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.

# ARK50

Optional cap kit

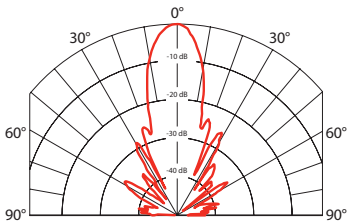
**SPECIFICATIONS**

**Best Operating Frequency:** 50 kHz, ±4%
**Minimum Transmit Sensitivity at Best Transmit Frequency:** 105 dB re 1µPa/V at 1 m
**Minimum Receive Sensitivity at Best Receive Freq.:** -170 dB re 1V/µPa
**Minimum Parallel Resistance:** 350 Ω, ±30%
**Minimum and Maximum Sensing Range*:** 30 cm to 15 m
**Typical Sensing Range:** 35 cm to 10 m
**Free (1 kHz) Capacitance:** 5,000 pF, ±20% pF
**Beamwidth (@ -3 dB Full Angle):** 10°, ±2°
**Maximum Driving Voltage (2% Duty Cycle Tone Burst):** 1,000 $V_{pp}$
**Operating Temperature:** -40°C to 90°C
**Weight:** 250 g
**Housing Material:** Kynar® 720
**Acoustic Window:** Kynar® 720

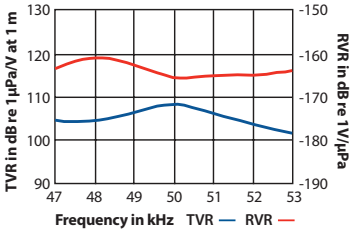
***Pulse-Echo Mode:** Minimum and maximum ranges are best case scenarios. Actual range may vary, depending on drive circuitry and signal processing.

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

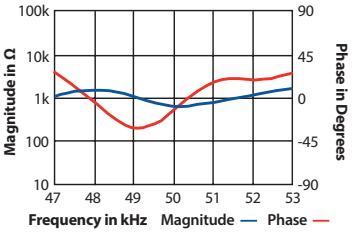
### Directivity Pattern



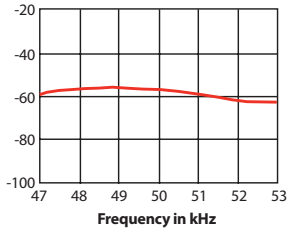

### Transmit & Receive Voltage Response




### Impedance Magnitude & Phase




### Figure of Merit (Sum of TVR & RVR)




# 50 kHz

## AIRDUCER® Ultrasonic Transducer

### Applications

- Level measurement in chemically aggressive environments
- Food and beverage processing
- Flow monitoring
- Proximity sensing

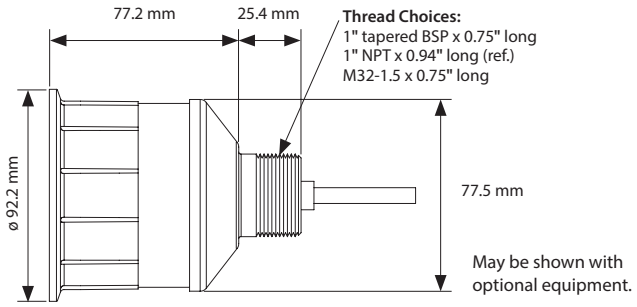
### Features

- Rugged one-piece PVDF housing is U.S. FDA compliant
- Housing design will accommodate transceiver and signal processing electronics
- Standard internal shielding

### Options

- Cable length can be customized
- 10 KΩ thermistor available for temperature compensation
- Mounting cap available in BSP, NPT or M32 threads
- Available in alternate housing (AR50)

### 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