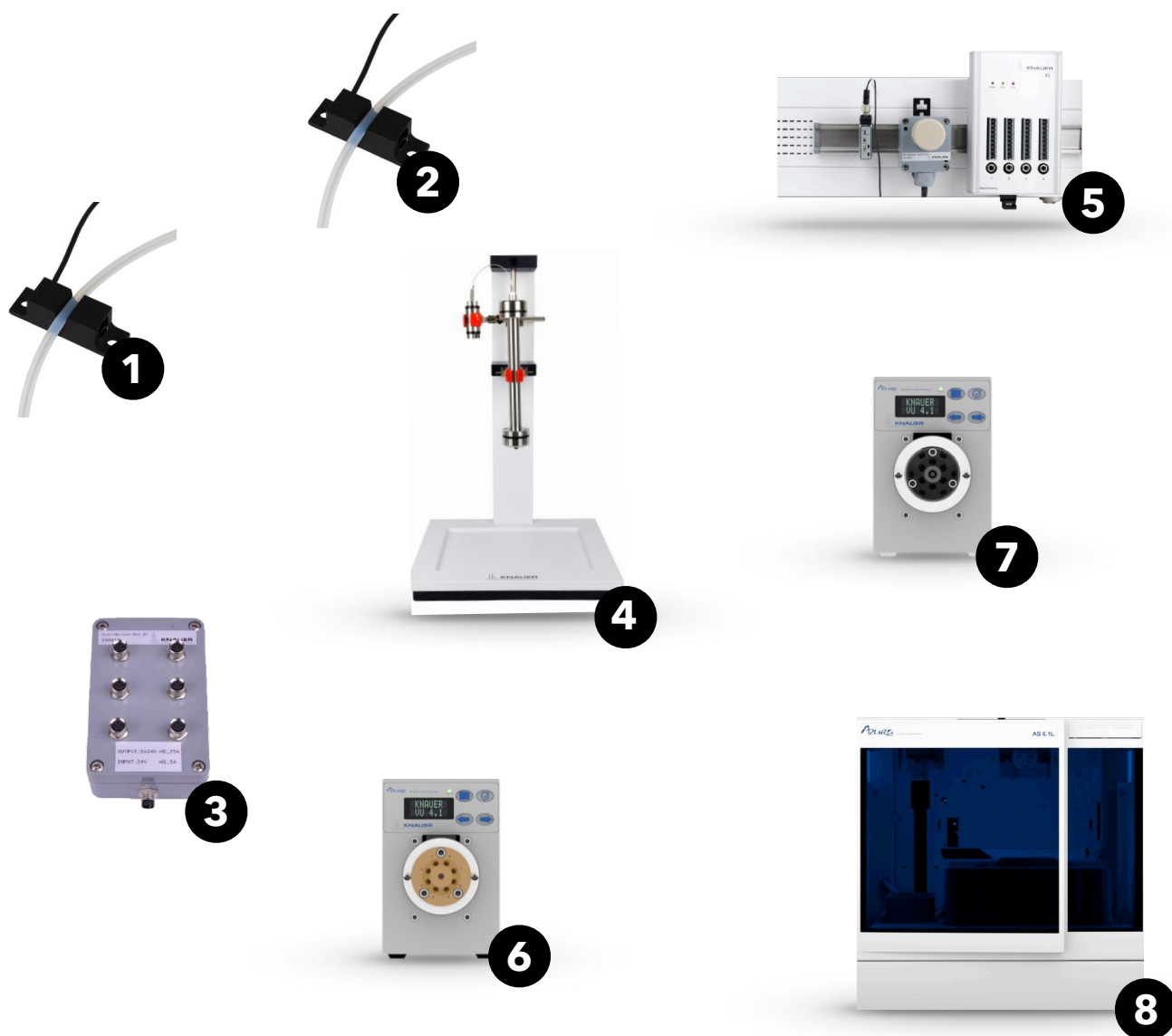


733 102 144

Art.-Nr.:	Description		
733 102 114	AZURA Prep. 500 gradient LPG (100 bar / 10 MPa)		
723 102 114	AZURA Prep. 1000 gradient LPG (50 bar / 5 MPa)		



