

# SACO200-1 • SACO200-2

**Nitrogen Sample Concentrator • Dry Block • RT+5 °C to 160 °C • 1 or 2 Blocks • A Valve on Every Needle**

**SACO200 Nitrogen Sample Concentrator** evaporates solvent from many tubes at once: an aluminium dry block warms the samples while a stream of nitrogen from stainless steel needles sweeps the vapour off the liquid surface, without oxygen and without a water bath. The block is controlled from RT+5 °C to 160 °C with an accuracy of  $\leq \pm 0.5$  °C at 40 °C, the needle head travels 200 mm on a rack-and-pinion stand, and every needle has its own valve, so each sample gets its own gas flow and finished samples are closed off while the rest go on. **SACO200-1** takes one block with 12 positions, **SACO200-2** two blocks with 24; seven interchangeable blocks cover tubes from Ø 10 mm to Ø 20 mm.

NITROGEN BLOW-DOWN

DRY BLOCK, NO WATER

RT+5 °C TO 160 °C

$\leq \pm 0.5$  °C AT 40 °C

1 OR 2 BLOCKS

12 OR 24 TUBES

VALVE ON EVERY NEEDLE

200 MM HEAD TRAVEL

OVER-TEMPERATURE PROTECTION

Document type: **Technical Specification Sheet**

Product: **SACO200 Nitrogen Sample Concentrator • SACO200-1 and SACO200-2**

SKU: **PRO4598 • PRO4599**

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 **HEATING ONLY** RT+5 °C to 160 °C



SACO200-2 • two blocks, 24 needles each with its own valve



SACO200-1 • one block, 12 needles each with its own valve

## MODELS

**SACO200-1 • PRO4598**

**SACO200-2 • PRO4599**

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# SACO200 • technical specification

Nitrogen sample concentrator with dry block, RT+5 °C to 160 °C, one block (SACO200-1) or two blocks (SACO200-2), a valve on every needle, 7 interchangeable blocks

RT+5 °C TO 160 °C

≤ ±0.5 °C AT 40 °C

12 OR 24 TUBES

VALVE ON EVERY NEEDLE

N<sub>2</sub> UP TO 15 L/MIN

300 W • 500 W

— Every sample blown independently

## Product Overview

### Application profile

**Residue analysis:** pesticides, mycotoxins and veterinary drugs before GC and LC.

**SPE eluates:** concentration of fractions after solid-phase extraction.

**Food and environment:** extracts of food, water and soil samples.

**Pharmaceutical and biological:** solvent removal from extracts and reaction mixtures.

**Solvent exchange:** evaporation to dryness and reconstitution in another solvent.

### Key features

**Control:** microprocessor with PID control; separate temperature and time displays.

**Temperature:** RT+5 °C to 160 °C, resolution 0.1 °C.

**Heating:** 25 °C to 160 °C in ≤ 15 min.

**Timer:** 1 min to 99 min 59 s, or continuous.

**Needle head:** a valve on every needle; rack-and-pinion height adjustment.

**Blocks:** 7 interchangeable aluminium blocks, 12 positions each.

**Calibration:** temperature deviation calibration.

**Safety:** automatic fault detection with alarm; over-temperature protection.

### Why nitrogen blow-down

**Each sample on its own:** a valve on every needle sets or closes the gas for that tube.

**Gentle:** evaporation below the boiling point, under inert gas.

**Dry heat:** an aluminium block instead of a water bath.

**Any tube length:** the needle head is raised and lowered over 200 mm.

**Many samples at once:** 12 tubes per block, 24 with two blocks.

### Core technical summary

| Parameter                 | Specification                           |
|---------------------------|-----------------------------------------|
| Models                    | SACO200-1 • SACO200-2                   |
| Product type              | Nitrogen sample concentrator, dry block |
| Temperature control range | RT+5 °C to 160 °C                       |
| Accuracy                  | ≤ ±0.5 °C at 40 °C • ≤ ±1 °C at 120 °C  |
| Uniformity                | ≤ ±0.5 °C                               |
| Heating 25 °C to 160 °C   | ≤ 15 min                                |
| Blocks • positions        | 1 • 12 (SACO200-1) — 2 • 24 (SACO200-2) |
| Head travel               | 200 mm                                  |
| Nitrogen flow             | up to 15 L/min                          |

TEMP. CONTROL

RT+5 °C to 160 °C

ACCURACY AT 40 °C

≤ ±0.5 °C

POSITIONS

12 or 24

GAS CONTROL

valve on every needle

RT = room temperature. The instrument is supplied without a block; blocks are ordered separately. Nitrogen supply, pressure regulator, tubes and samples are not part of the instrument. Use in a fume hood. Suitability for a specific method is confirmed in the COLO.Science quotation.

