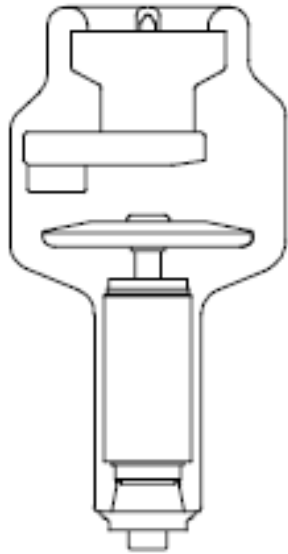


RTM 90 H 0.6 / 1.5

Tubo N°



CE 0051

El contenido de esta documentación debe ser transmitido al usuario del ensamblaje del tubo

Documentación N°	Versión	Fecha de Edición	Texto original
90_H6F	A	18.07.2005	Italiano





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Declaración de conformidad

Este tubo cumple con los requerimientos esenciales de la Directiva 93/42/CEE, de acuerdo con la norma EN 60613 (IEC 613) y EN 60336 (IEC 336).

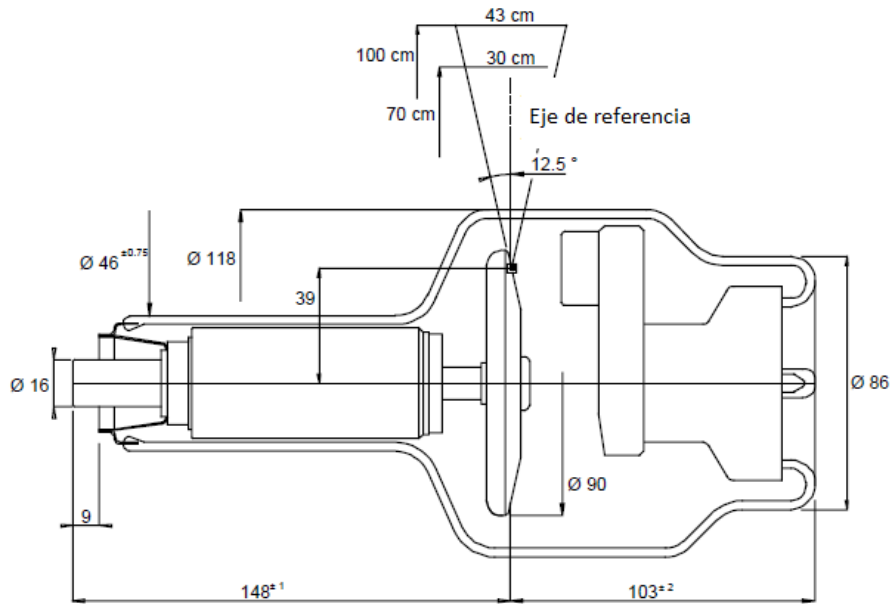
Especificaciones

Punto Focal	 0.6  1.5	(IEC 336, EN 60336)
Velocidad del ánodo	3000 min ⁻¹	
