AIRMAR® TECHNOLOGY CORPORATION
An Amphenol Company

Ultrasonic Air Transducer
Technical Data Sheet

Airmar ultrasonic transducers deliver the highest level of performance in the most challenging environments and they are the key component for our customers success and their applications. Our precision tuned air-ranging transducers are tried and true performers, even when used for difficult tasks. American-made from the highest quality materials, Airmar's ultrasonic transducers provide reliable, long-lasting excellence to any measurement system.

ARK120-THD

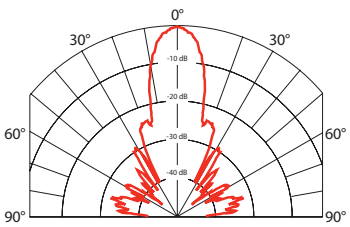
SPECIFICATIONS

Best Operating Frequency: 125 kHz, ±4%
Minimum Transmit Sensitivity at Best Transmit Frequency: 102 dB re 1µPa/V at 1 m
Minimum Receive Sensitivity at Best Receive Freq.: -172 dB re 1V/µPa
Minimum Parallel Resistance: 500 Ω, ±30%
Minimum and Maximum Sensing Range*: 15 cm to 5 m
Typical Sensing Range: 20 cm to 3 m
Free (1 kHz) Capacitance: 1,000 pF, ±20% pF
Beamwidth (@ -3 dB Full Angle): 12°, ±2°
Maximum Driving Voltage (2% Duty Cycle Tone Burst): 800 V_{pp}
Operating Temperature: -40°C to 90°C
Weight: 250 g
Housing Material: Kynar® 720
Acoustic Window: Kynar® 720

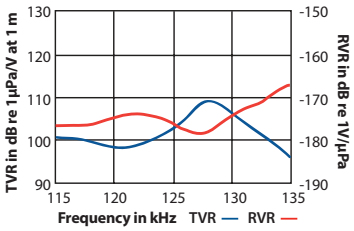
***Pulse-Echo Mode:** Minimum and maximum ranges are best case scenarios. Actual range may vary, depending on drive circuitry and signal processing.

Note: Optimally, performance measurements should be taken when the transducer reaches a steady state.

Directivity Pattern



Transmit & Receive Voltage Response



Impedance Magnitude & Phase

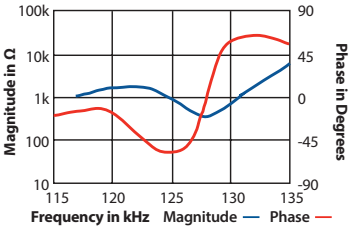
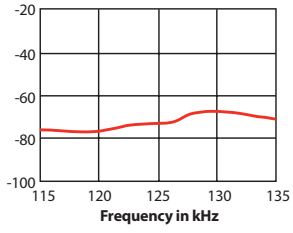


Figure of Merit (Sum of TVR & RVR)



125 kHz
AIRDUCER® Ultrasonic Transducer

Applications

- Level measurement in chemically aggressive environments
- Food and beverage processing

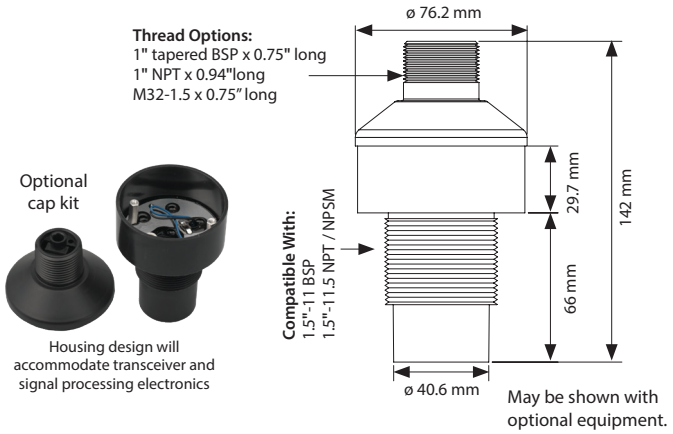
Features

- Rugged one-piece PVDF housing is U.S. FDA compliant
- Threaded design allows for installation in various applications
- Standard internal shielding

Options

- Nut—1.5" BSP thread
- Complete assembly available with standard cable lengths
- 10 KΩ thermistor available for temperature compensation
- 12 mm extension sleeve
- PCB standoff configuration lengths available

Dimensions



Additional Resources

Theory of Operations

Applying Ultrasonic Technology

T1 Developer Board

Airmar's T1 Developer's Transceiver Module can be used for evaluation of AIRDUCER® Transducers.

RoHS COMPLIANT
ISO CERTIFIED
www.airmar.com