KNAUER OEM. The Original.

LIQUID CHROMATOGRAPHY SYSTEMS AND MODULES
HIGH PRESSURE DOSING PUMPS
LC DETECTORS
MANUAL INJECTION AND AUTOSAMPLERS
HPLC VALVES
SOFTWARE

Your innovative solution.
Made in Germany since 1962.
KNAUER was one of the first companies in Germany to develop devices for analytical liquid chromatography. With tremendous experience on how to make successful instrumentation, we are active in this field for decades. In addition to manufacturing our own brand, we also offer contract manufacturing and development. The company, with its advanced quality and environmental management, offers a comprehensive range of products for high-performance liquid chromatography.

THE ORIGINAL

KNAUER is an independent, family owned, middle-sized company with
• Own hardware and software development
• Process-controlled development and manufacturing
• Dedicated OEM team to serve customers
• Development and manufacturing in Germany

As a producer of HPLC systems, KNAUER is the right partner for development and supply around all liquid chromatography fields. We develop innovative and individual solutions according to your specification.

We are The Original.

For more information: www.knauer.net/oem

CEO and owner Alexandra Knauer

KNAUER Mechanical Shop in Berlin, Germany
HOW TO GET YOUR INNOVATIVE SOLUTION

Different industries and users need tailor-made solutions:
We develop products together with you to perfectly meet your customer’s requirements.

DEFINE
Determining technical and functional requirements
page 6, 16, 24, 18

CONFIGURE
Putting together the right modules
page 12, 20, 26

DESIGN
Customizing and optimizing the look of the product
page 30

VERIFICATION
Testing and approval
page 32

MARKET LAUNCH
Serial production and training
page 33
LAB-SCALE PUMPS FOR DOSING AND LC APPLICATIONS

KNAUER offers a wide range and fully-featured portfolio of metering pumps. (U)HPLC pumps are available for a wide range of analytical and preparative applications. For ion chromatography and other bioinert applications, we are able to offer completely stainless steel free pumps, as well as FPLC pumps. Interchangeable pump heads ensure good adaptability and easy maintenance. Models equipped with electronic drive compensation have very low pulsation.

DEFINING YOUR HIGH PRESSURE PUMP

Dosing and feed pumps, analytical and preparative LC pumps known for their reliability and versatility

