



Documentazione Tubo a raggi X  
Tube Documentation  
Documentation du Tube

# RTM 72 H 0.6/1.2



Nr. di matricola  
Tube No.  
Nr de série

CE 0051

Questa documentazione deve essere fornita all'utilizzatore del complesso tubo-guaina  
The contents of this documentation must be transmitted to the user of the tube-assembly  
Le contenu de cette documentation doit être transmis à l'utilisateur de la gaine équipée

| Documentazione N°<br>Documentation N°<br>N° de Documentation | Revisione<br>Edition<br>Version | Data di edizione<br>Date of release<br>Date de l'édition | Testo originale<br>Original text<br>Texte original |
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**Dichiarazione di conformità**

Questo prodotto soddisfa i requisiti essenziali della direttiva 93/42/CEE  
in accordo alle norme EN 60613 (IEC 613) e EN 60336 (IEC 336)

**Declaration of conformity**

This tube fulfils the essential requirements of the directive 93/42/EEC  
according to standard EN 60613 (IEC 613) and EN 60336 (IEC 336).

**Confirmation de conformité**

Ce tube remplit les exigences essentielles de la directive 93/42/CEE en  
accord avec les normes EN 60613 (IEC 613) et EN 60336 (IEC 336).



**Caratteristiche - Specifications - Spécifications**

|   |                                 |                     |
|---|---------------------------------|---------------------|
| Macchie focali<br>Focal spot<br>Foyer   | ▣ 0.6<br>■ 1.2                  | (IEC 336, EN 60336) |
| Velocità di rotazione dell'anodo<br>Anode speed<br>Vitesse de l'anode   | 3000 min <sup>-1</sup>          |                     |
| Potenza anodica nominale<br>Nominal anode input power<br>Puissance anodique nominale                                    | ▣ 17 kW<br>■ 43 kW              | (IEC 613, EN 60613) |
| Diametro anodico<br>Anode diameter<br>Diamètre de l'anode   | 73 mm                           |                     |
| Materiale anodico<br>Anode material<br>Materiau de l'anode  | RT-TZM                          |                     |
| Angolo anodico<br>Anode angle<br>Pente de l'anode   | 12.5 °                          |                     |
| Campo di radiazione<br>Radiation field<br>Champ de rayonnement  | a 70 cm 30 cm<br>a 100 cm 43 cm |                     |
| Filtrazione inerente<br>Inherent filtration<br>Filtration inhérente   | 0.7 mm Al eq                    | (IEC 522)           |
| Capacità termica anodica<br>Maximum anode heat content<br>Chaleur maximale accumulée dans l'anode                       | 225 kJ      300 kHU             |                     |
| Dissipazione termica continua massima<br>Maximum continuous heat dissipation<br>Dissipation thermique continue maximale | 500 W                           |                     |
| Alta tensione nominale<br>Nominal X-ray tube voltage<br>Haute tension nominale  | 150 kV                          |                     |
| Massima corrente di filamento<br>Max. filament current<br>Courant dans le filament max.                                 | 5.4 A                           |                     |

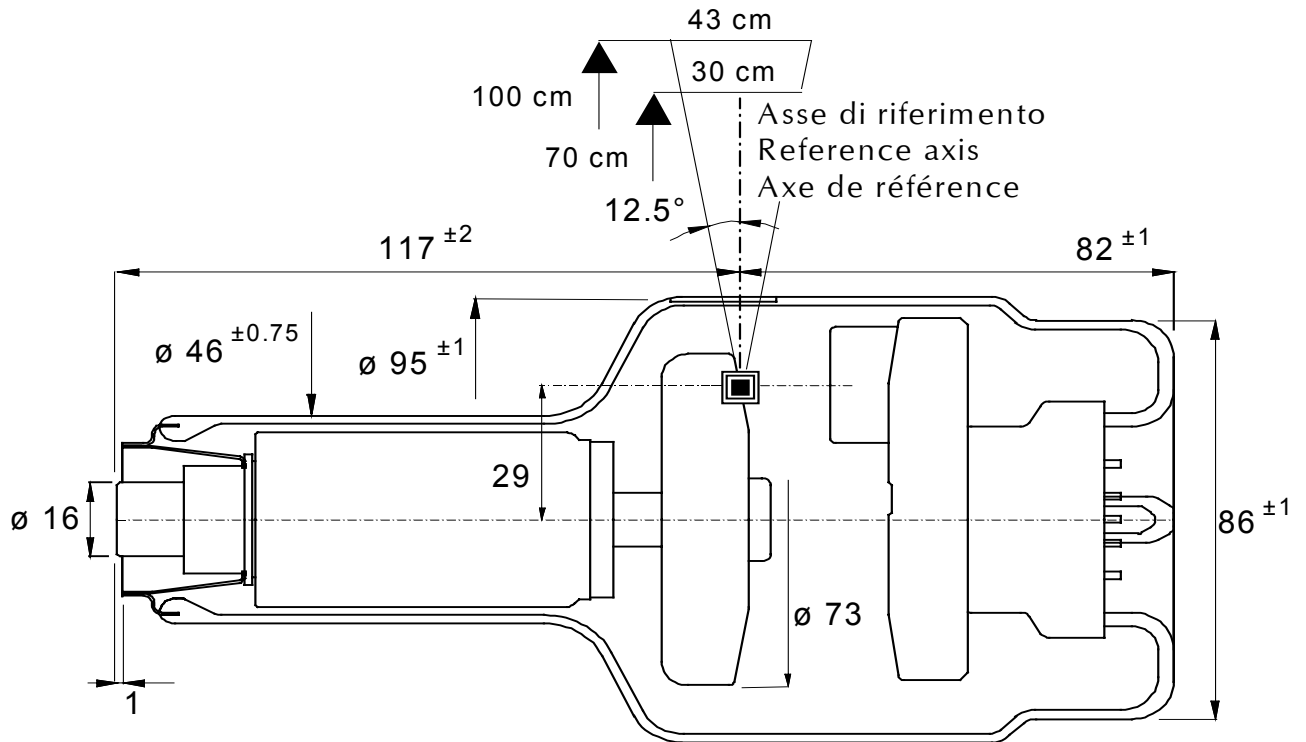
I dati forniti nella presente documentazione si intendono riferiti a:

The data indicated in this documentation refer to:

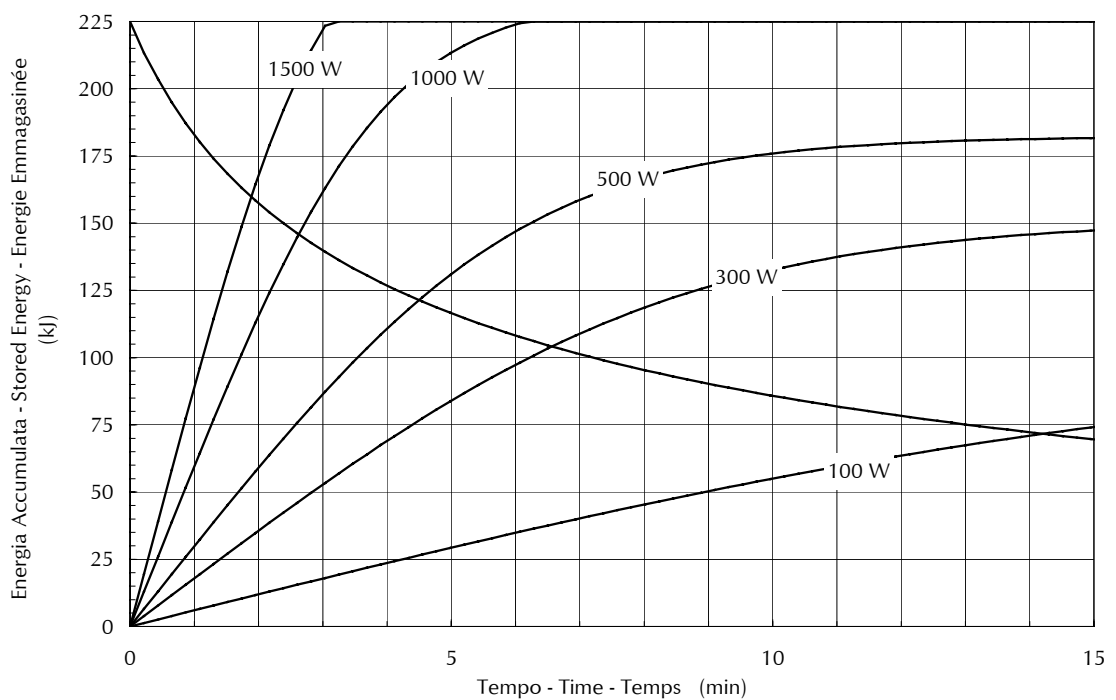
Les données indiquées dans cette documentation sont calculés pour:

|  |         |  |     |
|--|---------|--|-----|
| Potenza anodica di equilibrio termico    |         | % della capacità termica anodica         |     |
| Equivalent anode input power             | 100 W = | % of maximum anode heat content          | 44% |
| Puissance anodique d'équilibre thermique |         | % de chaleur max. accumulée dans l'anode |     |

