

HPE-225-54 SUBSYSTEM

X-RAY TUBE AND GENERATOR SUBSYSTEM



225kV Subsystem Based on X-Ray Tube with Novel Emitter for Higher Resolution and Greater Dose Efficiency

OVERVIEW

Varex Imaging's HPE-225-54 subsystem features our High Performance Emitter x-ray tube which incorporates a uniform focal spot that provides increased resolution for high-magnification systems by eliminating any unwanted radiation introduced by focal spot wings.

The combination of larger anode angle and Varex Imaging's High Performance Emitter technology means that resolution is maintained across the whole area of illumination, even on large area detectors.

The subsystem is comprised of the HPE-225-54 x-ray tube, generator, high voltage cable, analog or digital interface and chiller. The combination of these market-leading components creates a sub-system designed to meet the users' needs¹ that is verified and tested as a sub-system to be reliable out-of-the box.

FEATURES AND BENEFITS

- 225kV at 1.77mA (400W max)
- 400um (max) Focal Spot (true EN12543 measurement)
- Unique emitter delivering Uniform X-Ray spot
- Improved dose uniformity
- Complete subsystem: tube, generator, controls and cooling

APPLICATIONS¹

- Non-destructive testing (NDT)
- 3D Cone Beam CT
- High Resolution Inspection
- Inline Inspection
- Large Area Imaging

¹ System manufacturers are responsible for qualifying and validating their products for their intended uses and meeting all applicable regulatory requirements.

HPE SUB-SYSTEM	
Maximum Power	400 W (with 4 Litre/min cooling flow)
Anode Potential	30 - 225 kVp (see emission chart for details)
Maximum Tube Current	3.6 mA
Operating Temperature	+5°C to +40°C
Storage Temperature	-20°C to +70°C
Humidity	20% to 80%, non-condensing
kV Accuracy	±1%
mA Accuracy	±0.5%
HV Cable	5m (other lengths available upon request)

HPE-225-54 X-RAY TUBE	
Envelope	Ceramic
Target Materials	Tungsten (W)
Inherent Filtration	0.8mm Be
Target Angle	15° from the Central Ray
Focal Spot EN 12543:2019	D = 0.39mm
Filament Characteristics	3.5 Amps and 3.3 Volts maximum
Cooling	50/50 mix of Glycol and Water
Weight	10.5kg
HV Receptacle Type	R24

CFL227 GENERATOR	
Input Power	220V +/-10% @ 13A, 47-63Hz
Digital Interface	RS-232, RS422
Analog Interface	Analogue MP1 Controller
Weight	180kg
HV Receptacle Type	R24

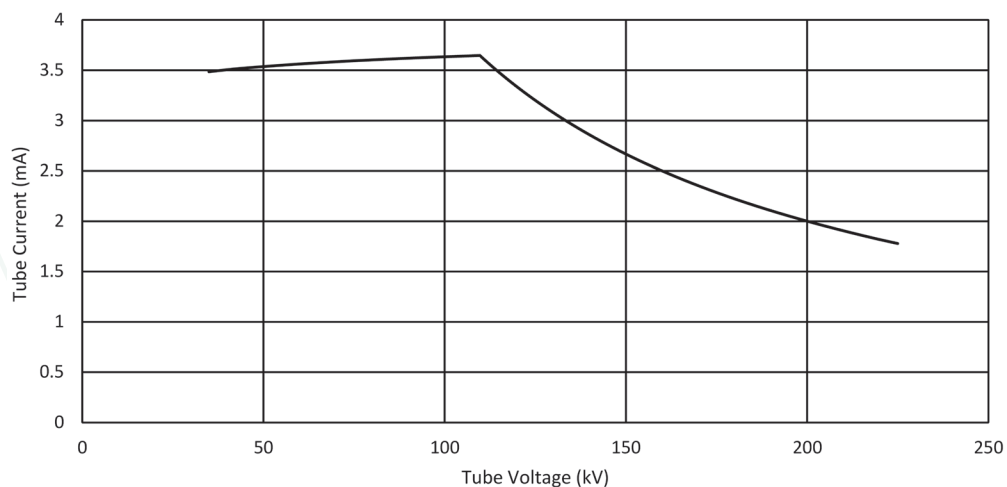
Regulatory Approvals

Emissions and Immunity. BS EN 61326-1
 Safety requirements for electrical equipment for measurement control and laboratory use Part 1: General requirements. BS EN 61010-1:2010
 Conducted Emissions to BS EN 50081-2,
 Radiation Emissions to BS EN 50081-2,
 Electromagnetic Field Immunity to BS EN 50082-2,
 Electrical Fast Transient Immunity to BS EN 50082-2,
 Electrical Safety to BS EN 61010-1, Electrical Testing to BS EN 60204-1

