

# VEESCAN

EC WHEEL INSPECTION SYSTEMS



“ Our VEESCAN product range offers our clients the choice of systems for both optimised productivity and value for money or maximum flexibility combined with lowest capital cost. ” John Hansen, MD



*ETHER NDE* is pleased to offer a range of solutions for aircraft wheel inspection. We understand that the key criteria for Aircraft Wheel Inspection Systems are the need to guarantee detection of defects, the requirement to operate reliably for 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. Balancing these objectives can be difficult, but we believe the VEESCAN measures up to the task.

The VEESCAN is available in a choice of models and can be configured with a wide choice of probes. This allows any Wheel Shop to select the system most compatible with their workload. The “Model H” is a proven design allowing maximum flexibility, while the “Model R” (Rapid) offers the potential for greater throughput due to the incorporation of the special WideScan probe with a scanning helix of 5mm.

## CUSTOMER BENEFITS:

- Proven mechanical design with established record of breakdown-free operation for 365 days or more.
- Choice of two probe configurations: “Model H” or “Model R” (Rapid) offering choice of maximum flexibility or optimised productivity.
- Adjustable-height Control Station on “Model H” - Allows Operator the most flexible and comfortable usage.
- Full choice of Operation Modes maximising Probability of Detection.
- Easy to operate with basic training.
- Easy to service - Manufactured from heavy-duty aluminum extrusion and incorporating standard readily available branded control and automation products.
- Intuitive set-up - A “teach and learn” system allows the machine to be trained to inspect a wheel, then manually adjust values to fine tune the setup and then save the setup for similar / the same wheels in the future.
- Versatile - the VeeScan has been designed to test the widest range of Aircraft Wheels from Helicopter Nose Wheels to A380 Main Wheels.
- Rapid and Reliable - Automated inspection allows the wheel to be inspected much more quickly than for a manual inspection whilst ensuring the required area of inspection is scanned 100%.
- 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 1 page A4 report may be saved and printed.
- Safety - A separate control plinth with dual push button activated start means the operator is not near the rotating wheel during the test. Both the “Model H” and “Model R” versions use systems of Wheel Clamping that are proven in the field over extended periods of time.

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

The H is designed with an adjustable-height Control Panel for operator comfort and can be positioned at a convenient distance from the main machine. Open on three sides, the VEESCAN H offers easy wheel loading as standard.

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.



## MAIN CHARACTERISTICS OF MODEL H

- Extruded aluminium structure covered with black Perspex panels.
- Separate Control Panel that may be positioned at a convenient distance from the main machine, which is height and angle adjustable.
- Teflon rotating table with three open sides for easy wheel loading.
- Roller tray to facilitate the wheel movement.

Veescan Model H ISO with wheel in place



Veescan Model H with moveable control panel



Veescan Model H Control Panel

## SPECIFICATION

<b>Unit Size</b>	112.5cm x 120cm x 95cm
<b>Instrument</b>	ViCTor 1 Channel WI
<b>Probe</b>	Differentially connected absolute (integral balance load) with circular head. Recommended Frequency 200kHz option 100kHz, 500kHz and 1.5 MHz. Recommended diameter 6mm (mm also available and narrow shaft for large wheels)
<b>Max Wheel Diameter</b>	900mm
<b>Typical Inspection Helix</b>	1.5mm
<b>Probe Position</b>	Adaptive contour following using dual axis pressure sensors
<b>Max Wheel Height</b>	400mm
<b>Power Supplies</b>	110- 240v ac 50/ 60Hz
<b>Max Load</b>	150Kg
<b>Pneumatic Pressure</b>	None (electric wheel raise) 250mm stroke
<b>Alarms</b>	Acoustic and visual
<b>Rotation Speed</b>	15-120 rpm, via surface speed control eg 250mm/s
<b>Frame</b>	Extruded Aluminium
<b>Wheel Position</b>	The wheel is lifted clear of the roller tray using a 250mm stroke electric actuator and then held under its own weight by an adaptive automatic grip mechanism
<b>Data Recording and Storage</b>	Yes
<b>Manual Hand-Held Inspection</b>	Yes, probe socket and switch on control station
<b>Automatic Calibration</b>	Yes, by means of dynamic standard option
<b>Automatic Stop on Defect</b>	Yes
<b>Turntable</b>	Roller Tray / Outer stainless steel, inner plastic. Easily adjustable end stops at both ends to prevent wheel falling off.
<b>Control Station</b>	External free standing. Height adjustable with machine and eddy current control. 7" screen. Use Uses virtual keyboard. Touch Pad 750 - 900mm adjustable.
<b>Operation Modes</b>	Automatic, Stop on defect and full manual



The VEESCAN R clamps the wheel with a pneumatic cylinder. With pneumatic control and electronics incorporated within the frame it allows access to the rotating table from three open sides. On the rotating table, three rollers assist the wheel movement. It is designed to be used with probes with both high and low inspection frequencies simultaneously.

The R is easily adaptable for use with the eddy current instrument plus an auxiliary computer for data storage and further evaluation.

