# ALTA750/ALTA750D





ALTA750 ALTA750D X-RAY TUBE

#### **PRODUCT DESCRIPTION**

The ALTA750/ALTA750D is an X-Ray tube specifically designed for use with CT Scanners. This tube is intended for reload in the Varex B-605 H housing and used with the Varex HE-1256 Rev 1 or Rev 2 Heat Exchanger.

#### **INTENDED USE**

The ALTA750/ALTA750D is intended to be used in an X-Ray Tube housing assembly. The assembly is designed to emit ionizing radiation and is intended to be used as a component of a CT system which is used for diagnostic and interventional X-Ray applications on a stationary system.

### INCLUDED INFORMATION AND SPECIFICATIONS

- Tube Specifications
- Housing Assembly Specifications
- Volumetric / Helical Scan Ratings
- Cathode Emission Characteristics
- Housing Diagram
- Housing Wiring
- Disposal Information

### Originally written in English.

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# ALTA750/ALTA750D

## **TUBE SPECIFICATIONS**

Nominal X-ray Tube Voltage	ΚV	150		
Anode Diameter	mm	200		
Anode Material		ReW-TZM-C		
Anode Angle	Degrees	7		
Nominal Focal Spot – Small 📕 IEC 60336	IEC 60336	0.9 x 0.8		
Nominal Focal Spot – Large 📕 IEC 60336	IEC 60336	1.6 x 1.4		
Anode heat content (Maximum)	MJ	5.4		
Nominal Anode Input Power - Large	kW	72		
Nominal Anode Input Power - Small	kW	42		
Anode Heat Dissipation (Maximum)	W	12,000		
Maximum Filament Current - Large	А	5		
Maximum Filament Voltage - Large	V	14.4		
Maximum Filament Current - Small	A	4.8		
Maximum Filament Voltage - Small	V	12.3		

### HOUSING ASSEMBLY SPECIFICATIONS (FROM VAREX DATA SHEET)

Maximum Heat Content	MJ	3.6	
Maximum Continuous Heat Dissipation	kW	4.0	
Maximum Housing Temperature	Degrees C	78	
Permanent Filtration	mm AL	1.0	
Temperature Limits for Transport and Storage	Degrees C	-20 to 75	
Temperature Limits for Operation	Degrees C	5 to 40	
Weight of Assembly	kg	68.5	
Leakage Radiation	mGy@150 kV, 20 mA	0.57	

### ADDITIONAL HOUSING ASSEMBLY SPECIFICATIONS

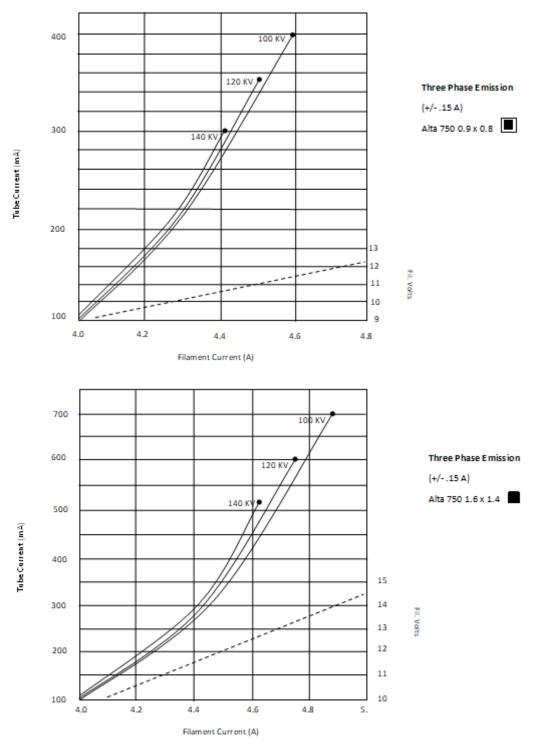
Humidity limits for transport and storage : 10% to 95% RH
Pressure limits for transport and storage: 70 to 106 kPa
Humidity limits for normal operation: 40 to 80% RH
Pressure limits for normal operation: 70 to 106 kPa
Degree of protection against ingress of water is IPX0
Mode of Operation: Intermittent
Device Classification: U.S FDA = Class 1, EU = Class IIb
Device Safety Classification per IEC 60601-1: Class 1

