

Polartone Helium Passive Monitor

Performance and features

- Diffraction-free and super-stiff spherical enclosure
- 90 dB sensitivity at distance of 1 m and 2 W total power consumption ($U_{RMS} = 2.83$ V)
- 75 Hz - 22 kHz frequency range within ± 3 dB
- 4 Ω nominal impedance
- 110 W long-term power handling
- THD < 1%
- Midbass-Tweeter-Midbass (MTM) configuration for symmetric and uniform polar response
- Bass reflex cabinet
- High stiffness of the spherical enclosure made of segmented hardwood with wall thickness of up to 23 mm
- 7 kg total weight, 330 mm diameter
- High-end drivers and hand-picked premium crossover components
- Made of 99.8 % sustainable materials
- Available as a desktop or floorstanding variant
- Configurable height of the speaker stand according to the customer requirements
- Bi-amped setup with two pairs of binding posts available upon request
- Neutrik SpeakON connector with 2 or 4-poles available upon request for floorstanding variants
- Designed and handcrafted in Sweden

Applications

- High-end audio reproduction systems
- Audio recording studios

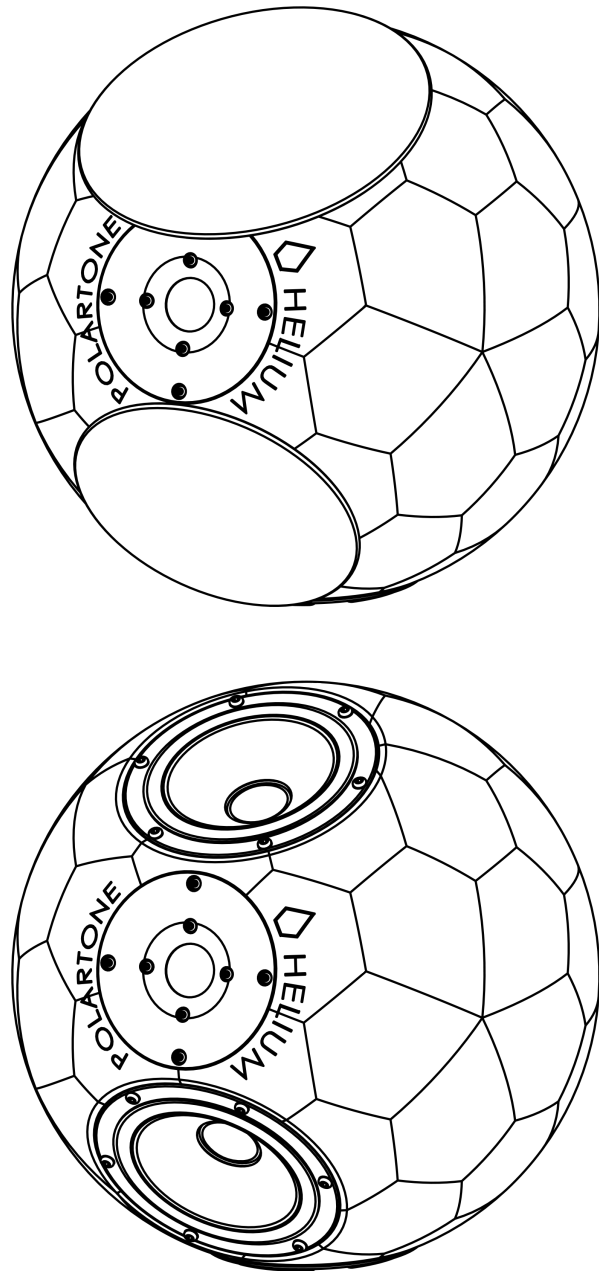


Figure 1: Polartone Helium Monitor Speaker

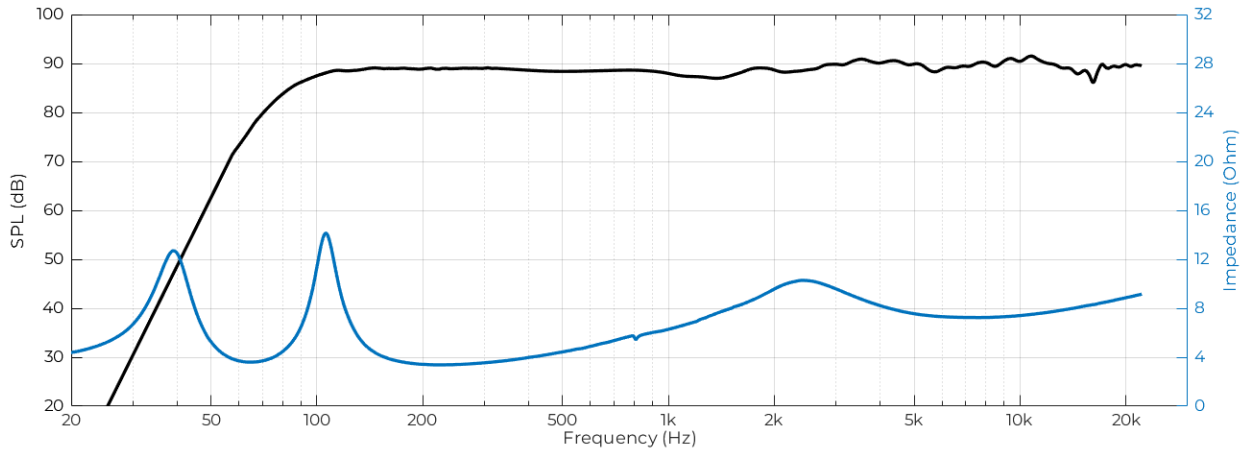


Figure 2: Frequency response and impedance

General description

Polartone is the first audiophile loudspeaker manufacturer to integrate a Midbass-Tweeter-Midbass (MTM) configuration (known for its balanced lobing) in a super-stiff spherical enclosure made of segmented hardwood. The result is a diffraction-free sound stage with unmatched horizontal and vertical polar uniformity and