



# TUNGSTEN



LAMPES  
EUROPÉENNES

LAMPES  
AMÉRICAINES



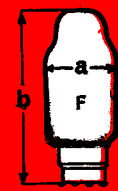
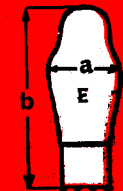
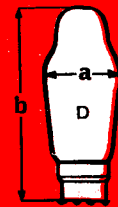
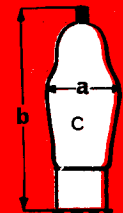
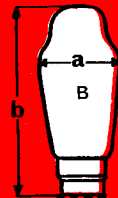
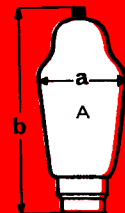


# LAMPES SÉRIE E -- 6,3 V.

## NOUVELLE SÉRIE ROUGE A CONTACTS LATÉRAUX



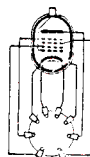
DÉFINITION			Octode	Pen- tode H.F. sans souffle	Pen- tode réglable à tension glis- sante	Triple diode	Duo diode Pen- tode à glisse- ment	Pen- tode B. F. grande pente	Double pen- tode	Pen- tode B.F. et indi- cateur visuel
TYPES			EK 3	EF 8	EF 9	EAB 1	EBF 2	EL 6	ELL 1	EFM 1
Mode de chauffage			Indir.	Indir.	Indir.	Indir.	Indir.	Indir.	Indir.	Indir.
Tension de chauffage	<b>Ef</b>	Volts	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Courant de chauffage	<b>If</b>	Amp.	0.65	0.2	0.2	0.2	0.2	0.2	0.45	0.2
Tension de plaque	<b>Ea</b>	Volts	250	250	250	200	250	250	250	250
Tension de grille écran	<b>Eg 2</b>	Volts	100	250	250	—	100	250	250	250
Pente maximum	<b>S</b>	mA/V.	0.65	1,8	2,2	—	1,8	15	1,3	—
Polarisation négative de grille	<b>Eg 1a</b>	Volts	-2.5	-2.5	-2.5	—	-2	-7	-21.5	-2
Courant plaque normal	<b>Ia</b>	mA	2.5	8	6	—	—	72	2x 16.5	13
Puissance modulée	<b>W</b>	W	—	2.4	1.8	—	1.8	8.2	5.4	—
Résistance interne	<b>Ri</b>	Ω	2 M	400.000	60.000	—	1.5 M	20.000	16.000	—
FORME :	—	—	A	C	C	E	C	D	D	F
Diamètre	<b>a</b>	—	50	31	31	31	31	50	40	36
hauteur	<b>b</b>	—	115	86	86	76	86	100	60	77



CONNECTIONS  
INTERNES



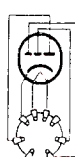
EK 3



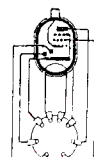
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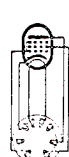
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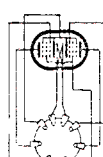
EAB 1



EBF 2



EL 6



ELL 1

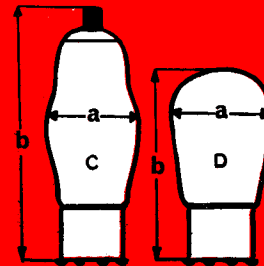
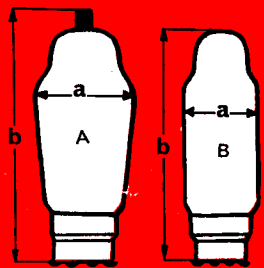


EFM 1



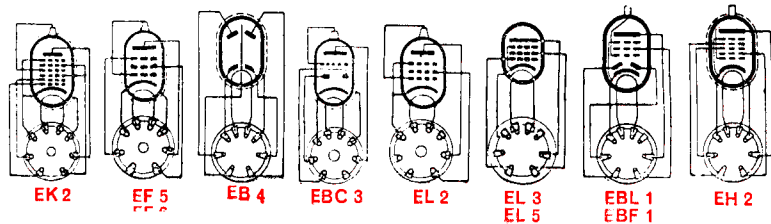
# LAMPES SÉRIE E -- 6,3 V.

## A CONTACTS LATÉRAUX



DÉFINITION			Octode	Pentodes HF		Double diode	Double diode Triode	Pentodes BF			Double diode pentod. BF	Double diode pentod. HF	Hexo-de
				Pente var.	Pente fixe			8w	9w	18w			
TYPES			EK 2	EF 5	EF 6	EB 4	EBC 3	EL 2	EL 3	EL 5	EBL 1	EBF 1	EH 2
Tension chauffage	<b>Ef</b>	Volts	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Courant de chauffage	<b>If</b>	Amp.	0.200	0.200	0.200	0.200	0.200	0.200	1.2	1.3	1.4	0.3	0.2
Tension de plaque	<b>Ea</b>	Volts	250	250	250	200	250	250	250	250	250	250	250
Tension de grille écran	<b>Eg</b>	Volts	200	100	100	—	—	250	250	250	250	125	100
Pente maximum	<b>S</b>	mA/V.	—	1.7	2	—	2	2.8	9.5	8.5	9.5	1.15	1.5
Polarisation nég. de grille	<b>la</b>	Volts	2	3	2	—	5.5	18	6	12.5	—	—	3
Courant plaque normal	<b>Ia</b>	mA	1	8	3	—	5	32	36	72	36	9	2-4
Coefficient d'amplification	<b>K</b>	—	—	2.000	5.000	—	30	—	—	—	—	—	—
Résistance interne	<b>Ri</b>	$\Omega$	2-10 M	1.2-10 M	2.5 M	—	15.000	70.000	50.000	23.000	—	—	1-2 M
Courant maximum cathode	<b>Icm</b>	mA	8	15	6	0.8	10	45	55	90	—	—	—
FORME:	—	—	C	C	C	D	C	C	B	A	A	C	C
Diamètre	a	—	31	31	31	31	31	35	35	50	50	40	32
Hauteur	b	—	86	86	86	60	86	91	110	110	130	96	90

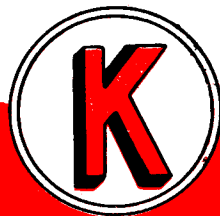
### CONNEXIONS INTERNES



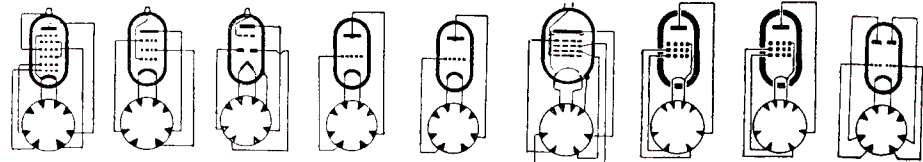
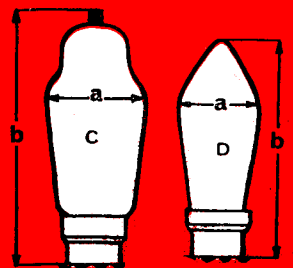
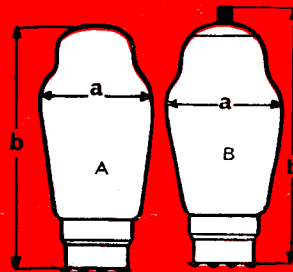


