

SIEMENS



Datasheet

Polydoros RF Series

Generators for radiography and fluoroscopy systems

Answers for life.

Polydoros RF X-ray Generators

Siemens offers generators in the 30 to 100kW output range, suitable for almost all medical X-ray applications. We can also supply generators for special applications like computed tomography, mammography and mobile C-arms. We are experienced in designing or manufacturing monoblocks to cover virtually all X-ray imaging requirements. Available features include Automatic Exposure Control (AEC), high speed starter, conventional or pulsed fluoroscopy for dose reduction and tube load computing.



Touch Control Console

General

The Polydoros RF X-ray generators are the standard for a wide range of radiography and fluoroscopy systems.

The modular design of the RF family incorporates high versatility and excellent adaptation to all requirements of radiography and fluoroscopy applications. The generators for standard X-ray tube assemblies are available with a nominal power from 30 kW to 80 kW.

The generator can be controlled via several interfaces (Ethernet, Can, RS 422, Parallel). The integrated processor system provides excellent accuracy and reproducibility of the radiographic data by performing all control and regulating functions.

Two control consoles are available: one with membrane keys and one with touch panel operation. For fluoroscopic applications only touch panel operation is provided. For DR application a Mini Console is available, which provides on/off and exposure release functionality. To optimize the service life of the tube, the required cooling interval is shown after each exposure.

Option: A tube load computer determines the exact thermal condition of the tube. Tube load in HU's and required cooling time are displayed (part of the plus package).

Special features

- High frequency technology
- Highly accurate radiographic parameters
- Precise reproducibility
- Fast regulation of high voltage and tube current
- Short exposure times
- Minimal space requirements
- 32-bit microprocessor
- Digital display of all selected data
- User friendly operation
- Integrated service functions for ease of service

Customizing

In order to fulfill your particular requirements, we also provide you with customized versions of this product.

Polydoros RF X-ray Generators



Standard Control Console and optional Organ / Anatomic Control Console with 4 x 24 programs



Standard Control Console with membrane keys

Configuration		
Component	Polydoros RF ESU	Polydoros RF 80
Cabinet (cubicle)	•	•
Standard Control Console incl. cable (only radiography application)	•	•
Touch Control Console incl. cable (fluoroscopy and radiography application)	•	•
High-voltage transformer, 1 tube connection (inside cabinet)	•	•
Anode drive (3000 rpm)	•	•
Anode drive (up to 9000 rpm)	•	•
Energy storage unit (capacitor based – inside cabinet)	•	
Mini Console	•	•

Options

- In combination with the Standard Control Console: Organ/anatomic programs incl. control console (4 x 24 programs)
- Line matching transformer for 3-Ph-440V/480V (only for Polydoros RF available)
- External manual exposure switch
- Wall mount for control console
- Parallel interface
- Tube load computer

Accessories

- X-ray tube assembly
- Multi-leaf collimator
- High voltage cables

Control Consoles

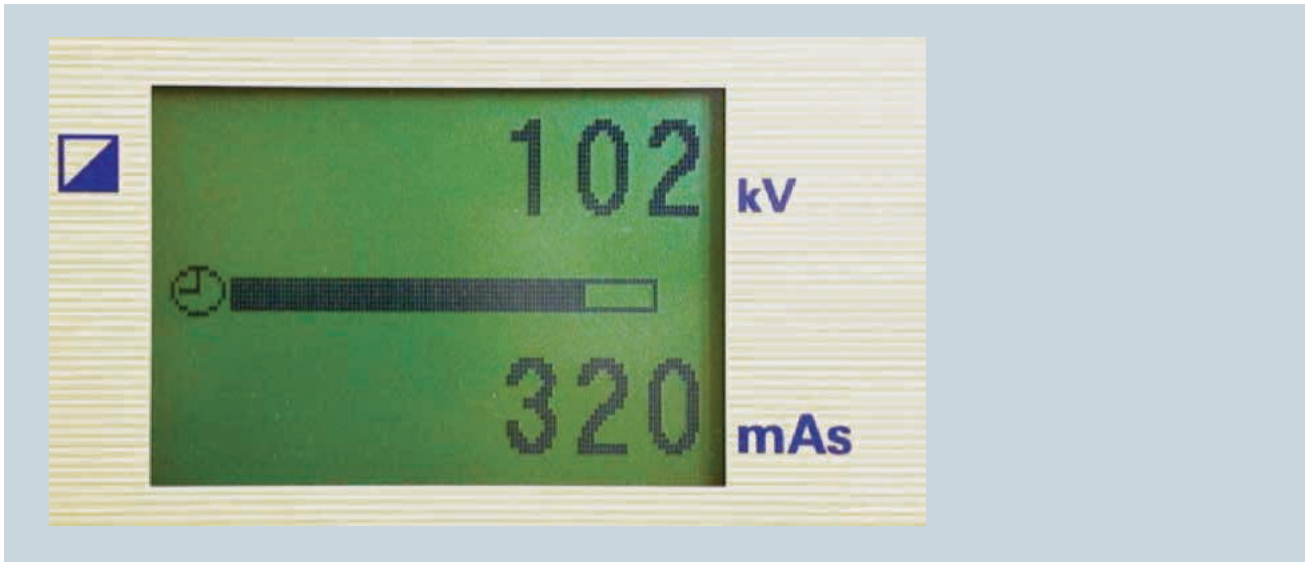
The RF generators are prepared for the connection of different control consoles.

