## **BENDABLE X-RAY DETECTORS**

## **PIX 410C**

Introducing PiX 410C: the most advanced bendable digital detector available in the market. 410C has the highest pixel pitch currently available for a bendable detector. It also comes with a rugged exterior case to withstand rigors of NOT use. Having a portable and lightweight form factor, its unique flexible design allows for reduced geometric distortion & enhanced detail resolution.

At Pacific NOT, we want to ensure that our products offer customers a plug and play experience while ensuring a long term use to maximize their ROI.

# What are the advantages of using bendable digital detector for weld inspection?

### Here are key benefits:

### Enhanced Image Quality

**Reduced Geometric Distortion:** The flexibility allows the detector to contour closely to the weld, minimizing the distance between the detector and the subject. This proximity reduces geometric distortion, leading to clearer, more accurate images.

**Improved Detail Resolution:** Bendable detectors can capture finer details within the weld, aiding in the detection of small flaws, cracks, or voids that might be missed by traditional flat panel detectors.

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Using bendable digital detectors for weld inspection offers significant advantages that enhance the effectiveness, efficiency, and scope of non-destructive testing (NDT) processes.

### 02 Increased Versatility

Adaptability to Complex Shapes: Welds on pipes, tanks, and irregularly shaped structures can be challenging to inspect with rigid detectors. Bendable detectors can adapt to these shapes, ensuring thorough inspections.

**Broad Application Range:** Their versatility makes them suitable for a wide range of industries, including oil and gas, aerospace, and manufacturing, where weld integrity is crucial.

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### 03 Enhanced Safety and Efficiency

**Faster Setup and Inspection Times:** The ability to easily position and secure the detector around the inspection area reduces setup times, increasing overall inspection throughput.

**Reduced Need for Multiple Exposures:** By capturing comprehensive images in a single exposure, bendable detectors decrease the time and radiation exposure necessary to inspect a weld.

### 04 Improved Operator Comfort and Safety

**Portable and Lightweight Design:** These detectors are designed to be portable and easy to handle, reducing operator fatigue and increasing the efficiency of field inspections.

**Broad Application Range:** Efficient imaging reduces the need for repeated exposures, minimizing the radiation dose to which operators and nearby personnel are exposed.

**Cost-Effectiveness** 

**Long-Term Durability:** Constructed to withstand the rigors of field use, bendable detectors are a durable investment, potentially reducing the need for frequent replacements.

**Reduced Inspection Costs:** By improving the speed and accuracy of weld inspections, bendable detectors can lead to cost savings by minimizing downtime and the need for rework or repairs.



### Enhanced Diagnostic Capability

**Superior Fault Detection:** The improved image quality and detail resolution enhance the capability to detect and diagnose defects within welds, leading to better-informed maintenance decisions and increased structural integrity.





### SPECIFICATIONS

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Model Name	PiX 410C	
Technology	Flexible a-Si TFT	
Scintillator	Gadox	
Pixel Matrix	981 × 2517 pixels	
Pixel Pitch	99 <i>µ</i> m	
Image Size	3.82 × 9.80 inches	
Grayscale	16 bits	
X-ray Voltage Range	40 - 450kVp (also optimized for Gamma Ray use)	
Maximum Exposure Time	180 sec.	
X-ray Generator Interface	External Line Trigger / Automatic Exposure Detection	
Data interface	Wired: Gigabit Ethernet	
Image Acquisition Time	Wired: 1.5 sec. Wireless: 3 sec.	
Dimensions	20 × 9 × 1.6 inches	
Weight	3 Lbs (additional 3lbs for protective armor)	
Battery	5 h (capturing) 6 h (standby)	
Dust and Water Resistant	IP67	
Power Consumption	DC 24 V, 1.0 A	

\*Specifications are subject to change without prior notice.



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## ADDITIONAL BENEFITS

Pacific NDT's bendable digital detector meets ASME Section V requirements for DDA. It features an auto-lock mechanism, preventing overextension and ensuring safety. Designed for pipes with a diameter of 5" and larger, they excel in boiler pipelines and large cylindrical pipe inspections. Their rugged form factor guarantees durability, instilling confidence in users.

These detectors have revolutionized X-ray imaging by maintaining a consistent X-ray path length along curved surf aces. Our innovative design facilitates secure attachment to pipes, ensuring uniform X-ray path lengths-a crucial factor for accurate imaging.

The detector's protective armor comes with added protection to avoid damage to critical components & connectors during field use. Pacific's Digital Detectors connect seamlessly with PiX Acquisition Software making the whole process of transitioning to digital seamless.



 Flat Shooting X-ray
 Bent Shooting X-ray

#### **Conclusion:**

The use of bendable digital detectors for weld inspection represents a significant advancement in NDT technology. By offering superior image quality, adaptability, and efficiency, these detectors meet the complex demands of modern weld inspections, supporting industries in maintaining the highest standards of safety and quality.

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