

# LINATRON K

## FOR SECURITY & INDUSTRIAL SOLUTIONS



When it comes to testing for material integrity, place your trust in a company renowned for leading-edge technology with a track record spanning over 50 years. Varex Imaging's Linatron® K-Series gives users the power to inspect everything from automotive parts and castings to rockets and aerospace products. Look to Varex Imaging for the new generation of high-energy linear accelerators—and experience quality without compromise.

[www.vareximaging.com](http://www.vareximaging.com)

# Linatron K Specifications

## Performance

### X-ray Beam Energy

- The nominal peak beam energies are 9 MeV and 15 MeV. Energies up to 20 MeV can be achieved

### X-ray Beam Dose Rate

- The dose rate is specified at one meter from the target, on the central axis, for one minute (Gy/min-m):
  - 9 MeV - 12-36 Gy/min-m
  - 15 MeV - 40-120 Gy/min-m
  - At 20 MeV, max output is ~ 30 Gy/min-m

### X-ray Field Size

- Beam and field size are based on the collimator specified by the customer.

### X-ray Beam Flatness

- Dose rate flatness as a percentage of the central axis measured at +/-6° off the central axis.
  - 9 MeV - 55%
  - 15 MeV - 45%

### X-ray Beam Symmetry

- The beam asymmetry does not exceed 5% at +/-6° off the central axis in the vertical direction.

### X-ray Beam Stability

- Dose variation is within +/-10% after the first 10 seconds of beam on time. Use of reference detector recommended.

### X-ray Beam Focal Spot Size

- The focal spot size does not exceed 2.0 mm in diameter for both energies. Consult factory for smaller spot size requirements

### Radiographic Quality

- The system will demonstrate at least ASTM E 94-4 1-2T, or equivalent, sensitivity in steel at:
  - 9 MeV - 76mm (3") to 254mm (10")
  - 15 MeV - 254mm (10") to 460mm (18")

## Equipment Features

### General Arrangement

- Horizontal Operation

### Leakage Radiation

- Average leakage radiation over 100 cm<sup>2</sup> at 1 meter from the target outside of the primary beam will not exceed 0.1% of the central axis dose rate.
- The K15 high-energy photons produce significant neutron radiation. This neutron production must be considered in plant building design. Special K15 shielding limits the neutron leakage to approximately 0.1% rem/X-ray rad in the forward cone from +/-60° to +/-90°, and 0.01 rem/X-ray rad in all other directions outside the primary beam.

### Cabinet Enclosures

- All system components including the X-ray head, modulator cabinet, and the temperature control unit are contained within grounded metal enclosures.

At 20 MeV, max output is ~ 30 Gy/min-m

## More Information

As the world's largest independent supplier of medical X-ray components, we have extensive experience providing high-quality, safe, and effective products.

For more information, please contact a Varex Imaging sales representative at [ndt.cs@vareximaging.com](mailto:ndt.cs@vareximaging.com) or [security.cs@vareximaging.com](mailto:security.cs@vareximaging.com).



## Power

### Source Description

Linatron Power: 45 KVA at 50 or 60 Hz 400 VAC 3-phase, 3 wire plus neutral plus ground (5 wire system), 65 Amp, with ± 5% voltage regulation  
TCU Power: 26 KVA at 50 or 60 Hz  
400 VAC 3-phase @ 50 Hz or  
460 VAC 3-phase @ 60 Hz

## Cooling & Ventilation

### Indoor Service

The room temperature for all equipment (except TCU) must be between 5°C (41°F) and 35°C (95°F) with maximum RH of 90% (non-condensing).

The standard Temperature Control Unit may operate inside or outside at temperatures from -10° to +40°C. A low temperature option allows operation to -40°C.

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Revision: 1 04/2017