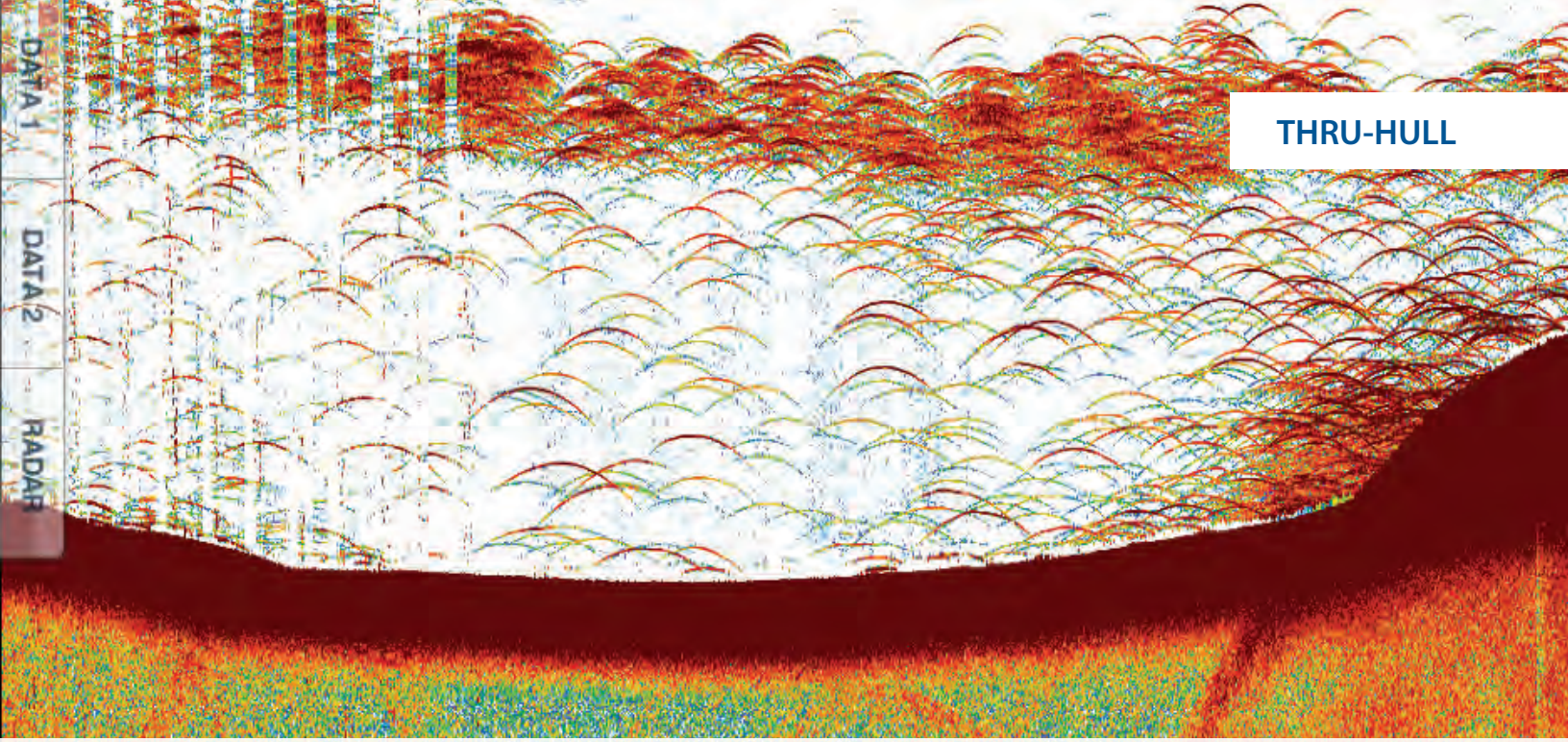


THRU-HULL

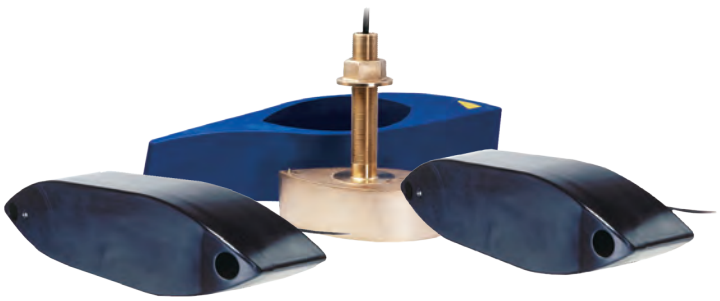
Thru-Hull Chirp Transducers

Unlock the true potential of your fishfinder with the superior quality and performance of an AIRMAR Chirp-ready transducer.

B265LH screenshot courtesy of Furuno

The Benefits of AIRMAR's Chirp-ready Transducers

- One broadband transducer covers up to 140 kHz of bandwidth – greater opportunities to detect fish in the water column
- Superior resolution – precise separation between baitfish and gamefish represented on the display with crisp images
- Enhanced bottom fishing – resolve targets close to the bottom or near structure/wrecks
- Amazing detail – recognize haloclines and thermoclines
- Improved signal to noise ratio – find fish and track bottom at high boat speeds



Benefits of Thru-Hull Transducers with High Performance Fairing

Thru-hull installations provide **best performance** compared with other installation options for many reasons.

- The best performance on vessels 25 feet and up because the transducer face is in "clean" water below the boundary layer (bubbles running down the hull)
- The fairing compensates for hull deadrise and reduces turbulence over the transducer face, which allows tracking at speeds over 30 knots (35 MPH)
- When mounted in clean water (forward of propellers and running gear), thru-hulls produce the most effective signal return since nothing on the vessel interferes with the transducer's active surface

