

OVERVIEW

After two years of research and development, we are proud to introduce our new flagship 15" subwoofer – The STW 15"

The driver features an FEA optimized ferrite motor with 90mm peak to peak excursion, and a 188mm dual voice coil design, providing extraordinarily low power compression. It is also designed with 70L equivalent volume and F_s below 25Hz. These features allow the driver to be mounted in a much smaller box than most traditional 12", 15" and even many 10" subwoofers.

The STW 15" subwoofer offers deep & clean low-frequency reproduction with minimal distortion at high sound pressure levels. Designed for more, the driver is built for high-quality performance and reliability.

KEY FEATURES

- 188mm dual voice coil with extraordinary low power compression
- Long gap, long coil winding design provides +/-20mm linear excursion when voice coil moves up and down
- 90mm peak to peak excursion meets extreme dynamic sound demand
- Resonant Frequency \approx 24 Hz

MATERIALS & DESIGN

- FEA optimized motor design features triple ferrite magnets
- Rigid cast aluminum basket with multi-mounting position holes
- Dual aluminum shorting ring for minimal harmonic distortion
- Forced convection cooling
- High Durability dual Nomex spider and NBR surround provide strong and linear suspension

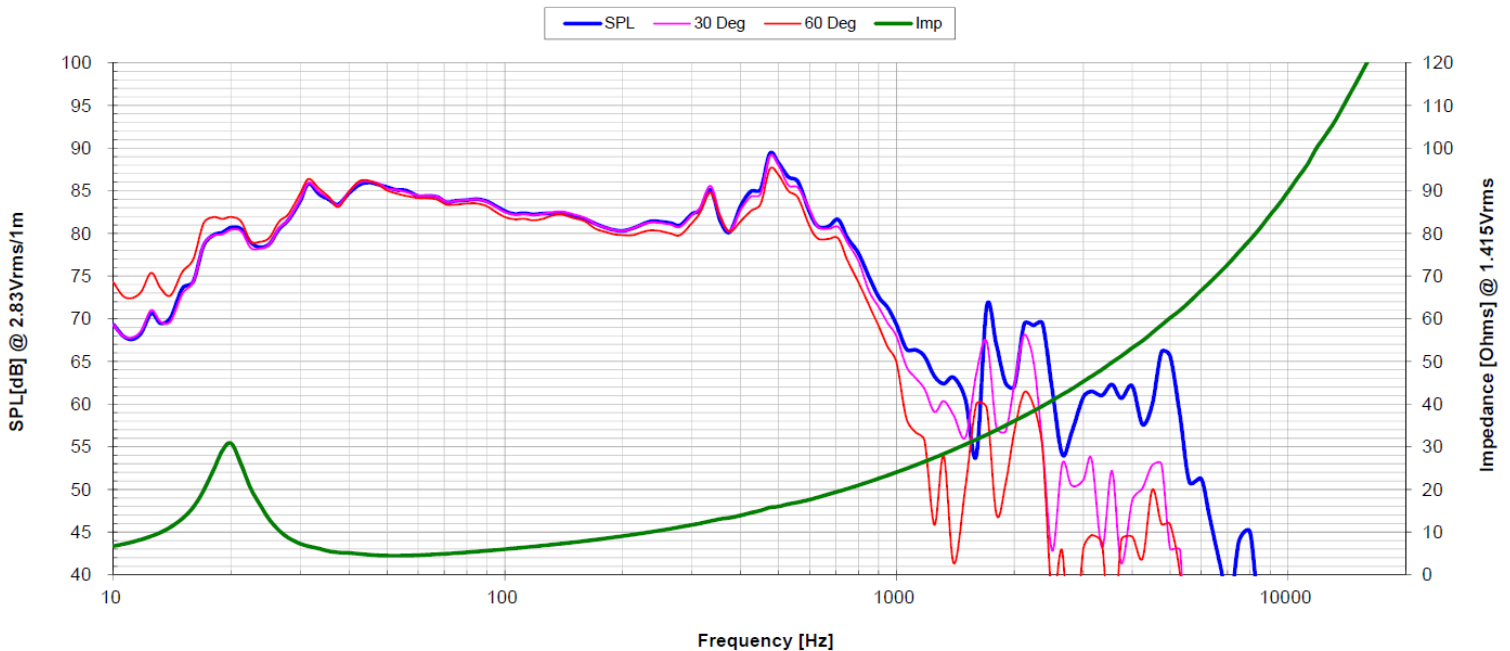


SPECIFICATIONS

DC Resistance	Revc	Ohms	3.09	5.0%	Energy Bandwidth Product	EBP	(1/Qes)*fs	47.28
Minimum Impedance	Zmin	Ohms	4.46	7.5%	Moving Mass	Mms	g	537.99
Voice Coil Inductance	Le	mH	1.25		Suspension Compliance	Cms	um/N	84.22
Resonant Frequency	Fs	Hz	23.64	15%	Effective Cone diameter	D	cm	31.42
Mechanical Q Factor	Qms		6.26		Effective Piston Area	Sd	cm^2	775.4
Electrical Q Factor	Qes		0.5		Effective Volume	Vas	L	71.12
Total Q Factor	Qts		0.46		Motor Force Factor	BL	Tm	22.19
Ratio Fs/Qts	F	Fs/Qts	51.39		Motor Efficiency Factor	β	(T*M^2)/Ohms	159.35
Half Space Sensitivity @2.83V	db@2.83V/1M	dB	85.4	+/- 1.0db	Voice coil former Material	VCfm		GSV
Half Space Sensitivity @1W/1M	db@1W/1M	dB	82.86	+/- 1.0db	Voice coil inner diameter	VCd	mm	188
Gap Height	Gh	mm	36		Rated Noise Power	P	W	2200
Maximum Linear Excursion	Xmax	mm	10.5		Test Spectrum Bandwidth	20Hz-200Hz		
Ferrofluid Type	FF				Transducer Size	Inch	15	
Transducer Mass	Kg		25					

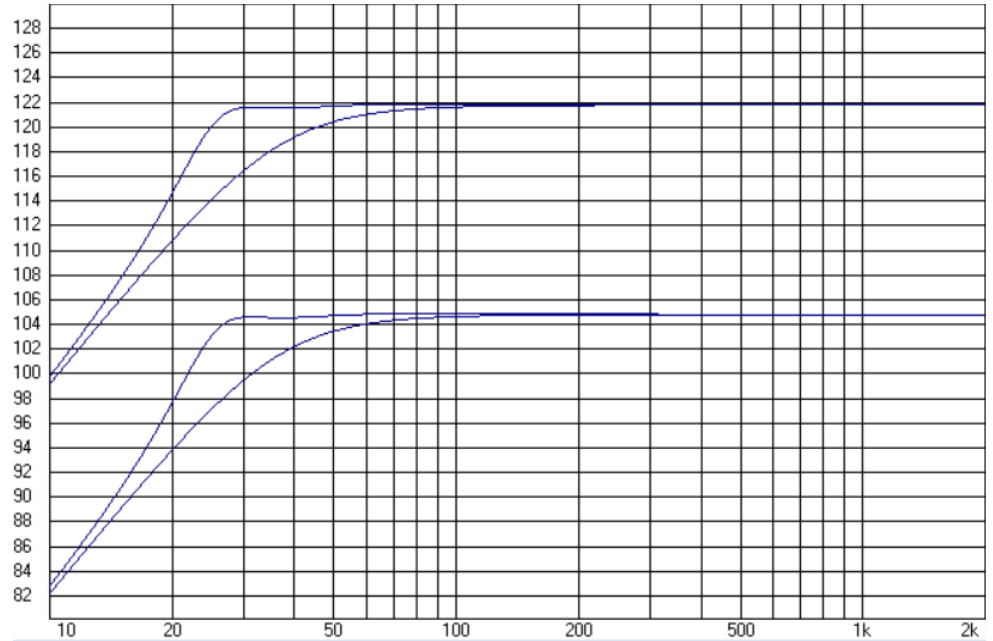
Note for the Xmax: The driver is a long gap (36mm) and long coil(58mm) design. This is a benefit for a subwoofer with long excursion (40mm). The driver can still maintain the coil in the gap to provide appropriate motor strength.