CHILLER	
Performance	
Cooling capacity ¹	3,000 Watts
Flow Rate	6.0 lpm @ 4 bar
Operation	
Coolant	Water or Water/Glycol
Operational temperature range	5°C to 40°C
Storage temperature range (w/o coolant)	-25°C to 70°C
Humidity range	20% to 80%
Input Voltage	230 VAC
Frequency	50/60 Hz
Current Draw	2.5 Amps
Noise	< 59 dB(A)
Flow switch open	4.0 lpm
Maximum forward pressure	8.0 bar
Physical	
Dimensions (H x W x D)	48.1 x 39.8 x 47.9 cm
Weight (w/o coolant)	38.5 kg
Coolant Capacity	3.7 L
Couplings	Press Fit (9mm ID hose)

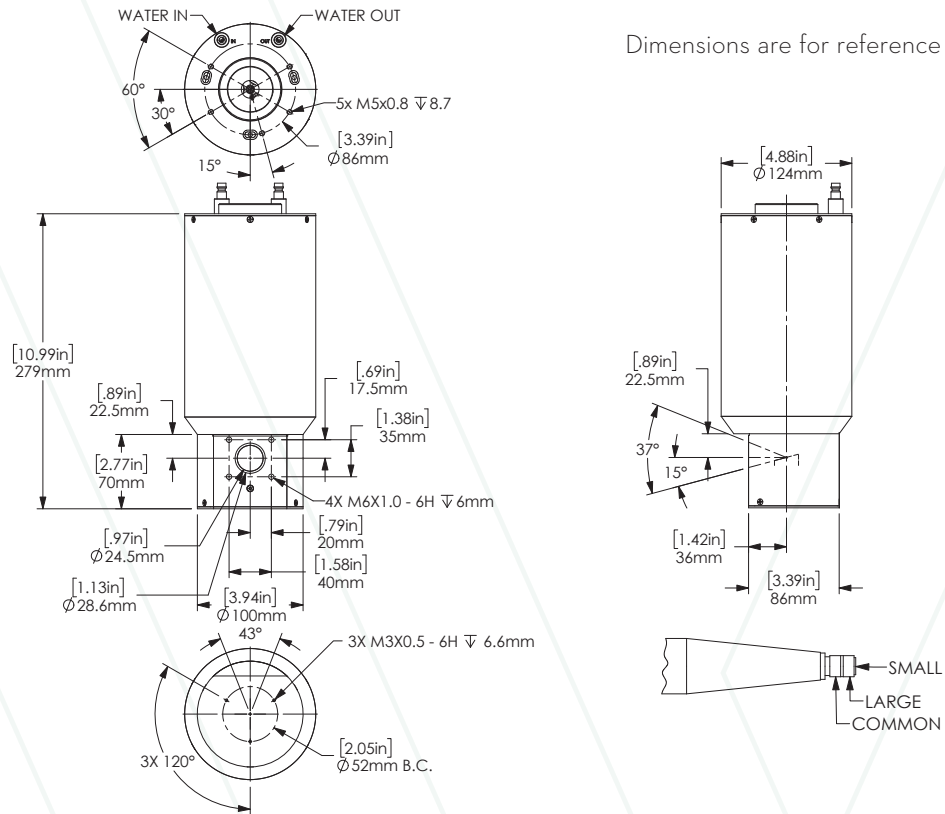
¹ Capacity rating is given at a temperature of 25°C (77°F) for the ambient air and water outlet temperature of 12°C.

