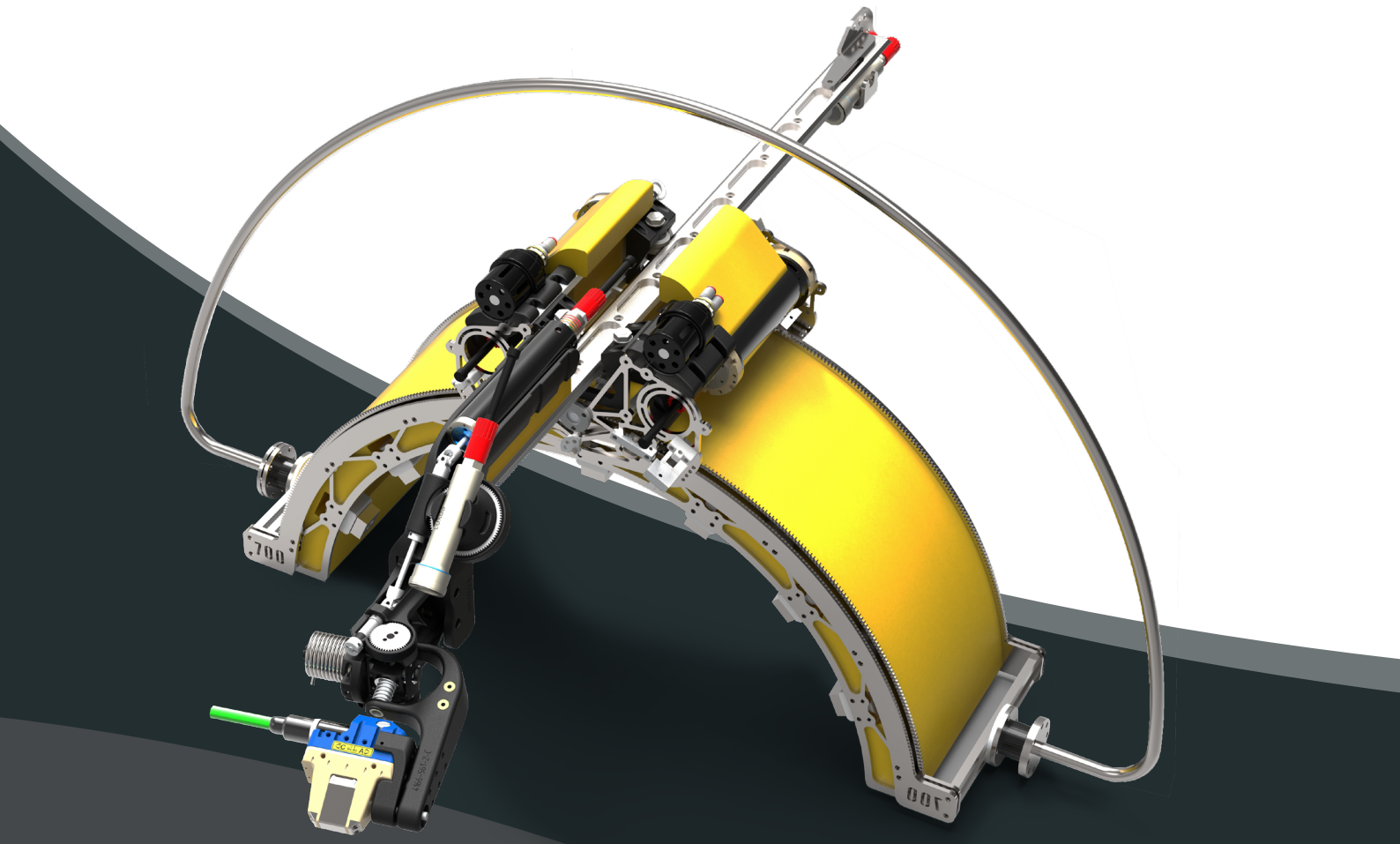
TSC SUBSEA

NodeScanner™

The best solution for diverless inspection of jacket structural nodes.



