

TENNEY/LUNAIRE (TPS)

TENNEY JR

The Tenney JR (Tenney Junior) is a compact, benchtop environmental test chamber designed for high-performance temperature testing. Engineered by Thermal Product Solutions (TPS), it features a cascade refrigeration system capable of reaching ultra-low temperatures, paired with robust construction and advanced controller options to meet rigorous laboratory and quality control standards.

SPECIFICATIONS

General

Interfaces	RS-232 / RS-485 (standard with Watlow F4); Ethernet / USB / Modbus RTU (standard with Watlow F4T or Synergy Nano)
Display	Watlow F4T Color Touchscreen, Synergy Nano Touchscreen, or Watlow F4 1/4 DIN LCD (model/option dependent)
Manufacturing Origin	USA
Product Family	Benchtop Temperature Test Chambers

Physical

Operating Temperature	-75°C to 200°C °C
Dimensions (W×H×D)	External: 37" x 30" x 22.5" (940 mm x 762 mm x 572 mm) (W×H×D) mm
Weight	118 kg kg

Temperature & Climate Performance

Temperature Range	-75°C to +200°C
Temperature Control Tolerance	±0.3°C after stabilization
Ultimate Low Temperature	-75°C
Ultimate High Temperature	+200°C
Average Heating Rate	Ambient to 200°C in 60 minutes
Average Cooling Rate	Ambient to -65°C in 50 minutes

Chamber Construction & Geometry

Internal Volume	1.25 cu. ft. (35 L)
Internal Width	16 inches (406 mm)
Internal Depth	11 inches (279 mm)
Internal Height	12 inches (305 mm)
External Width	37 inches (940 mm)
External Depth	22.5 inches (572 mm)
External Height	30.25 inches (768 mm)
Interior Construction Material	304 Stainless Steel, continuously welded
Exterior Construction Material	Heavy-gauge cold-rolled steel with baked-on powder coat finish
Viewing Window Dimensions	2" x 2" (51 mm x 51 mm) multi-pane heated glass window
Access Port Quantity & Diameter	One 3-inch (76 mm) diameter port standard
Access Port Location	Left side, centered
Door Gasket Material	High-temperature silicone rubber
Door Hinge Side	Left hinged (right-hand pull)

Refrigeration & Heating Systems

Refrigeration Type	Cascade system
Compressor Horsepower	Two 1/4 HP hermetic compressors
First-Stage Refrigerant Charge Type	R-449A / R-404A (configuration dependent)
Second-Stage Refrigerant Charge Type	R-508B
Condenser Cooling Method	Air-cooled
Heating Element Type	Nichrome wire open-element heaters
Heating Capacity	0.5 kW

Control System & User Interface

Controller Model	Watlow F4T or Synergy Nano (modern config)
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Shelving & Loading Specifications

Standard Shelf Count Included	1 wire mesh shelf
Shelf Construction Material	Stainless steel wire mesh

Power & Utility Requirements

Input Voltage	120 VAC
Electrical Phase	1-Phase
Electrical Frequency	60 Hz
Full Load Amps (FLA)	16 A
NEMA Plug Configuration Type	NEMA 5-20P

Safety & System Protection

Over-Temperature Safety Limit Controller	TempGard independent limit controller standard
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Physical, Environmental & Compliance

Net Equipment Weight	260 lbs (118 kg)
Gross Shipping Weight	330 lbs (150 kg)

Performance & Control

Temperature Sensor	Platinum RTD
Live Load Capacity at 0°C	220 W
Live Load Capacity at -40°C	130 W
Live Load Capacity at -56°C	50 W
Heat-Up Time (Ambient to +200°C)	40 min (approximate, performance-dependent)
Pull-Down Time (Ambient to -73°C)	55 min (approximate, performance-dependent)

Airflow & Ventilation

Air Circulation Rate	70 CFM
Airflow Pattern	Vertical recirculating

Physical & Interior

Maximum Shelf Positions	3
Interior Construction Style	Continuously welded vapor-tight stainless steel

Compliance & Standards

Manufacturer Quality Certification	ISO 9001
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Control System

Control System Type	Microprocessor-based PID controller
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TECHNOLOGY

Cascade Refrigeration / Electric Heating

APPLICATIONS

Benchtop Environmental and Temperature Testing

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