AES

ALPHA Engineering & SYSTEMS

Where TECHNOLOGY meets INNOVATION

Where
TECHNOLOGY
meets
INNOVATION

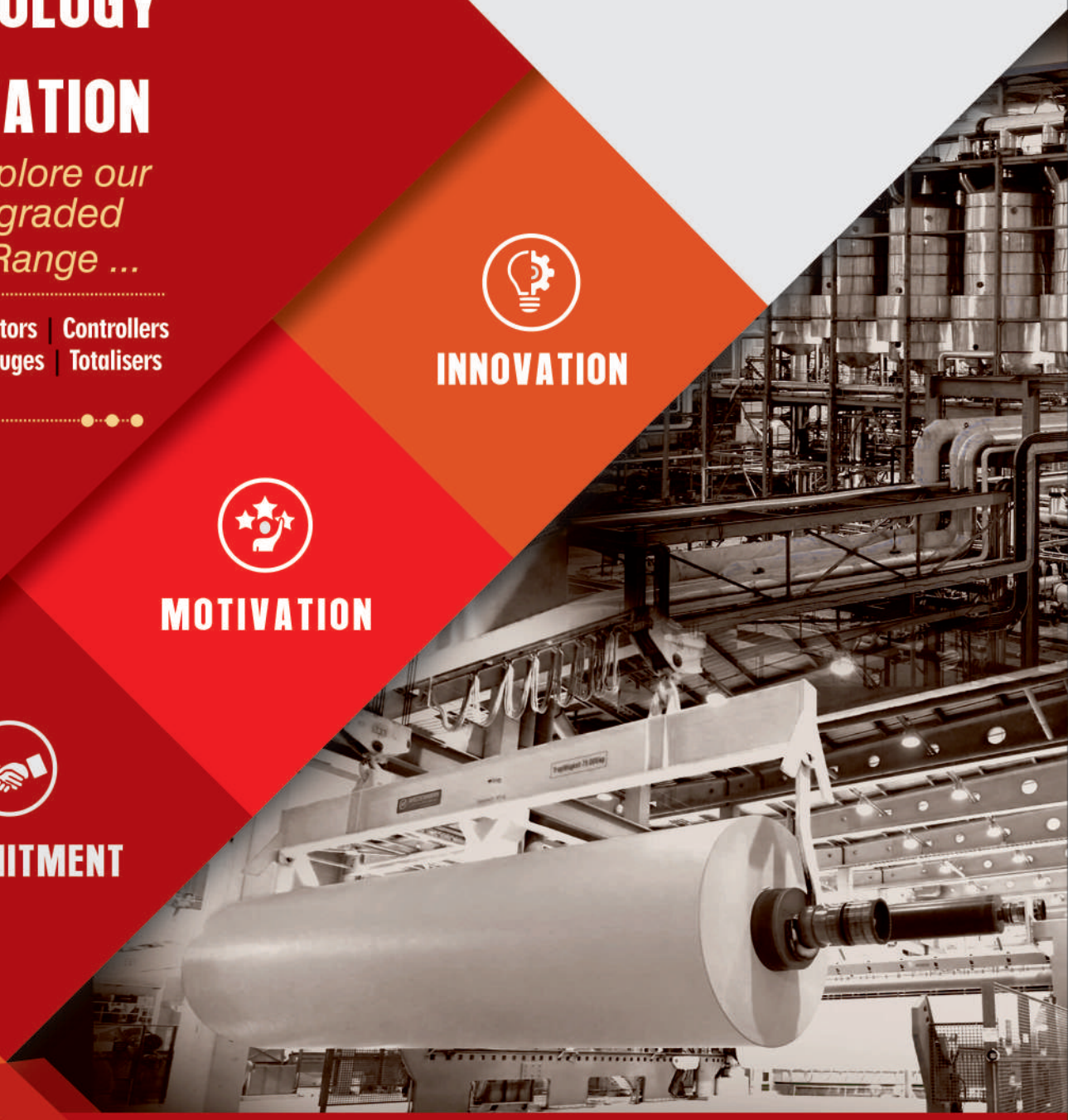
Come Explore our latest upgraded Product Range ...

