SLOVENSKI STANDARD
SIST EN 215:2019

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Nadomešča:
SIST EN 215:2004
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Termostatski ventili za ogrevala - Zahteve in preskusne metode

Thermostatic radiator valves - Requirements and test methods

Thermostatische Heizkörperventile - Anforderungen und Prüfung

Robinets thermostatiques d'équipement du corps de chauffe - Exigences et méthodes d'essai

Ta slovenski standard je istoveten z: **EN 215:2019**

ICS:

23.060.01	Ventili na splošno	Valves in general
91.140.10	Sistemi centralnega ogrevanja	Central heating systems

SIST EN 215:2019 **en,fr,de**

EUROPEAN STANDARD

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Thermostatic radiator valves - Requirements and test methods

Robinets thermostatiques d'équipement du corps de chauffe - Exigences et méthodes d'essai

Thermostatische Heizkörperventile - Anforderungen und Prüfung

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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 215:2019) 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of an identical text or by endorsement, at the latest by March 2020, and conflicting national standards shall be withdrawn at the latest by March 2020.

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 215:2004/A1:2006.

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1 Scope

This document specifies definitions, requirements and test methods for thermostatic radiator valves referred to hereafter as thermostatic valves.

This standard applies to two port thermostatic valves with or without pre-setting facility and thermostatic integrated valves with or without pre-setting facility for fitting to radiators in wet central heating installations up to a water temperature of 120 °C and a nominal pressure of PN 10.

This standard further specifies the dimensions, the materials and the connection details of four series of straight and angle pattern thermostatic radiator valves of nominal pressure ≤ PN 10.

This standard can be used as reference in a CEN/CENELEC Certification Mark System on thermostatic radiator valves.

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 1982, *Copper and copper alloys — Ingots and castings*

EN 12164, *Copper and copper alloys — Rod for free machining purposes*

EN 12168, *Copper and copper alloys — Hollow rod for free machining purposes*

EN 12420, *Copper and copper alloys — Forgings*

EN 12449, *Copper and copper alloys — Seamless, round tubes for general purposes*

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1)*

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 965-1, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data*

3 Terms and definitions

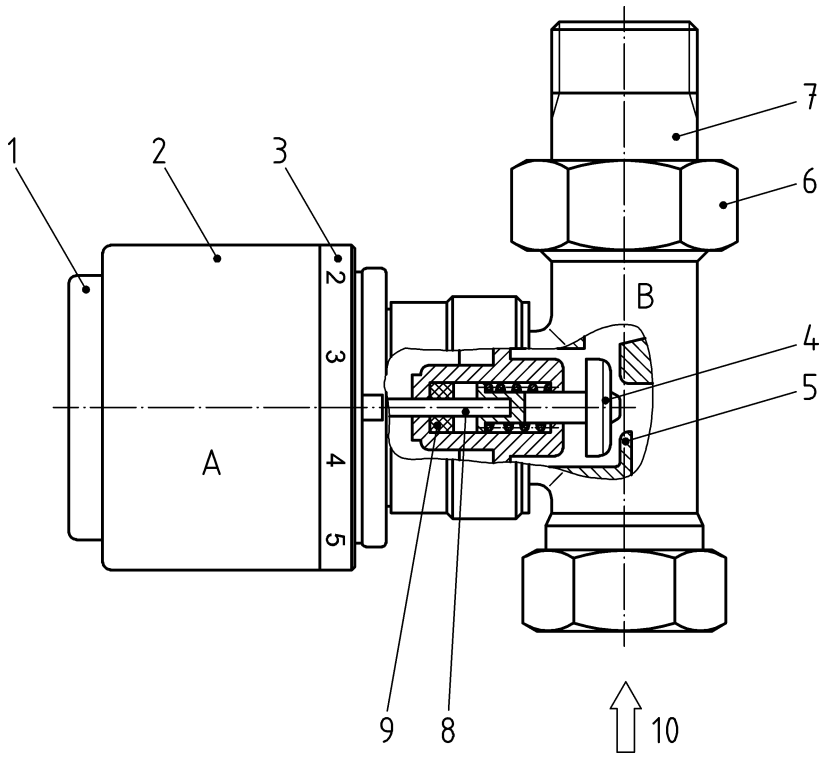
For the purposes of this document, the following terms and definitions apply.

