WRE THUNDER 3

LOOK BEYOND

High-speed radioscopic inspection system for light alloy wheels

WRE THUNDER 3 is the fastest solution for in-line X-Ray inspection of alloy wheels. It has been designed to overcome the handling problems of large and heavy wheels. It has also been designed to cope with flashings and burrs left on the wheels.
This equipment has a strong and robust mechanical structure, designed for long and continuous use in the industrial environment.

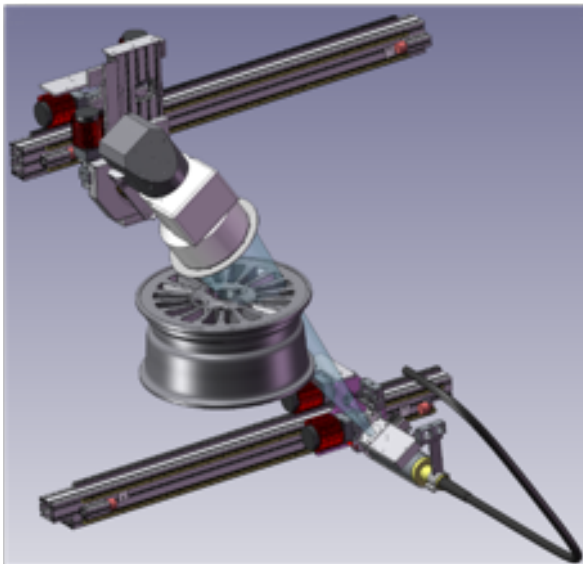
Innovative technical solutions:

- Automatic gripping of the wheel directly on the chain conveyor belt without any lifter. This has reduced the dead time; four powerful independent motors allow a high rotation speed of the inspected wheel and high positional accuracy without any misalignment even with untreated cast wheels.
- Transport of the wheels inside/outside the shielded cabinet by chain conveyor belt. This eliminates any possibility of skidding.
- New mechanical concept of twin manipulators which handle the X-Ray Tube and Flat Panel.
- Automatic centering of the wheel on the X-Ray beam without any adjustment. This is a great improvement as a result of the new gripper concept.

BOSELLO
HIGH TECHNOLOGY
INDUSTRIAL X-RAY

X-RAY HANDLING / MANIPULATOR

The inspection positions are obtained by the movement of the complete X-Ray system without any C-arm. The X-Ray tube is moved by 2 handling axes and the Flat Panel is moved by 3 handling axes. Coordination and alignment between source and detector is controlled by software.
This design concept allows to produce a very compact cabinet, whose size allows customers to place it in small spaces, the installation is easy and the machine can be relocated quickly if necessary.
This design solution allows a non-productive time reduction (idle time) up to 2 seconds, making this machine the fastest available on the market.



The system is able to operate with different designs and sizes of wheels coming randomly from the production platforms.
Rotating controlled axis on 360° revolution of wheel moved by four independent motors, very strong and powerful mechanical-pneumatic gripping mechanism.
Five axes of movement guarantee all inspection angles to be easily achieved.
Movement of the X-Ray source and detector is achieved without the traditional C arm design. Accurate alignment of X-Ray source and detector is achieved through software, saving weight, simplifying design and reducing machine cycle times.
A mechanical magnification axis guarantees a linear and constant magnification factor.
External roller conveyor with inlet sequencer and rejection pusher is available as an option.

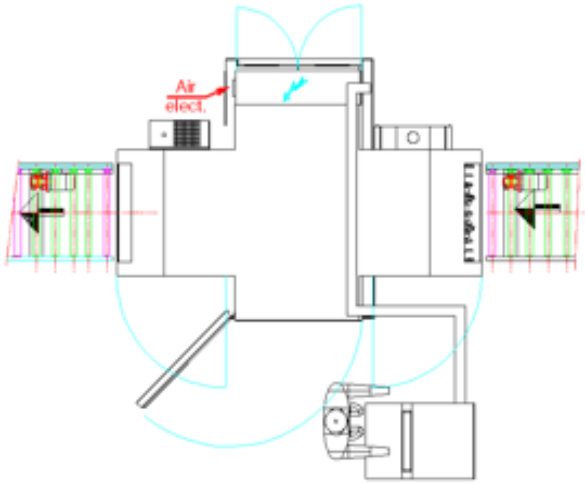
CONTROL CONSOLE

An operator panel with the main functions pushbuttons and joysticks for axes movement is located in an ergonomic air-conditioned console, housing also a 15″ touch screen display for user interface and programming. Radioscopic images are displayed on a high-resolution, high-contrast monitor. An Industrial Embedded-type PC runs with BOSELLO BHT's application software and controls all equipment functions, and is interfaced to a PLC for the loading operations and diagnostics.
In addition to the typical working functions, the standard version features diagnostic programs to optimize troubleshooting, and maintenance operations. Inspection programs are generated by a teach-in software that allows storage of several kinds of wheel programs. X-Ray kV and mA parameters are also automatically controlled. The computer can be connected to peripheral devices such as printers, etc. An Ethernet port is also available for connection to a Local Area Network or to our support dept. for remote diagnostic and service. Automatic Wheel Identification (A.W.I.) and automatic analysis software (VISUAL FARIS) are optionally available.

