

█ Large - Black
█ Grand - Noir
█ Gross - Schwarz
█ Largo - Negro

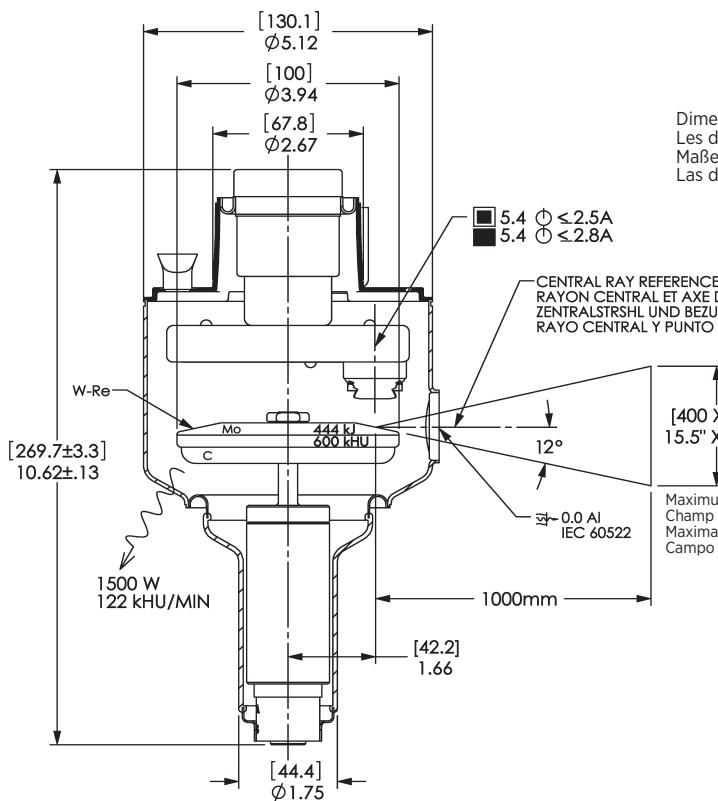
█ Small - White
█ Petit - Blanc
█ Klein - Weiss
█ Pequeño - Blanco

○ Stand - By
○ Attente
○ Bereit Stehen
○ En Espera

─┐ Frame or Chassis
─┐ Masse
─┐ Chassis
─┐ Soporte o Chasis

○ X-Ray Tube
○ Tube Radiogène
○ Röntgenröhre
○ Tubo de Rayos X

─┐ Radiation Filter or Filtration
─┐ Filtre de rayonnement
─┐ Filterung
─┐ Filtración de Radiación



Rotating Anode X-Ray Tube
Tubes Radiogénés à Anode Tournante
Röntgenröhre mit rotierender Anode
Tubos de Rayos-X con Ánodo Giratorio

Dimensions are for Reference only
Les dimensions sont pour la référence seulement
Maße sind als nur Referenz
Las dimensiones están para la referencia solamente

Note: Document originally drafted in the English language.

Product Description	
The G-692 is a 4.0" (102 mm) 150 kV, 444 kJ (600 kHU) maximum anode heat content, rotating anode insert. This metal center section insert is designed for radiography, cineradiography, digital and film screen angiography procedures. The insert features a 12° rhodium-tungsten molybdenum target and is available with the following nominal focal spots:	
0.6 - 1.2 IEC 60336	
Nominal Anode Input Power Small - 40 kW IEC 60613 Large - 100 kW IEC 60613	
For the equivalent anode input power of 125 Watts	
Reference Axis: Perpendicular to port face.	
This insert is intended for use in the Varex Imaging B-130HM housings.	

Description du Produit	
Le tube G-692, à anode tournante de 102 mm, (4,0 pouces), 150 kV, avec une capacité calorifique maximale de 444 kJ (600 kUC). Cette section métallique centrale a été conçue pour les procédures radiographiques, cinéradiographiques, et angiographiques numérisées et sur film. L'anode composite en Rhénium-tungstène molybdéné avec pente d'anode de 12° est disponible avec les combinaisons focales suivantes:	
0,6 - 1,2 CEI 60336	
Puissance anodique nominale de l'anode Petit foyer - 40 kW CEI 60613 Grand foyer - 100 kW CEI 60613	
Pour la puissance anodique d'équilibre thermique de 125 Watts	
Référence Axe: Perpendiculaire à la face de sortie.	
Ce tube est essentiellement destiné à être employé dans les gaines Varex Imaging B-130HM.	

