

RED "MINIWATT" E-VALVES

6.3-volt A.C. valves and 200-mA AC/DC valves with quick-heating cathodes and side-contact bases.

Type Number	Valve type	Maximum dimensions mm	Base (Connection reference in brackets) ¹⁾	Application (see p. 2)	Filament data			Anode voltage V _a Volts	Anode current I _a mA	Neg. grid bias V _{g1} Volts	Screen-grid voltage V _{g2} Volts	Screen-grid current I _{g2} mA	Voltage on grids 3 (and 5) V _{g3(s)} Volts	Voltage on grid 4 V _{g4} Volts	Mutual conduct. S mA/V	Amplification factor μ	Internal resistance R _i Ohms	External anode resist. or optimum matching imped. R _a Ohm	Output at 10 % distortion W _o Watts	Grid A.C. voltage at the indicated output V _i V R.M.S.	Max. anode dissipation W _{a max} Watts	Grid anode capacity C _{ag1} μF	Type Number						
					Heating	Voltage Volts	Current Amps.																						
EK2	Oetode	90×32	P26 (38)	4	indir.	6,3	0,200	250	1,2 ²⁾ <0,015	0	200	2,1 ³⁾	50	-2 -25	0,55 ⁴⁾ <0,002	—	1,5·10 ⁶ >10 ⁷	—	—	—	—	<0,07 ⁵⁾	EK2						
								100	1 ²⁾ <0,015	0	100	1,5 ⁴⁾	50	-2 -25	0,55 ⁴⁾ <0,002	—	1,2·10 ⁶ >10 ⁷	—	—	—	—								
								250	2,1 ⁷⁾ <0,015	0	200	4 ⁸⁾	80	-4 -40	0,55 ⁴⁾ <0,002	—	0,9·10 ⁶ >10 ⁷	—	—	—	—								
EH2	Variable-Mu Heptode	90×32	P26 (36)	5	indir.	6,3	0,200	250	1,85 ⁹⁾ <0,015	-3 -25	100	I _{g2} +I _{g4} =3,8 mA	R _{g3} = 0,5 MΩ	100	0,4 ⁴⁾ <0,01	—	2,10 ⁶ >10 ⁷	—	—	—	—	<0,0015	EH2						
				1, 2	indir.	6,3	0,200	250	4,2 <0,015	-3 -25	100	I _{g2} +I _{g4} =2,8 mA	-3 -25	100	1,4 <0,002	—	1,10 ⁶ >10 ⁷	—	—	—	—								
EF5	Variable-Mu Pentode	90×32	P26 (34)	1, 2	indir.	6,3	0,200	250	8 <0,015	-3 -50	100	2,6	0	—	1,7 <0,002	2000	1,2·10 ⁶ >10 ⁷	—	—	—	—	<0,003	EF5						
								100	8 <0,015	-3 -50	100	2,6	0	—	1,7 <0,002	500	0,30·10 ⁶ >10 ⁷	—	—	—	—								
EF6	H.F. Pentode	90×32	P26 (34)	1 2, 7 8, 11	indir.	6,3	0,200	250	3	-2	100	1,1	0	—	2,0	5000	2,5·10 ⁶	—	—	—	—	<0,003	EF6						
								100	3	-2	100	1,1	0	—	2,0	1600	0,8·10 ⁶	—	—	—	—								
EB4	Duodiode with 2 separate cathodes	64×32	P26 (25)	13	indir.	6,3	0,200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	EB4						
EBC3	Duodiode-Triode	90×32	P26 (28)	9	indir.	6,3	0,200	250	5	-5,5	—	—	—	—	2,0	30	15.000	—	—	—	—	1,4	EBC3						
								100	2	-2,1	—	—	—	—	1,6	30	19.000	—	—	—	—								
EBL1	Duodiode and High-sensitivity Pentode	130×52	P35 (33)	13, 12	indir.	6,3	1,5	250	36	R _k = ¹⁰⁾ 150 Ω	250	5	—	—	9,5	—	50.000	7000	4,3	3,6	9	—	EBL1						
EL2	Power Pentode for car receivers	95×37	P30 (32)	12	indir.	6,3	0,2	250	32	-18	250	5	—	—	2,8	—	70.000	8000	3,6	10	8	—	EL2						
EL3	High-sensitivity Power Pentode	120×37	P35 (31)	12	indir.	6,3	1,2	250	36	R _k = ¹⁰⁾ 150 Ω	250	5	—	—	9,5	—	50.000	7000	4,3	3,6	9	—	EL3						
EL5	High-sensitivity Power Pentode	117×51	P35 (31)	12	indir.	6,3	1,35	250	72	-14	275	7	—	—	8,5	—	22.000	3500	8,8	8,2	18	—	EL5						
				15	indir.	6,3	1,35	250	2×58 2×65	R _k = 120 Ω	275	2×6,25 2×10,5	—	—	—	—	—	4500	0 19,5 ¹¹⁾	—	—	—							
EM1	Tuning Cross (Electron ray tuning indicator)	75×28	P26 (39)	14	indir.	6,3	0,200	250 ¹²⁾ max.	0,095 0,021	0 ¹³⁾ -5 ¹⁴⁾	—	I _s =0,13 I _s =0,14	—	—	—	—	—	2,0·10 ⁴	—	—	—	—	EM1						
C/EM2	Electron ray tuning indicator	75×31	P30 (40)	14	indir.	6,3	0,200	250 ¹⁵⁾ 250 ¹⁶⁾ 250 ¹⁸⁾ 250 ¹⁸⁾ 0 ¹⁹⁾	— — — —	— — — —	V _s =250 V _s =250 V _s =250 V _s =250 V _s =250	— — — —	V _{g3} '=+3 V _{g3} '=0 V _{g3} '=-6 V _{g3} '=0 V _{g3} '=0	θ=160° θ=150° θ=0° ¹⁷⁾ θ=150° θ=95° ¹⁷⁾	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	C/EM2						
								250 ¹⁶⁾	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	—	—			
								250 ¹⁸⁾	3	-3,5	—	—	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—
								250 ¹⁸⁾	3	-3,5	—	—	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—

