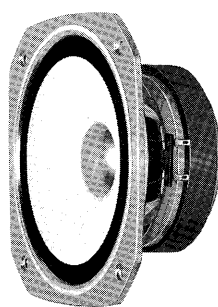
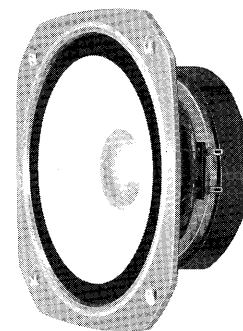


# FF series

full range

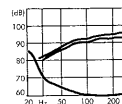


FF125

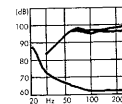


FF165

FW407



FW507

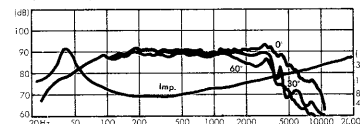


# MW series

Woofer

MW series woofer is quite good combination with horn type mid-range and tweeter for all round hi-fi speaker system in bass reflex box at economical cost.

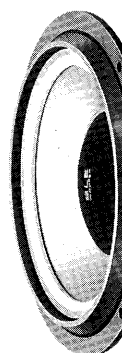
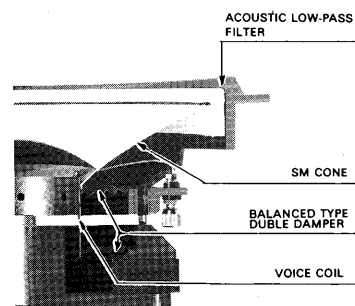
MW201



# SLE series

Edgeless Woofer

The edgeless woofers SLE22W/SLE33W are the excellent woofer as studio monitor system and high end home use hi-fi speaker system with a good combination of dome type mid-range and RP tweeter in 3-way system. SLE22W is suitable for the bass reflex box in 45 liter, and SLE33W is for the air tight box in 70-100 liter.



	FE83	FE103	FE103Σ	FE133	FE163	FE/203/ FE203Σ	UP103	UP133	UP163	UP203
Diameter [cm]	8	10	10	13	16	20	10	13	16	20
Impedance [Ω]	8	8/16	8/16	4/8	8	8/16	8	8	8	8
Resonance frequency(Hz)	140	80	70	70	50	45	75	65	45	40
Frequency range (Hz)	f <sub>0</sub> ~20k	f <sub>0</sub> ~18k	f <sub>0</sub> ~18k	f <sub>0</sub> ~16k	f <sub>0</sub> ~20k	f <sub>0</sub> ~16k	f <sub>0</sub> ~20k	f <sub>0</sub> ~20k	f <sub>0</sub> ~20k	f <sub>0</sub> ~20k
Efficiency [dB/W(1m)]	88	89	90	91	91.5	94/96	88	89	90	91
Power handling (W(Mus.))	7	15	15	18	25	30	20	26	32	40
m <sub>0</sub> [g]	1.15	2.7	2.9	3.5	7.0	11.8	3.5	5.0	9.5	18.5
Effective Q <sub>0</sub>	0.8	0.35	0.32	0.4	0.4	0.34/0.3	0.45	0.5	0.45	0.55
Magnet weight [g]	140	193	386	290	380	850/1,700	330	510	850	1,090
Total weight [kg]	0.36	0.63	0.96	0.95	1.26	2.33/3.25	1.5	1.8	2.9	3.9
STD. volume of enclosure	4ℓ	8.5ℓ	15ℓ	12ℓ	25ℓ	45ℓ	15ℓ	26ℓ	34ℓ	40ℓ

	FW100	FW160	FW200	FW303	FW400	FW400S	FW800	MW201	MW301	MW401
Diameter [cm]	10	16	20	30	40	40	80	20	30	40
Impedance [Ω]	4	4	8	8	8	8	8	8	8	8
Resonance frequency (Hz)	45	30	25	21	17	17	15	40	40	30
Frequency range (Hz)	f <sub>0</sub> ~10k	f <sub>0</sub> ~10k	f <sub>0</sub> ~6k	f <sub>0</sub> ~4k	f <sub>0</sub> ~2.5k	f <sub>0</sub> ~2.5k	f <sub>0</sub> ~2k	f <sub>0</sub> ~6k	f <sub>0</sub> ~4k	f <sub>0</sub> ~4k
Efficiency [dB/W(1m)]	84	87	91	93	95	96	100	92	94	97
Power handling (W(Mus.))	50	100	100	100	150	150	300	50	75	100
Crossover frequency (Hz)	10k or under	5k or under	5k or under	2k or under	1.5k or under	1.5k or under	350 or under	4k or under	1.5k or under	1.2k or under
m <sub>0</sub> [g]	7.3	21	28	82.5	143	143	385	15.5	42	91
Effective Q <sub>0</sub>	0.32	0.27	0.25	0.35	0.27	0.22	0.45	0.5	0.65	0.4
Magnet weight [g]	330	850	1,090	1,821	2,010	1,510(ALNICO)	2,000	380	850	1,410
Total weight [kg]	0.95	2.6	3.8	6.4	8.6	8.6	20.5	1.6	3.4	5.6
STD. volume of enclosure	1.5~6ℓ	5~15ℓ	18~25ℓ		100ℓ	100ℓ	600ℓ	25ℓ	70ℓ	100ℓ

