



FP8400	FP8500	FP8600	FP8700
<ul style="list-style-type: none"> Measurements of food product samples Quality determination of high-purity jars and vials for pharmaceutical packaging Beton classification Analysis of infusion solutions 	<p>Various laboratory applications are possible with this unit</p> <ul style="list-style-type: none"> Process monitoring Bypass measurements Automated duration measurement. 	<p>The devices are able to handle around 300 measurements per hour and therefore they clearly rank among the international leaders. Application based on safe stand-alone operation in:</p> <ul style="list-style-type: none"> Control laboratories Testing offices 	<p>Devices are suitable for applications with high sample volumes and high concentrations for those requiring dilution</p> <ul style="list-style-type: none"> Waste water control Concentration determination in the production of fertilisers Measurement of food product samples

Industry: Food Analytics & Raw Materials

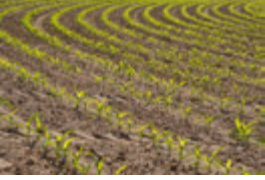

The demand from food analysis for AES measuring instruments has risen sharply in recent years. Here, AES is used to monitor compliance with limit values for sodium and potassium in food.

Application	Application Method
	<ul style="list-style-type: none"> Limit monitoring: In the production of baby pre-milk, pre-food and milk powder, a flame photometer can also be used to monitor and control the quality.
	<ul style="list-style-type: none"> Salt content determination: Measurement of the Ca content of separator meat to detect possible bone residues (from ashed samples). Here A.KRÜSS scores with the only flame photometer system that is suitable for operation with acetylene, which makes calcium measurements more precise due to the higher flame temperature.
	<ul style="list-style-type: none"> Salt content determination: AES is also used to determine salt content via direct detection of sodium in beverages and solid products, which has become mandatory since 2017. AES is used for product controls of various other substances via sodium, potassium or lithium.
	<ul style="list-style-type: none"> Raw material control: Salt mines also use flame photometers for routine measurements in raw material control. Here, AES convinces with measurement accuracy and high sample throughput.





Industry: Environmental analysis

In the sector of environmental analysis, AES is used for soil and water analyses. Water is the basis of life and thus an essential natural substance. Therefore, water quality is of high importance for all living organisms and our environment.

Application	Application Method
	<ul style="list-style-type: none">▪ Soil analysis: Here, AES measurements help to monitor soil qualities and control fertiliser residues in soils or identifying fertiliser discharges into water resources. AES can also determine soil contamination from salts and analyse the nutrient content.
	<ul style="list-style-type: none">▪ Waste water control: A large field for AES flame photometry is the control of power plant feed water or waste water. The desired measurement parameters in this application are sodium and potassium concentration. In this regard the need for a high sample throughput and a safe, inexpensive analysis technique are the main criteria for the decision to use AES.


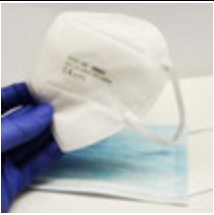
Industry: Chemical industry and cement production

The chemical industry supplies numerous industries with its products. Here, flame photometers are used in the quality control of raw material and chemical products. AES is also widely used in process monitoring during production.

Application	Application Method
	<ul style="list-style-type: none">▪ Product control: In chemical laboratories, AES is the method of choice when it comes to safety, continuous operation as well as high reproducibility of measurement results. AES in chemical laboratories is used primarily to determine the concentration of sodium, potassium and lithium ions in solution. AES is also used for product control and for indirect quality assurance.
	<ul style="list-style-type: none">▪ Concentration measurement: AES is also used for measurements in the construction and cement industry, for example to check sodium, potassium or calcium contents. This is important because these elements have a beneficial or detrimental effect on the durability of cement depending on their concentration. A phenomenon called "concrete disease" is related to the concentration of alkali metals such as sodium and potassium.

Industry: Pharmaceutical

Laboratories in the pharmaceutical industry are in most cases highly regulated areas. The FP8000 series offers user 21 CFR Part 11 compliance with features like user management with individualized user rights and an audit trail.

Application	Application Method
	<ul style="list-style-type: none">▪ Quality assurance: AES is increasingly used in quality assurance, e.g. in the determination of the quality of vials and other glass containers in drug packaging as used in vaccines for example. Product control and quality testing of various substances in pharmaceutical reagents, e.g. of sodium and potassium ions in IV-liquids is another main application.
	<ul style="list-style-type: none">▪ Material testing: The testing of FFP masks according to regulatory standards (DIN EN 149) is also conducted by flame photometry. For such tests NaCl aerosols are pumped into a test chamber and the leakage of this aerosol through the mask is detected by F-AES. FFP mask tests were first carried out with our devices in a joint project with the Aachen Process Engineering Department of RWTH Aachen University and the DWI – Leibniz Institute for Interactive Materials and have since been used in various institutes.



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