AVERAGE FREQUENCY & IMPEDANCE RESPONSE



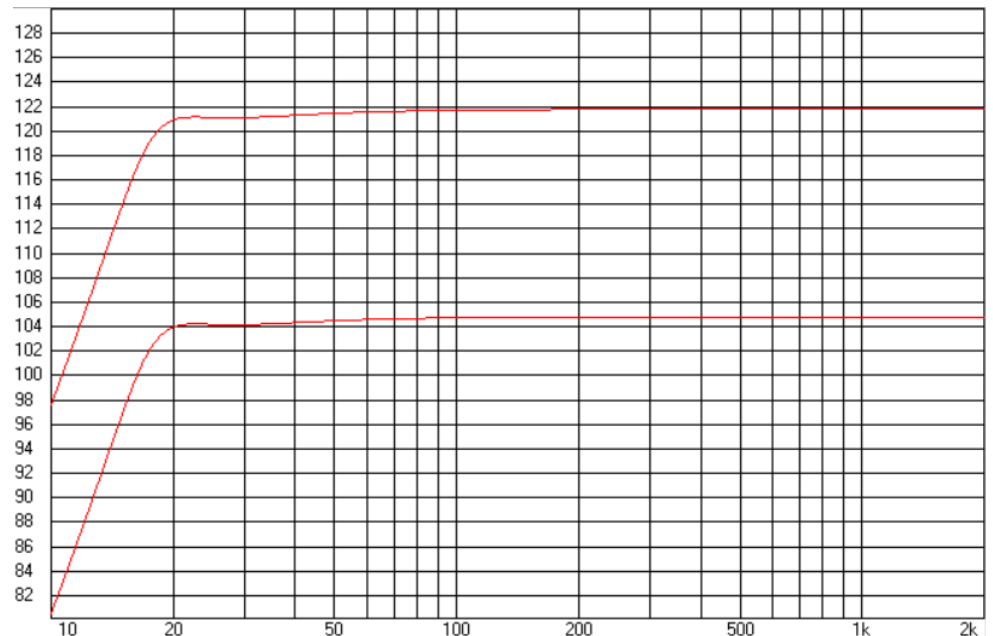
REFERENCE DESIGN – COMPACT SEALED BOX (SIMULATION)

- 60L Sealed Enclosure
- Shown at 100W and 5000W, full power (short-term)
- The more extended line shows the result with a single pole EQ, set to 26Hz, Q=2, Gain=6dB

