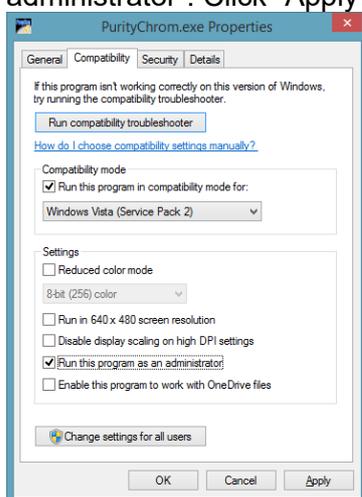


## Installation Guide PurityChrom® MCC

1. PurityChrom MCC operates under Windows 10.

**The supported languages are: german and english**

2. Automatic switching to energy saving mode or hibernating has to be disabled i.e. settings for “Turn Off Hardware”, “Turn off Computer” or “System Standby” must be set to “Never” in the control panels energy options. Microsoft Security Essentials is installed, please exclude PurityChrom. Therefore, open Microsoft Security Essentials and go to Setup. In “Excluded files and locations” you have to search for C:\PurityChrom and add this folder to excluded files. In “Excluded processes” you have to search for C:\PurityChrom\PurityChrom.exe and add this process to the excluded processes. Furthermore, the Windows Defender has to be deactivated. Therefore, got to “Extras” and/or “Settings”. Choose than “Administrator” and uncheck “Turn on this program” or Turn on this app”.
3. The user account settings have to be set to “Never notify” before installation. After the installation, the settings can be reset. (Start → Control Panel → User Accounts → User Accounts → Change User Account Control Settings → Never notify)
4. Set PC to fixed IP Adress if it is not connected to a router or a router is connected via a second network card
5. Insert the CD which includes the PurityChrom MCC.
6. Start the installation as administrator. The installer will ask you to choose the language of the software, your integrated UV-detector and the destination location for the files that will be installed. Do not change the given destination. If not otherwise specified use **English** as the software language.
7. Restart your computer.
8. Installation under Windows 10: Go to C:\PurityChrom and right-click the PurityChrom.exe to open the properties. Go to compatibility and check “Run this program in compatibility mode for” and choose “Windows Vista (Service Pack 2). After this, check “Run this program as an administrator“. Click ”Apply“ and ”Ok“, than close the window.



9. Connect your devices. All devices that should be connected by LAN should be set to LAN and need fixed IP addresses.

AZURA L	Mobile Control/Service Tool/Firmware Wizard (in folder "Tools" on PurityChrom CD)
UVD 2.1S	Firmware Wizard (in folder "Tools" on PurityChrom CD)

10. The KNAUER RID 2.1L Copy the driver from *C:\PurityChrom\DriverDll* and rename the file: RID21L.dll → PrepcnLF.dll and copy them to *C:\Windows\System32* (32-bit system) or *C:\Windows\SysWOW64* (64-bit system)
11. In the next step, you have to change the "PurityChrom.ini"-file according to the connected devices. This file is located in *C:\Windows\*

### WinsockPorts

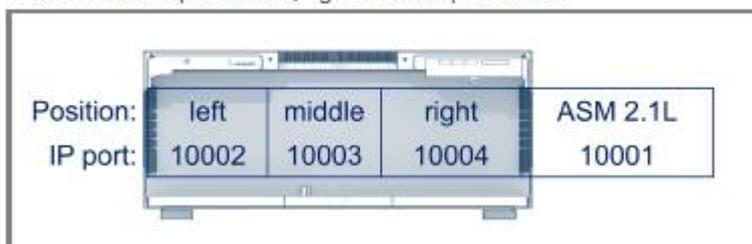
- In [WinsockPorts] the IP-addresses and Ports of LAN connected devices are entered. For example: Port1=192.168.5.1,10001 (freestanding devices have the port number 10001,

### For ASM 2.1L

the left module in an assistant has the port number 10002, the module in the middle the port number 10003 and the right module the port number 10004.

#### Three modules

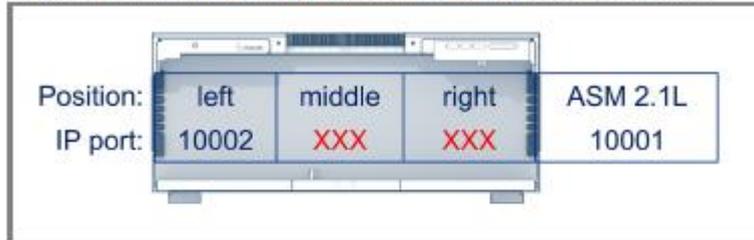
For three modules, the position is as follows: left module: port 10002, middle module: port 10003, right module: port 10004.



