GS-3070

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-3070 is a 5.5" (140 mm) 150 kV, 2.5 MJ (3.5 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:

0.7 x 0.8
1.2 x 1.4
IEC 60336

Loading Factor for slit focal:
Small - 120 kV, 100 mA
Large - 120 kV, 200 mA

Maximum Anode Cooling Rate:
8,750 W (12,250 HU/sec)

Continuous Anode Input Power:
3,400 W (4,760 HU/sec)

Nominal CT Anode Input Power:
Small - 21 kW IEC 60613
Large - 45 kW IEC 60613

Nominal CT Scan Power Index:
Small - 21 kW IEC 60613:2010
Large - 41 kW IEC 60613:2010

Reference Axis:
Perpendicular to port face.

This insert is intended for use in a Varex Imaging B-240H housing.

产品说明

GS-3070 是一款具有 5.5" (140 mm) 靶盘, 150 kV, 2.5 MJ (3.5 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：

0.7 x 0.8
1.2 x 1.4
IEC 60336

狭缝焦点的测量条件：
小焦点 - 120 kV, 100 mA
大焦点 - 120 kV, 200 mA

最大阳极冷却速率：
8,750 W (12,250 HU/sec)

最大连续阳极散热：
3,400 W (4,760 HU/sec)

标称 CT 阳极输入功率：
小焦点 - 21 kW IEC 60613
大焦点 - 45 kW IEC 60613

标称 CT 扫描功率指数：
小焦点 - 21 kW IEC 60613:2010
大焦点 - 41 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-240H 管套。

133297-004 Rev D 07/2024

3 Ø 60 Hz

0.7 x 0.8 Focal Spot 7°
0.7 x 0.8 焦点 7°

Volume Scan Time (Seconds) 体积扫描时间 (秒)	MAXIMUM ALLOWED TUBE CURRENT (mA) AS A FUNCTION OF THE FOLLOWING STARTING HEAT STORAGE AND TUBE VOLTAGES 最大允许管电流 (mA) 为下列启动热容量和管电压的函数								
	Starting H.S. = 16 % 启动热容量 = 16 %			Starting H.S. = 33 % 启动热容量 = 33 %			Starting H.S. = 50 % 启动热容量 = 50 %		
	120 kV	130 kV	140 kV	120 kV	130 kV	140 kV	120 kV	130 kV	140 kV
1	125	100	100	125	100	100	125	100	100
2	125	100	100	125	100	100	125	100	100
4	125	100	100	125	100	100	125	100	100
10	125	100	100	125	100	100	125	100	100
20	125	100	100	125	100	100	125	100	100
30	125	100	100	125	100	100	125	100	100
40	125	100	100	125	100	100	125	100	100
50	125	100	100	125	100	100	125	100	100
60	125	100	100	125	100	100	125	100	100
70	125	100	100	125	100	100	100 (a)	100 (a)	100 (a)

3 Ø 180 Hz

0.7 x 0.8 Focal Spot 7°
0.7 x 0.8 焦点 7°

Volume Scan Time (Seconds) 体积扫描时间 (秒)	MAXIMUM ALLOWED TUBE CURRENT (mA) AS A FUNCTION OF THE FOLLOWING STARTING HEAT STORAGE AND TUBE VOLTAGES 最大允许管电流 (mA) 为下列启动热容量和管电压的函数								
	Starting H.S. = 16 % 启动热容量 = 16 %			Starting H.S. = 33 % 启动热容量 = 33 %			Starting H.S. = 50 % 启动热容量 = 50 %		
	120 kV	130 kV	140 kV	120 kV	130 kV	140 kV	120 kV	130 kV	140 kV
1	175	175	150	175	175	150	250	250	225
2	175	175	150	175	175	150	250	250	225
4	175	175	150	175	175	150	250	250	225
10	175	175	150	175	175	150	250	250	225
20	175	175	150	175	175	150	250	225	225
30	175	175	150	175	175	150	225	225	200
40	175	175	150	175	175	150	175 (a)	175 (a)	150 (a)
50	175	175	150	175	175	150	150 (a)	150 (a)	125 (a)
60	175	175	150	175	175	150	125 (a)	125 (a)	100 (a)
70	175	150	150	150 (a)	150 (a)	125 (a)	100 (a)	100 (a)	100 (a)

