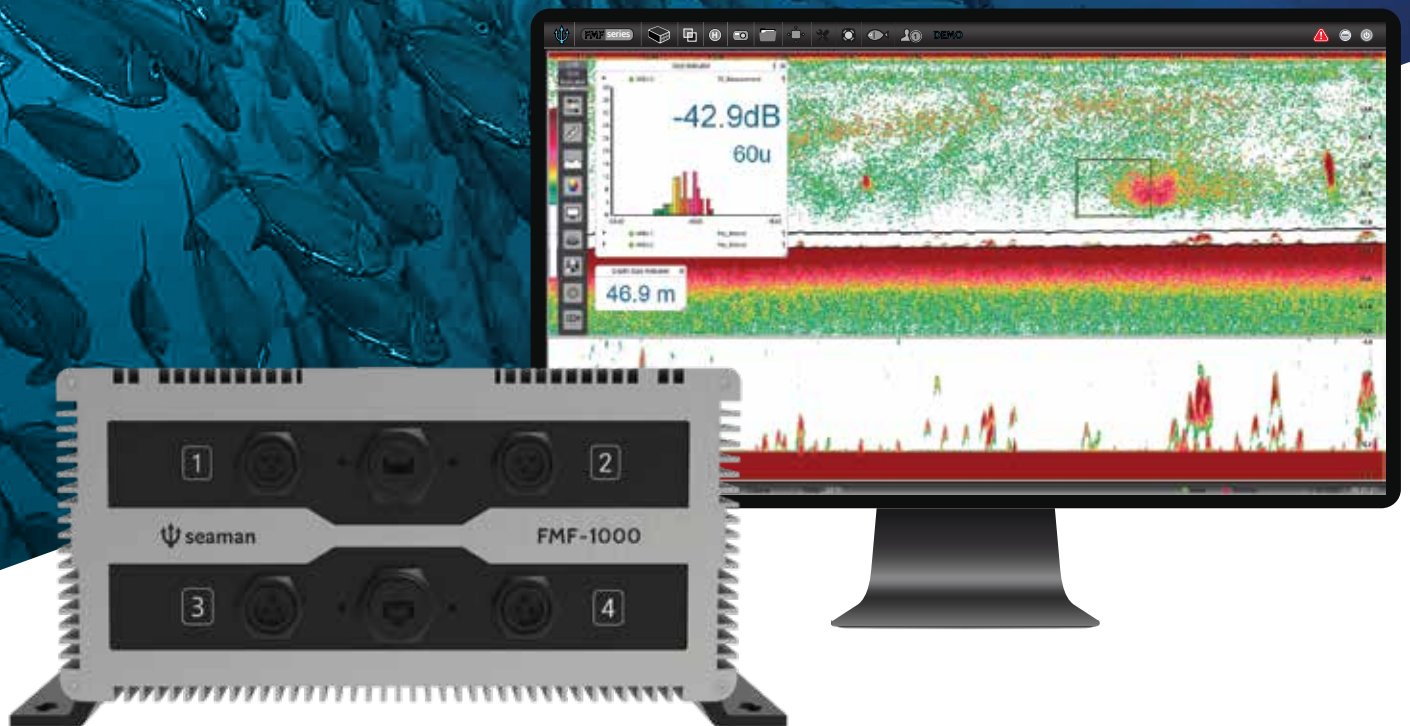




FMF-1000

DIGITAL BLACKBOX FISHFINDER

Improved design for better performance

Introducing the new **FMF-1000** echo sounder, the result of more than **25 years of experience** in developing tools for professional fishing, along with the most advanced technology in underwater acoustics. Advanced engineering and new technologies were applied to develop a new robust and trusted equipment, capable of working under the most extreme conditions.

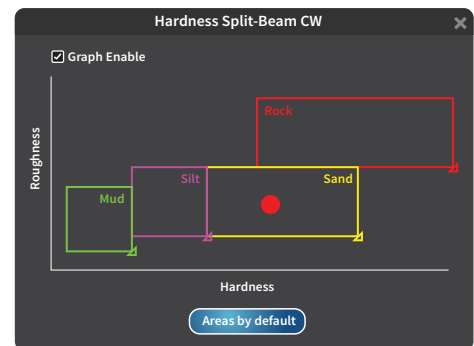
In professional fishing there is no room for failure. The high performance of the **FMF-1000** and its reliability, are based on a

rugged industrial grade computer and a “black box” processing unit ensambled in an aluminum-built enclosure, designed to resist high temperatures, humidity and vibrations.

