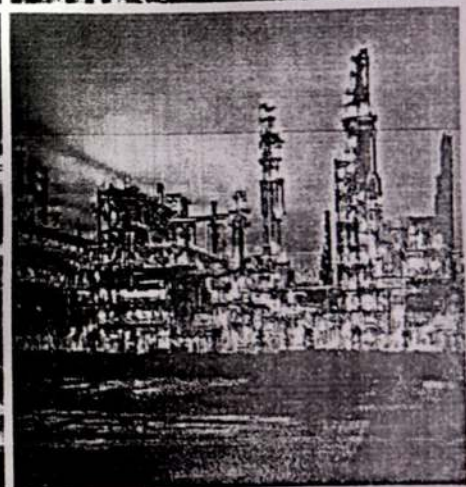
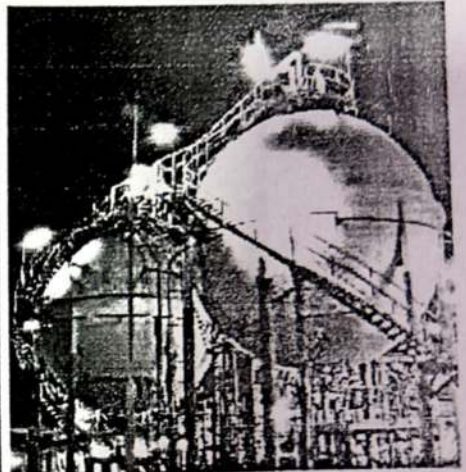
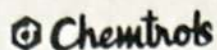


## Engineering Growth

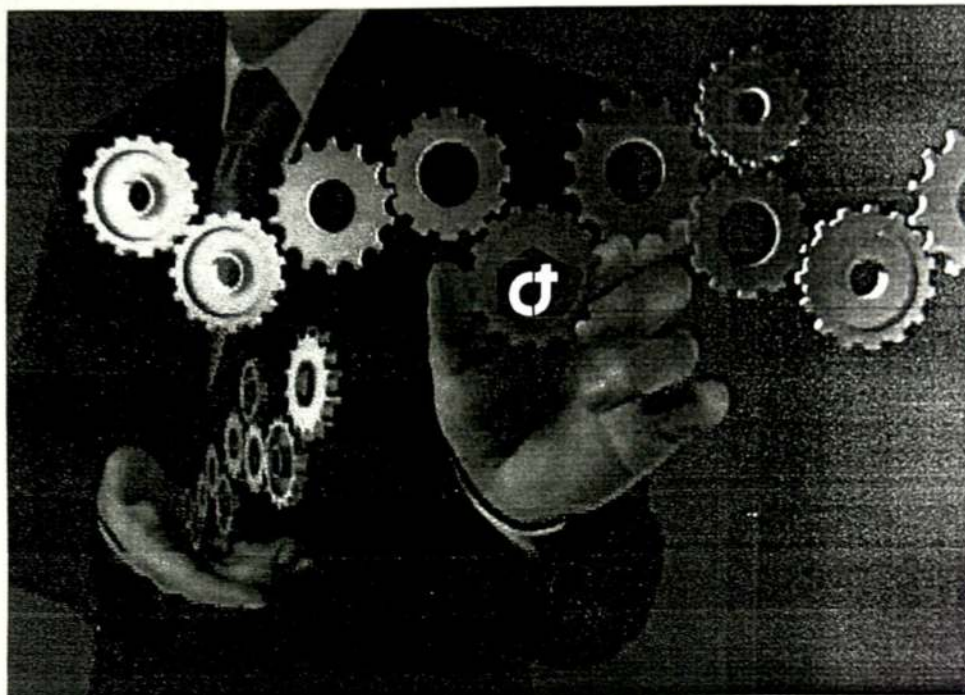
Managing the manufacturing process of varied industries with inspiring support solutions



- Analytics
- Process Variable Instruments
- Mechanical Products
- Valves
- Steam Engineering Solutions
- Terminal Automation
- Utility Management Systems (UMS)



Founded in October 1975, **Chemtrols Industries Pvt. Ltd.** is a leading solutions' provider of B2B Solutions in the field of Process Analytics, CEMS, AAQMS, Terminal Automation, Measurement Products for Level, Flow, SCADA, Control and Process Automation systems. Our philosophy to nurture long-term associations with our esteemed customers and partners has helped us to build strong position in engineering and instrumentation services. As a specialized solution provider, we serve varied industries like Oil and Gas, Refining, Petrochemicals, Chemicals, Fertilizers, Pulp and Paper, Power Generation, Network Management, Mining and Minerals and Water & Waste Water Management.