SPECIFICATIONS

<table>
<thead>
<tr>
<th>All KNAUER pumps</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump head max. flow rate (ml/min)</td>
<td>5,10,50,100,250,500,1000</td>
</tr>
<tr>
<td>Piston seal washing</td>
<td>Passive (compact pumps), active (all other pumps)</td>
</tr>
<tr>
<td>Wetted materials</td>
<td>Aluminum oxide/Zirconium oxide, PEEK/PTFE, Graphite Fiber, Reinforced PTFE, FKM/FFKM, Ruby, Titanium, Stainless steel</td>
</tr>
<tr>
<td>Optional modules</td>
<td>Solvent selection valve: 3/2 solenoid valve, 24V. Base: PEEK. Seals: FFKM. 87 x 37 x 68.8 mm (WxDxH). Degasger: 2 &amp; 4 channels, internal volume per chamber 285 μl. LPG valve: 2/2 valve, FFKM, 24</td>
</tr>
<tr>
<td>Static mixer volume (μl)</td>
<td>50, 100, 200, 250 (Microfluidic mixing technology)</td>
</tr>
<tr>
<td>Dynamic mixer (ml)</td>
<td>1,740, 5.9 (using magnetic stirrer)</td>
</tr>
<tr>
<td>Control</td>
<td>LAN, RS-232, USB, Analog, Stand-alone, Mobile control</td>
</tr>
<tr>
<td>Supported by</td>
<td>ClarityChrom®, PurityChrom®, OpenLab CDS EZChrom Edition, Chromleon™</td>
</tr>
<tr>
<td>Knauer Service tool</td>
<td>Available for all products</td>
</tr>
<tr>
<td>Operation temperature</td>
<td>4 - 40 ºC, Air humidity below 90%, non-condensing</td>
</tr>
<tr>
<td>Required ventilation power*</td>
<td>0.5W, 40x40 mm (x1) for small (S) pumps / 1W, 60x60 mm (x2) for large (L) pumps</td>
</tr>
<tr>
<td>Supplements</td>
<td>User &amp; Service manuals, Service notes, Service SOPs &amp; videos, Device &amp; Service, communication protocol</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>High pressure LC pumps</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump type</td>
<td>Analytical &amp; Preparative</td>
</tr>
<tr>
<td>Delivery system</td>
<td>Dual-piston with main and auxiliary pistons (analytical and semi-preparative), Dual-piston with two main pistons (preparative)</td>
</tr>
<tr>
<td>Flow rate range (ml/min)</td>
<td>0.01 - 1000</td>
</tr>
<tr>
<td>Flow rate accuracy (%)</td>
<td>±1 (compact high-pressure pump with pressure sensor &amp; high-pressure analytical version) ±5 (compact high-pressure pump w/o pressure sensor) ±2 (high-pressure preparative version)</td>
</tr>
<tr>
<td>Flow rate precision (%)</td>
<td>±0.5 RSD (compact high-pressure pump with and w/o pressure sensor) ±0.1 RSD (high-pressure analytical and preparative versions)</td>
</tr>
<tr>
<td>Pressure range (bar)</td>
<td>Up to 650</td>
</tr>
<tr>
<td>Temperature range (°C)</td>
<td>-10 - 120</td>
</tr>
<tr>
<td>Viscosity of liquids (mPa·s)</td>
<td>Up to 1000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High-pressure dosing pumps</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump type</td>
<td>Dosing</td>
</tr>
<tr>
<td>Delivery system</td>
<td>Dual-piston with main and auxiliary pistons (for flow rates up to 50 ml/min) Dual-piston with two main pistons (for flow rate range 50&lt;±&lt;1000 ml/min)</td>
</tr>
<tr>
<td>Flow rate range (ml/min)</td>
<td>0.01 - 1000</td>
</tr>
<tr>
<td>Flow rate accuracy (%)</td>
<td>±1 (compact high-pressure pump with pressure sensor &amp; high-pressure analytical version) ±5 (compact high-pressure pump w/o pressure sensor) ±2 (high-pressure preparative version)</td>
</tr>
<tr>
<td>Flow rate precision (%)</td>
<td>±0.5 RSD (compact high-pressure pump with and w/o pressure sensor) ±0.1 RSD (high-pressure analytical and preparative versions)</td>
</tr>
<tr>
<td>Pressure range (bar)</td>
<td>Up to 650</td>
</tr>
<tr>
<td>Temperature range (°C)</td>
<td>-10 - 120</td>
</tr>
<tr>
<td>Viscosity of liquids (mPa·s)</td>
<td>Up to 1000</td>
</tr>
</tbody>
</table>

* Ventilator is described with frame size (mm) and required quantity for KNAUER original modules.

Pumps and pump kits in different application areas, from stand-alone to integrated modules in systems.
FLOW PRESSURE RANGE
PUMPS

High pressure compact pumps for flow rates of up to 50 ml/min

High pressure analytical pumps for flow rates of up to 50 ml/min

CHEMICAL COMPATIBILITY
PUMPS

A selection of pump heads is available for customized chemical compatibility with a wide range of liquids. Different flow rate ranges and an optimized pump design enable excellent performance and high flexibility for demanding low, medium, and high pressure dosing tasks. Pump heads can be exchanged quickly to adapt easily to changing applications.
The static mixer consists of individual mixing elements stacked in series. These elements divide and recombine the eluent, so that the stream exiting the static mixer is homogeneous.

The dynamic mixing chamber contains a magnetic stirrer to ensure optimal homogenization of the eluents at high flow rates. The design is based on stackable mixing segments, which allows convenient adaptation of the mixing volume.

