

AS/NZS 4234:2021 Sup 1:2021



Supplement

# Heated water systems — Calculation of energy consumption — Parameters and outcomes for software simulations (Supplement to AS/NZS 4234:2021)



AS/NZS 4234:2021 Sup 1:2021

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- Australian Industry Group
- Australian Institute of Refrigeration Air Conditioning and Heating
- Clean Energy Council
- Consumer Electronics Suppliers Association
- CSIRO
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- James Cook University
- New Zealand Green Building Council
- Smart Energy Council
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## **Preface**

This Supplement was prepared by the Joint Standards Australia/Standards New Zealand Committee CS-028, Solar Heating and Cooling.

This document is intended to be used with AS/NZS 4234:2021 to establish if a proposed simulation program meets the modelling requirements specified in AS/NZS 4234.

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## NOTES

# Supplement

## Heated water systems — Calculation of energy consumption — Parameters and outcomes for software simulations (Supplement to AS/NZS 4234:2021)

### 1 Scope

This Supplement to AS/NZS 4234:2021 provides the input parameters and outcome values to be used when establishing the suitability of simulation software.

### 2 References

AS 3498, *Safety and public health requirements for plumbing products—Water heaters and hot-water storage tanks*

AS/NZS 2535.1, *Test methods for solar collectors, Part 1: Thermal performance of glazed liquid heating collectors including pressure drop (ISO 9806-1:1994, MOD)*

AS/NZS 4692.1, *Electric water heaters, Part 1: Energy consumption, performance and general requirements*

AS/NZS 5125, *Heat pump water heaters—Performance assessment, Part 1: Air source heat pump water heaters*

### 3 Input parameter tables

The information in the tables is arranged for each technology type, as follows:

- (a) [Table 1](#) — Thermosiphon SWH with inline instantaneous gas boost.
- (b) [Table 2](#) — Thermosiphon SWH with in-tank electric boost.
- (c) [Table 3](#) — Pumped SWH with inline instantaneous gas boost.
- (d) [Table 4](#) — Pumped SWH with inline instantaneous electric boost.
- (e) [Table 5](#) — Pumped SWH with in-tank electric boost.
- (f) [Table 6](#) — Heat pump water heater — Integral with in-tank electric boost.
- (g) [Table 7](#) — Heat pump water heater — Standalone with in-tank electric boost.
- (h) [Table 8](#) — PV powered heat pump — Standalone with in-tank grid electric boost.
- (i) [Table 9](#) — PV powered SWH with grid electric boost.
- (j) [Table 10](#) — Pumped SWH with heat pump — Standalone boost.
- (k) [Table 11](#) — Electric reference water heater, very small and small loads for Australia.
- (l) [Table 12](#) — Electric reference water heater, medium and large loads for Australia.
- (m) [Table 13](#) — Gas reference water heater, all loads for Australia and New Zealand.
- (n) [Table 14](#) — Electric reference water heater, all loads for New Zealand.