

**Fostex**

# D582

## COMPRESSION DRIVER

80 WATTS CONTINUOUS PROGRAM POWER

100 mm (4 in) EDGEWOUND ALUMINIUM RIBBON VOICE COIL

4020 g (141.7 oz) FERRITE MAGNET

DURALUMIN DIAPHRAGM AND SURROUND

50 mm (2 in) THROAT DIAMETER



The Fostex D582 is a professional quality, 50 mm (2 in) throat compression driver designed for high output, low distortion, mid range operation in studio monitor and sound reinforcement applications. In order to obtain higher mid range output with lower distortion, than possible with extended range 2 inch throat drivers, the D582 sacrifices some high frequency response. This transducer should be used where maximum output with minimum distortion is required. For limited bandwidth use, such as high output stage monitors, the D582 provides outstanding performance to 10 kHz. For full range applications, an ultra-high frequency device should be used in conjunction with the D582.

The 100 mm (4 in) diameter diaphragm and half-roll surround are constructed of Duralumin, an eight element aluminium alloy. The surround has no folds to cause possible fatigue points and result in premature failure. The non-resonant

half-roll construction and the extra thick diaphragm offer substantial reductions in mid range distortion.

The 100 mm (4 in) voice coil is made of aluminium edgewound ribbon wire for high efficiency. The magnetic gap is permanently aligned with an aluminium guide ring which also serves as a particle shield. The diaphragm mounting ring is machined from solid aluminium stock for precise voice coil and gap alignment. This allows close tolerance manufacturing of the gap assembly and high unit-to-unit consistency. The phasing plug, a critical component, is precision injection molded from non-resonant heat resistant plastic for low distortion and low coloration.

The D582 is a specialized high output, low distortion mid range device. The D582 offers mid range performance only surpassed by more costly Alnico magnet designs.



# TECHNICAL REPORT

# D582

## COMPRESSION DRIVER

### Specifications

Throat Diameter	50.8 mm	2 in
Nominal Impedance	8 ohms	
DC Resistance	6.8 ohms	
Power Capacity <sup>1,2</sup>	80W Continuous	
	40W Continuous	
	Pink Noise Power	

### Sensitivity<sup>3</sup>

on a Fostex H251 Horn	107.5 dB SPL
on a terminated plane wave tube	114 dB SPL

### Nominal Efficiency

25%
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### Frequency Range

500 Hz to 10 kHz
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### Frequency Response

on a Fostex H251 Horn	600 Hz to 8kHz, $\pm 3$ dB
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### Lowest Operating Frequency

500 Hz
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### Lowest Recommended Crossover Frequency

500 Hz
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### Diaphragm Material

0.075 mm DURALUMIN
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### Surround Material

0.075 mm DURALUMIN
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### Voice Coil Diameter

100 mm	3.94 in
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### Voice Coil Material

EDGEWOUND ALUMINIUM RIBBON
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### Voice Coil Former Material

TREATED PAPER
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### Magnet Type

FERRITE
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### Magnet Weight

4.02 kg	8.9 lb
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### Flux Density

1.7 T	17000 gauss
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### Total Flux

$1.86 \times 10^{-3}$ Wb	186000 maxwells
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### BL Factor

10.6 T-m
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### Dimensions

Diameter	200 mm	7.87 in
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Depth	106.5 mm	4.2 in
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### Weight

Net	9.2 kg	20.3 lb
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Shipping	9.6 kg	21.2 lb
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### Mounting Data

Bolt Type	M6 (METRIC)
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Bolt Pattern	4 $\times$ 90°
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Bolt Circle Diameter	101.6 mm	4 in
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1 Continuous program power is defined as 3 dB greater than continuous pink noise power and is a conservative expression of the transducer's ability to handle music program material.

2 The pink noise test signal is bandwidth limited from 500 Hz to 20 kHz, with a filter slope of 12 dB/octave. Test duration is 2 hours.

3 Sensitivity of the transducer while mounted on a Fostex horn is measured with 1 W input at 1 m distance on axis from the horn mouth with the input signal swept from 500 Hz to 2500 Hz.

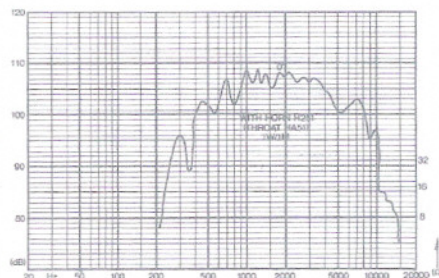
Sensitivity of the transducer while mounted on a 25.4 mm (1 in) terminated tube is measured with 1 mW input with the input signal swept from 500 Hz to 2500 Hz.

**Fostex**  
Pro Sound Division

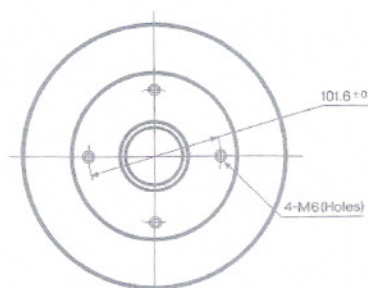
## ARCHITECTUAL SPECIFICATIONS

The compression driver shall have a 50.8 mm (2 in) throat entry with a 4 hole bolt pattern (101.6 mm (4 in) diameter, 90°). The magnet assembly shall utilize a 4020 g (141.8 oz) FERRITE magnet with an aluminium aligning ring permanently bonded to the top plate and pole piece. The phasing plug shall be constructed of low resonant heat resistant plastic and be precision injection molded for unit-to-unit consistency. The diaphragm shall be of 0.075 mm ( $3 \times 10^{-3}$  in) DURALUMIN and the surround shall be of 0.075 mm ( $3 \times 10^{-3}$  in) DURALUMIN. The voice coil shall be of edgewound aluminium ribbon wire with a diameter of not less than 100 mm (3.94 in) operating in a magnetic field of not less than 1.7 tesla (17000 gauss) and shall exit through BERYLLIUM lead wires.

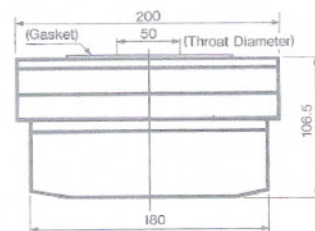
The compression driver shall meet the following performance criteria. Power capacity, 40 watts continuous pink noise, 80 watts continuous program. Frequency response, when measured on a Fostex H251 Horn shall be 600 Hz to 8 kHz,  $\pm 3$  dB. Measured sensitivity with a 1 mW input on a 25.4 mm (1 in) terminated tube, bandwidth limited from 500 Hz to 2500 Hz, shall be at least 114 dB SPL. Measured sensitivity with a 1 W input, 1 m on axis from the mouth of a Fostex H251 Horn, bandwidth limited from 500 Hz to 2500 Hz, shall be at least 106 dB, SPL. Nominal impedance shall be 8 ohms. The compression driver shall be the Fostex Model D582.



The frequency response curve is measured with the transducer located in a free-field environment with a swept, sine wave signal. Input power is 1 watt and measuring distance is 1 meter. (MEASURED WITH H251 HORN)



Dimension in mm



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Specifications subject to change without notice.

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