Potencia nominal de entrada del ánodo	 24 kW  64 kW	(IEC 613, EN 60613)
Diámetro del ánodo	90 mm	
Material del ánodo	RTM	
Angulo del ánodo	12.5°	
Campo de radiación	a 70 cm 30 cm a 100 cm 43 cm	
Filtración inherente	0.7 mm Al eq	(IEC 522)
Máximo contenido de calor del ánodo	225 kJ 300 kHU	
Máxima disipación de calor continua	750 W	
Voltaje Nominal del tubo de Rayos X	150 kV	
Máxima corriente del filamento	5.4 A	

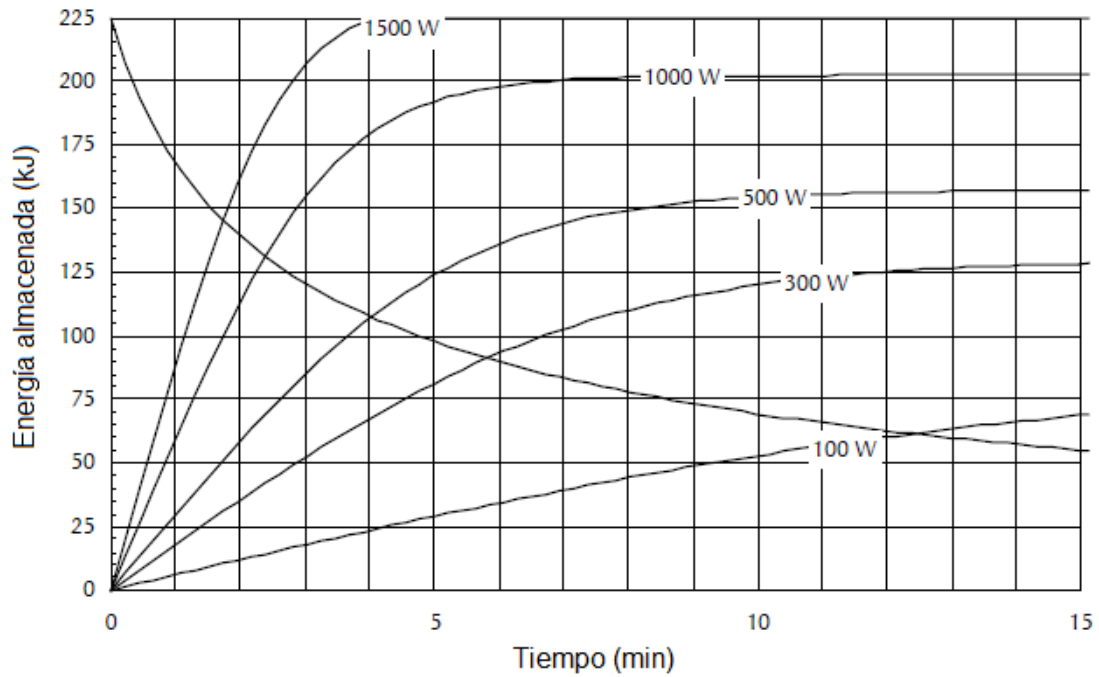
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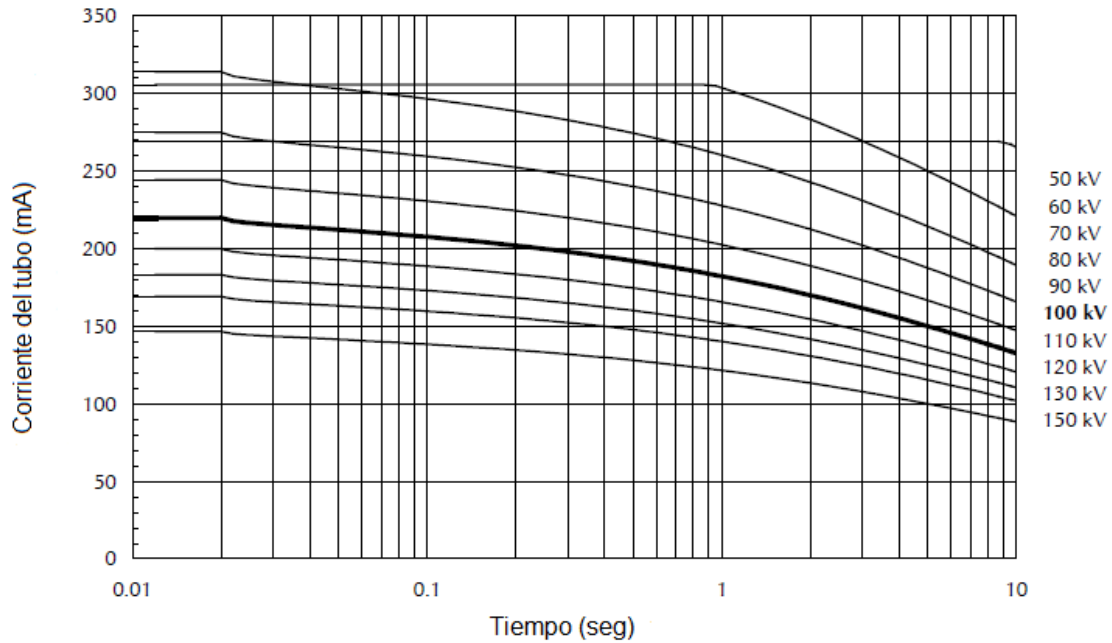
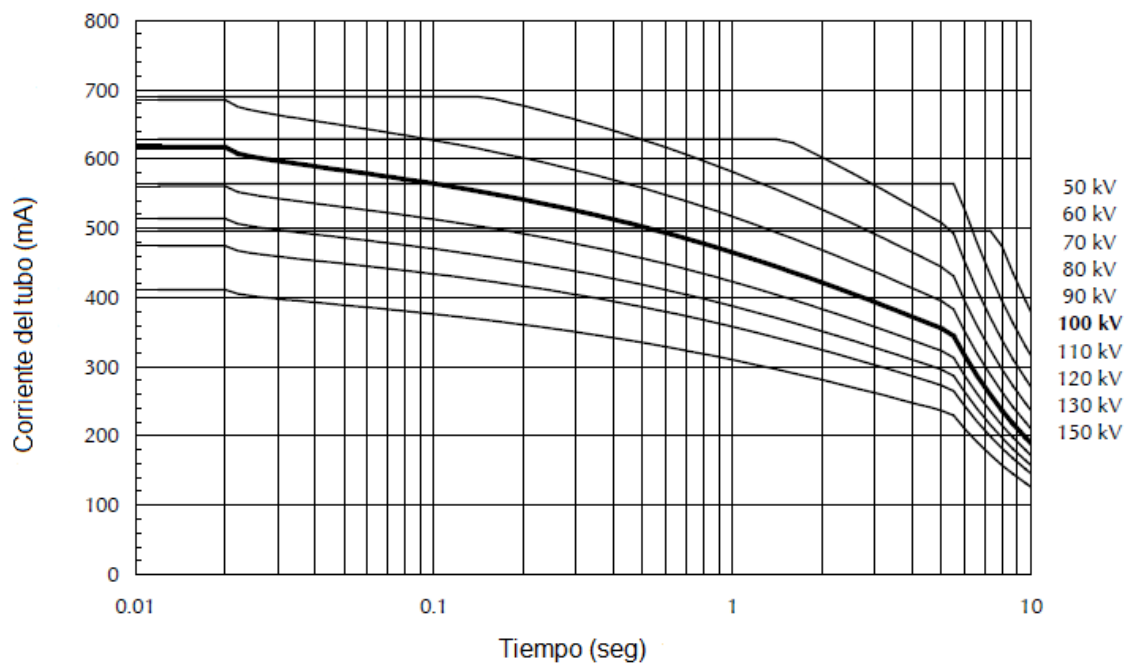
Equivalencia de la potencia de entrada del ánodo 100 W = % máximo de contenido de calor 38 %

