



WellTech 4X™

EMI Rig Floor Tubing Inspection System
For Tubing 2 3/8" - 4 1/2" O.D. (with coupling)
Upgraded system with many improvements over the WellTech IV™

New WellTech 4X™ systems are Certified Class 1 Division 2 as a standard feature!

The WellTech 4X™ Computerized Rig Floor Tubing Inspection System is designed to perform a quick and quality inspection of tubing on the well service rig floor as it is being pulled from the well. The Electronics System is packaged in a compact and durable container. Settings (gain settings, wall, split and flaw calibration, etc.) are controlled with the ruggedized laptop computer. Inspection for service-induced flaws typical to used tubing (i.e. pitting, cracks, rod wear and wall thinning, etc.) is performed by a solid state Hall effect detection system that encircles the pipe, located inside a powerful DC magnetizing coil. Pipe can travel through the head bi-directionally, but the inspection process takes place as the pipe is pulled out of the well. The WellTech 4X™ utilizes the latest solid state Hall effect wall monitoring technology and **DOES NOT USE GAMMA RADIATION.**

The multiple function WellTech 4X™ detects

- Pitting
- Corrosion
- Transverse cracks
- Work hardening
- Rod wear
- Wall thinning
- Holes and splits

What's included with the WellTech 4X™?

- Certified Class 1 Division 2 for hazardous areas
- WellTech 4X™ canister with rig "lift" hooks (10% shorter than WellTech IV™)
- Stationary baseplate for truck or trailer mounting
- WellTech 4X™ electronics cabinet with USB connection for PC
- Digital constant current mag power supply
- Ruggedized Dell laptop PC with Windows® based software
- Complete set of cables with built-in strain relief (standard length: 100 ft.)
- Safety "lock out" on canister (cannot be opened and cables disconnected during operation)
- 2 HP air compressor (110 Volt)
- Handheld cordless signal pulse calibration device
- WellTech 4X™ software and "Well Profile Report" (easy interpretation of data and info sharing)
- 1 day operational training at New Tech's Facility
- **OPTIONAL** Installation in customer's vehicle (customer to supply minimum 4500 watt generator/220/110V output)
- **OPTIONAL** Wall, flaw, and split detector inserts for pipe sizes 1.900" to 4½"
- **OPTIONAL** Calibration standards for pipe sizes 1.900" to 4½"



WellTech 4X™ Canister



WellTech 4X™ on Rig Floor



WellTech 4X™ Truck Mounted



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systems

The Industry's Leading Manufacturer of Quality Pipe Inspection Equipment & Related Products with Systems in Over 50 Countries.

Mansfield, TX Office: (817) 779-6262 - Louisiana Office: (337) 839-2674
Midland, TX Office: (432) 561-5393
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What's new on the WellTech 4X™?

- The new and improved WellTech 4X™ has been designed from the ground up with our customer needs in mind for easy operation and maintenance
- Cable Junction Box (J-Box) has been eliminated for easier setup. Cables connect directly to the coil and sensor detector head for minimal connections (See Figure 1)
- Safety “lock out” Front Panel for added safety and security (See Figure 2)
- Just one hand tool required to change out different detector head inserts. Easily change out rubber centralizer wipers and split/hole detector (See Figure 3, 4, 5)
- All new Detector Insert System has been engineered for faster change-over between tubing sizes. One detector insert for each size of tubing (See Figure 6)
- Requires up to 75% less size change out and maintenance time compared to WellTech IV™
- Wall Ring has been replaced with wall monitoring sensors mounted on top of the inspection shoes for easier maintenance



(Figure 1)
Internal Cable Hookup,
No More (J-Box)



(Figure 2)
Lockable Panel for
Safety and Security



(Figure 3)
Hand Removable Wipers for
Easier Maintenance



(Figure 4)
Split Detector Installs
From Side



(Figure 5)
Top Wiper Assembly
Easily Removable



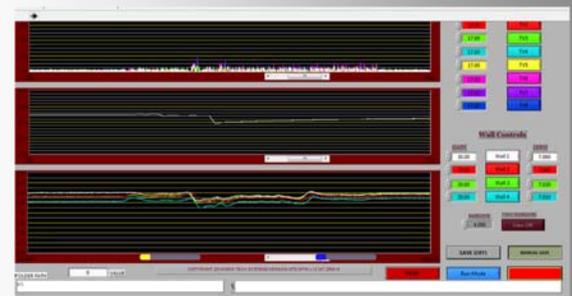
(Figure 6)
One Detector Insert Per
Tubing Size

