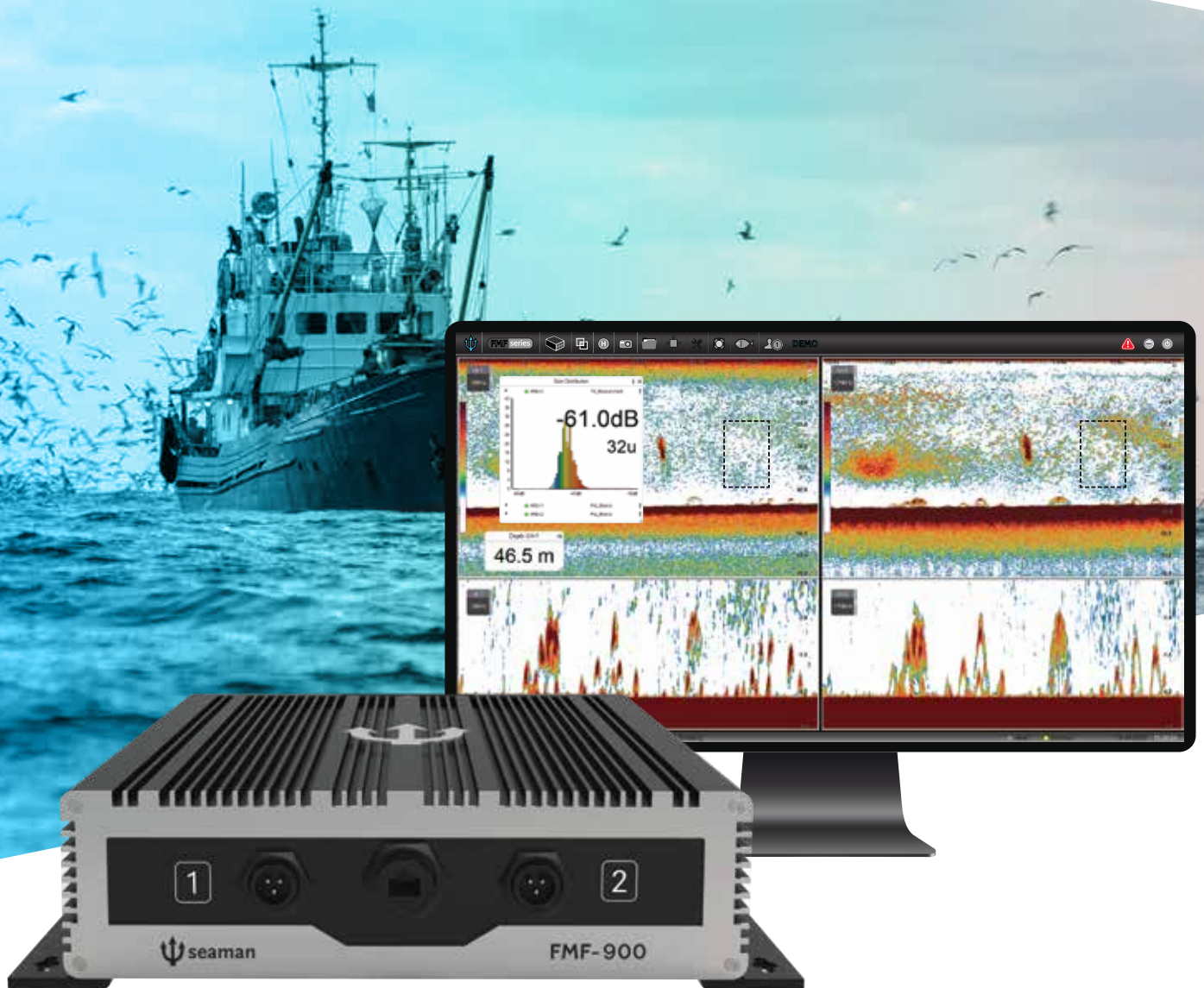




FMF-900

DIGITAL BLACKBOX FISHFINDER

Same performance, much simpler!

