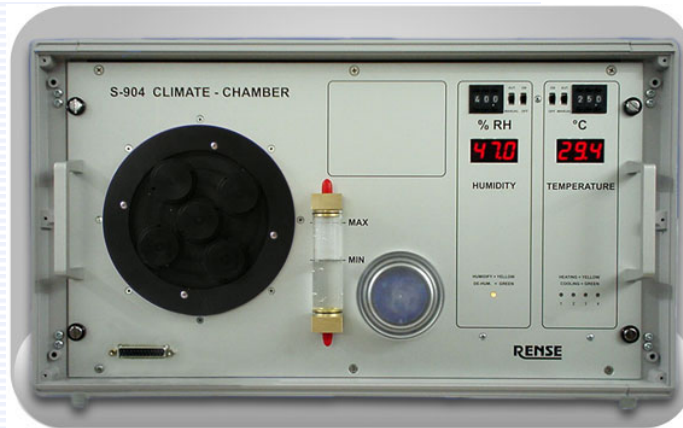


**Climate Chamber type S-904**



**The S-904 Climate Chamber** enables users of humidity sensors and transmitters to accurately generate reference humidity and temperature conditions for calibration purposes. The unit performs over wide RH and Temperature ranges with high accuracy, and is calibrated with traceable NIST standards. In operation, the system modulates the flow of air through saturation and drying chambers, while a ventilator continuously circulates air through the test chamber to ensure maximum uniformity of humidity and temperature. This results in a system that will rapidly stabilize to within 0.2% RH and 0.1°C of the set-point. The S-904 is equipped with the convenience of built-in DB-25 connectors, which permit external control of the S-904, and provide a path to bring test unit signals from the test chamber to the front panel.

The S-904-D is an optional RS-232/USB serial control interface which allows programmable control of up to 30 separate test steps. This allows the S-904 to be programmed with a PC, using convenient and versatile LabVIEW software.

**Technical specifications at 20 °C (68 °F) ambient temperature, typical values:**

**Temperature**

Range	10 to 50 °C (min. temperature = $T_{\text{ambient}} - 10 \text{ °C}$ )
Stability	$\pm 0.1 \text{ °C}$
Temperature change 20 to 40 °C	100 °C per hour
Temperature change 40 to 20 °C	40 °C per hour
Display	0.0 to 99.9 °C with 9/16" high LED

**Humidity**

Range	10 to 90%RH (depending on conditions, 5 to 95 %RH)
Stability	$\pm 0.2 \text{ %RH}$
Accuracy (10 - 70% RH)	$\pm 1.0 \text{ %RH}$
Accuracy (5 - 90% RH)	$\pm 1.5 \text{ %RH}$
Display	0.0 to 99.9% RH with 9/16" high LED

} depending on calibration of the control sensor

**Features**

Overall Dimensions (W x H x D)	21 x 12 x 17 inches
Test Chamber Dimensions (W x H x D)	4 x 4 x 6.3 inches, 100 cubic inches
Weight	44 lbs (20 kg)
Supply	85 - 264 Vac, 47/63 Hz, 150 VA

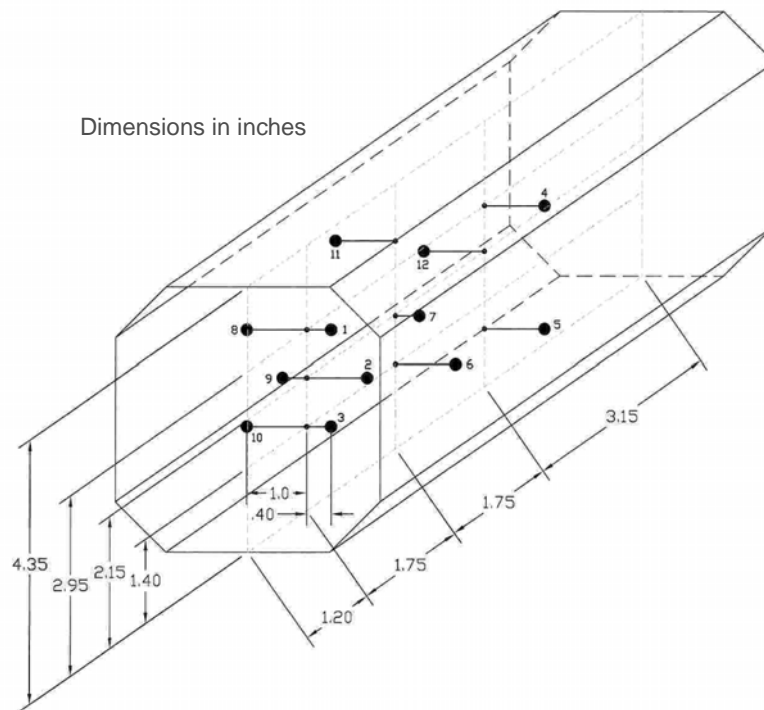
All data sheet specifications are subject to change without notice

# Temperature Uniformity In The S-904

A key feature of the S-904's test chamber is its dual-wall design, with airflow between the walls to maximize Temperature and RH homogeneity throughout the chamber. The outer wall is temperature controlled in four places with separate Peltier devices and high-accuracy control sensors. Elimination of thermal gradients is critical to accurate RH values, and the S-904 excels in this area. Below are some typical test data to illustrate the outstanding temperature control achievable with the S904.

**DEVIATION FROM AVERAGE TEMPERATURE AT SEVERAL POINTS IN MEASUREMENT CHAMBER**

SET POINT	12.0 °C	20.0 °C	25.0 °C	30.0 °C	40.0 °C	50.0 °C
AVERAGE TEMP.	11.86	19.99	25.00	30.03	40.06	50.24
SENSOR - 1	0.05	0.04	0.03	0.02	0.04	0.04
SENSOR - 2	-0.05	-0.03	0.00	0.00	0.05	0.08
SENSOR - 3	0.02	0.02	0.01	0.01	-0.01	-0.02
SENSOR - 4	-0.01	-0.01	0.00	0.00	0.01	0.02
SENSOR - 5	-0.02	-0.01	-0.01	0.00	0.01	0.02
SENSOR - 6	0.01	0.01	0.01	0.01	0.00	-0.01
SENSOR - 7	-0.04	-0.05	-0.03	-0.03	-0.02	-0.01
SENSOR - 8	0.04	0.03	0.02	0.01	-0.01	-0.03
SENSOR - 9	0.00	0.00	0.00	0.00	-0.01	-0.03
SENSOR - 10	0.00	-0.01	-0.01	0.00	0.00	-0.01
SENSOR - 11	0.01	0.01	0.00	0.00	-0.01	-0.02
SENSOR - 12	-0.01	-0.01	-0.02	-0.01	-0.03	-0.04



HEAD OFFICE



*Process Measurement & Controls, Inc.*  
**Rense Instruments Division**

11 Old Sugar Hollow Road  
 Danbury, CT 06810 U.S.A.  
 Tel: 203-792-8686  
 Fax: 203-743-2051  
 Email: sales @renseinstruments.com  
 www.renseinstruments.com

Represented By: