

M 631+A 818 压力场测量传声器套件

产品规格书

M 631+A 818 Pressure field

measurement microphone kit

Product Specification

产品规格书-中文.....	1
Product Specification-EN.....	5

从此文件发布日期起，在此发表的是当前或者拟定的信息。由于我们会不断对产品进行改进和增加特征此出版物中的信息如有变动恕不另行通知。

From the date of this document's release, the information published here is current or proposed. As we will continuously improve and add features to our products, the information in this publication is subject to change without further notice.

我们生产的测量用传声器，属于精密传感器，生产相关的各个方面都进行着严格管控，包括材料选择，生产工艺，测试管控，以及生产环境。



材料选择

经过多年持续改善，我们现采用特种镍合金材料作为膜片核心材料，相比其它合金材料有着更高灵敏度，更低失真率，以及更为稳定的长期使用表现；麦克风前置主体采用不锈钢材料使整支麦克风在各种装配产合下仍能拥有极为强壮的结构特性。



生产工艺

我们采用先进生产工艺，全自动化精密加工设备，最大程度减少了传统加工设备在进行二次装夹时带来的精度误差，从而显著提升了产品的尺寸一致性、几何精度及整体品质稳定性，为高要求的应用场景提供了可靠的技术保障。



测试管控

同时我们采用极其严苛的测试管控手段，对任何可能导致产品品质问题的环节都进行量化测试，并且进行测试顺序管控，防止跳站情况发生，完善的 MES 管控使得所有数据可追踪，确保传感器品质的高度一致性。



生产环境

所有我们的麦克风其整个生产流程均严格在无尘车间内完成，能最大程度降低空气中的灰尘数量，从而为传感器营造一个稳定、纯净的工作环境，以确保传感器长期稳定的寿命和并且在日常使用中始终展现出卓越的性能表现。