Sensors | Indicators | Controllers
Calibrators | Gauges | Totalisers
& much more.

INNOVATION

MOTIVATION

COMMITMENT



Come Explore with us the **Latest Product Range...**
www.alphaengg.in

From the Desk of the Managing Director

Dear Valued Partners and Customers,

In 1991, I embarked on a journey to establish an Instrumentation company from the ground up. Over the last three decades, we have witnessed the remarkable transformation of Alpha Engineering & Systems from a humble start to a thriving enterprise with a turnover exceeding 25 Crores and growing exponentially.

Our company's roots were firmly planted in the soil of dedication, innovation, and unwavering commitment to quality. Today, we proudly stand as a leader in the field of process instrumentation

I am thrilled to be a part of the ALPHA family, joining as the New Business Development Director after completing my MBA and gaining over two years of invaluable industry experience. Stepping into the dynamic realm of Industrial IoT Automation, I am eager to leverage my fresh perspective and passion for innovation to contribute to the continued success of our esteemed company. With the unwavering guidance of my visionary parent, Mr. Sandeep Arya, and the support of our dedicated team, I am excited about the transformative journey ahead. Together, we aim to pioneer new heights in the ever-evolving landscape of industrial automation.

Best regards,

Mr. Navdeep Arya
Director, New Business Development

As a seasoned member of the ALPHA family, I take immense pride in reflecting on the incredible journey we've shared over the past 30 years. From the nascent stages of our company to the thriving entity we are today, each step has been a testament to our collective dedication and hard work. Having been a part of this evolution from the beginning, I've dedicated myself to understanding your unique processes. As an instrumentation expert, my commitment is to consistently deliver the best economical and one-time solutions. It's not just a job; it's a passion to ensure your success mirrors ours. Together, let's continue to innovate, grow, and build a future where excellence knows no bounds.

Best regards,

Mr. Anish Puri
Director, Marketing

manufacturing, trading, and comprehensive field services. The ability to provide turnkey solutions to our clients is a testament to our evolution.

The heart-warming news is that the legacy continues with the entry of the next generation. My son, Mr. Navdeep Arya, has joined the Alpha Engineering & Systems family. He brings fresh perspectives and enthusiasm, ensuring that the company's values and vision endure for years to come. In addition, Mr. Anish Puri, a dedicated and talented team leader with three decades of association, remains a cornerstone of our success.

We embrace the future with great optimism, ready to explore new horizons and conquer new challenges. Alpha Engineering & Systems remains committed to pushing boundaries, offering exceptional service, and consistently exceeding your expectations.

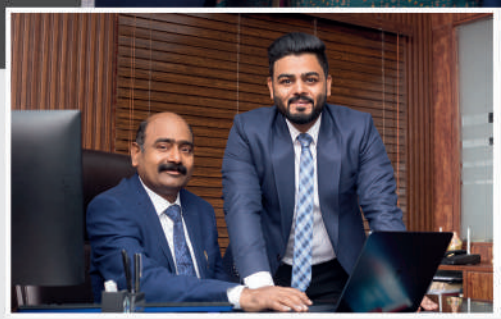
As we look ahead, we pledge to maintain our relentless pursuit of excellence, fueled by innovation and unwavering customer-centricity. We thank you, our valued partners and customers, for your trust and support over the years, and we look forward to continuing this journey with you.

Warm regards,

Mr. Sandeep Arya
Managing Director

OUR VISION

At Alpha Engineering & Systems we envision a world where precision, innovation, and reliability converge to drive industrial excellence. Our vision is to be the global leader in manufacturing and trading imported instruments while delivering exceptional field services to process industries. We are committed to empowering industries with advanced solutions and setting new standards for quality and performance across the globe.



