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Heating systems and water-based cooling systems in buildings - Design for water-based cooling systems

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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EUROPEAN STANDARD

EN 17671

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

Heating systems and water-based cooling systems in buildings - Design for water-based cooling systems

Systèmes de chauffage et systèmes de refroidissement à eau dans les bâtiments - Conception des systèmes de refroidissement à eau

Heizungsanlagen und wassergeführte Kühlanlagen in Gebäuden - Planung von wassergeführten Kühlanlagen

This European Standard was approved by CEN on 16 June 2025.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 17671:2025) has been prepared by Technical Committee CEN/TC 228 “Heating systems and Water-based Cooling Systems in Buildings”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2026, and conflicting national standards shall be withdrawn at the latest by February 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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1 Scope

This document specifies design criteria for closed water-based cooling systems in buildings and the design of such systems is described. The definitions are aimed at achieving an appropriate level of technical quality and maintaining the desired thermal indoor climate with minimum energy consumption.

This document does not apply to systems for dissipating process heat from industrial processes. It also does not apply to and does not amend product standards or product installation requirements.

This document is applicable to cooling systems of the following type (see also Figure 1):

- 1) devices for the water-based heat rejection of the chilling system;
- 2) devices for chilling and storage of chilled water;
- 3) devices for the distribution of chilled water;
- 4) devices for the absorption of heat (“cooling emission”);
- 5) control devices;
- 6) safety devices.

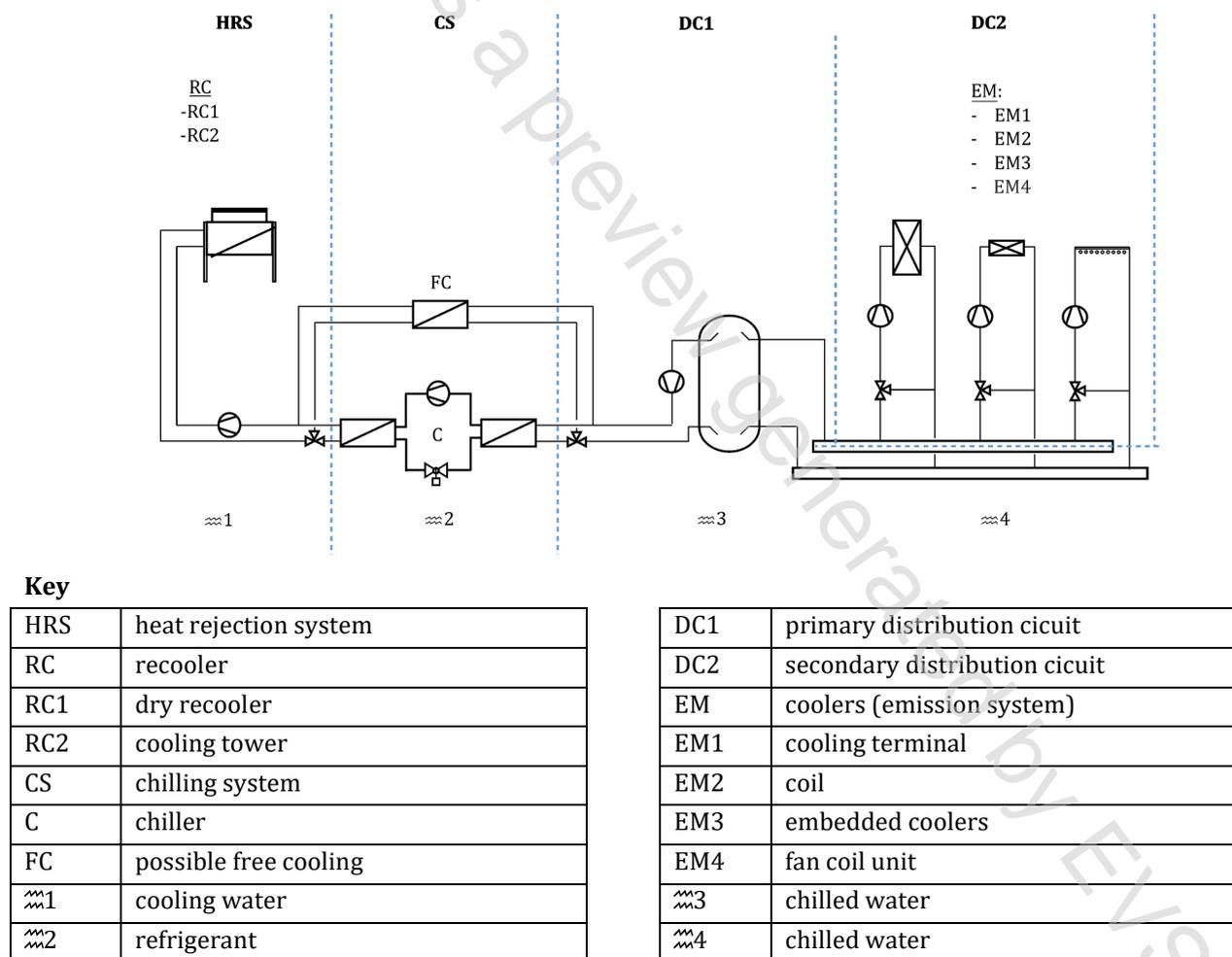


Figure 1 — Schematic example of a water-based cooling system

This document does not cover additional safety aspects for water-based cooling systems with local operating temperatures ≤ 0 °C. The other clauses of this document are still valid for systems with local operating temperatures ≤ 0 °C.

This document also does not cover the chilling system itself, but only the parts of the chilling system which are an integral part of the cooling system, including determination of the design performance. Furthermore, this document does not cover:

- the requirements for installation or instructions for operation, maintenance and use;
- the design of the system components (e.g. recoolers, chilling systems, coolers, pipes, safety devices etc.).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1717, *Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow*

EN 12170, *Heating systems in buildings — Procedure for the preparation of documents for operation, maintenance and use — Heating systems requiring a trained operator*

EN 12171, *Heating systems in buildings — Procedure for the preparation of documents for operation, maintenance and use — Heating systems not requiring a trained operator*

EN 16798-1:2019, *Energy performance of buildings — Ventilation for buildings — Part 1: Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics — Module M1-6*

EN 14336, *Heating systems in buildings — Installation and commissioning of water based heating and cooling systems*

EN ISO 52000-1:2017, *Energy performance of buildings — Overarching EPB assessment — Part 1: General framework and procedures (ISO 52000-1:2017)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp/>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

chilling system

configuration of interconnected components and appliances for the supply of chilled water to the distribution system

3.2

chilled water

water on the heat-absorbing side of a chiller (primary and secondary circuit)