GS-5172

Rotating Anode X-Ray Tube
旋转阳极 X 射线管

Note: Document originally drafted in the English language.
注释：文件最初用英语起草。

Product Description

The GS-5172 is a 7.5" (190.5 mm) 140 kV, 3.8 MJ (5.3 MHU) maximum anode heat content, rotating anode insert. This insert is specifically designed for CT Scanners. The insert features a 7° tungsten-rhenium facing on molybdenum with a graphite backed target and is available with the following nominal focal spot:

0.5 x 1.0
1.0 x 1.0
IEC 60336

Loading Factor for slit focal:
Small - 140 kV, 150 mA
Large - 140 kV, 210 mA

Maximum Anode Cooling Rate:
9.6 kW (13,440 HU/sec)

Continuous Anode Input Power:
6,300 W (8,820 HU/sec)

Nominal CT Anode Input Power:
Small - 36 kW IEC 60613:2010
Large - 50.4 kW IEC 60613:2010

Nominal CT Scan Power Index:
Small - 36 kW IEC 60613:2010
Large - 49 kW IEC 60613:2010

Reference Axis:
Perpendicular to port face.

This insert is intended for use in Varex Imaging B-320H housing.

产品说明

GS-5172 是一款具有 7.5" (190.5 mm) 靶盘, 140 kV, 3.8 MJ (5.3 MHU) 最大阳极热容量的旋转阳极 X 线管芯。该管芯专门针对 CT 扫描仪而设计。该管芯的靶盘结构为 7° 靶角，铼钨钼合金靶材，石墨基底，可提供下列尺寸的标称焦点：

0.5 x 1.0
1.0 x 1.0
IEC 60336

狭缝焦点的测量条件：
小焦点 - 140 kV, 150 mA
大焦点 - 140 kV, 210 mA

最大阳极冷却速率：
9.6 kW (13,440 HU/sek)

连续阳极输入功率：
6,300 W (8,820 HU/sec)

标称CT阳极输入功率：
小焦点 - 36 kW IEC 60613:2010
大焦点 - 50.4 kW IEC 606132010

标称CT扫描功率指数
小焦点 - 36 kW IEC 60613:2010
大焦点 - 49 kW IEC 60613:2010

参考轴：
垂直于窗口面。

该管芯适用于 万睿视影像 B-320H 管套。

3Ø 105 Hz ▣

0.5 Focal Spot 7°
0.5 焦点 7°

Volume scan time (seconds)	Maximum allowed tube current (mA) as a function of the following starting heat storage and tube voltages								
	Starting heat storage = 40%			Starting heat storage = 60%			Starting heat storage = 80%		
	100 kV	120kV	140kV	100 kV	120kV	140kV	100 kV	120kV	140kV
1	360	300	257	360	300	257	360	300	257
2	360	300	257	360	300	257	360	300	257
4	360	300	257	360	300	257	360	300	257
10	360	300	257	360	300	257	324	270	231
20	360	300	257	360	300	257	264 a	220 a	189 a
30	360	300	257	360	300	257	201 a	168 a	144 a
50	360	300	257	287 a	239 a	205 a	145 a	121 a	104 a

3Ø 105 Hz ■

1.0 Focal Spot 7°
1.0 焦点 7°

Volume scan time (seconds)	Maximum allowed tube current (mA) as a function of the following starting heat storage and tube voltages								
	Starting heat storage = 40%			Starting heat storage = 60%			Starting heat storage = 80%		
	100 kV	120kV	140kV	100 kV	120kV	140kV	100 kV	120kV	140kV
1	504	420	360	504	420	360	390	325	279
2	504	420	360	504	420	360	380	317	271
4	504	420	360	504	420	360	362	302	259
10	504	420	360	500	417	357	324 a	270 a	231 a
20	504	420	360	419	350	300	264 a	220 a	189 a
30	481	401	344	361	301	258	201 a	168 a	144 a
50	378	315	270	287a	239 a	205 a	145 a	121 a	104 a

Note:

1. Limits are based on maximum track rating except for the following codes:
   a - Limited by available heat storage.
   b - Limited by window heating.
   c - Limited by filament emission.
2. H.S. = Heat Storage
   kV = Tube Voltage

