FOCAL

KEVLAR TWEETERS

T 90K T 120K

FOCAL tweeters of the latest generation are all fitted with a diaphragm in the shape of a inverted dome made of KEVLAR fiber. The dome, 30 mm in diameter, is coupled with a 20 mm voice coil, fastened in its centre. This original lay-out is the only one to guarantee an excellent mechanical coupling as well as outstanding space distribution. FOCAL tweeters exhibit a quasi-constant acoustic energy over a radiating semi-circle, at every frequency. Moreover, the response curve is kept when one switches from 1 to 3 m distance, quite an uncommon feature for conventional domes. The KEVLAR cap is associated with an ultralight surround made of coated foam for a perfect decoupling of the frame. The thickness of the front pannel, out of antivibratory material, is no less than 4.5 mm. It is necessary to embed these tweeters in the baffle using a 5 mm rabbet.

All FOCAL tweeters exhibit a high output and are animated by enormous magnets (total weight from 0.5 to 1.9 kg), providing fantastic accelerations. The T90K and T120K differ by their respective outputs and by a lower limitation of use fixed at 2 kHz and 3 kHz respectively. The T122K differs from the T120K by a decompression of the pole piece and the inner cavity of the magnet, as well as a damper at the rear of the dome. The T122K can be used at a very low frequency, as from 1.5 kHz. Finally, the T130K is basically a T122K with its inner decompressions, which has been added a second magnet at the rear and, at the front, two acoustic impedance regulating units in the shape of a quarter sphere. The power handling is enhanced and the response curve becomes ultra-linear as from 4 kHz.

T 122K T 130K

SPECIFICATIONS	T 90 K	T 120 K	T 122 K	T 130 K
Rated power handling				
Nominal / program (W)	10 / 75	10 / 100	10 / 100	10 / 100
Voice coil				
Diameter / length (mm)	20 / 2,2	20 / 2,2	20 / 2,2	20 / 2,2
Nominal / mini impedance (Ω)	8 / 7,5	8 / 7,5	8 / 7,5	8 / 7,5
DC resistance (Ω)	6	6	6	6
Inductance (mH)	0,08	0,09	0,09	0,09
Former	Aluminium	Aluminium	Aluminium	Aluminium
Layers	2	2	2	2
Wire	Copper	Copper	Copper	Copper
Cone	Kevlar	Kevlar	Kevlar	Kevlar
Surround	Coat.foam	Coat.foam	Coat.foam	Coat.foam
Magnet				
Diameter (mm)	72	96	96	96
Weight (g)	250	700	700	1000
Flux density (T)	1,45	1,85	1,85	1,88
Air grap volume (cm^3)	0,084	0,084	0,084	0,084
Sensitivity				
Nominal / > 200 Hz (dB)	92	93	93,5	95
Net weight (kg)	0,51	1,33	1,31	1,85

PARAMETERS	T 90 K	T 120 K	T 122 K	T 130 K
Fs (Hz)	896	647	412	600
Vas (m^3)	-	-	-	-
Qts	0,88	0,47	0,29	0,43
Qes	1,16	0,57	0,36	0,53
Qms	3,70	2,65	1,56	2,29
Zmax (Ω)	31	32	20,2	25
Xmax (mm)	-	-	-	-
Sd (m^2)	-	-	-	-
Vd (cm^3)	-	-	-	-
Cms (m/N).10^{-3}	0,27	0,27	0,27	0,27
Mms (kg)	-	-	-	-
Rms (kg/s)	-	-	-	-
Bl (N/A)	2,8	3,4	3,4	3,4
Γ (mS^{-2} A^{-1})	10340	12590	12590	12590
N (%)	-	-	-	-
NO (dB/1W/1m)	-	-	-	-