

VARIAN

medical systems



X-Ray Products

Product Catalog 2011

Going Digital Together!

Effective January 2011



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On-Line Support

For product data sheets, technical documentation, forms, tube delivery information, articles, and white papers go to www.varian.com/us/xray. Here you will find a basic understanding of X-ray technology and product features for typical applications. Specific requirements should be discussed with Varian sales and service representatives. Please contact Varian for more information on any of these topics.

Ordering Information

Terms

Net thirty (30) days from date of invoice with approved credit. Shipping charges are additional, Ex-Works Factory. Prices are subject to change without notice. Prices are in U.S. dollars.

Appropriate Varian Medical Systems Terms and Conditions of Sale apply.

Ordering

Varian requires confirmation of all orders in writing.

For international orders please advise ultimate destination, special shipment instructions, customer requirements, and any necessary regulatory requirements (i.e CE mark).

When ordering, please specify:

- Application.
- Housing, high voltage cable receptacle angle (horn angle).
- Paint Color.
- Trunnion rings, air circulator, heat exchanger, interface collimator kits (see Accessories).
- Stator type.
- Stator and heat exchanger cable length.
- When replacing an OEM tube, please specify trunnion rings.
- Collimator/interface kit may also be required.
- Call for catalog identification.

Restock

Varian will accept tubes for restocking provided they meet original specifications and are returned in original cartons via air prepaid. A twenty percent (20%) restocking charge will be deducted from any credit issued to cover the cost of testing and handling. Prior to shipment, contact the factory or service station where ordered for authorization to return tubes for restock. Requests must be made no more than six (6) months from date of shipment.

Warranty>Returns

All products returned to Varian Medical Systems **must have an RA number** clearly marked on the packaging and shipping documents.

For OEM Warranty Returns – To request an RA number, please complete the online form at:

http://www.varian.com/us/xray/products/custom_order/warranty_returns.html

or download the pdf version and email to customer service at XRPTubeReturns@varian.com or fax to 801-973-5198.

For **OEM customer service** questions or assistance call 1-800-432-4422 or 801-972-5000.

For aftermarket (Interay) Warranty Returns - To request an RA number, please complete the online form at

http://www.varian.com/us/xray/products/immediate_delivery/warranty_returns.html or download the pdf version and email it to customer service at interay.warranty@varian.com or fax to 1-843-760-0079.

For **aftermarket (Interay) customer service** questions or assistance call 1-800-468-3729 or 843-767-3005.

Conservation

In the interest of conservation of scarce materials, and efficient utilization of high value parts, products may contain remanufactured parts. Such parts are subject to the same high standards of quality control applied to other parts and are covered by a standard warranty.

Tube Disposal

Please be aware of the environment and dispose of X-ray tubes in accordance with applicable regulations. It is recommended that failed tubes be returned to the manufacturer or an appropriate facility to ensure proper handling. All tubes returned to Varian Medical Systems for disposal will be handled in a manner that safeguards neighboring communities and the global environment.

Trademarks

All trademarks property of the respective OEM's.

	Page
Ordering Information	4
Section 1 - Digital X-Ray Imaging	
PaxScan® Flat Panel Digital X-Ray General Information.....	6
Imager Sizing.....	7
Imager Description.....	8
Suggested Tubes for Digital Applications.....	9
Section 2 - Varian X-Ray Tube Units	
Mobile C-Arm.....	10
Mammography and Accessories.....	10, 11
Radiographic - Rad/Fluoro (Glass).....	12, 13
Radiographic - Rad/Fluoro (Glass - Graphite Backed).....	14
Special Procedures (Metal Center Section).....	15
Trunnion Rings.....	16, 17
Heat Exchangers.....	18
Air Circulators and Interface Collimator Kits.....	19
Section 3 - OEM Replacement X-Ray Tube Units	
Comet.....	20
Dunlee.....	21
Elscent.....	21
General Electric.....	22, 23
Marconi/Picker.....	24
Philips.....	24, 25
Shimadzu.....	25
Siemens.....	26
Toshiba.....	27
Section 4 - Technical Information	
Three Phase & Single Phase.....	28, 29
Stator Identification.....	30
Housing Data & Target Storage Capacity.....	31
Housing Dissipation Rates.....	32
Housing Horn Angles.....	33
X-Ray Tube Coverage Charts.....	34
Special Order.....	35
Telephone Order.....	36
Regulatory Compliance.....	37

1

2

3

4



Flat Panel Digital X-Ray - PaxScan®

Varian is the world's premier independent supplier of Flat Panel Digital detectors used in medical and industrial imaging. Now, after more than 50 years of leadership in X-ray technology, Varian now offers another breakthrough in imaging technology.

Varian's PaxScan® line of flat panel X-ray image detectors are used to capture X-ray images and instantly display them on computer screens, eliminating the need for film and film processing. Varian's panels can capture up to 60 images per second, which is fast enough to produce a moving image of a heart beating.

- Flat Panel Imaging Systems
 - Dynamic Imaging Panels
 - Radiographic Imaging Panels

Technology

Varian's amorphous-silicon flat-panel image detectors for digital radiography work by converting the X-rays that strike its surface into light, and then turning the light into electronic data that a computer can display as a high-quality digital image.

Flat Panel Advantages

- Compact, lightweight
- Excellent image quality across entire panel (no image distortion)
- Flexibility of direct to digital
 - Eliminates camera and components
 - Image manipulation capability eliminates retakes
- Facilitates transition to an all digital department
- Frequently allows a significant reduction in radiation dose
- High frame rates enable Cone Beam CT applications

PaxScan® Products

Imaging panels are available for medical and industrial applications, including medical diagnostic, veterinary care, dental imaging, and security.

Please contact your account representative for further information.

PAXSCAN®



1313



2020



2520D



2520V

	<p>5" 5"</p> <p>7"</p>	<p>13 x 13 cm</p>	
	<p>8" 8"</p> <p>11"</p>	<p>20 x 20 cm</p>	
	<p>10" 8"</p> <p>13"</p>	<p>25 x 20 cm</p> <p>(Portrait / Landscape)</p>	
	<p>12" 12"</p> <p>17"</p>	<p>30 x 30 cm</p>	
	<p>16" 12"</p> <p>20"</p>	<p>40 x 30 cm</p> <p>(Portrait / Landscape)</p>	
	<p>17" 14"</p> <p>22"</p>	<p>43 x 36 cm</p> <p>(Portrait / Landscape)</p>	
	<p>17" 17"</p> <p>24"</p>	<p>43 x 43 cm</p>	



2520E+



3030+



4030CB



4030E

4336R

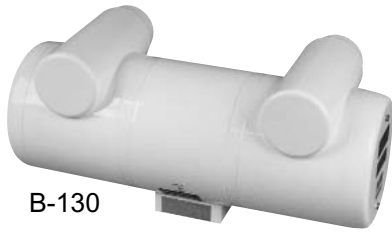


4343R

Panel Type	Suggested Applications	Pixel Size	Resolution	Fill Factor	Matrix	A/D Conv.	Frame Rate	Interface	Scintillator Option
1313	Dental CBCT, NDT*	127 µm	3.94 lp/mm 1.97 lp/mm	57% a-Si	1024x1024 512x512	14 bits	10 fps (1x1) 30 fps (2x2)	CameraLink EpiX	DRZ+ / Gd ₂ O ₂ S, Csl
2020+ (2020)	Cardiac, Mobile C-Arm	194µm	2.58 lp/mm 1.29 lp/mm	70% a-Si	1024x1024 512x512	14 bits	30 fps (1x1) 60 fps (2x2)	LVDS, 16 bit Bitflow R3	Csl
2520E+	Portable Rad, Security, Veterinary DR (Equine)	127µm	3.94 lp/mm 1.97 lp/mm	57% a-Si	1536x1920	14 bits	1~10 fps (1x1)	Gigabit Ethernet	DRZ+, DRZ High, Gd ₂ O ₂ S, Csl
2520V (2520D)	Dental CBCT, NDT*, Bone Densitometry	127µm	3.94 lp/mm 1.97 lp/mm	57% a-Si	1536x1920 768x960	14 bits	1~10 fps (1x1) 15 / 30 fps (2x2)	Gigabit Ethernet	DRZ+, DRZ High, Gd ₂ O ₂ S, Csl
3030+	Universal R&F, Gastro	194µm	2.58 lp/mm 1.29 lp/mm	70% a-Si	1536x1536 768x768	14 bits	1~7.5 fps (1x1) 15 / 30 fps (2x2)	CameraLink, LVDS, 16 bit Bitflow R3	Csl
4030A+	Universal R&F, I/V, Angio, DSA	194µm	2.58 lp/mm 1.29 lp/mm	70% a-Si	2048x1536 1024x768	14 bits	1~7.5 fps (1x1) 15 / 30 fps (2x2)	CameraLink, LVDS, 16 bit Bitflow R3	Csl
4030CB	CBCT, OBI, I/V, Angio, DSA	194µm	2.58 lp/mm 1.29 lp/mm	70% a-Si	2048x1536 1024x768	16.5 bits	1~7.5 fps (1x1) 15 / 30 fps (2x2)	CameraLink, LVDS, 16 bit Bitflow R3	Csl
4030E	Portable Rad, Security, Veterinary DR, NDT*	127µm	3.94 lp/mm 1.97 lp/mm	57% a-Si	3200x2304 1600x1152	14 bits	1~3.75 fps (1x1)	Gigabit Ethernet	DRZ+ / Gd ₂ O ₂ S
4336R	CR Cassette Replacement, Portable Digital Rad	139µm	3.6 lp/mm	100% CWP™ Technology	3072x2560	14 bits	8 sec. Cycle time	Gigabit Ethernet	DRZ+ / Gd ₂ O ₂ S, Csl
4343R	Digital Rad (Chest)	139µm	3.6 lp/mm	100% CWP™ Technology	3072x3072	14 bits	6 sec. Cycle time	Gigabit Ethernet	DRZ+ / Gd ₂ O ₂ S, Csl

Note: kVp Range - 40-150 kVp

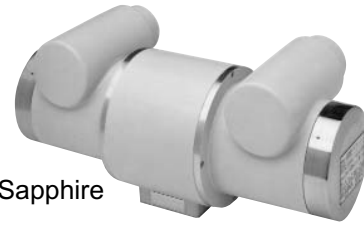
*NDT applications have 225 kVp option available



B-130



B-199



Sapphire

Suggested X-ray Tubes for Digital Applications

Varian offers an extensive line-up of rotating anode X-ray tubes suitable for use with flat panel digital detectors. Below is a suggested list of special features:

- The resolution of the small focal spot combined with the high power of the large focal spot provides homogeneous intensity distribution and outstanding image quality.
- The rotating anodes are constructed with Rhenium-Tungsten faced Molybdenum with emissive coating or graphite backing to provide excellent performance and heat storage capability with reduced track wear for high throughput applications.
- Housings can be combined with a fan or heat exchanger to provide higher cooling rates which result in both shorter intervals between exposures and a greater number of exposures.