## **VOLUMETRIC / HELICAL SCAN RATINGS IEC 60613**

	Volume	MAXIMUM ALLOWED TUBE CURRENT (mA)									
		AS A FUNCTION OF THE FOLLOWING STARTING HEAT STORAGE AND TUBE VOLTAGES									
. 🔳	Scan Time	Starting H.S. = 40%				Starting H.S. = 55%			Starting H.S. = 70%		
3Ø 50 Hz 💻	(Seconds)	100 kV	120 kV	135 kV	100 kV	120 kV	135 kV	100 kV	120 kV	135 kV	
0.9 x 0.8 Focal	4 10	300 300	250 250	225 225	300 300	250 250	225 225	300 300	250 250	225 225	
Spot 7 Degrees	15	300	250	225	300	250	225	300	250	225	
	20 30	300 300	250 250	225 225	300 300	250 250	225 225	300 300	250 250	225	
	45	300	250	225	300	250	225	300	250	225	
	60	300	250	225	300	250	225	250	200	175	
	75 80	300 300	250 250	225 225	300 300	250	225 225	225	175 175	150 150	
	90	300	250	225	275	225	200	200	150	150	
	Volume					ALLOWED TUBE C		· ·			
-	Scan Time					ING STARTING HE		GE AND			
3Ø 50 Hz	(Seconds)		tarting H.S. = 40			Starting H.S. = 559			Starting H.S. = 70		
1.6 x 1.4 Focal	4	100 kV 670	120 kV 560	135 kV 500	100 kV	120 kV	135 kV	100 kV	120 kV	135 kV	
Spot 7 Degrees	10	670	560	500	670 670	560 560	500 500	670 670	560 560	500 490	
	15 20	670 670	560 560	500 500	670 670	560 560	500 500	640 610	530 510	470	
	30	600	500	440	600	500	440	440	360	320	
	45	540	450	400	490	400	350	320	270	240	
	60 75	450 410	370 340	330 300	380 310	310 260	280 230	260 230	220 190	190 170	
	80	380	320	280	300	250	220	220	180	160	
	90	350	290	260	270	230	200	200	170	150	
				M	XIMUM	ALLOWED TUBE C	URRENT (	mA)			
	Volume					ALLOWED TUBE C					
	Volume Scan Time			N OF THE	FOLLOW	ING STARTING HE	AT STORA			196	
3Ø 100 Hz 🔳		St 100 kV	AS A FUNCTIC tarting H.S. = 40 120 kV	N OF THE	FOLLOW		AT STORA		TUBE VOLTAGES Starting H.S. = 70 120 kV	196 135 kV	
3Ø 100 Hz 🔳 0.9 x 0.8 Focal	Scan Time (Seconds)	100 kV 425	tarting H.S. = 40 120 kV 350	0N OF THE % 135 kV 300	FOLLOW 100 kV 425	VING STARTING HE Starting H.S. = 559 120 kV 350	AT STORA % 135 kV 300	GE AND 100 kV 425	Starting H.S. = 70 120 kV 350	135 kV 300	
	Scan Time (Seconds) 4 10	100 kV 425 425	tarting H.S. = 40 120 kV 350 350	0N OF THE % 135 kV	FOLLOW 100 kV 425 425	VING STARTING HE Starting H.S. = 559 120 kV 350 350	AT STORA % 135 kV 300 300	GE AND 100 kV 425 425	Starting H.S. = 70 120 kV 350 350	135 kV 300 300	
0.9 x 0.8 Focal	Scan Time (Seconds) 4 10 15 20	100 kV 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350	0N OF THE % 135 kV 300 300 300 300 300	FOLLOW 100 kV 425 425 425 425 425	VING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350	AT STORA 6 135 kV 300 300 300 300 300	425 425 425 425 425 425	Starting H.S. = 70 120 kV 350 350 350 350 350	135 kV 300 300 300 300	
0.9 x 0.8 Focal	Scan Time (Seconds) 4 10 15 20 30	100 kV 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350	9N OF THE % 135 kV 300 300 300 300 300 300	FOLLOW 100 kV 425 425 425 425 425 425 425	VING STARTING HE Starting H.S. = 559 120 kV 350 350 350	AT STORA 6 135 kV 300 300 300 300 300 300	425 425 425 425 425 400	Starting H.S. = 70 120 kV 350 350 350 350 350 350 350 350	135 kV 300 300 300	
0.9 x 0.8 Focal	Scan Time (Seconds) 4 10 15 20 30 45	100 kV 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	0N OF THE % 135 kV 300 300 300 300 300 300 300	FOLLOW 100 kV 425 425 425 425 425 425 425	ING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350	AT STORA % 135 kV 300 300 300 300 300 300 300	AGE AND 100 kV 425 425 425 425 400 300	Starting H.S. = 70 120 kV 350 350 350 350 325 250	135 kV 300 300 300 300 300 225	
0.9 x 0.8 Focal	Scan Time (Seconds) 4 10 15 20 30 45 60 75	100 kV 425 425 425 425 425 425 425 425 425 400	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	96 135 kV 300 300 300 300 300 300 300 30	FOLLOW 100 kV 425 425 425 425 425 425 425 425 375 300	VING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 350 350 350 350	AT STORA 50 135 kV 300 300 300 300 300 300 300 30	100 kV 425 425 425 425 400 300 250 225	Starting H.S. = 70 120 kV 350 350 350 350 325 250 175	135 kV 300 300 300 300 300 225 175 150	
