

Bhagwan

GROUP OF COMPANIES

- Bhagwan Associates
- Bhagwan Technovations Pvt. Ltd.



*“ We help Industry to Increase their **EFFICIENCY AND PRODUCTIVITY** ”*

CORE PURPOSE :

- ✧ TO HELP PEOPLE ACHIEVE QUALITY, EFFICIENCY AND PRODUCTIVITY BY SERVING THEM WITH VALUE-BASED EFFECTIVE SOLUTIONS.

CORE VALUES:

- ✧ RESPECT FOR INDIVIDUALS
- ✧ CONDUCTIVE AND POSITIVE ENVIRONMENT AT THE WORKPLACE.
- ✧ POSITIVE ATTITUDE IN MEETING THE CHALLENGES

ASPIRATIONAL CORE VALUES :

- ✧ FAITHFUL AND HONEST DEALING WITH PEOPLE IN BUSINESS
- ✧ TRUSTWORTHY SERVICE TO CUSTOMERS.
- ✧ CONTINUOUS LEARNING FROM OUR MISTAKES AND OTHERS MISTAKES.

BRAND PROMISE

- ✧ WE DELIVER SOLUTIONS WITH TECHNOLOGY.



ABOUT US.....

GROUP OF COMPANIES

Bhagwan Associates established in 1993 headed by Mr. Hitesh R Modi, Director, and his; dedicated Team, is a leading **Supplier & Service Provider of Industrial Automation and Instrumentation Products.**

Bhagwan Associates' goal is to exceed the expectations of every customer by offering innovative industrial automation solutions; we have strategic alliances with

- Avcon Controls Pvt. Ltd
- Honeywell Automation India Ltd
- Georg Fischer Piping And Systems Pvt. Ltd
- Rubinetterie Utensilerie Bonomi (RUB)(Italy),
- HKC (Korea)
- Fuji Electric Pvt. Ltd
- MIL
- Tempsens

OUR OUTSTANDING CUSTOMER SERVICE with greater value addition optimizes process functionality and improves operation efficiency of the industry.

Our company is based on the principle of

"Satisfying Our Customers Optimally, As They Are The Best Promoters Of Our Products"

All our products are based on the innovations in the field of automation and instrumentation.

Our Strength

- High Quality Standards
- High Performance Products
- Effective Packaging
- Wide Customer Base.

OUR CLIENTELE



INNOVATIONS FOR LIVING®



SOLENOID VALVES :

• 2/2 WAY SOLENOID VALVES

- Fluid : Normal Water, Hot water, Steam, Non corrosive gases, Oil, Air and Dust collector service.
- Pressure : up to 40 bar, Temp : up to 150°C
- End connections : BSP(F) standard, NPT(F) and Flanged



• 3/2 WAY & 5/2 WAY SOLENOID VALVES

- Fluid: Pneumatic air direction control for pneumatic actuators and cylinders, compressor loading unloading
- Pressure : up to 10 bar, Temp : up to 80°C
- End connections : BSP(F) standard



PNEUMATIC ON-OFF VALVES

- 2/2 way , 3/2 way
- Fluid: Normal water, Hot water, Steam Non corrosive gases, Oils , Airs etc.
- Pressure : up to 21 bar, Temp : up to 180°C
- End connections : BSP(F) standard Optional NPT(F) and Flanged



CONTROL VALVES :

- Control valves with Pneumatic and Electric actuator. 2/2 way & 3/2 way
- Fluid: Normal water, Hot water, Steam, Thermic fluid, Oil, Non corrosive gases
- High Duty, Specially Designed for High Temperature and Pressure.
- Designed For critical Operations.



VALVES FOR FOOD AND PHARMA APPLICATION

- Fluid : Normal water; Water for Injection, Purified water, Hot water, Steam etc.
- Pressure : up to 16 bar, Temp up to 150°C
- End connections : Tri-clover end, Spigot end & Butt weld end.



ACTUATED BALL VALVE AND BUTTERFLY VALVES

- With pneumatic rotary actuators
Single acting and Double acting
and electric rotary actuators.