# LAMPES SERIE K -- 2 VOLTS

## A CONTACTS LATÉRAUX



DÉFINITION			Octode	Pentodes H. F.			Double Triode	Triode	Triode	Triode Pilote	Hexode	Pentodes BF			Double Triode
				Pente fixe	Pente var.	KBC 1						KC 4	KC 1	KC 3	
TYPES			KK 2	KF 4	KF 3	KBC 1	KC 4	KC 1	KC 3	KH 1	KL 1	KL 2	KL 4	KDD 1	
Mode de chauffage	<b>Ef</b>	Volts	direct	direct	direct	direct	direct	direct	direct	direct	direct	direct	direct	direct	
Tension de chauff.	<b>If</b>	Amp.	2	2	2	2	2	2	2	2	2	2	2	2	
Courant de chauff.			0.13	0.065	0.05	0.10	0.100	0.065	0.20	0.135	0.05	0.265	0.14	0.22	
Tension plaque	<b>Ea</b>	Volts	135	135	135	135	135	135	135	135	90-135	135	135	135	
Tension de grille	<b>Eg 2</b> <b>Eg 3</b>	Volts	135	135	135	—	—	—	—	—	50	90-135	135	—	
		Volts	45-60 *	0	0	—	—	—	—	10	—	—	—	—	
Pente maximum	<b>S</b>	mA/V	—	0.9	0.75	—	1.4	0.6	3.5	—	—	—	—	—	
Capac. anode grille	<b>Cag</b>	pF	0.07	0.006	0.006	2.8	2.9	3.5	—	0.4	—	2.2	2.2	2.5	
Dissipation anodique	<b>Na</b>	Watt	—	—	—	—	—	—	1	—	—	—	—	—	
Polaris. nég. de grill.	<b>Eg 1</b>	Volts	0.5-1.2 )	0.5	0.5-1.5	4.5	1.5	1.5	2.5	0.3	2.5	2.5	1.0	2x2	
Cour. plaque normal	<b>la</b>	mA	0.7-1	2.6	2	2.5	2.2	1.2	3	0.4	3-4.5	12	5	0	
Pente normale	<b>Sn</b>	mA/V	0.27 (	0.8	0.65 (	1	1.4	0.6	2.6	0.4	18	7	2.1	1.6-30	
Coeff. d'amplificat.	<b>K</b>	—	800	850	16	16	25	30	30	0.8	60	60	315	2.0	
Résistance interne	<b>Ri</b>	$\Omega$	2 M	1 M	1.3 M	16,000	21,500	40,000	11,500	0.4 M	2,000	30,000	150,000	10,000	
FORME	—	—	B	C	C	B	A	A	A	B	A	A	A	A	
Diamètre	<b>a</b>	—	45	38	38	45	38	38	38	—	36	36	36	45	
Hauteur	<b>b</b>	—	120	100	100	113	85	85	85	—	97	97	97	95	



KK 2    KF 3 / KF 4    KBC 1    KC 4 / KC 1    KC 3    KH 1    KL 1 / KL 2    KL 4    KDD 1

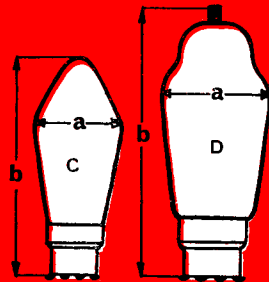
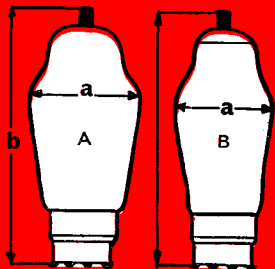
\* Eg 1 = Eg 3.  
 ) Pour l'octode Eg 1.  
 Pente de conversion.  
 + Eg 2 = Eg 4.



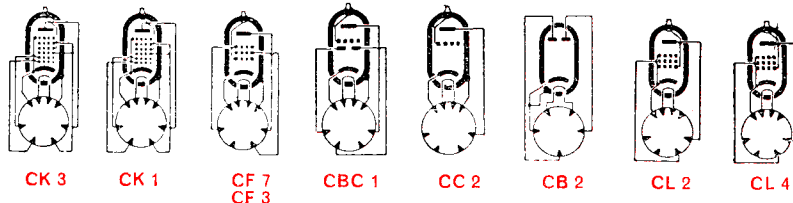
# LAMPES SÉRIE C -- TOUTS COURANTS

## A CONTACTS LATÉRAUX

DEFINITION			Octode	Octode	Pentodes H.F.		Double diode-Triode	Triode	Double diode	Pentodes BF		Pentode finale 4 watts
					Pente fixe	Pente var.				8 watts	9 watts	
TYPES			CK 3	CK 1	CF 7	CF 3	CBC 1	CC 2	CB 2	CL 2	CL 4	CL 6
Mode de chauffage	Ef	Volts	indir. 19	indir. 13	indir. 13	indir. 13	indir. 13	indir. 13	indir. 13	indir. 24	indir. 35	indir. 35
Tension de chauffage	If	Amp.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Courant de chauffage	Ea	Volts	200	250	250	250	250	250	200	200	200	200
Tension plaque	Eg 2	Volts	100	90	100	100	—	—	—	100	200	100
Tension de grille	Eg 3	Volts	100	70*	0	0	—	—	—	0	0	—
Pente maximum	S	mA/V.	0.65	—	2.4	2.8	3.6	3.5	—	8	10	8
Capacité anode grille	Cag	pF	1.3	0.06	0.003	0.003	1.7	1.7	—	1.2	—	—
Dissipation anodique	Na	Watt	—	—	—	—	—	—	—	8	9	4
Polarisation nég. de grille	Eg 1	Volts	-12	1.5-25)	2	3-50	5	5.5	—	19	8.5	8.5
Courant plaque normal	Ia	mA	2.5	1.6	3	8	4	6	—	40	45	45
Pente normale	Sn	mA/V.	0.65	0.6 (	2.1	1.8 (	2	—	—	3.1	8	8
Coefficient d'amplification	K	—	2 M	—	4.500	1.500	27	30	—	70	380	—
Résistance interne	Ri	Ω	—	1.6 M	2 M	0.9 M	13.500	12.500	—	22.000	48.000	22.000
FORME :	—	—	A	A	B	B	B	B	C	D	D	D
Diamètre	a	—	45	45	42	42	36	36	28	50	50	50
Hauteur	b	—	90	113	100	100	100	100	80	110	110	110



- \* Eg 3 = Eg 5.
- ) Pour l'octode Eg 1.
- ( Pente de conversion.
- + Eg 2 = Eg 4.

