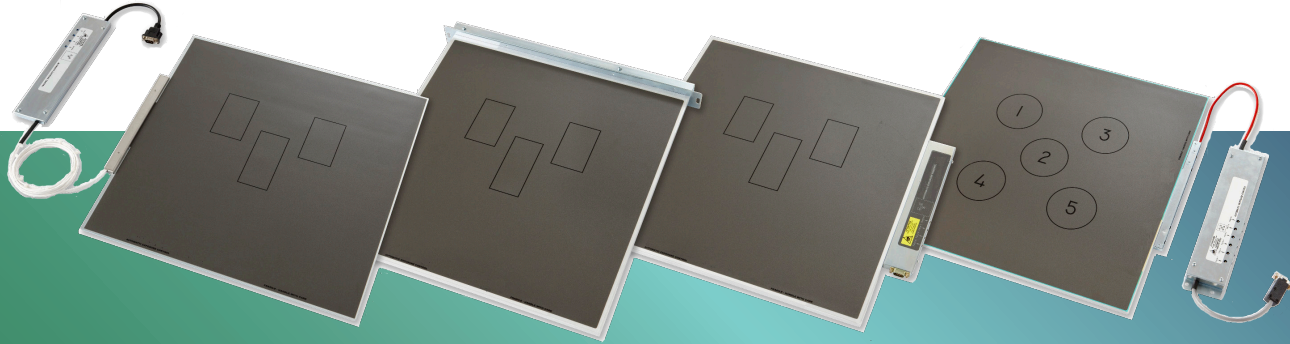


IONIZATION CHAMBERS

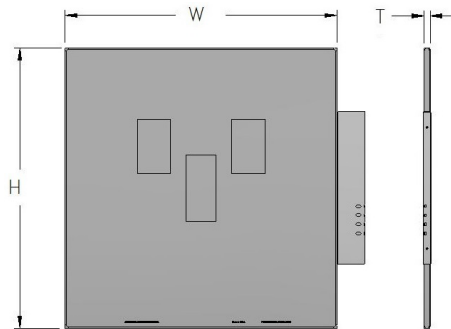


OVERVIEW

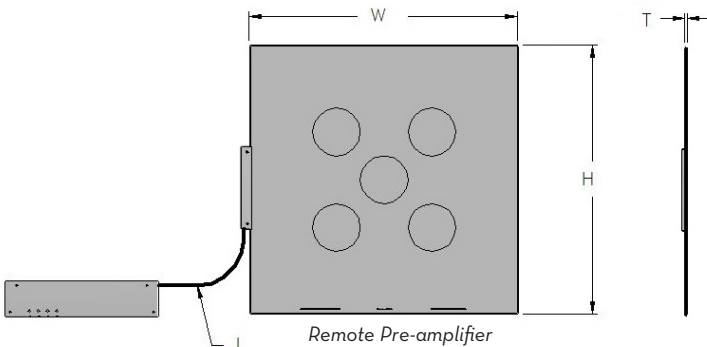
A Varex ionization chamber is a device that is placed between the patient and an x-ray image receptor to assist the Automatic Exposure Control (AEC) in delivering the proper x-ray dose in medical radiography. Its function is to provide a feedback signal proportional to the amount of radiation that is transmitted through the subject to the detector and to provide an output signal compatible with the AEC circuitry of an x-ray generator/control.

The x-ray generator uses the signal to terminate the x-ray exposure when the correct x-ray dose is achieved.

An Ionization chamber may also be connected to an AEC during fluoroscopy. In such cases, the AEC may increase or decrease exposure factors (mA, kV) to compensate for patient's anatomy size based on the output signal of the ionization chamber.



Attached Pre-amplifier



Remote Pre-amplifier

Varex offers a variety of models upon customer's request

# of Field	1 - 7
Shape of Field	Circular, rectangular, square
Outer Dimensions (Detector)*	Width (W): 240mm ~ 491mm Height (H): 240mm ~ 471mm Thickness (T): 3.5mm ~ 19.6mm
Viewable Image Area	Flexible upon request
Pre-amplifier Output**	Analog ramp output Analog pulse output Digital output
Cable Length (L) for Remote Pre-amplifier	Up to 1.5m

* Please contact us to inquire the physical dimensions of strain relief enclosure and the location of connector/cable exit.

**Varex pre-amplifiers interface with many AEC circuits used on OEM systems including Arcoma, Canon, Control-X, CPI, Del Medical, DRGEM, EMD, GE, Hitachi, Philips, Quantum, Sedecal, Shimadzu, Siemens, Spellman, Summit

Please contact us to inquire the physical dimensions and location of the pre-amplifier enclosure.

Technical Specifications

Minimum Response Time	Less than 1ms.
Output Sensitivity (Gain Range)	Adjustable from 0.046V/μGy to 0.91V/μGy @76kV. Additional output sensitivities available upon request.
Ionization Chamber Potential	+75VDC ±10V (internally generated).
Output Reproducibility	Less than +0.045 Coefficient of Variation.
Integrator Drift	No more than 50mV/8 seconds at standard Varex gain setting.
Output	Linear ramp with no more than +5% deflection in full output scale.
Field Matching	Outputs of multi-field chambers are individually adjustable to within 5% of one another.
X-ray % Transmission	No less than 85% from 50kV to 150kV with 2.5mm to 3.0mm total aluminum equivalent beam filtration from the x-ray tube and collimator.
Internal Structure Imaging	Images caused by internal structures will result in an optical density variation no greater than 0.01 O.D. for exposures at 50kV using a 2 inch Plexiglas phantom, 2.5mm to 3.0mm aluminum equivalent beam filtration and a film density of 1.2 + 0.1 O.D. with 400 ASA or equivalent screen-film combination.
Power Supply Requirement	+ 11.4VDC to +15.75 VDC @ 0.1A unless specified otherwise. -11.4VDC to -15.75 VDC @ 0.1A unless specified otherwise.
Operating Temperature	+10°C to +40°C
Operating Humidity	10% to 60% relative humidity non-condensing
Operating Atmospheric Pressure	860hPA to 1060hPA
Transport and Storage Temperature Range	-40°C to +70°C
Transport and Storage Humidity Range	10% to 95% relative humidity non-condensing
Transport and Storage Atmospheric pressure	860hPA to 1060hPA
Cable Connection	Shielded 24AWG cable. Standard cable length is 45 feet (13.7 meters).



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