



# CONTROL VALVES & AUTOMATION



- Petrochemicals
- Water Treatment
- Pharma
- Paper & Pulp
- Cement
- Chemical
- Fertilizer
- Power
- Oil & Gas
- Steel



# VALVES - INDUSTRIES - APPLICATIONS

- Globe control valve (straight thru) & Globe Angle Valve
- Sanitary globe control valve
- V Notch Ball Valve & Ball Valve
- 3 Way Globe control valve
- Butterfly Double Eccentric Control Valve
- Self-actuated Flow Regulator
- Positioners and Position transmitters
- Pressure Reducing & Desuper heating Station
- Orifice & Orifice assemblies



**Chemical**



**Fertilizer**



**Power**



**Oil & Gas**



**Water Treatment**



**Pharma**



**Paper & Pulp**



**Steel**



**Cement**

Bapuji Industries was started by Shri. Bapusaheb Kharade, in early 2017. Primarily company was started in a 1000 sq mtr. workshop & within a decade it is elaborated to modern factory. The factory facilitated with next generation class CNC machines, heavy material handling equipments to serve raising market demands with no compromise with world class product quality. Along with this field of engineering we are entered in flow control valves to serve respective product demands.

Bapuji Industries proudly presents wide range of world class industrial process valves and valve automation products. Our plant has all resources required to design, develop and supply process control valves and valve automation products to any demanding applications.

We attribute our success to our motivated and skilled work force who can accomplish job orders of varying magnitudes and complexities. We are proud to have esteemed customers who have entrusted their faith in us over the years.

The aim of our organization is customer satisfaction which is achieved through following objectives: Commitment to quality, Prompt response, Technological solutions, On time delivery, After sales service. Unique features and benefits are built into all products that guarantee highly dependable performance consistently.

Our challenge is to meet the widely ranging delivery demands of an equally diverse customer base coupled with constant up gradation of production equipment and techniques to keep pace with new market trends and applications.

# Globe control valve (straight thru) & Globe Angle Valve



|                     |  |
|---------------------|--|
| Globe control valve | Flow control   |
| Size                | 1/2" - 16"   |
| Rating              | 150# - 2500#   |
| Temp.               | -196°C to 2000°C   |
| Kv                  | 0.001-2670m3/hr  |
| Action              | Linear   |
| End connection      | Flanged, SW,BW, Threaded(BSPT/NPT)                             |
| Actuator            | Pneumatic Diaphragm, Single & Double acting, Motorised         |
| Accessories         | AFR,SOV,Positioner(Electro pneumatic,pneumatic),LS,Booster,QEV |
| Handwheel           | Top Mounted  |
| Characteristics     | EQ%, Linear, Quick opening, Modified EQ%                       |
| Body MOC            | CS, SS316, SS316L, SS304, SS304L, PTFE Lined, PP               |

Applications in flow element control lead to control of flow through a globe control valve affecting control of flow, pressure and temperature thus playing a wide role in the control element of the plant, used in either

- Isolation of plants
- In field of linear level and temperature control
- In field of fast acting parameter of pressure and differential
- pressure and flow control through PID controllers

## Features Of Bapuji Industries Globe Control Valve

- The energy conservation of the plant
- High flow control rangeability
- High flow recovery and controllability factor
- Low maintenance driven design
- Usage from minus 196 deg cent till plus 2000 deg cent application
- High density valve sealing gasket design for high and low temperature
- Used for special chemical sealing design concept in plant for all critical applications
- Modular concept thus introducing major plant design concept feasibility with reduce cost of manpower, maintenance
- Highly efficient build up design
- Bellow Seal application for liquid helium, costly media, cryo industrial gases & liquids

# Sanitary globe control valve



|                 |  |
|-----------------|--|
| PID Globe       | Flow control   |
| Size            | 1/2" - 4"  |
| Rating          | 150# - 300#  |
| Temp.           | 5°C to 250°C   |
| Kv              | 0.001-160m3/hr   |
| Action          | Linear   |
| End connection  | Tri clamp, SMS Coupling  |
| Actuator        | Pneumatic Diaphragm, Single & Double acting, Motorised           |
| Accessories     | AFR,SOV,Positioner(Electro pneumatic,pneumatic),LS, Booster, QEV |
| Handwheel       | Top up to 4"   |
| Application     | Food industries  |
| Characteristics | Linear, EQ%, Modified EQ%, Quick opening                         |
| Body MOC        | SS316L   |

Bapuji Industries Sanitary Flow control for milk, juice, mixed fruit juice, cheese, sugar solution, milk and gradient shakes, food items, effectively uses the closing member of plug falling or closing in on seat of the trim section of the valve and thus with its contour of above characteristics to control.

