



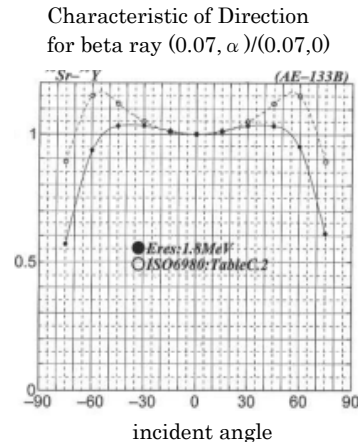
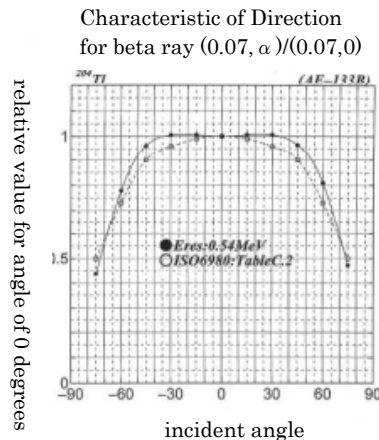
Ionization Chamber Type
for dose equivalent rate at 10mm and 0.07mm

Survey Meters

AE-133B

dose equivalent rate at 10mm

dose equivalent rate at 0.07mm



Summary

This instrument is a very compact ionization chamber type survey meters. It can directly read dose equivalent rate at 0.07mm and 10mm of SI unit. Beta ray can be directly found out by the finite difference because sensitivity of beta ray and gamma ray (X-ray) agree. It is possible to measure dose rates of protective clothing after radiations penetrate by an inner filter. Unit is switched by 2steps. Because measuring range is switched by 4steps, 3, 10, 30 and 100 μ Sv/h at $\times 10$ and 3, 10, 30, 100 mSv/h at $\times 1000$, so that it can be measured by 8ranges and covers wide range. It also has superior reading accuracy and can measure X and gamma rays of background level to 100 mSv/h. It is also use for a high-precision portable area monitor by using an output terminal.

It is most suitable for surveying and monitoring at the surroundings a nuclear reactor, an isotope location, and installations for a cyclotron, linac accelerator and an X-ray generator.

Strong Point

● ionization chamber type

It has good characteristics of energy. (It corresponds to ICRP1990)

It is possible to measure beta ray and gamma ray (X-ray) because it can directly read dose equivalent rate at 0.07mm and 10mm by installing and removing BUC.

● Calibration constant is 1.

Because the conversion factor of beta ray and gamma ray (X-ray) are one-to-one, it can be directly found out by the finite difference.

● very compact and high efficiency

It can put on a hand.

● high sensitive and wide range

It can measure background level to 100 mSv/h.

● It is possible to measure dose rates of protective clothing after radiations penetrate

An inner filter can be installed.

● monitor

It can use for a portable area monitor.

● method of calibration

It can be done single-point calibration for each $\times 10$ and $\times 1000$.

★ It can be set a tripod and neck strap.

Specifications

《detection level》 beta ray (^{147}Pm — ^{90}Sr — ^{90}Y) (Maximum energy is 225keV to 2.28MeV.)

gamma ray at 100keV to 3MeV (Measuring lower limit is 60keV.)

《unit switching 》 $\times 10$ and $\times 1000$ (Indication of unit of meter... μ Sv/h)

《measuring range》 ($\times 10$) 3, 10, 30 and 100 μ Sv/h and RESET, STAND BY, ZERO ($\times 1000$) 3, 10, 30 and 100 mSv/h and RESET

《response time》 within 10sec ($\times 10$), approximately 1sec ($\times 1000$)

In case of RANGE3, response time is approximately 12sec.



The case of measuring dose equivalent rates at 0.07mm



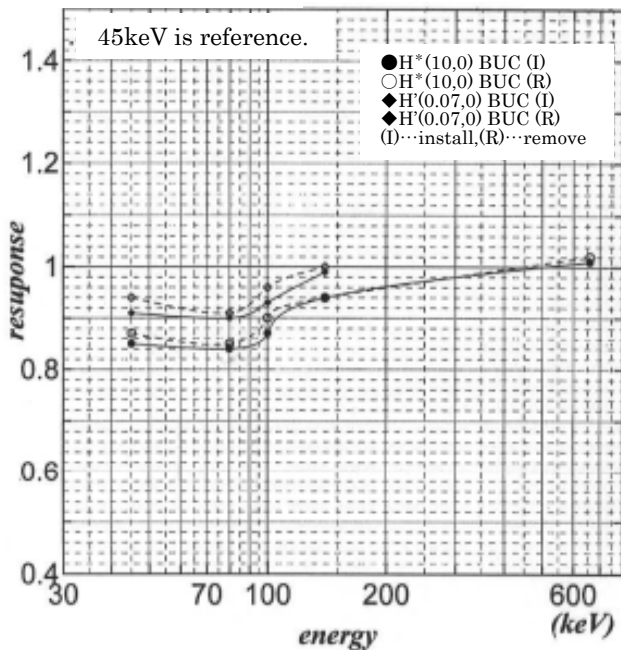
The case of measuring dose equivalent rates for gamma and X-ray