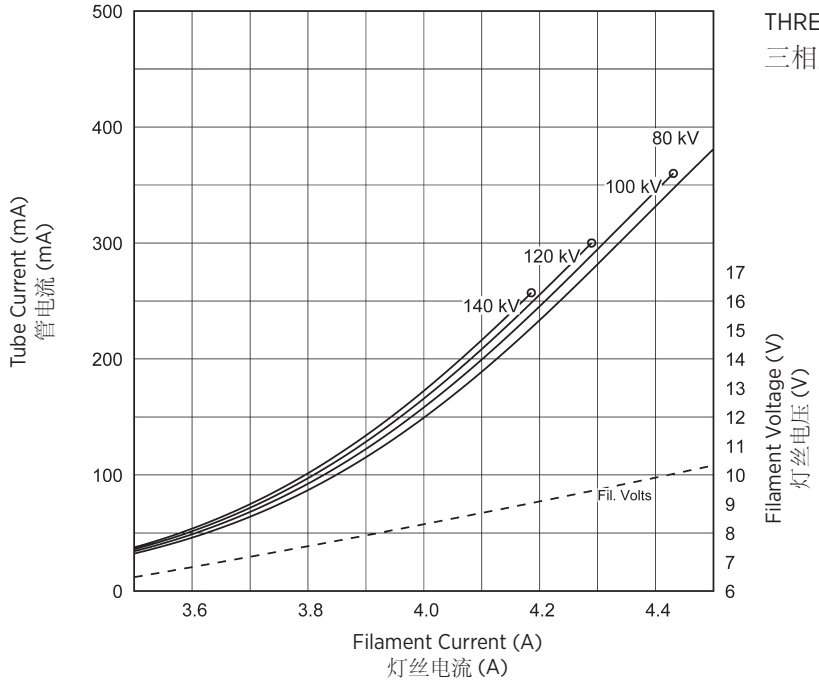
Rating charts reflect maximim tube performance. Tube operation is ultimately limited by system software.

注释

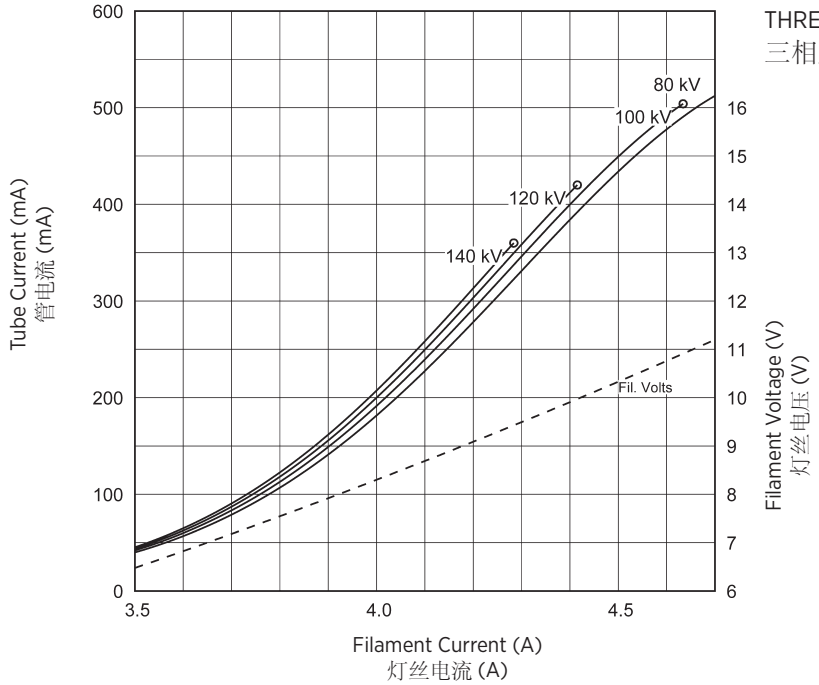
1. 除如下所列规则外，限制均以最大轨道额定值为依据：
   a - 受有效热容量限制。
   b - 受窗口加热限制。
   c - 受灯丝放射限制。
2. H.S. = 热容量
   kV = 管电压