## Accessories



#	Art.-Nr.:	Description		
1	A70092	Air sensor (1/16") with one airsensor and wiring for up to 4 airsensors. Excl. power supply		
	A70092-1	additional air sensor for AZURA Bio LC for 1/16" tubing		
2	A70093	Air sensor (1/8") with one airsensor and wiring for up to 4 airsensors. Excl. power supply		
	A70093-1	additional air sensor for AZURA Bio LC for 1/8" tubing		
3	AZS80SA	Power Supply, 24V Output, 6 x 0.25 A for AZURA Click, for air and pressure sensor		
4	A0070A	Multi Column Base for columns up to 50 mm ID		
5	A70089	AZURA Click rail for AZURA L devices for attaching IFU 2.1 air sensor, pressure control IFU2.1		
6	900 003	Column selection valve kit, SST, 2 column, 1/16", UNF 10-32, 500 bar		
7	900 004	Column selection valve kit, SST, 2 column, 1/8", UNF 1/4"-28 conned, 300 bar		
8	AAA40AA	AZURA Autosampler AS 6.1L Preparative 200 bar, 1/16", UNF 10-32, 10 ml loop		
	AAA41AA	AZURA Autosampler AS 6.1L Preparative 200 bar, 1/16", UNF 10-32, 10 ml loop, cool-heat		

## Accessories



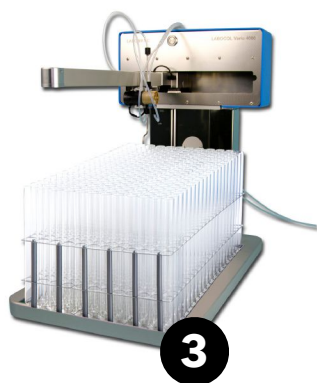
1



2



5



3



4

#	Art.-Nr.:	Description		
1	A59100	Fraction collector FOXY R1 diverter valve, without rack up to 25 ml/min with 1/16" up to 125 ml/min with 1/8"		
2	A59102	Fraction collector FOXY R2, diverter valve, without racks up to 25 ml/min with 1/16" up to 125 ml/min in 1/8"		
	A591021	Fraction collector FOXY R2, high flow 1000 ml per min diverter valve, without rack 1/4"		
3	A591023	Fraction collector LABOCOL Vario-4000 Plus base area 46x50 cm for 5 racks, up to 1000 ml/min with 1/16" / 1/8" valve		
	A591026	Fraction collector LABOCOL Vario-4000 Plus base area 46x50 cm for 5 racks, up to 1000 ml/min without rack with 1/4" valve		
	A591022	Fraction collector LABOCOL Vario 4000 base area 30x50 cm for 3 racks 1/8" valve		
	A591024	Fraction collector LABOCOL Vario 4000 base area 30x50 cm for 3 racks, up to 1000 ml/min without rack with 1/4" valve		
4	900 005	Fraction collection valve kit, 16 Port, 1/16", UNF 10-32, including tubing and ferrules		
5	900 006	Fraction collection valve kit, 12 Port, 1/16", UNF 1/4"-28 conned, including tubing and ferrules		



## Notes

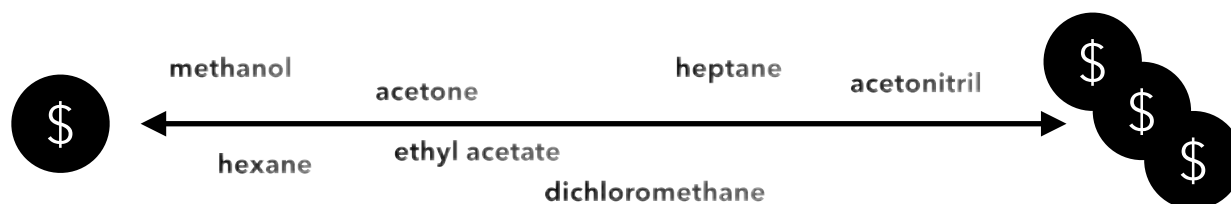

# Conversion tables

## Column/flow purification range

Column ID	Flow rate	Purification range mg Resolution > 1,5
4,6 mm	1 - 2 ml/min	1- 15 mg
9,4 mm	4 - 10 ml/min	7- 70 mg
21,2 mm	15 - 40 ml/min	30 - 300 mg
30 mm	25 - 100 ml/min	60 - 700 mg
50 mm	100 - 250 ml/min	180 - 1.800 mg
75 mm	250 - 800 ml/min	400 - 4.000 mg
100 mm	350 - 1000 ml/min	600 - 16.000 mg