Produktbeschreibung	
Die G-692 ist eine 4.0" (102 mm) Doppelfokus Drehanoden-Röntgenröhre, mit einer Anoden Wärmespeicherkapazität von 444 kJ (600 kUC) und einer max. Spannungsfestigkeit von 150 kV. Diese Einsatz mit metallischem Mittelteil wurde für Radiographie-, Röntgenkinematographie-, digitale und Filmangiographieverfahren entwickelt. Der Rhenium,Wolfram, und Molybdän Anodensteller besitzt einen Winkel von 12°. Folgende Brennfleckkombination sind lieferbar:	
0.6 - 1.2 IEC 60336	
Nominale Anodenbezugsleistung Klein - 40 kW IEC 60613 Gross - 100 kW IEC 60613	
Gilt bei einer Äquivalent Anodenleistung von 125 Watts	
Referenz Axes: Senkrecht zum strahlenaustrittsfenster.	
Die Röntgenröhre ist für den Einbau in die Varex Imaging B-130HM vorgesehen.	

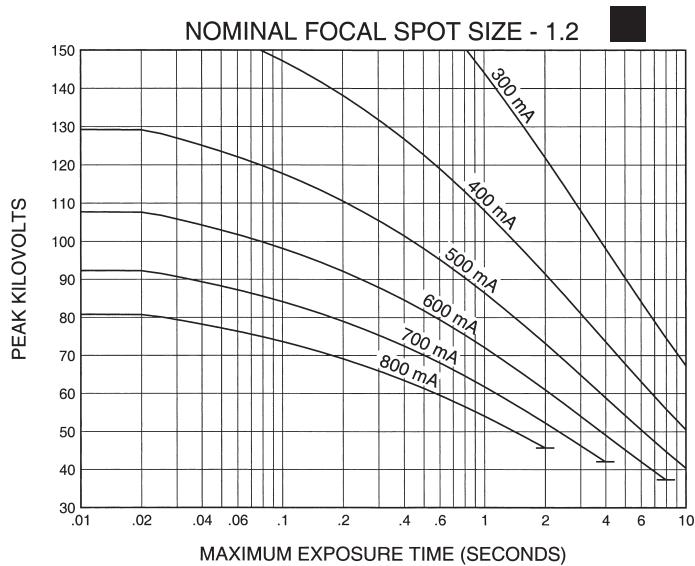
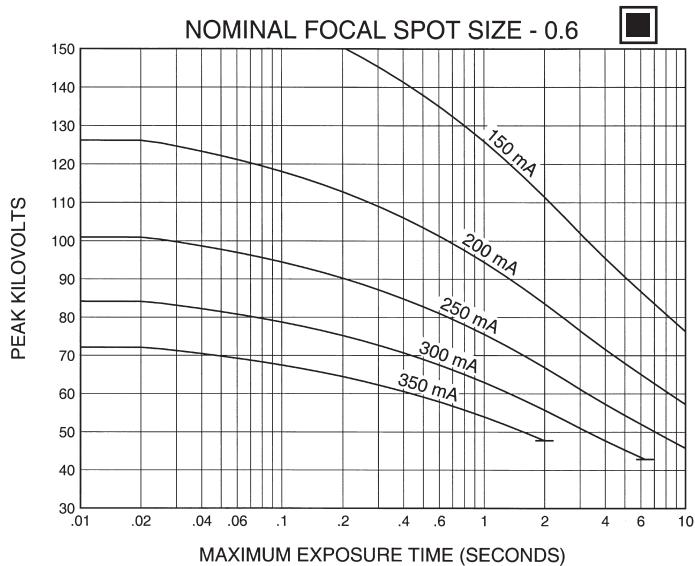
Descripción del Producto	
El G-692 es un tubo de ánodo giratorio de 102 mm (4.0"), 150 kV, 444 kJ (600 kUC) de metal en la parte central es diseñado específicamente para radiografía, cineradiográfica, digital, y procedimientos de angiografía con película de pantalla. Consta de un objetivo de renio, tungsteno y molibdeno con una pendiente de 12 grados. Disponible con las siguientes combinaciones de marcas focales:	
0.6 - 1.2 IEC 60336	
Potencia nominal de entrada del anodo Foco fino - 40 kW IEC 60613 Foco grueso - 100 kW IEC 60613	
Para una potencia equivalente del anodo de 125 Watts	
Referencia de Axes: Perpendicular a la abertura facial.	
Este tubo es diseñado, para uso en los encajes Varex Imaging B-130HM.	



