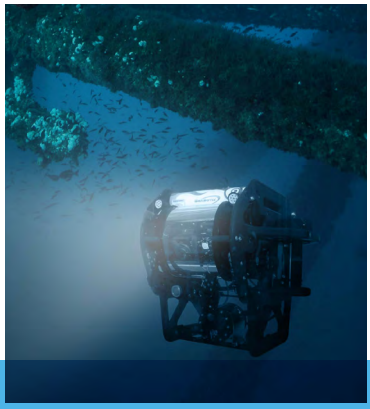
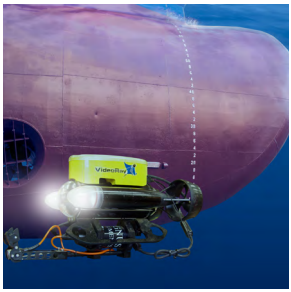
CYGNUS
INSTRUMENTS

RELIABLE ULTRASONIC MEASUREMENT







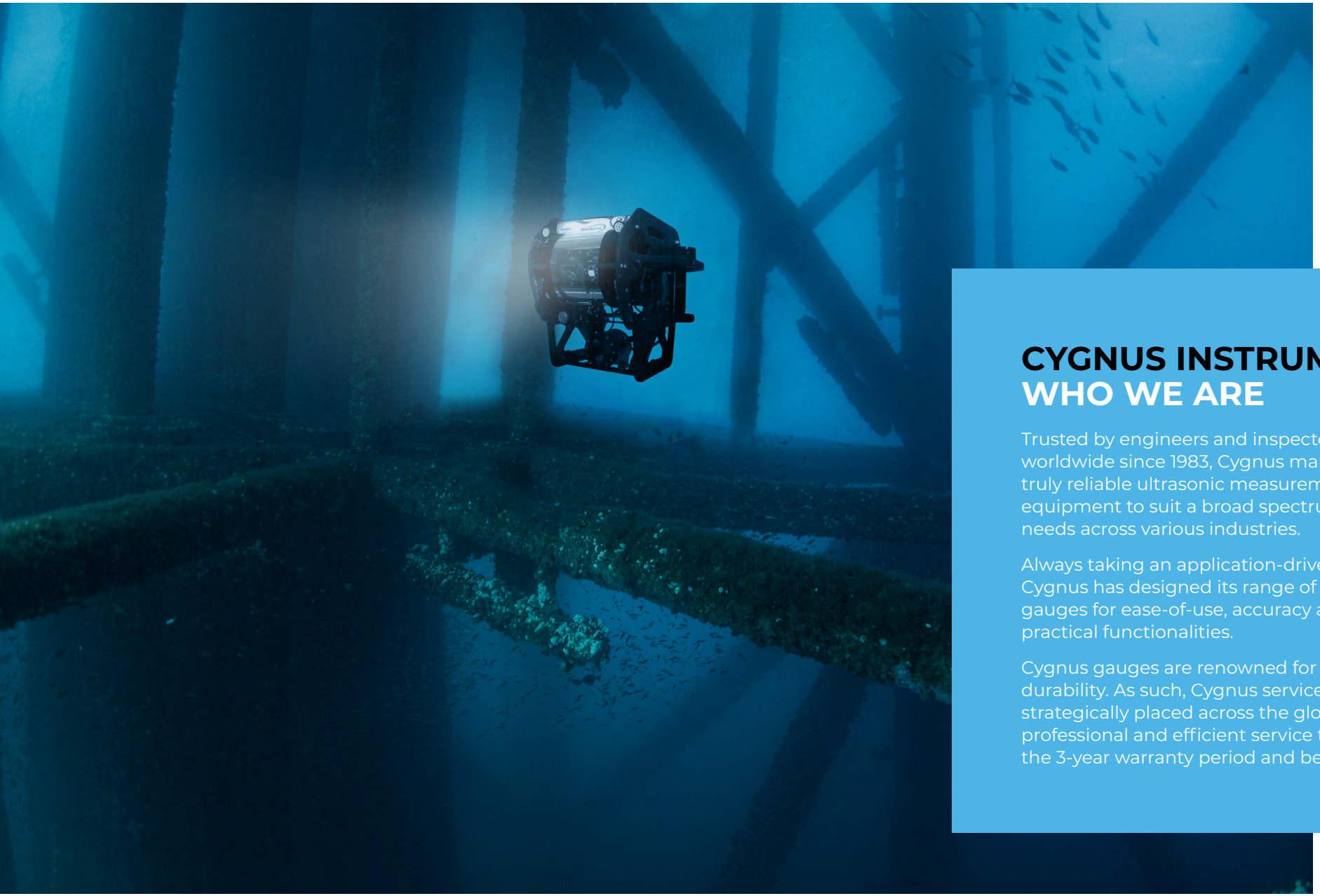
CYGNUS SUBSEA RANGE

ULTRASONIC THICKNESS GAUGES

MADE IN BRITAIN

IDEAL FOR USE IN

- UNDERWATER PIPELINES
- MARINE STRUCTURES
- OFFSHORE PLATFORMS
- HULL UTM INSPECTION



EXPLORE THE SUBSEA RANGE

CYGNUS INSTRUMENTS WHO WE ARE

Trusted by engineers and inspectors worldwide since 1983, Cygnus manufactures truly reliable ultrasonic measurement equipment to suit a broad spectrum of user needs across various industries.