Contact a Varian representative for more information as additional tubes are available for all applications.

Radiographic - Rad/Fluoro (Glass)

INSERT TYPE	HOUSING	FOCAL SPOT	KW RATING	TARGET ANGLE	HEAT UNITS
A-196	B-130	0.6-1.0	32/72	12°	350 kHU
RAD-56	Sapphire	0.6-1.0	31/62	14°	400 kHU
RAD-60	Sapphire	0.6-1.2	40/100	12°	400 kHU
A-286	B-130	0.3-1.2	8.5/100	12°	400 kHU
A-287 Grid	B-130	0.3-1.2	8.5/100	12°	400 kHU
A-292	B-130	0.6-1.2	40/100	12°	400 kHU
A-294 Grid	B-130	0.6-1.2	40/100	12°	400 kHU
A-297	B-130	0.3-0.8	11/49	12°	400 kHU

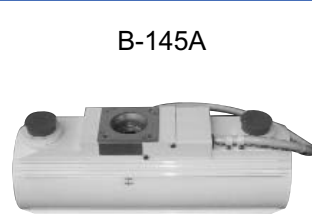
Radiographic - Rad/Fluoro (Glass - Graphite Backed)

RAD-94	Sapphire	0.4-0.8	15/45.5	14°	600 kHU
G-292	B-130	0.6-1.2	40/100	12°	600 kHU
G-297	B-130	0.3-0.8	12/49	12°	600 kHU
G-296	B-130	0.6-1.0	32/72	12°	600 kHU
SG-1096	B-199	0.6-1.0	40/80	12°	840 kHU

Radiographic - Rad/Fluoro (Metal - Graphite Backed)

G-692	B-130HM/B-146HM	0.6-1.2	40/100	12°	600 kHU
G-696	B-130HM/B-146HM	0.6-1.0	32/72	12°	600 kHU

Varian X-Ray Tube Units



Mobile C-Arm

INSERT TYPE	HOUSING	FOCAL SPOT	KW RATINGS	HEAT UNITS	TARGET ANGLE
A-145	Diamond	0.3-0.6	6/25*	300 KHU	10°
RAD-99	Diamond	0.3-0.6	8/22*	300 KHU	10°
RAD-99	OR-III	0.3-0.6	8/22*	300 KHU	10°
G-292	B-130	0.6-1.2	40/100	600 KHU	12°
G-296	B-130	0.6-1.0	32/72	600 KHU	12°
G-297	B-130	0.3-0.8	12/49	600 KHU	12°
G-692	B-130HM/B-146HM	0.6-1.2	40/100	600 KHU	12°
G-696	B-130HM/B-146HM	0.6-1.0	32/72	600 KHU	12°

To upgrade to OR-III add \$550 list (US\$)

To upgrade to B-145A add \$1500 list (US\$)

Mammography

INSERT TYPE	FOCAL SPOT	KW RATINGS	HEAT UNITS	TARGET ANGLE	KVP RANGE
M-105SP	0.1-0.3	0.56/2.2**	300 KHU	16°	20-50
M-109	0.1-0.25	0.45/1.5**	300 KHU	16°	20-40
M-113	0.1-0.3	1.32/4.9	300 KHU	10°/16°	20-50
M-113SP	0.1-0.3	1.32/4.9	300 KHU	10°/16°	20-50
M-146	0.1-0.4	1.4/9.0	300 KHU	10°	20-50
M-146SP	0.1-0.3	1.4/6.3	300 KHU	10°	20-50
M-147	0.1-0.3	1.32/5.7	300 KHU	10°	20-50
M-147SP	0.1-0.3	1.32/5.7	300 KHU	10°	20-50
M-149	0.25	2.2**	300 KHU	10°	20-50
M-152	0.1-0.3	2.5/4.1	135 KHU	6°/20°	22/49
M-153	0.1-0.3	1.0/4.0	135 KHU	7°/12°	22/49
RAD-85S	0.1-0.3	0.56/3.0**	300 KHU	16°	20-50
RAD-73B/HE-50	0.3	8.0	600 KHU	16°	22-49
RAD-73/HE-50	0.3	8.0	600 KHU	16°	20-49

* kW ratings: 3 phase, 60 Hz, low speed only.

** kW ratings: 3 phase, 60 Hz, 1/10 second.

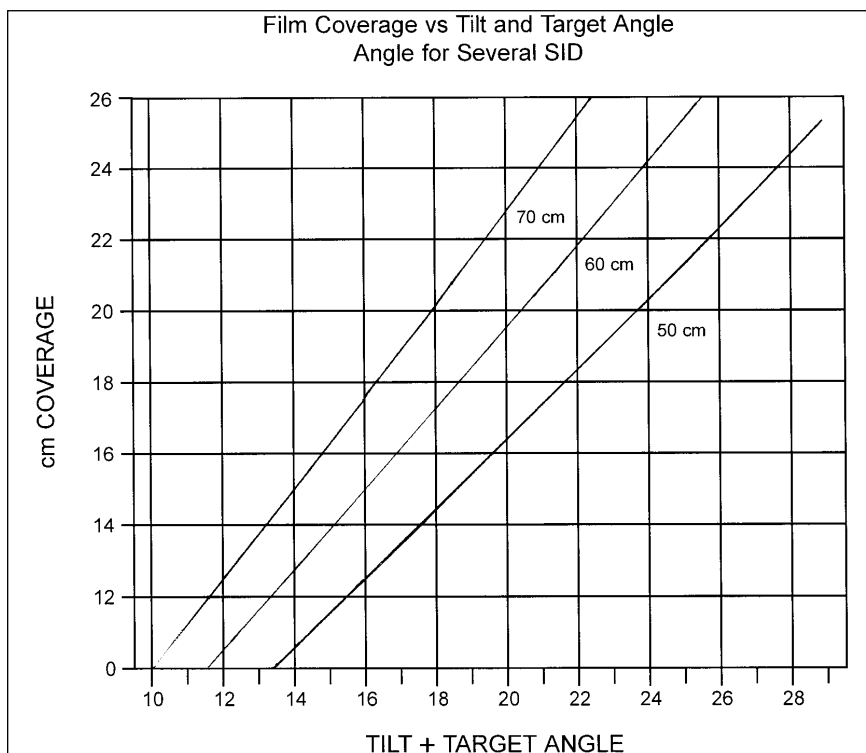


B-110
Mammography Housing

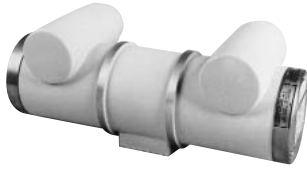
Mammography Accessories

CATALOG NUMBER	DESCRIPTION	SUGGESTED LIST PRICE
751269	14' Low Voltage Cable with a 90° female connector on one end and un-terminated on the other end. Contact Interay for cable length and termination availability.	
751307	14' Low Voltage Cable with a 90° female connector on one end and a straight female connector on the other end. Contact Interay for cable length and termination availability.	
746405	14' High Voltage Cable, 90°/90° Terminations Contact Interay for cable length and termination availability.	
746622	15' High Voltage Cable, 90°/straight Termination. Contact Interay for cable length and termination availability.	
IK-140	25 Micron Moly Filter	
IK-141	30 Micron Moly Filter	
IK-160	Alden Federal Cable Adaptor	

2



Emerald / Diamond



OR-III



B-145A



Radiographic - Rad/Fluoro (Glass)

INSERT TYPE	HOUSING	FOCAL SPOT	KW RATING	TARGET ANGLE	HEAT UNITS
RAD-8	Emerald	1.0-2.0	25/47*	16°	150 kHU
RAD-12	Diamond	0.6-1.2	22/54	12°	150 kHU
RAD-74	Emerald	0.6-1.5	19.8/52*	14°	200 kHU
RAD-68	Diamond	1.0-2.0	54/96	14°	300 kHU
RAD-68	Diamond	0.6-1.2	29/64	14°	300 kHU
RAD-10	Diamond	0.75-1.25	19.8/41.2	16°	300 kHU
RAD-13	Diamond	1.0-2.0	39/81	16°	300 kHU
RAD-14	Diamond	0.6-1.2	32/77	12°	300 kHU
RAD-14	Diamond	0.3-1.2	7.5/77	12°	300 kHU
RAD-14	Diamond	0.6-1.5	32/95	12°	300 kHU
A-102	Diamond	1.0-2.0	40/80	16°	300 kHU
A-132	Diamond	0.6-1.2	32/76	12°	300 kHU
A-134 Grid	Diamond	0.6-1.2	32/76	12°	300 kHU
A-142	Diamond	0.3-1.0	9/70	10°	300 kHU
A-144 Grid	Diamond	0.3-1.0	9/70	10°	300 kHU
A-145	Diamond	0.3-0.6	6/25	10°	300 kHU
RAD-21	Sapphire	0.6-1.2	36/100	12°	300 kHU
A-182	B-130	0.3-1.0	13/90	10°	300 kHU
A-186	B-130	0.3-1.2	8.5/100	12°	300 kHU
A-192	B-130	0.6-1.2	40/100	12°	300 kHU
A-197	B-130	0.3-0.8	11/49	12°	300 kHU

Note: The Diamond and Emerald housings fit directly into Toshiba 3", Picker/Dunlee PX-1300 series, and Machlett DX-52 trunnions.

To upgrade to OR-III add \$550 list (US\$)

To upgrade to B-145 add \$1500 list (US\$)

* Emerald series products list 3 phase, 60Hz. maximum kW ratings, low speed only.
Other products list maximum ratings for 3 phase, 180 Hz.



