

# CTS

# Climatic Testing Systems

*Bringing the Desired Climate to Your Doorstep*



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# 20 TON PSYCHROMETRIC TEST ROOM



*The Psychrometric Test Room will conform to the following standards:*

No.	STANDARD	DESCRIPTION
1	ASHRAE 37	Methods of Testing for Rating Unitary Air Conditioning and Heat Pump Equipment
2	ASHRAE 41.1	Standard Method for Temperature Measurement.
3	ASHRAE 41.2	Standard Methods for Laboratory Air-Flow Measurement
4	ASHRAE 41.3	Standard Method for Pressure Measurement
5	ASHRAE 41.6	Standard Method for Measurement of Moist Air Properties
6	ASHRAE 51	Laboratory Methods of Testing Fans for Rating
7	ASHRAE 58	Method of Testing for Rating Room Air Conditioned and Packaged Terminal Air Conditioner heating Capacity
8	AHRI 210/240	Unitary Air Conditioning and Air-Source Heat Pump Equipment
9	AHRI 340/360	Commercial and Industrial Unitary Air Conditioning and Heat Pump Equipment
10	ISO 5151	Non-Ducted air conditioners and heat pumps – Testing and rating for performance

<sup>1</sup> Based on required power supply stability by customer.



# 20 TON PSYCHROMETRIC TEST ROOM

Indoor Room Dry Bulb Temperature		
Dry Bulb Temperature Range	60°F to 95 °F	15.6°C to 35°C
Control	± 0.2°F	± 0.1°C
Uniformity @UUT Inlet	± 0.5°F	± 0.3°C
Control Type	Single Point PID	
Sensor Type	100- Ω, 4-Wire Platinum RTD	
Sensor Location	UUT Inlet Sampler	
Indoor Room Wet Bulb Temperature		
Wet Bulb Temperature Range	48°F to 94°F	8.9°C to 34.4°C
Dew Point Temperature Range	35 to 90°F	1.7°C to 32.2°C
Control	± 0.2°F	± 0.1°C
Humidity Range	20 to 95%	
Humidity Control	±2%RH[±0.2°F wet bulb]	
Uniformity @UUT Inlet	± 0.5°F	± 0.3°C
ControlType	Single Point PID	
Sensor Type	100- Ω, 4-Wire Platinum RTD	
Sensor Location	UUT Inlet Sampler	
Indoor Room Airflow		
Indoor room UUT airflow	800 to 9,000 CFM	1360 to 15,291 CMH
Control Parameter	UUT ΔP	
Control Range	-1.0 to +1.0 inch of WC	
Control	±0.02 inch of WC	
Control Type	Single Point PID	
UUT Airflow measurement	ASHRAE Nozzles with pneumatic selector switches	
Indoor Room air circulation	16,000 CFM TeVariable	27,184 CMH Variable
Outdoor Room Dry Bulb Temperature		
Dry Bulb Temperature Range	+15 to 130 °F	-9.4 to 54.4°C
Control	± 0.2°F	±0.1°C
Uniformity @UUT Inlet	± 0.5°F	± 0.3°C
Control Type	Single Point PID	
Sensor Type	100- Ω, 4-Wire Platinum RTD	
Sensor Location	UUT Inlet Sampler	
Outdoor Room Wet Bulb Temperature		
Wet Bulb Temperature Range	+14 to 96°F	-10 to 35.6°C
Dew Point Temperature Range	8 to 90°F	-13.3 to 32.2
Control	± 0.2°F	± 0.1°C
Humidity Range	20 to 95%	
Humidity Control	±2%RH[±0.2°F wet bulb]	
Uniformity @UUT Inlet	± 0.5°F	± 0.3°C
Control Type	Single Point PID	
Sensor Type	100- Ω, 4-Wire Platinum RTD	
Sensor Location	UUT Inlet Sampler	
Outdoor Room Airflow		
Outdoor room UUT airflow	1800 to 18000 CFM	3058 to 30582 CMH
Control Parameter	UUT ΔP	
Control Range	-1.0 to +1.0 inch of WC	
Control	±0.02 inch of WC	
Control Type	Single Point PID	
UUT Airflow measurement	ASHRAE Nozzles with pneumatic selector switches	
Outdoor Room air circulation	25,000 CFM Variable	42475 CMH Variable
UUT Voltage Transformer		
Transformer Output	0 to 460VAC @ 400/3/50 Input 0 TO 560 VAC @ 480/3/60 Input	
Voltage Control <sup>1</sup>	±2.0 VAC	
Control Type	Micro-Processor	
Transformer Type	Motorized	
Max Amps	140 Amps	
Max KVA	135.6	
Customer Power Supply	400/3Ø/50 or 480/3Ø /60Hz	
UUT Circuits	▪ Indoor Fan(s): One (1) 30 Amp ▪ Outdoor Fan(s): One (1) 30 Amp ▪ Compressor(s): Two (2) 75 Amp ea.	



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