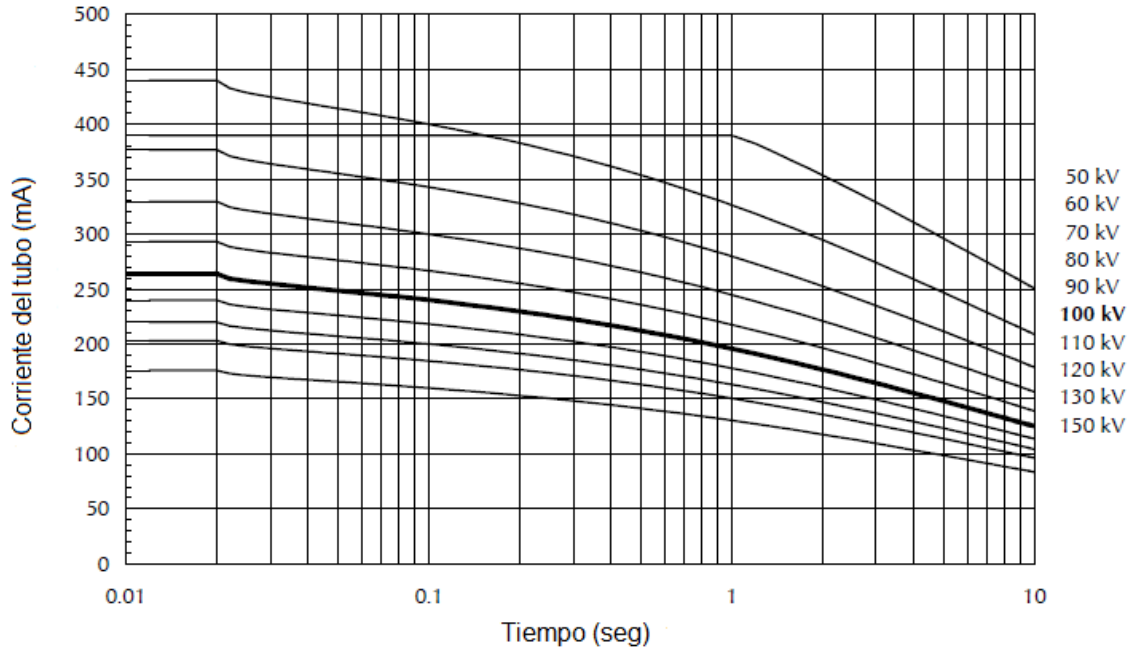
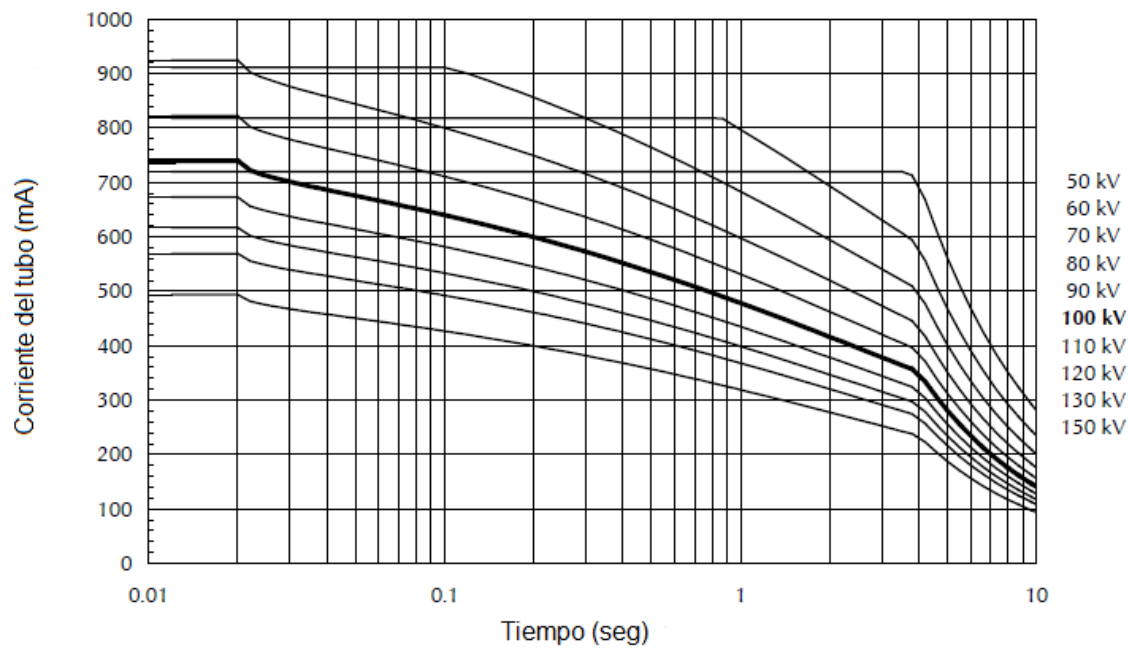
Dimensiones