X-RAY SHIELDED CABINET

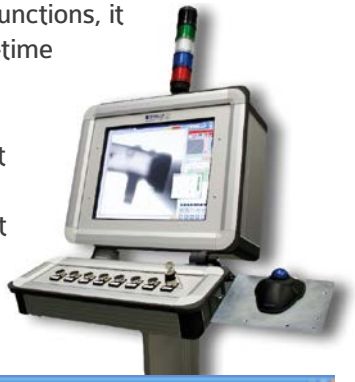
X-Ray shielded cabinet complies with Italian regulation (DPR 257/2001) and the strictest international regulations for fully shielded radiation devices. The cabinet is completely self-contained. Manufactured in steel with complete lead shielding. The cabinet can be transported by either crane or fork-lift. The cabinet does not require any further shielding and can be located safely in any workplace area.

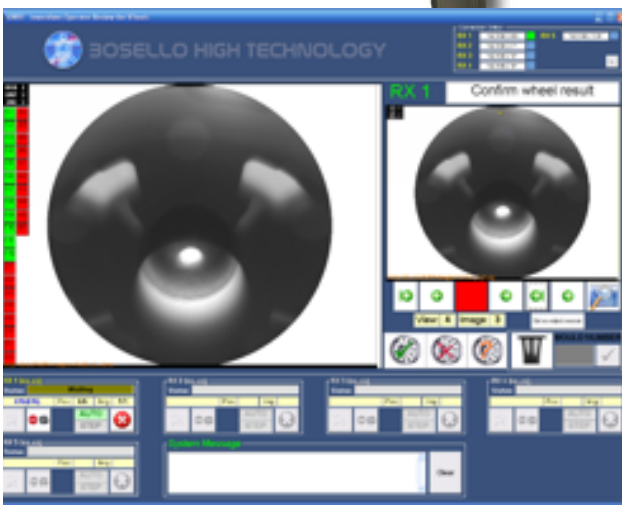
The cabinet is designed with a large maintenance access door at the front, equipped with a lead-glass inspection window. Wheel entrance and exit tunnels with two sliding doors each allow faster cycle times.



BHT Inspection Review

Available on request, it allows operator's or supervisor's remote image review. It is also possible to confirm or change the ADR processing results. Available with various image enhancement and image formats storage functions, it can work online for real-time monitoring, or offline to review images through query functions. The unit is simply connected to the network via Ethernet and can control up to 8 units, even if located in different plants.



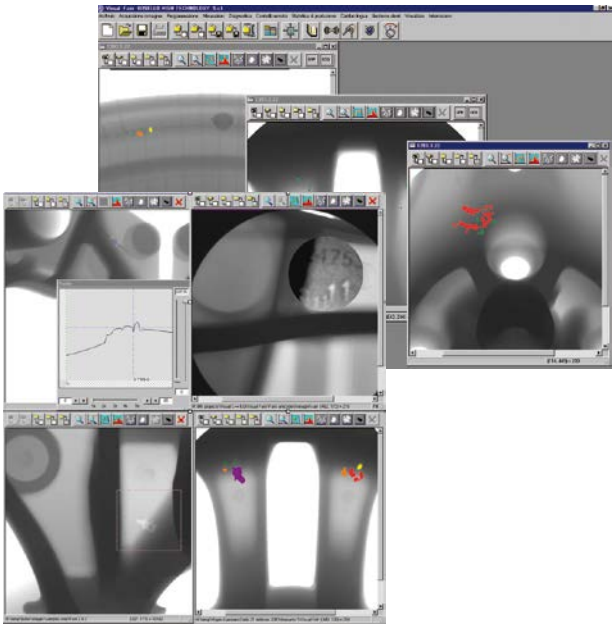


FARIS SYSTEM (ADR)

Fully Automatic Radioscopic Inspection System

Visual Faris features the state-of-the-art imaging technology on automatic defects recognition for industrial X-ray applications.

This innovative artificial vision system consists of an image processing unit (PC) and proprietary image processing software developed by Bosello HT. It provides reliable and effective diagnostic tools for all applications that require quality controls on light and heavy alloy castings.



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