The **FMF-1000** echo sounder introduces the **PLUS** concept, where every feature of a professional acoustic equipment has been improved and strengthened, with the mind set in the fisherman.

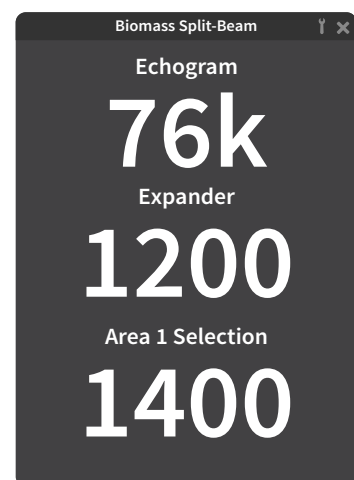
HARDNESS & ROUGHNESS

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.

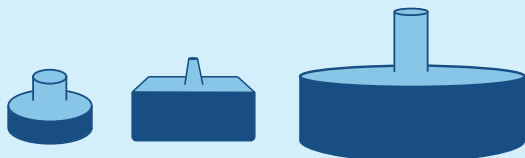


SENSIBILITY

The system's ability to detect very low-intensity echoes. These echoes may correspond to fish with a reduced acoustic response or to organisms located at great depths, where the acoustic signal is significantly attenuated.

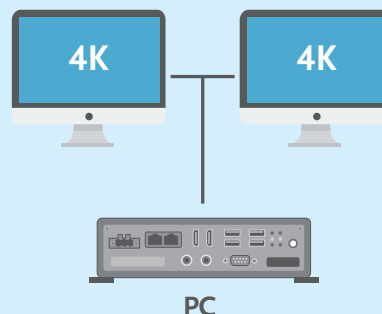
+ legacy

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.



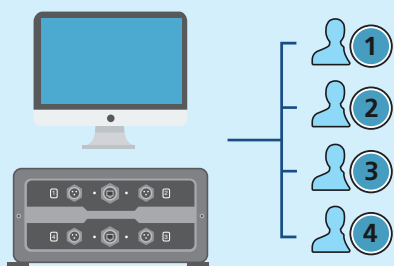
+ resolution

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.



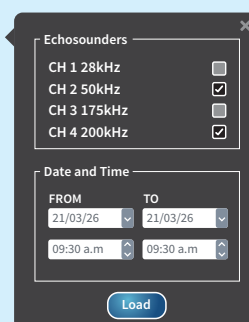
+ user

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.



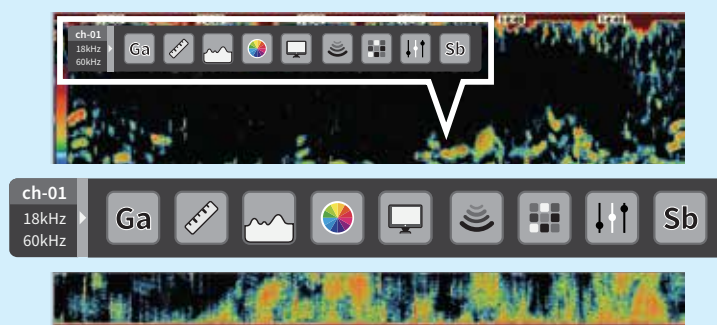
+ history

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.