3 Ø 60 Hz

1.2 x 1.4 Focal Spot 7°
1.2 x 1.4 焦点 7°

Volume Scan Time (Seconds) 体积扫描时间 (秒)	MAXIMUM ALLOWED TUBE CURRENT (mA) AS A FUNCTION OF THE FOLLOWING STARTING HEAT STORAGE AND TUBE VOLTAGES 最大允许管电流 (mA) 为下列启动热容量和管电压的函数								
	Starting H.S. = 16 % 启动热容量 = 16 %			Starting H.S. = 33 % 启动热容量 = 33 %			Starting H.S. = 50 % 启动热容量 = 50 %		
	120 kV	130 kV	140 kV	120 kV	130 kV	140 kV	120 kV	130 kV	140 kV
1	250	250	225	250	250	225	175	175	150
2	250	250	225	250	250	225	175	175	150
4	250	250	225	250	250	225	175	175	150
10	250	250	225	250	250	225	175	175	150
20	250	250	225	250	250	225	175	175	150
30	250	250	225	250	250	225	175	175	150
40	250 (b)	225 (b)	200 (b)	250 (b)	225 (b)	200 (b)	175	150	150
50	225	225	200	225 (a)	200 (a)	175 (a)	150 (a)	150 (a)	125 (a)
60	225	200	200	175 (a)	175 (a)	150 (a)	125 (a)	125 (a)	100 (a)
70	200 (a)	200 (a)	175 (a)	150 (a)	150 (a)	125 (a)	100 (a)	100 (a)	100 (a)

3 Ø 180 Hz

1.2 x 1.4 Focal Spot 7°
1.2 x 1.4 焦点 7°

Volume Scan Time (Seconds) 体积扫描时间 (秒)	MAXIMUM ALLOWED TUBE CURRENT (mA) AS A FUNCTION OF THE FOLLOWING STARTING HEAT STORAGE AND TUBE VOLTAGES 最大允许管电流 (mA) 为下列启动热容量和管电压的函数								
	Starting H.S. = 16 % 启动热容量 = 16 %			Starting H.S. = 33 % 启动热容量 = 33 %			Starting H.S. = 50 % 启动热容量 = 50 %		
	120 kV	130 kV	140 kV	120 kV	130 kV	140 kV	120 kV	130 kV	140 kV
1	375	350	325	375	350	325	375	350	325
2	375	350	325	375	350	325	375	350	325
4	375	350	325	375	350	325	375	350	325
10	350 (b)	300 (b)	300 (b)	350 (b)	300 (b)	300 (b)	350 (b)	300 (b)	300 (b)
20	350 (b)	300 (b)	300 (b)	350 (b)	300 (b)	300 (b)	325	300	275
30	300 (b)	275 (b)	250 (b)	300 (b)	275 (b)	250 (b)	250 (a)	225 (a)	200 (a)
40	250 (b)	225 (b)	200 (b)	250 (b)	225 (b)	200 (b)	175 (a)	175 (a)	150 (a)
50	250 (b)	225 (b)	200 (b)	225 (a)	200 (a)	175 (a)	150 (a)	150 (a)	125 (a)
60	250 (b)	225 (b)	200 (b)	175 (a)	175 (a)	150 (a)	125 (a)	125 (a)	100 (a)
70	200 (a)	200 (a)	175 (a)	150 (a)	150 (a)	125 (a)	100 (a)	100 (a)	100 (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