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## Technical Specifications

| Parameter                 | SACO200-1 · SACO200-2                  | Parameter              | SACO200-1 · SACO200-2                    |
|---------------------------|----------------------------------------|------------------------|------------------------------------------|
| Temperature setting range | 0 °C to 160 °C                         | Nitrogen flow rate     | up to 15 L/min                           |
| Temperature control range | RT+5 °C to 160 °C                      | Nitrogen pressure      | 0.1 MPa                                  |
| Temperature accuracy      | ≤ ±0.5 °C at 40 °C · ≤ ±1 °C at 120 °C | Gas control            | Valve on every needle                    |
| Temperature uniformity    | ≤ ±0.5 °C                              | Blocks · positions     | SACO200-1: 1 · 12 — SACO200-2: 2 · 24    |
| Display resolution        | 0.1 °C                                 | Power                  | SACO200-1: 300 W · SACO200-2: 500 W      |
| Heating time              | ≤ 15 min, 25 °C to 160 °C              | Voltage                | AC 220 V, 50/60 Hz (AC 110 V on request) |
| Time range                | 1 min to 99 min 59 s, or continuous    | Dimensions (W × D × H) | 260 × 220 × 475 mm                       |
| Maximum vertical travel   | 200 mm                                 | Weight                 | SACO200-1: 6.0 kg · SACO200-2: 7.5 kg    |

RT = room temperature; the control range starts 5 °C above the temperature of the room the instrument stands in. Accuracy, uniformity and heating time are supplier data.

## Interchangeable blocks

| SKU     | Tubes        | SKU     | Tubes        |
|---------|--------------|---------|--------------|
| PRO4600 | 12 × Ø 10 mm | PRO4604 | 12 × Ø 16 mm |
| PRO4601 | 12 × Ø 12 mm | PRO4605 | 12 × Ø 19 mm |
| PRO4602 | 12 × Ø 13 mm | PRO4606 | 12 × Ø 20 mm |
| PRO4603 | 12 × Ø 15 mm | —       | —            |

Every block has 12 positions. SACO200-1 takes one block, SACO200-2 two blocks, which may be of different formats.

### Needle head and nitrogen

**Valves:** one on every needle; turn to set the flow for that tube or to close it.

**Height:** the head is lowered until the needle tips are just above the liquid, and lowered further as the level drops.

**Nitrogen:** dry, oil-free gas through a pressure regulator at 0.1 MPa.

**Flow:** set so that the surface dimples without splashing; up to 15 L/min in total.

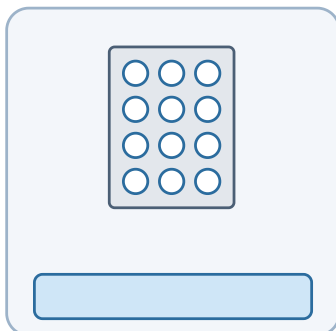
### Run sequence

- 1 • **Block:** fit the block for your tubes and set the temperature; the block heats up.
- 2 • **Load:** place the tubes, lower the head and close the valves of empty positions.
- 3 • **Blow:** open the nitrogen, set the flow at each valve and start the timer.
- 4 • **End:** close the gas, raise the head and take the tubes out.

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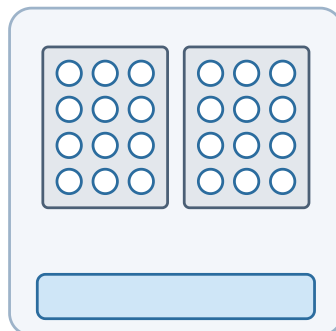
### One block or two

SACO200-1



1 block · 12 positions

SACO200-2



2 blocks · 24 positions

Schematic top view. SACO200-1 heats one block with 12 positions, SACO200-2 two blocks with 24 positions under a wider needle head.

### Needle head with valves



Each needle has a valve on top of the head: the gas flow is set for every tube, and a finished position is closed.

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SACO200-2 · side view, stand with rack-and-pinion height adjustment

### Ordering information

| Item                                                             | Value                                                                  |
|------------------------------------------------------------------|------------------------------------------------------------------------|
| SACO200-1 nitrogen sample concentrator, 1 block, without block   | PRO4598                                                                |
| SACO200-2 nitrogen sample concentrator, 2 blocks, without blocks | PRO4599                                                                |
| Blocks                                                           | see table of interchangeable blocks                                    |
| Flow control valve                                               | PRO4597                                                                |
| Supply                                                           | AC 220 V, 50/60 Hz                                                     |
| Delivery                                                         | Instrument, stand, needle head, needles, gas hose, mains cable, manual |

### Configuration checklist

**Tubes:** outer diameter and number per run decide the block and the model.

**Temperature:** evaporation temperature within RT+5 °C to 160 °C.

**Nitrogen:** cylinder or generator with regulator, 0.1 MPa, up to 15 L/min.

**More tubes or larger tubes?** SACO100 takes up to 48 tubes and diameters up to 40 mm.

**Place of use:** fume hood; 260 × 220 mm footprint, 475 mm high.

#### SUPPLIER AND SUPPORT

### COLO Lab Experts

Polje ob Sotli 4, SI-3255, Slovenia

**Selection guidance:** Send the tube diameter, the number of samples per run, the solvent and the temperature. COLO.Science will confirm the model, the blocks and the delivery time.

#### QUICK CONTACT

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#### COLO.SCIENCE · SAMPLE CONCENTRATION SUPPORT

### 12 or 24 samples per run?

Send the tube diameter, the number of samples per run, the solvent and the temperature. COLO.Science will confirm the model, the blocks and the delivery time.

Web: [colo.si](https://colo.si)

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