



33 F-WB and /DD

33 F-WB, 13" High Fidelity woofer.

33 F-WB/DD, 13" High Fidelity woofer with Dynamic Damping.

Chassis: aluminium alloy, injection moulded, black.

Surround: foam.

Cone: paper, edge coated.

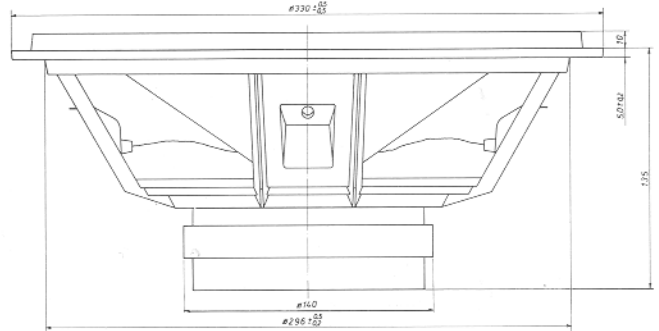
Dust Cap: paper, inversely mounted.

Mounting holes: 8 x 5 mm, equispaced on PCD 319 mm

Very high efficiency, extremely low distortion in the bass region and a good transient response characterize this driver.

The low distortion level is obtained by unconventional design of the magnet system, and the large signal transient response is optimized by the slightly progressive suspension. The woofer is designed to be used in bass reflex systems.

The DD- model, equipped with our patented «Dynamic Damping», has improved low bass transient behaviour at high power levels.



Technical data:

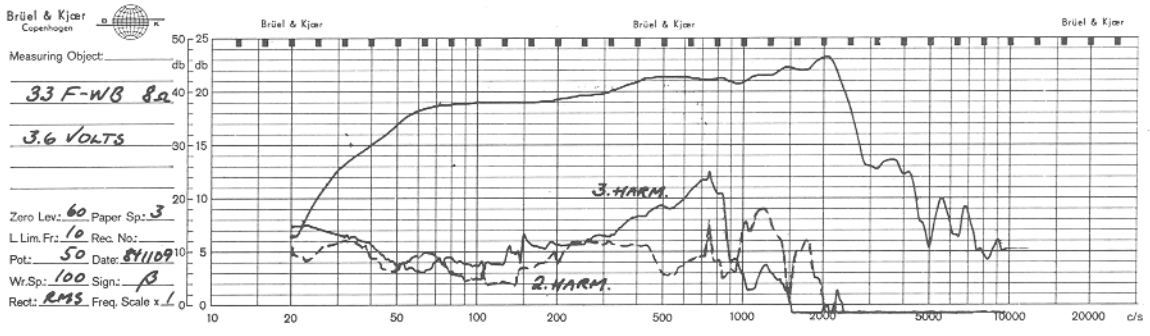
8 ohms

Recommended frequency range	30 - 1000	Hz	Voice coil inductance	2,5	mH
Nominal power (DIN 45573)	80	W	Voice coil resistance	6,0	ohms
Music power (DIN 45 500)	200	W	Effective diaphragm area	550	cm ²
Characteristic sensitivity (1m, 1w)	94	dB SPL	Moving mass	45	g
Operating power (DIN 45500)	1,6	W	Air load mass in baffle	7	g
Voice coil diameter	39	mm	Free air resonance	27	Hz
Voice coil height	24	mm	Mechanical suspension resistance	3,3	Ns/m
Air gap height	10	mm	Thiele - small parameters		
Flux density	1,2	T	Vas	280	litres
Force factor	11,5	Wb/m	Qms	2,7	
Recommended enclosure volumes:			Qes	0,40	
Closed cabinet	50 - 100	litres	Qts	0,35	
Bass reflex cabinet	70 - 100	litres			
Weight	5,1	kg			
Magnet weight	1,2	kg			

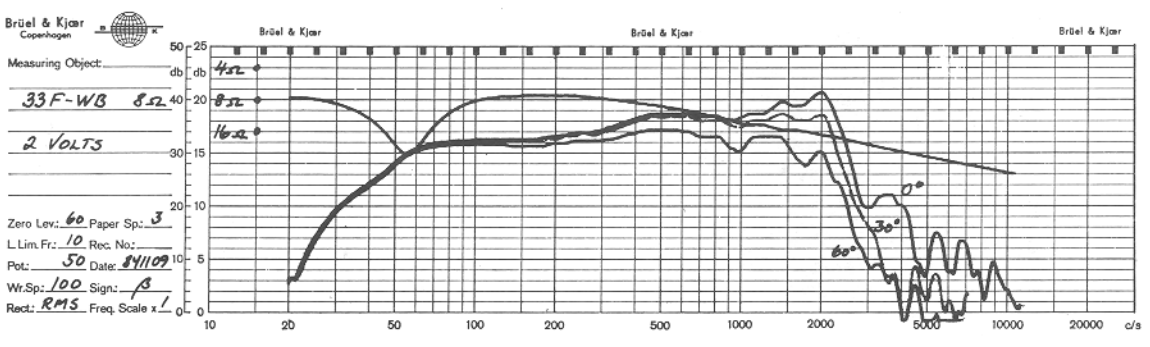
NOTES:

Response curves recorded in anechoic chamber (Free-Field, 4π -radiation) with 0.5 m microphone distance. The loudspeaker is mounted in a closed box of 50 l net volume:

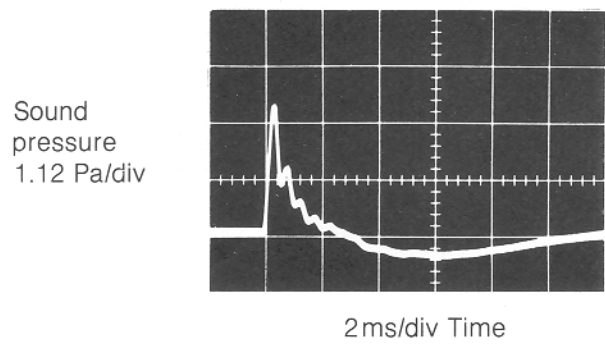
A Sound pressure on and off axis, and impedance:



B Sound pressure and distortion on axis. The distortion components are raised by 20 dB:



C Sound pressure response to 4 Volts step function:



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Note: New telex no. 78419 SEAS N from June 20. 1985