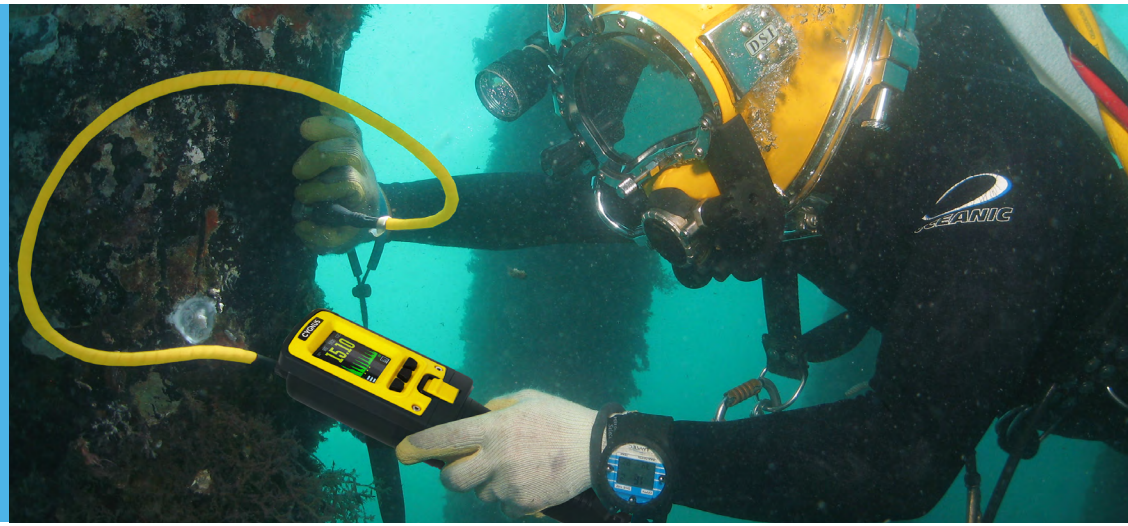
Always taking an application-driven approach, Cygnus has designed its range of surface gauges for ease-of-use, accuracy and with practical functionalities.

Cygnus gauges are renowned for their durability. As such, Cygnus service centres are strategically placed across the globe to provide professional and efficient service throughout the 3-year warranty period and beyond.

THE CYGNUS SUBSEA RANGE

Cygnus Diver Range
Consists of 2 diver underwater thickness gauges - a wrist-mountable gauge with a large colour display offering A-scan and multi-measuring modes; and our new diver-held underwater gauge. Both units are rated to 300 msw.

Cygnus ROV Mountable Range
Is designed specifically to be mounted onto an ROV. The range offers three models: the Mini ROV, the ROV Mountable and the ROV UTM with live A-scan.





WARRANTY 3 YEARS CYGNUS GAUGE WARRANTY

MADE IN BRITAIN

ACCURACY

Cygnus-Pioneered Multiple Echo Technique uses three return echoes to give a truly accurate, error-checked metal thickness measurement - accepted by all major Classification Societies. Cygnus' Measurement Stability Indicator (MSI) helps verify stable and reliable measurements in Single-Echo and Echo-Echo modes.

SIMPLE TO USE

Using a Cygnus instrument to take a thickness measurement is quick and simple. Gauge menus are intuitive and easy to navigate. Auto-Log and min/max Limit & Alert features further enhance the convenience.

HIGHLY DURABLE

The entire subsea range has been specifically engineered to withstand the harshest operating conditions underwater. All gauges are enclosed in robust housing and fully pressure tested. Supplied with 3 year warranty.

VERSATILE

A wide selection of options and accessories is available to suit various applications and different operating requirements. This ranges from a variety of ultrasonic probes, purpose-built probe handlers and remote/ surface display options.

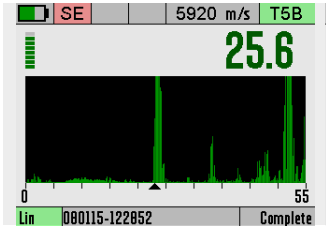
DATA LOGGING FACILITIES

To assist with recording, reporting and further analysis on a computer using CygLink (Windows-based software).