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
thermostatic valve to control the room temperature
thermostatic head assembly and thermostatic valve assembly or the thermostatic integrated valve assembly

Note 1 to entry: See Figure 1 for components of the thermostatic radiator valve.



Key

A	thermostatic head assembly	5	valve seat
B	valve body assembly	6	union nut
1	sensor	7	tailpiece
2	temperature selector	8	valve stem
3	temperature selector scale	9	stem seal
4	valve disc	10	flow direction arrow

Figure 1 — Schematic drawing of the assembly of a thermostatic valve with integral sensor

3.1.1
sensor
part of the thermostatic valve to collect the temperature (controlled value)

Note 1 to entry: See Figure 2.

3.1.2
transmission unit
part of the thermostatic valve that converts a change of temperature or pressure of the sensor into a linear movement of the valve stem

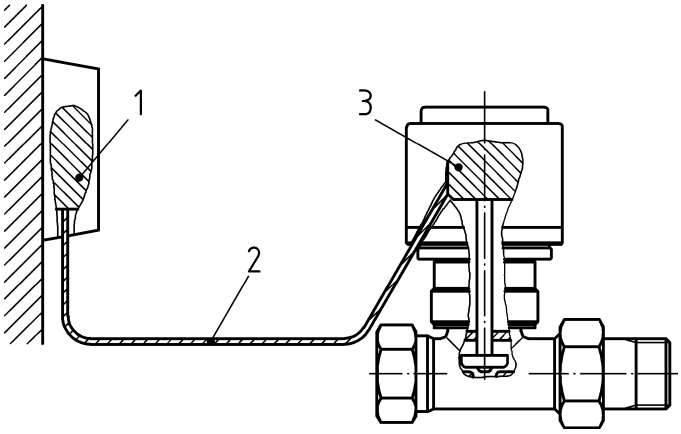
Note 1 to entry: See Figure 2.

3.1.3
transmission element
part of the thermostatic valve (e. g. capillary) that transmits the volume or pressure changes from the sensor or temperature selector to the transmission unit

Note 1 to entry: See Figure 2.

3.1.4
thermostatic element
section containing all parts that are filled with the expansion medium

EXAMPLE Sensor, transmission element and transmission unit, shown as cross hatched parts in Figure 2.



Key

1 sensor
2 transmission element
3 transmission unit

Figure 2 — Thermostatic element

3.1.5
protection cap
device that protects the valve stem and thread before the initial fitting of the thermostatic head assembly

3.2
types of thermostatic head assembly
3.2.1
thermostatic valve with integral sensor
valve where the sensor, transmission unit and temperature selector constitute an assembly which is incorporated with the valve body assembly

Note 1 to entry: See Figure 3.

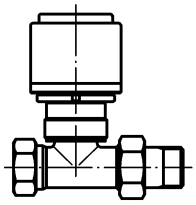


Figure 3 — Thermostatic valve with integral sensor

3.2.2
thermostatic valve with integral temperature selector and with remote sensor
valve where the temperature selector is incorporated within the valve but the sensor is separated from the transmission unit, and there is a transmission element between the sensor and the transmission unit

Note 1 to entry: See Figure 4.

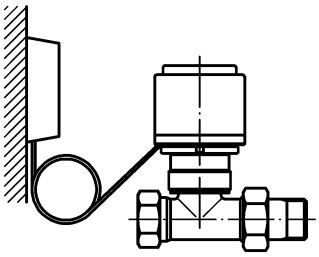


Figure 4 — Thermostatic valve with integral temperature selector with remote sensor

3.2.3
thermostatic valve with the remote sensor incorporating the selector
valve where the sensor and temperature selector assembly is mounted remotely from the valve body assembly and from the transmission unit, and there is a transmission element between the sensor and the transmission unit

Note 1 to entry: See Figure 5.

