PN4020

FFF/SEC Thermostat Module

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PN4020 Thermostat

Features

Many Flow FFF or SEC separations require sub-ambient temperatures for sufficient stability and to prevent microorganism growth. On the other hand especially polymer separations benefit also from elevated temperatures up to 90 °C with higher solubility and separation efficiency.

Every Flow FFF or SEC separation is a function of temperature and stable retention times can only be guaranteed if the temperature is not influenced by laboratory temperature fluctuations. Obviously, temperature control will also help to comply with GLP requirements. Remote control is possible via conventional I/O and via the serial RS232 port.

The PN4020 Thermostat can be equipped both with a Flow FFF channel and/or SEC column.

Ideal for Flow FFF or SEC Separations

The Postnova PN4020 FFF/SEC Thermostat ensures this and offers precise and stable temperature control ranging from 5 °C up to 90 °C to allow even most demanding FFF/SEC separations. The unit allows achieving a run to run reproducibility which is not possible with other designs. The forced-air concept with large front door allows easy access to the Flow FFF channel or SEC column and offers maximum flexibility and ease of handling. Forced air heat-exchange is the most convenient way to control the temperature. In contrast to heater blocks, there is maximum freedom for different channel dimensions (e.g. analytical, mini or micro) and unlike water jackets you have easy access to the Flow FFF channel or SEC column. Even the injection valve can be mounted inside the thermostat!

Safe and Stable Design

The selected temperature is maintained within as little as +/- 0.1 °C to guarantee maximum precision of retention times. The large area heating/cooling elements provide excellent temperature distribution and avoid hazardous „hot spots“. In addition, a vapor alarm is installed in case of solvent leakage in the thermostat.

Advanced Peltier Technology

The PN4020 with advanced Peltier technology has an extended temperature range from 5 °C up to 90 °C. Integrated cooling by Peltier elements is most convenient, because it does not require an external cooling device and it accelerates cooling-down and warming-up!

Ordering Information

PN4020 Thermostat included in AF4 System

S-AF4-SYS-607 AF2000 MidTemp System

PN4020 Stand-Alone Thermostat

For your existing AF2000 AF4 system the PN4020 thermostat can be ordered as a single component:

S-COV-4020-001	PN4020 MidTemp FlowFFF Thermostat Aqu Metal-Free
S-COV-4020-002	PN4020 MidTemp FlowFFF Thermostat Organic
S-COV-4020-003	PN4020 MidTemp FlowFFF Thermostat MultiSolvent

SEC/GPC Option

The SEC Switching option allows automated selection of FFF channels or SEC/GPC columns by an integrated valve in the PN4020 thermostat. FFF and SEC runs can be performed using the same hardware and identical conditions.

S-AF4-SEC-600 FFF-SEC-Option Aqueous
S-AF4-SEC-601 FFF-SEC-Option Organic
S-AF4-SEC-602 FFF-SEC-Option Multisolvent

Specifications

- Temperature Range:
  5 - 90 °C, with 1 °C increments; dependent on the installed channels/columns/valves
- Temperature Accuracy:
  Better than 0.1 °C
- Temperature Stability:
  Better than 0.1 °C
- Temperature Gradient:
  Better than 0.2 °C
- Temperature Reproducibilty:
  Better than 0.1 °C
- Temperature Change:
  Up: 10 °C/Min. from 40-60 °C
  Down: 2 °C/Min. from 60-40 °C
- Time Programmable:
  9hr59 total time, with 1 minute increments, max. 10 programmable steps
- Programmable Temperature:
  Up: 0-5.0 °C/min
  Down: 0.1-1.5 °C/min (75-25 °C)
- Detection:
  Vapor sensor with selectable alarm settings
- Limiter:
  Temperature limit switch at 125 °C
- Electronics:
  Watchdog in FPGA for embedded software check
- Environmental Conditions:
  20 – 80 % relative humidity (non-condensing) at an operating temperature range of 5 – 40 °C
- Dimensions:
  HxWxD 600 x 170 x 345 mm
- Weight:
  16 kg
- Power Requirements:
  115/230 V, 50/60Hz, 550 VAmax

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