AIRMAR®, DEFINING CHIRP TECHNOLOGY.

AIRMAR® TECHNOLOGY CORPORATION

Why does frequency matter?

Selecting the best frequency for your specific application is very important. The good news is that once you know what frequency will work best for the type of fishing you do, there's an AIRMAR transducer designed to maximize the performance of your sounder.

AIRMAR Chirp transducers are available in various frequency combinations:

- Dual Band:
  - Low/High (LH)
  - Low/Medium (LM)
  - Low/High Wide (LHW)
  - Low Wide/Medium (LWM)
  - Medium Ultra Wide/High Wide
- Single Band:
  - Low
  - Medium
  - Medium Ultra Wide (MW)
  - High
  - High Wide

Low Frequency = Greater Depth (ex. 42-65 kHz)

- Sound waves will not present as clear a picture of the bottom on the display, but will sound down in very deep areas where high frequency sound waves cannot reach
- Provides greater depth range, wider beamwidth, and ultimately more coverage under the boat
- Chirp signal processing technology used with AIRMAR broadband, Chirp-ready transducers provides more detail at greater depths and is less susceptible to noise
- Great for operating at high boat speeds

High Frequency = Greater Detail (ex. 130-210 kHz)

- More sensitive to small targets and will send back detailed information which will display as crisp, high-resolution images on the echosounder screen
- Best for shallower water and popular with anglers fishing at depths less than 1500 feet