NON-METAL VALVES:

- Ball valve (2 ways & 3 ways), Diaphragm valve, Butterfly valve, Angle seated valve, solenoid valve in solvent cement end & flanged end connections. Ball valve, Butterfly valve and Diaphragm can also provide with Pneumatic and Electric actuators available in various sizes and materials.
- Range: d16DN10 to d110DN100, d160DN100 on request
- Nominal pressure:- PN 16 for PVC-U, PVC-C and PVDF
PN 10 for PP-H and ABS
- Materials:
PVC-U, PVC-C, ABS and PP-H for the dimensions d75DN65 to d110DN100
PVC-U, PVC-C, ABS, PP-H and PVDF for the dimensions d16DN10 to d63DN50



PIPES & FITTINGS

- Grey and transparent pipes are available in various materials like PVC-U, PVC-C, ABS, PP/PE, PVDF etc. and various sizes.
- Dimension: DIN EN ISO 15493, DIN 8062
- Pipe length: 5m, with plain ends, Nominal pressure: PN 16
- Adaptor fittings, Threaded Fittings, Installation Fittings, Adaptor Union, Thread Union, Union bush etc. are available in various materials like PVC-U, PVC-C, ABS, PP/PE, PVDF etc.
- Range: d20 to d63; union bushes from d16; 90° elbow, 45° elbow, 90° tee equal; reducing bushes, unions, union bushes



HVAC PRODUCT:

2-WAY & 3-WAY HVAC VALVE

- Sizes range from 1-1/4 in. to 2 in.
- Characteristics for water and linear flow characteristics for steam.
- Stainless steel and metal-to-metal seats.



BUTTERFLY VALVE WITH ACTUATOR:

- Wide size range (DN50,,500)
- For On-Off Control with feedback signal



ACTUATOR & DAMPER ACTUATOR:

- Spring return models
- 0 to 10VDC signal input
- Position feedback signal
- Field-installable auxiliary switches
- Rotation direction selectable by switch



BALL VALVE & BUTTERFLY VALVE WITH ACTUATOR:

Characterized flow, low torque, two- and three-way ball valves. A single-style bracket maximizes simplicity and flexibility in mounting spring or non-spring return actuators.

The ball valve bodies are 1/2" to 2" NPT sizes and use low torque, low cost actuators. Whereas upto 20" Butterfly valve line sizes.



FCU VALVE WITH ACTUATOR

- 2-way or 3-way body
- SPOT Auxiliary switch available
- Pressure differential up to 4 bars



HUMIDITY & TEMPERATURE TRANSMITTER:

- 4-20mA, 0-10VDC output for temperature and humidity or resistance temperature sensor directly
- High reliability, Duct mounted



PID CONTROLLERS

Advanced performance and greater functionality for your machine and control applications with accurate controls at cost effective price..

Front Face Format	24 x 48 mm, 48 x 48 mm, 48 x 96 mm, 72 x 72 mm, 96 x 96 mm
Input Signal Types	RTD, TC, Linear, Radiamatic, Carbon potential, transmitters
Outputs	Up Linear, Relay, SSR Drive, Voltage, Motorised valve control etc. also analog output.
Accuracy (at ref. cond.)	1-5% to 0.1% (for different models)



For critical & typical processes which requires more than general purpose controller.

Front Face Format	48 x 48 mm, 48 x 96 mm, 72 x 72 mm, 96 x 96 mm
Analog Inputs	4 high levels, 1 universal
Input Signal Types	Thermocouples, RTDs, mV, V, mA, RH, Radiamatic, Carbon, oxygen
Analog Outputs	3 (4 to 20 mA)
Accuracy (at ref. cond.)	0.10% os span



TEMPERATURE SENSOR : Thermocouple, RTD & Thermowell

- Range: 0-1600°C
- All types of thermocouple & RTD with assemblies.
- Stem OD : 6,8,10, 12, 16, 19 MM or Customized
- Stem length: Customized
- Connection: Customized



TEMPERATURE TRANSMITTER

- Universal input: mV, V, T/C and RTD
- High accuracy
- HART communication
- Intrinsically safe and explosion-proof approval



RECORDER:

Smart, Rugged and Reliable product for application which requires continuous logging of online data of process variable for purpose of quality analysis or for future reference.

