AEROSPACE EDDY CURRENT FLAW DETECTORS

AEROCHECK2 SINGLE FREQUENCY
AEROCHECK+ DUAL FREQUENCY

- Advanced features including Conductivity & Auto-mix, Loop, Guides and Trace
- Large, crisp, daylight readable display
- User friendly interface and ergonomic lightweight design
- Rotary capabilities as standard
- Industry standard probe connectors
- Eight hour battery life
- Rapid 2.5 Hour charging time
- Two-year warranty
The AEROCHECK Flaw Detector offers the very best in Eddy Current performance with rotary inspection capabilities as standard.

**INDUSTRY STANDARD PROBE CONNECTORS**

The AEROCHECK series uses a wide range of eddy current probes meeting all the needs of the aerospace eddy current inspector. Absolute, Bridge and Reflection connected probes can use the industry standard 12 Way LEMO Connector. A LEMO 00 Connector is also provided for simpler connection of Absolute probes.

**WIDE FREQUENCY RANGE**

The single frequency AEROCHECK2 has a frequency range of 10Hz to 20MHz, whereas the dual frequency AEROCHECK+ offers 10Hz -12.8MHz, ensuring a diverse range of real world applications can be met.

Area of Inspection: Fasteners
Probes: Low Frequency, Slider

**WORKS THE WAY YOU DO!**

The AEROCHECK series has the ability to be used in left and right-handed mode; thanks to the “Auto Flip” function. This is especially useful if the operator is inspecting in a restricted area like the Engine Mounts.

Area of Inspection: Engine Mounts
Probes: Surface

Area of Inspection: Wing Surface & Hinges
Probes: High & Low Frequency

**LIGHTWEIGHT, RUGGED, “SURE GRIP” & ENHANCED PROTECTION**

Weighing just 1.2kg (2.7lbs), housed in a tough aluminium alloy Mg Si 0.5 powder-coated outer case and fitted with rubber feet to aid grip, the AEROCHECK is as stable on a wing of an aircraft as it is on a laboratory bench. Both Instruments have two integrated moulded “Sure Grip” handles on the rear of the case.

The AEROCHECK series has enhanced durability through a fully-fitted, custom-designed outer “protective boot” and integral hand-strap for even greater strength and easier grip in use.
DAYLIGHT READABLE, CLEAR, LARGE, CONFIGURABLE COLOUR SCREEN
The AEROCHECK series has a large 14.5cm (5.7 Inches) LCD Colour Screen of 640 x 480 pixels providing the Operator with excellent signal resolution and presentation and with the choice of configuring their own colour schemes and display types. It is easy to optimise the screen presentation regardless of the light conditions and it is possible to view a choice of up to two Spot, Time-Base, Waterfall or Meter display types.

Not all NDT inspection on aircraft takes place in the comfort of an aircraft hangar so the daylight readable display is easily viewable outdoors.

Area of Inspection: Bulkhead
Probe: Low Frequency

Area of Inspection: Horizontal Stabilisers
Probe: High & Low Frequency

RECORD AND REPLAY
Up to 164 seconds of live data may be recorded in real-time and then played back either on the instrument or on a PC using the desktop application ETHERANALYSER for subsequent analysis and review. The recorded data may be further optimised by adjusting many settings including Phase, Gain, Filters, Display and Spot position.

EASY TO USE MENUS & ICON SYSTEM
The AEROCHECK series menu system is simple and fast to navigate with the ability to add individually selectable soft key menu items to the sidebar as recognisable icons for rapid function access and a “quick-setting menu” for easy set-up, review and adjustment.

With four operator-selectable soft keys and a fifth slot for the last menu function used, Technicians can quickly modify the system with their preferences. Each saved instrument setting can be associated with a unique, single press set of quick access soft keys. There are also two front panel hard keys that can be readily programmed for rapid single press access to frequently used functions.

Area of Inspection: Fuselage
Probe: Surface & Sub-Surface

Area of Inspection: Door Access Points & Window Frames
Probe: Rotary

Area of Inspection: Wheels, Wheel Brakes, Landing Gear
Probe: High Frequency, Rotary

Area of Inspection: Rotary Capabilities as Standard
The AEROCHECK series includes rotary capabilities as standard and can be used with the ETHER Mercury (mini) ARD002, Hocking 33A100 or the Rohmann MR3/SR1 and SR2 Drives (with special adapter cable).