B-130



Sapphire

Radiographic - Rad/Fluoro (Glass)

INSERT TYPE	HOUSING	FOCAL SPOT	KW RATING	TARGET ANGLE	HEAT UNITS
A-195	B-130	0.6-1.25	40/100	12°	350 kHU
A-196	B-130	0.6-1.0	32/72	12°	350 kHU
RAD-44	Sapphire	1.0-2.0	55/115	16°	400 kHU
RAD-56	Sapphire	0.6-1.0	31/62	14°	400 kHU
RAD-56	Sapphire	0.6-1.2	31/85	14°	400 kHU
RAD-60	Sapphire	0.6-1.2	40/100	12°	400 kHU
A-256	B-130	0.6-1.0	28/54	16°	400 kHU
A-272	B-130	0.3-0.6	15/48	7°	400 kHU
A-274 Grid	B-130	0.3-0.6	15/48	7°	400 kHU
A-277	B-130	0.6-1.0	48/90	7°	400 kHU
A-278 Grid	B-130	0.6-1.0	48/90	7°	400 kHU
A-282	B-130	0.3-1.0	13/90	10°	400 kHU
A-284 Grid	B-130	0.3-1.0	13/90	10°	400 kHU
A-286	B-130	0.3-1.2	8.5/100	12°	400 kHU
A-287 Grid	B-130	0.3-1.2	8.5/100	12°	400 kHU
A-292	B-130	0.6-1.2	40/100	12°	400 kHU
A-294 Grid	B-130	0.6-1.2	40/100	12°	400 kHU
A-297	B-130	0.3-0.8	11/49	12°	400 kHU

Note: Sapphire housings fit directly into COMET DO-9, DO-10, Dunlee/Philips PX-1400 series, and Machlett DX-62 Trunnions.

To Upgrade Sapphire to B-130 add \$210 list (US\$)



Varian X-Ray Tube Units



B-130



B-199



Sapphire

Radiographic - Rad/Fluoro (Glass - Graphite Backed)

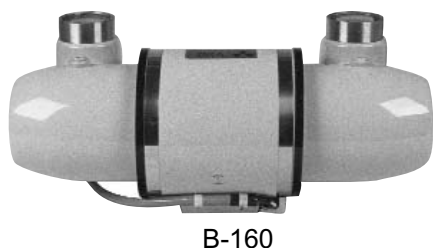
INSERT TYPE	HOUSING	FOCAL SPOT	KW RATING	TARGET ANGLE	HEAT UNITS
RAD-92	Sapphire	0.6-1.2	40/100	12°	600 kHU
RAD-94	Sapphire	0.4-0.8	15/45.5	14°	600 kHU
G-256	B-130	0.6-1.0	28/54	16°	600 kHU
G-292	B-130	0.6-1.2	40/100	12°	600 kHU
G-295	B-130	1.0-1.8	45/90	12°	600 kHU
G-296	B-130	0.6-1.0	32/72	12°	600 kHU
G-297	B-130	0.3-0.8	12/49	12°	600 kHU
SG-1096	B-199	0.6-1.0	40/80	12°	840 kHU
SG-1392	B-199	0.6-1.0	45/88	12°	1.3 MHU
SG-256B	B-199	0.6-1.0	32/60	16°	600 kHU
SG-292B	B-199	0.6-1.2	40/100	12°	600 kHU
SG-296B	B-199	0.6-1.0	40/70	12°	600 kHU
SG-796B	B-199	0.6-1.0	40/70	12°	600 kHU

Radiographic - Rad/Fluoro (Metal - Graphite Backed)

G-692	B-130HM/B-146HM	0.6-1.2	40/100	12°	600 kHU
G-696	B-130HM/B-146HM	0.6-1.0	32/72	12°	600 kHU

Note: Sapphire housings fit directly into COMET DO-9, DO-10, Dunlee/Philips PX-1400 series, and Machlett DX-62 Trunnions.

To upgrade Sapphire to B-130 add \$210 list (US\$)



B-160



B-180

Special Procedures (Metal Center Section)

INSERT TYPE	HOUSING	FOCAL SPOT	KW RATING	TARGET ANGLE	HEAT UNITS
G-1077	B-160/B-165	0.6-1.0	48/90	7°	1.0 MHU
G-1078 Grid	B-160/B-165	0.6-1.0	48/90	7°	1.0 MHU
G-1080	B-160/B-165	0.6-1.0	53/90	10°	1.0 MHU
G-1082	B-160/B-165	0.3-1.0	13/90	10°	1.0 MHU
G-1084 Grid	B-160/B-165	0.3-1.0	13/90	10°	1.0 MHU
G-1086	B-160/B-165	0.3-1.2	12/100	12°	1.0 MHU
G-1087 Grid	B-160/B-165	0.3-1.2	12/100	12°	1.0 MHU
G-1092	B-160/B-165	0.6-1.2	40/100	12°	1.0 MHU
G-1094 Grid	B-160/B-165	0.6-1.2	40/100	12°	1.0 MHU
G-1582BI	B-180/B-185	0.3 -1.0	18/112	10°	1.5 MHU
G-1582BI	B-180/B-185	0.6 -1.0	60/112	10°	1.5 MHU
G-1582TRI	B-180/B-185	0.3-0.6-1.0	18/60/112	10°	1.5 MHU
G-1584TRI	B-180/B-185	0.3-0.6-1.0	18/60/112	10°	1.5 MHU
G-1592	B-180/B-185	0.6 -1.2	47/112	12°	1.5 MHU
G-1593BI	B-180/B-185	0.3-1.2	15/112	12°	1.5 MHU
G-1593BI	B-180/B-185	0.8-1.2	57/112	12°	1.5 MHU
G-1593TRI	B-180/B-185	0.3-0.8-1.2	15/57/112	12°	1.5 MHU

Note:

- 1) Heat exchanger is recommended for G-1000/G-1500 series tubes.
- 2) To upgrade from B-180 to B-185 add \$550 list (US\$)

X-Ray Tube Accessories

Trunnion Rings

Trunnion Rings



CATALOG NUMBER	SAP Number	Description	Suggested List Price
Emerald/Diamond Housing Trunnion Rings			
55-14100	89101*	Trunnion with back bar. Four 1/4"-20 tapped holes for Liebel Flarsheim Tables, Shimadzu Over Table and Tube Stands.	
25-11109	89110*	Trunnion with back bar. Four 6mm tapped holes. For Liebel Flarsheim, Siemens, Philips and Pausch. Provides 100mm mounting distance from back bar to housing center line.	
CN-135	9751	Fixed Trunnion Rings	

Note: Fixed housing mounting back plates available for Emerald/Diamond housings. Contact your Varian representative for more information.

Sapphire Housing Trunnion Rings

25-10923	89228*	Trunnion with back bar. Four 6mm tapped holes. For Liebel Flarsheim, Siemens, Philips and Pausch Tube Stands. Provides 100mm mounting distance from back bar to housing center line.
55-19100	89350*	Trunnion with back bar. Four 1/4"-20 tapped holes. For Liebel Flarsheim, Siemens and Philips Tube Stands.
55-73500	89240*	Trunnion with back bar for Shimadzu under table use.
55-73600	89241*	Trunnion for Shimadzu over table use.

* Catalog numbers will vary with color selection

CATALOG NUMBER	SAP Number	Description	Suggested List Price
B-130 Housing Trunnion Rings			
CN-132	745396	21 X 92mm hole pattern M6 metric threads.	
Note: Fixed housing mounting back plates are also available.			
B-160 Housing Trunnion Rings			
CN-150	748405	Philips, CGR, Siemens, GE, Liebel Flarsheim Hydrajust Table, Ultrarad, F100 Head Stand, Xonics and Pausch.	
CN-153	748939	Shimadzu Tube Stands.	
CN-163	749680	Toshiba Tube Stands.	
CN-165	750324	Shimadzu Remote Table.	
CN-166	746080	Shimadzu MH-50 C-Arm.	
CN-167	746219	CN-150 with 3/4" backplate spacer (modification from B-180 to B-160).	
CN-168	746640	Shimadzu Fluoroscopic Tables and Tube Stands.	
B-180 Housing Trunnion Rings			
CN-170	749088	Philips, CGR, Siemens, GE, Liebel Flarsheim Hydrajust Table, Ultrarad, F100 Head Stand, Xonics and Pausch.	
CN-186	1361	Shimadzu MH-50 C-Arm.	
B-199 Housing Trunnion Rings			
CN-199	36022	Trunnion mount for B-199, OPTI and Megalix	
B-260 Housing Trunnion Rings			
CN-200	745519	Philips, GE hole pattern.	
Dynamax Housing Trunnion Rings			
CN-130	570490	Trunnion mount for Dynamax 60 and 62 housings.	

Note: Brackets and backplates are available for adapting Varian housings to most tube mounts and are included in the price of the trunnion rings except where special engineering is necessary.



X-Ray Tube Accessories Heat Exchangers



Heat Exchanger
HE-50/51



Heat Exchanger
HE-100/101



Heat Exchanger
HE-320/321

CATALOG NUMBER	SAP Number	Description	Suggested List Price
Heat Exchangers			
HE-50/51	750816/ 750927	Heat Exchanger (oil to air) with single fan. For use with B-100, B-130, B-150 and B-160 Housings (Hose lengths up to 5 feet (1.52 meters) maximum). 48,600 H.U./Mn dissipation at 50° CΔT.	
HE-100/101*	750322/ 750323	115/230 VAC Heat Exchanger (Oil to Air) Quiet Style for B-130, B-150, B-160 and B-180 Housings (Hose lengths up to 40 feet (12.2 meters) maximum). 100,000 H.U./Mn dissipation at 55° CΔT.	
HE-110/111*	746214/ 746215	115/230 VAC Heat Exchanger (Oil to Air) for B-130, B-150, B-160 and B-180 Housings (Hose lengths up to 40 feet (12.2 meters) maximum). 93,000 H.U./Mn dissipation at 55° CΔT.	
HE-200/201	5478/10686	115/230 VAC Heat Exchanger (Oil to Water) for B-130, B-150, B-160, and B-180 (Hose length up to 25 feet (7.4 meters) maximum). (Requires using HE-401 and IK-120 or IK-121)	
HE-320/321*	745374/ 745375	115/230 VAC Heat Exchanger (Oil to Air) for B-130, B-150, B-160 and B-180 Housings (Hose lengths up to 40 feet (12.2 meters) maximum). 194,000 H.U./Mn dissipation at 50° CΔT.	
HE-401	1861	230 VAC Water Cooler, 3 kW dissipation at 50° CΔT. Select IK-120/IK-121 hoses. (Listed Below).	
HE-420	2961	115 VAC Heat Exchanger (Oil to Water) hose lengths up to 23 feet (7 Meters). 243,000 HU/min (3 kW) dissipation when used with HE-401 water to air Water Cooler. Use with B-240 Housing only.	
HE-580/581	745146/ 745163	115/230 VAC Heat Exchanger (Oil to Air) for B-130, B-150, B-160 and B-180 Housings (Hose lengths over 5 feet up to maximum of 40 feet (12.2 meters) maximum). 268,800 H.U./Mn dissipation at 50° CΔT. Consult Varian for specific requirements when ordering.	
CN-162	746715	Adapter, direct mounting of HE-100/101 to B-160 Housing.	
CN-182	746716	Adapter, direct mounting of HE-100/101 to B-180 Housing.	
IK-120	751467	30 meter (97 feet) water hoses for HE-401 with QD.	
IK-121	751468	40 meter (130 feet) water hoses for HE-401 with QD.	
IK-124	27017	HE Diaphragm Kit for hose lengths longer than 5 feet. Consult Varian for specific requirements when ordering.	