Introducing the **FMF-900**, a new product in the FMF platform, an echosounder designed to provide solutions with fewer configurations and adjustments. A simple yet powerful tool for the fisherman. Its software enables the use of a much lighter PC, making the system more accessible while maintaining the performance level required by the FMF platform.

This new member of the FMF family is also capable of operating in CW pulse or FM (CHIRP) mode. It features all

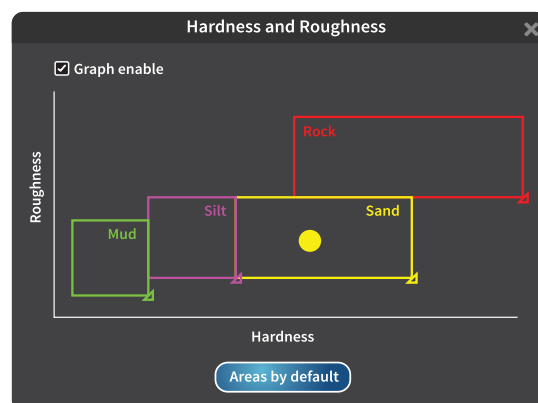
the characteristics of the FMF platform, including fish sizing capability. This unit makes use of a novel technology that combines CHIRP pulse with the simplicity and robustness of **DUAL BEAM** technology.

It also offers the possibility of being interconnected with different charting and navigation systems such as TIME ZERO™ or OLEX™, while also being able to receive data from MARPORT™ sensors.



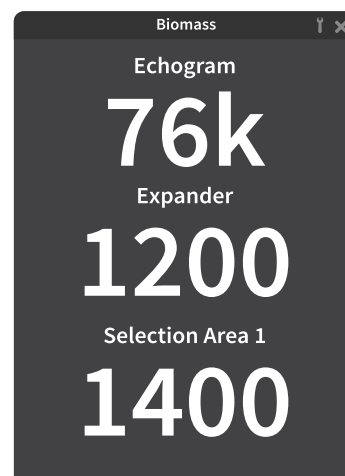
HARDNESS & ROUGHNESS

It's a tool that allows to determine the composition and texture of the seabed. Through bottom signal analysis, the system differentiates between hard and soft substrates, enabling precise real-time seabed classification.



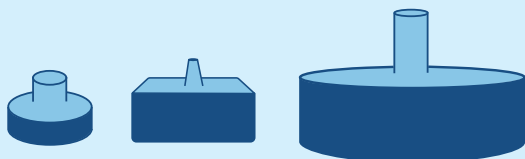
BIOMASS

An indicator that allows estimation of the abundance of organisms present in the water column. This tool is key for identifying fishing areas where it is not possible to visually obtain a target value of fish density. Search time for the species is minimized and the efficiency of each set is maximized.



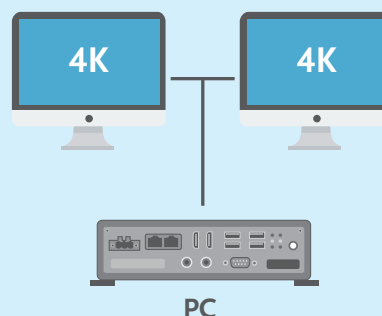
+ legacy

The **FMF-series** system was designed to connect with transducers from different manufacturers, providing unique flexibility. If the vessel already has a transducer installed, our system integrates directly, taking advantage of the existing infrastructure. The FMF Series system performs intelligent diagnostics of the connected transducer, evaluating its electrical condition and performance in real time.



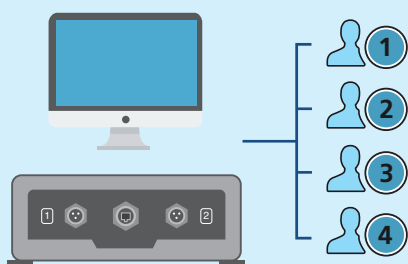
+ resolution

The **FMF-series** system supports resolutions up to 4K, taking echosounder visualization to a higher level. Every detail of the seabed and each fishing mark on the screen is displayed with superior and unprecedented clarity.



