**Valves for water supply pipeline and their installation positions**

Principles of choosing valves for water pipeline

1. When the diameter of a pipe is less than or equal to 50mm, choose globe valves, whereas when the diameter is more than 50mm, use gate valves or butterfly valves.

2. When the adjustment of flow rate and pressure of media is needed, it is better to use control valves or globe valves.

3. For parts that require low flow resistance (like the suction pipe of a water pump), choose gate valves.

4. Use gate valves, butterfly valves, rather than globe valves when the bidirectional flow is required.

5. Choose butterfly valves or ball valves for parts with small installation space.

6. Globe valve is a better choice compared to other [valves](https://www.xhvalves.com/valves.html) for pipelines that frequently open and close.

7. Choose multi-function valves for the outlet pipe of a water pump that has a large diameter.

Parts of water pipeline that need to install valves

1. The inlet pipes of water supply pipeline

2. Valves should be installed on the nodes of residential quarter outdoor loop pipe network according to segregation requirements. If the loop pipe is too long, it is better to set valves segmentally.

3. The start positions of inter-building pipes and branch pipes that are connected from water main ofresidential quarter

4. Inlet pipes (the bottom), water meters, all branch riser pipes (upper and lower ends)

5. Allocating pipes of the loop pipe network and connecting pipes of the branch network of pipes

6. The start positions of distributing pipes connected from the indoor water supply pipe

7. Outlet pipes of water pumps, water suction pumps of self-priming pumps

8. Inlet pipes, outlet pipes, and drainage pipes of water tanks

9. Inlet pipes and replenishing pipes of devices such as heaters, cooling towers

10. Distributing pipes of bathroom devices such as toilets, showers

11. It is better to install sluice valve on the lowest position of the water supply network.

Check valves installation should take the position of installation, the upstream pressure of water, the sealabilty requirements after closing, the size of water hammer that generates when closing, etc. into consideration.

1. With small upstream pressure, choose swing check valves, ball check valves, shuttle check valves.

2. Use spring check valves for situations that require high sealability.

3. For abating or closing water hammer, use check valves that can mute sound and are with fast closing speed, or those with slow closing speed but with a damping device.

4. The valve clack and valve core of check valves should be able to automatically close by gravity or spring force.

Pipe segments of water supply pipeline that need to install check valves

Inlet pipes, inlet pipes of sealed water heaters or water using equipment, outlet pipe of water pumps, outlet pipes of pools inhighland, water towers, water tanks whose inlet and outlet pipes share the same pipeline.

Note: It is not necessary to install check valves on pipe segments that have backflow prevention devices.

Positions on water supply pipeline that need to install air release device

1. Automatic air release valves need to be installed on the top and bottom positions of the water supply network that uses intermittently.

2. Set automatic or manual air release valves on pipe segments that have distinct air gathering.

3. Pneumatic water supply units

from： <https://www.xhvalves.com/valves-for-water-supply-pipeline-and-their-installation-positions.html>