Enables a perfect control of the media effectively to the tune of desired level as per your requirements. Bapuji Industries Manufactures pneumatic actuator with multiple springs and a rolling diaphragm which helps in

- Linear hysteresis of control
- High life cycle of the diaphragm
- Less tension on spring and diaphragm

## Most linear travel record of plug movement

- Valve body free of dead space made of cast stainless steel
- Wetted sealing materials comply with FDA regulations
- Pneumatic Actuator and approved valve accessories
- Metal or soft-seated valve plug
- Easily detachable clamp connection between body and bonnet
- Suitable for cleaning-in-place (CIP).

## V Notch Ball Valve & Ball Valve



|                 |   |
|-----------------|---|
| Size            | 1/2" - 16"  |
| Rating          | 150# - 2500#  |
| Temp.           | -196°C to 1000°C  |
| Kv              | 0.1-2800  |
| Action          | Rotary  |
| End connection  | Tri clamp, SMS Coupling, SW, BW, NPT, BSP, Flanged                |
| Actuator        | Pneumatic Diaphragm, Single & Double acting, Motorised            |
| Accessories     | AFR,SOV,Positioner(Electro pneumatic,pneumatic ),LS, Booster, QEV |
| Handwheel       | Side mount  |
| Application     | Pulp and various  |
| Characteristics | Linear, EQ%, Modified EQ%, Quick opening                          |
| Body MOC        | CS, SS  |

Bapuji Industries V-notch ball valve provides a flow range ability of 100:1 and carries the effect in controlling cavitation, flashing and the choking concept of the media. With its level of control the affect of start up conditions of the plant where shearing off the internal closing member in form of plug and seat of the trim section take place, Bapuji Industries own high density flow control plug which carries the special design to take care of all such critical start up and cavitation effect of the media help you solve a major cost effectiveness and reduce your major man hour usage and maintenance cost of the plan.

Valve body made of                      Segmented / (V-Notch) ball valve

- Cast steel
- Cast stainless steel
- Soft seal
- Metal seal

## 3 Way Globe control valve (Mixing & Diverting)



|                 |   |
|-----------------|---|
| Size            | 1/2" - 10"  |
| Rating          | 150# - 2500#  |
| Temp.           | -196°C to 550°C   |
| Kv              | 0.1-1000m3/hr   |
| Action          | Linear  |
| End connection  | Flanged, SW, BW, Threaded( BSPT/NPT)                              |
| Actuator        | Pneumatic Diaphragm, Single & Double acting, Motorised            |
| Accessories     | AFR,SOV,Positioner(Electro pneumatic,pneumatic ),LS, Booster, QEV |
| Handwheel       | Top up to 10"   |
| Characteristics | Linear, EQ%, Modified EQ%, Quick opening                          |
| Body MOC        | CS, SS, SS316, SS316L, SS304, SS304L, PTFE Lined, PP              |

## Butterfly Double Eccentric Control Valve



|                 |   |
|-----------------|---|
| Size            | 1/2" - 48"  |
| Rating          | 150# - 2500#  |
| Temp.           | -100 to 550°C   |
| Kv              | 96-33856  |
| Action          | Rotary  |
| End connection  | Flanged, Wafer, Lug   |
| Actuator        | Single & double acting piston actuator, Pneumatic & motorised         |
| Accessories     | AFR,SOV,Positioner(Electro pneumatic,pneumatic ),LS, Booster, QEV     |
| Handwheel       | Side mount  |
| Application     | High flow viscous, slurry   |
| Characteristics | Linear, Equal %, On-off   |
| Body MOC        | Cast iron, Spheroidal graphite iron, Cast steel, Cast Stainless Steel |

Bapuji Industries butterfly valve with

- Butterfly Valve and single-acting/ double acting Pneumatic Rotary Actuator

Seat ring made of

- EPDM
- PTFE

Butterfly disk made of

- Spheroidal graphite iron
- Cast stainless steel
- PTFE-coated

Throttling service :

The butterfly valve can also be used for throttling service in the rotation range from 25° to 60°.