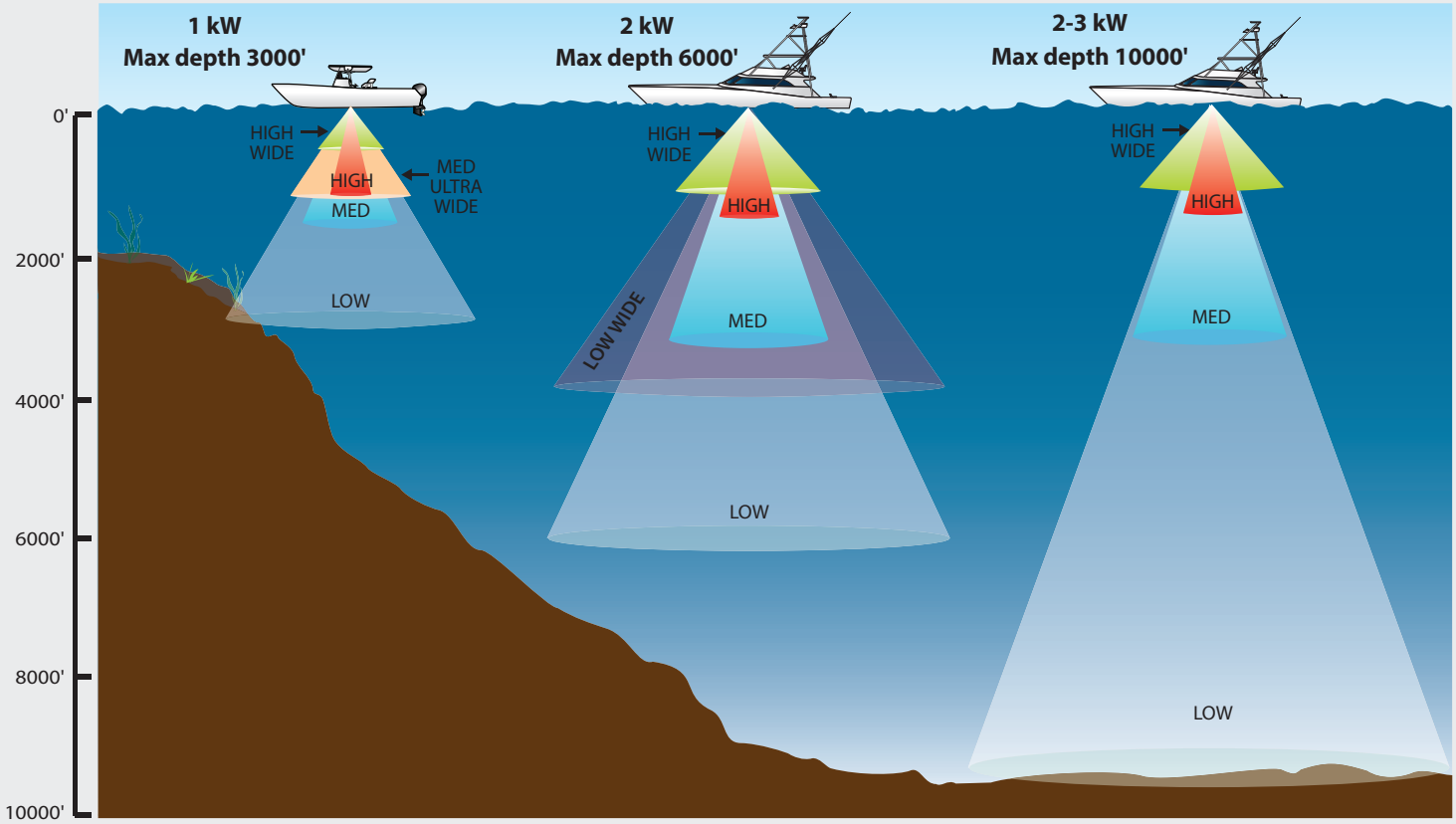
Medium Frequency = The Best of Both Worlds (ex. 80-130 kHz)

- Provides the ability to sound deeper than the high frequency, along with better resolution than the low frequency
- Wider beam than the high frequency, achieving more coverage under the boat and greater opportunity to find fish
- Clear images at higher boat speeds

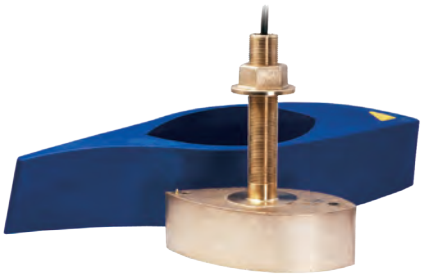
When frequency and beamwidth converge:

Airmar's High frequency wide-beam (HW) chirp and Medium frequency Ultra-wide (MW) chirp transducers provide the performance benefits of each frequency, as detailed above, with the benefit of a wider beamwidth for maximum coverage under the boat.

