
BMI

The MILADY Mammographic Unit offers the best quality-to-price ratio to our customers worldwide.

The unit advanced technology together with the application of industrial production standards , on a suitable scale, have made it possible to put the MILADY unit on the market at a very competitive price.

The MILADY Mammographic Unit is lightweight and easy-to-use thus facilitating

the operator' job. This unit provides the same excellent quality of the top-of-the-

line model at a very competitive price.

The MILADY unit is equipped with an automatic exposure control (AEC) featuring extremely advanced standards. The utilization of special phantoms and software make it possible to store in the unit's memory , during the installation, the typical calibration curve for the available film process in order to obtain constant iconographic results independently of the examined breast intrinsic density.

The MILADY unit is also equipped with a software dose meter to measure the skin dose.

The MILADY unit is entirely manufactured in Italy, it is extremely reliable and ensures high quality diagnostic examinations at a low cost, with no need of repeating the examination.

The B MG unit is particularly suitable for mammographic "screening" programs.

The MILADY is a complete independent radiological system with exposure control controlled by a dedicated safety device. The system is composed of a X-ray generator

Including a double focus X-ray tube, a potter bucky with mobile carbon fibre grid and a complete range of accessories to facilitate the operator's job.

Optionally, the MILADY can be supplied with isocentric C-arm permitting all mammographic projections without moving the patient and with no need of fixing the C-arm's height.

A wide range of optional accessories is available to upgrade the unit's performances.

TECHNICAL FEATURES:

H.V. X-RAY GENERATOR	
Main supply	220/230/240Vac ±10% 50/60Hz
Power	6.6 kVA (0.5 kVA stand-by)
Current absorption	30 A peak
Line voltage compensation	AUTOMATIC H.V. generator with kV closed loop and line Feed forward compensation
Inverter Technology	Current fed, mosfet bridge with output current limit capability and short circuit protection 25 kHz
Inverter Frequency	50 kHz < 2%
Ripple Frequency/Amplitude	3500 W 35 kVx100 mA
Nominal Power	20 / 35 kV
kV range	0,5 kV
kV resolution (Man & Auto mode)	±1%
kV precision	± 0,1%
kV repeatability	d1.5 ms from 0 to100%
kV rise time	XX, X kV (3 digits)
kV display	100 mA
Anode current max	Small focus: 1/200 mAs (from 20 to 30 kV) 1/180 mAs (from 31 to 35 kV)
mAs range	Large focus: 1/640 mAs (from 230 kV) 1/500 mAs (from 31 to 35 kV)
mAs resolution (Automatic)	0,1 mAs
mAs display	XXX,X mAs (4 digits)
Exposure Time	Automatically selected according to selected mAs

X-RAY TUBE ASSEMBLY	**(IAE type XM12i)**
Anode rotation speed	3000 rpm 50 Hz
Target material	Molybdenum
Maximum Anode Heat Content	225 kJ (300 kHU)
Maximum Anode Cooling rate	500 W
Maximum X-Ray Tube Assembly Heat Content	320 kJ (440 kHU)
Housing continuous Heat Dissipation Cooling	80 W (108 HU/s)
Cooling method	Free air convection
Anode Disc Target Angle	12.5 °
Anode Disc Diameter	80 mm
Power	4,8/1,15KW large/small focus
Focal spots	2
Focal spot size according to IEC 336	0,1 - 0,3 mm
X-RAY Window	0,5 mm Beryllium
Inherent filtration	0,0 mm Al IEC 522/1976
Fix Filter (standard)	30 µm Molybdenum
Automatic Filter Filtromamm (optional)	30 µm Molybdenum 30 µm Rhodium
HVL measured at 28 kV	> 0.3 mm Al equiv.
TOTAL FILTRATION	> 0.5 mm Al

TUBE ASSEMBLY THERMAL OVERLOAD PROTECTION	
With active temperature sensor under main CPU control	Upper limit temperature 65° outside tube housing. HU and °C display available in technical menu.

AUTOMATIC EXPOSURE CONTROL	
Controlled parameters	Auto kV / Auto mAs (ZERO POINT) Manual kV / Auto mAs (ONE POINT)
Auto parameters selection criteria	Selected according to effective BREAST DENSITY measured by pre-exposured x-ray pulse ≤ 10 msec
Auto kV range	Function of the selected technique (standard-extended high contrast-low dose), the Anode/Filter coupling and the precise regulation + 0.5/+ 1/+ 1.5kV
Manual density control	11 steps 0 ± 5
Film Screen combinations	Programmable from PC independently for all the operative techniques available
Film Screen combinations with Reduced Deata O.D. linearity over 2 to 6 cm of Plexiglas	3 film/screen with manual programmable optical density ± 0,1 of O.D.
Reference O.D.	Programmable during installation
A.E.C. short time stability measured over 10 exposures taken at 28 kV 50mAs	<3%
Detector	PHTM SOLID STATE (9 active sensor)
Detector Positions	3 Electronically selected positions
Detector saturation protection	Effective protection against erratic response due to detector saturation
Test Phantom	3x2 cm + 1 cm + 0,5 cm of Plexiglas for calibration and daily self test procedure
Density Limit	For breast density higher max value programmed during calibration with a dose< 1mAs
A.E.C. Self Test Procedure	Included in control panel functions
Average glandular dose measured in ACR method: 4,5 cm phantom of 50% glandular tissue and 50% adipose tissue exposure taken with 28 kV	< 3 mGy

