PHILIPS "Miniwatt"

JULI 1938

TYPEBETEGNELSER.

Ved de ældre Rør bestaar Typebetegnelsen af et Bogstav og en Talgruppe. Bogstavet angiver Glødestrømmen indenfor visse Grænser:

A = 60- 99 mA
B = 100-199 mA
C = 200-400 mA
E = 0.7-1.35 Amp
F = ca. 2 Amp

Det første Tal i Gruppen angiver Glødespændingen i Volt, de to sidste Cifre angiver ved Trioder Forstærkningsfaktoren, medens de ved de mere komplicerede Rørtyper betegner Rørets Løbenummer. A 415 er derfor et 4-Volt Rør med en Glødestrøm paa 85 mA og Forstærkningsfaktoren 15, B 228 et 2-Volt Rør med en Glødestrøm paa 100 mA og Forstærkningsfaktoren 28.
Endelig har alle 20-Volt Rør (B 2006 etc.) en Glødestrøm paa 180 mA.
Typebetegnelsen for de nyere Rør er en Kombination af 2 Bogstaver og 1 Tal. Betydningen fremgaar af nedenstaaende Tabel. AK 1 er saaledes et 4-Volt Vekselstrømsrør i Octode Udførelse og er den første Type i denne Udførelse.

A	K	I
1ste Bogstav: Rørserie	2det Bogstav: Rørkonstruktion	Tal: Løbenummer
A = 4 Volt Vekselstrømsserie B = 180 mA Jævnstrømsserie C = 200 mA Universalserie E = 6.3 V Autoserie F = 13 V Autoserie H = 4 V Batteriserie K = 2 V Batteriserie	A = Diode B = Duo-Diode C = Triode undt. Udgangsrør D = Triode-Udgangsrør E = Tetrode F = HF-Penthode H = Hexode K = Octode L = Udgangspenthode M = Afstemningsindikator X = Gasfyldt Dobbeltensretter Y = Enk. Ensretter Z = Dobb. Ensretter	Saafremt der fremkommer en ny Type af samme Rørkonstruktion, kendetegnes denne med det paafølgende Nr.

NB: Alle Sokkelskitser viser Rørene set nedefra.

De nye E Rør. Se Side 6.

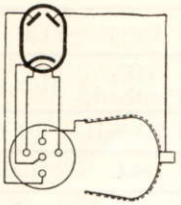
ANVENDELSE

1. **Højfrekvens.**
2. **Mellemfrekvens.**
3. **Oscillator.**
4. **Oscillator-Blandingsrør.**
5. **Blandingsrør.**
6. **Gitterensretning. med Transformatorkobling.**
7. **Gitterensretning med Modstandskobling.**
8. **Anodeensretning.**
9. **Diodeensretning. og L.F. Forstærkning.**
10. **L.F. Forstærkning med Transformatorkobling.**
11. **L.F. Forstærkning med Modstandskobling.**
12. **Udgangsrør.**
13. **Diodeensretning.**
14. **Diodeensretning og Udgangsrør.**
15. **Afstemningsindikator.**
16. **Mellemfrekvens og Diodeensretning.**
17. **L.F. Forstærkning og Afstemningsindikator.**

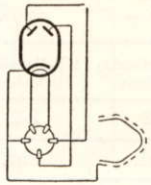
TYPEBETEGNELSE		
RØRTYPE		
ANVENDELSE		
OPVARMNING		
V_f	Glødespænding	Volt
I_f	Glødestrøm	Amp
V_a	Anodespænding — max	Volt
I_a	Anodestrøm	mA
V_{g_1}	Neg. Gitterspænding	Volt
V_{g_2}	Skærmgitterspænding	Volt
I_{g_2}	Skærmgitterstrøm	mA
V_{g_3} (V_{g_5})	Spænding til Gitter 3 (og 5) .	Volt
V_{g_4}	Spænding til Gitter 4	Volt
S_{max}	Maximal Stejlhed	mA/V
S_{norm}	Normal Stejlhed	mA/V
g	Forstærkningsfaktor	
R_i	Normal indre Modstand.....	Ohm
R_a	Annodeimpedans	Ohm
C_{ag_1}	Anode-Gitterkapacitet	μμF
W_a	Maximal Anodetab	Watt
	Sokkel.	
PRIS		**Kr.**

..	AB 1	AB 2	ABC 1	AC 2	AD 1	AF 2	AF 3	AF 7	AH 1	AK 1	AK 2	AL 2	AL 4	AL 5
.	Duo-Diode	Duo-Diode	Duo-Diode Triode	Triode	Triode	H.F.-Penthode-Selectode	H.F.-Penthode-Selectode	H.F.-Penthode	Hexode	Octode	Octode	Penthode	Penthode	Penthod
.	13	13	9	3-6-10-11	12	1-2-5	1-2	1-2-7-8-11	1-2-5	4	4	12	12	12
..	ind.	ind.	ind.	ind.	dir.	ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.
	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	0.65	0.65	0.65	0.65	0.95	1.1	0.65	0.65	0.65	0.65	0.65	1.0	1.75	2.1
	—	—	250	250	250	200	250	250	250	200	250	250	250	250
	—	—	4	6	60	4.25	8	3	1.7	1.6	1.6	36	36	72
	—	—	—7	—5.5	—45	—2.0 —22	—3 —55	—2	—2 —24	—1.5	—1.5	—25	—6	—16
	—	—	—	—	—	100	100	100	80	90	90	250	250	275
	—	—	—	—	—	1.8	2.6	1.1	2.6	2.0	2.0	5.0	5.0	7.0
	—	—	—	—	—	—	—	—	—12	70	70	—	—	—
	—	—	—	—	—	—	—	—	80	—1.5 —25	—1.5 —25	—	—	—
	—	—	3.6	3.5	—	3.2	2.8	2.4	—	—	—	—	—	—
	—	—	2	2.5	6	2.5 < 0.002	1.8 < 0.002	2.1	0.55 < 0.002	0.6 < 0.001	0.6 < 0.002	2.6	9.5	7
.	—	—	27	30	4	3500	2200	4000	—	225	—	—	—	—
	—.	—	13.500	12.000	670	1.4 MΩ > 10 »	1.2 MΩ > 10 »	2MΩ	2 MΩ > 10 »	1.5 MΩ > 10 ;	1.6 MΩ > 10 «	60.000	50.000	33.000
	—	—	—	—	2300	—	—	—	—	—	—	7.000	7.000	3.500
	—	—	1.7	1.7	—	< 0.006	< 0.003	< 0.003	< 0.003	—	—	—	—	—
	—	—	—	—	15	—	—	—	—	—	—	9	9	18
.	O 24	V 24	P 30	P 30	P 35	O 35	P 30	P 30	P 35	C 35	P 35	P 35	P 35	P 35
r.	**8.50**	**8.50**	**14.00**	**11.00**	**16.00**	**14.00**	**14.00**	**14.00**	**15.00**	**16.00**	**16.00**	**15.00**	**15.00**	**18.00**

