Ultrasonic Vibration Micro Nozzle

The ultrasonic vibration micro nozzle consists of a piezoelectric ceramic and a metal foil, on which over thousands micro nozzles are formed. Using the same principle incorporated in inkjet printer, this transducer atomizes water or liquids through a matrix of micro holes of around 7-10 µm. The micro nozzle transducer uses a siphon principle to draws small amounts of liquids to the surface of metal and then atomize it more efficiently than foil the conventional ultrasonic atomizer.

Features

- Fine and consistent misted particle size
- Adjustable misted particle size
- No loaded liquids require as comparing with conventional atomizers
- High atomizing efficiency
- Less power consumption
- High stability and durability

Applications

- Humidification in refrigerated food displays and storage, living environments, and air conditioning plants.
- Inhalation and disinfecting equipment
- Humidification in industrial process control for lubrication, coating and etc.
- Liquids dispensing systems

Specification:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Number</td>
<td>M2313500</td>
</tr>
<tr>
<td>Resonant Frequency</td>
<td>135.0±5KHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>10 Ohm typ.</td>
</tr>
<tr>
<td>Capacitance</td>
<td>2450±20% pF</td>
</tr>
<tr>
<td>Dimensions</td>
<td>L: 29.20 mm</td>
</tr>
<tr>
<td></td>
<td>W: 17.35 mm</td>
</tr>
<tr>
<td></td>
<td>T: 1.0 mm (PZT Element)</td>
</tr>
<tr>
<td></td>
<td>t: 50  □ m (Metal)</td>
</tr>
<tr>
<td>Metal Material</td>
<td>Ni-Co Alloy</td>
</tr>
<tr>
<td>Nozzle size</td>
<td>7 – 10 □ m</td>
</tr>
</tbody>
</table>

Impedance/Phase Angle:

![Impedance/Phase Angle Graph](image)

![Model Image](image)
Micro Nozzles Ultrasonic Atomizing Transducers

**Construction:**

![Diagram of construction](image)

- **PZT Element**
- **Micro Nozzles (Gold Plated Nickel Alloy)** (50 um T)
- **Polarization Direction** Dark Dot “+”
- **Mounting Places**

**Driving Circuit:**

![Diagram of driving circuit](image)

- **VCC_5V**
- **UA7805/TO**
- **74132**
- **M2313500 Transducer**
- **Frequency Adjustment:** 130KHz - 140KHz
- **1N4001**
- **330u**
- **104**
- **5K**
- **102**
- **2 Ohm 1/2W**
- **0.47mH**
- **882**
- **LED**

**Remark:** The negative side faces to the opening, the positive side faces to the liquid source, if driving circuit uses NPN transistor.