The WellTech 4X™ Features

- PC-Based electronics system with digital signal presentation
- Solid state wall monitoring with Hall effect technology
- Exclusive 3-dimensional flaw detection system with solid state Hall effect technology. Includes TRUEWALL thickness monitoring. Flaw sensors are located a small distance from the pipe surface to detect pitting, cracks, and holes (unlike other systems with sensors too far off the pipe to detect small flaws)
- Separate wall and flaw sensors for more accurate inspection
- Detects smaller flaws than most competing systems
- Cordless remote calibration device
- “Well profile report” custom inspection report for ongoing well management
- New and improved flaw detector suspension allows pipe to pass bi-directionally at any speed with minimal to no risk of damage to sensors (extremely low maintenance)
- Exclusive SPLIT-Check pneumatic longitudinal split and hole detector to detect holes and splits full length and closer to the coupling, compared to other EMI/Eddy current systems that are subject to a large “magnetic end effect” / dead area (in some cases up to 24”/610mm on each side of the coupling), where most holes and splits are missed



Well Profile Report



Digital Presentation Software

VISIT OUR WEBSITE: www.newtechsystems.com



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S P E C I F I C A T I O N S

- Tubing inspection capacity:** 2 3/8" to 4 1/2" O.D. (with coupling)
- Inspection speed range:** Up to 150 ft./min.
- Detection functions:** Transverse cracks, pitting, holes, splits and monitoring for large area wall loss due to corrosion, rod wear, etc. **(NO RADIATION)**
- PC-Based electronics:** Flaw detection with solid state Hall effect technology. Console includes solid state Hall effect with exclusive TRUEWALL™ wall thickness monitoring system, SPLIT-Check pneumatic longitudinal split and hole detection system, digital constant current mag power supply, computerized data acquisition system, and a ruggedized laptop computer
- Inspection head:** Exclusive "TFD" (True Flaw Detection) system with solid state Hall effect sensors TRUEWALL™ solid state wall monitoring system
Guide/wipers built into head for pipe centralization and wiping of tube O.D.
Heavy-duty aluminum housing with rig "lift" hooks
Separate inserts for each tubing size for quick change out
- Magnetizing coil:** Powerful magnetizing coil with mil-spec connector and sealed from moisture
- Cables:** 100 ft. cable set, heavy duty insulation with strain relief (longer cables available)
- Software features:** Windows® based software, with digital charts and a data acquisition spreadsheet program is included for documentation by operator of pipe information i.e. reject data, joint number, etc. Each section of pipe is numbered and stored to disk. The included "Well Profile Report" indicates problem areas in string and is an excellent string management tool for your customer
- Power requirements:** 110V/60HZ, 5KW generator or house electrical service (220V and 50Hz power optional)
- Operating temperature:** -30C to +50C
- Certifications:** All new WellTech 4X™ systems are certified Class 1 Division 2 for hazardous areas by the CSA (Canadian Standards Association).

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3 Things To Know Before You Buy

A Rig Floor Tubing Inspection System

1 A longitudinal split, due to sucker rod wear, is one of the most common and critical defects found in used tubing.

FACT:

The WellTech 4X™ can detect perforated splits and holes with the use of our proprietary SPLIT-CHECK split and hole detector. We can detect small splits and holes closer to the coupling than conventional EMI systems.



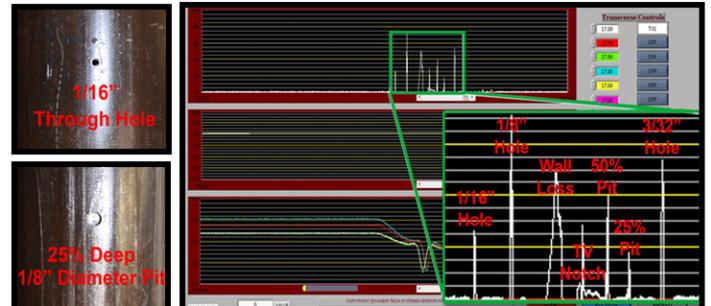
Left: Longitudinal Split In Tubing From Rod Wear

Right: Split Detected With WellTech Software

2 Internal and external pitting is also one of the most common defects found in used tubing.

FACT:

The WellTech 4X™ EMI flaw sensors can detect holes as small as 1/16 inch as well as internal and external pitting as small as 1/8 inch in diameter.



Left: Standard With 1/16 Inch Hole And 1/8 Inch Pit

Right: Small Flaws Detected Easily With The WellTech 4X

3 Small pitting and holes can continue to washout and corrode overtime possibly causing a catastrophic failure in the tubing string.

FACT:

When purchasing a rig floor tubing inspection system we recommend choosing one capable of detecting small holes (1/16 inch), pitting (1/8 inch in diameter), and splits (under 3 inches).



Flaws Shown Above From Left To Right
Rod Wear Split, Internal Pitting, Pitting With Hole