

INSTRUMENTATION & SENSOR SOLUTIONS

Accurate Measurement, Reliable Control & Smart Process Integration

About Instrumentation & Sensors

Instrumentation and sensor systems are critical for accurate measurement, monitoring, and control of industrial processes. These systems ensure process stability, product quality, safety, and compliance by providing real-time data and precise control over key parameters such as pressure, temperature, flow, and level.

Instrumentation solutions are widely used across **Chemical, Steel, Pharma, API, Water & Wastewater, Sugar, Food & Beverage, Dairy, Beverage, OEM, EPC, Automotive, Manufacturing, and Government Projects.**

Scope of Instrumentation Solutions

Key Offerings

- Field Instrument Supply & Integration
- Process Measurement & Control Systems
- Instrumentation for New Projects & Plant Expansion
- Retrofit & Upgrade of Existing Systems
- Analyzer & Safety Instrumentation Systems
- Control Valves & Actuator Solutions

Supply | Installation | Services

1. Supply

- Pressure Transmitters (Gauge, Absolute, Differential)
- Temperature Sensors (RTD, Thermocouple) & Transmitters
- Flow Meters (Electromagnetic, Ultrasonic, Coriolis, Vortex)
- Level Instruments (Radar, Ultrasonic, DP Type, Float Type)
- Control Valves (On/Off, Modulating) with Actuators
- Gas Analyzers (Oxygen, Hydrogen, etc.)
- Flame Detectors, Smoke Sensors & Safety Devices
- Junction Boxes, Cables, and Instrument Accessories
- OEM-based solutions (Siemens, ABB, Honeywell, Baumer, Festo, etc.)

2. Installation & Commissioning

- Instrument mounting & field installation
- Impulse tubing, fittings & hook-up installation
- Cable laying, glanding & termination
- Loop checking & calibration
- Integration with PLC/DCS/SCADA systems
- Testing, commissioning & performance validation

3. Services & Support

- Calibration & accuracy verification
- Preventive & breakdown maintenance
- Instrument health check & diagnostics
- Replacement & upgrade of obsolete instruments
- Shutdown support & loop verification & AMC (Annual Maintenance Contracts)

TECHNICAL CAPABILITIES & ENGINEERING

Engineering & Documentation

- Instrumentation Index Preparation
- Instrument Hook-Up Diagrams
- Loop Diagrams (Field to Control System)
- Cable Schedule & Routing Details
- BOQ / MTO (Material Take-Off)
- Instrument Layout & Location Drawings
- Instrument Data Sheets & Technical Documentation

Types of Instruments Covered

- Flow Measurement: Electromagnetic, Ultrasonic, Coriolis
- Pressure Measurement: Gauge, Absolute, Differential
- Level Measurement: Radar, Ultrasonic, DP, Float-based
- Temperature Measurement: RTD, Thermocouples
- Control Systems: Valves, Actuators, Positioners

Execution Methodology

1. Requirement Study & Process Analysis
2. Instrument Selection & Engineering Design
3. Procurement & Quality Inspection
4. Installation & Loop Checking
5. Calibration & Commissioning
6. Documentation & Handover
7. AMC & Lifecycle Support

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