Curva de enfriamiento y calentamiento del ánodo



Capacidad de carga individual**▣ 0.6 – 1 ~ - 3000 min⁻¹****Capacidad de carga individual****■ 1.5 – 1 ~ - 3000 min⁻¹**

Capacidad de carga individual**■ 0.6 – 3 ~ - 3000 min⁻¹****Capacidad de carga individual****■ 1.5 – 3 ~ - 3000 min⁻¹**

Serie capacidad de carga

▣ 0.6 – 1 ~ - 3000 min⁻¹

Potencia de entrada al ánodo como una función de n (N° de exposiciones en serie), z (tasa de exposición por segundo), tiempo de exposición (seg)																
z	0.010	0.020	0.030	0.040	0.050	0.060	0.080	0.100	0.120	0.140	0.160	0.180	0.200	0.220	0.250	n
1	17.4	17.4	17.1	16.9	16.7	16.6	16.4	16.2	16.1	16.0	15.9	15.7	15.6	15.4	15.1	5
2	17.3	17.3	17.1	16.9	16.7	16.6	16.4	16.1	15.8	15.6	15.3	15.1	14.9	14.6	14.3	
3	17.2	17.2	17.0	16.8	16.6	16.5	16.1	15.8	15.5	15.2	14.9	14.6	14.4	14.1	13.7	
4	17.1	17.1	16.9	16.7	16.5	16.3	15.9	15.6	15.2	14.9	14.6	14.3	14.0	13.7	13.3	
5	17.1	17.1	16.9	16.6	16.4	16.2	15.8	15.4	15.0	14.6	14.3	14.0	13.6	-	-	
10	17.1	16.9	16.6	16.3	16.0	15.7	15.1	14.6	-	-	-	-	-	-	-	
15	17.1	16.8	16.4	16.0	15.7	15.3	-	-	-	-	-	-	-	-	-	
30	17.0	16.5	16.0	-	-	-	-	-	-	-	-	-	-	-	-	
1	17.3	17.3	17.1	16.9	16.7	16.6	16.4	16.1	15.8	15.6	15.3	15.1	14.8	14.6	14.3	10
2	17.1	17.1	16.9	16.7	16.5	16.3	15.9	15.6	15.2	14.9	14.6	14.2	14.0	13.7	13.3	
3	17.1	17.0	16.8	16.5	16.3	16.1	15.6	15.2	14.8	14.4	14.0	13.7	13.3	13.0	12.6	
4	17.1	17.0	16.7	16.4	16.1	15.8	15.3	14.9	14.4	14.0	13.6	13.2	12.9	12.5	12.1	
5	17.1	16.9	16.6	16.3	15.9	15.7	15.1	14.6	14.1	13.7	13.2	12.8	12.5	-	-	
10	17.1	16.6	16.2	15.8	15.4	15.0	14.3	13.6	-	-	-	-	-	-	-	
15	17.0	16.4	15.9	15.4	15.0	14.5	-	-	-	-	-	-	-	-	-	
30	16.8	16.0	15.3	-	-	-	-	-	-	-	-	-	-	-	-	
1	17.1	17.1	16.9	16.7	16.5	16.3	15.9	15.6	15.2	14.9	14.5	14.2	13.9	13.7	13.3	20
2	17.1	17.0	16.7	16.4	16.1	15.8	15.3	14.8	14.4	14.0	13.6	13.2	12.8	12.5	12.0	
3	17.1	16.8	16.5	16.1	15.8	15.5	14.9	14.3	13.8	13.4	12.9	12.5	12.1	11.8	11.2	
4	17.1	16.7	16.3	15.9	15.6	15.2	14.6	14.0	13.4	12.9	12.4	12.0	11.6	11.2	10.7	
5	17.1	16.6	16.2	15.8	15.4	15.0	14.3	13.6	13.0	12.5	12.0	11.5	11.1	-	-	
10	16.9	16.3	15.7	15.1	14.6	14.1	13.2	12.5	-	-	-	-	-	-	-	
15	16.7	16.0	15.3	14.6	14.1	13.5	-	-	-	-	-	-	-	-	-	
30	16.4	15.4	14.5	-	-	-	-	-	-	-	-	-	-	-	-	
1	17.1	17.0	16.7	16.4	16.1	15.8	15.3	14.8	14.4	14.0	13.6	13.2	12.8	12.5	12.0	40
2	17.1	16.7	16.3	15.9	15.6	15.2	14.5	13.9	13.4	12.9	12.4	12.0	11.6	11.2	10.6	
3	17.0	16.5	16.0	15.6	15.2	14.8	14.0	13.3	12.7	12.2	11.6	11.2	10.7	10.3	9.8	
4	17.0	16.4	15.8	15.3	14.8	14.4	13.6	12.8	12.2	11.6	11.1	10.6	10.1	9.7	9.2	
5	16.9	16.2	15.6	15.1	14.6	14.1	13.2	12.5	11.8	11.2	10.6	10.1	9.6	-	-	
10	16.6	15.8	15.0	14.3	13.6	13.0	12.0	11.1	-	-	-	-	-	-	-	
15	16.4	15.4	14.5	13.7	13.0	12.3	-	-	-	-	-	-	-	-	-	
30	16.0	14.6	13.5	-	-	-	-	-	-	-	-	-	-	-	-	
1	17.1	16.8	16.5	16.1	15.8	15.5	14.9	14.3	13.8	13.4	12.9	12.5	11.5	10.5	9.2	60
2	17.0	16.5	16.0	15.6	15.2	14.8	14.0	13.3	12.7	12.2	11.6	11.2	10.4	9.5	8.4	
3	16.9	16.3	15.7	15.2	14.7	14.2	13.4	12.6	12.0	11.4	10.8	10.3	9.9	9.2	8.1	
4	16.8	16.1	15.5	14.9	14.3	13.8	12.9	12.1	11.4	10.8	10.2	9.7	9.2	8.8	7.9	
5	16.7	16.0	15.3	14.6	14.0	13.5	12.5	11.7	11.0	10.3	9.7	9.2	8.8	-	-	
10	16.4	15.4	14.5	13.7	13.0	12.3	11.2	10.3	-	-	-	-	-	-	-	
15	16.2	15.0	13.9	13.0	12.2	11.5	-	-	-	-	-	-	-	-	-	
30	15.7	14.1	12.8	-	-	-	-	-	-	-	-	-	-	-	-	
1	17.1	16.7	16.3	15.9	15.6	15.2	14.5	13.9	13.4	12.9	11.5	10.2	9.2	8.4	7.4	80
2	17.0	16.4	15.8	15.3	14.8	14.4	13.6	12.8	12.2	11.6	10.1	9.0	8.1	7.4	6.5	
3	16.8	16.1	15.5	14.9	14.3	13.8	12.9	12.1	11.4	10.8	9.7	8.6	7.7	7.0	6.2	
4	16.7	15.9	15.2	14.5	13.9	13.4	12.4	11.6	10.8	10.2	9.5	8.4	7.6	6.9	6.1	
5	16.6	15.7	15.0	14.3	13.6	13.0	12.0	11.1	10.3	9.7	9.1	8.3	7.5	-	-	
10	16.2	15.1	14.1	13.2	12.5	11.8	10.6	9.6	-	-	-	-	-	-	-	
15	16.0	14.6	13.5	12.5	11.7	11.0	-	-	-	-	-	-	-	-	-	
30	15.4	13.7	12.3	-	-	-	-	-	-	-	-	-	-	-	-	
1	17.1	16.6	16.2	15.7	15.3	15.0	14.3	13.6	13.0	11.1	9.7	8.7	7.8	7.1	6.2	100
2	16.9	16.2	15.6	15.1	14.6	14.1	13.2	12.5	11.2	9.6	8.4	7.4	6.7	6.1	5.4	
3	16.7	16.0	15.3	14.6	14.0	13.5	12.5	11.7	10.6	9.1	7.9	7.0	6.3	5.8	5.1	
4	16.6	15.7	15.0	14.3	13.6	13.0	12.0	11.1	10.3	8.8	7.7	6.8	6.2	5.6	4.9	
5	16.5	15.6	14.7	13.9	13.3	12.6	11.6	10.6	9.9	8.6	7.6	6.7	6.1	-	-	
10	16.1	14.8	13.8	12.8	12.0	11.3	10.1	9.2	-	-	-	-	-	-	-	
15	15.8	14.3	13.1	12.1	11.2	10.5	-	-	-	-	-	-	-	-	-	
30	15.2	13.3	11.9	-	-	-	-	-	-	-	-	-	-	-	-	
1	17.0	16.4	15.9	15.4	14.9	14.5	13.7	11.8	9.9	8.5	7.4	6.6	5.9	5.4	4.7	150
2	16.7	16.0	15.3	14.6	14.0	13.5	12.1	9.7	8.1	6.9	6.0	5.4	4.8	4.4	3.9	
3	16.6	15.6	14.8	14.1	13.4	12.8	11.2	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.6	
4	16.4	15.4	14.5	13.7	13.0	12.3	10.7	8.6	7.1	6.1	5.4	4.8	4.3	3.9	3.4	
5	16.3	15.2	14.2	13.3	12.6	11.9	10.4	8.4	7.0	6.0	5.2	4.6	4.2	-	-	
10	15.8	14.3	13.1	12.1	11.2	10.5	9.2	7.9	-	-	-	-	-	-	-	
15	15.4	13.8	12.4	11.3	10.4	9.6	-	-	-	-	-	-	-	-	-	
30	14.7	12.6	11.1	-	-	-	-	-	-	-	-	-	-	-	-	
1	16.7	16.0	15.3	14.6	14.0	13.5	10.1	8.1	6.8	5.8	5.1	4.5	4.1	3.7	3.2	300
2	16.4	15.4	14.5	13.7	11.8	9.9	7.4	5.9	4.9	4.2	3.7	3.3	3.0	2.7	2.4	
3	16.2	15.0	13.9	13.0	10.4	8.7	6.5	5.2	4.3	3.7	3.2	2.9	2.6	2.4	2.1	
4	16.0	14.6	13.5	12.1	9.7	8.1	6.0	4.8	4.0	3.5	3.0	2.7	2.4	2.2	1.9	
5	15.8	14.3	13.1	11.5	9.2	7.7	5.8	4.6	3.8	3.3	2.9	2.6	2.3	-	-	
10	15.2	13.3	11.9	10.4	8.4	7.0	5.2	4.2	-	-	-	-	-	-	-	
15	14.7	12.6	11.1	9.9	8.1	6.7	-	-	-	-	-	-	-	-	-	
30	13.8	11.3	9.6	-	-	-	-	-	-	-	-	-	-	-	-	



