

TYPE F41 TRANSDUCER

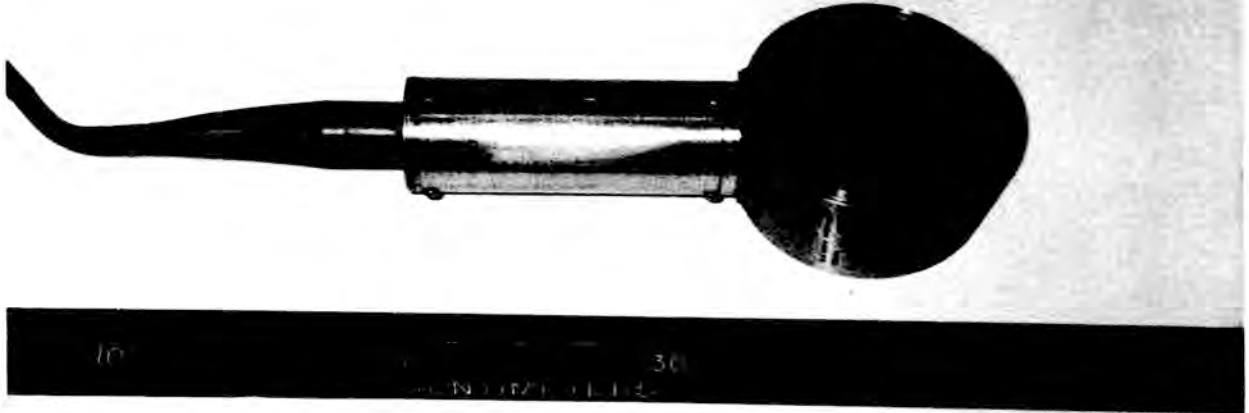


Fig. F41-1 - Type F41 transducer.

FUNCTION: A general-purpose directional transducer for higher frequencies; can be used both as a projector and a receiver.

DESIGN: The sensitive element array consists of 12 (1.27-cm-diam and 5-cm-high) disks. Corprene is used as the pressure-release material; castor oil is the acoustic coupling material.

FREQUENCY RANGE: 15 to 150 kHz

TVR: 131 dB re 1 μ Pa/V at 50 kHz

MAXIMUM DEPTH: 34 m

TEMPERATURE RANGE: 0 to 35°C

MAXIMUM DRIVING SIGNAL: 200 V rms

NOMINAL CAPACITANCE: 12000 pF

DC RESISTANCE: <1000 M Ω

ELECTRICAL IMPEDANCE:

DIRECTIVITY: See Fig. F41-6 Directivity in the horizontal (XY) plane is broader than in the vertical (XZ) plane because of the dimensions of the crystal array. The patterns are symmetrical and, at frequencies above 25 kHz, the back radiation is 19 to 22 dB below the front radiation.

WEIGHT: 4 kg (8.8 lbs)

SHIPPING WEIGHT: 9 kg (19.8 lbs)

NORMAL CABLE LENGTH: 30 m

CABLE CODE: Two conductors that can be used balanced or unbalanced with respect to ground

INSTRUCTIONS FOR THE USER: See Appendix D for preparation
In normal operation, the 4.4-cm-diam housing extends vertically above the transducer case
Clamp a bracket around the steel case near the molded cable gland to support the transducer
See Fig. F41-8 for acoustic center of the transducer

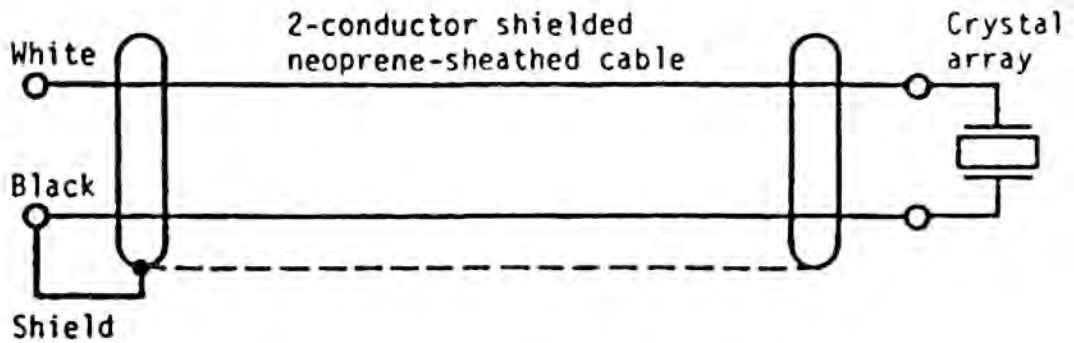


Fig. F41-2 - Schematic circuit diagram of Type F41 transducer.

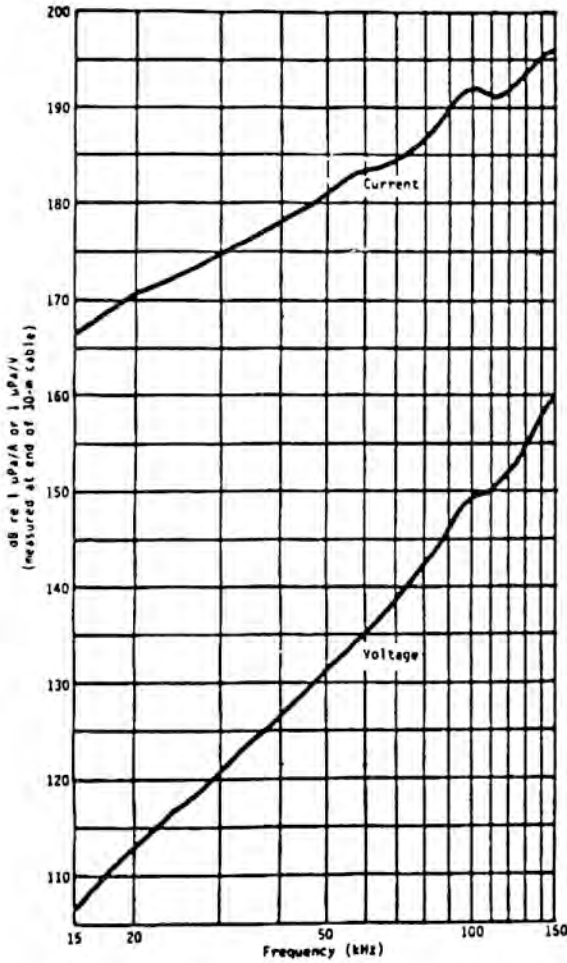


Fig. F41-3 - Typical TCR and TVR for Type F41 transducer.

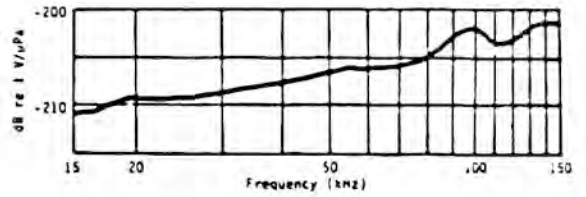


Fig. F41-4 - Typical FFVS for Type F41 transducer.

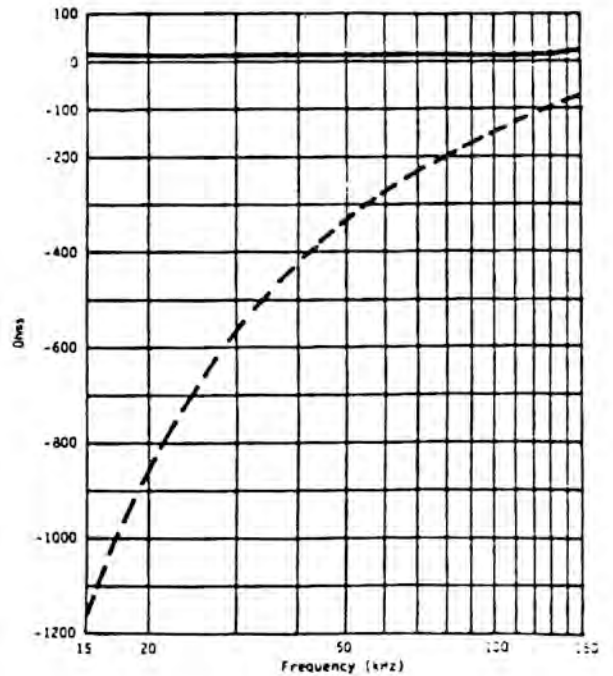


Fig. F41-5 - Typical equivalent series impedance for Type F41 transducer.

Fig. F41-6 - Typical directivity patterns in the XY (horizontal) plane for Type F41 transducer. Scale: center to top of grid, each patter, equals 50 dB.

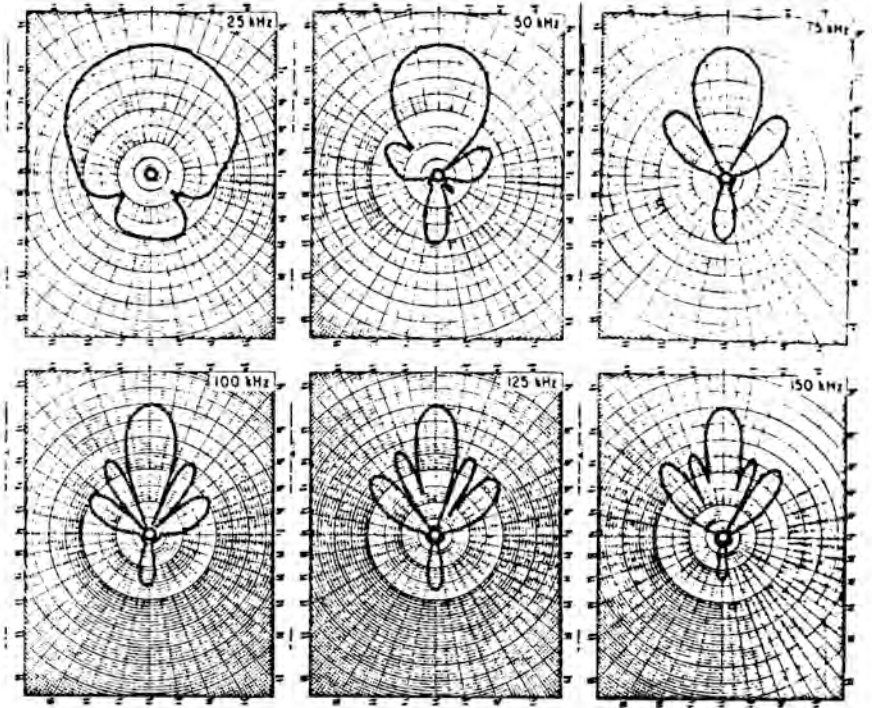
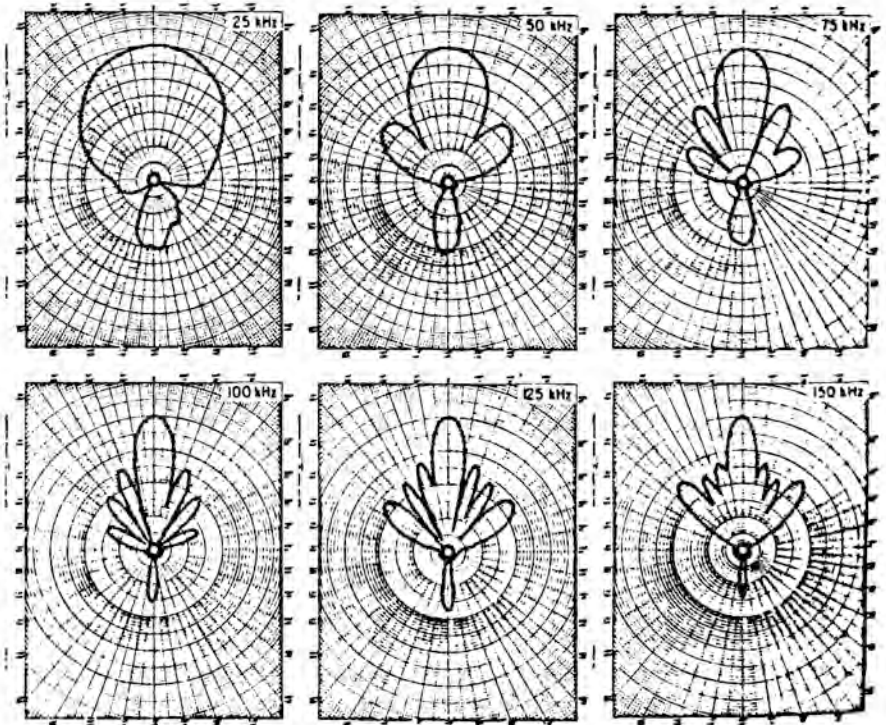


Fig. F41-7 - Typical directivity patterns in the XY (vertical) plane for Type F41 transducer. Scale: each pattern equals 50 dB.



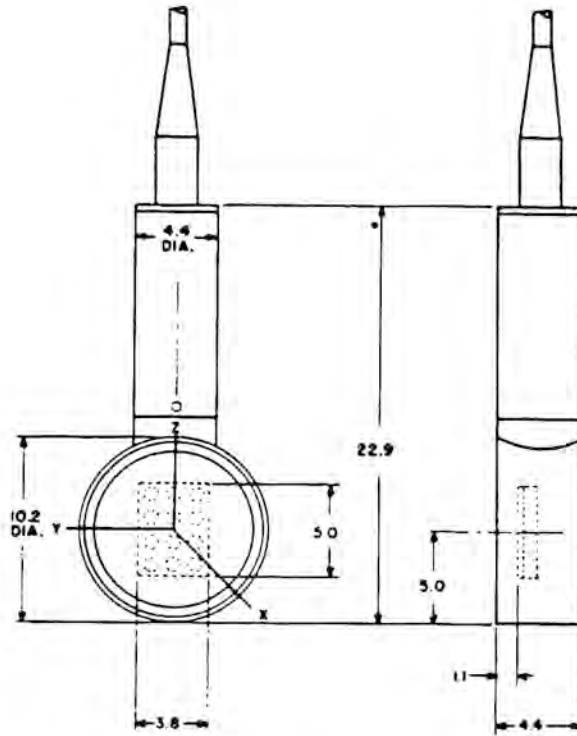


Fig. F41-8 - Dimensions (in cm) and orientation of Type F41 transducer.