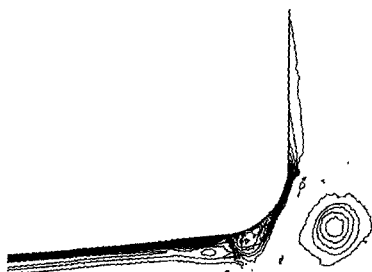
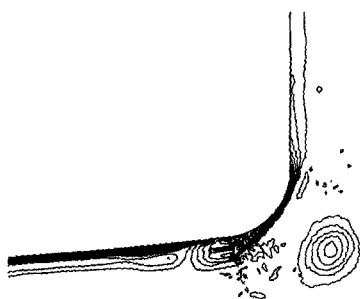


Figure 8: Vorticity contours at the outlet of port E, 2.22 l/s, time $t \approx 7..10$ ms.



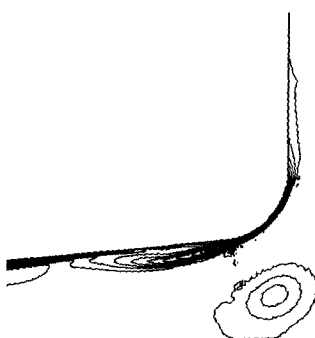
(a) time $t=11$ ms (maximum vorticity in vortex $0.717E4$ radians/s)



(b) time $t=12$ ms (maximum vorticity in vortex $0.626E4$ radians/s)

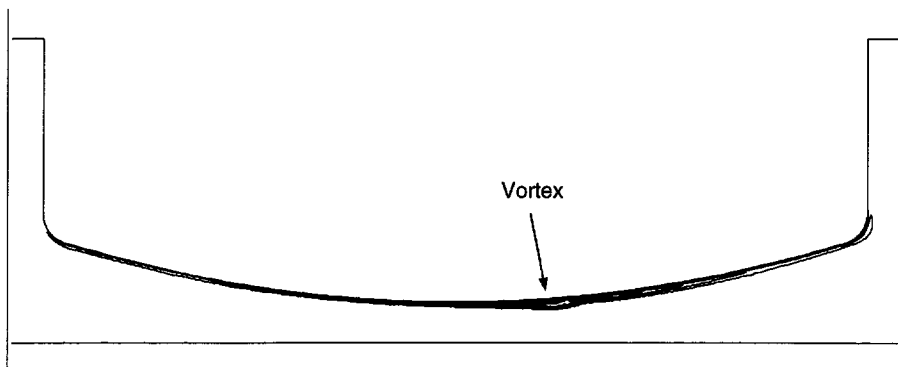


(c) time $t=13$ ms (maximum vorticity in vortex $0.5417E4$ radians/s)

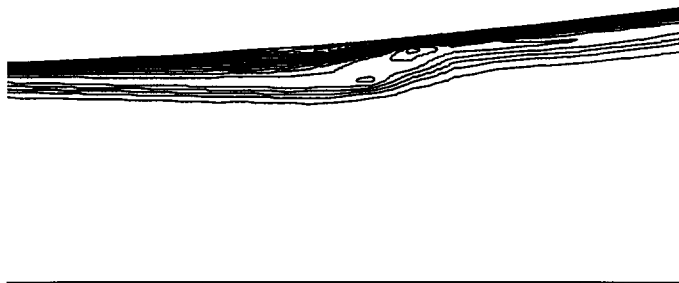


(d) time $t=14$ ms (maximum vorticity in vortex $0.4481E4$ radians/s)

Figure 9: Vorticity contours at the outlet of port E, 2.22 l/s, time $t=11..14$ ms.



(a) Full model view



(b) Zoomed view

Figure 10: *Vorticity contours of port D, 2.22 l/s, time $t=10$ ms.*

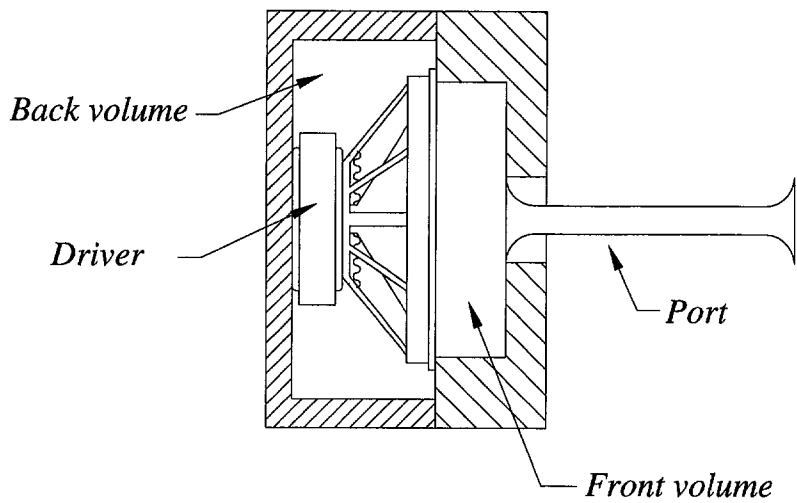


Figure 11: *Band-pass loudspeaker system.*

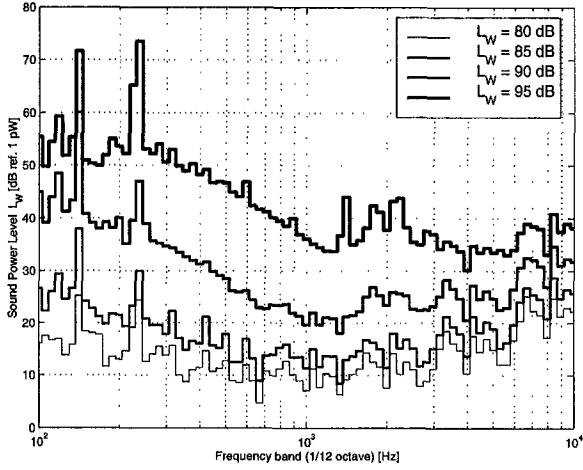


Figure 12: Sound power of blowing sounds of a strongly converging-diverging port (port D) for the sound power levels 80, 85, 90 and 95 dB at the driving frequency. Physical port length $L=0.13$ m, Loudspeaker driven with a single frequency of 45 Hz.