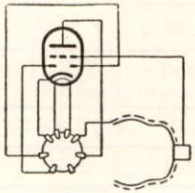
AM 1	
Kathodo-skop	
15	
ind.	
4.0	V_f
0.30	I_f
250	V_a
95 µA	I_a
$\overset{0}{-5}$	V_{g_1}
—	V_{g_2}
—	I_{g_2}
—	V_{g_3} (V_{g_5})
—	V_{g_4}
—	S_{max}
—	S_{norm}
—	g
—	R_i
—	R_a
—	C_{ag_1}
—	W_a
P 26	
10.00	



O
AB 1



V
AB 2



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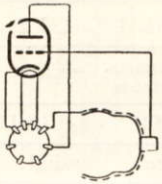
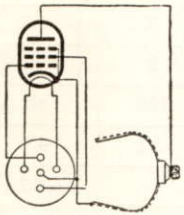
ABC 1



P
AC 2

P
AD 1



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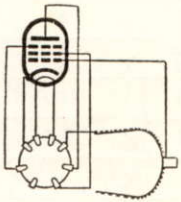
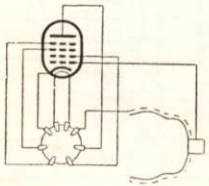
AF 2



P
AF 3 — AF 7



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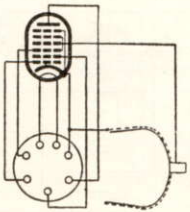
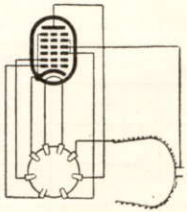
AH 1



C
AK 1



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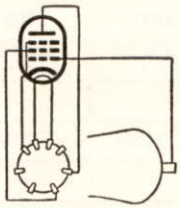
AK 2



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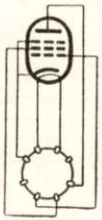
AL 2



P
AL 4 — AL 5

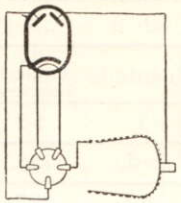
P
AM 1

UNIVERSAL-SERIE (200 mA).

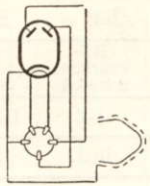
CB 1	CB 2	CBC 1	CBL 1	CC 2	CCH 2	CF 1	CF 2	CF 3	CF 7	CH 1	CK 1	CK 3	CL 1
Duo-Diode	Duo-Diode	Duo-Diode-Triode	Duo-Diode-Penthode	Triode	Triode-Hexode	HF-Penthode	HF-Penthode-Selectode	HF-Penthode-Selectode	HF-Penthode	Hexode	Octode	Octode	Penthod
13	13	9	14	3-6-10-11	4	1-2-7-8-11	1-2	1-2	1-2-7-8-11	1-2-5	4	4	12
ind.	ind.	ind.	ind.	ind.	ind	ind.	ind.	ind.	ind.	ind.	ind.	ind	ind.
13.0	13.0	13.0	40.0	13.0	29.0	13.0	13.0	13.0	13.0	13.0	13.0	19.0	13.0
0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
—	—	250	200	250	200 100 [1]	200	200	250	250	250	200	200	200
—	—	4	45	6	3.25 9.5 [1]	3.0	4.5	8	3	1.7	1.6	2.5	25
—	—	— 7	— 8.5	— 5.5	— 2.5 — 34	— 2.0	— 2.0 — 22	— 3 — 55	— 2	— 2 — 24	— 1.5	—	— 14
—	—	—	200	—	100	100	100	100	100	80	90	100	200
—	—	—	6.0	—	6.0	0.9	1.4	2.6	1.1	4.0	2.0	6	2.5
—	—	—	—	—	—	—	—	—	—	— 12	70	100	—
—	—	—	—	—	100	—	—	—	—	80	— 1.5 — 25	— 2.5 — 38	—
—	—	3.6	—	3.5	—	3.2	2.8	2.8	2.4	—	—	—	3.5
—	—	2.0	8.0	2.5	5.5 [1]	2.3	2.2 < 0.002	1.8 < 0.002	2.1	0.55 < 0.002	0.6 < 0.001	—	2.5
—	—	27	—	30	—	4000	3000	2200	4000	—	225	—	—
—.	—	13.500	45.000	12.000	1.5 MΩ > 10 «	1.7MΩ	1.4 MΩ > 10 »	1.2 MΩ > 10 »	2MΩ	2 MΩ > 10 «	1.5 MΩ > 10 »	1.7 MΩ > 10 »	50.000
—	—	—	4.500	—	—	—	—	—	—	—	—	—	8.000
—	—	—	—	1.7	—	< 0.003	< 0.003	< 0.003	< 0.003	—	—	—	—
—	—	—	9	—	—	—	—	—	—	—	—	—	5
V 24	V 24	P 30	P 35	P 30	P 35	P 30	P 30	P 30	P 30	P 30	P 35	P 35	P 30
8.50	**8.50**	**14.00**	**16.00**	**11.00**	**16.00**	**14.00**	**14.00**	**14.00**	**14.00**	**15.00**	**16.00**	**18.00**	**15.00**

[1]) Disse Data gælder for Triode-Systemet.