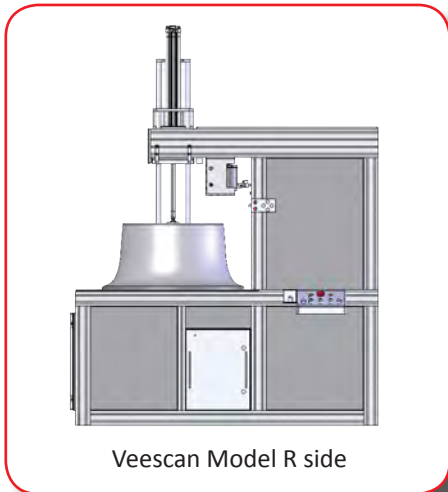
The Model R is manufactured in two sizes to accommodate two different wheel size categories; for wheels under 600mm in diameter and for wheels under 900mm in diameter.

## MAIN CHARACTERISTICS OF MODEL R

- Extruded aluminium structure and outer black Perspex panels.
- Compact design with pneumatic control and electronics fitted in a frame with complete access to the rotating table from three open sides.
- The control/handling post can be installed on the lateral sides or on the front side.
- Rotating table with three rollers to help wheels to move from the three open sides.
- Four bar guided wheel-centring device with removable Teflon cone (standard size) and stiffened support structure (horizontal) on top of the tower.
- Possibility to install encoders for vertical and turning movements in order to facilitate the synchronisation with software applications.
- Safety elements include two emergency stops (one fixed, the second free, positions to be fixed by the user), dual push button for safe activation of wheel centring movement and probe protection (emergency arm retraction).



Veescan Model R



Veescan Model R side



Veescan Model R  
in factory situation

## SPECIFICATION

<b>Unit Size</b>	a) 85cm x 220cm x 145cm or b) 120cm x 230cm x145cm*
<b>Instrument</b>	ViCTor 1 Channel WI
<b>Probe</b>	Differential - High Frequency multi-purpose bead seat
<b>Max Wheel Diameter</b>	a) 600mm or b) 900mm*
<b>Typical Inspection Helix</b>	5mm
<b>Probe Position</b>	Touching the wheel
<b>Max Wheel Height</b>	400mm
<b>Power Supplies</b>	110 - 240V AC 50 / 60Hz
<b>Max Load</b>	150Kg
<b>Pneumatic Pressure</b>	40 - 150 psi
<b>Alarms</b>	Acoustic and visual
<b>Rotation Speed</b>	5 - 50 rpm
<b>Frame</b>	Extruded Aluminium
<b>Wheel Position</b>	The wheel is clamped against the turntable face during the inspection by a pneumatically actuated cone
<b>Data Recording and Storage</b>	Yes
<b>Manual Hand-Held Inspection</b>	Yes, probe socket and switch on control station
<b>Automatic Calibration</b>	Yes, by means of dynamic standard option
<b>Automatic Stop on Defect</b>	Yes
<b>Turntable</b>	Option - Spring loaded ball rollers on the rotating plate to allow the inspection of wheels in trays.
<b>Control Station</b>	Control panel, integrated with main unit
<b>Operation Modes</b>	Automatic, Stop on defect and manual

**Please note:**

\* highlights that a) represents Model R with 600mm max wheel diameter and b) represents Model R 900mm max wheel diameter.

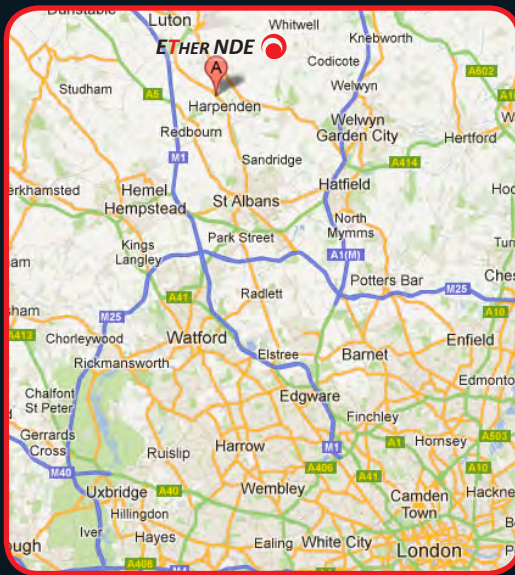
**ETHER NDE** continually strives to provide innovative solutions to eddy current testing in all possible inspection conditions.

Offering a range of innovative eddy current testing instruments and probes, **ETHER NDE** will endeavour to find the solution that best fits our clients specific needs.

At **ETHER NDE** we pride ourselves on our ability to remain client focussed, conducting our business with three simple promises to you:

1. The ability to speak to someone who understands our products and your application.
2. Industry leading delivery on goods and the ability to respond to your challenges.
3. That our products are second to none in both performance and quality.

Founded by John Hansen and Mike Reilly and supported by a skilled team, **ETHER NDE** boasts over 150 years of collective experience in non-destructive testing. Forward thinking and client responsive, **ETHER NDE** is the wise choice for all your eddy current testing needs.



Endeavour House  
3 Roundwood Lane  
Harpenden  
Hertfordshire  
AL5 3BW

+44 (0) 1582 767912

email: [sales@ethernde.com](mailto:sales@ethernde.com)

[www.ethernde.com](http://www.ethernde.com)