A-SCAN

To allow users to verify measurements visually in a real-time graphical display. (Available with Cygnus DIVE)



A-Scan

Visit www.cygnus-instruments.com to explore our full product range

Call our team today on +44 (0) 1305 265 533 for expert product advice



The Cygnus DIVE is a robust, wrist-mountable ultrasonic underwater thickness gauge - providing an invaluable free hand while performing Ultrasonic Thickness Measurement (UTM) underwater. The large, bright display with Live A-scan is easily viewable by both the diver and his camera crew - even in the poorest visibility. With only two buttons to press, the gauge is very easy to navigate through an intuitive, user-friendly menu.

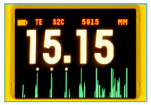
CYGNUS DIVE KEY FEATURES



- **Multiple-Echo mode for accurate, through-coat measurements as specified by Classification Societies**
- **Single-Echo and Echo-Echo modes for heavily corroded metals with a thin or no coating**
- Deep-Coat function to ignore coatings up to 20 mm thick
- A-scan display to assist with measurement verification
- Optional Data Logging feature with AutoLog - storing up to 5000 measurements including A-scan data without pressing any button
- MSI (Measurement Stability Indicator) verifies stable, reliable readings
- Rechargeable lithium-ion battery giving up to 10 hours continuous measurement
- Optional remote display HelmetView™ and CygLink surface display software

APPLICATIONS

Marine infrastructure, e.g. jetties, piers and pilings, underwater structures, e.g. bridges, tanks, canal locks, subsea pipelines and equipment, ship hull UTM inspections, UWILD or IWS class surveys, offshore rigs and structures



LARGE COLOUR DISPLAY WITH A-SCAN



DEPTH RATED TO 300M/984FT



HELMETVIEW™ OPTION



IGNORE COATINGS UP TO 20MM THICK

GO TO PRODUCT PAGE

SPECIFICATION

Feature	Description
Display	2.8" quarter VGA colour LCD (320 x 240 pixels). Large clear thickness measurement (15mm high numbers), viewable from all angles. A-scan display with automatic X axis. Battery level, signal strength, probe type, velocity. Measurement mode and units indication
Battery	Single 3.6V Li-ion 8.2 W battery. 10 hours continuous measurement Low battery warning 'alert' message
Measuring Modes	Multiple-Echo using 3 echoes to ignore coatings up to 20mm thick. Echo-Echo using 2 echoes to ignore coatings up 1mm thick. Single-Echo using 1 echo
Deep Coat	In Multiple-Echo mode, allows measurement to be made through thicker coatings of suitable materials of up to 20mm thick
Accuracy	±0.1 mm or 0.1% of thickness measurement, whichever is greatest, when calibrated in accordance with Cygnus Instruments calibration procedure
Probe Options	Single crystal probes and Twin crystal probes
Probe Cables	Double outer jacket in tough PU. Coloured yellow for easy locations underwater. Coiled for ease of use. Fischer S105 series connectors.
Measurement Range in Steel	1 - 250 mm (0.039 - 10 in.) depending on selected probe and configuration, material and temperature
Measurement Resolution	Multiple-Echo with single crystal probes - 0.1 or 0.05 mm Single-Echo and Echo-Echo with twin crystal probes - 0.1 or 0.01 mm
Measurement Units	mm or inches
Probe Zero	Fully automatic probe zeroing for all probes types
V-Path Correction	Automatic V-Path correction for all twin crystal probes
Velocity Range	2000 to 9000 m/s in 1 m/s steps
Pulser	Twin channel 70 V spike pulser
Receiver/Amplifier	10 MHz bandwidth, 120 dB range, automatic TCG. 60 MHz measurement time-base
Data Logging (optional)	One-handed automatic logging of stable measurements. Capacity for up to 5000 points including 640 point A-scan data
Data Output	RS-485 single pair, half duplex for surface connection
Standards	Designed for EN 15317
Compliance	CE, UKCA, RoHS
Warranty	3 years on gauge and 6 months on probe

Visit www.cygnus-instruments.com to explore our full product range

Call our team today on +44 (0) 1305 265 533 for expert product advice

Specifically designed for divers undertaking ultrasonic thickness measurement (UTM) of underwater structures, the Cygnus Underwater has been built to withstand harsh subsea environments while providing quick and accurate metal thickness measurements through coatings or heavy corrosion. This diver-held gauge is simple to operate using 3 function keys, an intuitive menu and a large LCD display – highly visible, even in low-visibility waters.