* Hose lengths longer than 5 ft. (1.52 meters) require IK-124 diaphragm kit.

CATALOG NUMBER	SAP Number	Description	Suggested List Price
Air Circulators			
CN-180	749336	Air Circulator for B-100 Housing (100 CFM).	
CN-190	748550	Air Circulator for B-150 and B-160 Housings (100 CFM).	
CN-191	748790	Air Circulator for B-150 and B-160 Housings (270 CFM).	
CN-192	745395	Air Circulator for B-130 Housing. (120 VAC) Note: Requires CN-132 Trunnion Rings.	
CN-193	750128	Air Circulator for B-130 Housing (220 VAC). Note: Requires CN-132 Trunnion Rings.	
CN-194	27484	Air Circulator for Sapphire Housing (100CFM)	
Interface Collimator Kits			
IK-150	749163	Interface Collimator Kit for Varian Housing to Philips Collimator.	
IK-151	749167	Interface Collimator Kit for Varian Housing to Siemens Collimator.	
IK-152	749460	Interface Collimator Kit for Varian Housing to GE Sentry III Collimator.	
IK-153	749468	Interface Collimator Kit for Varian Housing to GE L.U. C-Arm Collimator.	
EN-60601-1-3 Compliant Filter Kits B-150, B-130			
IK-161	750581	Fixed Added Filtration Kit for 12 Degree Anodes	
IK-162	750580	Fixed Added Filtration Kit for 16 Degree Anodes	
EN-60601-1-3 Compliant Filter Kits for Diamond/Sapphire/Emerald Housings			
IK-163	7576	Fixed Added Filtration Kit	
Stator Cable			
Specify Type/Conductors			

COMET

Radiographic - Rad/Fluoro

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
DX71H/HS	RAD-13	1.0-2.0	39/81	300 KHU	16°
DX81H/HS	RAD-14	0.6-1.2	32/77	300 KHU	12°
DX91H/HS	RAD-13	1.0-2.0	39/81	300 KHU	16°
DX93H/HS	RAD-14	0.6-1.5	32/95	300 KHU	12°
DX96H/HS	RAD-14 RAD-21	0.6-1.2 0.6-1.2	32/77 36/100	300 KHU 300 KHU	12° 12°
DX97H/HS	RAD-14 RAD-21	0.6-1.2 0.6-1.2	32/77 36/100	300 KHU 300 KHU	12° 12°
DX10H/HS	RAD-44	1.0-2.0	55/115	400 KHU	16°
DX101H/HS	RAD-21 A-196	0.6-1.2 0.6-1.0	36/100 32/72	300 KHU 350 KHU	12° 12°
DX104H/HS	A-196 RAD-60	0.6-1.0 0.6-1.2	32/72 40/100	350 KHU 400 KHU	12° 12°
DX106H/HS	RAD-92	0.6-1.2	40/100	600 KHU	12°
DX304H/HS	A-292	0.6-1.2	40/100	400 KHU	12°

Note:

- 1) Varian Sapphire housings mount directly into mounting clamp for Comet DO7-10 housing.
- 2) Please contact Varian Medical Systems if you require a replacement tube not identified above.

DUNLEE

Radiographic - Rad/Fluoro

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
PX1302	A-102	1.0-2.0	40/80	300 kHU	16°
PX1312	A-132	0.6-1.2	32/76	300 kHU	12°
PX1351	RAD-8	1.0-2.0	25/47	150 kHU	16°
PX1402	RAD-44	1.0-2.0	55/115	400 kHU	16°
PX1429	A-192	0.6-1.2	40/100	300 kHU	12°
PX1436	A-292	0.6-1.2	40/100	400 kHU	12°
PX1482	A-256	0.6-1.0	28/54	400 kHU	16°

Specify "S" or "Q" Type Stator

ELSCINT

Computerized Tomography

SCANNER TYPE	INSERT	HOUSING TYPE	HEAT UNITS	WARRANTY
1800/2000 Sprint	GS-1089	B-160H	1.0 MHU	50k Scan
2400/2400 ELITE/ 2400 ELECT	GS-1579**	B-180H	1.5 MHU	50k Scan
SeleCT	GS-1584*	B-230H	1.5 MHU	50k Scan
1800/2000/Sprint	GS-1587**	B-180H	1.5 MHU	50k Scan
HELICAT II	GS-2077**	B-220H	2.0 MHU	100k Sec
2400/2400ELITE/ 2400 ELECT	GS-2079**	B-210H	2.0 MHU	50k Scan
SeleCT	GS-3074*	B-245H	3.5 MHU	100k Scan
CT-TWIN/HELICAT	GS-3077	B-240H	3.5 MHU	300k Sec
CT-TWIN/HELICAT/ FLASH/RTF	GS-5079	B-502H	5.0 MHU	300k Sec
CT-TWIN/HELICAT/RTF	GS-6079	B-502H	7.0 MHU	100k Sec

SeleCT (HE-350)

* Tubes are supplied without Heat Exchanger. Heat Exchanger (HE-350) to be ordered separately.

** Please confirm availability prior to ordering.

Pricing includes housing value. Credit will be issued upon return of housing.

GENERAL ELECTRIC

Computerized Tomography

SCANNER TYPE	INSERT	HOUSING TYPE	HEAT UNITS	WARRANTY
CT-MAX	S-270	B-150H	400 KHU	40k Scan
CT-MAX	GS-270	B-150H	600 KHU	40k Scan
Sytec 1600/1800	GS-270	B-150H	600 KHU	40k Scan
CT 8800/9000	GS-1079**	B-190	1.0 MHU	40k Scan
CT 8800 FS/CT9000 (Dual Heat Exchangers)	GS-1575**	B192	1.5 MHU	50k Scan
CT 9800 HILIGHT	GS-2076K	B-205	2.0 MHU	50k Scan
CT 9800 Q	GS-2076**	B-205	2.0 MHU	50k Scan
SYTEC 2000/3000/ 4000/i*	GS-1562	MX115/B-172H	1.5 MHU	80k Scan
HILIGHT ADVANTAGE	GS-2176	Jupiter	2.0 MHU	80k Scan
SYTEC SRI	GS-2176	Mini Venus	2.0 MHU	80k Scan
Pro Speed A/I,CT/e	GS-2276	MX135CT-H1	2.0 MHU	80k Scan
HiSpeed Advantage	GS-3576HS	Zeus	3.5 MHU	120k Scan
ProSpeed	GS-3576PS	ProSpeed	3.5 MHU	120k Scan
Solarix Dxi, Fxi, LXi	GS-3576S	Solarix	3.5 MHU	120k Scan
LightSpeed Plus	MCS-6074	B-580	6.3 MHU	70k Amp Sec

** Please confirm availability prior to ordering.
Pricing includes housing value. Credit will be issued upon return of housing.

Portables

SYSTEM TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
AMX 4	RAD-10	0.75	19.8	300 KHU	16°
AMX 3	RAD-10	0.75	19.8	300 KHU	16°
AMX 2	A-102	1.0-2.0	40/80	300 KHU	16°
AMX 110	A-102	1.0-2.0	40/80	300 KHU	16°
AMX4+	RAD-11	0.8	22	196 KHU	14°

GENERAL ELECTRIC

Mammography

SYSTEM TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
Senograph 500T/600T	M-151	0.1-0.3	1.0/4.0	90 kHU	7°/12°
Senograph 700T/800T	M-153	0.1-0.3	1.0/4.0	90 kHU	7°/12°
DMR	M-152	0.1-0.3	2.5/4.1	135 kHU	0°

Radiographic - Rad/Fluoro

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
MX75/HRT	A-102	1.0-2.0	40/80	300 kHU	16°
	A-132	0.6-1.2	32/76	300 kHU	12°
MX100	A-195	0.6-1.25	40/100	350 kHU	12°
	A-196	0.6-1.0	32/72	350 kHU	12°
	G-292	0.6-1.2	40/100	600 kHU	12°
MX100FLXR	A-195	0.6-1.25	40/100	350 kHU	12°
	A-196	0.6-1.0	32/72	350 kHU	12°

Special Procedures

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
MX100HTC	G-1078 Grid	0.6-1.0	48/90	1.0 kHU	7°
MX100HTG	G-1078 Grid	0.6-1.0	48/90	1.0 kHU	7°

GE/CGR

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
S240 (MSN740)	RAD-13	1.0-2.0	39/81	300 kHU	16°
S240 (RSN742)	CG-292	0.6-1.2	36/85	500 kHU	12°
S260 (RSN742)	CG-292	0.6-1.2	36/85	500 kHU	12°
S550 (RSN722)	G-292	0.6-1.2	40/100	600 kHU	12°
S550 (RSN722)	G-1092	0.6-1.2	40/100	1.0 MHU	12°
MX120 (RSN722)	G-1092	0.6-1.2	40/100	1.0 MHU	12°

MARCONI / PICKER

Computerized Tomography

SCANNER TYPE	INSERT	HOUSING TYPE	HEAT UNITS	WARRANTY
1200SX MEGA HDT	GS-2096	B-225	2.0 MHU	50k Scan
PQ2000	GS-2086PQ	B-242	2.0 MHU	60k Scan
Picker 5.0 PQ Series	GS-5076	B-590H	5.0 MHU	100k Scan
Picker 6.5 PQ Series	GS-6076	B-590H	6.5 MHU	120k Scan

Note:

- 1) CN-184 - PICKER Synerview (GS-2096) Trunnion Rings for B-180 and B-225 Housings
- 2) Pricing includes housing value. Credit will be issued upon return of housing.

