A microphone as an audio-electric converting device, whose audio pickup section has a structure of a condenser consisting of a diaphragm and a back plate opposite thereto, is called a condenser microphone. The motion of the diaphragm by sound is picked up as a variation of capacitance between the diaphragm and the back plate. In this case, usually, a voltage of tens or hundreds of volts should be applied externally as a condenser polarizing voltage. However, electric charge can be maintained in a polymer film by the electret effect, thereby eliminating the polarizing direct-current high voltage. Such is an electret condenser microphone. In structure, electret condenser microphones are grouped into the following three types according to where the electret film is used:

1. **Foil-type electret condenser microphone**
   - The diaphragm itself is made of an electret polymer film.

2. **Back-type electret condenser microphone**
   - Contrary to 1, a polymer film is adhered to the back plate.

3. **Front-type electret condenser microphone**
   - The back plate is structurally eliminated. The diaphragm and the inside portion of the microphone capsule itself form the condenser. The electret is located inside the case.

---

**Terminology**

**Sensitivity**

The sensitivity is defined as the output voltage for a specified acoustic stimulus and load condition. In this catalog it is expressed in dBV/10µbar. In the case of dynamic types it is expressed as the open circuit voltage appearing at the output terminals. In the case of electret type it is expressed with a specified resistive load and supply voltage since the output resistance tends towards constant current characteristic.

**Output Impedance**

The output impedance represents the internal electric resistance within a microphone as seen from the side of output terminals of the microphone. JIS C-5502 specifies 50, 200, 250, 400 and 600 ohms as standard. In the case of ECMs, the effective output resistance is determined mainly by the value of load resistance. It can be made higher or lower by the value of load resistance with a corresponding change in sensitivity.

**Frequency Response**

The frequency response of a microphone is the data indicating which frequency range, from the lower to the higher range, the microphone has a certain sensitivity. In other words, it is the frequency range within which the microphone can receive sound. It is expressed as 50 Hz-15000 Hz.
<table>
<thead>
<tr>
<th>Model No.</th>
<th>Dimensions (mm)</th>
<th>Mass (g)</th>
<th>Sensitivity (dB/Pa)</th>
<th>Impedance (kΩ)</th>
<th>Standard Power Supply (V DC)</th>
<th>Current Consumption (mA)</th>
<th>Lead Wire Type</th>
<th>PCB Type</th>
<th>Solderless Type</th>
<th>solder Type</th>
<th>Chip-Condenser Built-in available</th>
<th>Chip-Condenser Soldered is available</th>
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<td>0.04</td>
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<td>2.2</td>
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<th>Model No.</th>
<th>Dimensions (mm)</th>
<th>Mass (g)</th>
<th>Sensitivity (dB/Pa)</th>
<th>Impedance (kΩ)</th>
<th>Standard Power Supply (V DC)</th>
<th>Current Consumption (mA)</th>
<th>Lead Wire Type</th>
<th>PCB Type</th>
<th>Solderless Type</th>
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<th>Chip-Condenser Built-in available</th>
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※ KUC: オイドレクレット / Foil Electret  KUB: バックレクレット / Back Electret  KUF: フロントレクレット / Front Electret
Electret Condenser Microphones (Omnidirectional)

**KUF4723**

- **Solderless Type**

![Diagram of KUF4723 Solderless Type](image1)

**KUS0223**

- **Solder Reflow Type**

![Diagram of KUS0223 Solder Reflow Type](image2)

**KUR0023**

- **PCB Type**
- **Lead Wire Type**
- **Solderless Type**

![Diagram of KUR0023 Types](image3)

**Unit: mm**
Electret Condenser Microphones (Omnidirectional)

**KUS0023**

Solder Reflow Type

Unit: mm

**KUF4623**

Solderless Type

**KUF4523**

PCB Type

Solderless Type

Frequency Response
Electret Condenser Microphones (Omnidirectional)

**KUB4323**
- **PCB Type**
  - Lead Wire Type
  - Solderless Type

**KUF4323**
- **PCB Type**
  - Lead Wire Type
  - Solderless Type

**KUB3323**
- **PCB Type**
  - Solderless Type

Frequency Response

Unit: mm
Electret Condenser Microphones (Omnidirectional)

KUF3323

- **PCB Type**
- **Lead Wire Type**
- **Solderless Type**

KUB2823

- **PCB Type**
- **Lead Wire Type**
- **Solderless Type**

KUC3523

- **PCB Type**
- **Lead Wire Type**
Electret Condenser Microphones (Omnidirectional)

**KUC2123**

- **PCB Type**
- **Lead Wire Type**

**KUC4023**

- **PCB Type**
- **Lead Wire Type**

Frequency Response

**Unit**: mm
Electret Condenser Microphones (Unidirectional)

**KUB8223**

- **PCB Type**
- **Lead Wire Type**

**KUB8023**

- **Lead Wire Type**

**KUB8923**

- **Lead Wire Type**
Rubber Holder for Electret Condenser Microphones

KCU2078

KCU2079

KCU2085

KCU2018

KCU2027

Unit: mm
### Microphones

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<th>Directivity</th>
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<th>Sensitivity (dB/Pa)</th>
<th>SN Ratio (dB)</th>
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<td>53</td>
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<td>H HM8962</td>
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<td></td>
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<td>–40.5</td>
<td>36</td>
<td>100</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>
Microphone

**HHM7672**

- Dimensions: 13.5 x 8.5 x 27.5 mm
- Unit: mm
- Frequency Response
- Plug: JIS C 6560

**HHM7582**

- Dimensions: 12.5 x 36.7 x 8 mm
- Frequency Response
- Plug: JIS C 6560

**HHM7632**

- Dimensions: 40.4 x 28.6 mm
- Frequency Response
- Plug: JIS C 6560
**Microphones**

**KHM8712**

![Image of KHM8712 microphone](image1)

- **Dimensions:**
  - 3 mm
  - 4.9 mm
  - 9 mm
  - 24 mm
  - 3201.5 mm
  - 8.5 mm

- **Frequency Response Graph**

- **Plug:** JIS C 6560

**HHM8862**

![Image of HHM8862 microphone](image2)

- **Dimensions:**
  - 9 mm
  - 3.5 mm
  - 6.4 mm
  - 272 mm

- **Frequency Response Graph**

- **Plug:** JIS C 6560

**HHM8962**

![Image of HHM8962 microphone](image3)

- **Dimensions:**
  - 4.5 mm
  - 3.5 mm
  - 6 mm
  - 2500 mm

- **Frequency Response Graph**

- **Plug:** JIS C 6560