CYGNUS UNDERWATER KEY FEATURES

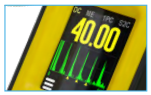


GO TO PRODUCT PAGE

- **3 measuring modes for levels of corrosion, various materials and through-coat measurements**
- **Depth sensor - live accurate depth indicator for the diver**
- **Live A-Scans aid visual measurement verification**
- Simple-to-Use with 3 function keys and up to 4 screens
- Comprehensive data-logging: linear and grid
- Deep Coat function ignores thick coatings
- RTC (Real Time Clock) for tagging date/time on measurement points
- Auto-set Gain to optimise the probe's gain settings for optimal performance
- Multiple Echo Mode to verify accurate through-coat measurements as specified by Class Societies
- Measurement Stability Indicator (MSI) verifies stable and therefore reliable measurements
- Available in STANDARD, PLUS and PRO variants, with the option to upgrade to the PLUS or PRO variant at a later date

APPLICATIONS

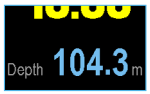
Marine infrastructure, e.g. jetties, piers and pilings, underwater structures, e.g. bridges, tanks, canal locks, subsea pipelines and equipment, ship hull UTM inspections, UWILD or IWS class surveys, offshore rigs and structures



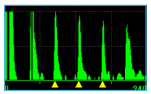
LARGE COLOUR LCD DISPLAY



CYGLINK SOFTWARE



DEPTH SCREEN VIEW



LIVE A-SCAN FOR FURTHER VERIFICATION

SPECIFICATION

Feature	Description
Measuring Mode	Multiple Echo with Single Crystal Probes Single Echo with Twin Crystal Probes Echo-Echo with Twin Crystal Probes
Materials	Sound velocity from 2000 m/s to 9000 m/s [0.0787 in/us to 0.3543 in/us]
Accuracy	±0.1 mm (±0.004") or 0.1% of thickness measurement whichever is the greatest
Resolution	0.1mm, 0.05mm or 0.01mm depending on probe type
Probe Options	Single crystal and twin crystal probes
Measurement Range in Steel	1mm to 250mm (0.040 in. – 10 in.) depending on selected probe and configuration, material and temperature
Connector	SubConn MC
Power Supply	Ni-MH Battery Pack 1.8 Ah (min)
Power Rating	1.5W
Probe Sockets	Lemo
Battery Life	8 hours minimum continuous measurement
Display	2.4" VGA, sunlight readable colour display
Size	80mm x 305mm x 65mm (W x L x D)
Weight	1 kg with battery
Operating Temp.	-10°C to +50°C (14°F to 122°F)
Storage Temp.	-20°C to +60°C (-4°F to 140°F)
Data Logging	5,000 measurements and A-scans per record
Computer Software	CygLink allows remote logging and viewing of A-scan graphs. Survey and report generation to PDF file. Graphic analysis of data and statistical calculations. Data output via RS-485 serial connection to transfer data to a Windows® computer with CygLink
Depth Sensor	Range 0 to 300m (30Bar)
Environmental Rating	Depth rated for 300m continuous immersion in sea water MIL STD 810G Method 501.6 (High Temp +55°C) MIL STD 810G Method 502.6 (Low temp -20°C)
Shock & Impact	MIL STD 810G Method 514.7 (Vibration) MIL STD 810G Method 516.7 (Shock 20g) MIL STD 810G Method 516.7 (Transit Drop 1.22m)
Standards	Designed for BS EN 15317 RoHS Compliant
Warranty	3 years on gauge and 6 months on probe

The Cygnus Mini ROV Mountable thickness gauge has been specially designed to be mounted onto small observation ROVs with or without a manipulator facility. Built in conjunction with VideoRay, this subsea thickness gauge will allow the operator to carry out an ultrasonic thickness measurement in areas that have previously been unfeasible using larger ROVs or divers. And no need to remove coatings!



CYGNUS MINI ROV MOUNTABLE KEY FEATURES



- **Multiple-Echo mode for accurate, through-coat measurements as specified by Classification Societies**
- Supplied with CygLink software to display and process measurements on a computer at the surface
- Easy calibration at the surface via CygLink software
- Optional purpose-built ROV probe handlers for optimal alignment

APPLICATIONS

Ideal for Subsea Inspection, Repair and Maintenance (IRM) including: Marine infrastructure, e.g. jetties, piers and pilings, underwater structures, e.g. bridges, tanks, canal locks, subsea infrastructure, e.g. pipelines and wellheads, ship hull UTM inspections - UWILD or IWS class surveys, offshore platforms and support members, underwater equipment, e.g. manifolds, caissons