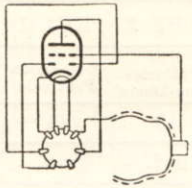
CL 2	CL 4	CL 6	
Penthode	Penthode	Penthode	
12	12	12	
ind.	ind.	ind.	
24.0	33.0	35.0	V_f
0.200	0.200	0.200	I_f
200	200	200	V_a
40	45	45	I_a
— 19	— 8.5	— 9.5	V_{g_1}
100	200	100	V_{g_2}
5.0	6.0	5.5	I_{g_2}
—	—	—	V_{g_3} (V_{g_5})
—	—	—	V_{g_4}
8.0	—	—	S_{max}
3.1	8	8	S_{norm}
—	—	—	g
23.000	45.000	22.000	R_i
5.000	4.500	4,500	R_a
—	—	—	C_{ag_1}
8	9	9	W_a
P 35	P 35	P 35	
15.00	**15.00**	**15.00**	



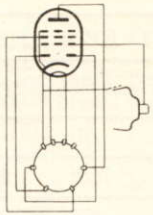
V
CB 1



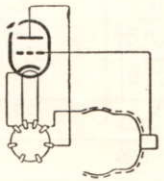
V
CB 2



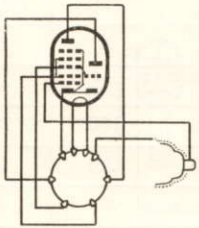
P
CBC 1



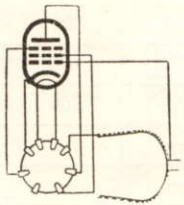
P
CBL 1



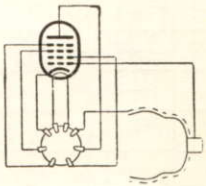
P
CC 2



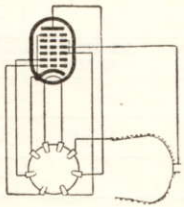
CC H 2



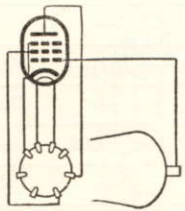
P
CF 1 — CF 2
CF 3 — CF 7



P
CH 1



P
CK 1
CK 3



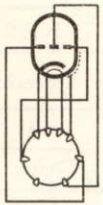
P
CL 1 — CL 2
CL 4 — CL 6

DE RØDE E RØR. (For Universal & Vekselstrøm)

EAB 1	EB 4	EBC 3	EBF 2	EBL 1	ECH 2	EF 5	EF 6	EF 8	EF 9	EFM 1	EH 2	EK 2	EK 3	EL 2
Triple-Diode	Duo-Diode	Duo-Diode Triode	HF-Penthode-Duo-Diode	Duo-Diode Penthode	Triode. Hexode	HF-Penthode Selectode	HF-Penthode	Silentode	HF Penthode Selectode	LF.Pen-thode-Ka-thodoskop	Hexode Selectode	Octode	Octode	Penthod
13	13	9	16	14	4	1-2	1-2-7-11	1	1-2	17	1-2-5	4	4	12
ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.
6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
0.200	0.200	0.200	0.200	1.5	0.95	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.60	0.200
—	—	250	250	250	250 100[3])	250	250	250	250	250	250	250	250	250
—	—	5	5.0	36	3.25 9.5[3])	8	3	6	6	0.8 0.5	1.85	1.2	2.5	32
—	—	÷5.5 2.0 38	—2.0 —38	—6	—2.5 —34	—3 —50	—2	—2.5 —34	—2.5 —39	—2 —20	—3 —25	—	0	—18
—	—	—	[2])	250	100	100	100	0	—	—	100	200	100	250
—	—	—	—	5.0	6.0	2.6	0.8	—	1.7 —	0.6 0.2	3.8	2.1	6.0	5.0
—	—	—	—	—	—	0	0	250	0	—[1])	—	50	100	—
—	—	—	—	—	100	—	—	0	—	—	100	—2 —25	—2.5 —3.8 38	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	2.0	1.8 0.018	9.5	5.5[3])	1.7 < 0.02	1.8	1.8	2.2 0.02	—	—	—	—	2.800
—	—	30	—	—	—	—	—	—	—	—	—	—	—	—
—	—	15.000	1.3 > 10 MΩ	50.000	1.5 MΩ > 10 MΩ	1.2 MΩ > 10 MΩ	2.5 MΩ	0.45 MΩ > 10 MΩ	1.25 >10 MΩ	—	2 MΩ > 10 MΩ	1.5 MΩ >10 MΩ	2 MΩ >10 MΩ	70.000
—	—	—	—	7.000	—	—	—	—	—	130.000	—	—	—	8000
—	—	1.4	< 0.002	—	—	< 0.003	< 0.003	< 0.007	< 0.002	—	<0.0015	—	—	—
—	—	—	—	9	—	—	—	—	—	—	—	—	—	8
P 26	P 26	P 26	P 26	P 35	P 35	P 26	P 26	P 26	P 26	P 30	P 26	P 26	P 35	P 30
10.00	**9.00**	**14.00**	**17.00**	**16.00**	**16.00**	**14.00**	**14.00**	**15.00**	**14.00**	**16.00**	**15.00**	**16.00**	**18.00**	**15.00**

[1]) $Rg_2 = 350.000\ \Omega$ [2]) $Rg_2 = 95.000\ \Omega$ [3]) Disse Data gælder for Triode-Systemet [4]) $Rg_2 = 90.000\ \Omega$

EL 3	EL 6	EM 1	
Penthode	Penthode	Kathodo-skop	
12	11	15	
ind.	ind.	ind.	
6.3	6.3	6.3	V_f
0.9	1.3	0.200	I_f
250	250	250	V_a
36	72	95 µ A	I_a
—6	—7	$\frac{0}{-5}$	V_{g_1}
250	250	—	V_{g_2}
4	8.0	—	I_{g_2}
—	—	—	V_{g_3} (V_{g_5})
—	—	—	V_{g_4}
—	—	—	S_{max}
9.0	14.5	—	S_{norm}
—	—	—	g
50.000	20.000	—	R_i
7000	3.500	2 M Ω	R_a
—	—	—	C_{ag_1}
9	18	—	W_a
P 35	P 35	P 26	
15.00	**18.00**	**10.00**	