Having successfully executed projects and delivered products to various industries in all major markets and companies across sectors in India and the international markets, we stand committed to serve the industry with the highest standards of excellence.

Our endeavour is to strengthen partnerships with customers, drive forward improvement efforts at all levels of the group and stimulate free movement of expertise between personnel. We focus on clear understanding of the project's scope, adopt a systematic approach, define the methodology and facilitate its rapid implementation. Our credo has been to identify and serve the changing needs of clients. We strive to add value to our clients' businesses through monitoring and management of processes, utilities and environment.

### Manufacturing Facilities

- Located in Goa, and Ambarnath (Near Mumbai) in India.
- State-of-the-art Manufacturing facility with more than 1,00,000 sq. ft area.
- In-house strength of process knowledge and capability to offer solutions.
- ISO 9001 certified and accredited by CE, ASME, PED, etc.
- Qualified & Expert Engineering workforce, spread nationwide through our network offices.
- Presence in JebelAli and spread worldwide through Partners, Distributors and Agents.

## Analytics

- Process Analytics • CEMS • AAQMS • HVAC
- Analyser House (Shelter) with HVAC suitable for hazardous and non hazardous areas
- Closed Loop Sampling System for laboratory analysis



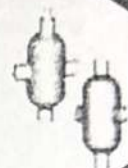
## Process Variable Instruments

- Level Transmitters • Level Gauges (Reflex, Transparent, Magnetic and Tubular) • Rotameters • Orifice Plates & Flange Assembly • Restriction Orifice • Flow Nozzles
- Venturi Tubes



## Mechanical Products

- Condensate Pot
- Sample Coolers
- Air Headers
- Sight Flow Indicators



## Valves

- Control Valves for Steam and Water
- Plug Valves (Sleeved & Lined)



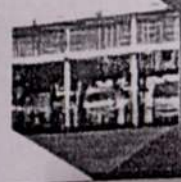
## Steam Engineering Solutions

- PRDS & DUMP PRDS
- Desuperheaters
- Control Valves
- Turbine Bypass Valves



## Terminal Automation

- Wagon & Truck Loading Systems
- Tank Farm Management & SCADA
- Security Surveillance, CCTV &
- Access Control Systems



## Utility Management Systems

- Power Distribution Network Management
- SCADA Monitoring & Control
- RTU's and FRTU's for Substation and RMU's



Chemtrols established its Process Analytics Division in 1983 to provide solutions to Process / Stack / Ambient Analysis / Gas Detection System, as a totally integrated system and under a single point responsibility. We are one of the few companies in India, who have developed an in-house expertise in Analytics. This position has been earned through our emphasis on world class engineering, impeccable project execution and rendering quality services.

## Process Analytics

Designed, engineered, supplied, installed, and commissioned 3,000+ Analyzer Systems globally as well as locally to various industries like refineries, petrochemical, chemical, fertilizer, power and cement and steel plants. Such projects involve, taking a turnkey responsibility for Application data review, Engineering, Construction, Integration and Installation in Analyzer House.

### Analyzer House

Process analyzers are supplied as individual systems or integrated into Analyzer Houses as per the customer needs. Total solution right from sample probe to sample conditioning to sample return/disposal is offered. The analyzers offered are ATEX or IECEx certified. The design basis of the analyzer system is done based on API-RP-555, EN60079 standards.

When supplied as part of Analyzer house, the total system is supplied integrated, prewired, pretubed and tested and inspected. The Analyzer houses are constructed and built based on IEC 61285, NFPA 496 standards complete with Heating Ventilation & Air Conditioning units (HVAC) with Air intake duct, Hazardous area certified electrical distribution system, Fire and smoke detection system and Safeguarding system to operate the Analyzer house. A detailed 'Cause and Effect' table logic is built. All electrical items are supplied IEC EX or ATEX certified for required area classification.

HVACs as well as Split / window type Exproof Air conditioning units are available for Zone 1 IIC T3, Zone 2 IIC, T3 using ATEX certified components. The HVACs are available from 3 Ton capacity to 20 Tons with option of heating, using steam or electricity.