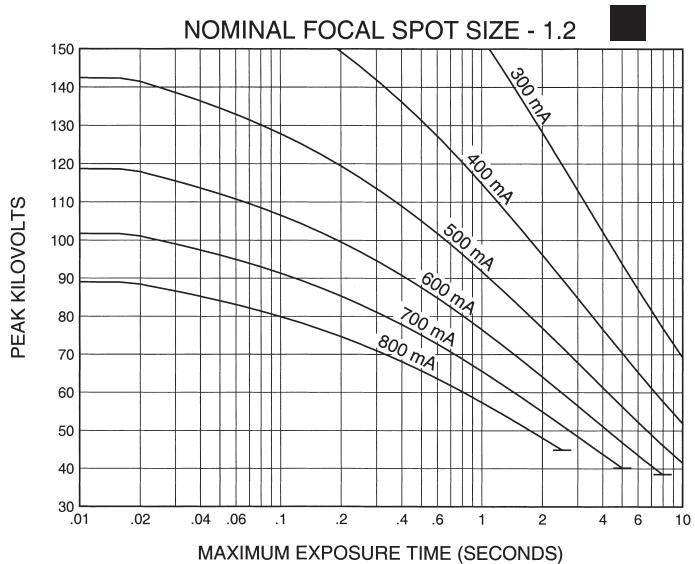
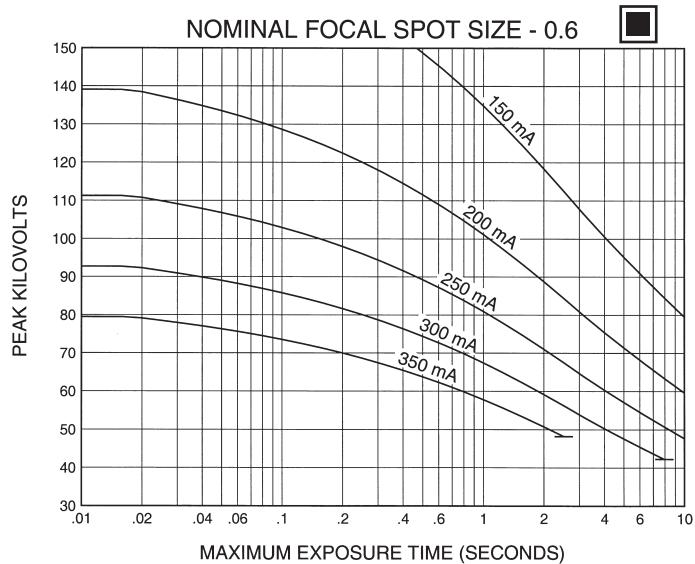
3 Ø Constant Potential ---

Single Load Ratings IEC 60613
Abaques de Charge pour Pose Unique CEI 60613
Brennfleck - Belastungskurven IEC 60613
Diagramas de Exposición Radiográfica IEC 60613