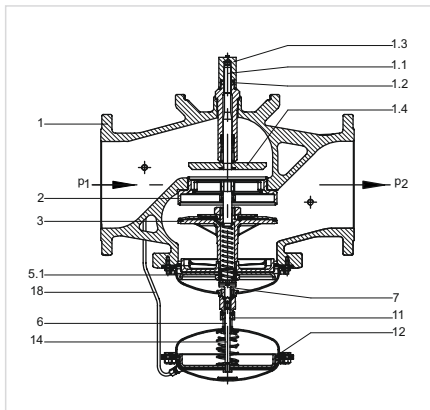
Versions :

Standard version · Nominal size DN 50 to 300

Versions available :

- Double-acting Type DAP Rotary Actuator
- Larger valve sizes on request
- Emergency manual override for single acting & double acting Rotary Actuators

# Self-actuated Flow Regulator



## Features

- Low-noise, medium-controlled proportional regulator requiring little maintenance
- Valve body available in cast iron A 126 B, cast steel A216 WCC and cast stainless steel A351 CF8M
- Suitable for circuit water, water/glycol mixtures, steam and air as well as other liquids, gases and vapors, provided these do not affect the characteristics of the operating diaphragm
- Single-seated valve with a plug balanced by a stainless steel bellows or by a balancing diaphragm

The flow regulator is used to limit the flow rate in the pipeline. The set point for the flow rate is adjusted at the restriction.

# Positioners and Position transmitters



|              |  |
|--------------|--|
| Signal       | 0.2-1.0 bar  |
| Signal       | 4-20 MA  |
| Output       | As per Actuator  |
| Air Delivery | Actuator 1.4 nm <sup>3</sup> /hr & upto 10 nm <sup>3</sup> /hr |
| Weather      | IP 65  |
| Ex-version   | Available  |
| Actuator     | Single acting / Double acting                                  |

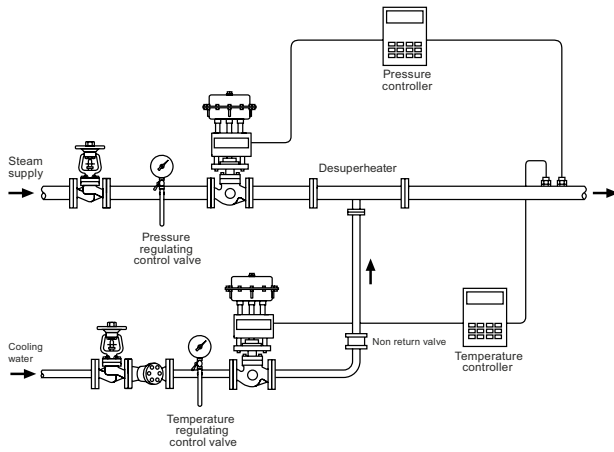
Bapuji Industries Manufactured positioners position transmitter ensure a predetermined assignment of the valve position (controlled variable  $x$ ) to the input signal (reference variable  $w$ ). They compare the input signal received from a control system to the travel of the control valve and issue a corresponding output signal pressure  $p_{st}$  (output variable  $y$ ).

## Special features

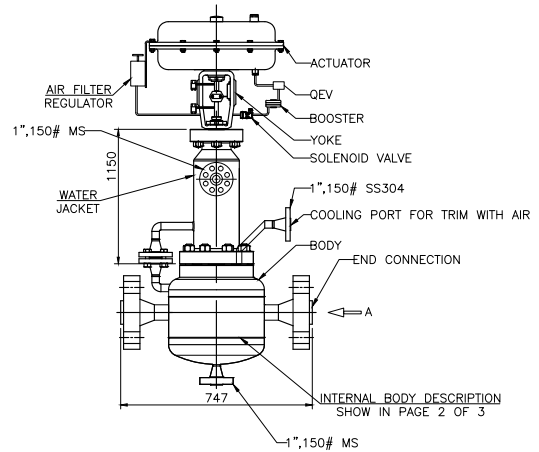
- Compact, low-maintenance design
- Any mounting position possible
- Insusceptible to mechanical vibrations
- Reversible operating direction
- Excellent dynamic behavior
- Suitable for normal or split-range operation
- Adjustable proportional band (P-band)
- Adjustable air output capacity
- Low air consumption
- Attachment to valves with cast yokes or rod-type yokes
- Optionally available with two pressure gauges to monitor supply air and signal pressure. Stainless steel pressure gauge housing with connections either nickel-plated or made of stainless steel.
- A Pneumatic Positioner can be upgraded to a Electropneumatic Positioner.



