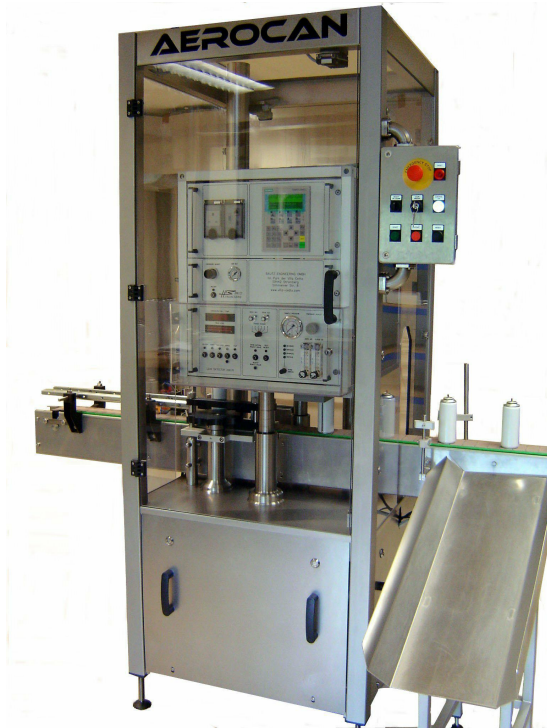


AeroFid°100, Automatic Micro Leak Detector for Filled Aerosol Cans



Officially certified since October 2008 to be fully compliant to the ADR 2007 and FEA directive. (Hot Waterbath Alternative)

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°100 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 2×10^{-3} mbar.l.s.-1.s. When combined with the use of tested, certified cans, or a test system for empty cans, the AeroFid° leak detector is an alternative to the traditional hot water bath immersion test.

The AeroFid°100 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 below 100 CPM, per minute our AeroFid°60 should be considered, above 100 CPM our AeroFid°200 or AeroFid°500 should be considered.

The AeroFid°500's space requirement is only slightly more than for all other machines.

Features

- ⇒ Complies with ADR 2007, recent European EN 60079 Aerosol Directive and with United Nations Standard UN/SCETDG/INF.93
- ⇒ Very low running cost, only a small fraction compared to a hot water bath
- ⇒ Environmentally safe, no polluted water or air, very low electric energy consumption
- ⇒ Standard capacity up to 120 cans per minute. High speed versions available to test up to 500 cans per minute
- ⇒ Height adjustable for all available can heights
- ⇒ Based on a time proven high speed detector technology which we use 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 which is automatically cleaned after each detected leak
- ⇒ One maintenance free sensing barrier to be calibrated. Machine completely calibrates in less than 10 minutes
- ⇒ No hassle with time consuming multi-head calibration,
- ⇒ Quality control and assurance; The production records and calibration records are stored and printable via USB port, including calibration report
- ⇒ Smallest foot print industry wide, fits into virtually any conveyor line. Space requirement less than 1 m²
- ⇒ Low cost of investment and ownership, easy to operate, low maintenance
- ⇒ Detect micro leaks at room temperature. No heat or vacuum needed

Principle of Operation

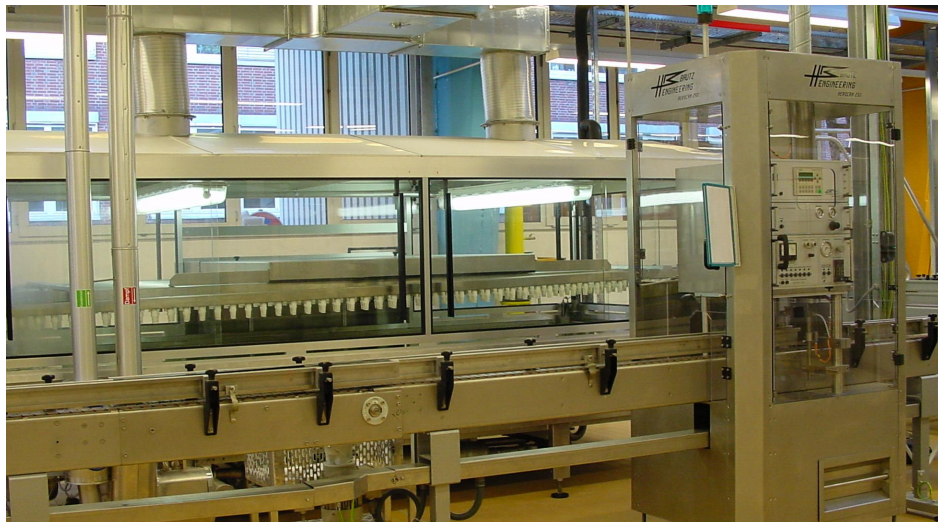
The AeroFid°100 is a fast responding automatic leak detector for filled aerosol cans using our decade long, time proven, standard ionization technology in a compact rack mount sensing module. The very fast responding leak analyzer extracts a sample from the head and valve area of an aerosol can with 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 2×10^{-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° 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	Max. 120 cans per minute
Sensitivity	Less than 2×10^{-3} mbar.l.s-1 Leakage rate in compliance with current UN and EU regulations
Detection method	Certified heated FID analyzer
Zero drift	<2.5% full scale / 24h
Span drift	<2.5% full scale / 24h
Linearity	Up to 10.000 units within 1% FSD
Measuring ranges	0-10,100, 1.000, 10.000, 100.000, units, others on request
Analog outputs	0-10 VDC, RS232 optional
Display	Analog meter, additional 3 1/2 digit display optional
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 ₂ @ 1.5 bar (22 psig)
Comb. 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.



Shown above is our Model AeroCan° 200 leak tester integrated downstream of the water bath in 2003. These days it is used for testing up to 270 monoblock aluminum cans per minute.

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