

Load-based and climate-specific testing and rating procedures for heat pumps and air conditioners



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SPE-07 SCOP Calculator Tool

This standard includes a SCOP calculation tool to support the calculation as provided in:

- **Annex B.3.1.1.1** – Rated seasonal cooling COP
- **Annex B.3.2.1** – Rated seasonal heating COP
- **Annex E**

Instructions on how to use the calculator tool are provided in the calculator under the “instructions” tab.

Access to the calculator tool can be found at the following link:

[CSA_SPE-07_SCOP-Calculator-V1.0.xlsm](#)

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heat pumps and air conditioners***



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Preface

This is the first edition of CSA SPE-07, *Load-based and climate-specific testing and rating procedures for heat pumps and air conditioners*. It supersedes the document CSA EXP07 of the same name.

This Document is not a consensus product; that is, it is not a Standard and it has not been formally reviewed or approved by a CSA Technical Committee.

This Document presents an alternative approach to testing the performance of heat pumps and air conditioners. In the past, most performance test procedures have required the monitoring of equipment while operating under steady state conditions, at a fixed capacity, while subjected to specific and fixed indoor and outdoor air conditions. This Document uses a load-based test approach in which the indoor room is subjected to a simulated load and the equipment is allowed to respond accordingly as it tries to maintain the desired indoor conditions while outdoor room conditions are held constant. This allows the actual behaviour of the equipment and controls to be measured in the test facility in a manner much more representative of in situ performance. For those portions of the test procedure where the simulated load might exceed the equipment capacity, more conventional full-load testing is used.

This Document has been prepared and reviewed by the SPE-07 Development Committee.

CSA acknowledges that the development of this Standard was made possible, in part, by the financial support of BC Hydro, Efficiency Manitoba, Efficiency Nova Scotia, FortisBC Inc., Hydro-Québec, Independent Electricity System Operator (IESO), Natural Resources Canada, Nova Scotia Department of Natural Resources and Renewables, and Northwest Energy Efficiency Alliance (NEEA).

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- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
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