DR1200HD-L NDT Digital Computed Radiography System

Introduction of DR1200HDL enables low (10kV-300kV), medium (300kV-450kV), high energy (300kV-12MeV) Industrial radiography NDT inspection of corrosion and condition of plants, welds, weld joints, castings, pressure vessels, pipe work, turbine blades and aerospace components inspection requiring a high definition radiograph image quality system. A low cost entry level DR1200HDL technology (21 micron scanning resolution) delivers an industry standard high quality radiographic image quality at affordable prices, which can save up to 30-35% of existing resources. Reusable flexible imaging plates save cost of consumables and improve productivity.

Radiation Source
Scanner with Integrated Eraser
Digital Radiography Work Station

Products Inspected
- Petrochemical refineries, valves, flanges, pipe welds under insulation
- Pipe welds lines & pipe works
- Turbine blades INCONEL materials
- Carbon composite low density inspection
- Aircraft / aerospace components inspection
- Rail track weld inspection,
- Automobile,
- NDT radiographic quality control inspection within Manufacturing
- EOC, & Nuclear Power Plants

Performance
- Supports radiographic resolution better than 21, 42, 84, 168 micron
- Contrast sensitivity better than <2%
- 13th line pair of EN-462-5 / ASTM E2002-98 duplex IQI
- Measurements accurate to +20 Microns
- Fast scanning robust mechanism
- Largest plate 35 cm x 43cm or smaller
- Works with radiation isotopes, such as Ir-192, Se-75 and Yb-169
- X-ray generators such as micro focus, mini-focus up to 450kV, Pulsed X-ray 300kV, Betatron (2.5MeV / 7.5MeV)

Benefits
- Reduced exposure time
- Reduced radiation source activity
- Eliminates chemical processing, films and dark rooms, physical storage
- Minimises the Storage Space
- Enables Plant Integrity assessment
- Sharing same information at same time by different people anywhere in the world
- Adaptable to future upgrades and advance application
- Hardware and Software can be customised

Storage Tank Weld Radiography Image
## Technical Specifications

### Radiography Applications For

**Radiographic Techniques**
- DWSI/SWSI/DWDI methods
- Thin/medium/thick material wall pipe weld radiography
- Inspect austenitic steel, mild steel, aluminium, alloys, magnesium, non-metallic carbon fibres etc
- Works with Iridium, Se75, Ytb169, Co60, X-ray, pulse-CP, Linear accelerators, neutron radiography

### System Performance

**Scanning Resolution & Scanning Time:**
- 150 DPI (168 Micron) .......... 95 seconds
- 300 DPI (84.6 Micron) .......... 2 min. 52 seconds
- 600 DPI (42.3 Micron) .......... 5 min. 44 seconds
- 1200 DPI (21.3 Micron) ....... 11 min. 28 seconds

Scan times as on 35cm x 43cm plate (maximum)

**CR Phantom – ASTM 2445**
- CIT/SHR plate/1200DPI – Duplex IQI – 13th pair
- CIT/STD plate/1200 DPI - Duplex IQI – 12th pair

### DR1200HDL Digital Radiography System

**Radiograph Image Display (Black and white) high brightness screen**

<table>
<thead>
<tr>
<th>Monitor TFT type</th>
<th>Offered in basic proposal</th>
<th>Optional upgrade</th>
<th>Optional upgrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>1600 X1200</td>
<td>2048X1536</td>
<td>2560X1536</td>
</tr>
<tr>
<td>Screen brightness</td>
<td>&gt;700 cd/m2</td>
<td>&gt;700 cd/m2</td>
<td>&gt;700 cd/m2</td>
</tr>
<tr>
<td>Diagonal Size</td>
<td>18”</td>
<td>20.8”</td>
<td>21”</td>
</tr>
<tr>
<td>Pixel pitch</td>
<td>0.26mm</td>
<td>0.20mm</td>
<td>0.165mm</td>
</tr>
<tr>
<td>Availability</td>
<td>Mono or Color or dual</td>
<td>Mono of colour</td>
<td>Black and white</td>
</tr>
</tbody>
</table>

**DR Scanning Unit**
- DIP does not have contact with scanner read and write mechanism, hence prolongs life of DIP by preventing damage.
- 16 bit (65523 True Gray scale resolution)
- Handles: 35 cm x 43 cm, 20cm x 30cm; 20cm x 25cm; 10 cm x 43 cm, 20cm x 3 cm smaller
- Temperature 59º to 93º F (15°C to 35°C)
- Relative Humidity - 30% to 80% RH, Non-condensing
- Dimensions: 12.6” x 28.4” x 16.4”; Weight: 22 KGS

**Digital Computed Radiographic Application Software**
- Basic DR1200HDL digital computed radiography.
- **Optional extra of software**
  - CIT/DR Basic viewer software
  - CIT/DR Basic viewer/Analysis
  - CIT/DR corrosion and condition

**Facility Parameter**
- **Operation**
  - Mains power supplies 110/240 Volts 50/60Hz mains 100 VA max.
  - Battery operated via UPS with battery time of at least 60 minutes

### Radiographic Image (with electronic ID + Technique)

**Radiography Technique Set-up (typical example)**

**Operators /Inspectors Radiographic Image Authorisation**

**System Packaging Details**

DR1200HDL is available in three kinds of packaging, keeping in mind the different usage environments:

- **Field Radiography** – Complete system is packed in a ruggedized container keeping it mobile and portable for inspection applications such as EOD, oil platforms, petrochemical site operations etc.
- **Factory Environment** – The system is packaged in an industrial enclosure unit to suit dusty environment
- **Office/Portacabin Environment** – The system is packaged in a version such that it can be installed in an office environment