Specification	Strip Chart Recorder	Circular Chart Recorder	Paperless Recorder
Displays	Analogue/Digital	Analogue/Digital	Digital (5.7in/12in)
Analog Inputs	Up to 64	Up to 4	Up to 48
Math Functions	N / A	Yes	Yes
Reference Accuracy	Up to 0.05%	Up to 0.10 %	0.1% Typical-TC
Data Storage	-	-	Compact flash storage
Sample Rating			1000ms to 200ms



LEVEL MEASUREMENT

ULTRASONIC LEVEL TRANSMITTER

- Upper and Lower liquid level, digital temperature compensation, strong anti-interference
- Range upto 30m, IP65, 4 Digit LCD
- Accuracy: $\pm 0.3\%$



RADAR LEVEL TRANSMITTER

- Medium: Liquid (corrosive, volatile, pressure, low dielectric constant, sticky)
Soild (particles, block, high temperature)
- Range upto 80m, HART, 6 Ghz frequency
- Accuracy: $\pm 3\text{mm}$
- Explosion-Proof Exia IIC T6 Ga/ Exd ia IIC T6 Gb



CAPACITANCE LEVEL TRANSMITTER

- Medium: Liquids and some slurries of homogenous composition
having a stable dielectric constant
- Range: upto 10m, 3 1/2 Digit LED/LCD display
- Explosion-Proof



HYRDOSTATIC LEVEL TRANSMITTER

- Medium: Water, oil, acid, alkali or viscous liquid, liquid sulfur and high temperature naphthol.
- Range upto 200m, IP66
- Temperature: Medium : upto 250°C
Ambient : -30 to 80 °C
- Accuracy: $\pm 0.25\%$



DISPLACER LEVEL TRANSMITTER

- Range upto 100m, IP65, Explosion-Proof
- Power Supply: 2VDC
- Accuracy: $\pm 0.5\%$



MAGNETIC, TUBULAR, TRANSPARENT, REFLEX, FLOAT TYPE LEVEL INDICATOR



MAGNETIC, DISPLACER, ROTATORY LEVEL SWITCH



LEVEL SWITCH



TRANSDUCERS

The Hydrostatic Level Sensor for level and depth control has a one-piece injection molded PVDF body. Compatibility in corrosive liquids. Available in field and panel mount configurations, single or dual-channel input.



PRESSURE TRANSMITTER

- Differential Pressure Transmitter(DPT)
- Pressure Transmitter(PT)
- Absolute Pressure Transmitter
- Remote Seal type Pressure Transmitter
- Remote Seal type Differential Pressure (Flow) Transmitter
- Maximum Span: Upto 600 bar
- Accuracy upto $\pm 0.0375\%$, HART
- Submersible Level transmitter.



PRESSURE GAUGE



Bourdon



Diaphragm



Capsule



Chemical seal

TEMPERATURE GAUGE



Bi-Metal Dial



Gas Filled Dial



Liquid Filled Dial



Mercury in Steel Dial

FLOW MEASUREMENT

ULTRASONIC FLOWMETER

- Online, Handheld & Portable.
- Line size upto 6000mm, Accuracy upto $\pm 0.5\%$, IP67
- Display with flow rate, totalized and signal condition
- Sensor: SS Type, M Type, L Type; Date logger



VORTEX FLOWMETER

- Line size upto 300 NB, Accuracy of $\pm 1.0\%$
- HART (also for temperature & pressure)
- Display with flow rate, totalizer; All flow units
- Temperature & pressure compensation feature



ELECTROMAGNETIC FLOWMETER

- Suitable for chemical, fertilizer, paper, dairy, sugar, food and beverage industries.
- Line size upto 80 inch, Temperature upto 180°C .
- Display with flow rate, totalizer; All flow units
- Accuracy of $\pm 0.5\%$, IP67/ IP68



TURBINE FLOWMETER

- Line size upto 150 NB
- Display with flow rate, totalizer; All flow units
- Accuracy of $\pm 0.5\%$, IP67/ IP68



OVAL GEAR FLOWMETER

- Ideally suited to applications requiring accurate dispense quantities.
- Line size upto 200 NB, Max. Pressure 60Bar
- Mechanical display, Flow range upto 400L/min
- Accuracy of $\pm 0.5\%$, Operating Temp: upto 120°C .