# Pressure Reducing & Desuper heating Station



PRDS disintegrated version



PRDS integrated version

Desuperheaters reduce the temperature of superheated process steam by introducing finely atomized cooling water droplets into the steam flow. Desuperheated steam is more efficient in the transfer of thermal energy, consequently desuperheaters are used to bring the outlet degree of superheat closer to that of saturation. In typical process plants, process steam is usually superheated or heated to a temperature above saturation. The difference, between the saturation temperature and the actual temperature of the steam is called 'superheat'.

## Types of desuperheater

From the foregoing paragraphs, it is easy to understand why there has to be a period of good contact between the droplets of cooling water the superheated steam. If good contact is lost, the water can no longer absorb heat effectively from the steam, evaporation stops and the desuperheating process comes to a halt.

When the steam velocity is too low, 'water droplet fall-out' occurs and a pool of water is formed which runs along the bottom of pipe. At this point good contact between cooling water and the steam is lost and effective desuperheating will not occur.

# Orifice and Orifice assemblies



|             |  |
|-------------|--|
| Size        | 1/2"-64"   |
| Rating      | 150#-2500#   |
| Temp.       | -196 to 700°C  |
| thickness   | 3.18 -350mm  |
| Flange Type | WNRF, RTJ, Slip on, SWRF                                       |
| Body MOC    | SS 316, PP, PTFE, SS316L, SS 304, SS304LHastelloy, Monel, A105 |
| Type        | Flow /restriction orifice                                      |

Following factors are used to judge the performance of Bapuji Industries Orifice plate :

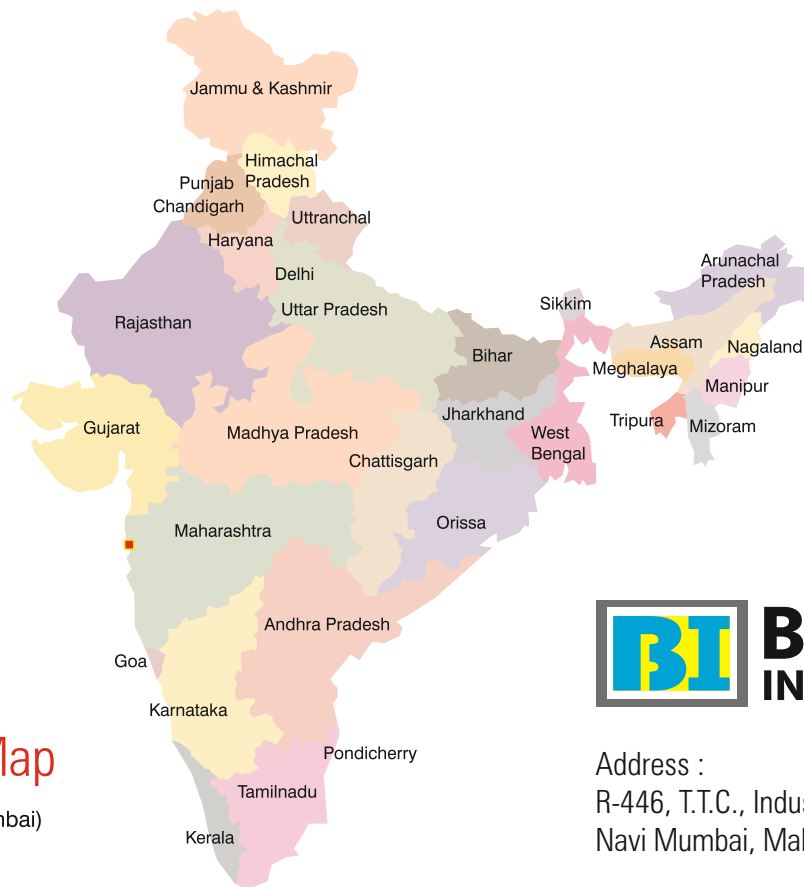
- 1) Precision in the bore calculations
- 2) Quality of the installation
- 3) Condition of the plate itself
- 4) Orifice area ratio
- 5) Physical properties of the fluid flow under measurement, refer the free length table mentioned below

Bapuji Industries orifice plate is a device used for measuring flow rate. Either a volumetric or mass flow rate may be determined, depending on the calculation associated with the it. It uses the same principle, namely Bernoulli's principle which states that there is a relationship between the pressure of the fluid and the velocity of the fluid. When the velocity increases, the pressure decreases and vice versa.



# CONTROL VALVES & AUTOMATION

SAFETY | PROTECTION | RESISTANCE



## Location Map

■ Rabale (Navi Mumbai)



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