## Dimensioni - Dimension - Dimensions



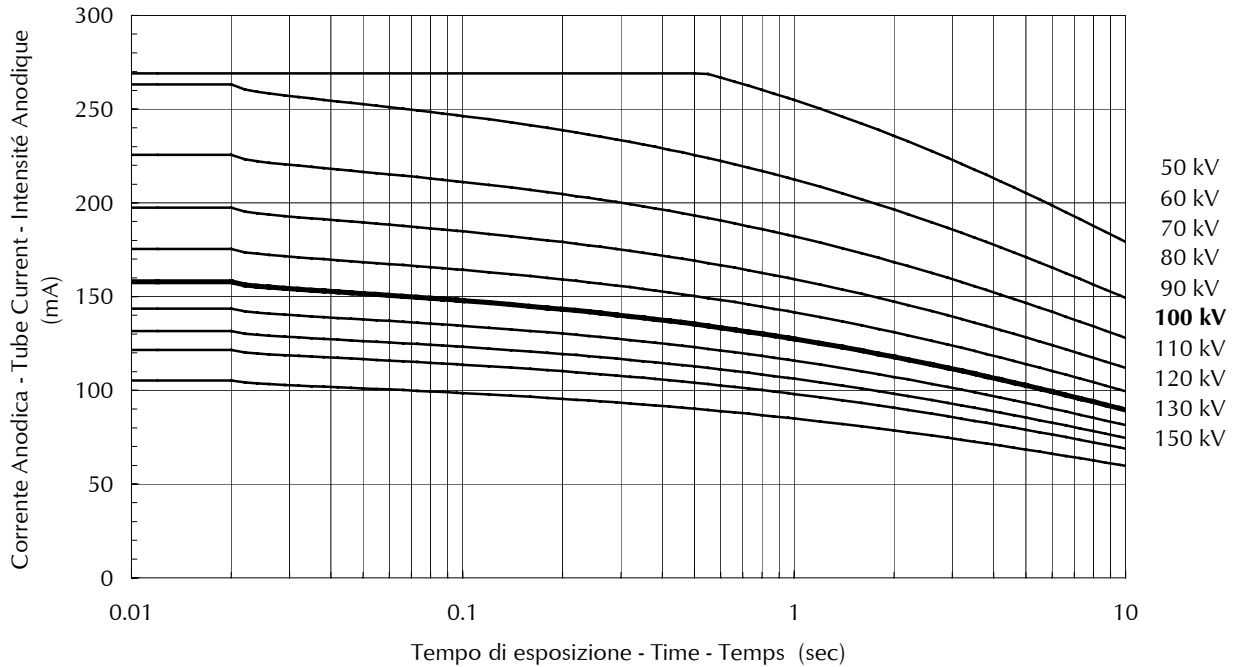
## Curve di riscaldamento e raffreddamento dell'anodo Anode heating and cooling curves Courbes d'échauffement et de refroidissement de l'anode