OUR MISSION

Our mission at Alpha Engineering & Systems is to pioneer excellence in manufacturing, trading, and field services, catering to the specific needs of process industries in India and worldwide. We are dedicated to:

- Crafting and providing high-quality, imported instruments that set industry benchmarks.
- Offering comprehensive field services that enhance operational efficiency and productivity.
- Building enduring partnerships with our clients based on trust, mutual growth, and shared success.
- Fostering a culture of innovation, continuous improvement, and sustainability within our organization.
- Expanding our global presence to bring our expertise and services to diverse industries and markets.
- With a rich history spanning three decades, we remain committed to advancing instrumentation solutions, driving industrial progress, and embracing a boundless future for the next 30 years and beyond.

www.alphaengg.in

PROCESS CONTROLLER

01. Process Controller

The design of Universal Process Controller is characterized by high reliability and precision, electrical noise and EMI immunity. These features make them ideal for industrial applications in Instrumentation and Process Control. They accept fixed or universal input that can be mA DC, Volts DC, mV DC, thermocouples, RTD or pulse input. The controllers are projected on modularity and flexibility concepts, having a single or dual relay output. It can be used for ON/OFF control application where the control action is reverse for heating and direct for cooling. The controller has two set points for relays.

The controller is calibrated for all the basic input and the calibration is not required to be changed if the input type is changed. However if re calibration is required due to any error then calibration can be done through keyboard.

Features

- Universal Process Indicators/ Controllers
- Universal or Fixed Input
- RTD, Thermocouple, Current and Voltage
- Front Key Calibration
- Red or Green Display Colour
- Engineering Unit Labels Insertion
- Control Action - ON/OFF
- Compact Size
- Rugged Industrial Design

INDICATOR & CONTROLLER

02. Flame Proof Indicator & Controller

- Microprocessor based fault tolerant design.
- High brightness 4 digit LED display.
- Wide range, -100 to +400 Deg.C Resolution of 0.1Deg C over full range.
- Built in Sensor Non Linearity correction to DIN 43760.
- Single/ Two point Software Calibration (NO POTENTIOMETERS)
- Sensor cable resistance compensation
- Non Volatile memory for Calibration data retention.
- Flameproof Gas Gr.II A, B enclosure.
- Digital Communication Interface on RS485 MODBUS.

Touch Screen Series

Push Button Series

Features

- Input: RTD PT100 DIN 43760
- Measurement range: -100 to + 400 °C
- Display: 4 digit High Brightness 0.56" LED
- Display Resolution: 0.1°C
- Accuracy: 0.1% Span± 0.2 °C
- Calibration: 1 or 2 point calibration
- Instrument Power: 230V AC ± 10%, 5VA, 50 Hz
- Enclosure: Flameproof to gas Gr.II A,B
- Operating Temperature: 0 to 50 °C
- Operating Humidity: 0 to 80 % (Non Condensing)
- Output: 2 Set Of Relays rated at 5 A
- Mounting: Wall / Field Mounting

03. Signal Isolator

Single output and dual output provides total signal isolation between a non-isolated transmitter and a receiving device. This eliminates faulty readings in process measurement and control equipment caused by ground loops, motor noise, and other unpredictable electrical interference.

When the output from one transmitter needs to be isolated and sent to two different locations, Isolator with dual output provides ideal solution and acts as a splitter. These isolators operate on the principle of optical isolation and provide high isolation between the input circuit and the output.

External power supply is not required by these isolators, the input circuit is powered from the input 4 to 20mA signal and the outputs are powered by the output loop power provided by the receiving instrument. The isolators have individual output adjustment potentiometers accessible from the front panel.

Features

- Rugged & accurate 4 wire isolator
- Universal AC/DC Aux. supply
- Up to 4 outputs of different types available
- Wide zero & span adjustment limits
- 2KV AC Isolation between I/P, O/P and supply
- All standard current/voltage input/output options
- Non-standard input/output options also available
- Compact DIN rail enclosure

04. Flow Indicator Totaliser

Flow Indicator Totaliser is compact and easy to use, designed for monitoring the continuous flow rate and total flow. The flow rate along with engineering units is displayed on the upper line of LCD display and the totalised flow is displayed on 8 digits on the second line. The microcontroller based design makes it more flexible and powerful compared to conventional flow totaliser. The unit is suitable for use with any flow transmitter giving pulse or analog current output. The display has floating decimal point position, which is programmable from the front panel. The unit has inbuilt relay outputs for alarm or control application.