Area of Inspection: Wheels, Wheel Brakes, Landing Gear
Probe: High Frequency, Rotary
The AEROCHECK offers the right mix for features for any Eddy Current application need in an easy-to-use package designed entirely with the end user in mind.

**ALL POSSIBLE APPLICATIONS COVERED!**

The AEROCHECK2 and AEROCHECK+ offer maximum flexibility when deciding which features are needed for your application. As well as the hand-held WELDCHECK & AEROCHECK series, the range also includes the VICTOR 2.2D for inline component testing solutions.

### Key Differences

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<th>ROTARY</th>
<th>DATA RECORDING</th>
<th>DUAL FREQUENCY WITH AUTO-MIX</th>
<th>CONDUCTIVITY</th>
<th>GUIDES</th>
<th>LOOP</th>
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<th>ENHANCED PROTECTION</th>
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<tr>
<td>AEROCHECK2</td>
<td>●</td>
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<td>●</td>
<td>●</td>
<td>●</td>
<td>10Hz-20MHz</td>
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<tr>
<td>AEROCHECK+</td>
<td>●</td>
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<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>10Hz-12.8MHz</td>
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</table>

● = As Standard

### Exceptional Screen Clarity For Any Application

- 50/50 XY & Timebase
- 50/50 XY Waterfall with 12 2s time sweeps
- XY with small timebase and Quick Menu
- Meter Full Screen
- Dark background polar graticule and soft-keys
- XY and Meter 50/50
- XY Full screen with Box Alarm
- XY with Small Meter
- Timebase Full screen with level arm
**Advanced Features**

**Guides Feature:**
“Guides” allows the user to display a slide show that can be created easily with commonly used desktop software. Instructions, tutorials and procedures for an inspection can be added to the AeroCheck+ very quickly and the NDT inspector can easily switch between the inspection itself and the “Guides” while performing a live test.

**Trace Feature:**
The trace function allows a reference trace to be stored on the screen and appears along with the graticule behind the live spot. This allows the operator to readily compare the live data with the reference calibration.

**“Loop” Feature:**
“Loop” is a convenient way of capturing a short live repetitive signal and then optimising the instrument settings through real time adjustments of the Phase, Gain, Balance, Filters and Display Configuration in order to simplify the task of optimising the parameters.

The “Loop” function is excellent for calibration set up especially for setting the filters for Rotary and Dual Frequency mix.

**Dual Frequency Feature:**
At different frequencies, different signal indications (e.g. lift off and defect) have a different relative phase and amplitude response. By means of Phase Rotation and Gain change of the X Y signal components one of these indications can be manipulated to be almost identical in phase and amplitude as the other and then by subtraction (mixing), the unwanted component is minimised, giving an improved detection of the required signal.

**Auto-Mix Feature:**
A dual frequency mix exploits the phase and sensitivity change between two different types of indication to suppress one and enhance the other.

Auto-mix simplifies the sometimes complex procedure of mixing two different frequency signals and can be achieved on the AeroCheck+ through a series of easy steps. Once set up, the Auto-mix itself is as simple as pressing one key.

**Conductivity Measurement:**
Many of the Aerospace procedures require that Conductivity Measurement is available on the designated Eddy Current Flaw Detector.

When connecting the Conductivity Probe, the AeroCheck+ auto-detects the probe and seamlessly switches into conductivity mode. Removal of the probe switches the instrument back to flaw detection mode.

