

eralytics^o

trusted solutions.
re-imagined.

eraflash

THE SAFE SIDE OF FLASH POINT TESTING

Standard test methods:

ASTM D6450, D7094, D8606,
ISO 24966, IP 620, SH/T 0768

Fuel specifications:

ASTM D396, D975, D1655, D2880,
D3699, D7467, D7566



eraflash combines maximum safety with highest performance

ASTM D7094:
The ultimate precision.
The end of D93 compromises.

In 2022, the most extensive ILS program of any flash point method to date was carried out with commercial fuels, involving 20 laboratories and 25 different liquids according to ASTM D6300. These multiple interlaboratory studies (ILSs) have confirmed the exceptional performance of ASTM D7094.

It offers outstanding precision across a wide temperature range, even when testing challenging or contaminated samples.

ASTM D7094 is accepted in many fuel specs:

- Aviation Turbine Fuel (ASTM D1655, D7566)
- Diesel & Biodiesel (ASTM D975, D7467)
- Fuel Oil (ASTM D396)
- Gas Turbine Fuel Oil (ASTM D2880)
- Kerosene (ASTM D3699)

MATERIAL	FLASH POINT (°C)	ASTM D7094 R (°C)	ASTM D93 R (°C)	ASTM D56 R (°C)
Flavors & Fragrances	23	2.0	N/A	N/A
Jet Fuels	40	2.6	2.8	3.1
Diesel Fuels	60	3.2	4.3	3.8
Oil	200	5.6	14.2	N/A

Precision comparison between ASTM D7094, D93 and D56

The Safest Flash Point Tester

The innovative Continuously Closed Cup Flash Point (CCCFP) test methods ASTM D6450 and D7094 use only 1 or 2 mL of sample that is sealed in a closed cup during the whole measurement process. An electrical arc inside the cup ignites the sample vapor, and a flash point is detected if the monitored pressure peak exceeds 20 kPa during the ignition. The oxygen inside the sealed chamber is immediately consumed which extinguishes the flame automatically.

Unmatched Range

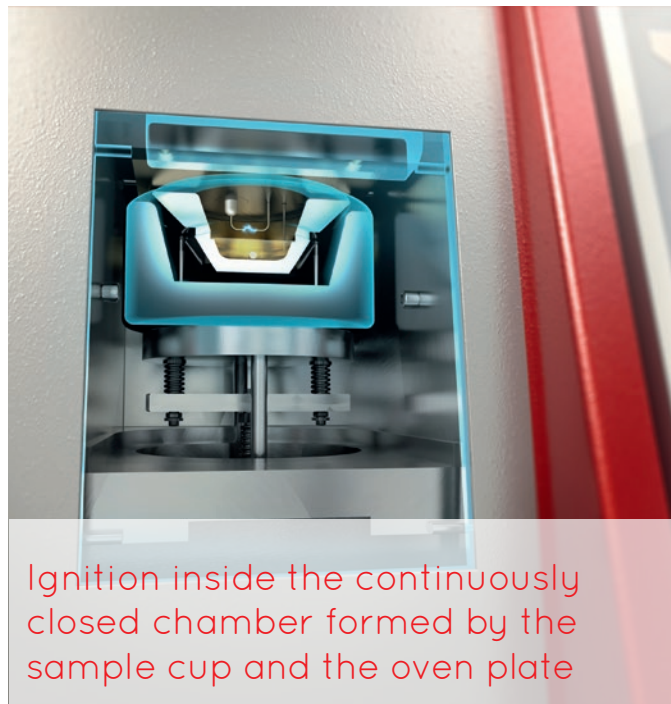
eraflytics' patented PBT - Peltier Boost Technology™ allows for previously unmatched heating and cooling rates. A sophisticated mechanism automatically separates the Peltier elements from the heating plate and sample cup at higher temperatures and protects them from otherwise heat induced damage. This enables the widest temperature range of -25 °C up to 420 °C in one single analyzer by combining the technique of Peltier and heating elements in one unique design.

High Speed Testing

Furthermore the Peltier elements are used to rapidly cool down the sample cup after the measurement for a safe and fast operation with a consistent turn-around time of less than 7 min per measurement. The low temperature model **eraflash It** features a stacked-Peltier cooling system and a shape optimized heating plate to reach a measuring starting temperature of -40 °C with significantly faster cooling power than ever before.