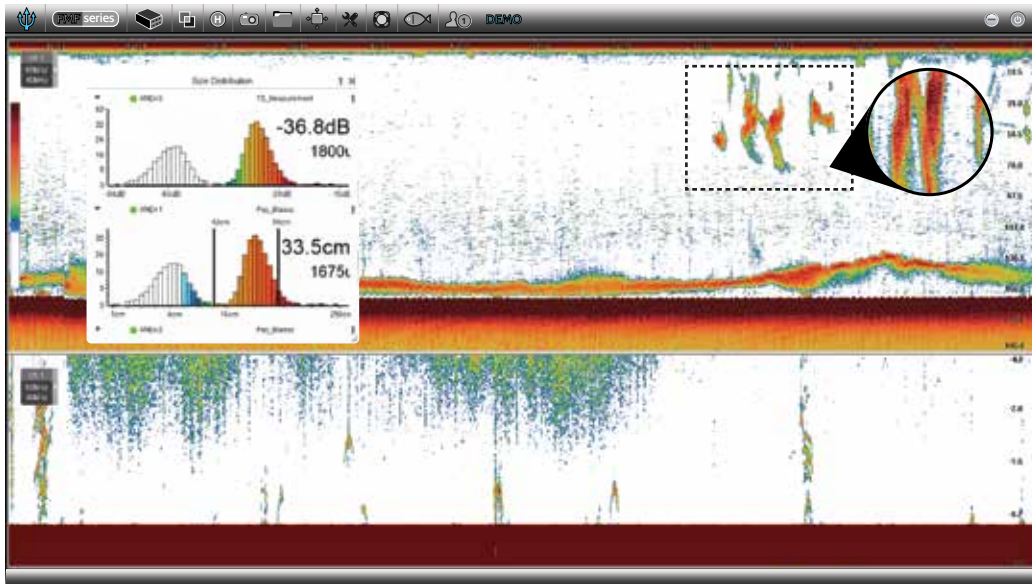
+ friendly

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.



+ Chirp +Split Beam

By combining **SPLIT BEAM technology** with a **CHIRP** pulse, which provides more information and higher resolution, a greater number of measurable echoes can be identified, resulting in improved size statistics. Fisheries such as Purse Seine and Mid-water trawling operations particularly benefit from this enhancement. Our **+CHIRP** concept also incorporates mathematical post-processing tools that help improve performance, especially near the seabed, where these systems are affected by noise. This represents a definitive improvement for Bottom Trawling vessels.

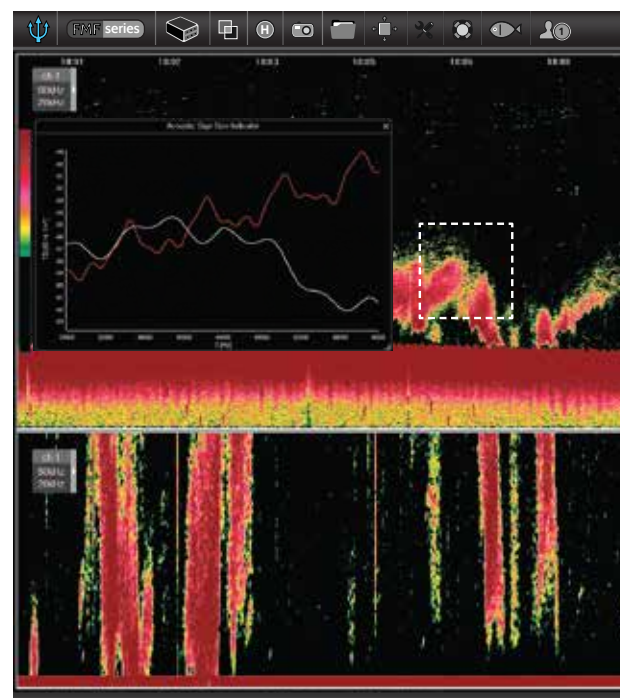


+ Acoustic Sign

artificial intelligence applied to selectivity

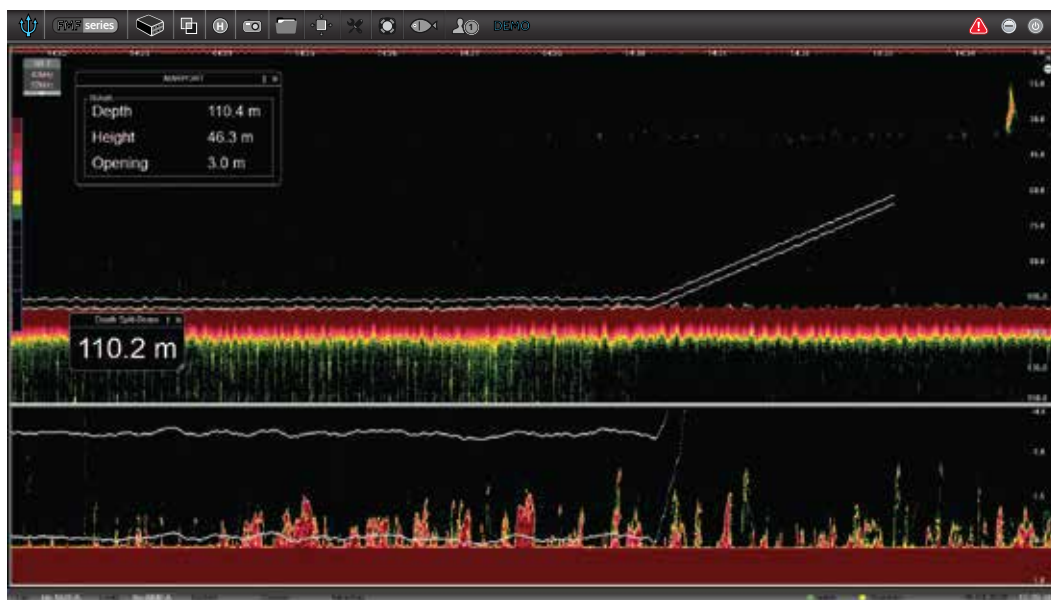
All objects detected by an echosounder return different responses depending on their shape and density. Thus, certain fish respond with high intensity at a given frequency, while others are barely detected. When transmitting and receiving across a range of frequencies (CHIRP), the different frequency 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.