0.9 x 0.8 Focal	Scan Time (Seconds) 4 10 15 20 30 45 60	100 kV 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	9% 135 kV 300 300 300 300 300 300 300 30	FOLLOW 100 kV 425 425 425 425 425 425 425 425 425	VING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 350 350 350 350	AT STORA 5 135 kV 300 300 300 300 300 300 300 30	AGE AND 100 kV 425 425 425 425 400 300 250	Starting H.S. = 70 120 kV 350 350 350 350 325 250 200	135 kV 300 300 300 300 300 225 175	
0.9 x 0.8 Focal	Scan Time (Seconds) 4 10 15 20 30 45 60 75 80	100 kV 425 425 425 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	96 135 kV 300 300 300 300 300 300 300 30	FOLLOW 100 kV 425 425 425 425 425 425 375 300 300	VING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 350 250 250	AT STORA 5 135 kV 300 300 300 300 300 300 300 275 225 225	GE AND 100 kV 425 425 425 425 400 300 250 225 200	Starting H.S. = 70 120 kV 350 350 350 350 350 325 250 200 175 175	135 kV 300 300 300 300 300 225 175 150 150	
0.9 x 0.8 Focal	Scan Time (Seconds) 4 10 15 20 30 45 60 75 80	100 kV 425 425 425 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	N OF THE % 135 kV 300 300 300 300 300 300 300 275 250	FOLLOW 100 kV 425 425 425 425 425 375 300 300 275	VING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 350 250 250	AT STORA % 135 kV 300 300 300 300 300 205 225 225 200	GE AND 100 kV 425 425 425 425 400 300 250 250 200 200	Starting H.S. = 70 120 kV 350 350 350 350 350 325 250 200 175 175	135 kV 300 300 300 300 300 225 175 150 150	
0.9 x 0.8 Focal	Scan Time (Seconds) 4 10 15 20 30 45 60 75 80 90	100 kV 425 425 425 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	N OF THE % 135 kV 300 300 300 300 300 300 300 300 300 30	FOLLOW 100 kV 425 425 425 425 425 425 375 300 300 275 XIMUM	VING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 250 250 225	AT STORA % 135 kV 300 300 300 300 300 300 275 225 225 225 200 URRENT (	GE AND 100 kV 425 425 425 425 400 300 250 250 200 200 mA)	Starting H.S. = 70 120 kV 350 350 350 350 325 250 200 175 175 150	135 kV 300 300 300 300 300 225 175 150 150	
0.9 x 0.8 Focal	Scan Time (Seconds) 4 10 15 20 30 45 60 75 80 90 Volume Scan Time	100 kV 425 425 425 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	N OF THE % 135 kV 300 300 300 300 300 300 300 275 250 M/ M/ N OF THE	FOLLOW 100 kV 425 425 425 425 425 425 375 300 300 275 FOLLOW	ING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 250 250 250 250 250 250 250 2	AT STORA % 135 kV 300 300 300 300 300 300 275 225 225 225 225 220 URRENT ( AT STORA	GE AND 100 kV 425 425 425 425 400 300 250 250 200 200 mA)	Starting H.S. = 70 120 kV 350 350 350 350 325 250 200 175 175 150	135 kV 300 300 300 300 225 175 150 150 150	
0.9 x 0.8 Focal Spot 7 Degrees 3Ø 100 Hz	Scan Time (Seconds) 4 10 15 20 30 45 60 75 80 90 Volume Scan Time (Seconds)	100 kV 425 425 425 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	N OF THE % 135 kV 300 300 300 300 300 300 300 275 250 W/ N OF THE % 135 kV	FOLLOW 100 kV 425 425 425 425 425 425 375 300 300 275 FOLLOW 100 kV	ING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 250 250 250 250 250 250 250 2	AT STORA % 135 kV 300 300 300 300 300 300 275 225 225 225 225 225 225 225	GE AND 100 kV 425 425 425 425 425 425 425 200 200 200 200 200 200 200 2	Starting H.S. = 70 120 kV 350 350 350 350 325 250 200 175 175 175 150 TUBE VOLTAGES Starting H.S. = 70 120 kV	135 kV 300 300 300 300 300 225 175 150 150 150 150 150 150 150 15	