highly accurate audio imaging for the most faithful reproduction of the recorded material. Specially selected premium mid-bass drivers featuring powerful motors and light, but stiff membranes deliver a wide dynamic range and authentic imaging. A large-diameter fabric dome driver gives a crisp and accurate high-range. The segmented enclosure, hand-crafted of massive hardwood, is not just a masterpiece of fine woodworking; its structure makes for an extra-stiff cabinet, highly resistant to unwanted resonances. The double-flared bass reflex port greatly minimises turbulence-induced noises in the low-frequency range.

Speaker grilles in different fabrics and colours, equipped with magnetic fixations are provided. Special care is taken to ensure that the grilles' presence doesn't affect any aspect of the acoustic performance of the speaker. The cabinet is offered in several different colours and finishes.

Frequency response

Polartone Helium's in-built passive crossover network is designed to deliver flat frequency response. The largest variation of the sensitivity in the frequency range above 100 Hz is only ± 2.5 dB, Figure 2.

Polar response

The relative orientation of the drivers, combined with the bespoke alignment of the crossover network, resolve one of the most common shortcomings of conventional MTM speakers: the unwanted triple-fronted lobing of the acoustic radiation pattern in the vertical reference plane, which typically occurs in the vicinity of the crossover frequency.

Polartone Helium delivers a smooth, continuous and perfectly symmetric vertical radiation profile, Figure 3.