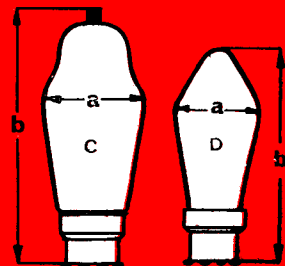
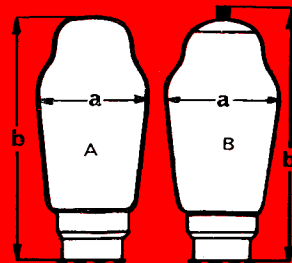


# LAMPES SERIE A -- 4 VOLTS

## A CONTACTS LATÉRAUX



DÉFINITION			Octode	Triode Hexode	Pentodes H.F.		Double diode Triode	Triode	Double diode	Pentodes BF				Triode de puis- sance 15 watts	
					Pente fixe	Pente var.				9 watts	9 watts	9 watts	18 watts		
TYPES			AK 2	ACH1	AF 7	AF 3	ABC 1	AC 2	AB 2	AL 1	AL 2	AL 4	AL 5	AD 1	
Mode de chauff.	<b>Ef</b>	Volts	indr.	indr.	indr.	indr.	indr.	indr.	indr.	indr.	indr.	indr.	indr.	indr.	direct
Tension de chauff.			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
Cour. de chauff.	<b>If</b>	Amp.	0.65	1	0.65	0.65	0.65	0.65	0.65	1.1	1.0	1.75	2	0.95	
Tension plaque	<b>Ea</b>	Volts	250	300	250	250	250	250	200	250	250	250	250	250	
Tension de grille	<b>Eg 2</b>	Volts	90 +	70 )	100	100	—	—	—	250	250	250	250	—	
	<b>Eg 3</b>	Volts	70 *	15	0	0	—	—	—	0	0	0	0	—	
Fronte maximum	<b>S</b>	mA/V	—	0.75	2.4	2.8	3.6	3.5	—	3.5	4.5	15	10	6.5	
Cap. anode grille	<b>Cag</b>	pF	0.6	0.003	0.003	0.003	1.7	1.7	—	1.1	—	—	—	—	
Dissip. anodique	<b>Na</b>	Watt	—	—	—	—	—	—	—	9	9	9	18	15	
Polar. nég. grille	<b>Eg 1</b>	Volts	1.5-25 )	2-20	2	3-50	7	5.5	—	15	25	6	12.5	45	
Cour. plaq. norm.	<b>la</b>	mA	1.6	2.5	3	8	4	6	—	36	36	36	72	60	
Pente normale	<b>Sn</b>	mA/V	0.6 (	0.75 (	2.1	1.8 (	2	2.5	—	2.8	2.5	9.5	7	6	
Coeff. d'amplific.	<b>K</b>		—	—	4.000	2.200	27	30	—	130	150	475	300	4	
Résist. interne	<b>Ri</b>	Ω	1.6 M	0.8 M	2 M	1.2 M	13.500	12.000	—	43.000	60.000	50.000	43.000	670	
FORME :	—	—	B	B	B	B	C	C	D	A	B	A	A	A	
Diamètre	a	—	45	45	40	42	36	45	28	50	45	50	50	50	
Hauteur	b	—	110	130	102	100	100	100	80	110	115	110	110	130	

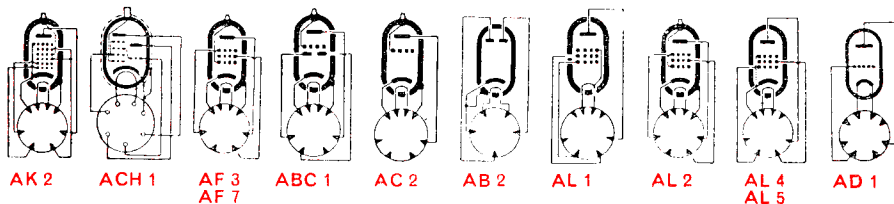


\* Eg 1 = Eg 3.

) Pour l'octode Eg 4

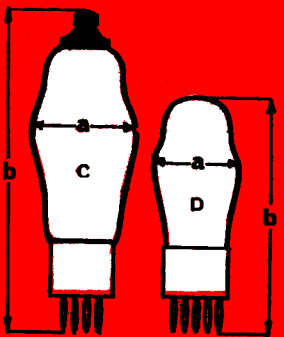
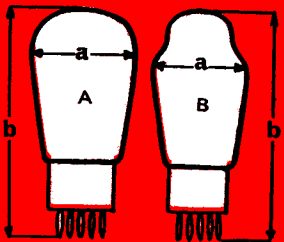
( Pente de conversion.  
+ Eg 2 = Eg 4.

● Aussi avec culots à broches.



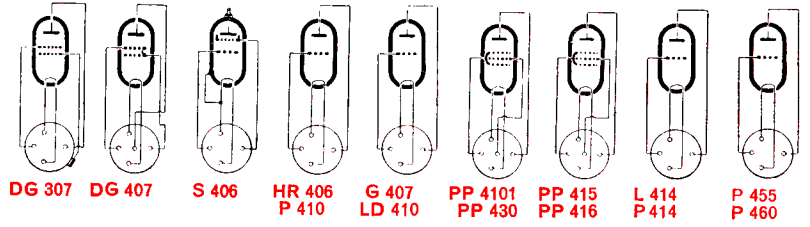
# LAMPES A CHAUFFAGE DIRECT 4 VOLTS

## A CULOTS A BROCHES



DÉFINITION			Bigrille	Lampe écran	Triodes				Pentodes finales				Triodes finales			
					—	—	univ.	det.	9 watts	6 watts	3 watts	3 watts	2.5 W	2.5 W	7.5 W	10 W
TYPES			DG 407	S 406	HR 406	P 410	G 407	LD 410	PP 4101	PP 430	PP 415	PP 416	L 414	P 414	P 455	P 460
Mode de chauff.	Ef	Volts	direct	direct	direct	direct	direct	direct	direct	direct	direct	direct	direct	direct	direct	direct
Tension de chauff. Cour. de chauff.	If	Amp.	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
Tension plaque	Ea	Volts	50-100	150	0.065	0.12	0.07	0.1	1.1	0.3	0.15	0.15	0.15	0.15	0.55	0.65
Tension de grille	Eg 2	Volts	80	80	—	—	—	—	250	200	150	80	—	—	—	—
Pente limite	Eg 3	mA/V.	—	—	—	—	—	—	0	0	0	0	—	—	—	—
Cap. anode grille	S	PF	—	—	—	—	1.8	1.8	3.5	2	1.5	2	2.8	2.9	5.5	3.5
Dissip. anodique	Wa	Watt	—	—	—	—	—	—	9	6	3	3	2.5	2.5	7.5	10
Polar. nég. grille	Eg 1	Volts	—	2	1-3	2-12	8	6	14	25	18	12	8	16	15	49
Cour. plaq. norm.	la	mA	3	4	2.5	8	5	4	36	20	12	12	12	14	30	40
Pente utile	Sn	mA/V.	—	0.8	1.5	1.5	1.3	1.5	3	1.7	1.3	1.4	2.2	2.2	5	2.7
Coeff. d'amplific.	Ki	—	—	330	25	5	10	17	130	60	60	100	10	5	10	3.5
Résist. interne	Ri	Ω	—	0.4M	17.000	3.300	7.000	9.000	43.000	35.000	45.000	60.000	3.300	1.700	1.800	1.300
FORME :	—	—	A	C	A	A	A	A	B	B	B	B	A	A	A	A
Diamètre	a	—	47	45	47	47	47	47	48	50	45	46	45	45	45	60
Hauteur	b	—	85	120	90	90	85	90	100	100	100	95	95	85	100	115

### CONNEXIONS INTERNES



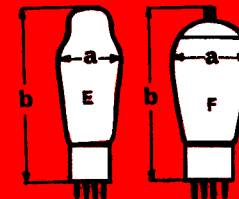
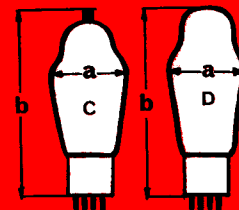
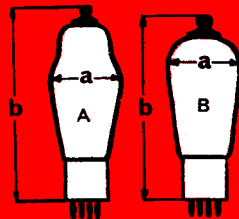