Serie de capacidad de carga
■ 1.5 – 1 ~ - 3000 min⁻¹

Potencia de entrada al ánodo como una función de n (N° de exposiciones en serie), z (tasa de exposición por segundo), tiempo de exposición (seg)																
z	0.010	0.020	0.030	0.040	0.050	0.060	0.080	0.100	0.120	0.140	0.160	0.180	0.200	0.220	0.250	n
1	48.3	48.3	47.2	46.3	45.7	45.2	44.3	43.7	43.1	42.5	42.1	41.6	40.9	40.2	39.2	5
2	48.0	48.0	47.2	46.3	45.7	45.2	44.2	43.1	42.0	41.0	40.0	39.1	38.2	37.4	36.2	
3	47.7	47.7	46.8	46.1	45.3	44.6	43.2	41.9	40.7	39.5	38.4	37.4	36.4	35.5	34.2	
4	47.4	47.4	46.5	45.6	44.8	43.9	42.4	41.0	39.6	38.4	37.2	36.1	35.0	34.0	32.6	
5	47.2	47.2	46.2	45.2	44.3	43.4	41.7	40.2	38.7	37.4	36.1	35.0	33.9	-	-	
10	47.2	46.4	45.0	43.8	42.5	41.4	39.3	37.4	-	-	-	-	-	-	-	
15	47.2	45.8	44.2	42.7	41.3	40.0	-	-	-	-	-	-	-	-	-	
30	46.9	44.6	42.6	-	-	-	-	-	-	-	-	-	-	-	-	
1	47.9	47.9	47.2	46.3	45.7	45.2	44.2	43.1	42.0	41.0	40.0	39.1	38.2	37.4	36.2	10
2	47.4	47.4	46.5	45.6	44.7	43.9	42.4	40.9	39.6	38.3	37.1	36.0	35.0	34.0	32.6	
3	47.2	47.0	45.9	44.8	43.8	42.9	41.1	39.4	37.9	36.5	35.2	34.0	32.8	31.8	30.3	
4	47.2	46.6	45.4	44.2	43.1	42.0	40.0	38.2	36.6	35.1	33.7	32.4	31.2	30.1	28.6	
5	47.2	46.3	45.0	43.7	42.5	41.3	39.2	37.3	35.5	33.9	32.5	31.2	29.9	-	-	
10	47.2	45.2	43.4	41.7	40.2	38.7	36.1	33.9	-	-	-	-	-	-	-	
15	46.7	44.4	42.3	40.4	38.6	37.0	-	-	-	-	-	-	-	-	-	
30	45.8	42.7	40.0	-	-	-	-	-	-	-	-	-	-	-	-	
1	47.4	47.4	46.5	45.6	44.7	43.9	42.4	40.9	39.6	38.3	37.1	36.0	35.0	34.0	32.6	20
2	47.2	46.6	45.4	44.2	43.1	42.0	40.0	38.2	36.6	35.0	33.7	32.4	29.2	26.5	23.3	
3	47.2	46.1	44.6	43.2	41.9	40.6	38.4	36.4	34.6	32.9	31.4	30.1	28.8	26.2	23.0	
4	47.2	45.6	43.9	42.4	40.9	39.6	37.1	35.0	33.0	31.3	29.8	28.3	27.1	25.9	22.9	
5	47.2	45.2	43.4	41.7	40.1	38.7	36.1	33.8	31.8	30.0	28.4	27.0	25.7	-	-	
10	46.3	43.7	41.3	39.2	37.3	35.5	32.5	29.9	-	-	-	-	-	-	-	
15	45.7	42.6	39.9	37.5	35.3	33.4	-	-	-	-	-	-	-	-	-	
30	44.4	40.4	37.0	-	-	-	-	-	-	-	-	-	-	-	-	
1	47.2	46.6	45.4	44.2	43.1	42.0	40.0	32.4	27.0	23.2	20.3	18.0	16.2	14.7	13.0	40
2	47.2	45.6	43.9	42.4	40.9	39.6	37.1	30.3	25.2	21.6	18.9	16.8	15.1	13.8	12.1	
3	47.0	44.8	42.9	41.1	39.4	37.9	35.2	29.5	24.6	21.1	18.5	16.4	14.8	13.4	11.8	
4	46.6	44.2	42.0	40.0	38.2	36.6	33.7	29.2	24.3	20.8	18.2	16.2	14.6	13.3	11.7	
5	46.3	43.7	41.3	39.1	37.2	35.5	32.4	28.9	24.1	20.7	18.1	16.1	14.5	-	-	
10	45.2	41.7	38.7	36.1	33.8	31.8	28.4	25.7	-	-	-	-	-	-	-	
15	44.4	40.3	36.9	34.0	31.6	29.5	-	-	-	-	-	-	-	-	-	
30	42.6	37.5	33.4	-	-	-	-	-	-	-	-	-	-	-	-	
1	47.2	46.1	44.6	43.2	41.9	38.5	28.8	23.1	19.2	16.5	14.4	12.8	11.5	10.5	9.2	60
2	47.0	44.8	42.9	41.1	39.4	34.8	26.1	20.9	17.4	14.9	13.1	11.6	10.4	9.5	8.4	
3	46.5	43.9	41.6	39.6	37.7	33.6	25.2	20.2	16.8	14.4	12.6	11.2	10.1	9.2	8.1	
4	46.1	43.2	40.6	38.4	36.4	33.0	24.8	19.8	16.5	14.1	12.4	11.0	9.9	9.0	7.9	
5	45.7	42.6	39.8	37.4	35.3	32.6	24.5	19.6	16.3	14.0	12.2	10.9	9.8	-	-	
10	44.3	40.3	36.9	34.0	31.6	29.4	23.9	19.2	-	-	-	-	-	-	-	
15	43.4	38.7	34.9	31.8	29.2	27.0	-	-	-	-	-	-	-	-	-	
30	41.3	35.5	31.2	-	-	-	-	-	-	-	-	-	-	-	-	
1	47.2	45.6	43.9	42.4	36.8	30.7	23.0	18.4	15.3	13.1	11.5	10.2	9.2	8.4	7.4	80
2	46.6	44.2	42.0	40.0	32.4	27.0	20.3	16.2	13.5	11.6	10.1	9.0	8.1	7.4	6.5	
3	46.1	43.2	40.6	38.4	31.0	25.8	19.4	15.5	12.9	11.1	9.7	8.6	7.7	7.0	6.2	
4	45.6	42.4	39.6	37.1	30.3	25.2	18.9	15.1	12.6	10.8	9.5	8.4	7.6	6.9	6.1	
5	45.2	41.7	38.7	36.1	29.8	24.8	18.6	14.9	12.4	10.6	9.3	8.3	7.5	-	-	
10	43.7	39.1	35.5	32.4	28.9	24.1	18.1	14.5	-	-	-	-	-	-	-	
15	42.6	37.4	33.4	30.1	27.5	23.9	-	-	-	-	-	-	-	-	-	
30	40.3	34.0	29.5	-	-	-	-	-	-	-	-	-	-	-	-	
1	47.2	45.2	43.3	39.0	31.2	26.0	19.5	15.6	13.0	11.1	9.7	8.7	7.8	7.1	6.2	100
2	46.3	43.7	41.3	33.5	26.8	22.3	16.8	13.4	11.2	9.6	8.4	7.4	6.7	6.1	5.4	
3	45.7	42.5	39.8	31.7	25.4	21.1	15.9	12.7	10.6	9.1	7.9	7.0	6.3	5.8	5.1	
4	45.2	41.7	38.7	30.8	24.6	20.5	15.4	12.3	10.3	8.8	7.7	6.8	6.2	5.6	4.9	
5	44.7	40.9	37.7	30.3	24.2	20.2	15.1	12.1	10.1	8.6	7.6	6.7	6.1	-	-	
10	43.1	38.2	34.3	29.2	23.3	19.4	14.6	11.7	-	-	-	-	-	-	-	
15	41.9	36.4	32.1	28.8	23.0	19.2	-	-	-	-	-	-	-	-	-	
30	39.4	32.8	28.1	-	-	-	-	-	-	-	-	-	-	-	-	
1	46.7	44.3	39.5	29.6	23.7	19.7	14.8	11.8	9.9	8.5	7.4	6.6	5.9	5.4	4.7	150
2	45.7	42.5	32.2	24.2	19.3	16.1	12.1	9.7	8.1	6.9	6.0	5.4	4.8	4.4	3.9	
3	44.9	41.3	29.8	22.3	17.9	14.9	11.2	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.6	
4	44.3	40.3	28.6	21.4	17.2	14.3	10.7	8.6	7.1	6.1	5.4	4.8	4.3	3.9	3.4	
5	43.8	39.4	27.9	20.9	16.7	13.9	10.4	8.4	7.0	6.0	5.2	4.6	4.2	-	-	
10	41.9	36.4	26.4	19.8	15.8	13.2	9.9	7.9	-	-	-	-	-	-	-	
15	40.5	34.3	25.9	19.4	15.6	13.0	-	-	-	-	-	-	-	-	-	
30	37.7	30.5	25.4	-	-	-	-	-	-	-	-	-	-	-	-	
1	45.7	40.5	27.0	20.3	16.2	13.5	10.1	8.1	6.8	5.8	5.1	4.5	4.1	3.7	3.2	300
2	44.3	29.6	19.7	14.8	11.8	9.9	7.4	5.9	4.9	4.2	3.7	3.3	3.0	2.7	2.4	
3	43.3	26.0	17.3	13.0	10.4	8.7	6.5	5.2	4.3	3.7	3.2	2.9	2.6	2.4	2.1	
4	42.5	24.2	16.1	12.1	9.7	8.1	6.0	4.8	4.0	3.5	3.0	2.7	2.4	2.2	1.9	
5	41.9	23.1	15.4	11.5	9.2	7.7	5.8	4.6	3.8	3.3	2.9	2.6	2.3	-	-	
10	39.4	20.9	13.9	10.4	8.4	7.0	5.2	4.2	-	-	-	-	-	-	-	
15	37.7	20.2	13.4	10.1	8.1	6.7	-	-	-	-	-	-	-	-	-	
30	34.3	19.4	13.0	-	-	-	-	-	-	-	-	-	-	-	-	