**MIXER**

**DYNAMIC MIXER**

### Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>High volume</th>
<th>Low volume</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mixing volume (µl)</strong></td>
<td>1740, 5900</td>
<td>50, 100, 200, 250, 1500</td>
</tr>
<tr>
<td><strong>Pressure rating (bar)</strong></td>
<td>250, 420</td>
<td>400, 1000</td>
</tr>
<tr>
<td><strong>Pressure rating (psi)</strong></td>
<td>3626, 6092</td>
<td>5802, 14504</td>
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<tr>
<td><strong>Wetted material</strong></td>
<td>Titanium, PTFE, SST, PEEK</td>
<td>SST, PEEK</td>
</tr>
<tr>
<td><strong>Power supply (V)</strong></td>
<td>110-220, 115, 250</td>
<td>110-220, 115, 250</td>
</tr>
<tr>
<td><strong>Capillary connections (inch)</strong></td>
<td>1/16&quot;, 1/8&quot;</td>
<td>1/16&quot;, 1/8&quot;</td>
</tr>
<tr>
<td><strong>Dimension (mm)</strong></td>
<td>80x100x120 (WxHxD)</td>
<td></td>
</tr>
<tr>
<td><strong>Capillary connections (inch)</strong></td>
<td>1/16&quot;, 1/8&quot;</td>
<td></td>
</tr>
</tbody>
</table>

For some applications, residual pulsation from the system pump can negatively affect the performance and reproducibility. KNAUER offers pulse dampers in both high and low volume versions for optimal system performance.

**PULSE DAMPER**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>High volume</th>
<th>Low volume</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Damping mechanism</strong></td>
<td>Membrane-free</td>
<td>Membrane-free</td>
</tr>
<tr>
<td><strong>Inlet/outlet ports</strong></td>
<td>UNF 10-32, 1/16&quot;</td>
<td>UNF 10-32, 1/16&quot;</td>
</tr>
<tr>
<td><strong>Max. operating temperature (°C)</strong></td>
<td>120°C</td>
<td>120°C</td>
</tr>
<tr>
<td><strong>Max. pressure (bar)</strong></td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td><strong>Wetted material</strong></td>
<td>Stainless steel 316L, PTFE, PEEK</td>
<td>Stainless steel 316L, PTFE, PEEK</td>
</tr>
<tr>
<td><strong>Dimensions (height, diameter)</strong></td>
<td>105 mm, 32 mm</td>
<td>70 mm, 32 mm</td>
</tr>
<tr>
<td><strong>Internal volume</strong></td>
<td>290 µl (ambient pressure)</td>
<td>275 µl (ambient pressure)</td>
</tr>
<tr>
<td></td>
<td>650 µl (600 bar/8700 psi)</td>
<td>450 µl (600 bar/8700 psi)</td>
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</tbody>
</table>
CONFIGURE YOUR PUMP
From complete pump modules to kits with different levels of integration

COMPACT HIGH PRESSURE PUMP
For LC and dosing applications

- Configurable with or without pressure sensor
- Stand-alone and integrated versions available
- Available with or without keypad

Pump kit with horizontal main board (vertically in original configuration)

Pump drive
The dimensions of this drive are the same in all analytical versions.

HIGH PRESSURE DOSING PUMP
Analytical OEM version

HIGH PRESSURE DOSING PUMP
Preparative OEM version

HIGH PRESSURE ANALYTICAL AND PREPARATIVE PUMP
L-size housing
CONFIGURE YOUR PUMP

Preparative pump drive
Available in BlueShadow 80P and AZURA® P 2.1L

Double pump drives (binary pump)

2-channel degasser unit (available in binary pump)

Complete pump kit
excluding electronics (quaternary pump)

4-channel degasser unit (quaternary pump)

LPG valve unit (quaternary pump)

PUMP CONFIGURATOR

SCALE
- Analytical
- Semi preparative
- Preparative

MATERIAL
- Stainless steel
- Metal free

MODE
- Isocratic
- Binary
- Quaternary

MAX. FLOW RATE (ml/min)
- 5
- 10
- 50
- 100
- 250
- 500
- 1000

INTEGRATED IN SYSTEM
- Yes
- No

MIXER TYPE
- Static
- Dynamic

FIRMWARE
- KNAUER Original
- Customized

MIXER VOLUME (µl)
- 50
- 100
- 200
- 250
- 1740
- 5900

TYPE OF REQUIRED CERTIFICATE

KNAUER supports OEM kits with technical documentation for different types of certifications such as CE and CSA/UL.