- Wider beamwidth delivers more coverage under the boat to locate fish in the water column.
- Wider beamwidth does not provide better bottom resolution than High or Medium frequency standard beamwidths.

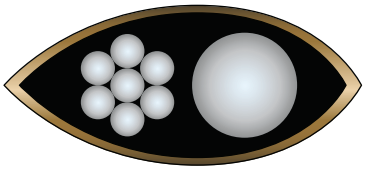


Thru-Hull 1 kW

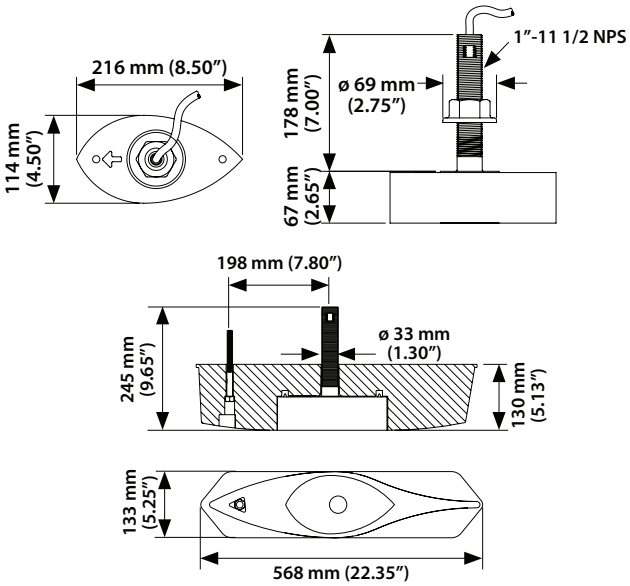


Features:

- Depth & fast-response water-temperature sensor
- Bronze transducer housing with High-Performance Fairing
- Boat Size: 8 m (25') and above
- Hull Type: Fiberglass or wood
- Engine Type: Inboard, Outboard or I/O
- For use on hulls up to 20° deadrise



8-Internal Broadband Ceramic Assemblies



B265LH

Low & High Frequency

- **Low**–42 kHz to 65 kHz
  25° to 16° beamwidth
  Max. depth 914 m (3000')
- **High**–130 kHz to 210 kHz
  10° to 6° beamwidth
  Max. depth 304 m (1000')
- 103 kHz of total bandwidth from one transducer

B265LM

Low & Medium Frequency

- **Low**–42 kHz to 65 kHz
  25° to 16° beamwidth
  Max. depth 914 m (3000')
- **Medium**–85 kHz to 135 kHz
  16° to 11° beamwidth
  Max. depth 457 m (1500')
- 73 kHz of total bandwidth from one transducer

WIDE BEAM

B275LHW

Low & High Freq. Wide-Beam

- **Low**–42 kHz to 65 kHz
  25° to 16° beamwidth
  Max. depth 914 m (3000')
- **High**–150 kHz to 250 kHz
  25° constant beamwidth
  Max. depth 152 m (500')
- 123 kHz of total bandwidth from one transducer

ULTRA WIDE

B275MWHW

Medium Frequency Utra Wide-Beam & High Wide

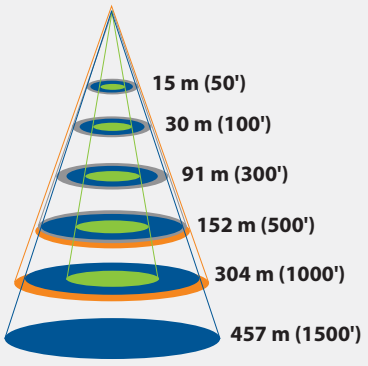
- **Medium**–60 kHz to 100 kHz
  57° to 73° p/s
  ultra-wide beamwidth
  16° average f/a
  Max. depth 396 m (1300')
- **High**–150 kHz to 250 kHz
  25° constant beamwidth
  Max. depth 152 m (500')
- 140 kHz of total bandwidth from one transducer