额定值表反映最大管性能。管的工作状况最终受系统软件的限制。

3 Ø



THREE PHASE EMISSION (± .15 A)
三相发射 (± .15 A)
0.5



THREE PHASE EMISSION (± .15 A)
三相发射 (± .15 A)
1.0

Product Description

Maximum Peak Voltage	140 kV
Anode to Ground	70 kV
Cathode to Ground	70 kV
Maximum X-ray Tube Assembly Heat Content	3.8 MJ (5.3 MHU)
Nominal Continuous Input Power (Includes stator heat)	6.4 kW (9.0 kHU/sec) IEC 60613:2010
Maximum Housing Temperature	80°C
Maximum Heat Exchanger Dissipation	6.4 kW (9.0 kHU/sec)
Focal Point Position (Central Ray) Within 1mm (X, Y Direction from the center of radiation port.)	
X-Ray Tube Assembly	
Permanent Filtration	0.5 mm Al @ 75 kV IEC 60522/1999
Additional Filtration	1.5 mm Al @ 75 kV IEC 60522/1999
Minimum Total Filtration	2.0 mm Al @ 75 kV IEC 60522/1999
Loading Factors for Leakage Radiation	140 kV, 43 mA
High Voltage Cable Receptacles	Per IEC 60526
Ambient Air Temperature Limits for Operation	5°C to 40°C
Temperature Limits for Storage and Transport	-20°C to +75°C
Humidity	+10% to +90%
Atmospheric Pressure Range	70 kPa to 106 kPa
Weight - Housing & Heat Exchanger	214.5 lbs. ±3.5 lbs.
IEC Classification	Class 1
Safety Devices - Thermal Switches	
External - Normally Closed Contact	Opening at 80°C ±3.9°C
Internal - Normally Closed Contact	Opening at 110°C ±4.4°C
Pressure Switch	
Normally Open contact	closes at 3.0 PSID ±1.0 PSID
Filament Frequency Limits	50 HZ - 40 kHZ
Power Supply	DC