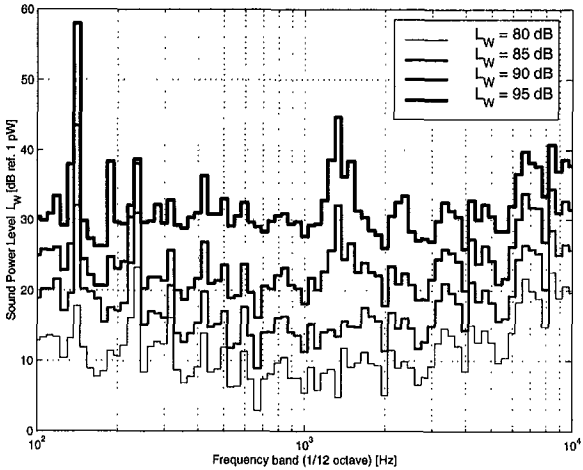


Figure 13: Sound power of blowing sounds of a slowly converging-diverging port (port E) with curvature radii of 5 mm for the sound power levels 80, 85, 90 and 95 dB at the driving frequency. Physical port length $L=0.13$ m, Loudspeaker driven with a single frequency of 45 Hz.

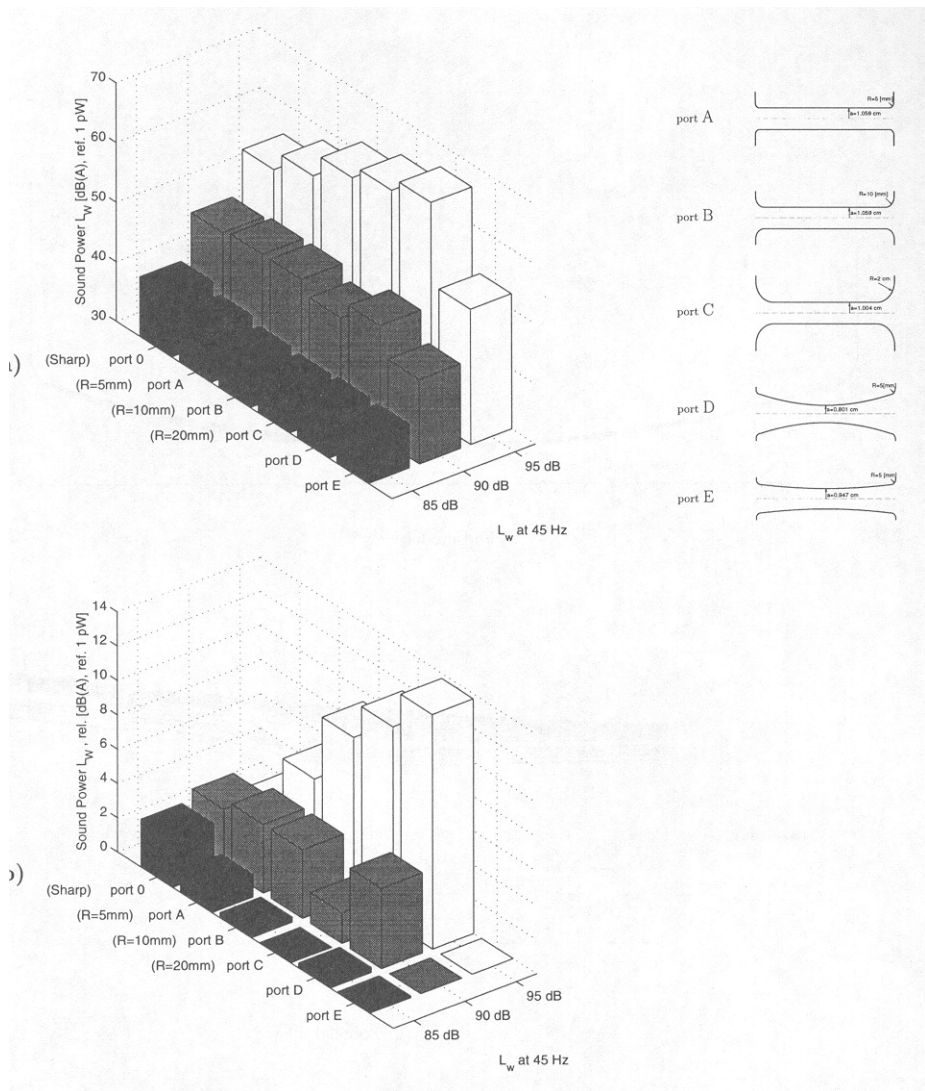


Figure 14: Sound power of the blowing sounds for port 0, A, B, C, D and E, for equal sound pressure levels at the driving frequency at 1 m distance in an anechoic room, **a)** absolute sound power, **b)** sound power relative to port E.