- If the assistant contains only one module, it is always connected to the left port (IP port 10002) despite of the module position.

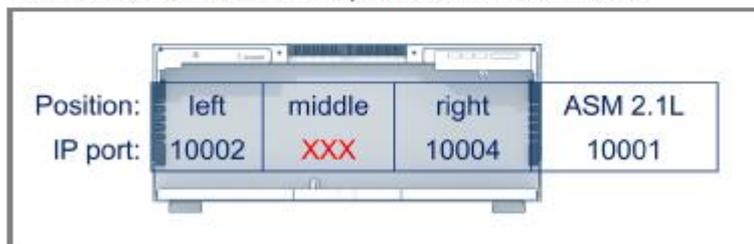
**One module**

Is one module in the assistant, it is connected to the left (port 10002).



**Two modules**

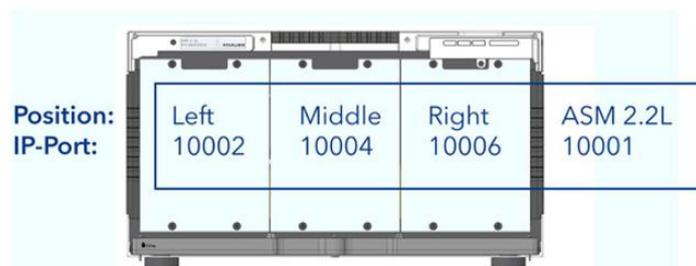
For two modules in the assistant, port 10003 is not connected.



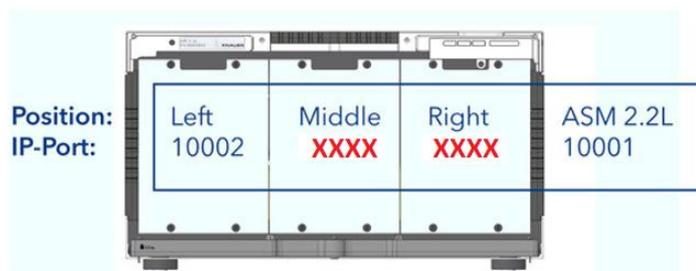
- Devices which are connected via serial interface are not filled in.

**For ASM 2.2L**

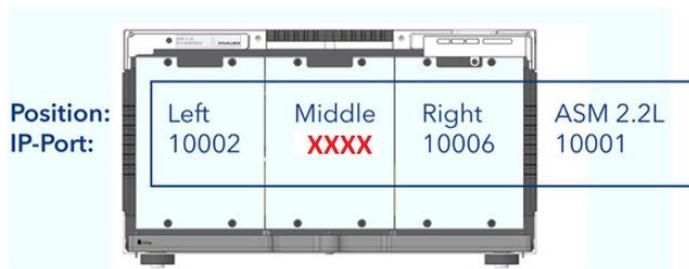
- the left module in an assistant has the port number 10002,
- the module in the middle the port number 10004 and
- the right module the port number 10006.



- If the assistant contains only one module, it is always connected to the left port (IP port 10002) despite of the module position.



- For two modules in the assistant port 10004 is not connected.



## Pumps

There is a separate entry for pumps parameter under [Pumps].

- Set "SoftwareHPG=0" (for isocratic)
- OnlyIsocratic=1

Set the pumps names as follow:

Name1="Zone 1"  
Name2="Zone 2"  
Name3="Feed"  
Name4="Zone 4"

## Pumps do not stop at command "Stop all"

- You can decide whether pumps should stop or pump further when pressing "Stop all".

```
[Pumps]
PumpStopRequest=1
```

## UV-Detector

- There is a separate entry for the connected detector in the PurityChrom.ini-file:

```
[KnauerUVD21S]
Enabled=0          [ 0/1 ]    OFF = 0, ON = 1 (using a detector
                        connected via serial interface or via LAN the
                        value has to be to set to 1; using a detector
                        connected via an A/D converter the value
                        hast to be set to 0)

IP=                [ IP ]    IP-address
Port=              [ Port ]  port number (KNAUER: 10001)
BaudRate=9600     [ Value ]  baud rate
Wavelength1=254  [ Value ]  preset wavelength
DataRate=2        [ Value ]  Datarate of the detector (don` t change the
                        data rate as the detector will sent the
                        maximum data rate); Default =50

Channels=1        [ Value ]  Number of channels; UVD = 1;
MaxD2Time=0      [0 – 2000]  0=off, 1-2000 = Hours;
                        When the maximum value is exceeded, an error
                        message occurs. However, work may be
```

continued after confirming the message

- Type=UVD2.1S [ Type] Your detector type (UVD2.1S, UVD2.1L)
- If the UV-detector is connected via serial interface hide the IP address by using an inverted comma ('IP=') and enter the number of the COMPort under Port.