## Choice of mobile phase

### Costs of organic solvents (relative)



## Volatile buffer salts

buffer	ph
Trifluoroacetate	0,5 - 1,5
Ammonium formate	3,0 - 5,0
Pyridinium formate	3,0 - 5,0
Ammonium acetate	3,8 - 5,8
Ammonium carbonate	5,5 - 11,3
Ammonium hydroxide	8,3 - 10,3

# Conversion tables



## Dimensions

mm	inches	inches	mm
0,10	.004"	1/32"	0,8
0,12	.005"	1/16"	1,6
0,15	.006"	1/8"	3,2
0,25	.010"	1/4"	6,4
0,40	.016"	3/8"	9,5
0,50	.020"	1/2"	12,7
0,75	.030"	1"	25,4
1,00	.040"		
1,50	.060"		
2,00	.080"		
4,60	.180"		
6,00	.236"		
6,40	.253"		
7,00	.276"		
10,00	.400"		

## Tubing volume/Length conversion chart

Tubing ID	µl/cm	µl/in
.004"	0,08	0,21
.005"	0.13	0.32
.010"	0.51	1.29
.015"	1.14	2.90
.020"	2.03	5.15
.025"	3.17	8.04
.030"	4.56	11.58
.040"	8.11	20.59
.060"	18.24	46.33
.070"	24.83	63.06
.085"	36.61	92.99

## Pressure conversion chart

MPa	bar	psi
5	50	725
10	100	1.450
20	200	2.901
30	300	4.351
40	400	5.802
50	500	7.252
60	600	8.702
70	700	10.153
80	800	11.603
90	900	13.054
100	1.000	14.504
110	1.100	15.954
120	1.200	17.405
130	1.300	18.855
140	1.400	20.306
150	1.500	21.756
160	1.600	23.206
170	1.700	24.657
180	1.800	26.107
190	1.900	27.558
200	2.000	29.008

## Temperature conversion chart

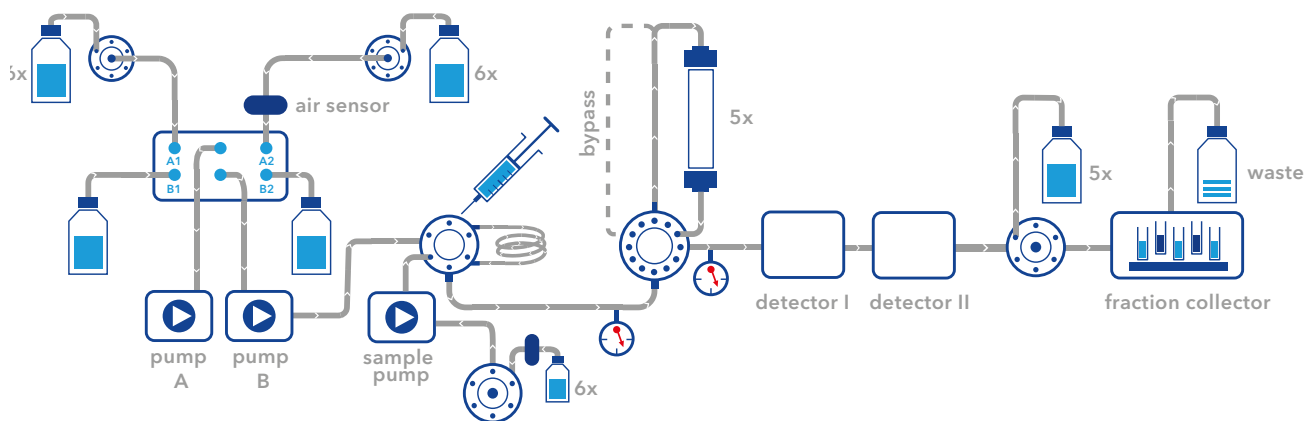
°C	°F	°C	°F	°C	°F
-40	-40	65	149	170	338
-35	-31	70	158	175	347
-30	-22	75	167	180	356
-25	-13	80	176	185	365
-20	-4	85	185	190	374
-15	5	90	194	195	383
-10	14	95	203	200	392
-5	23	100	212	205	401
0	32	105	221	210	410
5	41	110	230	215	419
10	50	115	239	220	428
15	59	120	248	225	437
20	68	125	257	230	446
25	77	130	266	235	455
30	86	135	275	240	464
35	95	140	284	245	473
40	104	145	293	250	482
45	113	150	302	255	491
50	122	155	311	260	500
55	131	160	320	265	509
60	140	165	329	270	518

