



**SLOVENSKI STANDARD**  
**SIST EN 16145:2013**

**01-december-2013**

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**Sanitarne armature - Izvlečljivi priključki za armature umivalnikov in pomivalnih korit - Splošne tehnične specifikacije**

Sanitary tapware - Extractable outlets for sink and basin mixers - General technical specification

Sanitärarmaturen - Ausziehbare Ausläufe für Waschtisch- und Spülbeckenarmaturen - Allgemeine technische Spezifikation

Robinetterie sanitaire - Douchettes extractibles pour mitigeurs d'éviers et de lavabos - Spécifications techniques générales

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**Ta slovenski standard je istoveten z: EN 16145:2012**

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**ICS:**

91.140.70      Sanitarne naprave      Sanitary installations

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EUROPEAN STANDARD

EN 16145

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2012

ICS 91.140.70

English Version

## Sanitary tapware - Extractable outlets for sink and basin mixers - General technical specification

Robinetterie sanitaire - Douchettes extractibles pour  
mitigeurs d'éviers et de lavabos - Spécifications techniques  
générales

Sanitärarmaturen - Ausziehbare Ausläufe für Waschtisch-  
und Spülbeckenarmaturen - Allgemeine technische  
Spezifikation

This European Standard was approved by CEN on 10 November 2012.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This document (EN 16145:2012) has been prepared by Technical Committee CEN/TC 164 "Water supply", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by June 2013, and conflicting national standards shall be withdrawn at the latest by June 2013.

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

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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## Introduction

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this standard:

- This standard provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA.
- It should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of these products remain in force.
- This European Standard specifies requirements for shower outlets suitable for use in water supply systems of Type 1 and Type 2.

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## 1 Scope

This European Standard specifies:

- the dimensional, leaktightness, mechanical, hydraulic and acoustic characteristics with which extractable outlets with or without spray mode selector function need to comply;
- the procedures for testing these characteristics.

It applies to extractable outlets made from any material which is intended for equipping and supplementing sanitary tapware for sinks and wash-basins used for culinary or ablutionary purposes. Such extractable outlets shall only be connected downstream of the obturator of the tapware.

Extractable outlets with total closing device fitted after the obturator of the tapware are not covered by this standard. Such products will be tested in accordance with EN 200, EN 817, EN 1111, EN 1286 or EN 1287 (see [1], [2], [3], [5] and [6]).

The conditions of use and classification are specified in Table 1.

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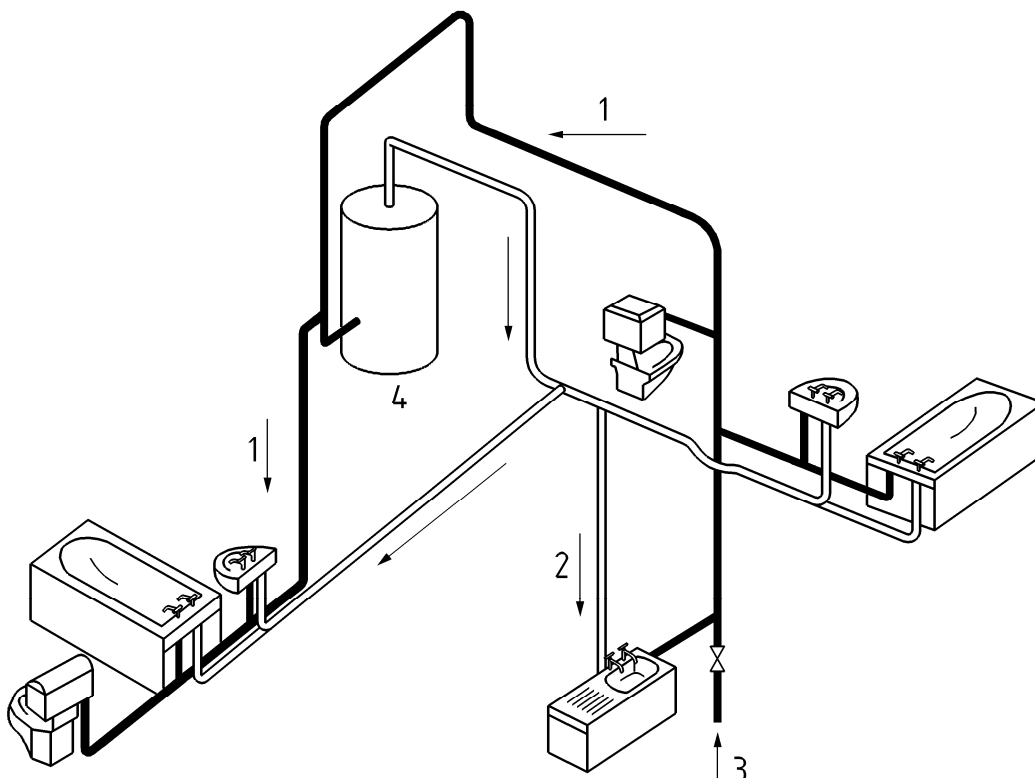
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Table 1 — Conditions of use/Classifications

