AH500E

MTL AUTOMATED FILTER WEIGHING SYSTEM

Compliance: 40 CFR 1065 • WLTP • EURO 4, EURO 5, EURO 6

The AH500E from MTL is the newest technology available to the engine emissions industry for processing gravimetric filters. Integrating a climate-controlled micro-environment and automated weighing system in one compact unit, MTL's latest offering is faster, better, and cheaper than ever before. Automatic reading of barcoded filters saves time and improves quality control. The AH500E accommodates 15 mm, 36.2 mm, 37 mm, 46.2 mm, 70 mm, and 90 mm filters.


Filter Size	System Capacity
15mm	600 filters
25mm	600 filters
37mm	600 filters
46.2mm	600 filters
47mm	600 filters
70mm	400 filters
90mm	400 filters

Integrated MTL Filter Weighing Software (FWS)

All versions of the AH500E weighing system are controlled by MTL's Filter Weighing Software (FWS). FWS monitors environmental conditions and can be programmed to throw flags or stop weighing when environmental conditions are out of tolerance. It performs buoyancy corrections on filters, can be set to weigh each filter multiple times, and records all data to an MS SQL Server database. For a complete description of FWS features, please see our associated sales sheet identified as "MTL Filter Weighing Software"
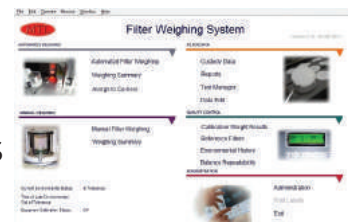
FEATURES AND SPECIFICATIONS

Features
• Compact design saves valuable laboratory space
• Large capacity (600 filters) allows laboratory staff to be freed up for other important work
• Low energy consumption
• Barcode reading technology can read printed 2D Data Matrix codes on filters or on filter carriers
• Data stored to MS SQL Server database with a variety of data export options

Weighing
• Repeatability
    o < 0.25 µg on metal check standards
    o < 0.30 µg MTL GP47, Pall TX40, and other glass fiber media
    o < 0.65 µg on MTL PT47, Whatman 47mm, and other PTFE filters
• Buoyancy correction of weighing results to account for changes in air density
• Weighing methods
    o Direct read method zeroes the balance, weighs the filter, and records the result
    o Drift-corrected method zeroes the balance, weighs the filter, and then records the post-filter
       zero reading to correct for the balance's tendency to drift with time
    o Substitution weighing compares the filter result to the result of a traceable metal standard, there
       by eliminating linearity uncertainty
• Time per weighing: 2 min on direct read single weighing, 7 min on triplicate weighing with drift-correction, 14 min on substitution weighing in triplicate

Quality Assurance
• Automated balance calibration at administrator-determined intervals
• Automated balance repeatability tests with historical performance charting
• Weighing of reference filters and metal standards at administrator-determined intervals
• Environmental monitoring with historical and control charting
• Programmable to pause or stop weighing when environmental conditions are out of tolerance
• Automatic re-weighing if standard deviations exceed a specified range

General
• Power: 13 amp, 220 VAC @ 50/60Hz
• Dimensions: 950 mm width x 660 mm depth x 914 mm height (37.5"W x 26"D x 36"H)
• Filter diameters accepted: 15, 25, 36.2, 37, 46.2, 47, 70, 90 mm
• Capacity: 600 test filters; 21 reference filters and/or metal standards
• Water: < 1 liter/hr for supply and drain
• Electrostatic discharge available options:
    o Faraday cage weighing pan for neutralization of static impact
    o Po-210 static discharge strips
    o Corona discharge system

Configurations
AH500E-4700-6 – 47mm (and smaller), 1 µg weighing resolution
AH500E-4700-7 – 47mm (and smaller), 0.1 µg weighing resolution
AH500E-4790-6 – 47mm, 70mm, 90mm filters, 1 µg weighing resolution
AH500E-4790-7 – 47mm, 70mm, 90mm filters, 0.1 µg weighing resolution
EC1000 – Environmental Control Chamber (no automated system inside)