# System configurator

## Preparative HPLC by KNAUER

### MAKE YOUR PRESELECTION

 SST

 Titanium


#### BUFFER SELECTION & DELIVERY

- 10 ml/min binary gradient pump P 6.1L
- 10 ml/min quaternary pump P 6.1L
- 50 ml/min binary gradient pump P 6.1L
- ..... x 100 ml/min pump P 2.1L
- ..... x 250 ml/min pump P 2.1L
- ..... x 500 ml/min pump P 2.1L
- ..... x 1000 ml/min pump P 2.1L
- Ternary gradient module for pump P 2.1L
- Binary gradient module for pump P 2.1L
- ..... x solvent selection valve (6 further inlets)

#### SAMPLE INJECTION

- Injection valve
- Sample pump module
- Sample selection valve: ..... x inlets
- Autosampler AS 6.1L
- Autosampler AS 6.1L cool/heat

#### COLUMN SELECTION & THERMOSTAT

- Column selection (two columns or one bypass)
- Column selection high flow (5 columns, one bypass)

#### DETECTION

- UV/VIS single wavelength
- UV/VIS multiwave length
- DAD 2.1L
- Fluorescence Detector RF-20 A
- Conductivity
- pH
- Refractive index
- Light Scattering
- 4000 MiD
- A/D-converter (integration of further detectors)

#### FRACTION COLLECTION

- Fractionation valve
- Foxy fraction collector with fixed rack types
- Labocol fraction collector with individual rack types
- Rack for fraction collector
- Flow splitter

#### ACCESSORIES

- ..... x Airsensor main pump
- ..... x Airsensor feed pump
- Pressure control (2 pressure sensors)
- ..... x Back pressure regulator
- AZURA Organizer
- ..... x Tubing 1/16"
- ..... x Tubing 1/8"
- ..... x Tubing 1/4"
- Workstation (Windows)

#### SOFTWARE

- ClarityChrom®
- OpenLAB®
- PurityChrom®
- Chromeleon™
- Mobile Control

#### COMMON APPLICATIONS

- Reversed phase
- Normal phase
- other...
- System Qualification

## Prep.-LC Pumps and Detectors



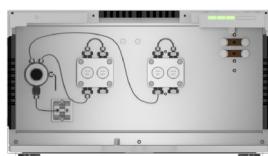
### Preparative Pump P 2.1L

This most universal isocratic and -with accessories - gradient pump can handle all common solvents used in preparative chromatography and high-end purification. It uses stainless steel pump heads in various modifications and has integrated system pressure sensor - one for each pump. It delivers accurate flow rates at low and high backpressures. At all time the automatic piston backflush cleans the main sealings in order to ensure long lifetime of the main seal. The most classic design with 2 pump heads (HPG type) is used for all different solvents. The version for with PEEK/PTFE selection valves and one pump head (LPG type) offers the possibility of sample transfer through a 3rd channel with 100/250ml heads. It is an often chosen configuration for Reversed Phase gradients. The gradient selection valves are sitting directly on the pump head. Both pump types have isocratic features as well can allow sample intake and cleaning buffers without manual changes at the solvent lines.

Due to its robust design the pump is delivering precisely solvent gradients over a wide variety of solvents. The max. flow rate is either 100 ml/min or 250 ml/min (ternary gradient optional) with backpressures at 400 bar (6,000 psi) or 225 bar.

