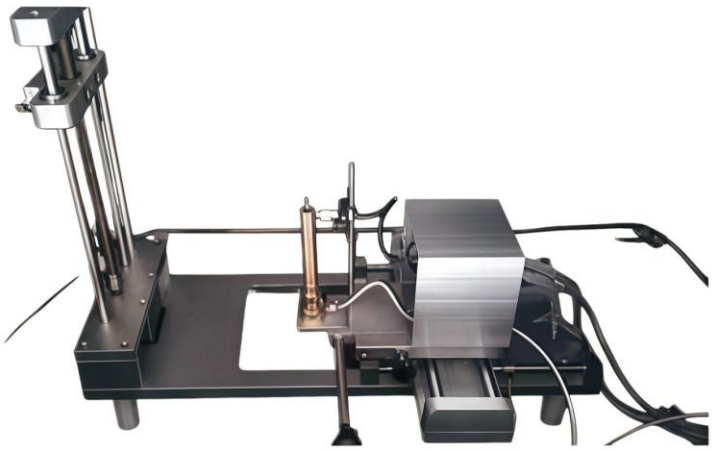
IEC 60695-11-4 50W Test Flame Burner

Precision Brass Burner for 50W Pre-mixed Methane Test Flame



Standards: IEC 60695-11-4 Figure A.1 (50W Test Flame)
Manufacturer: KingPo Test Equipment Co., Ltd. www.dgkingpo.com Tel: +86-769-81627526

Product Overview

The KingPo IEC 60695-11-4 50W Test Flame Burner is a precision brass burner designed to generate a standardized 50 W pre-mixed methane test flame. It is used for fire hazard testing of electrotechnical materials and components, supporting copper block calibration for flame heat output verification.

This burner is suitable for manufacturers, testing laboratories, and certification bodies performing horizontal and vertical flame tests (such as UL 94 HB, V-0/V-1/V-2 and related IEC 60695 configurations). It features a precision Φ9.5 mm ± 0.3 mm brass burner, adjustable flame application angles (0°, 20°, 45°), and gas flow/pressure control for stable and repeatable flame generation.

Key Advantages

- **Designed for IEC 60695-11-4 50W Test Flame Requirements**
  Engineering: Precision brass construction with Φ9.5 mm ± 0.3 mm inner diameter, manufactured to support the 50 W pre-mixed methane test flame specifications in IEC 60695-11-4 Figure A.1.
  Benefit: Provides a reliable and standardized flame source for consistent fire hazard evaluation of insulating materials and electrotechnical products.
- **Copper Block Calibration Support**
  Engineering: Designed to work with standardized copper block and thermocouple calibration method to verify flame heat output.
  Benefit: Enables laboratories to confirm that the flame delivers the required heat output, improving test accuracy and traceability.
- **Adjustable Flame Application Angles**
  Engineering: Supports flame application at 0°, 20°, and 45° positions for flexible test configurations.
  Benefit: Allows compatibility with a wide range of horizontal and vertical burning test setups without requiring multiple burners.
- **Stable Flame Generation & Control**
  Engineering: Brass construction with gas flow and pressure adjustment for stable pre-mixed methane flame output (~20 mm height).
  Benefit: Delivers repeatable flame conditions essential for reliable flammability classification and quality control testing.
- **Durable & Thermally Stable Construction**
  Engineering: High-quality brass burner designed for long-term use in laboratory flame testing environments.
  Benefit: Maintains dimensional stability and performance over repeated test cycles, reducing maintenance and replacement needs.

Technical Specifications

3.1 Performance Parameters

Parameter	Specification	Remark / Notes
Applicable Standard	IEC 60695-11-4 Figure A.1	50 W test flame apparatus
Burner Material	Brass	Durable and thermally stable
Burner Diameter	Φ9.5 mm ± 0.3 mm	Precision inner diameter
Flame Type	Pre-mixed methane flame	50 W nominal test flame
Flame Height	Approx. 20 mm	Adjustable
Test Angles	0°, 20°, 45°	Adjustable flame application positions
Calibration Method	Copper block with thermocouple	Flame heat output verification
Gas Control	Gas flow and pressure adjustment	For stable flame output

3.2 Equipment Information

Parameter	Specification	Remark / Notes
Gas Type	Methane (standard); propane under controlled conditions	Methane preferred for consistency
Factory Verification	Burner dimensions and assembly condition	Provided as standard
Recommended Verification	Regular inspection of burner orifice and gas control	Third-party calibration support available

Testing Principle

The burner generates a standardized 50 W pre-mixed methane test flame as defined in IEC 60695-11-4 Figure A.1. When connected to a suitable gas supply and ignition system, it produces a controlled flame that can be applied to test specimens in horizontal or vertical orientations.

Flame heat output can be verified using the copper block calibration method, where the temperature rise of a standardized copper block is measured to confirm the flame delivers the required heat output under the specified calibration procedure. This ensures consistent and traceable fire hazard testing results.

Best Practices

1. Use methane gas for best consistency with the IEC 60695-11-4 standard (propane may be used under controlled conditions in some laboratories).
2. Perform copper block calibration regularly to verify flame heat output.
3. Inspect the burner orifice and gas control components before each test series.
4. Maintain stable gas pressure and flow for consistent flame height and shape.
5. Clean the burner after use and store in a dry environment to prevent corrosion or blockage.

Typical Applications

- Electrotechnical material and component manufacturers — Fire hazard testing
- Testing laboratories — Horizontal burning (UL 94 HB) and vertical burning (UL 94 V-0/V-1/V-2) test setups
- Certification bodies — Standardized flame testing for flammability classification
- R&D teams — Development and evaluation of flame-retardant materials
- Quality control — Routine verification of material flammability performance

Supply Options & Support

MOQ: 1 set | Typical delivery: 15 working days

Factory verification of burner dimensions and assembly condition is provided. Third-party calibration support for associated copper block and temperature measurement systems available upon request.

Compliance & Manufacturer

This burner is designed to support the 50 W test flame requirements specified in IEC 60695-11-4 Figure A.1 for fire hazard testing of electrotechnical materials and components.

Manufactured under ISO 9001, ISO 14001, and ISO 45001 certified management systems. CE, RoHS, PSE, and SGS documentation can be provided upon request according to the applicable equipment configuration.

KingPo Test Equipment Co., Ltd.

Hengkeng Industrial Zone, Dongguan, Guangdong, China

Tel: +86-769-81627526 | Website: www.dgkingpo.com | Email: sales@dgkingpo.com

Precision Metrology • Regulatory Compliance • Engineering Reliability