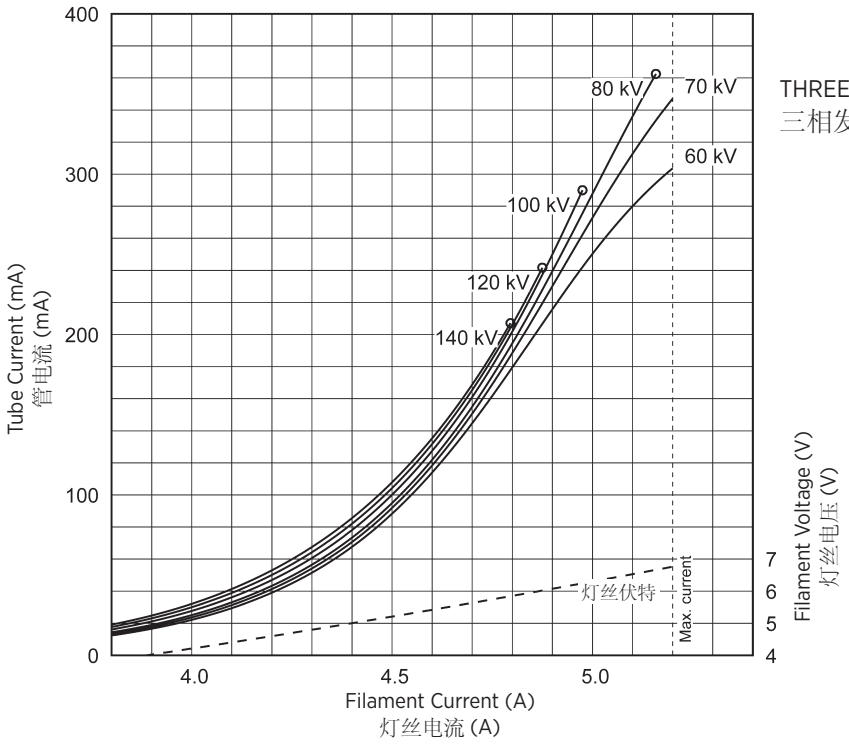
注释

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

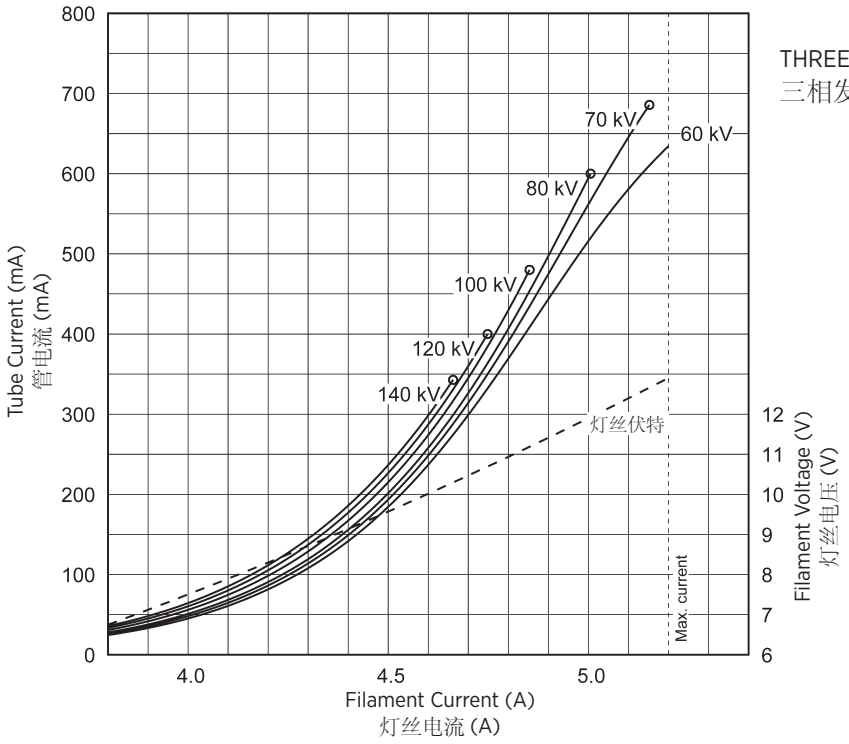
Note:
Rating charts reflect maximim tube performance. Tube operation is ultimately limited by system software.

注释
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)
0.7 x 0.8



THREE PHASE EMISSION (± .15 A)
三相发射 (± .15 A)
1.2 x 1.4

Product Description

Maximum Peak Voltage ..... 150 kV
Anode to Ground ..... 75 kV
Cathode to Ground ..... 75 kV

Maximum X-ray Tube Assembly Heat Content ..... 3.8 MJ (5.2 MHU)
Nominal Continuous Input Power
(max. housing temperature 78°C)
(Includes stator heat) ..... 3.7 kW (5.18 kHU/sec)

Maximum Heat Exchanger Dissipation
..... 5.0 kW (7.0 kHU/sec)

Focal Point Position (Central Ray) Within 1mm
(X, Y Direction from the center of radiation port.)

