T.H.E. MACHINES

EXCELLENCE IN PRODUCTION TECHNOLOGY

Communication – September 2021

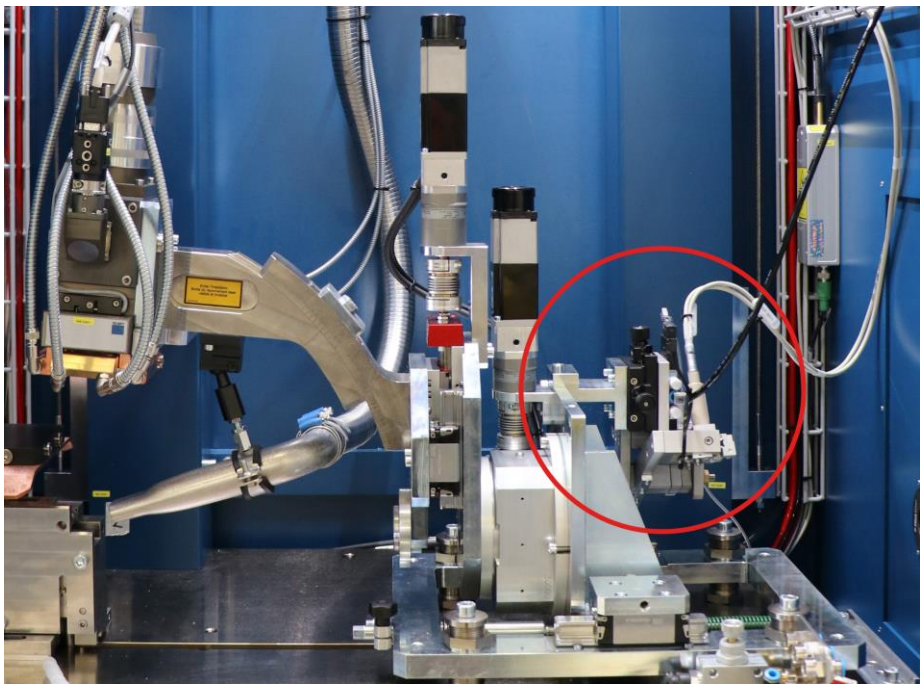
ECC100 – ICO NON-DESTRUCTIVE TESTING OF PIPE INTEGRITY IN ALLOY AND MULTILAYER COMPOSITE PIPES (PE-RT/ALLOY/PE-RT) PIPES

The reliance on Non-Destructive-Testing (NDT) in alloy and multilayer composite pipe manufacture such as PE-RT/Alloy/PE-RT and PEX/Alu/PEX has become essential in past years, more so in emerging technology platforms with laser welding and down-gauged alloy materials.

The use of eddy current technique plays a key and significant role in ensuring pipe and weld integrity testing in these industrial production environments. The eddy current sensors do not require any mechanical or physical contact between the probes and the test object. The inspection depth can be finely tuned and adjusted and is highly sensitive not only to surface defects but also subsurface defects in the interior of the pipe and weld seam.

THE Machines Yvonand S.A. along with their exclusive partner FORTEC Forschungstechnik GmbH of Germany provide a fast, effective and accurate solution with ECC100 and ICO to detect, evaluate for any metallic pipe damage, cracks, fissures or gaps. The key being the precise, efficient and user-friendly instrumentation and modules. Bespoke easy-to-use software is paramount to ensuring correct interpretation of signals, corrective actions and subsequent data logging.

The digital concept installed on THE's lines provides integration into manufacturing processes and can enable interfaces for communication with external systems. This gives line operators the flexibility to re-act to line signal alarms and implement cost-effective corrective actions, resulting in less production wastage and improved operational excellence and end-product quality.



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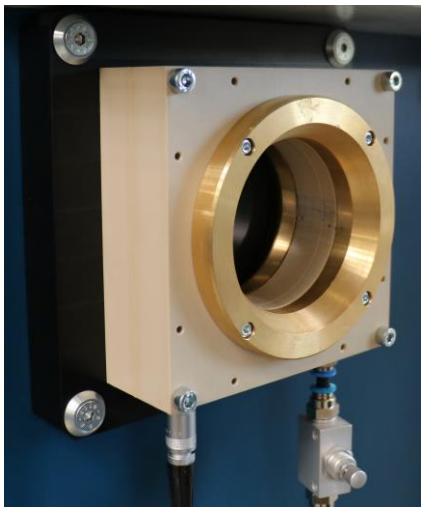
The benefits of using THE's ECC100 systems either as fully integrated or stand-alone solutions are:

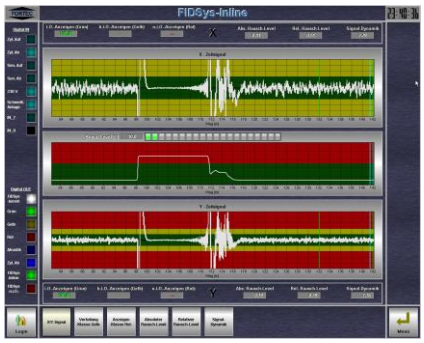
ECC100 - ICO weld seam inspection to improve product quality of longitudinally welded pipes

- User-friendly operation
- Ease of use and simple maintenance
- Partnering with industry specialist and innovator
- Process-integrated weld seam inspection
- Quality assurance in the production process and stabilization of processes
- Exact assignment of defect position
- Detection of irregularities in the weld seam area
- Improvement of process control through trend analysis



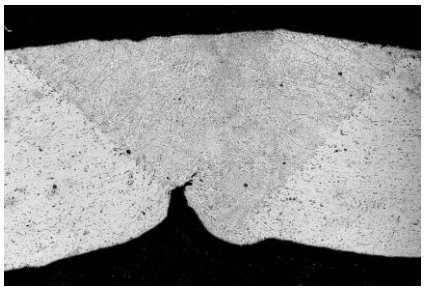
ECC100 - ICO testing technology - Internal Crack Observer

- Computer-based hardware components – for greater control
- Electromagnetic test method
- Non-destructive defect testing on metallic materials
- Possibility of two-stage weld seam and pipe testing
- Application-specific sensor guidance and handling
- Problem-adapted test sensors
- Industry standard communication interfaces



Detection of small weld defects in thin-walled pipes

- Eddy current test sensors
- High detection sensitivity
- Increased spatial resolution



Detection of hidden weld defects

- Far-field eddy current test sensors
- High depth effect
- Product-specific test parameters

Pipe inspection

- Sensitive defect detection over the pipe circumference
- 100% inspection in the production line
- 100% documentation of test results

For further more detailed information, please don't hesitate to contact us.

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