X-ray Tube Stator Compatibility Tables

Supplement for CMP 200® DR and CMP 150™ X-ray Generators

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Introduction

This supplement contains the X-Ray Tube Stator Compatibility Tables for the Low Speed Starter (LSS) and the Dual Speed Starter (DSS) of the CMP 200® DR and CMP 150™ X-ray generators.

Low-Speed Starter Tube Select Table

This section provides notes and warnings for using Table 1: ***Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators*** provided in this supplement.

Notes and Warnings

CMP 200® X-ray Generators

The boost voltage may be set to either 240 VAC (factory default) or 120 VAC. This should be set to 240 VAC, except where specifically noted in Table 1. The Low Speed Starter output is at the same frequency as the AC line (50 Hz or 60 Hz).

The Low Speed Starter is integrated into the HV Auxiliary Board within the CMP 200® and CMP 200® DR X-ray generators. The phase-shift capacitor is chassis-mounted and may be changed in the field. The LSS part number corresponds to the value of capacitor installed. The boost time is software-configurable from the console or GenWare®. Note that these generators do not use a separate run voltage, instead cycling the boost voltage on/off as required. The boost duty cycle is not hardware-configurable.

CMP 150 ™ X-ray Generators

Warning:	The boost voltage is the same as the AC line voltage and is not adjustable. Most X-ray tubes require a nominal 200 – 240 VAC supply. A few X-ray tubes are intended to be operated using a 100 – 120 VAC supply, as indicated within the tables

In some cases, operating a tube intended for 200-240 VAC at 100-120 VAC may be feasible, but requires increasing the boost time. If the alternate boost time is not indicated within the tables, contact the factory for assistance.

The boost time is software-configurable from the console or GenWare®. Note that these generators do not use a separate run voltage, instead cycling the boost voltage on/off as required. The boost duty cycle is not hardware-configurable.

The Low Speed Starter output is at the same frequency as the AC line (50 Hz or 60 Hz).

The Low Speed Starter is integrated into the Input-Multifunction-Room (IMR) Board within the CMP 150 X-ray generators. The phase-shift capacitor is chassis-mounted and may be changed in the field. The LSS part number corresponds to the value of capacitor installed.

Low-Speed Starter Tube Select Table – CMP 200® / CMP 150™ Generators

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators

Tube Type (Housing)	Tube Type (Insert)	CMP 200® / CMP 200® DR				CMP 150™			
		Boost Volt (VAC)	Boost Time (sec)	Shift CAP. (μF)	LSS Part No. (See Note 2)	Boost Volt (VAC)	Boost Time (sec)	Shift CAP. (μF)	LSS Part No. (See Note 2)
Canon (Toshiba Rotanode)	Most Canon x-ray tubes are identified by their "E" number, which is used to represent both the Tube Insert and the complete assembly. The housing number is usually not shown on the identification label. A specific "E" number may be available with several different stator types, each having different starter requirements. Furthermore, a specific stator type may require different starter requirements depending on the housing used. For ease of use, the Canon tubes are sorted by Tube Insert Type ("E" number) within this table. The installer must confirm the stator type for the planned tube(s). If the stator type is not identified within the Canon documentation, match the stator winding resistance to the appropriate table entry. Contact the factory if the desired Tube Type and stator type / winding resistance are not listed on the same row within this table.								
Canon (Toshiba) XH-121 XH-126 XH-150 XS-AV stator XS-RA stator (27.5/58 Ω)	E7132 E7239 E7240 E7242 (See Note 1)	240	1.5	20	903836-02	120	3.9	20	908306-02
						240	1.5		
Canon (Toshiba) XH-106V XH-180 XH-181 XS-AL stator (9.4/28.3 Ω)	E7252 (See Note 1)	120	1.5	40 (50 or 60 Hz)	903836-01 (preferred)	120 (See Note 7)	1.5	40 (50 or 60 Hz)	908306-01 (preferred)
						240	N/A	N/A	N/A
				30 (60 Hz only)	903836-00	120 (See Note 7)	1.5	30 (60 Hz only)	908306-00
						240	N/A	N/A	N/A

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators

Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Canon (Toshiba) *XH-106V* *XH-180* *XH-181* *XS-RA stator* *(27.5/58 Ω)*	*E7252* *(See Note 1)*	*240*	*1.5*	*20*	*903836-02*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*20*	*908306-02*
Canon (Toshiba) *XH-157* *XS-RB stator* *(20.2/38 Ω)*	*E7254* *E7255* *(See Note 1)*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*
Canon (Toshiba) *XH-121* *XH-126* *XS-AV stator* *XS-RA stator* *(27.5/58 Ω)*	*E7299* *(See Note 1)*	*240*	*1.5*	*20*	*903836-02*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*20*	*908306-02*
Canon (Toshiba) *XH-106V* *XH-180* *XS-AL stator* *(9.4/28.3 Ω)*	*E7813* *(See Note 1)*	*120*	*1.5*	*40 (50 or 60 Hz)*	*903836-01 (preferred)*	*120 (See Note 7)*	*1.5*	*40 (50 or 60 Hz)*	*908306-01 (preferred)*
						240	*N/A*	*N/A*	*N/A*
				30 (60 Hz only)	*903836-00*	*120 (See Note 7)*	*1.5*	*30 (60 Hz only)*	*908306-00*
						240	*N/A*	*N/A*	*N/A*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators

Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Canon (Toshiba) *XH-121* *XS-BA stator* *(18/47.5 Ω)*	*E7843* *(See Note 1)*	*120*	*2.5*	*40* *(50 or 60 Hz)*	*903836-01 (preferred)*	*120* *(See Note 7)*	*2.5*	*40* *(50 or 60 Hz)*	*908306-01 (preferred)*
								30 *(60 Hz only)*	*908306-00*
				30 *(60 Hz only)*	*903836-00*	*240*	*N/A*	*N/A*	*N/A*
Canon (Toshiba) *XH-121* *XH-126* *XH-150* *XS-RA stator* *(27.5/58 Ω)*	*E7861* *(See Note 1)*	*240*	*1.5*	*20*	*903836-02*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*20*	*908306-02*
Canon (Toshiba) *XH-112V-2* *XS-AG stator* *(9.4/28.3 Ω)*	*E7864* *(See Note 1)*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Canon (Toshiba) *XH-121* *XS-AV stator* *(27.5/58 Ω)*	*E7865* *(See Note 1)*	*240*	*1.5*	*20*	*903836-02*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*20*	*908306-02*
Canon (Toshiba) *XH-112V-2* *XS-AG stator* *(9.4/28.3 Ω)*	*E7869* *(See Note 1)*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
		CMP 200® / CMP 200® DR				CMP 150™			
Tube Type (Housing)	Tube Type (Insert)	Boost Volt (VAC)	Boost Time (sec)	Shift CAP. (μF)	LSS Part No. (See Note 2)	Boost Volt (VAC)	Boost Time (sec)	Shift CAP. (μF)	LSS Part No. (See Note 2)
Canon (Toshiba) XH-121 XS-AV-stator XS-RA stator (27.5/58 Ω)	E7876 (See Note 1)	240	1.5	20	903836-02	120	N/A	N/A	N/A
						240	1.5	20	908306-02
Canon (Toshiba) XH-121 XH-126 XH-150 XS-AL stator (9.4/28.3 Ω)	E7884 (See Note 1)	120	1.5	40 (50 or 60 Hz)	903836-01 (preferred)	120 (See Note 7)	1.5	40 (50 or 60 Hz)	908306-01 (preferred)
						240	N/A	N/A	N/A
				30 (60 Hz only)	903836-00	120 (See Note 7)	1.5	30 (60 Hz only)	908306-00
						240	N/A	N/A	N/A
Canon (Toshiba) XH-121 XH-126 XS-AV stator XS-RA stator (27.5/58 Ω)	E7886 (See Note 1)	240	1.5	20	903836-02	120	N/A	N/A	N/A
						240	1.5	20	908306-02
Canon (Toshiba) XH-181 XS-BB stator (20/50 Ω)	XRR-3334F	240	1.5	30	903836-00	120	N/A	N/A	N/A
						240	1.5	30	908306-00
Chirana Rotax KA 125 (20/50 Ω stator)	RIK-T 0.8/2.0 12/50 RIK-T 1.2/2.0 30/50	240	1.5	30	903836-00	120	N/A	N/A	N/A
						240	1.5	30	908306-00

