Subsea Digital Radiography (DR)

Mako's Subsea DR is a radiographic system which utilizes an Iridium 192 source in a marinized housing, a marinized Digital Detector Array (DDA) and a handling frame to position them.

The source is delivered in a shielded housing which is air actuated, and spring returned once the air supply is vented. The DDA comprises of a housing, scintillator, thin film transistor array and other electronics – its function is to take incoming radiation, convert it to photon and store it as a digital image. Once the radiograph is captured it is sent topside via an umbilical in near real time for the radiographer to view. The image can then be used for making measurements of anomalies – length, width and depth all without returning the system to the surface to process the image.

Source and Detector

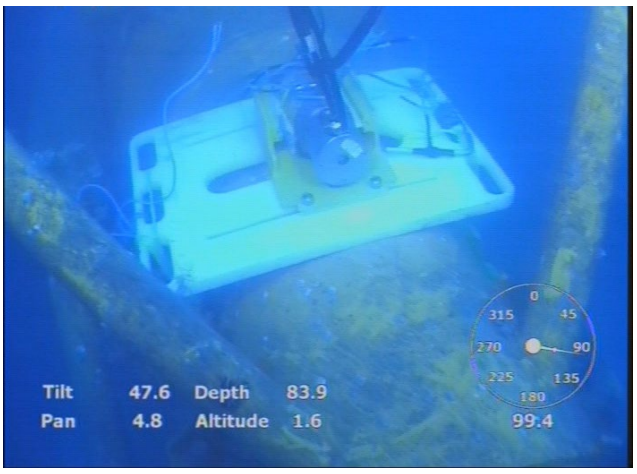
- Depth rated to 2,000 (609m)
- 95mm steel thickness equivalent penetration
- ROV or diver operated, air actuated, exposure controls
- Failsafe operation; incident emergency plan
- Marinized radiation warning system
- General wall loss, erosion, pitting, blockages
- Coatings: FBE, 3LPP, 5LPP, GSPU, CWC
- Splashzone and Subsea
- Non piggable/scrapable pipe inspection



IR192 Source in Marinized Housing

Advantages

- Rapid data acquisition
- Inspect through thick coatings
- Save on coating removal costs / duration
- Near real-time imaging for instant results
- Fully recorded data



Example of Diver Deployed System