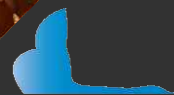


CYGNUS
INSTRUMENTS



Cygnus FMD System

Ultrasonic Flooded Member Detector



CYGNUS *Brilliant Solutions in Ultrasonic Measurement*

Cygnus Ultrasonic Flooded Member Detection System

With over three decades of designing ultrasonic equipment for the offshore and underwater environment, Cygnus fully understands the requirements of the subsea inspection industry.

This entirely new Flooded Member Detector (FMD) combines intelligent, advanced software and electronics with a truly simple to use interface.

The FMD system comprises of three fundamental parts; the probe and probe handler, the subsea electronics unit and the reporting software.



COST EFFECTIVE

The Cygnus FMD System is owner operated and extremely easy to learn and understand.

Due to its simplicity of use, the FMD system can be used by a range of operators, with varying experience, without the need for external contractors.

EASY TO USE

The Cygnus FMD has an innovative probe handling solution which self aligns, ensuring correct contact with the member, even when approached from an angle.

The system also has a contact sensor which will not allow a test to be taken unless the probe is correctly aligned.

The system returns a simple DRY / FLOODED result to the reporting software with results logged at the surface.

RUGGED

Available in high grade acetal or stainless steel for the harshest environments.

The FMD equipment is designed to the highest standards, supported by a three year warranty.

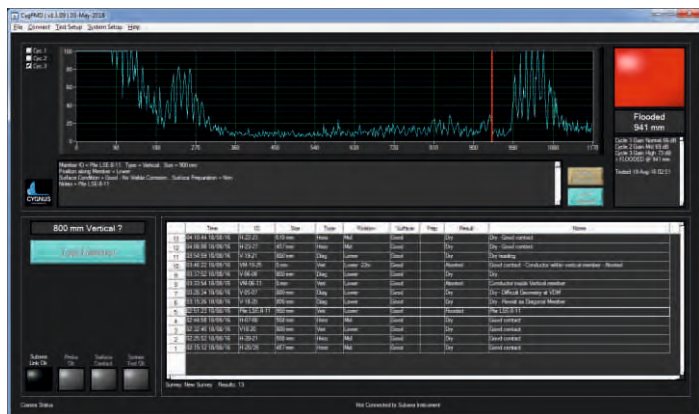
RELIABLE

Cygnus is an ultrasonic specialist. Years of industry experience and design expertise combine to make this system an extremely advanced, effective and reliable Ultrasonic FMD System available.

- The purpose-designed system simultaneously uses
 - advanced signal processing
 - an advanced peak detection algorithm
 - low distortion / low noise data acquisition
 to ensure highest level of confidence and to eliminate false readings.
- The system will only take a measurement when the contact sensor detects probe contact, ensuring reliable results every time. The reporting software will indicate at the surface should the probe lose contact during a test.
- System Test Function ensures the reliability of the system before it is deployed.

FMD REPORTING SOFTWARE

- Used to perform system tests
- Displays test results
- Displays A-Scans for verification
- Indicator shows RED if flooded and GREEN if dry
- Logs results for offline analysis
- Reports can be generated and exported to PDF and Excel.



VERSATILE

The same FMD system is both diver or ROV deployable. Being of a compact design the probe is able to get into to hard to reach areas (e.g. K nodes) where other inspection methods cannot.

A range of versatile options to suit working depths and varying requirements are available:

SYSTEM VERSATILITY



Subsea Unit

- Lightweight Acetal or
- Tough Stainless Steel



Cable Protector

- Provides extra cable protection and an attachment point for divers



Self Aligning Probe Handler

- Self Aligning Probe Handler:
- Lightweight Acetal or
- Tough Stainless Steel



Handle Options

- Diver: Stainless Steel D-Handle
- ROV: Fishtail or T-Bar



Communications PSU

- Provides power and communications to the diver



Umbilical Cable

- 120m length
- 350m length



System Test Tank

- Used to run a full system test of the FMD system

Specification

ULTRASOUND	
Probe	0.5MHz high power piezo composite probe - single element
Measuring Range	200mm to 2500mm member diameter
Resolution	1mm
POWER	
Diver Communications PSU	110-240 AC 50/60 Hz @ 1A (max)
ROV Power Supply	12 to 24 volt D.C @ 60mA
COMMUNICATIONS	
Digital	R232 & RS485
Baud Rate	115,200
Date Capture	On demand 3 shot and varying gain levels
Diver Data Link	RS485 half - duplex
ROV Date Link	RS232 full - duplex suitable for fibre multiplexers
PHYSICAL	
Acetal Electronics Body	0.9kg (diameter 95mm x height 115mm)
Stainless Steel Electronics Body	4kg (diameter 95mm x height 115mm)
Acetal Probe Handler	2.5kg (140mm x 170mm x 130mm)
Stainless Steel Probe Handler	4.7kg (140mm x 170mm x 130mm)
120m Umbilical Cable	23kg (340mm x 450mm x 555mm)
350m Umbilical Cable	87kg (450mm x 600mm x 930mm)
50m Deck Cable	13kg (290mm x 380mm x 490mm)
Depth Rating	300 msw
Temperature Operation	0°C to +75°C
Temperature Storage	-40°C to 55°C

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