

# CASTLE



**MORE THAN**  
**25 YEARS**



## INTEGRALLY MOULDED BUTTERFLY VALVE

Castle Soft Seat Butterfly Valves have a centric disc construction, a single piece body and an integrally molded seat. Castle Butterfly Valves are available in different materials of construction. The Double D locking technology delivers positive disc to seat location with maximum strength. The edge of the disc is machined and polished 360° to assure tight shutoff of the valve. The integrally moulded seat ensures a smooth surface, thereby reducing the friction between the seat and the disc. The unbreakable pressed steel levers and above aspects ensure long life of the valve and also minimize the operating torque. The extended neck design guarantees ease of installation.



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Castle Integrally Moulded Butterfly Valves are also available in gear type. The Gear operators ensure smoother functioning of the heavy-duty butterfly valves. The gear operators can withstand adverse conditions and are self-lubricating. The gear operator comprises of position indicators and a self-locking design that averts back driving of the gear.



Body: Cast Iron / S.G. Iron / Carbon steel  
 Disc: S.G. Iron / SS304 / SS316 / Carbon Steel  
 Product Range:  
 DN32 to DN1200  
 Pressure Rating: PN10 / PN16 / PN20 / PN25  
 End Connection: Wafer / Lug / Double Flanged type



## MOTORIZED BUTTERFLY VALVE

Castle Motorized Butterfly Valve comprise of a butterfly valve that is mounted by an electrical quarter turn actuator with manual override. Adhering to the function of a Hand Operated Butterfly valve, these are ON/OFF type valves. Castle Motorized Butterfly Valves are BMS compatible.

The major reason for the success of Castle Motorized Butterfly Valves is that the Butterfly Valves chosen to mount the actuator are specially designed low torque Butterfly Valves. This enables long life of the actuator as the load on the electric motor is resisted by the easy opening and closing of the disc of the Castle Butterfly Valve.

Body: Cast Iron / S.G. Iron / Carbon Steel  
 Disc: S.G. Iron / SS 304 / SS 316 / Carbon Steel  
 Product Range: DN32 to DN1200  
 Pressure Rating: PN10 / PN16 / PN20 / PN25  
 End Connection: Wafer / Lug / Double Flanged type

## DIGITAL HANDWHEEL BALANCING VALVE

Castle Digital Hand wheel Balancing Valves are used to control the flow of water and to ensure that the chilled water system is balanced. It is used to modulate the fluid flow before it reaches the unit. The hand wheel acts as a built-in flow measuring device so that operation of the valve can be observed and noted precisely.

Features of Castle Balancing Valve:

- The least count of 0.1 in the number of turns ensures accuracy and precision to determine the flowrate.
- The test points are easy to connect even with insulation.
- The presetting digital indicator provides an accuracy of 1/10 hand wheel rotation.
- Hydronic Balancing can be performed online or even through a smartphone.



## CASTLE SMART PHONE OPERATED BALANCING SOFTWARE

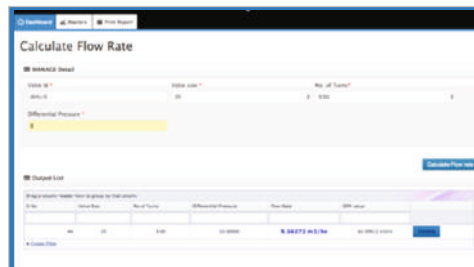
The known information such as the valve size, number of turns of the valve and differential pressure in the system needs to be entered in the software and this will determine the flow rate at that position. By adjusting the number of turns of the valve, the desired flow rate can be obtained.

Product Range:

DN15 to DN50: Forged Brass with Screw ends

DN50 to DN400: Cast Iron with flanged ends

Pressure Rating: PN10 / PN16 / PN20 / PN25



## LARGE DIA BALANCING VALVES

Castle Large Dia Balancing Valves is the solution for large size HVAC and cooling plants.

Features of Castle Balancing Valve:

- Multi-turn adjustment range for maximum controllability.
- Ease of installation as pressure differential read-out ports are on both sides of the valve body.
- Tamper Proof memory stop for ease of returning to balancing set point.
- Flow coefficients are calculated using CFD simulations through softwares to evaluate the flow rate.