PHILIPS

Computerized Tomography

SCANNER TYPE	INSERT	HOUSING TYPE	HEAT UNITS	WARRANTY
Tomoscan T-60	S-780**	B-160H	750 kHU	50k Scan
Tomoscan TX, CX	GS-1580**	B-180H	1.5 MHU	60k Scan
Tomoscan LX, LXC	GS-2070	B-200H	2.0 MHU	60k Scan
Tomoscan AV-Pf Tomoscan SR4000	GS-2072	B-200H	2.0 MHU	60k Scan
Tomoscan SR5000	GS-3070	B-240H	3.5 MHU	60k Scan
Tomoscan SR6000 Tomoscan	GS-3072	B-240H	3.5 MHU	60k Scan
MX-8000	B-532	AKRON B	5.32 MHU	150K Scan/sec
MX-8000	Q-532	AKRON Q	5.32 MHU	120K Scan/sec

** Please confirm availability prior to ordering.

PHILIPS

Radiographic - Rad/Fluoro

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
SRO 25/50	PG-256	0.6-1.0	30/50	500 KHU	16°
	RAD-50	0.6-1.0	31.5/52.5	325 KHU	15°
SRO 33/100	PG-292	0.6-1.2	36/85	500 KHU	12°
	RAD-34	0.6-1.2	36/85	325 KHU	12.5°

Special Procedures

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
SRM 03/10	P-483	0.3-1.0	10/80	800 KHU	10°
SRM 35/100	P-493	0.6-1.2	35/100	800 KHU	12°
SRM 22/50	P-456	0.5-1.0	22/50	400 KHU	15°

SHIMADZU

Radiographic - Rad/Fluoro

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
0.6/1.2P18C - RX80	RAD-21	0.6-1.2	36/100	300 KHU	12°
0.6/1.2P38C - RX80	RAD-21	0.6-1.2	36/100	300 KHU	12°
0.6/1.2P38DE - RX80	RAD-21	0.6-1.2	36/100	300 KHU	12°
1/2P13C - RX80	RAD-44	1.0-2.0	55/115	400 KHU	16°
1/2P33D - RX80	RAD-44	1.0-2.0	55/115	400 KHU	16°

- Note:** 1) RX100 Housings can be reloaded.
2) Please contact Varian Medical Systems if you require a replacement tube not identified above.

SIEMENS

Computerized Tomography

SCANNER TYPE	INSERT	HOUSING TYPE	HEAT UNITS	WARRANTY
Somatom CR/DR	GS-2030	B-300	2.0 MHU	50k Scan
Somatom DRG/DRH	GS-2030	B-300	2.0 MHU	50k Scan
Somatom HI-Q	GS-2030	B-300	2.0 MHU	50k Scan

Pricing includes housing value. Credit will be issued upon return of housing.

Radiographic - Rad/Fluoro

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
OPTI/SV 150/30/50C	SG-256B	0.6-1.0	32/60	600 kHU	16°
OPTI/SV 150/40/82C	SG-292B	0.6-1.2	40/100	600 kHU	12°
OPTI/SV 150/40/73C	SG-296B	0.6-1.0	40/70	600 kHU	12°
OPTI/SV 150/40/80C	SG-796B	0.6-1.0	40/80	600 kHU	12°
OPTITOP 150/40/80HC	SG-1096	0.6-1.0	40/80	840 kHU	12°

Note: Specify 2 phase or 3 phase stator

Special Procedures

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
Megalix 125/40/82C	SG-1392	0.6-1.0	45/88	1.3 MHU	12°
Megalix 125/30/82C(G)M*	SG-1560	0.4/0.8	30/82	1.35 MHU	8°
Megalix 125/40/82CM	SG-1590BI	0.6-1.0	40/80	1.3 MHU	12°
Megalix 125/15/40/82 CGM	SG-1590TRI	0.3-0.6-1.0	15/40/80	1.35 MHU	12°

* Specify Grid

Note: Specify 2 phase or 3 phase stator

Toshiba

Radiographic - Rad/Fluoro

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
E7239X	RAD-8	1.0-2.0	25/47	150 kHU	16°
E7242X	RAD-74	0.6-1.5	19.8/52	200 kHU	14°
E7834X	RAD-12	0.6-1.2	22/54	150 kHU	12°
E7813X	RAD-13	1.0-2.0	39/81	300 kHU	16°
E7252X	RAD-14	0.6-1.2	32/77	300 kHU	12°
E7255X	RAD-21	0.6-1.2	36/100	300 kHU	12°
E7254X	RAD-60	0.6-1.2	40/100	400 kHU	12°
E7823FX	RAD-56	0.6-1.2	31/85	400 kHU	14°
E7869X	RAD-92	0.6-1.2	40/100	600 kHU	12°
DRX-3635	A-197	0.3-0.8	11/49	300 kHU	12°
DRX-3724	A-192	0.6-1.2	40/100	300 kHU	12°
DRX-3725	A-286	0.3-1.2	8.5/100	400 kHU	12°
DRX-3603	RAD-44	1.0-2.0	55/115	400 kHU	16°

Special Procedures

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	HEAT UNITS	TARGET ANGLE
DRX-6334	G-1582BI	0.6-1.0	60/112	1.5 MHU	10°
DRX-6434	G-1582BI	0.6-1.0	60/112	1.5 MHU	10°
DXB-G15345	G-1584TRI	0.3-0.6-1.0	18/60/112	1.5 MHU	10°

3

Technical Information

Three Phase & Single Phase

INSERT TYPE	MAX KVP RATING	HEAT UNIT STORAGE KHU	Three Phase				Single Phase			
			kW RATINGS				kW RATINGS			
			50Hz 2850 RPM SM/LG	60 Hz 3450 RPM SM/LG	150 Hz 8500 RPM SM/LG	180 Hz 10000 RPM SM/LG	50Hz 2850 RPM SM/LG	60 Hz 3450 RPM SM/LG	150 Hz 8500 RPM SM/LG	180 Hz 10000 RPM SM/LG
A-102	150	300	24/50	26/54	38/77	40/80	N/A	21/45	N/A	N/A
A-132	150	300	19/48	21/52	30/73	32/76	N/A	N/A	N/A	N/A
A-134G	150	300	19/48	21/52	30/73	32/76	N/A	N/A	N/A	N/A
A-142	150/120	300	5.2/43	5.7/47	8.5/67	9/70	4.0/35	4.4/38	N/A	N/A
A-144G	150	300	5.2/43.5	5.7/47	8.5/67	9/70	N/A	N/A	N/A	N/A
A-145	150/120	300	5.7/22	6/25	N/A	N/A	4.5/18	5/19	N/A	N/A
A-152	150	300	34/72	37/80	53/115	58/120	N/A	N/A	N/A	N/A
A-182	150	300	7.7/54	8.4/58	12.8/85	13.5/90	N/A	N/A	N/A	N/A
A-184G	150	300	7.7/54	8.4/58	12.8/85	13.5/90	N/A	N/A	N/A	N/A
A-186	150	300	4.8/58	5.3/63	8/91	8.5/100	N/A	N/A	N/A	N/A
A-187G	150	300	4.8/58	5.3/63	8/91	8.5/100	N/A	N/A	N/A	N/A
A-192	150	300	24/58	25/63	38/91	40/100	N/A	N/A	N/A	N/A
A-195	150	350	24/58	25/63	38/91	40/100	N/A	N/A	31/78	N/A
A-196	150	350	19/43	21/48	31/68	32/72	N/A	N/A	25/59	N/A
A-197	150	300	6.3/29	7/31	10/47	11/49	N/A	N/A	N/A	N/A
A-252	150	400	35/72	37/80	55/115	58/120	N/A	N/A	46/99	N/A
A-256	150	400	16/32	18/35	26/52	28/54	N/A	N/A	21/44	N/A
A-272	150	400	8.5/28	9.5/33	14/45	15/48	N/A	N/A	10.8/37	N/A
A-274G	150	400	8.5/28	9.5/33	14/45	15/48	N/A	N/A	10.8/37	N/A
A-282	150	400	7.7/54	8.4/58	12.8/85	13.5/90	N/A	N/A	10/71	N/A
A-286	150	400	4.8/54	5.3/63	8/91	8.5/100	3.7/43	N/A	N/A	N/A
A-292	150	400	24/58	25/63	38/91	40/100	19/46	N/A	N/A	N/A
A-294G	150	400	24/58	25/63	38/91	40/100	19/46	N/A	N/A	N/A
CG-292	150	500	21/54	23/55	34/80	36/85	N/A	N/A	N/A	N/A
G-256	150	600	16/32	18/35	28/52	28/54	N/A	N/A	23/44	N/A
G-292	150	600	24/58	26/65	38/91	40/100	N/A	N/A	32/79	N/A
G-295	150	600	41/81	45/90	N/A	N/A	N/A	N/A	N/A	N/A
G-297	150	600	6.8/30	7.5/32	11.5/44	12/49	N/A	N/A	N/A	N/A
G-1077	150	1,000	29/54	31/58	45/85	48/90	N/A	N/A	37/70	N/A
G-1078G	150	1,000	29/54	31/58	45/85	48/90	N/A	N/A	37/70	N/A
G-1080	150	1,000	31/54	34/58	50/86	53/90	N/A	N/A	42/72	N/A
G-1082	150	1,000	7.5/54	8.1/58	12/86	13/90	5.7/43	N/A	9.8/72	N/A
G-1084G	150	1,000	7.5/54	8.1/58	12/86	13/90	5.7/43	N/A	9.8/72	N/A
G-1086	150	1,000	6.8/61	7.5/66	11/95	12/100	5.3/50	N/A	9/83	N/A
G-1087G	150	1,000	6.8/61	7.5/66	11/95	12/100	5.3/50	N/A	9/83	N/A
G-1092	150	1,000	24/61	26/66	38/95	40/100	N/A	N/A	32/80	N/A
G-1094G	150	1,000	24/61	26/66	38/95	40/100	N/A	N/A	32/80	N/A
G-1582BI (0.6-1.0)	125	1,500	35/66	38/72	58/102	60/112	N/A	N/A	N/A	N/A
G-1582BI (0.3-1.0)	125	1,500	10/66	11/72	17/102	18/112	N/A	N/A	N/A	N/A
G-1582TRI	125	1,500	10/35/66	11/38/72	17/58/102	18/60/112	N/A	N/A	N/A	N/A
G-1584TRI	125	1,500	10/35/66	11/38/72	17/58/102	18/60/112	N/A	N/A	N/A	N/A
G-1592	125	1,500	27/68	31/73	46/108	47/112	N/A	N/A	N/A	N/A
G-1593BI (0.3-1.2)	125	1,500	8.5/68	9/73	14/108	15/112	N/A	N/A	N/A	N/A
G-1593BI (0.8-1.2)	125	1,500	34/68	36/73	56/105	57/112	N/A	N/A	N/A	N/A
G-1593TRI	125	1,500	8.5/34/68	9/36/73	14/56/105	15/57/112	N/A	N/A	N/A	N/A
G-2064	125	2,000	32/58	34/62	51/92	54/96	N/A	N/A	N/A	N/A
G-2090TRI	125	2,000	8.5/25/48	9.2/28/52	12/42/77	14/45/82	N/A	N/A	N/A	N/A
M-101	52	300	0.45/2.7	0.5/2.9	N/A	N/A	N/A	N/A	N/A	N/A
M-101G	52	300	0.45/2.7	0.5/2.9	N/A	N/A	N/A	N/A	N/A	N/A
M-105SP	39	300	0.50-2.0	0.56/2.2	N/A	N/A	N/A	N/A	N/A	N/A