Serie de capacidad de carga

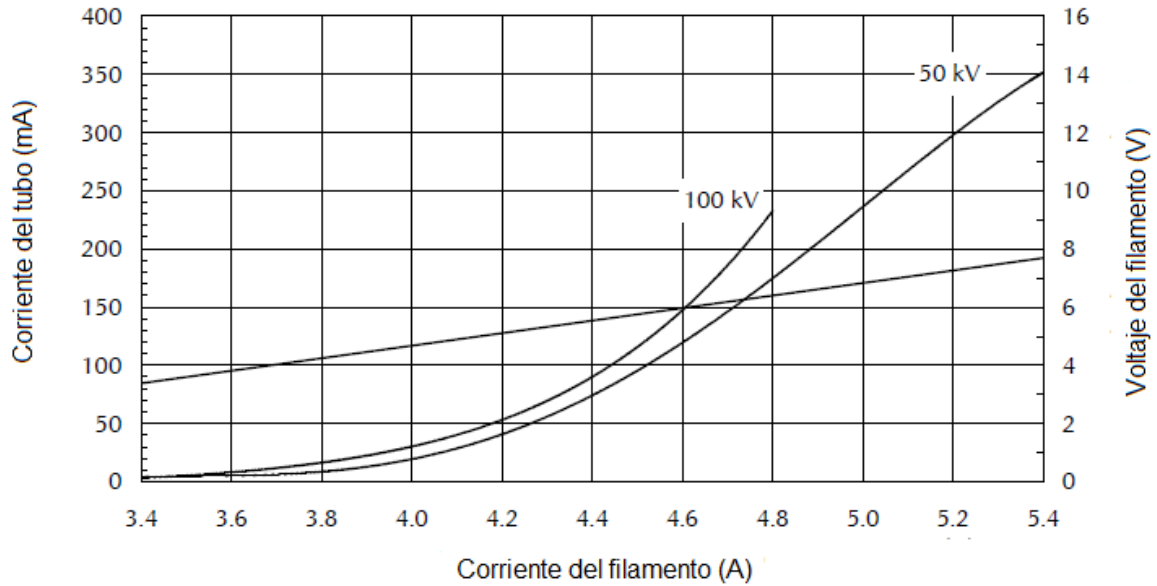
■ 0.6 – 3 ~ - 3000 min⁻¹

Potencia de entrada al ánodo como una función de n (N° de exposiciones en serie), z (tasa de exposición por segundo), tiempo de exposición (seg)																
z	0.010	0.020	0.030	0.040	0.050	0.060	0.080	0.100	0.120	0.140	0.160	0.180	0.200	0.220	0.250	n
1	20.8	20.8	20.4	20.1	19.9	19.7	19.4	19.2	19.0	18.8	18.7	18.5	18.3	18.0	17.7	5
2	20.6	20.6	20.4	20.1	19.9	19.7	19.4	19.0	18.6	18.3	17.9	17.6	17.3	17.0	16.5	
3	20.5	20.5	20.3	20.0	19.8	19.5	19.0	18.6	18.2	17.8	17.4	17.0	16.6	16.3	15.8	
4	20.5	20.5	20.2	19.9	19.6	19.3	18.8	18.3	17.8	17.3	16.9	16.5	16.1	15.7	15.2	
5	20.4	20.4	20.1	19.7	19.4	19.1	18.5	18.0	17.5	17.0	16.5	16.1	15.7	-	-	
10	20.4	20.1	19.7	19.2	18.8	18.4	17.7	17.0	-	-	-	-	-	-	-	
15	20.4	19.9	19.4	18.9	18.4	17.9	-	-	-	-	-	-	-	-	-	
30	20.3	19.5	18.8	-	-	-	-	-	-	-	-	-	-	-	-	
1	20.6	20.6	20.4	20.1	19.9	19.7	19.4	19.0	18.6	18.3	17.9	17.6	17.3	17.0	16.5	10
2	20.5	20.5	20.2	19.9	19.6	19.3	18.8	18.3	17.8	17.3	16.9	16.5	16.1	15.7	15.2	
3	20.4	20.3	20.0	19.6	19.3	18.9	18.3	17.7	17.2	16.6	16.2	15.7	15.3	14.9	14.3	
4	20.4	20.2	19.8	19.4	19.0	18.6	17.9	17.3	16.7	16.1	15.6	15.1	14.6	14.2	13.6	
5	20.4	20.1	19.6	19.2	18.8	18.4	17.6	16.9	16.3	15.7	15.1	14.6	14.1	-	-	
10	20.4	19.7	19.1	18.5	18.0	17.5	16.5	15.7	-	-	-	-	-	-	-	
15	20.2	19.5	18.7	18.1	17.4	16.8	-	-	-	-	-	-	-	-	-	
30	19.9	18.9	17.9	-	-	-	-	-	-	-	-	-	-	-	-	
1	20.5	20.5	20.2	19.9	19.6	19.3	18.8	18.2	17.8	17.3	16.9	16.5	16.1	15.7	15.2	20
2	20.4	20.2	19.8	19.4	19.0	18.6	17.9	17.3	16.7	16.1	15.6	15.1	14.6	14.2	13.6	
3	20.4	20.0	19.5	19.0	18.6	18.2	17.3	16.6	15.9	15.3	14.7	14.2	13.7	13.2	12.6	
4	20.4	19.9	19.3	18.8	18.3	17.8	16.9	16.1	15.3	14.7	14.1	13.5	13.0	12.5	11.8	
5	20.4	19.7	19.1	18.5	18.0	17.4	16.5	15.6	14.9	14.2	13.5	13.0	12.4	-	-	
10	20.1	19.2	18.4	17.6	16.9	16.3	15.1	14.1	-	-	-	-	-	-	-	
15	19.9	18.8	17.9	17.0	16.2	15.5	-	-	-	-	-	-	-	-	-	
30	19.5	18.1	16.8	-	-	-	-	-	-	-	-	-	-	-	-	
1	20.4	20.2	19.8	19.4	19.0	18.6	17.9	17.3	16.7	16.1	15.6	15.1	14.6	14.2	13.0	40
2	20.4	19.9	19.3	18.8	18.2	17.8	16.9	16.1	15.3	14.7	14.1	13.5	13.0	12.5	11.8	
3	20.3	19.6	18.9	18.3	17.7	17.2	16.2	15.3	14.5	13.7	13.1	12.5	11.9	11.5	10.8	
4	20.2	19.4	18.6	17.9	17.3	16.7	15.6	14.6	13.8	13.0	12.4	11.7	11.2	10.7	10.0	
5	20.1	19.2	18.4	17.6	16.9	16.3	15.1	14.1	13.2	12.5	11.8	11.2	10.6	-	-	
10	19.7	18.5	17.4	16.5	15.6	14.9	13.5	12.4	-	-	-	-	-	-	-	
15	19.4	18.0	16.8	15.7	14.8	14.0	-	-	-	-	-	-	-	-	-	
30	18.8	17.0	15.3	-	-	-	-	-	-	-	-	-	-	-	-	