HPE-225-54 Power Curve

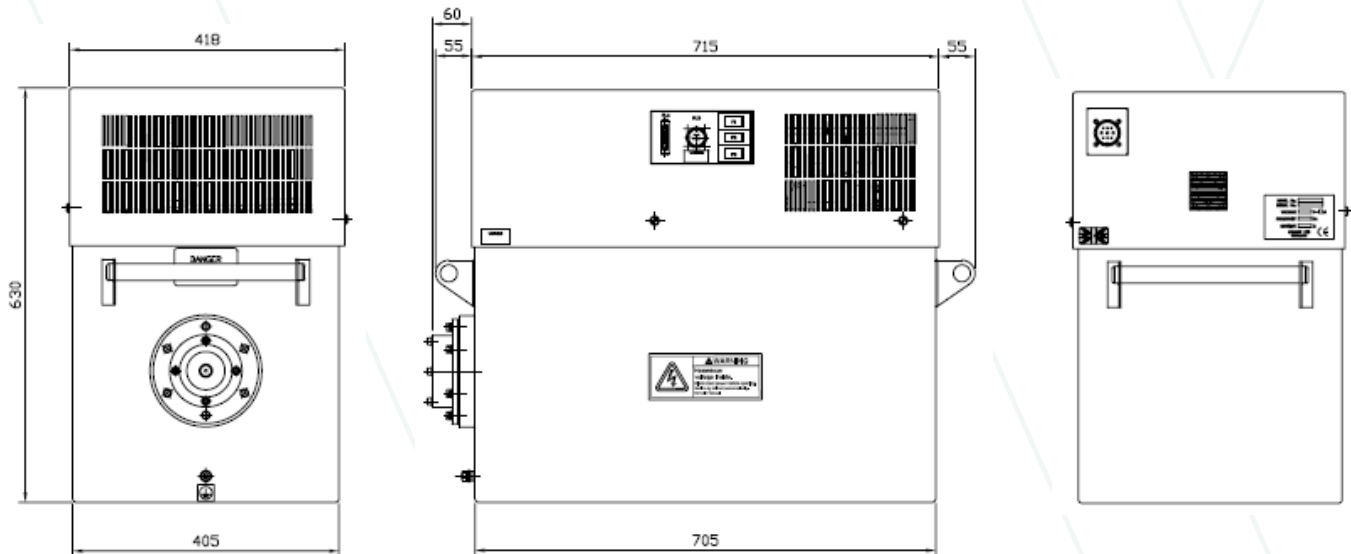


HPE-225-54

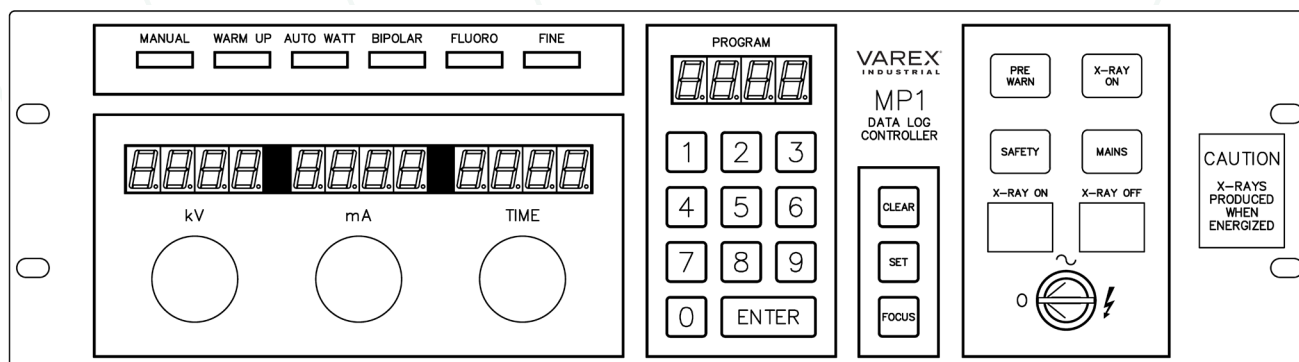
Dimensions are for reference only



CLF-227 GENERATOR

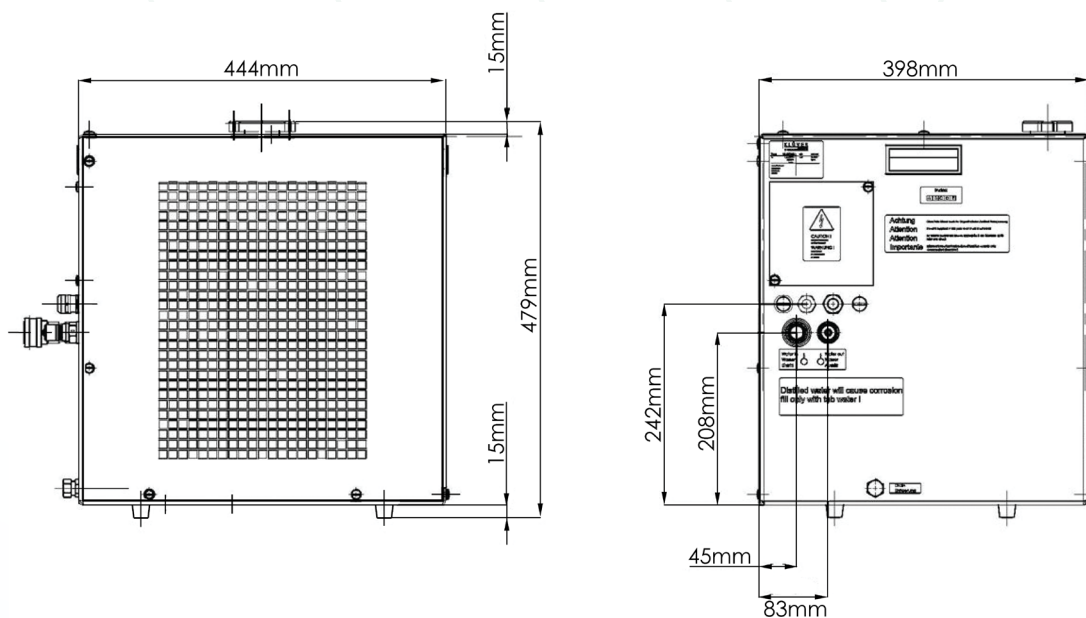


CONTROLLER



Standard Rack Mount:
Width 482mm (19.6")
Height 133mm (5.4")
Depth 240mm (9.75")
Weight 3.5 Kg

CHILLER



Contents in this document are subject to change without notice.

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