Kowa

Technology for Life Science

Quantitative and reproducible measurement of aqueous flare

Laser Flare Meter

KOWA FM-700

Kowa's unique, latest generation aqueous flare meter

Technology for Life Science

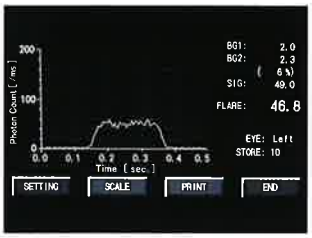
Laser Flare Meter KOWA FM-700

The FM-700, Kowa's aqueous flare meter allows surgeons to improve diagnosis and enhance the follow up of patients by enabling the in-vivo measurement of aqueous flare in a non-contact, non-invasive and painless manner.

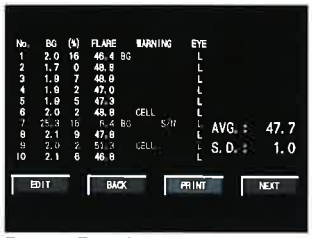
The KOWA FM-700 is an aqueous flare meter with a slit-lamp design. Even in cases of corneal inflammation, anyone with slit lamp experience will find the alignment process intuitively easy. It is also applicable for monitoring patients post cataract surgery and for testing ocular inflammatory diseases such as uveitis.

Features

- Quantitative measurement of protein concentration in aqueous humor with high accuracy using the laser scattering technique
- Clinical tests for uveitis and other ocular inflammations, and to monitor post cataract surgery
- Non-contact and non-invasive testing

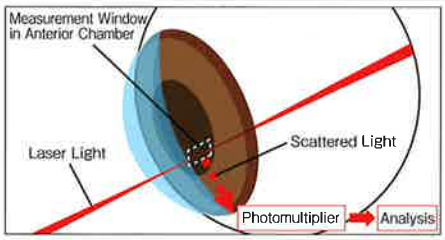


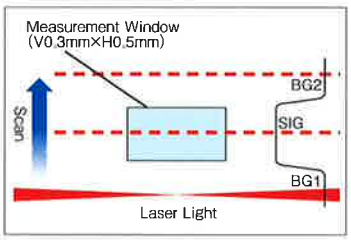
Graph Result



Report Result

Principle





An area including the measurement window is scanned with a laser beam. Background signal 1 (BG1) is obtained when the laser beam is located below the measurement window and background signal 2 (BG2) is obtained when the laser beam is located above the measurement window. Both are scattered light noise from intraocular tissue, whilst the flare signal (SIG) is a sum of scattered light from protein and scattered light noise from intraocular tissue.

Thus, the intensity of the scattered light caused by the protein concentration in the aqueous humor of the anterior chamber is calculated using the formula: SIG-(BG1+BG2)/2. The result obtained from using this formula is called 'flare value' and represented as photon count per millisecond.

Specifications

Type of microscope	Binocular stereoscopic microscope
Total magnification	7, 10, 16, 26, 40X
Dioptic range of ocular	±5D
Interpupillary distance adjustment range	55 to 72 mm
Slit width	0 to 11 mm continuously variable
Slit length / Aperture diameter	1 to 9 mm continuously variable / Φ0.5 mm, Φ11 mm
Measurement range	1 to 500 photon counts/ms
Measurement accuracy	±5% (at around 80 photon counts/ms)
Light source	For observation : Halogen lamp (12 V, 30 W) For flare meter : Laser diode (640 nm, 35 μW)
Light detector	Photomultiplier tube (PMT)
Printer	Printing method : Thermal line printer with automatic paper cutting function Printer paper : 58 mm width
Monitor	4.3 inch TFT color LCD
Interface	RS-232C
Dimensions / Weight	600(W) ×460(D) ×560(H) mm / 25 kg
Power supply	Input : AC100-230 V 50/60 Hz Power consumption : 60 VA / 80 VA (maximum)

The KOWA FM-700 is classified Class 1 laser product.

CE 0197

Specifications and appearances are subject to change without notice.

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