X-Ray Tube Assembly
Permanent filtration ..... 1.0 mm Al IEC 60522

Loading Factors for Leakage Radiation ..... 150 kV, 23 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 ..... 33.1 kg (73 lbs)
Heat Exchanger ..... 16.3 kg (35.9 lbs)

IEC Classification ..... Class 1

Safety Devices: (Internal) Thermal Switch
Normally Closed Contact ..... Opening at 85°C ±3.9°C

Pressure Switch
Normally Open contact ..... closes before 5.0 PSID Rising
opens at 3.0 PSID ±0.2 PSID Falling
Filament Frequency Limits ..... 50 Hz - 25 kHz

Power Supply ..... DC

产品说明

最大峰值电压 ..... 150 kV
阳极到地 ..... 75 kV
阴极到地 ..... 75 kV

最大 X 射线管组件热含量 ..... 3.8 MJ (5.2 MHU)
标称连续输入功率
(最大管套温度 78°C)
（包括定子热量） ..... 3.7 kW (5.18 kHU/sec)

交换器最大热耗散 ..... 5.0 kW (7.0 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 ..... 1.0 mm Al IEC 60522

泄漏辐射加载系数 ..... 150 kV, 23 mA

高压电缆插座 ..... IEC 60526

环境气温工作限值 ..... 5°C 到 40°C

存储与运输温度限值 ..... -20°C 到 +75°C
湿度 ..... +10% 到 +90%
大气压范围 ..... 70 kPa 到 106 kPa

重量：管套 ..... 33.1 kg (73 lbs)
热交换器 ..... 16.3 kg (35.9 lbs)

IEC 分级 ..... 1 类

安全性装置：热控开关
常闭接点 ..... 开启温度 85°C ±3.9°C

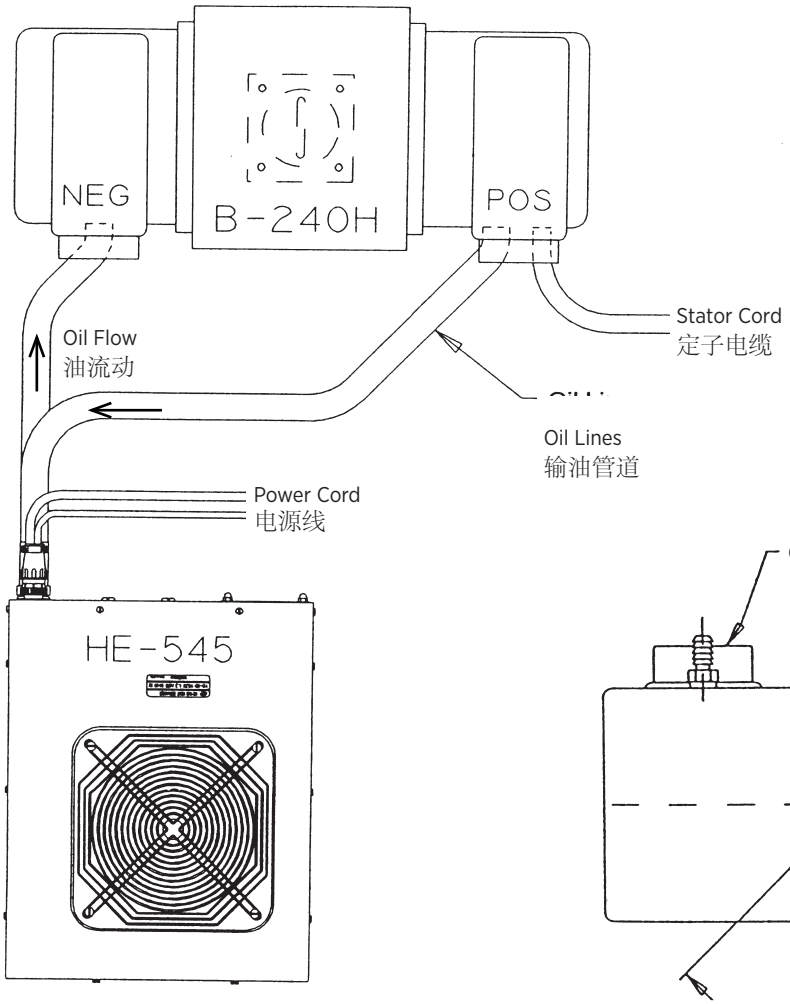
压力开关
触点常开 ..... 在5.0PSID上升沿前关闭，
在3.0PSID+-0.2PSID下降沿

