

T-2420 PRECISION TEMPERATURE FORCING SYSTEM

1.9. SPECIFICATIONS

The Model T-2420 PTFS is designed to comply with the following specifications. The system has been factory-tested to verify conformance to these specifications.

1.9. 1. General Description

Method of Cooling: Forced air with single-stage mechanical refrigeration and multistage self-cooling heat exchanger.

Method of Heating: Forced air with in-line air heaters.

Operator Interface: Twenty character alphanumeric display and keypad; menu-driven software with self diagnostics.

1.9.2. Physical Characteristics

Model #	Height (in/cm)	Width (in/cm)	Depth (in/cm)	Weight (lbs/kgm)
T-2420	40 / 102	24 / 61	21 / 53	290 / 132
T-2420S	43 / 109	26 / 66	24 / 61	325 / 148
T-2420 with TF-IC3	56 / 142	24 / 61	53 / 35	365 / 166
T-2420 with TF-IC5 or TF-IC7	48 / 123	24 / 61	49 / 124	355 / 161
T-2420S with TF-IC7	51 / 129	29 / 74	52 / 132	410 / 186

1.9.3. Environment

Ambient Temperature Range: Operating: 15°C to 28°C
Non-operating: -40°C to +85°C

Relative Humidity: 20-65%

1.9.4. Power Requirements

Model #	Volts	Hertz	Phases	Amps
T-2420	208 - 230	50 / 60	1	15
T-2420S	208 - 230	50 / 60	1	20

Optional transformers available for input voltage ranges of 195-210 VAC or 220-245 VAC.

T-2420 PRECISION TEMPERATURE FORCING SYSTEM

1.9.5. Air Input Requirement

Pressure: 80-110 PSIG (5.7 to 7.8 Kg/cm²)
Flow Rate: 10-16 SCFM (4.7-7.6 liters/sec)
Dew Point: Less than 10°C at 80 PSIG (5.7 Kg/cm²)
Quality: Clean dry air, free of oil, moisture and particles

1.9.6. LN₂ Requirements (if equipped with LN₂ option)

Pressure: 18 to 30 PSI.
Flow Rate: 2 liters/hour Approx.).

1.9.7. Temperature Performance

Model #	Range (°C)*	Accuracy (°C)	Stability (°C)	Displayed Resolution (°C)	Transition Time (sec)**
T-2420 with T-BOH	-75 to 200	±1.0	±0.3	0.1	150
T-2420S T-BOH	-85 to 220	±1.0	±0.3	0.1	120
T-2420 with TF-IC3	-70 to 225	±1.0	±0.3	0.1	5
T-2420 with TF-IC5	-75 to 205	±1.0	±0.3	0.1	30
T-2420 with TF-IC7	-75 to 225	±1.0	±0.3	0.1	5
T-2420S with TF-IC3 or TF-IC7	-85 to 225	±1.0	±0.3	0.1	4

1.9.8. Features

Calibration: Automatic or manual. Up to 10 different applications may be calibrated independently and stored in non-volatile memory.

Temperature Sensor: Device under test (DUT), K-type thermocouple. Optional T-type thermocouple, 1000 ohm RTD for auto calibration.

Controller: Microprocessor based PID (Proportional Integral Differential) with user control of DUT mass constant.

Fail Safes: Snap-disc thermostats, air-flow sensors and thermocouples. Over temperature limit of 235°C.

Air Dryer: Dries air to -70°C dew point.

Air Flow: 200 to 960 SCFH (1.6 to 7.6 liters/sec).

* Cold specifications are for room ambient temperature of 75°F or lower with 60 Hz power.

** Transition time from +125°C to -55°C to +125°C air temperature measured at air output nozzle. Measured in temperature cycle mode after system stabilization with 10 second soak time or less at each temperature. Room ambient temperature to be below 75°C.