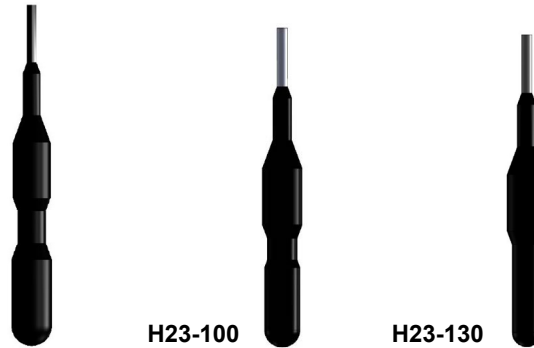


Hydrophones

H23 series

The H23 series of hydrophones are designed to be small, versatile, self-amplified, and shielded for a wide variety of underwater acoustic measurements. Ruggedness, low cost and an ultra low-noise internal amplifier are prime features of this unit. The frequency responses of the models provide a flat response and are omnidirectional over a wide range of frequencies and orientations. The internal amplifier eliminates triboelectric cable noise, connector contamination problems and the requirement for an expensive in-line amplifier. The hydrophone and cable entry are completely encapsulated in polyurethane to alleviate water intrusion caused by cathodic action. The assemblies use pre-aged piezoelectric (PZT) sensing elements promoting long term stability.

Applications for the H23 series hydrophones include military surveillance, underwater biological studies, ship noise studies, pump and machinery studies and monitoring of underwater ordnance.



SPECIFICATIONS¹

| | H23-080 | H23-100 | H23-130 |
|--|---|---------------------------------|--------------------|
| Nominal sensitivity | -174 dB re 1 V/μPa | -178 dB re 1 V/μPa | -182 dB re 1 V/μPa |
| Nominal voltage sensitivity | 2.00 mV/Pa | 1.26 mV/Pa | 0.79 mV/Pa |
| Frequency response² (re 100 Hz): | | | |
| ±2 dB | 15 Hz to 10 kHz | 15 Hz to 10 kHz | 15 Hz to 10 kHz |
| ±4 dB | 10 Hz to 50 kHz | 10 Hz to 70 kHz | 10 Hz to 100 kHz |
| +6/-10 dB | 5 Hz to 100 kHz | 5 Hz to 120 kHz | 5 Hz to 150 kHz |
| Horizontal directivity (radial, XY plane) | | ±2 dB at 20 kHz | |
| | ±4 dB at 80 kHz | ±4 dB at 100 kHz | ±4 dB at 130 kHz |
| Vertical directivity (axial, XZ plane) | | ±3 dB at 20 kHz | |
| Noise³, nominal @23°C, re 1 μPa/√Hz: | | | |
| 1 kHz | 28 dB | 33 dB | 36 dB |
| 10 kHz | 15 dB | 21 dB | 25 dB |
| 100 kHz | 12 dB | 17 dB | 22 dB |
| Supply voltage | | 18 - 24 VDC | |
| Supply current | | 4 - 10 mA | |
| Bias output voltage, nominal | | 10 VDC | |
| Operating temperature range | | -10 to +60 °C | |
| Max operating static pressure | | 1000 PSI (680m sea water depth) | |
| Cable | 0.14" dia., twisted shielded pair, 10 ft standard length ⁴ | | |
| Jacket material | polyurethane | | |
| Max. cable length (ft.) | 300 | 240 | 185 |
| Length (in.) | 3.34 | 2.94 | 2.85 |
| Diameter at widest point (in.) | 0.59 | 0.55 | 0.55 |

Notes: ¹ Test conditions: 11°C fresh water temperature at a depth of 28 ft with 60 ft cable.

² Frequency response graphs can be viewed on the next page.

³ Electronics noise at nominal sensitivity.

⁴ Customer may specify non-standard cable length specified at time of order.

Available underwater connector: R24M (Amphenol LTW-Deepronica DT-HCM-G3RMM-RHA30 [MC3MG])

Available coupling sleeve: CS (MacArtney MCDDWLS)