The 500 ml and 1,000 ml pump heads (binary LPG optional) offer still pressures at 100 bar and 75 bar.

In PurityChrom® PREP software (recommended) all features of this system pump are supported. Other software packages also have Preparative Add-ons and so offers OpenLab for instance the full range of control and fractionation features available with the KNAUER Prep LC systems.



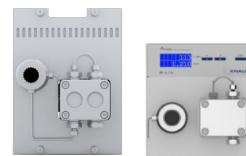
### Preparative Pump P 6.1L

The semi-preparative system pump with 2x 50 ml pump head delivers precise gradients up to 300 bar (up to 10 ml/min) or 200 bar (3,000 psi up to 40 ml/min). Same as the preparative System pump P2.1L it has precise pump heads forming a better 0.3% RSD gradient and with active piston backflushing. For smaller volume columns this semi-preparative pump is the ideal choice because of a very small delay volume (internal volume without mixer 10µl, only).

This pump is workhorse in the preparative and purification laboratory. It works with the classic 4 mm column and - without changing the setup - up to 20/32 mm columns (250 mm or 100/125 mm, respectively).

The pump head can be modified to run Reversed or Normal Phase solvents as well as Halogenated liquids.

In PurityChrom® PREP software (recommended) all features of this semi-prep system pump are supported. Other software packages support gradient and isocratic features as well.



### Sample Pump P4.1S and Valves

Dedicated pump for sample introduction, column cleaning, or column filling in the time the system is doing another task.

The P4.1S pump is using the same pump technology than the system pump P6.1L without gradient. Stainless steel or Ceramic pump heads are available in 10 ml (240 bar) and 50 ml (50 bar max. pressure) size depending on the chemical properties of the sample injected.

Equipped with an independent pressure transducer, the Sample Pump can make use of the system bubble sensors and additional pressure sensor.

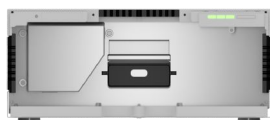
### Valves with automatic drive VU4.1

The universal valve drive VU4.1 has built-in RFID recognition for all compatible valves and allows maximum flexibility. An installed drive can be used with a 2-position valve to auto-inject samples.

In the next configuration it can work as a full or auxiliary fraction collector.



## Prep.-LC Pumps and Detectors



### DAD 2.1L

The DAD 2.1L is a robust and highly sensitive diode array detector for multi-Wavelength operation (up to 4 distinct wavelengths) and 2- and 3-D real-time data. Its two-lamp optics, using a high performance Polka Dot Beam splitter, allow a very high light output in the UV and VIS range. The complete temperature control of the optics ensures lowest possible noise and drift values and protects the sample.

With the help of the PressureProof Titanium measuring cell, a very high light throughput is achieved to get the best possible sensitivity while maintaining the highest possible resolution for detailed 3D analysis. High accuracy is maintained through all operation modes and working conditions.

Both the deuterium lamp and the flow cell are directly accessible on the instrument and allow easy and quick handling or maintaining of the instrument by the user.

The DAD2.1L features a wavelength range of 190 - 700 nm with 256 diodes. For using a range up to the NIR the DAD6.1L has a 1024 diode array featuring a range of 190 - 1000nm.

The little brother of the DAD2.1L is the Multi-Wavelength detector MWD2.1L. Via software driver up to 8 pre-selected wavelength can be displayed and analyzed (range 190 - 700 nm).



### Flow cells and fiber optic cables

For preparative chromatography there is a wide range of different standard flow cells available.

The flow cell mostly used in systems with flow rates up to 200 ml/min is the 2 mm 1/8" flow cell available in stainless steel or PEEK. Its cell windows are made of quartz glass rods that makes this cell very robust and comfortable in use. It is adjustable by the user to a path length down to 1.25 or 0.5 mm in order to adjust the absorbance created when higher concentrated solutions are passing the flow cell.

Beside a range of 1/8" tubing compatible flow cells, 1/16" connectors cells are available with different path lengths like 0.5 mm or 3 mm, available in stainless steel or PEEK.

