SKZ1044 Digital Flame Photometer

Flame photometer is a relative measurement of the instrument, the concentration value of the sample under test conditions in the same relative value of the concentration of the standard solution.
So before the test, you must first prepare a set of corresponding standard solution. Then the calibration operation, the manual or the standard curve by the instrument, the last to be tested on the test sample, to obtain the concentration value or other data required for calculation.

Principle

Flame Photometer is emission spectroscopy, It utilizes the heat flame itself, stimulate the part of the alkaline earth metal atoms, so that these atoms absorb energy from a first energy level transition, when it falls to a normal energy level, it is necessary to release energy, the energy released have spectral characteristics, that is, in a certain wavelength range.
For example, the salt in a fire, flame yellow, because sodium atoms in the flame down to a normal level when the energy spectrum of the energy released is yellow. People often call this the flame reaction. Different alkali metal or alkaline earth metal in the flame of different colors, each with a different filter, it can be qualitatively tested. The flame intensity is directly proportional to the solubility atoms contained in the solution, which constitutes the basis for a quantitative test. This method is usually called flame photometry, such instruments are usually referred to as flame photometer.

Feature

1. Using liquefied petroleum gas as fuel
2. The concentration of potassium and sodium with direct reading function;
3. Using menu-driven keyboard;
4. With a correlation coefficient of automatic calculation;
5. With flame size preselected function;

6. With flameout protection device, safe;
7. Direct printing device with data;
8. Having a computer on-line data processing equipment and procedures;

Normal operating conditions

1). The ambient temperature:10C-35C
2). Relative humidity: ≦ 85%
3). Products should be placed horizontally on the bench without vibration and avoid direct exposure to bright light, surrounded by no strong electrical, magnetic interference, no strong airstream, without affect the use of vibration;
4). Product use of the site should not be flammable and explosive, corrosive gases, and offers fire-fighting equipment;
5). Power supply voltage: (220 ± 22) V, frequency (50 ± 1) Hz, has a good ground;
6). Rated power 30W

Applications

1) cement, glass, ceramics, refractories and other materials of the test;
2) fertilizers, soil of the test;
3) mining, petroleum, metallurgy, chemical product testing;
4) pharmaceuticals, beverages and other food testing;
5) municipal solid waste test;
6) scientific research, health, education and other fields all kinds of experimental tests.

Technical parameters:

1. Linear Range: K: 0 - 30mg /l, correlation coefficient greater than 0.999
2. Measuring range: K: 0 ~ 10mmol / L, Na: 0 ~ 200mmol / L
3. Repeatability: (GV%): K: 1.5% (5mmol/ L or 50mmol/ L),
   Na: 1.0% (140 mmol / L)
4. Linearity Error: K: 2%; Na: 2%: noon response time: less than 8 seconds
5. Solution consumption: 4ml / min off detection function automatically cut off the gas
6. With RS232 interface, computer on-line

Technical indicators:

1. Linear Range: K: 0.01mmol/L-0.09mmol/L; Na: 0.9mmol/L-1.9mmol/L
2. Measuring range: K: 0 ~ 10mmol / L, Na: 0 ~ 200mmol / L
3. Solution consumption: 4ml / min off detection function automatically cut off the gas
4. Linearity Error: K: ≤ 0.005mmol / L (0.0100-0.0800) mmol / L;
   Na: ≤ 0.03mmol / L (0.0500-0.400) mmol / L
5. Stability: 30 seconds less than 2%
6. Repeatability: Cv less than 2%

7. Detection limit: ≤ 0.004mmol / L; Na: detection limit ≤ 0.008mmol / L
8. Response time: <8s
9. Samples suction spray volume: <6mL/min
10. Instrument Size and weight: 400mm × 250mm × 500mm 8Kg

Remarks:
1. Stability:
Consecutive injections of standard solutions, 15s showing the value of the instrument within the relative maximum variation ≤ 3%;
Measured 1 per minute, a total of six times the instrument showing the value of measuring the relative maximum variation ≤ 15%
2. Repeatability:
Repeat the same standard solution 7 consecutive independent measurements ≤ 3%