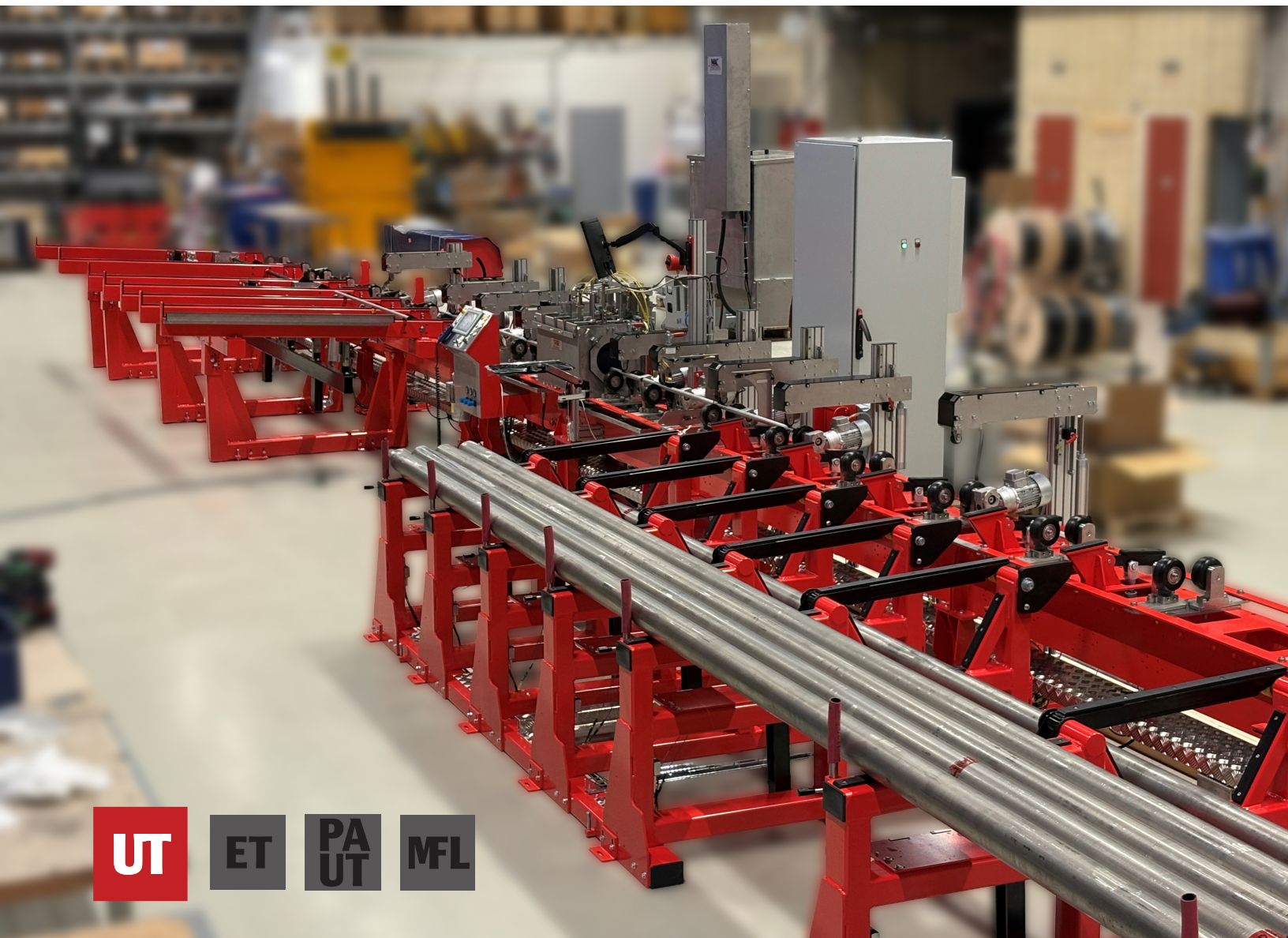




A Product of Magnetic Analysis Corp.

