B55.1-12

Test method for measuring efficiency and pressure loss of drain water heat recovery units

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Technical Committee on Drain Water Heat Recovery Systems

S. Woroniak	Manitoba Hydro, Winnipeg, Manitoba	*Chair*
R. Guinn	Hawkestone, Ontario	*Vice-Chair*
R. Andrushuk	Manitoba Hydro, Winnipeg, Manitoba	*Associate*
C. Baumgartner	Natural Resources Canada, Ottawa, Ontario	
D. Beauchemin	EcoInnovation Technologies Inc., St-Louis de Gonzague, Québec	*Associate*
A. Cayer	Watercycles Energy Recovery Inc., Edenwold, Saskatchewan	
P.J. Cook	IPEX Inc., Verdun, Québec	*Associate*
F. Di Folco	CSA Group, Toronto, Ontario	*Associate*
M. Fontaine	EcoInnovation Technologies Inc. St-Louis de Gonzague, Québec	
K.S. Hui	Ontario Ministry of Municipal Affairs and Housing, Toronto, Ontario	
A. Knapp	A. Knapp & Associates, Toronto, Ontario	
F. Michel	Solénove Energie Québec Inc., St-Laurent, Québec	
G. Van Decker	Renewability Energy Inc., Kitchener, Ontario	
K. Winder	Saskatchewan Research Council , Saskatoon, Saskatchewan	
C. Wrigh	Ontario Pipe Trades, Dundalk, Ontario	
L. Hilla	CSA Group, Mississauga, Ontario	*Project Manager*

Preface

This is the first edition of CSA B55.1, *Test method for measuring efficiency and pressure loss of drain water heat recovery units*.

The intent of the test apparatus is to simulate conditions in which drain water heat recovery (DWHR) units are installed and to standardize these conditions between various laboratories that conduct this testing. This Standard is only intended to rate the performance of vertically installed, falling-film DWHR units with equal potable water and drain water flow rates.

This Standard was prepared by the Technical Committee on Drain Water Heat Recovery Systems, under the jurisdiction of the Strategic Steering Committee on Water Management Products, Materials, and Systems, and has been formally approved by the Technical Committee.

Notes:

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

(2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*

(3) *This Standard was developed by consensus, which is defined by* CSA Policy governing standardization — Code of good practice for standardization *as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*

(4) *To submit a request for interpretation of this Standard, please send the following information to* ***inquiries@csagroup.org*** *and include "Request for interpretation" in the subject line:*
(a) define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;
(b) provide an explanation of circumstances surrounding the actual field condition; and
(c) where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.
Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization *and are available on the* Current Standards Activities *page at* ***standardsactivities.csa.ca****.*

(5) *This Standard is subject to periodic review, and suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to* ***inquiries@csagroup.org*** *and include "Proposal for change" in the subject line:*
(a) Standard designation (number);
(b) relevant clause, table, and/or figure number;
(c) wording of the proposed change; and
(d) rationale for the change.

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1 Scope

1.1
This Standard specifies requirements for measuring the heat recovery efficiency and pressure loss for vertically installed, falling-film drain water heat recovery (DWHR) units.

1.2
This Standard applies to DWHR units
(a) of any diameter and length;
(b) with a configuration where potable water and drain water flow rate is equal; and
(c) with a flow rate range of 5.5 to 14 L/min.

1.3
In this Standard, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (nonmandatory) to define their application.

2 Reference publication
This Standard refers to the following publication, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

NRCan (Natural Resources Canada)
Testing Method for Measuring Efficiency of Drain Water Heat Recovery Units (2008)

3 Definitions
The following definitions shall apply in this Standard:

Drain water heat recovery (DWHR) unit — a double-wall, vented falling-film heat exchanger with a visible means of leak detection designed to transfer heat from drain water to potable water.
Note: *"Double-wall" implies having two distinct tubes separating the drain water from the potable water.*

DWHR series — a set of DWHR models from a given manufacturer that have identical diameter and coil configuration and only vary by overall length.