KNAUER supports OEM kits with technical documentation for different types of certifications such as CE and CSA/UL.
Our core competence are UV-Vis and refractive index detectors. You, as our partner, get the flexibility to choose among single/multivariable wavelength and diode array detectors (which is based on a highly sophisticated polychromator technology along with a polka dot beam splitter) to make a smart decision for your project’s budget, space, and performance needs.

KNAUER offers a variety of detector kits for different requirements: From single wavelength to DAD technology, UV/VIS and refractive index detection.

KNAUER offers a wide range of flow cells for almost every task from Nano-LC over (U)HPLC to preparative HPLC with optional fiber optic connections in different lengths which gives the possibility to separate the flow cell from the detector to provide more security for hazardous, explosion proof or toxic work processes.

FLOW CELL

Different connections

Different materials

Different versions

Different technologies
### UV-Vis/Diode Array Detector

**Light source**
- Deuterium lamp, High brightness deuterium lamp, halogen lamp
  - All light sources hold an integrated GLP chip

**Wavelength range (nm)**
- 190-500 (1), 190-700 (2), 190-750 (4,5), 190-750/900 (depends on one or two lamp version) (3), 190-1000 (6)

**Linearity**
- >2.0 AU @270 nm (1,2), >2.2 AU @270 nm (3), >2.0 AU @274 nm (4,5), >2.5 AU @274 nm (6)

**Biocompatible version**
- All

**Control**
- LAN, RS-232, Analog, Stand-alone, Mobile control

**Supported by**
- OpenLab® EZChrom, ClarityChrom®, PurityChrom®, Chromeleon®

**KNAUER Service tool**
- Available for all products

**Operation temperature (°C)**
- 4–40

**Required ventilation power**
- 0.5W, 40x40 (x1) (1), 1W, 60x60 (x1) (2,3), 1.9W, 60x60 (x1) (4,5,6)

**Supplements**
- User & Service manuals, Service notes, Service SOPs & videos, Device & Service communication protocol

### Refractive Index Detectors (Analytical/Preparative)

**Light source**
- Long-life LED

**Linearity (µRIU)**
- >1000 (analytical) / >4000 (preparative)

**Flow cell volume (µl)**
- 15 (analytical) / 9 (preparative)

**Max. flow rate (ml/min)**
- 10 (analytical) / 100 (preparative)

**Operation temperature (°C)**
- 4–40

**Control**
- LAN, RS-232, Analog, Stand-alone, Mobile control

**Supported by**
- OpenLab® EZChrom, ClarityChrom®, PurityChrom®, Chromeleon®

**KNAUER Service tool**
- Available for all products

**Supplements**
- User & Service manuals, Service notes, Service SOPs & videos, Device & Service communication protocol

### FLOW CELLS

<table>
<thead>
<tr>
<th>Art. No.</th>
<th>Path length</th>
<th>Volume (µl)</th>
<th>Back pressure (bar)</th>
<th>Material</th>
<th>Max. flow rate (ml/min)</th>
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</thead>
<tbody>
<tr>
<td>A4069</td>
<td>0.5</td>
<td>3</td>
<td>200</td>
<td>Stainless steel</td>
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<tr>
<td>A4095</td>
<td>0.5</td>
<td>3</td>
<td>100</td>
<td>Biocompatible</td>
<td>250</td>
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<td>A4044HT</td>
<td>3</td>
<td>2</td>
<td>300</td>
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<td>A4045</td>
<td>3</td>
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<td>A4061XB</td>
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<td>AMC19XA</td>
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<td>AMD59XA</td>
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<td>A4066</td>
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<td>A4153</td>
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<td>-</td>
<td>80</td>
<td>Stainless steel</td>
<td>&gt;10000</td>
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</tbody>
</table>

### FLOW CELLS Supplemental Information

<table>
<thead>
<tr>
<th>Fiber optics version</th>
<th>Stainless steel</th>
<th>Biocompatible (PEEK or Titanium / quartz (SUPRASIL) / PTFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/16&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/8&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
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<td></td>
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</tbody>
</table>

### Fiber optics version
- Stainless steel
- Biocompatible (PEEK or Titanium / quartz (SUPRASIL) / PTFE)

### Other
- 1) UVD 2.1S/10D Variable single WL
- 2) UVD 2.1L/40D Variable single WL
- 3) 50D Variable multi WL
- 4) MWD 2.1L Variable multi WL
- 5) DAD 2.1L Diode array (265 diodes)
- 6) DAD 2.61L Diode array (1024 diodes)

* Ventilator is described with frame size (mm) and required quantity for KNAUER original modules.

