



**ISA Delhi Section**

*Setting the Standard for Automation™*

# Fertilizer, Food & Pharma Symposium – 2022

*“Building Sustainability through Advanced Automation”*

ISA-D: “Fertiliser , Food and Pharma Symposium-2022”

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**“ Vasudhaiva Kutumbakam”**



**नमस्ते**

**“One Earth One Family One Future”**



**SICK, Germany**

**SICK**  
Sensor Intelligence.

## SICK, Germany at a Glance

- Global Headquarters in Waldkirch, **Germany**
- Company founder: **Dr. Erwin Sick**
- Founded in 1946: **more than 70 years of sensing technology**
- Presence **in more than 80 countries**: With almost **50 subsidiaries**
- **Widest product and technology range** in the sensor industry
- **Innovation leader** in optical sensor technology



**SICK**  
Sensor Intelligence.





**SICK, India**

**SICK**  
Sensor Intelligence.

## SICK, India at a Glance

**SICK**  
Sensor Intelligence.

- Head Office in **Mumbai**.
- Started India Subsidiary in **2005**.
- **Sales & Service Office** in Major Metros.
  - Mumbai, Delhi, Kolkata, Chennai.
  - Bangalore, Hyderabad, Pune, Ahmedabad, Baroda.
- **Customer Facility Center - Factory** at Naigaon, Mumbai



# Analyzer Shelter Reference

Reliance 3mtrs X 3mtrs





# Analyzer Shelter Reference

Reliance 3mtrs X 3mtrs





# Analyzer Shelter Reference

Analyzer Systems Hazardous Area





**SICK, Sensor Intelligence**

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## Wide product range + experience + expertise = efficient solutions for you

**SICK**  
Sensor Intelligence.



- **Analyzer solutions**
- Automation light grids
- Detection and ranging solutions
- Distance sensors
- **Dust measuring devices**
- Encoders and inclination sensors
- Fluid sensors
- **Gas analyzers**
- **Identification solutions**
- Magnetic cylinder sensors
- Motor feedback systems
- Opto-electronic protective devices
- Photoelectric sensors
- **Proximity sensors**
- Registration sensors
- Software products
- Safety switches
- sens:Control – safe control solutions
- System solutions
- Traffic sensors
- **Ultrasonic gas flow measuring devices**
- Vision

A photograph of a large industrial facility, likely a fertilizer plant, at night. The scene is illuminated by numerous bright yellow lights, highlighting the complex network of pipes, scaffolding, and large cylindrical storage tanks. In the foreground, several tall, vertical pipes are visible, some with red and white bands. The sky is a deep blue, suggesting twilight or early evening. The overall atmosphere is one of active industrial operations.

## Solution in Fertilizer industry

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## Gas Analysis

### Simple, fast, and low maintenance

- Gas transmitters are the logical next step when it comes to creating gas analyzers that can serve as field instruments.
- Requires barely any additional technical aids
- In many cases, there is no need for costly sampling and gas conditioning either.

### Measurement stability

- Laser spectroscopy tuned to O<sub>2</sub> wavelength for high selectivity and reliability
- 0.2% O<sub>2</sub> accuracy
- Calibration interval once per year

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**PROCESS GAS ANALYZER SYSTEM (PGA).**

**GOOD NOSE FOR OXYGEN.**

TRANSIC Extractive for reliable oxygen measurements.  
Tunable Diode Laser Spectroscopy (TDLS).

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△ MINIMAL MAINTENANCE  
△ EASY TO USE AND INSTALL  
△ LOW OPERATING COSTS

The advertisement features a 3D rendering of the SICK TRANSIC Extractive Process Gas Analyzer System (PGA). The device is a compact, white, rectangular unit with a blue and black sensor head. It is mounted on a metal plate with various pipes and fittings. The background is a gradient of red and blue. The SICK logo and tagline are visible in the bottom left corner, and a list of benefits is in the bottom right corner.



