THE WORLD'S MOST ADVANCED
INSTRUMENTS FOR TEXTILE AND BIOPHYSICAL TESTING

2D

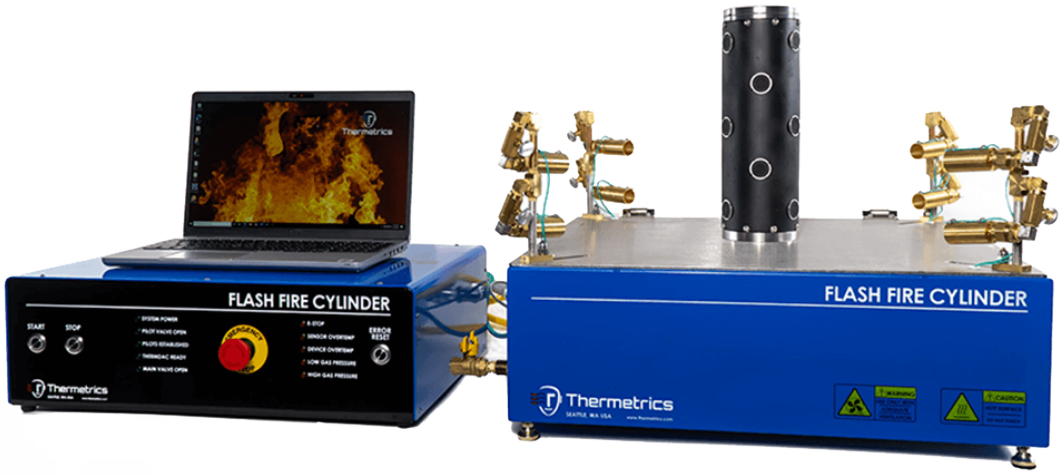
FLAME

FLASH FIRE CYLINDER/HAND (FFC/FFH)

The Flash Fire Cylinder (FFC) provides an accurate and repeatable tool to quantify effects of FR fabric performance (including shrinkage and shape change) that may not be realistically represented with TPP results. By exposing a cylindrical sample to a uniform high intensity flame, the heat-transfer impacts of material shrinkage and compression can be observed visually and objectively as a predicted time-to-burn.

This instrument is based on proven technology from the Thermetrics TPP and "Burnie" Flash Fire Manikin systems. Operators can use the device to quickly screen a wide range of samples and identify the most promising FR fabrics, composite layers, and subassemblies prior to the costly step of building complete ensembles for comprehensive full-body Flash Fire Manikin tests.

The Flash Fire Cylinder (FFC) is not intended to replace the realism of a full-body flame manikin test. Its purpose is to add a dimensional test to the characterization and ranking of FR materials, thus speeding up design iterations.



FLASH FIRE CYLINDER/HAND

Flash Fire Cylinder (FFC) Specifications

- High-temperature ceramic composite test cylinder
- Device 27 in. x 22 in. x 20 in. (55.9 cm x 68.6 cm x 50.8 cm)
- Cylinder Height 11.25 in. (28.6 cm)
- Cylinder Diameter 3.6 in. (9.1 cm)
- High-temperature ceramic composite test cylinder
- 15 copper calorimeter sensors
- 8 torch nozzles on 4 stands
- Propane gas distribution and controls

Flame Source

- Incident heat flux adjustable up to 84 kW/m^2
- Heat flux uniformity tuneable
- Manual pilot ignition with operator interlock
- Digital control of flame exposure time

Sensors

- Copper guarded disc calorimeters
- Measurement range 0-167 kW/m^2 (0-4.0 cal/cm^2)
- Temperature measurement accuracy ± 0.75°C
- Sampling rate: 10HzAbsorptivity > 0.9

Burn Model

- Per ASTM F1930 and ISO 13506
- Computes burn degree (1st, 2nd, 3rd) and time to burn for each sensor
- Compiles total burn severity based on user-selected sensor or sensor groups

Optional Accessories

- Optional Flash Fire Hand (FFH) is available for evaluating fire resistant gloves. The Flame Hand contains 10 sensors and is interchangeable with the standard test cylinder.
- Additional replacement sensors available

Base Products Include:

- Laptop computer with ThermDAC control and Burn Model software
- Removable sample hanger for drapable samples
- Base system and selected option

Flash Fire Cylinder (FFC) Feature Highlights & Benefits

- Complete turn-key system including measurement device, flame source, laptop computer and Thermetrics' exclusive ThermDAC control with data acquisition software and burn model. Just add a fume hood.
- Small and portable, the Flash Fire Cylinder (FFC) test device fits in most standard fume hood
- Repeatable instrument for evaluating the properties of FR fabric when subjected to convective heat exposure, and the resultant risk of skin burns.
- Eight-torch design, consisting of 4x2 adjustable propane torch arrays to expose fabric samples to a uniform 360° heat source.
- Contains 15 evenly spaced copper calorimeter sensors embedded in a flame resistant ceramic cylinder shell.
- ThermDAC software automatically collects data and performs all calculations necessary to generate the test results. Data file can be saved as a test report.
- Test sample are easily assembled as cylindrical fabric sleeves.
- Perfect for material and component studies. Can be upgraded for FR glove testing too!
- The new Flash Fire Cylinder (FFC) is designed to characterize 3-dimensional samples, but it does not replace the need for full garment flame manikin testing.

ThermDAC Control Software

ThermDAC is an engineered user interface for Thermetrics instruments systems providing real-time device control, automated testing, and flexible display and logging capabilities, including:

- Real-time display of instrument data and user control of device outputs
- User-programmable test configurations, tolerances, and stability criteria
- Automatic steady-state detection
- Zoomable time-history graph of multiple device and ambient variables
- Real-time statistical analysis over any user-selected time range
- Logging of raw data, statistical analysis, integrated report generation
- Device calibration and fault detection

520 - Flame - Flash Fire Cylinder/Hand (FFC/FFH)	Item #	Description	Product Name
Standard Base Product	**19-52001**	**Flash Fire Base System**	**520-XXX**
System Options	**20-01096**	Flash Fire Cylinder	**520-XXX_1**
	20-01108	Flash Fire Left Hand	**520-XXX_2**

Don't see what you need in the above product table? Contact Thermetrics to customize your perfect system.

Keep your flash fire cylinder in tip-top shape. Discuss service plan options and point-of-sale discounts with our team at sales@thermetrics.com.