INSERT TYPE	MAX KVP RATING	HEAT UNIT STORAGE KHU	Three Phase				Single Phase			
			kW RATINGS				kW RATINGS			
			50Hz 2850 RPM SM/LG	60 Hz 3450 RPM SM/LG	150 Hz 8500 RPM SM/LG	180 Hz 10000 RPM SM/LG	50Hz 2850 RPM SM/LG	60 Hz 3450 RPM SM/LG	150 Hz 8500 RPM SM/LG	180 Hz 10000 RPM SM/LG
M-109	52	300	0.41/1.4	0.45/1.5	N/A	N/A	N/A	N/A	N/A	N/A
M-143	52	300	0.7/3.7	0.72/4.0	N/A	N/A	N/A	N/A	N/A	N/A
M-146	39	300	0.8/5.6	0.87/6.0	1.2/8.8	1.4/9.0	N/A	N/A	N/A	N/A
M-146SP	39	300	0.68/3.6	0.75/3.9	1.2/6.0	1.4/6.3	N/A	N/A	N/A	N/A
M-147	39	300	0.7/3.3	0.8/3.6	1.2/5.5	1.32/5.7	N/A	N/A	N/A	N/A
M-147SP	39	300	0.7/3.3	0.8/3.6	1.2/5.5	1.32/5.7	N/A	N/A	N/A	N/A
M-149	39	300	2.0	2.2	N/A	N/A	N/A	N/A	N/A	N/A
M-151	52	90	.9/3.6	1.0/4.0	N/A	N/A	N/A	N/A	N/A	N/A
M-152	49	135	N/A	N/A	N/A	Mo 2.5/5.5 Rh 2.0/4.1	N/A	N/A	N/A	N/A
P-456	125	380	N/A	N/A	22/50	N/A	N/A	N/A	N/A	N/A
P-483	150	800	N/A	N/A	10/80	N/A	N/A	N/A	8/68	N/A
P-493	150	800	N/A	N/A	35/100	N/A	N/A	N/A	29/85	N/A
PG-256	150	500	15.5/30.5	17/33	25/48	30/50	12.4/24	N/A	N/A	N/A
PG-292	150	500	21/52	23/56	34/83	36/85	17/41	N/A	34/82	N/A
RAD-4	125	300	17	18	N/A	N/A	15	16.5	N/A	N/A
RAD-8	125	150	24/45	25/47	N/A	N/A	23/42	24/43	N/A	N/A
RAD-10	150	300	18/38	19.8/41.2	N/A	N/A	N/A	N/A	N/A	N/A
RAD-11	125	196	20.4	22	N/A	N/A	N/A	N/A	N/A	N/A
RAD-12	150	150	20/46	22/54	N/A	N/A	16.5/38	17.5/41.5	N/A	N/A
RAD-13	150	300	24/50	26/55	38/77	39.2/81.2	N/A	N/A	N/A	N/A
RAD-14 (0.3-1.2)	150	300	4.3/50	4.5/54	7/74	7.5/77	3.75/38	4/39	6/60	7/65
RAD-14 (0.6-1.2)	150	300	19/50	21.5/54	31/74	32/77	13.5/38	15/39	22/60	24/65
RAD-14 (0.6-1.5)	150	300	19/60	21.5/64.2	31/92	32/95	13.5/40	15/47	22/69	24/78
RAD-21	150	300	19/60	21/65	32/92	36/100	17/53	18/57	28/82	32/88
RAD-34	150	325	22/52	24/56	35/81	36/85	N/A	N/A	N/A	N/A
RAD-44	150	400	32/65	35/72	50/100	55/115	N/A	N/A	N/A	N/A
RAD-50	150	325	19/32	20/35	30/50	31.5/52.5	N/A	N/A	N/A	N/A
RAD-56 (0.6-1.0)	150	400	18/38	20/41	28/60	31/62	N/A	N/A	N/A	N/A
RAD-56 (0.6-1.2)	150	400	18/50	20/55	28/80	31/85	N/A	N/A	N/A	N/A
RAD-60	150	400	24/60	26/66	39/96	40/100	17/50	19/52	31/80	32/88
RAD-68 (1.0-2.0)	150	300	34/60	38/66	52/93	54/96	N/A	N/A	N/A	N/A
RAD-68 (0.6-1.2)	150	300	18/40	20/44	28/61	29.8/64	N/A	N/A	N/A	N/A
RAD-71HR	49.9	350	0.81/5.9	0.9/6.4	N/A	N/A	N/A	N/A	N/A	N/A
RAD-71T	49.9	350	0.81/5.9	0.9/6.4	N/A	N/A	N/A	N/A	N/A	N/A
RAD-73	49	600	5.4	5.9	9.0	9.4	N/A	N/A	N/A	N/A
RAD-74	125	200	18/47.5	19.8/52	N/A	N/A	14/42.5	16/45	N/A	N/A
RAD-85S	50	300	0.5/2.8	0.56/3.0	N/A	N/A	N/A	N/A	N/A	N/A
RAD-92	150	600	24/60	26/63	36/89	40/100	N/A	N/A	N/A	N/A
RAD-94	150	600	9/28	10/28.5	13.5/42	15/45.5	N/A	N/A	N/A	N/A
RAD-99	125	300	7.6/21	8.3/22.8	N/A	N/A	N/A	N/A	N/A	N/A
SG-1096	150	840	24/48	26/52	39/76	40/80	N/A	N/A	N/A	N/A
SG-1392	150	1300	26/52	29/57	43/84	45/88	N/A	N/A	N/A	N/A
SG-1560	150	1350	18/51	N/A	30/82	N/A	N/A	N/A	N/A	N/A
SG-1590BI	125	1350	24.5/50	N/A	40/80	N/A	N/A	N/A	N/A	N/A
SG-1590TRI	125	1350	9/24.5/50	N/A	15/40/80	N/A	N/A	N/A	N/A	N/A
SG-256B	150	600	18/36	20/38	30/57	32/60	N/A	N/A	N/A	N/A
SG-292B	150	600	24/60	26/66	38/96	40/100	N/A	N/A	N/A	N/A
SG-296B	150	600	24/44	26/48	38/67.5	40/70	N/A	N/A	N/A	N/A
SG-796B	150	600	24/44	26/48	38/67.5	40/70	N/A	N/A	N/A	N/A

Stator Data Sheet

Stator Type	WB (Com-Run) Ohms	WG (Com-Phase) Ohms	BG (Run-Phase) Ohms	High-Pot Voltage @ 0.3 mA
Varian				
B-100, B-130, B-145A, B-145W, B-160 "STD" (R)	13.6 - 16.8	42.5 - 57.5	56.1 - 75.9	1250 VAC
B-180, B-182, B-185 "STD" (R)	11.9 - 16.1	39.1 - 52.9	50.2 - 67.8	1250 VAC
B-100 "Q"	7.7 - 10.3	13.6 - 16.8	21.3 - 28.7	1250 VAC
B-130, B-160 "Q"	5.1 - 6.9	9.4 - 12.6	14.5 - 19.5	1250 VAC
B-100, B-130, B-160 "P"	13.6 - 16.8	11.9 - 16.1	25.5 - 34.5	1250 VAC
B-130, B-160, B-199 "S"	13.6 - 16.8	29.7 - 40.2	34.4 - 58.6	1250 VAC
Diamond, Emerald, & Sapphire	17.0 - 23.0	42.5 - 57.5	59.5 - 80.5	600 VAC
CGR				
240, 260	24.5 - 57.5	93.5 - 126.5	136.0 - 184.0	900 VAC
550, 610	31.5 - 42.5	74.0 - 100.0	106.3 - 143.7	900 VAC
J185	19.5 - 26.4	45.9 - 62.1	66.3 - 89.7	900 VAC
M51	11.9 - 16.1	11.9 - 16.1	23.8 - 32.2	
GE				
MX75, 100, 125 LOW IMPEDENCE	19.5 - 26.4	19.5 - 26.4	39.1 - 52.9	600 VAC
AMX75 HIGH IMPEDENCE	25.5 - 34.5	76.5 - 103.5	102.0 - 138.0	600 VAC
MACHLETT				
Dynamax 52	15.7 - 21.3	42.5 - 57.5	58.2 - 78.8	900 VAC
Dynamax 62	19.6 - 26.4	47.6 - 64.4	67.2 - 90.8	900 VAC
Dynamax 62U, 70U "STD"	12.8 - 17.2	30.6 - 41.4	43.4 - 58.6	900 VAC
Dynamax 62U, 70U "Q"	6.0 - 8.0	11.9 - 16.1	17.9 - 24.1	900 VAC
Dynamax 62U, 70U "P"	12.8 - 17.2	12.8 - 17.2	25.5 - 34.5	900 VAC
Philips				
ROT 350, 351, 500, 501 ¹	7.7 - 10.3	9.4 - 12.6	17.0 - 23.0	600 VAC
Marconi				
1300 & 1400 (S stator)	13.6 - 18.4	25.5 - 34.5	39.1 - 52.9	900 VAC
1400 (Q stators)	5.1 - 6.9	10.2 - 13.8	15.3 - 20.7	900 VAC
Shimadzu				
RX80	7.7 - 10.3	20.4 - 27.6	28.0 - 38.0	600 VAC
Siemens				
Opti 150, Megalix	11.9 - 16.1	15.3 - 20.7	27.2 - 36.8	900 VAC
Opti 150, Megalix 3 Ø stator	2.1 - 2.9	2.1 - 2.9	2.1 - 2.9	900 VAC
Toshiba				
ALL	8.5 - 11.5	25.5 - 34.5	34.0 - 46.0	900 VAC