DEPTH RATED TO 500M / 1,640 FT



CYGLINK SOFTWARE



RINA TYPE APPROVED



PURPOSE-BUILT PROBE HANDLERS OPTION

GO TO PRODUCT PAGE

SPECIFICATION

Feature	Description
Materials	Velocities between 1000 m/s and 9995 m/s (0.0400 and 0.3998 in/microsec)
Measurement Range in Steel	1mm - 250mm (0.040" - 10.000") depending on selected probe and configuration, material and temperature
Accuracy	±0.1mm (±0.004") or 0.1% of thickness measurement, whichever is greatest, when calibrated in accordance with Cygnus Instruments calibration procedure
Resolution	0.1 mm or 0.05 mm (selectable) (0.005" or 0.002")
Probe Options	Single crystal probes
Power	7.5 - 30 V DC @ 150 mA (max)
Display	PC or laptop with VGA (not included)
Size	160mm x 62mm (6.3 x 2.4 in.)
Weight in Air	550g (19.4 oz)
Operating Temp.	-10°C to +50°C (14°F to 122°F)
Approvals	RINA Type approved
Testing	Tested to 500m (1,640ft) depth
Communication	RS-422, Simplex Single Pair or 2400 Baud (RS-232 9600 Baud output available as special order)
Standards	Designed for EN 15317
Compliance	CE, UKCA, RoHS
Warranty	3 years on gauge and 6 months on probe

Specifically designed for underwater remotely operated vehicles, Cygnus offers a dedicated ROV mountable thickness gauge, ROV MK5 UTG Kit (depth rated to 500 meters (1,640 ft)). This gauge is versatile and designed to measure metal thickness in the harshest subsea operating conditions - without the need to remove coatings.



CYGNUS ROV MOUNTABLE KEY FEATURES



- **Multiple-Echo mode for accurate, through-coat measurements as specified by Classification Societies**
- Supplied with CygLink software to display and process measurements on a computer at the surface
- Selectable Deep-Coat mode ignoring coatings up to 20mm (3/4") thick
- Fitted with a safety Pressure Relief Valve and Securing Eye
- Easy calibration at the surface via CygLink software
- Removable end plate for full serviceability
- Wet mateable 'MC' style underwater connectors.
- Optional purpose-built ROV probe handlers for optimal alignment

APPLICATIONS

Ideal for Subsea Inspection, Repair and Maintenance (IRM) including: Marine infrastructure, underwater structures, subsea infrastructure, ship hull UTM inspections - UWILD or IWS class surveys, offshore platforms and support members, underwater equipment



DEPTH RATED TO 500 METERS (1,640 FT)



CYGLINK SOFTWARE



OPTIONAL **DEEP-COAT MODE**



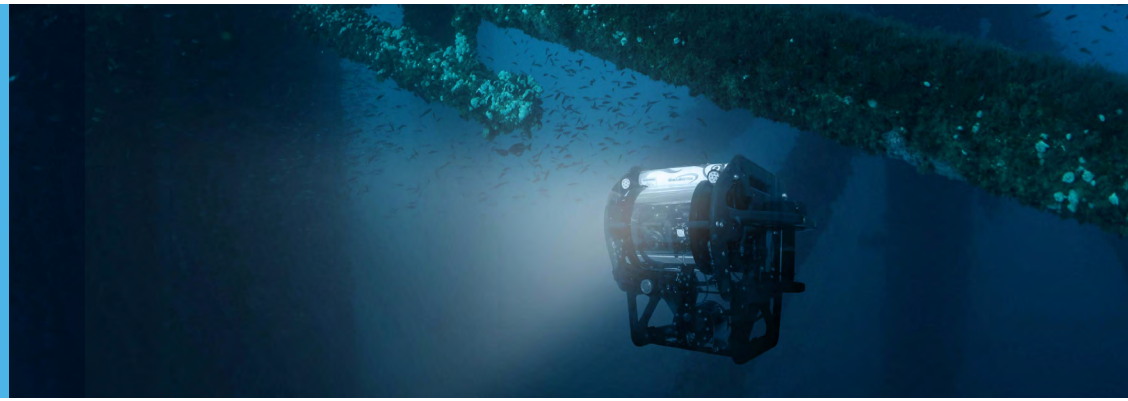
WET-MATEABLE UNDERWATER CONNECTORS

GO TO PRODUCT PAGE

SPECIFICATION

Feature	Description
Materials	Velocities between 2000 m/s and 7000 m/s (0.0800 and 0.2780 in/microsec)
Measurement Range in Steel	1 mm - 250 mm (0.040" - 10.000") depending on selected probe and configuration, material and temperature
Accuracy	±0.1 mm (±0.004") or 0.1% of thickness measurement, whichever is greatest, when calibrated in accordance with Cygnus Instruments calibration procedure
Resolution	0.1 mm or 0.05 mm (selectable) (0.005" or 0.002")
Probe Options	Single crystal probes
Power	7.0 - 30 V DC @ 150 mA (max)
Size	127mm long x 90mm diameter (5 in x 3.5 in)
Weight in Air	900g (2 lb)
Operating Temp.	-10°C to +50°C (14°F to 122°F)
Testing	Depth rated to 500 meters (1,640 ft)
Communication	RS-422, Simplex Single Pair or RS-232 TXD 2400 or 9600 Baud (selectable via DIP switches)
Standards	Designed for EN 15317
Compliance	CE, UKCA, RoHS
Warranty	3 years on gauge and 6 months on probe