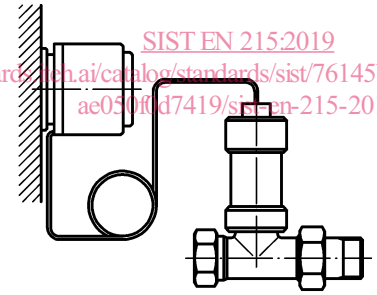


Figure 5 — Thermostatic valve with the remote sensor incorporating the selector

3.2.4
thermostatic valve with remote sensor and remote selector
valve where both the sensor and the temperature selector are separate from each other and from the valve body assembly with transmission unit, and there is a transmission element between the sensor and the transmission unit and between the temperature selector and the transmission unit

Note 1 to entry: See Figure 6.

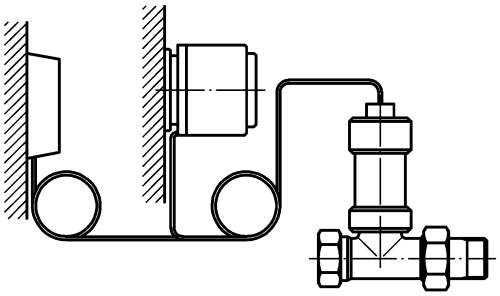
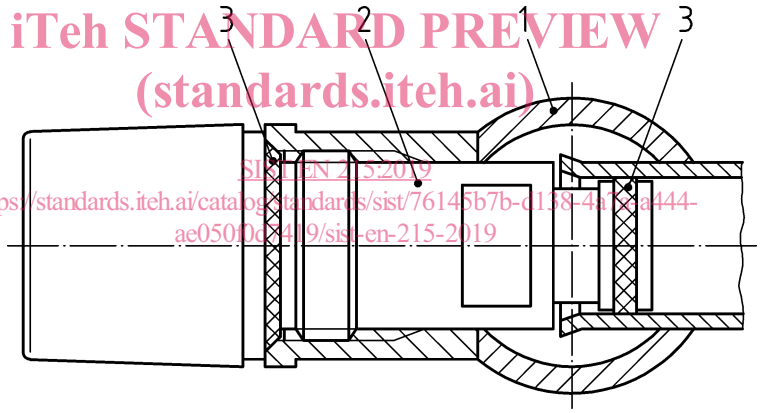


Figure 6 — Thermostatic valve with remote sensor and remote selector

3.2.5
thermostatic valve with pre-setting
valve where a reduced flow rate can be obtained by means of mechanical pre-adjustment incorporated in the valve body assembly

3.2.6
type of thermostatic integrated valve
embedded valve including valve seat

Note 1 to entry: See Figure 7.



