MTI Analytical Technology

A Division of MerTech Incorporated

Trace Technology Analyzers

TRACE 050 Series

Portable H_2S Analyzer

AREA CLASSIFICATION:

- General Purpose

DETECTION RANGE:

- 0-1 ppm
- 0-50 ppm
- 0-500 ppm

DESCRIPTION:

The most versatile of all H_2S analyzers on the market today, weighing only 10 lbs., it is as portable as a briefcase.

TRACE 100 Series

H_2S Analyzer w/ Sample Conditioning System

AREA CLASSIFICATION:

- General Purpose

DETECTION RANGE:

- 0-1 ppm
- 0-50 ppm
- 0-500 ppm
- 0-100%

DESCRIPTION:

The Trace Technology analyzers are the most feature rich of any analyzers on the market today. Easy operation, combined with compact size and price, make it the perfect analyzer for any situation.

TRACE 200 Series

H_2S Analyzer w/ Sample Conditioning System

AREA CLASSIFICATION:

- Division I
- Division II

DETECTION RANGE:

- 0-1 ppm
- 0-50 ppm
- 0-500 ppm

DESCRIPTION:

This line of analyzers has the same detection ranges as the Trace 100 line but is for hazardous areas where explosion proof housings are necessary.

TRACE 400 Series

H_2S Analyzer w/ Detection Range Extension

AREA CLASSIFICATION:

- Division I
- Division II

DETECTION RANGE:

- 0-100%

DESCRIPTION:

This line of analyzers has special dilution devices to detect H_2S levels that exceed 500 ppm. A dilution system similar to this may soon be implemented onto the Trace 050 Portable Unit.

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TRACE 500 Series

H_2S Analyzer Liquid Stripper System

AREA CLASSIFICATION:

- Division I
- Division II

DETECTION RANGE:

- 0-50 ppm
- 0-500 ppm

DESCRIPTION:

The Trace 500 line of analyzers are equipped with a liquid stripper system for H_2S detection in liquids.

TRACE 7-800 Series

Total Sulfur Analyzer

AREA CLASSIFICATION:

- General Purpose
- Division I
- Division II

DETECTION RANGE:

- 0-1 ppm
- 0-50 ppm
- 0-500 ppm

DESCRIPTION:

Is your application for total sulfur content and not only H_2S? The Trace 700/800 line is for you.

Model Numbers

CASE SIZES:

- Model 050 - 10" x 12" x 6"
- Model 100 - 14" x 16" x 8"
- Model 200 - 16" x 18" x 10"
- Model 400 - 30" x 30" x 12"
- Model 500 - 30" x 30" x 12"
- Model 700 - 30" x 50" x 12"
- Model 800 - 40" x 50" x 12"

Features

Interference Free Detection
Digital Electronics
ASTM Method References
Temperature Compensation
Operator Keypad
LED Light Source
Push-Button Calibration
Dual Processor Power
18-Bit A/D Conversion
Status Report Log
Graphic Data Displays
Swept Volume Humidifier
4-20 MA Output

Ease of Installation & Operation

Compact Size
Hinged-door Access
Light Weight
Word Menu Displays
Flow-through Filter
Latch Block open to Change Tape

"Why should I buy a TRACE Technology H_2S analyzer when there are other companies out there?"

Push Button Calibration

The power and flexibility of the TRACE microprocessor-based analysis system are available at the touch of a button to help operators with one of their most important responsibilities . . . Calibration. The microprocessor, when requested, selects references, performs calculation adjustments, and verifies faster and more precisely than even the most experienced operators. The unique TRACE internal calibrator permits push button selection to quickly and easily verify operation.

ASTM Reference Methods

The field proven Trace microprocessor technology has been combined with ASTM approved analytical methods. The reference methods are:

ASTM D4084-82
ASTM D4468-85
ASTM D4045-81

The detection technology is based on chemically specific density changes. Optical illumination and detection are integrated for maximum resolution accuracy. Microprocessor technology is combined with statistical software algorithms to calculate precision analysis results.

