

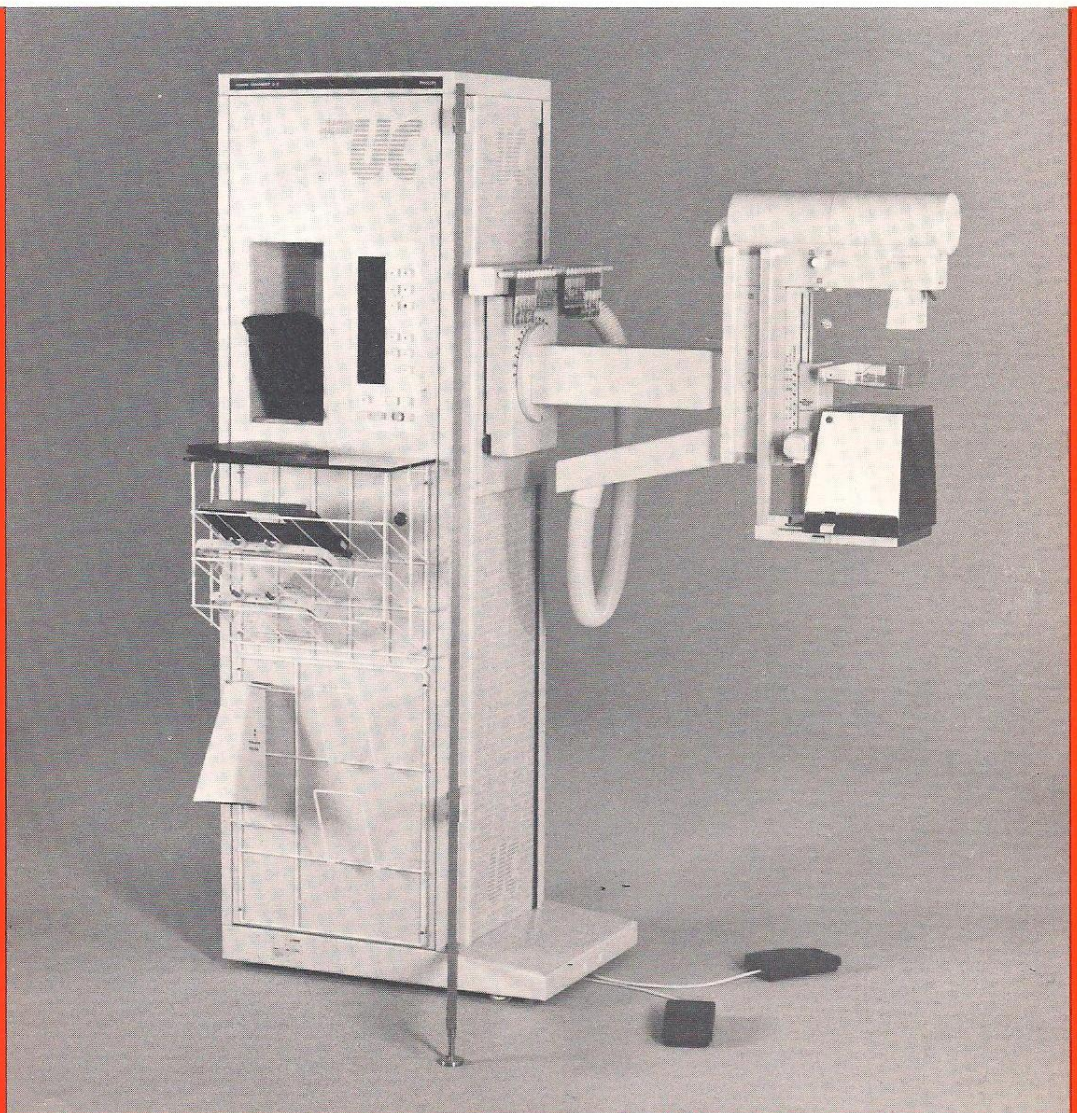


PHILIPS

Philips Medical Systems

mammo DIAGNOST UC

RAIGS X
ELECTROMEDICINA
c/ XIFRÉ 82. 08026 BARCELONA



Technical Data

Exposure unit

Vertical movement	72 cm, film-floor distance: 61 cm to 133 cm
Transverse movement	26 cm
Telescopic movement	25 cm
Rotation movement	$\pm 105^\circ$, check stops at 0° , $+ 90^\circ$, $- 90^\circ$
Tilt movement	12° in direction of patient (mechanically locked) 2 lock positions (0° and 12°)
Brakes	Electromagnetic brakes for movements of the exposure unit (excluding tilt) disengaged by pushbuttons
Source-image receptor distance	60 cm (SID)
Object table	Stainless steel coated Al-cast plate with built-in AMPLIMAT chamber
Magnification table	Surface area: 16 cm x 21 cm (carbon fibre reinforced plastic) distance from surface to film: 22 cm
Magnification factor	1:1.7
Focus-magnification table distance	36.5 cm
Film format	18 cm x 24 cm or optional 24 cm x 30 cm (Magnification technique only 18 cm x 24 cm)
Cassette holder	for cassettes 18 cm x 24 cm, other types on request
Film labeling	Film markers with letters and symbols for left/right and direction of projection can be clamped to the metal bar of the compression paddles. For magnification technique they are inserted into the slot at the magnification table.
Compression	<ul style="list-style-type: none">- interchangeable compression paddles- motorized precompression by footswitch (60 N to 160 N)- manual final compression (to 300 N)- decompression by hand
Compression travel	with moving grid : 20 cm with cassette holder : 24 cm with magnification table : 14 cm
Collimator cones	<ul style="list-style-type: none">- for film-screen technique with and without grid unit for: 18 cm x 24 cm (8" x 10"), SID: 60 cm- for target technique: special cone and compression paddle with symbols for marking the exposure- for magnification technique: special cone
Illumination lamp	Built-in for checking X-ray beam field

