

4-VOLT A.C. 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 $V_{R.M.S.}$	Max. anode dissipation $W_{a_{max}}$ Watts	Grid anode capacity C_{ag1} $\mu\mu F$	Type Number
					Heating	Voltage Volts	Current Amps.																
AK2	Octode	116 × 46	P35 (38)	4	indir.	4,0	0,65	250	1,6 ⁹⁾ < 0,015	-1,5	90	2,0 ⁹⁾	70	-1,5 -25	0,6 ⁹⁾ < 0,002	—	1,6.10 ⁸ > 10 ⁷	—	—	—	—	< 0,06 ¹⁹⁾	AK2
AH1	Variable-Mu Hexode	110 × 46	P35 (35)	5	indir.	4,0	0,65	250	1,7 ⁹⁾ < 0,15	-2,0 -24	80	2,6 ⁹⁾	-12 or $R_{g3} = 0,5 \text{ M}\Omega$	80	0,55 ⁹⁾ < 0,002	—	2,0.10 ⁸ > 10 ⁷	—	—	—	—	< 0,003	AH1
				1, 2	indir.	4,0	0,65	250	3,0 < 0,015	-2,0 -24	80	1,1 ⁹⁾	-2,0 -24	80	1,8 < 0,002	—	2,0.10 ⁸ > 10 ⁷	—	—	—	—	< 0,003	
AF3	Variable-Mu Pentode	106 × 43	P30 (34)	1, 2	indir.	4,0	0,65	250	8,0 < 0,015	-3,0 -55	100	2,6	0	—	1,8 < 0,002	2200	1,2.10 ⁸ > 10 ⁷	—	—	—	—	< 0,003	AI 3
AF7	Duodiode	106 × 43	P30 (34)	1, 2, 7 8, 11	indir.	4,0	0,65	250	3,6	-2,0	100	1,1	0	—	2,1	4200	2,0.10 ⁸	—	—	—	—	< 0,003	AF7
AB2	Triode	85 × 29	V24 (53)	13	indir.	4,0	0,65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	AB2
ABCI	Duodiode-Triode	100 × 37	P30 (28)	9	indir.	4,0	0,65	250	4,0	-7,0	—	—	—	—	2,0	27	13.500	—	—	—	—	—	ABCI
AC2	Triode	100 × 37	P30 (26)	3, 6 10, 11	indir.	4,0	0,65	250	6,0	-5,5	—	—	—	—	2,5	30	12.000	—	—	—	—	1,7	AC2
AL1	Power Pentode	115 × 51	P35 (30)	12	dir.	4,0	1,1	250	36	-1,5	250	6,8	—	—	2,8	—	43.000	7.000	3,1	9,7	9	—	AL1
AL2	Power Pentode	115 × 46	P35 (32)	12	indir.	4,0	1,0	250	36	-2,5	250	4	—	—	2,6	—	60.000	7.000	3,8	14	9	—	AL2
				15	indir.	4,0	1,0	250	2 × 33 2 × 40,5	Rk = 350 Ω	250	2 × 3,5 2 × 7	—	—	—	—	—	6600	0 11,5 ¹⁸⁾	—	—	—	
AL4	High-sensitivity Power Pentode	115 × 50	P35 (31)	12	indir.	4,0	1,75	250	36	Rk = 150 Ω ⁹⁾	250	5	—	—	9,5	—	50.000	7.000	4,3	3,6	9	—	AL4
ABL1	Duodiode and high sensitivity Power Pentode	130 × 52	P35 (33)	13, 12	indir.	4,0	2,25	250	36	Rk = 150 Ω ⁹⁾	250	5	—	—	9,5	—	50.000	7.000	4,3	3,6	9	—	ABL1
AL5	High-sensitivity Power Pentode	117 × 51	P35 (31)	12	indir.	4,0	2,0	250	72	-14	275	7	—	—	8,5	—	22.000	3.500	8,8	8,2	18	—	AL5
				15	indir.	4,0	2,0	250	2 × 58 2 × 65	Rk = 120 Ω	275	2 × 6,25 2 × 10,5	—	—	—	—	—	4500	0 19,5 ¹⁸⁾	—	—	—	
AD1	Power Triode	135 × 58	P35 (24)	12	dir.	4,0	0,95	250	60	-45	—	—	—	—	—	4	670	2.300	4,2 ⁹⁾	30	15	—	AD1
				15	dir.	4,0	0,95	250	2 × 60 2 × 62,5	Rk = 375 Ω	—	—	—	—	—	—	—	4000	0 9,2 ¹⁸⁾	—	—	—	
AM1	Tuning Cross ⁹⁾	75 × 28	P26 (39)	14	indir.	4,0	0,3	250 ¹⁰⁾ max.	0,095 0,021	0 11) -5 ¹²⁾	—	Is = 0,13 Is = 0,14	—	—	9,5	—	—	2,0.10 ⁸	—	—	—	—	AM1
AM2	Electron ray Tuning Indicator	75 × 31	P30 (40)	14	indir.	4,0	0,32	250 ¹⁰⁾ 250 ¹⁶⁾ 250 ¹⁶⁾	—	—	—	—	—	—	—	—	—	—	—	—	—	—	AM2
								250 ¹⁶⁾ 0 ¹⁶⁾	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
								250 ¹⁷⁾	3	-3,5	—	—	—	—	—	—	—	—	—	—	—	—	
								—	—	—	—	—	—	—	2,0	50	25.000	—	—	—	—	—	

¹⁾ See page 15. The numeral after the letter gives the maximum base diameter in mm.

²⁾ The data of this horizontal column apply for the oscillating condition at $V_{osc} = 8,5 \text{ V}_{R.M.S.}$ ($I_{g1} = 100 \mu A$) and for all-wave receivers. In the shortwave range the valve must not be controlled by A.V.C. The grid leak resistance amounts to 50,000 ohms and is connected to the neutral.

³⁾ Screen-grid current $I_{g3} + I_{g5} = 3,8 \text{ mA}$.

⁴⁾ Conversion conductance.

⁵⁾ The data of this horizontal column apply for the oscillating condition at $V_{osc} = 9 \text{ V}_{R.M.S.}$.

⁶⁾ $I_{g3} + I_{g1}$.

⁷⁾ Only with automatic grid bias. At this value of the cathode resistance the grid bias is about -6 V.

⁸⁾ At 5% distortion.

⁹⁾ Electron ray tuning indicator.

¹⁰⁾ Voltage at grid and triode anode series resistance.

¹¹⁾ At this voltage the fluorescent screen is covered with light sectors of 10° (measured at the edge of the screen).

¹²⁾ At this voltage the fluorescent screen is covered with light sectors of 90° (measured at the edge of the screen).

¹³⁾ At 3% distortion.

¹⁴⁾ At 5.1% distortion.

¹⁵⁾ At 1.3% distortion.

¹⁶⁾ Voltage at the triode anode.

¹⁷⁾ Data for using the triode section for other amplifier purposes.

¹⁸⁾ Light angle, measured at the edge of the screen.

¹⁹⁾ Capacity between anode and grid 4.

P H I L I P S " M I N I W A T T " V A L V E S . . . T E S T E D 1 2 5 T I M E S