Key

1 garniture

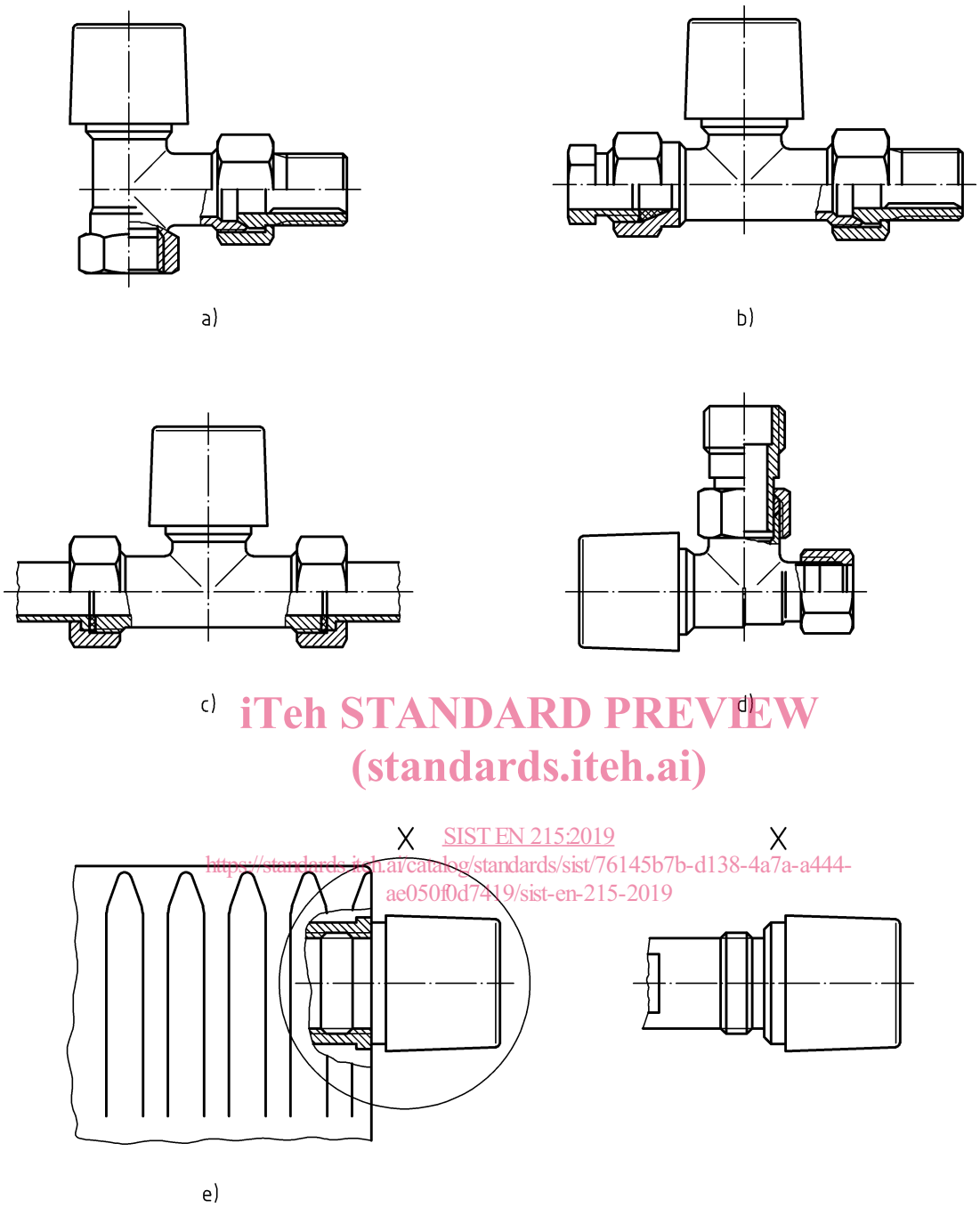
2 integrated valve assembly

3 Sealing element

Figure 7 — Example of valve integrated in a radiator

3.3
types of connections
examples of connections used to fit the valve to the radiator and to the pipe work

Note 1 to entry: See Figure 8.



Key

a) internal pipe thread and cone seated union

b) compression fitting and cone seated union

c) washered union connections

d) compression fittings

e) integrated valve

Figure 8 — Types of radiator valve connections

3.4
operating characteristics
3.4.1
characteristic flow rate

$q_{m,s}$

water flow rate that is obtained at a temperature of point S-2 K, and at a differential pressure of 10 kPa (0,1 bar), at any desired setting

3.4.2
nominal flow rate

$q_{m,N}$

characteristic flow rate for an intermediate setting of the temperature selector according to 6.2.1.3

Note 1 to entry: The nominal flow rate for thermostatic valves having a pre-setting facility is measured at the maximum pre-setting position.

3.4.3
maximum flow rate

$q_{m,max}$

maximum water flow rate that can be obtained at a differential pressure of 10 kPa (0,1 bar)

3.4.4
hysteresis

temperature difference between the opening and closing curves obtained at the same flow rate

Note 1 to entry: See Figure 9.

Note 2 to entry: If the opening and the closing curves cross each other the value of the hysteresis will be measured at 1 K P-deviation.