《detector》 parallel plate type ionization chamber with window of incidence of thin film (Volume is approximately 60ml.) Dimensions of detector... $\phi 120\text{mm} \times 40\text{mm}$
 《accuracy》 meter 2.5C, output terminal $\pm 1\%$
 《indicating error》 beta ray... $\pm 20\%$ (0.5 to 1.8MeV/Eres), gamma ray... $\pm 12\%$ (80keV to 3MeV)
 《characteristic of direction (indicating value of α° for incident angle of 0 degrees)》 beta ray... $\pm 30\%$ ($^{90}\text{Sr}-^{90}\text{Y}$... $\pm 60^\circ$), gamma ray... $\pm 10\%$ (^{137}Cs ... $\pm 60^\circ$)
 《standard accessories》 build up cap for $\text{H}^*(10)$, inner filter(0.5mm):It makes of acrylic resin.
 《output》 output terminal...+ 10mV full scale, output impedance...100 Ω
 《power supply》 battery...6F22(9V) $\times 4$, NC706(24V) $\times 1$ It can be 100V AC by using AC adapter (option).
 《battery life》 6F22...approximately 170h (continuous use), NC706...approximately 5y (see the expiration date.)
 《battery check》 Push the button and power supply can be checked except for applied voltage (NC706).
 《permissible conditions》 -5°C to $+45^\circ\text{C}$ (Relative humidity is less than 90%.)
 《dimensions》 177D $\times \phi 134$ W $\times 151$ H (mm) Except for projections.
 《weight》 body...approximately 1600g, batteries... (6F22 and NC706)...200g

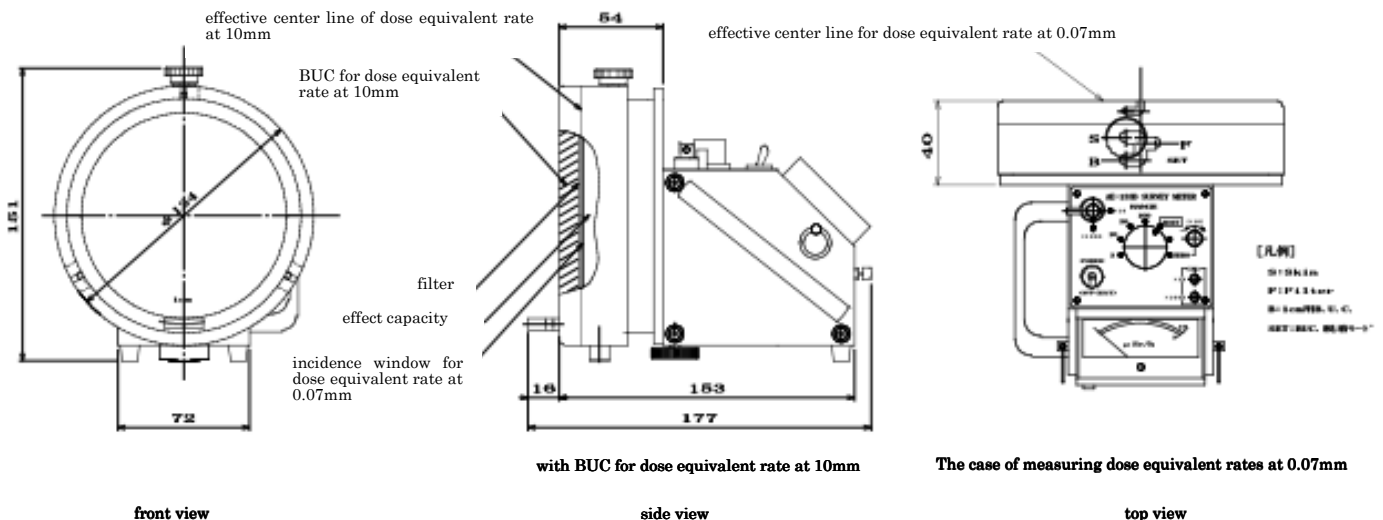
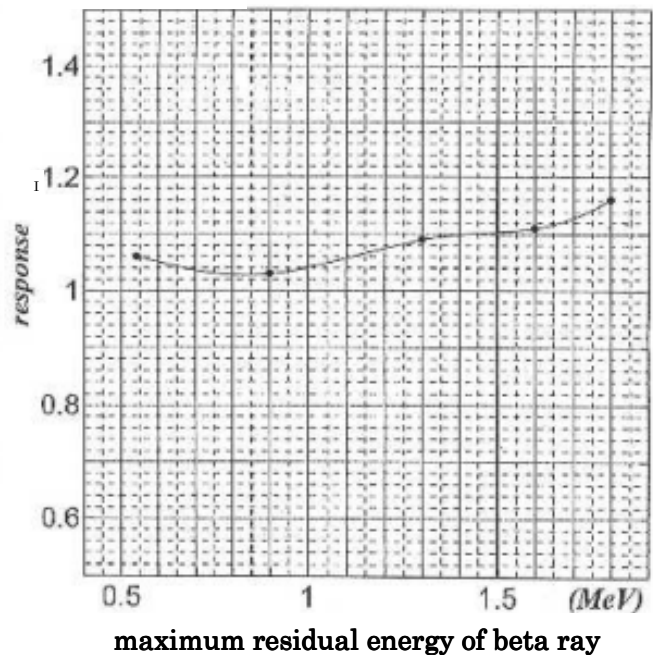
Energy response

(22°C, 1013hPa)

(X and gamma ray)



(beta ray)



Due to our policy of continued development, specifications are subject to change without notice.

AE APPLIED ENGINEERING INC.

应用技研 ■ Exposure Meters For Environmental Radiation/For Radio Therapy
 Electronics Apparatus, System Machinery for Measurement of Micro Current

URL: <http://www.o-yo-giken.co.jp> 2-599, Shimokiyoto, Kiyose-shi, Tokyo, 204-0011, Japan
 TEL +81-42-492-2734 FAX +81-42-492-7006