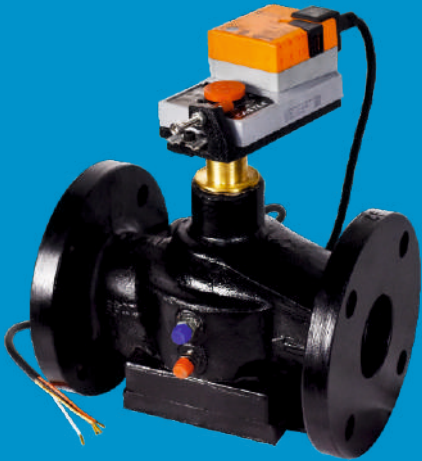


Product Range:

Sizes: DN350 to DN1000

Pressure Rating: PN10 / PN16 / PN20 / PN25

## PRESSURE INDEPENDENT CONTROL VALVE



Castle Pressure Independent Control Valve is a multifunctional valve as it is used in heating and chilled water systems to control and regulate the flow. It is also a differential pressure control valve. This implies that the PICV acts as a replacement to three different valves that is a two-way valve, a regulating valve and a valve to control differential pressure.

Castle Pressure Independent Control Valve ensures that the valve instantaneously self balances itself at all the points in the operation even when there is variation in the pressure differential. As long as the pressure differential across the valve is in the operational range, the Cv of the valve is controlled non - stop to keep the valve in full authority. An additional benefit is that no balancing is required if further stages are added to the system, or if the dimensioned capacity is changed. Energy saving is due to optimal control, lower flow and pump pressure. Maximized  $\Delta T$  is due to faster response and increased system stability.

The salient features of Castle PICV's are:

- Reduction in energy consumption.
- Improves the efficiency of the system due to the facility to optimise the pump speed.
- More precision in control due to long strokes of the actuators.
- Easy commissioning.
- 100% Valve Authority.

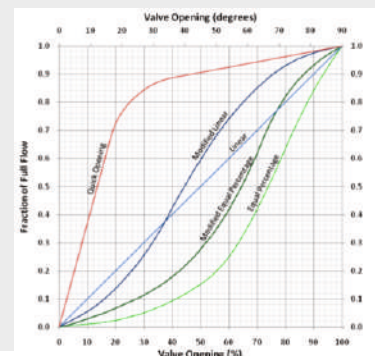
Product Range:

DN15 to DN40: Forged Brass with Screw ends  
DN50 to DN150: Cast Iron with flanged ends



## VALVE AUTHORITY

Valve Authority ensures a linear curve for the Percentage Flow Rate v/s Percentage Flow Opening. 100% Valve Authority is the main purpose of the PICV as this 100% Valve Authority is the reason for its superiority over equal percentage valves.





## DUAL PLATE CHECK VALVES

Castle Dual Plate Check Valves are light and compact wafer type check valves that are designed for HVAC and general service applications.

Dual plate check valves consist of two spring-loaded plates close when the flow decreases, without the necessity of reverse flow.



Castle Dual Plate Check Valves have the following features:

- Spring loading on the plates assists in the closing of the valve which ensures tight sealing and it minimizes slamming.
- If a Check Valve closes without any reverse flow then water hammer can be eliminated. Since, the Castle Dual Plate Check Valve closes when the velocity of flow is reduced to zero, before the flow gets reversed. Hence, water hammer is eliminated.
- Castle Dual Plate Check Valves are very flexible in installation. Due to the Spring Action, the valve can be installed both horizontally and vertically.

Body: Cast Iron / S.G. Iron / Carbon steel

Flap: S.G. Iron / SS304 / SS316 / Carbon Steel

Product Range:

DN40 to DN1000

Pressure Rating: PN10 / PN16 / PN20 / PN25

End Connection: Wafer / Lug / Double Flanged type

## SINGLE PLATE WAFER CHECK VALVES

Castle Wafer Type Check Valves are used in pipelines to prevent backflow of the fluid. These valves are fast acting in closing, thereby maximizing protection to prevent the adverse effect of the backflow. Opening and closing of the valve takes place at an extremely low-pressure difference over the valve disc. The connection of the eccentric disc shaft with the soft seat embedded in the body ensures a positive shut off of the returning medium.

