

OPEN CUP FLASH POINT TESTER WITH ACTIVE FIRE SUPPRESSION



Open Cup Flash Point Tester with Active Fire Suppression - ToronFPT™ OC-FS

ToronFPT™ OC-FS is an automatic open cup flash point tester designed and manufactured in accordance with ASTM D3536 and ASTM D92 standards. Featuring a high degree of automation, the instrument performs fully automatic lid opening, automatic temperature control, automatic ignition, automatic measurement, automatic printing, and intelligent flame maintenance — providing a complete hands-free open cup flash point test sequence for petroleum products, lubricating oils, and other flammable liquids.

The ToronFPT™ OC-FS open cup flash point tester incorporates an integrated gas-electric ignition head where electric and gas ignition can be freely switched by software control without replacing any hardware components. The intelligent flame detection and automatic re-ignition system ensures consistent ignition performance throughout the test and greatly extends the service life of the ignition head.

APPLICATIONS

Open Cup Flash Point Tester with Active Fire Suppression - ToronFPT™ OC-FS Applications

The ToronFPT™ OC-FS automatic open cup flash point tester is used across petroleum product testing, safety classification, and quality assurance applications:

- Lubricating oil and base oil flash point testing: ASTM D92 open cup flash point determination for release and specification compliance
- Petroleum refinery product testing: flash point verification for refined petroleum fractions and process control

- Transformer oil and electrical insulating fluid testing: fire point and flash point characterization
- Combustible liquid safety classification: flash point testing for SDS compliance and transportation hazard classification
- Industrial lubricants and hydraulic fluids: flash point QC for workplace and process safety requirements
- Independent testing laboratories: ASTM D92-compliant open cup flash point testing as a commercial service



Applicable Standards

The ToronFPT™ OC-FS open cup flash point tester is designed to support testing in compliance with the following international standards:

- ASTM D92 is a standard test method that covers the determination of the flash and fire points of petroleum products (excluding fuel oils) using a Cleveland open-cup tester.

FEATURES

Open Cup Flash Point Tester with Active Fire Suppression - ToronFPT™ OC-FS Key Features

The ToronFPT™ OC-FS automatic open cup flash point tester provides a comprehensive set of automation and safety features for reliable, reproducible flash point testing:

- 8-Inch Full HD Color LCD Touchscreen: intuitive 8-inch color HD LCD touch screen with all-Chinese human-computer interface for straightforward operation and parameter entry.
- Preset Parameters and Delayed Start: temperature, sample name, delayed temperature start, and other test parameters can be preset for hands-off test initiation.
- Real-Time Temperature and Time Function Curve: accurate simulation tracking provides real-time display of temperature versus test time function curves, with misoperation modification prompts in the software.
- Atmospheric Pressure Correction: built-in atmospheric pressure sensor automatically corrects flash point results for the effect of ambient barometric pressure variation, as required by ASTM D92.
- Integrated Gas-Electric Ignition Head — Software Switchable: the gas-electric integrated ignition head allows electric and gas ignition to be freely switched by software control without replacing any hardware. Silicon nitride ignition head

with automatic ignition — no manual gas gun operation required.

- Automatic Rotating Lift Arm: fully automatic rotating lift arm handles lifting, scanning, detection, and printing functions, making the entire flash point testing process operationally complete without manual steps.
- Fast Forced Cooling — Next Test in 10 Minutes: the forced cooling system quickly reduces the heating system temperature so that the next flash point test can begin within 10 minutes of the previous test completion.
- Smart Flame Detection and Auto Re-Ignition: intelligent flame detection with automatic re-ignition ensures reliable ignition maintenance throughout the test. This system greatly extends the service life of the ignition head compared to conventional designs.
- LIMS Connectivity via USB Port: the LIMS system can be connected through the USB port for integration into laboratory data management systems.

THEORY & METHOD

Theory and Method

ToronFPT™ OC-FS measures flash point using the Cleveland Open Cup (COC) method as specified in ASTM D92. The test sample is placed in the open cup and the instrument automatically heats the sample at a programmed rate. As the sample temperature approaches the expected flash point, the integrated automatic ignition arm sweeps over the cup surface at controlled intervals. Flash point is detected when a flash appears and is automatically identified by the smart flame detection system.

An atmospheric pressure sensor built into the instrument automatically corrects the measured flash point result for the effect of barometric pressure variation on the test outcome, as specified by ASTM D92. The forced air cooling system rapidly reduces the furnace and cup temperature after the test is complete, enabling the next flash point test to begin within 10 minutes. The automatic rotating lift arm controls all lifting, scanning, detection, and data printing functions without manual input.

TECHNICAL SPECIFICATIONS

Open Cup Flash Point Tester with Active Fire Suppression - ToronFPT™
OC-FS Technical Specifications

Parameter	Specification
Model	ToronFPT™ OC-FS
Standards	ASTM D92
Measuring Range	Room temperature - 400°C
Repeatability	≤4°C
Reproducibility	≤8°C
Resolution	0.1°C
Fire Suppression	Covering fire extinguishing
Furnace Cooling	Forced air cooling
Cup Cooling	Not included (standard model)
Flame Retention	Smart detection + auto re-ignition
Ignition Mode	Electric / gas switchable
Machine Power	≤400 W
Main Unit Size	450 × 375 × 360 mm
Voltage	AC220V ± 10%; 50Hz ± 10% (110V is also available)
Relative Humidity	<80% RH

Parameter	Specification
Ambient Temperature	10 - 28°C



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