

# AERONAUTICS NUCLEAR RAIL



**CONTROLE  
MESURE  
SYSTEMES**



**Your Manufacturing Partner for  
Non-Destructive Testing Equipment**

**By Eddy Current and Ultrasonic**



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



# AERONAUTICS

Our systems are designed to measure conductivity and to inspect tubes, bars and forged parts.



Rotating head, RotoUTscan

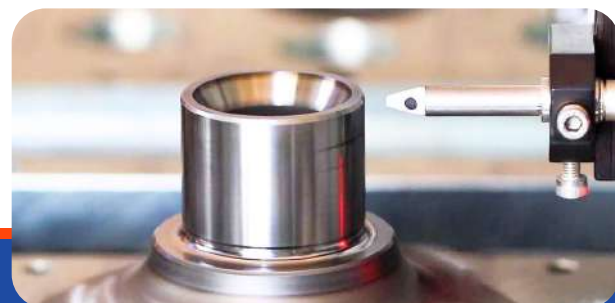
## Inspection of Tubes and Bars

The Ultrasonic rotating head RotoUTscan is used to detect internal or external defects, and perform highly accurate dimensional measurements including ID, OD, WT, eccentricity and ovality.

## Inspection of Solids of Revolution

The inspection of surface and subsurface defect is carried out using Eddy Current pencil or custom probe, mounted on an industrial robot to scan the part's profile.

An Ultrasonic immersion tank allow to perform an inspection at core. The part is entirely scanned, and it is possible to automatically return on a defect location for further inspection. The equipment is paired with a mapping software to instantly visualize the condition of the product.



ET Pencil Probe



UT Immersion Tank  
for Solids of Revolution



# NUCLEAR

## Inspection of Tubes

Complete inspection of the product by Eddy Current and Ultrasonic testing methods: surface and subsurface defect detection by Eddy Current, internal or external flaw detection, and dimensional measurements (ID, OD, WT, ovality) by Ultrasonic.

The supervisor software, Probus generates a complete control report of the product, stores inspection results and edits inspection reports.

## Remote Field Inspection

Internal inspection of heat exchanger tubes and carbon steel tubes.



ET Remote Field Probe

## Internal Inspection

### Bended or non-bended tubes

Eddy Current internal inspection dedicated to detecting erosion, wear, grooves and notches.



ET Internal Probe

**Our systems are designed to inspect heat exchanger tubes, internal profilometry of tubes and assembly components.**



# RAIL

## Surface Defects Detection

### On Railway

CMS developed an Eddy Current rotary system to be mount on maintenance trains to inspect the head of the rails. The 8 probes rotate at high speed to detect headchecks (longitudinal cracks) and the lack of material. CMS received the Deutsche Bahn certification in 2021.



ET System for Headchecks Detection on Rail



Detected Defects on Rail



ET Rotating Probe for Surface  
Inspection

### On Production Line

Eddy Current rotary system and sectorial probes are used to detect surface and subsurface defects on various part of the rails.

Ultrasonic testing transducers can be combined with Eddy Current to inspect the core of the rails.

Our supervision software, Probus, will gather the data of all the equipment and automatically create inspection report.



ET Sectorial Probe



## By Eddy Current Method

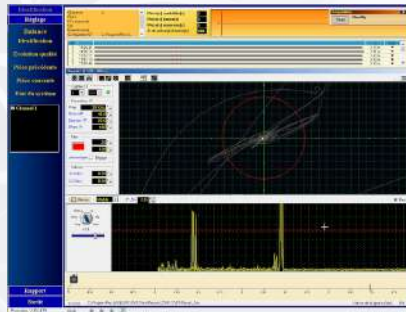
Eddy Current is widely used in NDT applications to detect and characterize surface and subsurface defects in conductive semi-finished products with various profiles and at high speed.

- ✓ Detection of several types of defects such as external, short, transverse, longitudinal...
- ✓ Perform high-temperature inspection
- ✓ Perform conductivity measurement
- ✓ Many accessories can be associated for a 100% inspection
- ✓ User-friendly interface of the Production software allowing the operator to adjust Eddy Current settings, the display of the signals, and the alarm thresholds
- ✓ High traceability thanks to a complete report



*One of our Eddy Current Generator, called Zet@Premium*

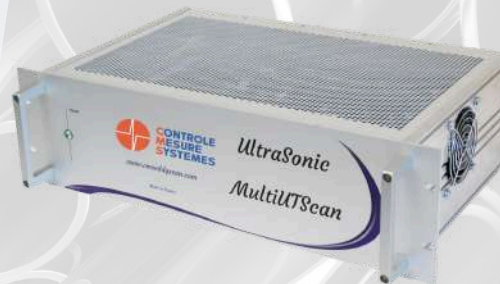
*CMS Production Software*



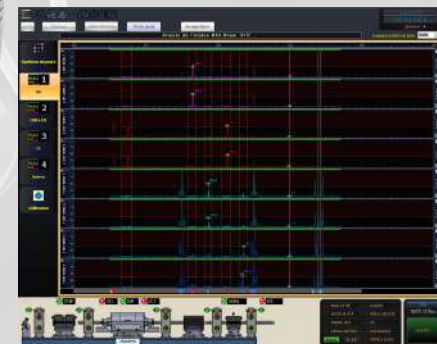
## By Ultrasonic Method

Used in NDT applications as well as in many other fields, Ultrasonic is the ideal solution to detect internal defects and perform dimensional measurements on a solid product.

- ✓ Defects detection with very high sensitivity: internal, transverse, longitudinal, oblique, holes and cracks
- ✓ Determine the exact depth of the defect while treating all the material
- ✓ Detect deep-seated defects in the material, resulting in discontinuity of mechanical properties (cracks, inclusions, porosity, etc.)
- ✓ Precise inspection of very thick parts
- ✓ Weld, ends and full body of the product inspection
- ✓ Obtain an immediate and readable control result with a concrete report thanks to UT generator MultiUTscan and Probus software



*Our Ultrasonic Generator, called MultiUTscan*



*CMS Probus Software*

# YOUR MANUFACTURING PARTNER FOR NON-DESTRUCTIVE TESTING EQUIPMENT

Since 1988, CONTROLE MESURE SYSTEMES has been offering you the best in turnkey inspection solutions using **Eddy Current** and **Ultrasonic** to inspect your products. Because total quality is at the heart of our strategy, we put all our skills to work to provide you with 100% customized NDT solutions tailored to your quality requirements and production constraints.

Our team of engineers, specialized in R&D, mechanics, electrical and software, innovates in cutting-edge technologies to ensure constant improvement of our products and adapt them to your production line : instruments, ET and UT inspection systems, ET probes and UT transducers, ET & UT combined inspection benches, software as well as a full range of accessories.

These are developed in line with current industrial standards and regulations, so as not to compromise our customers' safety.

Based in France, but with a strong worldwide presence, we export our know-how via our subsidiary CMS INC. in the USA, and our extensive network of agents in over 20 countries.

**ABOUT CMS**



## CONTACT US

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