Organ / anatomic programming

All radiographic parameters, e.g. the kV and mAs value, can be stored in the organ programs and selected at the touch of a button. The preset organ programs are easily modified by the user. For special cases, any of the technique parameters can be changed when the organ program is selected.

For anatomic programming in combination with the Standard Control Console an add-on console is used. The program buttons can be labeled in the desired language by the user in a simple manner.

Polydoros RF X-ray Generators



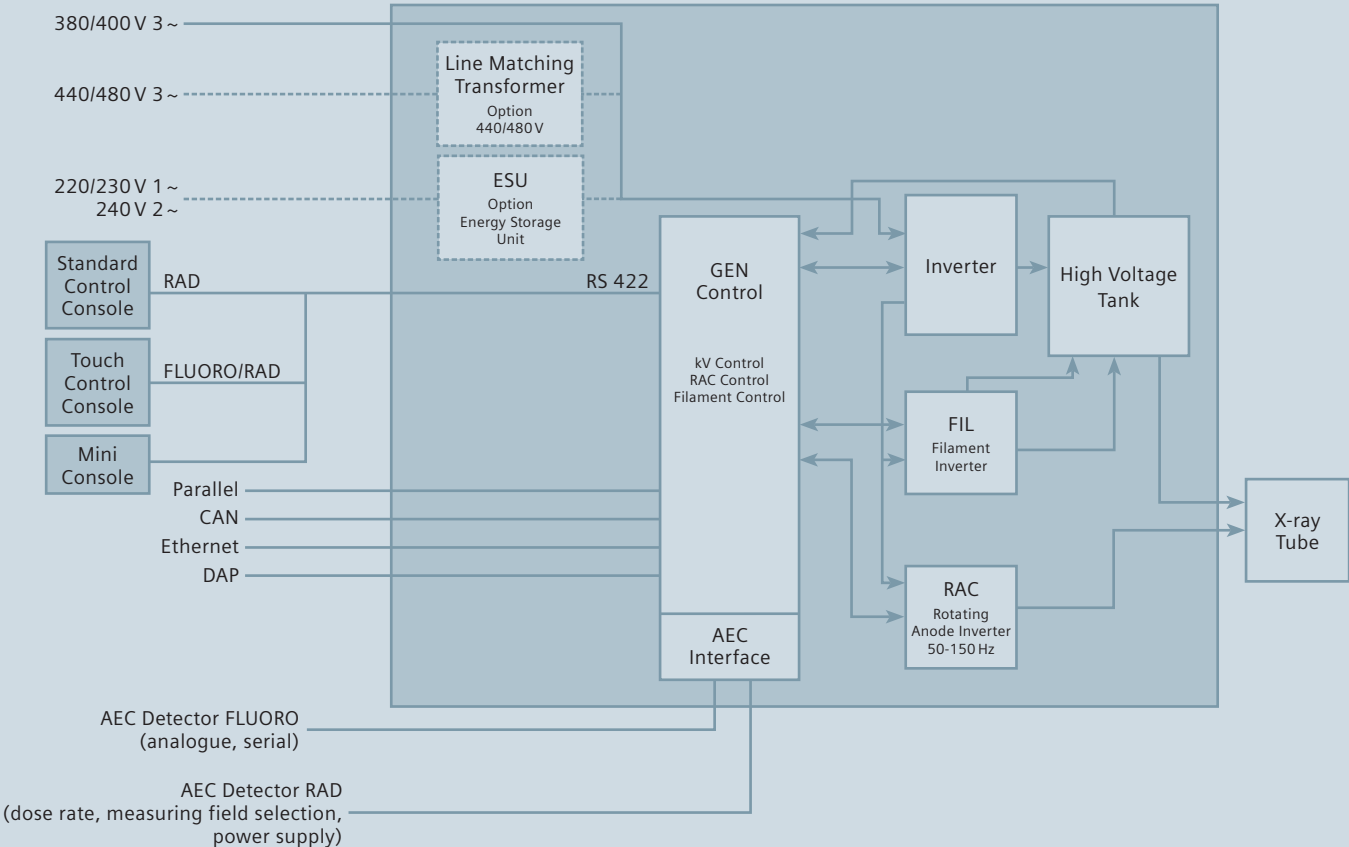
Cooling interval display on Standard Control Console