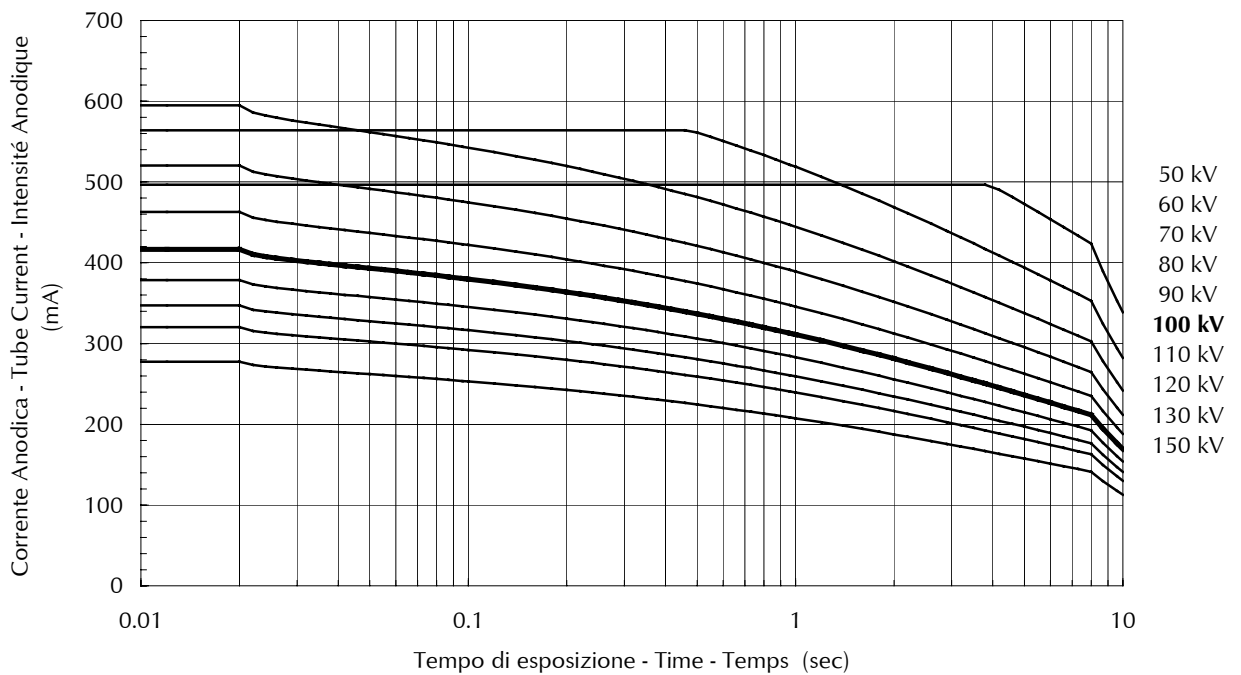
**CURVE DI CARICO SINGOLO - SINGLE LOAD RATING - ABAQUE DE CHARGE UNIQUE**

▣ **0.6 - 1 ~ - 3000 min<sup>-1</sup>**



**CURVE DI CARICO SINGOLO - SINGLE LOAD RATING - ABAQUE DE CHARGE UNIQUE**

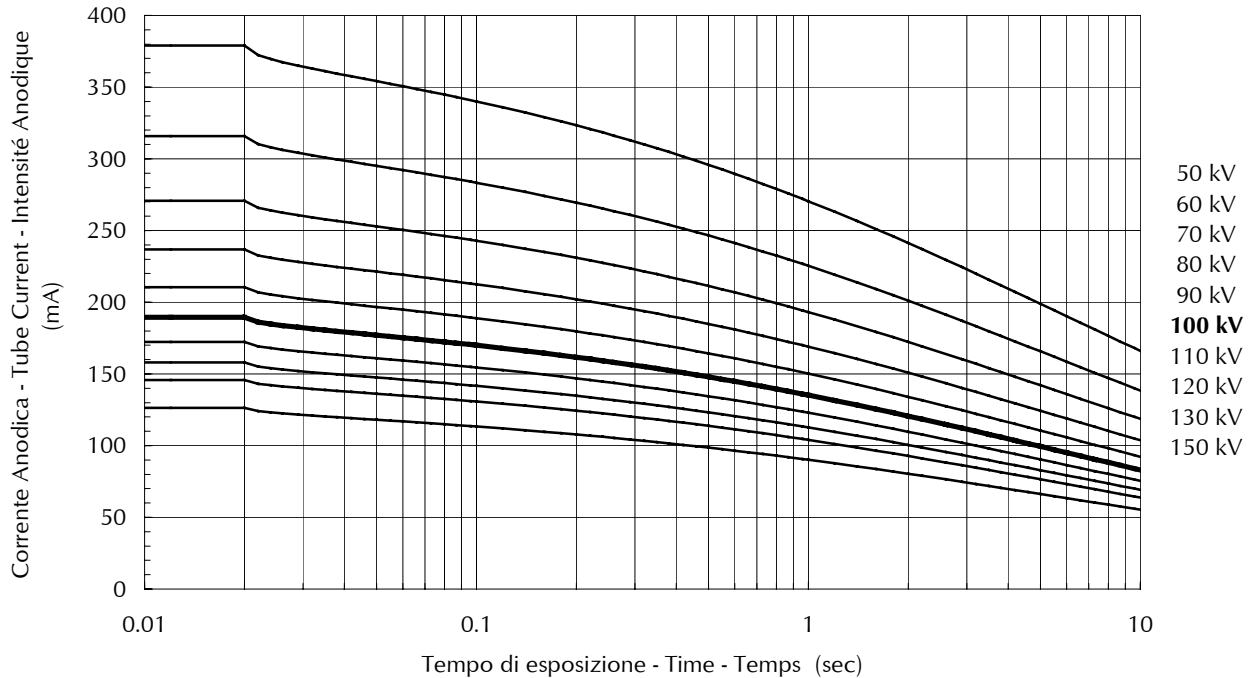
■ **1.2 - 1 ~ - 3000 min<sup>-1</sup>**





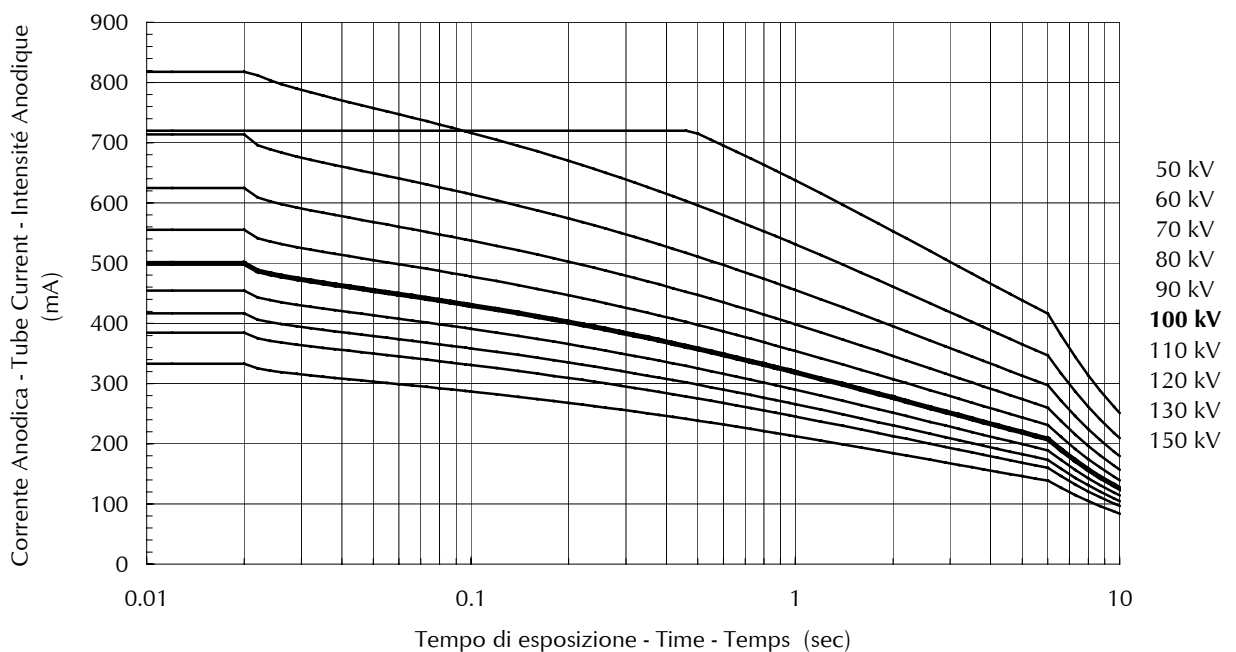
## CURVE DI CARICO SINGOLO - SINGLE LOAD RATING - ABAQUE DE CHARGE UNIQUE

▣ 0.6 - 3 ~ - 3000 min<sup>-1</sup>



## CURVE DI CARICO SINGOLO - SINGLE LOAD RATING - ABAQUE DE CHARGE UNIQUE

■ 1.2 - 3 ~ - 3000 min<sup>-1</sup>





**Abaco per carichi in serie - Serial load rating - Abaque de charges successives**

▣ **0.6 - 1 ~ - 3000 min<sup>-1</sup>**

| Potenza ammessa sul tubo in kW, per serie di n esposizioni, con frequenza z e durata di ogni esposizione in sec<br>Anode input power as a function of n (N° of exposures in series), z (exp. rate per sec), the exposure time (sec)<br>Puissance anodique en fonction de n (N° d'exp. de la séries), z (cadence d'exp. par sec), temps d'exposition (sec) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 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   | 12.4  | 12.4  | 12.2  | 12.1  | 11.9  | 11.8  | 11.7  | 11.5  | 11.4  | 11.3  | 11.2  | 11.1  | 11.0  | 10.8  | 10.6  | 5   |
| 2   | 12.4  | 12.4  | 12.2  | 12.1  | 11.9  | 11.8  | 11.6  | 11.4  | 11.2  | 11.0  | 10.8  | 10.6  | 10.4  | 10.2  | 10.0  |     |
| 3   | 12.3  | 12.3  | 12.2  | 12.0  | 11.9  | 11.7  | 11.4  | 11.2  | 10.9  | 10.7  | 10.5  | 10.2  | 10.0  | 9.8   | 9.5   |     |
| 4   | 12.3  | 12.3  | 12.1  | 11.9  | 11.8  | 11.6  | 11.3  | 11.0  | 10.7  | 10.4  | 10.2  | 9.9   | 9.7   | 9.5   | 9.2   |     |
| 5   | 12.2  | 12.2  | 12.0  | 11.8  | 11.7  | 11.5  | 11.1  | 10.8  | 10.5  | 10.2  | 10.0  | 9.7   | 9.5   | -     | -     |     |
| 10  | 12.2  | 12.1  | 11.8  | 11.6  | 11.3  | 11.1  | 10.6  | 10.2  | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 12.2  | 12.0  | 11.6  | 11.3  | 11.1  | 10.8  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 12.2  | 11.7  | 11.3  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 12.4  | 12.4  | 12.2  | 12.1  | 11.9  | 11.8  | 11.6  | 11.4  | 11.2  | 11.0  | 10.8  | 10.6  | 10.4  | 10.2  | 10.0  | 10  |
| 2   | 12.3  | 12.3  | 12.1  | 11.9  | 11.7  | 11.6  | 11.3  | 11.0  | 10.7  | 10.4  | 10.2  | 9.9   | 9.7   | 9.5   | 9.2   |     |
| 3   | 12.2  | 12.2  | 12.0  | 11.8  | 11.6  | 11.4  | 11.0  | 10.7  | 10.3  | 10.0  | 9.8   | 9.5   | 9.2   | 9.0   | 8.6   |     |
| 4   | 12.2  | 12.1  | 11.9  | 11.6  | 11.4  | 11.2  | 10.8  | 10.4  | 10.1  | 9.7   | 9.4   | 9.1   | 8.9   | 8.6   | 8.2   |     |
| 5   | 12.2  | 12.1  | 11.8  | 11.5  | 11.3  | 11.1  | 10.6  | 10.2  | 9.8   | 9.5   | 9.2   | 8.8   | 8.6   | -     | -     |     |
| 10  | 12.2  | 11.8  | 11.5  | 11.1  | 10.8  | 10.5  | 10.0  | 9.5   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 12.1  | 11.7  | 11.3  | 10.9  | 10.5  | 10.2  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 12.0  | 11.3  | 10.8  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 12.3  | 12.3  | 12.1  | 11.9  | 11.7  | 11.6  | 11.3  | 11.0  | 10.7  | 10.4  | 10.2  | 9.9   | 9.7   | 9.5   | 9.2   | 20  |
| 2   | 12.2  | 12.1  | 11.9  | 11.6  | 11.4  | 11.2  | 10.8  | 10.4  | 10.1  | 9.7   | 9.4   | 9.1   | 8.9   | 8.6   | 8.2   |     |
| 3   | 12.2  | 12.0  | 11.7  | 11.4  | 11.2  | 10.9  | 10.4  | 10.0  | 9.6   | 9.2   | 8.9   | 8.6   | 8.3   | 8.0   | 7.6   |     |
| 4   | 12.2  | 11.9  | 11.6  | 11.3  | 11.0  | 10.7  | 10.2  | 9.7   | 9.3   | 8.9   | 8.5   | 8.2   | 7.9   | 7.6   | 7.2   |     |
| 5   | 12.2  | 11.8  | 11.5  | 11.1  | 10.8  | 10.5  | 9.9   | 9.4   | 9.0   | 8.6   | 8.2   | 7.9   | 7.5   | -     | -     |     |
| 10  | 12.1  | 11.5  | 11.1  | 10.6  | 10.2  | 9.8   | 9.2   | 8.6   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 11.9  | 11.3  | 10.8  | 10.3  | 9.8   | 9.4   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 11.7  | 10.9  | 10.2  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 12.2  | 12.1  | 11.9  | 11.6  | 11.4  | 11.2  | 10.8  | 10.4  | 10.1  | 9.7   | 9.4   | 9.1   | 8.8   | 8.6   | 8.2   | 40  |
| 2   | 12.2  | 11.9  | 11.6  | 11.3  | 11.0  | 10.7  | 10.2  | 9.7   | 9.3   | 8.9   | 8.5   | 8.2   | 7.9   | 7.6   | 7.2   |     |
| 3   | 12.2  | 11.8  | 11.4  | 11.0  | 10.7  | 10.3  | 9.7   | 9.2   | 8.7   | 8.3   | 7.9   | 7.6   | 7.3   | 7.0   | 6.6   |     |
| 4   | 12.1  | 11.6  | 11.2  | 10.8  | 10.4  | 10.1  | 9.4   | 8.9   | 8.4   | 7.9   | 7.5   | 7.1   | 6.8   | 6.5   | 6.1   |     |
| 5   | 12.1  | 11.5  | 11.1  | 10.6  | 10.2  | 9.8   | 9.1   | 8.6   | 8.0   | 7.6   | 7.2   | 6.8   | 6.5   | -     | -     |     |