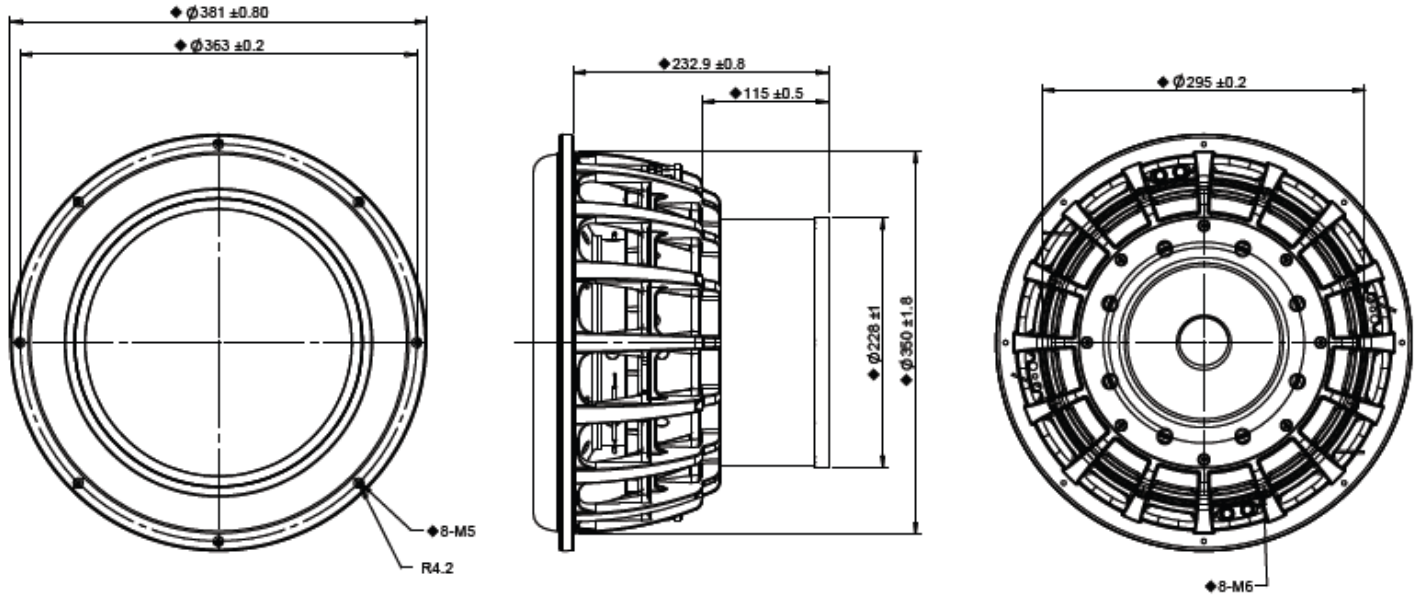


REFERENCE DESIGN – OPTIMUM VENTED BOX

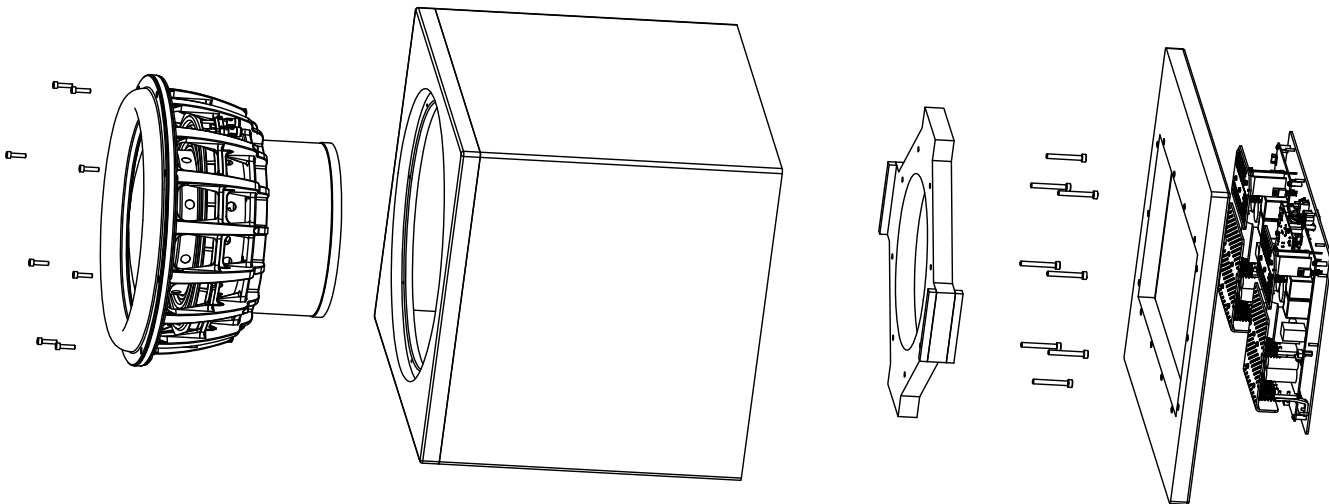
- Net Box Volume: 133L
- Vent Size: 10cm (2 vents)
- Vent Length: 92cm
- Shown at 100W and 5000W, full power (short-term)



OUTLINE DRAWING



DRIVER MOUNTING SUGGESTION



- The driver can be mounted from the front and rear of the driver basket to get a more robust and stiffer acoustic construction.
- Make a brace between front of the box and rear board, to get a more secure mounting of the driver