Generator	Polydoros RF 80				Polydoros RF ESU	
	30 kW	55 kW	65 kW	80 kW	30 kW ESU	55 kW ESU
Power rating	60 kV	1 mA to 500 mA	1 mA to 640 mA	1 mA to 1000 mA	1 mA to 500 mA	1 mA to 640 mA
	100 kV	1 mA to 300 mA	1 mA to 550 mA	1 mA to 650 mA	1 mA to 300 mA	1 mA to 550 mA
	125 kV	1 mA to 241 mA	1 mA to 443 mA	1 mA to 524 mA	1 mA to 240 mA	1 mA to 324 mA
	150 kV	1 mA to 200 mA	1 mA to 366 mA	1 mA to 433 mA	1 mA to 173 mA	1 mA to 173 mA
Exposure voltage	From 40 kV to 150 kV					
Fluoroscopy values continuous*	0.2 mA to 25 mA (40 kV), 0.2 mA to 9.09 mA (110 kV), 680 W continuously, 40 kV to 110 kV				0.2 mA to 11.3 mA, 390 W continuously, 40 kV to 90 kV	
Fluoroscopy values pulsed*	1 mA to 85 mA, 1000 W average, 40 kV to 110 kV, up to 30 frames/sec				1 mA to 85 mA, 450 W average, 40 kV to 110 kV, up to 30 frames/sec	
Automatic exposure control*	0-point technique with DR Mode 1-point technique with continuously falling load 2-point technique with constant load 3-point technique with constant load either mAs or mA (only with Touch Control Console)					
Tomography*	5 fixed time values					
Maximum mAs	From 0.5 to 800 mAs graduated either in 33 fixed values of one or in 65 values of 1/2 exposure point				From 0.5 to 500 mAs graduated either in 33 fixed values of one or in 65 values of 1/2 exposure point	
Max. mAs	60 kV	800 mAs			500 mAs	
	100 kV	560 mAs			300 mAs	
	125 kV	444 mAs			250 mAs	
	150 kV	373 mAs			200 mAs	
Exposure time	1-point technique: 1 ms to 5 s with mAs-post-indication 2-point technique: 1 ms to 5 s depending on mAs and kV 3-point technique: 20 ms to 5 s depending on mAs and kV					
Tolerances	kV accuracy: $\pm 5\%$; mAs accuracy: $\pm 10\% + 0.2 \text{ mAs}$, according to IEC60601-2-7 / IEC60601-2-54					
Power line connection	380 V $+15\% -10\%$, 50/60 Hz $\pm 3 \text{ Hz}$, 3-phase, PE, 400 V $+10\% -15\%$, 50/60 Hz $\pm 3 \text{ Hz}$, 3-phase, PE, 440 V/480 V $\pm 10\%$, 50/60 Hz $\pm 3 \text{ Hz}$, 3-phase, PE with optional line matching transformer				220 V/230 V, (Tolerance 200 V – 253 V), 50/60 Hz $\pm 3 \text{ Hz}$, 1-phase, N, PE, 240 V, (Tolerance 216 V – 264 V), 50/60 Hz $\pm 3 \text{ Hz}$, 2-phase, PE	
Line impedance	According to IEC60601-2-7 / IEC60601-2-54				$\leq 2 \text{ Ohm}$	
Dimensions	1020 (l) x 570 (w) x 542 (h) mm					

* Option

Polydoros RF X-ray Generators

Block Diagram – Generator Polydoros RF



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