# LAMPES A CHAUFFAGE INDIRECT 4 VOLTS

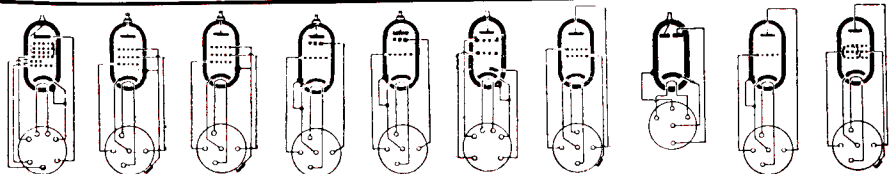
## A CULOTS A BROCHES



DÉFINITION			Octod. oscil. latr.	Pentodes H. F.				Lampes écrans				Bi-grille	Doubl. Diode	Triodes		Pentode finale 8 watts
				norm.	exp.	exp.	det.	norm.	exp.	exp.	Ditrode			transf.	résist.	
TYPES			MO 465 AK1	HP 4101	HP 4106	HP 4115 AF 2	AS 4100	AS 4120	AS 4104	AS 4125	DS 4100	DG 4101	DD 465 AB 1	AG 495	AR 4101	APP 4120
Mode de chauff.			indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.
Tension de chauff.	<b>Ef</b>	Volts	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
Cour. de chauff.	<b>If</b>	Amp.	0.75	1.1	1.1	1.1	1	1.2	1.0	1.2	1.4	1.0	0.65	0.65	0.65	1.2
Tension plaque	<b>Ea</b>	Volts	250	200	200	200	200	200	200	200	200	50-100	100	200	200	300
Tension de grille	<b>Eg 2</b>	Volts	70	100	100	100	60	100	100	100	45	—	—	—	—	250
Pente limite	<b>Eg 3</b>	Volts	70	0	0	0	—	—	—	—	—	—	—	—	0	
Cap. anode grille	<b>Cag</b>	mA/V.	—	3.5	3.5	3.2	1.1	3	—	3	3	—	—	3.5	2.5	3.5
Dissip. anodique	<b>Wa</b>	pF	—	0.002	0.002	0.002	—	—	—	—	—	—	—	—	—	8
Polar. nég. grille	<b>Eg 1</b>	Watt	—	—	—	—	—	—	—	—	—	—	—	—	—	18
Cour. plaq. norm.	<b>Ja</b>	Volts	1.5-25	2	2-35	2-20	2	2	2-40	2-24	2.3	—	6	2	18	
Pente utile	<b>Sa</b>	mA	1	3.5	5	4.3	4	3	5	3	0.9	1.7	6	4	24	
Coeff. d'amplific.	<b>K</b>	mA/V.	0.65 (	2.8	3.5 (	2.5 (	1	2.2	1.2 (	1.8 (	—	0.1-1.1	2.4	1.8	2.5	
Résist. interne	<b>Ri</b>	Ω	—	6,000	3,300	3,500	250	1,000	400	700	1,000	—	25	40	150	
FORME:			2 M	2 M	1.2 M	1.4 M	0.4 M	0.45 M	300 M	0.35 M	1 M	—	10,000	20,000	60,000	
Diamètre	a		C	A	A	A	B	A	A	A	4 mod.	F	E	E	D	
Hauteur	b		45	50	50	50	50	50	50	48	47	48	35	35	45	
			115	135	135	135	120	125	125	125	130	90	90	90	100	



\* Eg 3 = Eg 5.  
 ) Pour l'octode Eg 4.  
 ( Pente de conversion.



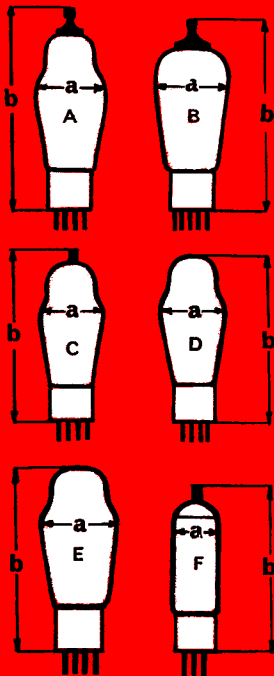
MO 465 AK 1    HP 4101 HP 4106    HP 4115 AF 2    AS 4100 AS 4120    AS 4104 AS 4125    DS 4100    DG 4101    DD 465 AB 1    AG 495 AR 4101    APP 4120



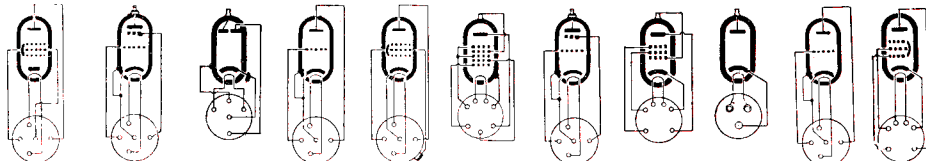
# LAMPES 20 VOLTS ET TOUS COURANTS

## A CULOTS A BROCHES

DEFINITION			Lampes 20 Volts							Lampes „ Tous courants ”								
			Pentodes H.F.		Lampes écran		Diode bipla- que	Triode	Pente- de BF	Penta- grille	Lampe écran	H.F. Pentodes		Diode	Triodes		Pente- de BF	
			norm.	exp.	norm.	exp.						norm.	exp.		D	P		G
TYPES			HP 2018	HP 2118	SS 2018	SE 2018	DD 818	R 2018	PP 2018	MH 1118	S 2018	HP 1018	HP 1118	D 418	P 2018	G 2018	PP 4018	
Mode de chauff.	Ef	Volts	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.	indir.
Tens. de chauff.	If	Amp.	20	20	20	20	8	20	20	10	20	10	10	4	20	20	40	40
Cour. de chauff.	Ea	mA/V.	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Tension plaque	Eg 1	Volts	200	200	200	200	200	200	200	90-250	200	90-250	90-250	100	100-200	200	90-180	90-180
Tens. de grille	Eg 2	Volts	100	100	100	60	—	—	200	90-100	60	90-125	90-125	—	—	—	—	—
Pente limite	S	Volts	0	0	—	—	—	—	0	90	—	0	0	—	—	—	0	0
Cap. anode grille	Cag	mA/V. pF	3.5	3.5	3	1.2	—	—	3	2.5	—	2	2	—	—	—	3.5	3.5
Dissip. anodique	Wa	Watt	—	—	—	—	—	—	5	—	—	—	—	—	—	—	—	7
Pola. nég. de gri.	Eg 1	Volts	2	2-35	2	2-40	—	3	18	3-45	5	2-3	3-40	—	8-18	3	15-36	15-36
Cour. plaq. nor.	la	mA	4	4	3	4	0.4	6	20	3.5	4	1.8	6	—	10-20	6	50	50
Pente utile	Sn	mA/V.	2.4	1.3	2	1	—	2.3	1.7	0.48 (	1.1	1.4	1.3 (	—	2.5	3.5	3	3
Coeff. d'amplifi.	K	—	5.000	2.000	900	400	—	40	70	—	400	3.500	1.400	—	70	25	60	60
Résist. interne	Ri	Ω	2 M	1 M	0.45 M	0.4 M	—	17.500	40.000	0.4 M	0.4 M	2.5 M	0.8 M	—	4.000	10.000	20.000	20.000
FORME :	—	—	A	A	A	A	B	D	E	C	B	C	C	F	B	B	E	E
Diamètre	a	—	50	50	50	50	40	40	45	40	50	40	40	22	39	40	50	50
Hauteur	b	—	115	115	115	115	85	95	100	95	115	100	100	75	90	95	110	110



- Eg 3 = Eg 5.
- ) Pour l'octode Eg 1.
- ( Pente de Conversion.