0.9 x 0.8 Focal Spot 7 Degrees 3Ø 100 Hz	Scan Time (Seconds) 4 10 15 20 30 45 60 75 80 90 Volume Scan Time	100 kV 425 425 425 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	N OF THE % 135 kV 300 300 300 300 300 300 300 275 250 M/ M/ N OF THE %	FOLLOW 100 kV 425 425 425 425 425 375 300 300 300 275 FOLLOW	ING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 250 250 250 250 250 250 250 2	AT STORA % 135 kV 300 300 300 300 300 300 275 225 225 225 225 220 URRENT ( AT STORA	GE AND 100 kV 425 425 425 425 425 425 425 425	Starting H.S. = 70 120 kV 350 350 350 350 325 250 200 175 175 150 TUBE VOLTAGES Starting H.S. = 70	135 kV 300 300 300 300 225 175 150 150 150 150	
0.9 x 0.8 Focal Spot 7 Degrees 3Ø 100 Hz	Scan Time (Seconds) 4 10 15 20 30 45 60 75 80 90 Volume Scan Time (Seconds) 4 10 15	100 kV 425 425 425 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	N OF THE % 135 kV 300 300 300 300 300 300 300 300 300 30	FOLLOW 100 kV 425 425 425 425 425 425 375 300 300 275 FOLLOW FOLLOW 100 kV 720 720 720	ING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 250 250 250 250 250 250 250 2	AT STORA % 135 kV 300 300 300 300 300 300 300 30	GE AND 100 kV 425 425 425 425 425 425 425 425	Starting H.S. = 70 120 kV 350 350 350 350 350 325 250 200 175 175 175 175 150 TUBE VOLTAGES Starting H.S. = 70 120 kV 600 600	135 kV 300 300 300 300 225 175 150 150 150 150 150 150 150 530 530 530	
0.9 x 0.8 Focal Spot 7 Degrees 3Ø 100 Hz	Scan Time (Seconds) 4 10 15 20 30 45 60 75 80 90 Volume Scan Time (Seconds) 4 10	100 kV 425 425 425 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	N OF THE % 135 kV 300 300 300 300 300 300 300 300 300 30	FOLLOW 100 kV 425 425 425 425 425 425 375 300 275 XXIMUM FOLLOW 100 kV 720 720	VING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 250 225 ALLOWED TUBE C VING STARTING HE Starting H.S. = 559 120 kV 600 600	AT STORA % 135 kV 300 300 300 300 300 300 275 225 225 225 225 200 URRENT ( AT STORA % 135 kV 530	GE AND 100 kV 425 425 425 425 425 420 300 250 250 220 200 mA) GE AND 100 kV 720	Starting H.S. = 70 120 kV 350 350 350 350 350 350 350 325 250 200 175 150 TUBE VOLTAGES Starting H.S. = 70 120 kV 600	135 kV 300 300 300 300 225 175 150 150 150 150 150 150 150 15	
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0.9 x 0.8 Focal Spot 7 Degrees 3Ø 100 Hz	Scan Time (Seconds) 4 10 15 20 30 45 60 75 80 90 Volume Scan Time (Seconds) 4 10 15 20 30 45 60	100 kV 425 425 425 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	N OF THE % 135 kV 300 300 300 300 300 300 300 275 250 M/ N OF THE % 135 kV 530 530 530 530 440 330	FOLLOW 100 kV 425 425 425 425 425 375 300 300 275 FOLLOW FOLLOW 100 kV 720 720 720 720 720 720 380	ING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 350 350 250 250 250 250 250 250 250 2	AT STORA % 135 kV 300 300 300 300 300 300 300 30	GE AND 100 kV 425 425 425 425 425 425 425 200 200 200 mA) GE AND 100 kV 720 720 720 720 720 720 720 720	Starting H.S. = 70 120 kV 350 350 350 350 325 250 200 175 175 175 150 TUBE VOLTAGES Starting H.S. = 70 120 kV 600 600 600 510 360 270 220	135 kV 300 300 300 300 225 175 150 150 150 150 150 150 150 50 530 530 530 450 320 240 190	
0.9 x 0.8 Focal Spot 7 Degrees 3Ø 100 Hz	Scan Time (Seconds) 4 10 15 20 30 45 60 75 80 90 Volume Scan Time (Seconds) 4 10 15 20 30 45	100 kV 425 425 425 425 425 425 425 425 425 425	tarting H.S. = 40 120 kV 350 350 350 350 350 350 350 350	N OF THE % 135 kV 300 300 300 300 300 300 300 300 300 30	FOLLOW 100 kV 425 425 425 425 425 425 375 300 275 XIMUM FOLLOW 100 kV 720 720 720 600 480	VING STARTING HE Starting H.S. = 559 120 kV 350 350 350 350 350 250 255 ALLOWED TUBE C VING STARTING HE Starting H.S. = 559 120 kV 600 600 600 500 400	AT STORA % 135 kV 300 300 300 300 300 300 300 30	GE AND 100 kV 425 425 425 425 425 425 420 300 250 220 200 200 mA) GE AND 100 kV 720 720 720 720 720 720 720 720	Starting H.S. = 70 120 kV 350 350 350 350 325 250 200 175 175 150 TUBE VOLTAGES Starting H.S. = 70 120 kV 600 600 600 510 360 270	135 kV 300 300 300 300 225 175 150 150 150 150 150 150 150 530 530 530 530 530 320 240	