Features

- Microcontroller based
- Analog/Pulse input
- High accuracy
- Membrane keyboard
- Programmable range
- Alphanumeric back-lit LCD/LED Display
- Unit and Rate selection
- Built-in square root extraction facility
- Two level password protection
- Full digital calibration via keyboard
- Optional RS232/RS485 serial communication interface
- Optional Isolated Re-transmission output proportional to flow

05. Auto Manual Station

Features

- Input - Process value and Auto command
- 4 to 20 mA scaleable output
- Selectable auto or manual control
- Operation and Calibration through potentiometer
- IP54 protection

AUTO MANUAL STATION

THERMO COUPLES

06. Thermocouples

Our Mineral Insulated Thermocouple Assemblies consist of two, four or six thermocouple wires embedded in compact MgO - mineral insulation, enclosed in a metallic tube. The assembly is compact, flexible enough to route, has a high insulation resistance and high thermal conductivity. Mineral insulated thermocouple assemblies are robust in construction and offer good mechanical strength.

Advantages: Faster response Longer lengths can be offered reliable and easily routed Available in SS316, SS310, Inconel-600, Incoloy- 800, SS446 sheath materials.

07. RTD

Mineral Insulated RTD

Accurate temperature monitoring and control begins with a properly designed sensor. RTD - Resistance Temperature Detector used for temperature measurement (-) 200°C to 500°C (up to 800°C on request), must have the physical configuration necessary for optimum thermal response to the process fluid it is sensing and the resistive element compatible with instrumentation.

Features

- ⇨ Linear over wide operating range
- ⇨ Wide temperature operating range
- ⇨ High temperature operating range
- ⇨ Interchangeability over wide range
- ⇨ Good stability at high temperature
- ⇨ Most Accurate

08. Thermowells

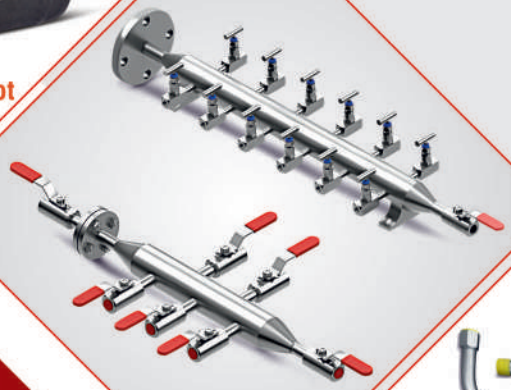
A thermowell is a protective device used in industrial temperature measurement applications. Its primary purpose is to shield a temperature sensor, such as a thermocouple or a RTD, from the harsh conditions of the process environment while still allowing it to accurately sense the temperature. Thermowells play a crucial role in extending the life of temperature sensors and ensuring accurate and reliable temperature measurements in industrial processes. Their design and selection depend on the specific requirements of the application.

MOC: BRASS,SS304,SS316,SS310,INCONEL 600, INCONEL 800, HASTELLOY and MANY MORE..

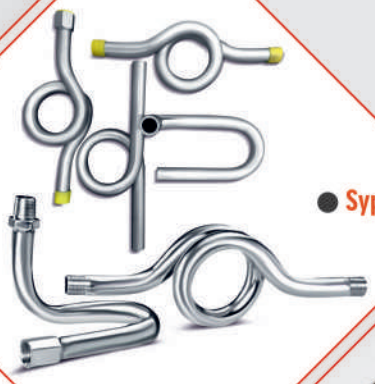
Various Types of Thermowells

- ⇨ Bar Stock Threaded (BT) (Process threads NPT, BSP or Metric)
- ⇨ Bar Stock Flanged (BF) (Flanges as per ANSI, BS or DIN)
- ⇨ Bar Stock Weld In (BW)
- ⇨ Fabricated Threaded (FT)
- ⇨ Fabricated Flanged (FF)
- ⇨ Fabricated Weld In (FW)

