GUIDED ULTRASONICS LTD.

Product Catalogue

Unrivalled Instruments. Superior Results.

Guided Ultrasonics Limited (GUL) is the world leading company in the development and manufacture of guided wave inspection and monitoring equipment. Our wide range of products contributes to safe and reliable pipeline operation worldwide.

QSR1®

The QSR1® is GUL's new quantitative short range (QSR) device, incorporating the latest guided wave technology and hardware. The system is designed to semi-automatically scan predefined sections of straight pipelines for corrosion under pipe supports (CUPS). The QSR1® can provide a quantitative measure of the average wall, as well as the remaining wall thickness down to half of the nominal wall thickness.

This inspection system is designed to quantitatively inspect pipes for corrosion under pipe supports (CUPS).

- Lightweight 9 kg / 19.8 lbs
- Robust Design
- Battery Operation
- High Speed Data Acquisition
- 7" LCD Touch Screen
- Operator Identification
- Automated Scanning
- Extended Frequency Range
- Built-In GPS

Basic Features:

Base

This instrument is suitable for motorised guided wave scanning on pre-defined sections of straight pipelines, with the added compatibility to operate with GUL's cloud-based platform.

Additional software licenses can be added on.

Supplied With:

- Software Licence
- Mains Charger
- USB Cable

Optional:

- Laptop computer
- In-car charger
- Warranty Extension Options
- LAN cable adapter

Wavemaker® G4mini

The latest Wavemaker® G4mini offers all of the traditional Wavemaker® features and some new ones in a small (22 x 30 x 13cm) and lightweight package. It also has the boost function (400V peak-to-peak) for maximum energy transfer into the pipes and boasts a 12 hour battery life.

- Lightweight 4.5 kg / 9.9 lbs
- Internal & Hot Swap Battery
- On Board Diagnostics
- High Speed Data Acquisition
- 7" LCD Touch Screen
- Operator Identification
- 16 Data Channels
- Extended Frequency Range
- Built-In GPS

Available Models:

Base

Entry level instrument that is compatible with the EFC, Solid and Compact® rings.

Additional software licenses can be added on.

Full

Fully loaded instrument which can be used with all pipe and tube transduction systems produced by GUL.

Additional software licenses can be added on.

GC

Instrument for automatic gPIMS® data collection which can be used by operators with minimal training.

Additional software licenses cannot be added.

Supplied With:

- WavePro Licence
- 2 x 2m Lemo Cables
- USB Cable
- Mains Charger
- Soft Bag

Optional:

- Laptop computer with pre-installed WavePro™
- Software modules for G4mini Base
- Wide range of LEMO cables
- EFC Processing Licence
- In-car charger
- Absolute Calibration Software
- Warranty Extension Options
- LAN cable adapter

Wavemaker® G4

The Wavemaker® G4 builds upon the proven success of the Wavemaker® G3. It contains 32 transducer channels for interfacing with all of GUL's transduction systems. It also contains a range of peripherals to ensure quality guided wave data is collected quickly and efficiently.

- Fast Ethernet Collection
- 7" LCD Touch Screen
- Wireless Capabilities
- 32 Data Channels
- Extended Frequency Range
- Built-In GPS
- On Board Diagnostics
- Internal & Hot Swap Battery
- Boost Function (400V peak-to-peak)

Available Models:

G4-LF

This instrument is suitable for all standard frequency pipe and rail applications.

Additional software licenses can be added on.

G4-LF+MF

This instrument has all the functionalities of the Wavemaker® G4-LF and capabilities for high frequency applications.

Additional software licenses can be added on.

Supplied With:

- WavePro Licence
- 2 x 3m Lemo Cables[1]
- USB Cable
- Mains Charger
- Soft Bag
- Ethernet Cable

Optional:

- Laptop computer with pre-installed WavePro™
- Wide range of LEMO cables
- EFC Processing Licence
- In-car charger
- Absolute Calibration Software
- Warranty Extension Options

[1] 1 x Straight, 1x 90° angled connector

WavePro4™ Software

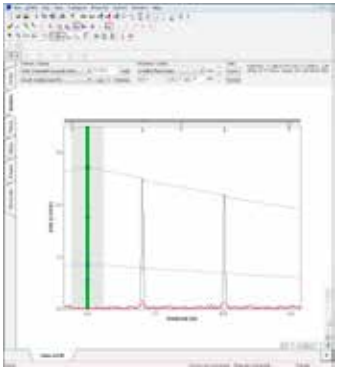
The WavePro4™ guided wave analysis software runs on a Windows based operating system and interfaces with the Wavemaker® G4 and G4mini instrument.