### AZURA® RID 2.1L OEM Kit

**Designed for OEM integration and business**

1. UVD 2.1S/10D Variable single WL
2. UVD 2.1L/40D Variable single WL
3. 50D Variable multi WL
4. MWD 2.1L Variable multi WL
5. DAD 2.1L Diode array (265 diodes)
6. DAD 6.1L Diode array (1024 diodes)

* Ventilator is described with frame size (mm) and required quantity for KNAUER original modules.
CONFIGURE YOUR DETECTOR
From single wavelength to multi-wavelength to DAD

COMPACT VARIABLE SINGLE WAVELENGTH DETECTORS
Normal and fiber optic, stand-alone and integrated versions available

Kits integrable in a system
The mainboard can also be configured in horizontal position.

UV-VIS SINGLE/MULTI WAVELENGTH DETECTOR
Normal and fiber optic, stand-alone and integrated versions available

Single wavelength detector kit
Excluding electronics

Multi wavelength detector kit
Excluding electronics
HIGH-END LC DETECTORS
L-size housing

DAD/MWD 2.1L kit
w/o electronics

DAD 6.1L kit
w/o electronics

UVD 2.1L kit
w/o electronics

RID 2.1L kit
w/o electronics

DETECTOR CONFIGURATOR

<table>
<thead>
<tr>
<th>TYPE</th>
<th>FLOW CELL MATERIAL</th>
<th>FIRMWARE</th>
<th>FLOW CELL TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>UV/Vis single WL</td>
<td>Stainless steel</td>
<td>KNAUER Original</td>
<td>Normal</td>
</tr>
<tr>
<td>UV/Vis multi WL</td>
<td>Metal free</td>
<td>Customized</td>
<td>Fiber optic</td>
</tr>
<tr>
<td>Diode array detector</td>
<td></td>
<td></td>
<td>Analytical</td>
</tr>
<tr>
<td>Refractive index detector</td>
<td></td>
<td></td>
<td>Preparative</td>
</tr>
</tbody>
</table>

INTEGRATED IN SYSTEM

- Yes
- No

TYPE OF REQUIRED CERTIFICATE

KNAUER supports OEM kits with technical documentation for different types of certifications such as CE and CSA/UL.
Since KNAUER controls the entire production chain from development to production, valves can also be produced to meet the customized specification. The Valve Unifier is a smart valve drive with various control options (LAN, USB, analog, CAN and RS-232) and RFID technology which features automatic valve head recognition and adjusts torque and switching speed specifically for each valve head. Therefore, only one valve drive is needed regardless of the valve head design from analytical to preparative scale and this makes your logistics very cost-effective.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>KNAUER Valves</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Valve scale</strong></td>
<td>Analytical, Preparative</td>
</tr>
<tr>
<td><strong>Valve function</strong></td>
<td>Injection, column selection, fraction collection, other switching tasks</td>
</tr>
<tr>
<td><strong>Max pressure (bar)</strong></td>
<td>25</td>
</tr>
<tr>
<td><strong>Max pressure (psi)</strong></td>
<td>363-17405</td>
</tr>
<tr>
<td><strong>Bore size (mm)</strong></td>
<td>0.3-2.0</td>
</tr>
<tr>
<td><strong>Capillary connection (inch)</strong></td>
<td>1/16&quot;</td>
</tr>
<tr>
<td><strong>Stator material</strong></td>
<td>Stainless steel, Stainless steel DLC, PEEK</td>
</tr>
<tr>
<td><strong>Rotor material</strong></td>
<td>Vespel, PEEK, PPS, POM</td>
</tr>
</tbody>
</table>

---

**Diagram Description:**

The diagram illustrates a pumping and fraction collection system with multiple components and connections. The system includes pump A, pump B, sample injection, detector, pressure regulator, storage loop, fraction collector, and waste disposal. The diagram also highlights buffer selection and delivery, sample injection, column selection, detection, and fraction collection processes.
**CONFIGURE YOUR VALVE DRIVE**

The compact design of the valve drive makes it flexible and easy for system integration.