产品简介

M 631+A 818 压力场测量传声器



M 631+A 818是1/8英寸预极化压力场测量传声器,用于高频测量,高声压级测量等。由于自身尺寸足够小,其在测量时对声场产生的影响也非常小。

所有传声器经过严苛的环境老化试验,使其具有宽频率范围、宽动态范围、平坦的频率响应及长时间稳定性等优点,可以实现超宽频带声源信息采集。

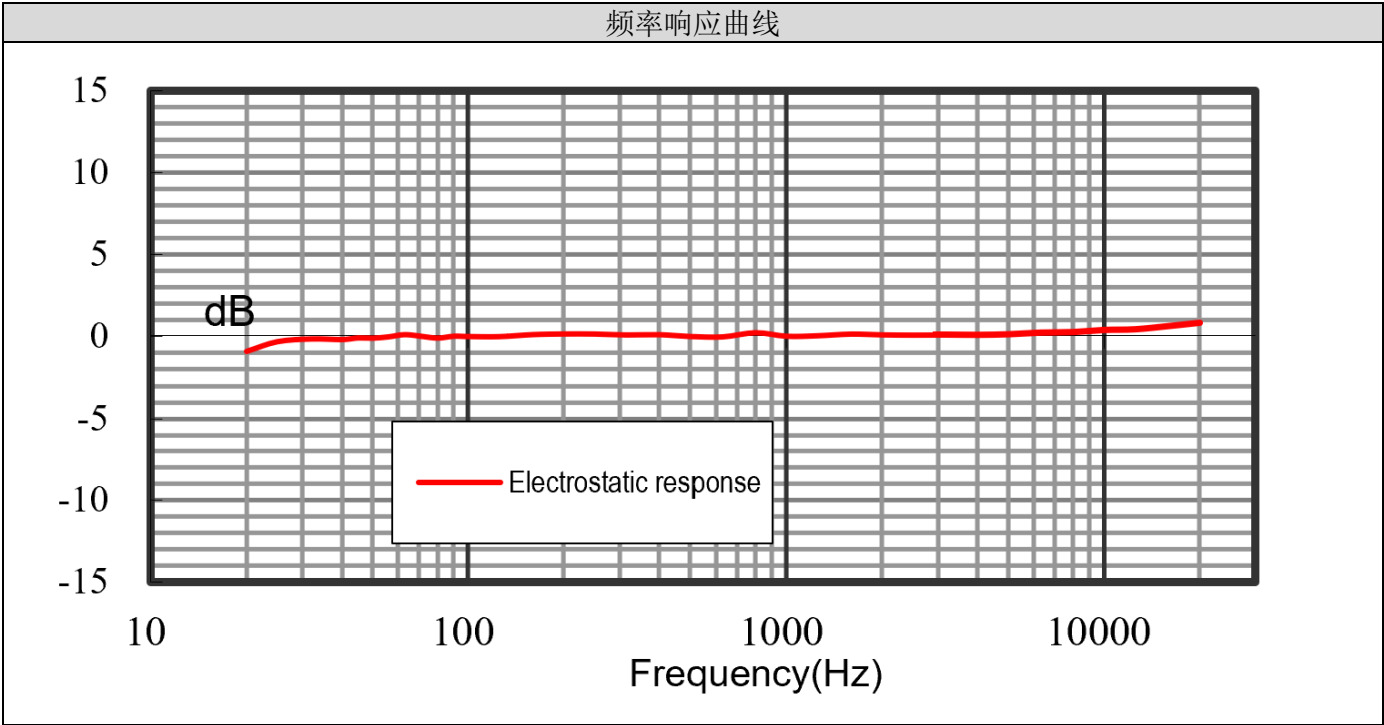
功能特点

- 超小尺寸
- 高频测量

规格参数

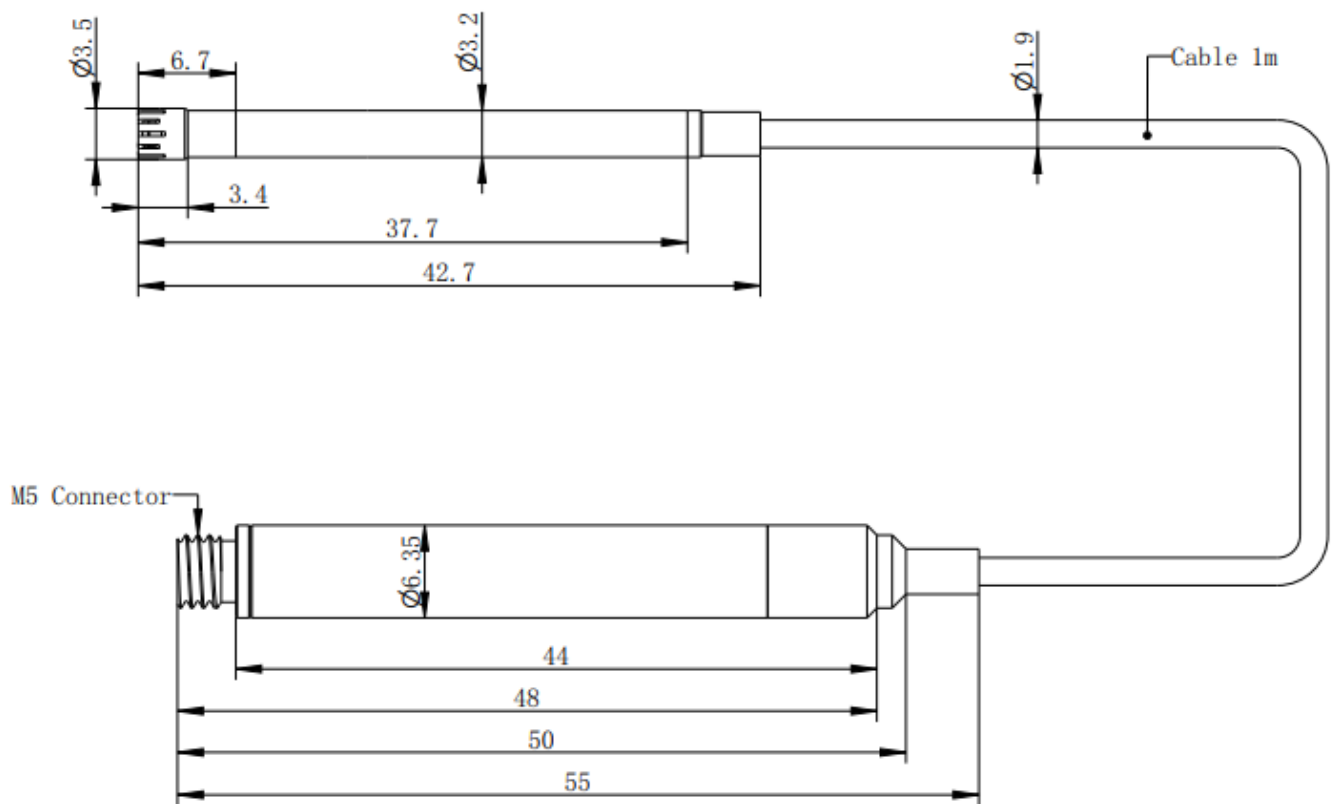
整体参数	
声场类型	压力场型
极化电压	0V（预极化）
频率响应（dB）	10Hz - 20kHz ± 2dB
动态范围（dB）	60dB(A) - 150 (dB)
底噪	<60dB（A）
灵敏度 mV/Pa(dBV/Pa)	0.8mV/Pa（-62dB ± 3dB）
典型电容	3.0 pF
工作温度范围	-10°C - 50°C
温度系数	-20 - 60°C, 声压级变化 < -0.003dB (250Hz时, 参考温度 23°C)
湿度系数	20% - 90% RH;声压级变化 < -0.003dB (250Hz, 参考温度40°C, 参考RH 50%)
存储条件	温度: 25°C ± 5°C, 湿度: 50% ± 15%RH（保证传感器的长期稳定性）