The software assists with the collection of data, the validation and analysis of the data, and the reporting of the results. Its many features simplify and speed up the inspectors tasks while exploiting the full potential of guided wave screening, using GUL's large variety of transduction systems. The software continues to evolve to bring new features that enhance the capabilities of guided wave screening.

A perpetual licence for use of the software is included in the price of the Wavemaker® G4 & G4mini.

- Windows XP, 7, 8 & 10
- User Friendly
- Multiple Connection Interface Option
- Rapid Data Processing
- Quick Schematic
- Report Generator
- Seamless Frequency Sweeping
- Advanced Data Quality Checks
- Routine Software Updates

Basic Features



Amplitude Scan (A-Scan)

The main features of the A-Scan are the Distance-Amplitude Correction (DAC) curves, symmetric (black) signals and the non-symmetric (red) signals.

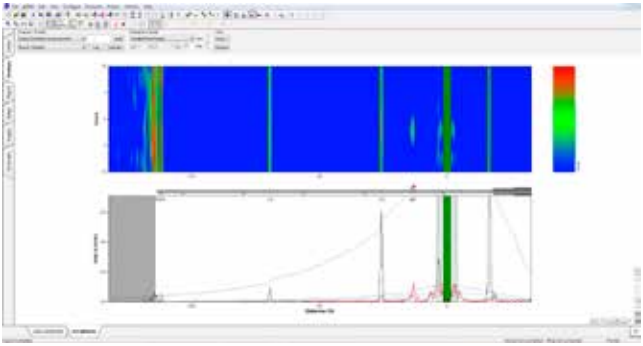
These features provide information about the type of features or defects, including their location along the inspected pipe length and an estimated cross-sectional change.

Report Generator

Once the data has been analysed by a trained inspector, the data can be automatically compiled into a single report which would include the A-scans, reflection annotations and operator notes.

The report can be output to either PDF, Word Document or Excel Spreadsheet format for flexibility.

EFC Processing Licence



Unrolled Pipe Display (C-Scan)

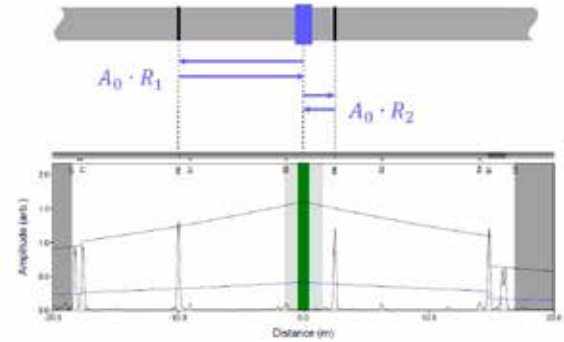
Enhanced Focusing Capability (EFC) Processing Licence activates the advanced post-processing data analysis which involves generating a digital image of the unrolled pipe (C-Scan).Through the C-Scan, the defects and pipe features can be easily located, including their orientation around the pipe circumference. The C-Scan is most effective when used with GUL's newer transducer rings. The example in the figure above demonstrates how a defect can be easily visualised and located on the pipe using the C-Scan.

Wavemaker®
G3 / G4 / G4mini

Synthetic Focusing

Orientation of Features

Absolute Calibration Licence



A-Scan with Absolute Calibration & Simulated Reverberation

The absolute calibration licence activates the processing functionality required for automatic amplitude calibration and reverberation simulation. It calculates the DAC amplitude levels, resulting in accurate assessment of indications. The software checks whether absolute calibration is valid for a given guided wave result. The simulated reverberation feature will also assist our operators with the identification of false echoes through the use of advanced signal processing.

Wavemaker® G4 / G4mini

Amplitude Calibration

Simulation of
Reverberation echoes

gPIMS®

Corrosion Monitoring System

In many situations, the cost of accessing a pipe is much higher than the cost of inspection. This access cost can make repeat inspections with removable rings prohibitively expensive. The environmentally robust gPIMS® range of sensors has been developed to be easily bonded onto the pipe, sealed and then left in place. A cable connects the gPIMS® sensor to a connection box that can be located in a convenient, easy to access location.