Condensate Pot



Air Header



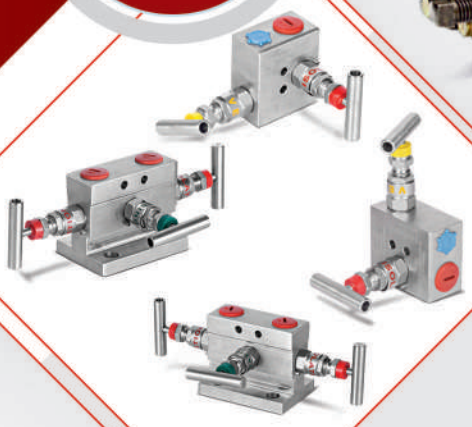
Syphons

09. Orifice Plate Assembly & Instrumentation Hardware

- Orifice Plate Flange Assembly IBR & Non IBR- Size:1/2" to 40" Class 300/600/900/1500/2500
- Integral Orifice Plate Flange Assembly with Meter Run & H-Type Valve Manifold Size: 1" to 15"
- Orifice Meter Run as per AGA Standard for Natural Gas and Skid as per Customer specifications & drawings with complete fabrication and accessories with profiler 100% radiography under Third Party Inspection Agency.

ORIFICE PLATE & MORE..

Flanges



Manifolds

Compression Fittings

Orifice plate

Components

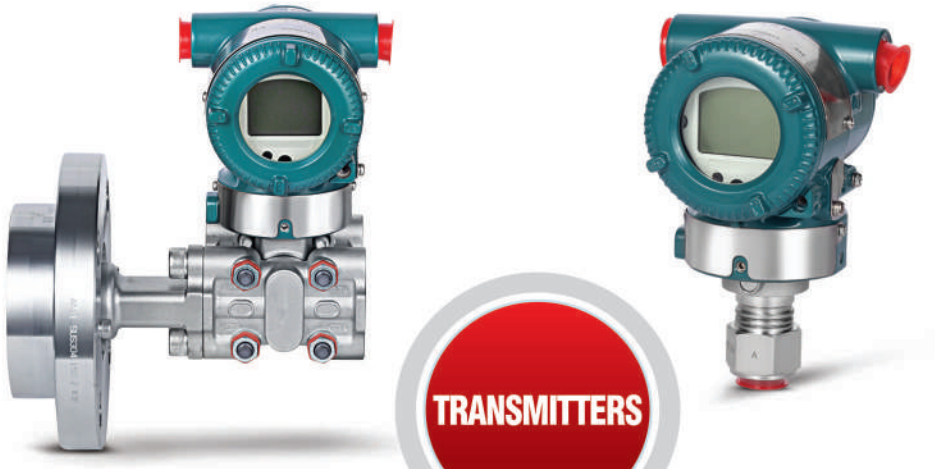
1. Orifice Carrier Ring Assembly Size: 1" to 40" PSI
2. Flow Nozzles & Venturi As per ISO 5167
3. Two Valve Manifold Test Pressure 9000 PSIG
4. Three Valve Manifold Test Pressure 9000 PSIG
5. Five Valve Manifold Test Pressure 9000 PSIG

Components

6. High Pressure Needle Valve, Shut Off Valve, Check Valve, Ball Valve, Globe Valve and Gate Valve size: 1/8" to 2"
7. Condensate Pot
8. Air Headers Test Pressure 6000 PSIG
9. Compression Fittings
10. Male & Female Connectors
11. Elbow, Union, Tee, etc.
12. Bulk Head Connector
13. Reducing Union

10. Transmitters

These low-power transmitters achieves superior energy efficiency, consuming only 27 mW (0.96 to 3 mA) of power. This product has a good potential in a variety of applications such as upstream of oil and gas where instruments and devices must be able to function on a limited power supply from solar power or batteries. In addition, its better accuracy and stability contribute to reduction of maintenance cost.