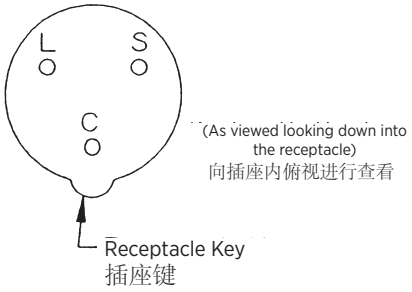
灯丝频率限值 ..... 50 Hz - 25 kHz

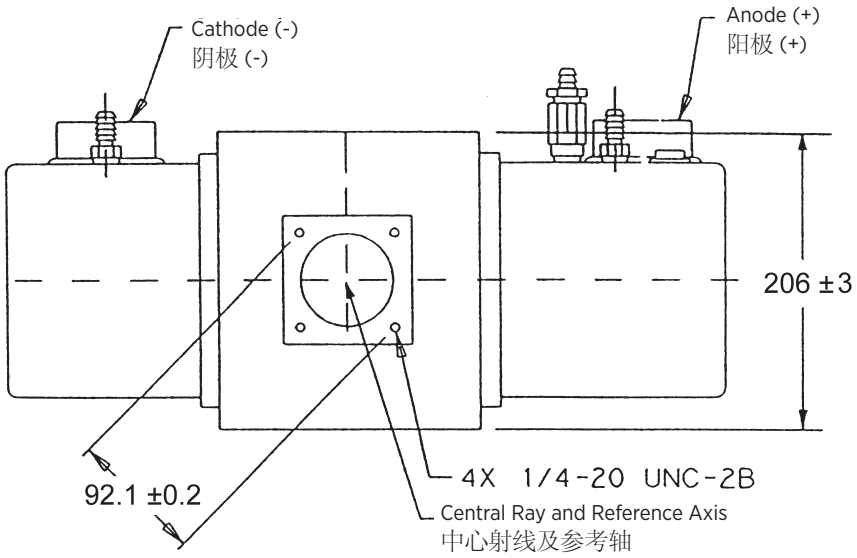
电源 ..... 直流

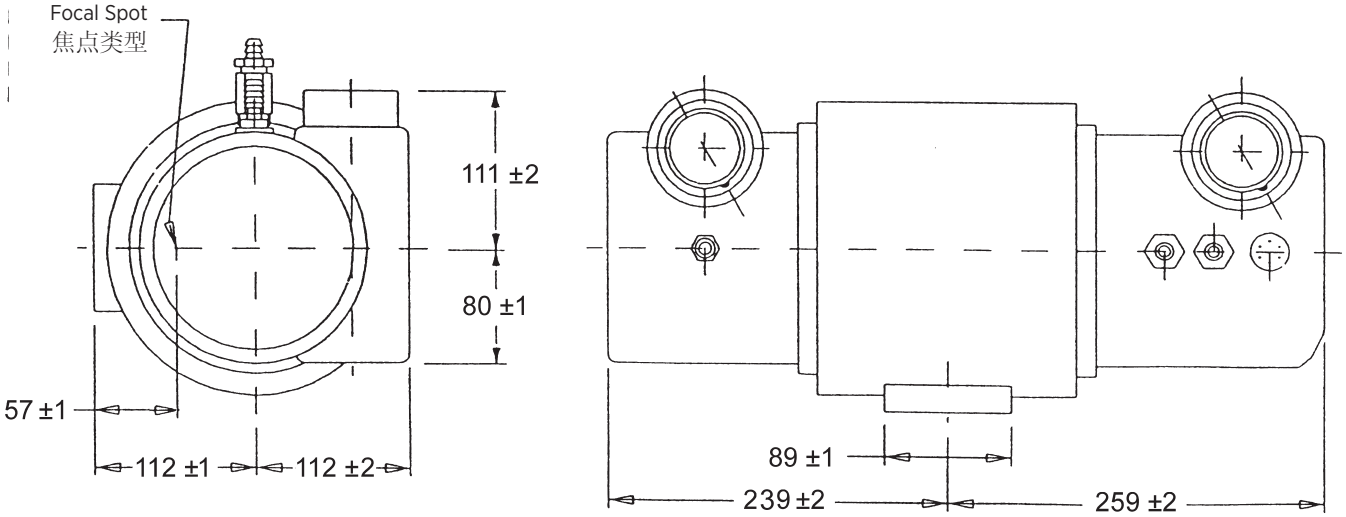
Dimensions are for reference only
维度是供仅参考