Applications

eraflash is used across many industries. It easily handles petroleum products, such as diesel, jet fuel, and oils, as well as coatings, including paints and varnishes. Its small sample volume is ideal for high-value samples like flavors and fragrances, as well as hazardous liquid waste.



Ignition inside the continuously closed chamber formed by the sample cup and the oven plate

Available Models:

The All-round Tester

eraflash (EF10)

Range: -25 °C to 420 °C (-13 °F to 788 °F)

The Low-Temperature Tester

eraflash It (EF20)

Range: -40 °C to 120 °C (-40 °C to 248 °F)

The Autosampler Tester

eraflash s10 (EFS10)

Range -25 °C to 420 °C (-13 °F to 788 °F)

The Petroleum Tester

eraflash X (EFX10)

Range: 18 °C to 370 °C (64 °F to 689 °F)

Technical Specifications of eraflash

Standard Test Methods	ASTM D6450, D7094, D8606, ISO 24966, IP 620, SH/T 0768
Fuel Specifications (ASTM D7094)	ASTM D396, D975, D1655, D2880, D3699, D7467, D7566
Approved by	NATO, RCRA, US DOT, US NAVY
Special Test Methods	Fast screening test method SCAN for unknown samples, Flash / No Flash tests, freely programmable test methods
Correlation to	Pensky Martens Closed Cup: ASTM D93, EN ISO 2719, DIN 51758, IP 34, JIS K2265 TAG Closed Cup: ASTM D56 Abel Pensky Closed Cup: ISO 13736, IP 170 Small Scale Closed Cup and Flash / No Flash methods: EN ISO 3679/3680, ASTM D3828
PBT – Peltier Boost Technology™	High speed heating & cooling -25 °C to 420 °C (-13 °F to 788 °C) with a single analyzer
CPT – Contamination Prevention Technology™	Advanced electrode protection and self-cleaning ignition system to minimize cleaning and maintenance
Temperature Range	eraflash (EF10) -5 °C to 200 °C (23 °F to 390 °F) stand alone (at ambient temperature of 22 °C) Down to -25 °C (-13 °F) with external cooling Up to 420 °C (788 °F) with optional High Temperature Module (EF01-HTM) eraflash It (EF20) -15 °C to 120 °C (5 °F to 248 °F) stand alone Down to -40 °C (-40 °F) with external cooling
Temperature Stability	0.1 °C (0.2 °F)
Reproducibility (ASTM D7094)	R = 3.2 °C for diesel fuel at 60°C R = 5.6 °C for lube oil at 200°C
Measurement Time	5 min (D6450) or 10 min (D7094) for diesel fuel (FP 60 °C)
Sample Volume	1 mL (ASTM D6450), 2 mL (ASTM D7094)
QuickCal™	Fast on-site calibration with eralytics unique calibration cup without the need of dismantling the instrument
Combustion Graphics™	Display of combustion characteristics for contamination analysis
QC Mode	Built-in quality control mode including on-screen QC charts
Fuel Dilution Program	Automatic fuel dilution measurement for the analysis of used engine oils
Interfaces	Built-in PC with Ethernet, USB and RS232 interfaces; Wifi via USB dongle Direct LIMS connectivity via LAN and output to printer or PC Optional input by external keyboard, mouse and barcode reader
PC Software	erasoft RCS – remote control Windows® software for multi-instrument remote control, convenient data transfer and result analysis
Operating Conditions	Temperature range 10 °C to 40 °C Humidity up to 90% RH, non-condensing
Power Requirements	Auto-switching 85–264 V AC, 47–63 Hz, max. 150 W (multi-voltage power supply) Field application: 12 V DC (vehicle battery) adapter available
Dimensions / Weight (W x D x H)	24.4 x 32.9 x 34.8 cm (9.6 x 12.9 x 13.7 in)/ 10.5 kg (23.1 lb)

Due to continuing product development, specifications are subject to change.

All **eralytics** products are manufactured under ISO 9001 regulations and are CE, ROHS and UL/CSA compliant. www.eralytics.com/eraflash



eralytics instruments are available worldwide.

An international network of over 50 authorized and well-trained distributors is ready to answer your inquiries and to offer local support and service.

www.eralytics.com/sales

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