Bottom Coverage Relative to Frequency and Depth

Depth	Bottom Coverage at Widest Beam			
	B265LH 130 kHz-210 kHz	B265LM 85 kHz-135 kHz	B275LHW 150 kHz-250 kHz	B275MWHW 60 kHz-100 kHz fore/aft X port/starboard
15 m (50')	3 m (10')	4 m (14')	7 m (22')	4 m X 26 m (14' X 74')
30 m (100')	6 m (20')	9 m (28')	13 m (44')	9 m X 45 m (28' X 148')
91 m (300')	16 m (53')	26 m (84')	41 m (134')	26 m X 135 m (84' X 444')
152 m (500')	27 m (88')	42 m (140')	68 m (222')	42 m X 226 m (140' X 740')
304 m (1000')	53 m (174')	85 m (280')	Too Deep	86 m X 451 m (282' X 1480')
457 m (1500')	Too Deep	128 m (420')	Too Deep	Too Deep
609 m (2000')	Too Deep	Too Deep	Too Deep	Too Deep

This chart compares the high and medium ceramic elements inside the transducer, showing the difference in bottom coverage under the boat.

The low frequency in each of these transducer models is the same (42 kHz - 65 kHz).
The maximum depth range sounds to 914 m (3,000').



B265LH – High Frequency
130 kHz-210 kHz

B265LM – Medium Frequency
85 kHz-135 kHz

B275LHW – High Frequency Wide-Beam
150 kHz-250 kHz

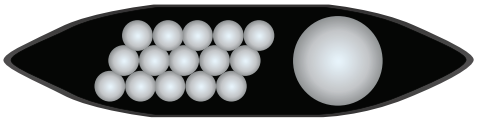
B275MWHW – Medium Frequency Ultra Wide-Beam
150 kHz-250 kHz

Thru-Hull 2 kW

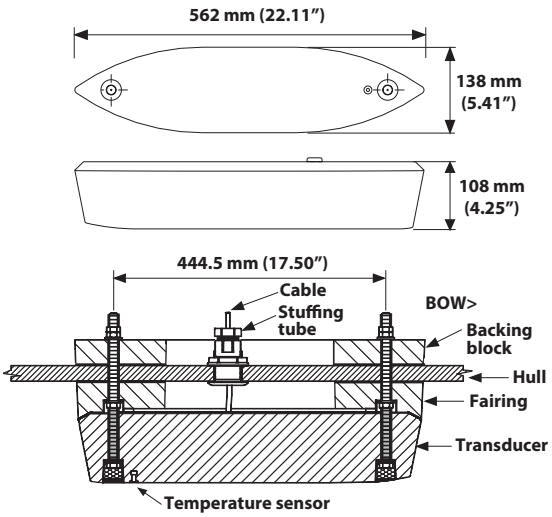


Features:

- Depth & fast-response water-temperature sensor
- Urethane transducer housing with High-Performance Fairing
- Boat Size: 12 m (40') and above
- Hull Type: Fiberglass, wood, or metal
- Engine Type: Inboard, Outboard or I/O
- For use on hulls up to 22° deadrise



16-Internal Broadband Ceramic Assemblies



R109LH

Low & High Frequency

- **Low**–38 kHz to 75 kHz
  19° to 10° port/starboard
  10° to 5° fore-aft beam
  Max. depth 1829 m (6000')
- **High**–130 kHz to 210 kHz
  8° to 4° beam
  Max. depth 457 m (1500')
- 117 kHz of total bandwidth from one transducer

R109LM

Low & Medium Frequency

- **Low**–38 kHz to 75 kHz
  19° to 10° port/starboard
  10° to 5° fore-aft beam
  Max. depth 1829 m (6000')
- **Medium**–80 kHz to 130 kHz
  13° to 8° beam
  Max. depth 914 m (3000')
- 87 kHz of total bandwidth from one transducer

