SYSTRONICS®

AUTO IGNITION FLAME PHOTOMETER 1027

ISO 9001:2015 COMPANY

SYSTRONICS FLAME PHOTOMETER 1027 is a microcontroller-based unit designed to provide automation in operation, measurements and end-result presentation. It can do the estimation of Sodium (Na), Potassium (K), Lithium (Li), Calcium (Ca) and Barium (Ba) in single aspiration of a sample.

For user's convenience, the unit offers two measuring modes:
(i) Standard method
(ii) Medical method.

The later provides an automatic curve fitting for corrections of non-linear emission characteristics of element, at higher concentrations.

Frequently used measurement setups can be stored once and recalled whenever required. This eliminates the typical chores of instructions required to be given to a microcontroller-based instrument before it starts the operation..

An alphanumeric Graphics LCD readout (240 x 128 Dot) is used to provide adequate user interface and full presentation of final results obtained. A Centronix printer port for Epson compatible Dot Matrix/ Inkjet printer is also provided. Hard copy of results can be printed for individual sample, batch samples stored in the memory of the unit (500 max), on a dot matrix printer (optional).

A compact optics, based around special narrow band optical filters, and a high sensitivity Si photodiode combine together to provide high degree of acceptance of the selected element with strong ejection for the others present in the sample.

An air compressor supplied with built-in air regulator and air filter ensures stable and moisture/oil free air supply. LPG is used as fuel gas.

SALIENT FEATURES

- Microcontroller controlled automation for ease of operation.
- Determination up-to five elements with single aspiration (Na, K, Li, Ca & Ba).
- Unit of measurement "ppm" and "meq/l"
- Suitable for medical and industrial analysis
- Calibration standard up-to five point.
- Auto Ignition
- Gas leak sensor
- Auto Gas cut-off
- Password protection
- Separate login for Administrator and Guest
- Data processing with linear mode or quadratic curve fitting
- Results of a measurement taken earlier can be recalled and displayed (**Max. results storage: 800**)
- Graphics LCD readout (240 x 128 Dot or 5") LCD readout for adequate user interfaces.
- Built-in real time clock for date and time.
- Centronix printer port for Epson compatible Dot Matrix / Inkjet printers to get hard copy of results (printer optional).
- Air compressor with built-in air regulator and air filter (SYSTRONICS Model 126).
- Pc-link software (optional)

Range of operation

ELEMENTS	Minimum concentration Without Dilution	Maximum concentration (Without Dilution) Low concentration mode	Maximum concentration (Without Dilution) High concentration mode
Na	0.2 ppm	10 ppm	100 ppm
K	0.1 ppm	10 ppm	100 ppm
Ca	3.0 ppm	100 ppm	300 ppm
Li	0.1 ppm	2 ppm	50 ppm
Ba	50 ppm	500 ppm	3000 ppm

• Minimum & maximum are the limit of calibration , not measuring range

ELEMENTS	SERUM	URINE	BIO-FLUIDS
Na	0-200 meq/l 1 : 100 dilution	0-250meq/l 1 : 100 dilution	Upto250meq/l with 1:100 dilution
K	0-10 meq/l 1 : 100 dilution	0-100 meq/l 1 : 1000 dilution	Upto 250 meq/l With 1: 100 dilution
Ca	----- (Note)	0-10 meq/l 1 : 2 dilution	Upto 250 meq/l With 1: 100 dilution
Li	0-2 meq/l 1 : 10 dilution	---------	Upto 250 meq/l With 1: 100 dilution

Note:
In blood, Ca is in traces and Na strongly dominates. Therefore, estimation of Ca in serum with Flame Photometer is not advised.

- REPRODUCIBILITY : ± 1% fs ± 2 Digits in Low Concentration mode.
  ± 2% fs ± 2 Digit in High Concentration mode.
- CURVE FITTING ACCURACY : ± 2% fs. (High Conc. Range)
- FILTERS (Regular) : Na (589 nm), K (768 nm), Interference filters with 10-nm Bandwidth
- FILTERS (Optional) : Li (671 nm), Ca (622 nm), Ba (554 nm) Interference filters with 10-nm Bandwidth
- Separate channel and separate silicon photodiode (Detector) for each element.
- MINIMUM SAMPLE : Approx. 3ml.
- ASPIRATION TIME : Five element analysis within 20 second on single aspiration
- OPERATING AIR PRESSURE : 0.45kg/cm2 (typical), regulated. *
- FUEL GAS : LPG (Liquid Petroleum Gas), regulated.**
- POWER SUPPLY : 230V ±10%, 50Hz.

*Use SYSTRONICS FPM COMPRESSOR 126.
**The common cooking gas (domestic LPG).

fs: Full scale value

Specification for Compressor

Pressure	:	0.0 to 1.0 Kg/cm2 (Maximum)
Power Supply	:	230 V ± 10 %
Dimensions	:	255 (W) X 205 (H) X 210 (D) mm
Weight	:	6 Kg (Approx.)
Mounting	:	Preferable on floor