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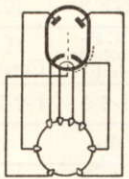

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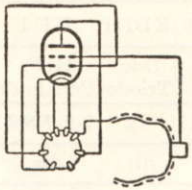

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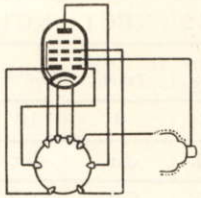

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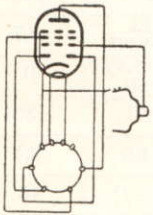

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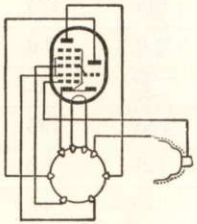

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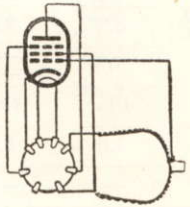
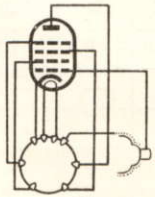


P
EF 5
EF 6
EP 9



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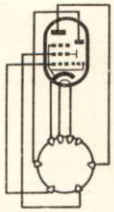

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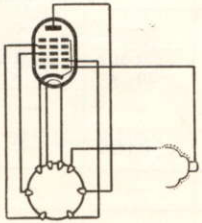

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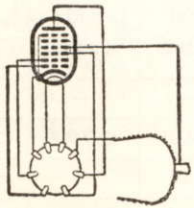

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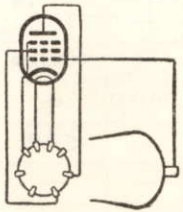
EK 2
EK 3



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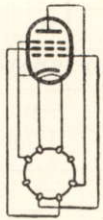
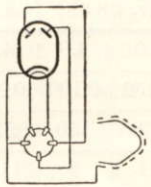


P
EL 3
EL 6

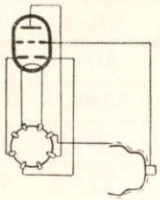
P
EM 1

KB 2	KBC 1	KC 1	KC 3	KC 4	KDD 1	KF 1	KF 2	KF 3	KF 4	KH 1	KK 2	KL 1	KL 4	
Duo-Diode	Duo-Diode-Triode	Triode	Triode	Triode	Duo-Triode	H.F.-Penthode	H.F.-Penthode-Selectode	H.F.-Penthode-Selectode	H.F.-Penthode	Hexode	Octode	Penthode	Pen-thode	
13	9	10	10	3-10-11	12	1-2-7-8-11	1-2	1-2-5	1-2-7-8-11	1-2-5	4	12	12	
ind.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	V_f
0.095	0.100	0.065	0.210	0.100	0.220	0.200	0.200	0.050	0.065	0.135	0.130	0.15	0.140	I_f
—	135	135	135	135	135	135	135	135	135	135	135	135	135	V_a
—	2.5	1.2	3	2.2	$\frac{2\times1.5}{2\times15}$	3.0	3.0	2.0	2.6	$\frac{1.5}{<0.015}$	0.7	8	7	I_a
—	—4.5	—1.5	—2.8	—1.5	0	0	$\frac{-0.4}{-16}$	$\frac{-0.5}{-15}$	—0.5	$\frac{-1.5}{-11}$	0	—6	—5	V_{g_1}
—	—	—	—	—	—	135	135	135	135	60	135	100	135	V_{g_2}
—	—	—	—	—	—	1.0	1.0	0.6	1.0	1.0	2.1	1.2	1.0	I_{g_2}
—	—	—	—	—	—	—	—	—	—	—[1])	45	—	—	V_{g_3} (V_{g_5})
—	—	—	—	—	—	—	—	—	—	60	$\frac{-0.5}{-12}$	—	—	V_{g_4}
—	—	—	—	—	—	1.8	1.3	—	—	—	—	—	—	S_{max}
—	1	0.6	2.5	1.4	—	1.8	$\frac{1.3}{<0.002}$	$\frac{0.65}{<0.002}$	0.8	—	$\frac{0.27}{<0.002}$	1.7	2.1	S_{norm}
—	16	2.5	30	30	—	1600	1400	850	800	—	—	—	—	g
—	16.000	40.000	12.000	21.500	—	900.000	1.1 MΩ > 10 »	1.3 MΩ > 10 »	1 MΩ	$\frac{1\ M\Omega}{>10\ »}$	2.5 MΩ > 10 «	100.000	150.000	R_i
—	—	—	—	—	10.000	—	—	—	—	—	—	14.000	19.000	R_a
—	—	3.5	—	—	—	< 0.01	< 0.01	< 0.006	< 0.006	< 0.002	—	—	—	C_{ag_1}
—	—	—	—	—	—	—	—	—	—	—	—	1.5	1	W_a
V 24	P 35	P 30	P 30	P 30	P 30	C 35	C 35	P 30	P 30	P 35	P 35	P 30	P 35	
8.50	**13.00**	**9.00**	**9.00**	**9.00**	**13.00**	**13.00**	**13.00**	**13.00**	**13.00**	**14.00**	**15.00**	**13.00**	**13.00**	

[1]) $Rg_3 = 0.5\ M\Omega$.

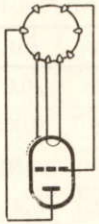


V
KB 2



P
KBC 1

P
KC 1
KC 3



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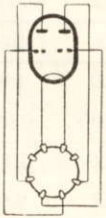
KC 4



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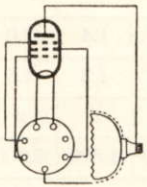
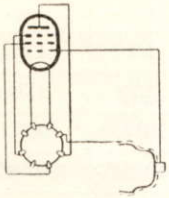


C
KF 1—KF 2



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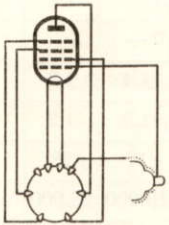

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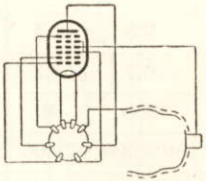

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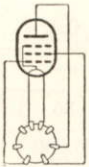
KK 2

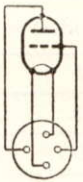


P
KL 1
KL 4

DIREKTE OPVARMEDE RØR.