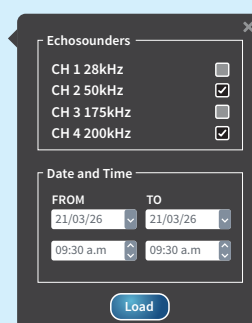
+ user

FMF-series introduces a new user-oriented working environment, which allows different user modes or fishing scenarios. Each user profile defines how the equipment is going to be used according with seasons, fishing gears or any other general setting that is required to be stored in memory for future use. These profiles could be used in any moment during its operation.



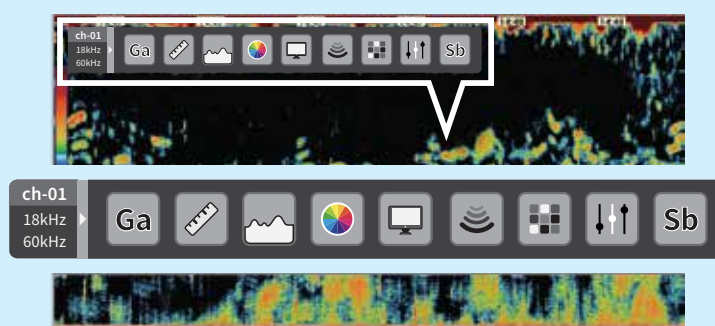
+ history

The user can replay and reprocess all raw data previously recorded and stored in memory. This is of great utility to recreate fishing situations, to confirm capture data and to decide fishing maneuvers. The user can also export and import data, with sharing or storing purpose.



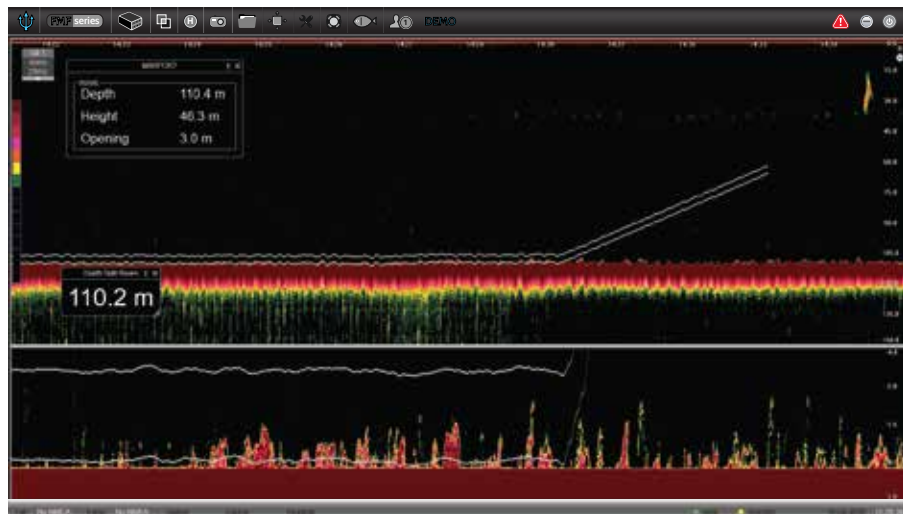
+ friendly

FMF-series features a new user interface, completely renewed, and designed to enhance the user experience by simplifying tasks and shortening steps, using more icons and graphic solutions. User can create different layouts at will, storing them in memory for future use. The new interface introduces floating indicators on screen, designed to show useful information on system parameters.



