

Plumbing Worked Example Pack

Tool group: Domestic Hot Water, Water Demand, Pressure Drop

This worked example shows the expected input logic, result interpretation, and verification checks for a common MEP planning scenario.

Sample inputs

Input	Value
Occupants/users	120 people
Hot water per user	18 L/day
Storage duration	2 hours
Pipe flow	4 L/s
Pipe length	45 m

Expected result interpretation

Result	Planning interpretation
Daily demand	Population/use basis sets the daily hot water and cold water demand.
Heater capacity	Storage, recovery time, and delta T define heater load.
Pressure drop	Flow, pipe diameter, length, and roughness control pressure loss.

Verification notes

- Use local plumbing code, fixture units, diversity, temperature setpoints, and anti-scald strategy.
- Confirm storage temperature, mixing valves, recirculation, and Legionella control.
- Pressure drop needs final pipe material, fittings, valves, and pump curve data.

Official references to verify: ASHRAE, NFPA, IEC, IET BS 7671, ICC/IPC, CIBSE, local GCC/Saudi/UAE Civil Defense, and project specifications as applicable.