HP 2018  
HP 2118

SS 2018  
SE 2018

DD 818

R 2018

PP 2018

MH 1118

S 2018

HP 1018  
HP 1118

D 418

P 2018  
G 2018

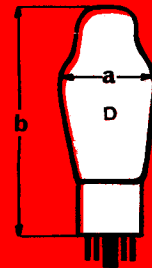
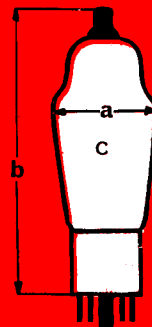
PP 4018

# LAMPES AMÉRICAINES 6,3 VOLTS

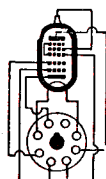
## A CULOT OCTAL



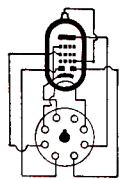
DÉFINITION		Penta-grille oscill.	Doubl. diode Pent.	Doubl. diode triode	Diode	Pentode H.F.	Pentode H.F.	Pentode Exp.	Triode hexo-de	Triode hexo-de	Pentode B.F.	Tri-grille B.F.	Té-trode B.F.	Té-trode B.F.
TYPES		6A8G	6B8G	6Q7G	6H6G	6J7G	6J5G	6K7G	6TH8G	TX21	6F6G	25A6G	6V6G	6L6G
Tension chauffage	Ef	Volts	6.3	6.3	6.3	6.3	6.3	6.3	6.3	21	6.3	25	6.3	6.3
Courant chauffage	If	amp.	0.3	0.5	0.3	0.3	0.3	0.3	0.7	0.2	0.7	0.3	0.45	0.9
Tension plaque	Ea	Volts	250	250	250	—	250	250	250	250	250	95	250	250
Tension de grille auxiliaire	Eg	Volts	100	125	—	—	100	—	100	100	250	95	250	250
Pente maximum	S.	mA/V.	—	1.3	1.2	—	1.2	—	1.4	1.25	2.5	2	4.1	6
Polar. nég. grille de contrôle	Egc	Volts	-3-45	-3	-3	—	-3	-8	-3	-3	-16,5	-15	-12,5	-14
Courant plaque normal	Ia	mA.	3.3	10	1.1	—	2	9	7	7	34	20	45	72
Courant écran	IE	mA.	3.2	2.3	—	—	0.5	—	1.7	2	5	4	4.5	5
Volts anode d'oscillation	V. osc.	Volts	200	—	—	—	—	—	150	150	—	—	—	—
Courant anode oscillant	Ia	mA.	4	—	—	—	—	—	6.5	6.5	—	—	—	—
Courant cathodique max.	IC.	mA.	14	12.3	1.1	—	2.5	—	8.7	15	15	40	24	49.5
Pente de conversion	Sc.	mA.	0.5	—	—	—	—	—	0.8	0.8	—	—	—	—
Résistance interne	RI	M.ohms	0.36	0.6	0.058	—	1.5	0.007	0.8	—	0.08	0.045	0.052	0.225
Résistance de charge	R.ch.	Ohms	—	—	—	—	—	—	—	—	7.000	4.500	6.000	2.500
Watts utiles	W.	W.	—	—	—	—	—	—	—	—	3	0.9	4.25	6.5
Distorsion	—	%	—	—	—	—	—	—	—	—	7	11	6	10
FORME :	—	—	C	C	C	D	C	D	C	C	D	D	D	D
Diamètre	a	—	39	39	39	39	39	39	46	46	45	45	45	50
Hauteur	b	—	95	95	95	90	95	85	95	130	100	100	110	120



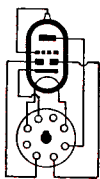
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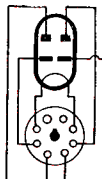
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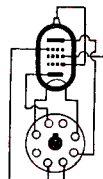
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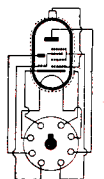
6Q7G



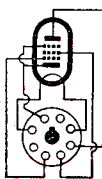
6H6G



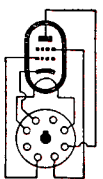
6J7G



TX21



6F6G



6V6G

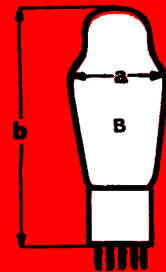
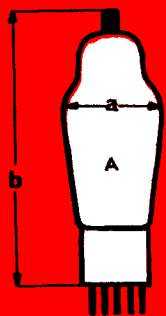


6L6G



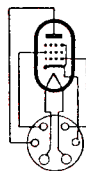
# LAMPES AMÉRI

ANCIEN CULOT

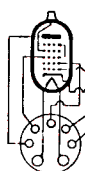


DÉFINITION			Tri-grille BF	Pentagrille			Double Diode Triode	Double Diode Pento- de	Double Diode Pento- de	Pentodes		Lampes écran		Pento- de BF
				osc.	osc.	—				—	norm.	exp.		
TYPES			2 A 5	2 A 7	6 A 7	2 A 6	2 B 7	6 B 7	6 C 6	6 D 6	24 A	35	42	
Tension de chauffage	<b>Ef</b>	Volts	2.5	2.5	6.3	2.5	2.5	6.3	6.3	6.3	2.5	2.5	6.3	
Courant de chauffage	<b>If</b>	Amp.	1.75	0.8	0.3	0.8	0.8	0.3	0.3	0.3	1.75	1.75	0.7	
Tension de plaque	<b>Ea</b>	Volts	250	250	250	250	250	250	250	250	275	275	250	
Tension de grille auxiliaire	<b>Eg 2, 3</b>	Volts	250	100	100	100	100	100	100	100	90	90	250	
Pente maximum	<b>S</b>	mA/V.	2.2	—	—	—	—	—	—	—	1	1.1	—	
Polarisation négat. de grille	<b>Eg</b>	Volts	16.5	—45	3—45	2	3	3	3	3	3	2—45	16.5	
Courant plaque normal	<b>la</b>	mA	34	4	4	0.8	6	6	2	8.2	4	6	34	
Coefficient d'amplification	<b>K</b>	—	220	—	—	100	800	800	2.500	1.280	65	400	220	
Résistance interne	<b>Ri</b>	—	0.1 M	—	—	91.000	0.8 M	0.8 M	2 M	0.8 M	0.6 M	36.000	0.1 M	
FORME :	—	—	A	B	B	B	B	B	B	B	B	B	A	
Diamètre	a	—	39	39	39	39	39	39	39	39	45	45	45	
Hauteur	b	—	100	100	100	100	100	100	100	110	110	110	105	