A 409	A 415	A 425	A 435	A 441 N	A 442	A 609	A 630	B 217	B 228	B 240	B 255	B 262	B 405	B 406	B 409	B 415	B 424	B 438
Triode	Triode	Triode	Triode	Dobbelt-Gitterrør	Tetrode	Triode	Triode	Triode	Triode	Duo Triode	Tetrode-Selectode	Tetrode	Triode	Triode	Triode	Triode	Triode	Triode
3-6-10	3-6-10	7-8-11	1-2	4	1-2-5-7-8-11	2-6-10	1-7-11	3-6-10	7-11	12	1-2-5	1-2-5	12	12	12	3-6-10	3-6-10	7-8-11
dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.
4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
0.065	0.085	0.065	0.065	0.08	0.06	0.065	0.065	0.100	0.100	0.200	0.180	0.180	0.150	0.100	0.150	0.100	0.100	0.100
150	150	200	200	100	200	150	150	150	150	150	150	150	150	150	250	150	200	200
3.5	4.0	0.1	2.1	4.0	4.0	4	0.7	4.0	2.0	1.5	1.8 0.1	2.0	11	8	12	3.0	6.0	0.05
—9.0	—4.0	—2.5	0	0	— 1.0	— 9.0	— 1.5	— 4.0	— 2.0	0	— 0.5 — 7.0	— 0.5	—18	—15	—16	— 4.5	— 3.0	— 2.5
—	—	—	—	4.0	100	—	—	—	—	—	90	90	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1.2	2.0	1.2	0.5	—	0.8	1.5	1.5	1.4	1.3	—	1.3	1.4	2.0	1.4	2.0	2.0	3.0	2.0
0.9	1.5	—	—	0.3	0.7	1.2	—	1.3	1.2	—	1.2 0.014	1.3	1.6	1.3	1.8	1.5	2.5	—
9	15	25	35	—	280	9	30	17	28	—	400	500	5	6	9	15	24	38
10.000	10.000	250.000	70.000	—	400.000	7.500	20.000	13.000	23.000	—	330.000	400.000	3.000	4.500	5.000	7.500	9.000	400.000
—	—	—	—	—	—	—	—	—	—	14.000	—	—	—	—	12.000	—	—	—
4	4.5	3	0.3	—	0.01	—	—	5.5	5.5	—	0.008	0.008	—	—	—	2.5	4	4
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—
A 32	A 32	A 32	A 30	A 35	A 35	A 32	A 32	A 32	A 32	C 35	A 35	A 35	A 32	A 32	A 32	A 32	A 32	A 35
7.50	**7.50**	**7.50**	**9.00**	**9.00**	**13.00**	**7.50**	**8.00**	**8.00**	**8.00**	**13.00**	**13.00**	**13.00**	**9.00**	**9.00**	**9.00**	**7.50**	**8.00**	**8.00**

B 442	B 443	B 543	B 605	C 243 N	C 443	C 443 N	C 603	
Tetrode	Penthode	Penthode	Triode	Penthode	Penthode	Penthode	Triode	
1-2	12	12	12	12	12	12	12	
dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	
4.0	4.0	5.0	6.0	2.0	4.0	4.0	6.0	V_f
0.100	0.150	0.100	0.120	0.200	0.250	0.250	0.250	I_f
200	250	200	150	150	300	300	150	V_a
4.5	12	12	9	9.5	20	20	15	I_a
—1.0	—17	—15	—18	—4.5	—25	—45	—30	V_{g_1}
100	150	150	—	150	200	200	—	V_{g_2}
—	—	—	—	—	—	—	—	I_{g_2}
—	—	—	—	—	—	—	—	V_{g_3} (V_{g_5})
—	—	—	—	—	—	—	—	V_{g_4}
0.9	1.5	1.5	1.8	2.5	2.0	1.8	2.0	S_{max}
0.9	1.3	1.3	—	2.4	1.7	1.4	—	S_{norm}
350	60	60	5	180	60	32	3	g
400.000	45.000	45.000	2.800	75.000	35.000	23.000	1.500	R_i
—	20.000	—	—	15.000	15.000	15.000	—	R_a
0.005	—	—	—	—	—	—	—	C_{ag_1}
—	3	—	—	—	6	6	—	W_a
A35-O35	A35-O35	A35-O35	A 32	O 35	O 35	O 35	A35-G	
13.00	**13.00**	**13.00**	**9.00**	**14.00**	**13.00**	**13.00**	**13.00**	

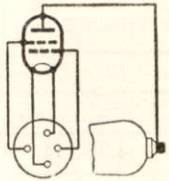


A

A 409 B 405
A 415 B 406
A 425 B 409
A 435 B 415
A 609 B 424
A 630 B 438
B 217 B 605
B 228 C 603

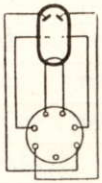
A

A 441 N



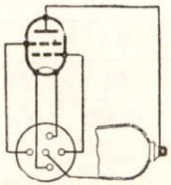
A

A 442 B 442 A
B 255 B 262



C

B 240



O

B 442 O

O

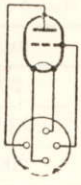
B 443 O C 443
B 543 O C 443 N
C 243 N

VEKSELSTRØM-SERIE.

