

## AeroFid°60, Automatic Micro Leak Detector for Filled Aerosol Cans



**Officially certified to be fully compliant to the ADR 2007/9 and FEA directive. (Hot Waterbath Alternative)**

**The AeroFid 60 avoids critical and expensive multiple sensing heads. It also drastically improves the performance of current hot water-bath systems**

Bautz Engineering's AeroFid° family of Micro Leak Detection Systems for filled aerosol cans offers a time proven, very reliable, economical and practical solution to achieve immediate production savings and improved safety and quality by eliminating bubble detectors and water bath operators. In addition, the complementary water bath test method with partially submersed cans generates accurate data to be easily and consistently gathered as an integral part of a quality management system like ISO 9000 or similar to force improvements in quality and the supply chain.

**The AeroFid°60 Micro Leak Detector fully complies with the recent European EN 60079 Aerosol Directive and with current United Nations Standards to detect micro leaks in filled aerosol cans as low as, and/or lower than  $2 \times 10^{-3}$  mbar/sec. When combined with a test system for empty cans, the AeroFid° leak detector can be an alternative to the traditional immersion test.**

The AeroFid°60 has the smallest footprint in the industry for high speed aerosol can micro leak detectors. This compact, „over the conveyor“ machine houses the high speed leak sensor, the control panel with touch screen display and the purifying air generator. Our long standing, fast responding Model 22B hydrocarbon propellant sensor automatically extracts one sample at a time from the head and valve area of each individual aerosol can. Jam controlled by a star wheel or feed worm, the cans freely scroll through sensing area. Immediately after a leak was detected, the faulty can is rejected from the conveyor. For speeds above 60 CPM, per minute our AeroFid°100, AeroFid°200 or AeroFid°500 should be considered.

### Features

- ⇒ Complies with ADR 2007, recent European EN 60079 Aerosol Directive and with the United Nations Standard UN/SCETDG/INF.93
- ⇒ Low Investment cost and low running cost. Only a very small fraction compared to a hot water bath
- ⇒ Environmentally safe, no polluted water or air, very low electric energy consumption
- ⇒ Standard capacity up to 60 cans per minute. High speed versions available to test up to 500 cans per minute
- ⇒ Based on a time proven high speed detector technology which is used for over 27 years in leak detection for filled aerosol cans
- ⇒ No problems with faulty head chamber seals or contaminated sensor heads, free scrolling cans safely pass the probe section.
- ⇒ One sensing barrier, no multi-head calibration, machine calibrates in less than 10 minutes
- ⇒ Quality control and assurance. All records including calibration report are stored and are printable via internal data printer. Optional USB port
- ⇒ Smallest foot print industry wide, fits into virtually any conveyor line. Space requirement less than 1 m<sup>2</sup>
- ⇒ Low cost of investment and ownership, easy to operate, low maintenance
- ⇒ Combined burst testing and leak testing when placed right behind a water bath which only needs partially submersed cans to keep the water clean
- ⇒ Detect micro leaks at room temperature. No heat, pressure or vacuum needed
- ⇒ Ideally suited to be used as a certified water bath alternative when pretested cans are used

**Principle of Operation**

The AeroFid<sup>®</sup>60 is a fast responding automatic leak detector for filled aerosol cans using our decade long, time proven, standard ionization technology in a compact rack mount sensing module. The very fast responding leak analyzer extracts a sample from the head and valve area of an aerosol can with a regulated gas flow of a few liters per minute. The extracted gas from the leak is finely filtered and directed to the detector via a high precision toggling device and a metering module. The sample conditioner is designed to rinse the entire system after a leak occurred at every half step between detecting the aerosol cans to rinse the entire system including the probe tip with zero gas. Aerosol spray cans with propellants like propane/butane, or other hydrocarbons and/or hydrocarbon mixtures or HFA may have micro leaks as low as, or lower than  $2 \times 10^{-3}$  mbar.l.s-1. Looking for such small leaks as specified in recent *UN / FEA regulations* is very difficult or impossible when the bubble detection method in a conventional water bath is used.

Once a leaking can reaches the sensing area, leaking gas is extracted into the detector. As soon as the leak concentration is measured, the stored data are used to reject the leaking can from the conveyor into a safe container. The various AeroFid<sup>®</sup> leak testers are capable to detect from over 80 to up to 500 cans per minute.

Our leak testers for filled aerosol cans with hydrocarbon propellants are successfully used daily 24/7 for over 27 years

**Technical Data of Sensing Module**

Capacity . . . . .	80 plus cans per minute
Sensitivity . . . . .	Less than $2 \times 10^{-3}$ mbar.l.s-1. leakage rate in compliance with current UN and EU regulations
Detection method . . . . .	Certified heated FID
Faulty can reject . . . . .	Automatic pneumatic blow off
Controls . . . . .	PLC with touch screen
Can distancing . . . . .	Typically 100mm, by check weigher,
Measuring ranges . . . . .	0-10,100, 1.000, 10.000, 100.000, units, others on request
Analog outputs . . . . .	0-10 VDC, RS232 optional
Display . . . . .	Digital 3 1/2 digit display and Digital Bar Graph Display
Sample . . . . .	Automatic extraction, max. 4 lpm capacity @ operating temp.
Zero and span adjust . . . . .	Manual on front panel
Fuel consumption . . . . .	approx. 60 ml/min of 100% H <sub>2</sub> @ 1.5 bar (22 psig)
Combust. air consumption . . . . .	Non, built in burner air supply
Sensor oven temperature . . . . .	190°C (374°F)
Temperature control . . . . .	µ-processor PID controller
Ambient temperature . . . . .	5-43°C (41-110°F)
Dimensions of sensing module (W x D x H) . . . . .	19" (483 mm) x 460 mm x 132 mm
All over all footprint leak tester and sensing module (W x D x H) . . . . .	900 mm x 900 mm x 1900 mm

Bautz Engineering reserves the right to make improvements on the product described in this brochure at any time without prior notice. Information provided in this brochure is subject to be changed without notice.



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