## Process Gas Analysis

### Perfectly tailored to the measurement task

- The extractive measurement technology: extracts a partial gas flow from the gas duct
- Gas conditioning under constant conditions
- Measurement technology from one source:
- From gas sampling and conditioning right through to the numerous analyzer modules
- **Trace measurement of CO+CO<sub>2</sub> and H<sub>2</sub> before the ammonia synthesis process**

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## Emission Monitoring Solution

### Single point Solution

- Our efficient gas analyzers precisely and reliably measure the concentration of pollutants in the stack. This results in **accurate emission data** for submission to the authorities.
- We offer complete turnkey installations including CEMS, data acquisition, and data evaluation, developed by our in-house systems engineering. **Walk-in shelters** not only protect the measuring systems but also offer the plant operator and certifying authorities a protected environment for commissioning, maintenance, regular inspections, and calibrations.
- Monitoring and checking – Sensors from SICK not only assist in complying with the emission limit values, but also provide reliable data as verification for the monitoring authority. In addition, remote maintenance systems from SICK provide measuring convenience in daily operation and reduce maintenance costs.

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A photograph of a fertilizer plant at night. The scene is illuminated by warm yellow lights from the facility, contrasting with the dark blue twilight sky. Several tall, cylindrical chimneys are visible, with one in the center having a red and white striped top section. The foreground shows a complex network of pipes, scaffolding, and industrial structures.

# Particulate Monitoring in Fertilizer industry

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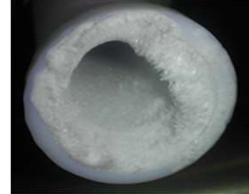


## Particulate Monitoring in NPK Plant

Every Challenge have its own unique solution

### Challenges in NPK stack

- Water Droplets.
- Salt Formation.



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## Particulate Monitoring in NPK Plant

### Every Challenge have its own unique solution

- **Low-maintenance** dust measuring devices with different measuring methods for monitoring particulate Matter in flue gas. This variety always guarantees the **ideal dust measurement** for each plant.



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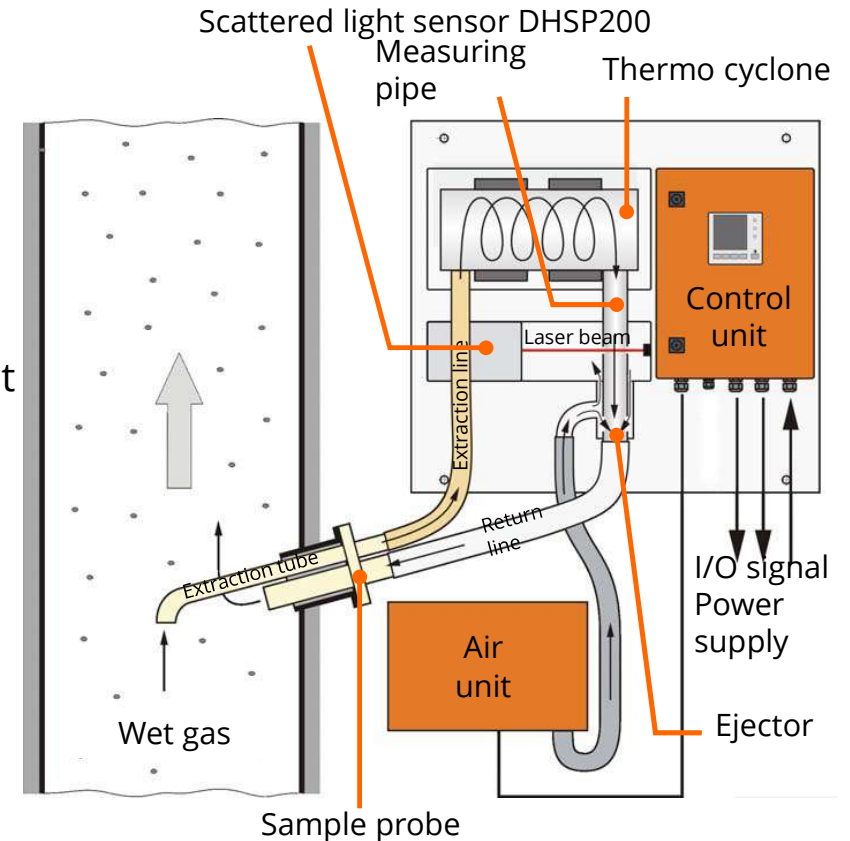