Dimensions are in millimeters
尺寸单位为毫米

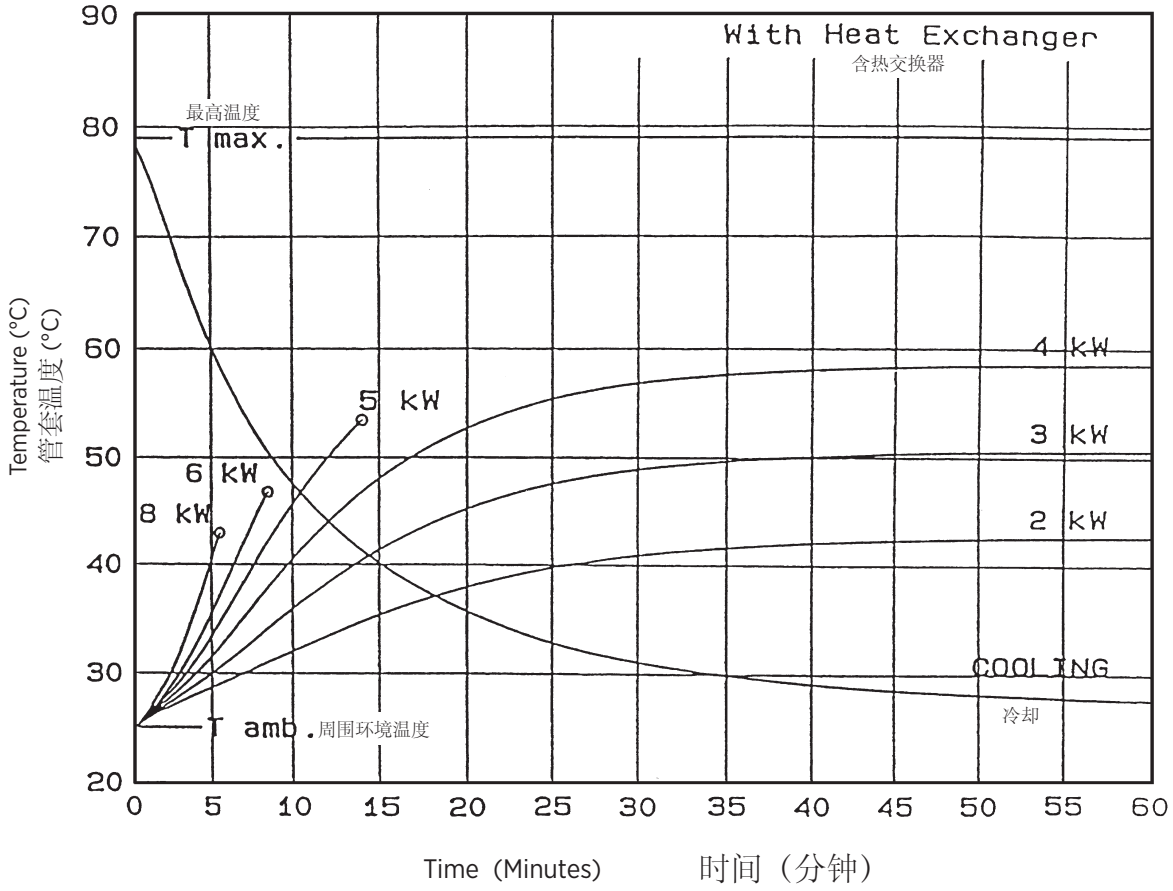








Tube Housing Assembly Heating and Cooling
管套组件加热与冷却



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.