Word Menu Displays

Plain language displays with descriptions of operation status support easy use. The 128 x 64 pixel LCD display allows selections to be displayed in plain language: English, Spanish and other languages. The operator can make selections from available menu choices. This allows the operator to become familiar with the instrument much faster than with other forms of interaction.

Dual Microprocessors

Two independently functioning microprocessor systems are embedded in the TRACE analyzer architecture. This dual processor structure allows one processor to have uninterrupted dedicated execution of the analysis algorithms. The second processor is dedicated to the user friendly interaction and display. Dual processor design ensures continuous precision analysis and dedicated responsive communication with interactive displays. Embedding two microprocessors in the system electronics allows each processor to have a single first priority. One is dedicated to easy, clear, and responsive information display and operator interaction; the other processor is dedicated to precision analysis calculation without interruption for communication requests.

Tangent Sample Flow

Sample flow is tangent to the TRACETape to eliminate effect from porosity variations when sample is passed through the tape. Signal generation is based on H_2S concentration only. Therefore, the sample's volumetric flow rate does not affect accuracy.

Lead Acetate Detector

The only detection method that is absolutely specific to hydrogen sulfide. Based on the formation of lead sulfide when lead acetate tape is exposed to the H_2S sample through and aperture in the sample flow system. This system is totally specific to sulfur. It is unaffected by the composition of the carrier or sample gas. Since the product of the reaction of lead acetate and H_2S is colored and the reactants are not, the progress of the reaction is easily monitored. The rate of formation of lead sulfide may be determined by measuring the rate of the tape darkening. Rate of tape darkening is linear with respect to H_2S concentration.

18 Bit A/D Conversion

Allows the detection and resolution of smaller signal values. This means that lower levels of H_2S can be detected. The greater dynamic range of counts up to 262,144 means a wider range of H_2S concentration can be measured without recalibration.

Power Switch

Convenient on/off control for the analyzer.

Digital electronics

Digital electronics takes full advantage of microprocessor calculation precision. Data is acquired with 18 bit conversion resolution. Signal over sampling is applied for statistical detection processing and accuracy correlation. An extensive set of mathematical algorithms are executed with full floating point precision to calculate the concentration analysis.

Field Proven

Operator confidence has been earned through exceptional on-line performance. Reliable operation is an absolute requirement for acceptable performance. Field proven performance is your assurance that reliability is built into TRACE Technology products at every level, from initial design to final calibration. Performance is your assurance of hassle-free compliance certification. Documented verification of accurate, stable results over an extended, uninterrupted period of operation is required to earn certification. TRACE Technology systems have earned certification even in the most aggressive environments.

Easy Installation

User friendly starts with easy installation. Gas line connections on the outside of the analyzers are labeled for easy setup. Straight-forward ease of installation allows operators to start recording accurate readings almost immediately. Easily accessible sub-assemblies and components support user configuration changes, troubleshooting analysis, and validation checks.

Fault Tolerant Operations

Fault tolerant diagnostics are your assurance of low stress operation. The TRACE Technology system architecture provides extended maintenance tools, such as fault code logging, calibration records and analysis logs, status displays, and many other selections of data. Even after a total power failure, the analysis is fully operational as soon as power is returned to the unit.

Photo Detector

The primary detection sensor is a silicon based photo voltaic device that does not have the performance decay associated with photo resistive detection devices.

Status Report Log

At any point in time the operator can select to view current operation status on the analyzer status page.

LED Light Source

The analysis illumination light source is a high efficiency LED which does not have the stability and aging problems associated with incandescent light sources.

Temperature Compensation

TRACE information processing algorithms completely eliminate the effect of parameter offsets commonly referred to as drift. Any effect of temperature on the system amplifier gain is compensated by the use of internal reference measurements made at the beginning of each tape advance cycle. These reference measurements are used to normalize signal processing.

Swept Volume Humidifier

The humidification contact chamber is a 1/8" tube path that is continuously swept as the sample flows. This eliminates any dead volume which would affect reading accuracy and system response.

Operator Keypad

A directly accessible six-function operator keypad allows configuration selection, maintenance control, and operation setup to be quickly and easily executed.

Status Display Pages

Menu selection that displays current operating status to the unit.

TRACE Technology Sulfur Analyzer Menu Pages