| 10  | 11.8  | 11.1  | 10.5  | 9.9   | 9.4   | 9.0   | 8.2   | 7.5   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 11.7  | 10.8  | 10.1  | 9.5   | 8.9   | 8.5   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 11.3  | 10.3  | 9.4   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 12.2  | 12.0  | 11.7  | 11.4  | 11.2  | 10.9  | 10.4  | 10.0  | 9.6   | 9.2   | 8.9   | 8.6   | 8.3   | 8.0   | 7.6   | 60  |
| 2   | 12.2  | 11.8  | 11.4  | 11.0  | 10.7  | 10.3  | 9.7   | 9.2   | 8.7   | 8.3   | 7.9   | 7.6   | 7.3   | 7.0   | 6.6   |     |
| 3   | 12.1  | 11.6  | 11.1  | 10.7  | 10.3  | 9.9   | 9.3   | 8.7   | 8.2   | 7.7   | 7.3   | 7.0   | 6.6   | 6.3   | 5.9   |     |
| 4   | 12.0  | 11.4  | 10.9  | 10.4  | 10.0  | 9.6   | 8.9   | 8.3   | 7.8   | 7.3   | 6.9   | 6.5   | 6.2   | 5.9   | 5.5   |     |
| 5   | 11.9  | 11.3  | 10.7  | 10.2  | 9.8   | 9.4   | 8.6   | 8.0   | 7.4   | 6.9   | 6.5   | 6.2   | 5.8   | -     | -     |     |
| 10  | 11.7  | 10.8  | 10.1  | 9.5   | 8.9   | 8.4   | 7.6   | 6.9   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 11.5  | 10.5  | 9.7   | 9.0   | 8.4   | 7.9   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 11.1  | 9.8   | 8.8   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 12.2  | 11.9  | 11.6  | 11.3  | 11.0  | 10.7  | 10.2  | 9.7   | 9.3   | 8.9   | 8.5   | 8.2   | 7.9   | 7.2   | 6.3   | 80  |
| 2   | 12.1  | 11.6  | 11.2  | 10.8  | 10.4  | 10.1  | 9.4   | 8.8   | 8.3   | 7.9   | 7.5   | 7.1   | 6.8   | 6.4   | 5.7   |     |
| 3   | 12.0  | 11.4  | 10.9  | 10.4  | 10.0  | 9.6   | 8.9   | 8.3   | 7.8   | 7.3   | 6.9   | 6.5   | 6.2   | 5.9   | 5.4   |     |
| 4   | 11.9  | 11.3  | 10.7  | 10.2  | 9.7   | 9.3   | 8.5   | 7.9   | 7.3   | 6.8   | 6.4   | 6.1   | 5.7   | 5.4   | 5.0   |     |
| 5   | 11.8  | 11.1  | 10.5  | 9.9   | 9.4   | 9.0   | 8.2   | 7.5   | 7.0   | 6.5   | 6.1   | 5.7   | 5.4   | -     | -     |     |
| 10  | 11.5  | 10.6  | 9.8   | 9.1   | 8.6   | 8.0   | 7.2   | 6.5   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 11.3  | 10.2  | 9.4   | 8.6   | 8.0   | 7.4   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 10.8  | 9.5   | 8.5   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 12.2  | 11.8  | 11.5  | 11.1  | 10.8  | 10.5  | 9.9   | 9.4   | 9.0   | 8.6   | 8.2   | 7.4   | 6.6   | 6.0   | 5.3   | 100 |
| 2   | 12.1  | 11.5  | 11.0  | 10.6  | 10.2  | 9.8   | 9.1   | 8.5   | 8.0   | 7.6   | 7.2   | 6.5   | 5.8   | 5.3   | 4.7   |     |
| 3   | 11.9  | 11.3  | 10.7  | 10.2  | 9.8   | 9.3   | 8.6   | 8.0   | 7.4   | 6.9   | 6.5   | 6.2   | 5.6   | 5.0   | 4.4   |     |
| 4   | 11.8  | 11.1  | 10.5  | 9.9   | 9.4   | 9.0   | 8.2   | 7.5   | 7.0   | 6.5   | 6.1   | 5.7   | 5.4   | 4.9   | 4.3   |     |
| 5   | 11.7  | 11.0  | 10.3  | 9.7   | 9.2   | 8.7   | 7.9   | 7.2   | 6.6   | 6.1   | 5.7   | 5.4   | 5.0   | -     | -     |     |
| 10  | 11.4  | 10.4  | 9.6   | 8.9   | 8.2   | 7.7   | 6.8   | 6.1   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 11.2  | 10.0  | 9.1   | 8.3   | 7.6   | 7.1   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 10.7  | 9.2   | 8.1   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 12.1  | 11.7  | 11.2  | 10.8  | 10.5  | 10.1  | 9.5   | 8.9   | 8.2   | 7.1   | 6.2   | 5.5   | 4.9   | 4.5   | 4.0   | 150 |
| 2   | 11.9  | 11.3  | 10.7  | 10.2  | 9.8   | 9.3   | 8.6   | 8.0   | 6.9   | 5.9   | 5.2   | 4.6   | 4.1   | 3.8   | 3.3   |     |
| 3   | 11.8  | 11.0  | 10.4  | 9.8   | 9.3   | 8.8   | 8.0   | 7.4   | 6.5   | 5.5   | 4.8   | 4.3   | 3.9   | 3.5   | 3.1   |     |
| 4   | 11.7  | 10.8  | 10.1  | 9.5   | 8.9   | 8.4   | 7.6   | 6.9   | 6.2   | 5.4   | 4.7   | 4.2   | 3.7   | 3.4   | 3.0   |     |
| 5   | 11.6  | 10.7  | 9.9   | 9.2   | 8.6   | 8.1   | 7.3   | 6.6   | 6.0   | 5.2   | 4.6   | 4.1   | 3.7   | -     | -     |     |
| 10  | 11.2  | 10.0  | 9.1   | 8.3   | 7.6   | 7.1   | 6.2   | 5.5   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 10.9  | 9.6   | 8.5   | 7.7   | 7.0   | 6.4   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 10.3  | 8.7   | 7.5   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 11.9  | 11.3  | 10.7  | 10.2  | 9.8   | 9.3   | 8.2   | 6.5   | 5.5   | 4.7   | 4.1   | 3.6   | 3.3   | 3.0   | 2.6   | 300 |
| 2   | 11.7  | 10.8  | 10.1  | 9.5   | 8.9   | 8.2   | 6.2   | 4.9   | 4.1   | 3.5   | 3.1   | 2.7   | 2.5   | 2.2   | 2.0   |     |
| 3   | 11.5  | 10.5  | 9.7   | 9.0   | 8.4   | 7.4   | 5.5   | 4.4   | 3.7   | 3.2   | 2.8   | 2.5   | 2.2   | 2.0   | 1.8   |     |
| 4   | 11.3  | 10.2  | 9.3   | 8.6   | 8.0   | 6.9   | 5.2   | 4.1   | 3.5   | 3.0   | 2.6   | 2.3   | 2.1   | 1.9   | 1.7   |     |
| 5   | 11.2  | 10.0  | 9.1   | 8.3   | 7.6   | 6.6   | 5.0   | 4.0   | 3.3   | 2.8   | 2.5   | 2.2   | 2.0   | -     | -     |     |
| 10  | 10.7  | 9.2   | 8.1   | 7.3   | 6.6   | 6.0   | 4.6   | 3.7   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 10.3  | 8.7   | 7.5   | 6.6   | 5.9   | 5.4   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 9.6   | 7.7   | 6.4   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |



**Abaco per carichi in serie - Serial load rating - Abaque de charges successives**

■ 1.2 - 1 ~ - 3000 min<sup>-1</sup>

| Potenza ammessa sul tubo in kW, per serie di n esposizioni, con frequenza z e durata di ogni esposizione in sec<br>Anode input power as a function of n (N° of exposures in series), z (exp. rate per sec), the exposure time (sec)<br>Puissance anodique en fonction de n (N° d'exp. de la série), z (cadence d'exp. par sec), temps d'exposition (sec) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 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  | 32.6  | 32.6  | 31.8  | 31.2  | 30.8  | 30.4  | 29.8  | 29.3  | 28.9  | 28.6  | 28.3  | 28.0  | 27.5  | 27.0  | 26.3  | 5   |
| 2  | 32.3  | 32.3  | 31.8  | 31.2  | 30.8  | 30.4  | 29.7  | 29.0  | 28.2  | 27.5  | 26.8  | 26.2  | 25.6  | 25.0  | 24.2  |     |
| 3  | 32.1  | 32.1  | 31.6  | 31.0  | 30.5  | 30.0  | 29.0  | 28.1  | 27.3  | 26.5  | 25.7  | 25.0  | 24.4  | 23.7  | 22.8  |     |
| 4  | 32.0  | 32.0  | 31.3  | 30.7  | 30.1  | 29.6  | 28.5  | 27.5  | 26.6  | 25.7  | 24.9  | 24.1  | 23.4  | 22.7  | 21.8  |     |
| 5  | 31.8  | 31.8  | 31.1  | 30.4  | 29.8  | 29.2  | 28.0  | 26.9  | 25.9  | 25.0  | 24.2  | 23.4  | 22.6  | -     | -     |     |
| 10   | 31.8  | 31.2  | 30.3  | 29.4  | 28.6  | 27.8  | 26.3  | 25.0  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 31.8  | 30.8  | 29.7  | 28.7  | 27.7  | 26.9  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 31.6  | 30.0  | 28.6  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 32.3  | 32.3  | 31.8  | 31.2  | 30.8  | 30.4  | 29.7  | 28.9  | 28.2  | 27.5  | 26.8  | 26.2  | 25.6  | 25.0  | 24.2  | 10  |
| 2  | 32.0  | 32.0  | 31.3  | 30.7  | 30.1  | 29.5  | 28.5  | 27.5  | 26.5  | 25.7  | 24.8  | 24.1  | 23.4  | 22.7  | 21.7  |     |
| 3  | 31.8  | 31.7  | 30.9  | 30.2  | 29.5  | 28.8  | 27.6  | 26.4  | 25.4  | 24.4  | 23.5  | 22.7  | 21.9  | 21.2  | 20.2  |     |
| 4  | 31.8  | 31.4  | 30.6  | 29.7  | 29.0  | 28.2  | 26.8  | 25.6  | 24.5  | 23.4  | 22.5  | 21.6  | 20.8  | 20.0  | 19.0  |     |
| 5  | 31.8  | 31.2  | 30.3  | 29.4  | 28.5  | 27.7  | 26.3  | 24.9  | 23.7  | 22.7  | 21.7  | 20.8  | 19.9  | -     | -     |     |
| 10   | 31.8  | 30.4  | 29.2  | 28.0  | 26.9  | 25.9  | 24.2  | 22.6  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 31.5  | 29.9  | 28.4  | 27.1  | 25.9  | 24.8  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 30.8  | 28.7  | 26.9  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 32.0  | 32.0  | 31.3  | 30.7  | 30.1  | 29.5  | 28.5  | 27.5  | 26.5  | 25.6  | 24.8  | 24.1  | 23.3  | 22.7  | 21.4  | 20  |
| 2  | 31.8  | 31.4  | 30.6  | 29.7  | 28.9  | 28.2  | 26.8  | 25.6  | 24.5  | 23.4  | 22.5  | 21.6  | 20.8  | 20.0  | 19.0  |     |
| 3  | 31.8  | 31.0  | 30.0  | 29.0  | 28.1  | 27.3  | 25.7  | 24.3  | 23.1  | 22.0  | 20.9  | 20.0  | 19.2  | 18.4  | 17.3  |     |
| 4  | 31.8  | 30.7  | 29.5  | 28.5  | 27.5  | 26.5  | 24.8  | 23.4  | 22.0  | 20.9  | 19.8  | 18.8  | 18.0  | 17.2  | 16.1  |     |
| 5  | 31.8  | 30.4  | 29.1  | 28.0  | 26.9  | 25.9  | 24.1  | 22.6  | 21.2  | 20.0  | 18.9  | 17.9  | 17.1  | -     | -     |     |
| 10   | 31.2  | 29.4  | 27.7  | 26.3  | 24.9  | 23.7  | 21.7  | 19.9  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 30.8  | 28.6  | 26.7  | 25.1  | 23.6  | 22.3  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 29.9  | 27.1  | 24.8  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 31.8  | 31.4  | 30.5  | 29.7  | 28.9  | 28.2  | 26.8  | 25.6  | 23.6  | 20.2  | 17.7  | 15.7  | 14.1  | 12.9  | 11.3  | 40  |
| 2  | 31.8  | 30.7  | 29.5  | 28.5  | 27.5  | 26.5  | 24.8  | 23.3  | 22.0  | 19.1  | 16.7  | 14.8  | 13.3  | 12.1  | 10.7  |     |
| 3  | 31.7  | 30.2  | 28.8  | 27.6  | 26.4  | 25.4  | 23.5  | 21.9  | 20.5  | 18.7  | 16.4  | 14.5  | 13.1  | 11.9  | 10.5  |     |
| 4  | 31.4  | 29.7  | 28.2  | 26.8  | 25.6  | 24.5  | 22.5  | 20.8  | 19.3  | 18.0  | 16.2  | 14.4  | 12.9  | 11.8  | 10.4  |     |
| 5  | 31.2  | 29.4  | 27.7  | 26.2  | 24.9  | 23.7  | 21.6  | 19.9  | 18.4  | 17.1  | 16.0  | 14.3  | 12.9  | -     | -     |     |
| 10   | 30.4  | 28.0  | 25.9  | 24.1  | 22.6  | 21.2  | 18.9  | 17.1  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 29.8  | 27.0  | 24.7  | 22.7  | 21.0  | 19.6  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 28.6  | 25.1  | 22.3  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 31.8  | 31.0  | 30.0  | 29.0  | 28.1  | 27.3  | 24.9  | 19.9  | 16.6  | 14.2  | 12.5  | 11.1  | 10.0  | 9.1   | 8.0   | 60  |
| 2  | 31.7  | 30.2  | 28.8  | 27.5  | 26.4  | 25.4  | 22.9  | 18.3  | 15.3  | 13.1  | 11.5  | 10.2  | 9.2   | 8.3   | 7.3   |     |
| 3  | 31.3  | 29.5  | 27.9  | 26.5  | 25.2  | 24.1  | 22.0  | 17.8  | 14.8  | 12.7  | 11.1  | 9.9   | 8.9   | 8.1   | 7.1   |     |
| 4  | 31.0  | 29.0  | 27.3  | 25.7  | 24.3  | 23.1  | 20.9  | 17.5  | 14.6  | 12.5  | 11.0  | 9.7   | 8.8   | 8.0   | 7.0   |     |
| 5  | 30.8  | 28.6  | 26.7  | 25.0  | 23.6  | 22.3  | 20.0  | 17.4  | 14.5  | 12.4  | 10.9  | 9.7   | 8.7   | -     | -     |     |
| 10   | 29.8  | 27.0  | 24.7  | 22.7  | 21.0  | 19.6  | 17.2  | 15.4  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 29.1  | 25.9  | 23.3  | 21.2  | 19.4  | 17.9  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 27.7  | 23.7  | 20.8  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 31.8  | 30.7  | 29.5  | 28.5  | 27.4  | 26.2  | 19.7  | 15.7  | 13.1  | 11.2  | 9.8   | 8.7   | 7.9   | 7.2   | 6.3   | 80  |
| 2  | 31.4  | 29.7  | 28.2  | 26.8  | 25.6  | 23.6  | 17.7  | 14.1  | 11.8  | 10.1  | 8.8   | 7.9   | 7.1   | 6.4   | 5.7   |     |
| 3  | 31.0  | 29.0  | 27.3  | 25.7  | 24.3  | 22.7  | 17.0  | 13.6  | 11.3  | 9.7   | 8.5   | 7.6   | 6.8   | 6.2   | 5.4   |     |
| 4  | 30.7  | 28.5  | 26.5  | 24.8  | 23.3  | 22.0  | 16.7  | 13.3  | 11.1  | 9.5   | 8.3   | 7.4   | 6.7   | 6.1   | 5.3   |     |
| 5  | 30.4  | 28.0  | 25.9  | 24.1  | 22.5  | 21.2  | 16.5  | 13.2  | 11.0  | 9.4   | 8.2   | 7.3   | 6.6   | -     | -     |     |
| 10   | 29.4  | 26.2  | 23.7  | 21.6  | 19.9  | 18.4  | 16.0  | 12.9  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 28.6  | 25.0  | 22.3  | 20.1  | 18.2  | 16.7  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 27.0  | 22.7  | 19.6  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 31.8  | 30.4  | 29.1  | 28.0  | 26.5  | 22.1  | 16.5  | 13.2  | 11.0  | 9.5   | 8.3   | 7.4   | 6.6   | 6.0   | 5.3   | 100 |
| 2  | 31.2  | 29.4  | 27.7  | 26.2  | 23.3  | 19.4  | 14.5  | 11.6  | 9.7   | 8.3   | 7.3   | 6.5   | 5.8   | 5.3   | 4.7   |     |
| 3  | 30.8  | 28.6  | 26.7  | 25.0  | 22.2  | 18.5  | 13.9  | 11.1  | 9.3   | 7.9   | 6.9   | 6.2   | 5.6   | 5.0   | 4.4   |     |
| 4  | 30.4  | 28.0  | 25.9  | 24.1  | 21.7  | 18.1  | 13.5  | 10.8  | 9.0   | 7.7   | 6.8   | 6.0   | 5.4   | 4.9   | 4.3   |     |
| 5  | 30.1  | 27.5  | 25.2  | 23.3  | 21.4  | 17.8  | 13.3  | 10.7  | 8.9   | 7.6   | 6.7   | 5.9   | 5.3   | -     | -     |     |
| 10   | 28.9  | 25.6  | 22.9  | 20.8  | 19.0  | 17.3  | 12.9  | 10.4  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 28.1  | 24.3  | 21.4  | 19.2  | 17.3  | 15.8  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 26.4  | 21.9  | 18.7  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 31.5  | 29.8  | 28.3  | 24.7  | 19.8  | 16.5  | 12.4  | 9.9   | 8.2   | 7.1   | 6.2   | 5.5   | 4.9   | 4.5   | 4.0   | 150 |
| 2  | 30.8  | 28.6  | 26.7  | 20.7  | 16.6  | 13.8  | 10.4  | 8.3   | 6.9   | 5.9   | 5.2   | 4.6   | 4.1   | 3.8   | 3.3   |     |
| 3  | 30.3  | 27.7  | 25.5  | 19.4  | 15.5  | 12.9  | 9.7   | 7.8   | 6.5   | 5.5   | 4.8   | 4.3   | 3.9   | 3.5   | 3.1   |     |
| 4  | 29.8  | 27.0  | 24.7  | 18.7  | 15.0  | 12.5  | 9.4   | 7.5   | 6.2   | 5.4   | 4.7   | 4.2   | 3.7   | 3.4   | 3.0   |     |
| 5  | 29.5  | 26.4  | 23.9  | 18.3  | 14.7  | 12.2  | 9.2   | 7.3   | 6.1   | 5.2   | 4.6   | 4.1   | 3.7   | -     | -     |     |
| 10   | 28.1  | 24.3  | 21.4  | 17.5  | 14.0  | 11.7  | 8.8   | 7.0   | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 27.2  | 22.9  | 19.8  | 17.3  | 13.8  | 11.5  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 25.2  | 20.3  | 17.0  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 30.8  | 28.6  | 21.8  | 16.4  | 13.1  | 10.9  | 8.2   | 6.5   | 5.5   | 4.7   | 4.1   | 3.6   | 3.3   | 3.0   | 2.6   | 300 |
| 2  | 29.8  | 24.7  | 16.5  | 12.4  | 9.9   | 8.2   | 6.2   | 4.9   | 4.1   | 3.5   | 3.1   | 2.7   | 2.5   | 2.2   | 2.0   |     |
| 3  | 29.1  | 22.1  | 14.7  | 11.0  | 8.8   | 7.4   | 5.5   | 4.4   | 3.7   | 3.2   | 2.8   | 2.5   | 2.2   | 2.0   | 1.8   |     |
| 4  | 28.6  | 20.7  | 13.8  | 10.4  | 8.3   | 6.9   | 5.2   | 4.1   | 3.5   | 3.0   | 2.6   | 2.3   | 2.1   | 1.9   | 1.7   |     |
| 5  | 28.1  | 19.9  | 13.3  | 10.0  | 8.0   | 6.6   | 5.0   | 4.0   | 3.3   | 2.8   | 2.5   | 2.2   | 2.0   | -     | -     |     |
| 10   | 26.4  | 18.3  | 12.2  | 9.2   | 7.3   | 6.1   | 4.6   | 3.7   | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 25.2  | 17.8  | 11.9  | 8.9   | 7.1   | 5.9   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 22.9  | 17.3  | 11.5  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |





**Abaco per carichi in serie - Serial load rating - Abaque de charges successives**

▣ **0.6 - 3 ~ - 3000 min<sup>-1</sup>**

| Potenza ammessa sul tubo in kW, per serie di n esposizioni, con frequenza z e durata di ogni esposizione in sec   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| Anode input power as a function of n (N° of exposures in series), z (exp. rate per sec), the exposure time (sec)  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
| Puissance anodique en fonction de n (N° d'exp. de la série), z (cadence d'exp. par sec), temps d'exposition (sec) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
| 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   | 14.9  | 14.9  | 14.6  | 14.3  | 14.2  | 14.0  | 13.8  | 13.6  | 13.4  | 13.3  | 13.2  | 13.0  | 12.8  | 12.6  | 12.4  | 5   |
| 2   | 14.8  | 14.8  | 14.6  | 14.3  | 14.2  | 14.0  | 13.8  | 13.4  | 13.1  | 12.9  | 12.6  | 12.3  | 12.1  | 11.8  | 11.5  |     |
| 3   | 14.7  | 14.7  | 14.5  | 14.3  | 14.1  | 13.9  | 13.5  | 13.1  | 12.8  | 12.4  | 12.1  | 11.8  | 11.6  | 11.3  | 10.9  |     |
| 4   | 14.6  | 14.6  | 14.4  | 14.1  | 13.9  | 13.7  | 13.3  | 12.8  | 12.5  | 12.1  | 11.8  | 11.5  | 11.1  | 10.9  | 10.5  |     |
| 5   | 14.6  | 14.6  | 14.3  | 14.0  | 13.8  | 13.5  | 13.1  | 12.6  | 12.2  | 11.8  | 11.5  | 11.1  | 10.8  | -     | -     |     |
| 10  | 14.6  | 14.4  | 14.0  | 13.6  | 13.3  | 13.0  | 12.4  | 11.8  | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 14.6  | 14.2  | 13.8  | 13.3  | 13.0  | 12.6  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 14.5  | 13.9  | 13.3  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 14.8  | 14.8  | 14.6  | 14.3  | 14.2  | 14.0  | 13.8  | 13.4  | 13.1  | 12.9  | 12.6  | 12.3  | 12.1  | 11.8  | 11.5  | 10  |
| 2   | 14.6  | 14.6  | 14.4  | 14.1  | 13.9  | 13.7  | 13.2  | 12.8  | 12.5  | 12.1  | 11.8  | 11.4  | 11.1  | 10.8  | 10.4  |     |
| 3   | 14.6  | 14.5  | 14.2  | 13.9  | 13.6  | 13.4  | 12.9  | 12.4  | 12.0  | 11.6  | 11.2  | 10.8  | 10.5  | 10.2  | 9.8   |     |
| 4   | 14.6  | 14.4  | 14.1  | 13.8  | 13.4  | 13.1  | 12.6  | 12.1  | 11.6  | 11.2  | 10.8  | 10.4  | 10.0  | 9.7   | 9.3   |     |
| 5   | 14.6  | 14.3  | 14.0  | 13.6  | 13.3  | 12.9  | 12.3  | 11.8  | 11.3  | 10.8  | 10.4  | 10.0  | 9.7   | -     | -     |     |
| 10  | 14.6  | 14.0  | 13.5  | 13.1  | 12.6  | 12.2  | 11.5  | 10.8  | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 14.5  | 13.8  | 13.2  | 12.7  | 12.2  | 11.7  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 14.2  | 13.3  | 12.6  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 14.6  | 14.6  | 14.4  | 14.1  | 13.9  | 13.7  | 13.2  | 12.8  | 12.5  | 12.1  | 11.8  | 11.4  | 11.1  | 10.8  | 10.4  | 20  |
| 2   | 14.6  | 14.4  | 14.1  | 13.8  | 13.4  | 13.1  | 12.6  | 12.1  | 11.6  | 11.2  | 10.8  | 10.4  | 10.0  | 9.7   | 9.2   |     |
| 3   | 14.6  | 14.3  | 13.9  | 13.5  | 13.1  | 12.8  | 12.1  | 11.5  | 11.0  | 10.5  | 10.1  | 9.7   | 9.3   | 9.0   | 8.5   |     |
| 4   | 14.6  | 14.1  | 13.7  | 13.2  | 12.8  | 12.5  | 11.8  | 11.1  | 10.6  | 10.1  | 9.6   | 9.2   | 8.8   | 8.4   | 8.0   |     |
| 5   | 14.6  | 14.0  | 13.5  | 13.0  | 12.6  | 12.2  | 11.5  | 10.8  | 10.2  | 9.7   | 9.2   | 8.8   | 8.4   | -     | -     |     |
| 10  | 14.3  | 13.6  | 12.9  | 12.3  | 11.8  | 11.3  | 10.4  | 9.7   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 14.2  | 13.3  | 12.5  | 11.9  | 11.2  | 10.7  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 13.8  | 12.7  | 11.7  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 14.6  | 14.4  | 14.1  | 13.7  | 13.4  | 13.1  | 12.6  | 12.1  | 11.6  | 11.2  | 10.7  | 10.4  | 10.0  | 9.7   | 9.2   | 40  |
| 2   | 14.6  | 14.1  | 13.7  | 13.2  | 12.8  | 12.5  | 11.8  | 11.1  | 10.6  | 10.1  | 9.6   | 9.2   | 8.8   | 8.4   | 8.0   |     |
| 3   | 14.5  | 13.9  | 13.4  | 12.9  | 12.4  | 12.0  | 11.2  | 10.5  | 9.9   | 9.3   | 8.9   | 8.4   | 8.0   | 7.7   | 7.2   |     |
| 4   | 14.4  | 13.8  | 13.1  | 12.6  | 12.1  | 11.6  | 10.8  | 10.0  | 9.4   | 8.8   | 8.3   | 7.9   | 7.5   | 7.1   | 6.6   |     |
| 5   | 14.3  | 13.6  | 12.9  | 12.3  | 11.8  | 11.3  | 10.4  | 9.6   | 9.0   | 8.4   | 7.9   | 7.5   | 7.1   | -     | -     |     |
| 10  | 14.0  | 13.0  | 12.2  | 11.5  | 10.8  | 10.2  | 9.2   | 8.4   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 13.8  | 12.7  | 11.7  | 10.9  | 10.1  | 9.5   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 13.3  | 11.9  | 10.7  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 14.6  | 14.3  | 13.9  | 13.5  | 13.1  | 12.8  | 12.1  | 11.5  | 11.0  | 10.5  | 10.1  | 9.7   | 9.3   | 9.0   | 8.0   | 60  |
| 2   | 14.5  | 13.9  | 13.4  | 12.9  | 12.4  | 12.0  | 11.2  | 10.5  | 9.9   | 9.3   | 8.9   | 8.4   | 8.0   | 7.7   | 7.2   |     |
| 3   | 14.4  | 13.7  | 13.0  | 12.5  | 11.9  | 11.4  | 10.6  | 9.8   | 9.2   | 8.6   | 8.1   | 7.7   | 7.3   | 6.9   | 6.4   |     |
| 4   | 14.3  | 13.5  | 12.8  | 12.1  | 11.5  | 11.0  | 10.1  | 9.3   | 8.6   | 8.1   | 7.6   | 7.1   | 6.7   | 6.4   | 5.9   |     |
| 5   | 14.2  | 13.3  | 12.5  | 11.8  | 11.2  | 10.7  | 9.7   | 8.9   | 8.2   | 7.6   | 7.1   | 6.7   | 6.3   | -     | -     |     |
| 10  | 13.8  | 12.7  | 11.7  | 10.9  | 10.1  | 9.5   | 8.5   | 7.6   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 13.5  | 12.2  | 11.1  | 10.2  | 9.4   | 8.8   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 12.9  | 11.3  | 10.0  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 14.6  | 14.1  | 13.7  | 13.2  | 12.8  | 12.5  | 11.7  | 11.1  | 10.6  | 10.1  | 9.6   | 8.7   | 7.9   | 7.2   | 6.3   | 80  |
| 2   | 14.4  | 13.7  | 13.1  | 12.6  | 12.1  | 11.6  | 10.7  | 10.0  | 9.4   | 8.8   | 8.3   | 7.9   | 7.1   | 6.4   | 5.7   |     |
| 3   | 14.3  | 13.5  | 12.8  | 12.1  | 11.5  | 11.0  | 10.1  | 9.3   | 8.6   | 8.1   | 7.6   | 7.1   | 6.7   | 6.2   | 5.4   |     |
| 4   | 14.1  | 13.2  | 12.5  | 11.8  | 11.1  | 10.6  | 9.6   | 8.8   | 8.1   | 7.5   | 7.0   | 6.6   | 6.2   | 5.8   | 5.3   |     |
| 5   | 14.0  | 13.0  | 12.2  | 11.4  | 10.8  | 10.2  | 9.2   | 8.4   | 7.7   | 7.1   | 6.6   | 6.2   | 5.8   | -     | -     |     |
| 10  | 13.6  | 12.3  | 11.3  | 10.4  | 9.6   | 9.0   | 7.9   | 7.1   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 13.3  | 11.8  | 10.7  | 9.7   | 8.9   | 8.2   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 12.7  | 10.9  | 9.5   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 14.6  | 14.0  | 13.5  | 13.0  | 12.6  | 12.2  | 11.4  | 10.8  | 10.2  | 9.5   | 8.3   | 7.4   | 6.6   | 6.0   | 5.3   | 100 |
| 2   | 14.3  | 13.6  | 12.9  | 12.3  | 11.8  | 11.3  | 10.4  | 9.6   | 9.0   | 8.3   | 7.3   | 6.5   | 5.8   | 5.3   | 4.7   |     |
| 3   | 14.2  | 13.3  | 12.5  | 11.8  | 11.2  | 10.7  | 9.7   | 8.9   | 8.2   | 7.6   | 6.9   | 6.2   | 5.6   | 5.0   | 4.4   |     |
| 4   | 14.0  | 13.0  | 12.2  | 11.4  | 10.8  | 10.2  | 9.2   | 8.4   | 7.7   | 7.1   | 6.6   | 6.0   | 5.4   | 4.9   | 4.3   |     |
| 5   | 13.9  | 12.8  | 11.9  | 11.1  | 10.4  | 9.8   | 8.8   | 8.0   | 7.3   | 6.7   | 6.2   | 5.8   | 5.3   | -     | -     |     |
| 10  | 13.4  | 12.1  | 10.9  | 10.0  | 9.2   | 8.6   | 7.5   | 6.6   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 13.1  | 11.5  | 10.3  | 9.3   | 8.5   | 7.8   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 12.4  | 10.5  | 9.1   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 14.4  | 13.8  | 13.2  | 12.6  | 12.1  | 11.7  | 10.8  | 9.9   | 8.2   | 7.1   | 6.2   | 5.5   | 4.9   | 4.5   | 4.0   | 150 |
| 2   | 14.2  | 13.3  | 12.5  | 11.8  | 11.2  | 10.7  | 9.7   | 8.3   | 6.9   | 5.9   | 5.2   | 4.6   | 4.1   | 3.8   | 3.3   |     |
| 3   | 14.0  | 12.9  | 12.0  | 11.3  | 10.6  | 10.0  | 9.0   | 7.8   | 6.5   | 5.5   | 4.8   | 4.3   | 3.9   | 3.5   | 3.1   |     |
| 4   | 13.8  | 12.6  | 11.7  | 10.8  | 10.1  | 9.5   | 8.4   | 7.5   | 6.2   | 5.4   | 4.7   | 4.2   | 3.7   | 3.4   | 3.0   |     |
| 5   | 13.6  | 12.4  | 11.4  | 10.5  | 9.7   | 9.1   | 8.0   | 7.2   | 6.1   | 5.2   | 4.6   | 4.1   | 3.7   | -     | -     |     |
| 10  | 13.1  | 11.5  | 10.3  | 9.3   | 8.5   | 7.8   | 6.7   | 5.9   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 12.7  | 10.9  | 9.6   | 8.6   | 7.7   | 7.0   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 11.9  | 9.8   | 8.4   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1   | 14.2  | 13.3  | 12.5  | 11.8  | 11.2  | 10.7  | 8.2   | 6.5   | 5.5   | 4.7   | 4.1   | 3.6   | 3.3   | 3.0   | 2.6   | 300 |
| 2   | 13.8  | 12.6  | 11.7  | 10.8  | 9.9   | 8.2   | 6.2   | 4.9   | 4.1   | 3.5   | 3.1   | 2.7   | 2.5   | 2.2   | 2.0   |     |
| 3   | 13.5  | 12.2  | 11.1  | 10.2  | 8.8   | 7.4   | 5.5   | 4.4   | 3.7   | 3.2   | 2.8   | 2.5   | 2.2   | 2.0   | 1.8   |     |
| 4   | 13.3  | 11.8  | 10.7  | 9.7   | 8.3   | 6.9   | 5.2   | 4.1   | 3.5   | 3.0   | 2.6   | 2.3   | 2.1   | 1.9   | 1.7   |     |
| 5   | 13.1  | 11.5  | 10.3  | 9.3   | 8.0   | 6.6   | 5.0   | 4.0   | 3.3   | 2.8   | 2.5   | 2.2   | 2.0   | -     | -     |     |
| 10  | 12.4  | 10.5  | 9.1   | 8.0   | 7.2   | 6.1   | 4.6   | 3.7   | -     | -     | -     | -     | -     | -     | -     |     |
| 15  | 11.9  | 9.8   | 8.3   | 7.3   | 6.4   | 5.8   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30  | 10.9  | 8.6   | 7.0   | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |



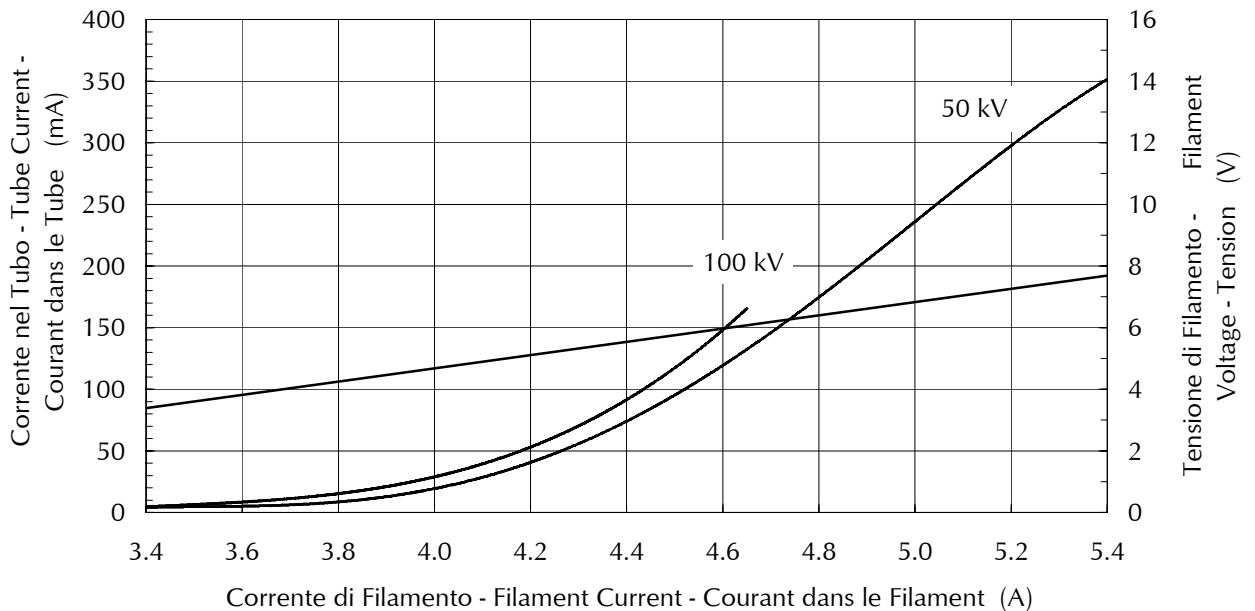
**Abaco per carichi in serie - Serial load rating - Abaque de charges successives**