Ionization chamber	Soft X-ray ionization chamber AMPLIMAT 26, integrated in object table
Field setting	Chamber movable up to about 30 mm from front edge of object tabletop, access from both sides of plate. The measuring field range is marked on the compression paddles as a visual aid to adjusting.
Shape of measurement field	Circle segment of 7 cm diameter and 3 cm chord height
X-ray tube assembly	ROM 20 - ROT 206 For technical details see enclosed operator's manual ROM 20 - ROT 206
X-ray generator	Microprocessor-controlled converter generator
Mains supply	208 V, 220 V, 240 V \pm 10%; 50 Hz and 60 Hz \pm 1 Hz; single-phase/two-phase
Maximum current input at mains resistance	Transformer switchover to: 208 V, 220 V, 240 V 208 V: 0.35 Ω , 43 A 220 V: 0.40 Ω , 40 A 240 V: 0.45 Ω , 37 A
Adaption transformer (optional)	For operation at mains voltages of 110 V or 127 V 110 V: 0.25 Ω , 38 A (at 2 kW) 127 V: 0.28 Ω , 33 A (at 2 kW)
Maximum current input is achieved under following conditions:	Tube output: 3 kW Technique: kV-mAs Focal spot: large High voltage: 30 kV
Nominal tube output	120 mA at 25 kV 75 mA at 40 kV 61 mA at 49 kV
High tension generation	Medium frequency converter generator
Percentage ripple	4%, corresponds to DC voltage by definition of DIN and IEC
Rating and duty cycle	Rated voltage: 49 kV Rated output: 3 kW (setting: 30 kV; 0.5 s) 2 kW (limitation at working with 110 V) Duty cycle: 200 W, 100% (2 exp./min at 3 kW; 2 s)

Technical Data (continued)

Automatic exposure control	<p>The automatic exposure control facility is switched on by selecting the film-screen buttons or operating the density change</p> <p>Sensitivity: Can be programmed by the Service Organization in 40 steps of 12.2% for each film-screen combination</p> <p>Screen types: 2 different film-screen combinations selectable via buttons OTC (object thickness correction): density adjustment according to object thickness</p> <p>Density change: 2 ± buttons for setting 1 of 7 steps (+3, +2, +1, 0, -1, -2, -3) with 3 different step sizes of 12.2%, 25.8% (Standard) or 41.2%, programmable by Service</p>
Setting ranges	<p>Tube voltage: 22 kV to 49 kV, adjustable in steps of 1 kV each mAs product (figures in mAs): 5, 6, 8, 10, 12, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160, 200, 250, 320, 400. (Selectable by push button)</p> <p>Switching time: without AMPLIMAT: 30 ms to 4 s (resulting from mAs choice) with AMPLIMAT: 5 ms to 4 s</p>
Outputs	3 kW max. (4 s): 2 kW can be programmed by the Service Organization 3 kW fixed
Accuracy of service data, tolerances	Complies with the requirements of IEC 601-2-7/DIN VDE 0750 Part 21 using the IEC test conditions
Current time ref. product	Reference value for compliance range of linearity of radiation emitted. 25 kV, 63 mAs 35 kV, 40 mAs 49 kV, 32 mAs

Requirement	Compliance			
Reproducibility of emitted radiation	Over the entire range of settings			
Linearity of emitted radiation at current-time reference product	Over the entire range of settings			
Consistency of emitted radiation with automatic exposure control	Over the entire range of settings			
Accuracy of X-ray tube load factors: Tube voltage Current-time product Current-time reference product	Complies Complies Complies			
X-ray tube voltage Tube current-time product mAs post display in kV technique	<table border="0"> <tr> <td>±5% or ±1 kV ±5% or ±1 mAs ±5% or ±1 mAs</td> <td style="font-size: 2em; vertical-align: middle;">}</td> <td style="vertical-align: middle;">Max. deviation from preindication</td> </tr> </table>	±5% or ±1 kV ±5% or ±1 mAs ±5% or ±1 mAs	}	Max. deviation from preindication
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Methods of measurement:

X-ray tube voltage	X-ray tube voltage is measured with the aid of a balanced high-voltage divider in the high-tension circuit.
X-ray tube current	X-ray tube current is measured on the cathode side in the rectified high-tension circuit of the X-ray generator.
Load time	Load time is measured between $75\% \pm 7.5\%$ of peak voltage of high-tension rise edge and $75\% \pm 7.5\%$ peak voltage of high-tension fall edge.
Current-time product	Current-time product is measured on the cathode side in the rectified high-tension circuit of the X-ray generator.

Safety measures to prevent excess radiation:

Without automatic exposure	Triple safety: <ul style="list-style-type: none">- mAs shutdown when mAs product has been reached- Push button switch (dead-man type)- Additional timed shutdown dependent on exposure time
With automatic exposure	Shutdown after 4 s max.

Position of type plates mammo DIAGNOST UC system: on the rear of the object table