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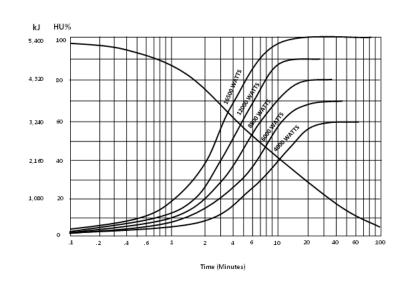
## **CATHODE EMISSION CHARACTERISTICS IEC 60613**



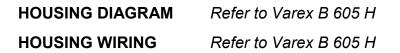
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Rev. C

# ALTA750/ALTA750D



## **ANODE HEATING AND COOLING CURVES IEC 60613**



### **DISPOSAL INFORMATION**

Take back, proper disposal and recovery of Medical Devices takes place in accordance with European WEEE directive and the requirements of national legislation.

The X-Ray Tube contains Beryllium and a cooling fluid. The X-Ray Tube housing assembly contains lead for radiation shielding and mineral oil. The x-ray Tube and X-Ray tube assembly must not be disposed in domestic or industrial waste; they must be disposed in accordance with local regulation.

The Tube and housing assembly may be returned to Richardson Healthcare for proper disposal.

Richardson Healthcare strives to be environmentally conscious. Select materials and components are recycled. Controls are in place to assure that all product meet specifications and safety requirements.

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