# BTEX Analyzer

## Introduction

Aromatic hydrocarbons benzene, toluene, ethylbenzene, and xylene are often referred to as BTEX and are used in a multitude of products in the petrochemical, agrochemical, and pharmaceutical industries. Aromatics, named after their distinctive perfumed smell, are planar, cyclic compounds with conjugated double bonds, consisting of the elements of carbon and hydrogen. These aromatic hydrocarbons are dangerous compounds that can cause adverse health effects and even cancer. Monitoring methods need to be rapid and reliable. Fortunately, CST's BTEX Analyzer is the perfect solution for continuous, real-time monitoring.

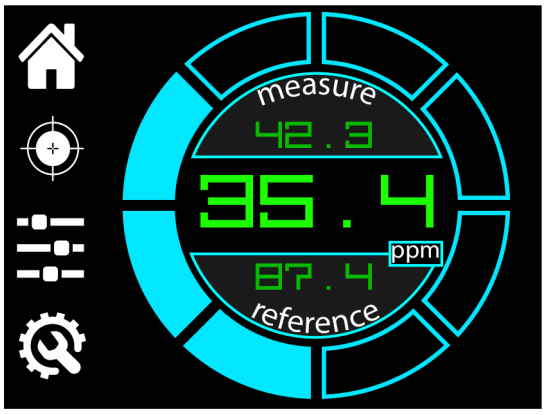
## Features

- ◊ Continuously and accurately measures the presence of aromatics in hydrocarbon solvents using UV spectroscopy.
- ◊ The all-inclusive BTEX Analyzer comes preassembled in a waterproof NEMA4X enclosure with a dedicated sample flow cell outside of the enclosure. The analyzer includes a PX2+ photometer with two fiber optic cables and a flow cell with two optical interface couplers.
- ◊ Easy to use software with a digital touch display allows users to view data and calibrate.
- ◊ High reliability with a typical light source lifetime of 10 years.
- ◊ Standard data outputs include MODBUS, 4-20mA, and USB to CST Software.
- ◊ Low cost of ownership with no routine maintenance.

## Applications

- ◊ Hydrocarbon Solvents
- ◊ Jet Fuel
- ◊ Interface Detection
- ◊ Wastewater


***CST's BTEX Analyzer includes a PX2+ with (2) fiber optic cables and a cross flow cell with (2) optical interface couplers***




***PX2+ Capacitive Touch LCD***

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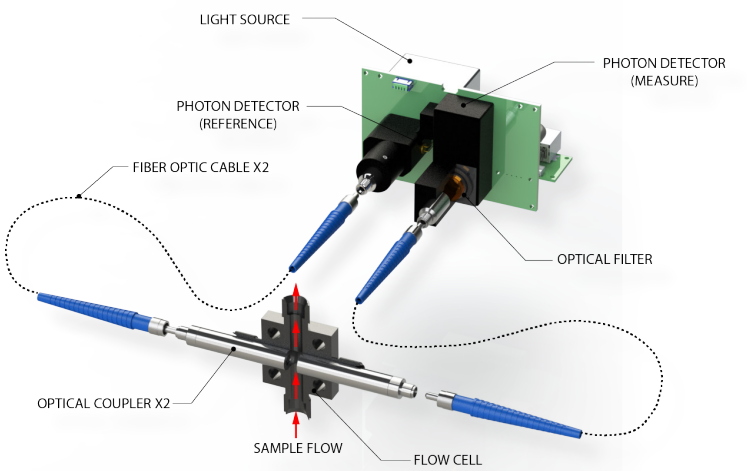
## Theory of Operation

CST's BTEX Analyzer contains a PX2+ photometer that utilizes Beer's Law, the attenuation of light as it passes through a substance, to monitor changes in properties of an analyte in process. It sends optical radiation from a flash lamp within the instrument out to a flow cell and returns the signal to the instrument via optical interface couplers and fiber optic cables. The PX2+ uses optical filters to provide specific measure wavelength ranges chosen to coincide with BTEX absorbance. This method of analysis for BTEX is faster and less expensive than gas chromatography.




## Technical Specifications

| General | |
|---|---|
| Measurement Principle | UV Absorbance |
| Light Source | Xenon Flash Lamp |
| Detector | Silicon Photodiode |
| Fiber Optic Cables | (2) 2 meter, 600 micron core |
| Sample Introduction | 3/8" 316 Stainless Steel Flow Cell |
| Calibration | Analyzer is calibrated with customer sample; measurement normalized by zeroing every 1-2 months or as needed. |
| Range | BTEX in Liquid<br>0-10ppm<br>0-100pm<br>0-1% |
| Pathlength | Application dependent |
| Accuracy | ±1% full scale |
| Repeatability | ±0.5% full scale |
| Response Time | 1 second |
| Power Requirement | 24VDC nominal (12-48VDC), 8.5 watts max |
| Dimensions of Photometer | 5" H x 5.8" W x 2.8" D |
| Weight of Photometer | 3.5 lbs. (1.6 kg) |
| Enclosure | NEMA4X anodized aluminum |

| Operating Conditions | |
|---|---|
| Process Temperature | 204°C |
| Operating Temperature | 5°C to 50°C |
| Storage Temperature | -20°C to 50°C |
| Process Pressure | 2000psi max |
| Minimum Flow Rate | 100 ml/min |

| Communications | |
|---|---|
| Outputs | 4-20mA, RS-485 (MODBUS), or USB |
| Alarms | Contact closure (60VDC, 0.75 A max) |
| Display | 3.2" capacitive touch LCD |

*All information provided in this datasheet is subject to further application engineering based on customer sample.

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