



WOOFER DATA SHEET EMPHASER IMPULSE P6



The EMPHASER Impulse P6 woofer line has been engineered to offer best bass performance in its class, by the use of high quality parts and components, as well as by advanced design and construction.

■ DIE CAST ALUMINUM BASKET

EMPHASER's Impulse P6 woofers deploy die cast aluminum baskets for a stable and highly anti-resonant platform.

■ SR-FE CERAMIC DOUBLE MAGNET

The Strontium Ferrite ceramic double magnet system used on the Impulse P6 woofer models sports on FEA optimized gap geometry for high efficiency and low distortion.

■ POLYPROPYLENE INJECTION CONE

The Impulse P6 woofers deploy polypropylene injection cones with a straight profile. The choice of PP material combined with the straight cone geometry results in high stiffness ratio at relatively low moving mass, for in low cone flex and good sensitivity.

■ BUTYL RUBBER SURROUND

Surrounds made of butyl rubber guarantee a long service life and a wide temperature operating range, where butyl rubber retains its material properties for excellent micro/macro dynamics and minimized influence on the linearity of cone movement.

■ NOMEX™ SPIDER

The spider made of Nomex™ material prevents mechanical parameter shift and progressive breakdown of suspension by its unique material properties.

■ POLYIMIDE VOICE COIL FORMER

Voice coil formers made of Polyimide, better known as Kapton™ (formerly made by DuPont) are chosen for the non-magnetic and high temperature resistance properties.

■ 4-LAYER COPPER VOICE COIL

4-layer wound copper voice-coils on 2"/51 mm formers stand for very high thermal power handling and high B/L product in the air gap.

■ EXTENDED CENTER POLE/CENTER POLE VENT

The back pole plate with center pole are cold forged, retaining the desired magnetic properties of low carbon steel. Adding to this, the center pole is extended to linearize the field in the air gap, while the large center pole vent provides forced air cooling enhancing power handling.

■ RUBBER FRONT GASKET

The rubber front gasket design allows these Impulse P6 woofers to be mounted both ways, i.e. behind a panel or the standard way into a cut-out of a cabinet, for unlimited mounting flexibility.

■ PUSH TERMINAL

Push terminals as used on the Impulse P6 woofers maintain a constant spring tension on the speaker wire – thus low electrical contact resistance of the wires carrying the amplified signal to the woofer terminals is guaranteed.

TECHNICAL SPECIFICATIONS:

Usable Frequency Response*
Nominal Power Handling*
Nominal Impedance
Voice Coil Diameter
Voice Coil Winding Height
Magnetic Gap Height
Total Weight of Magnet

*Exact performance data depending upon actual enclosure!

THIELE - SMALL PARAMETERS

Free-Air Resonance (Fs)
DC Resistance (Re)
Electrical Damping (Qes)
Mechanical Damping (Qms)
Total Damping (Qts)
Equivalent Volume of Compliance (Vas)
Moving Mass incl. Air Load (Mms)
Electrically Limited Cone Excursion (Xmax)
Effective Cone Surface (Sd)
Volume Displacement of Cone (Vd)
Efficiency @ 2.00V (RefSPL)

EI10-P6

25 – 100 Hz
200 Wrms*
4 Ohms
2"/51 mm
25.0 mm
8.0 mm
58 oz. / 1'644 g

EI12-P6

20 – 100 Hz
250 Wrms*
4 Ohms
2"/51 mm
25.0 mm
8.0 mm
66 oz. / 1'871 g

34 Hz
3.9 Ohms
0.47
2.70
0.40
37.6 l
100.5 g
17.0 mm (p-p)
346 cm²
588 cm³
86.8 dB/1W/1m

30 Hz
3.8 Ohms
0.50
3.00
0.42
100.4 l
109.7 g
17.0 mm (p-p)
526 cm²
894 cm³
89.2 dB/1W/1m



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MOUNTING DIMENSIONS

Mounting Cutout Diameter
Rear Mounting Clearance (Mounting Depth)

E110-S6

228 mm
138 mm

E112-S6

275 mm
152 mm

ENCLOSURE SUGGESTIONS

EMPHASER Laboratories recommend to use the Impulse P6 woofers in combination with sealed, vented or bandpass enclosures. To obtain the best possible performance of this woofer in your car audio setup make sure to follow the stated basic enclosure suggestions as listed. If the provided suggestions are not applicable to your system or vehicle, contact your authorized EMPHASER dealer to ask for further assistance.

SEALED ENCLOSURE

Net Volume:

25 l

32 l

PORTED ENCLOSURE (BASS EXTENSION)

Net Volume:

35 l

48 l

Inner Diameter of Port:

1 x 8 cm

1 x 10 cm

Length of Port:

23 cm

26 cm

BANDPASS ENCLOSURE

Net Volume Ported Chamber:

27 l

38 l

Net Volume Sealed Chamber:

20 l

28 l

Inside Diameter of Ports:

1 x 10 cm

2 x 10 cm

Port Length:

15 cm

21 cm each

ENCLOSURE CONSTRUCTION / CABINET DAMPING / BREAK-IN INFO

→ Always use at least 19 mm MDF or 18 mm birch plywood to build the bass enclosure. Make sure all joints are well sealed, since a woofer can only reach optimum performance when mounted to an airtight cabinet.

→ The enclosures should be lined with damping material according to their function principle: The sealed enclosure must be loosely filled with polyfill (bonded acrylic fiber). The inner walls of the ported enclosure should be lined out with egg crate PU-foam. The sealed chamber of the bandpass enclosure has to be lined with PU-foam, while the ported chamber usually remains free of any damping material.

→ Loudspeakers need time to break-in. Out of the box, the suspension system of any car audio woofer is quite stiff. To achieve optimum bass response, consider two weeks of daily playing at medium playback levels. After that period of time, the suspension system has reached its equilibrium and will remain stable for the entire life-span of the product.

WARRANTY

EMPHASER Inc. Wyoming, Michigan U.S.A. warrants this woofer to be free of defects in materials and workmanship for two years from the original date of purchase at retail, contingent upon installation being performed or approved by an authorized EMPHASER dealer. EMPHASER Inc. will at its own discretion repair or replace any mechanically defective woofer at no charge, during the warranty period. This warranty is limited to the **original purchaser**.

Should your EMPHASER woofer require warranty service, please return it to the retailer from whom it was purchased.

Please do not send any product to EMPHASER Inc., Wyoming, Michigan U.S.A. Should you have difficulty in finding an authorized EMPHASER dealer or service center, details are available from the national distributor in the country of purchase.

Abuse of this loudspeaker is **not covered under warranty**. The warranty **does NOT cover**:

- Woofers that have been exposed to electrical input exceeding the rated power handling
- Any kind of freight damage
- Woofers damaged due to amplifier clipping
- Woofers exposed to water, oil, solvents or excessive heat
- Repair attempts by unauthorized individuals
- Install damage (i.e. screwdriver holes)