

# NETWORK MULTI-BEAM SONAR

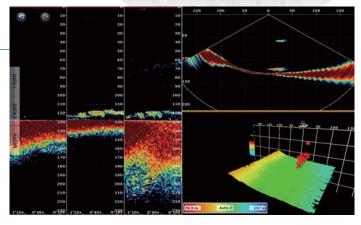


Revolutionary 3D multi-beam sonar utilizing FURUNO's Display deep and wide water columns and seabeds in astonishing high definition detail in real time.

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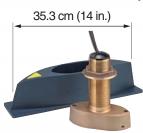
## Visibly see the landscape and fish schools at great depths in amazing detail

Turn your NavNet TZtouch or TZtouch2 MFD into a multi-beam sonar that can see 120-degrees port to starboard, allowing you to see the depth and direction fish schools are moving, while displaying the seabed condition in real time.



Depth: 130 m

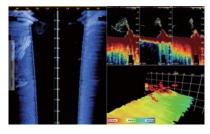
► The compact transducer allows easy installation.



Compact transducer with fairing block

The built-in motion sensor (standard supply) stabilizes the display to give clear and stable images even under rough sea conditions.

- Sidebar detection range is up to 200 m (over 650 ft)\* in a 120-degree swath port and starboard direction.
  \*Depending on bottom, water and installation conditions.
- Deep water, main beam penetration directly under the boat is approx. 300 m (over 980 ft)\*. \* Depending on bottom, water and installation conditions.
- Customize the display according to your needs.



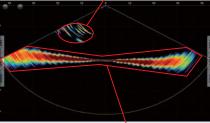
Depending on the situation and preference, a combination of screen modes can be displayed.

# advanced multi-beam technology.

# What is multi-beam sonar?

The DFF-3D is an innovative tool for efficient fish location and seabed profile surveying, utilizing new multi-beam technology. Highly detailed images are derived from the combination of an advanced signal processing system and an amazingly compact multi-beam transducer.



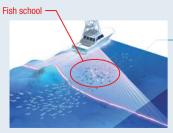


Seabed echo

# **Cross Section**

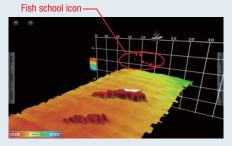
Cross section displays the real-time sea column echo in 120 degrees port and starboard. This mode aids in instantly understanding the distribution of bait fish and the water column condition.



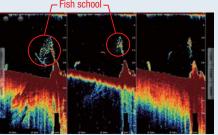


# **3D Sounder History**

The 3D sounder history provides an intuitive and easy to understand 3D image of the seafloor, along with fish school icons. This mode is useful in a variety of situations, such as selecting a fishing hot spot and assessing the seabed condition.



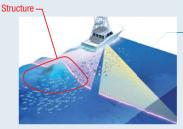
- Fish school



# **Triple/Single Beam Sounder**

A single (directly under boat) or triple direction (middle, left and right) fish finder image are displayed simultaneously. The Triple beam display helps to understand the depth of fish targets and the seabed condition in each direction, as well as the direction the target fish are moving. Each beam angle and beam width are selectable.

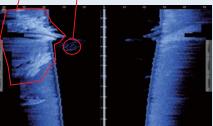




# Side Scan

Side scan clearly displays the shape of structure as a high definition image in port and starboard direction. It is suitable for searching the seabed and understanding the sea floor structure.





### SPECIFICATIONS OF DFF-3D

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GENERAL		INTERCONNECTION DIAGRAM	
TX Frequency	165 kHz		
Output Power	800 W		
Minimum Range	3 m	MAVnet	Manet
Basic Range	5-1200 m	T	MAVnet Touch 2
Detection Range	200 m* (Side Beam Best Performance)	touch	touch
	300 m* (Main Beam Directly Under Boat)		And and a second se
	*Depending on bottom, water and installation.		
Beam Angle for Triple Beam Sounder	20°-50° from right under		
Display Mode	Triple/Single Beam Sounder,		
	Side Scan, Cross Section,		
	3D Sounder History		
INTERFACE	,		
I AN	1 port, Ethernet 10/100Base-TX		
External KP	1 port (optional external KP kit required)		* System version requirement for NavNet series:
ENVIRONMENT			NavNet TZtouch (TZT9/TZT14/TZTBB) version 5.01 or later
	-15°C to + 55°C		NavNet TZtouch2 (TZTL12F/TZTL15F)
Temperature			version 5.01 or later
Relative humidity	93% or less at +40°C		
Waterproofing	IP55		
POWER SUPPLY			
DFF-3D	12-24 VDC, 1.4-0.7 A		
Rectifier (PR-62, option)	100/110/220/230 VAC, 1 phase,		
	50/60Hz		
Equipment List		E	ternal KP
Standard			
Multi-Beam Sonar	DFF-3D	Rectifier	
Transducer	B-54		
Spare Parts, Installation Materi	als		Transducer with
Option		t	emp and motion sensor
External KP Kit			B54
Cable Assembly (2 m/10 m)			
Rectifier	PR-62	AC100/110/ DC12-24V	
		220/230V	
		1Φ, 50/60 Hz	Standard
			Option or Local Supply

#### **PROCESSOR UNIT**

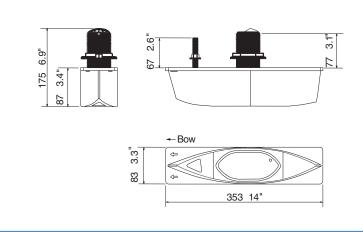
DFF-3D 3.0 kg 6.6 lb

316 12.4<sup>"</sup>

6

#### **Transducer with Fairing Block**

B-54 3.2 kg 7 lb





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120 4.7"

•<u>R3</u> •ø16

2.4" 185 7.3"

60

12 0.47"

6 0.24"

8

FURURIO

348 13.7

380 15"

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE