

LXT-SMS220

SULFIDE ION MEASURING SYSTEM



The LXT-SMS220 Sulfide Measurement System is an all in one analyzer for the continuous measurement of sulfide ions in aqueous media. Sulfide is present in well water, municipal waste water and waste waters from refineries, tanneries, chemical plants and pulp and paper facilities. Hydrogen sulfide (H_2S) exists in acidic water as a dissolved gas and at pH values above 7, bisulfide ions (HS^-) are the predominate form and at very high pH values, $< pH 13$, sulfide ions (S^{2-}) are predominate.

Advantages

Sulfide Ion Selective Electrode (ISE)

The LXT-SMS220 uses a sulfide ion selective electrode (ISE) to measure the total amount of sulfide present in samples with a high pH level. In order to raise the pH of the given sample, Potassium Hydroxide (KOH) is added. The KOH raises the sample to around pH 13 while a pH electrode measures the actual pH level in the sample. This pH measurement infers what percent of the total sulfide was measured while the sulfide ISE measures the amount of sulfide present. The LXT-220 then calculates and displays the total sulfide that was present. Lastly, the highly caustic sample is neutralized with HCl and the pH is measured and displayed to verify the neutralization. The neutralization of KOH with HCl produces potassium chloride salt (KCl) and water. The neutralized sample can be disposed as waste or returned to the water supply.

Sequential Sampling

The LXT-SMS220 is a sequential sampling analyzer. It is set to run 6 minute analysis cycles but can easily be programmed to run 12 or 30 minute cycles. Each cycle uses about 1 ml of caustic and 1 ml of acid. When running continuously, the usage of each reagent are as follows:

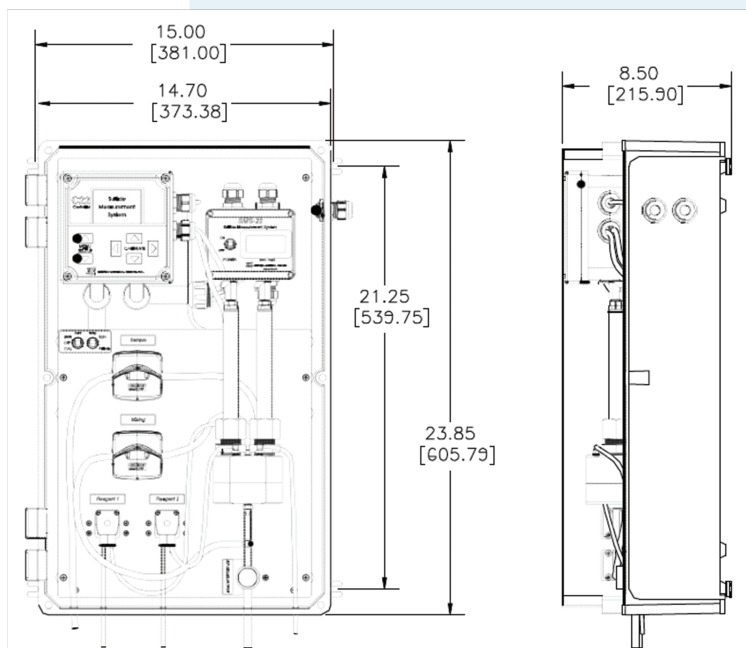
- 10 cycles per hour - 7.2 liters per month
- 5 cycles per hour - 3.6 liters per month
- 2 cycles per hour - less than 1.5 liters per month

Features

- Compact all in one measurement system, conditions the sample, measures the sulfide, neutralizes the sample, measures the pH, drains and rinses the cell
- ISE based Sulfide Ion Measurement provides a wide measurement range, 20 ppb to 500 ppm using economically, easily replaceable electrode cartridges
- pH adjusted and compensated measurement of the sample is optimized for the sulfide ion that only exists at high pH values
- Sample neutralized, after measurement, the high caustic sample pH is reduced to a safe level near pH 8
- Automated Sequential Sampling with a combination of relays and timers. Sampling times are easily adjustable from 2 to 10 samples per hour
- Low reagent consumption. Less than 2 gallons per month of 10% KOH and an equivalent amount of HCL at 10 samples per hour or 5 months at 2 samples per hour

The Enclosure

The enclosure provides IP66 protection and is NEMA-4x rated. The base is made of gray hot-molded fiberglass reinforced polyester and the cover is made of transparent polycarbonate with non-metallic hinges.



SPECIFICATIONS

Range	0.02 - 500 mg/l (0.02 - 500 ppm)
Temperature	Measuring: 23° to 122°F (-5° to 50°C) Operating: 50° to 122°F (10° to 50°C) Humidity: 5 to 95% noncondensing humidity
Cycle Response Time	6, 12 or 30 minutes, user selectable
Accuracy	± 20 ppb or 5% of reading, whichever is greater
Repeatability	± 2% of reading
Sample Requirements	Pressure: Sample should be drawn from atmospheric pressure Flow: Greater than 100 ml/minute Temperature: 50° to 122°F (10° to 50°C)
Reagents	10% Potassium Hydroxide (KOH) 10% Hydrochloric Acid (Muriatic Acid) (HCl)
Reagent Consumption	6 minute cycle time: 7.2 liters/month (1.9 gallons) each 12 minute cycle time: 3.6 liters/month (0.95 gallons) each 30 minute cycle time: 1.5 liters/month (0.4 gallons) each
Hydraulic Connections	Sample Inlet: 1/8" ID tubing barb fitting Drain Outlet: 1/4" ID tubing barb fitting
Power	100/240 VAC, 50/60 Hz, switch selectable
Outputs	4-20 mA1 configured S ² 0.1 ppb to 100 ppm, user configurable 4-20 mA2 configured pH, 0-14 pH, user configurable
Electrical Connections	2 x 4 mA, Line Neutral and Ground for Power All connections are to a terminal strip, access through 165 1/2" cable glands
Enclosure	Gray hot-molded fiberglass reinforced polyester transparent polycarbonate cover with non-metallic hinges. NEMA-4x, protection degree IP66 Wall Mounting, Non-metallic mounting feet, set of 4 pieces
Dimensions	23.78"L x 14.66"W x 10.63"D (604 x 375 x 270mm) Approximately 25 lbs (11.5 kg) without reagents



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