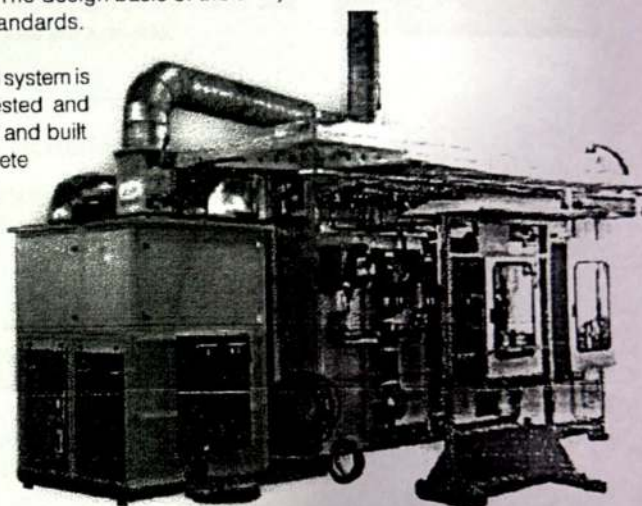
Custom made Analyzer Houses can be built of various sizes upto 22 meters x 6 meters built and supplied in single piece.

### Process Analytics Product Solutions

Process Analysers • Stack & Heater Analyzers • Physical Property Analyzers / Blending Packages • Gas Chromatographs • Custody Transfer Solutions • Photometric Analyzers • Mass Spectrophotometer • Analyzer Management System • Integrated Analyzer package system with Shelter • Specialized Analytical solutions for FCCU, SRU, HDPE, CRACKER, VCM, MEG PP, Butadiene, DRI plants based on Licensor philosophy.

### Product Quality / Blending

Analyzer packages for Blending Automation of Motor fuels (MS/HSD), Tank Farm product quality are available including Near Infrared, Physical property, Sulfur and Density to provide accurate and repeatable measurements and correlating to respective ASTM standards of the laboratory instruments. These systems are supplied complete with validation system and Recovery system.



## Continuous Emission Monitoring Systems (CEMS)

Optimum solutions to the measurement and monitoring of various pollutants like  $\text{SO}_2$ ,  $\text{NO}_x$ ,  $\text{CO}$ ,  $\text{CO}_2$ ,  $\text{NH}_3$ ,  $\text{HCl}$ ,  $\text{HF}$ ,  $\text{THC}$ , Mercury, etc. Based on the vast experience gained in such systems, Chemtrols today provides solutions on technology platforms on either Dilution, Extractive, Hot Extractive or In-situ measurement.

### Dilution System

Sample is extracted and diluted with zero air in the probe. Since, dilution takes place within the probe, there is no need for a heat-traced sample transportation line.

### Hot - Wet Extraction System

Sample is extracted from stack / duct through a heated filter. Blow back arrangement is provided for cases where there is high dust load. Extracted sample is transported using heat-traced line to the sampling system.

### In-Situ Instruments

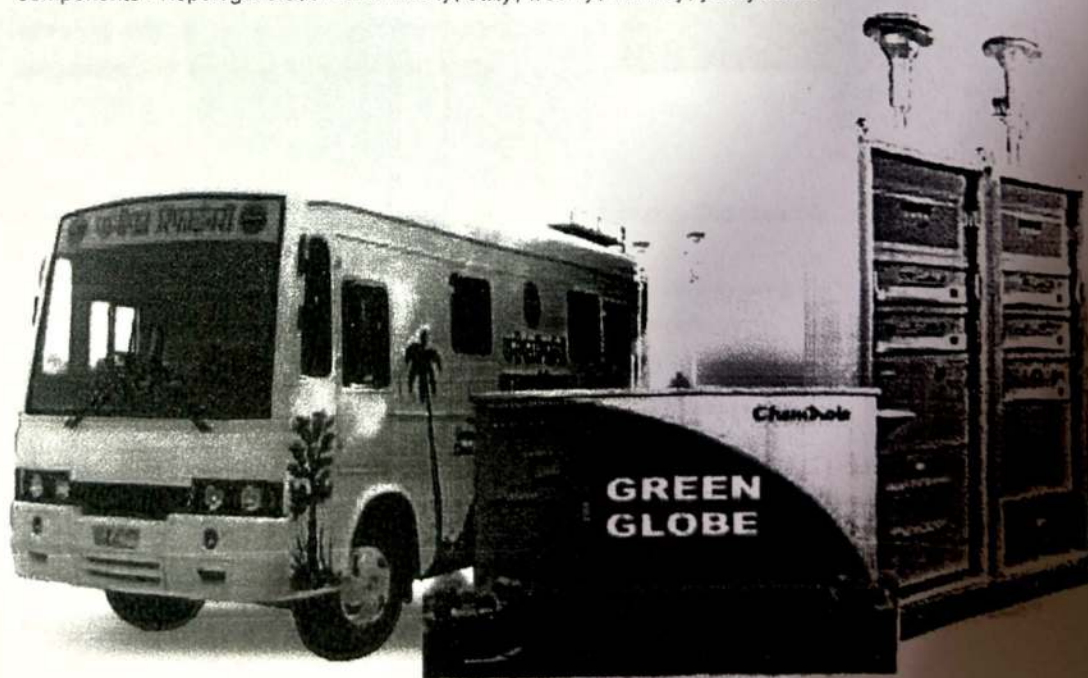
An in-situ gas analyzer sits directly at the measurement point on the stack / duct. Both, cross duct and probe measurement techniques are available.