Water Supply system	Operating range of extractable shower outlets		Flow rate classes		Acoustics	Marking
	Limits	Recommended			See Clause 13	See Clause 4
Type 1 see Figure 1	<u>Dynamic Pressure</u> (0,05 to 0,5) MPa ((0,5 to 5,0) bar)	<u>Dynamic Pressure</u> (0,1 to 0,3) MPa ((1,0 to 3,0) bar)	ZE	(0,066 7 ≤ Q < 0,12) l/s ((4 ≤ Q < 7,2) l/min)	Group I	for example I A
			Z	(0,12 ≤ Q < 0,15) l/s ((7,2 ≤ Q < 9) l/min)		
			A	(0,15 ≤ Q < 0,25) l/s ((9 ≤ Q < 15) l/min)		
			S	(0,25 ≤ Q < 0,33) l/s ((15 ≤ Q < 20) l/min)		
			B	(0,33 ≤ Q < 0,42) l/s ((20 ≤ Q < 25) l/min)		
			C	(0,42 ≤ Q < 0,50) l/s ((25 ≤ Q < 30) l/min)		
			D	(0,50 ≤ Q < 0,63) l/s ((30 ≤ Q < 38) l/min)		
Type 2 see Figure 2	<u>Dynamic Pressure</u> ≥ (0,01 to 0,2) MPa ((0,1 to 2,0) bar)	<u>Dynamic Pressure</u> (0,02 to 0,1) MPa ((0,2 to 1,0) bar)	EE	(0,025 ≤ Q < 0,06) l/s ((1,5 ≤ Q < 3,6) l/min) at 0,01 MPa (0,1 bar)	(unclassified)	
			E	(0,06 ≤ Q < 0,14) l/s ((3,6 ≤ Q < 8,4) l/min) at 0,01 MPa (0,1 bar)		
			H	(Q ≥ 0,14) l/s ((Q ≥ 8,4) l/min) at 0,01 MPa (0,1 bar)		
Temperature	T ≤ 70 °C	T ≤ 42 °C (wash-basin) T ≤ 60 °C (sink)				

For low pressure extractable outlets complying with this standard there are no acoustical requirements. Low pressure extractable outlets complying with this standard may also be used with inlet supply pressures in the range from 0,1 MPa to 0,2 MPa (1,0 bar to 2,0 bar) on condition that acoustical performance is not a requirement of the installation.





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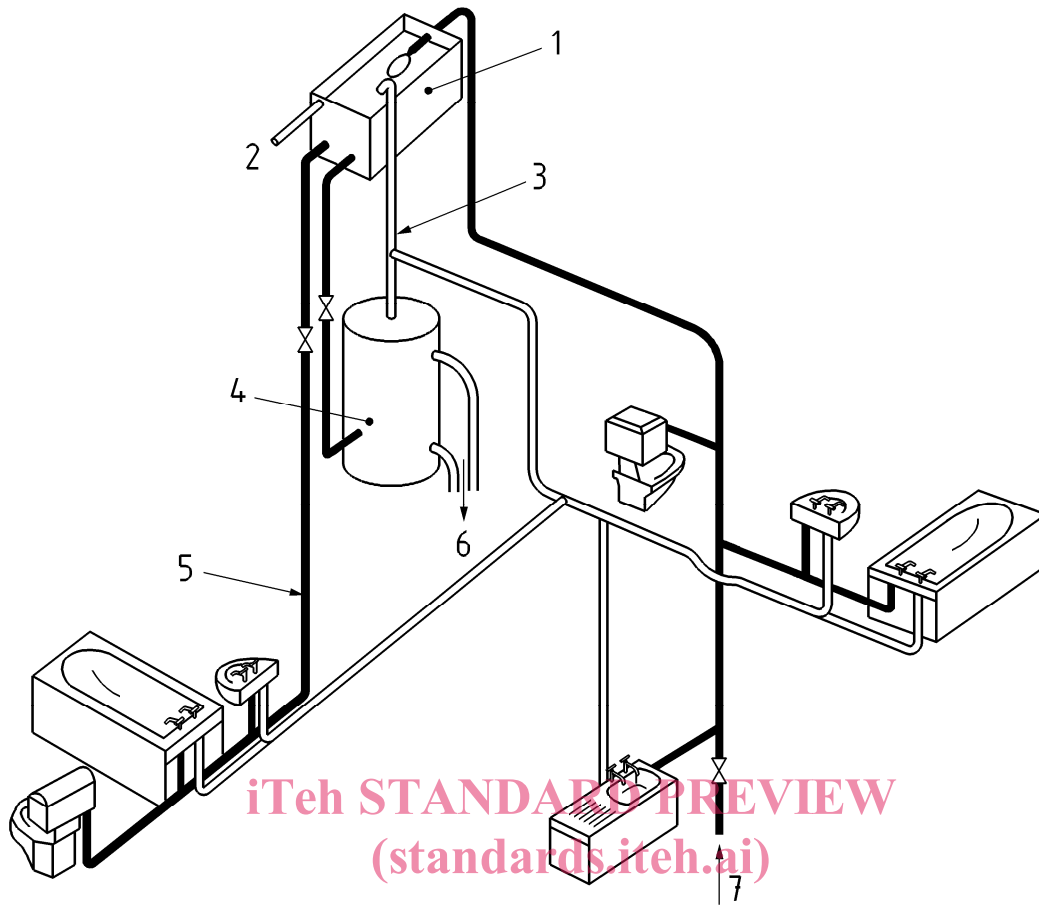
**Key**