---

**Valve drive w/o display & keypad**

- 123 mm
- 80 mm
- 192 mm

---

**Valve drive with motor circuit and interface boards**

- 111 mm
- 67 mm
- 192 mm

---

**Valve drive with motor circuit board**

- 93 mm
- 54 mm
- 180 mm

---

**VALVE CONFIGURATOR**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>FUNCTION</th>
<th>STATOR MATERIAL</th>
<th>ROTOR MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual</td>
<td>Column selection</td>
<td>Stainless steel</td>
<td>Vespel</td>
</tr>
<tr>
<td>Automated</td>
<td>Injection</td>
<td>Stainless steel DLC</td>
<td>PEEK</td>
</tr>
<tr>
<td></td>
<td>Fraction collection</td>
<td>PEEK</td>
<td>PPS-HPV</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>POM-H-TF</td>
</tr>
</tbody>
</table>

**MAX. PRESSURE (bar / psi)**

- 25 / 363
- 50 / 725
- 150 / 2176
- 200 / 2900
- 240 / 3480
- 300 / 4350
- 400 / 5802
- 1200 / 17405

**CAPILLARY CONNECTION (inch)**

- 1/16"
- 1/8"
- 1/4"

---

**TYPE OF REQUIRED CERTIFICATE**

KNAUER supports OEM kits with technical documentation for different types of certifications such as CE and CSA/UL.

---

**CONFIGURE VALVES**
CHOOSE YOUR SOFTWARE DRIVERS

Multiple software drivers and established service software

Due to our modular OEM platform, KNAUER offers you driver for various chromatography data systems. In case that you would like to use your own software application, KNAUER will provide you with all necessary communication protocols.

- Mobile Control (Chrom)
- OpenLAB® CDS EZChrom Edition
- ClarityChrom® CDS
- PurityChrom®
- Chromeleon™ 7.2 Drivers

For selected devices we offer support for even more CDS in the market such as...

- PrepCon
- Chromstar 7
- HyStar

To provide the most useful tools for your daily work, our team of software engineers combines its expertise in developing firmware, instrument control drivers, as well as application software.

- KNAUER Service Tool
  Available for a wide range of OEM products for different reasons like monitoring, adjusting, calibrating, diagnostic and software upgrade

MOBILE CONTROL

Intuitive software for tablets, laptops and desktop PCs

Mobile Control is the right solution for you if you need a basic, easy to use and cost-effective software for your LC system OR you would like to control your devices without doing LC.

Only pay for what you use

Mobile Control features basic functions to operate AZURA devices and systems. Mobile Control can operate dedicated applications which do not require a highly developed and cost-intensive Chromatographic Data System (CDS).

Customized software design

Mobile Control is made by KNAUER and can be adapted to the requirements of our OEM partners.

Save time

Mobile Control convinces due to an intuitive user interface and a clearly structured menu function. The training period is minimal in comparison to a complex CDS. Especially users with little experience in LC will easily get familiar with the software.

Save space

Mobile Control runs on a tablet. Especially in labs with little space avoiding a desktop PC with keyboard and monitor can be a decisive factor. The touch-optimized user interface allows device control using just your fingers.

Find detailed information:
www.knauer.net/mobilecontrol
DESIGN YOUR PRODUCT
Would you like to have your own exterior design which fits your other products and company pattern? We provide all the required CAD files and work on them together with you to achieve the best solution.

