Orbiting Head Internal Pipeline Crawler for use with HDRTR-SW1 Real-Time Radiography System for High Speed Girth Weld Inspection of 24” - 56” diameter pipelines
Orbiting Head Internal Pipeline
Crawler for use with HDRTR-SW1
Real-Time Radiography System for High Speed Girth Weld Inspection

Key points

Benefits
- Inspects pipelines from 24” to 56” as standard. Larger diameters possible
- Scans a 48” pipe girth weld in less than 2 minutes (1” wall thickness)
- Eliminates x-ray film and chemicals
- Reliable alternative to CR plates/scanner
- Fast inspection times due to fixed pipe wall to x-ray source distance
- Increased safety due to use of highly collimated, directional tube head

Features
- 300kV, 900W CP directional x-ray tube for reduced cycle times
- Improved geometrical un-sharpness compared to panoramic x-ray tube technique
- Rotating x-ray head, synchronized to external x-ray detector
- Designed for use with HDRTR-SW1 Real-Time Detection System
- Batteries: 120V DC, 40 A/Hr LIPO batteries with 2 hour recharge

Typical applications
- Large diameter land lines
- Offshore pipeline lay-barges
- Pipe mills
- Double & triple jointing yards

Chassis
Size/Weight: 2.8 m/661.3 lbs with x-ray tube. 1.9 m/484.9 lbs without x-ray tube
Pipe range: 24” to 56” by use of wheel spacers & orbiting arm extenders
Drive speed/climb: 0.3 metres second/25 degrees slope
Drives: DC Motor/Gearbox with intelligent four wheel motor drives
Chassis: All stainless steel construction

X-ray tube
Type: 300kV Metal Ceramic insert, directional, portable
Current/Power: 3 mA @ 900W
Focal Spot: 3 mm x 3 mm maximum size (to EN 12543)
Exposures/battery pack: Up to 300 minutes (100 x 56” diameter pipe welds, 1” wall thickness welds)
X-ray tube Rotation: DC Motor/Slip ring with digital inclinometer & encoder

Performance
Typical inspection times for better than 2% (source side) wire IQI performance

<table>
<thead>
<tr>
<th>Pipe diameter (API)</th>
<th>Weld length (mm)</th>
<th>Scan speed (mm/sec)</th>
<th>Scan time (A)</th>
<th>Scan speed (mm/sec)</th>
<th>Scan time (A)</th>
<th>Scan speed (mm/sec)</th>
<th>Scan time (A)</th>
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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

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
Cables: 2 x 25 m cables to scanner

Note: Time includes 30 seconds for x-ray initialization and HDRTR detector auto-align system
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

- Operator’s interpretation “toolkit”
- Defect reporting
- Tool setup
- Auto projection
- Inspection view
- HDRTR inspection report

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

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
Alan Campbell
Tel: +1 403 218 8224
infocanada@sps.shawcor.com
53323 Range Road 232
Sherwood Park, AB T8A 4V2, Canada
Jodi Cornelius
Tel: +1 780 686 5128
infocanada@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
Gapton Hall Industrial Estate
Great Yarmouth, Norfolk
NR31 0NG, United Kingdom
Tel: +44 1493 600677
info@sps.shawcor.com

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