Model Number: NE85W-04
Product Line: Peerless Platinum
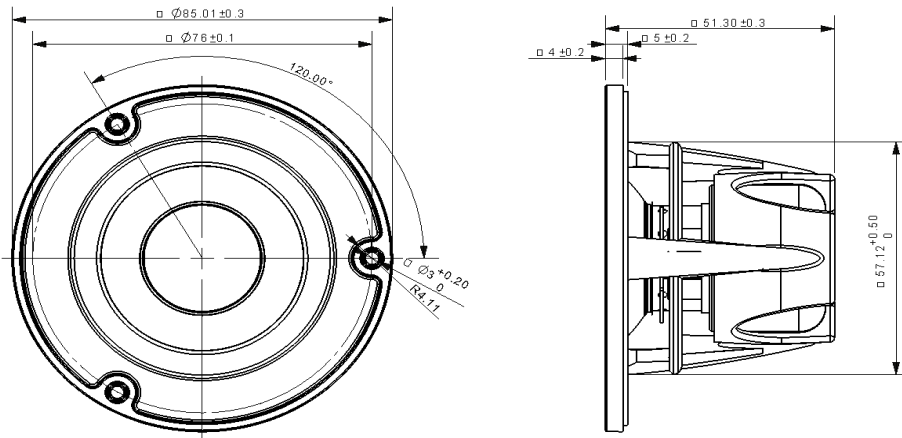
Revision: Rev 2_0
Date: 18-Mar-10

Peerless

Product Description:

This 2.5 inch 4 ohm member of the NE family has leading-edge transducer technology packaged in a cutting edge, stylistic design. The full-range drivers in this family feature an innovative cast aluminium basket design which minimizes acoustic reflections inside the driver, through large basket windows and sculpted basket spokes. The basket also is designed to act as a highly coupled heat sink to the Neodymium-Iron-Boron magnet (NdFeB) motor, so as to improve power handling capacity. The cone is aluminium, with a butyl rubber surround designed through finite element analysis for linearity of performance. The voice coil bobbin is titanium, for improved performance. The FEA-designed motor features copper caps to minimize inductance and extend performance to high frequencies.

Mechanical 2D Drawing:

Specifications:

Parameter	Symbol	Unit	Value	Tol.		Parameter	Symbol	Unit	Value
DC Resistance	R_{evc}	Ω	3.7	5.0%		Energy Bandwidth Product	EBP	$(1/Q_{es}) \cdot f_s$	152
Minimum Impedance	Z_{min}	Ω	4.0	7.5%		Moving Mass	M_{ms}	g	2.16
Voice Coil Inductance	L_e	mH	0.06			Suspension Compliance	C_{ms}	um/N	1066.2
Resonant Frequency	f_s	Hz	105	15.0%		Effective Cone Diameter	D	cm	5.3
Mechanical Q Factor	Q_{ms}	-	8.5			Effective Piston Area	S_D	cm^2	22.1
Electrical Q Factor	Q_{es}	-	0.69			Equivalent Volume	V_{as}	L	0.73
Total Q Factor	Q_{ts}	-	0.64			Motor Force Factor	BL	T·m	2.75
Ratio f_s / Q_{ts}	F	f_s / Q_{ts}	165			Motor Efficiency Factor	β	$(T \cdot m^2)/\Omega$	2.06
Half Space Sensitivity @ 2.83V	dB@2.83V/1m	dB	84.8	+/-1.0 [1]		Voice Coil Former Material	VC_{fm}	-	TiSV
Sensitivity @ 1W/1m	1W/1m	dB	82.7	+/-1.0 [1]		Voice Coil Inner Diameter	VC_d	mm	25.7
						Gap Height	Gh	mm	4.0
Rated Noise Power (IEC 2685 18.1)	P	W	20			Maximum Linear Excursion	X_{max}	mm	1.75
Test Spectrum Bandwidth	100Hz - 20kHz		12 dB/Oct			Ferrofluid Type	FF		N/A
						Transducer Size	-	inch	2.5
1 - Piston Band Sensitivity Tolerance						Transducer Mass	-	kg	0.236

Frequency and Impedance Response:

F088-0713A