

Model Number: HDS-P830870  
Product Line: Peerless Gold

Revision: Rev 2\_0  
Date: 6-Nov-09

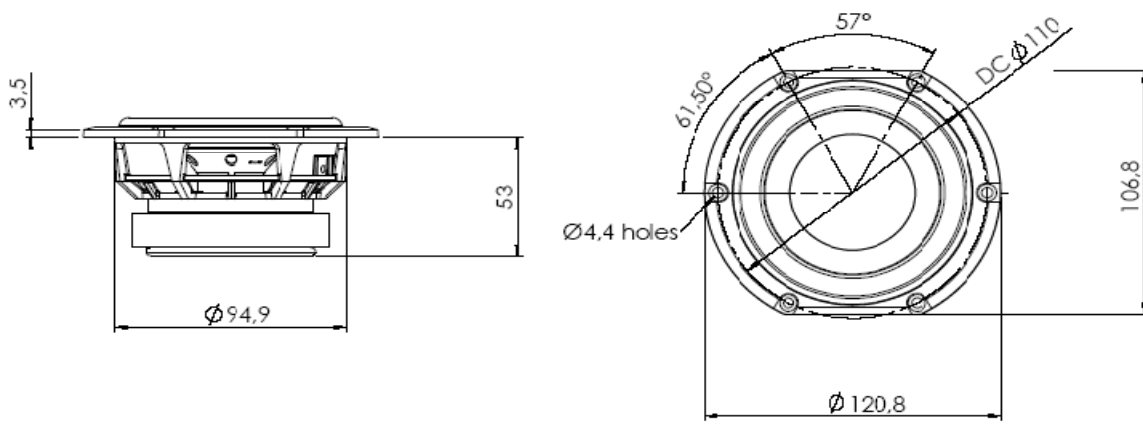


### Product Description:

This 4 inch 8 ohm driver is a member of the high performance HDS family. A powerful ferrite magnet system is coupled to a finite element analysis designed suspension system, containing both a linear spider design and a rubber surround. The motor contains an aluminium shorting ring, which reduces coil inductance, thus providing both extended frequency response performance and reduced distortion. The long-throw voice coil ensures linear high excursion performance, needed for signal clarity. The cone necks are vented so as to reduce air compression effects under high excursion conditions. The cast aluminium basket offers structural rigidity, heat sinking capacity for the motor, and additional air venting under the spider so as to again reduce air compression effects. The cone in this model is damped black polypropylene, offering a unique visual and acoustic experience.



### Mechanical 2D Drawing:

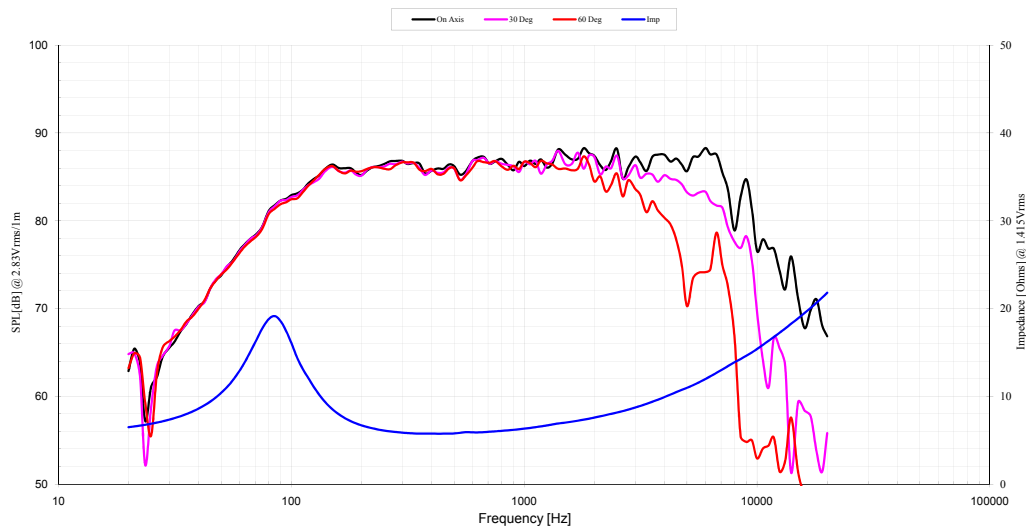


### Specifications:

|                                   |                  |                       |      |                     |                            |                  |                          |        |
|-----------------------------------|------------------|-----------------------|------|---------------------|----------------------------|------------------|--------------------------|--------|
| DC Resistance                     | $R_{\text{evc}}$ | $\Omega$              | 5.2  | 5.0%                | Energy Bandwidth Product   | EBP              | $(1/Q_{\text{es}})f_s$   | 124    |
| Minimum Impedance                 | $Z_{\text{min}}$ | $\Omega$              | 5.7  | 7.5%                | Moving Mass                | $M_{\text{ms}}$  | g                        | 6.1    |
| Voice Coil Inductance             | $L_e$            | mH                    | 0.16 |                     | Suspension Compliance      | $C_{\text{ms}}$  | um/N                     | 505    |
| Resonant Frequency                | $f_s$            | Hz                    | 91   | 15.0%               | Effective Cone Diameter    | D                | cm                       | 8.50   |
| Mechanical Q Factor               | $Q_{\text{ms}}$  | -                     | 1.92 |                     | Effective Piston Area      | $S_D$            | cm <sup>2</sup>          | 56.8   |
| Electrical Q Factor               | $Q_{\text{es}}$  | -                     | 0.74 |                     | Equivalent Volume          | $V_{\text{as}}$  | L                        | 2.2835 |
| Total Q Factor                    | $Q_{\text{ts}}$  | -                     | 0.53 |                     | Motor Force Factor         | BL               | T·m                      | 4.94   |
| Ratio $f_s / Q_{\text{ts}}$       | F                | $f_s / Q_{\text{ts}}$ | 171  |                     | Motor Efficiency Factor    | $\beta$          | $(T \cdot m^2) / \Omega$ | 4.71   |
| Half Space Sensitivity @ 2.83V    | dB@2.83V/1m      | dB                    | 85.9 | +/-1.0 <sup>1</sup> | Voice Coil Former Material | VC <sub>m</sub>  | -                        | ASV    |
| Sensitivity @ 1W/1m               | 1W/1m            | dB                    | 84.0 | +/-1.0 <sup>1</sup> | Voice Coil Inner Diameter  | VC <sub>d</sub>  | mm                       | 25.73  |
| Rated Noise Power (IEC 2685 18.1) | P                | W                     | 25   |                     | Gap Height                 | Gh               | mm                       | 6.00   |
| Test Spectrum Bandwidth           | 90Hz - 6kHz      | 12 dB/Oct             |      |                     | Maximum Linear Excursion   | $X_{\text{max}}$ | mm                       | 3.00   |
|                                   |                  |                       |      |                     | Ferrofluid Type            | FF               |                          | N/A    |
|                                   |                  |                       |      |                     | Transducer Size            |                  | inch                     | 4      |
|                                   |                  |                       |      |                     | Transducer Mass            |                  | kg                       | 0.92   |

1 - Piston Band Sensitivity Tolerance

### Frequency and Impedance Response:



F088-0713A