The standard cells can be inserted in UVD2.1S or UVD2.1L detectors directly while they are connected to DAD or MWD detectors via fiber optics and adapter.

Therefore all standard flow cells are also available as a Fiber Optic twin. Fiber optic cables of up to 5 m length allow to place the flow cell right behind the separation column, behind a reactor or at a place between different detector flow-through-cells where it is needed to be located to optimize the setup.

Not only flow cells but also UV detectors (UVD2.1S, UVD2.1L, and DAD2.1/ MWD using cell-like adapter) come in a variant with direct fiber optic cable connectors (SMA14). This arrangement allows maximum adaptation in terms of optimized detector arrangement with minimum space requirements.

For super preparative chromatography and sanitation design KNAUER manufactures a range of 1/4", 3/8" and Tri-Clamp connected flow cells with quality certificates.



### UVD 2.1S

The UVD 2.1S is a robust and sensitive single variable wavelength detector with a perfect sensitivity for 260 and 280 nm wavelengths in biochromatography. The optics allow low noise and low drift data acquisition of other freely adjustable wavelength between 190 and 500 nm as well.

The measuring cells are available in different path lengths and thus allow the optimization of the detector. Default flow cell has 3 mm path length, 0.5 mm and 10 mm are available as well. For temperature sensitive setups fiber optic flow cells are available.

The flow cell is directly accessible on the instrument and allows easy and quick handling or maintaining of the instrument by the user.

The CM2.1S is a contact free conductivity monitor to online measure conductivity of buffer eluents and sample. It can be installed in the high-pressure or low pressure part of the system. The conductivity signal is temperature compensated.

The pH electrode is continuously monitoring the pH at the end of the line. The electrode can easily be taken out for calibration purpose or to set offline.

## Auxiliary instrument modules



### Refractive index detector RID 2.1L

The AZURA RID 2.1L is a sensitive and competitively priced differential refractometer. It is suitable for detecting compounds with little or no UV activity such as alcohols, sugars, lipids or polymers. This instrument is designed for use in analytical HPLC (high performance liquid chromatography) as well as all SEC (size exclusion chromatography) applications.

The intelligently designed optical unit with advanced temperature control ensures high sensitivity, excellent reproducibility and sample protection.

Furthermore, the long-life LED, highly pressure resistant flow cell, improved safety features and enhanced diagnostics functions guarantee easy handling and minimal maintenance.

The wide linear dynamic range, its low internal volume of 43  $\mu\text{l}$  from the inlet to the flow cell and 10 ml/min maximum flow rate make the AZURA RID 2.1L the perfect choice for most laboratory tasks.



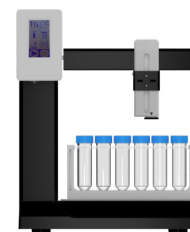
### Light scattering detector SEDEX LC

The AZURA RID 2.1L is a sensitive and competitively priced differential refractometer. It is suitable for detecting compounds with little or no UV activity such as alcohols, sugars, lipids or polymers. This instrument is designed for use in analytical HPLC (high performance liquid chromatography) as well as all SEC (size exclusion chromatography) applications.

The intelligently designed optical unit with advanced temperature control ensures high sensitivity, excellent reproducibility and sample protection.

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### Fraction Collector Foxy R1

The System Fraction Collector Foxy R1 supports fractionation into a variety of different media like TYPICAL PREPARATIVE TUBINNGS 20 or 100 ml, vessels of 12, 13, or up to 20 mm diameter with variable height or micro titer or deepwell plates OR FUNNELS for tubing lines collecting in large bottles.

The fraction collector Foxy R1 (or double size R2) collects samples time or volume based and via software PurityChrom complex peak recognition can be defined as well.

## Prep.-LC Autosamplers - Column Thermostat - Buffer Tray



### AS 6.1L

The AZURA AS 6.1L Prep. autosampler is a pulled-loop autosampler designed specifically for the needs of modern Prep.-LC systems.

Due to this injection system it has very little peak dispersion compared to a Flow-Through-Needle Design Sampler.

Depending on the application, three different injection modes can be used: "full loop filling" (highest precision and reproducibility), "partial loop filling" (variable volumes, e.g. for dilution series) and "µl pickup" (loss-free injection of extremely small sample volumes).