50 Hz



60 Hz



Nominal anode input power for the anode heat content 40%. IEC 60613

Puissance calorifique nominale de l'anode: 40%, CEI 60613

Thermische Anodenbezugsleistung bei einer Wärmespeicherung von 40%. IEC 60613

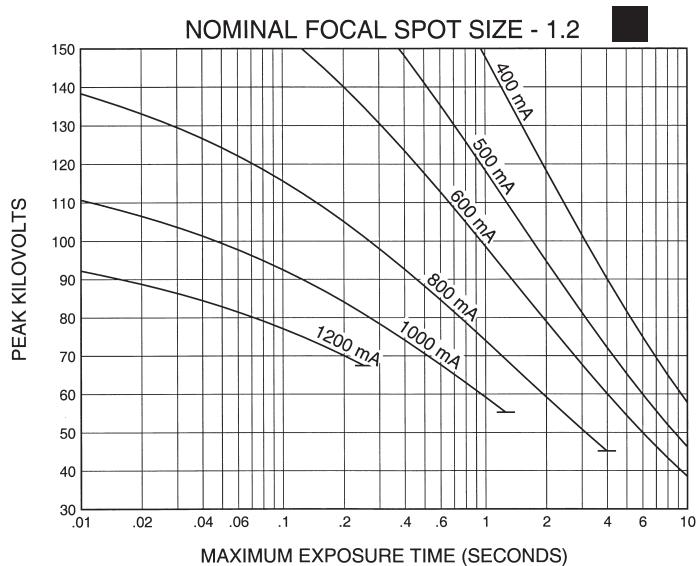
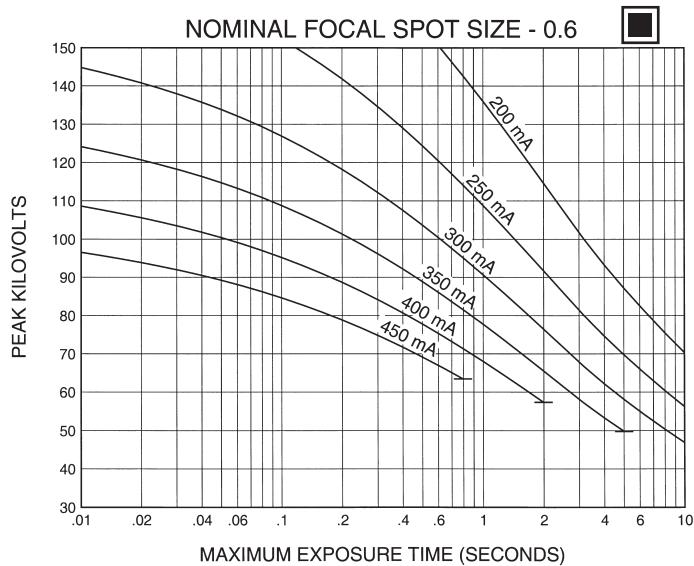
Aproximadamente el poder de penetración para obtener un almacenaje de calor del anodo de 40%. IEC 60613



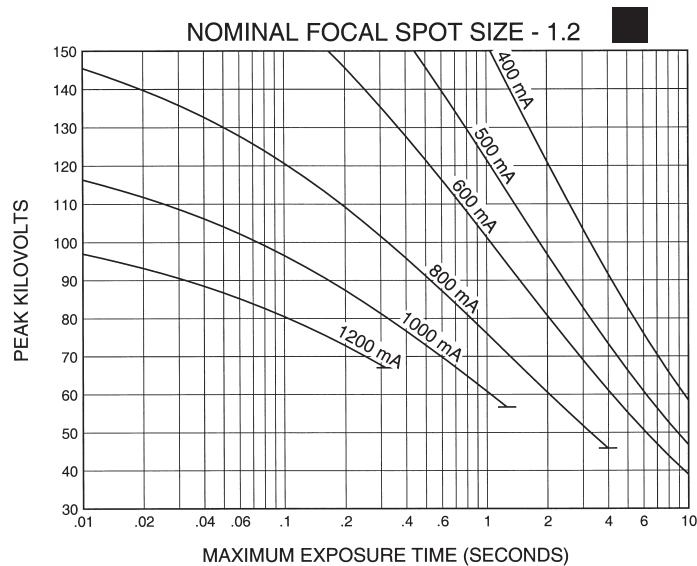
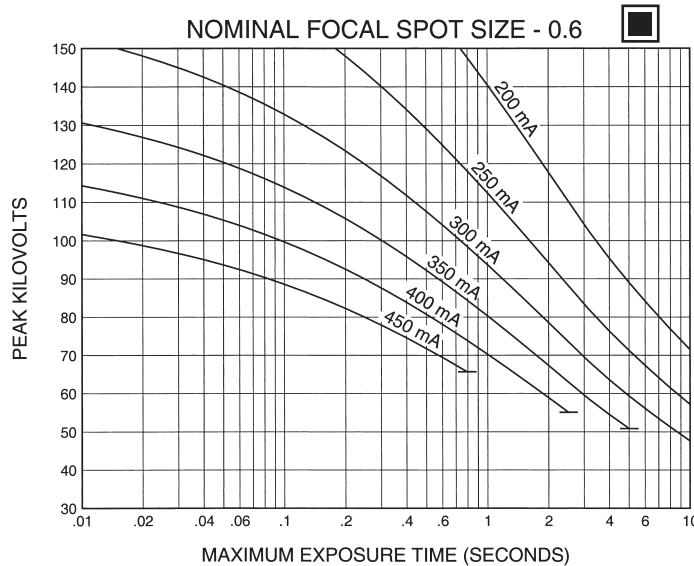
3 Ø Constant Potential ---

Single Load Ratings IEC 60613
Abaques de Charge pour Pose Unique CEI 60613
Brennfleck - Belastungskurven IEC 60613
Diagramas de Exposición Radiográfica IEC 60613