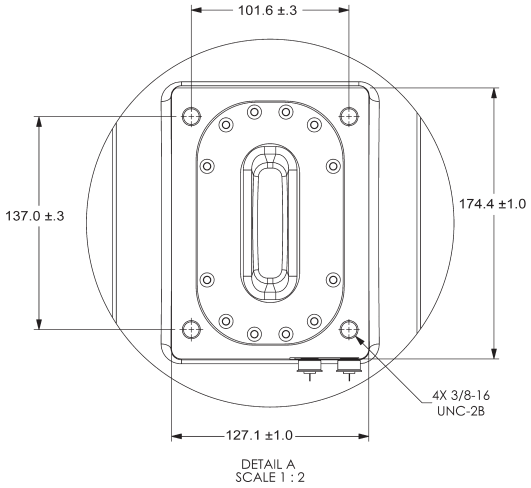
产品说明

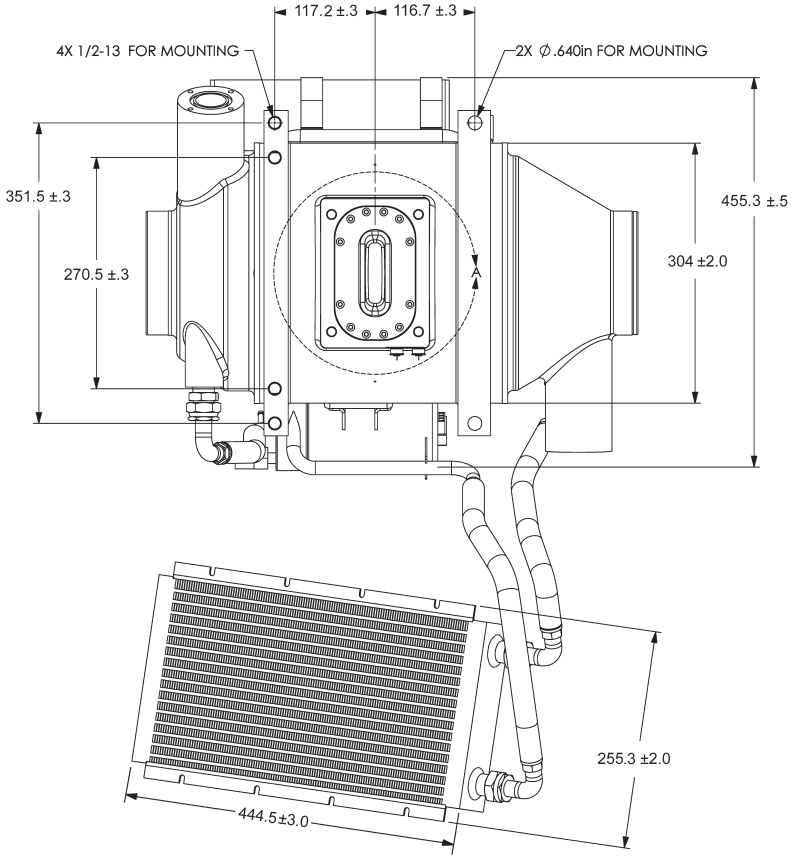
最大峰值电压	140 kV
阳极到地	70 kV
阴极到地	70 kV
最大 X 射线管组件热含量	3.8 MJ (5.3 MHU)
标称连续输入功率（包括定子热量）	6.4 kW (9.0 kHU/sec) IEC 60613:2010
最大管套温度	80°C
交换器最大热耗散	6.4 kW (9.0 kHU/sec)
焦点位置（中心射线）在 1 mm 内（源于辐射端口中心的 X、Y 方向）	
X 射线管组件	
固有滤过	0.5 mm Al @ 75 kV IEC 60522/1999
附加滤过	1.5 mm Al @ 75 kV IEC 60522/1999
最小总滤过	2.0 mm Al @ 75 kV IEC 60522/1999
泄漏辐射加载系数	140 kV, 43 mA
高压电缆插座	IEC 60526
环境气温工作限值	5°C~ 40°C
存储与运输温度限值	-20°C ~ +75°C
湿度	+10% ~ +90%
大气压范围	70 kPa ~ 106 kPa
重量：管套 和 热交换器	214.5 lbs. ±3.5 lbs.
IEC 分级	1 类
安全性装置：热控开关	
外部 - 常闭接点	开启温度 80°C ±3.9°C
内部 - 常闭接点	开启温度 110°C ±4.4°C
压力开关 - 常开触点	在3.0 PSID ±1.0 PSID时闭合
灯丝频率限值	50 HZ - 40 kHZ
电源	直流