E406N	E408N	E 424	E 424N	E 438	E 442	E 443H	E 443N	E 444	E 445	E 446	E 447	E 452T	E 453	E 455	E 463
Triode	Triode	Triode	Triode	Triode	Tetrode	Penthode	Penthode	Binode	Tetrode-Selectode	H.F.-Penthode	H.F.-Penthode Selectode	Tetrode	Penthode	Tetrode-Selectode	Pentho
12	12	3-6	3-6-7-10-11	7-8-11	1-2	12	12	9	1-2-5	1-2-5-7-8-11	1-2-5	1-2-7-8-11	12	1-2-5	12
dir.	dir.	ind.	ind.	ind.	ind.	dir.	dir.	ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind.
4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.1	1.1	1.1	1.0	1.1	1.0	1.35
500	400	200	200	200	200	250	400	200	200	200	200	200	250	200	250
24	30	6.0	6.0	0.1	1.5	36	30	0.9	6.0 0.01	3.0	4.5	3.0	24	3.0 0.01	36
—68	—36	6.0	— 3.5	—2.5	— 1.3	— 14	— 40	— 2.3	— 2.0 — 40	— 2.0	— 2.0 — 50	—2.0	— 15	— 2.0 — 40	— 22
—	—	—	—	—	100	250	200	45	100	100	100	100	250	100	250
—	—	—	—	—	0.6	—	—	—	0.8	1.1	1.8	0.7	—	0.8	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	4.5	3.5	3.5	1.5	1.2	3.5	3.5	3.0	1.2	3.5	3.5	3.0	3.5	3.0	4.0
3.0	2.7	1.8	2.4	—	0.9	3.0	1.9	—	1.0 0.005	2.3	2.3 < 0.002	2.0	2.5	2.0 0.005	2.7
6	8	24	30	38	700	130	75	800	300	5000	2300	900	175	700	100
2.000	3.000	13.000	12.500	400.000	800.000	43.000	40.000	1 MΩ	0.3 M Ω > 10 »	2.2 MΩ	1 M Ω > 10 «	450.000	70.000	0.35 M Ω > 10 »	37.00
11.500	6.000	—	—	—	—	7.000	14.000	—	—	—	—	—	15,000	—	8.00
—	—	3.5	2	3	0.005	—	—	—	0.003	< 0.006	< 0.006	0.003	—	0.003	—
12	12	—	—	—	—	9	12	—	—	—	—	—	6	—	9
A 35	A 40	O 35	A 35-O 35	O 35	A35-O35	O 35	O 40	B 35	O 35	O 35	O 35	O 35	O 35	O 35	B 3
16.00	**18.00**	**11.00**	**11.00**	**11.00**	**14.00**	**15.00**	**20.00**	**15.00**	**14.00**	**15.00**	**15.00**	**14.00**	**15.00**	**14.00**	**15.0**

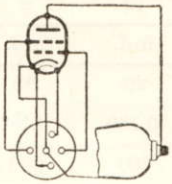
DIREKTE OPVARMEDE RØR.

E 499	F 410	F 443	F 443N		
Triode	Triode	Penthode	Penthode		
7-8-11	12	12	12		
ind.	dir.	dir.	dir.		
4.0	4.0	4.0	4.0		V_f
1.0	2.0	2.0	2.0		I_f
200	550	550	300	550	V_a
0.08	45	45	83	45	I_a
—1.5	—36	—40	—40	—30	V_{g_1}
—	—	200	300	200	V_{g_2}
—	—	—	4.6	1.4	I_{g_2}
—	—	—	—	—	V_{g_3} (V_{g_5})
—	—	—	—	—	V_{g_4}
4.0	8.0	5.0	6.0	6.0	S_{max}
—	4.0	3.0	3.9	3.2	S_{norm}
99	10	100	80	100	g
330.000	2.500	33.000	20.000	30.000	R_i
—	7.000	12.000	3.500	12.000	R_a
1.5	—	—	—		C_{ag_1}
—	25	25	25		W_a
O 35	A 40	O 40	O 40		
11.00	**25.00**	**28.00**	**28.00**		



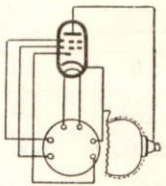
A
E 406 N
E 408 N F 410

O
E 424 E 438
E 424 N E 499

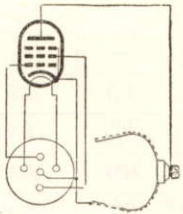


O
E 442 E 452 T
E 445 E 455

O
E 443 H F 443
E 443 N F 443 N

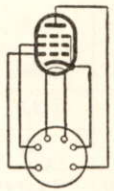


B
E 444



O
E 446—E 447

O
E 453

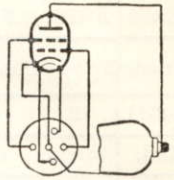


B
E 463

JÆVNSTRØM-SERIE (180 mA)

B 2006	B 2038	B 2042	B 2043	B 2044	B 2045	B 2046	B 2047	B 2052T	B 2099	
Triode	Triode	Tetrode	Penthode	Binode-Tetrode	Tetrode-Selectode	H. F.-Penthode	H. F.-Penthode-Selectode	Tetrode-	Triode	
12	3-6-7-10-11	1-2	12	9	1-2-5	1-2-5-7-8-11	1-2-5	1-2-5-7-8-11	7-8-11	
ind.	ind.	ind.	ind.	ind.	ind.	ind.	ind	ind.	ind.	
20	20	20	20	20	20	20	20	20	20	V_f
0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	I_f
200	200	200	200	200	200	200	200	200	200	V_a
15	6.0	4.0	20	0.29	4.0 0.01	3.0	4.0	3.0	0.2	I_a
— 18	3.0	— 2.0	— 18	—3.2	— 2 — 40	— 2.0	— 2.0 — 50	— 2.0	— 1.6	V_{g_1}
—	—	60	200	40	60	100	100	100	—	V_{g_2}
—	—	—	8.0	—	0.9	1.1	1.8	0.2	—	I_{g_2}
—	—	—	—	—	—	—	—	—	—	V_{g_3} (V_{g_5})
—	—	—	—	—	—	—	—	—	—	V_{g_4}
2.5	3.5	1.1	2.5	2.8	1.2	3.5	3.0	3.0	3.0	S_{max}
1.6	2.3	1.0	1.7	—	1.0 0.005	2.2	2.0 < 0.002	2.0	—	S_{norm}
6	33	400	70	700	400	5000	2200	900	99	g
4.000	14.000	400.000	40.000	2.4 MΩ	0.4 >10MΩ	2.2 MΩ	1.1 MΩ > 10 «	450.000	100.000	R_i
16.000	—	—	10.000	—	—	—	—	—	—	R_a
—	2.5	0.003	—	0.003	0.004	< 0.006	< 0.006	0.003	1.5	C_{ag_1}
—	—	—	5	—	—	—	—	—	—	W_a
O 35	O 35	O 35	O35-U35-B35	B 35	O 35	O 35	O 35	O 35	O 35	
16.00	**13.00**	**16.00**	**17.00**	**16.00**	**16.00**	**16.00**	**16.00**	**16.00**	**13.00**	