R109LHW

Low & High Frequency Wide-Beam

- **Low**–38 kHz to 75 kHz
  19° to 10° port/starboard
  10° to 5° fore-aft beam
  Max. depth 1829 m (6000')
- **High**–150 kHz to 250 kHz
  25° constant beam
  Max. depth 152 m (500')
- 137 kHz of total bandwidth from one transducer

ULTRA WIDE

R409LWM

Low Frequency Utra Wide-Beam & Medium Frequency

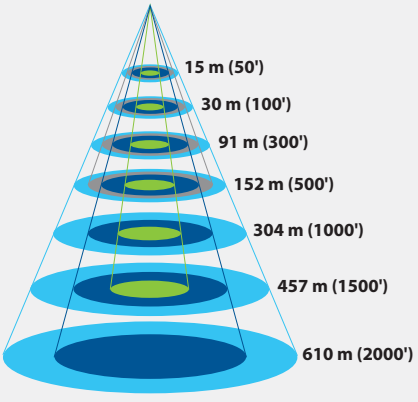
- **Low**–40 kHz to 60 kHz
  40° constant beamwidth
  Max. depth 1219 m (4000')
- **Medium**–80 kHz to 130 kHz
  13° to 8° beam
  Max. depth 914 m (3000')
- 70 kHz of total bandwidth from one transducer

Bottom Coverage Relative to Frequency and Depth

Depth	Bottom Coverage at Widest Beam			
	R109LH 130 kHz-210 kHz	R109LM 80 kHz-130 kHz	R109LHW 150 kHz-250 kHz	R409LWM 40 kHz-60 kHz
15 m (50')	2 m (6')	3 m (10')	7 m (22')	11 m (36')
30 m (100')	4 m (14')	7 m (24')	14 m (46')	22 m (73')
91 m (300')	13 m (42')	21 m (70')	41 m (134')	67 m (220')
152 m (500')	27m (88')	35 m (114')	68 m (222')	111 m (364')
304 m (1000')	43 m (140')	69 m (226')	Too Deep	223 m (730')
457 m (1500')	64 m (210')	104 m (340')	Too Deep	333 m (1092')
609 m (2000')	Too Deep	139 m (456')	Too Deep	444 m (1456')

This chart compares the high and medium ceramic elements inside the transducer, showing the difference in bottom coverage under the boat.

Low frequency in each of these transducers models is the same (38-75 kHz) except the R409LWM. This low frequency can range to 1828 m (6,000').



R109LH – High Frequency
130 kHz-210 kHz

R109LM – Medium Frequency
80 kHz-130 kHz

R109LHW – High Frequency Wide-Beam
150 kHz-250 kHz

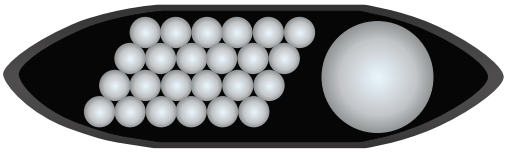
R409LWM – Ultra Wide Low Frequency
40 kHz-60 kHz

Thru-Hull 2-3 kW

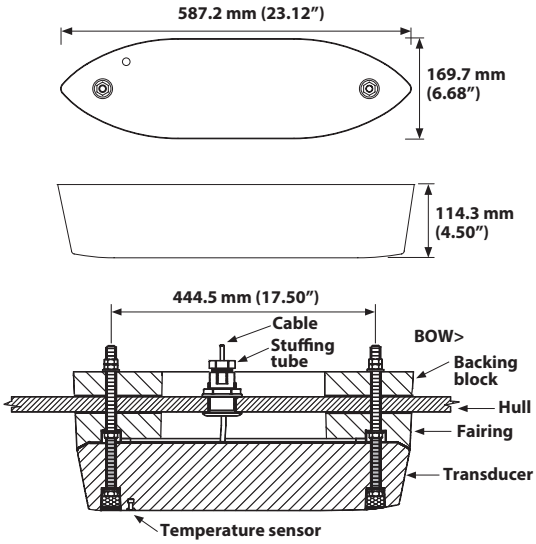


Features:

- Depth & fast-response water-temperature sensor
- Epoxy transducer housing with High-Performance Fairing
- Boat Size: 12 m (40') and above
- Hull Type: Fiberglass, wood, or metal
- Engine Type: Inboard, Outboard or I/O
- For use on hulls up to 25° deadrise



25-Internal Broadband Ceramic Assemblies



R509LH

Low & High Frequency

- **Low**–28 kHz to 60 kHz
  23° to 9° port/starboard
  11° to 5° fore-aft beamwidth
  Max. depth 3048 m (10000')
- **High**–130 kHz to 210 kHz
  8° to 4° beamwidth
  Max. depth 457 m (1500')
- 112 kHz of total bandwidth from one transducer

R509LM

Low & Medium Frequency

- **Low**–28 kHz to 60 kHz
  23° to 9° port/starboard
  11° to 5° fore-aft beamwidth
  Max. depth 3048 m (10000')
- **Medium**–80 kHz to 130 kHz
  13° to 8° beamwidth
  Max. depth 914 m (3000')
- 82 kHz of total bandwidth from one transducer

WIDE BEAM

R509LHW

Low & High Frequency Wide-Beam

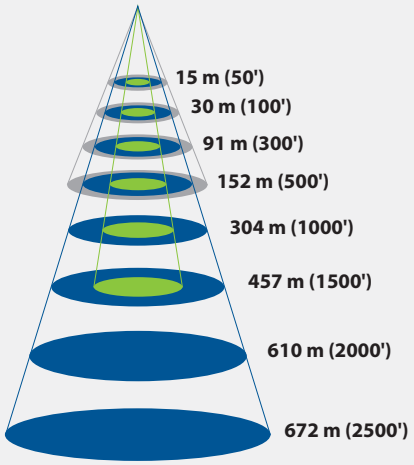
- **Low**–28 kHz to 60 kHz
  23° to 9° port/starboard
  11° to 5° fore-aft beamwidth
  Max. depth 3048 m (10000')
- **High**–150 kHz to 250 kHz
  25° constant beamwidth
  Max. depth 152 m (500')
- 132 kHz of total bandwidth from one transducer

Bottom Coverage Relative to Frequency and Depth

Depth	Bottom Coverage at Widest Beam		
	R509LH 130 kHz-210 kHz	R509LM 80 kHz-130 kHz	R509LHW 150 kHz-250 kHz
15 m (50')	2 m (6')	3 m (10')	6 m (20')
30 m (100')	4 m (14')	7 m (24')	14 m (46')
91 m (300')	13 m (42')	21 m (68')	40 m (132')
152 m (500')	21 m (70')	35 m (114')	68 m (222')
304 m (1000')	43 m (140')	69 m (228')	Too Deep
457 m (1500')	64 m (210')	104 m (340')	Too Deep
609 m (2000')	Too Deep	139 m (456')	Too Deep
762 m (2500')	Too Deep	174 m (570')	Too Deep

This chart compares the high and medium ceramic elements inside the transducer, showing the difference in bottom coverage under the boat.

Low frequency in each of these transducer models is the same (28 kHz - 60 kHz). The maximum depth range sounds to 3048 m (10,000').



