EDDY CURRENT WHEEL INSPECTION SYSTEM

VeeScan

- User friendly, easy initial setup with “Teach & Learn” and “Save & Recall”.
- Versatile - can test wheels from Helicopter Nose to A380 Main Wheels.
- Flexible - Scans whole wheels in either direction.
- Simple PDF reporting: that can be printed, stored, viewed locally or over your network.
- Manufactured from heavy-duty aluminum extrusions with easy servicing using standard, readily available, branded control automation products such as Schneider Electric.

ETHER NDE

VeeScan

"Our VeeScan offers our clients the choice of the highest degree of reliability in a well accepted industry standard format."
John Hansen, MD

VeeScan Pivot Arm Option.

At *ETHER NDE* we understand that the key criteria for any Aircraft Wheel Inspection System is the need to guarantee detection of defects, the requirement to operate reliably twenty-four hours per day, 365 days per year. The demand for a simple and user-friendly interface and the business need to maximize speed of inspection and output is key. Balancing these objectives can be difficult, but we believe the VeeScan measures up to the task.

The VeeScan can be configured with a wide choice of probes allowing any Wheel Shop to select the system most compatible with their workload alongside the VeeScan's proven design allowing maximum flexibility.

KEY FEATURES

- Uses the ETher NDE AeroCheck+ Standard Aerospace Eddy Current Flaw Detector. Easily removable for other inspection tasks and protected by a rugged, clear Polycarbonate cover.
- Heavy duty extruded aluminum structure with removable steel panels.
- Teflon covered rotating table with three self-adapting grip pins enables rapid change over from one wheel type to another. The three open sides means easy loading of the machine.
- Roller tray with rubber coated stainless steel rolls facilitates the wheel movement and readily integrates into a conveyor system.
- Removable dynamic calibration standard positioned conveniently at the front of the machine.

EXCELLENCE IN CONTROL

The Control Panel is used to program the inspection and control the moving elements of the VeeScan. Via USB it interacts with the AeroCheck+ display inspection signals.

From the Control Panel the user can export a PDF report of the inspection, including all relevant industry inspection and eddy current testing parameters.

The VeeScan Control Panel can be configured as a stand-alone unit or on a pivot arm attached to the machine. Either option ensures the safety of the inspection team, offering ease-of-use with the ability to re-position when required.

The stand alone unit is designed with an adjustable-height Control Panel for operator comfort and can be positioned at a convenient distance from the main machine.

CUSTOMER BENEFITS

FLEXIBILITY: Due to the two axis bi-direction ability, the wheel orientation and direction of scanning can be changed. Traditionally on an automated wheel inspection machine the wheel is inspected rim down and inwards from the rim edge to the barrel. The key advantage is both halves of a wheel can be inspected at the same time (providing the overall height is 380mm (15”) or less).

EASE-OF-SERVICE: The machine is built from readily available automation components from companies such as Schneider. The on-board software features comprehensive diagnostic and condition reporting for rapid on-site repair. Additonally the VEESCAN may be connected via the Internet for remote analysis by our engineers.

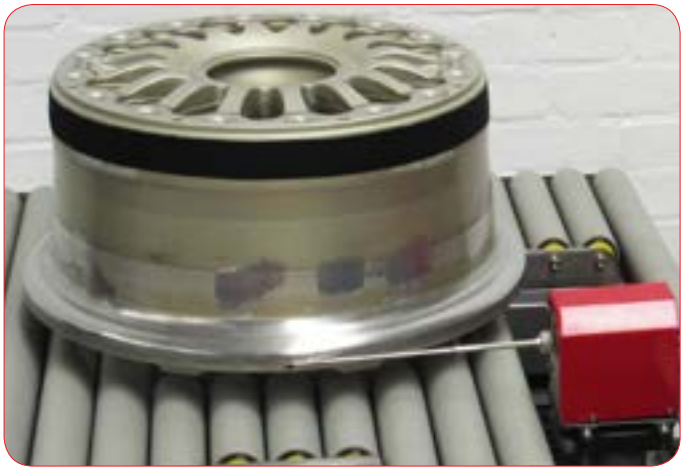
INTUITIVE SET-UP: A “teach and learn” system allows the machine to be trained to inspect a wheel. ,Maual fine tuning of values means an accurate setup can be saved for the same wheels in the future.

VERSATILITY: Designed to test the widest range of aircraft wheels from Helicopter Nose wheels to A380 main wheels.

SPEED & RELIABILITY: Automated inspection allows the wheel to be inspected much more quickly than for a manual inspection, while still ensuring the required area of inspection is 100% scanned.