Compatibility with MARPORT™

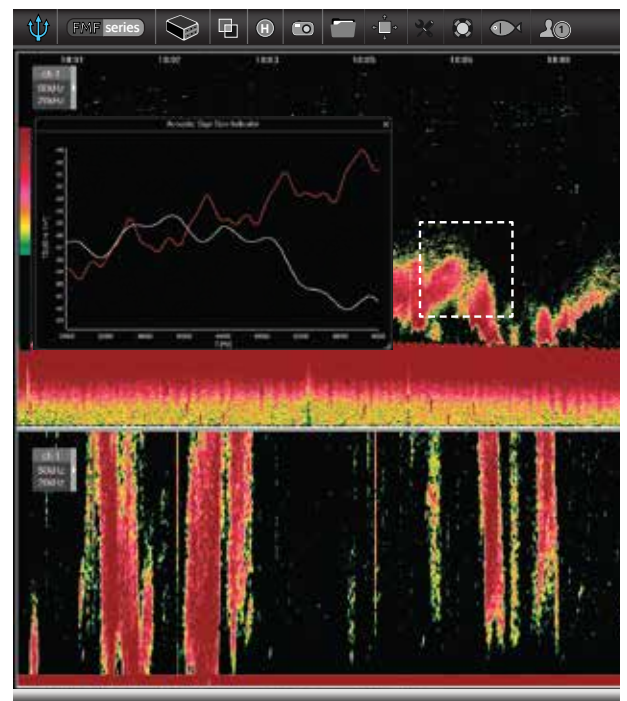
This new system takes advantage of other manufacturer sensors data to merge it with the echogram on the echosounder screen, thus providing new and important information for the fishermen. Combining information coming from **MARPORT™** sensors makes possible to correctly know the door position or the point in which the net is cast. The system can also display the numeric values of door spread, net opening, water temperature at sensors depth and all other data that **MARPORT™** offers to export. A unique feature of this echosounder, displays the sensor position and the net opening, when a net echosounder is installed. Also compatible with Mid-water trawling and Purse Seine fishing.



+ Acoustic Sign artificial intelligence applied to selectivity

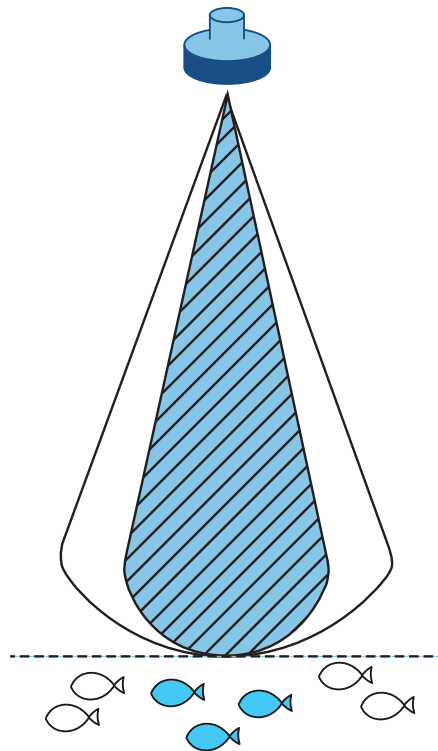
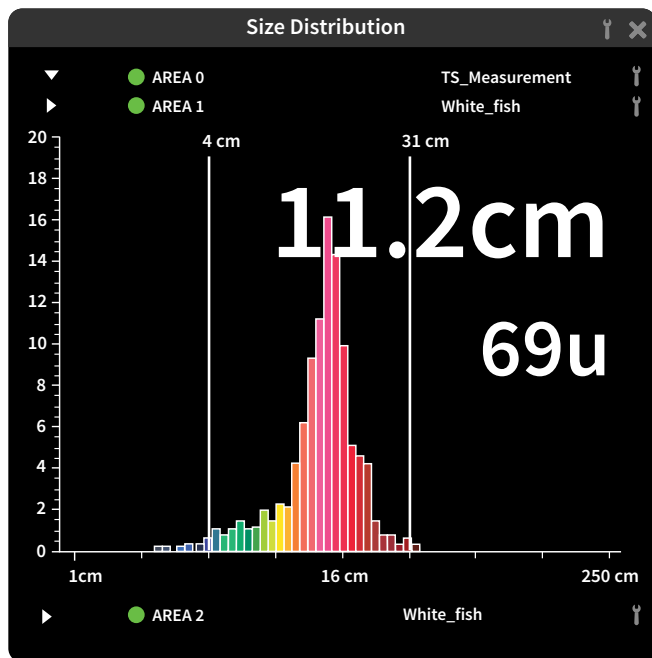
All objects detected by an echosounder return different responses depending on their shape and density. Thus, certain fish respond with high intensity at a given frequency, while others are barely detected. When transmitting and receiving across a range of frequencies (CHIRP), the different frequency responses produce a characteristic curve or signature for each species. This tool helps the operator identify different behavioral patterns. In this way, by combining this information with the echosounder image, environmental data, and personal experience, an experienced operator could identify a target species.