VARIABLE AREA FLOWMETER

- The plastic variable area flow meters available in the length of 350 mm.
Variable Area Flow meters are available with float in PVDF with or without magnet.
- Range: d32DN25 to d75DN65
- Nominal pressure: PN 10
- Materials: Tube: Polyamid, Polysulphone and PVC-U transparent
Seal: EPDM, FPM
Float: PVDF, PTFE
End stops: PVDF



FLOW SENSOR

- Rotor-X Paddlewheel Flow Sensors
Metalex Flow Sensor
Paddlewheel Flow Sensors
Stainless Steel High Performance Flow Sensor
Magmeter Flow Sensor
Turbine Flow Sensor.
- Flow range: 400 mL/min to 12,000 mL/min (0.01 US gpm to 3.2 US gpm)
Ideal for precise low flow applications such as dosing.
- Analogue 4 to 20 mA and frequency outputs provide signals to remote flow meters and data acquisition.



CORIOLOIS MASS FLOWMETER

- Non-Newtonian fluid and Slurries also can be measured.
- Line size upto 200 NB, Flow Range of 1.8 T/Hr - 600 T/Hr
- Accuracy upto $\pm 0.1\%$
- Application: Ingredients, mixing processes and commercial measurement of: Chemical, Petroleum, Liquids, Pharmaceutical, Textile printing and dyeing, Fuel, Food.



FLOW SWITCH

- Switch Type: Micro
- Fluid: Clear Liquids & Gases
- Design Temperature: Up to 160°C
- Design Pressure: Up to 10 Kg/cm^2
- Range: 2.2 to 800 M^3/hr of Water /Liquid
0.1 to 300 Nm^3/hr of Air/Gas at NTP
- Line Size: 25 NB to 150 NB
- Accuracy: $\pm 1\%$ of FSD
- Set Flow: Adjustable
- Protection: Explosion-Proof, Weather-Proof



ROTAMETER & WATERMETER



PH | ORP | CONDUCTIVITY MEASUREMENT

PH/ORP SENSOR & CONTROLLER

Measurement Range	0-14 pH
Temperature Range	-10° to 130° (14° to 266° F)
Materials of Construction	Ryton body, solid state electrode, viton and EPDM seals



CONDUCTIVITY SENSOR & CONTROLLER

Measurement Range	0.01, 0.1, 1.0, 10.0 cell constants, 0.055µS/cm to 250 mS/cm
Pressure & Temperature	1034 kPa @130° C (150 psig @ 266° F)
Materials of Construction	Titanium or graphite with food-grade silicone rubber & polished 316 SS



WIRELESS TRANSMITTER

- These transmitters give Single Plant wide wireless infrastructure for lowest total cost of ownership. Simultaneously connects to installed industrial protocols i.e. HART, OPC, MODBUS, etc.
- Range upto 10Km, Multi-channel communication.
- AP/Bridge (WDS) / Client Repeater



THERMOSTAT & CONTROLLER

- PI (proportional plus integral) control action provides accurate, stable and comfortable temperature control.
- Optional 2 to 10Vdc or 4 to 20mA, direct acting and reserve acting analog output.



GAS ANALYZERS



Infrared Gas Analyzer
• Best suited for measuring exhaust gas in stack.



Gas Analyzer
• Thermal Conductivity System.



Portable type
• Easy-to-carry.



CO Gas Analyzer
• For air pollution monitoring.



CO₂ Controller
• Best suited for building ventilation and green house protected horticulture.



Laser Gas Analyzer
• Cross Stack



CO, CO₂, CH₄ Analyzer
• Gas analyzer for heat treatment furnaces.



Oxygen Analyzer Series
• Best suited for combustion control and energy saving in situ zirconia oxygen analyzer.

COMBUSTION CONTROL

FLAME DETECTOR & SWITCHES

- Solid state flame detector senses the ultraviolet radiations produced by a flame and generates electrical signal that is amplified and transmitted to the primary burner control.
- The detectors can be mounted horizontally or in vertical plane.



SAFETY SHUT

- These valves are used in gas-fired burners.
- Gas valve type: Non regulated ON/OFF
- Two Safety shut off valve in series.
- Media: Natural Gas, Propane, Air.



MODUTROL MOTOR

Modutrol IV Motors has features like spring return holding torque/Reduced power consumption, Diff strokes, timings and control inputs(ON/OFF,SPDT floating/Modulating).

GAS TRAIN SYSTEM

Complete Gas Train System for gas fired furnace is available with Gas governor & Slam Shutoff valve



DISSOLVED OXYGEN ANALYZER

- Enclosure: IP65, Rated NEMA 4X
- Range: any range within 0 to 25 ppm
- Sensitivity: ± 0.2 ppm
- Discrete inputs & outputs, relays, alarms, diagnostics and analog inputs & outputs.



