Technical Details



RADIOGRAPHY : 70 kV, 20 mA, FOR 0.5 sec. + 30 sec. PAUSE | RISE THEN UP TO kVMAX AT STEPS OF 5 kV

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X-Ray Housing			
P.S.M. HF1 R/8 MONOBLOC			
X-RAY GENERATOR	HIGH VOLTAGE 40 KHZ		
ALL ALUMIN	IUM CASED		
MAX POWER	15 kW		
MAX VOLTA	120 kV		
	60 kV		
	60 kV		
MAX POWER	150 mA		
RIPPLE AT T	< 2 %		
KV RISE-TIME AT MAX POWER			
MAX X-RAY LOAD,			
120 mA @ 120 kV			
150 mA @ 80 kV	Radiography (Pulsed) See Tube's Load Rating	js	
150 mA @ 40 kV			
Max X-Ray Load, SM	MALL FOCUS	-	
4 mA @ 120 kV	Standard Fluoroscopy (Continuous)		
10 mA @ 120 kV	High Dosage Fluoroscopy (Discontinuous)		
X-RAY TUBE HOUSI	NG'S MECHANICAL FEATURES		
Half Value Layer @ 75 kV		2.0 mm Al	
MIN. INHERENT FILTRATION @ 75 kV		1.4 mm Al	
OVERALL DIMENSIONS AND ANCHORAGE (SEE DRAWING)		Dwg. 001377	
WEIGHT		21.5 kg	
X-RAY TUBE HOUSI	NG'S THERMAL FEATURES		
THERMAL CAPACITY (J)		600 kJ	
THERMAL CAPACITY (HU)		810 kHu	
THERMAL SAFETY		57 °C ± 3 °C	
	THERMAL SWITCH (NORMALLY CLOSED)		
		410 cm ³	
Continuou	75 W		
X-RAY TUBE	60 °C		
X-RAY TUBE FILAM	ENT POWER SUPPLY		
20 KHz Fila	MENT BOARD SQUARE OR SINUSOIDAL WAVE		
Max Curre	500 mA		
COOLIDGE 1	1÷11		

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X-RAY TUBE STATOR INPUT			
ROTATION BOARD 3000 R.P.M.			
Max. Peak Voltage	350 V		
EXPOSURE TIME (230V~ ±10% 50Hz)	< 0.8 s		
STATOR ELECTRICAL SPECIFICATIONS			
MAIN > NORMAL	25 Ω		
SECONDARY > NORMAL	65 Ω		
MAIN > SECONDARY	90 Ω		
H.T. TRANSFORMER INPUT			
P.S.M. HF1 P 15KW INVERTER			
FREQUENCY	20 kHz		
MAX INPUT VOLTAGE (CONNECTOR A AND B)	350 V		
Max input tension (Connector A and B)	200 A		
OUTPUT SIGNALS			
HV+ (ANALOGIC SIGNAL)	0 ÷ 6.0 V		
HV- (ANALOGIC SIGNAL)	0 ÷ 6.0 V		
I+ (ANALOGIC SIGNAL)	0 ÷ 10 V		
THERMIC SAFETY - USUALLY CLOSED - (LOGIC SIGNAL)			
LEAKAGE RADIATION			

LOWER OF 100 mR/h AT 100 CM. AS FOR CEI EN 60601-1-3 REQUIREMENT



COOLING CURVE



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Technical Details

X-ray HF1 R/8 Monobloc



MONOBLOC DIMENSIONS

Dwg. 001577

Insert X-ray Tube Specifications				
PHILIPS X-RAY TUBE MODEL RO 0306 FOCI 0.3/0.6				
X-RAY TUBE ROTATION SPEED	3000 rpm			
Max Peak Voltage	120 kVp			
MAX FILAMENT CURRENT	5.0 A			
NOMINAL FOCAL SPOT SIZES				
SMALL FOCUS	0.3 mm			
Large Focus	0.6 mm			
NOMINAL ANODE INPUT POWER				
SMALL FOCUS	7,0 kW			
Large Focus	23,0 kW			
RHENIUM / TUNGSTEN				
ANODE'S DIAMETER	80 mm			
ANODE'S INCLINATION ANGLE	10°			
ANODE'S HEAT CONTENT	222 kJ			
	300 kHU			
MAXIMUM CONTINUOUS HEAT DISSIPATION	900 W			
MINIMUN INHERENT FILTRATION	0.75 mm Al			
X-RAY TUBE MATERIAL	GLASS			

FURTHER INFORMATION: SEE X-RAY TUBE'S TECHNICAL DATA SHEET

Technical Details

X-ray HF1 R/8 Monobloc



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Risks and Dangers

PROPER USE AND CARE OF THE SAFETY MEASURES FOR X-RAYS RADIATIONS EMITTED BY THE MONOBLOC X-RAY GENERATOR

ARE RESPONSABILITY OF THE PRODUCER AND OF THE USER OF THE SAME DEVICE.

THE PRODUCER SUPPLIES PROPER INFORMATION ON THE PRODUCT AND ON ASSOCIATED

RESIDUAL RISKS, BUT DOESN'T TAKE ANY RESPONSABILITY FOR CHOOSEN SAFETY MEASURES AND FOR AFTER-SALE USE.

