

PHILIPS® BV 25 MOBILE IMAGE INTENSIFIER



Specifications

X-ray Source

X-ray generator: DC converter-generator. X-ray tubes – focal spots: dual-focus stationary anode 0.6 and 1.8.

Fluoroscopy System

Image intensifier: 15 cm (6 in) high quantum absorption model with fibre output. TV camera tube: VIDICON with fibre input. Optical coupling between image intensifier and TV camera tube: glass-fibre optics. Source to image distance: 90 cm. Dose rate control: automatic, simultaneous kV/mA control with lock and manual override facilities. KV/mA range: from 0.1 mA at 40 kV to 3 mA at 100 kV. Focal spot: 0.6. Grid: fixed circular grid 44 lines/cm, ratio 8, SID = 90 cm.

Collimator

Iris diaphragm: electronically controlled iris diaphragm, automatically limited to size of image intensifier input field (15 cm Ø). Remotely controlled and steplessly adjustable to a field size of 5 cm diameter at input field image intensifier. Shutters: two parallel shutters of 0.5 mm Cu, remotely controlled and steplessly

adjustable for a field of 1 to 16 cm wide at image intensifier. The shutters can be rotated $\pm 90^\circ$; in the mid position, the slit aperture is perpendicular to the length of the generator housing.

TV System

XTV 5 50 Hz: 625 lines, 60 Hz: 525 lines. Bandwith: 15 MHz. Control: AGC feedback to dose rate control system. Video monitor(s): 51 cm (20") screen motorized, remotely controlled image rotation and reversal. Output signal for recording system: output level of the composite signal always 1.0 Vp-p positive across 75 ohms. Measuring field selection for adapting control mode to the objects to be examined: small measuring field: 0.3 x diameter of TV image, e.g. extremities. Intermediate measuring field: 0.5 x diameter of TV image, e.g. bile duct and gall bladder. The measuring field is selected automatically as a function of the kV used.

C-Arm Movements

Height adjustment: 50 cm, motorized. Horizontal movement: 20 cm. Scanning in horizontal plane: $12\ 1/2^\circ$ to either side. Rotation of c-arm: 205° in either direction. Orbital movement of c-arm: 115° . Distance between x-ray tube space and image intensifier with 30 cm spacer: 60 cm.

Radiography

Tube current: fixed, 20 mA. Tube voltage: adjustable in steps of 5 kV from 40 to 100 kV. Exposure time: adjustable in steps of 10 ms to 4.0 s (mAs is displayed). Focus: 1.8. Radiography parameter display: digital display of tube voltage (kV) and exposure time/current product (mAs). Collimator: if iris diaphragm was set to less than 15 cm during fluoroscopy, this remains so unless cancelled. Circular fields of 15 or 24 cm can be selected by remote control. Rotatable cassette holder: suitable for cassette and grid cassettes of 24 x 24 cm. Proffered grid: ratio 10.44 lines/cm, SID = 90 cm. Inherent filtration: 3 mm Al at 75 kV. Leakage radiation factor: 100 kVdc, 0.06 mA (2160 mAs/hr)

Accuracy of Display

Fluoroscopy: voltage deviation $\pm 6\% \pm 2\text{kV}$, current deviation $\pm 7\% \pm 0.02\text{ mA}$. Radiography: voltage deviation $\pm 10\%$, current deviation $\pm 10\%$, time deviation $\pm 2\text{ ms} \pm 3\%$, mAs product deviation $\pm 12\% \pm 0.04\text{ mAs}$

Weights

C-arm stand: 210 kg. Monitor trolley excluding image memory single monitor: 131 kg, dual monitors: 164 kg.

Mains Supply

Voltage: 110/120/127/190/208/220/240 V single phase, $\pm 10\%$. Frequency: 50/60 Hz. Earth leakage current: less than 100 μA