Ultrasonic Inspection Systems for Tubes and Bars



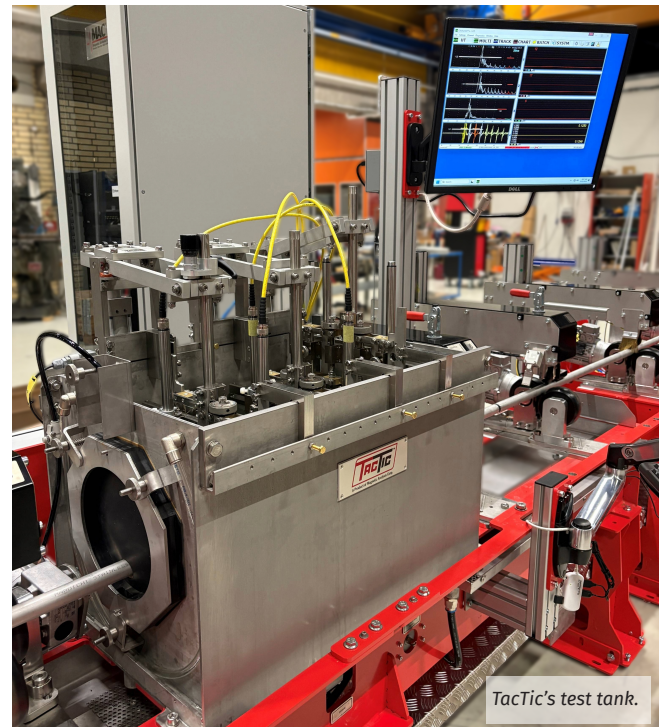
TacTic® Test Systems are designed as a **spin-the-product ultrasonic test system** to detect small internal flaws, voids, shallow seams, subsurface defects and other anomalies in a full volumetric inspection of bar or tube product. The systems ability to test a **wide range of material diameters**, up to 8", (6-200mm) (frequent changes) has made it a popular choice for test labs and other producers valuing **flexibility** in their facilities. Utilizing a continuous rotary feed to drive the material through a PLC controlled water filled test tank, the TacTic® system offers **high precision testing** for product with critical application end use like **aerospace and nuclear**. The 2026 redesigned systems offer a **high S:N ratio** capabilities as the transducer manipulators can ride on the surface of the material (diameters above 1/2" / 12.7mm) ensuring the **optimum sound path** is maintained. For critical applications below 1/2" (12.7mm) diameter, the multi-axis transducer positioners are mounted in the test tank with a fixed position. These are used in conjunction with in-tank supports to ensure that the material being tested has **optimum stability** in the test tank. Maintenance and **operator ease-of-use** are valued key features of the TacTic® systems.

Materials Inspected:

- Titanium Tube/Bar
- Inconel Tube/Bar
- Stainless Steel Tube/Bar
- Copper Tube/Bar
- High Alloy Steel Tube/Bar
- Brass Tube/Bar

Motorized Angulation Control

TacTic® testers and idler sections contain motor controls for drive wheel angulation. This provides adjustment accuracy and is a tremendous time saver when making new setups or size changes. All angulation adjustments are made on the HMI.



TacTic's test tank.

Inside view of TacTic's new drive roller assemblies featuring two angulated rollers on bottom and a top roller to increase material stability.



PLC Control Panel

The Control Console is designed for safe, efficient machine operation and convenient access during setup and adjustments. Positioned close to the immersion tank, it features pushbutton start and stop buttons to reduce accidental operation, along with soft buttons for manual or automatic control of system components. All conveyor functions, including loading, unloading, and sorting, are logically grouped for ease of use. The console also integrates drive motor controls, alarm systems and controls for water inlet, recirculation, and drain valves.

Standards Served with TacTic®:

