



0813 Water Heaters

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00 Design principles

0.01 Main considerations

It is a requirement to undertake the [00 PLANNING AND DESIGN/0001R - DESIGN REFERENCE](#) and [GLOSSARY OF TERMS](#) information into all aspects of design, detailing and delivery when developing the content here within. Clear demonstration of adherence to these requirements is part of the services and will be called upon at key points in the project and during at the discretion of the Department of Education (DoE).

GUIDE NOTE: Refer to 00 [PLANNING AND DESIGN/0001C DESIGN CHECKLIST - HYDRAULIC](#)

Specification

01 General

As per current NATSPEC except as follows:

In accordance with the NSW Government Resource Efficiency Policy, all fixtures and fittings must be at least the average WELS star rating by product type. Where WELS rating is not available, use the alternative WaterMark rating scheme.

All new water-using appliances must be at least 0.5 stars above the average Water Efficiency Labelling and Standards (WELS) star rating by product type, except toilets and urinals, which must be purchased at the average WELS star rating.

02 Product

As per current NATSPEC.

3 Execution

As per current NATSPEC.

4 Selections

As per current NATSPEC except as follows:

4.1 Water Heater Schedules

GUIDE NOTE: Remove fixtures not required. Insert project specific locations. Refer to Educational Facilities Standards and Guidelines.

Table 01: Electric water heater schedule

| Property | A | B | C |
|--|---|---|---|
| Water heater location | | | |
| Water heater type | | | |
| Water storage volume (litres) | | | |
| Rated heated water recovery (litres) at a rise of (°C) | | | |
| Storage vessel construction | | | |
| Maximum thermostat setting (°C) | | | |
| Minimum thermostat setting (°C) | | | |
| Maximum water supply pressure (kPa) | | | |
| Minimum working water pressure (kPa) | | | |
| Maximum allowable stand-by heat loss (kW.h/24h) | | | |
| Heating elements (number x watts) | | | |
| Tariff arrangements | | | |
| Method of control | | | |
| Number of sacrificial anodes in steel vessels | | | |

Table 02: Gas storage water heater schedule

| Property | A | B | C |
|--|---|---|---|
| Water heater type | | | |
| Water storage volume (litres) | | | |
| Rated heated water recovery (litres) at a rise of (°C) | | | |
| Storage vessel and heat exchanger construction | | | |
| Flue damper required | | | |
| Maximum water supply pressure (kPa) | | | |

| Property | A | B | C |
|---|---|---|---|
| Minimum working water pressure (kPa) | | | |
| Method of control | | | |
| Gas input (MJ/h) | | | |
| Number of sacrificial anodes in steel vessels | | | |

Table 03: Solar water heater schedule

| Property | A | B | C |
|--|---|---|---|
| Water heater type | | | |
| Water storage volume (litres) | | | |
| Rated heated water recovery (litres) at a rise of (°C) | | | |
| System | | | |
| Number of panels | | | |
| Solar collector construction | | | |
| Collector performance | | | |
| Location of panels | | | |
| Storage vessel construction | | | |
| Circulation pump type | | | |
| Maximum water supply pressure (kPa) | | | |
| Minimum working water pressure (kPa) | | | |
| Auxiliary heating unit | | | |
| Method of control | | | |
| Fittings | | | |
| Boost energy source | | | |
| Number of sacrificial anodes in steel vessels | | | |

Table 04: Heat pump water heater schedule

| Property | A | B | C |
|-------------------------------|---|---|---|
| Water heater type | | | |
| Water storage volume (litres) | | | |
| Storage vessel construction | | | |

| Property | A | B | C |
|--|---|---|---|
| Rated heated water recovery (litres) at a rise of (°C) | | | |
| Maximum water supply pressure (kPa) | | | |
| Minimum working water pressure (kPa) | | | |
| Method of control | | | |
| Fittings | | | |
| Maximum rated input power (watts) | | | |
| Coefficient of performance (COP) | | | |
| Refrigerant | | | |
| Number of sacrificial anodes in steel vessels | | | |

Table 05: Instantaneous water heater schedule

| Property | A | B | C |
|---|---|---|---|
| Water heater type | | | |
| Energy source | | | |
| Gas input (MJ/hr) | | | |
| Flue type | | | |
| Electrical input (kW) | | | |
| Water supply temperature (°C) | | | |
| Minimum flow rate (25°C water temperature rise) | | | |
| Minimum flow rate (L/s) | | | |
| Maximum water supply pressure (kPa) | | | |
| Minimum working water pressure (kPa) | | | |
| Casing material | | | |

Table 06: Heated water storage container schedule

| Property | A | B | C |
|-------------------------------|---|---|---|
| Water storage container type | | | |
| Water storage volume (litres) | | | |
| Orientation | | | |

| Property | A | B | C |
|-------------------------------------|---|---|---|
| Shell material | | | |
| Maximum water supply pressure (kPa) | | | |