

nearly no own resonance. The PHA cone is rigid and has a high internal damping. The resonance of the system is adjustable by enlarging the weight of the moving system by means of screwing washers of different mass to the center point.

[illegible]

Technical drawing of a circular diffuser, showing a top view and a side cross-section view.

Top View: A circular cross-section with a central dashed circle and a solid outer circle. The outer diameter is labeled $\varnothing 215.5$. The inner diameter is labeled $\varnothing 177$. The thickness of the ring is labeled $\varnothing 10.5$. The drawing is divided into four quadrants by dashed lines.

Side View: A cross-section of the diffuser, showing a trapezoidal shape. The top width is labeled $\varnothing 215.5$. The bottom width is labeled $\varnothing 177$. The height of the diffuser is labeled $\varnothing 10.5$. The drawing is divided into two halves by a vertical dashed line.

Labels:

- $\varnothing 215.5$ (Outer diameter)
- $\varnothing 177$ (Inner diameter)
- $\varnothing 10.5$ (Thickness)
- MIN. RAFFELHÖHE $\varnothing 10.5$ (Minimum baffle height)
- 8 HOLES MAX. (Maximum number of holes)

resonance in relation to weight of cone

f_0/Hz

21 W-SL

30 W-SL

adjustment weight in g

Adjustment weight (g)	f_0 (Hz) for 21 W-SL	f_0 (Hz) for 30 W-SL
0	17.5	14.0
10	16.5	13.5
20	15.8	13.0
30	15.2	12.5
40	14.6	12.0
50	14.0	11.5
60	13.4	11.0
70	12.8	10.5
80	12.2	10.0
90	11.6	9.5
100	11.0	9.0

All specifications subject to change without notice

THE VARIOVENT IS AN OPENING IN THE LOUDSPEAKER-BOX WHICH IS PADDED WITH DAMPING MATERIAL. IT CONSISTS OF AN OPEN PLASTIC CABINET, IN WHICH THE AMOUNT AND THICKNESS OF THE DAMPING MATERIAL MAY BE ADJUSTED TO THE INDIVIDUAL CONSTRUCTION OF THE LOUDSPEAKER.

Physically, the VARIOVENT is a flowresistance, damping the resonance like a DC-resistance in the oscillating circuit which results in a more precise bass response (excellent transient response) and better woofer quality.

The impedance maximum at the resonance point will be reduced by at least 50% compared to a sealed cabinet (fig. 2). Consequently, the amplifier is able to give more power in the lower range. The oscillation of the cone after a strong pulse is aperiodically damped (fig. 3 and 4). A cabinet construction with VARIOVENT must not be mistaken for a bass-reflex box. This often is inclined to a voluminous and inaccurate bass response. To the contrary, the VARIOVENT causes a more clear and well defined bass response.



Fig. 1

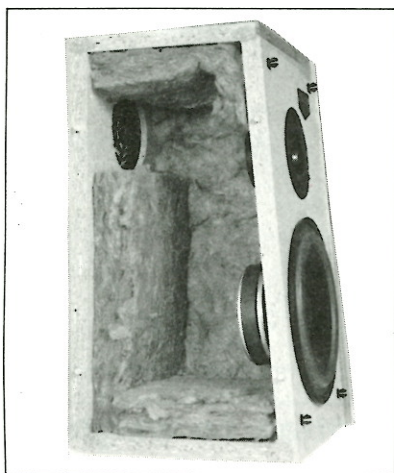
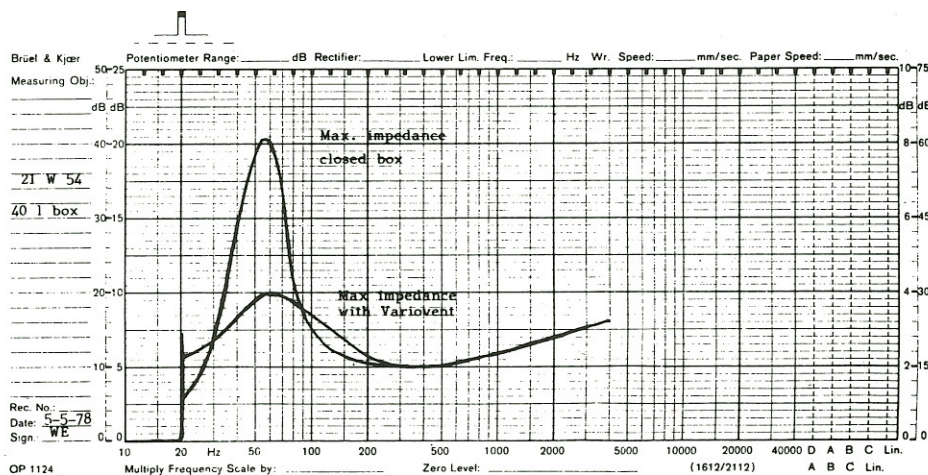


Fig. 2



The use of a VARIOVENT is rather unproblematic, as no delicate tuning is necessary, compared to transmissionline or bass-reflex boxes. Therefore, it is also to be recommended for do-it-yourself use. In any case, an improvement of the woofer characteristics in the above-mentioned sense will be obtained. The best way of mounting the VARIOVENT will be the backside of the cabinet (fig. 1). The diameter of the hole is 110 mm. About 2/3 of the cabinet volume ought to be filled with damping material, by which a channel between the back of the woofer and the VARIOVENT must be left free. For cabinet volumes up to 50 litres, 1 VARIOVENT is necessary. For cabinet volumes up to 80 litres, 2 VARIOVENTS, and for cabinet volumes of more than 80 litres, 3 VARIOVENTS are necessary.

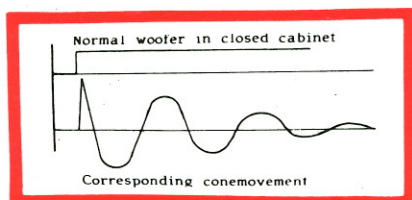


Fig. 3

Fig. 4