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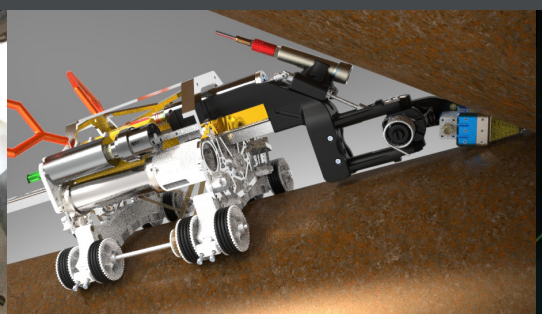
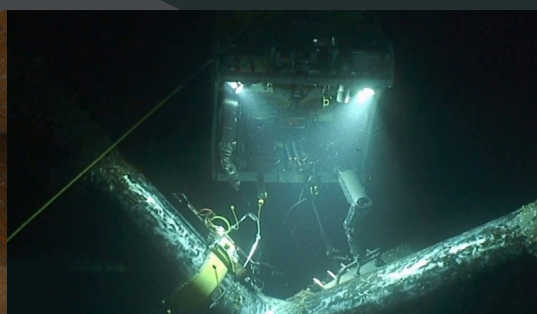




NodeScanner™

The best solution for diverless inspection of jacket structural nodes.

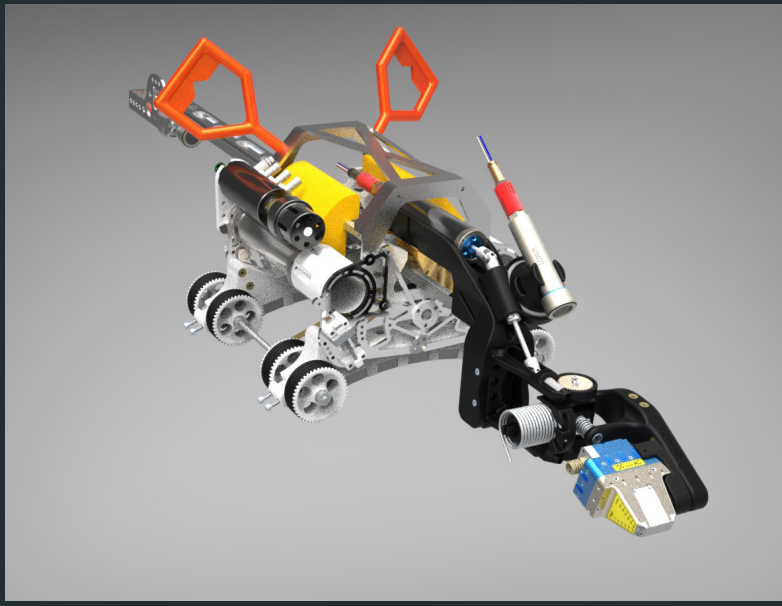
TSC Subsea Scanning Solutions.

The NodeScanner™ has been designed, developed and built by TSC Subsea's engineers to work in tandem with ROV's for the remote inspection of jacket structures. The system allows the deployment of the latest generation of ACFM® Array Probes to inspect complex fatigue sensitive geometries such as the node welds.

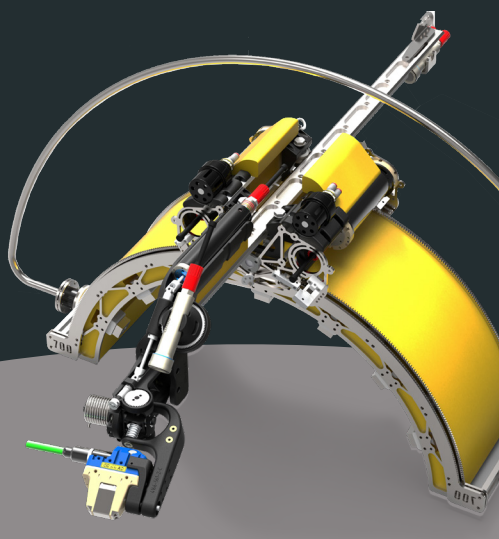
Strong magnetic feet enable the scanner to be securely fixed in position. Once delivered the ROV detaches from the scanner and stands off avoiding the need to hold station accurately for long periods.

The NodeScanner™ is tolerant of swell and can be used near the splash zone.

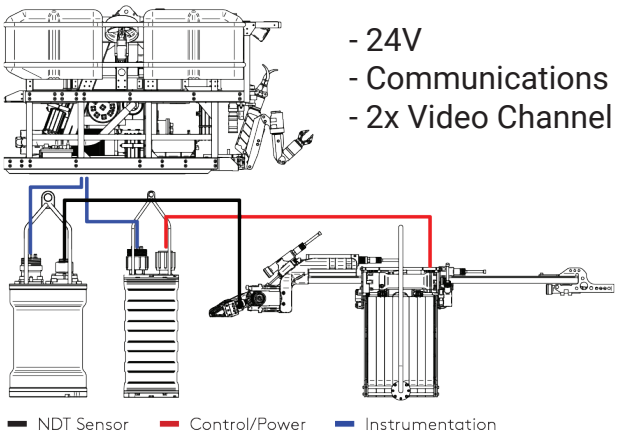
The scanner is powered and controlled through the ROV umbilical, requiring TCP-IP communication and 24V power. Cleaning of the surface needs to be to SA1 standard in the scanner landing zone, and SA2 on the weld to be inspected. Brace diameters in the range 150 - 3,000mm can be accommodated and the scanner can also be configured to successfully tackle tight access areas around conductor guides and gusset/stiffener plates.



