A New Generation Column Oven: SunTherm

Overview

The new **SunTherm** column oven provides the capability to maintain a precise temperature in the range from 5°C to 100°C. The heating transfer occurs via an aluminum block is in the heating area and provides for optimum contact with the column. The thermal energy is transmitted directly by contact to the metal. Since the **SunTherm** Column Oven does not include any movable parts it is exceptionally effective and reliable.

The cooling effect due to the introduction of cold eluents on the column is eliminated as SunChrom provides an optional heat exchanger. This provides for narrower and more symmetrical peaks, even though it increases the system volume by a few µL.

Why do you have to thermostat the column??

An HPLC-separation is reproducible when the temperature of the column is maintained at a given temperature. In addition, some separations require an above or below ambient temperature. As examples, separations using a chiral phase frequently require cooling, while many ion exchange separations are optimized at elevated temperatures. In the same vein, the retention times of the compounds that are being separated and the selectivity are temperature dependent.

The influence of a change in the temperature on the separation can be eliminated with the use of a column oven that maintains a stable temperature. It should be noted that GLP requirements dictate the need for temperature control and documentation of the temperature. In addition, an elevated temperature of the separation column serves to lower column back pressure and leads to narrower peaks, which leads to the possibility of faster separations.

Properties

The entire length of the column is housed between aluminum blocks and with the pre-heating of the eluent the user obtains fast, optimal heating and fast transfer of heart to the column. The aluminum blocks are available as a number of lengths so that essentially all columns can be accommodated. The **SunTherm** Column Oven is available in two versions; the **SunTherm 100** has a heater while the **SunTherm 5 - 100** includes a heater **and** a Peltier-cooling system.

The microprocessor based controller provides control of two separate processes, heating and cooling. In the heating mode, the Peltier elements and the fan are disabled, while in the cooling mode, only the Peltier elements are in operation. The system continually monitors the temperature and both the heating and cooling elements are controlled so that the smallest change in temperature will activate the appropriate element to ensure that the desired temperature is maintained. Since there are no moving parts except for the fan, the **SunTherm** Column Oven is extremely reliable and rarely stops operating.

SunChrom ®
...mit uns auf der Sonnenseite der Chromatographie

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Technical Specifications

Temperature Range	5℃ above the ambient temperature to 100 ℃ (SunTherm 100) 5℃ to 100℃ but a maximum of 20℃ below the ambien t temperature (SunTherm 5 – 100)
Heating	Resistance Heaters (2 x 25 W)
Cooling (SunTherm 5-100)	Thermoelectric with Peltier-Elements (2 x 25 W)
Heat Transfer	Via black anodized alumina blocks, 60; 70 and 100 mm long
Temperature Setting	In 0.1℃ Steps
Temperature Display	5.0 – 100.0℃ in decimal format
Temperature Stability	< 0.5 ℃; typically <0.1 ℃ at 40℃ (heating mode only)
Temperature Precision	< 0. 5 ℃; typically <0.2 ℃ at 40℃
Temperature Reproducibility	< 0.5 ℃
Column Capacity	1 x 300 mm Main Column with pre-column or 1 x 300 mm Main Column with heat exchanger
Power Requirements	100-120 VAC / 220-230 VAC
Energy Usage	Maximum 100 W; Electronically controlled for minimum energy usage
Dimensions	120 x 200 x 535 mm (L x W x H)
Dimensions of column compartment	21 x 21 x 400 mm (L x W x H)
Weight	10 kg

We reserve the right to change specifications, design or price without advance notice.

Order Information

Part Number	Short Description
458-882.100	Column Oven SunTherm 100
458-882.101	Column Oven SunTherm 5-100
	Spare parts:
458-882.111	Heat Exchanger (15 cm)
458-882.112	Heat Exchanger (50 cm)
458-882.203	Transformer
458-882.210	Pt100
458-882.211	Thermostat
458-882.216	Column Clamp, 60 mm
458-882.217	Column Clamp, 75 mm
458-882.218	Column Clamp, 100 mm
458-882.220	Heating Foil 25W
458-882.301	Peltier-Element
458-882.302	Fan
458-882.303	Cooling Unit

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