YOUR INDIVIDUAL BRANDING
Design your own front cover and present your own unique system. Most of our OEM partners are interested in a front cover that is:
- lightweight
- neutral
- printable and color customizable with logos and scripts

PRODUCT DESIGN CONFIGURATOR
Start designing your OEM system with our configurator

<table>
<thead>
<tr>
<th>HOUSING</th>
<th>FRONTING</th>
<th>LABELING</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNAUER Original</td>
<td>KNAUER OEM</td>
<td>Via KNAUER</td>
</tr>
<tr>
<td>Customized</td>
<td>Customized</td>
<td>Private Label</td>
</tr>
<tr>
<td>As kit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DESIGN EXAMPLE
Dynamic Biosensors, Germany
Protein purification system proFIRE®
OEM ACCESSORIES: CAPILLARIES

K-CONNECT CAPILLARIES

Perfectly suited for all analytical HPLC systems: K-Connect Start-Up Kits contain flexible, precut stainless steel capillaries with 1/16" sleeves at the end for easy installation in several inner diameters and lengths as well as adaptors and connectors. The precut capillary with ideal offered lengths, minimizes the system dead volume and eliminates errors by poorly cut ones.

<table>
<thead>
<tr>
<th>ID (mm)</th>
<th>Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1, 0.18, 0.45</td>
<td>150, 300, 400, 700, 900</td>
</tr>
</tbody>
</table>

**Features:**
- Fingertight up to 700 bar
- Adjusts on any column port
- Optional: wrench-tight up to 1200 bar
- UNF 10/32 threads fit in any standard HPLC port
- Fit on any capillary with 1/16" OD

STANDARD CAPILLARIES

Knauer can provide you the standard capillaries in stainless steel and PEEK material in different ID, OD, and lengths. Does your application require other ID & OD than available options? Do you need capillaries to be delivered in special form and packing? Contact the KNAUER OEM team!

**Stainless steel**

<table>
<thead>
<tr>
<th>ID (mm)</th>
<th>OD</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1, 0.25, 0.5, 0.7, 1.0</td>
<td>1/16&quot;</td>
</tr>
<tr>
<td>1.6, 2.2</td>
<td>1/8&quot;</td>
</tr>
<tr>
<td>4.6</td>
<td>1/4&quot;</td>
</tr>
</tbody>
</table>

**PEEK**

<table>
<thead>
<tr>
<th>ID (mm)</th>
<th>OD</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.13, 0.18, 0.25, 0.5, 0.75, 1.0, 1.4</td>
<td>1/16&quot;</td>
</tr>
<tr>
<td>0.75, 1.59, 2.0</td>
<td>1/8&quot;</td>
</tr>
</tbody>
</table>

Find detailed information in the KNAUER Product Selection Guide: www.knauer.net

CERTIFICATIONS

QUALITY MANAGEMENT

The KNAUER quality management system according to DIN EN ISO 9001 makes sure that we continuously manufacture products in the best quality possible. As a company, we have to prove ourselves every day in a highly competitive market. Therefore, we can only be successful if every employee contributes his share. Your satisfaction with the quality of our products and services is the key to our success.

ENVIRONMENTAL MANAGEMENT

KNAUER contributes to the conservation of a healthy environment by basing our work on an environmental management system according to DIN EN ISO 14001. Starting with the development of a new product, our designing engineers are bound to use long-lasting materials which allow low maintenance time intervals and minimal downtime. Furthermore, a high energy efficiency and material efficiency in the production process and during the use of our products are important to us. Finally, the products should be able to be disposed of in an environmentally compatible way.
VERIFY YOUR PRODUCT
The demand for your product

Verification is an essential step to apply in order to satisfy the customer and to deliver a product that matches the industry quality standards. We check that the product we are building matches the users and business needs. The biggest challenge within a hardware and software project is to be in time, in quality and in budget. In order to ensure the agreed quality, we coordinate all system tests, which the manufactured products must go through in our company after production, with our customers. We deliver the desired test certificates in customer design to ensure that the customer’s incoming good inspections can be reduced to a minimum.

LET’S LAUNCH TOGETHER
Your solution. Now.

Fulfilling a mission requires team work, long-term partnership and collaboration. We are proud to have business partners all over the world by integrating our technology into their business needs.

GET IN TOUCH

oem@knauer.net
www.knauer.net/oem

Verification in the KNAUER lab

Thomas Müller, Head of Production in the Mechanical Shop

Filling a mission requires team work, long-term partnership and collaboration. We are proud to have business partners all over the world by integrating our technology into their business needs.

Whatever your plans are, adding your own LC system to your analysis instruments or choose from one of our state-of-the-art modules or accessories. You will find a good selection fulfilling various needs.

GET IN TOUCH

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www.knauer.net/oem