## Particulate Monitoring in NPK Plant

Every Challenge have its own unique solution

### Principle of operation – ejector principle

- Instrument air to the ejector produces an under-pressure towards the cyclone exit.
- Due to this under-pressure the thermo cyclone, extraction line and tube with nozzle are evacuated → sample gas is driven through the system.
- Extracted sample gas will be heated up above dew point → all droplets and aerosols are evaporated.
- Dry gas with dry particles enters the measuring pipe and passes the measuring cell → the particle concentration is measured using the scattered light principle
- After leaving the measuring pipe and ejector → sample gas with blowing air will be returned to the duct.



## Particulate Monitoring in NPK Plant

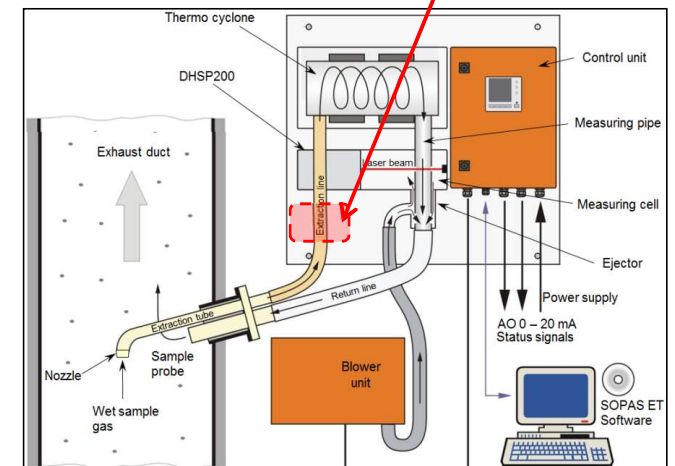
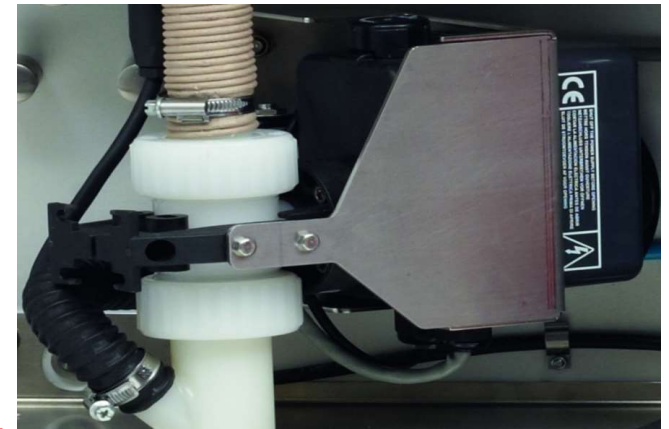
### Every Challenge have its own unique solution