### RI Detector

- There is a separate entry for the connected RID 2.1L in the PurityChrom.ini-file:

```
[KnauerRID21L]
Enabled=          [ 0/1 ]    OFF = 0, ON = 1
IP=              [ IP ]      IP-address
Port=            [ Port ]    Port number (KNAUER: 10001)
DataRate=        [ Value ]   Datarate of the detector
Channels=1        [ Value ]   Number of channels
TimeConst=2000   [ Value ]   Time constant
SignalMode=0     [ Value ]   Signal mode, 0=direct, 1=inverted
AnswerTimeOut=1 [ Value ]   Do no change
ConnectionTimeOut=1 [ Value ] Do not change
Temperature=0 / 30-55 [ Value ] 0 = off, 30-55 = Temperature is set after start
TempZone=1       [ 1-8 ]    1= [Temperature] FunctionName1=...
                                   2= [Temperature] FunctionName2=...
                                   ...
```

### Leaksensors

- There is a separate entry for the Leaksensor of **one** ASM in the PurityChrom.ini-file: Choose the ASM on the bottom of the SMB tower.

```
[LeakageKnauerASM21L]
Enabled=          [ 0/1 ]    OFF = 0, ON = 1
IP=              [ IP ]      IP-address
Port=            [ Port ]    IP Port
Type=2
```

- For the Leaksensor of a Detector enabled this in the entry:
 

```
[Detector]
CheckforLeak=1
LeakageMessage="Leakage detected. Please fix and press AZ."
```
- For the Leaksensor of the pumps define [LeakageInput] with recommended setting:
 

```
LeakageCountdown=0
```

```
[LeakageInput]
LeakageInput1=3 (for major Pump)
LeakageInput2=7 (for Minor Pump (not in ASM))
LeakageInput3=0
LeakageInput4=0
LeakageCountdown=0
Soundfile=SysAlert.wav
WindowsShutdown=0
```

Message1=Leakage detected Major Pump  
Message2= Leakage detected Minor Pump  
Message3=  
Message4=

### Memmert Oven

- There is a separate entry for the Memmert Oven in the PurityChrom.ini-file:

```
[Memmert]
Enabled=          [ 0/1 ]    OFF = 0, ON = 1
IP=              [ IP ]      IP-address
T=               [ Value ]    Default Temperature
Tmax=            [ Value ]    Max. Temperature
```

### Direct Control

- To use the direct control function during the run to change the flowrate and the gradient composition change the Puritychrom.ini file as described here:

```
[Pumps]
Parameterchange=1
```

### Bronkhorst Flowmeter

- There is a separate entry for the Flowmeter in the PurityChrom.ini-file:

```
[BronkFlow]
Enabled=          [ 0/1 ]    OFF = 0, ON = 1
Port=            [ Port ]    Com Port
"Flow Zone 1"    [ Value ]    Name
Port2=          [ Value ]    Com Port
"Flow Zone 2"    [ Value ]    Name
Port3=          [ Value ]    Com Port
"Flow Feed"      [ Value ]    Name
Port4=          [ Value ]    Com Port
"Flow Zone 4"    [ Value ]    Name
```

### SMB Data files

There is a separate entry to determine the maximum cycles written in one data file.  
For Example: MaxCycleCounter= 10 → After each 10 cycles a data file is written.

Note: A data file will be written, if one condition (MaxCycleCounter, MaxElapsedValue, or MaxTTLines) is fulfilled.

```
[SMB]
MaxCycleCounter=10
MaxElapsedValue=1440
MaxTTLines=500
```

12. Start the software. If the connection has been successful green ticks will appear behind the port number and if the connection was not successful a red cross will appear behind the port number.

13. Configuration of PurityChrom

- The menu option SETUP  in the main window will open the program settings window:

[Communication]

Please choose the correct Ports, baud rates and drivers for your devices according to the PurityChrom MCC manual.