By performing repeat inspections and comparing the results to previous inspections, operators can monitor for any change in the condition of the pipe. Frequent data collection significantly improves sensitivity and reduces false call rates compared to conventional guided wave testing.

- Low Profile
- Efficient Installation
- Smart Sensors
- Environmentally Protected
- ATEX / IECEx version available
- Advanced Materials

Available Models:

STD

An 8-channel gPIMS® ring kit for standard applications with up to 50m of cable.

EFC

A 16-channel gPIMS® ring kit with enhanced characteristics for applications in higher consequence areas.

EX

An ATEX/IECEx certified 16-channel gPIMS® ring kit for use in restricted areas where hazardous atmospheres may be present.

Specifications:

	STD	EFC	EX
Number of Channels	8	16	16
Nominal Pipe Size (NPS)	3" to 24"	6" to 48"	6" to 24"
Operating Temperature		-40°C to 90°C -40°F to 194°F	
Radial Clearance		1 inch (25 mm)	
Transduction System Compatibility	Wavemaker® G4 & G4^{mini} (Full, GC)	Wavemaker® G4 & G4^{mini} (Full, GC)	Wavemaker® G4 & G4^{mini} (Full, GC) connected via a certified interface

Compact® EFC Rings

The Compact® ring is the latest addition to the GUL guided wave transduction system which has been designed to be lightweight and low profile. This new system has been completely re-engineered to build on everything that has been done before, while reducing weight by 35%, axial width by 30%, and radial height clearance to under 38mm.

This is an inspection system designed to tackle a wide range of inspection challenges including:

- Bare / Painted Pipes
- Sleeved or Unsleeved Road Crossing Pipes
- Buried Pipes

- Pneumatic Loading
- Ring Joining
- Smart Sensors
- Latest Connector Technology
- Lightweight
- Spring-Lock Latch

Available Transducer Types:

EC-30

2-row transducer modules with 30mm spacing for medium frequency inspection.

EC-42

2-row transducer modules with 42mm spacing for low frequency inspection.

EC-Trio

3-row transducer modules with 42mm and 21mm spacing for inspection across an ultra wide band frequency range without having to swap modules.

Specifications:

	Compact
Number of Channels	16
Nominal Pipe Size (NPS)	6" to 24"
Operating Temperature	-40°C to 150°C -40°F to 302°F
Radial Clearance	1.5 inch (38 mm)
Transduction System Compatibility	Wavemaker® G3, G4 & G4^{mini} (Base, Full)

Solid EFC Rings

The solid transducer rings are typically used for standard screening of pipes with nominal size between 2 and 8 inches in diameter. The rings are attached to the pipe by tightening the two large handles which push the spring loaded transducers onto the pipe to obtain good shear contact.

Standard rings have 2 rows of transducers to transmit torsional wave modes. Customised rings can be specially produced in other sizes or with 4 rows of transducers to allow for inspection using both longitudinal and torsional guided wave modes.

Spring Loaded Transducers

Precision Milled Body

Ergonomic Fastening Handles

Available Models:

LITE

Spring-loaded transducer ring for inspection of pipes up to 6" diameter. Key application areas include:

- Bare / Painted Pipes
- Sleeved / Unsleeved Road Crossing Pipes
- Buried Pipes

HT

Similar to LITE solid ring but specifically designed to inspect higher temperature pipes (< 350°C). Key application areas are the same as the ones listed for LITE rings but also include:

- High Temperature Pipes

Specifications:

	LITE	HT
Number of Channels	8 to 16	8 to 16
Nominal Pipe Size (NPS)	2" to 6"	2" to 8"
Operating Temperature	-40°C to 150°C -40°F to 302°F	-40°C to 350°C -40°F to 662°F
Radial Clearance	3 inch (76 mm)	3 inch (76 mm)
Transduction System Compatibility	Wavemaker® G3, G4 & G4^{mini} (Base, Full)	Wavemaker® G3, G4 & G4^{mini} (Base, Full)

Inflatable EFC Rings

These transducer rings are designed to provide effective inspection capability, particularly for larger diameter pipes. Pneumatic pressure is used to press transducers modules (which are mounted onto this ring) against the pipe wall. These modules are fully interchangeable between inflatable collars of all sizes.

For sizes greater than 24 inch diameter, two smaller inflatable type rings can be linked together as detailed in a specific procedure for joining rings. Non-standard sizes (up to 60 inch) and 8 channel (non-EFC) rings can be produced to special order.

