ICS 91.140.10 SLOVENSKÁ TECHNICKÁ NORMA August 2021

STN	**Vykurovacie a chladiace systémy zabudované pod povrchom s vodou ako teplonosnou látkou Časť 3: Dimenzovanie**	**STN EN 1264-3** 06 0315

Water based surface embedded heating and cooling systems - Part 3: Dimensioning

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/21

Obsahuje: EN 1264-3:2021

Oznámením tejto normy sa ruší
STN EN 1264-3 (06 0315) z augusta 2011

133171

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1264-3

May 2021

ICS 91.140.10 Supersedes EN 1264-3:2009

English Version

Water based surface embedded heating and cooling systems - Part 3: Dimensioning

Systèmes de surfaces chauffantes et rafraîchissantes hydrauliques intégrées - Partie 3 : Dimensionnement

Raumflächenintegrierte Heiz- und Kühlsysteme mit Wasserdurchströmung - Teil 3: Auslegung

This European Standard was approved by CEN on 12 April 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

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

Ref. No. EN 1264-3:2021 E

Contents

Page

European foreword

This document (EN 1264-3:2021) has been prepared by Technical Committee CEN/TC 130 “Space heating appliances without integral heat sources”, the secretariat of which is held by UNI.

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 November 2021, and conflicting national standards shall be withdrawn at the latest by November 2021.

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.

This document supersedes EN 1264-3:2009.

The main changes compared to the previous edition are listed below:

a) Clarification of the Scope;

b) Improved wording, especially the term “prove method”;

c) Deletion of the Note in 4.1.2.2;

d) Addition of new subclauses 4.1.3.1, 4.2.3.1, 4.3.3.1 and 5.2.1.1 Pressure loss;

e) Modification of the maximum average surface temperature for ceiling heating systems in 4.2.1.4;

f) Figures 1 and 3 replaced with Figures A.2 and A.3;

g) Correction of Formula (15) from $1/\alpha = 0{,}009\ 3\ (m^2 \cdot K)/W$ to $1/\alpha = 0{,}092\ 6\ (m^2 \cdot K)/W$.

EN 1264, *Water based surface embedded heating and cooling systems*, consists of the following parts:

— *Part 1: Definitions and symbols;*

— *Part 2: Floor heating: Methods for the determination of the thermal output using calculations and experimental tests;*

— *Part 3: Dimensioning;*

— *Part 4: Installation;*

— *Part 5: Determination of the thermal output for wall and ceiling heating and for floor, wall and ceiling cooling.*

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

The EN 1264 series gives guidelines for surface embedded heating and cooling systems installed in buildings, residential and non-residential (e.g. office, public, commercial and industrial buildings) and focuses on systems installed for the purpose of thermal comfort.

The EN 1264 series gives guidelines for water based heating and cooling systems embedded into the enclosure surfaces of the room to be heated or to be cooled. It also specifies the use of other heating media instead of water, as appropriate.

The EN 1264 series specifies standardized product characteristics by calculation and testing the thermal output of heating for technical specifications and certification. For the design, construction and operation of these systems, see EN 1264-3 and EN 1264-4 for the types A, B, C, D, H, I and J. For the types E, F and G, see the EN ISO 11855 series.

The systems specified in the EN 1264 series are adjoined to the structural base of the enclosure surfaces of the building, mounted directly or with fixing supports. The EN 1264 series does not specify ceiling systems mounted in a suspended ceiling with a designed open air gap between the system and the building structure which allows the thermally induced circulation of the air. The thermal output of these systems can be determined according to EN 14037 series and EN 14240.

EN 1264-3 specifies the use in practical engineering of the results coming from EN 1264-2 and EN 1264-5.

For heating systems, physiological limitations are taken into account when specifying the surface temperatures. In the case of floor heating systems the limitations are realized by a design based on the characteristic curves and limit curves determined in accordance with EN 1264-2.

For cooling systems, only a limitation with respect to the dew point is taken into account. In predominating practice, this means that physiological limitations are included as well.

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 1264-1:2021, *Water based surface embedded heating and cooling systems — Part 1: Definitions and symbols*

EN 1264-2:2021, *Water based surface embedded heating and cooling systems — Part 2: Floor heating: Methods for the determination of the thermal output using calculations and experimental tests*

EN 1264-4:2021, *Water based surface embedded heating and cooling systems — Part 4: Installation*

EN 1264-5:2021, *Water based surface embedded heating and cooling systems — Part 5: Heating and cooling surfaces embedded in floors, ceilings and walls — Determination of the thermal output*

EN 12831 (all parts), *Heating systems in buildings — Method for calculation of the design heat load*

EN 15243, *Ventilation for buildings — Calculation of room temperatures and of load and energy for buildings with room conditioning systems*