VARIABLE FREQUENCY DRIVES (VFD)

High performance drives & inverters that offer automatically controlled motor of ac drive / variable frequency drive (VFD) applications.

- High Performance Vector Control Drive. upto 710KW & 1370A
- Fan & Pump Application. upto 560KW & 1040A
- General Purpose High Performance Drive. upto 15KW & 30A
- Next-Gen Micro Inverter. upto 3.7KW & 8.2A
- High Performance Inverter. upto 315KW & 590A
- Fan & Pump Drive for HVAC Application. upto 90KW & 176A
- Compact & Simple Drive: For General Purpose Application. upto 3.7KW & 8.2A
- Closed Loop Induction Motor & Permanent Magnet Synchronous Motor Elevators.
- Open Loop Induction Motor Elevators.

Maximum Rated Wattage: 710 KW

Maximum Rated Output Current: 1370 A



ACTUATORS

ELECTRIC QUARTER TURN ACTUATOR

HQ electrical actuator is specially designed for small size quarter turn valve operation such as Ball valve, butterfly valve, Plug valve, Damper and smaller usages.

Features:-

- Compact and light weight
- Weather Proof/ Flameproof
- Push button and manual lever
- Mechanical position indicator
- LED lamp indicator
- Standard four limit switches
- Current position transmitter (Output 4-20mA DC)



LOW COST ELECTRIC ACTUATOR

RUB make compact electric actuators suitable for ball valves up to size 1 inch.

Features and specifications:-

- Compact in size to use in restricted space.
- Torque output up to 5 Nm
- Operating time 20-25 seconds.
- Working temperature -20°C to 80°C
- Micro switches for open and close signals.
- Direct mount on valve for perfect shaft alignment.
- Actuator has passed successfully 1000000 cycle life test



ELECTRIC ACTUATOR

Technology + Field Engineering + Implementation + Backup Supports
Approval in major Govt. and private sectors, like **NTPC , TMC, Reliance.**
Maximum Torque upto **1,02,000 Nm.**

- Single Phase Quarter Turn Electrical Actuator
- Single Phase Linear Electrical Actuator
- Three Phase Multi-turn Electrical Actuator
- Three Phase Quarter Turn Electrical Actuator
- Three Phase Quarter Turn Electrical Actuator with Linkage
- Three Phase Linear Electrical Actuator
- Three Phase Electrical Cylinder Actuator
- Basic Multiturn Electrical Actuator with Bevel Gear Box

Rated Torque upto 500Nm
Rated Torque upto 200Nm
Rated Torque upto 3600Nm
Rated Torque upto 102000Nm
Rated Torque upto 102000Nm
Output Thrust upto 5000Kg-m
Output Thrust upto 3500Kg-m
Rated Torque upto 1020Nm

Operate/Control quarter turn valves like Ball Valves, Butterfly Valves, Globe Valves, Sluice Valve, Gate Valve, Knife Edge Gate Valve, Diaphragm Valves, Plug Valves and Dampers.

SDTORK Flame Proof electric actuators are design to provide reliable and efficient operation of 90 degree quarter turn valves, dampers, etc.



PLC & HMI

SPE & SPH Series can substitute a series of controllers technically and commercially. Control, operation and supervisory integrated controllers.

Inputs	36DI / 24DO (Expandable)
Expansion	Yes
Modules	Communication, special functions, I/O
Communication	RS-232C, RS-485, Ethernet, Modbus
Features	High-speed processing, Direct HMI connection, International standard conformity, Memory Backup, Redundancy, 9ns processing time, SNTP, FTP.



V9, V8, Technoshot & S8 series offer optimum operability, Intuitive controls, and Extended capability to display and utilize your application.

Displays	5.7" / 7" / 8.4" / 10.4" / 12.1" / 15" with 16.7 million colors
Touch Switch	Capacitance or Analog resistance film
Memory	Internal upto 64MB, SD card and USB.
Communication	Ethernet, Wireless LAN, Serial : RS-232C/422/485
Features	Networking (Email & FTP), Remote Maintenance Security Function, Gestures, PDF Viewer, Recipe Function.



For Sales & Service, Please contact

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