

Nederlandse norm

NEN-EN 17116-2

(en)

Specificaties voor industriële wasmachines -
Definities en beproeving van capaciteit en
verbruikskarakteristieken - Deel 2: Batchdrogers

Specifications for industrial laundry machines -
Definitions and testing of capacity and
consumption characteristics - Part 2: Batch drying
tumblers

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EUROPEAN STANDARD

EN 17116-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2018

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English Version

Specifications for industrial laundry machines - Definitions and testing of capacity and consumption characteristics - Part 2: Batch drying tumblers

Spécifications pour les machines de blanchisserie
industrielles - Définitions et contrôle des
caractéristiques de capacité et de consommation -
Partie 2 : Séchoirs rotatifs

Festlegungen für Wäschereimaschinen - Definition und
Prüfung der Beladung und Verbrauchsmerkmale - Teil
2: Trockner

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Voorbereid
Preview

European foreword

This document (EN 17116-2:2018) has been prepared by Technical Committee CEN/TC 214 "Textile machinery and accessories", the secretariat of which is held by SNV.

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of an identical text or by endorsement, at the latest by June 2019, and conflicting national standards shall be withdrawn at the latest by June 2019.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This draft is based on ISO 9398-2 extended by the application of the state of the art methodology to measure performance and has been prepared by CEN/TC 214/WG 5.

The standard testing procedure for batch drying tumblers is based on ISO 9398-2. It includes among others the references EN ISO 10472-1 and EN ISO 10472-4.

EN 17116-2:2018 enhances the second edition of ISO 9398-2, i.e. ISO 9398-2:2003, to comply with European standard requirements.

ISO 9398-2:2003 is extended by state of the art methodology to measure performance. Significant technical differences from ISO 9398-2:2003 are:

- a) implementation of moisture controlled tumble dryers;
- b) test conditions under practical *in situ* laundry conditions;
- c) more detailed description of testing procedure;
- d) implementation of energy consumption of various heat sources;
- e) implementation of air compressor energy consumption;
- f) a test procedure for measuring power consumption also for steam heated and gas heated tumble dryers;
- g) introduction of a new type of test load;
- h) new initial and final moisture level introduced;
- i) implementation of air quantity measurements.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 17116-2:2018 (E)**1 Scope**

This document defines the characteristics of batch drying tumblers and gives the usual test methods for these characteristics with regard to machine capacity, power consumption and productivity. It is applicable for use as a reference in the drafting of purchasing orders for batch drying tumblers whose net usable cage volume is 1 000 dm³ (litres) resp. 40 kg and above. In addition, it is recommended for determination of energy consumption and productivity according to Directive 2009/125 EC. Furthermore, the standard describes standard methods for measuring principal performance characteristics of professional tumble dryers. It does not cover safety requirements (see EN ISO 10472-4).

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 746-2, *Industrial thermoprocessing equipment — Part 2: Safety requirements for combustion and fuel handling systems*

EN 50160, *Voltage characteristics of electricity supplied by public electricity networks*

EN 60038, *CENELEC standard voltages (IEC 60038)*

ISO 9398-1, *Specifications for industrial laundry machines — Definitions and testing of capacity and consumption characteristics — Part 1: Flatwork ironing machines*

3 Terms, definitions, symbols and abbreviations**3.1 Terms and definitions**

For the purposes of this document, the terms and definitions given in ISO 9398-1 and the following apply.

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

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

3.1.1**tumble dryer**

laundry machine in which textiles are dried by tumbling in a rotating drum, through which air is passed, and in which the dryer draws in fresh or partly recirculated air which is passed over the textiles and the resulting moist exhaust air is vented outside

3.1.2**moisture-controlled tumble dryer**

tumble dryer which switches off the drying process when a certain moisture content of the load is reached

Note 1 to entry: This may include systems that use IR-temperature of the load or air temperature sensing.

3.1.3

time-controlled tumble dryer

tumble dryer which does not switch off the drying process when a certain moisture content of the load is reached, usually controlled by a timer, but may also be process controlled

3.1.4

transfer tumble dryer

pass-through tumble dryer

tumble dryer with automatic loading and unloading, e.g. via conveyers or by other means, and in which the loading and unloading is located on opposite sides of the drying basket

3.1.5

tumble dryer with process air recirculation

tumble dryer by which partly re-used air is applied in the circulation system

Note 1 to entry: The amount of re-used air is controlled by the position of a flap positioned within the recirculating air channel. The position of the flap — corresponding to the amount of recirculated air — may be automatically or manually controlled.

Note 2 to entry: This may include systems that use fixed positions of the flap, depending on the drying phase, or variable flap position systems which are controlled by sensors.

Note 3 to entry: Details concerning industrial thermos-processing equipment — safety requirements for combustion and fuel-handling systems — are given in EN 746-2.

3.1.6

pre-treatment

processing of the test load prior to its first use to avoid rapid changes of characteristics during the tests, e.g. washing for removal of textile finishes

3.1.7

bone dry-conditioning

bringing the test load (see 3.1.10) to a state without moisture content (bone dry) by multiple drying until a steady-state weight is achieved (identical weight for minimum three replicating drying cycles)

3.1.8

test run

single performance assessment

3.1.9

test series

number of test runs on a tumble dryer which, collectively, are used to assess the performance of that tumble dryer

3.1.10

operation

stage or function that occurs during the tumble dryer drying process such as loading, heating up, drying, cooling

3.1.11

programme

series of operations which are pre-defined within the tumble dryer and which are declared by the manufacturer as suitable for drying certain types of textiles

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