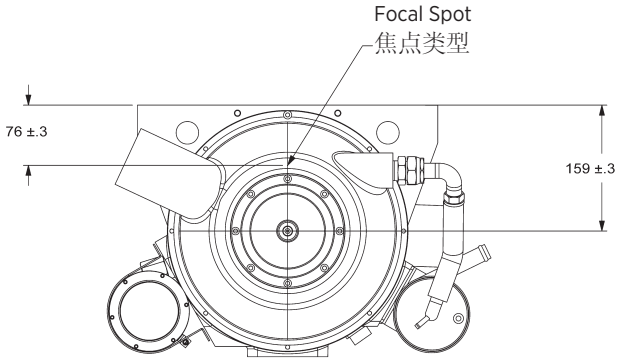
Outline

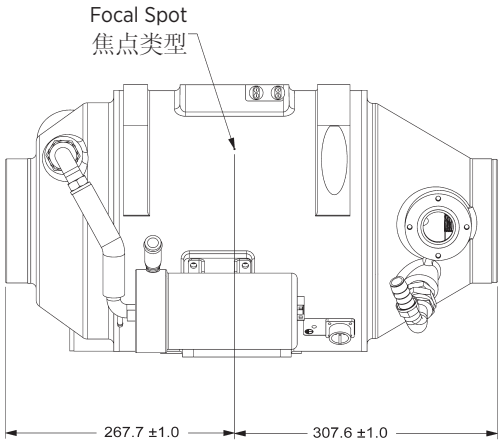
Dimensions are in millimeters
尺寸单位为毫米

Dimensions are for reference only
维度是供仅参考

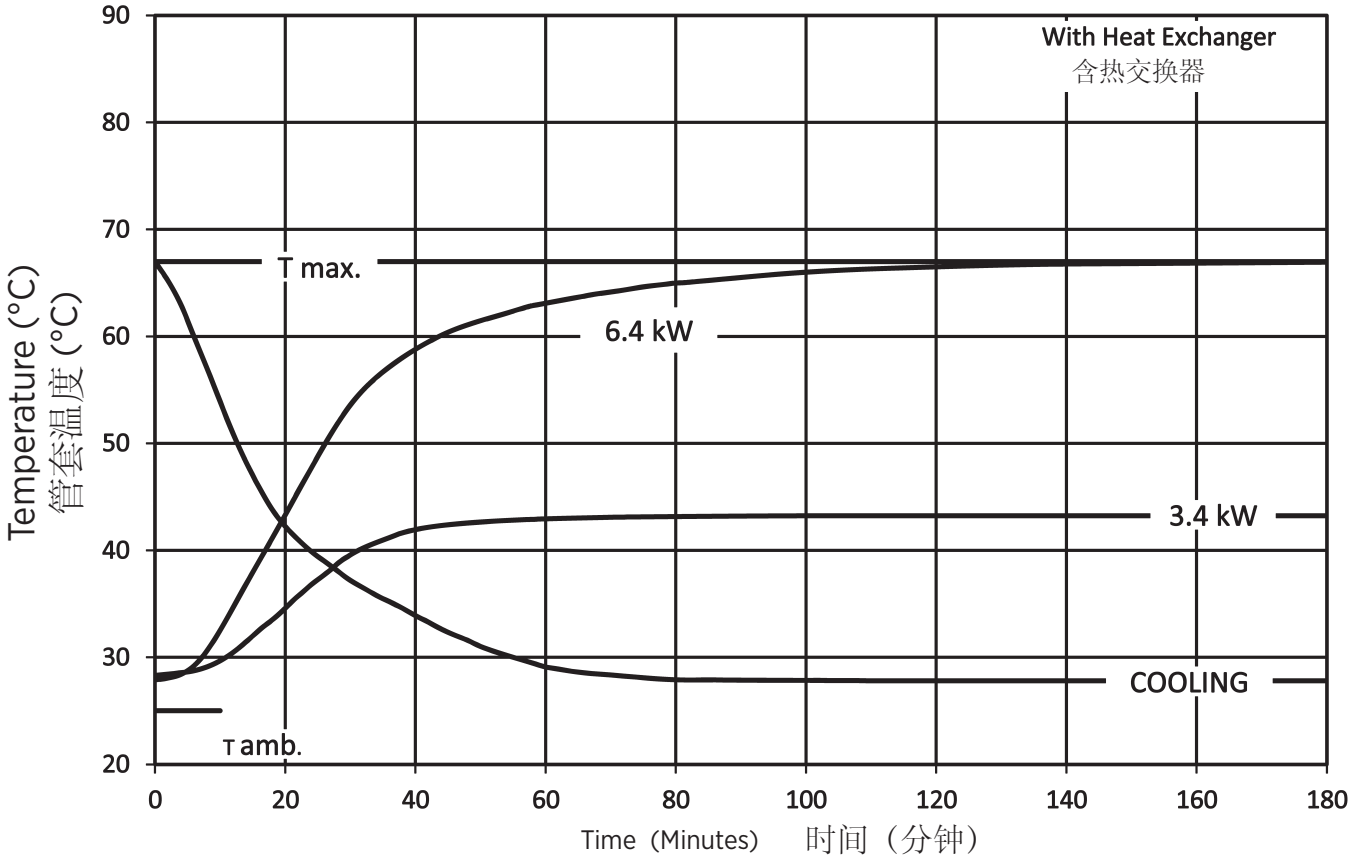








X-Ray Tube Housing Assembly Heating and Cooling
X射线管组件加热/冷却曲线



Note:
1. Heat input into housing includes all power sources; tube, filament, stator and circulating pump.

2. Heating curves based on no restrictions to air flow through heat exchanger, or natural convection around tube housing assembly.

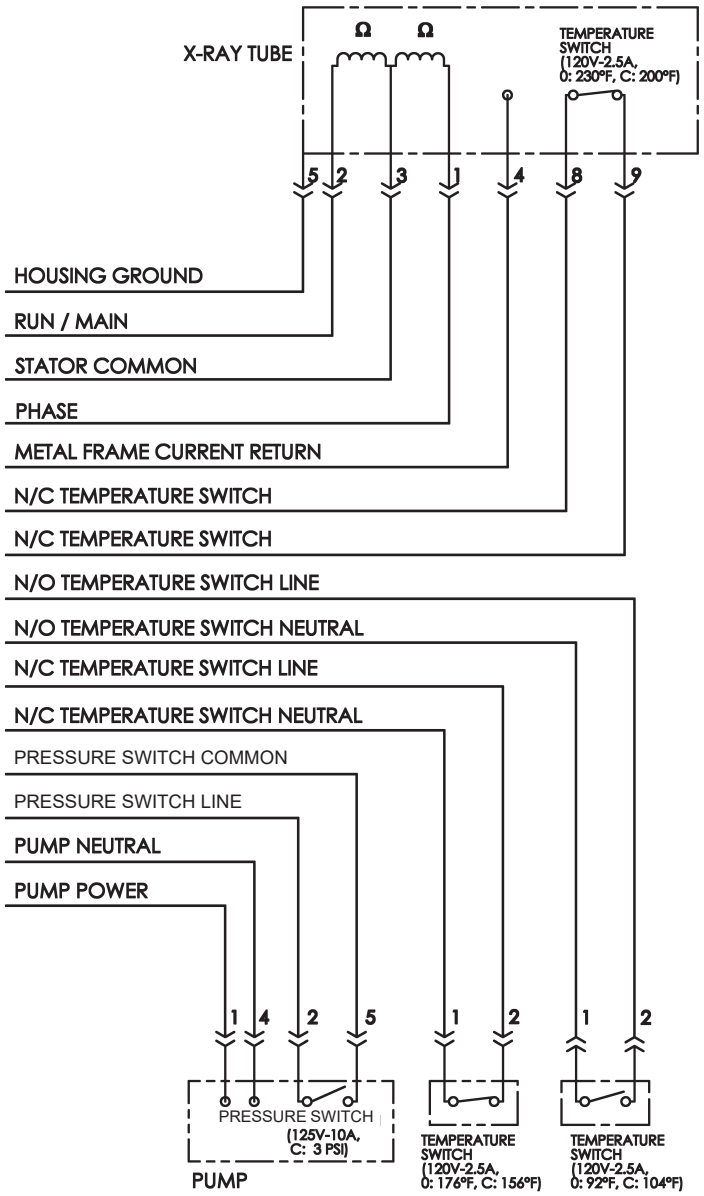
3. Heating and cooling curves reflect maximum tube performance. Tube operation is ultimately limited by system software control.

注释：
1. 输入外壳的热量包括所有电源; 管，灯丝，定子和循环泵。

2. 加热曲线基于对通过热交换器的空气流动没有限制，或管壳体组件周围的自然对流。

3. 加热与冷却曲线反映了管的最高性能。管的工作状况最终受系统软件控制的限制。

Stator - Wiring Diagram
定子 — 连线图



Stator Drive Frequency 定子驱动频率	RPM
105 Hz	5700 - 6300

Stator Type:

Stator Coil Resistance:
Black to White 8.3 Ω ±15%
Green to White 8.3 Ω ±15%

Starter Voltage:	Start	Run
105 Hz	480 VAC	160 VAC

Starter Current:	Start	Run
105 Hz	9 Amps	3 Amps

Time to Full Speed:
105 Hz 0 - 6300 RPM 20 Sec.

X-Ray Tube Assembly:
GS-5172/B-320H IEC 60601-2-28

定子的类型:

定子线圈电阻:
黑色到白色 8.3 Ω ±15%
绿色到白色 8.3 Ω ±15%

Voltage de la Obtenida:

	Empezar	Funcionar
105 Hz	480 VAC	160 VAC

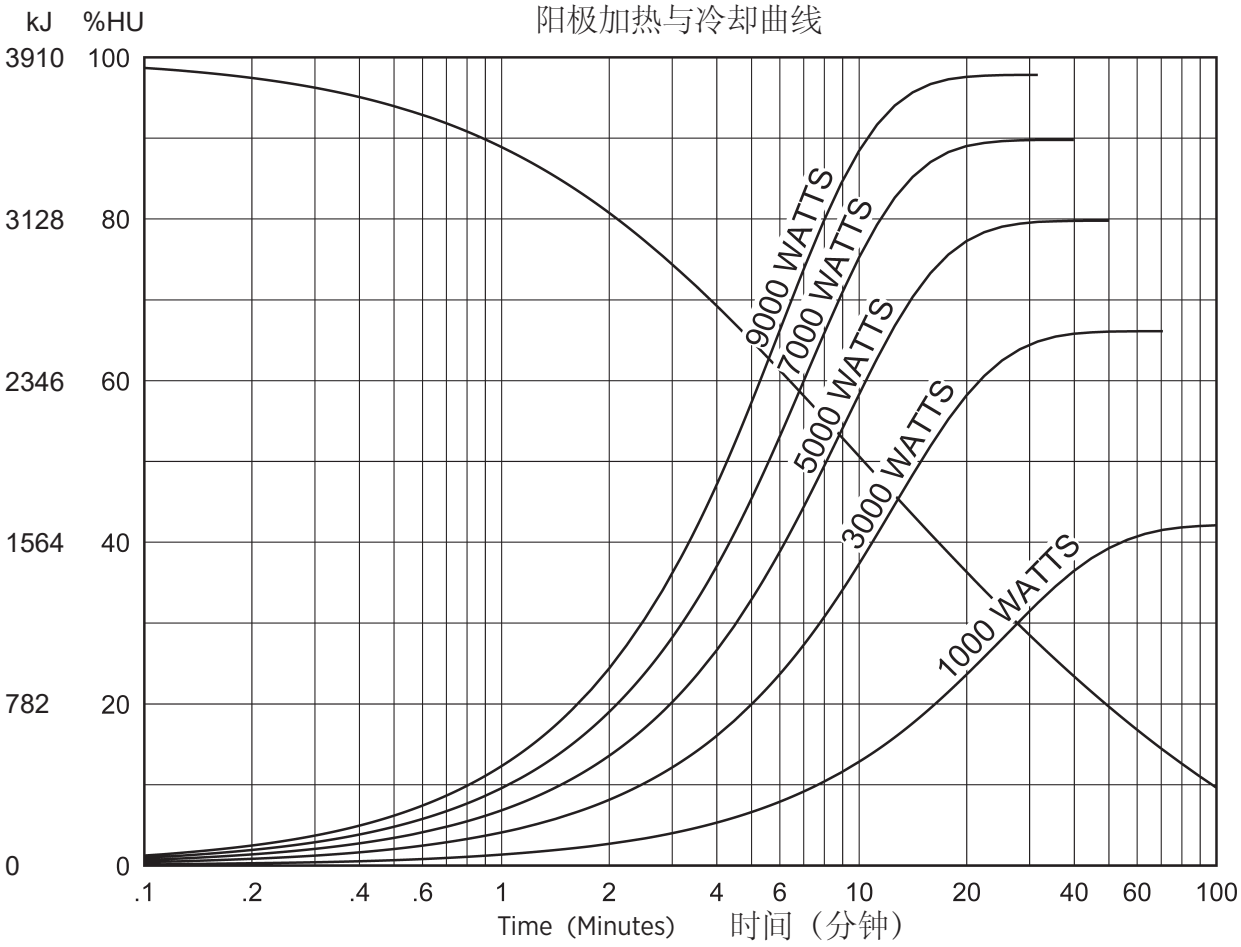
	Empezar	Funcionar
105 Hz	9 Amperios	3 Amperios

达到全速的时间:
105 Hz 0 - 6300 RPM 20.0 Sec.

X 射线管组件:
GS-5172/B-320H IEC 60601-2-28

Anode Heating & Cooling Chart
阳极加热与冷却图

Anode Heating and Cooling Curves
阳极加热与冷却曲线



Note:
Heating and cooling curves reflect maximum tube performance. Tube operation is ultimately limited by system software control.

注释：
加热与冷却曲线反映了管的最高性能。 管的工作状况最终受系统软件控制的限制。

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由万睿视影像有限公司生产

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