



## Steady-State Stability Chambers

Lunaire's steady-state chambers is available in four convenient workspace sizes of 8, 16, 32, and 58-cubic-feet with a variety of temperature and humidity combinations, these chambers provide the flexibility for a wide range of uses. The CEO Model chambers feature a high volume horizontal type airflow with electric heating and refrigeration systems.

Applications include ICH Q1A stability testing, accelerated shelf-life studies, package testing, controlled temperature storage, bio-medical research among many others. Chambers can also be configured as intrinsically safe to allow for hazardous materials testing applications.



### ▶ ICH Q1A Pharmaceutical Stability Guidelines

- Long Term: 25°C/60% RH, 25°C/40% RH, 30°C/35% RH or 30°C/65% RH
- Intermediate: 30°C/65% RH
- Accelerated: 40°C/75% RH, 25°C/60% RH

### ▶ Features

- All models feature vapor-tight, continuously welded stainless steel interiors
- 2-inch access port is standard on rear
- Temperature and humidity conditions are controlled with the Watlow F4T 1/4 DIN controller
- Ethernet communication
- USB port
- Horizontal recirculation conditioning system
- Adjustable semi-pierced duct walls
- Stainless steel shelves
- Incoloy-sheathed tubular heaters
- Single stage reciprocating compressor
- Automatic hot gas defrost
- Platinum RTD temperature sensor
- Solid state humidity sensor
- Heavy-duty leveling casters



*Continuously welded stainless steel interior and adjustable semi-pierced duct walls shown in photo above.*

CEO Temperature / Humidity Stability Test Chamber Specifications								
Model	CEO 908-2	CEO 908-4	CEO 916-2	CEO 916-4	CEO 932-2	CEO 932-4	CEO 958-2	CEO 958-4
Cubic Feet	8		16		32		58	
Liters	226		453		906		1642	
Work Space (WxDxH)	33" x 28" x 15" 838 mm x 711 mm x 381 mm		33" x 28" x 30" 838 mm x 711 mm x 762 mm		33" x 28" x 60" 838 mm x 711 mm x 1524 mm		60" x 28" x 60" 1524 mm x 711 mm x 1524 mm	
Exterior (WxDxH)	39" x 32" x 46" 990 mm x 810 mm x 1170mm		39" x 32" 61" 990 mm x 810 mm x 1550 mm		39" x 32" x 91" 990 mm x 810 mm x 2310 mm		70" x 32" x 91" 1780 mm x 810 mm x 2310 mm	
Approx Unit Weight (lbs)	375	400	425	450	524	550	1850	1900
General Specifications								
Temperature Range	0°C to 99°C							
Temperature Control	± 0.3°C after stabilization							
Temperature Uniformity	±1°C in the temperature range of 20°C to 70°C*							
Humidity Range	(-4 models only) 20% to 95% in the dry bulb range of 20°C to 85°C as limited by a 5°C dewpoint							
Humidity Control	± 2% RH after stabilization							
Humidity Uniformity	± 5% RH							
Air Flow Rate	330 CFM				900 CFM			
Heat Capacity	2KW				6KW			
Humidifier Capacity	1.5KW				3KW			
Refrigeration	1/2 HP				3/4 HP			
Condenser	Air Cooled							
Heat of Rejection	6,300 BTUH				9,450 BTUH			
Condenser Discharge Air	Exits top rear of chamber							
Maximum Load Per Shelf	100lbs evenly distributed							
Standard Shelves Included	1	2	4	8				
Maximum Number of Shelves	5	11	23	46				
Maximum Weight Capacity	100 lbs. total	200 lbs. total	400 lbs. total	600 lbs. total				
Chamber Spacing Requirement	18" / 458mm on all sides							
Electrical Requirements								
Power	208V - 230V 1PH 60HZ							
Amp - Fuse	30	30	30	30	30	30	60	70
Amp - Under Load	20	24	20	24	20	24	43	56
Model	CEO 908-2	CEO 908-4	CEO 916-2	CEO 916-4	CEO 932-2	CEO 932-4	CEO 958-2	CEO 958-4

\*±1.5°C uniformity at 70°C in CEO 958 model

Note applicable to all models above:

1. Specifications are subject to change without notice.
2. Performance is based upon an empty chamber operating at 24°C (75°F) ambient air.
3. 50Hz and special voltages available upon special request. Consult factory for additional information.
4. On 50Hz or higher than 24°C ambient conditions, performance may be reduced.

► Available Options\*

- RS 232 or RS485 communications
- Data logging and graphical trend chart for Watlow F4T controller
- 5 gallon water reservoir\*\*
- Recirculating system for humidity water\*\*
- Water demineralizer\*\*
- Reverse osmosis system\*\*
- Condensate pump\*\*
- External dryer for obtaining humidity levels as low as 5%\*\*
- Additional ports
- Additional stainless steel shelves
- Stainless steel exterior
- Heated viewing window
- Interior lighting
- Recording Instruments
- OTP high limit control
- Interior non-sealed Lexan door
- Interior vapor proof duplex receptacle
- NIST Calibration
- Tenney Environmental offers calibration services accredited to the ISO 17025 standard
- Additional engineered to order custom configurations available

\*Consult your Tenney/Lunaire Environmental Sales Representative for a full list of available options.

\*\*Humidity models only.



**Baker Furnace, Blue M, Gruenberg, Lindberg/MPH, Lunaire, Tenney, Wisconsin Oven**

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