11. Flush/Extended Diaphragm Level Transmitters

The high-performance flange mounted differential pressure transmitter can be used to measure levels of densities of solidifying or precipitating liquids. This Transmitter outputs a 4 to 20 mA DC signal corresponding to the measured differential pressure. Its accurate and stable sensor can also measure the static pressure which can be shown on the integral indicator or remotely monitored via BRAIN or HART communications. The same transmitter is available with FLUSH / EXTENDED diaphragm and DIRECT CAPILLARY type.

Innovative Approach

Quality Consciousness

Industry Satisfaction *is what* **we Aim** *for*

12. Temperature Transmitter

Temperature transmitters are devices used to convert temperature signals from temperature sensors, such as thermocouples or RTDs (Resistance Temperature Detectors), into standardized electrical signals (e.g., 4-20 mA) for easy transmission and interpretation. They can be mounted in various ways, including head-mounted and field-mounted configurations. Here are five special features that are commonly associated with temperature transmitters in these mounting configurations:

Types

- ⇨ **Temperature Transmitter Head Mounted**
- ⇨ **Temperature Transmitter Field Mounted**

13. Zirconia Oxygen Analyzers

Features

- ⇨ Our Zirconia oxygen analyzer features a touch screen LCD with excellent operability for settings, calibrations, and trend graph viewing.
- ⇨ The probe uses a highly reliable zirconia sensor and a field-replaceable heater assembly.
- ⇨ The applications range from energy-consuming industries, such as iron and steel, electric power, and oil and petrochemical, to various combustion facilities, such as incinerators and small- and medium-sized boilers.
- ⇨ Applications pending to ATEX for Flameproof approval and CSA and FM for explosion proof approval.
- ⇨ Can measure either oxygen concentration or humidity with a single analyzer
- ⇨ Highly reliable measurements with trend data graphs
- ⇨ The Zirconia cell and heater assembly can be replaced in the field

14. pH/Conductivity Analyzer

Our modular liquid analyzer can be flexibly configured to measure pH/ORP, contacting conductivity, inductive conductivity, or dissolved oxygen. This Analyzer also supports the installation of up to two sensors of the same type, thereby reducing installation costs and saving space in addition to enabling the configuration of a highly reliable backup system.

Measuring Principle	pH glass electrode and silver chloride reference system Platinum electrode and Pt1000 temperature sensor.
Measuring Range	0 to 14 pH, ±1500 mV
Measuring Temperature	-10 to 105
Measuring Pressure	0 to 1 Mpa
Conductivity	>50 μS/cm
Flow Rate	0 to 2 m/s

pH Conductivity Analyser

Features

- Rugged 316 Stainless Steel construction
- 3/4" Direct Insertion with Polypropylene or 316SS adapters
- Sanitary options compatible with 1", 1.5", or 2" Tri-clover fittings
- Platinum 1000 Temperature compensation
- Integral Cable

Specification

Wetted Materials

- **Body and Electrodes** : 316 SS
- **Insulator** : Teflone
- **O-Ring** : EPR
- **Fittings** : Polypropylene or 316SS(Optional)

Connections

- Polypropylene fitting 3/4" MNPT
- 316 SS fitting 3/4" MNPT
- Sanitary options compatible with 1", 1.5", or 2" Tri-clover fittings
- Electrical Integral cable with pinned leads

Operations

Measuring System	2-Electrode.
Temperature Comp	Platinum 1000
Maximum Pressure/Temp	100 PSIG @ 100°C (Polypropylene 3/4" MNPT fitting)
	200 PSIG @ 120°C (316 SS 3/4" MNPT fitting)
	100 PSIG @ 120°C (Tri-Clover fitting)

CELL CONSTANT	MEASURING RANGE
0.02	0.04-500 μS/cm
0.1	0.4-2000 μS/cm
1.0	4.0-5000 μS/cm

Accelerating Industries
Implementing technology

15. Magnetic Flowmeters

Our magnetic flowmeters have adopted the proven Dual Frequency Excitation. Moreover, the Enhanced Dual Frequency Excitation has been newly added to tackle more severe applications.