Specifically designed for underwater remotely operated vehicles, Cygnus offers a dedicated ROV mountable thickness gauge (depth rated to 3,000m) with live A-scan and piezo-composite probe. This gauge is versatile and designed to measure metal thickness in the harshest subsea operating conditions - without the need to remove coatings.



CYGNUS ROV UTM KEY FEATURES



GO TO PRODUCT PAGE

- **A-scan to assist with measurement verification visually**
- **Multiple-Echo and Echo-Echo modes for accurate measurements through coatings (up to 1mm) as specified by Classification Societies**
- **Single-Echo mode for heavily corroded metals with no coating**
- Use the Auto SE/EE/ME measuring mode for best results or set manually
- Supplied with CygLink software to display and process measurements on a computer at the surface
- High-performance SD2C probe fitted with a Hard Rexolite Delay line
- Easy calibration and measurement settings via CygLink software at the surface
- P50 Probe Handler cleverly-designed to self-align with pipes from 50mm diameters to flat surfaces
- Manual or automatic gain control

APPLICATIONS

Ideal for Subsea Inspection, Repair and Maintenance (IRM) including: Marine infrastructure, underwater structures, subsea infrastructure, ship hull UTM inspections, offshore platforms and support members, underwater equipment



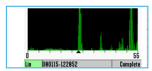
DEPTH RATED TO 3KM/9,843FT



CYGLINK SOFTWARE



CLEVER PROBE HANDLER FOR EASY ALIGNMENT



LIVE A SCAN FOR FURTHER VERIFICATION

SPECIFICATION

Feature	Description
Materials	Sound velocities between 2000 m/s and 9000 m/s (0.0780 in/us to 0.3543 in/us)
Measuring Modes	Multiple-Echo using 3 echoes to ignore coatings up to 1mm(0.039") thick. Echo-Echo using 2 echoes to ignore coatings up to 1mm(0.039") thick. Single-Echo using 1 echo
Accuracy	±0.1 mm (±0.004") or 0.1% of thickness measurement, whichever is greatest, when calibrated in accordance with Cygnus Instruments calibration procedure
Measurement Range in Steel	Multiple Echo: 4 - 20mm (0.157" to 0.78") Echo Echo: 4 - 30mm (0.157" to 1.18") Single Echo: 4 - 50mm (0.157" to 1.96")
Measurement Resolution	0.1 mm (0.005")
Probe Zero	Automatic and manual selectable
Power	12 - 24 V supply input @ 60mA (average) @ 200mA (maximum)
Size	105mm x 110mm x 35mm (4.1 in x 4.3 in x 1.4 in) (W x H x D)
Weight in Air	Gauge body 3.7kg max (8.2 lb.)
Operating Temp.	-10°C to 50°C (14°F to 122°F)
Environmental Rating	IP68 rated to 3000m (9,843 ft)
Communication	RS-232
Computer Software	CygLink allows remote data logging and viewing of A-scan graphs Survey and report generation to PDF file Graphic analysis of data Designed for Windows 10 and above
Environmental	CE, UKCA, RoHS
Warranty	3 years on gauge and 6 months on probe





CYGNUS HELMETVIEW™



The Cygnus HelmetView™ is an accessory for the Cygnus DIVE gauge. This is a remote display with a fixing bracket for Kirby Morgan® helmets that have an accessory mounting point.



This is depth rated to 300m/984ft, and designed for use in situations with extremely poor visibility and ease of viewing by the diver.

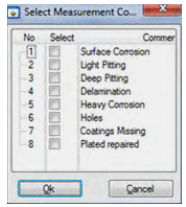


CYGLINK SOFTWARE

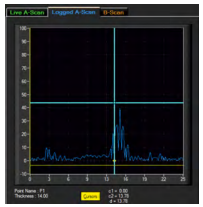
CygLink is a Windows® based application used to transfer and manage data logger records, A-scans, templates, measurement comments and material velocity tables. The program can generate PDF reports and export to Excel, allowing for after-the-event analysis of logged measurements. It also displays thickness measurements and A scans at the surface.



