AZURA® Assistant ASM 2.2L

Docking station for pumps, valves and detectors

The Assistant ASM 2.2L is a docking station for up to three compact devices. Valves, pumps and UV detectors can be combined in one housing.
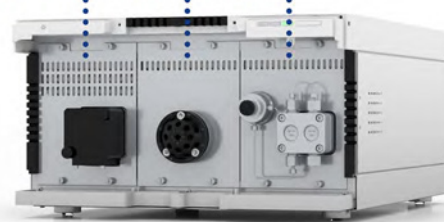
The plug-in modules are removed by loosening four screws allowing the user to exchange modules in case of service within minutes. Likewise, the configuration of the LC system can be adapted to new requirements. Routine maintenance work e.g. replacing the lamp of a detector are easily performed by the user.

Depending on the integrated modules the assistant fulfills many different tasks like eluent delivery, detection, sample and solvent selection, sample injection, column switching or fraction collection. An assistant including a pump, injection valve, and detector features a complete, compact chromatographic system. As a part of a larger system, the ASM 2.2L is extremely versatile in analytical, preparative and continuous liquid chromatography.

Select your desired plug-in modules for the left, middle and right position in the assistant and you will get your perfect assistant for chromatography and beyond.

www.knauer.net/assistants

Freely combine pumps, valves and detectors in one housing

KNAUER offers various software control options:
www.knauer.net/softwarecontrol

Specifications

General

Power supply	100 – 240 V, 50 – 60 Hz, maximum 130 W
Dimensions	361 x 208 x 523 mm (W x H x D)
Weight	about 17 kg (depending on integrated modules)
Leak sensor	Yes
Ambient conditions	Temperature range: 4 - 40 °C, 39,2 - 104 °F
Humidity: 10 - 90 % not condensing

Communication

Interfaces	LAN
Control	Mobile Control, Software
Inputs	Error (IN), Start (IN), Autozero, 0–10 V Analog IN
Outputs	Event 1–2, Error (OUT) (OC), + 5 V, + 24 V
Analog inputs	Integrator output (detector signal)

Software functions

Assistant configuration: The ASM 2.2L is supported as complete device. Modules are addressed via the assistant.

	ClarityChrom®	OpenLAB®	Mobile Control (version 6)
Two pumps (independent)	yes	no	yes
Fraction valve	one	one	yes, one valve
Injection module*	no	no	yes, but part of a method

Single device configuration: The ASM 2.2L is not supported as device. Integrated modules are addressed as separate devices via IP port.

	ClarityChrom®	OpenLAB®	PurityChrom®
Two pumps (independent)	no	yes	yes
Fraction valve	no	cascading
(Multi valve fraction collector)	one
Injection module*	yes, but part of a method	yes, fully automatic module with trigger for data acquisition	yes, but part of a method

* An injection module is a combination of one pump and one 6 port 2 position valve.

Plugin modules

The Assistant ASM 2.2L can be equipped with following plug-in modules. Use the web-based configurator to customize your assistant: **www.knauer.net/assistantconfigurator**.

Select the chosen plug-in modules for the left, middle and right position of the assistant to receive the article number of your assistant variant.

Configuration note
An assistant with following configuration is not allowed:
- more than two pump modules - a high-pressure gradient is not supported
- more than one UV detector
- without a plug-in module

Basic device

ASM 2.2L basic device	AY*

Plug-in modules

AZURA® Valve Unifier VU 4.1**

Basic plug-in modules	Article number of modules integrated in ASM 2.2L*
Empty module	G2022
AZURA® Valve Unifier VU 4.1**	EWA04
AZURA® UV Detector UVD 2.1S	EDA03XA
AZURA® UV Detector UVD 2.1S, fiber optics	EDA07XA
Compact pump without pressure sensor	
AZURA® Pump P 2.1S, 10 ml, stainless steel	DPG92EA
AZURA® Pump P 2.1S, 10 ml, Hastelloy C	DPG92EC
AZURA® Pump P 2.1S, 10 ml, ceramic	DPG92EB
AZURA® Pump P 2.1S, 50 ml, stainless steel	DPG92FA
AZURA® Pump P 2.1S, 50 ml, Hastelloy C	DPG92FC
AZURA® Pump P 2.1S, 50 ml, ceramic	DGP92FB
Compact pump with pressure sensor	
AZURA® Pump P 4.1S, 10 ml, stainless steel	DPG22EA
AZURA® Pump P 4.1S, 10 ml, stainless steel, normal phase	DPG22ED
AZURA® Pump P 4.1S, 10 ml, ceramic	DPG22EB
AZURA® Pump P 4.1S, 50 ml, stainless steel	DPG22FA
AZURA® Pump P 4.1S, 50 ml, stainless steel, normal phase	DPG22FD
AZURA® Pump P 4.1S, 50 ml, ceramic	DPG22FB
AZURA® Pump P 4.1S, 50 bar, 10 ml, stainless steel	DPG12EA
AZURA® Pump P 4.1S, 50 bar, 10 ml, ceramic	DPG12EB
AZURA® Pump P 4.1S, 50 bar, 50 ml, stainless steel	DPG12FA
AZURA® Pump P 4.1S, 50 bar, 50 ml, ceramic	DPG12FB

AZURA® Detector UVD 2.1S

AZURA® Pump P 4.1S

* No article numbers for direct order. Use the listed article numbers in the configurator to find your desired module combination: **www.knauer.net/assistantconfigurator**. To purchase a single plug-in module, replace the first letter of its article number for an "A". Example: EWA04 is the valve drive which is integrated in an assistant. Use the article number <u>A</u>WA04 to order it as a single module. An exception is the empty module which can separately be ordered as AG2022.

** Note that valves V 4.1 must be ordered in addition to the valve drive VU 4.1. **For valves, see p. 33**

Accessories

Column holder - replacing empty module	AG2022B

Column holder