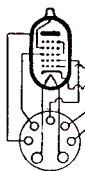
CONNEC-  
TIONS  
INTERNES



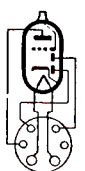
2 A 5



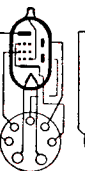
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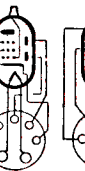
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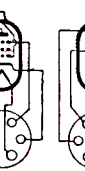
2 A 6



2 B 7



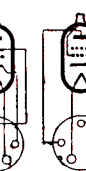
6 B 7



6 C 6



6 D 6



24 A



35



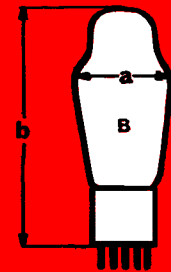
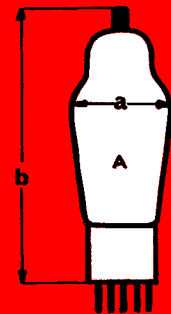
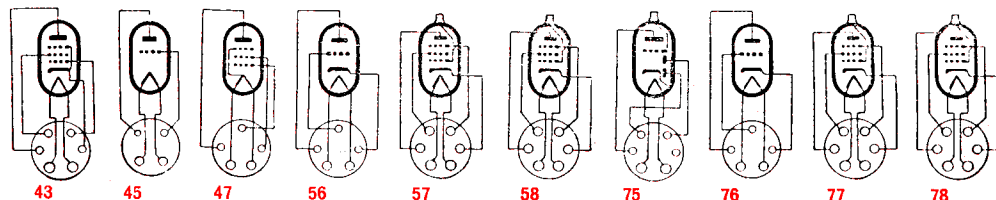
42

# CAINES 2 v 5 et 6 v 3

## A BROCHES



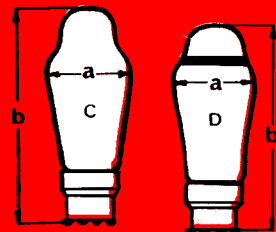
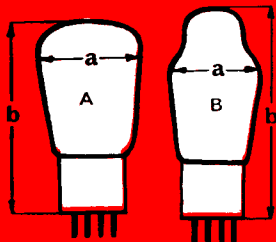
DÉFINITION			Trigrille BF	Triode BF	Tétra-ode de puissance	Triode	Pen-tode HF	Pen-tode exp.	Double diode Triode	Super Triode ampli. détec.	Pen-tode HF	Pen-tode exp.
TYPES			43	45	47	56	57	58	75	76	77	78
Tension de chauffage	<b>Ef</b>	Volts	25	2.5	2.5	2.5	2.5	2.5	6.3	6.3	6.3	6.3
Courant de chauffage	<b>If</b>	Amp.	0.3	1.5	1.75	1	1	1	0.3	0.3	0.3	0.3
Tension de plaque	<b>Ea</b>	Volts	135	275	250	250	250	250	250	250	250	250
Tension de grille auxiliaire	<b>Eg 2,3</b>	Volts	135	—	250	—	100	100	—	—	100	125
Pente maximum	<b>S</b>	mA/V.	2.3	2.1	2.5	1.45	1.2	1.6	—	1.45	1.25	1.65
Polarisation négative de grille	<b>Eg la</b>	Volts	20	50	16.5	13.5	3	3	2	13.5	3	3—52
Courant plaque normal	<b>la</b>	mA	34	34	32	5	2	8.2	0.8	5	2.3	10.5
Coefficient d'amplification	<b>G</b>	—	80	3.5	150	13.8	Min 1.500 Max 1.5 M	Min 1.280 Max 0.8 M	100	13.8	1.550	1.000
Résistance interne	<b>Ri</b>	—	35.000	1.670	60.000	9.500	—	—	91.000	9.000	1.5 M	0.6 M
FORME :	—	—	A	A	A	A	B	B	B	A	B	B
Diamètre	a	—	45	45	49	39	39	39	39	39	39	39
Hauteur	b	—	105	100	110	90	90	90	100	90	90	90





## VALVES EUROPÉENNES BROCHES STANDARD

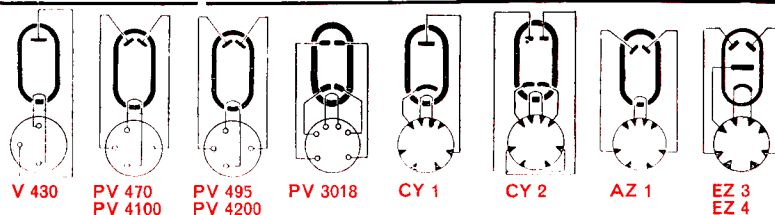
DÉFINITION				VALVES					
				Monoplaques		Biplaques			
				V 430	PV 430	PV4100	PV4200	PV 495	PV3018
CHAUFFAGE	Mode de chauffage Tension de chauffage Courant de chauffage	Ef If	Volts Amp.	direct 4 0.3	direct 4 0.3	direct 4 1	direct 4 2	direct 4 1.1	indir. 30 0.18
CARACTÉRISTIQUES	Tension plaque (ef.)	Ea	Volts	250	2×300	2×300 2×500	2×500	2×300	125
	Courant normal	la	mA	25	25	100 60	125	70	100
	FORME :	—	—	A	A	B	B	B	B
	Diamètre	a	—	45	45	60	45	45	42
	Hauteur	b	—	100	90	105	105	105	95



## VALVES EUROPÉENNES A CONTACTS LATÉRAUX

DÉFINITION				Valves biplaques				
				CY 1	AZ 1	CY 2	EZ 3	EZ 4
CHAUFFAGE	Mode de chauffage Tension de chauffage Courant de chauffage	Vf If	Volts Amp.	indir. 20 0.2	direct 4 1	indir. 30 0.2	indir. 6.3 0.65	indir. 6.3 0.90
CARACTÉRISTIQUES	Tension plaque (ef.)	Ea	Volts	250	2×500 2×300	250 127	2×350	2×400
	Courant redressé	la	mA	80	60 100	120 60	100	175
	FORME	—	—	C	C	C	D	D
	Diamètre	a	—	42	45	42	35	35
	Hauteur	b	—	90	105	90	80	80

CONNECTIONS INTERNES



V 430

PV 470  
PV 4100

PV 495  
PV 4200

PV 3018

CY 1

CY 2

AZ 1

EZ 3  
EZ 4



# VALVES AMÉRICAINES



DÉFINITION				Valves biplaques					
TYPES				80	80 S	25Z5	25Z6G	5Y3GB	5Y3G
CHAUFFAGE	Mode de chauffage Tension de chauffage Courant de chauffage	Ef If Ea Ia	Volts Amp. Volts mA	direct	indirect	—	—	indirect	direct
CARACTÉRISTIQUES	Polarisation			5	5	25	25	5	5
	Courant normal			2	2	0,3	0,3	2	2
FORME :	Diamètre	—	—	2x125	125	400	400		
Hauteur		a	A	—	100	125	125	45	45
		b	B	39	39	39	39	45	45
				100	100	95	100	120	105

