

7110XC

Explosion-Proof Driver



General Product Description

Model 7110XC is an explosion-proof drivers for use in potentially hazardous areas. A variety of horn attachments can be made to suit installation requirements.

A specially designed integral sintered bronze acoustic screen and heavy diecast aluminum cast meet the UL standards for explosion-proof classification (see Table 1).

The 7110XC is designed to meet and surpass UL standards for use in hazardous areas classified as Class I- Groups B, C and D.

The driver is ideal for use in such locations as gasoline storage and loading facilities, coal pulverizing plants, grain mills, paint shops, and other areas with potentially volatile atmospheres containing alcohol, acetone, natural gas, and other explosive gases such as a hydrogen/air mix.

For optimum flexibility, the 7110XC is supplied without a line-matching transformer. If one is required, the University Model 5030 is recommended.

Architects' and Engineers' Specifications

The explosion-proof driver shall be Model 7110XC and approved by Underwriter's Laboratory for use in hazardous areas specifically designated as Class I Groups B, C, and D.

The loudspeaker shall exhibit essentially flat power response from 500 to 4,000 Hz with a smoothly rolled-off response beyond. The sensitivity, when mounted on a Cobreflex III horn, will be 100 dB (1 W/ 1 m) with a 500-to-5,000Hz pink noise applied. The case shall be heavy cast aluminum with dimensions not exceeding 20.0 cm (7.87 in.) in diameter, and 18.7 cm (7.37 in.) in length.

The rear case shall be removable to facilitate wiring by incorporation of six 3/8-inch diameter bolts, and provisions made for connection of standard 1/2-inch pipe conduit.



University Sound, Series

The driver voice coil impedance shall be eight ohms. The internal driver will employ a linen-based, molded phenolic diaphragm, 1½-inch diameter voice coil and "rim-centered" ferrite magnet structure. Replacement part 353 voice coil and diaphragm assembly shall be available.

The coupling diameter shall be standard 1 3/8"-18-inch threads for screw-in attachment to horn. Weight of unit shall not exceed 5.4 kg (12.0 lb). Finish shall be baked-on acrylic gun metal gray. Model 7110XC is specified.

Specifications:

Frequency Response:

..... 500 Hz - 4,000 Hz ±5 dB (see Figure 2)

Power Handling, 8 Hours, 6-dB Crest Factor:

..... 30 watts (500-5,000 Hz pink noise)

Impedance,

7110XC Nominal: 8 ohms

7110XC Minimum: 6.5 ohms (Cobreflex III horn)

Sound Pressure Level at 1 Meter, 1 Watt Input Averaged, Pink Noise Band-Limited from 500 to 5,000 Hz:

..... 100 Hz

Voice Coil Diameter:

..... 3.8 cm (1.5 in.)

Magnet Weight:

..... 0.28 kg (0.63 lb)

Magnet Material:

..... Strontium ferrite

Flux Density:

..... 1.1 Tesla

Construction:

Integral sintered bronze acoustic screen and heavy diecast aluminum case. Acrylic gun metal gray finish

Mechanical Construction of Driver:

1 3/8"-18 x 1/2"- long thread allows the 7110XC to be mounted on any University Sound horn

Dimensions,

Diameter: 2.0 cm (7.9 in.)

Length: 18.7 cm (7.4 in.)

Net Weight:

..... 5.4 kg (12.0 lb)

Shipping Weight:

..... 5.6 kg (12.8 lb)

Recommended Horns:

Cobreflex IIB Cobreflex III

Installation

Installation of explosion-proof speakers must conform with governing electrical equipment hazardous locations and provisions of the National Electrical Code. **NO ALTERATIONS CAN BE MADE TO THESE DRIVER UNITS!**

No holes can be made, or holding devices screwed into the case to possibly weaken or otherwise endanger the structure after installation.

All main bolts on the driver case housing must be tightened. Wiring may be run in threaded rigid, or approved standard electrical flexible conduit and engage five full threads. Explosion-proof conduit boxes, junctions, and fittings are approved type and usually contain screw-in covers. Unions, elbows, and bends are also of special design.

Electrical Connections

Access to the driver unit for electrical connections or installation of the Model 5030 transformer is made by removal of the six bolts holding the case halves together. In the event of a short run of conduit line, up to 100 feet, the 8-ohm voice coil of the driver may be connected directly to the line. Use of the 8-ohm tap on the amplifier, a high-impedance or constant line voltage distribution system is recommended. The Model 5030 (70V/25V) matching transformer (optional) is coded for easy connection.

Reassembly Procedure

Tighten the six case bolts using torque of 25ft-lbs. Check between the case halves with a 0.00015-inch feeler gauge enters more than 1/8-in. at any point, tighten bolts to 35-ft-lbs. Recheck with feeler gauge.

Class I Environmental characteristics as follows:

- Group B: Hydrogen-air.
- Group C: Atmosphere containing ethyl-ether, ethylene, cyclopropane.
- Group D: Atmosphere containing gasoline, petroleum, naphtha, alcohol, acetone, lacquer solvent and natural gas, benzine, butane, propane, benzol.

TABLE 1
Underwriter's Laboratories Approved
Explosion-Proof Classifications

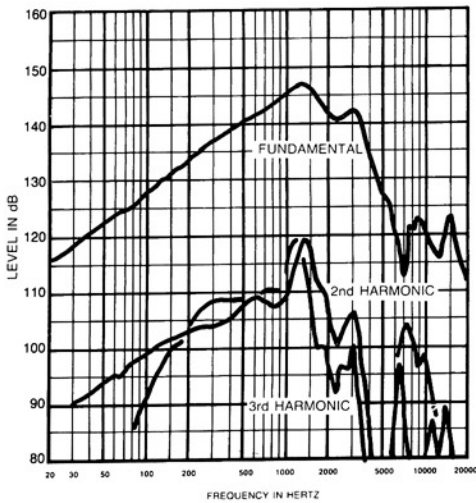


Figure 1.
Distortion Response - Plane Wave Tube (1 inch)
(6-watt input)

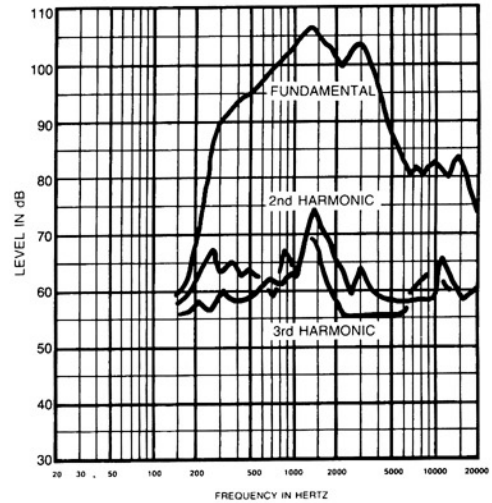


Figure 2.
Distortion Response - Cobreflex III Horn
(1 watt/1 meter)

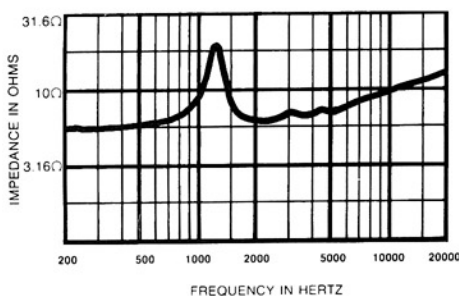


Figure 3.
Impedance Response - Plane Wave Tube
(1 inch)

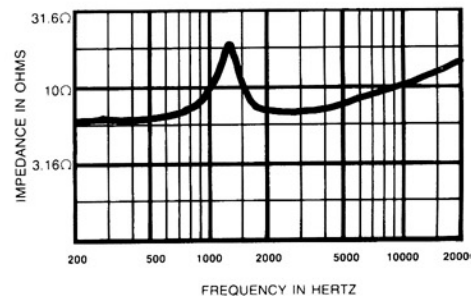


Figure 4.
Impedance Response - Cobreflex III Horn

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 Canada 705 Progress Avenue, Unit 46, Scarborough, Ontario, Canada, M1H2X1, Phone: 416-431-4975, 800-881-1685, FAX: 416-431-4588
 Germany Hirschberger Ring 45, D94315, Straubing, Germany, Phone: 49 9421-706 0, FAX: 49 9421-706 287
 France Parc de Courcerin, Alle Lech Walesa, Lognes, 77185 Marne La Vallée, France, Phone: 33/1-6480-0090, FAX: 33/1-6480-4538
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Part Number 38109-853 Rev A



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