ASSOCIATED ENVIRONMENTAL SYSTEMS

SD-502

SD-502 - Temperature Only

OVERVIEW

The SD-502 is a benchtop-style environmental test chamber for temperature-only testing. The chamber is designed to fit on your lab table and still have easy and safe access when you reach-in the workspace.

If you are concerned about losing your lab counter space, this test chamber has an optional floor stand for one chamber or get double the test workspace when you stack two SD Test Chambers in the same footprint.

STRUCTURE. The internal workspace is lined with type 304 stainless steel for a vapor-tight internal construction. The exterior has a durable powder-coat finish over heavy-gauge steel for a long-lasting clean look. Between the two layers is highly-efficient, low k-factor, thermal insulation. This chamber is built to last for many years.

CIRCULATION SYSTEM. Air circulation is crucial for environmental testing. The SD-502 Test Chamber has a proprietary baffle and fan design combination. This optimizes temperature conditions within the workspace.

HEATING SYSTEM. SD test chambers feature heating systems equipped with open ceramic-core nichrome heaters for reliable and accurate temperature control within ±0.5°C.

COOLING SYSTEM. The cooling system in the SD-502 consists of a self-contained mechanical refrigeration system with a single stage configuration, and an air-cooling condenser. An optional water cooling-condenser is available.

Add boost cooling with liquid LN2 or CO2 for even faster pull-down rates. It's a great option for stress tests that require rapid cooling.

Even without boost cooling, AES' standard cascade refrigeration systems have the fastest standard change rates of any environmental test chamber manufacturer. See Basic Specifications tab below.

INSTRUMENTATION. SD-502 Test Chamber incorporates AESONE CONNECT creating a robust connected device giving you a standard and uniform interface that makes operation easier. Learn more in the Instrumentation Tab below.

ALTERNATIVE TEMPERATURE RANGES:

- SD-202 -70°C to +180°C (-94°F to +356°F)

SPECIFICATIONS

Interior:	15W x 16D x 15H (in)
	381W x 406.4D x 381H (mm)
Exterior:	48.2W x 31D x 25.6H (in)
	1224.3W x 787.4D x 650.3H (mm)
Volume:	2.08 cubic ft
	58.89 liters
Temperature:	-37°C to 180°C (-34.6°F to 356°F)
Temperature Stability:	±0.5°C (±1.0°F) at sensor after stabilization
Rise Rate*:	7 °C/min
Pull Down Rate*:	5 °C/min
Electrical Supply:	120 VAC, 1 PH, 50HZ or 60HZ (Optional) 60HZ (Optional) 100VAC
Facility Power Receptacle:	6' NEMA L5-30 
Full Load Amps:	22 A
Airflow:	100 CFM
Thermal Heat Rejection (ThoR):	-MAX: 9000 BTU/HR -MIN: 3000 BTU/HR
Nationally Recognized Test Lab:	UL 61010-1
Refrigeration System:	Single stage
Refrigerant:	R-404a
Mobility:	Will fit through 36 in doorway
Approximate Product Weight:	350 lbs (159 kg) without added options
Approximate Shipping Weight:	460.0 lbs (209 kg) without added options

*Rise and pull-down rates calculated using IEC 60068-3-5 standard. Custom options available.

*Ideal ambient temperature conditions for test chambers is 23°C (73.4°F). The temperature and humidity range of assured performance is between 15°C and 25°C (59°F/77°F) and 30-50% relative humidity. Conditions outside this range may affect the performance of your test chamber and reduce the lifespan of the equipment.

Notice for Customers Requesting R449A:
Consult our sales team regarding the use of R449A refrigerant (where applicable). This substitution ensures compliance with relevant regulations. Please be aware that the use of R449A will change the achievable low temperature to -35°C. Our sales team can provide detailed information regarding this change for your specific application.

STANDARD FEATURES

STANDARD FEATURES

- Temperature range: -37°C to 180°C (-34.6°F to +356°F)
- External cabinet construction consists of heavy-gauge, cold-rolled steel with powder coat, bone color, and textured matte finish
- Internal workspace constructed with type 304 stainless steel
- Full opening door with adjustable manual latch
- Interior light with exterior switch on cabinet face and operable on AESONE CONNECT
- Port configuration: right wall access port and plug with 3in (76.2mm) diameter
- Fully adjustable shelf, 1 wire-grid shelf, stainless steel
- Forced air circulation
- Multipane 12 in x 12 in heated viewing window

INSTRUMENTATION

STANDARD INSTRUMENTATION

CONTROLLER AESONE CONNECT

SD Series Test Chambers have incorporated AESONE CONNECT creating a robust connected device for a standard and uniform interface making test chamber operation easier.

AESONE XCHANGE is hardware internal to the chamber that increases your functionality

- Connects the test chamber controller to your network for increased accessibility
- On-board multi-year data logging

AESONE SOFTWARE gives you the power to

- Remote chamber operation and monitoring,
- Web-based test profile creation,
- Viewing current data and historical data visually
- Secure multi-level user access

ADDITIONAL ONBOARD INSTRUMENTATION

WATLOW F4T PROGRAMMABLE CONTROLLER. Features a 4.3" capacitive touchscreen minimizing the chance for error. Ethernet communication supported by AESONE HARDWARE. View more controller options

SENSORS.

- TEMPERATURE SENSOR. Measured at the point of airflow entering the workspace. Class A, 3-wire, 100 Ohm Platinum RTD sensor

OPTIONAL DATA LOGGERS. View additional data loggers

SAFETY FEATURES

STANDARD SAFETY FEATURES

- HIGH/LOW TEMPERATURE CONTROL. An adjustable temperature limit controller allows you to program the highest and lowest temperature of the device under test, protecting products from compromising temperature exposure.
- Internal high-temperature limit safety
- Refrigeration system over-pressure safety circuit

- TUV Rheinland certified meeting UL 61010-1, US, C, E

OPTIONAL FEATURES

- Shelf Modification
- Custom Porting Sizes
- Custom Window Size
- Heater for Window
- LN2 Boost Cool
- CO2 Boost Cool
- Water Cooled Condenser
- Desiccant Air Dryer to reach conditions as low as 5% RH
- Dry Nitrogen Purge to keep condensation and frost from accumulating on DUT surfaces at cold temperatures and to prevent oxidation of metals surfaces at high temperatures
- Floor Stand with Casters
- Stackable Test Chamber Stand with Casters