

Calibration Chart for Condenser Microphone Cartridge Type 4145



Nærum Denmark

Serial No. 819624

Open Circuit Sensitivity at 1013 mbar

-26.2 dB re. 1 V per Pa or 49.0 mV per Pa

This Calibration is traceable to the National Bureau of Standards, Washington D.C.

Open Circuit Correction Factor:

$K_o^*) = +0.2$ dB

Cartridge Capacitance:

$C = 62.1$ pF

Lower Limiting Frequency (-3dB) determined by pressure equalisation, which takes place at the side:

1.2 Hz

Leakage Resistance tested at 52% relative humidity $> 10^{15} \Omega$

Frequency Response Characteristics

The upper curve is the open circuit free field characteristic, valid for the Microphone Cartridge with protecting grid. Sound waves perpendicular to diaphragm (see Fig.). The lower curve is the open circuit pressure response recorded with electrostatic actuator.



750200

*) Subtract the gain of the preamplifier (see back of this card) from K_o to get the actual correction factor K. (See instruction manual for use of K).
1 Pa = 1 N/m² = 10 dynes/cm² = 10 μ bar

Conditions of Tests:

Frequency: 250 Hz

Polarization voltage: 200V

Barometric Pressure: 1007 mbar

Relative Humidity: 55 %

Temperature: 25 °C

Date: 17-6-80 Signature: H. P.

Summarized Specifications

Type 4145 satisfies the specifications for Laboratory Standard Microphones Type L of the American National Standards Institute S1.12-1967. The requirements of the standard are given in brackets for each item

Outside Diameter:

0,936 \pm 0,0008 in (0,936 \pm 0,0020 in)

Coupler Mounting Thread (grid thread):

0,910 in 60 UNS2

Frequency Response Characteristic:

Frequency below which free-field response shall be flat within 2 dB: 12,5 kHz (7 kHz)

Resonance Frequency: 9,0 kHz

Equivalent Air Volume at diaphragm: at 1 atm., about 0,13 cm³ (max: 0,2 cm³)

Ambient Pressure: Influence on response less than $\pm 0,5$ dB between 0,8 and 1,2 atm. (0,9 and 1,1 atm.)

Temperature Coefficient between -50 and +60°C, maximum $\pm 0,006$ dB/°C ($\pm 0,03$ dB/°C)

Relative Humidity: The influence of humidity does not exceed $\pm 0,1$ dB in the absence of condensation

Dynamic Range: Sound Pressure Level below which the total harmonic distortion remains less than 1%: 140 dB (130 dB)

Sensitivity: see calibration (> -45 dB re. 1 V per Pa)

+5

dB

+1

0

-1

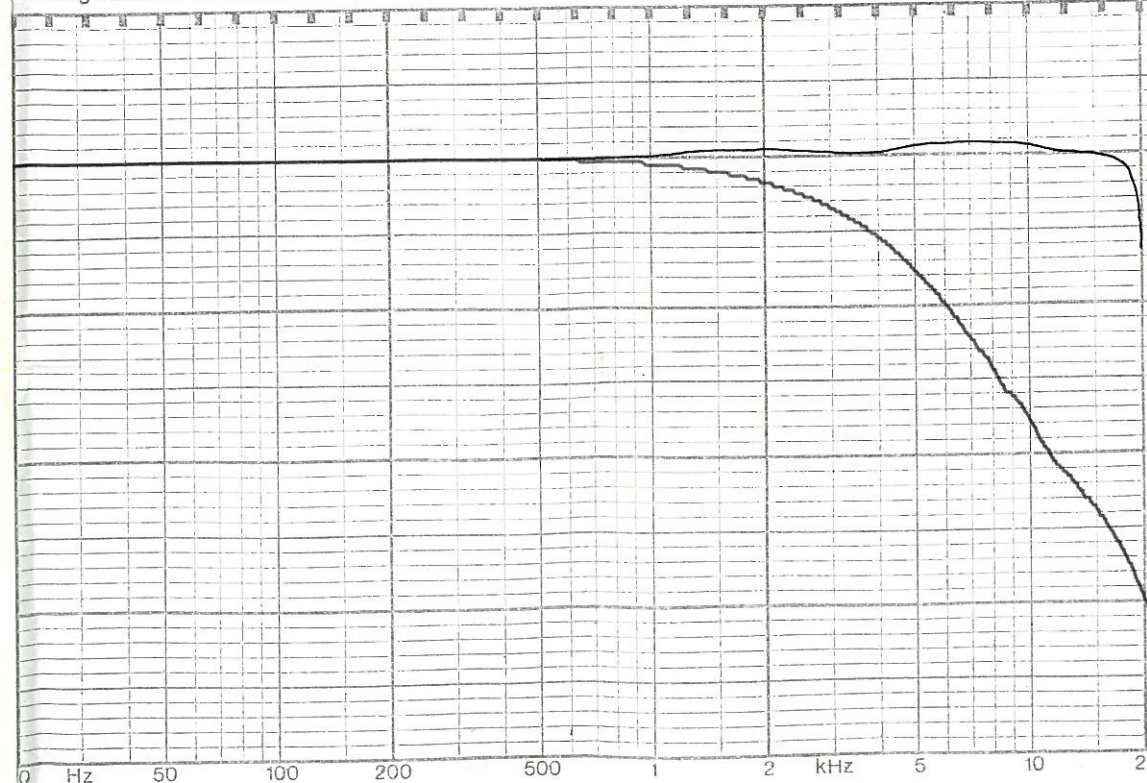
-5

-10

-15

-20

ter Range: _____ dB. Rectifier: _____ Lower Lim. Freq.: _____ Hz Wr. Speed: _____ mm/sec.



g. Scale by: _____ Zero Level: _____ (1612/2112)