

## Test your knowledge of circulator pumps

Fill in the following sentences about what circulator pumps do and how they function using the missing words below.

Vent pipe, three, isolation valves, litres, impeller, pressure, 1.5 litres, centrifugal, 5 or 6 m, microscopic, 1 litre, positive, circulate

1. Domestic circulating pumps are fitted with **isolation valves** to permit service and maintenance.
2. Pumps consist of an electric motor which drives a circular fluted wheel called an **impeller**. This 'accelerates' the flow of water by **centrifugal** force.
3. The pump is required to **circulate** water around the central heating system, ensuring that the water is delivered at the desired quantities throughout all of the system components.
4. The majority of pumps have **three** settings and pump manufacturers provide performance data for each, which shows flow rate in **litres** per second and **pressure** in k Pa and m head.
5. The flow rate should not exceed **1 litre** per second for small-bore systems and **1.5 litres** per second for micro-bore systems. Anything higher can create noise in the system.
6. Most pumps deliver **5 or 6 m** head. This should be enough to overcome the flow resistance of the whole heating circuit.
7. For good practice, the pump should be positioned so that it gives a **positive** pressure within the circuit. This ensures that air is not drawn into the system through **microscopic** leaks.
8. In a fully pumped system, the position of the pump is even more critical because of its position in relation to the cold feed and **vent pipe**.

**Answers:**

1. isolation valves
2. impeller, centrifugal
3. circulate
4. three, litres, pressure
5. 1 litre, 1.5 litres
6. 5 or 6 m
7. positive, microscopic
8. vent pipe