

Valve Selection Guide

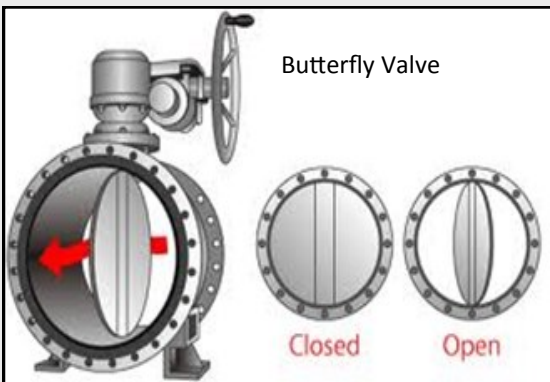
Valves are used most commonly to control the flow in liquid, gas and steam systems. Below are the most common types of valves and their uses in the home/light commercial applications.



Ball Valve

A **Ball Valve** is a valve with a spherical disc which controls the flow through it. The sphere has a hole, or port, through the middle so that when the port is in line with both ends of the valve, flow will occur. Most commonly used in residential plumbing and pneumatic air systems these valves are either threaded or soldered and full port or reduced depending on the function of the valve. To indicate flow the handle, or lever, will be in-line with the port position letting you "see" the valve's position. Ball valves are part of the quarter turn family and offer some flow control through the port. When selecting a ball valve be sure the valve size is equal to the size of pipe it is being installed on to avoid restricting flow in a system.

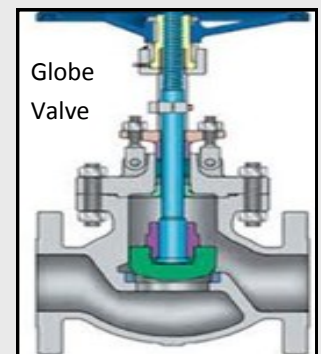
The **Gate Valve**, also known as a sluice valve, opens by lifting a round or rectangular gate/wedge out of the path of the fluid. Threaded or soldered they have a distinct feature of sealing the surfaces between the gate and seats evenly. Gate valves are often used when a straight-line flow of fluid and minimum restriction is desired. Gate valves are primarily used in residential water, gas or steam systems to permit or prevent the flow of liquids or gases. Gate valves shouldn't be used for regulating flow unless they are specifically designed for that purpose. It is important to select a valve that is equal to the size pipe it is being installed on or pressure and flow will be reduced.



Butterfly Valve

A **Butterfly Valve** can be used for isolating or regulating flow. The closing mechanism takes the form of a disk. Operation is similar to that of a ball valve, which allows for quick shut off. Rotating the actuator turns the disc either parallel or perpendicular to the flow. Unlike a ball valve, the disc is always present within the flow; therefore a pressure drop is always in the flow, regardless of valve position. Butterfly valves are also part of the quarter turn family allowing for easier manual flow functions in slightly higher pressure systems: pools, agricultural watering, filtration systems, etc. When selecting a butterfly valve flange size and the number of bolts to connect the valve will determine which valve to use. Pipe sizing and flow requirements will also assist in selection for valves with listed flow specifications.

A **Globe Valve** is used for regulating flow in a pipeline, consisting of a movable disk-type element and a stationary ring seat in a generally circular body. Globe valves are named for their spherical body shape with the two halves of the *body* being separated by an internal baffle. This has an opening that forms a *seat* onto which a movable plug can be screwed in to close (or shut) the valve. In globe valves, the plug is connected to a *stem* which is operated by screw action using a hand-wheel in manual valves. Globe valve selection is done by the size of the pipe and flow required by an engineer or professional and the number of bolt holes to the connecting flange. When replacing a valve be sure to keep the same size pipe opening to avoid reducing the system flow.



Globe Valve

Information sources include WW Grainger



If you are still having difficulty choosing a valve,
please contact us at askzoro@zoro.com or 855-289-9676

Product Compliance and Suitability.

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