

MHzPressure™ Model EP-1000

Calibration Data

Sensor Serial No:

MHzPressure™ sensors are fully calibrated (both magnitude and phase) MHz-bandwidth sensors that enables quantifiable fluctuating pressure measurements in high-speed flows. The sensor and preamplifier are packaged within a 3.18 mm diameter stainless steel housing. A shielded multi-pin cable is used to connect the sensor head to a four-wire power supply.



Performance Specifications

Maximum linear pressure	8 kPa (1.16 psi)*
Bandwidth (±3 dB)	50 Hz – 900 kHz
Bandwidth (±4 dB)	50 Hz – 1 MHz
Resonant frequency	1.6 MHz
Sensitivity @ 1 kHz	0.9 $\mu\text{V}/\text{Pa}$
Noise floor @ 1 kHz (1 Hz bin)	40 $\text{nV}/\text{Hz}^{1/2}$
MDP @ 1 kHz	998 mPa
Noise floor @ 100 kHz (1 Hz bin)	60 $\text{nV}/\text{Hz}^{1/2}$
MDP @ 100 kHz	60 mPa

* Estimated

General Specifications

Operating temperature range	-40 – 125°C (-40 – 257°F)
Sensing element dimensions	0.42 mm
Sensor head dimensions	Diameter: 3.18 mm (0.125 in) Length: 18 mm (0.71 in)
Cable length	2 m (6.6 ft)

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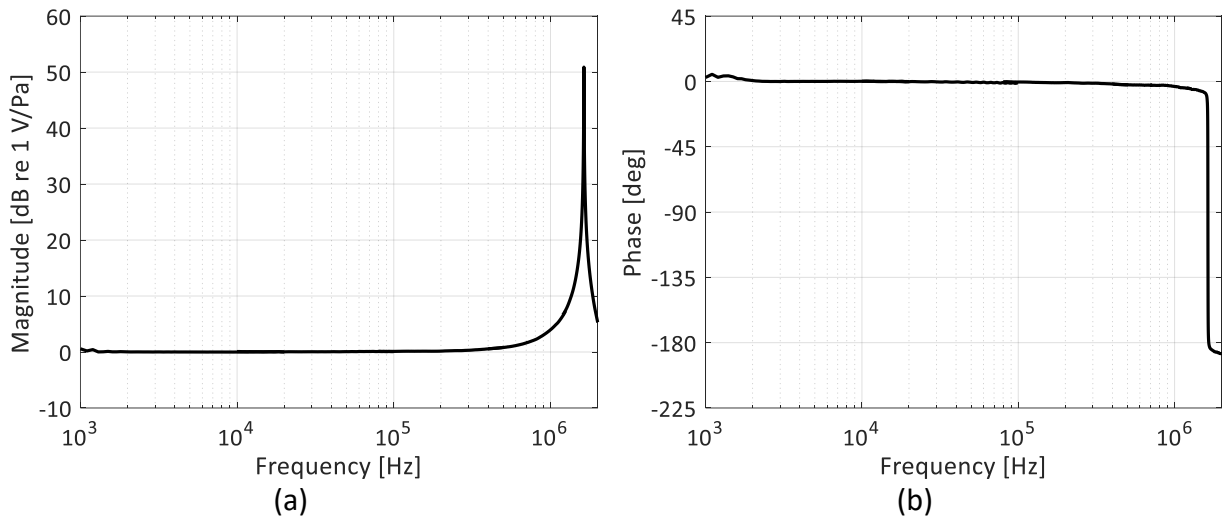


Figure 1: (a) Relative magnitude and (b) phase response obtained using a laser vibrometer.

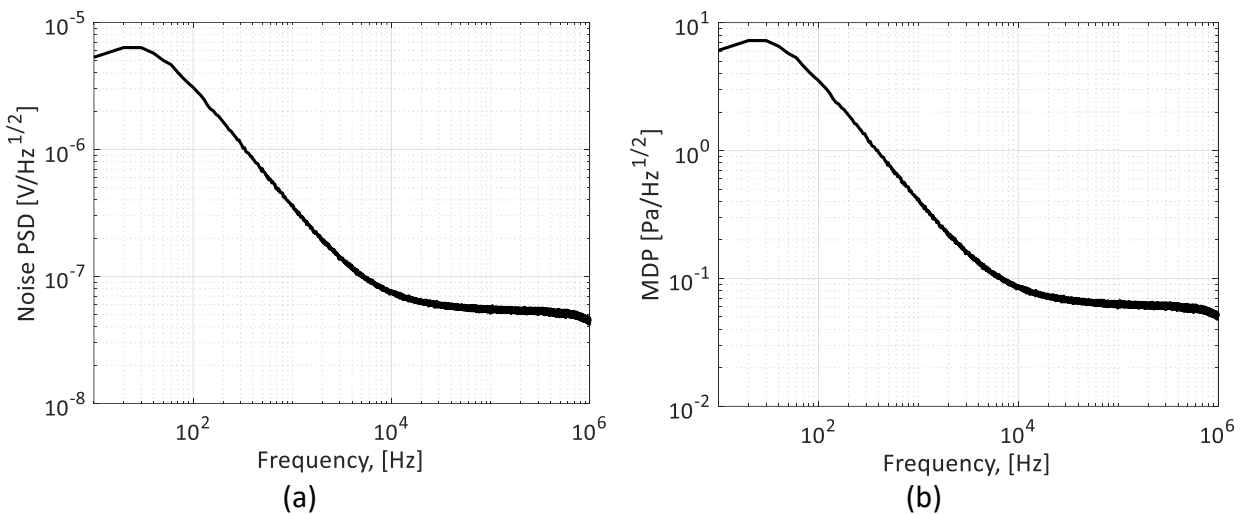


Figure 2: (a) Output-referred voltage noise and (b) input-referred minimum detectable pressure versus frequency.