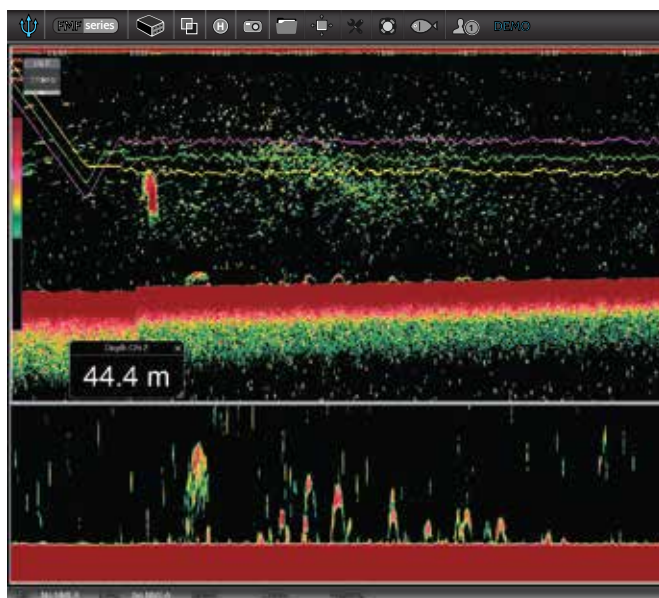


Compatibility with MARPORT™

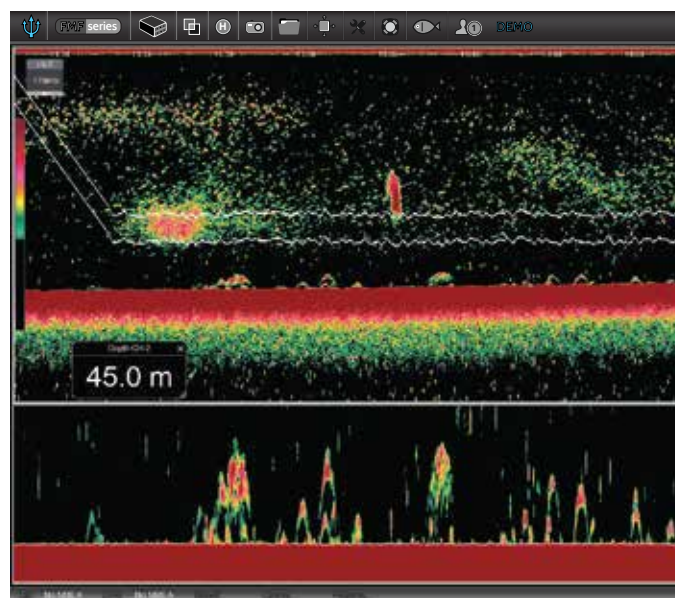
This new system takes advantage of other manufacturer sensors data to merge it with the echogram on the echosounder screen, thus providing new and important information for the fishermen. Combining information coming from **MARPORT™** sensors makes possible to correctly know the door position or the point in which the seine 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.