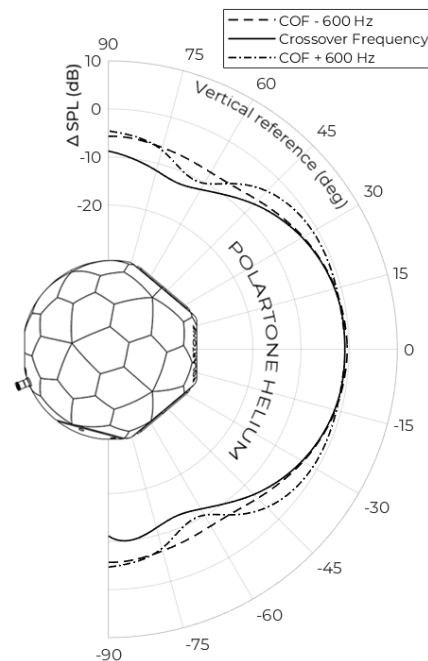


Figure 3: Vertical polar response

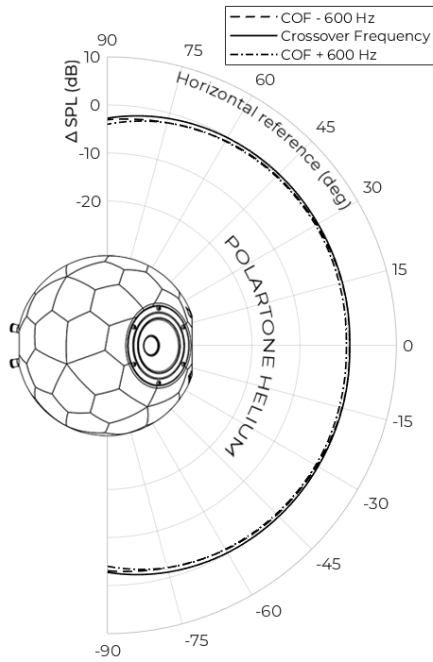


Figure 4: Horizontal polar response

The unquestionable benefit from the spherical, diffraction-free cabinet is manifested in perfect uniformity and symmetry of the horizontal radiation pattern, Figure 4.

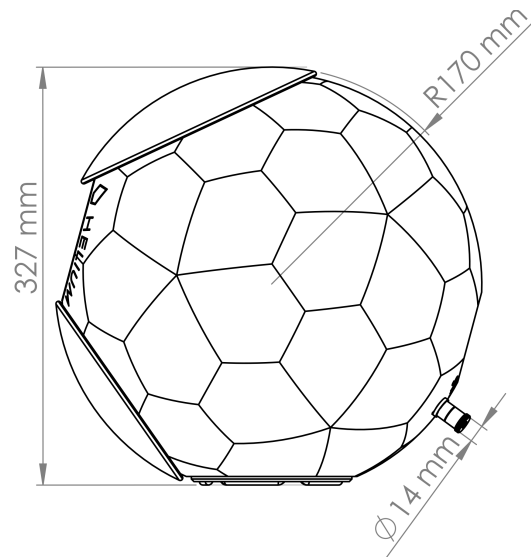


Figure 6: Side view

Dimensions

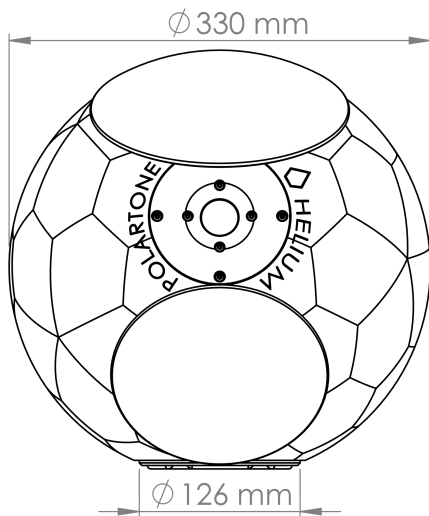


Figure 5: Front view

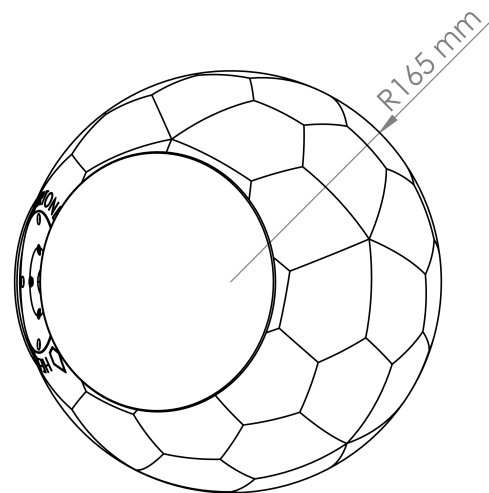


Figure 7: Top view