



Like the Wind:

MISTRAL Column Oven

Description

The Mistral column thermostat offers precise and stable temperature control ranging from 5°C up to 90°C to bring even your most demanding separation under control. The forced-air concept allows easy access to the column(s) and offers maximum flexibility with respect to column dimensions.

Why do you have to thermostat the column?

Every separation is a function of temperature and stable retention times can only be guaranteed if the column temperature is not influenced by ambient temperature fluctuations. Obviously, temperature control will also help to comply with GLP requirements. Column back-pressure reduction may be needed if you want to speed up your HPLC analysis and a simple increase in temperature will do the job. The Mistral column thermostat offers precise and stable temperature control ranging from 5°C up to 90°C to bring even your most demanding separation under control. The forced-air concept allows easy access to the column(s) and offers maximum flexibility with respect to column dimensions.

Many chiral separations require sub-ambient temperatures for sufficient resolution and many ion-exchange separations are efficient only at elevated temperatures.

Features

Forced air heat-exchange is the most convenient way to control the column temperature. In contrast to heater blocks you have maximum freedom for column dimensions and unlike water jackets you have easy access to the column. Multiple columns are possible and even the injection valve can be mounted in the thermostat! Forced air is convenient, but GC technology has learnt that heat exchange is only efficient if you blow hard. Like the powerful warm "Mistral" winds that occasionally blow in the Rhone valley in France, the Mistral fan blows hard for proper heat exchange!

Stable and Safe

The selected column 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 vapour alarm will alert you in case of solvent leakage in the thermostat. Comforting features when the emphasis is on stable and safe performance.

Peltier technology for full range control.

The Mistral with Peltier cooling 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!

Compatible with any HPLC system

The Mistral will fit in any HPLC system and flexible positioning of inlet and outlet tubing allows short connections to most detectors and autosamplers. A manual injection valve fits in the door of the thermostat for optimum temperature control and minimum tubing length between column and injector. Remote control is possible via conventional I/O and via the serial RS 232 port using the SparkLink communication protocol.

A perfect Pair!



TRIATHLON and MISTRAL



Precise Temperature Control of the Column and Injector Valve

Thermostating the injection valve and additional switching valves will help to reduce temperature gradients at the column inlet that can impair separation efficiency. Only one autosampler and one column thermostat can form this desirable combination: the [Triathlon](#) and the Mistral!

Options.

- MISTRA-Switch: Provides automated column selection and unsupervised optimization of the separation. Includes control software which can be integrated with the following instrument control software.

Agilent ChemStation; ABI Analyst V1.4.1; ChromSword (Merck)
Dionex Chromeleon; Perkin Elmer Turbochrom/Totalchrom
EZChrom Elite (Shimadzu, Merck-Hitachi, Knauer, Jasco (only for versions with EZChrom Basis) and others.

- Manual Injector: Integrated manual injection valve.
- Multiple Column Selection: The mechanical switching part is mounted inside the column oven compartment and allows to switch up to 6 columns.

Technical Specifications

Working Range	Standard: ambient +5°C up to 90°C, with Peltier Cooling, 5°C up to 90°C
Accuracy	Better than 0.1°C (at 30°C, measured in the center of the compartment)
Stability	Better than 0.1°C (at 30°C, measured in the center of the compartment)
Precision	Better than 0.1°C (at 30°C, measured in the center of the compartment)
Gradient	Better than 0.2°C (measured in column area at 30°C)
Warmup	Standard: 7°C/min; with Peltier;- 10°C/min
Cool-down	Standard: 0.5°C/min; with Peltier cooling: 3°C/min - (from 70 down to 30°C)
Readout	Actual Temperature (0.1°C); set point (0.1°C); elapsed time
Program	5 time programmable set points and temperature gradient programming

General

Communication	Start time program (TTL); shut down (TTL), Outputs: Vapour and temperature alarm (contact closure), Oven ready (contact closure); Serial , RS-232 with SparkLink communications protocol
Power Requirements	220 VAC; +/- 10 %; 50 Hz, 110 VAC; +/- 10 %; 60 Hz;.
Size (W x D x H)	External: 400 x 110 x 50 mm Column Compartment: 400 x 110 x 50 mm
Weight	16 kg
Production Quality	ISO 9001
Safety Features	Vapour alarm; Audible alarm and electrical output signal; Temp. Limiter:125°C; IEC 1010 compliance.
EMC	In accordance with EU directive ("CE")

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

Ordering Information

Part Number	Short Description
708-880.000	MISTRAL Column Oven
708-880.001	MISTRAL Column Oven with Cooling Option
708-880.010	MISTRAL plus Valco 6-Way Valve
708-880.011	MISTRAL Column Oven with Cooling Option and Valco 6-Way Valve
708-880.050	MISTRAL Column Oven (slave)
708-880.051	MISTRAL Column Oven with Cooling Option (slave)
708-880.902	MISTRAL Column Oven with Model 7725i Injection Valve
708-880.903	MISTRAL Column Oven with Cooling Option and Model 7725i Injection Valve
969-880.000	MISTRAL Column Oven with MistraSwitch System
969-880.001	MISTRAL Column Oven with Cooling Option and MistraSwitch System
969-880.990	Column Switching Module for MISTRAL
708-880.754	Ventilation Motor
708-880.750	Heating Element
708-880.752	Peltier-Cooling Element
708-880.851	MultiLink-Option for MISTRAL

SunChrom