

## EDDY CURRENT WHEEL INSPECTION SYSTEM

# VEESCAN



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

# VEESCAN

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

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. 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.



**THE 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. The VEESCAN offers an integrated roller tray for easy maneuverability and integration into a conveyor system and also features an automatic hub size adaptor. The VEESCAN 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.



## MAIN CHARACTERISTICS OF THE VEESCAN

- 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 gives rapid change over from one wheel type to another. The three open sides give 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.

## CUSTOMER BENEFITS:

**FLEXIBILITY** - Due to the two axis bi-direction ability, the wheel orientation and direction of scanning maybe changed. Traditionally on an automated wheel inspection machine the wheel is inspected rim down and inwards from the rim edge to the barrel. However this is not a limitation on the VEESCAN.

The key advantage for this is that both halves of a wheel can be inspected at the same time (providing overall height is 380mm (15”) or less).

**EASE-OF-SERVICE** - the machine is built from readily available automation components from companies such as Schneider (worldwide distribution network) and the software features comprehensive machine diagnostic and condition reporting for rapid on site repair. Further, the machine 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, then manually adjust values to fine tune the setup and then save the setup for 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 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** - 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.



**GREAT EDDY CURRENT TECHNOLOGY:** The VEESCAN works in conjunction with the ETHER NDE AEROCHECK+ eddy current flaw detector. The flaw detector sits behind a protective tough polycarbonate window and provides the unit with the eddy current technology for the inspection.

The ease 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 and benefits from offering great eddy current performance, high resolution, stability and flexibility that the AEROCHECK+ is known for.

The AEROCHECK+ does not control the motions of the VEESCAN, but is used to program the wheel-scanning probe. With the ability to pre-program the probe used on the VEESCAN, the operator is able to guarantee that they are using the correct set up for the current inspection job.

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.

## THE CONTROL PANEL



**EXCELLENCE IN CONTROL:** The VEESCAN Control Panel is a stand-alone unit to ensure the safety of the inspection team and offer ease-of-use with the ability to position it freely.

The Control Panel is used to program the inspection and control the moving elements of the VEESCAN an via USB it interacts with the AEROCHECK+ eddy current unit to display the signals from the inspection.

From the Control Panel the user can export a PDF report for the inspection including the industry standard inspection and eddy current testing parameters.

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

## SPECIFICATIONS

<b>Instrument</b>	ETHER NDE AEROCHECK+
<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 (0.25") (9mm (0.35")) also available and narrow shaft for large wheels)
<b>Max Wheel Diameter</b>	0-900mm / 0-35"
<b>Max Wheel Height</b>	400mm / 16"
<b>Max Load</b>	150kg / 330 lbs
<b>Typical Inspection Helix</b>	1.5mm / 0.06"
<b>Rotation Speed</b>	15-120 rpm
<b>Probe Position</b>	Adaptive contour following using dual axis pressure sensors with fully bi-directional control
<b>Alarms</b>	Acoustic and visual
<b>Frame</b>	Extruded Aluminium
<b>Wheel Position</b>	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
<b>Automatic Calibration</b>	Yes, by means of dynamic standard option
<b>Automatic Stop on Defect</b>	Yes
<b>Turntable</b>	Roller Tray Rubber coated steel rolls
<b>Control Station</b>	External free standing. Height adjustable with machine and eddy current control. 7" screen. Use of keyboard and tracker ball.
<b>Machine Weight</b>	275kg / 600lbs
<b>Dimensions (w x d x h) mm &amp; inches</b>	850mm (34") x 1120mm (44") x typical 945mm (37") or minimum 904mm (36") or maximum 975mm (38"). Height adjustable via feet.
<b>Power Supply</b>	110-240V AC 50/60Hz

Specification subject to change without notice



Document number 5001USA: Issue 6