## Ambient Air Quality Monitoring (AAQMS)

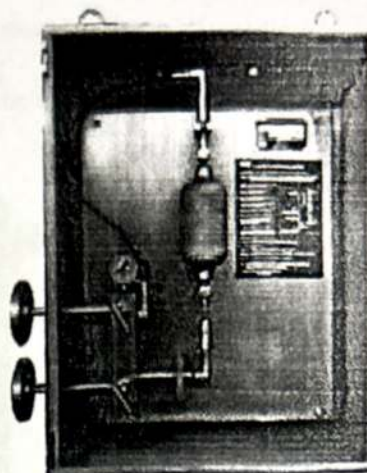
Ambient Air Quality Monitoring Systems or AAQMS monitors the level of pollutants. From a single analyzer to complete turnkey systems (Both Mobile and Fixed) with shelters, hard wired or wireless data transfer to the pollution boards. Chemtrols provides a wide range of solutions to meet much of the Ambient Air Quality Monitoring demands.

Conventional Analyzers –  $\text{SO}_2$ ,  $\text{H}_2\text{S}$ ,  $\text{NO}_x$ ,  $\text{NH}_3$ ,  $\text{CO}$ ,  $\text{CO}_2$ ,  $\text{O}_3$ , and  $\text{HC}$  • BTX Analyzers – Benzene, Toluene, and Xylene • Particulate Monitoring – TSP,  $\text{PM}_{10}$ ,  $\text{PM}_{2.5}$  • Sampling Systems • Calibration Systems • Meteorological Sensors • Data Acquisition and Management Systems • Analyzers designed according to US EPA regulations / equivalent regulations • Ethernet connectivity for efficient remote access • User-friendly interface with single button programming and large display screen • Well thought out of layout design for easy accessibility to components • Report generation on an hourly / daily / weekly / monthly / yearly basis.



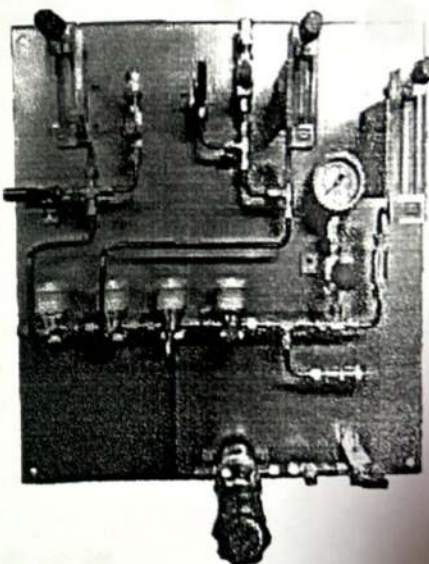
### Closed Loop Sampling Systems

Flow through to vent and flow-through to vent plus process configurations with enclosures, Chemtrols Closed Loop Sampling Systems, draw a 500 cc representative sample directly from process Streams. Designed to handle wide variety of hazardous gases, toxic fluids, light & medium distillates and high pressure liquids & gases. Can be delivered up till a 1500 psig pressure ratings.



### Sample Handling Systems

The heart of any analytical system's performance is in its sample conditioning system. The integrity and reliability of on line process analyzers is critically related to the design of the supporting sample handling system. If the sample is not representative of the process, there is nothing an analyzer can do to correct the situation, and the analytical data cannot be used for control purposes. The results of poorly designed sample conditioning vary from the analyzer not operating at all to an analyzer operating only with extremely high maintenance requirements and/or giving erroneous or poor data.



