

## 4.5.2 Switching Fittings

### 4.5.2.1 Gate Valve

Gate valves are shut-off devices that completely shut off a pipe or open its full cross-section. Their task is not to regulate a material flow.

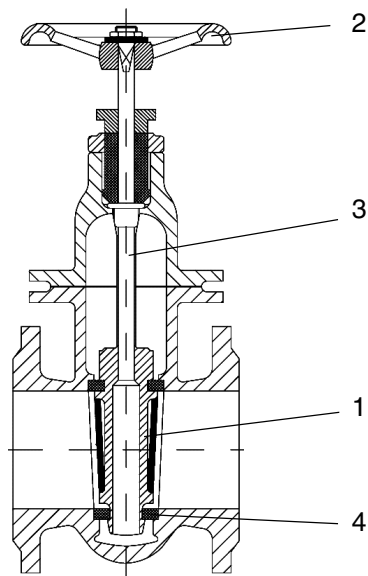


Fig. 4.8 Gate valve

The adjacent drawing represents a general sectional view of a gate valve.

It is not intended to show details.

We have included an accurate technical drawing of a gate valve showing all details in the Appendix to this training material.

The gate is a wedge (1) that is moved upwards and downwards vertical to the flow direction using a hand wheel (2) and a spindle (3).

When closing, the gate valve is pressed onto the sealing rings (4) located in the housing.

Gate valves are constructed in such a way that in open position they provide the lowest possible flow resistance to the flowing medium.

When the gate is raised, the full pipe cross-section is available to the flowing medium without it undergoing any change of direction.

Gate valves can be fitted in both flow directions.

When installing the gate valve, the spindle must always be vertical. For other installation positions, e.g. horizontal, at larger nominal diameters it must be ensured that no flexural stress occurs at the spindle, the upper housing section, the piston rod etc., as otherwise proper functioning of the drives and sealing of the gate valve can no longer be guaranteed.

In the HL 960 training system (drawing: HL 960 piping system) we find a wedge gate valve (item 5).