Autosampler AS 110

Minute sample handling

- Single or dual loop injections
- Small sample handling w/o sample loss
- Cooled sample tray
- Well plates or vials

**Flexibility: Single or dual loop injections**
The AS 110 is a fast, robust and easy to use autosampler combining accuracy, reproducibility and flexibility. It has a dual needle with positive headspace pressure, extensive wash routines for minimal carry over and 3 injection modes including full loop, partial loop fill and µL pick-up. The AS110 can be equipped with a 6 port valve (for standard single loop injections) or with a 10 port valve (for dual loop injections, i.e., 1 x sample → 2 x chromatograms). UHPLC compatible versions of the AS 110 allow injections up to 1000 bar (15,000 psi).

**Small sample handling without sample loss**
The AS 110 can handle small sample volumes down to 1 µL accurately and reproducibly with virtually zero sample loss using the µL pick-up routine or user-defined injection programs. The sample tray offers temperature control down to 4°C. The fast needle movements result in unsurpassed speeds of less than 30s for a full cycle. These features make the AS 110 also a perfect fit for high throughput routine analysis.

**Dual loop injection (10 port valve)**
Equipped with a 10 port valve, the AS 110 allows for dual loop injections, whereby a small sample is reproducibly spitted and injected onto 2 different HPLC columns, for highest selectivity. Hereby the sample is injected simultaneously on both columns in one injection cycle resulting in minimal sample loss.

**Well plates or vials**
The AS 110 can accommodate almost any type of well plate (12, 48, 96 and 384 positions) sealed or unsealed as well as a large variety of HPLC sample vials (1.5 ml, 10 ml etc.).
### Specifications

<table>
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<tr>
<th>Feature</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Power requirements</td>
<td>95 - 240 Volt AC ± 10%; 50 - 60 Hz; 200VA</td>
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<tr>
<td>Sound pressure level</td>
<td>LeAq &lt; 70 dB</td>
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<tr>
<td>Operating conditions</td>
<td>10 - 40°C (50 - 104 °F), 20 - 80% RH, non-condensing (indoor use only)</td>
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<tr>
<td>Cooling (optional)</td>
<td>Minimum 4 ± 2°C (for maximum ambient temp of 25 °C and max. humidity of 80%)</td>
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<td>Viscosity range</td>
<td>0.1 - 5 cP</td>
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<tr>
<td>Regulatory</td>
<td>CE, cCSAus (file no. 241352), RoHS compliance</td>
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### Analytical performance

- **Injection modes**: Full loop, partial loopfill, µL pickup and user-defined injection programming, PASA™ (pressure-assisted sample aspiration)
- **Reproducibility AS 110**
  - RSD ≤ 0.3% for full loop injections, injection volumes > 5 µL
  - RSD ≤ 0.5% for partial loopfill injections, injection volumes > 5 µL
  - RSD ≤ 1.0% for µL pickup injections, injection volumes > 5 µL
- **Pressure rating**
  - AS110 with 6-port valve: max 350 bar (5000 psi)
  - AS110 UHPLC with 6-port valve: max 1000 bar (15000 psi)
  - AS110 UHPLC with 10-port valve: max 700 bar (10000 psi)

### Sampling

- **Sample capacity**: 2 micro titre plates according to SBS standards; 96-well high/low and 384-well low formats, 48-vial or 12-vial trays; combination are allowed, except 384 low left & 96 High right.
- **Vial/Plate dimensions**: Max. plate/vial height: 47 mm (incl. septa or capmat)
- **Loop volume**: Standard: 1 - 5000 µL programmable, optional 10 mL loop
- **Dispenser syringe**: Standard: 500 µL, optional 250, 1000 or 2500 µL
- **Vial detection**: Missing vial/well plate detection by sensor
- **Headspace pressure**: Built-in compressor, but only for vials with septa
- **Switching time valve**: Electrically < 100 msec
- **Wash solvent**: Integrated wash solvent bottle
- **Wetted parts in flow path**: SS316, PTFE, TEFZEL, VESPEL, Glass, Teflon and PEEK
- **Injection cycle time**: < 60s in all injection modes for 1 injection ≤ 100 µL including 300 µL wash

### Physical specifications

- **Dimensions**: 300 mm x 510 mm x 360 mm (without cooling option)
  - 300 mm x 575 mm x 360 mm (with cooling option)
- **Weight**: 19 kg (without cooling), 21 kg (with cooling)

### Part no | Description
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>AS 110</td>
<td>AS 110 autosampler std 6p, LAN, white</td>
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<tr>
<td>AS 110 EPS</td>
<td>AS 110 autosampler std cool 6p, LAN, white</td>
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<tr>
<td>AS 110 TPS</td>
<td>AS 110 autosampler UHPLC cool 6p, LAN, white</td>
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<tr>
<td>AS 110 C6P</td>
<td>AS 110 autosampler std cool 10p, LAN, white</td>
</tr>
<tr>
<td>AS 110 C10P</td>
<td>AS 110 autosampler UHPLC cool 10p, LAN, white</td>
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</tbody>
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### Features
- Handling of small samples with minimal sample loss
- UHPLC compatible versions
- 10 port valve for dual channel LC
- Programmable methods
- Temperature control
- IQ, PQ and OQ available

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**Reproducibility**

- using dual loop injection: 0.3 - 1.8 % RSD (n=8)

- One sample → two chromatograms

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**Antec Scientific**

- **Antec Scientific (USA)**
  - info@AntecScientific.com
  - www.AntecScientific.com
  - T 888 572 0012

- **Antec Scientific (worldwide)**
  - info@AntecScientific.com
  - www.AntecScientific.com
  - T +31 71 5813333