Pneumatic Loading

Ring Joining

Screw-Lock Latch

Available Transducer Types:

Standard

2-row transducer modules with a single fixed spacing for medium frequency inspection. Key application areas include:

- Bare / Painted Pipes
- Sleeved / Unsleeved Road Crossing Pipes

Adjustable

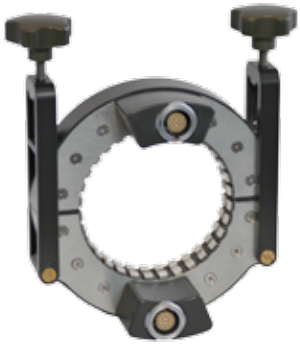
2-row adjustable transducer modules with four transducer spacings to inspect across a wide band of frequency range. Key application areas are the same as the ones listed for Standard transducers but also include:

- Buried Pipes
- Pipes with large numbers of welded supports
- Inspections for Localised Pitting

Specifications:

	EFC
Number of Channels	16
Nominal Pipe Size (NPS)	6" to 36"
Operating Temperature	-40°C to 150°C -40°F to 302°F
Radial Clearance	2.5 inch (63 mm)
Transduction System Compatibility	Wavemaker® G3, G4 & G4^{mini} (Base, Full)

HD Solid Rings



The High Definition (HD) solid ring have EFC performance and utilises the high frequency range available with the Wavemaker® G4 with the medium frequency option (LF+MF option) and G4mini for applications where higher sensitivity and resolution are required. Such applications typically include interface penetrations, supports and localised pitting.

- Spring Loaded Transducers
- Precision Milled Body
- Ergonomic Fastening Handles
- High Frequency Operation Capable
- High Temperature Version Available

Available Models:

HD

Spring-loaded transducer ring for inspection of pipes with up to 6" diameter at a high frequency range. Key application areas include:

- Bare / Painted Pipes
- Sleeved / Unsleeved Road Crossing Pipes
- Buried Pipes
- Pipes with large numbers of welded supports
- Concrete Anchor Supports
- Inspections for Localised Pitting

HD-HT

Similar to HD solid ring but specifically designed to inspect higher temperature pipes (< 350°C). Key application areas include:

- Bare / Painted Pipes
- Sleeved / Unsleeved Road Crossing Pipes
- Buried Pipes
- Pipes with large numbers of welded supports
- Concrete Anchor Supports
- Inspections for Localised Pitting
- High Temperature Pipes

Specifications:

	HD	HD-HT
Number of Channels	8 or 16	8 or 16
Nominal Pipe Size (NPS)	2" to 6"	2" to 6"
Operating Temperature	-40°C to 250°C -40°F to 482°F	-40°C to 350°C -40°F to 662°F
Radial Clearance	2 inch (50 mm)	2 inch (50 mm)
Transduction System Compatibility	Wavemaker® G4 & G4mini (Base, Full)	Wavemaker® G4 & G4mini (Base, Full)

HD Inflatable Rings

The HD inflatable ring has been developed for the same applications as the HD solid ring where higher sensitivity and resolution are required, and pipe sizes are larger than 6 inches.

When mounted with HD transducers, the use of this type of transducer ring requires the Wavemaker® G4 with the medium frequency option (LF+MF option), or the Wavemaker® G4mini.

- Pneumatic Loading
- Ring Joining
- Spring-Lock Latch
- Smart Sensors
- High Frequency Operation Capable
- Enhanced Circumferential Sensitivity

Available Transducer Types:

HD

2-row fixed space transducer modules with four transducers per module to inspect at a high frequency range. Key application areas include:

- Bare / Painted Pipes
- Sleeved or Unsleeved Road Crossing Pipes
- Pipes with large numbers of welded supports
- Concrete Anchor Supports
- Inspections for Localised Pitting

Adjustable

2-row adjustable transducer modules with four transducer spacings to inspect across a wide band of frequency range. Key application areas are the same as the ones listed for Standard transducers but also include:

- Buried Pipes
- Pipes with large numbers of welded supports
- Inspections for Localised Pitting

Specifications:

	HD
Number of Channels	16
Nominal Pipe Size (NPS)	6" to 36"
Operating Temperature	-40°C to 150°C -40°F to 302°F
Radial Clearance	2.5 inch (63 mm)
Transduction System Compatibility	Wavemaker® G4 & G4mini (Base, Full)

HT Inflatable Rings

High Temperature (HT) rings and modules have EFC performance with the added capability of testing pipes operating at up to 350°C provided that the ring is removed from the pipe within 15 minutes of being applied. In order to carry out the guided wave inspection, only a 50 cm (20 inch) wide strip of insulation needs to be removed. No couplant is required.