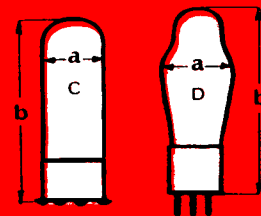
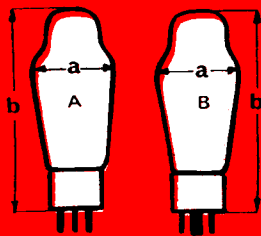
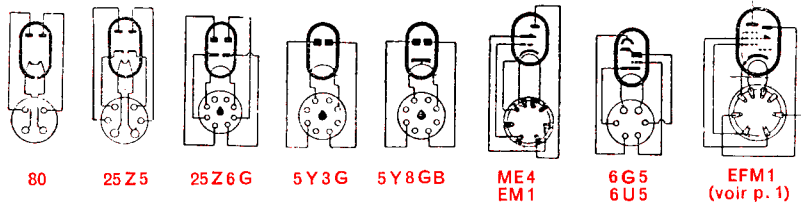
## TUBES DE RÉGLAGE VISUEL

TYPES			ME 4	EM 1	6G5	ME 6	6U5
Mode de chauffage	Ef If Ea Eg Eg	Volts Amp. Volts mA	Contacts	Contacts	Broches	Voir EM1 (2 secteurs d'ombre)	Broches
Tension de chauffage			indir.	indir.	indir.		indir.
Courant de chauffage			4,0	6,3	6,3		6,3
Tens. plaque et de couronne	0,3	0,2	0,3	0,3			
Polarisation négative de grille	250	250	250	250			
Courant plaque normal	0-5	0-5	-22	-22			
FORME :	2	C	D	C			
Diamètre	27	27	39	30			
Hauteur	75	75	85	85			

## TUBES RÉGULATEURS

TYPES	200 R I	200 R II
Limite inférieure de réglage . . . . .	100 V.	40 V.
Limite supérieure de réglage . . . . .	200 V.	100 V.
Tension maximum permanente . . . . .	200 V.	100 V.
Sur tension momentanée . . . . .	240 V.	140 V.
Intensité régulatrice . . . . .	200 mA.	200 mA.
Diamètre . . . . .	39	39
Hauteur . . . . .	120	120

### CONNEXIONS INTERNES





# LAMPES D' LAMPES DE VALVES D'

DEMANDEZ NOTRE CATALOGUE SPÉCIAL

TYPES			TRIODES B. F.										O 15/400	O 40/1000		
			P 12/250	P 15/250	P 25/500	P 25/450	P 26/500	P 27/500	P 28/500	P 40/800	P 41/800	P 60/500			P 100/1.000	
Caractéristiques générales	Tension filament	Volts	4	4	6	7.5	4	4	7.5	7.2	7.2	6	6	4	10	
	Courant filament	Amp.	1.0	0.95	1.1	1.25	2.0	2.0	1.25	0.8	0.8	4.0	2.7	1.0	1.1	
	Tension anodique max.	Volts	250	250	500	600	500	500	600	800	800	900	1.000	500	1.000	
	Dissipation anodique max.	Watts	12	15	25	25	25	25	35	40	40	75	100	15	40	
	Pente	mA/V.	6.0	6.0	3.0	2.1	4.2	7.5	3.0	2.2	2.2	3.5	4.0	4.5	3.0	
Fonctionnement en Ampli. BF ou Modulat.	Coefficient d'amplification	—	5	4	3	4	3.2	9	9	3.2	6.6	3.5	5.5	8	8.5	
	Résistance interne	Ohms	830	670	1.000	1.900	760	1.200	3.000	1.450	3.000	1.000	1.400	1.800	2.800	
Fonctionnement en Ampli. HF	Tension anodique	Volts	250	250	400	450	400	400	500	800	800	600	1.000	400	800	
	Polarisation de grille	Volts	-34	-45	-104	-84	-102	-31	-55	-184	-90	-120	-146	-39	-67	
	Courant anodique	mA	48	60	65	55	62.5	62.5	20.80	50	50	110	100	40	50	
	Résistance de charge	Ohms	3.200	2.300	4.000	4.300	4.500	3.200	8.000	10.000	10.000	2.600	6.700	6.000	7.000	
	Puiss. utile sans distorsion	Watts	2.5	4.2	7.0	4.6	8.0	6.5	48	9.0	9.0	14.5	30	3.0	8.5	
Fonctionnement en Oscillatrice ou Ampli. HF	Tension continue anodique	Volts	—	—	—	—	—	—	—	—	—	—	—	500	1.000	
	Tension de grille écran	Volts	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Tension de grille de suppres.	Volts	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Courant continu anodique max.	mA	—	—	—	—	—	—	—	—	—	—	—	75	110	
	Puissance utile	Watts	—	—	—	—	—	—	—	—	—	—	—	25	75	
Long. d'onde de résonnance	m	—	—	—	—	—	—	—	—	—	—	—	2.25	2.50		
<b>Types correspondants</b>			—	Geco PX4	Geco PX4A β	Mullard DO 25	RCA 50	Osram PX25 A	Philips F 410	Standard 4043	Telefunken RV 239	Telefunken RV 258	Mullard DO 60	Amperex 843	Philips E 408 β	RCA 830 β
α ) Avec chauffage différent			—	Marconi Osram PX4	—	Triotron K 450/25 α β	Philips F 704	—	Osram PX25	—	Valvo LK 7115	Valvo LK 7110	Triotron K 450/40 α β	Mullard MZ 1-100	Stand. 4205 D α	Stand. 4011-A α
β ) Avec petites différences			—	—	—	—	—	—	—	—	—	—	Osram DA 100	—	—	Western 755

Deux lampes montées en push-pull classe B.

# ÉMISSION PUISSANCE ÉMISSION



DEMANDEZ NOTRE CATALOGUE SPÉCIAL

TRIODES HF										PENTODES HF			VALVES							
OQ 50/1.500	OP 70/1.000	OQ 71/1.000	O 75/1.000	OP 200/2.000	O 200/2.500	O 240/2.000	O 250/2.000	O 300/3.000	O 1.500/5.000	OS 6.300	OS 12.500	OS 40/1.250	V 20/7.000	V 300/15.000	RG 250/1.000	RG 250/3.000	RG 1.000/3.000	PV 75/1.000	PV 100/2.000	
7.5 4.0	10 1.5	10 1.25	10 3.0	11 2.5	5 7.0	14 6.0	11 2.5	4.5 10.5	10.5 41	4 0.34	12.6 0.7	7.5 3	4 2.3 7.000 eff.	16 16.5 15.000 eff.	4 3 1.000 eff.	2.5 5 3.000 eff.	5 6.75 3.000 eff.	2.2 4 2x1000 eff.	4 2.2 2x2000 eff.	
1.500	1.000	1.000	1.000	2.000	2.500	2.000	2.000	3.000	6.000	300	500	1.250	Courant redressé admissible							
50 2.0 47 23.500	75 4.0 10 2.500	75 5.0 23 4.600	75 4.5 13.5 3.000	200 6.5 16 2.500	200 1.5 23 15.300	240 9.0 16 1.800	250 9.0 25 2.800	300 1.5 23 15.300	1.500 2.2 20 9.000	6 2.0 30 15.000	12 3.4	40 3.25	20	300	250	250	1.000	75	100	
1.250 —15 40-2300 12.700 190	1.000 —80 60 7.000 14.0	1.000 —37 8-135 5.500 240	1.000 —55 60 7.000 12.5	1.700 —80 120 10.000 40	— — — 5.000 45	1.500 —67 150 8.000 550	1.800 —60 75-500 8.000 550	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —
1.500 — 125 140 1.10	1.000 — 200 130 2.50	1.000 — 200 130 2.55	1.000 — 220 150 2.65	1.800 — 280 350 —	2.000 — 200 200 1.98	1.600 — 310 350 5.10	1.800 — 280 350 5.95	2500 — — 450 2.28	5.000 — 500 1.700 5.80	300 150 — — —	500 200 40 60 92	1.250 300 45 80 2.10	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —
RCA 803	Philips MC 1/50	Philips TC 1/75	Western 211	Philips MC 2/200	Fotos E 200	Philips MC 2/200 α	Philips TC 2/250	—	Standard 4015 A	—	RCA 837	RCA 804	Philips VLS 61	Telefunken RG 44	Philips DCG 1/125 α β	RCA 866 A	RCA 872 A	Philips DC 1/50	Philips DC 2/200	
—	—	CFR E 175 A	Philips MC 1/60	Mullard MZ 2-250	—	Western 212	SFR E 200 M β	—	—	—	Telefunken RS 389	Raytheon RK 20	Philips 1875	—	Geco GU 1	Telefunken RG 7.5/0.6	Telefunken RG 7.5/2.5	—	Mullard RZ 2-125	
—	—	Mullard T2 1/75	Stand. 4211 D	—	—	Standard 4212 D	RCA 204 A β	—	—	—	—	—	—	—	—	—	—	—	—	