Stator Type	7-9 (Com-Run) Ohms	8-9 (Com-Phase) Ohms	7-8 (Run-Phase) Ohms	High-Pot Voltage @ 0.3 mA
Comet				
DO9/10 20/50 Ohm (Std)	17.8 - 22.3	41.5 - 55.5	68.4 - 76.5	1000 VAC
DO9/10 47/60 Ohm (HS)	45.2 - 49.8	57.5 - 62.8	100.4 - 107.5	1000 VAC

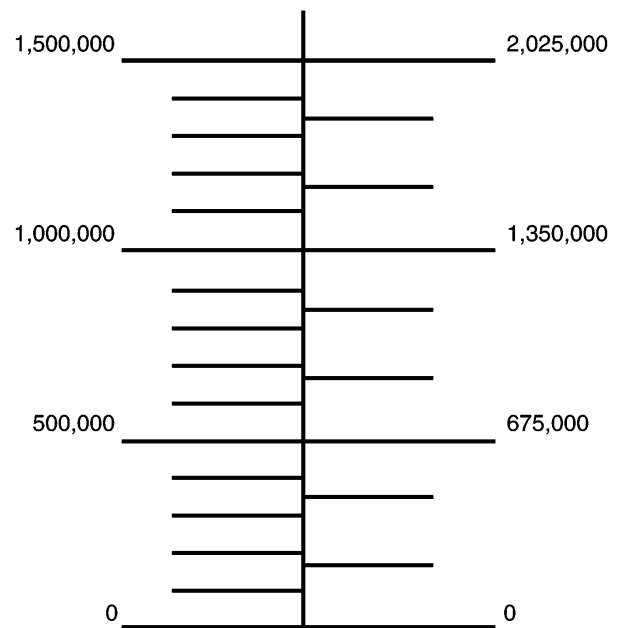
¹ Determine winding balance:

1. Remove all jumpers
2. Terminal 1 to Terminal 7: 18Ω ±1Ω
3. Terminal 3 to Terminal 9: 18Ω ±1Ω
4. Difference between step 2 and step 3 < 1Ω
5. Terminal 2 to terminal 8: 21Ω
6. Terminal 4 to Terminal 10: 21Ω
7. Difference between step 5 and step 6 < 1Ω

Housing Data		
Housing	Weight/lbs	Weight/Kg
B-100	41.1	18.7
B-110, B-112, B115	23.0	10.5
B-130, B-135	44.5	20.23
B-145A, B-145W	31.0	14.0
B-160, B-165	53.0	24.1
B-180, B-182, B-185	69.3	31.5
B-190	102.0	46.3
B-192	123.0	55.8
B-197	130.0	59.0
B-199	53.0	24.0
B-205	158.0	72.0
B-225	78.0	35.5
B-240	73.0	33.0
B-242	78.3	35.5
B-250	103.0	47.0
B-280	88.0	40.0
B-282	88.0	40.0
CGR 240/260	65.0	29.5
CGR 550	90.0	41.0
CGR 610	105	48.0
CGR M151	45.0	20.5
Diamond	37.4	17.0
Emerald	37.4	17.0
GE Jupiter	172.0	78.0
GE Mini Venus	168.0	75.6
GE MX75	55.0	25.0
GE MX100	75.0	34.0
ORIII	43.4	19.7
MAMRAD-100H	35.0	16.0
M51	36.4	16.8
M52	23.1	10.5
Philips ROT 350	68.0	31.0
Sapphire	41.6	18.9
Siemens OPTI 150	75.0	34.0

TARGET STORAGE CAPACITY

JOULES HEAT UNITS



CONVERSION CHART – HEAT UNITS TO JOULES
1.0 JOULES = 1.35 HEAT UNITS

Weight includes housing, insert and oil.

Note: Weights may vary and are listed as reference only.
Please refer to Product Data Sheets for specifics.

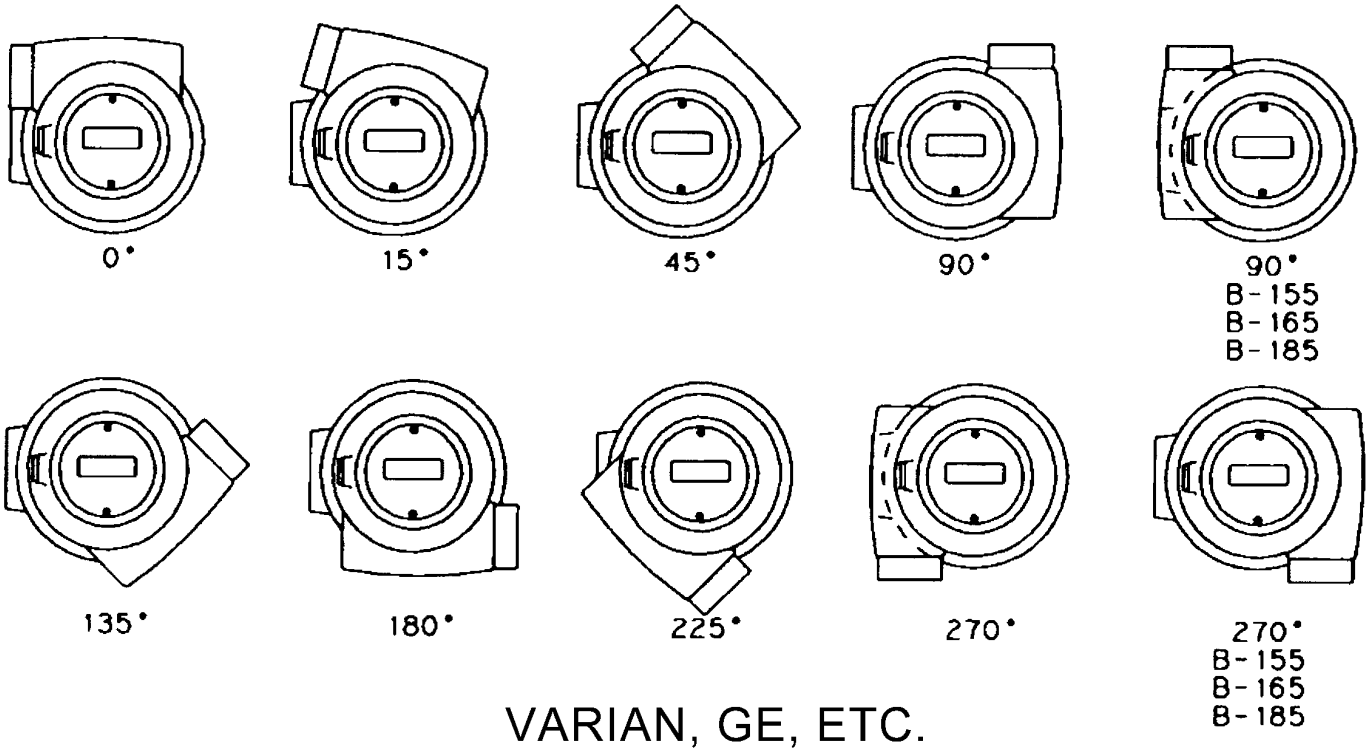
Technical Information

Housing Dissipation Rates

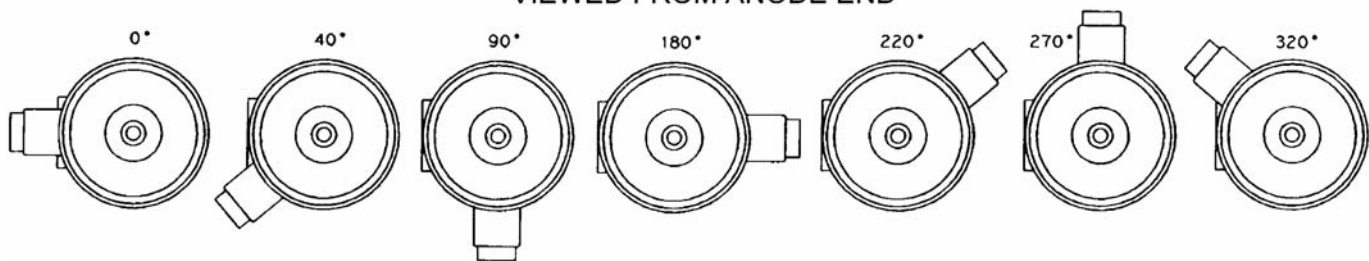
Housing Designation	Max. Power Dissipation Housing Only (Watts)	Max. Power Dissipation with air circulator (Watts)	Max. Power Dissipation with HE (Watts)
B-110/112/115	100	N/A	N/A
B-130/135	222	445	Note A
B-145A	140	N/A	N/A
B-145W	170	N/A	Note B
B-146	1000	N/A	Note B
B-160/165	200	400	Note A
B-199	300	N/A	Note B
B-260	300	N/A	Note A
Diamond	180	360	N/A
MAMRAD	120	N/A	Note A
ORIII	200	N/A	N/A
Sapphire	216	432	N/A
<p>NOTE A: Oil to Air HE 50 = 500 Watts HE 100 = 1000 Watts HE 200 = 1500 Watts HE 320/321 = 2300 Watts HE 580/581 = 4000 Watts</p>			
<p>NOTE B: Water to Air HE 401 = 1000 Watts (Based on $\Delta T = 45^{\circ}\text{C}$)</p>			