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Comet DO7 / DX7 (25/50 Ω stator)	*DX7 DX71HS (See Note 3)*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*
Comet DO9 / DX9 (20/50 Ω stator)	*DX9 DX91H / HS DX92H / HS DX93H / HS DX94HS DX96HS DX97HS (See Note 3)*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*
Comet D010 / DX10 (20/50 Ω stator)	*DX10H / HS DX101H / HS DX104HS DX105HS DX106HS (See Note 3)*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
		CMP 200® / CMP 200® DR				CMP 150™			
Tube Type (Housing)	*Tube Type (Insert)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Comet XSTAR (25/50 Ω stator)	*XSTAR8 (XST-8)* *XSTAR74 (XST-74)* *XSTAR-WHIS*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*
***D**unlee (Philips) DA10 series (20/50 Ω stator)*	*DA1002 (DU304-1.0/2.0)* *DA1029 (DU304-0.6/1.2)* *DA1036 (DU404-0.6/1.2)* *DA1083 (DU404-0.3/1.0)* *DA1092 (DU604-0.6/1.2)* *DA1094 (DU404-0.4/0.8)*	*240*	*2.0*	*40 (50 or 60 Hz)*	*903836-01 (preferred)*	*120*	*N/A*	*N/A*	*N/A*
						240	*2.0*	*40 (50 or 60 Hz)*	*908306-01*
				30 (60 Hz only)	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*2.0*	*30 (60 Hz only)*	*908306-00*
Dunlee (Philips) DA90, DA90HS (36/44 Ω stator)	*DU 1750* *DU 3050* *DU 2550* *DU 33100* *(See Note 4)*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*
Dunlee (Philips) DR1400 series (20/50 Ω stator)	*DR1429 (DU304-0.6/1.2)* *DR1436 (DU404-0.6/1.2)* *DR1492 (DU604-0.6/1.2)* *DR1494 (DU404-0.4/0.8)*	*240*	*2.0*	*40 (50 or 60 Hz)*	*903836-01 (preferred)*	*120*	*N/A*	*N/A*	*N/A*
						240	*2.0*	*40 (50 or 60 Hz)*	*908306-01 (preferred)*
				30 (60 Hz only)	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*2.0*	*30 (60 Hz only)*	*908306-00*
Dunlee (Philips) DR1800 series (19/22 Ω stator)	*DR1817* *DR1833*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Dunlee (Picker / Philips) PX1300 series (3" anode) "S" stator (15/30 Ω)	*PX1302 (DU303-1.0/2.0) PX1312 (DU303-0.6/1.2) PX1351 (DU143-1.0/2.0)*	*240*	*2.0*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*2.0*	*30*	*908306-00*
Dunlee (Picker / Philips) PX1400 series (4" anode) "S" stator (15/30 Ω)	*PX1402 PX1412 PX1415 PX1425 PX1429 PX1431 PX1436 PX1456 PX1463 PX1472 PX1473 PX1475 PX1482 PX1483 PX1492 PX1494 DU404 (0.6/1.25)*	*240*	*2.0*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*2.0*	*30*	*908306-00*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Dunlee (Picker / Philips) PX1400 series (4" anode) "S" stator (15/30 Ω)	*PX1402 (DU304-1.0/2.0) PX1412 (DU304-0.6/1.2) PX1415 (DU404-0.3/0.9) PX1425 PX1429 (DU304-0.6/1.2) PX1431 (DU304-0.7/1.4) PX1436 (DU404-0.6/1.2) PX1456 (DU404-0.3/1.0) PX1463 (DU604-0.6/1.2) PX1472 (DU604-0.3/1.0) PX1473 (DU404-0.6/1.2) PX1475 (DU754-0.6/1.2) PX1482 (DU404-0.6/1.0) PX1483 (DU404-0.3/1.0) PX1492 (DU604-0.6/1.2) PX1494 (DU404-0.4/0.8*	*240*	*2.0*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*2.0*	*30*	*908306-00*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Eureka (see Varex)									
GE Maxiray 75 *(3" anode)* *(23/23 Ω equal impedance "E" stator)* ** Dunlee tube*	*MX-75* *DU303 (1.0/2.0) ** *DU303 (0.6/1.2) **	*240*	*1.5*	*40*	*903836-01*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*40*	*908306-01*
GE Maxiray 100 *(4" anode)* *(23/23 Ω equal impedance "E" stator)*	*MX-100*	*240*	*1.5*	*40*	*903836-01*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*40*	*908306-01*
Gilardoni *Rotagil S/AS*	*AR11-30* *AR20-50* *AR30-00-1* *AR30-60* *AR30-100* *AR40-100* *AR9000-1* *AR9000-2*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Hangzhou Kailong (see Kailong RADII)									
Hangzhou Wandong WANRAY *(Polygala / Yuan Zhi)* *XD51-20.40/125 (LQ16-XA2)* *XD51-10.40/125 (LQ16-XA4)* *XD52-30.50/125 (LQ17-XB1)* *XD57-20.50/150 (LQ16-XD57)*		*240*	*1.5*	*40 (50 Hz only)*	*903836-01*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*40 (50 Hz only)*	*908306-01*
IAE *C40* *(28/58 Ω stator)*	*X39* *X42* *X76*	*240*	*1.5*	*30 (50 Hz only)*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30 (50 Hz only)*	*908306-00*
IAE *C352* *C52* *C52 Super* *C100* *C100XT* *C100XS* *(20/40 Ω stator)*	*RTM90 H / HS* *RTM92 H / HS* *RTM101 H / HS* *RTM102 H / HS*	*240*	*2.2*	*30 (50 Hz only)*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*2.2*	*30 (50 Hz only)*	*908306-00*
IAE *C52* *C352* *(20/40 Ω stator)*	*X40* *X50H X50AH* *RTM782 H / HS* *RTM78 H / HS*	*240*	*1.5*	*30 (50 Hz only)*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30 (50 Hz only)*	*908306-00*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
		CMP 200® / CMP 200® DR				CMP 150™			
Tube Type (Housing)	*Tube Type (Insert)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Kailong RADII *H1064* *H1065* *H1066* *(25/62 Ω stator)*	*KL64* *KL65* *KL66*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*
Kailong RADII *H1074* *H1075* *H1080* *H1083* *H1086* *(20/50 Ω stator)*	*KL74* *KL75* *KL80* *KL80A* *KL83* *KL86*	*240*	*1.5*	*30 (50 or 60 Hz)*	*903836-00 (preferred)*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30 (50 or 60 Hz)*	*908306-00 (preferred)*
				40 (50 Hz only)	*903836-01*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*40 (50 Hz only)*	*908306-01*
Kailong RADII *H1076*	*KL76*	*240*	*1.5*	*20*	*903836-02*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*20*	*908306-02*
Kailong RADII *H2100* *(20/50 Ω stator)*	*KL100*	*240*	*1.8*	*30 (50 or 60 Hz)*	*903836-00 (preferred)*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.8*	*30 (50 or 60 Hz)*	*908306-00 (preferred)*
				40 (50 Hz only)	*903836-01*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.8*	*40 (50 Hz only)*	*908306-01*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Machlett (Varex) *Dynamax (DX) 52* *"R" stator (16/50 Ω)*	*A-102* *A-132* *A-142*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*
Machlett (Varex) *Dynamax (DX) 62* *"R" stator* *(23/56 Ω)*	*A-192B* *A-196*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*
Dynamax (DX) 62U *configured as* *"STD" or "R" stator* *(15/36 Ω)*	*A-197 A-286* *A-256 A-292* *A-272 A-482* *A-282 A-486*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*
Picker (see Dunlee)									
Shimadzu CIRCLEX *RX80* *RX81* *RX82* *(7.5/35 Ω stator)*	*P18DE-85*	*120*	*1.5*	*30*	*903836-00*	*120* *(See Note 7)*	*1.5*	*30*	*908306-00*
						240	*N/A*	*N/A*	*N/A*
Shimadzu CIRCLEX *RX100*	*P38E*	*120*	*1.5*	*30*	*903836-00*	*120* *(See Note 7)*	*1.5*	*30*	*908306-00*
						240	*N/A*	*N/A*	*N/A*
Shimadzu CIRCLEX *RX150* *(8.4/24 Ω stator)*	*P18DK*	*120*	*1.5*	*30*	*903836-00*	*120* *(See Note 7)*	*1.5*	*30*	*908306-00*
						240	*N/A*	*N/A*	*N/A*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Siemens Opti-150 *"S" stator* *(1-phase only)* *(14/18 Ω)* ** Varex (Varian) tube*	*20/40* *30/52R* *SG-796B **	*120*	*2.0*	*40*	*903836-01*	*120* *(See Note 7)*	*2.0*	*40*	*908306-01*
						240	*N/A*	*N/A*	*N/A*
Siemens (SXVT) *RAY-6_1* *RAY-8(S)_1* *RAY-12(S)_1* *(1-phase only)* *(20/50 Ω stator)*	*SV 150/12/40-S* *SV 150/25/48-S* *SV 150/22/54-S* *SV 150/33/78R-S*	*DSS Preferred. Consult CPI for use with LSS*				*120*	*N/A*	*N/A*	*N/A*
						DSS Preferred. Consult CPI for use with LSS			
Siemens (SXVT) *RAY-13(S)_1* *RAY-14(S)_1* *(1-phase only)* *(20/50 Ω stator)*	*SV 150/33/78R-S*	*DSS Preferred. Consult CPI for use with LSS*				*120*	*N/A*	*N/A*	*N/A*
						DSS Preferred. Consult CPI for use with LSS			
Siemens (SXVT) *SDR* *(1-phase only)* *(20/50 Ω stator)*	*SDR 150/30/50-1*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Siemens (SXVT) *SV 150* *"S" stator* *(1-phase only)* *(14/18 Ω)*	*SV 150/40/80C-100_1* ***(See Note 5)***	*120*	*2.0*	*40*	*903836-01*	*120* *(See Note 7)*	*2.0*	*40*	*908306-01*
						240	*N/A*	*N/A*	*N/A*
Varex (Varian) *B-100* *"STD" stator* *(16/50 Ω)*	*A-102* *A-132 / A-134** *A-142 / A-144** *A-145* ** (See Note 6)*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators

Tube Type (Housing)	Tube Type (Insert)	CMP 200® / CMP 200® DR				CMP 150™			
		Boost Volt (VAC)	Boost Time (sec)	Shift CAP. (μF)	LSS Part No. (See Note 2)	Boost Volt (VAC)	Boost Time (sec)	Shift CAP. (μF)	LSS Part No. (See Note 2)
Varex (Varian) B-130 B-130H B-135H B-146 B-147 B-150 B-150H Std "R" stator (16/50 Ω)	A-152 A-182 / A-184* A-192 / A-194* A-195 A-196 A-197	240	1.5	30	903836-00	120	N/A	N/A	N/A
						240	1.5	30	908306-00
	A-272 / A-274* A-277 / A-278* A-282 / A-284* A-286 A-292 / A-294* A-482 G-242 G-256 G-292 / G-294* G-296 G-892 G-896 * (See Note 6)	240	1.5	30	903836-00	120	N/A	N/A	N/A
						240	1.5	30	908306-00
Varex (Varian / Eureka) Diamond Emerald LEO Std "R" stator (20/50 Ω)	RAD-8 RAD-12 RAD-13 RAD-14 RAD-68	240	1.5	30	903836-00	120	N/A	N/A	N/A
						240	1.5	30	908306-00

Table 1: Tube Types – Low Speed Starter – CMP 200® / CMP 150™ X-ray Generators									
Tube Type (Housing)	*Tube Type (Insert)*	*CMP 200® / CMP 200® DR*				*CMP 150™*			
		Boost Volt (VAC)	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*	*Boost Volt (VAC)*	*Boost Time (sec)*	*Shift CAP. (μF)*	*LSS Part No. (See Note 2)*
Varex (Varian / Eureka) Sapphire Std "R" stator (20/50 Ω)	*RAD-21 RAD-40 RAD-44 RAD-56 RAD-60 RAD-92 RAD-94*	*240*	*1.5*	*30*	*903836-00*	*120*	*N/A*	*N/A*	*N/A*
						240	*1.5*	*30*	*908306-00*

Notes for Tables 1

Note 1: Complete Canon (Toshiba) x-ray tube assemblies include the suffix "X, "FX", "GX", or "JX", which are interchangeable with respect to rotor and anode characteristics.

Note 2: Where more than one Low Speed Starter part number is referenced for a particular tube type and generator combination, any of these is acceptable. In some cases, a preferred part number is identified.

Note 3: Comet tube inserts with the prefix "DI" and "DX" are interchangeable.

Note 4: Dunlee tube inserts with the prefix "DU" and Philips tube inserts with the prefix "RO" are interchangeable. Select the corresponding Philips insert type within the Generator software if the Dunlee type is not available.

Note 5: Siemens (SXVT) housing with the "phase-shifted" windings connected in parallel (low impedance, high speed configuration).

Note 6:	These X-ray tubes incorporate a control grid. Grid control is only supported by certain configurations of Indico IQ® X-ray generators and not supported by CMP 200® X-ray generators or CMP 150™ X-ray generators. Connect the grid connection to Cathode Common when using these tubes, and select the insert type within the Generator software corresponding to the equivalent non-grid tube.

Note 7:	The starter boost voltage required is 120 VAC. This is not available with CMP 150™ High Frequency X-ray generators operating from a nominal 200-240V AC line.

Dual-Speed Starter Tube Select Table

The Dual Speed Starter (DSS) synthesizes its output frequencies independently of the line frequency and will operate all tubes at the required frequency according to the requirements specified by the tube manufacturer.

For information regarding the DIP switch settings of SW1, refer to chapter 2 of Installation in the CMP 200® service manual. The Dual Speed Starter part number corresponds to the configuration of phase-shift capacitors installed.

