



CSI-270L
Flammability Chamber

POWER

LIGHT ON OFF

GAS ON OFF

FLAME IMPINGMENT

AFTER FLAME

AFTER GLOW

GAS PRESSURE

GAS PRESSURE ADJUSTMENT

GAS FLOW

Custom Scientific Instruments, Inc.

CSI-270L
Flammability Test Chamber



Introduction:

The CSI-27UL is a complete system designed to measure the flammability characteristics of plastic materials, used for parts in devices and appliances, in accordance to all twelve flame classification specified in UL 94 with unparalleled accuracy and repeatability:

- Six of the classifications, 5VA, 5VB, V-0, V-1, V-2, HB, relate to materials commonly used in manufacturing enclosures, structural parts and insulators found in consumer electronic products.
- The next three classifications, HBF, HF-1, HF-2; relate to low-density foam materials commonly used in fabricating speaker grills and sound deadening material.
- The last three classifications, VTM-0, VTM-1, VTM-2, are assigned to very thin films, generally not capable of supporting themselves in a horizontal position. Usually this is assigned to substrates on flexible printed flexible boards



The CSI-27UL provides a precise, safe and repeatable method to perform the Bunsen Burner tests specified in UL 94. The stainless steel construction with air vents ensures a draft free test environment. A large high temperature glass sliding door gives ample viewing to the user. Three digital timers make recording data effortless and precise.

Adjustable Vertical Specimen Holder Supports and Horizontal Linear Burner mounting fixture give full positioning control. The sample holders are all supplied with the necessary hardware to perform all twelve Bunsen burner tests. Precision Gas Measurement and Controls allows for easy gas flow regulation and flame height control. An electrically operated exhaust damper is supplied to aid in ventilation purposes.

The results obtained serve as a preliminary indicator of the material's tendency to either extinguish or to spread the flame; once the specimen has been ignited.

Capable of testing all 12 Bunsen Burner Tests per UL 94:

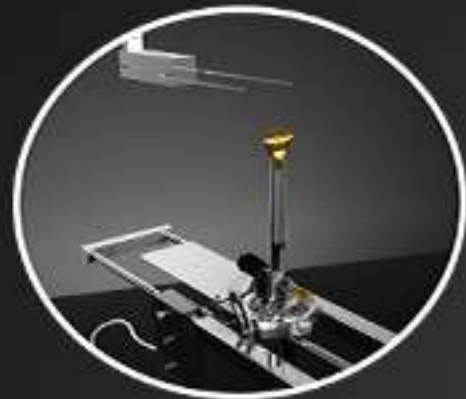
5VA, 5VB, V-0, V-1, V-2, HB, HBF, HF-1, HF-2, VTM-0, VTM-1, VTM-2



94 HB: Horizontal Burning for Flexible Specimen



94 HBF, HF-1, HF-2: Horizontal Burning



94 HBF, HF-1, HF-2: Horizontal Burning



94 V-0, V-1, V-2: Vertical Burning,
20 mm and 125 mm



94 HB: Horizontal Burning



94 VTM-0, VTM-1, VTM-2 Vertical Burning
for Thin Material



Standard Features:

Test Cabinet:	Brushed Stainless Steel, Draft-free, Air Vents, Front-Sliding Door with Tempered Glass Viewing Window, Sliding front access ports for chamber access enabling for quick and easy access to the Burner and Specimen	
Exhaust Damper:	Type:	Electrically Operated
	Outlet Diameter:	6 in. 15 cm.
Interior Lighting:	Yes	
Instrument Interior Volume:	26.5 ft. ³ 0.75 m. ³	
Laboratory Bunsen Burner with needle valve, linear mounting fixture:	Test Standard:	ASTM D5025
	Barrel ID:	0.375 in. 9.5 mm.
	Positioning Jig:	Included for 0°, 20°, 45°
	Burner Wing Tip:	HBF, HF-1 and HF-2
Sample Holder Assemblies with necessary accessories:	Sample Holder #1:	UL 94 HB
	Sample Holder #2:	UL 94 HBF, HF-1, HF-2
	Sample Holder #3:	UL 94 V-0, V-1, V-2
	Sample Holder #4:	UL 94 VTM-0, VTM-1, VTM-2
	Sample Holder #5:	UL 94 5VA, 5VB 500W (125MM)
Control Panel:	Interior Light ON Switch with LED Indicator	
	Gas ON Switch with LED Indicator	
	Main Power Switch with LED Indicator	
	After Flame Digital Timer with LED Pushbutton Activation	
	Range:	0000000.0-9999999.9
	Resolution:	0.1
	After Glow Digital Timer with LED Pushbutton Activation	
	Range:	0000000.0-9999999.9
	Resolution:	0.1
	Flame Impingement Digital Timer with LED Pushbutton Activation	
Range:	0000000.0-9999999.9	
Resolution:	0.1	
Gas Manometer		
Gas Flow Meter		
Gas Pressure Regulator		
Gas Adjustment Pressure Knob		
Electric Gas Shutoff System		
Tools Included:	Yes	
Documentation Included:	Operator's Manual, Conformance Certificate	
Warranty:	1 Year Manufacturer's Warranty	

Physical Dimensions

Approx. Instrument Weight:	200 lbs. (91 kg.)
Approx. Instrument Dimensions:	48W x 22D x 62H in. (122 x 56 x 213 cm.)
Approx. Shipping Weight:	400 lbs. (182 kg.)
Approx. Shipping Dimensions:	57W x 31D x 68H in. (145 x 79 x 173 cm.)

Optional Accessories:

Ventilation Hood with Exhaust Blower:	Includes: variable speed control
Flame Temperature Confirmation Kit (per ASTM D5025):	Includes: High Precision Digital Meter with one High Temperature Sensor
Custom Sample Holders and Frames:	Per Custom Requirement or other Test Standards
2nd Stage Gas Pressure Regulator Assembly:	includes: Pressure Gage; Barbed Hose Connectors, set of 2; Gas Hose, 5 feet; Mounting Bracket

Installation Requirements:

Electrical Specifications:	115VAC, 50/60Hz, 1Ph, 3A 220VAC, 50/60Hz, 1Ph, 1A
Gas Supply Pressure:	15 PSI
Input Gas Connection:	¼" Female NPT
Input Gas Type:	99% Methane Minimum Purity

Reference Test Standard:

1. UL 94
 - 1.1. Vertical Burning Test: UL 94 V-0, V-1, or V-2 (ASTM D 3801, IEC 60695-11-10, IEC 60707, ISO 1210).
 - 1.2. 500 W (125mm) Vertical Burning Test: 5VA or 5VB (ASTM D 5048, IEC 60695-11-20, IEC 60707, ISO 9772).
 - 1.3. Thin Material Vertical Burning Test: VTM-0, VTM-1, or VTM-2 (ASTM D 4804, ISO 9773).
 - 1.4. Horizontal Burning Foamed Material Test: HF- 1, HF-2 or HBF (ASTM D 4986, ISO 9772).
 - 1.5. Burners (ASTM D 5025, ASTM D 5207, ISO 10093, ISO 103351)

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