- Pneumatic Loading
- Ring Joining
- Screw-Lock Latch
- Smart Sensors
- High Temperature Operation

Available Transducer Types:

HT

2-row adjustable transducer modules with two different spacings to inspect across a wide band of frequency range. Key application areas include:

- Bare Pipes
- Painted Pipes
- Sleeved or Unsleeved Road Crossing Pipes
- Buried Pipes
- High Temperature Pipes

Adjustable

2-row adjustable transducer modules with four transducer spacings to inspect across a wide band of frequency range. Key application areas are the same as the ones listed for Standard transducers but also include:

- Buried Pipes
- Pipes with large numbers of welded supports
- Inspections for Localised Pitting

Specifications:

	HT Modules	Adjustable Modules
Number of Channels	16	16
Nominal Pipe Size (NPS)	6" to 36"	6" to 36"
Operating Temperature	-40°C to 350°C -40°F to 662°F	-40°C to 150°C -40°F to 302°F
Radial Clearance	2.5 inch (63 mm)	2.5 inch (63 mm)
Transduction System Compatibility	Wavemaker® G3, G4 & G4^{mini} (Base, Full)	Wavemaker® G3, G4 & G4^{mini} (Base, Full)

Claw Transducers

The extendable small diameter transducer or "Claw" is able to fit between closely spaced tubes where conventional rings cannot fit. There is also a remote access option where the tool head is attached to a 2 metre long extension arm that allows inspection of difficult to access tubes or pipes. Different transducer spacing options are available.

- Spring Loaded Transducers
- Precision CNC Milled Body
- Ergonomic Fastening Handles
- High Frequency Operation Capable
- High Temperature Version Available
- Tube Applications

Available Models:

Claw

Extendable claw transducers suitable for low frequency guided wave inspection of:

- Boiler Tubes
- Heater Tubes
- Furnace Tubes

Claw-HT

Similar to the Claw but specifically designed to inspect higher temperature pipes and tubes (< 350°C). Key application areas include:

- Boiler Tubes
- Heater Tubes
- Furnace Tubes

Specifications:

	Claw	Claw-HT
Number of Channels	8	8
Nominal Pipe Size (NPS)	3/4" to 2.5"	3/4" to 2.5"
Operating Temperature	-40°C to 250°C -40°F to 482°F	-40°C to 350°C -40°F to 662°F
Radial Clearance	1.5 inch (38 mm)	1.5 inch (38 mm)
Transduction System Compatibility	Wavemaker® G3, G4 & G4^{mini} (Base, Full)	Wavemaker® G3, G4 & G4^{mini} (Base, Full)

Low Profile Rings (Slinky)

The ultra low profile ring or "Slinky" was specifically designed to be able to fit around pipes that have a very limited radial clearance, like those commonly found in culverts or pipe racks. Typically less than 25 mm of clearance is required to be able to mount the rings.

Due to their design, the low profile rings cover a smaller pipe size range than the traditional solid rings. The standard low profile rings are configured for API nominal pipe sizes (within an API 5L tolerance).

These ultra low profile transducer rings are suitable for low clearance inspection of:

- Bare / Painted Pipes
- Sleeved Pipes
- Insulated Pipes

Low Profile

Precision Cast Body

Ergonomic Handles

Available Transducer Types:

Green

2-row transducer modules with a single fixed spacing for high frequency inspection.

Blue

2-row transducer modules with a single fixed spacing for medium frequency inspection.

Red

2-row transducer modules with a single fixed spacing for low frequency inspection.

Specifications:

	Slinky
Number of Channels	8 or 16
Nominal Pipe Size (NPS)	2" to 8"
Operating Temperature	-40°C to 120°C -40°F to 248°F
Radial Clearance	1 inch (25 mm)
Transduction System Compatibility	Wavemaker® G3, G4 & G4^{mini} (Base, Full)

T-Scan

T-scan is a guided wave testing transducer system which is deployed on the inner surface of tubes. The T-Scan transducers are compatible with Wavemaker instruments through our specialized TubePro software.