**NB:** The Conductivity Measurement Option is available through the purchase of the KACON001 KIT.

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*The AeroCheck+ offers all the great features of the AeroCheck2 and in addition Dual Frequency and Conductivity Measurement.*
**Advanced Features**

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<th>Advanced Features</th>
<th>Guides</th>
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<tr>
<td></td>
<td>Create and display a slide show containing instructions, tutorials and procedures using Microsoft PowerPoint.</td>
</tr>
<tr>
<td>Attachments</td>
<td>Screenshots and Data Recordings are saved in a folder with the name of the Settings.</td>
</tr>
<tr>
<td>Loop</td>
<td>Capture a live repetitive signal and then optimise the instrument settings (Phase, Gain, Filters) to simplify optimising the parameters.</td>
</tr>
<tr>
<td>Trace</td>
<td>Allows a calibration reference signal to be stored on the screen and then compared with the live signal.</td>
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<tr>
<td>Data Output</td>
<td>Real-time post processed over USB at 8kHz overall for all 3 data pairs (X, Y and Mix) with DLL for embedding functionality into software.</td>
</tr>
</tbody>
</table>

**Conductivity Specification (AeroCheck+ Only)**

- **Frequency**: One frequency only 60kHz standard (choice of 120, 240 and 480kHz)
- **Accuracy**: 0.5%-10% IACS better than +/-0.05% IACS
  - 10%-25% IACS better than +/-0.25% IACS
  - 25%-60% IACS better than +/-0.5% IACS
  - 60%-110% IACS better than +/-1% IACS
- **Lift Off corrected to 1.0mm**
- **No temperature compensation**
- **All Errors at 90% Confidence Level**

**Resolution**: 3 decimal points max

**Auto Resolution Mode** AutoS = Legacy Instrument, Auto = SigmaCheck

**Equipment Kits**

**STANDARD AeroCheck Series Kits**

- **IAER03 Instrument**, AeroCheck2, Single Frequency (20Hz-20MHz), Hand Held Portable Flaw Detector, Software + Manual on USB Stick
- **IAER02 Instrument**, AeroCheck+, Dual Frequency (10Hz-12.8MHz), Hand Held, Portable Flaw Detector, Software + Manual on USB Stick, with Rotary & Conductivity at 60kHz Functionality

**AWELO02 AeroCheck Power Adapter + Input Plugs (UK, EU, US & Australia)**

**AWELO03 Adjustable Shoulder Strap, Padded with Quick-Release**

**AC006 Instrument Soft Carry Case**

**A090 USB Cable, A to MIN B**

**40463 Quick Reference Card**

**ALLC-XM02-015A Lead, Lemo 00 to Microdot, 1.5m (Absolute)**

**ALLL-L04-012B Lead, Lemo 12-Way - Lemo 4-Way (Reflection)**

**OPTIONAL ACCESSORIES**

- **AAER002 Hard Transit Case**
- **AAER004 Protective Splash Proof Cover (WeldCheck2, WeldCheck+, AeroCheck2, AeroCheck+)**
- **AWEL006 External, 8 x AA Battery Holder with On/Off Switch**
- **AWEL009 in-car Power Adapter**
- **ALLL-L04-015A Lead, Lemo 12-Way - Lemo 4-Way, 1.5m (Reflection)**
- **ALLL-L04-015B Lead, Lemo 12-Way - Lemo 4-Way, 1.5m (Bridge)**
- **ALLC-XM02-015A Lead, Lemo 00 to Microdot, 1.5m (Absolute)**
- **ALLC-XM02-015B Lead, Lemo 00 to BNC, 1.5m (Absolute)**
- **AKS001 Mercury (mini) Rotary Drive**
- **ALLL-L12-020M Lead to connect Mercury (mini - ARD002) Rotary Drive, Lemo 12-Way, 2m**
- **ALLL-F08-020ETH Adapter, lead to connect Rohmann Rotary Drive MR3, SRL2 and SRL2, Lemo 12-Way, 2m.**
- **40470 Tripod Bracket To fit 1/4" Camera Tripod Mount with Male Screw**

**PROBE KITS**

- **KASUR001 KIT Surface Inspection (4 probes, lead and Al and Fe Test Block)**
- **KASUS001 KIT Surface Inspection Low Frequency, 2 probes, lead and test piece**
- **KAROTO01 KIT Mercury Rotary Drive and Cable Only**
- **KACON001 KIT Conductivity Kit (Probe, Calibration and Cable) - (AeroCheck+ only)**

Both the AeroCheck2 and AeroCheck+ are supplied with a standard “Two-Year Manufacturer Warranty”. This covers all components of the Instruments and only excludes customer damage or misuse. The “Two-Year Warranty” can be extended to “Five Years” through purchase of “ETHERCover” Extended Warranty Protection.