## Back Purging Unit

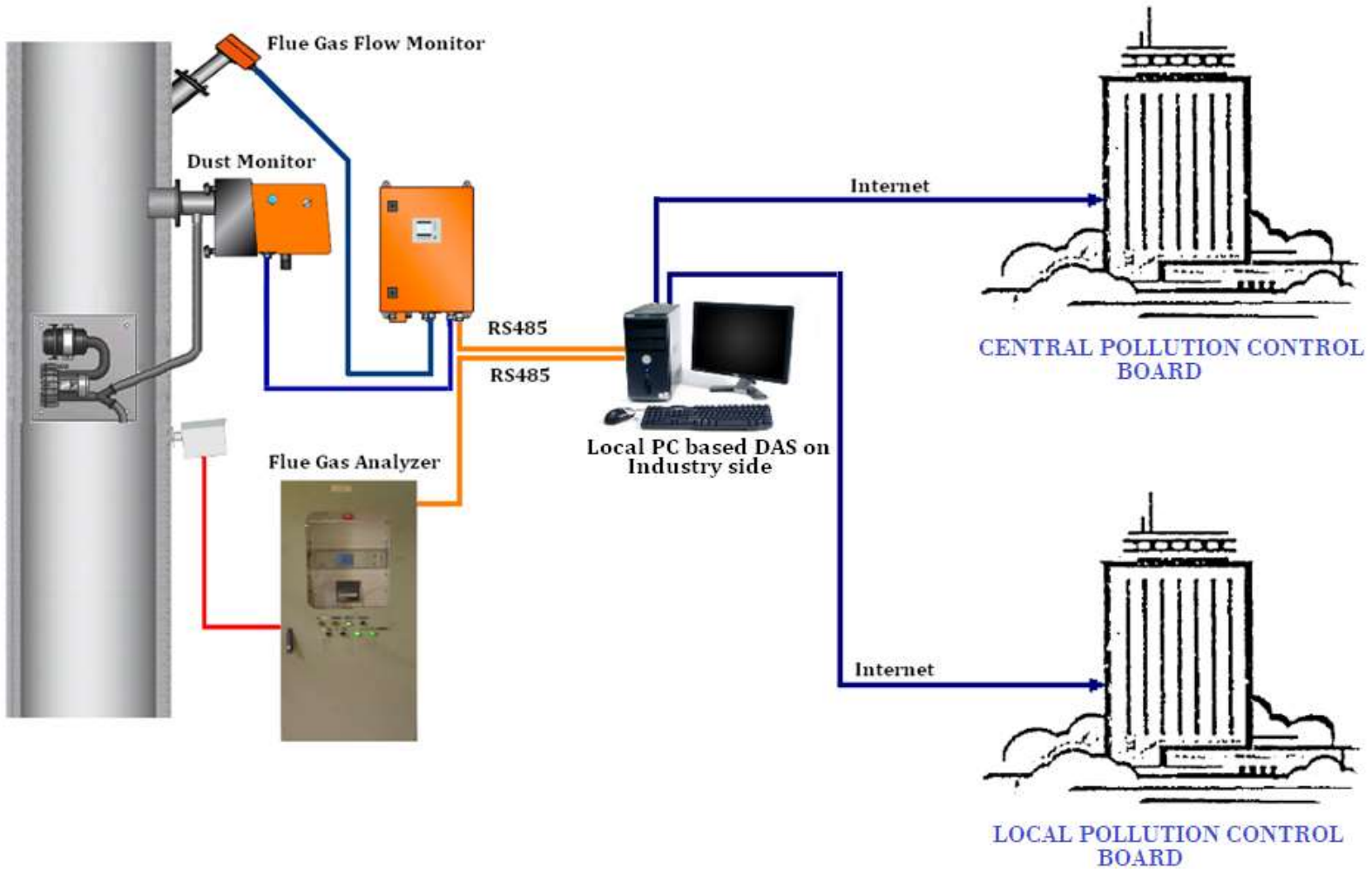
- Cleans the extraction line and extraction tube
- Uses external compressed air / Water
- Automatic cleaning during check cycle possible.



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# Single Point Solution Analysis to Reporting



## Single Point Solution Partner Next Door

- Factory at Naigaon with Inventory of Spares.
- Large Installation base Across the country in all sectors.
- Experience in Connectivity with CPCB and SPCB.
- Analyzers of high quality, global leader in CEMS.
- Design, Engineering, Manufacturing, Integration, Testing & Transportation to site.
- Remote Services.



Questions?

**Any Question?**







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