- 1 cold water
- 2 hot Water
- 3 mains supply pipe (supply pressures up to 1 MPa (10 bar))
- 4 water heater

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**Figure 1 — Supply system type 1 with a pressure range of 0,05 MPa to 1,0 MPa (0,5 bar to 10 bar)**



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#### Key

- 1 cold water storage cistern (cover omitted for clarity)
- 2 warning pipe
- 3 vent pipe
- 4 hot water cylinder
- 5 alternative cistern fed cold supply to sanitary appliances
- 6 to boiler
- 7 mains supply pipe (supply pressures up to 1 MPa (10 bar))

**Figure 2 — Supply system type 2 with a pressure range of 0,01 MPa to 1,0 MPa (0,1 bar - 10 bar). A vented domestic hot water and cold water supply system incorporating gravity hot water, mains cold water and alternative gravity cold water supply to sanitary appliances**

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 248, *Sanitary tapware — General specification for electrodeposited coatings of Ni-Cr*

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

EN 16146, *Sanitary tapware — Extractable shower hoses for sanitary tapware for supply systems type 1 and type 2 — General technical specification*

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)*

EN ISO 3822-1, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 1: Method of measurement (ISO 3822-1)*

EN ISO 3822-4, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 4: Mounting and operating conditions for special appliances (ISO 3822-4)*

## 3 Terms and definitions

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

### 3.1

#### **spray outlet**

device for culinary and ablutionary purposes which allows water to be emitted in the form of jets or water droplets

### 3.2

#### **spray plate**

device with orifices through which water passes and forms a spray of water with separate, definable jets or water droplets

Note 1 to entry: A spray forming mechanism is a device which generates a spray by other means.

### 3.3

#### **spray mode selector**

device providing the possibility of selecting different spray modes

Note 1 to entry: Later described as mode (a), (b), (c).

## 4 Classification

Extractable outlets are moveable hand held outlets which are connected to the sanitary tapware via a hose, complying with EN 16146. They can be mounted directly on the tapware or designed as a side spray located on an appropriate support.

**EN 16145:2012 (E)****5 Designation**

Extractable outlets covered by this standard are designated by:

- their connecting thread dimension;
- their flow rate class (see Table 1);
- their acoustic group (where applicable);
- reference to this standard: EN 16145.

EXAMPLE Extractable outlet G ½ flow rate class E, EN 16145.

**6 Marking**

Extractable outlets complying with this standard shall be marked permanently and legibly with the manufacturer's mark or the supplier's mark.

The acoustic group (where applicable) and the highest flow rate class shall appear on the product but it need not be permanent.

Extractable outlets with special connection (see 12.3) delivered together with the tapware need not be marked individually.

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**7 Materials****7.1 Chemical and hygienic requirements**

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All materials coming into contact with water intended for human consumption shall present no risk to health.

They shall not cause any change of the drinking water in terms of quality, appearance, smell or taste.

**7.2 Exposed surface condition and quality of coating**

Visible chromium plated surfaces and Ni-Cr coatings shall comply with the requirements of EN 248.

**8 Dimensional Characteristics****8.1 General**

The design and construction of components without defined dimensions permits various design solutions to be adopted by the manufacturer.

Permitted deviations from the defined dimensions are given in 8.3.

**8.2 Connecting Dimensions**

The connecting dimensions of extractable outlets are specified in Table 2.