



CYGNUS FMD SYSTEM

ULTRASONIC FLOODED
MEMBER DETECTOR



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.

IDEAL FOR
USE IN



UNDERWATER
PIPELINES



CIVIL
ENGINEERING



MARINE
STRUCTURES



OFFSHORE
PLATFORMS



CYGNUS FMD SYSTEM KEY FEATURES

The FMD system comprises three fundamental parts;

REPORTING SOFTWARE

SUBSEA UNIT



PROBE AND PROBE HANDLER

VERSATILE

The 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:



SUBSEA UNIT
LIGHTWEIGHT ACETAL OR TOUGH STAINLESS STEEL



CABLE PROTECTOR
PROVIDES EXTRA CABLE PROTECTION AND AN ATTACHMENT POINT FOR DIVERS



SELF ALIGNING PROBE HANDLER
LIGHTWEIGHT ACETAL OR TOUGH STAINLESS STEEL



SYSTEM TEST TANK
USED TO RUN A FULL SYSTEM TEST OF THE FMD SYSTEM



UMBILICAL CABLE 120M LENGTH OR 350M LENGTH



COMMUNICATIONS PSU
PROVIDES POWER AND COMMUNICATIONS TO THE DIVER



STAINLESS STEEL HANDLE OPTIONS
D-HANDLE FOR DIVERS
FISHTAIL OR T-BAR FOR ROVS

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 boasts:
 - 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, GREEN if dry
- Logs results for offline analysis
- Reports can be generated and exported to PDF and Excel



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CYGNUS FMD SYSTEM

USB Mini B Connector under end cover (other end to connectors). Can be used to update the instrument firmware.

Feature	Description
Power Supply Requirements (Generic)	
Power Supply Input to Electronics Bottle	12-24V supply input @ 60mA (average current) @ 200mA (maximum current)
Power Supply Requirements for Power Supply and Comms Unit (Diver)	
Mains supply	110AC or 230VAC
Connections	
Probe connector	CRE PL-A-09-M. Mates with Bulkhead CRE BR-A-09-F Type 19
Power/Comms connector	MCBH4F
External Power/Comms connector	MCBH6M
General Attributes	
Operating Temperature Range	-10°C to +50°C (14°F to 122°F)
Storage Temperature Range	-10°C to +35°C (14°F to 95°F)
Measurement Ranges	200mm(0.2m) to 2500mm(2.5m), 0.66ft to 6.56ft
Measurement Resolution	1mm
Transmitter	
Pulser Voltage	100V to 400V (adjustable)
Pulse Width	850ns (adjustable)
Damping	470 Ohm
Receiver	
Useable Gain range	0dB to 70dB (adjustable)
Probe	
Centre Frequency	0.5MHz
Technology	Piezo-composite
Pressure Rating	
Electronics Bottle	Tested to 400m
Probe Assembly	Tested to 400m
Other	
Compliance	CE, UKCA, RoHS. Declarations of Conformity supplied with kit.
Dry Weights	
Electronics bottle (stainless steel)	4.87kg
Electronics bottle (acetal)	0.9kg
Probe Holder (stainless steel)	4.5kg max.
Probe Holder (acetal)	1.95kg max.

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