





# **RTFO Touch** Rolling Thin Film Oven

Touch-screen system with built-in computer for simulating short-term aging of asphalt binder and other materials Applied Test Systems has been manufacturing custom furnaces and ovens since 1965, and entered into the bitumen / asphalt binder market in the early 1990's with the introduction of Superpave! It only seems logical to expand our many years of industry and process heating knowledge into the creation of the Applied Test Systems Rolling Thin Film Oven, RTFO Touch.

**The NEW RTFO Touch** from ATS has been designed to simulate short-term aging of asphalt binder according to ASTM D2872, AASHTO T240, EN 12607, and California Test Method 346 test standards and now offers customizable options to accommodate a broad spectrum of users.

The RTFO consists of a double walled stainless steel oven capable of maintaining temperature of up to  $246^{\circ}C \pm 0.1^{\circ}C$ (475°F), a precision NIST traceable Microprocessor -based Platinum RTD a NIST traceable digital flow meter, and a tilted screen design for improved visibility.



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#### **Programmable Test Parameters**

**The NEW RTFO Touch** from Applied Test Systems offers a built-in touch screen computer which enables users to change airflow, temperature, and duration of the aging process as well as data acquisition and end-of-process alarm (both visual and audible). It also has the capability of setting it to turn on on a select date and time



**Remote Capabilities** - Every RTFO includes a network-ready Ethernet connection. Connection to the internet will permit the user to access the RTFO with a mobile device or PC using a VNC viewer App program. VNC connection will enable the user to connect, monitor, and control the RTFO from a remote location. The RTFO can be programmed with a custom IP address, or will automatically obtain one, so the number of RTFO Touches on a single network is essentially endless.

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#### **Design Features**



**RTFO Carriage** features a high-temperature Silicon vacuum system for securing bottles in place. This is a silent yet secure system that eliminates the requirement for those noisy, pesky metal clips that stiffen over time.

Time (s)   Temperature (*F)   Air Flow (ml/Min)     946148.7   325.0   4000.0   *     892297.4   325.0   4000.0   *     838446.1   325.0   4000.0   *     784594.8   325.0   4000.0   *     730743.5   325.0   4000.0   *     623040.9   325.0   4000.0   *     623040.9   325.0   4000.0   *     515338.3   325.0   4000.0   *     623040.9   325.0   4000.0   *     461487.0   325.0   4000.0   *     41487.0   325.0   4000.0   *     353784.4   325.0   4000.0   *     246081.8   325.0   4000.0   *     4000.0   4000.0   *   *   *     4000.0   *   *   *   *     *   *   *   *   *   *     *   *   *   *   *   *     *   *   *   *   *   *					
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**Data Acquisition** - Temperature, air flow, and time data are collected throughout the aging process. The RTFO enables the user to view the data from the touch-screen display in the form of raw data or graphs. Once the aging process is complete, a .csv file is created and saved to the hard drive and can be downloaded via the USB port on the front of the RTFO. The .csv file enables users to easily chart the data in Microsoft Excel® or other spreadsheet programs.



Reset

Change Scale

500.0 -450.0 -

400.0 -350.0 -

250.0-

200.0-

150.0-

100.0-

50.0-

0.0-

3790.0

Previous

£ 300.0

emperature

#### Language Options

**Because great roads** are important everywhere in the world, the RTFO Touch software comes pre-loaded with English, Spanish, Chinese, French, Italian, German, Russian, and Arabic language translations.



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**Ethernet Connection** is built into every RTFO Touch and allows users to connect the RTFO to the internet or network. Once connected, users have the ability to use a smart device or PC to control and view the status of the RTFO.



New product registration is available at Applied Test Systems. Go to <u>http://www.atspa.com/</u> <u>register/</u> to register your PAV3, BBR3 or RTFO-Touch to be notified of any

new software updates when they become available.

#### Software Updates:

Every RTFO Touch offers a USB port on the front of the unit to enable quick and easy software updates and upgrades.

Register your RTFO Touch at <u>www.atspa.com/register/</u> to be automatically notified of any future software updates and choose your preferred method of delivery for all future updates.

## Specifications

<u>GENERAL</u> Construction	Bench-top, Stainless steel oven design with leveling legs
Specimen Capacity	8 high temperature glass bottles
Front Panel Display	6 inch full-color touch-screen computer
Battery Backup System (Optional)	4 hours minimum backup at full load 60 day advance notification of end of useful battery
TEST PARAMETERS Operating Airflow	0-5,000 mL/m
Accuracy of Flow Meter	± 0.8% of reading + 0.2% of full scale NIST Traceable
Temperature Range	0°C to 246°C ±0.5°C ( 475°F)
Temperature Control	Microprocessor-based with Platinum RTD NIST Traceable
Temperature Control Resolution	±0.1°C from 0°C to 246°C
Test Temperature Uniformity	± 1°C ( 33.8°F)
Time to Set-point	20 Minutes
Return to Set-point	5 minutes after loading of specimens
Over-Temperature Protection	Thermal shut-down switch (250°C/485°F)
Air Inlet	1/4 in. male NPT
Data acquisition	Sample rate of 1 per second. Time, temperature, and airflow
<b>REQUIREMENTS</b> Power Requirements	230VAC 50/60Hz
Air Requirements	A source of clean, dry air with 60-150 psi.

Specifications subject to change without notice

### For More Information Regarding the RTFO Touch and Other Superpave Products, Contact Applied Test Systems!



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