KRAUTKRÄMER GRP GANTRY

FULL BODY TESTING FOR SEAMLESS PIPES

Advanced Ultrasonic Testing for Seamless Pipe Inspection

- **Maximize Quality Assurance**
  Detect all critical defects in a single pass and reduce costly downstream failures and warranty claims
- **Boost Production Efficiency**
  Accelerate inspection throughput and minimize production bottlenecks for large diameter OCTG
- **Reduce Total Cost of Ownership**
  Makes your investment future-proof by easily adapting to changing production requirements and diverse production portfolios

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ABOUT THE KRAUTKRÄMER GRP GANTRY

Engineered for precision, performance, and productivity, the Krautkrämer GRP Gantry is a state-of-the-art ultrasonic testing system designed to inspect seamless pipes of medium to large diameters. It is particularly suitable for tubing, casing and line pipes used in the oil and gas industry, thus expanding our wide range of OCTG testing equipment.

Close-up of the test mechanics

BUILT FOR THE PIPE MILL

Installed directly in the seamless pipe production flow, the Krautkrämer GRP Gantry ensures early-stage quality assurance, reducing downstream failures and warranty risks. Its modular design and scalable electronics make it a future-proof investment for manufacturers seeking reliability and efficiency.

UNMATCHED INSPECTION COVERAGE WITH PHASED ARRAY TECHNOLOGY

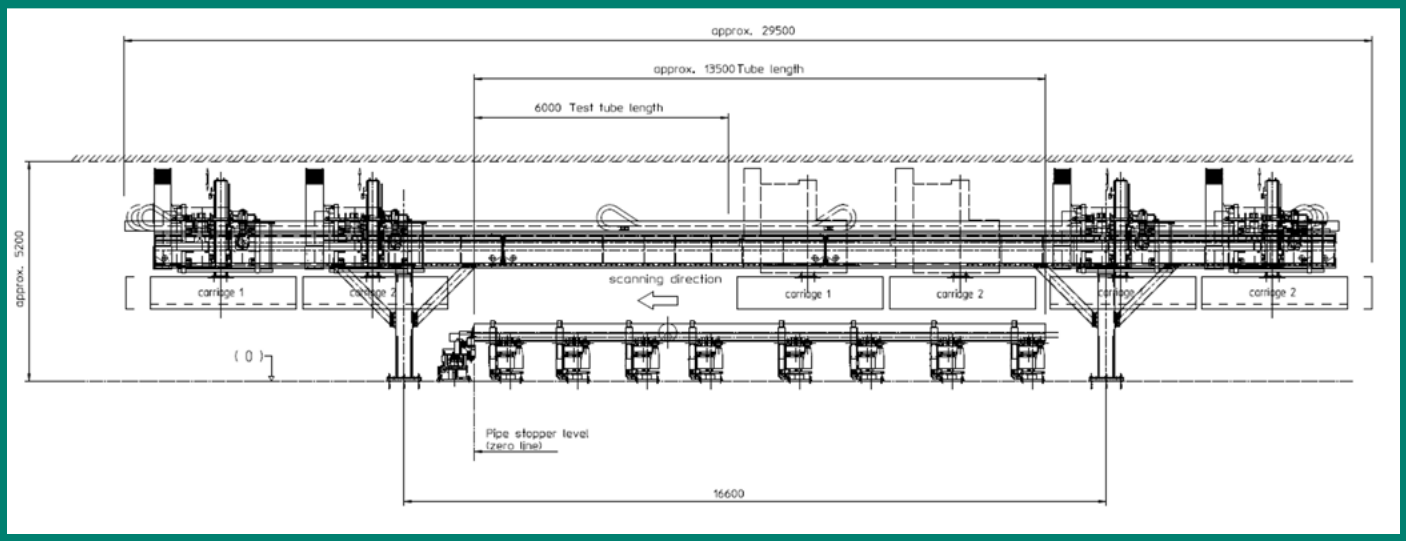
The Krautkrämer GRP Gantry leverages advanced Phased Array ultrasonic technology to detect all critical internal and external wall defects. In addition to the common longitudinal, transversal and lamination flaws, oblique flaws in all standard angular orientations up to 67° can be inspected. A parallel evaluation for wall-thickness deviations completes the inspection scope. As natural flaws do not always exactly follow the angle orientation defined by norms and standards, the optional gapless inspection capability can identify all oblique flaw orientations in between the defined discrete angles without any additional effort. This significantly reduces the risk for upcoming customer claims due to allegedly missed flaws.

COMPACT DESIGN FOR SEAMLESS INTEGRATION

Its gantry-style architecture positions probe clusters above the pipe, enabling full-body inspection while the pipe rotates in place. Thanks to this bridge-style gantry construction with an adapted free length between pillars, the system supports crosswise pipe transport, significantly reducing the overall footprint and simplifying integration into existing production lines. This configuration ensures high-resolution flaw detection without the need for complex, space consuming and slow helical tube transportation systems.

KEY FEATURES

1. **Full Flaw Inspection**
   Longitudinal, Oblique & Transversal Flaws; Laminations (FBH) & Round Bottom Groove (RBG)
2. **Full Wall-Thickness Measurement**
   WT Min/Max/Ave with ±0,05mm, Eccentricity
3. **High Production Speeds**
   Surface speeds up to 2000mm/s & Test helix up to 120mm/r
4. **Unique Software**
   Full C-Scan for all test functions & Individual Local Gain with automated calibration
5. **Integration**
   Level 2 connectivity, Remote access & Data interface
6. **Defect Classification Tools**
   Defect Profile Homogeneity & Deviation behavior



System Overview of the Kraukrämer GRP Gantry

TEST ELECTRONICS

FRONT-END ELECTRONICS

Each Front-End Electronic houses several Phased-Array electronic racks which can hold up to 12 Phase Modules each and will be mounted on the carriage. The Phased Array probes of each carriage are directly connected to the Front-End electronics for superior signal quality.

BACK-END AND EVALUATION ELECTRONICS

The complete operation takes place in the Back-End electronics. The cabinets of the Back-End electronics are placed in the operator cabin.

PLC SYSTEM

Consisting of a cabinet with integrated Operator Panel for the carriages and the spin roller block station.

TECHNICAL DATA OF KRAUTKRÄMER GRP GANTRY

Diameter Range	• Standard version: 114 - 508 mm • Extended version: 60 - 114 mm & 508 - 610 mm
Wall Thickness	• 4 mm - 40 mm
S/D	• up to 0.18
Length	• 6 m - 15 m
Inspection Capabilities	• Flaw inspection for longitudinal, transverse and lamination flaws; wall-thickness and eccentricity measurement, and inspection for round bottom grooves • Standard version: Oblique flaw inspection up to +/-30° • Extended version: Oblique flaw inspection up to +/-67°
Feed	• 60 - 120 mm/rev
Inspection Time	• 90 - 180 sec/pipe

THE BENEFITS AT A GLANCE

- **Comprehensive Defect Detection:** The inspection for all flaw orientations and wall-thickness measurement are reliably executed in a single pass.
- **High Throughput:** Optimized for production environments, the GRP Gantry maintains inspection speed without sacrificing quality.
- **API & Premium Compliance:** Meets standard API requirements and exceeds specifications of major oilfield service companies depending on the product configuration.
- **Super solid rigid design:** Made for the roughest operating conditions in a large diameter manufacturing environment

Contact your local sales professional, reach out to our customer care team at **uttm.service@bakerhughes.com** or find contact information specific to your global location at **waygate-tech.com**!

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