REPORTING: The fully digital reporting system archives the data for analysis and review, either on the VEESCAN itself or remotely over a network. A simple one-page report may be saved and printed.

SAFETY: There is an option for a separate control stand with dual push button activation start means the operator is not near the rotating wheel during the test. Additionally, the VEESCAN uses a wheel-clamping system that has been field proven over extended periods of time to further ensure safety.



LEADING EDDY CURRENT TECHNOLOGY

The VEESCAN works in conjunction with the AEROCHECK+ which sits behind a protective tough polycarbonate window and provides the unit with the eddy current technology for the inspection and is used to program the wheel-scanning probe. With the ability to pre-program the probe the operator can guarantee the correct set up is being used for the current inspection job.

The simplicity of having the AEROCHECK+ in its own housing on the front of the machine also means that it is readily available to be used as a stand-alone unit for manual inspection if needed.

The unit transmits the eddy current signals to the VEESCAN Control Panel PC offering stable eddy current performance, high resolution and the flexibility that the AEROCHECK+ is known for.

WHEEL INSPECTION SEQUENCE

The VEESCAN is designed to lift the wheel and fix it with an automatic adaptor that uses the wheel inertia to center it. It offers an integrated roller tray for easy manoeuvrability and integration into a conveyor system. The VEESCAN also features an automatic hub size adaptor and can test wheels up to 900mm (35”) diameter.

A circular absolute probe is positioned perpendicular to the surface to ensure uniform sensitivity regardless of wheel surface profile as the probe progresses through the wheel bead seat area. Recommended frequency is 200kHz.

The AEROCHECK+ is an effective, state-of-the-art unit that has been designed and manufactured with the end user in mind. With ease-of-use as one of its main priorities, we are confident that the combination of the VEESCAN with the AEROCHECK+ is a winning one for any aircraft wheel inspection facility.

Specifications

Specification subject to change without notice.

Item	Description
Instrument	**ETher NDE AeroCheck+**
Probe	Differentially connected absolute(integral balance load) with circular head. Recommended Frequency 200kHz, option 100kHz, 500kHz and 1.5 MHz. Recommended diameter 6mm (0.25”) (9mm (0.35”) also available and narrow shaft for large wheels).
Max Wheel Diameter	0-900mm / 0-35
Max Wheel Height	400mm / 16”
Max Load	150kg / 330 lbs
Typical Inspection Helix	1.5mm / 0.06”
Rotation Speed	15-120 rpm
Probe Position	Adaptive contour following using dual axis pressure sensors with fully bi-directional control.
Alarms	Acoustic and visual
Frame	Extruded Aluminium
Wheel Position	The wheel is lifted clear of the roller tray using a 250mm (10”) stroke electric actuator and then held under its own weight by an adaptive automatic grip mechanism
Automatic Calibration	Yes, by means of dynamic standard option.
Automatic Stop on Defect	Yes
Turntable	Roller Tray Rubber coated steel rolls
Control Station	External free standing, height adjustable pedestal or machine mounted pivot arm.With machine and eddy current control. 7” screen, keyboard and tracker ball.
Machine Weight	275kg / 600lbs
Dimensions (w x d x h) mm & inches	850mm (34”) x 1120mm (44”) x typical 945mm (37”) Minimum height 904mm (36”) / Maximum height 975mm (38”). Height adjustable via feet.
Power Supply	110-240V AC 50/60Hz

Optional: VeeScan 2 years Spare Parts Kit (Part no: KAVEE001)

Part Number	Description
AVEE001	Accessory: Automatic Wheel Adaptor (VeeScan H)
AVEE003	Accessory: VeeScan Reference Piece TEC/749/001[2] (VeeScan 6728)
AVEE041	Accessory: Set of Top Rollers (x7 Long, x5 Medium, x3 Short Rolls)
AVEE043	Locating Pins (1 set large, 1 set medium, 1 set small) (6728-02-02-T)
PA06-200FB	Probe, VeeScan, Head Dia 6mm, 200kHz, Fine (Narrow Shaft) (Bridge)
ALL12R - L04-0258-V	Accessory: LEMO Lead, 12-Way (90 deg) LEMO 4-Way 2.5m (Bridge) - to fit VeeScan
AW009	Accessory: Tape - Kapton insulating - 6mm wide x 33m.

ETHER NDE

ETher NDE Ltd.,
Endeavour House, Unit 18 Brick Knoll Park,
Ashley Road, St. Albans, Hertfordshire, UK
Tel: +44 (0)1582 767912
Email: sales@ethernde.com
www.ethernde.com

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