In addition, measurements can be logged and gauge settings can be adjusted (including velocity of sound) with this simple to use application. When CygLink is used to data log measurements, they can be recorded in a Linear List or a Two-Dimensional Grid.



EACH RECORDED MEASUREMENT CAN HAVE UP TO 8 PRE-SET COMMENTS ADDED TO IT



A-SCANS CAN BE ANALYSED IN CYGLINK

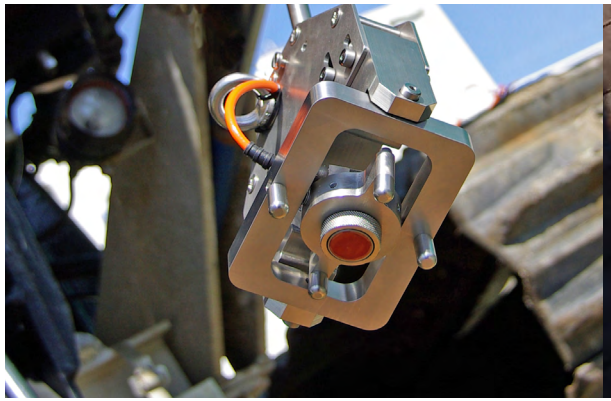
CYGLINK IS SUPPLIED ON A USB STICK OR DOWNLOAD FROM THE "SUPPORT" LIST ON OUR WEBSITE



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Call our team today on +44 (0) 1305 265 533 for expert product advice

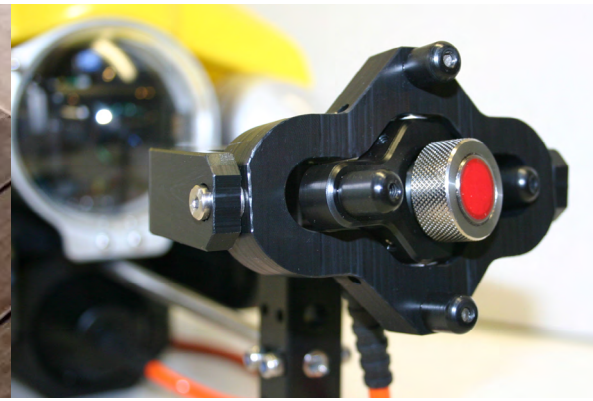
CYGNUS PROBE HANDLERS



CYGNUS G1

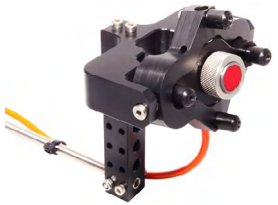


CYGNUS S1



CYGNUS W1

Cygnus G1 Probe Handler for observation, inspection and light work-class ROVs



Designed for observation, inspection and light-work class ROVs. Constructed from acetal, it is both strong and lightweight. It features an adjustable mounting bracket allowing optimum positioning of the UT probe. The UT probe is located in an articulated mount that allows up to 15 degrees of movement in both planes allowing automatic alignment of the probe face to the measurement surface making the ROV pilot's job easier.

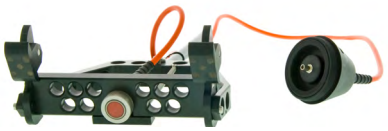


Nosecone for Mini ROV



MCIL2M for M5 ROV

Cygnus S1 Probe Handler for Ship Hull Inspection using ROVs



The Cygnus S1 probe handler is designed for performing UTM surveys on ships' hulls using an observation or light work-class ROV. The two sets of magnets first grip the hull plate which allows the UT probe to tilt and align to the hull surface - ensuring the optimal measurement position. The S1 probe holder is constructed from acetal with stainless steel fixings keeping the overall weight down.

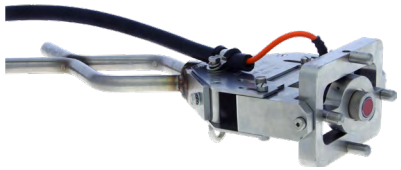


Nosecone for Mini ROV

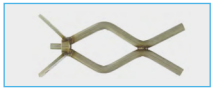


MCIL2M for M5 ROV

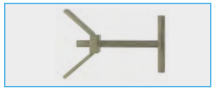
Cygnus W1 Probe Handler for Work-Class ROVs