Reference notes are provided at the end of Table 2

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators

Tube Type (Housing)	Tube Type (Insert)	Tube Type DIP Switch Settings (See Note 10)		Operating Notes	DSS Assembly P/N (See Note 2)	
		SW1-1 to SW1-5	SW3-7		208/230 VAC	400/480 VAC
Canon (Toshiba) Rotanode	*Most Canon / Toshiba x-ray tubes are identified by their "E" number, which is used to represent both the Tube Insert and the complete assembly.* *The housing number is usually not shown on the identification label. A specific "E" number may be available with several different stator types, each having different starter requirements. Furthermore, a specific stator type may require different starter requirements depending on the housing used. For ease of use, the Canon tubes are sorted by Tube Type ("E" number) within this table. The installer must confirm the stator type for the planned tube(s). If the stator type is not identified within the Canon documentation, match the stator winding resistance to the appropriate table entry. Contact the factory if the desired Tube Type and stator type / winding resistance are not listed on the same line within this table.*					
Canon (Toshiba) XH-112V-2 XH-112W XS-AA stator XS-AG stator (9.4/28.3 □)	*DRX-3624H DRX-3724H DRX-4634H*	*Type 17 (10001)*	*0*	*None*	*950785-21 950785-23 950785-24*	*906672-21 906672-22 906672-23 906672-24*
Canon (Toshiba) XH-112V XS-AG stator (9.4/28.3 □)	*E7100 (See Note 8)*	*Type 17 (10001)*	*0*	*None*	*950785-21 950785-23 950785-24*	*906672-21 906672-22 906672-23 906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Canon (Toshiba) *XH-121* *XH-126* *XH-150* *XS-AV stator* *XS-RA stator* *(27.5/58 Ω)*	*E7132* *E7239* *E7240* *E7242* *(See Note 8)*	*Type 19* *(11001)*	*0*	*Low speed operation only (See Note 1)*	*950785-23** *950785-24* **Preferred*	*906672-22* *906672-23** *906672-24* **Preferred*
Canon (Toshiba) *XH-112V* *XS-AG stator* *(9.4/28.3 Ω)*	*E7250* *(See Note 8)*	*Type 17* *(10001)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Canon (Toshiba) *XH-106V* *XH-180* *XH-181* *XS-AL stator* *(9.4/28.3 Ω)*	*E7252* *(See Note 8)*	*Type 29* *(10111)*	*0*	*None*	*950785-21** *950785-23* *950785-24* **Preferred*	*906672-21** *906672-22* *906672-23* *906672-24* **Preferred*
Canon (Toshiba) *XH-106V* *XH-180* *XH-181* *XS-RA stator* *(27.5/58 Ω)*	*E7252* *(See Note 8)*	*Type 19* *(11001)*	*0*	*None*	*950785-23*	*906672-23*
				Low speed operation only (See Note 1)	*950785-24*	*906672-22* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Canon (Toshiba) *XH-157* *XS-RB stator* *(20.2/38 Ω)*	*E7254* *E7255* *(See Note 8)*	*Type 21* *(10101)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Canon (Toshiba) *XH-121* *XH-126* *XS-AV stator* *XS-RA stator* *(27.5/58 Ω)*	*E7299* *(See Note 8)*	*Type 19* *(11001)*	*0*	*Low speed operation only (See Note 1)*	*950785-23* *950785-24*	*906672-22* *906672-23* *906672-24*
Canon (Toshiba) *XH-106V* *XH-180* *XS-AL stator* *(9.4/28.3 Ω)*	*E7813* *(See Note 8)*	*Type 29* *(10111)*	*0*	*None*	*950785-21** *950785-23* *950785-24* **Preferred*	*906672-21** *906672-22* *906672-23* *906672-24* **Preferred*
Canon (Toshiba) *XH-121* *XS-BA stator* *(18/47.5 Ω)*	*E7843* *(See Note 8)*	*Type 0* *(00000)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Canon (Toshiba) *XH-121 XH-126 XH-150* *XS-RA stator* *(27.5/58 Ω)*	*E7861* *(See Note 8)*	*Type 19* *(11001)*	*0*	*Low speed operation only (See Note 1)*	*950785-23* *950785-24*	*906672-22* *906672-23* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Canon (Toshiba) *XH-112V* *XS-AG stator* *(9.4/28.3 Ω)*	*E7864* *(See Note 8)*	*Type 17* *(10001)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Canon (Toshiba) *XH-121* *XH-126* *XS-AV stator* *(27.5/58 Ω)*	*E7865* *(See Note 8)*	*Type 19* *(11001)*	*0*	*Low speed operation only (See Note 1)*	*950785-23* *950785-24*	*906672-22* *906672-23* *906672-24*
Canon (Toshiba) *XH-112V* *XS-AG stator* *(9.4/28.3 Ω)*	*E7869* *(See Note 8)*	*Type 17* *(10001)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Canon (Toshiba) *XH-121* *XS-AV stator* *XS-RA stator* *(27.5/58 Ω)*	*E7876* *(See Note 8)*	*Type 19* *(11001)*	*0*	*Low speed operation only (See Note 1)*	*950785-23* *950785-24*	*906672-22* *906672-23* *906672-24*
Canon (Toshiba) *XH-121* *XH-126* *XH-150* *XS-AL stator* *(9.4/28.3 Ω)*	*E7884* *(See Note 8)*	*Type 29* *(10111)*	*0*	*Low speed operation only (See Note 1)*	*950785-21** *950785-23* *950785-24* **Preferred*	*906672-21** *906672-22* *906672-23* *906672-24* **Preferred*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Canon (Toshiba) *XH-121* *XS-126* *XS-AV stator* *XS-RA stator* *(27.5/58 Ω)*	*E7886* *(See Note 8)*	*Type 19* *(11001)*	*0*	*Low speed operation only (See Note 1)*	*950785-23* *950785-24*	*906672-22* *906672-23* *906672-24*
Canon (Toshiba) *XH-181* *XS-BB stator* *(20/50 Ω)*	*XRR-3334F* *(See Note 8)*	*Type 0* *(00000)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
CGR (GE) *Statorix* *200A/240/260* *(50/110 Ω stator)*	*MN640* *M641* *MN641* *M643*	*Type 28* *(00111)*	*0*	*Low speed operation only (See Note 1)*	*950785-23*	*906672-23*
	MS740 *MSN740* *MSN742* *RSN742*	*Type 28* *(00111)*	*0*	*High speed operation only (See Note 1)*	*950785-23*	*906672-23*
CGR (GE) *Statorix 550* *(50/110 Ω stator)*	*RN620* *RN621*	*Type 28* *(00111)*	*0*	*Low speed operation only (See Note 1)*	*950785-23*	*906672-23*
	RSN722	*Type 28* *(00111)*	*0*	*High speed operation only (See Note 1)*	*950785-23*	*906672-23*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Chirana *Rotax KA 125* *(20/50 Ω stator, single phase)*	*RIK-T*	*Type 21* *(10101)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Comet *DO7 / DX7* *(25/50 Ω stator)*	*DX7* *DX71HS* *(See Note 3)*	*Type 0* *(00000)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Comet *DO9 / DX9* *(20/50 Ω stator)*	*DX9* *DX91H / HS* *DX92H / HS* *DX93H / HS* *DX94HS* *DX96HS* *DX97HS* *(See Note 3)*	*Type 0* *(00000)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Comet *DO10 / DX10* *(20/50 Ω stator)*	*DX10H* *(See Note 3)*	*Type 0* *(00000)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
	DX10HS *DX104HS* *DX105HS* *DX106HS* *(See Note 3)*	*Type 24* *(00011)*	*0*	*None*		
Comet *DO700 / DX700* *(25/50 Ω stator)*	*DX700HS* *(See Note 3)*	*Type 24* *(10011)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Comet *XSTAR* *(25/50 Ω stator)*	*XSTAR8 (XST-8)* *XSTAR74 (XST-74)* *XSTAR-WHIS*	*Type 0* *(00000)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-23* *906672-24*
Dunlee (Philips) *DA10 series* *(20/50 Ω stator)*	*DA1002* *DA1029* *DA1036* *DA1083* *DA1092* *DA1094* *DU404 (0.6/1.25)*	*Type 4* *(00100)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Dunlee (Philips) *DA90 DA90HS* *(36/44 Ω stator)* *(See Note 4)*	*DU 1750* *DU 3050* *DU 2550* *DU 33100* ***(See Note 6)***	*Type 9* *(10010)*	*0*	*Low speed operation only (See Note 1)*	*950785-21** *950785-23* *950785-24* **Preferred*	*906672-21** *906672-23* *906672-24* **Preferred*
Dunlee (Philips) *DA90* *DA90HS* *(9/11 Ω stator)* *(See Note 5)*	*DU 1750* *DU 3050* ***(See Note 6)***	*Type 9* *(10010)*	*0*	*Low speed operation only (See Note 1)*	*950785-21** *950785-23* *950785-24* **Preferred*	*906672-21** *906672-23* *906672-24* **Preferred*
	DU 2550 *(See Note 6)*	*Type 9* *(10010)*	*0*	*None*		
	DU 33100 *(See Note 6)*	*Type 9* *(10010)*	*0*	*High speed operation only (See Note 1)*		
Dunlee (Philips) *DR1400* *(20/50 Ω stator)*	*DR1429* *DR1436* *DR1492* *DR1494* *DU404 (0.6/1.25)*	*Type 4* *(00100)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Dunlee (Philips) *DR 1800* *(19/22 Ω stator)* *(See Note 4)*	*DR1817* *DR1833*	*Type 9* *(10010)*	*0*	*Low speed operation only (See Note 1)*	*950785-21** *950785-23* *950785-24* **Preferred*	*906672-21** *906672-23* *906672-24* **Preferred*
Dunlee (Philips) *DR 1800* *(9/11 Ω stator)* *(See Note 5)*	*DR1817*	*Type 9* *(10010)*	*0*	*Low speed operation only (See Note 1)*	*950785-21** *950785-23* *950785-24* **Preferred*	*906672-21** *906672-23* *906672-24* **Preferred*
	DR1825	*Type 9* *(10010)*	*0*	*High speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-23* *906672-24*
	DR1833	*Type 9* *(10010)*	*0*	*None*	*950785-21** *950785-23* *950785-24* **Preferred*	*906672-21** *906672-23* *906672-24* **Preferred*
Dunlee *(Picker / Philips)* *PX1300* *3" anode* *"S" stator* *(15/30 Ω)*	*PX1302* *PX1312* *PX1351* *DU303 (1.0/2.0)*	*Type 7* *(11100)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Dunlee *(Picker / Philips)* *PX1400 series* *4" anode* *"S" stator* *(15/30 Ω)*	*PX1402 PX1412* *PX1415 PX1425* *PX1429 PX1431* *PX1436 PX1456* *PX1463 PX1472* *PX1473 PX1475* *PX1482 PX1483* *PX1492 PX1494* *DU404 (0.6/1.25)*	*Type 1* *(10000)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Dunlee *(Picker / Philips)* *PX1400 series* *4" anode* *"Q" stator* *(6/12 Ω)*	*PX1402 PX1412* *PX1415 PX1425* *PX1429 PX1431* *PX1436 PX1456* *PX1463 PX1472* *PX1473* *PX1482 PX1483* *PX1492 PX1494* *DU404 (0.6/1.25)*	*Type 13* *(10110)*	*0*	*None*	*N/A*	*906672-22*
Eureka (see Varex/Varian)						
GE Maxiray 75 *(3" anode)* *23/23Ω equal impedance* *"E" stator* ** Dunlee tube*	*MX-75* *DU303 (1.0/2.0) ** *DU303 (0.6/1.2) **	*Type 14* *(01110)*	*0*	*None*	*950785-21*	*906672-21*
GE Maxiray 100 *(4" anode)* *23/23 Ω equal impedance* *"E" stator*	*MX-100*	*Type 20* *(00101)*	*0*	*None*	*950785-21*	*906672-21*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Gilardoni *Rotagil* *(33/36 Ω stator)*	*AR11-30* *AR30-00-1* *AR30-60* *AR9000-001* *AR9000-002*	*Type 22* *(01101)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Gilardoni *Rotagil* *A/A5* *(33/36 Ω stator)*	*AR20-50* *AR30-100* *AR40-100*	*Type 22* *(01101)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Hangzhou Kailong (see Kailong RADII)						
Hangzhou Wandong WANRAY (Polygala / Yuan Zhi) *XD51-20.40/125* *(LQ16-XA2)* *XD51-10.40/125* *(LQ16-XA4)* *XD52-30.50/125* *(LQ17-XB1)* *XD57-20.50/150* *(LQ16-XD57)*		*Type 0* *(00000)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-23* *906672-24*
IAE *C40* *(28/58 Ω stator)*	*X39* *X42* *X76*	*Type 44* *(00110)* ***Warning (See Note 12)***	*1*	*Low speed operation only (See Note 1)*	*950785-23* *950785-24*	*906672-23* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
IAE *C100* *C100XS* *C100XT* *C52 Super* *C52* *C352* *(20/40 Ω stator)*	*RTC1000 HS*	*Type 48* *(00001)* ***Warning (See Note 12)***	*1*	*Low Speed SuperBoost™ – see Note 11*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
		Type 42 *(01010)* ***Warning (See Note 12)***	*1*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	RTC700 HS	*Type 45* *(10110)* ***Warning (See Note 12)***	*1*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	RTC600 HS	*Type 46* *(01110)* ***Warning (See Note 12)***	*1*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	RTM 90 H *RTM 92 H* *RTM101 H* *RTM102 H*	*Type 41* *(10010)* ***Warning (See Note 12)***	*1*	*Low speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	RTM 90 HS *RTM 92 HS* *RTM101 HS* *RTM102 HS*	*Type 41* *(10010)* ***Warning (See Note 12)***	*1*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
IAE *C52* *C352* *(20/40 Ω stator)*	*RTM782 H* *RTM78 H* *X40* *X50 H* *X50 AH*	*Type 43* *(11010)* ***Warning (See Note 12)***	*1*	*Low speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	RTM782 HS *RTM78 HS*	*Type 43* *(11010)* ***Warning (See Note 12)***	*1*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
Kailong RADII *H1064* *H1065* *H1066* *(25/62 Ω stator)*	*KL64* *KL65* *KL66*	*Type 0* *(00000)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
Kailong RADII *H1074* *H1075* *H1080* *H1083* *H1086* *(20/50 Ω stator)*	*KL74* *KL75* *KL80* *KL80A* *KL83* *KL86*	*Type 0* *(00000)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Kailong RADII *H1076*	*KL76*	*Type 19* *(11001)*	*0*	*Low speed operation only (See Note 1)*	*950785-23* *950785-24*	*906672-23* *906672-24*
Kailong RADII *H2100* *(20/50 Ω stator)*	*KL100*	*Type 21* *(10101)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Machlett (Varex) *Dynamax 52* *Std "R" stator* *(16/50 Ω)*	*A-102* *A-132* *A-142*	*Type 0* *(00000)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Machlett (Varex) *Dynamax 62 "STD" stator* *(23/56 Ω)*	*A-192B* *A-196* *A-197*	*Type 0* *(00000)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Dynamax 62U configured as "STD" or "R" *(15/36 Ω)*	*A-256* *A-272* *A-282 A-286* *A-292* *A-482 A-486*	*Type 1* *(10000)*	*0*			

