Waterproof Marine Speaker
Super Thin Series

SM – 6005

Description:

Extremely sensitive to sound and music, Super Thin Series provides high sensitivity and high performance output units to integrate with any audio system. The loudspeaker will reproduce the professional and the smoothest music at any time. All units within the range are fully waterproof to be used in environments with high humidity and moisture. The most attractive feature, however, lies with its thinness – a mounting depth less than two inches will allow it to be installed into any place and any surface panel. As classic round style loudspeakers of different sizes, they can blend into any environment both indoor and outdoor to bring you the most comfortable music zone. UV stabilised feature gives the units the best chance to stand against light radiation particularly in outdoor locations, such as on vessels, boats, port. Even in years after the installation, there will not be even a slightest fading in its colour.

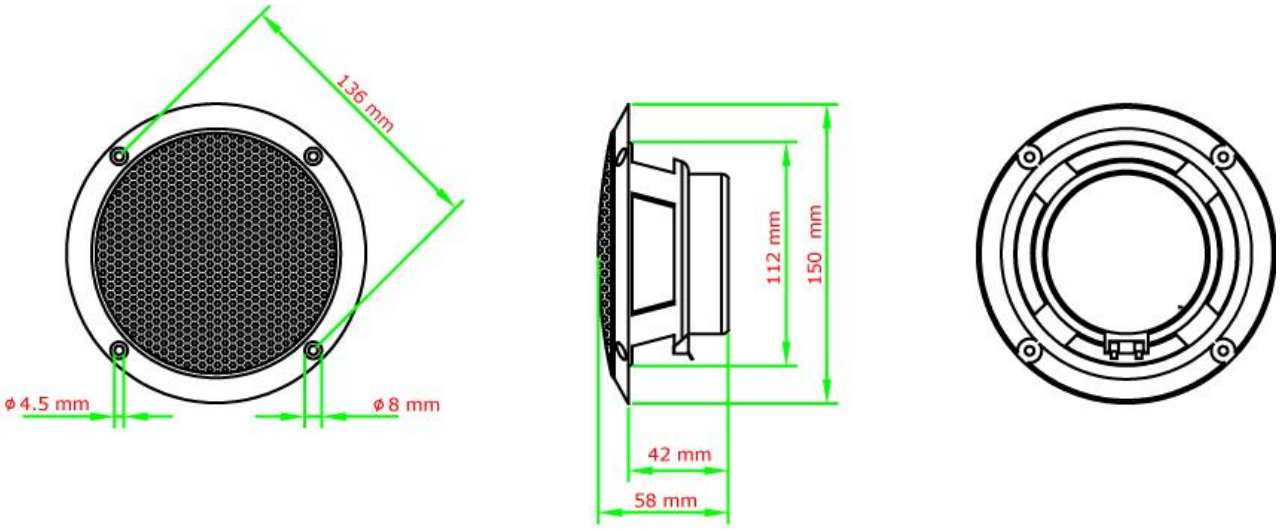
Features	
Loudspeaker type	Twin cone
Cone type	Mica polypropylene cone
Surround type	Thermoplastic polyurethane
Mounting type	Surface mounting
Fitting Mechanism	Screw
Colour	White / black
Cable type	Corrosion proof silicon coated terminal wire
Qualification	IP 65 rating ASTM D4329 & D 2244 (600hrs UV stabilised) ASTM B117 (400hrs saltwater spray) RoHS conform (2002/95/EC) IEC-268-5 (100 hours tested)

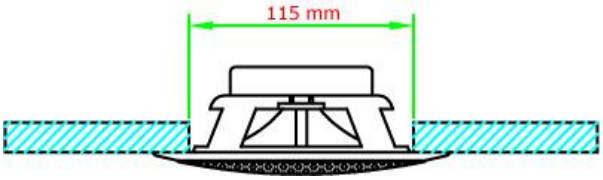
The series provides a great freedom to clients for integration with any audio system. PA audio system, home audio system, car audio system and any other type of audio system in areas with high humidity will be inspired by this series. Applications include swimming pool areas, balcony, sauna, bathroom, food preparation area, chemical laboratories, vessels and other similar environments. Completely waterproof, resistant to UV radiation, acid, alkali, chlorine and other chemicals are exactly the qualities needed for operating in difficult and challenging environments.

Specification	
Model	SM-6005
Loudspeaker size	5” round type
Loudspeaker type	Twin cone
Power handling RMS / MAX	20 W / 40 W
Average Sensitivity 1W / 1m	86 ± 2 dB
Maximum SPL 1m	99± 2 dB/20W
Frequency response	80 Hz ~ 20 kHz
Impedance	4 Ω
Operating temperature	-20℃ ~ 100℃
Exterior diameter	150 mm
Installation diameter	114 mm
Mounting depth	42 mm
Weight	300 g

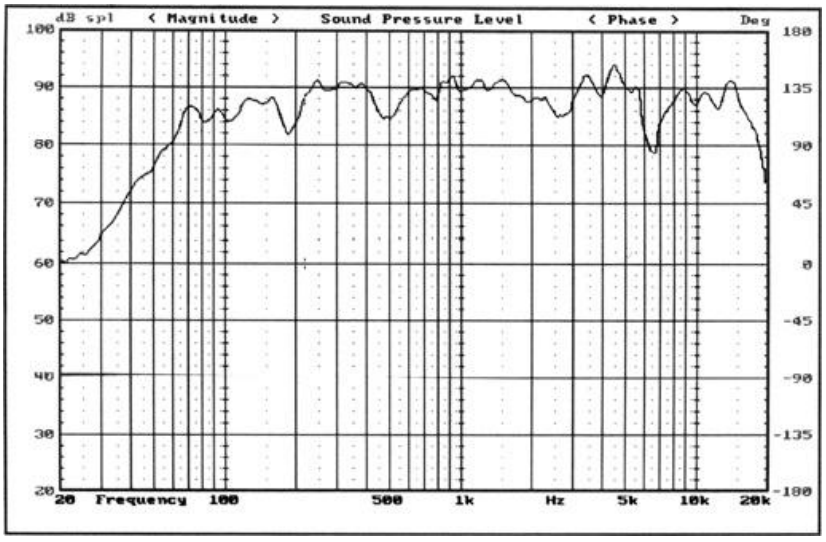
SM – 6005

Dimensional Diagram :





