

POLYRAD S

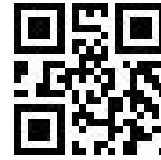
GENERAL RADIOGRAPHIC SYSTEM

The radiographic system **POLYRAD S** is a compact system with a floating table and a tube stand. It allows, with an absolute mobility and friendly-use, the obtaining of x-rays from any part of the body in any position of the patient, with vertical, horizontal and angled projections.

The system has been designed focusing on flexibility and friendly use, and it can also be configured depending on your exact clinical requirements, including: chest, spine, complete skeletal, abdominal, urological studies.

CONFIGURATION:

- **Floor mounted Tube stand POLYRAD S**
- **Four ways Floating Table POLYRAD S**
- **H.T. Cables 9 m**
- **Manual Collimator**
- **Wall Bucky stand POLYRAD S**
- **X-Ray Generator RST310 32KW 125Kvp, 400mA**
- **X-Ray Tube E7239X 140KHU FOCAL SPOT 1-2mm**



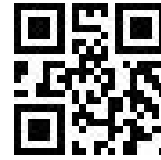
FLOOR MOUNTED TUBE STAND POLYRAD S

Lineal Movements	
Tube Arm	
Longitudinal travel	248 cm
Vertical travel	150 cm
Transversal travel (telescopic arm)	30 cm
Film center to floor	40 to 190 cm
Rotational Movements	
Column Rotation	$\pm 90^\circ$ (detents $+90^\circ$, 0° and -90°)
Tube Arm Rotation Horizontal Axis	$\pm 180^\circ$ (detents $+90^\circ$, 0° and -90°)
Oblique projections	$\pm 45^\circ$

Control Panel

- **Brakes controlled** system by pushing **buttons**, for vertical, longitudinal and transversal travel.
- **Moving Handles** covered with synthetic rubber.
- **Goniometer** for X-Ray beam incidence angulations indication.
- Balancing system with **counterweights**.
- **Electromagnetic brakes**.





Radiographic Table POLYRAD S

The **Fixed** table **POLYRAD S** has a high precision bearing system that guaranties a smooth and parallel movement on the four ways of the table top. The ergonomic design makes it friendly-use for both the patient and operator. It has been also built strong and solid.

- Four ways floating table top bucky table with electromagnetic brakes.
- High impact resistance strong table base
- Foot switch at the bottom of the table for electromagnetic brakes controls.



POLYRAD S TABLE	
Table top	
Size	220 cm. x 86,8 cm
Weight Capacity	300 kg
Height (from floor)	76 cm
Longitudinal travel	90 cm. \pm 45 cm.
Transversal travel	23 cm. \pm 11,5 cm.
Al equivalence	< 1 mm Al. equivalence
Bucky longitudinal travel	51,8 cm.
Radiographic coverage	>200 cm.

Moving Grid	
Dimensions	44 x 48 cm
Number of pairs of lines	103 lines/inch, 40 lines /cm
Grid ratio	12:1
Focalized at	100 cm
Material	Inter spaced Aluminium

HIGH TENSION CABLES

- Two 9 Ultra Flexible High Tension Cables 75 KVp.



WALL BUCKY, POLYRAD S

The Wall Stand is a **heavy-duty vertical stand**, providing full flexibility for radiographic examinations. This stand is suitable for all varieties of examinations including horizontal, vertical and oblique angles.

It allows **off-table radiographies** of skull and spine in horizontal and vertical positions and a variety of radiographs of patient standing, recumbent, sitting on a wheelchair or on a stretcher.

- Wall stand **non tilting**
- Total **counterbalance** for easy movement
- **Mechanical brakes** for the vertical travel positioning



WALL STAND MULTIRAD	
Vertical travel	150 cm
Minimum high from floor	40cm
Maximum high from floor	190 cm
Minimum distance center film to floor	40cm
Brakes	Electromagnetic

Moving Grid	
Dimensions	44 x 48 cm
Number of pairs of lines	103 lines/inch, 40 lines /cm
Grid ratio	12:1
Focalized at	150 cm
Material	Inter spaced Aluminium



MANUAL COLIMATOR SCOL225ETBLL

- *The square-field X-ray beam Limiting Device is designed for installation on rotating or fixed anode X-ray tubes*
- *The x-ray field is defined by 6 pairs of shutters, four of which are lead-lined. The six pairs of shutter move perpendicularly within the x-ray field.*
- *Two pairs of bronze shutters are located near the focus, two are located near the entrance window and two are located near the exit window of the x-ray beam from the collimator. The latter shutters serve to accurately define the x-ray field edges*
- **TECHNICAL FEATURES:**
 - *Variable square-field min: 4x4 cm max: 48x48 cm. at 100cm DFF*
 - *Cluster of power LED to project the light field simulating the x-ray field*
 - *Timer to limit the lighting exposure time of the light field from 30 to 60 seconds, setting via CAN_BUS*
 - *150 kVp 4 mA radiation shielding*
 - *Self-centring system to assemble the collimator to the x-ray tube*
 - *Collimator rotation*
 - *Laser line to align the collimator with the image receptor*
 - *Minimum inherent filtration 2 mm aluminium equivalent*
 - *Spacers, 1,5 mm thickness for mounting flange*

X-Ray Tube, model E7239X

- Maximum Tension, 125 KVp.
- Focus sizes:
 - Small focus 1.0 mm.
 - Large focus 2.0 mm.
- Maximum power low speed:
 - Small focus 21 kW (50 Hz), 22.5 kW (60 Hz)
 - Large focus 42.5 kW (50 Hz), 47 kW (60 Hz)
- Maximum Current:
 - Small focus 350 mA
 - Large focus 600 mA
- Anode degree target angle, 16 °
- Anode Heat capacity 140 KHU
- Anode Heat Dissipation Capacity 40,000 HU/min
- Housing Heat capacity 1,250 KHU
- Housing Heat Dissipation Capacity 15 KHU/min
- Anode rotation 2.700/3.200 r.p.m.
- Anode composition Rhenium & Tungsten faced; Molybdenum Target
- Anode Diameter 74 mm.
- Filtration equivalent 0,9 mm Al.





THREE PHASE HIGH FREQUENCY GENERATOR 32KW/125KV ANATOMICAL PROGRAM MODEL RST310 MICROPROCESSOR CONTROLLED

The high frequency x-ray generator technologies controlled by microprocessor improve the image quality and reduce the patient dose. The very low ripple and accuracy radiographic parameter kVp, mA and exposure time reduce the soft x-ray radiation and improve the homogeneity of the x-ray beam.

The high frequency x-ray generator controlled by microprocessor improve also the reliability of the whole system and reduce the maintenance cost, thanks to the constant monitoring of the system, with auto diagnostic and error code.

GENERATOR SPECIFICATIONS

- **Microprocessor controlled** with auto diagnostic and error code indication for easy maintenance
- **Constant potential** high frequency 25 KHz
- **Self-diagnosis** indicators identify malfunctions in the system. With **intuitive** error code indication for easy maintenance.
- Tube **protection** circuitry prolongs Tube life and **increases** system performance.
- Automatic **line compensation** $\pm 10\%$.
- Equipped with **closed loop control** of X-ray Tube current, kVp and filaments, which **minimize** potential errors and the need for **readjustments**.
- **Automatic** line voltage **compensation** due to closed loop operation of X-ray Tube current and kVp.
- **Independent Heat Unit** storage for each X-ray Tube, even after turning On/Off the equipment.
- **Hand switch** for preparation and exposure control.
- **Light and sound indications** for X-ray exposure.
- **Liquid crystal screen** for anatomical program and messages.





- **Four independent visuals** for reading for radiographic parameters.
- X ray tube **overload protection**.
- X-Ray tube H.U available **indication** and **continue monitoring** for x-ray tube **protection**.
- Control of X-ray Tube Number of Exposures.
- **Anatomical Programmer (APR)** for **six patient sizes** (three adults and three children), with pre-programmed anatomical views for automatic selection. The operator may introduce modifications manually in all the original APR techniques and store them for later use.
- **RAD operation Modes 0,1,2 & 3 points:**
 - Three point control: Selecting kVp, mA and Exposure Time independently.
 - Two point control: Selecting kVp and mAs independently. mAs selection sets the maximum Available for the selected Focal Spot and the respective Exposure Time. In this control mode, when kVp value is increased, the Generator will automatically look for the adequate combination of mA and Exposure Time factors to avoid the "Tube Overload" warning, keeping constant mAs.
 - One point control: Selecting kVp with AEC operations.
 - Zero point: Anatomical Programs (APR).





ANATOMICAL PROGRAM (APR)

- **Anatomical program APR** with 534 programmable techniques by the user.
- Console with anatomical program, microprocessor controlled
- Seven anatomical sections with different preprogrammed selection for six different sizes of patients: pediatric/adult and inside of each one small/normal/big.
- Personal configuration of the radiographic techniques and easy save in memory for latter uses
- The APR permits the program of any radiographic parameter needed for the study as:
 - **Work station**
 - **KVP, mA, mAs and exposure time**
 - **AEC, area and density**
 - **Combination of type of intensifier screen**
- Including a section (various in the touch screen console) for personalized configuration for other type of special studies not already contemplated. User-friendly configuration with all the parameters mentioned before.

RADIOGRAPHIC	GENERATOR MODEL RST310
KW Maximum Power	32KW
	Single-Phase 230 VAC
kVp Range (1kVp steps)	40 – 125Kvp
	Accuracy: ±(3% + 1 kVp)
mA Range	10 to 640mA in 19 steps (Renard scale) 10, 12.5, 16, 20, 25, 32, 40, 50, 64, 80, 100, 125, 160, 200, 250, 320, 400, 500, 640
	Accuracy: ±(4% + 1 mA)
Power Output (@ 0,1s)	400 mA @ 78 KVp 320 mA @ 100 KVp 250 mA @ 125 KVp
Exposure Time Range	0.001 – 10 seconds Accuracy: ± (2% + 0.1 ms)
mAs Range	0.1 mAs – 500 mAs in 38 steps (Renard scale) Accuracy: ±(10% + 0.2 mAs)
High Voltage Ripple (Typ)	<1kVp @ 100 kVp



OPTION 1: Automatic Exposure Control, (AEC)

- Control of the Automatic Exposure Control for two three fields Ion Chamber on the system
- Operating mode: 0, 2 or 3 points.
 - Zero point: with anatomical program APR. Automatic selection of the programmed radiographic parameters (Kvp, mAs, working station, AEC, Focal spot; according with patient size and anatomical area selected.)
 - Two Points: Kvp and mAs.
 - Three points: Kvp, mA and time
- **2 ION CHAMBER FOR AEC**
 - Three fields Ion Chamber
 - Range of KVp, from 40 to 150 kVp
 - Range of dose, 0.5 at 1000 μ Gy/sec.
 - Range of exposition time, from 0.001 to 10 sec.
 - Absorption equivalent to 0.65 mm. Al.
 - Differences between areas, less than 5 %
 - Power supply tension, ± 11.5 Vdc a ± 15.75 Vdc
 - Adaptation and cables for the connection between the Generator and the Chamber
- Adaptation to control more than two Ion Chambers in the system