■ 1.2 - 3 ~ - 3000 min<sup>-1</sup>

| Potenza ammessa sul tubo in kW, per serie di n esposizioni, con frequenza z e durata di ogni esposizione in sec<br>Anode input power as a function of n (N° of exposures in series), z (exp. rate per sec), the exposure time (sec)<br>Puissance anodique en fonction de n (N° d'exp. de la série), z (cadence d'exp. par sec), temps d'exposition (sec) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 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  | 39.0  | 39.0  | 37.8  | 37.0  | 36.4  | 35.9  | 35.1  | 34.4  | 33.8  | 33.4  | 32.9  | 32.5  | 31.8  | 31.2  | 30.3  | 5   |
| 2  | 38.6  | 38.6  | 37.8  | 37.0  | 36.4  | 35.9  | 34.9  | 33.9  | 32.9  | 31.9  | 31.0  | 30.2  | 29.4  | 28.6  | 27.5  |     |
| 3  | 38.3  | 38.3  | 37.5  | 36.7  | 36.0  | 35.3  | 34.0  | 32.7  | 31.6  | 30.5  | 29.5  | 28.6  | 27.7  | 26.9  | 25.8  |     |
| 4  | 38.0  | 38.0  | 37.1  | 36.3  | 35.5  | 34.7  | 33.2  | 31.9  | 30.6  | 29.5  | 28.4  | 27.4  | 26.5  | 25.6  | 24.4  |     |
| 5  | 37.8  | 37.8  | 36.8  | 35.9  | 35.0  | 34.2  | 32.6  | 31.1  | 29.8  | 28.6  | 27.5  | 26.5  | 25.5  | -     | -     |     |
| 10   | 37.8  | 37.0  | 35.7  | 34.5  | 33.4  | 32.3  | 30.3  | 28.6  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 37.8  | 36.5  | 34.9  | 33.5  | 32.2  | 31.0  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 37.5  | 35.3  | 33.4  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 38.6  | 38.6  | 37.8  | 37.0  | 36.4  | 35.9  | 34.9  | 33.8  | 32.8  | 31.9  | 31.0  | 30.1  | 29.3  | 28.6  | 27.5  | 10  |
| 2  | 38.0  | 38.0  | 37.1  | 36.3  | 35.4  | 34.7  | 33.2  | 31.8  | 30.6  | 29.4  | 28.4  | 27.4  | 26.4  | 25.6  | 24.4  |     |
| 3  | 37.8  | 37.6  | 36.5  | 35.5  | 34.6  | 33.7  | 32.0  | 30.4  | 29.1  | 27.8  | 26.6  | 25.6  | 24.6  | 23.7  | 22.4  |     |
| 4  | 37.8  | 37.3  | 36.1  | 34.9  | 33.9  | 32.9  | 31.0  | 29.4  | 27.9  | 26.5  | 25.3  | 24.2  | 23.2  | 22.3  | 21.0  |     |
| 5  | 37.8  | 37.0  | 35.7  | 34.4  | 33.3  | 32.2  | 30.2  | 28.5  | 26.9  | 25.5  | 24.3  | 23.2  | 22.1  | -     | -     |     |
| 10   | 37.8  | 35.9  | 34.2  | 32.6  | 31.1  | 29.8  | 27.5  | 25.5  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 37.4  | 35.1  | 33.1  | 31.3  | 29.7  | 28.3  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 36.5  | 33.5  | 31.0  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 38.0  | 38.0  | 37.1  | 36.3  | 35.4  | 34.7  | 33.2  | 31.8  | 30.6  | 29.4  | 28.3  | 27.4  | 26.4  | 24.3  | 21.4  | 20  |
| 2  | 37.8  | 37.3  | 36.1  | 34.9  | 33.8  | 32.8  | 31.0  | 29.3  | 27.9  | 26.5  | 25.3  | 24.2  | 23.2  | 22.2  | 20.7  |     |
| 3  | 37.8  | 36.7  | 35.3  | 34.0  | 32.7  | 31.6  | 29.5  | 27.7  | 26.1  | 24.7  | 23.4  | 22.2  | 21.2  | 20.2  | 19.0  |     |
| 4  | 37.8  | 36.3  | 34.7  | 33.2  | 31.8  | 30.6  | 28.4  | 26.4  | 24.8  | 23.3  | 22.0  | 20.8  | 19.8  | 18.8  | 17.5  |     |
| 5  | 37.8  | 35.9  | 34.1  | 32.5  | 31.1  | 29.8  | 27.4  | 25.4  | 23.7  | 22.2  | 20.9  | 19.7  | 18.6  | -     | -     |     |
| 10   | 37.0  | 34.4  | 32.2  | 30.2  | 28.5  | 26.9  | 24.3  | 22.1  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 36.4  | 33.4  | 30.9  | 28.7  | 26.8  | 25.1  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 35.1  | 31.3  | 28.3  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 37.8  | 37.3  | 36.1  | 34.9  | 33.8  | 32.8  | 31.0  | 28.3  | 23.6  | 20.2  | 17.7  | 15.7  | 14.1  | 12.9  | 11.3  | 40  |
| 2  | 37.8  | 36.3  | 34.7  | 33.2  | 31.8  | 30.6  | 28.3  | 26.4  | 22.2  | 19.1  | 16.7  | 14.8  | 13.3  | 12.1  | 10.7  |     |
| 3  | 37.6  | 35.5  | 33.6  | 32.0  | 30.4  | 29.0  | 26.6  | 24.6  | 21.8  | 18.7  | 16.4  | 14.5  | 13.1  | 11.9  | 10.5  |     |
| 4  | 37.3  | 34.9  | 32.8  | 31.0  | 29.3  | 27.9  | 25.3  | 23.2  | 21.4  | 18.5  | 16.2  | 14.4  | 12.9  | 11.8  | 10.4  |     |
| 5  | 37.0  | 34.4  | 32.2  | 30.2  | 28.5  | 26.9  | 24.3  | 22.1  | 20.3  | 18.4  | 16.1  | 14.3  | 12.9  | -     | -     |     |
| 10   | 35.9  | 32.5  | 29.8  | 27.4  | 25.4  | 23.7  | 20.9  | 18.6  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 35.1  | 31.2  | 28.2  | 25.6  | 23.5  | 21.7  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 33.4  | 28.7  | 25.1  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 37.8  | 36.7  | 35.3  | 33.9  | 32.7  | 31.6  | 24.9  | 19.9  | 16.6  | 14.2  | 12.5  | 11.1  | 10.0  | 9.1   | 8.0   | 60  |
| 2  | 37.6  | 35.5  | 33.6  | 32.0  | 30.4  | 29.0  | 22.9  | 18.3  | 15.3  | 13.1  | 11.5  | 10.2  | 9.2   | 8.3   | 7.3   |     |
| 3  | 37.1  | 34.7  | 32.5  | 30.6  | 28.9  | 27.4  | 22.2  | 17.8  | 14.8  | 12.7  | 11.1  | 9.9   | 8.9   | 8.1   | 7.1   |     |
| 4  | 36.7  | 34.0  | 31.6  | 29.5  | 27.7  | 26.1  | 21.9  | 17.5  | 14.6  | 12.5  | 11.0  | 9.7   | 8.8   | 8.0   | 7.0   |     |
| 5  | 36.4  | 33.4  | 30.8  | 28.6  | 26.7  | 25.1  | 21.7  | 17.4  | 14.5  | 12.4  | 10.9  | 9.7   | 8.7   | -     | -     |     |
| 10   | 35.1  | 31.2  | 28.1  | 25.6  | 23.5  | 21.7  | 18.8  | 16.6  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 34.1  | 29.8  | 26.4  | 23.7  | 21.5  | 19.7  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 32.2  | 26.9  | 23.2  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 37.8  | 36.3  | 34.6  | 33.2  | 31.5  | 26.2  | 19.7  | 15.7  | 13.1  | 11.2  | 9.8   | 8.7   | 7.9   | 7.2   | 6.3   | 80  |
| 2  | 37.3  | 34.9  | 32.8  | 31.0  | 28.3  | 23.6  | 17.7  | 14.1  | 11.8  | 10.1  | 8.8   | 7.9   | 7.1   | 6.4   | 5.7   |     |
| 3  | 36.7  | 33.9  | 31.6  | 29.5  | 27.2  | 22.7  | 17.0  | 13.6  | 11.3  | 9.7   | 8.5   | 7.6   | 6.8   | 6.2   | 5.4   |     |
| 4  | 36.3  | 33.2  | 30.6  | 28.3  | 26.4  | 22.2  | 16.7  | 13.3  | 11.1  | 9.5   | 8.3   | 7.4   | 6.7   | 6.1   | 5.3   |     |
| 5  | 35.9  | 32.5  | 29.7  | 27.4  | 25.4  | 22.0  | 16.5  | 13.2  | 11.0  | 9.4   | 8.2   | 7.3   | 6.6   | -     | -     |     |
| 10   | 34.4  | 30.2  | 26.9  | 24.3  | 22.1  | 20.3  | 16.1  | 12.9  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 33.4  | 28.6  | 25.1  | 22.3  | 20.1  | 18.3  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 31.2  | 25.6  | 21.7  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 37.8  | 35.9  | 34.1  | 32.5  | 26.5  | 22.1  | 16.5  | 13.2  | 11.0  | 9.5   | 8.3   | 7.4   | 6.6   | 6.0   | 5.3   | 100 |
| 2  | 37.0  | 34.4  | 32.2  | 29.1  | 23.3  | 19.4  | 14.5  | 11.6  | 9.7   | 8.3   | 7.3   | 6.5   | 5.8   | 5.3   | 4.7   |     |
| 3  | 36.4  | 33.4  | 30.8  | 27.8  | 22.2  | 18.5  | 13.9  | 11.1  | 9.3   | 7.9   | 6.9   | 6.2   | 5.6   | 5.0   | 4.4   |     |
| 4  | 35.9  | 32.5  | 29.7  | 27.1  | 21.7  | 18.1  | 13.5  | 10.8  | 9.0   | 7.7   | 6.8   | 6.0   | 5.4   | 4.9   | 4.3   |     |
| 5  | 35.4  | 31.8  | 28.9  | 26.4  | 21.4  | 17.8  | 13.3  | 10.7  | 8.9   | 7.6   | 6.7   | 5.9   | 5.3   | -     | -     |     |
| 10   | 33.8  | 29.3  | 25.9  | 23.2  | 20.7  | 17.3  | 12.9  | 10.4  | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 32.7  | 27.7  | 24.0  | 21.2  | 19.0  | 17.1  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 30.4  | 24.6  | 20.6  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 37.4  | 35.1  | 33.0  | 24.7  | 19.8  | 16.5  | 12.4  | 9.9   | 8.2   | 7.1   | 6.2   | 5.5   | 4.9   | 4.5   | 4.0   | 150 |
| 2  | 36.4  | 33.4  | 27.6  | 20.7  | 16.6  | 13.8  | 10.4  | 8.3   | 6.9   | 5.9   | 5.2   | 4.6   | 4.1   | 3.8   | 3.3   |     |
| 3  | 35.6  | 32.2  | 25.9  | 19.4  | 15.5  | 12.9  | 9.7   | 7.8   | 6.5   | 5.5   | 4.8   | 4.3   | 3.9   | 3.5   | 3.1   |     |
| 4  | 35.1  | 31.2  | 25.0  | 18.7  | 15.0  | 12.5  | 9.4   | 7.5   | 6.2   | 5.4   | 4.7   | 4.2   | 3.7   | 3.4   | 3.0   |     |
| 5  | 34.6  | 30.4  | 24.4  | 18.3  | 14.7  | 12.2  | 9.2   | 7.3   | 6.1   | 5.2   | 4.6   | 4.1   | 3.7   | -     | -     |     |
| 10   | 32.7  | 27.7  | 23.4  | 17.5  | 14.0  | 11.7  | 8.8   | 7.0   | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 31.4  | 25.9  | 22.0  | 17.3  | 13.8  | 11.5  | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 28.9  | 22.6  | 18.6  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 1  | 36.4  | 32.7  | 21.8  | 16.4  | 13.1  | 10.9  | 8.2   | 6.5   | 5.5   | 4.7   | 4.1   | 3.6   | 3.3   | 3.0   | 2.6   | 300 |
| 2  | 35.1  | 24.7  | 16.5  | 12.4  | 9.9   | 8.2   | 6.2   | 4.9   | 4.1   | 3.5   | 3.1   | 2.7   | 2.5   | 2.2   | 2.0   |     |
| 3  | 34.1  | 22.1  | 14.7  | 11.0  | 8.8   | 7.4   | 5.5   | 4.4   | 3.7   | 3.2   | 2.8   | 2.5   | 2.2   | 2.0   | 1.8   |     |
| 4  | 33.4  | 20.7  | 13.8  | 10.4  | 8.3   | 6.9   | 5.2   | 4.1   | 3.5   | 3.0   | 2.6   | 2.3   | 2.1   | 1.9   | 1.7   |     |
| 5  | 32.7  | 19.9  | 13.3  | 10.0  | 8.0   | 6.6   | 5.0   | 4.0   | 3.3   | 2.8   | 2.5   | 2.2   | 2.0   | -     | -     |     |
| 10   | 30.4  | 18.3  | 12.2  | 9.2   | 7.3   | 6.1   | 4.6   | 3.7   | -     | -     | -     | -     | -     | -     | -     |     |
| 15   | 28.9  | 17.8  | 11.9  | 8.9   | 7.1   | 5.9   | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |
| 30   | 25.9  | 17.3  | 11.5  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |     |

**Caratteristica di emissione del catodo**  
**Cathode emission characteristic**  
**Caractéristique d'émission de la cathode**

▣ 0.6 - 3 ~ - (± 0.2 A)



**Caratteristica di emissione del catodo**  
**Cathode emission characteristic**  
**Caractéristique d'émission de la cathode**

■ 1.2 - 3 ~ - (± 0.2 A)