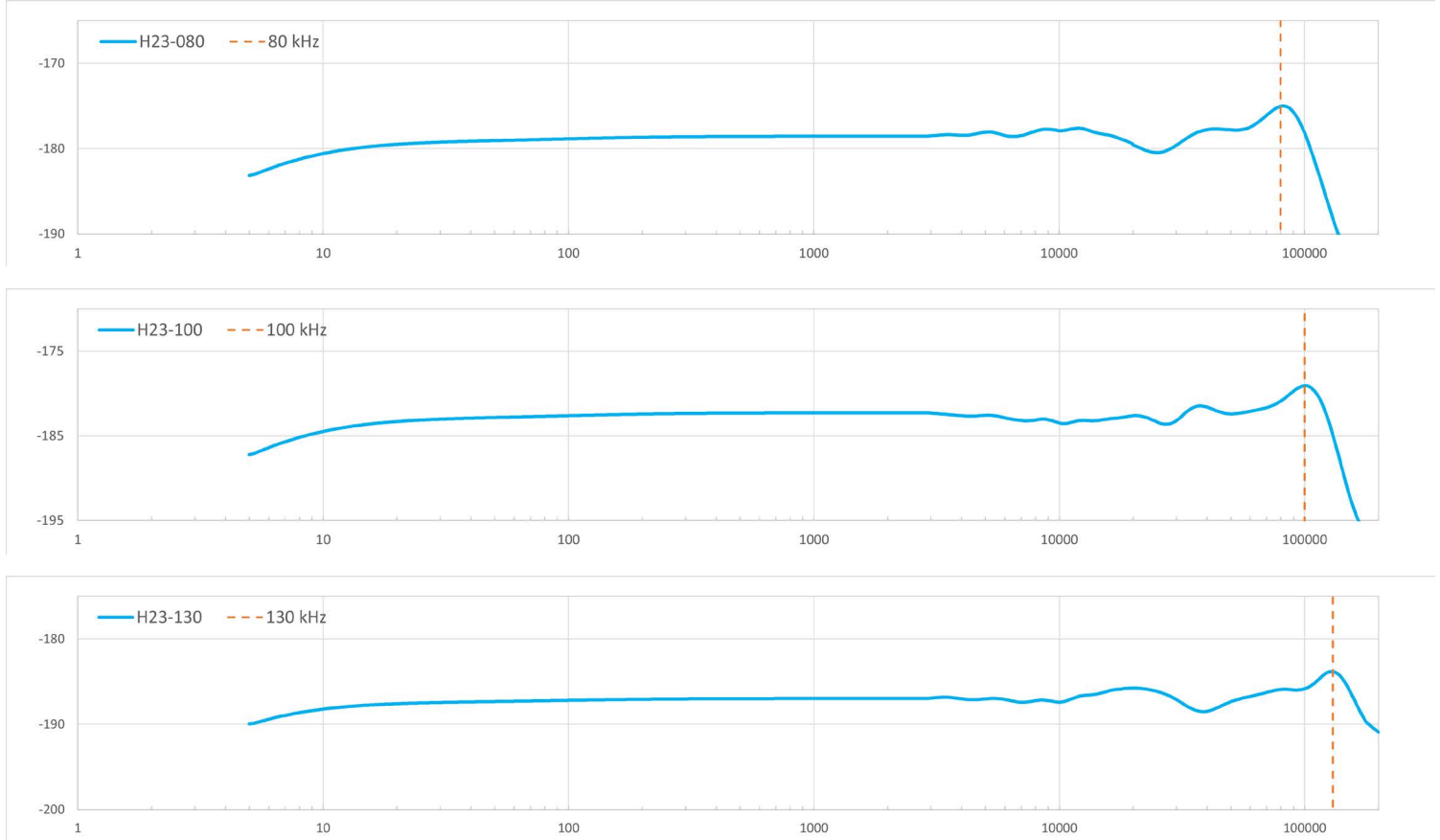
Note: Due to continuous process improvement, specifications are subject to change without notice. This document is cleared for public release.



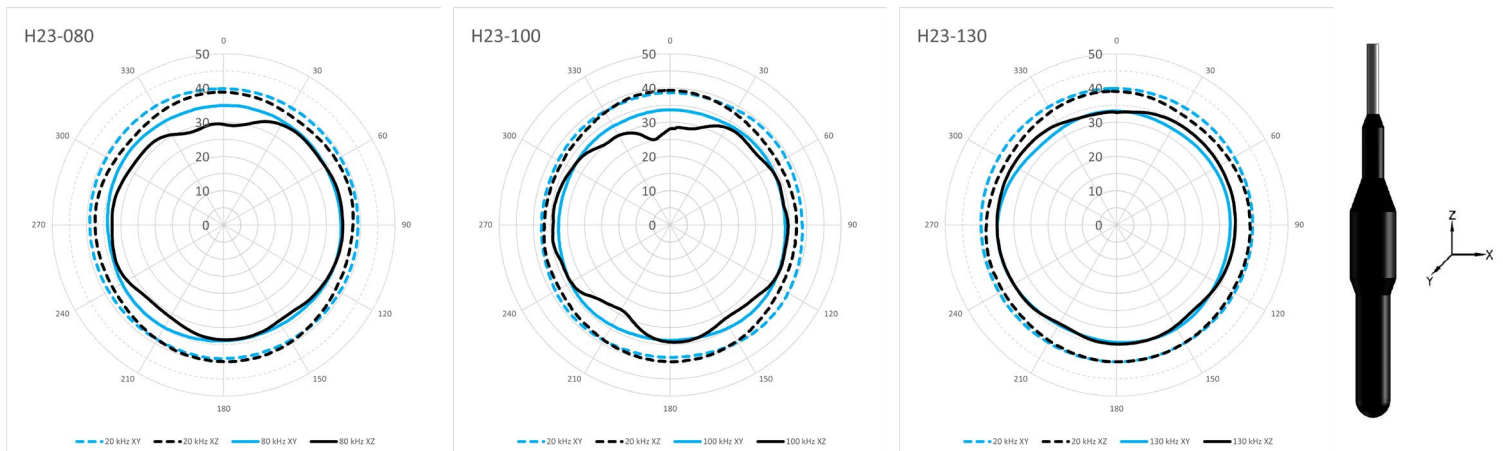
Hydrophones

H23 series

FREQUENCY RESPONSE GRAPHS



ORBIT PLOTS



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