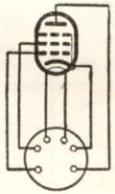
O
B 2006
B 2038
B 2099



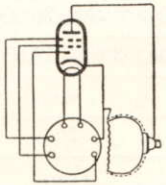
O
B 2042
B 2045
B 2052 T

O
B 2043

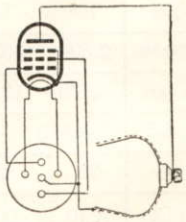
U
B 2043



B
B 2043



B
B 2044



O
B 2046—B 2047

PHILIPS SKALABELYSNINGSLAMPER

Type	Spænding Volt	Glødestrøm Amp.	Anvendes i nedennævnte Philips Modtagere	Pris Kr.
8017 D/00	2.5	0.25	628B	1.00
8040	6	0.50	2511—2601—2607—2811	1.00
8042	5	0.55	776 A—778 A	1.00
8045 D/00	8	0.35	660 A	1.00
8046	6	0.50	2531 - 2634 - 522A - 630A - 634A - 638A - 720A - 730A - 830A - 834A - 930A - 936A - 942A - 962A - 779A	1.00
8047	4	0.11	2532—2533—2636—930 C	1.00
8053	6	0.40	2553—2653	1.00
8054	6	0.23	630 C—634 C—830 C—834 C—943 U—962 C	1.00
8055	5	0.25	424 U—774 U	1.00
8064	18	0.20	522 U	1.35
8066	9	0.20	638 U	1.35
8070	10	0.20	529 U—626 U—953 U	1.00
8073 D/07	8	0.12	753 A—782 A	1.00
8080	10	0.20	101 U—423 U—675 U—104 U—774 U	1.00
8091 D/00	8	0.7	753 A—782 A	1.00
8092 D/00	18	0.28	471 U	1.00
8092 D/07	18	0.28	215 U	1.00

HØJVAKUUM ENSRETTERRØR.

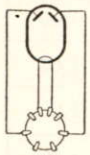
TYPEBETEGNELSE		AZ 1	AZ 4	CY 1	CY 2	EZ 2	373	506	1561	1801	1803
ENSRETNING		dobb.	dobb.	enk.	enk.	dobb.	enk.	dobb.	dobb.	dobb.	enk.
OPVARMNING		dir.	dir.	ind.	ind.	ind.	dir.	dir.	dir.	dir.	dir.
V_f	Glødespænding .... Volt	4.0	4.0	20	30	6.3	4.0	4.0	4.0	4.0	4.0
I_f	Glødestrøm ..... Amp	1.0	2.3	0.200	0.200	0.4	1.0	1.0	2.0	0.4	0.6
$V_{a\ max}$	Max. Transform.sp. Volt	2×500	2×500	250	1×250 2×127 [1]	2×350	220	2×300	2×500	2×250	500
$I_{a\ max}$	Ydeevne ..... Amp	0.060	0.120	0.080	0.120 0.060 [1]	0.060	0.040	0.075	0.120	0.030	0.030
	Sokkel	P 35	P 35	P 30	P 30	P 30	H 35	A 35	A 35	A 35	H 35
PRIS ..... **Kr.**		**10.00**	**12.00**	**12.00**	**14.00**	**12.00**	**11.00**	**10.00**	**11.00**	**8.00**	**10.00**

[1]) Som Spændingsfordobler.

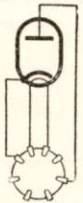
STRØMREGULATORRØR FOR MODTAGERE.

TYPEBETEGNELSE...	C 1	C 2	C 3 [3])	C 4 [3])	C 10 [2])	1904	1911	1915	1926	1927	1928
Strømstyrke ..... mA	200	200	200	200	200	100	150	240	180	180	180
Reguleringsomraade Volt	85-200	35-100	100-200	55-105	35-100	50-70	50-70	50-70	16	35-100	100-225
Sokkel	P 30	P 30	P 30	P 30	P 30	A 32-Sw	A 32	A 32	A 35	A 35	A 35
PRIS ..... **Kr.**	**8.00**	**8.00**	**11.00**	**10.00**	**8.00**	**6.00**	**6.00**	**8.00**	**8.00**	**8.00**	**8.00**

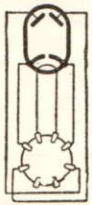
[2]) = C2PY; [3]) med indbygget Begrænsningsmodstand.



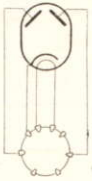
P
AZ 1
AZ 4



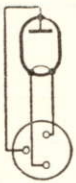
P
CY 1



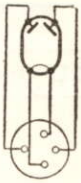
P
CY 2



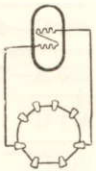
P
EZ 2



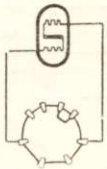
H
373—3006
1803—1010
1832



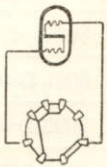
A
506—1805—1831
1561—1815— 328
1801—1817— 451
AX 1



P
C 1—C 2



P
C 3



P
C2 PY—C 4—C 10

GASFYLDTE ENSRETTERRØR.

1805	1815	1817	1831	1832	2504	3006	AX 1	328	451	1002	1010	1018	
dobb.	dobb.	dobb.	dobb.	enk.	enk.	enk.	dobb.	dobb.	dobb.	enk.	enk. dobb.	enk.	
dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	dir.	
4.0	4.0	4.0	4.0	4.0	1.0	3-4	4.0	1.8	1.8	1.8	1.8	1.8	V_f
1.0	2.5	4.0	1.0	1.2	0.08	0.08	2.0	2.8	2.8	2.8	3.5	1.8	I_f
2×500	2×500	2×350	2×700	700	13	40	2×500	2×28	2×16	160	2×85 160	16	$V_{a\ max}$
0.060	0.180	0.300	0.060	0.120	0.001	0.012	0.125	1.3	1.3	0.1	1.3—0.1	0.2	$I_{a\ max}$
A 35	A 40	A 40	A 35	H 35	Sw	H 32	A 35	A 30	A 30	A 35	A 35	TC	
10.00	**16.00**	**16.00**	**16.00**	**16.00**	**8.00**	**8.00**	**16.00**	**10.00**	**10.00**	**10.00**	**12.00**	**10.00**	

STRØMREGULATORRØR FOR LADEENSRETTERE.