1	20.4	20.0	19.5	19.0	18.6	18.1	17.3	16.6	15.9	15.3	14.4	12.8	11.5	10.5	9.2	60
2	20.3	19.6	18.9	18.3	17.7	17.2	16.1	15.3	14.5	13.7	13.1	11.6	10.4	9.5	8.4	
3	20.2	19.3	18.5	17.8	17.1	16.5	15.3	14.4	13.5	12.7	12.1	11.2	10.1	9.2	8.1	
4	20.0	19.0	18.2	17.3	16.6	15.9	14.7	13.7	12.8	12.0	11.3	10.7	9.9	9.0	7.9	
5	19.9	18.8	17.9	17.0	16.2	15.5	14.2	13.1	12.2	11.4	10.7	10.1	9.5	-	-	
10	19.4	18.0	16.8	15.7	14.8	13.9	12.5	11.4	-	-	-	-	-	-	-	
15	19.1	17.4	16.1	14.9	13.8	13.0	-	-	-	-	-	-	-	-	-	
30	18.4	16.3	14.6	-	-	-	-	-	-	-	-	-	-	-	-	
1	20.4	19.9	19.3	18.8	18.2	17.8	16.9	16.1	15.3	13.1	11.5	10.2	9.2	8.4	7.4	80
2	20.2	19.4	18.6	17.9	17.3	16.7	15.6	14.6	13.5	11.6	10.1	9.0	8.1	7.4	6.5	
3	20.0	19.0	18.1	17.3	16.6	15.9	14.7	13.7	12.8	11.1	9.7	8.6	7.7	7.0	6.2	
4	19.9	18.8	17.8	16.9	16.1	15.3	14.1	13.0	12.1	10.8	9.5	8.4	7.6	6.9	6.1	
5	19.7	18.5	17.4	16.5	15.6	14.9	13.5	12.4	11.5	10.6	9.3	8.3	7.5	-	-	
10	19.2	17.6	16.3	15.1	14.1	13.2	11.8	10.6	-	-	-	-	-	-	-	
15	18.8	17.0	15.5	14.2	13.1	12.2	-	-	-	-	-	-	-	-	-	
30	18.0	15.7	14.0	-	-	-	-	-	-	-	-	-	-	-	-	
1	20.4	19.7	19.1	18.5	18.0	17.4	16.5	15.6	13.0	11.1	9.7	8.7	7.8	7.1	6.2	100
2	20.1	19.2	18.4	17.6	16.9	16.3	15.1	13.4	11.2	9.6	8.4	7.4	6.7	6.1	5.4	
3	19.9	18.8	17.9	17.0	16.2	15.5	14.2	12.7	10.6	9.1	7.9	7.0	6.3	5.8	5.1	
4	19.7	18.5	17.4	16.5	15.6	14.9	13.5	12.3	10.3	8.8	7.7	6.8	6.2	5.6	4.9	
5	19.6	18.2	17.1	16.1	15.2	14.4	13.0	11.8	10.1	8.6	7.6	6.7	6.1	-	-	
10	19.0	17.3	15.8	14.6	13.6	12.7	11.2	10.0	-	-	-	-	-	-	-	
15	18.6	16.6	15.0	13.7	12.6	11.6	-	-	-	-	-	-	-	-	-	
30	17.7	15.3	13.4	-	-	-	-	-	-	-	-	-	-	-	-	
1	20.2	19.4	18.7	18.0	17.4	16.8	14.8	11.8	9.9	8.5	7.4	6.6	5.9	5.4	4.7	150
2	19.9	18.8	17.9	17.0	16.2	15.5	12.1	9.7	8.1	6.9	6.0	5.4	4.8	4.4	3.9	
3	19.6	18.4	17.3	16.3	15.4	14.6	11.2	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.6	
4	19.4	18.0	16.8	15.7	14.8	13.9	10.7	8.6	7.1	6.1	5.4	4.8	4.3	3.9	3.4	
5	19.3	17.7	16.4	15.3	14.3	13.4	10.4	8.4	7.0	6.0	5.2	4.6	4.2	-	-	
10	18.6	16.6	15.0	13.7	12.6	11.6	9.9	7.9	-	-	-	-	-	-	-	
15	18.1	15.8	14.1	12.7	11.5	10.6	-	-	-	-	-	-	-	-	-	
30	17.1	14.4	12.4	-	-	-	-	-	-	-	-	-	-	-	-	
1	19.9	18.8	17.9	17.0	16.2	13.5	10.1	8.1	6.8	5.8	5.1	4.5	4.1	3.7	3.2	300
2	19.4	18.0	16.8	14.8	11.8	9.9	7.4	5.9	4.9	4.2	3.7	3.3	3.0	2.7	2.4	
3	19.1	17.4	16.0	13.0	10.4	8.7	6.5	5.2	4.3	3.7	3.2	2.9	2.6	2.4	2.1	
4	18.8	17.0	15.5	12.1	9.7	8.1	6.0	4.8	4.0	3.5	3.0	2.7	2.4	2.2	1.9	
5	18.6	16.6	15.0	11.5	9.2	7.7	5.8	4.6	3.8	3.3	2.9	2.6	2.3	-	-	
10	17.7	15.3	13.4	10.4	8.4	7.0	5.2	4.2	-	-	-	-	-	-	-	
15	17.1	14.4	12.4	10.1	8.1	6.7	-	-	-	-	-	-	-	-	-	
30	15.8	12.7	10.6	-	-	-	-	-	-	-	-	-	-	-	-	