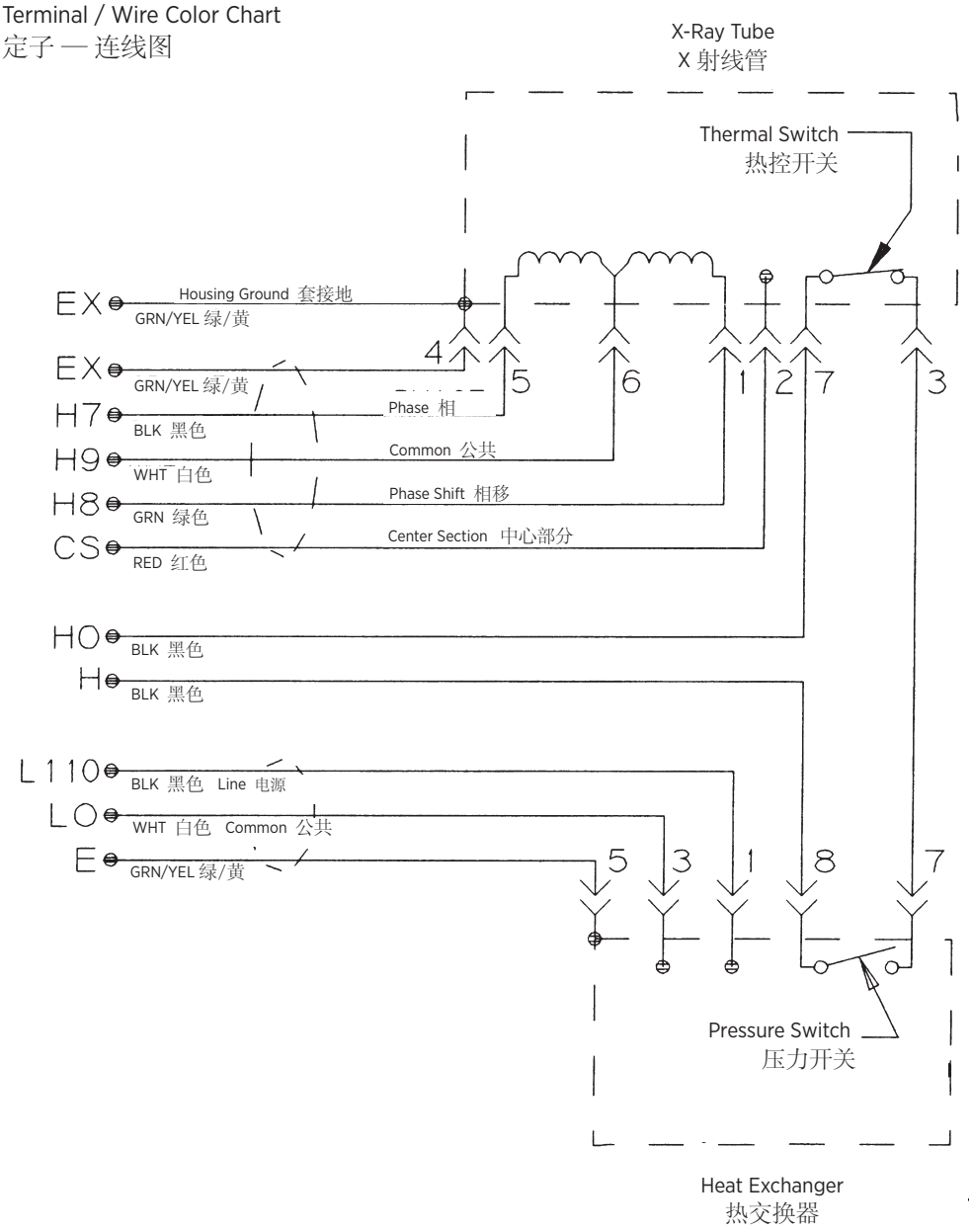
3. Heating and cooling curves reflect maximum tube performance. Tube operation is ultimately limited by system software control.

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。

Terminal / Wire Color Chart
定子 — 连线图



Wire Color 导线颜色	Description 描述
1 Green	Phase Shift
绿色	相移
5 Black	Phase
黑色	相
6 White	Common
白色	公共
2 Red	Center Section
红色	中心部分
4 Green/Yellow	Housing Ground
绿色/黄色	管套接地
3/7 Thermal Switch / 热控开关	

Stator Drive Frequency 定子驱动频率	RPM
50 Hz 60 Hz 150 Hz 180 Hz	2800 - 3000 3400 - 3600 8500 - 9000 9500 - 10,800

Stator Type: "R"

Stator Coil Resistance:
Black to White 14 Ω ±15%
Green to White 46 Ω ±15%

Starter Voltage:	**Start**	**Run**
50/60 Hz	200 VAC	80 VAC
150/180 Hz	470 VAC	140 VAC

Time to Full Speed:

50/60 Hz	0 - 3000 RPM	9.6 Sec.
150/180 Hz	0 - 8000 RPM	9.6 Sec.