频响曲线



结构尺寸

unit: mm



在无深圳市美格信测控技术有限公司优先书面授权书前提下，此出版物任何一个部分不可通过任何形式进行复制、修改和翻译。对于非法复制、修改和翻译商业行为，将根据国家知识产权相关法律追求其法律责任。

The measuring microphones we produce are precision sensors, and all aspects related to production are strictly controlled, including material selection, production processes, testing control, and production environment.



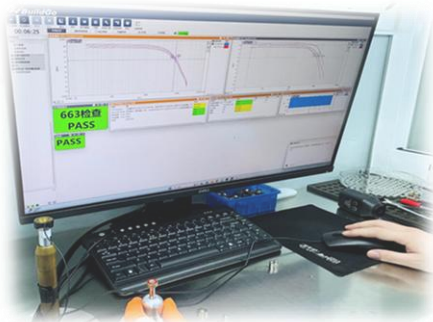
Material selection

After years of continuous improvement, we now use special nickel alloy materials as the core material for the diaphragm. Compared to other alloy materials, it exhibits higher sensitivity, lower distortion rate, and more stable long-term performance. The front body of the microphone is made of stainless steel, ensuring that the entire microphone maintains extremely robust structural characteristics even under various assembly conditions.



Production process

We adopt advanced production processes and fully automated precision machining equipment, which significantly reduces the accuracy errors caused by secondary clamping in traditional machining equipment. This greatly enhances the dimensional consistency, geometric accuracy, and overall quality stability of the products, providing reliable technical support for demanding application scenarios.



Testing control

At the same time, we employ extremely rigorous testing and control measures, conducting quantitative testing on any links that may lead to product quality issues, and implementing test sequence control to prevent skip-station situations. The comprehensive MES control enables all data to be traceable, ensuring a high degree of consistency in sensor quality.



Production environment

The entire production process of all our microphones is strictly carried out in a dust-free workshop, which can minimize the amount of dust in the air, thus creating a stable and pure working environment for the sensors. This ensures a long and stable lifespan for the sensors and maintains their excellent performance throughout daily use.

Product introduction



M 631+A 818 Pressure field measurement microphone kit

M 631+A 818 is a 1/8-inch pre polarized pressure field measurement microphone used for high-frequency measurements, high sound pressure level measurements, etc. Due to its small size, it has very little impact on the sound field during measurement.

All microphones undergo rigorous environmental aging tests, giving them advantages such as wide frequency range, wide dynamic range, flat frequency response, and long-term stability, enabling the acquisition of ultra wideband sound source information.

