MICROTECH GEFELL

microphones & acoustic systems - founded 1928 by Georg Neumann

Electret Condenser Microphone Capsule Type MK 255

The 1/2” MK 255 measuring microphone cartridge is designed for acoustical measurements in research and development and also for industrial use. Some applications include audiometry, the measurement of building acoustics and noise levels.

- Frequency range 3,5 Hz to 20 kHz, free-field
- Sound pressure levels up to 146 dB

The microphone cartridge has a fixed layer of back electrets to supply the polarization voltage.It is designed and very carefully constructed to ensure excellent long-time stability of the electroacoustical parameters. All essential components including the diaphragm are made of stainless steel and the diaphragm is bonded by a special galvanic process. The rear electrode, holder of the backelectret, is insulated from the cartridge housing by a quartz glass plate. The diaphragm is protected against mechanical damage by a protection grid.

Convenient measurement of each cartridge’s frequency response curve by applying a well-defined electrostatic field (400volts/dc,30 volts/ac) can be realized by removing the protection grid and using a calibration grid. The microphone cartridges have been artificially aged. The equalization of the static air pressure between the inside and outside of the MK 255 cartridge is by means of a capillary tube rear-vented into the preamplifier. This enables the use of the optional TA 202 dehumidifier.
The cartridge uses the international standard thread 60 UNS which ensures compatibility with a wide range of calibration equipment and measurement devices available from many manufacturers. MK 255 can be used with different measurement microphone preamplifiers as **MV 204** (conventional LEMO connector), **MV 210** (current powered version with BNC plug), with phantom powered preamplifier **MV 220** as well as other preamplifiers without 200 V polarization voltage. The microphone cartridge can be calibrated and are designed for sound level meters of **Type 1 according to DIN EN 60 651 and DIN IEC 61672**. The TA 202 dehumidifier can be screwed between cartridge and preamplifier to increase the reliability for operation in an extremely humid atmosphere.

Delivery

Measuring Microphone Cartridge in wooden case	Order-No. 311142

Specifications

Transducer type	Capacitive pressure transducer
*Frequency range free - field response without protection grid	3,5 Hz ... 20 kHz (± 2 dB)
*Sensitivity	50 mV/Pa
Max. SPL for THD ≤ 3% at 1 kHz	146 dB
Inherent noise with preamplifier MV 210/ MV 220	15 dBA
Polarization voltage	backelectret
*Polarized capsule capacitance at 1 kHz	17 pF
Operating temperature range	-50 ... +100 °C bis 70 °C, 90 %
Main ambient temperature coefficient	≤ 0,01 dB/K
Main ambient pressure coefficient	$-1x10^{-5}$ dB/Pa

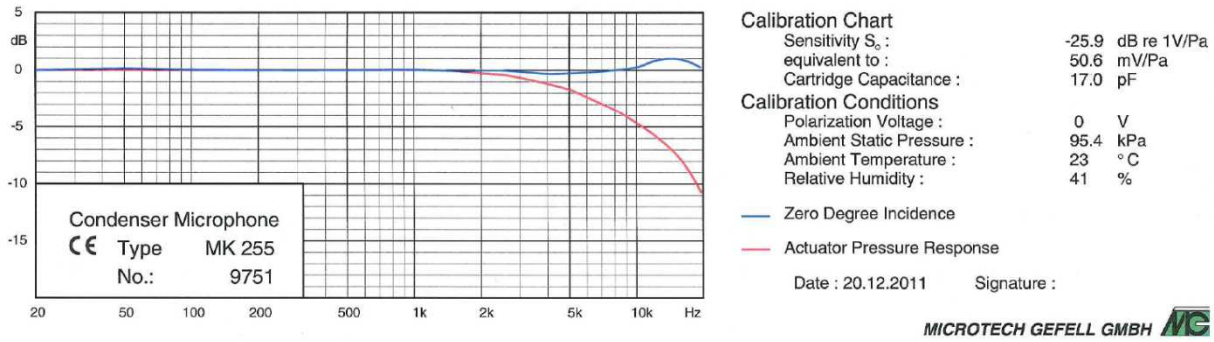
Diameter with protection grid	13,2 ± 0,02 mm
Diameter without protection grid	12,7 ± 0,02 mm
Height	16,4 mm
Weight	7,5 g
Preamplifier thread	11,7 mm 60 UNS
Protection grid thread	12,7 mm 60 UNS

* individually calibrated

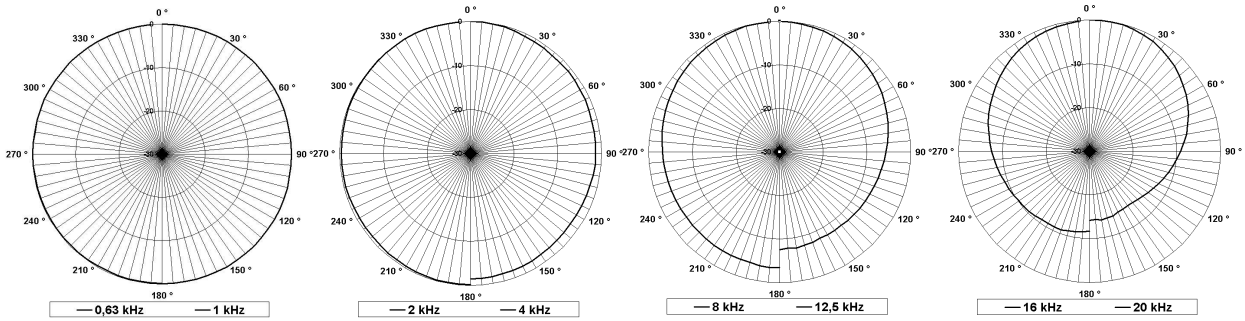
Maintenance and upkeep

In order to maintain its functioning the measurement microphone capsule should be protected against mechanical damage. It should be disconnected from its power source and completely checked for any pollution in regular intervals that have to be defined depending on the operating conditions.
After removal of the protection grid the pollution within the grid and on the diaphragm should be cleaned very carefully with a soft clean cloth or brush. The measurement microphone capsule is not suitable for use in chemical aggressive conditions and in conductible dust. Condensation must be avoided.

Frequency response



Polar patterns



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