R509LH – High Frequency
130 kHz-210 kHz

R509LM – Medium Frequency
80 kHz-130 kHz

R509LHW – High Frequency Wide-Beam
150 kHz-250 kHz

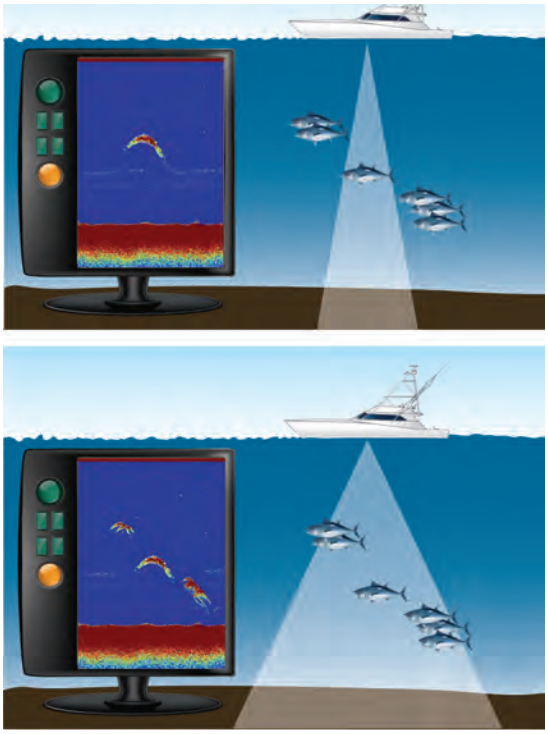
The Chirp Advantage

Traditional sounders operate at only two discrete frequencies – typically 50 kHz and 200 kHz. This results in limited depth range, resolution, and ultimately what targets can be detected in the water column.

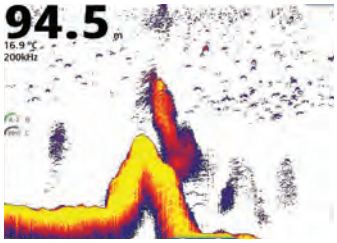
In contrast, AIRMAR's game-changing Chirp-ready transducers provide over 70+ kHz of bandwidth. Transmitting over a wide frequency band results in a greater opportunity to detect what is in the water column. As a result, all targets detected in the entire bandwidth will be seen on the display–even those fish holding close to the bottom–ultimately improving target detection, detail, and range resolution.

Most Chirp transducers vary their beam width as they sweep through their frequency range (low, medium, and high). At the lowest frequency the beam is the widest and it narrows as the frequency increases.

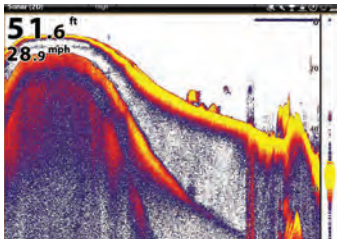
AIRMAR's new wide beam Chirp transducers are the exception to this rule and have a fixed beam width of either 25° or 40° across the frequency band. This translates into even more coverage under the boat, revealing more fish in the water column than ever before.



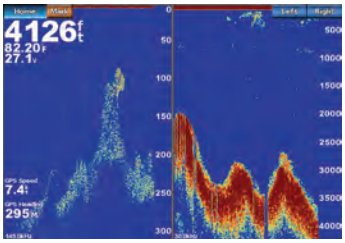
The fish must be in the beam to be represented on the display.



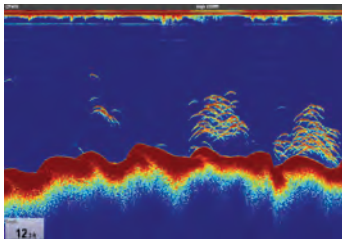
Courtesy of Navico



Courtesy of Humminbird



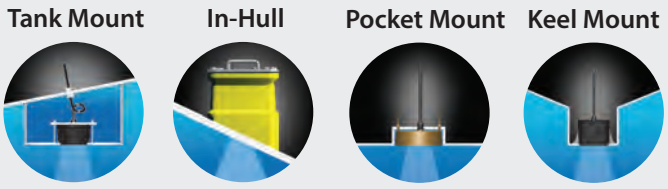
Courtesy of Garmin



Courtesy of Raymarine

Additional Mounting Options

Choosing your mounting option depends on the design of the hull as well as the material it's manufactured with, the boats intended use, and the desired level of performance.



AIRMAR® TECHNOLOGY CORPORATION

Xducer ID CHIRP

broadband

www.airmar.com

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ThruHull Chirp_BR_rN 05/07/25

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