Sonation
lab solutions.

Analytics

COLUMN OVEN PRSO-V1-BR
FOR BRUKER CAPTIVE SPRAY

USERS MANUAL

CE-Konformitätserklärung
CE Declaration of Conformity
CE Déclaration de Conformité
CE Dichiarazione di Conformità

$C\epsilon$

Der Hersteller / The manufacturer / Le fabricant / Il fabbricante

Sonation GmbH
Alte Schulstr. 39 – 88400 Biberach - Deutschland

erklärt hiermit, dass die Produkte
herewith declares that the products
déclare par la présente que le produits
dichiara che il prodotti

PRSO-V1, PRSO-V1-BR

den Anforderungen der folgenden EG-Richtlinien entspricht.
meets the provisions of following EC-Directives.
remplit les exigences des Directives CE suivantes.
soddisfa tutte le disposizioni dalle Direttive CE.

Richtlinie Directive Directive Direttiva	gültig bis valid until valable jusqu'à con validità fino al	gültig ab valid after valable à partir de applicabile dal
2006/95/EG, EC, CE	19.04.2016	
2014/35/EU		20.04.2016
2004/108/EG, EC, CE	19.04.2016	
2014/30/EU		20.04.2016
2011/65/EU		03.01.2013

Angewandte Normen: Applied standards: Normes appliquées: Norme applicate :	EN 61326-1:2013 - Basic requirements EN 61010-1 :2010 + Cor. :2011

Diese Erklärung gilt für die oben genannten Produkte ab dem Unterzeichnungsdatum.
This declaration is valid for the above mentioned products after the signature date below.
La présente déclaration est valable à partir de la date de signature.
Questa dichiarazione vale per il suddetto prodotti dalla data di firma.

Biberach 12.01.2016

Ort / place / lieu / luogo
Datum /date / date / data

Unterschrift / signature / signature / firma

Name / name / nom / nome: Völkle, Christof
(Geschäftsführer / management / directeur / delegato)

Contents

1 Safety

1.1 Important safety instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Mains powered apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. (for USA and Canada)
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- WARNING: This apparatus shall be connected to a mains socket outlet with a protective earthing connection.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Use only with accessories specified by the manufacturer, or sold with the apparatus.
- Use only power cables rated at least for the maximum input current of the apparatus.
- If the apparatus is used in a manner not specified by the manufacturer the protection provided by the equipment may be impaired.

1.2 Operating conditions and conventional usage

- The device is exclusively designed as a oven for heating and tempering chromatography columns.
- The oven must be installed according to the instructions in this manual.
- The fan must be able to turn free and may not be blocked.
- The oven may only be used in clean and dry areas.
- During transport and storage temperature and humidity must be within the following range:
  Transport: Temperature: -20 to 60°C (-4 to 140°F), humidity: 5 to 90%
  Storage: Temperature: 10 to 40°C (50 to 104°F), humidity: 10 to 80%
- The oven may not be operated above 30°C / 86°F ambient temperature and above 80% humidity.
- The temperature of the oven may not exceed 80 °C / 176 °F
- If condensation water is formed after unpacking the box, an acclimatisation period of 2 hours must be adhered prior to installation.
- If a liquid should penetrate the electrical part of the oven/regulator it is to be set immediately out of operation and must be checked by a specialist.
- The valid accident guarding regulations according to each country must be considered.
- A repair of the oven may be accomplished only by a specialist.

2   Scope of supply

The Sonation Column Oven PRSO-V1 and Bruker mounting kit for Captive Spray consists of the following parts:

PRSO-V1-BR for Bruker Captive Spray:

- Column Oven consisting of top and bottom part
- Four conical inserts for column routing
- Regulator
- USB to serial converter
- Software CD / USB stick
- Oven control cable
- Cable for RS232 and contact closure
- Power supply cable
- Power supply 24V, wide range input
- Crossholder with lid

Preassembled mounting kit:

- Mounting plate
- Two rails
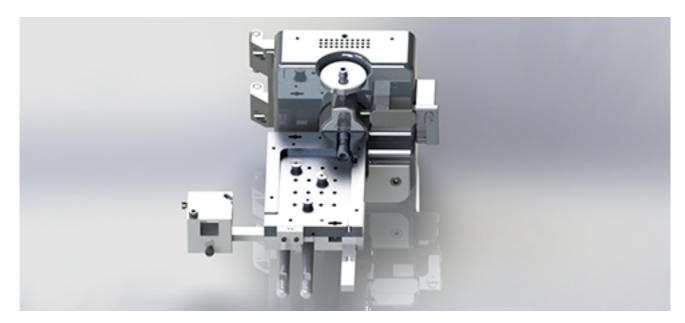- Slider
- Mounting screws.