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Philips / Dunlee *CTR1725* *(13.8 Ω / 41 Ω)*	*DU 2506*	*Type 37* *(10100)* ***Warning (See Note 12)***	*1*	*Limited usage – contact factory* *Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Philips *ROT 350* *ROT 351* *(36/44 Ω stator) (See Note 4)* ** Dunlee tube (See Note 6)* *** NAGO tube* **** Varex (Varian) tube*	*RO 1230* *RO 1750* *RO 2050* *RO 3050* *SRO 2250* *DU 1750 ** *DU 3050 ** *GD6 3050 *** *PG-256 **** *PG-292 **** *RAD-34 **** *RAD-50 ****	*N/A*	*0*	*Dual speed operation is not compatible with high impedance wiring.* *For dual speed operation, refer to low impedance wiring (9/11 Ω stator).*	*N/A*	*N/A*
Philips *ROT 350* *ROT 351* *(9/11 Ω stator)* *(See Note 5)* ** Dunlee tube (See Note 6)* **** Varex (Varian)*	*RO 1230* *RO 1750* *RO 3050* *DU 1750 ** *DU 3050 **	*Type 9* *(10010)*	*0*	*Low speed operation only (See Note 1)*	*950785-21*	*906672-21*
	RO 2050 *SRO 2250* *PG-256 **** *PG-292 **** *RAD-34 **** *RAD-50 ****	*Type 9* *(10010)*	*0*	*None*	*950785-21*	*906672-21*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
tube	*RO 2550* *RO 33100* *SRO 1330* *DU 2550 ** *DU 33100 **	*Type 9* *(10010)*	*0*	*High speed operation only (See Note 1)*	*950785-21*	*906672-21*
Philips *ROT 500* *ROT 501* *(9/11 Ω stator)*	*SRM 0310*	*Type 30* *(01111)*	*0*	*None*	*950785-21** *950785-23* *950785-24* **Preferred*	*906672-21** *906672-23* *906672-24* **Preferred*
	SRM 1080 *SRM 35100*	*Type 30* *(01111)*	*0*	*High speed operation only (See Note 1)*		
Shimadzu (Circlex) *RX80* *RX81* *RX82* *(7.5/35 Ω stator)*	*P18DE-85*	*Type 16* *(00001)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	P33D *P38D* *P38DE-85*	*Type 16* *(00001)*	*0*	*High speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
Shimadzu (Circlex) *RX100*	*P38E*	*Type 16* *(00001)*	*0*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
Shimadzu (Circlex) *RX150* *(8.4/24 Ω stator)*	*P18DK*	*Type 16* *(00001)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	P38DK *P324DK*	*Type 16* *(00001)*	*0*	*High speed operation only (See Note 1)*		