Key applications include the inspection of:

- Air Cooler tubes
- Boiler tubes

Pneumatic Loading

Precision CNC Milled Body

Tube Applications

Principle of Operation:

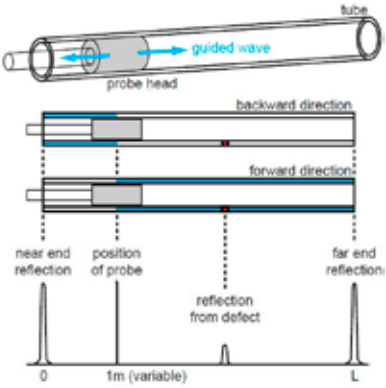


Figure 1: T-Scan principle of operation.

Guided waves are excited using an internal transducer probe at a single position near one end. These propagate in both directions along the entire length L of the tube. T-SCAN then detects reflections from defective areas (see Fig. 1). Since guided waves occupy the entire cross-section of the tube, 100% of the tube is inspected. The probe head consists of an array of transducers, which are dry-coupled to the inside wall of the tube through a pneumatic system, and is compatible with the Wavemaker instrument.

Specifications:

	T-Scan
Number of Channels	8 or 16
Nominal Pipe Size (NPS)	1.5" to 3"
Operating Temperature	-40°C to 120°C -40°F to 248°F
Transduction System Compatibility	Wavemaker® G3, G4 & G4mini (Base, Full)

G-SCAN

The G-Scan is a long range, rapid rail inspection system which is deployed on rail tracks during normal operation. This system uses low frequency guided waves which can travel along the rail and detect defects, such as corrosion, at any location throughout the section including the foot of the rail. The G-Scan is only compatible with the Wavemaker® G4 (32 channels required).

The G-Scan is ideally suited for low frequency guided wave inspection of:

- Level crossings
- Tunnels
- General rail screening
- Rail welds of all kinds

Principle of Operation:

A structure can support many guided wave modes at any given frequency. Each mode carries the guided wave energy in different parts of the rail cross section. Using several modes simultaneously, the entire rail cross section can be inspected in a single test. In addition, by examining which mode is reflected from a defect, it is possible to determine in what part of the rail cross section the defect is located.

Figure 1: Example of guided wave mode shapes with energy concentrated in the foot (left) and web (right) of the rail respectively.

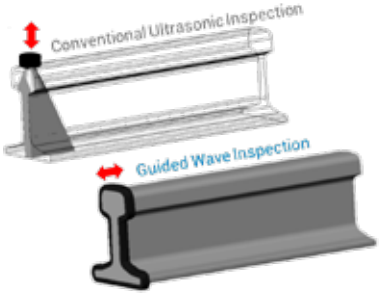


Figure 2: Unlike conventional ultrasonic inspection, guided waves provide 100% volumetric inspection and can inspect tens of metres in a single test.

Specifications:

	G-Scan
Number of Channels	26
Available Rail Sizes	CEN60, CEN56, CEN 54, CEN50
Operating Temperature	-40°C to 120°C -40°F to 248°F
Transduction System Compatibility	Wavemaker® G4

Sub-Sea GWT

With the experience gained from many inspections in both the North Sea and the Gulf of Mexico, GUL's Sub-Sea GWT equipment has evolved into a reliable modular system.

GUL Sub-Sea rings are easily adjusted to fit different pipe sizes, and are available for both ROV or diver deployment.

The advantages of using the Sub-Sea rings include:

- Screening unpiggable sections of line for internal or external corrosion/erosion.
- Screening under weight coat and insulation with minimal cleaning and excavation.
- On-site analysis allows the ROV to perform follow up indications.

Available Deployment Types:

ROV Deployed

A Subsea G4^{mini} is mounted on the ROV. A hydraulic connection is used for opening and closing the ring. The test is carried out from the ROV control room.

Diver Deployed

The test is controlled via an umbilical from a topside interface box to the Wavemaker instrument. The rings are installed on a clean section of pipe by 1 or 2 divers using a mechanical clamping mechanism.

Specifications:

	ROV	Diver
Number of Channels	12	12
Nominal Pipe Size (NPS)	6" to 10"	4" to 26"
Operating Depth (below sea level)	Down to 3,000 msw	Any diver depth
Transduction System Compatibility	Wavemaker® Subsea G4^{mini} only	Wavemaker® G3 & G4 (< 50m depth) Subsea G4^{mini} (> 50m depth)

GUL TRAINING

GWT Training & Qualifications

Level 1 Pipe

Suitable for NDT inspectors new to the field of Guided Wave Testing (GWT) (40 hours).