3   Functional description

3.1 Oven

Fig. 1: Open oven with Bruker Captive Spray Source

⚠️ ▪ **Warning: During operation the surface of the oven can get very hot!**

The oven itself consists of two main parts. The top-part contains the heating/cooling unit, the heat sink and a ventilator. This part is connected to the oven controller. The bottom part holds the column and provides two inlets and one outlet for the columns. Depending on the column length, the front or the lateral column inlet is used and therefore the front or the lateral arm can be used to mount the crossholder. It can be used to hold a tee to split away a part of the HPLC flow if needed. The conical inserts can be screwed into the bottom part as needed to route the column from the inlet to the outlet.

3.2 Controller

Fig. 2: Controller - Rear view (left) and front view (right)

① "RS232 / Contact closure" connector   ② "Power in" connector   ③ "Oven control" connector

The controller contains the regulator and the power stage as well as the serial interface to connect it to the instrument PC. Further it can be switched between two temparatures with the provided contact closure interface. If no serial port is available, a USB-to-serial adapter is provided. The front view shows the connector for the connection between

controller and oven. The rear view shows the connectors for the connection to the power supply, the PC and the contact closure interface.

4   Installation

4.1 Hardware installation
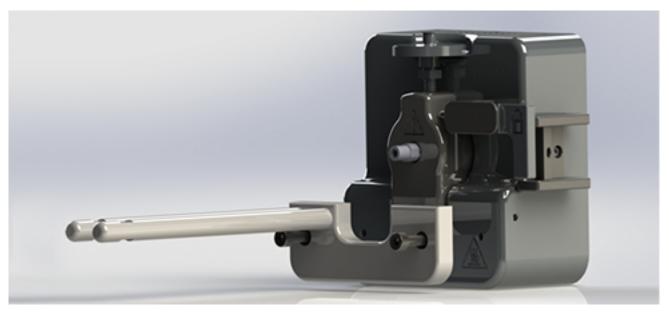
Installation of the mounting kit

Fig. 3: Mounting kit installation

Install the preassembled mounting kit to your Captive Spray source. There should be some play to align the oven outlet with the inlet union of the source.
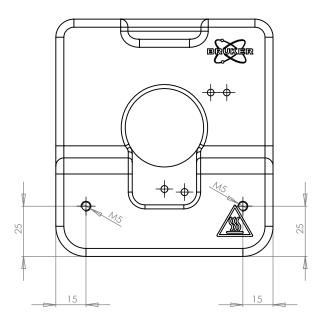

Fig. 4: Bruker Captive Spray Source with mounting holes

Note: Newer Captive Spray sources already have the mounting holes for the column oven. If your source does not have the mounting holes, please contact Sonation or Bruker.

Mounting the oven to the source

Slide the bottom part of the oven onto the rails and secure it in the preferred position by tightening the knurled screw.
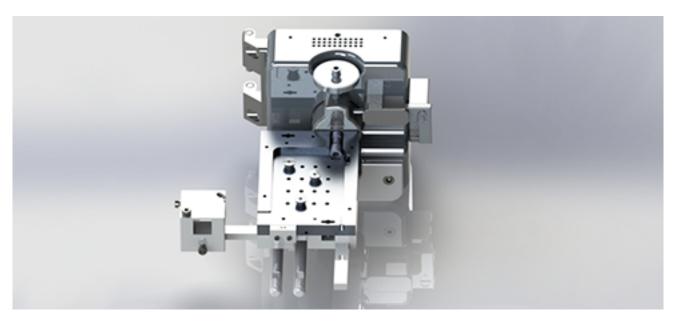

Fig. 5: Open oven with Bruker Captive Spray Source

Connecting the controller

Connect the 24-Volt power supply to the power connector. The power supply will be connected to a wall outlet later.

Fig. 6: Mounting rails with locking mechanism

> ⚠ ▪ **The wide side of the plug faces the top of the control module, do not force it in twisted.**

Connect the controller with the provided RS232 cable to an available com-port on your instrument PC.
The remaining two open leads of this cable are connected to the 'contact closure out' of your instrument.
If there is no com-port available, please use the provided USB-to-com adapter.

Now connect the cable between the controller and the oven.

Column loading

Short columns   Longer columns
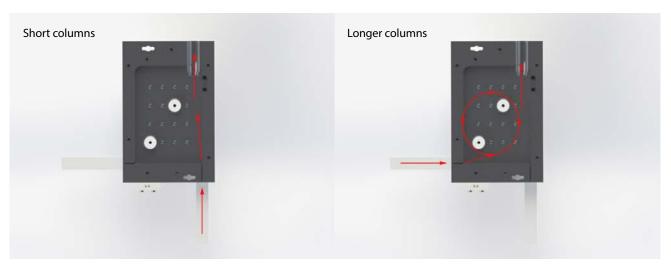
Fig. 7: Column loading

Open the oven by turning the little spring loaded handles at the front and back of the oven.
The upper part can be removed now. Install your column either through the front- or left side gap, depending on the column length. Longer columns enter through the left side gap and can be wound around the inserts as often as needed. If needed, install your T- or cross piece into the cross holder. It can slide on the left or front rail and can be secured with the Nylon screw in the crossholder.

⚠️   ▪ **Do not use any adhesive tape or other temperature sensitive materials inside the oven.**

Now reinstall the upper part of the oven and plug in the power cord from the power supply to a wall outlet.

The oven is now ready to use.

4.2 Software Installation

Installing the oven control software

To install the oven control software, just execute the setup program under COControl/COControl 3.3.0.5 Setup.exe from the provided CD / USB stick and follow the instructions. The software also needs an installed Microsoft .NET. If the

software won't start and throws an error message showing .NET is missing, just install it from the provided CD / stick.

5 Control

Using COControl

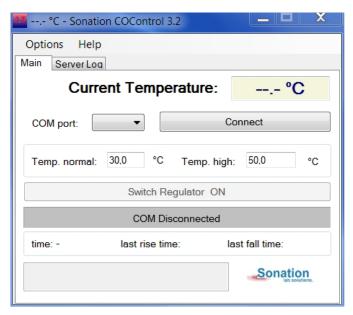After starting the software it comes up with the main view.

Fig. 8: COControl

Choose the COM-port to which the controller is connected and click "connect". Now you should see the current temperature of the oven in the display in the upper right. If no temperature is displayed, please ensure that the upper part of the oven sits proper on the bottom part. If the oven is open, no temperature will be displayed. In the main view you can also adjust the two temperature setpoints "Temp. normal" and "Temp. high".

By clicking "Switch regulator on" the regulator starts to heat or cool the oven to one of the setpoints, depending on the state of the contact closure input.

To visualize the temperature profile, a graph window can be displayed. To show it up, chose "Options>Graph window" from the main menu.
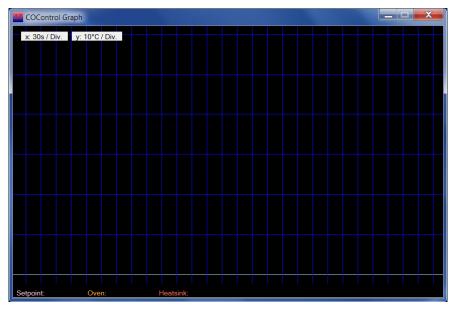

Fig. 9: Graph view of COControl

In the settings window under "Options>Settings" the graph window can be started automatically on startup.
It is possible to unlock an extended temperature range. If your application requires higher or lower temperatures, please ask Sonation for an option code. But also keep in mind that a higher temperature range is stress for the Peltier-modules and can lead to a shorter lifetime.

6   FAQ - Frequently Asked Questions

My PC does not have any COM-ports / no available COM-ports. Can I run the oven anyhow?

Yes. Please use the provided USB to serial converter to install a virtual com-port.

I've successfully connected to the oven but can still see no temperature. What is wrong?

Please ensure that your oven is closed properly. When the oven is open or even not properly closed, the temperature sensor cannot be read.

Is it possible to set up higher temperatures then 50°C or lower temperatures then 30°C?

Yes, it is possible. Please ask Sonation for an option code, but remember that the lifetime of the Peltier-elements will be lowered because of the additional thermal stress.

My Captive Spray source is not equipped with mounting holes to hold the oven.

Please contact Sonation or Bruker to obtain the newest model of the source with mounting holes.

IMPROVE YOUR SCIENCE

WWW.SONATION.COM