



7952 Nieman Road, Lenexa, KS 66214-1560 USA Phone: 913-685-0675, Fax: 913-685-1125 <u>www.ndtsupply.com</u>, sales@ndtsupply.com

XR Spider

Automated, C-Scan Corrosion Mapping System



The XR Spider is an innovative ultrasonic scanner that addresses the need for an automated raster type unit. It offers higher performance and durability over an extended range of applications. The scanner traverses large vessels with obstacles that are problematic for most tank crawlers. It is capable of performing corrosion scanning on pipes as small as 2" while requiring no probe adjustments over the range.

The scanner offers high maneuverability via steering with the controller's touch screen interface or optional extended joystick. A parking function lifts the advanced transducer/ coupling shoe assembly for crossing over larger obstacles. High scanning speed is achieved without sacrificing high torque and actuator force, and the specially engineered gears are coupled directly to all four wheels through a compact, sealed enclosure for durability and low maintenance. A home positioning routine is utilized with solid state end sensors for collision control. This rugged scanner provides highly accurate, high speed scanning for a wide variety of industries.

System Features:

- > Custom engineered gears with direct coupled four wheel drive
- > Custom stroke lengths up to 48 in.
- > Engineered for rugged environments
- > Joystick or touch-screen steering controls
- > Proprietary low EMI noise motor drives
- > No pipe diameter adjustments required
- High power and high torque motor drives

Package Contents

- XR Spider Scanner
- X Controller/UT Instrument with Touch Screen
- Analyst[™]XR Software
- Main Cable Assembly , 100 ft (30 m)
- Rugged Transport Case (x3)
- Transducer
- WS3 Couplant Delivery System
- Notebook PC and Case
- Coaxial Cable

Additional Options:

- Extended Scan and Cable Lengths
- Joystick Jog Control (X-Series)
- Joystick Cable
- Extended Reach Probe Guide



1 m x 300 mm	1 m x 600 mm
1:11 min	1:55 min
2:15 min	3:30 min
5:21 min	8:35 min
10:36 min	16:47 min
	1:11 min 2:15 min 5:21 min

Controller Specifications

Power Requirement	90-240 VAC or 12-24 VDC Battery Option
Inputs	Remote joystick cable (optional) Cat6 ethernet cable
Outputs	Scanner control Scanner Power Encoder Signals (option)
Scan Plan Input/ Diagnostic Indicators	Color 1/4 VGA touch screen

Scanner Specifications

Scan Arm Lengths Available	12 in, 24 in, 34 in, 48 in (300, 600, 870, 1200mm)
Over-Travel	approx. 1 in per side (25 mm per side)
Scan Limit Protection	Magnetic sensors
Wheel Diameter	3.625 in (92 mm)
Magnetic Pull Force	65 lbf per wheel (286 N), 260 lbf total
Scanner Weight 12 in Travel 24 in Travel	27 lbs (12.2 kg) 29 lbs (13.2 kg)
Dimensions: 24 in Travel	4.5 x 9.25 x 44 in (11.5 x 23.5 x 112 cm)
Standard Transducer	Single element with water column or dual element with contact
Shoe Compliance	10° Drive axis 8° Scan axis 1.75 in vertical (45mm)
Probe Angle Adjustments	None Required
Minimum Diameters: Circumferential Scan Axial Scan	2 in (63.5 mm) Nominal Pipe 12 ft (3.6 m)
Steering	Yes
Sealed Enclosure	Yes

Scan Axis Specifications

Speed	29 in/sec (736 mm/sec)
Actuator Force	20 lbf (89 N)
Encoder Resolution	11,053 cts/in (435.16 cts/mm)

Drive Axis Specifications

Speed	13 in/s (330 mm/s)
Torque (Per Drive Section)	74 in/lb (9 Nm)
Encoder Resolution	3081.767 cts/in (435.16 cts/mm)



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