

# 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



**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



GO TO  
PRODUCT  
PAGE



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## 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.

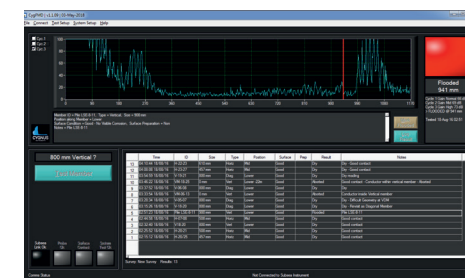
## RELIABLE

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



## CYGNUS FMD SYSTEM

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

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



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*All information provided is subject to change without prior notice.*

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