TYPEBETEGNELSE...	329	452	1003	1011	1331
Strømstyrke ..... Amp	1.3	1.3	0.06-0.09	1.3 0.06-0.09	1.3
Tilsvarende Ensretterrør.	328	451	1002	1010	1010
Sokkel.....	H 30	H 30	H 35	A 35	H 35
PRIS ..... Kr.	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**

Strømregulatorrøret benyttes saavel til Ladeensrettere for Akkumulatorer som til Modtagere, hvor Rørenes Glødetraade er anbragt i Serie, nemlig Jævnstrøms- og Universalmodtagere. Man opnaar derved, at Glødestrømmen holdes konstant, selvom Netspændingen skulde variere betydeligt. Et Regulatorrør til en Lysnetmodtager beregnes efter Forskellen mellem Netspænding og Spændingsfaldet over Rørene (f. Ex. CK1, CF7, CL2, CY1=70 Volt). Denne Forskel (220—70=150 V.) skal falde indenfor det saakaldte Reguleringsomraade (C1 passer her). Naar en Modtager skal arbejde paa anden Netspænding end den oprindelig er bestemt til, kan dette ofte ske ved at udskifte Regulatorrøret. Hvis ovennævnte Rør skal arbejde paa 110 V. bliver Forskellen: 110 ÷ 70 = 40 V Følgelig anvendes C 2.

TYPEBETEGNELSE		DG 3—1	DG 7—1	DG 9—3	DG 16—2	1875 [4])	1876 [5])	4686 [6])
OPVARMNING		ind.	ind. [3])	ind. [3])	ind. [3])	dir.	dir.	ind.
V_f	Glødespænding ... Volt	6.3	4.0	4.0	4.0	4.0	4.0	4.0
I_f	Glødestrøm ca. ... Amp.	0.65	1.0	1.0	1.0	2.3	0.3	1.2
V_{a_1}	Anodespænding 1 — max .... Volt	60-130	300	500	600	7000 [9])	850 [9])	300 [8])
V_{a_2}	Anodespænding 2 — max .... Volt	250-500	800	1200	2000	—	—	—
$I_{a\ max}$	max. Anodestrøm ... mA	—	—	—	—	5	5	3 [7])
V_{g_1}	max. negativ Gitterspænding. Volt	35	30	40	40	—	—	—
	Følsomhed 1 [1]) ... mm/V	0.20-0.10	0.3-0.19	0.40	0.54-0.27	—	—	—
	Følsomhed 2 [2]) ... mm/V	0.16-0.08	0.24-0.15	0.30 [10])	0.40-0.20	—	—	—
	max. Skærmdiameter ... mm	33	75	103	167	—	—	—
	Sokkel ...	P	P 30	spec.	spec.	P 35	P 35	P 30
	Pris ... Kr.	—	90.00	145.00	215.00	28.00	18.00	23.00

[1]) Afbøjningspladerne nærmest Kathoden.
[2]) — — Skærmen.
[3]) Kathoden ført til den ene Side af Glødetraad.
[4]) Ensretterrør for Type DG 9-3 og DG 16-2.
[5]) — - — DG 7-1.
[6]) Gastriode til Kippgenerator.
[7]) max. Spidsværdi 300 mA.
[8]) max. Spidsspænding.
[9]) max. effektiv Vekselspænding.
[10]) beregnet for Tilslutning af asymmetriske Spændinger.

Foruden de her nævnte Typer leveres PHILIPS Kathodestraalerør i mange forskellige Størrelser, saavel til Oscillografer som til Fjernsyn.

TYPEBETEGNELSE		TC $^{03}/_{5}$	4654 [2]	TC $^{04}/_{10}$	TC $^{05}/_{25}$	QC $^{05}/_{15}$	PE $^{05}/_{15}$ [2]	PC $^{1}/_{50}$ [2]
OPVARMNING		dir.	ind.	dir.	dir.	dir.	ind. [1]	dir.
V_f	Glødespænding ..... Volt	4.0	6.3	4.0	4.0	4.0	12.0	4.0
I_f	Glødestrøm ca. ..... Amp.	0.28	1.35	1.1	2.2	1.1	0.37	2.0
V_a	Anodespænding ..... Volt	150-400	250-600	200-500	300-600	400-500	500	500-1000
V_{g_1}	Skærmgitterspænding Volt	—	275-300	—	—	75-125	100-300	100-300
W_a	max. Anodetab ..... Watt	6	18	10	40	15	15	35
g	Forstærkningsfaktor	6	—	25	9	—	—	—
S_{max}	Stejlhed max ..... mA/V	2.3	—	2.5	4.0	2.5	2.5	3.5
S_{norm}	Stejlhed normal .... mA/V	1.5	8.5	2.2	2.5	1.0	1.5	1.5
R_i	Indre Modstand..... Ohm	4.000	22.000	11.400	3.600	—	—	—
C_{ag}	Anode-Gitterkapacitet $\mu\mu$F	4.5	0.8	6.8	7.25	0.004	0.01	0.04
	Sokkel	P	P	A	A	G	P	Spec.
	Pris ..... Kr.	14.00	18.00	40.00	60.00	60.00	60.00	120.00

[1]) Dette Penthoderør kan leveres med direkte opvarmet Glødetraad. Typebetegnelsen er da: PC $^{05}/_{15}$.

[2]) Penthode med udført Fanggitter.

For ovenstaaende Senderør gælder det, at de er fortrinlige Kortbølgerør. Adskillige, saasom 4654, TC $^{04}/_{10}$, QC $^{05}/_{15}$ og PE $^{05}/_{15}$ arbejder med god Virkningsgrad paa 10 mtr.; TC $^{03}/_{5}$ endog helt ned paa 2,5 mtr.

PHILIPS Senderør og Ensretterrør leveres i alle Størrelser til alle Formaal.

INDHOLDSFORTEGNELSE.

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