Unit 113: Plumbing, heating and ventilation

# Worksheet 9: Hot water part 4 (tutor)

Complete the tasks in this worksheet as directed by your tutor:

1. In the space below, list the main differences between an open vented hot water system and an Unvented hot water system. Try to get as many as you can.

Open vented systems require a cistern and open vent pipe

Open vented systems generally operate at lower pressures

Open vented systems do not need an expansion vessel

Unvented systems require a three-tier level of safety control

Unvented systems are fed directly from the mains

Unvented systems do not need head room for a storage cistern

Any further suitable answers

1. Look at the image below. Try to label as many of the unvented hot water components as possible. See if you can get all eight.



Mains cold water supply

Expansion relief valve Temperature relief valve

Expansion vessel



Isolation valve \_\_

In-line strainer

Pressure-reducing valve \_\_\_

Balanced cold connection

Single check valve \_\_\_\_\_\_\_

Tundish

Discharge pipework

1. Who is allowed to install or maintain an unvented hot water system?
2. A L2 qualified plumber
3. A L3 qualified heating and ventilation craftsperson
4. A competent person
5. An experienced worker
6. What is the purpose of the discharge pipe and where should it discharge?

The discharge pipe is there to safely remove water if a high temperature or high pressure situation is reached. It should be of metallic construction, visible and discharge to a safe location.

1. Complete the table below:

|  |  |  |
| --- | --- | --- |
| **Safety item** | **What is this control?** | **What does it do and at what temperature?** |
| Safety item 1 | Control thermostat | Controls the water temperature and is set at 60—65⁰C |
| Safety item 2 | High limit thermostat (energy cut out) | 80–85⁰C |
| Safety item 3 | Temperature relief valve | 90–95⁰C |