FW200

FW303

FW400

FW400S

FW800











FW407


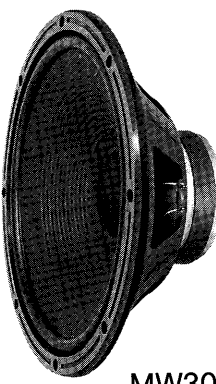
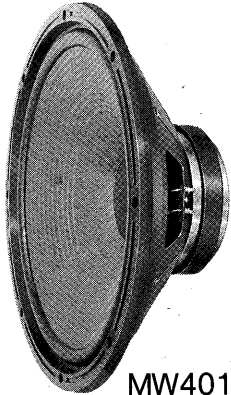
FW507

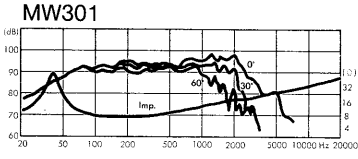
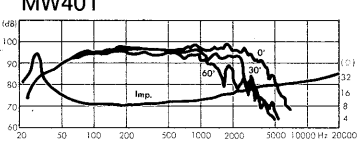
FW800

MW201

MW301


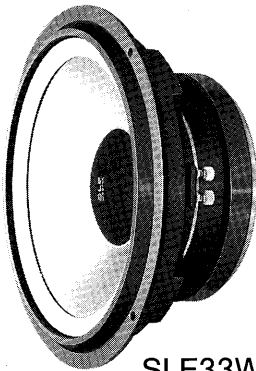
MW401

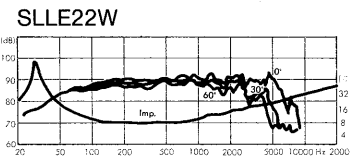
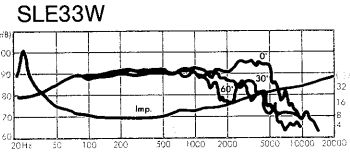




SLE22W

SLE33W

UP203S	FP103	FP163	FP203	FP253	MF161	MF201	MF251	MF301	MF401	
20	10	16	20	25	16	20	25	30	40	Diameter [cm]
8	8	8	8	8	8	8	8	8	8	Impedance [Ω]
40	95	55	40	37	90	75	70	60	50	Resonance frequency(Hz)
f <sub>0</sub> ~20k	f <sub>0</sub> ~20k	f <sub>0</sub> ~20k	f <sub>0</sub> ~20k	f <sub>0</sub> ~20k	f <sub>0</sub> ~12k	f <sub>0</sub> ~11k	f <sub>0</sub> ~9k	f <sub>0</sub> ~7k	f <sub>0</sub> ~5k	Frequency range [Hz]
93	90	93	95	95	93	94	95	96	97	Efficiency [dB/W(1m)]
40	60	80	100	100	25	40	50	60	75	Power handling (W(Mus.))
18.5	2.9	7.0	12	21	5.1	9.4	18	33	65	m <sub>0</sub> [g]
0.45	0.4	0.35	0.33	0.45	0.75	0.65	0.8	0.9	0.55	Effective Q <sub>0</sub>
1,820	330	720	1,090	1,410	193	400	680	830	1,420	Magnet weight [g]
5.6	0.96	2.0	3.5	5.1	0.67	1.5	2.0	2.8	5.2	Total weight [kg]
45ℓ	15ℓ	25ℓ	45ℓ	70ℓ	25ℓ	35ℓ	45ℓ	70ℓ	100ℓ	STD. volume of enclosure

SLE22W	SLE33W	FF125	FF165	FW407	FW507
20	30	12	16	40	46
8	8	8/16	8/16	8	8
27	22	60	45	19	17
f <sub>0</sub> ~5k	f <sub>0</sub> ~4.5k	f <sub>0</sub> ~18k	f <sub>0</sub> ~14k	f <sub>0</sub> ~2.5k	f <sub>0</sub> ~3k
90	93	92	94	96	96
100	160	—	—	200	250
3k or under	1.5k or under				
28	65	2.6	7.2	112	170
0.35	0.3	0.24	0.26	0.28	0.26
1,090	2,010	330	600	2,010	2,010
5.3	8.9	0.865	1.685	9.4	12.5
45ℓ	70ℓ	—	—	—	—