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Siemens *Biangulix* *"S" stator* *(1-phase only)* *(14/18 Ω)*	*BI 125/20/40* *BI 125/30/50* *BI 150/30/50* *BI 150/30/52R*	*Type 23* *(11101)*	*0*	*High speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
Siemens Opti-150 *"S" stator* *(1-phase only)* *(14/18 Ω)* ** Varex (Varian) tube*	*150/30/52R* *150/40/72C* *150/12/50* *150/40/80* *150/30/50* *150/40/102C*	*Type 23* *(11101)*	*0*	*High speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	*SG-796B **	*Type 23* *(11101)*	*0*	*None*		
Siemens OptiTop *"S" stator* *(1-phase only)* *(14/18 Ω)* ** Varex (Varian) tube*	*150/40/80HC-100L* *150/40/80HC-102L*	*Type 23* *(11101)*	*0*	*High speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	*SG-1096 **	*Type 23* *(11101)*	*0*	*None*		
Siemens Optilix *"S" stator* *(1-phase only)* *(14/18 Ω)* ** Varex (Varian) tube*	*150/30/50C-100L* *150/40/80C-100L*	*Type 23* *(11101)*	*0*	*High speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	*SG-256 **	*Type 23* *(11101)*	*0*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Siemens Megalix *Siemens SV 125* *"S" stator* *(1-phase only)* *(14/18 Ω)*	*125/30/82CM-120LW* *125/40/82CM-120LW*	*Type 8* *(00010)*	*0*	*High speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Siemens SV 150 *"S" stator* *(1-phase only)* *(14/18 Ω)* ** Varex (Varian) tube*	*SV 150/30/50C-100L*	*Type 23* *(11101)*	*0*	*High speed operation only (See Note 1)*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
	*SG-296B **	*Type 23* *(11101)*	*0*	*None*		
Siemens SV 150 *"S" stator* *(1-phase only)* *(14/18 Ω)* ** Varex (Varian) tube*	*SV 150/40/80C-100L* *SG-796B **	*Type 23* *(11101)*	*0*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
Siemens (SXVT) *RAY-6_1* *RAY-8(S)_1* *RAY-12(S)_1* *(1-phase only)* *(20/50 Ω stator)*	*SV 150/12/40-S* *SV 150/25/48-S* *SV 150/22/54-S*	*Type 31* *(11111)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-23* *906672-24*
Siemens (SXVT) *RAY-13(S)_1* *RAY-14(S)_1* *(1-phase only)* *(20/50 Ω stator)*	*SV 150/33/78R-S*	*Type 31* *(11111)*	*0*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Siemens (SXVT) *SDR* *(1-phase only)* *(20/50 Ω stator)*	*SDR 150/30/50-1*	*Type 31* *(11111)*	*0*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
Siemens (SXVT) *SV 150* *"S" stator* *(1-phase only)* *(14/18 Ω)*	*SV 150/40/80C-100_1* ***(See Note 7)***	*Type 23* *(11101)*	*0*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
Varex (Varian) *B-100* *"R" stator* *(16/50 Ω)*	*A-102* *A-132 / A-134* A-142 / A-144** ** (See Note 9)*	*Type 0* *(00000)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
	A-145	*Type 2* *(01000)*	*0*	*Low speed operation only (See Note 1)*		
Varex (Varian) *B-100* *"Q" stator* *(8/15 Ω)*	*A-102* *A-132 / A-134* A-142 / A-144** ** (See Note 9)*	*Type 11* *(11010)*	*0*	*None*	*N/A*	*906672-22*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Varex (Varian) *B-130* *B-130H* *B-135H* *B-146* *B-147* *B-150* *B-150H* *"R" stator* *(16/50 Ω)*	*A-152* *A-182 / A-184** *A-192 / A-194** *A-195* *A-196* *A-197* **** (See Note 9)***	*Type 0* *(00000)*	*0*	*None*	*950785-21* *950785-24*	*906672-21* *906672-24*
	*A-272 / A-274** *A-277 / A-278** *A-282 / A-284 ** *A-286* *A-292 / A-294** A-482* *G-242 G-256* *G-292 / G-294** *G-296* *G-892 G-896* ** (See Note 9)*	*Type 40* *(00010)* ***Warning (See Note 12)***	*1*	*None*	*950785-21* *950785-24** **Preferred*	*906672-21* *906672-24** **Preferred*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Varex (Varian) *B-130* *B-130H* *B-135H* *B-150* *B-150H* *"Q" stator* *(6/11 Ω)*	*A-152* *A-182 / A-184** *A-192 / A-194** *A-195 / A-196* *A-197 / A-252* *A-272 / A-274** *A-277 / A-278** *A-282 / A-284 ** *A-286* *A-292 / A-294** *A-482* *G-242 G-256* *G-292 / G-294** *G-296* *RAD-60* ** (See Note 9)*	*Type 12* *(00110)*	*0*	*None*	*N/A*	*906672-22*
Varex (Varian) *B-160* *B-160H* *B-165H* *"R" Stator* *(16/50 Ω)*	*G-1077* *G-1078* *G-1080* *G-1082 / G-1084** *G-1086 / G-1087* G-1092 / G-1094** ** (See Note 9)*	*Type 15* *(11110)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Varex (Varian) *B-180* *B-180H* *B-185* *B-185H* *"R" Stator* *(16/50 Ω)*	*G-1582* *G-1592* *G-1593*	*Type 47* *(11110)* ***Warning (See Note 12)***	*1*	*Low Speed SuperBoost™ -See Note 11*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Varex (Varian) *B-199* *"S" Stator* *(15/18 Ω)*	*SG-1096*	*Type 18* *(01001)*	*0*	*None*	*950785-21* *950785-24*	*906672-21* *906672-22* *906672-24*
Varex (Varian) *B-240H* *"R" Stator* *(14/46 Ω)*	*G-2090*	*Type 39* *(11100)* ***Warning (See Note 12)***	*1*	*Limited usage – contact factory*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-23* *906672-24*
Varex *(Varian / Eureka)* *Diamond* *Emerald* *LEO* *"R" stator* *(20/50 Ω)*	*RAD-8* *RAD-12* *RAD-74*	*Type 0* *(00000)*	*0*	*Low speed operation only (See Note 1)*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*
Varex (Varian /Eureka) *Diamond* *Emerald* *LEO* *"R" stator* *(20/50 Ω)*	*RAD-13* *RAD-14* *RAD-68*	*Type 0* *(00000)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*