150 Hz



180 Hz



Nominal anode input power for the anode heat content 40%. IEC 60613

Puissance calorifique nominale de l'anode: 40%, CEI 60613

Thermische Anodenbezugsleistung bei einer Wärmespeicherung von 40%. IEC 60613

Aproximadamente el poder de penetración para obtener un almacenaje de calor del anodo de 40%. IEC 60613

CINERADIOGRAPHIC RATINGS

HOW TO USE CINERADIOGRAPHIC CHARTS

General: With the Cineradiographic rating chart we can determine the maximum allowable kW of the Cine pulse, or with a given kW determine maximum time in seconds the Cine run can progress.

The Most common way of using the charts is to determine maximum time of any expected Cine run and maximum duty factor. With a known duty factor and Cine run time kW can easily be determined.

Definition of Terms

Time in seconds: Total time of one Cine run, usually 5 to 12 seconds.

Duty Factor in Percent (DF%): Actual time during one second the x-ray tube is producing x-rays. If we select a 4 msec pulse width and 60 exposures per second the x-ray tube will be producing x-rays for a total of 240 msec each second or 24% of the time. The higher the DF number, the more load placed on the x-ray tube.

Peak Pulse Power: Peak energy in watts of any one Cine Pulse. Can be any combination of kV and mA allowed by Radiographic and Filament Emission curves.

Example: 80 kV at 400 mA equals

$$80,000 \text{ V} \times 0.4 \text{ A} = 32,000 \text{ W} \text{ or } 32 \text{ kW}$$

USING THE CINE RATING CHARTS:

G-692 150/180 Hz 3 Phase 1.2 Focal Spot

Example: Determine maximum kW allowed with the following known factors:

Maximum Pulse Width 4 msec
 Exposures per Second 60
 Maximum Cine Run Time 10 seconds

Calculate Duty Factor: (DF%)

$$\text{DF\%} = \frac{\text{Pulse Width (mSec)} \times \text{Frames per Second}}{10}$$

$$\text{DF\%} = \frac{4 \text{ msec} \times 60 \text{ exp/sec}}{10} = \frac{240}{10} = 24\%$$

Refer to Rating Chart G-692 150/180 Hz 3 Phase 1.2 Focal Spot:

At bottom of chart find 10 second line. Move vertically to intersection with 24% DF curve. Make a horizontal reference to left side of rating chart and note kW rating of 59 kW.

kW = kV x mA. The kW of the exposure can be any combination of mA and kV allowed by the Radiographic and Filament Emission Charts.

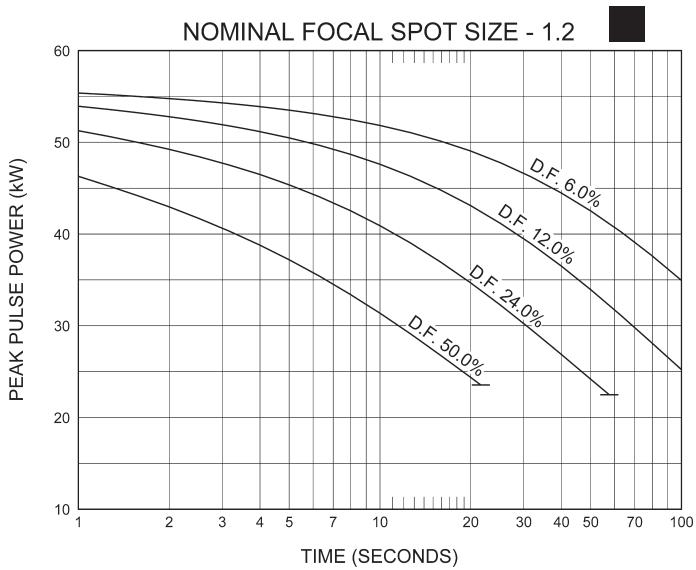
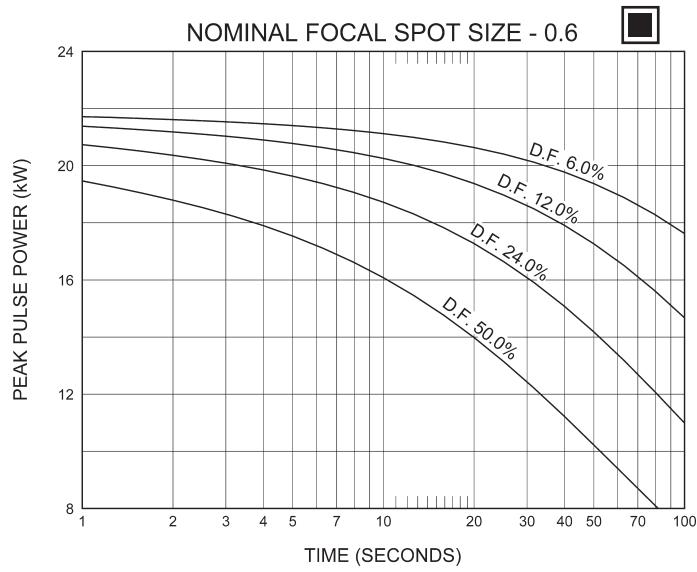
The Cine rating charts are usable to 100% anode heat storage. Exceeding 100% anode heat storage will cause anode track erosion with high risk of tube destruction.