HOUSING HORN ANGLES

VIEWED FROM ANODE END

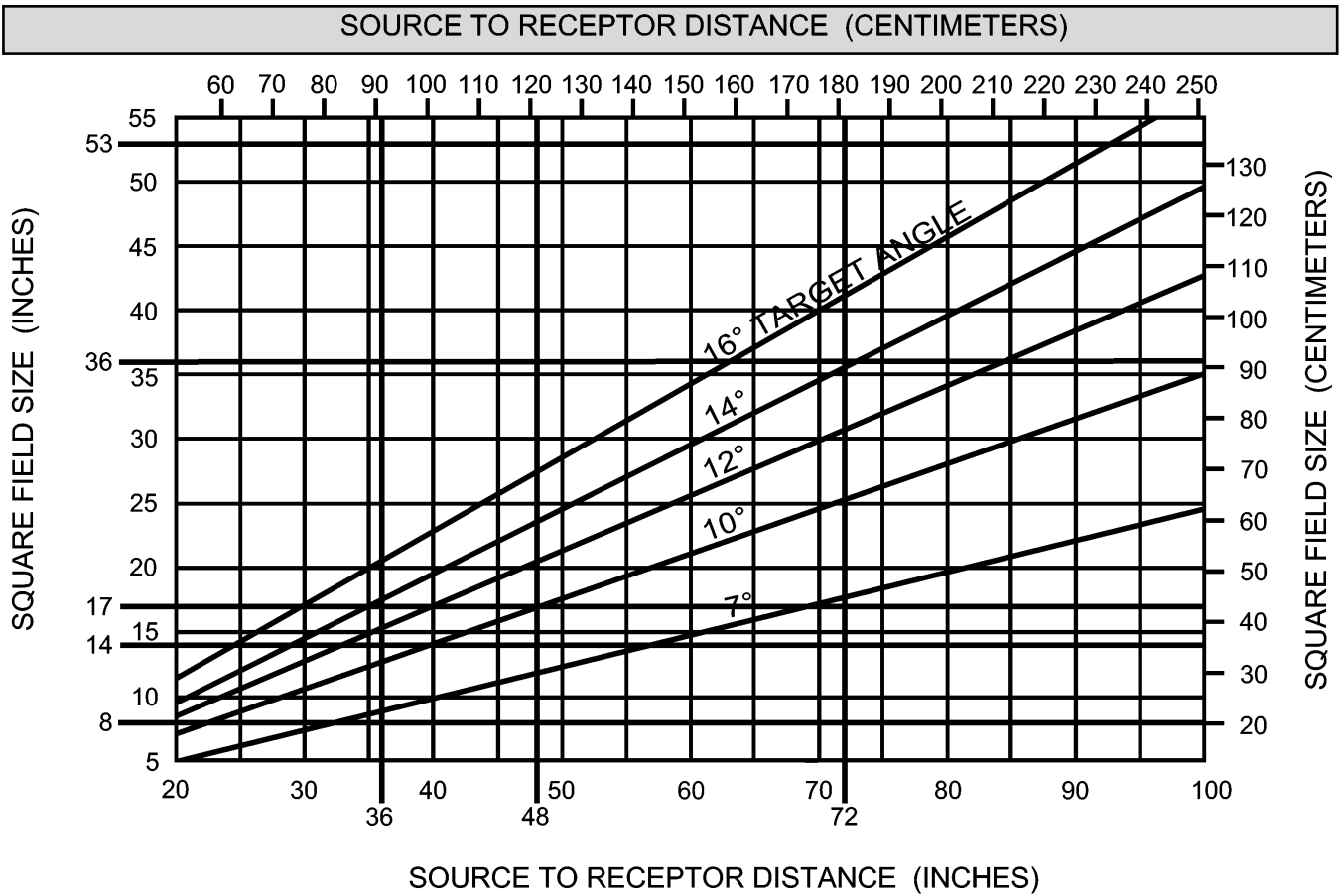


CGR STATORIX
VIEWED FROM ANODE END

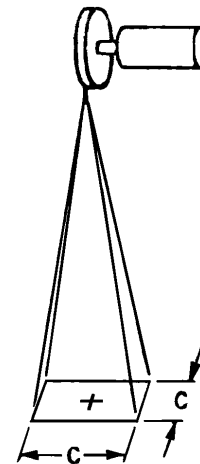


Technical Information

X-Ray Tube Coverage Charts



FOCAL-SPOT-TO-FILM DISTANCE		DIMENSION "C" FOR VARIOUS TARGET ANGLES (in)			
		7°	10°	12°	16°
(in)	(cm)				
100	254	24.6	35.3	42.5	57.4
80	203.2	19.7	28.2	34.0	45.9
72	182.9	17.7	25.4	30.6	41.3
60	152.4	14.7	21.2	25.5	34.4
48	121.9	11.8	16.9	20.4	27.5
44	111.7	10.8	15.5	18.7	25.2
42	106.7	10.3	14.8	17.9	24.1
40	101.6	9.8	14.1	17.0	22.9
38	96.5	9.3	13.4	16.2	21.8
34	86.4	8.4	12.0	14.5	19.5
30	76.2	7.4	10.6	12.8	17.2
28	70.0	6.8	9.7	11.7	15.8
26	65.0	6.3	9.0	10.9	14.7
24	60.0	5.8	8.3	10.0	13.6



Varian X-Ray Tube Units

INSERT TYPE	FOCAL SPOT	KW RATING	TARGET ANGLE	HEAT UNITS	SUGGESTED EXCHANGE PRICE
RAD-4	0.70	18*	14°	300 KHU	Call for Quote
A-152	1.0-2.0	58/120	16°	300 KHU	Call for Quote
A-252	1.0-2.0	58/120	16°	400 KHU	Call for Quote
G-295	1.0-1.8	45/90	12°	600 KHU	Call for Quote
M-101	0.1-0.4	0.5/3.0**	16°	300 KHU	Call for Quote
M-101G	0.1-0.4	0.5/3.0**	16°	300 KHU	Call for Quote
M-143	0.1-0.35	0.72/4.0**	10°	300 KHU	Call for Quote
M-171	0.1 x .05/0.3	0.8/3.6	0°/10°	300 KHU	Call for Quote
G-2064BI	0.5-0.8	54/96	8°	2.0 MHU	Call for Quote
G-2090TRI	0.3-0.6-1.0	14/45/82	12°	2.0 MHU	Call for Quote

Replacement X-Ray Tube Units

TUBE TYPE	INSERT	FOCAL SPOT	KW RATING	TARGET ANGLE	HEAT UNITS	SUGGESTED EXCHANGE PRICE
J185 (MS912)	A-192	0.6-1.2	40/100	12°	300 KHU	Call for Quote
S550 (RSN726)	G-1086	0.3-1.2	12/100	12°	1.0 MHU	Call for Quote
S610 (RSN772)	G-1592	0.6-1.2	47/112	12°	1.5 MHU	Call for Quote

Computerized Tomography X-Ray Tube Units

TUBE TYPE	INSERT	HOUSING TYPE	HEAT UNITS	WARRANTY	SUGGESTED LIST PRICE
TECHNICARE	GS-1595	B-180	1.5 MHU	25k Scan	Call for Quote
IQ PREMIER	GS-2086IQ	B-242	2.0 MHU	50k Scan	Call for Quote

* kW ratings: 3 phase, 60 Hz, low speed only.

** kW ratings: 3 phase, 60 Hz, 1/10 second.

TELEPHONE ORDER

Domestic International



DATE _____
PO # _____

SOLD TO

Cust.: _____

Contact: _____

Ph. # _____

Cust. Acc.# _____

X-Ray Tube Information

Hsg. Type / Mfg _____

Insert _____ Serial # _____

Focus _____

Stator _____ Horn Angle _____

Color _____ Heat Exch. _____

Hose Lgth. _____ QD: Snap Tite Parker / Lgth. _____

Cables: Qty. _____ Lgth. _____ Part # _____

REPAIR

Cause / Repair Description: _____

PRICING

Item: _____ \$ _____

Item: _____ \$ _____

Item: _____ \$ _____

Item: _____ \$ _____

Place Tracking Label Here

Box Size: _____ Wt: _____

Freight Cost: \$ _____

Insurance Cost: \$ _____

TOTAL: \$ _____

NOTES _____

CONTRACT REVIEW & ACCEPTANCE

Marketing _____ Date _____

Production _____ Date _____

NON-CONFORMING PRODUCT

vi020-95 Rev. B

Varian Medical Systems X-Ray Products is currently registered or certified under the following regulations and standards:

- ISO 13485
- Varian holds an EC certificate under the requirements of Council Directive 93/42/EEC
- Canadian Medical Device Regulation, P.C.
- ISO 9001
- UL/IEC 60601-1
- CSA 22.2 No. 601.1
- Chinese SFDA Registration Nos. 0712278, 0714670, 0004482
- Japanese PAL/Yakuji-Ho: Controlled MD
- Russian MHSD: Federal Law No. 184-FZ

Salt Lake City, UT

- FDA 21 CFR, Sub-Chapter J. Initial report number 7410266
- ISO 9001 Certificate Number FM21804
- ISO 13485 Certificate Number FM77566
- CE Mark Certificate Number CE 00999
- Canadian Medical Device Regulations (CMDCAS)

Charleston, SC

- FDA 21 CFR, Sub-Chapter J. Initial report number 8612039
- ISO 9001 Certificate Number FM81645
- ISO 13485 Certificate Number FM84906
- CE Mark Certificate Number CE 00999

Willich, Germany

- ISO 13485 Certificate Number FM84906
- CE Mark Certificate Number CE 00999

Beijing, China

- YY/T 0287 Certificate No. 04709Q10016ROS-1
- Beijing Hua Guang Certification of Medical Devices Co. Ltd. (CMD)

Varian X-Ray Products complies with requirements of:

- WEEE (Waste Electrical and Electronic Equipment) Directive 2002/96/EC
- RoHS (Reduction of Hazardous Substances) Directive 2002/95/EC
- Administrative Measure on the Control of Pollution Caused by Electronic Information Products, No. 39 (28 February 2006 – People's Republic of China) SJ/T11364-2006



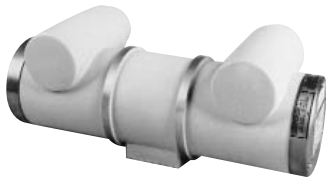
OR III



B-110



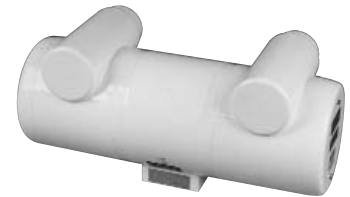
B-145A



DIAMOND



SAPPHIRE



B-130



B-160



B-180



B-199



HE-50/51



HE-100/101



HE-320/321