X-Ray Tube Assembly:
GS-3070/B-240H IEC 60601-2-28

定子类型："R" 定子

定子线圈电阻：
黑色到白色 14.0 Ω ±15%
绿色到白色 46.0 Ω ±15%

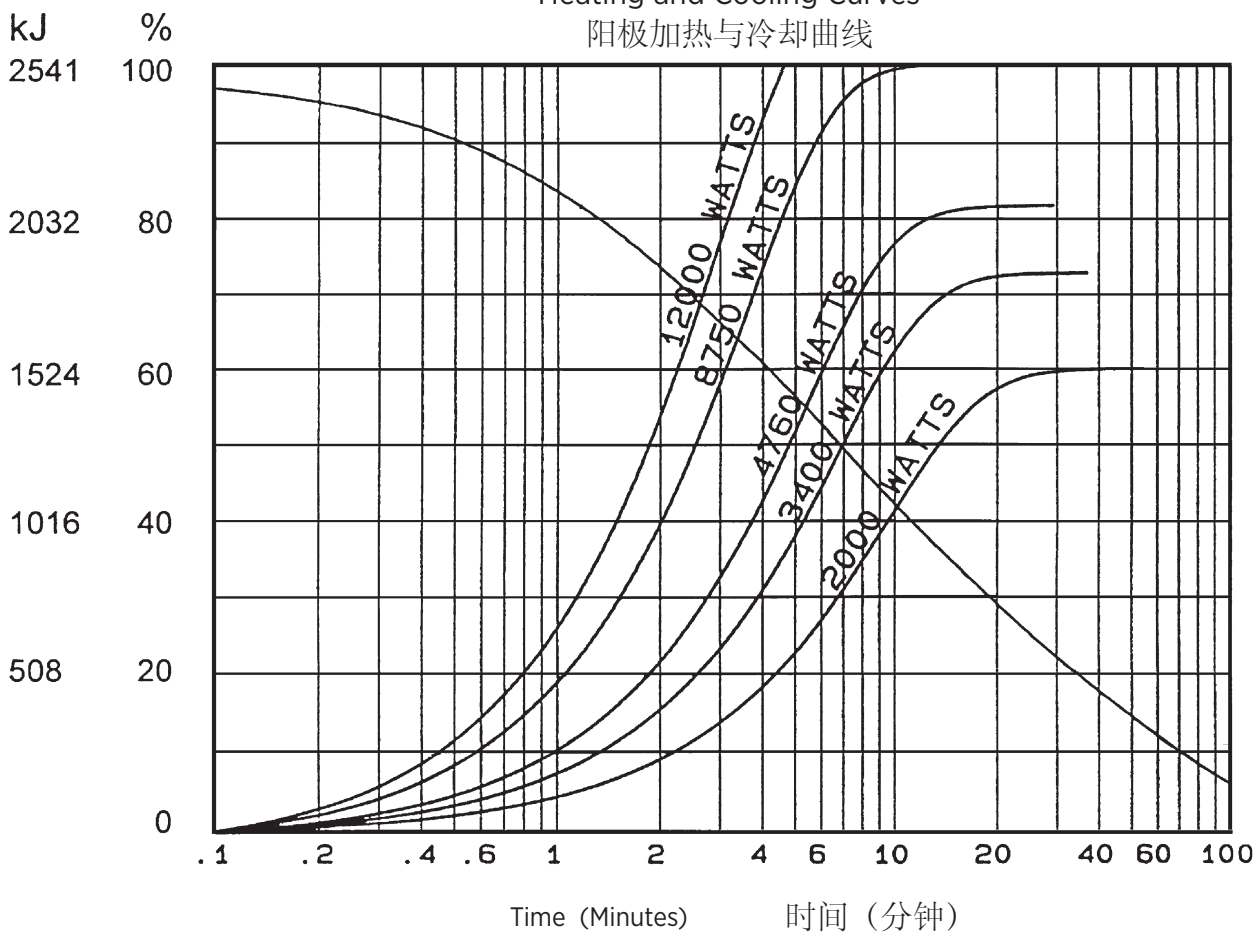
启动器电压：	启动	运行
50/60 Hz	200 VAC	80 VAC
150/180 Hz	470 VAC	140 VAC

达到全速的时间：

50/60 Hz	0 - 3000 RPM	9.6 Sec.
150/180 Hz	0 - 8000 RPM	9.6 Sec.

X 射线管组件：
GS-3070/B-240H IEC 60601-2-28

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。

Salt Lake City, UT 1-801-972-5000

有关我们全球办事处的完整列表，访问www.varexim aging.com

Manufactured by Varex Imaging Corporation
由万睿视影像有限公司生产

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规格如有更改，恕不另行通知。