

## RealTime

*It's Time for High Definition RealTime Radiography*

**Twin Head Digital Real-Time Radiography System for Pipeline Girth Welds for 10" - 36" diameter pipelines**



# Shaw Pipeline Services

The global leader in non-destructive testing solutions

## Twin Head Digital Real-Time Radiography System for Pipeline Girth Welds of 10" - 36"

### Key points

#### Benefits

- Instantaneous, Real-Time x-ray results, displayed as a dual "strip" for ease of interpretation
- Meets all current pipeline x-ray inspection codes
- Increases productivity by reducing overall inspection times by 75% or better
- Eliminates the use of x-ray film, chemicals and darkroom
- Digital archive/storage & database eliminating long-term storage cost
- Image interpretation tools and report generation, linked to weld database for fast data presentation/retrieval
- Suited for use on both the root/hot pass and final welds of clad/ lined pipes

#### Capabilities

- Suited for both onshore and offshore use
- Twin detector heads cut inspection time by 50%
- High resolution and high contrast detection heads with better than 50 µm resolution
- Sealed to IP65, cooled and rated for use in 40°C ambient temperature
- Deploys onto precision, easy to fit welding band
- Lightweight, single 30 m umbilical cable
- Strongly constructed laptop computer for acquisition, viewing, interpretation and database/archive
- Small, lightweight control unit
- 105V - 250V AC 50/60Hz operation



#### Software

Comprehensive, easy to use providing:

- Weld inspection database with search, filter and report facilities
- Duplicate – Lossless data storage to removable media
- Comprehensive event logging
- Same software interface for all HDRTR detector systems and offline viewer
- Runs on laptop or desktop PC under Windows® 7, Windows Vista® or Windows® XP 32/64-bit os.
- Support for 10-bit medical imaging display (desktop PC only)
- Remote support available

#### Performance

15 mm Wall 1.6% source side Wire IQI

Pipe diameter (API)	Distance mm	Scan speed mm/sec	Scan time seconds
10"	800	12	40
16"	1,277	12	60
24"	1,910	10	106
30"	2,393	8	212
36"	2,871	6	360

#### Scanning buggy and band

Twin detector drives: Shaw buggy with quick release mechanism  
 Drive method: stepper motor/controller – 3 to 33 mm/s speed  
 Detector bug cooling on-board: liquid cooling for electronics and detector  
 Drive band/yokes: custom bands from 10" to 36" with precision laser cut rack

#### Twin detection system

Type: SIS HDRTR-2  
 Inspection Width: 2 x 70 mm wide  
 Detector Resolution: Better than 50 µm/pixel  
 Wire IQI sensitivity: Better than 1.6% (source side/single wall)  
 Digitization: 16 Bit (65,536 grey levels)  
 Weight: 72.75 lbs (including buggy)

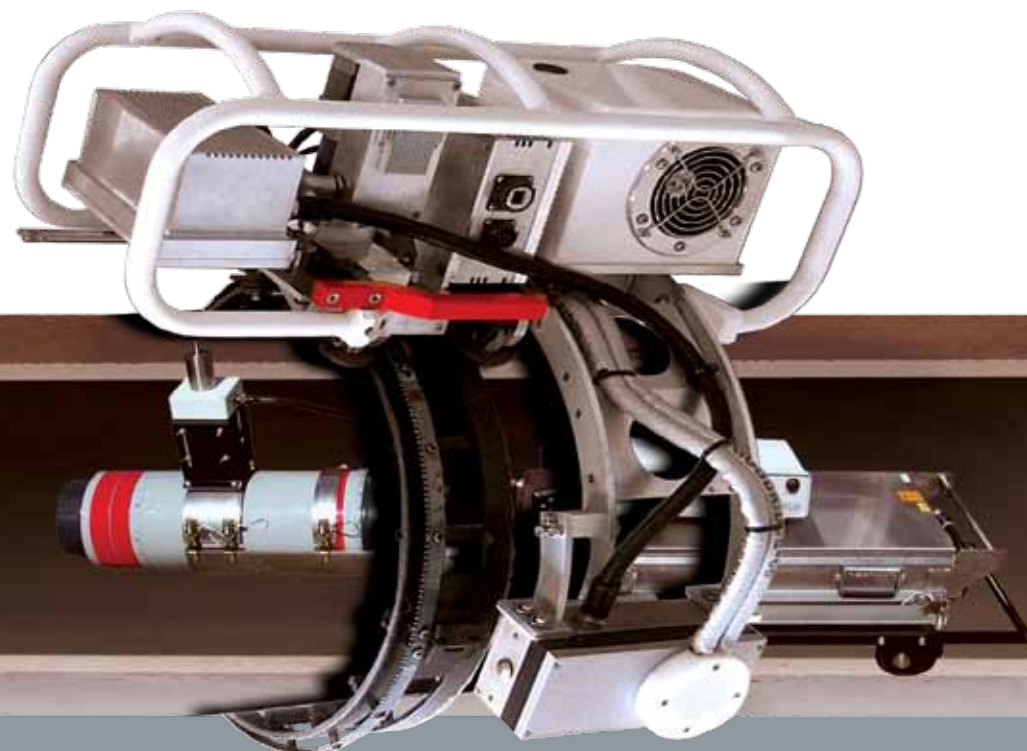
#### Suitable x-ray crawlers & x-ray tube (not supplied)\*

X-ray Beam: Panoramic  
 Type: CP or high frequency  
 kV range: 120kV to 300kV

\* The system can be used with most x-ray crawlers but a CP tube yields the fastest inspection times

#### Power, interface unit & cables

Size (mm): 330 (W) x 320 (H) x 110 (D)  
 Weight 22.04 lbs  
 Input: 105 to 250V AC 50/60Hz  
 Output: +32V DC  
 Interface: USB2 & Power to laptop  
 Cable: 1 x 25 m cable to scanner



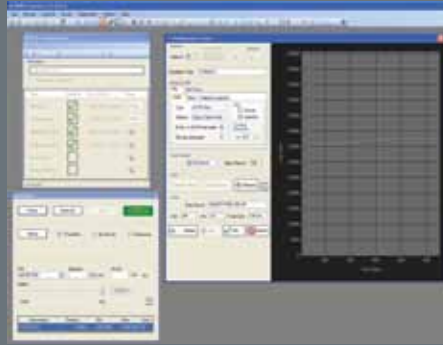
## Software features:

- Secure log-on with multi-level access
- Easy to use radiographic procedure setup and start scan wizards
- Auto-starts HDRTR detector scanning upon x-ray detection
- Displays weld radiograph in real-time as image is captured by detector system with electronic position ruler
- X-ray signal monitoring during scan
- Interpretation may commence during scanning reducing overall cycle time

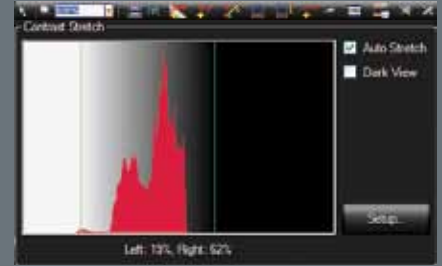
## Interpretation tools:

- Auto-contrast enhancement
- Zoom and scroll
- Linear measurement
- Circular measurement
- Area measurement
- Normalized signal-to-noise ratio
- Hot-spot area contrast enhancement
- Overlay shutters
- Image region saving

## Image Acquisition, Display, Interpretation, Reporting & Database/Archive Software



Procedure setup



Operator's interpretation "toolkit"



Tool setup



Defect reporting



Auto projection



Inspection view



HDRTR inspection report



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