API 5CT

AMS 2164

API 5L

AMS 2631

MIL-T-16420K

NAS 824

Class A and B GE Qualified P3TF31 Class A & B

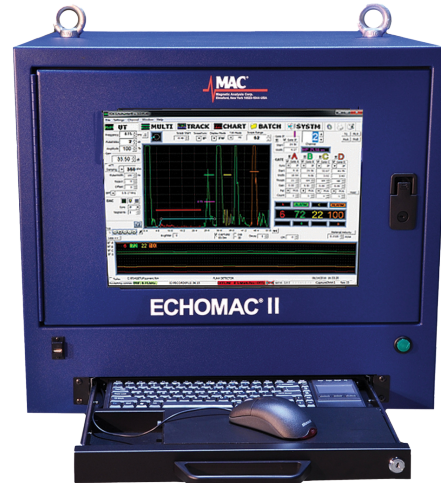
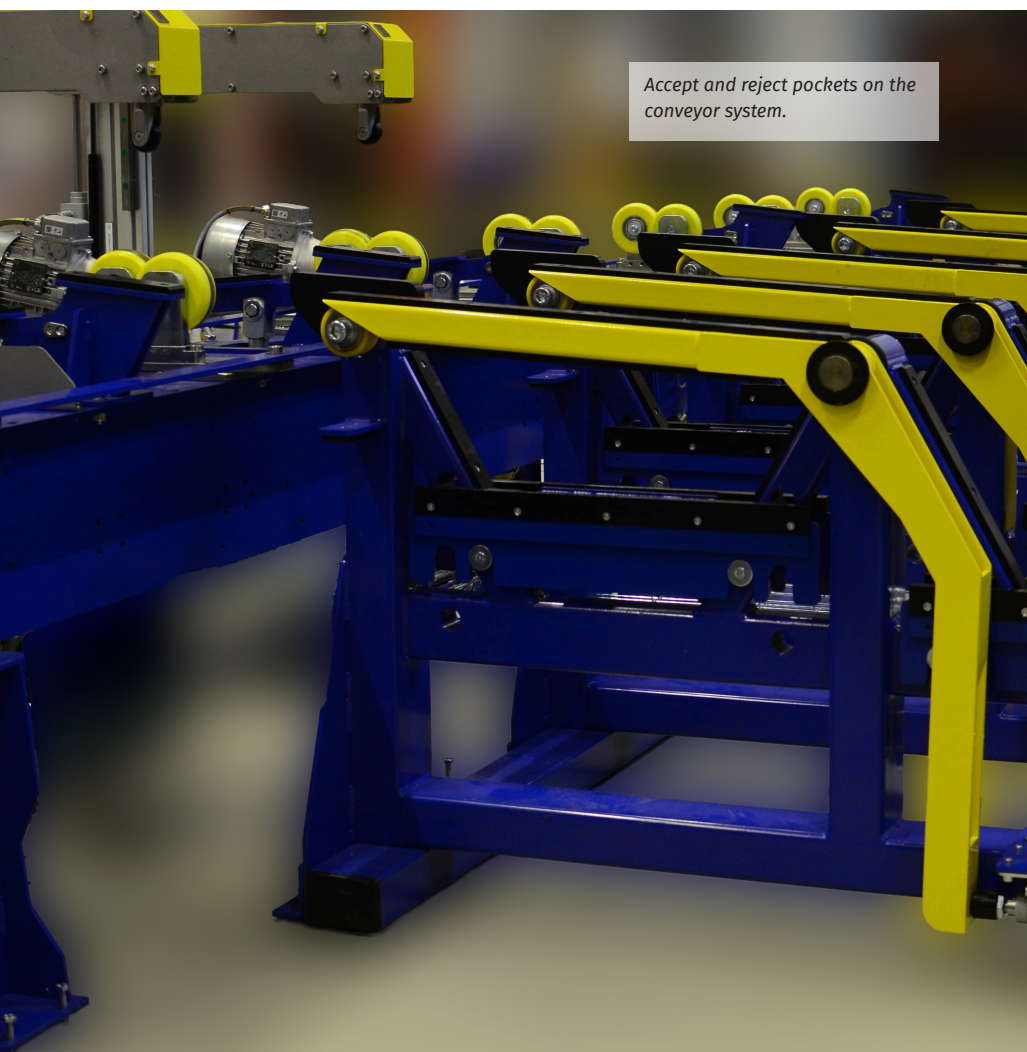
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Conveyor System

Material handling in the system has also been upgraded. The standard TacTic system utilizes simple to install precision manufactured conveyor systems, configurable to various product lengths and frequent changes. Within the conveyor system, the feed racks are lined with a thermoplastic material to protect the product as it is organized by pneumatically controlled stop arms, allowing a limited number of bars to spread out on the racks. The tubes or bars are individually released to the conveyor roll section where motor powered drive rolls and pneumatically controlled pinch rolls advance the product through the immersion tank. At the test exit, the material is sorted into accept or reject pockets. Standard configuration allows for sorting into two different states i.e acceptable and defective material.

We have future-proofed TacTic® systems by utilizing a PLC-controlled platform that enables a more user-friendly, automated test system, with a focus on reducing setup time when switching between product sizes. To enable higher automation, we improved precision and quality of the mechanical components. These enhancements increase testing repeatability and ensure MAC can take pride in every system delivered.

Ulf Jansson
Engineering Manager



The fully embedded Echomac® II ultrasonic instrument is designed with a built-in host computer to provide user control interface and chart recording. The software is used to detect flaws, measure wall thickness and geometry dimensions.



A shaped TacTic® system, designed to handle hex rods.

Two basic models of testers are available in this series depending on the weight of the material to be tested. These provide a full range of test capability from the lightest to heaviest duty applications. A wide choice of conveyors (“Idler” Sections) and accessories are available to equip these machines for special testing jobs.

A shaped TacTic® model is available for testing shaped products such as hex or square. Due to the nature of the bar, these TacTic’s are not spinning the material.

All TacTic® models can be customized with both eddy current and grade verification inspection units.



“Tactic has been a popular inspection choice for decades because of its flexibility and precision. Few machines on the market can handle such a wide size range, can have fully flexible transducer layouts, and can incorporate UT, ET, and grade verification...all in one machine...and all from one vendor. This is especially valuable for testing houses and producers for aerospace, nuclear, medical, and defense.”

Garrett Vidak
Business Development Manager

The Acquisition:

On February 28, 2022, Magnetic Analysis Corp (MAC®) acquired the assets of TacTic®. This acquisition broadened the MAC range of NDT systems to include automated and specialized immersion spin-the-product ultrasonic test systems, to detect surface and subsurface defects in round tube, pipe and bar.

Since 2022, MAC’s R&D engineers have continuously worked with customer feedback to upgrade and redesign the initial system to it’s now “second generation” iteration. The main focuses of the redesign were to **enhance test accuracy, reduce manual operations, increase automation**, and provide **better material handling** while keeping the **time-tested features** of the original design.

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