- ✓ **Inspects complex fatigue sensitive geometries**
- ✓ **Powered and controlled through the rov umbilical**
- ✓ **Tolerant of swell and can be used near the splash zone**



INTERFACE



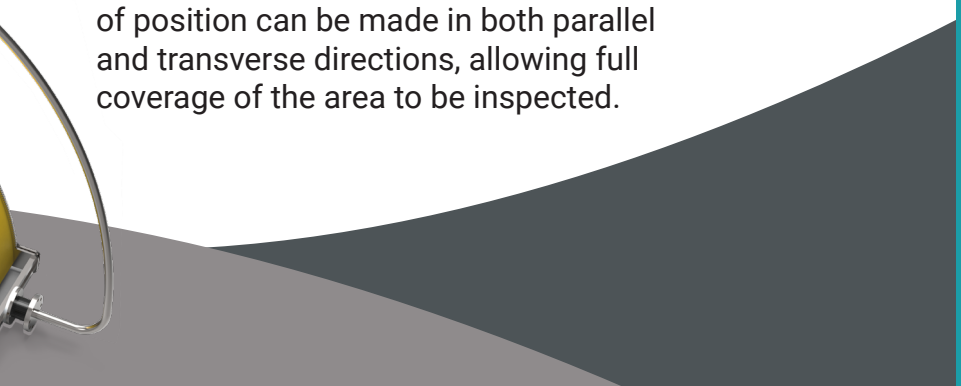
- 24V
- Communications
- 2x Video Channel

- Rapid inspection of Node welds
- Detection of surface breaking fatigue cracks with high POD
- Accurate sizing of damage allows calculation of remaining life
- Inspection through coating and residual marine growth
- The industry standard, approved by Lloyds, DNV, ABS, etc.

Our full suite of ACFM® probes are available depending on the inspection task and the delivery system employed. Bespoke probe solutions are also available.

DEPLOYMENT/PROBE CONTROL

The scanner has three motorised mechanisms which allow the probe to accurately follow the weld to be inspected. The probe is held in contact with the inspection surface using passive compliance, which ensures correct alignment with the inspection surface during inspection. Adjustments of position can be made in both parallel and transverse directions, allowing full coverage of the area to be inspected.



FEATURES

- ✓ Robust design aids ease of handling on deck.
- ✓ Designed for use with the latest ACFM® U41R™ and ACFM® Array probe technology.
- ✓ ACFM® probe easily deployed to follow complex node weld profile.
- ✓ Versatile design for axial and circumferential measurements.
- ✓ Rated for 500m water depth.
- ✓ Designed for deployment on a range of brace diameters.
- ✓ Instant data capture for audit and comparison purposes.
- ✓ Produces high resolution and detailed images for reporting.
- ✓ Dedicated control software to follow complex weld geometries.
- ✓ Inspects through paint and other coatings.
- ✓ Tolerant of residual marine growth.
- ✓ Buoyancy blocks fitted to reduce submerged weight for improved ROV manipulation.

NodeScanner™ SPECIFICATIONS

Unit Mass	35.0kg	Cameras & other tooling excluded
Unit Weight in Water	16.0kg	Adjustments to buoyancy can be made
Unit Length	950mm	Other sizes available at approx. 4 week lead time
Unit Width	1.29m	Other lengths available at approx. 4 week lead time.
Unit Height	270mm	Excludes buoyancy
Minimum Brace Angle	40°	
Brace Diameter Range	Range 150mm upwards (to flat surface)	Nodes with a wide range brace and legs diameters can be accommodated. Scope of work specification is required. Some sizes require non stock components, typical 4 week lead time.
Pull Force	500N	
Surface Travel Speed	0-150mm/s	Intelligent controller assists the operator following complex welds geometries.
Communications	Ethernet 100Mb/s, RS232, 115k Baud	TCP-IP protocol. Other variations available on request.
Power Requirement	24V at 5A	
Operating Temperature	0° to 45°C	
Environment Protection	IP68 depth rated to 500m sea water	Deeper version available on request

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