The **+ACOUSTIC SIGN** tool helps the fisherman take advantage of this information by allowing these curves to be stored and labeled as reference patterns to compare with future results.



Fish size measurement tool

DUAL BEAM+CHIRP technology



Dual Beam technology takes advantage of the difference in transducer beam angle at high and low frequencies to determine target strength and calculate the size of measured individuals. Low frequencies have wide beam angles, while high-frequency sound pulses have narrow beams. Using this method, the **FMF-900** selects only those targets located exclusively within the area covered by the narrow beam.

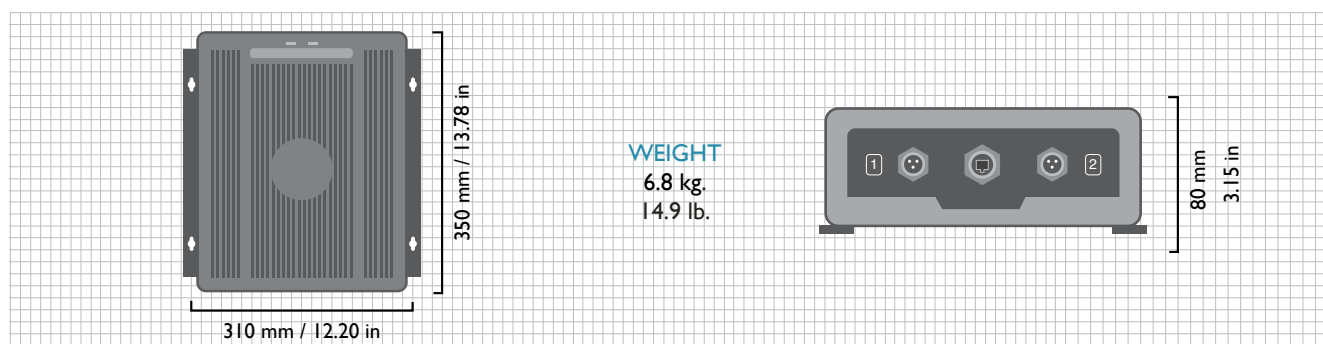
The identified individuals are then measured using the information obtained from the wider sound beam, allowing a more accurate determination of target strength. Applying a target strength formula to convert sound into size makes it possible to display fish size in both centimeters and inches.

The **FMF-900** includes a species database with specific formulas for greater measurement accuracy. The user can create new species if desired, or adjust existing ones to match the particular characteristics of their fishery.

The **Dual Beam** method combined with a broadband **CHIRP pulse**, which has a very high vertical resolution, enables the detection and measurement of a greater number of individuals compared to **CW pulse**. Since size measurement is statistical, the larger the sample, the more accurate the result.

FISH FINDER | specifications & dimensions

PROCESSOR UNIT



■ GENERAL

Operating Frequencies

10-500 kHz

Power

100W-3kW per channel / 25W RMS per channel

Pulse Length

100 μ s – 8ms

■ **DISPLAY**

Display

1920x1080 Full HD up to 3840x2160 4k
UHDV (2 displays)

Display Mode

Day / Night

Range

5m-10000m

Input Trigger

High edge / Low edge

Output Trigger

High edge / Low edge

Language

SPA / ENG / Other.