TABLE 2: Tube Types – Dual Speed Starter of CMP 200® / CMP 200® DR X-ray Generators						
Tube Type (Housing)	**Tube Type (Insert)**	**Tube Type DIP Switch Settings (See Note 10)**		**Operating Notes**	**DSS Assembly P/N (See Note 2)**	
		SW1-1 to SW1-5	**SW3-7**		**208/230 VAC**	**400/480 VAC**
Varex (Varian /Eureka) *Sapphire* *"R" stator* *(20/50 Ω)* ** For "Q" stator, refer to B-130 housing*	*RAD-21* *RAD-40* *RAD-44* *RAD-56* *RAD-60 ** *RAD-92* *RAD-94*	*Type 5* *(10100)*	*0*	*None*	*950785-21* *950785-23* *950785-24*	*906672-21* *906672-22* *906672-23* *906672-24*

Notes for Table 2

Note 1:	Tube types designated as low speed only or high speed only must be programmed for low speed only or high speed only operation. Refer to the section ***Tube Selection*** within the Interfacing and Programming Chapter of the applicable generator service manual for details. For some tubes listed as high speed only, the starter may be capable of low speed operation but the Manufacturer's data sheet for the Insert lists high speed only. In other cases, the limitation is due to operational limitations of the Dual Speed Starter itself.
Note 2:	Where more than one Dual Speed Starter assembly number is referenced for a particular tube type, any of these (applicable to the generator and input voltage) is acceptable. The Dual Speed Starters provide a selection of shift capacitance values for both high speed and low speed operation, as identified by the DSS assembly number suffix ("tab type"). Unless otherwise specified, capacitor selection is made automatically by relays located on the Dual Speed Starter board.
Note 3:	Comet tube inserts with the prefix "DI" and "DX" are interchangeable.
Note 4:	Philips / Dunlee housing with the windings connected in series (low-speed / high impedance configuration).
Note 5:	Philips / Dunlee housing with the windings connected in parallel (high-speed / low impedance configuration).
Note 6:	Dunlee tube inserts with the prefix "DU" and Philips tube inserts with the prefix "RO" are interchangeable. Select the corresponding. Philips insert type within the Generator software if the Dunlee type is not available.
Note 7:	Siemens (SXVT) housing with the "phase-shifted" windings connected in parallel (low impedance, high speed configuration).

Note 8:	Complete Toshiba x-ray tube assemblies include the suffix “X, “FX”, “GX”, or “JX”, which are electrically interchangeable.

Note 9:	These X-ray tubes incorporate a control grid. Grid control is only supported by certain configurations of Indico IQ® X-ray generators and not supported by CMP 200® X-ray generators. Connect the grid connection to Cathode Common when using these tubes, and select the insert type within the Generator software corresponding to the equivalent non-grid tube.

Note 10:	The tube operating parameters for each tube type are selected by setting switches SW1-1 to SW1-5 to the applicable tube type code. DIP-switch SW3-7 selects the range of the tube type code (0 – 31 or 32 – 63). If SW3-7 is set to 0, tube types 0 – 31 are configurable on switches SW1-1 to SW1-5. If SW3-7 is set to 1, tube types 32 – 63 are configurable on switches SW1-1 to SW1-5.

Note 11:	Tube Types with the Low Speed SuperBoost™ feature have shorter response time to exposure switch activation. The response time is shorter for exposures requiring low speed mode. Response time unchanged for exposures requiring high speed mode. The number of low speed starts/boosts per minute must be restricted to the same limitations as high speed. For example, if the datasheet from the tube manufacturer only permits 1 high speed start per minute, this restriction applies to Low Speed as well. Use of anode hangover features is recommended to reduce the number of starts.”

Note 12:	For X-ray tube types with required switch settings greater than 31, the DSS2 firmware must be revision E or higher. The X-ray tube could be damaged if attempting to use tube types higher than 31 with incompatible DSS software. Refer to the ***Setting Tube Type*** instruction provided in the Installation chapter of the CMP 200® DR X-ray Generator Service Manual to check the revision of the DSS2 software.

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