LIMITED LIFE, ACCIDENTAL FAILURES AND REDUCTION OF PERFORMANCE

ARE INTRINSIC FEATURES OF X RAY MONOBLOC GENERATOR. PLEASE ATTENTION HAS

TO BE PAID FOR A CORRECT USE OF THE DEVICE.

THE PERSONNEL USING THE MONOBLOC OR AN EQUIPMENT WHERE THE SAME IS USED

HAS TO APPLY THE ALL NECESSARY PRECAUTIONS FOR OWN PROTECTION FROM EXPOSURE TO

THE X-RAY RADIATIONS.

DON'T USE THE MONOBLOC IF NOT IN ACCORDANCE WITH THE INFORMATION CONTAINED IN THIS TECHNICAL DATA SHEET, INCLUDED THE SAFETY CARE AND ALL ADDITIONAL INFOR-MATIONS SUPPLYED BY THE MONOBLOC'S PRODUCER AND/OR BY THE AUTHORITIES.

RISKS DERIVING BY THE USE OF THE X-RAY MONOBLOC.

All X-Ray Monoblocs operate at very high and dangerous voltage. The Monoblocs are designed in order to prevent equipment operator's contact.

If a direct access to the monobloc in needed, power's primary circuit must be disabled and the capacitor unloaded.

X-RAY RADIATIONS

The Monobloc generates radiations in the "X" region in fluctuating energy and quantity, in conformity with the use (see product specifications).

All people using these devices must protect them with appropriate X-ray shielding.

"Danger—X-ray radiations" signal cannot be removed from the device so that the unit cannot be operated without appropriate protection.

The shielding must be in accordance with regulations. If there is

any doubt on the adequacy of the used shield, contact immediately an X-ray expert.

Insert X-Ray Tube Explosion

All X-ray tubes have in the inside environment. The glass vacuum tube can be broken because of shocks causing the bulb implosion. Normally it isn't dangerous for the operator or for the patient.

HOT OIL

Considerable thermal energy is normally cumulated by the tube's anode. That energy is then radiated or convected to the oil bath. That energy is also radiated to the environment through monobloc case. Wrong Monobloc use can cause the breaking of case's parts and consequentely the leakage of hot oil.

Be sure to follow producer's use specifications.

It is necessary to apply particular care if the Monobloc is not

THE DEVICE MUST BE CONNECTED TO EQUIPMENT COMPLYING WITH THE 93/42 EEC DIRECTIVE, WITH

PARTICULAR ATTENTION TO THE FOLLOWING STANDARDS:

IEC EN 60601-1 MEDICAL DEVICES PART 1: GENERAL REQUIREMENTS FOR SAFETY.

IEC EN 60601-2-7 MEDICAL DEVICES PART 2: PARTICULAR REQUIREMENTS FOR SAFETY OF X-RAY

SOURCE ASSEMBLIES FOR MEDICAL DIAGNOSIS.

IN ORDER TO WASTE THE X-RAY MONOBLOC GENERATOR, IT IS NECESSARY TO COMPLY WITH PARTICULAR RULES AND LAWS IN ACT. IT IS RECOMMENDED TO RETURN THE MONOBLOC TO THE PRODUCER OR CONTACT SPECIAL-IZED OPERATORS.

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X-RAY HF1 R/8 MONOBLOC FAILURE REPORT

CALL BY PHONE OR SEND BY FAX THIS FORM TO P.S.M., IN ORDER TO OBTAIN THE NUMBER OF THE RETURN AUTHORISATION (RA#):

THE DEVICE MUST BE RETURNED WITH ITS TECHINICAL DOCUMENTATION AND WITH THIS FORM PROPERLY FILLED IN.

Distributor / OEN	Λ		
NAME:			
ADDRESS:			
REGION:	STATE:	ZIP:	PLACE:
HF1 R/8 X-RAY MC	DNOBLOC		
INSTALLATION DAT	'E://	DISASSEMBLY DATE://	
Р	ROBLEMS FOUND AT: kV:	mA:	(mAs:) Time:
FREQUENTLY	USED PARAMETERS: kV:	mA:	(mAs:) Time:
Detailed Descript	RADIOGRAPHY: MAX	(Set mA : D of the Dete	Max Set mAs :
Detailed Descript	RADIOGRAPHY: MAX	C Set mA :	Max Set mAs :
	RADIOGRAPHY: MAX	Set mA :	MAX SET mAs :
Detailed Descript	RADIOGRAPHY: MAX	OF THE DETE	MAX SET mAs :
Detailed Descript	RADIOGRAPHY: MAX	OF THE DETE	MAX SET mAs :

Labels' Symbology

P.S.N. Via Orio	l. S.r.l. al Serio, Grassobbio - BG - ITALY
Monoblock :	HF1 R/8
S.N. :	?????????
U Max : 120 kVp	I Max : 150 mA
Tube : RO 0306	S.N.: ??????
Focus : 🔳 0.3	■ 0.6 1.4 AI / 75 kV
Doc : 000776	Code : XRM.11.C22.001

HF1 R/8 Monobloc's Label

Used Symbol Description:

