

Model Number: HDS-P830870  
Product Line: Peerless Gold

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

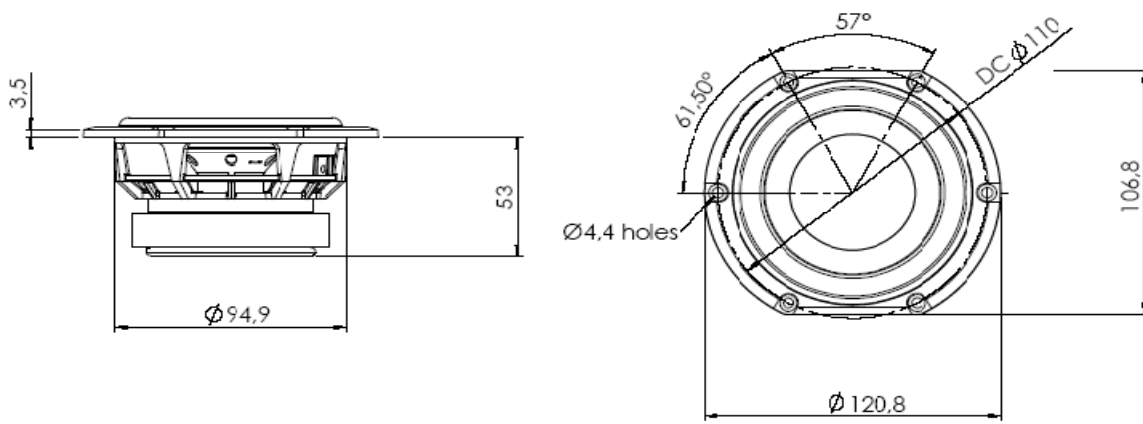


### Product Description:

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:

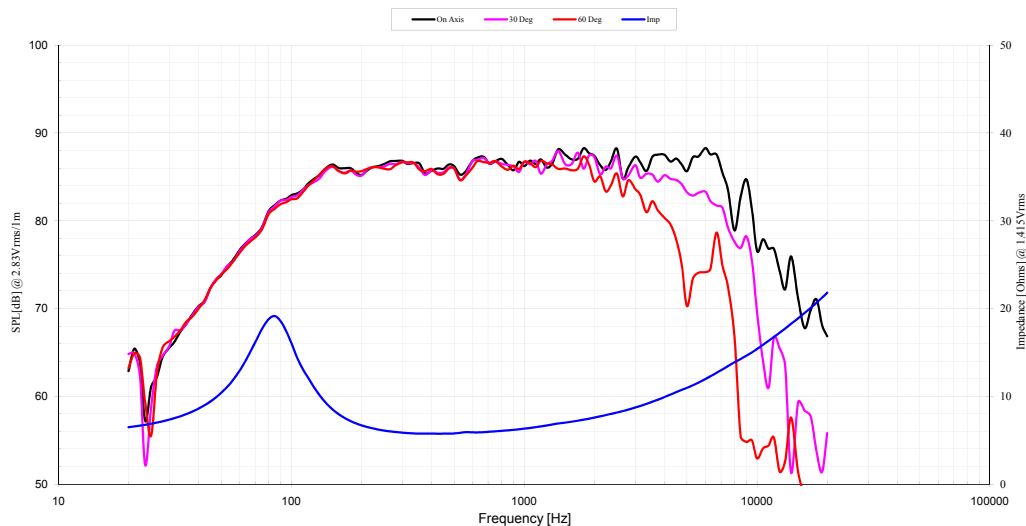


### Specifications:

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