Others

Water Temperature Graphic / GPS Data
Graphic / Auto Scale / Pitch and Roll
Compensation with internal and external
sensor / Noise level measurement
(active/passive)

■ DATA INTERFACE

Ethernet Cat5e/6

NMEA0183 (v. 1.5, 2.0, 3.0)

UDP

Input: GGA, GLL, RMC, VTG, GGA, ZDA,
PFEC, HDT, Speed log sensor / Marport /
TZ / Olex / Roxxan / Silecmar.

Output: DBT, DPT, RMC, Interface Roxann,
Bio_FMF

■ ENVIRONMENTAL CONDITIONS

Temperature

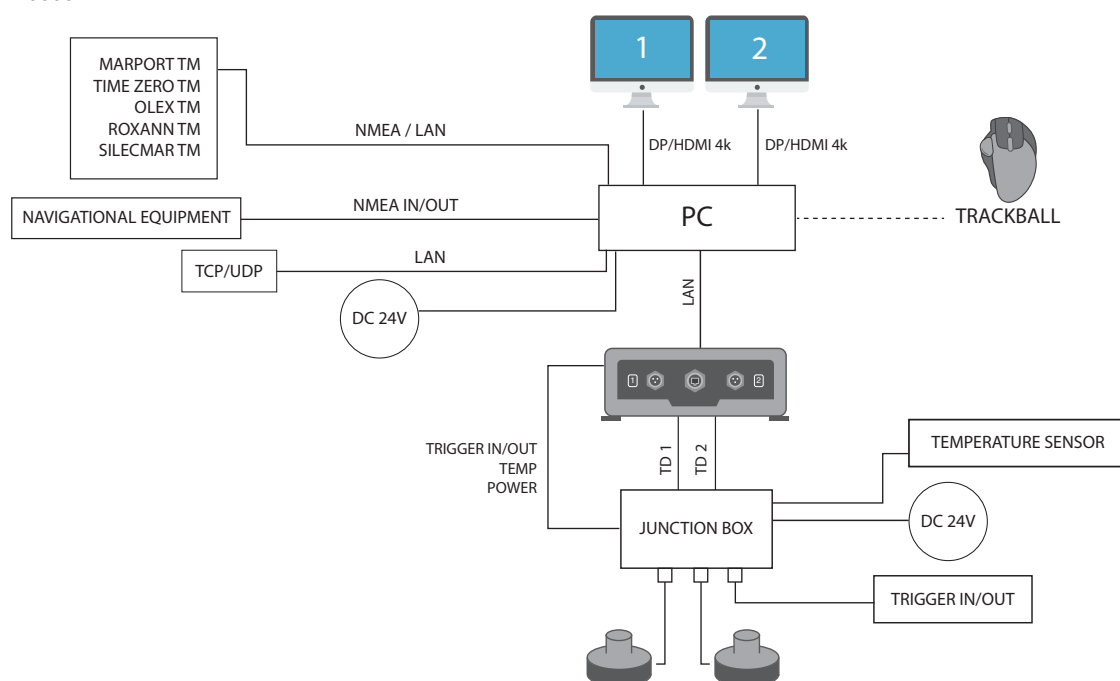
-10°C to 55°C

Humidity

95%

■ POWER SUPPLY

24VDC / 15A



FOR FURTHER INFORMATION, CONTACT:

SEAMAN ELECTRONICS

Gral. Mariano Acha 452
B7603BNJ – Mar del Plata, Bs.As, Argentina.
+54 223 4800978
info@seamanelectronics.com

SEAMAN EUROPA

Rua das Pontes 4, Of. 107-108
36350, Nigran, Pontevedra, España
+34 986 11 41 33
admin@seamaneuropa.com