**Salient Features of Castle Wafer Type Check Valves are:**

- Wafer Type Check valve weighs much less as compared to the conventional flanged end Swing Check valves.
- Due to short overall length it can be easily installed in horizontal or in vertical pipeline without any special pipe support.
- The seat is fitted in the body in order to prevent contact with the flow, which results in longer life of the seat.
- Our Wafer Type Check Valve has minimum head loss due to large size of the orifice. The Large orifice reduces head loss of the pump and thus saves energy.

Body : CI/SGI/CS

Flap: SGI / SS 304 / SS 316 / MS / EN3 / CS / Al-Bronze

Pressure Rating : PN10 / PN16 / PN20 / PN25

Size Range : DN40 to DN1000



## FORGED BRASS CHECK VALVE

The Horizontal Forged Brass Check Valves can be installed vertically as well as horizontally. These valves come with a screwed bonnet and metal-to-metal seating featuring one-piece swing disc designed for low-pressure drop. As typical non return valves, these allow flow in one direction and automatically close when the direction of flow is reversed.

Product Range:

Size: DN15 To DN50

Body: Forged Brass

Spring: Forged Brass

Bonnet: Forged Brass

O-ring: Nitrile Rubber





## FORGED BRASS BALL VALVE

Castle Ball Valve is a valve that allows the user to open or shut the flow of the fluid passing through it, with a quarter-turn of the valve handle. Ball valves are used essentially where operational requirement is ON/OFF. The 90-degree rotation of the handle does the function of opening and closing of the valve. To make sure that the seating stress is uniform, the seat is matching to the ball. Castle Ball Valves come with an Acorn nut that protects the stem in a much better way in comparison to other nuts. The Ball Valves have screwed ends confirming to BS 21/IS554.

Product Range  
DN 08 to DN100  
Body: Forged Brass  
Ball: Forged Brass  
Stem: Forged Brass  
Forged Brass Material confirming to IS 6912 Gr. Flb (Cu>57%; Pb<3%)  
Seat: PTFE  
Nut: Acorn Nut  
Pressure Rating: PN25

The Ball Valves have replaced the use of Gate Valves, as they are easy to install and are more sturdy and compact.



## EXTENDED STEM BALL VALVE

Castle Extended Stem Ball Valves is an extension of the normal ball valve. The valve is provided with an extended stem to make the valve easier to operate in places where the valve is insulated. By virtue of the extended stem, the operator does not have to tear the insulation to operate the valve as the extended stem attached with the handle always comes out of the insulation to permit the opening and closing of the valve accordingly.

Castle Extended Stem Ball Valves are widely used in the HVAC as well as Pharmaceutical Industry.

Product Range: DN15 to DN50  
Body: Forged Brass  
Ball: Forged Brass  
Stem: Forged Brass  
Forged Brass Material confirming to IS6912GR.FLB (Cu>57%; Pb<3%)  
Seat: PTFE  
Pressure Rating: PN25



## BALL VALVE WITH STRAINER (AHU)

Castle Ball Valve with Strainers is used in HVAC and Plumbing sectors. These valves are extensions of Castle Ball Valves. The strainer performs the function of removing the particulates from the fluids passing through it via the filtering element intersecting the main channel. The strainer consists of a cylindrical mesh that protects the valuable downstream equipment's such as pumps, regulators etc. from being damaged from the contaminants.

Product Range: DN15 to DN50  
Body: Forged Brass  
Ball: Forged Brass  
Stem: Forged Brass  
Seat: PTFE  
Pressure Rating: PN25



## BALL VALVE WITH/ WITHOUT STRAINER SET (FCU)

Sizes: 5/8" x 20mm & 5/8" x 25mm

## AUTO AIRVENT

Features of Castle Auto Airvent:

- Long-term efficiency and performance of the vent movement is ensured by the valve design features.
- The seal system is designed to withstand vibrations, therefore it is unaffected by any external vibrations.
- Castle Auto Airvent prevents Corrosion, Dry Running of the pump, Airlocks in radiators and resulting flow noises

Product Range: DN10 To DN25

Body: Forged Brass

Float: Nylon

Ends: Screwed Ends

Pressure Rating: PN10 / PN16 / PN20 / PN25



## PRESSURE REDUCING VALVE

Castle Pressure Reducing valves are useful for pressure reduction of water and are used in high-rise buildings and various industries to save the equipment from getting damaged by the pressure.

### FEATURES

Direct acting type, does not need external sensing line.

