

Loudspeaker name (manufacturer/type)		Manger W05		Formula (using SI dimensions)	
Free air resonance frequency	Fs	[Hz]	88.0	88.14	$=1/(2*\text{Pi}*(\text{Cms}*\text{Mms})^{0.5})$
Moving mass (incl. air load)	Mms	[g]	14.82	14.87	$=1/((2*\text{Pi}*Fs)^2*\text{Cms})$
Mech. compliance of susp.	Cms	[mm/N]	0.22	0.22	$=1/((2*\text{Pi}*Fs)^2*\text{Mms})$
Radiating surface	Sd	[cm <sup>2</sup> ]	220.09	221.70	$=\text{Vas}/(\text{Rho}*c^2*\text{Cms})^{0.5}$
Effective cone diameter	Dd	[cm]	16.74	16.80	$=2*(\text{Sd}/\text{Pi})^{0.5}$
Equivalent air volume	Vas	[l]	15.00	14.78	$=\text{Rho}*c^2*\text{Cms}*\text{Sd}^2$
DC-resistance of voice coil	Rdc	[Ohm]	7.15	7.16	$=\text{Qes}*\text{BL}^2/(2*\text{Pi}*Fs*\text{Mms})$
Force factor for X < Xlin	BL	[N/A]	6.85	6.85	$=(2*\text{Pi}*Fs*\text{Mms}*\text{Rdc}/\text{Qes})^{0.5}$
Free air mechanical Q	Qms	[ ]	2.940	2.937	$=2*\text{Pi}*Fs*\text{Mms}/\text{Rms}$
Free air electrical Q	Qes	[ ]	1.250	1.249	$=2*\text{Pi}*Fs*\text{Mms}*\text{Rdc}/\text{BL}^2$
Mechanical resistance	Rms	[kg/s]	2.79	2.79	$=2*\text{Pi}*Fs*\text{Mms}/\text{Qms}$
Efficiency (1W/1m/half space)	Eta	[dB]	91.0	91.00	$=51.91+10*\text{Log}10(\text{Fs}^3*\text{Vas}/\text{Qes})$
Efficiency bandwidth product	EBP	[Hz]	70.4	70.59	$=\text{Fs}/\text{Qes}$
Power handling capacity	Pel	[W]	32		
Max. SPL (Pel/1m/half space)	SPL_e	[dB]	106.1		$=\text{Eta}+10*\text{Log}10(\text{Pel})$
Linear excursion	Xlin	[mm]	7.00		$=(\text{H}_\text{voicecoil}-\text{H}_\text{airgap})/2$
Maximum excursion	Xmax	[mm]	8.00		
Max. lin. SPL @ 50 Hz in CB	SPL_m	[dB]	103.1		$=20*\text{Log}10(\text{Xlin}*\text{Sd}*50^2)+111.43$
Frequency SPL_m = SPL_e	F_m=e	[Hz]	59.2		$=50*10^{((\text{SPL}_e-\text{SPL}_m)/40)}$