Course Content:
- Level 1 guided wave theory
- Introduction to Wavemaker® system
- Introduction to WavePro™ software
- Selection of test parameters
- Basic data interpretation
- Basic reporting

Requirements:
- Experienced Level 2 UT technician, or
- Degree or HNC in a technical subject

Level 2 SP

Advanced application specific training course for the inspection of supports and process pipework (40 hours).

Course Content:
- Advanced equipment configuration
- Advanced data collection
- Advanced calibration
- Inspection of supports
- Inspection of welds & pipe fittings
- Detailed review of Level 1 work

Requirements:
- Level 1 Pipe qualification
- 6 months of on-site experience

Level 2 XB

Advanced application specific training course for the inspection of road crossings and buried pipes (40 hours).

Course Content:
- Advanced data interpretation
- Advanced data collection protocols
- GWT of buried pipes
- GWT of pipes under road crossings
- Pitch & catch configuration
- Combining transducer rings

Requirements:
- Level 1 Pipe qualification
- 6 months of on-site experience

GUL TRAINING

Level 2 PM

Advanced application specific training course for the installation of the gPIMS® corrosion monitoring system (32 hours).

Course Content:

- Introduction to gPIMS®
- Guided wave monitoring
- Installation of gPIMS®
- Practical session

Requirements:

- Level 1 Pipe qualification
- 6 months of on-site experience

GUL Facility

Indoor Laboratory

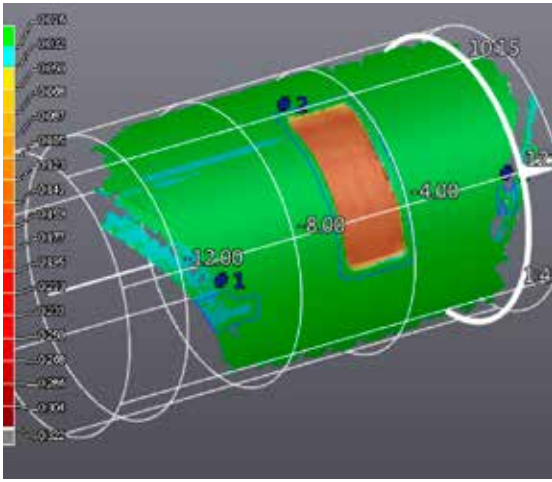
Experience a more hands-on approach in our training courses with access to our state-of-the-art guided wave testing equipment and over 40 pipe samples of different sizes.

Dedicated Classroom

Our spacious and contemporary training room is comfortable and conducive to learning and comes with complementary Wi-Fi access.

International Inspectors

Our rigorous training scheme and examinations are internationally recognised, with over 3,000 qualified inspectors globally and about 50 training courses every year.



Services and Consultancy

Services

GUL operates an equipment rental business to assist our existing clients in the delivery of top quality inspection services. We provide equipment calibration and maintenance services to ensure that our clients' equipment is always performing optimally. Our customers can count on our dedicated team of technicians to provide prompt and competitive equipment repair services.

Consultancy

Our clients can benefit from the extensive experience GUL has gathered in the field of guided waves over decades. Inspection procedure development, signal data review and advanced numerical modelling are among the consultancy services which we can provide. Our many high-profile industry research and development projects have enabled us to confidently handle bespoke customer requirements. Our experts are available to provide on and off-site support around the world.

Cloud-based Services

Trunk® is GUL's latest hybrid cloud-based platform that seamlessly translate guided wave measurements from your plant assets to your desktop or mobile device. It is a secure, scalable, interconnected ecosystem designed to deliver guided wave inspection data management and interpretation as a service. From sensor to boardroom, Trunk® is the industrial edge-to-cloud platform which provides reliable intelligence even in the most rough and rugged environments.

At a Glance

Services

- Rental
- Repairs
- Calibration
- Maintenance

Consultancy

- Data review
- Procedure development
- Modelling
- Bespoke developments
- On and off-site support

Cloud-based Services

- Edge computing
- Data management
- Data interpretation
- Secure data storage
- Powerful analytics
- Audit & Data review

For more information, please visit us at:

www.guided-ultrasonics.com

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