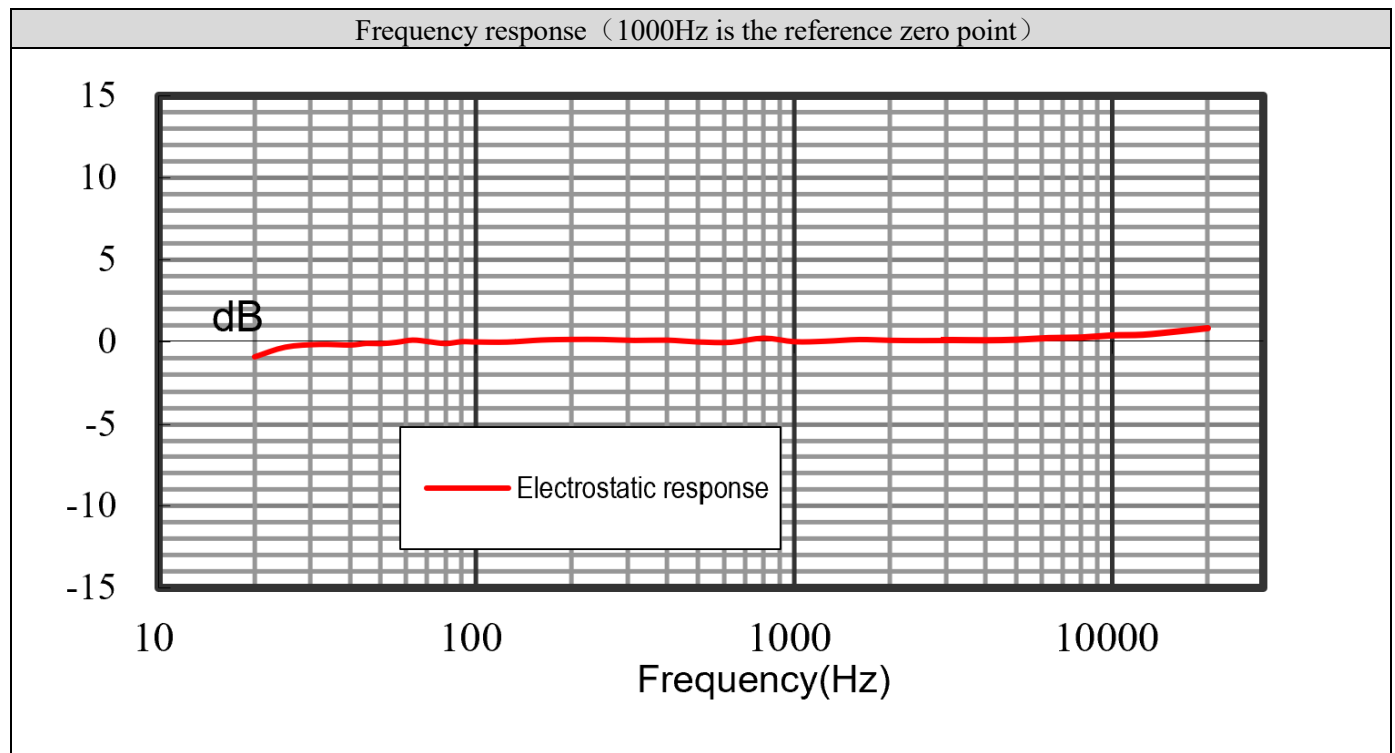
Features

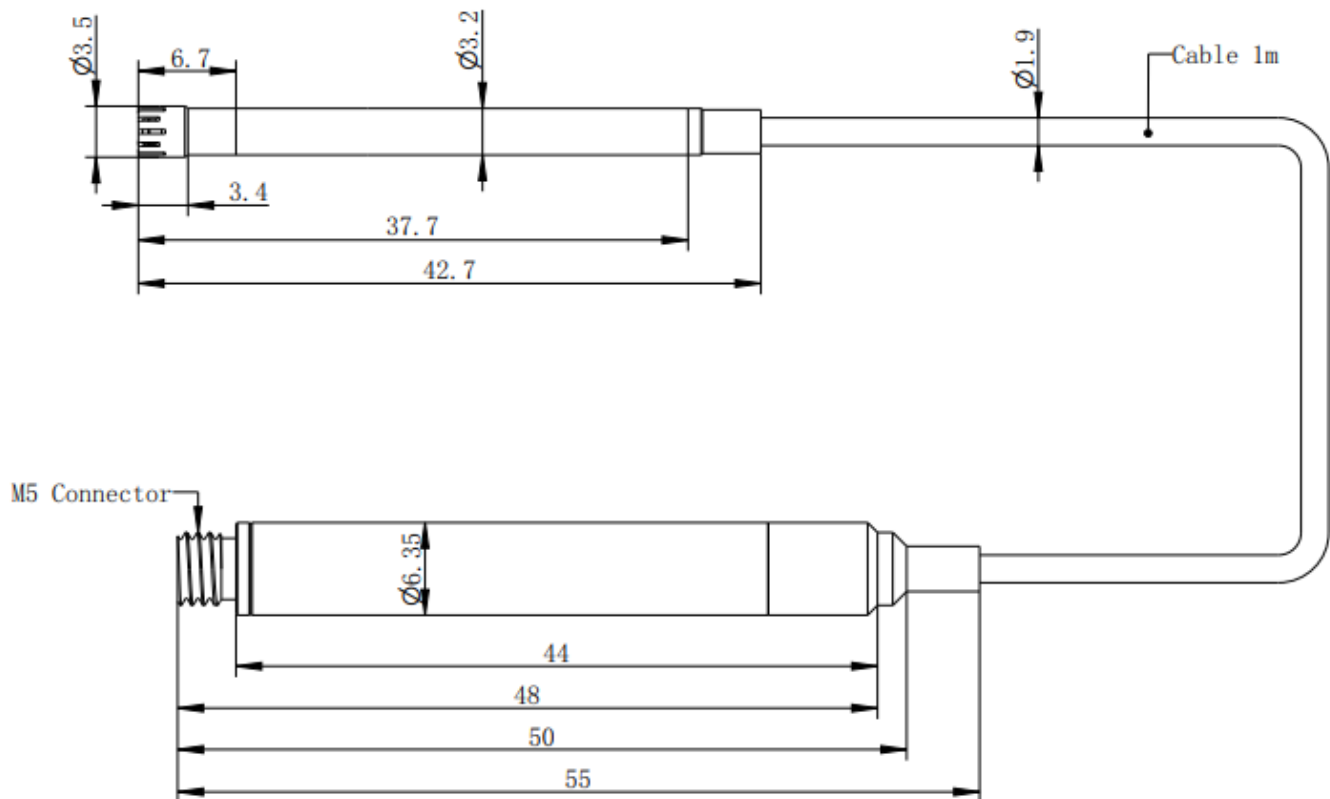
- Ultra small size
- High frequency measurement

Specification parameters

Parameters	
Sound field type	Pressure field
Polarization	0V (Pre polarized)
Frequency range	10Hz - 20kHz $\pm$ 2dB
Dynamic range	60dB(A) - 150 (dB)
Inherent noise	<60dB (A)
Sensitivity mV/Pa(dBV/Pa)	0.8mV/Pa (-62dB $\pm$ 3dB)
Typical capacitor	3.0 pF
Temperature range	-10°C - 50°C
Temperature range coefficient	-20 - 60 °C, sound pressure level change < -0.003dB (at 250Hz, reference temperature 23 °C)
Relative humidity coefficient	20% - 90% RH; sound pressure level change < -0.003 dB (250Hz, reference temperature 40° C, reference RH 50%)
Storage condition	Temperature : 25°C $\pm$ 5°C, Relative humidity : 50% $\pm$ 15%RH (Ensure the long-term stability of the sensor)

Frequency response



Mechanical dimensions**unit: mm**

Without the prior written authorization of Shenzhen MegaSig Measurement & Control Technology Company Limited no part of this publication may be reproduced, modified or translated in any form. Legal liability will be pursued in accordance with the national laws on intellectual property rights for commercial activities involving illegal reproduction, modification or translation.