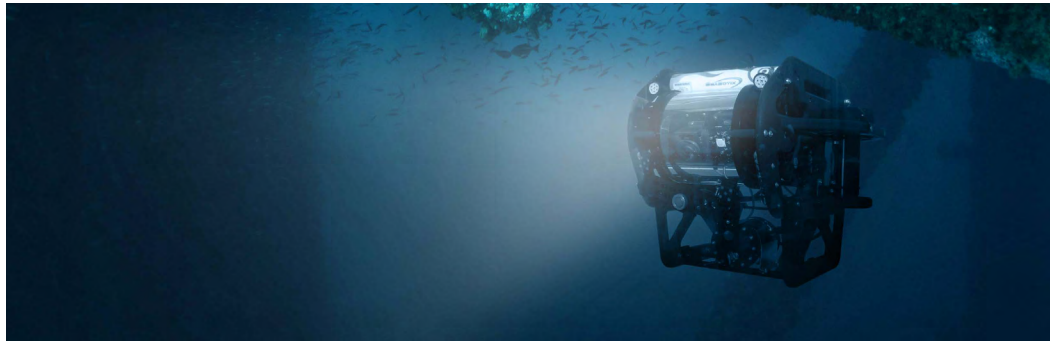
Constructed from 316 stainless steel throughout, the W1 probe handler can be held by a manipulator arm and is supplied with either T bar or Fish Tail handles. Its double jointed coupling provides 15 degrees of movement in both planes guided by four pins - giving the optimal alignment. A shock absorbing spring reduces any impact. Any misalignment will be taken up by the coupling resulting in less movement of the manipulator arm position.



Fishtail Handle

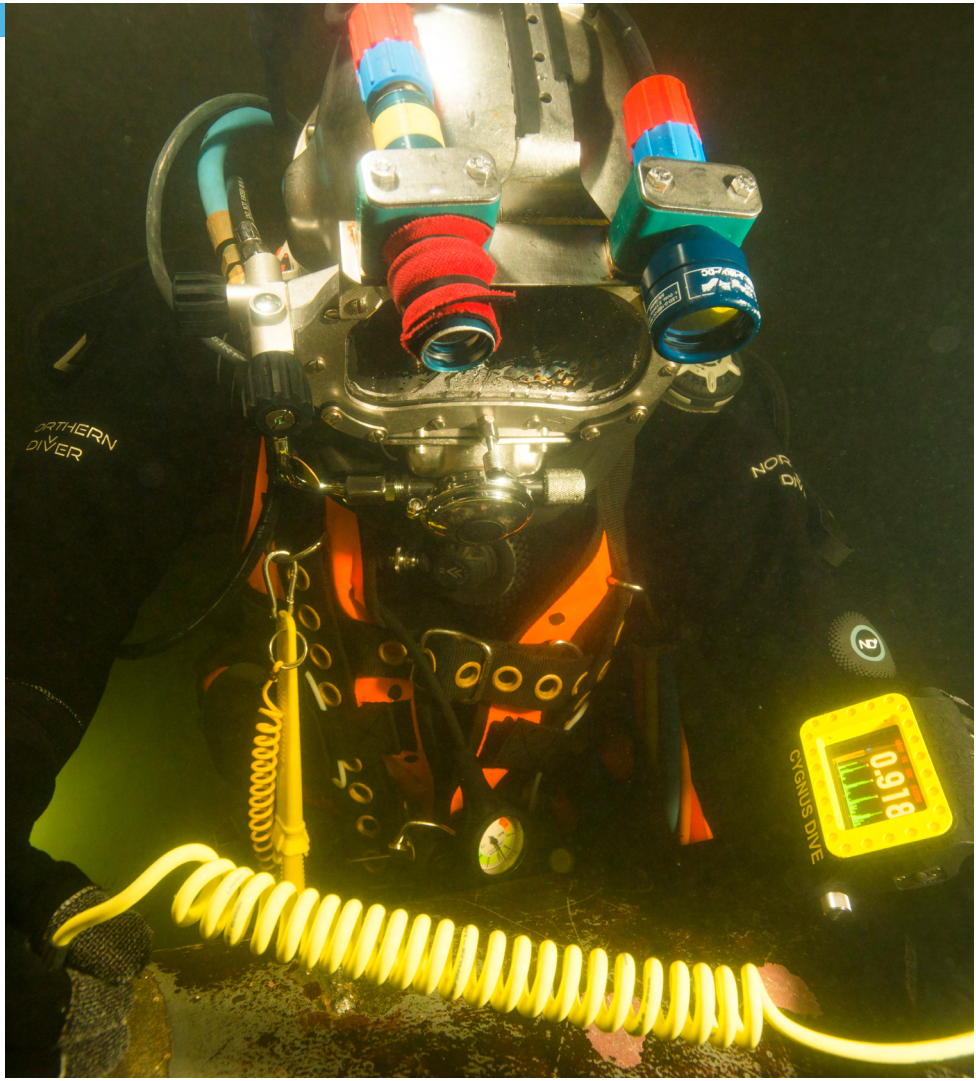


T-Bar Handle



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Call our team today on +44 (0) 1305 265 533 for expert product advice



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