Bottom trawl



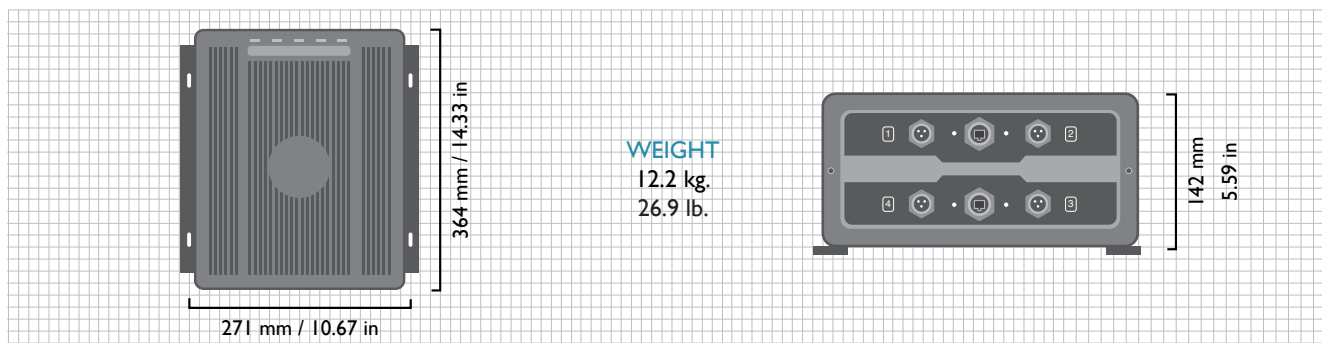
Purse seine fishing



Pelagic trawling

FISH FINDER | specifications & dimensions

PROCESSOR UNIT



■ GENERAL

Operating Frequencies

10-500 kHz

Power

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

Pulse Length

100us – 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)

NMEA0183 (v. 1.5, 2.0, 3.0)

UDP

Input: GGA, GLL, RMC, VTC, GGA, ZDA,
PFEC, HDT, Speed log sensor / Marport /
TZ / Olex / Roxann / Silecmar.
Output: DBT, DPT, RMC, Interface Roxann,
Bio_FMF

■ ENVIRONMENTAL CONDITIONS

Temperature

-10°C to 55°C

Humidity

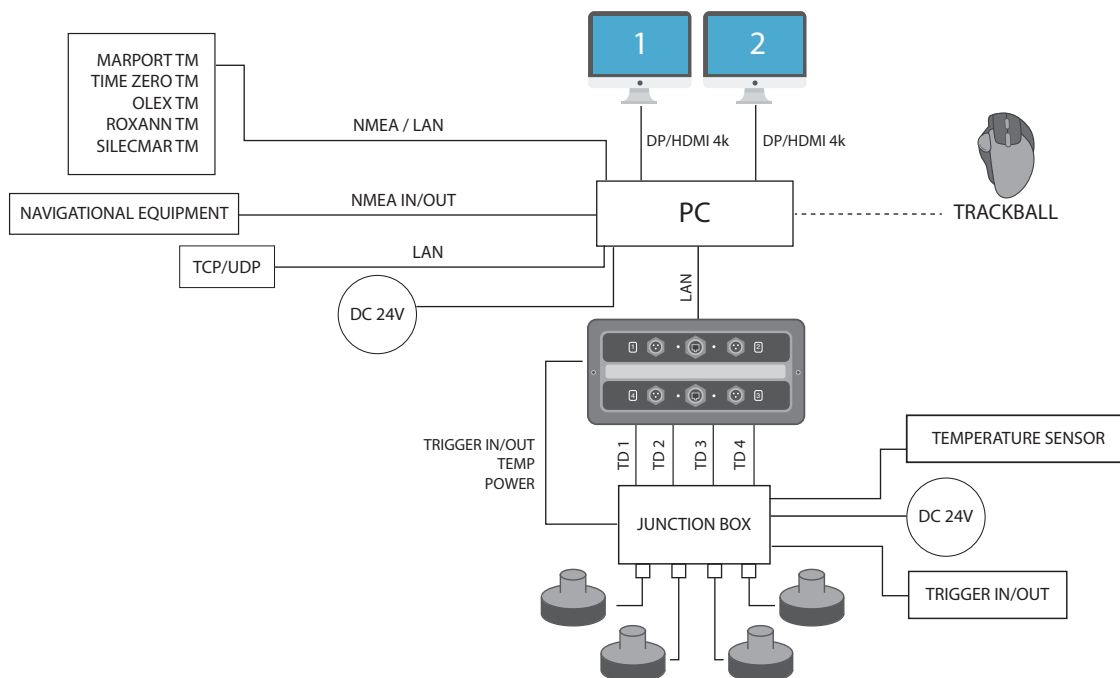
95%

■ POWER SUPPLY

24VDC / 20A

■ DATA INTERFACE

Ethernet Cat5e/6



FOR FURTHER INFORMATION, CONTACT:

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