# TABLEAU COMPARATIF

TUNGSRAM		Philips	Métal	Fotos	Telefunken	Gecovalve	Valvo	Dario
Chauffage série 180 mA	DG 407/0	A 441 N	DZ 1	MX 40	REO 74 d	BG 4	U 409 d	TA 31
	S 406	A 442	DZ 2	C 150	RESO 94	S 410	H 406 d	TA 42
	HR 406	A 425	DZ 2222	C 25	REO 345	HL 410	W 406	R 62
	LD 410	A 415	DZ 1508	D 15	REO 84	L 410	A 408	TA 15
	G 407	A 409	DZ 908	C 9	REO 74	—	H 406	TA 09
	L 414	B 409	DX 804	D 9	RE 134	—	L 413	TB 09
	P 410	B 406	DY 604	—	RE 114	P 410	L 410	R 56
	P 414	B 405	DX 509	D 5	RE 124	P 425	L 414	TB 05
	PP 415	B 443	DX 3	D 100	RES 174 d	PT 425	L 415 d	R 64
	PP 430	C 443	DW 3	D 100 N	RES 364 d	PT 425 X	L 425 d	TB 43 N
	PP 4101	E 443 H	—	F 100 N	RES 964	—	L 496 d	I 4053
	MO 465	AK 1	—	—	AK 1	—	AK 1	TK 1
	DG 4101	E 441	DW 1	TM 4	REN 704 d	MBG 4	U 4100 D	TE 41
	AS 494	E 442	DW 6	—	—	MS 4	H 4100 d	TE 42
AS 4100	E 442 S	DW 2	S 4150	RENS 1204	—	H 4080 d	TE 42 S	
AS 4120	E 462	DW 7	—	RENS 1264	MS 4 B	H 4111 D	I 4094	
AS 4125	E 455	—	T 4500 C	RENS 1274	—	H 4115 d	TE 55	
HP 4101	E 446	—	T 4600	RENS 1284	—	H 4128 d	TE 46	
HP 4115	AF 2	—	—	AF 2	—	AF 2	TF 2	
HP 4106	E 447	—	T 4700	RENS 1294	—	H 4129 d	TE 47	
DS 4100	E 444	—	T 4400	RENS 1254	—	AN 4126	T 4400	
AR 4101	E 438	DW 4023	S 440 N	REN 1004	—	W 4080	TE 38	
AG 495	E 424	DW 4011	T 425	REN 904	MH 4	A 4110	TE 24	
APP 4120	E 453	—	—	RENS 1374	—	L 4150 d	TE 63	
S 2018	B 2042	—	—	RENS 1820	DSB	H 2018 d	CT 42	
SE 2018	B 2045	—	—	RENS 1819	—	H 1918 d	CT 45	
SS 2018	B 2052 T	—	—	RENS 1818	—	L 4150 d	CT 52	
R 2018	B 2038	—	—	REN 1831	—	—	—	
P 2018	B 2006	—	—	REN 1822	—	L 2218	—	
PP 4018	BL 2	—	—	BL 2	—	BL 2	TE 40	

## LAMPES D'ÉMISSION

- Les lampes TUNGSRAM d'émission et de grande puissance sont remarquables par leur précision et leur qualité. Elles comprennent les types les plus évolués, telles que les pentodes modernes, les lampes à anode de graphite et les valves à vapeur de mercure à cathode protégée.
- La fraction caractéristique de la désignation des lampes TUNGSRAM est composée de 2 nombres, dont le premier désigne la puissance dissipée, le second la tension anodique maxima.

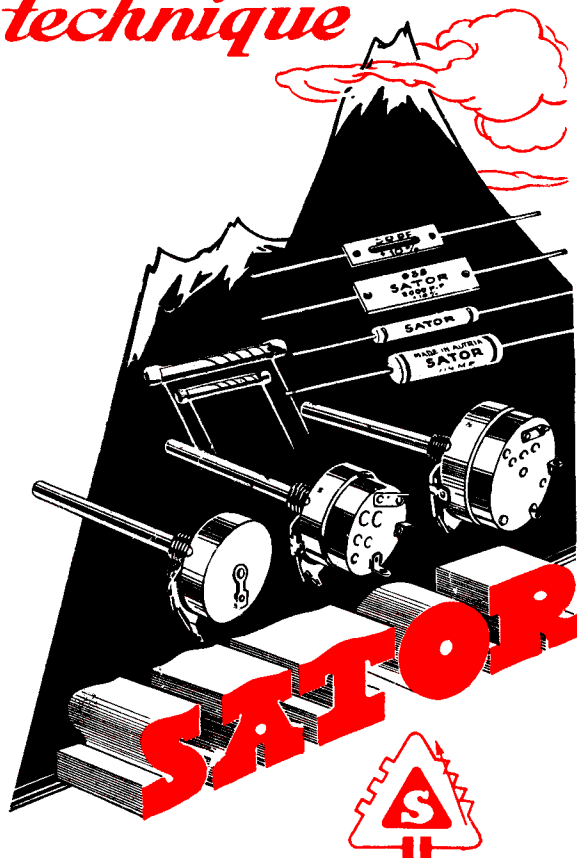
**AVIATION  
MARINE  
RADIODIFFUSION  
ÉLECTRORADIOLOGIE  
TRAFIC AMATEUR  
PUBLIC - ADDRESS  
CINÉMA  
AMPLI**



## LAMPES DE PUISSANCE

# TUNGSRAM

*Le Sommet de la  
technique*



## DEMANDEZ NOS CATALOGUES

- **Matériel SATOR.**
- **Lampes d'Emission et de Puissance.**
- **Lampes d'Eclairage :** Normales, Krypton Dec et usages spéciaux.
- **Lampes Photographiques** pour prises de vue et laboratoires.
- **Lampes Cinéma et Projection** pour film étroit, film normal, projecteurs, etc., etc.