Serie de capacidad de carga

■ 1.5 – 3 ~ - 3000 min⁻¹

Potencia de entrada al ánodo como una función de n (N° de exposiciones en serie), z (tasa de exposición por segundo), tiempo de exposición (seg)																
z	0.010	0.020	0.030	0.040	0.050	0.060	0.080	0.100	0.120	0.140	0.160	0.180	0.200	0.220	0.250	n
1	57.8	57.8	56.1	54.9	54.0	53.3	52.1	51.2	50.4	49.7	49.1	48.4	47.5	46.6	45.2	5
2	57.2	57.2	56.1	54.9	54.0	53.3	52.0	50.4	49.0	47.6	46.3	45.1	43.9	42.8	41.2	
3	56.8	56.8	55.7	54.6	53.5	52.5	50.6	48.8	47.2	45.6	44.2	42.8	41.5	40.3	38.6	
4	56.4	56.4	55.2	53.9	52.7	51.6	49.5	47.5	45.7	44.1	42.5	41.1	39.7	38.5	36.7	
5	56.1	56.1	54.7	53.4	52.1	50.9	48.6	46.5	44.6	42.8	41.2	39.7	38.3	-	-	
10	56.1	55.0	53.1	51.3	49.7	48.1	45.3	42.8	-	-	-	-	-	-	-	
15	56.1	54.2	52.0	49.9	48.1	46.3	-	-	-	-	-	-	-	-	-	
30	55.7	52.5	49.7	-	-	-	-	-	-	-	-	-	-	-	-	
1	57.2	57.2	56.1	54.9	54.0	53.3	51.9	50.4	48.9	47.6	46.3	45.0	43.9	42.8	41.2	10
2	56.4	56.4	55.1	53.9	52.7	51.6	49.4	47.5	45.7	44.0	42.4	41.0	39.6	38.4	36.6	
3	56.1	55.8	54.3	52.8	51.4	50.1	47.7	45.5	43.5	41.6	39.9	38.4	36.9	35.6	33.7	
4	56.1	55.4	53.6	52.0	50.4	49.0	46.3	43.9	41.8	39.8	38.0	36.4	34.9	33.5	31.6	
5	56.1	54.9	53.0	51.2	49.6	48.0	45.2	42.6	40.4	38.3	36.5	34.8	33.3	-	-	
10	56.1	53.4	50.9	48.6	46.5	44.6	41.2	38.3	-	-	-	-	-	-	-	
15	55.5	52.2	49.3	46.7	44.4	42.3	-	-	-	-	-	-	-	-	-	
30	54.2	49.9	46.3	-	-	-	-	-	-	-	-	-	-	-	-	
1	56.4	56.4	55.1	53.9	52.7	51.6	49.4	47.5	45.7	43.2	37.8	33.6	30.3	27.5	24.2	20
2	56.1	55.3	53.6	51.9	50.4	48.9	46.3	43.9	41.7	39.8	36.5	32.4	29.2	26.5	23.3	
3	56.1	54.5	52.5	50.6	48.8	47.1	44.1	41.5	39.1	37.0	35.1	32.0	28.8	26.2	23.0	
4	56.1	53.9	51.6	49.4	47.5	45.7	42.4	39.6	37.2	35.0	33.1	31.3	28.6	26.0	22.9	
5	56.1	53.3	50.8	48.5	46.4	44.5	41.1	38.2	35.6	33.4	31.4	29.7	28.1	-	-	
10	54.9	51.2	48.0	45.2	42.6	40.4	36.5	33.3	-	-	-	-	-	-	-	
15	54.1	49.7	46.1	42.9	40.1	37.7	-	-	-	-	-	-	-	-	-	
30	52.2	46.7	42.3	-	-	-	-	-	-	-	-	-	-	-	-	
1	56.1	55.3	53.6	51.9	50.4	48.9	46.5	44.1	41.7	39.8	37.8	35.6	33.6	31.6	29.2	40
2	56.1	53.9	51.6	49.4	47.5	45.7	42.4	39.6	37.2	35.0	33.1	31.3	28.6	26.0	22.9	
3	55.8	52.8	50.1	47.7	45.4	43.4	39.9	37.5	35.1	32.9	30.9	28.8	26.8	24.8	22.8	
4	55.3	51.9	48.9	46.3	43.9	41.7	36.5	34.1	31.7	29.5	27.3	25.1	22.9	20.7	18.5	
5	54.9	51.2	48.0	45.1	42.6	40.3	36.2	33.8	31.4	29.1	26.7	24.3	21.9	19.5	17.1	
10	53.3	48.5	44.5	41.1	38.2	35.6	31.4	28.1	-	-	-	-	-	-	-	
15	52.2	46.6	42.1	38.4	35.3	32.7	-	-	-	-	-	-	-	-	-	
30	49.7	42.9	37.7	-	-	-	-	-	-	-	-	-	-	-	-	
1	56.1	54.5	52.5	50.5	46.1	38.5	28.8	23.1	19.2	16.5	14.4	12.8	11.5	10.5	9.2	60
2	55.8	52.8	50.1	47.7	41.8	34.8	26.1	20.9	17.4	14.9	13.1	11.6	10.4	9.5	8.4	
3	55.1	51.6	48.4	45.7	40.3	33.6	25.2	20.2	16.8	14.4	12.6	11.2	10.1	9.2	8.1	
4	54.5	50.6	47.1	44.1	39.6	33.0	24.8	19.8	16.5	14.1	12.4	11.0	9.9	9.0	7.9	
5	54.0	49.7	46.0	42.8	39.2	32.6	24.5	19.6	16.3	14.0	12.2	10.9	9.8	-	-	
10	52.2	46.6	42.1	38.4	35.3	31.9	23.9	19.2	-	-	-	-	-	-	-	
15	50.8	44.5	39.6	35.6	32.4	29.7	-	-	-	-	-	-	-	-	-	
30	48.0	40.4	34.8	-	-	-	-	-	-	-	-	-	-	-	-	
1	56.1	53.9	51.6	46.0	36.8	30.7	23.0	18.4	15.3	13.1	11.5	10.2	9.2	8.4	7.4	80
2	55.3	51.9	48.9	40.5	32.4	27.0	20.3	16.2	13.5	11.6	10.1	9.0	8.1	7.4	6.5	
3	54.5	50.5	47.1	38.7	31.0	25.8	19.4	15.5	12.9	11.1	9.7	8.6	7.7	7.0	6.2	
4	53.9	49.4	45.7	37.8	30.3	25.2	18.9	15.1	12.6	10.8	9.5	8.4	7.6	6.9	6.1	
5	53.3	48.5	44.5	37.3	29.8	24.8	18.6	14.9	12.4	10.6	9.3	8.3	7.5	-	-	
10	51.2	45.1	40.3	36.2	28.9	24.1	18.1	14.5	-	-	-	-	-	-	-	
15	49.7	42.8	37.6	33.5	28.7	23.9	-	-	-	-	-	-	-	-	-	
30	46.6	38.4	32.7	-	-	-	-	-	-	-	-	-	-	-	-	
1	56.1	53.3	50.8	39.0	31.2	26.0	19.5	15.6	13.0	11.1	9.7	8.7	7.8	7.1	6.2	100
2	54.9	51.2	44.7	33.5	26.8	22.3	16.8	13.4	11.2	9.6	8.4	7.4	6.7	6.1	5.4	
3	54.0	49.7	42.3	31.7	25.4	21.1	15.9	12.7	10.6	9.1	7.9	7.0	6.3	5.8	5.1	
4	53.3	48.5	41.1	30.8	24.6	20.5	15.4	12.3	10.3	8.8	7.7	6.8	6.2	5.6	4.9	
5	52.7	47.5	40.3	30.3	24.2	20.2	15.1	12.1	10.1	8.6	7.6	6.7	6.1	-	-	
10	50.4	43.9	38.8	29.2	23.3	19.4	14.6	11.7	-	-	-	-	-	-	-	
15	48.8	41.5	36.1	28.8	23.0	19.2	-	-	-	-	-	-	-	-	-	
30	45.5	36.9	31.1	-	-	-	-	-	-	-	-	-	-	-	-	
1	55.5	52.1	39.5	29.6	23.7	19.7	14.8	11.8	9.9	8.5	7.4	6.6	5.9	5.4	4.7	150
2	54.0	48.3	32.2	24.2	19.3	16.1	12.1	9.7	8.1	6.9	6.0	5.4	4.8	4.4	3.9	
3	53.0	44.7	29.8	22.3	17.9	14.9	11.2	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.6	
4	52.1	42.9	28.6	21.4	17.2	14.3	10.7	8.6	7.1	6.1	5.4	4.8	4.3	3.9	3.4	
5	51.4	41.8	27.9	20.9	16.7	13.9	10.4	8.4	7.0	6.0	5.2	4.6	4.2	-	-	
10	48.8	39.6	26.4	19.8	15.8	13.2	9.9	7.9	-	-	-	-	-	-	-	
15	46.9	38.8	25.9	19.4	15.6	13.0	-	-	-	-	-	-	-	-	-	
30	43.2	34.0	25.4	-	-	-	-	-	-	-	-	-	-	-	-	
1	54.0	40.5	27.0	20.3	16.2	13.5	10.1	8.1	6.8	5.8	5.1	4.5	4.1	3.7	3.2	300
2	52.1	29.6	19.7	14.8	11.8	9.9	7.4	5.9	4.9	4.2	3.7	3.3	3.0	2.7	2.4	
3	50.8	26.0	17.3	13.0	10.4	8.7	6.5	5.2	4.3	3.7	3.2	2.9	2.6	2.4	2.1	
4	48.3	24.2	16.1	12.1	9.7	8.1	6.0	4.8	4.0	3.5	3.0	2.7	2.4	2.2	1.9	
5	46.1	23.1	15.4	11.5	9.2	7.7	5.8	4.6	3.8	3.3	2.9	2.6	2.3	-	-	
10	41.8	20.9	13.9	10.4	8.4	7.0	5.2	4.2	-	-	-	-	-	-	-	
15	40.3	20.2	13.4	10.1	8.1	6.7	-	-	-	-	-	-	-	-	-	
30	38.8	19.4	13.0	-	-	-	-	-	-	-	-	-	-	-	-	

Características de emisión del cátodo**■ 0.6 – 3 ~ - (± 0.2 A)****Características de emisión del cátodo****■ 1.5 – 3 ~ - (± 0.2 A)**