The washing steps can be carried out parallel to the analysis after the injection. In addition to fast injection cycles, this also effectively prevents sample carryover.

The injection valve specially developed for high-pressure injection has an intermediate pressure relief which prevents mixing of the sample with the eluent when switching from the injection position to the load position. This ensures excellent reproducibility.

Since neither high-pressure nor low-pressure needle seals are required, a cost-effective and low-maintenance operation is guaranteed.



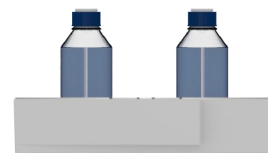
### CT 2.1

The powerful circulating air thermostat AZURA CT 2.1 with its large and easily accessible sample chamber offers sufficient space for up to eight C-18 columns or 1 -2 prepacked glass columns. It allows temperature control in the range down to 5 °C and up to 85 °C and thus is appropriate for nearly any application.

PREP column holder.

The buffer preheating, which can be optimized for the flow rate, allows a temperature adjustment of the mobile phase to the column temperature and thus effectively prevents temperature gradients within the separation column.

A leakage management system ensures safe, unattended operation in the laboratory.



### E 2.1L

The buffer tray E 2.1L for AZURA devices with a capacity of 6 x 1000 ml bottles is stackable onto all AZURA devices.

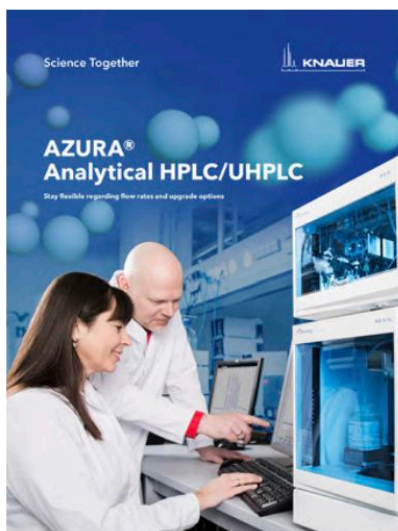
The tray inlay is removeable. The buffer tray possesses a drainage system and a removable front that facilitates access to a capillary guide.

It is used for safekeeping of the buffers and connected to the leakage warning system.

# KNAUER Brochures



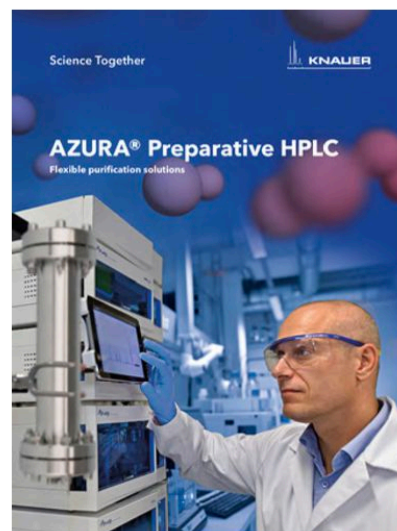
Please visit [www.knauer.net/brochures](http://www.knauer.net/brochures) to find more information about KNAUER products and systems.



AZURA® Analytical HPLC/UHPLC  
(Document no. V7852US)



AZURA® Bio purification  
(Document no. V7855US)



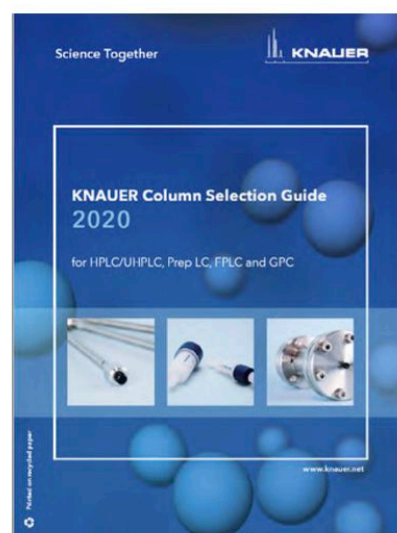
AZURA® Preparative HPLC  
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Freezing point osmometry  
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KNAUER Column Selection Guide  
(Document no. V7803US)

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