**Note: Do not change the number of addresses in the Addr. Row!**

**For Azura Lab SMB:**

Device	Address	Positions	Port	Type/Driver
Zone 1 Pump	1	3	WinsockPort	P4.1 S
Zone 2 Pump	2	6	WinsockPort	P4.1 S
Feed Pump	3	11	WinsockPort	P4.1 S
Zone 4 Pump	4	9	WinsockPort	P4.1 S

**For Azura Pilot SMB:**

Device	Address	Positions	Port	Type/Driver
Zone 1 Pump	1	8	WinsockPort	P2.1 L
Zone 2 Pump	2	9	WinsockPort	P2.1 L
Feed Pump	3	10	WinsockPort	P2.1 L
Zone 4 Pump	4	11	WinsockPort	P2.1 L

[Presets]

Choose the right maximum pressure and maximum flow rate for the pump system.

**AZURA Lab SMB:**

- Zone 1, Zone 2, Feed, Zone 4 → Max. Pressure = 200 bar
- Zone 1, Zone 2, Zone 4 → Max. Flowrate = 50 ml/min
- Feed → Max. Flowrate = 10 ml/min

**AZURA Pilot SMB:**

- Zone 1, Zone 2, Feed, Zone 4 → Max. Pressure = 100 bar
- Zone 1, Zone 2, Zone 4 → Max. Flowrate = 500 ml/min
- Feed → Max. Flowrate = 100 ml/min
- Zone 1, Zone 2, Feed, Zone 4 → Serial Cycle= 1000ms

### Configuration of RID 2.1L

The flush valve needs to be configured separately:  
Addr.: 1, Pos.: 2, Port: Driver 3, Type: Standard Valve

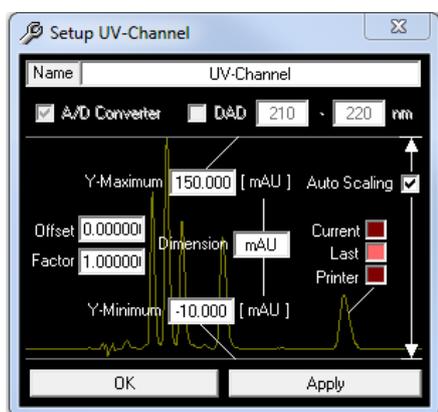
Data output is in nRIU. For  $\mu$ RIU please change the factor in the channel setting to 0,001.

### Configuration of used data channels

Order of data channels:

1. UVD
2. RID
3. Flowmeter

The menu option „Chromatogram“  in the main window opens the „Analysis window“. Using the icon „tools“  the selected channel can be configured (for example the name and the dimension). Read the manual for more information.



Device	Channel Name	Modus	Dimension	Factor
UWD	UV1/ UV2*/ UV3*/ UV4*	ADC	mAU	1
RID	RID	ADC	nRIU	1
Flowmeter	Flow Zone 1, Flow Zone 2, Flow Feed, Flow Zone 4*	ADC	ml/min	1

\*depending on Channelnumber of device (as set in .ini file)

### Configuration of toolbar buttons

If toolbar buttons are missing, double clicking on an empty space next to the toolbar buttons will open a selection window. Tick all boxes needed for the configuration at hand.



14. If the installation and configuration is finished, close the software. Copy the license file (PurityChrom.lic) on the CD (in folder: *License*) to C:\PurityChrom and insert the USB license dongle into a free USB port of the computer. The license will be recognized and can be used. Do not remove the dongle while PurityChrom is running.
15. KNAUER is not responsible for lost dongles. Losing the dongle means losing the license for software.
16. Restart your computer and the software PurityChrom once a week.

#### Attachment: IP addresses

- Use following IP addresses (subnet mask: 255.255.255.0, gateway: 192.168.1.1)

Device	IP-Address	Tool for fixed IP
Computer	192.168.1.100	
Zone 1 Pump (P 2.1L)	192.168.1.101	SN in FW
Zone 2 Pump (P 2.1L)	192.168.1.102	SN in FW
Feed Pump (P 2.1L)	192.168.1.103	SN in FW
Zone 4 Pump (P 2.1L)	192.168.1.104	SN in FW
Assistant 1 (In the tower from bottom to top)	192.168.1.105	SN in FW
Assistant 2 (In the tower from bottom to top)	192.168.1.106	SN in FW
Assistant 3 (In the tower from bottom to top)	192.168.1.107	SN in FW
Assistant 4 (In the tower from bottom to top)	192.168.1.108	SN in FW
Detector 1	192.168.1.110	SN in FW
Detector 2	192.168.1.111	SN in FW
Memmert Oven	192.168.1.121	FW via MAC Adresse/via Oven Display

Mark devices with stickers: „Fixed IP-Address: 192.168.1.XXX“