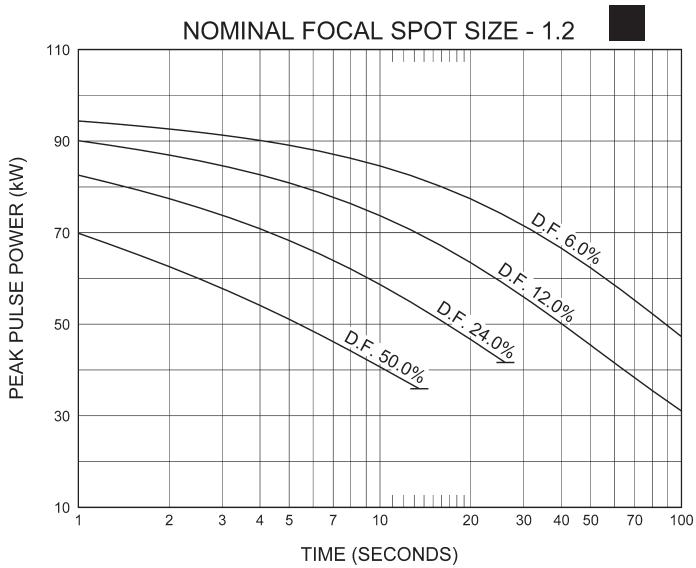
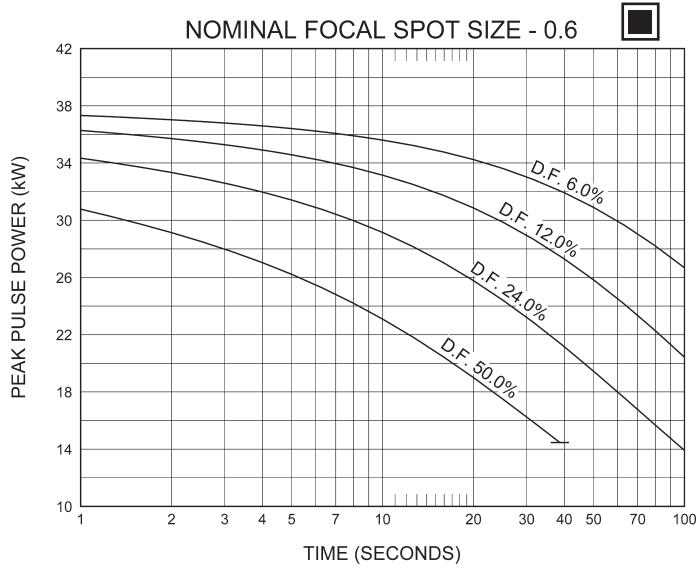
3 Ø Constant Potential ---

Cineradiographic Exposure Charts IEC 60613
Abaques de Cinéradiographie CEI 60613
Belastungskurven für den Kinobetrieb IEC 60613
Diagramas de Exposición Cineradiográfica IEC 60613

