Unit 113: Plumbing, heating and ventilation

# Worksheet 5: Direct and indirect cold water systems (tutor)

**Task 1** Complete the drawings below to show a simple direct and indirect cold water system within a home:

**a – Direct** cold water system:



Spherical ball type service valve

WC cistern fitted with either a BS 1212 part 2, part 3 or part 4 float-operated valve

15mm mains cold water to all appliances

Drain-off valves

22mm or 28mm cold feed to secondary hot water cylinder

22mm or 28mm full-way gate valve or lever type spherical ball valve

100–150 litre storage cistern fitted with BS 1212 part 2 float-operated valve

Spherical ball type service valve



**b –** **Indirect** cold water system:



Spherical ball type service valve

WC cistern fitted with either a BS 1212 part 2 part 3 or part 4 float-operated valve

15mm mains cold water to all appliances

Drain-off valves

22mm or 28mm cold feed to secondary hot water cylinder

22mm or 28mm full-way gate valve or lever type spherical ball valve

100–150 litre storage cistern fitted with BS 1212 part 2 float-operated valve

Spherical ball type service valve



**Task 2** Can you list any advantages and disadvantages for both a direct and indirect cold water system?

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| --- | --- |
| **Direct system** | **Indirect system** |
| Advantages:  Generally higher pressure  Cheaper to install  Quicker to install  Less chance of freezing  Less chance of contamination | Advantages:  Back up of stored water if mains is interrupted  No fluctuation in pressure during peak demand |
| Disadvantages:  No back-up if mains is interrupted | Disadvantages:  Lower pressures  Higher risk of contamination  More expensive to install  Slower to install  More chance of frost damage |