



INUKTUN
CRAFTSMANSHIP IN HIGH TECHNOLOGY

... see it for yourself

Versatrax 100 MicroMag™

Troll B - Platform
North Sea, Norway
Photo by Hakon Thingstad



Versatrax 100 MicroMag™

The MicroMag™ mobile robotic inspection vehicle is compact, waterproof and magnetic. It can be rapidly deployed for many applications that exclude most ordinary ROV's.

The MicroMag™ visual inspection system has been engineered to deliver vivid color video footage in real-time while travelling almost any direction on ferrous metal structures. This unique remotely operated device is steerable on vertical, horizontal and inverted surfaces even when piloted underwater.

For information call 1.877.468.5886 or e-mail sales@inuktun.com



KEY FEATURES

Vehicle Type
Magnetic Robotic Crawler

Depth Rating
Waterproof to 100ft / 30m

Maximum Tether Length
Up to 600ft / 183m

Vehicle Speed
Up to 32ft / 10m per minute

Vehicle Payload
10lb / 4.54kg

Front Facing Camera
Color video, pan / tilt

APPLICATIONS

Wet or dry inspections of ferrous metal surfaces such as:

- Reactor heads
- Pressure vessels
- Storage tanks
- Ship hulls
- Bridges / Engineered steel
- Offshore platforms
- Wind turbines

BENEFITS

Remotely controlled
Compact & portable
Waterproof / submersible
Magnetic on ferrous metal
Operates vertically & inverted
Vivid color video, Front & Rear
Intuitive software interface
Familiar joy-stick controls
High reliable up-times
Low total cost of ownership



VEHICLE

Compatibility
Versatrax 100™ components

Chassis Type
Parallel / Flat

Chassis Material
Aluminum

Crawler Tracks Model
2x Inuktun Microtracs™

Crawler Track Material
Aluminum

Magnetic Component
Rare Earth Magnets

Magnet Capacity
up to 30 x 1.0in x 0.5in

PRIMARY CAMERA

Position Front

Model Inuktun Spectrum 45™

Material Aluminum
(Stainless Steel Optional)

Pick-up Element
1/4in CMOS (NTSC or PAL)

Sensitivity 1.0 lux **Lens** 3.6mm

Resolution 420 TV Lines

Focus Auto or Manual (Remote)

Pan Range 360 ° Continuous

Tilt Range 280 ° Mechanical Stops

Lights 6 x 0.5 Watt LED / Variable Intensity (Remote)

Camera Weight 1.0lb / 454g

TETHER CABLE

Outside Diameter
0.325in / 8.3mm

Minimum / Maximum Length
200ft / 61m - 600ft / 183m

Conductors
14 total / 3x AWG24(tp), 1x AWG26(tp), 6x AWG22

Strength Member Aramid fiber

Strength Rating 360lbs / 163kg

AUXILIARY LIGHT

2 x 20 Watt / 601 Halogen
Variable Intensity (Remote)

CONTROL SYSTEM

Line Voltage
115VAC or 230VAC

Power Requirement
550 Watts minimum

Controller Type
Portable in Pelican Case or 19in rack mount

Operator Controls
2 x Joysticks and Custom Keypad

Software
Custom Graphic User Interface

Tether Reel & Encoder
Portable in Pelican Case

OPTIONS

Color LCD Monitor
8in fits Pelican Case Controller

Pendant Control Add-on
25ft / 7.6m Interconnect Cable

Auxiliary Camera
Rear facing Inuktun Crystal Cam®

Miniature Tether Reel & Encoder
For up to 350ft / 107m of tether

Digital Video Recorder
Records mpeg4 / Digital zoom and still image capture / Audio inputs

Drop Camera Adapter
Allows Spectrum 45™ to be used as a drop camera.

MicroMag™ Option

The UT Probe & Wire Brush assembly expands the feature set of the MicroMag™ crawler to support ultrasonic thickness measurement of ferrous metal surfaces in air or underwater.

This solution integrates easily with the standard MicroMag™ system. All required hardware components mount quickly to the flat chassis and new connections plug directly into the existing wiring harness. The Versatrax™ controller is programmed to recognize the assembly and remotely operate all mechanical functions.



Intuitive Up / Down buttons allow the operator to control the movement of the spring loaded probe and wire brush. As they share a single pivot point, either tool may be raised or lowered to execute one function at a time.

Surface preparation occurs during 'Brush Down' mode while metal thickness data is collected during 'Probe Down' mode. 'Neutral' mode raises both tools an equal distance from surface for normal vehicle operation.

UT Probe Key Features

This waterproof MicroMag™ option includes an industrial Cygnus Mini ROV™ UT probe. It is fully integrated with Inuktun's Versatrax™ controller and video display functions. Due to its multiple echo transducer, this digital thickness gauge is capable of fast and reliable measurements on heavily corroded and coated surfaces.



UT Probe & Wire Brush

Ultrasonic Thickness Measurement

Revised camera mount.

Single motor linear actuator.

Pivot point direction is driven by lead screw of the linear actuator.

Fully assembled component quickly bolts to chassis.

Spring loaded carriage designed for Cygnus Mini ROV™ UT Probe. (www.cygnus-instruments.com)

Broad wire brush for surface preparation.

Electronics canister houses probe circuitry.

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UT Probe Specifications

Materials:

Sound velocities between 1000 m/s and 9995 m/s

Measurement Range in Steel:

3 mm - 250 mm (0.110" - 9.995") with *2.25 MHz probe

2 mm - 150 mm (0.065" - 6.000") with 3.5 MHz probe

1 mm - 50 mm (0.045" - 4.000") with 5.0 MHz probe

(*denotes standard probe included with Inuktun MicroMag™)

Accuracy:

0.1 mm (0.005") when calibrated in accordance with Cygnus Instruments Calibration Procedures

Resolution: 0.05 mm (0.002")

Probes:

Single crystal soft-faced compression 13mm (1/2") - *2.25, 3.5 or 5 MHz (Lower frequency offers better penetration on corrosion & coatings)

Approvals: RINA Type approved

Compliance: CE, British Standard BS EN 15317:2007 (Specification for the characterisation and verification of ultrasonic thickness measuring equipment)

Environmental: RoHS, WEEE compliant

Warranty: 3 years on gauge, 6 months on probe

Options: CygLink™ Data Logging Software for PC