Characteristic diagrams :



SCIENTIFIC DESIGN SOFTWARE
Driver Parameters From Measurement Data

Date: 03-31-2005
Data for driver: SM-6005

Entered Data as Follows:

Entered driver DC resistance (Re)	3.97	ohms	
Entered driver resonance frequency (Fs)	109.69	hertz	
Entered driver maximum impedance at Fs	6.95	ohms	
Entered driver F1 frequency	73.49	hertz at	5.30 ohms
Entered driver F2 frequency	129.07	hertz at	5.30 ohms
Calculated Square root of F1*F2	97.40	hertz	
Calculated error factor	11.20	percent	
Compliance calculated by ADDED MASS method			
Entered added mass	10.00	grams	
Entered driver new resonance frequency	45.21	hertz	
Entered driver piston diameter	104.00	mm	
Entered driver magnet gap depth	4.00	mm	
Entered driver voice coil length	4.30	mm	

Calculated Thiele/Small Parameters:

Free Air Resonance (Fs)=SQR(F1*F2)	97.40	hertz
Qts	1.3245	
Qes	3.0890	
Qms	2.32	
Equivalent acoustic compliance (Vas)	9.85	liters
Piston area (Sd)	0.0085	square meters
DC resistance (Re)	3.97	ohms
Volume displacement (Vd)	8.49	ccm
Linear displacement (Xmax)	1.00	mm
Power handling (Pe)	TO BE ENTERED	
Coil Inductance (Le)	TO BE ENTERED	
Reference Efficiency (Ref Eff)	0.28	percent
Efficiency Bandwidth Product (EBP)	31.53	hertz

Other Calculated Data:

Moving Mass of Diaphragm only (Mmd)	2.30	grams
Moving Mass of Diaphragm & Air Load (Mms)	2.75	grams
Mass of Air load on diaphragm (Ma)	0.44	grams
Compliance (Cms)	0.00098	m/N
BL product (BL)	1.47	N/A
Sensitivity (SPL 1w/1m)	86.52	dB

INSTALLATION

1. Select a mounting location which will allow the speaker to lay flat and has adequate space.
2. Use the supplited template to mark the mounting holes. See Figure1.
3. Drill a starter hole in the center of the mounting hole. Using a hacksaw blade or a similar tool, cut the mount hole.
4. Drill the four $\frac{1}{8}$" mounting holes.
5 .Connect the speaker wire to the speaker terminals and route to stereo. Be sure stripe wire is connected to the positive(+) terminal of speaker. See Figure2.
6. Slide the four U-Clips over the mounting holes and press to hold in place. See Figure3.
7. Place a bead of RTV sealant (or equivalent) around the back rim of speaker basket.
8. Secure the unit with provided screws for intergrated speakers. Or for flush-mount speakers, tighten the screws to secure the unit first before fitting the cover grille onto the speaker. See Figure 3-1.

FIGURE1

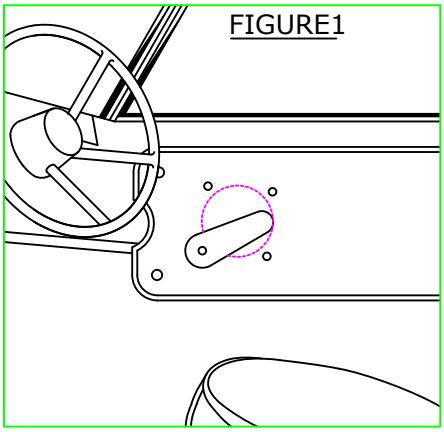


FIGURE2

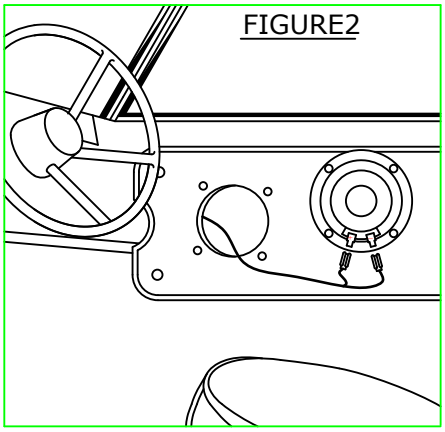


FIGURE3

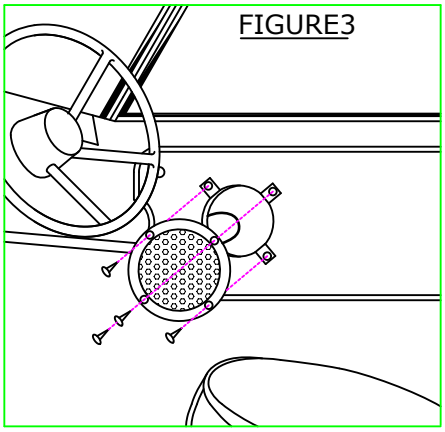


FIGURE3-1