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GERMANY

Flame Photometer

FP8800 | process version
FP8801 | laboratory version

The Flame Photometers FP8800 and FP8801 were especially developed for use in an industrial environment.
The FP8800 is provided for laboratory and process analytics, the FP8801only for laboratory analytics.
Both are economic, robust, safe and long-lasting measurement instruments.
The FP8800 and FP8801 offer a simple, precise and cost-efficient method for the determination of alkali and alkali earth element concentrations in aqueous samples.
User instrument operation is intuitive and is carried out by touch screen using the large color display or by mouse.
Samples, standards and control samples are introduced manually or automatically.
Calibration is effected using standard solutions, and the measurement results are checked with control sample solutions. The FP8800 can work in online mode and can be controlled in all functions by a SPC.
Both models can be used in a network environment. They are identical in external design.


Autosampler, diluter
for samples, standards and control samples


Pressure reducer
for compressed air systems


Compressor
for air supply


Ink ribbon printer
for permanent prints

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Specifications

- **Measurement principle**
  Emission flame photometer for the determination of alkali and alkaline earth element concentrations (Na, K, Li, Ca, ...) in aqueous solutions. Others on request
- **Type of device**
  FP8800 for process analytics, FP8801 for laboratory analytics.
  Both devices with manual or automatic sample feeding
- **Total measurement ranges**

Na	0,01 – 4500 mg/l (ppm)	≙	0,0004 – 200 mmol/l
K	0,02 – 4500 mg/l (ppm)	≙	0,0005 – 110 mmol/l
Li	0,02 – 3000 mg/l (ppm)	≙	0,0028 – 420 mmol/l
Ca	0,30 – 3000 mg/l (ppm)	≙	0,0075 – 75 mmol/l

- **Sensitivity**

Na	< 1 µg/l (ppb)	≙	0,04 µmol/l
K	< 2 µg/l (ppb)	≙	0,05 µmol/l
Li	< 2 µg/l (ppb)	≙	0,28 µmol/l
Ca	< 30 µg/l (ppb)	≙	7,50 µmol/l

- **Interference filter**

Na	589 ± 2 nm	Bandwidth 8 ± 1 nm	Multiple filters capture the total measurement range
K	767 ± 2 nm		
Li	671 ± 2 nm		
Ca	622 ± 2 nm		

- **Characteristic line**
  Linear — Linear approximation with 2 standards
  Non-linear — Cubic approximation with 3 – 8 standards
- **Reference**
  Calculation of results with or without an internal standard
  Li-reference solution 35 mg/l (ppm) ≙ 5 mmol/l
- **Samples**
  Volume ~ 2 ml/Probe, through-put ~ 240 samples/h
- **Drift**
  ≤ 0,1 % after 30 min warming-up time
- **Precision**
  ≤ 0,2 % CV over 20 results (random error, 1S-variance)
  with 10 mg/l Na-, K-, Li-, Ca- standard solution
- **Accuracy**
  ≤1 % of mean value over 20 results (systematical error, recovery)
  with 10 mg/l Na-, K-, Li-, Ca- standard solution
- **Methods memory**
  99 freely definable
- **Results memory**
  999 result data sets in a ring buffer
- **Compressed air**
  Free of oil, water and particles
  comsumption ~ 12 l/min, input pressure 1,2 ± 0,3 bar
- **Gas supply**
  Propan or acetylene for flame photometry
  consumption propane ~0,3 l/min , acetylene ~0,5 l/min, input pressure 1,2 ± 0,2 bar
- **Input, display**
  Touchscreen and USB mouse, 8,4" (21 cm) TFT-LCD display 800 x 600 Pixel
- **Operator guidance**
  German, english, other languages on request
- **Interfaces**

1x PROFIBUS DP®	Field bus for FP8800, retrofit for FP8801
2x USB	Mouse, flash drive for data export and firmware update
2x RS-232	Printer, sample unit
2x Ethernet	LAN, LIMS

- **Main voltage**
  230 V ± 10 %, 50 to 60 Hz ± 5 %, optional 120 V ± 10 %
- **Power consumption**
  Flame Photometer ≤ 75 W, with compressor ≤ 285 W
- **Instrument dimensions**
  Width 47 cm, height 49 cm, depth 44 cm, weight ~ 30 kg
- **Options**
  Sample unit MIT-PE88
  · sampler MLE-PS61
  · mixer MIT-ME88
  · diluter Cavro/TECAN-XLP6000
  Compressor EP-5243 (special on request)
  Pressure reducer MIT-RS88
  Ink ribbon printer Citizen CBM910
  Retrofit-set for PROFIBUS DP®
- **Operating costs**
  < 0,01 € / sample

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