¹⁾ See page 15. The numeral after the letters indicates the maximum base diameter in mm.

²⁾ The data of this horizontal column apply for the oscillating condition at $V_{osc} = 9 \text{ V R.M.S.}$ ($I_{g1} = 200 \mu A$) and for use on long and medium waves. The grid leak resistance amounts to 50,000 ohms and is connected to the cathode.

³⁾ Screen grid current $I_{g2} + I_{g4} = 1,0 \text{ mA}$.

⁴⁾ Conversion conductance.

⁵⁾ Capacity between anode and grid 4.

⁶⁾ Screen-grid current $I_{g2} + I_{g4} = 1,0 \text{ mA}$.

⁷⁾ The data of this horizontal column apply for the oscillating condition at $V_{osc} = 6 \text{ V R.M.S.}$ ($I_{g1} = 150 \mu A$) and for use of this valve in all-wave receivers. The valve must not be controlled by A.V.C. in the short wave range. The grid leak resistance amounts to 50,000 ohms and is connected to the cathode.

⁸⁾ Screen-grid current $I_{g2} + I_{g4} = 1,5 \text{ mA}$.

⁹⁾ The data of this horizontal column apply for the oscillating condition at $V_{osc} = 14 \text{ V R.M.S.}$

¹⁰⁾ Only with automatic grid bias. At this value of the cathode resistance the grid bias is about -6 V.

¹¹⁾ At 5.1% distortion.

¹²⁾ Voltage on screen and triode series resistance.

¹³⁾ At this voltage the fluorescent screen is covered with light sectors of 10° (measured at the edge of the screen).

¹⁴⁾ At this voltage the fluorescent screen is covered with light sectors of 90° (measured at the edge of the screen).

¹⁵⁾ Voltage at the triode anode.

¹⁶⁾ Data for using the triode section for other amplifier purposes.

¹⁷⁾ Light angle, measured at the edge of the screen.