FLAME PHOTOMETER FP8000 SERIES

The flame photometer determines simply, fast, precisely and inexpensively the concentrations of alkali and alkaline earth metals in aqueous solutions. The measurement substance is brought finely dispersed into the flame as an aqueous solution. The hot flame excites the valence electrons that radiate light when falling back to their original energy level. The more atoms of the measurement substance are available, the stronger the radiated amount of light. The concentration of the measurement solution is determined from the measurement of the luminance. In other words, the emission is measured. Each element has its characteristic luminous colour, i. e. it emits fixed wavelengths which are determined by the structure of the corresponding atoms. The radiation of the elements is selected through optical filters so that in each case only the light of one wavelength will enter the photo detectors. There is a special filter and a photo detector available for each element to be measured. The analogue signal is amplified and converted into a digital signal. The concentration is calculated via suitable algorithms.
Flame photometry is a relative measurement principle. The sample to be measured is always compared to a standard with a known concentration. Suitable sets of standards are used to calibrate characteristic lines that can measure unknown samples within a concentration range. These characteristic lines are combined in methods and may differ for different samples depending on the composition of the sample.
In addition, the flame photometer also work with a reference line. For this purpose, all samples and standards all diluted with a solution that contains a reference element. The element used as a reference can be measured with a flame photometer, but is not present in the sample. Lithium is often used for this, but other elements are also possible such as Caesium. All interferences will then have nearly the same effect on control and measurement elements, which will compensate for possible errors from the sample matrix.
Compared to other technologies such as AAS or ICP, the flame photometer is especially characterised by its easy handling - also by unskilled personnel - and its low operating costs.

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KRÜSS
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GERMANY

FLAME PHOTOMETER

HIGHLY PRECISE DETERMINATION OF THE CONCENTRATION OF ALKALI AND ALKALINE EARTH ELEMENTS

MADE IN GERMANY

www.kruess.com

PRODUCT OVERVIEW

FP8400

Laboratory version

Economic entry-level model of the FP8000 series, standard version for various laboratory applications; very easy to operate in combination with a very high precision and application flexibility.

STANDARDS

Standards, tests and reference element

Large number of standards, used for testing the flame photometers, for checking the methods and results or the use of lithium as a reference line. Lasts usually over 1 year.

FP8500

Process version

The process version of the FP8000 series, combines the characteristics of the FP8400 with an automatic calibration to realise a 24 hour fully automated measurement operation; measuring times between 1 second and several minutes are possible. For data transmission, a variety of interfaces are available.

Cleaning Solution

Cleaning Solution for all applications

The dilution concentrate improves the flow of all samples in the instrument and prevents the formation of fungi and algae. Neutral cleaner for the regular flushing of the system and the general cleaning. Alkaline cleaner for eliminating persistent contaminations except proteins. Deproteinsing cleaner is used to specifically remove proteins.

FP8600

Automatic unit without dilution

Laboratory version supplemented by a rotation sampler with up to 72 sample positions. Once programmed, the FP8600 automatically measures up to 72 samples in one run.

ACCESSORIES

Spare parts, consumables and accessories

Wide range of accessories, spare parts and consumables.

FP8700

Automatic unit with dilution

Laboratory version supplemented by a rotation sampler, diluter, and mixer. Ideal for applications with high sample volumes and high concentrations requiring dilution.

PROFESSIONAL SERVICES

Our service is unbeatable

We will always go the extra mile for our customer. We want to exceed your expectations and make you a satisfied customer. Providing the best service is important to us and this right from the beginning. We offer you application consultations at your location. Our consultation for the setup and commissioning of the device is comprehensive. Would you like to test one of our devices in your company? No problem. We at A.KRÜSS focus on quality and successful cooperative relationships.