IMAGE QUALITY	
Measured by ARCADE, Marseille (Fr), with RMI phantom model 156	Maximum SCORE = 54 obtained with unit serial n. 139 on 23/09/1996
Spatial resolution	>14 lp/mm in both directions

C-ARM	
F. F. D.	65cm for standard C-ARM
Rotation	Manual ±180° with disc brake
Vertical movement with respect to Breast support	65cm FFD C-ARM
C-ARM in vertical position)	55cm min to 130 cm max 83 to 149 cm FFD 65 cm 78 to 144 cm FFD 70 cm
Patient protection	With lexan screen for patient's face protection

COLLIMATOR	
Light beam	With automatic switch ON when operating compression and electronic timer
Light intensity	≥ 150 Lux
Light BEAM collimation accuracy	according to IEC 601-1-3
Mirror	with automatic out of field function
Collimation plates	STANDARD: Fixed collimation plate 18X24 cm and Ø 14 cm size OPTIONAL ON REQUEST: Interchangeable collimation plates 10x24 cm, 24x30 cm

COMPRESSION SYSTEM	
Compression Paddle movement	Manual or motor driven
Compression Paddles	16×22cm shifted 12×8cm flat OPTIONAL ON REQUEST: 12×22cm flat 10×22cm shifted 16×22cm shifted with metallic grid for 2D biopsy 10×8cm shifted
Distance between the compression paddle and the image receptor	65 cm FFD C-ARM
Compression Thickness Display	Not necessary with available AEC Digital display only for 65cm FFD C-ARM
Compression Paddle Release after exposure	Selectable from control panel, automatic or manual for 2D biopsy

MAGNIFICATION	
Magnification ratio	x1,5 / x2

POTTER BUCKY	
Bucky factor (grid)	1.96
Ratio	5:1
Lines/cm	36
Contrast factor	1,47
Cassette size	STANDARD: 18x24cm OPTIONAL ON REQUEST: 24x30cm with collimator, compression paddle and adaptor 24x30cm with collimator, compression paddle (without paddle)
Cassette compatibility	All most known brands with window as: Agfa, Dupont, Fuji, Kodak, 3M
Cassette detector switch	Alarm in 5 languages to avoid double exposure or exposure without cassette
Top Cover	Carbon fibre
Film marker	Integrated with 9 brass labels
Test with NORMI Phantom	Typical 3,5 balls
Other features	Grid movement synchronized with X-ray beam

DOSEMETER	
Measured dose	Dose at skin level
Data visualization	On display, label printer and data memory with average dose value on 1300 exposition to check released dose

CONTROL TABLE	
Technology	Microprocessor controlled exceeding safety features required by IEC 601-1-4 All functions under active operator control
Display	GRAPHIC LCD Display 240 x 128 dots
Alarm messages	In 5 languages
Serial port exposition data for Easy label	Dedicated for Film Labelling device Easy label (200 characters printed), A.E.C. / tube calibration and last 1300 exposures memory download
Digital imaging system interface	
Exposition memory	Last 1300 exposure memory Tube Thermal Unit display and active protection. Technical display for self-test and defective block identification, firmware release, exposure counter and last exposure time/date.
Statistics function	Average dose, number of exposures for every kV value, number of exposures in every test technique

PROTECTIVE GLASS	
Protective glass	OPTIONAL ON REQUEST: Operator hinged lead screen size 210cm (h) x 70 cm (w) >0,34 mm Pb equivalent @35kV

ENVIRONMENT PROTECTION AND WASTE DISPOSAL	
Storage in original packing conditions	Temperature: -20° C / +70° C Relative humidity: 10% / 90% Barometric pressure: 500 hPa / 1060 hPa
Operating conditions	Temperature: +10° C / +40 °C Relative humidity: 30% / 75% Barometric pressure: 700 hPa / 1060 hPa
Protection degree according to standard IEC 529	IP 30
Heat dissipated in max load condition of 35 kV 500 mAs (1 shot every 5 min)	264 Kcal/h

ENVIRONMENT PROTECTION AND WASTE DISPOSAL	
Device contains in some of its parts and subassemblies, solid and liquid substances that must be disposed only by designated companies according to local laws.	
More specifically, device contains:	
Tube assembly	Beryllium, lead, glass, dielectric oil (PCB free), other metals and plastic
HV transformer	Dielectric oil (PCB free), plastic, copper other metals
Other subassemblies	Plastic, other metals, electronic components glass-epoxy printed circuits.

Technical data can change without prior notice

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