Twin Head Digital Real-Time Radiography System for Pipeline Girth Welds for 10” - 36” diameter pipelines
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
- Suits 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
- Displays 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

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

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)
- 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

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

<table>
<thead>
<tr>
<th>Pipe diameter (API)</th>
<th>Distance (mm)</th>
<th>Scan speed (mm/sec)</th>
<th>Scan time (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10”</td>
<td>800</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td>16”</td>
<td>1,277</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>24”</td>
<td>1,910</td>
<td>10</td>
<td>106</td>
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<tr>
<td>30”</td>
<td>2,393</td>
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<td>212</td>
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<tr>
<td>36”</td>
<td>2,871</td>
<td>6</td>
<td>360</td>
</tr>
</tbody>
</table>

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.
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

A global leader in non-destructive testing solutions

Corporate Headquarters
4250 North Sam Houston Parkway East
Suite 180
Houston, TX 77032, USA
Tel: +1 281 940 0700
Toll Free: +1 866 912 5314
info@sps.shawcor.com

Gulf of Mexico & Americas Office
4250 North Sam Houston Parkway East
Suite 180
Houston, TX 77032, USA
Tel: +1 281 940 0700
Toll Free: +1 866 912 5314
info@sps.shawcor.com

North America Onshore Office
1725 W. Reno Street
Broken Arrow, OK 74012, USA
Tel: +1 918 893 7800
info@sps.shawcor.com

Canadian Offices
3200, 450 – 1st Street S.W.
Calgary, AB T2P 5H1, Canada
Tel: +1 403 218 8224
info@canada@sps.shawcor.com

53323 Range Road 232
Sherwood Park, AB T8A 4V2, Canada
Jodi Cornelius
Tel: +1 780 686 5128
info@canada@sps.shawcor.com

Asia Pacific & Australia Office
Unit 2/6 Merino Entrance
Cockburn Central
Perth WA, Australia 6164
Tel: +61 468 613 715
info@sps.shawcor.com

Europe, Middle East, Africa, and Russia Office
Unit 6 Knightwood Court
Shuttleworth Close
Gatton Hall Industrial Estate
Great Yarmouth, Norfolk
NR31 0NG, United Kingdom
Tel: +44 1493 600677
info@sps.shawcor.com

For additional information, please contact info@sps.shawcor.com
or in Canada, please contact infocanada@sps.shawcor.com

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

Operator’s interpretation “toolkit”

Tool setup

Inspection view

HDRTR inspection report

Defect reporting

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