

Let there be light...



And there is CIT

## Manufacturer's of World's Most Advanced Digital Computed Radiography Imaging Technology

### PRODUCT SHEET

# 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.



Portable X Ray Source

Se75 Radiation Source

Radiation Source



Scanner with Integrated Eraser



Digital Radiography Work Station

### Products Inspected

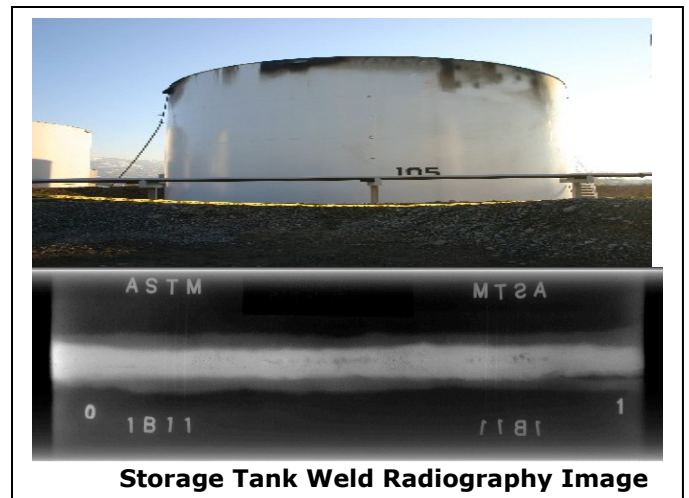
- Petrochemical refineries, valves, flanges, pipe welds under insulation
- Pipe welds lines & pipe works
- Turbine blades INCONEL materials
- Carbon composite low density inspection
- Aircraft / aerospace components inspection
- Rail track weld inspection,
- Automobile,
- NDT radiographic quality control 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 – 13<sup>th</sup> pair
- CIT/STD plate/1200 DPI – Duplex IQI – 12<sup>th</sup> pair

### DR1200HDL Digital Radiography System

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

	Offered in basic proposal	Optional upgrade	Optional upgrade
Monitor TFT type	2 Megapixel	3 Megapixel	5 Megapixel
Resolution	1600 X1200	2048X1536	2560X1536
Screen brightness	>700 cd/m <sup>2</sup>	>700 cd/m <sup>2</sup>	>700 cd/m <sup>2</sup>
Diagonal Size	18"	20.8"	21"
Pixel pitch	0.26mm	0.20mm	0.165mm
Availability	Mono or Color or dual	Mono of colour	Black and white

#### 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 43 cm or smaller
- Temperature 59° to 93° 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

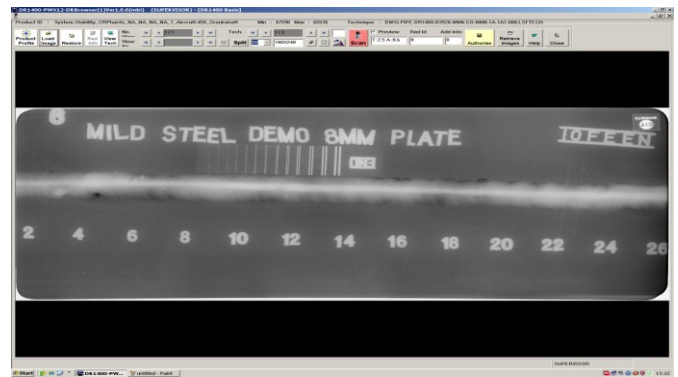
#### Digital Computed Radiographic Application Software

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

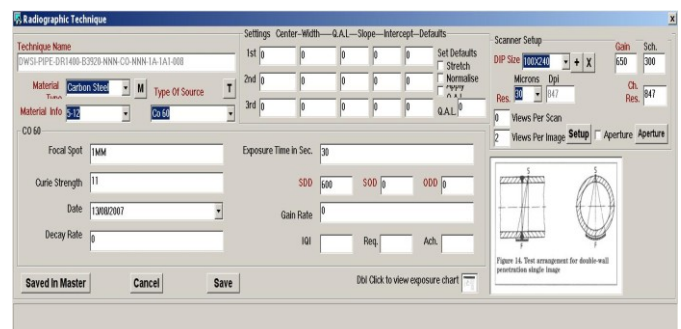
#### Facility Parameter

- 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

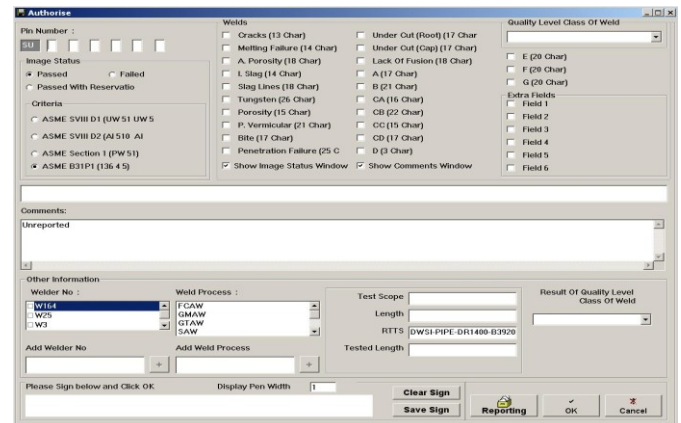
### Radiographic Image (with electronic ID + Technique)



### 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