- Externally piloted.
- In the Castle PRV the test point is specially designed in the inlet of the Pressure Gauge.
- A needle type Pressure Gauge is used while recording the pressure.
- Cost saving by eliminating the cost of multiple pressure gauges.

Product Range:

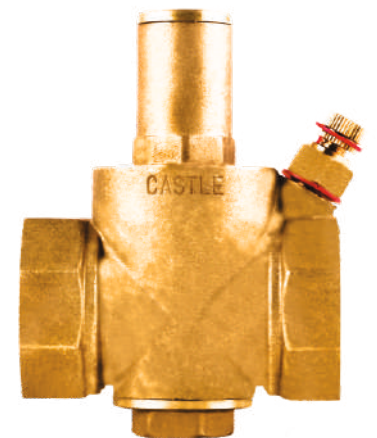
Size: DN15 To DN50

Pressure Rating:

Maximum Intel pressure: 350 PSIG

Minimum outlet pressure: 5 PSIG

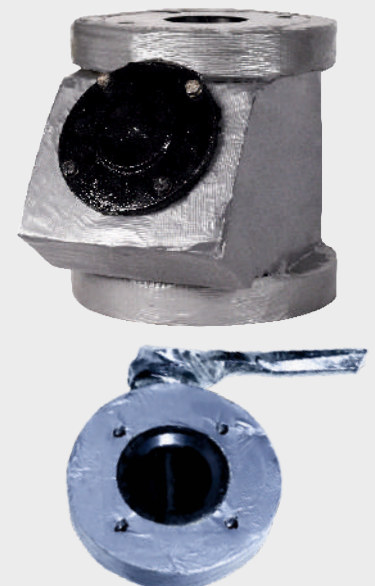
Working temperature: 0C=<T=<80C



## PRE-INSULATED VALVES

Pre-Insulated Valves reduce the cost and man power incurred during the insulation of valves done on the site. The insulation is done using integrally reinforced insulation of rigid polyurathene of 60-70 kg/m<sup>3</sup> that aligns exactly with the outline of the valve to aesthetically appear in shape of valves only & avoids any requirement of external cladding. The Thickness of insulation is 20 mm up to valves with size 300 mm.

Castle offers these Pre-Insualted valves for all types of valves and all product ranges. This Implies that all Butterfly, Balancing, Check valves & Strainers are available as Pre-insulated Valves



## TEST & DRAIN VALVE

Castle Test and Drain Valve is a unique and very efficient product for the sprinkler systems. It provides both the test function and the express drain function for a wet fire sprinkler system. It is a compact three-position Ball Valve in which the positions are OFF, TEST & DRAIN.

Salient Features of Castle Test & Drain Valve:

- Integral sight Glass to inspect the flow and quality of water.
- Solves functions of multiple valves by performing both the test and drain functions.
- The Filter cartridge in Castle Test & Drain Valve is made up of Brass and not of Nylon.
- This enables the valve to withstand extremely high temperatures, as the temperature tolerance of Brass is much higher than Nylon.

Product Range: DN25 To DN50

Body: Forged Brass

Ends: Screwed End

Filter Cartridge: Forged Brass



## BUTTERFLY VALVE WITH TAMPER PROOF SWITCH

Butterfly Valve with Tamper Proof Switch offers precision flow control of fluids and gas. This valve is suitable for both indoor and outdoor use and can also be used as a control valve in fire protection systems.

Features of Castle Butterfly Valve with Tamper Proof Switch are:

- A fitted tamper switch allows Butterfly Valve to activate a local alarm bell or horn when the valve comes to a partial or complete close.
- The bright-yellow position indicator offers an at-a-glance indication of the valve's position.
- When closed, the down-flow end of the pipe can be replaced without draining the entire system.
- Dual supervisory switches and wiring make it easy to connect the Butterfly Valve to a fire control panel.

Product Range:

DN40 to DN600



## Y-TYPE STRAINERS

Castle Y-Type Strainers are used to filter out the dirt, rust, and other debris in the water flow protecting the piping equipment such as pumps, meters, valves, and other equipment in the piping system. Castle Y-strainers are equipped with a retainer cap that allows easy access to the stainless steel screen for cleaning. Large Screening area increases the efficiency of the Castle Y-Strainer.

Product Range:

DN15 to DN40: Forged Brass with Screwed ends

DN40 to DN350: Cast Iron with Flanged Ends

Pressure Rating: PN10 / PN16 / PN20 / PN25



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