With an inhouse strength of Sample System design & manufacturing, Chemtrols offers intelligent and optimum solutions based on process data, taking care of various criteria like :

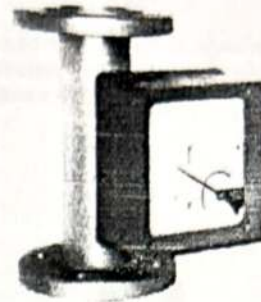
- Flow
- Temperature
- Compatible MOC's as per the processes
- Pressure
- Particulate Loading
- Sample Draw & Disposal
- Arresting Leakages by using appropriate components
- Response time
- Background Composition
- Sensor Poisoning
- Sample Solubility

We ensure that the sample is conditioned in the flow stream so that it may be continuously analyzed "without" affecting the original stream composition. We design them with an intention to choose the correct analyzer(s) and the sampling handling system, which is simple yet delivers meaningful information needed by the user.

## Flow Meters | Rotameters



Chemtrols is a solution provider of **Flow measuring instruments** to meet the application requirements of process plants.



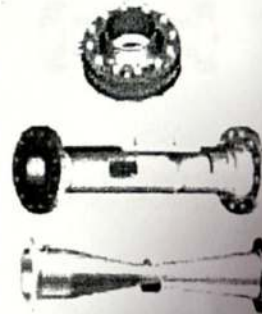
- Metal Tube Variable Area Meter in SS version
- Metal Tube Variable Area Meters (Rotameters)

## Flow Measuring Sensors

Besides, we also offer a wide primary Flow measuring Sensors like Orifice, Flow Nozzles, Venturi Tubes, Cone Flow Meters and Pitot tubes.

### Flow Measuring Sensors & Conditioning Systems

- Orifice Plates & Flange Assemblies
- Orifice Meter Runs Assemblies
- Multi-stage Restriction Orifice Assemblies
- Flow Straighteners
- Weld-in type Flow Nozzles
- Welded type Venturi Tubes
- Duct Type Venturi
- Taper Segment Tube Assemblies
- Cone Flow Meters
- Pitot Tubes & Assemblies

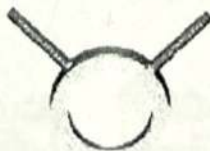


- Orifice & Flow Nozzles & Venturi

## Orifice Assemblies | As per ANSI, B16 and other global standard



Orifice Plate with Ring



Orifice Plate with Integral Block



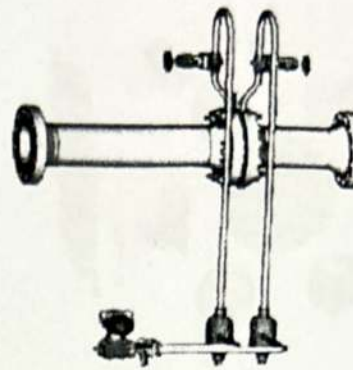
Orifice Meter Run Assembly



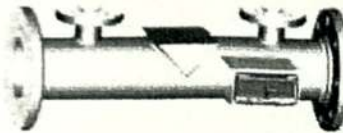
Multi-Stage Restriction Orifice Assembly

## Orifice Plates & Flanges

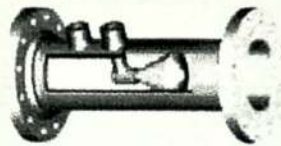
These primary devices like the Measuring Orifice and restricted orifice are used for fluid & gas flow measurement by means of the differential pressure and also pressure reducing devices, are intended on pressure drop and steady fluid flow.



## Taper Segment Tube



Taper Segment Flow Meter

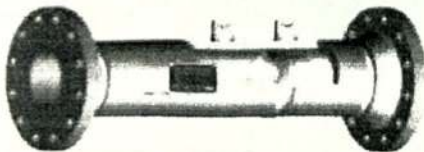


Cone Type Flow Meters



Pilot Tubes

## Flow Nozzles



Weld in type Flow Nozzle

Suitable for determining the flow rate of fluid flowing at high pressure and high temperature and is permit approximately 60% greater capacity than the orifice plate.

## Flow Venturi Tubes

- Flow Venturies



Welded type Venturi Tube



Tetraron Duct Type Venturi