

## Autosampler

### AZURA® Autosampler AS 6.1L

The AZURA® Autosampler AS 6.1L can inject from up to 768 positions when equipped with microtiter plates (either high or low formats) or from up to 108 standard 2 ml sample vials. Sample carryover is significantly minimized thanks to a highly-effective interior and exterior needle wash procedure. This autosampler is also fast and flexible: one complete sample injection cycle takes less than one minute, including needle wash. Three different injection modes are supported; "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), allowing the user to optimize sample usage. The headspace pressure function prevents bubbles from forming in the vial during sample uptake. This autosampler is also suitable for UHPLC with pressure stability up to 700 or 1240 bar (depending on version) and minimized dead volume for high resolution.

A variety of software control options is available: KNAUER offers various options for drivers. Detailed information on page 65.



#### Specifications

##### Sample injection

Maximum back pressure	see device versions
Vial/plate dimensions	max. plate/vial height: 47 mm (incl. septa or capmat)
Injection volume range	0.1 – 10.000 µl programmable
Sample loop	see device versions
Sample capacity	analytical versions: microtiter plates for max. 768 samples or sample plates for max. 108 vials preparative versions: 24 vials, 10 ml each (LSV)
Dispenser syringe	see device versions
Headspace pressure	built-in compressor, only for vials with septum
Switching time inj. valve	< 100 ms
Piercing precision needle	± 0.6 mm
Sample tray cooling/ heating	4 - 40 °C (4 - 20 °C for versions with sample cooling only: AAA21AA, AAA31AA and AAA41AA)
Vial detection	missing vial/well plate detection by sensor
Needle wash	programmable: wash between injections and wash between vials
Wetted materials	Tefzel®, Vespel®, glass, Teflon® (PTFE), standard versions: stainless steel, PEEK; bio versions: PEEK.
Buffer tubing	see device versions
Sample loop	see device versions

##### Analytical performance

Injection modes	full loop, partial loopfill and µl pickup mode; PASA™ (pressure-assisted sample aspiration)
Injection precision	RSD (Relative Standard Deviation): full loop injection: <0.3%, partial loop injection at an injection volume >10 µl: <0.5% µl pickup injection at an injection volume >10 µl: <1.0%
Injection volumes	full loop: max. 10000 µl, partial loop: max. 5000 µl (50% loop volume) µl pickup: max. 4625 µl (50% loop volume - 1,5x needle volume) 0,1 µl increment for all injection modes
Sample carryover	< 0.05% with standard wash; typically < 0.01% with extra wash
Injections per vial	max. 9 injections
Injection cycle time	minimum 7 s from the same vial, 14 s from different vials; < 60 s for ≤ 100 µl sample injection in all injection modes, incl. 300 µl needle wash
Analysis time	max. 9 h, 59 min, 59 s

##### Communication

Inputs	2 programmable TTL inputs (next injection, freeze, stop)
Outputs	1 programmable relay output (inject marker, auxiliary, alarm)
Control	Ethernet (LAN)
Display	Mobile Control (optional)

##### General

Power supply	90 - 230 V AC ± 10%; 50 - 60 Hz; 200 VA
Dimensions (W x H x D)	300 x 360 x 510 mm cool/heat versions: 300 x 360 x 575 mm
Weight	30 kg cool/heat versions: 32 kg

##### Technical parameters

Ambient conditions	temperature range: 4 - 40 °C; 39.2 - 104 °F air humidity: below 90% humidity (non-condensing)
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## Device versions

### Basic

Version	Basic	Basic Cool/Heat
Order number	AAA00AA	AAA01AA
Maximum back pressure	700 bar	700 bar
Sample needle	15 µl	15 µl
Dispenser syringe	250 µl	250 µl
Buffer tubing	500 µl	500 µl
Sample loop	100 µl, 0.4 mm ID	100 µl, 0.4 mm ID

### Standard

Version	Standard	Cool/Heat
Order number	AAA10AA	AAA11AA
Maximum back pressure	1240 bar	1240 bar
Sample needle	15 µl	15 µl
Dispenser syringe	250 µl	250 µl
Buffer tubing	500 µl	500 µl
Sample loop	10 µl, 0.18 mm ID	10 µl, 0.18 mm ID

### Bio\*

Version	Bio	Bio Cool	Bio Cool/Heat
Order number	AAA20AA	AAA21AA	AAA22AA
Maximum back pressure	345 bar	345 bar	345 bar
Sample needle	60 µl	60 µl	60 µl
Dispenser syringe	250 µl	250 µl	250 µl
Buffer tubing	500 µl	500 µl	500 µl
Sample loop	100 µl, 0.4 mm ID	100 µl, 0.4 mm ID	100 µl, 0.4 mm ID

\*biocompatible

### Prep

Version	Bio Cool Prep	Prep Cool	Prep
Order number	AAA31AA	AAA41AA	AAA40AA
Maximum back pressure	200 bar	200 bar	200 bar
Sample needle	60 µl	60 µl	60 µl
Dispenser syringe	2500µl	2500µl	2500µl
Buffer tubing	2000 µl	2000 µl	2000 µl
Sample loop	10 ml	10 ml	10 ml

### Ordering details:

AAA00AA	AZURA® Autosampler AS 6.1L analytical HPLC autosampler, 700 bar
AAA01AA	AZURA® Autosampler AS 6.1L analytical HPLC autosampler, 700 bar, with sample cooling/heating
AAA10AA	AZURA® Autosampler AS 6.1L analytical HPLC autosampler, 1240 bar
AAA11AA	AZURA® Autosampler AS 6.1L analytical HPLC autosampler, 1240 bar, with sample cooling/heating
AAA20AA	AZURA® Autosampler AS 6.1L analytical HPLC autosampler with biocompatible flow path
AAA21AA	AZURA® Autosampler AS 6.1L analytical HPLC autosampler with biocompatible flow path and sample cooling
AAA22AA	AZURA® Autosampler AS 6.1L analytical HPLC autosampler with biocompatible flow path and sample cooling/heating
AAA31AA	AZURA® Autosampler AS 6.1L preparative HPLC autosampler with biocompatible flow path and cooling option
AAA40AA	AZURA® Autosampler AS 6.1L preparative HPLC autosampler
AAA41AA	AZURA® Autosampler AS 6.1L preparative HPLC autosampler with sample cooling