These flowmeters have user-friendly functions, such as an electrode adhesion level diagnosis function(self-diagnostic) , infra-red switches which can be used for setting parameters without opening the case cover, ability to change the direction of electrical connection on the site.

PROCESS CONTROLLER

16. Process Controller - UT35A

The UT35A is a general-purpose digital indicating controller with selectable multi- channel contact 1/0 and a wide range of communication options. It also comes standard with a ladder sequence function.

Features

- Accuracy and Reliability
- User-Friendly Interface
- Advanced PID Control
- Alarm and Event Logging
- Remote Monitoring and Control

GAUGES

Explore Our wide variety of Guages with **Innovative Technology** and **Quality Manufacturing Process**

17. Temperature Gauges

Specification

Ref. Standard	ASME B 40.200, EN 13190
System	Gas (N2) filled, case compensated in accordance with SAMA Cl.IIIB
Dial	100mm/150mm in aluminium,white background, black marking
Case	SS304/SS316 with bayonet bezel
Protection	Weatherproof to IP-67 (IS/IEC:60947)
Window	Shatterproof Glass
Pointer	Aluminium, black with micrometer adjustment
Stem	SS316 in 6mn, 8mm, 10mm, 12mm dia as standard
Capillary	SS Covered/SS Covered + PVC/SS Covered + SS armoured/ SS Covered/SS Armoured + PVC (up to 25 Mtr.).
Connection	1/2" NPT (M) adjustable three piece compression fitting in SS304 or SS316 (-)200°C to 800°C with minimum span of 80°C
Accuracy	±1% FSD
Overrange	125% FSD
Reset	Micrometer Pointer
Optional	Silicon Oil Filled Case

TEMPERATURE GUAGES

Types of Dial Thermometer

- Bimetal Dial Thermometer
- Gas Filled Dial Thermometer
- Liquid Filled Dial Thermometer
- Indicating Temperature Switch

18. Pressure Gauges

Types

- Bourdon Sensing Pressure Gauges
- Liquid Filled Pressure Gauges
- Safety Pattern Solid Front Pressure Gauges
- Diaphragm Seal Pressure Gauges
- Capsule Sensing Pressure Gauges
- Diaphragm Sensing Pressure Gauges
- Absolute Pressure Gauges
- Master Pressure Gauges
- Hygiene Gauges
- Receiver Gauges
- Indicating Pressure Switches
- Pressure and Differential Pressure Gauges, manufactured in accordance with international standard EN 837, CE Certified.

Features

- Compliance to latest EN-837 standard
- Range : (-)1 to 1600 kg/cm2
- Bourdon in SS316 Ti as standard providing better mechanical properties guaranteeing repeatability & accuracy
- Accuracy +1% FSD (standard), +0.5% FSD on request
- Unit of measurement-Kg/cm2, bar, PSI, kPa, Mpa
- Pressure Gauges intended for process industries such as chemicals, petro-chemicals, Energy or Gas industry, Food Processing, Nuclear etc.
- These pressure gauges have been designed to satisfy requirements to operate in an aggressive environment.

19. Differential Pressure Gauges

Generally Pressure Gauges and differential Pressure Gauges are provided with Micrometer type Pointer, by which zero can be adjusted after opening the bezel & glass. However for guages with Liquid (Glycerine/Silicone oil) filled Case, this arrangement is practically not suitable, since the filling liquid has to be drained before opening the Bezel & Glass. After doing the zero adjustment, the Bezel & Glass has to be re- assembled and again the case has to be filled with Liquid. In order to overcome this difficulty, general instruments Consortium has developed a unique design of external Zero Adjustment. By this arrangement, zero can be adjusted without draining the Glycerine, without opening the Bezel, without removing the glass & without touching the pointer, just by rotating a knob provided out side the Gauge.

Types

- Bellow Type
- Diaphragm Type
- Capsule Type
- Magnehelic Type
- Indicating Differential Pressure Switch

Our Clients List

AES

Alpha Engineering & Systems Group

(AN ISO-9001-2015 CO.)

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