50/60 Hz



150/180 Hz



Nominal anode input power for the anode heat content 70%. IEC 60613

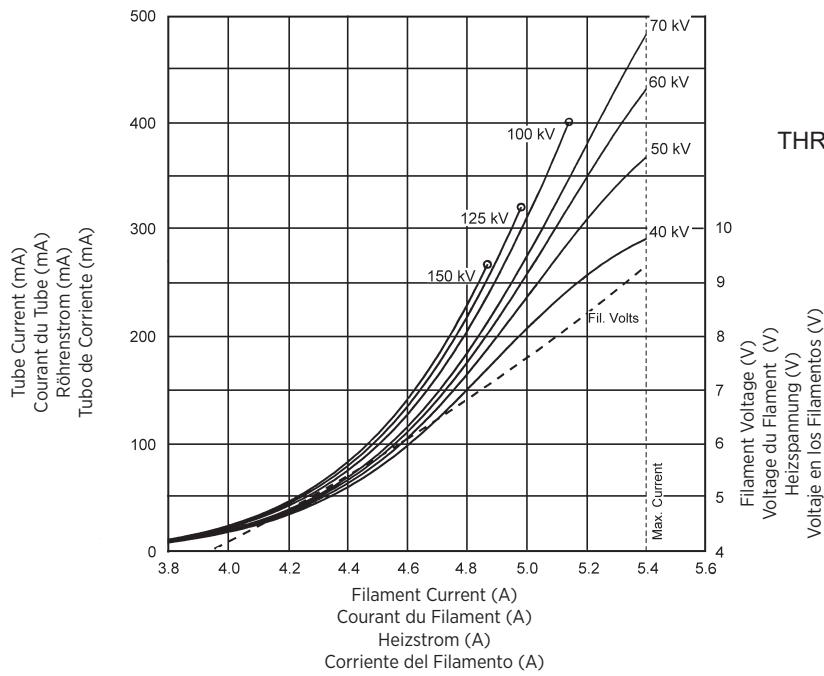
Puissance calorifique nominale de l'anode: 70%, CEI 60613

Thermische Anodenbezugsleistung bei einer Wärmespeicherung von 70%. IEC 60613

Aproximadamente el poder de penetración para obtener un almacenaje de calor del anodo de 70%. IEC 60613

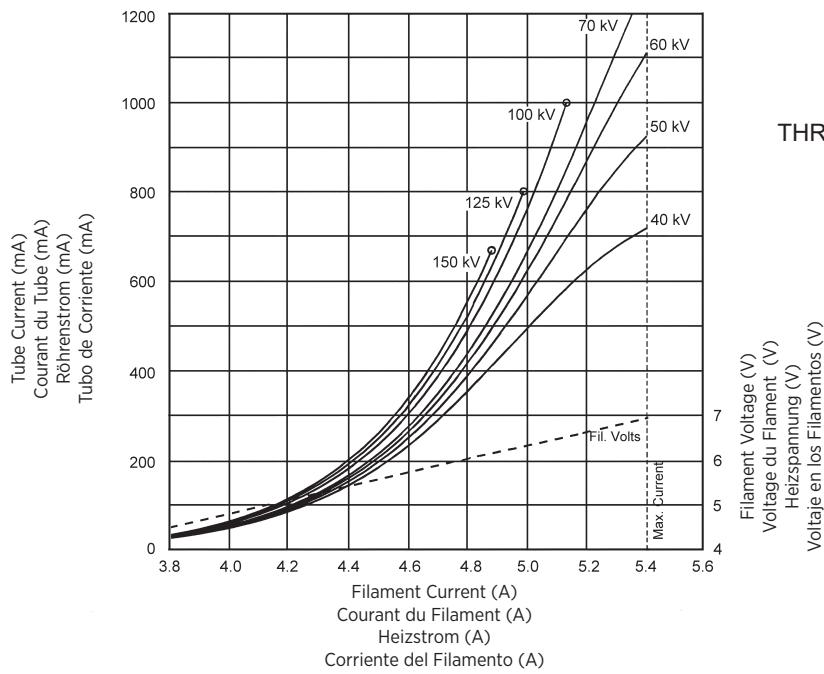


3 Ø Full Wave



THREE PHASE EMISSION ($\pm .15$ A)

0.6



THREE PHASE EMISSION ($\pm .15$ A)

1.2



Note:
When using these emission curves for trial exposures, refer to the power rating curves shown for maximum kV, tube emission, filament current, exposure time, and target speed.

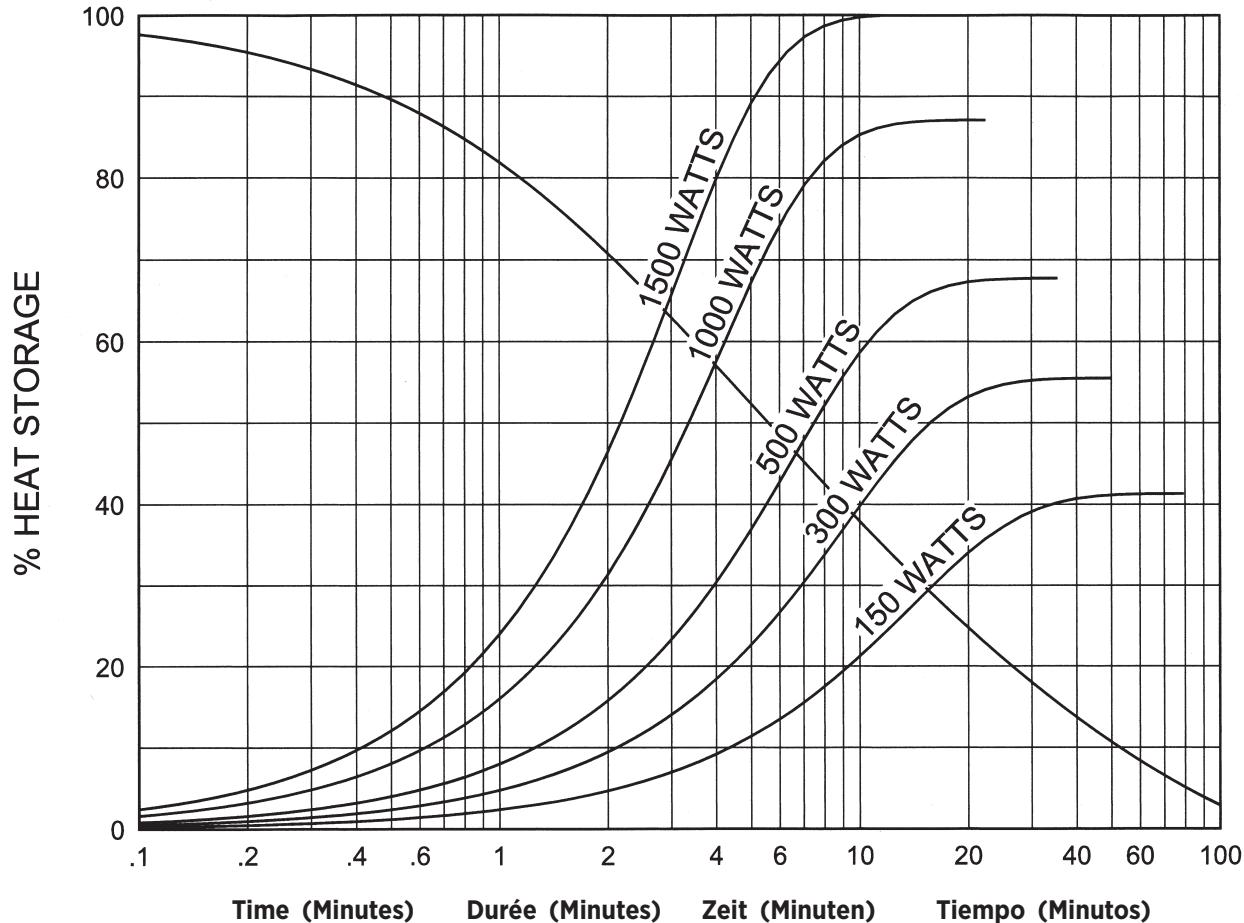
Remarque:
Lors de l'utilisation de ces abaques pour des expositions d'essai, référez-vous aux courbes maximales de kV, d'émission du filament, de temps d'exposition et de vitesse de rotation.

Anmerkung:
Wenn Sie diese Emissionskurven für Testaufnahmen verwenden, beziehen Sie sich hierbei auf die entsprechenden Nennleistungskurven für max. kV-Werte, Röhrenemission, Heizstrom, und Anodendrehzahl.

Nota:
Si utiliza estas curvas de emisión para exposiciones de prueba, refiérase a las curvas de gradación de potencia para el máximo de kV, tubo de emisión, corriente en los filamentos, tiempo de exposición, y a las curvas de velocidad del objetivo.



ANODE HEATING AND COOLING CURVES





Salt Lake City, UT

1-801-972-5000

For a complete listing of our global offices,
visit www.vareximaging.com

Manufactured by Varex Imaging Corporation
Fabrique par Varex Imaging Corporation
Hergestellt von Varex Imaging Corporation
Fabricado por Varex Imaging Corporation

Specifications subject to change without notice.
Spécifications susceptibles d'être modifiées sans préavis.
Technische Daten ohne Gewähr.
Especificaciones sujetas a cambio sin previo aviso.