

BS EN 16313:2013



BSI Standards Publication

# Connections for heating and cooling appliances — Detachable connection with outside threaded pipe G $\frac{3}{4}$ A and inside cone

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EUROPEAN STANDARD

**EN 16313**

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ICS 91.140.10

English Version

## Connections for heating and cooling appliances - Detachable connection with outside threaded pipe G 3/4 A and inside cone

Raccords pour appareils de chauffage et de refroidissement - Raccords démontables à filetage extérieur cylindrique G 3/4 A et cône intérieur

Anschlüsse für Heiz- und Kühlsysteme - Lösbare Verbindung mit Rohraußengewinde G 3/4 A und Innenkonus

This European Standard was approved by CEN on 11 April 2013.

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## Foreword

This document (EN 16313:2013) 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of an identical text or by endorsement, at the latest by November 2013, and conflicting national standards shall be withdrawn at the latest by November 2013.

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## Introduction

On the market, a series of geometries (outside threaded pipe G  $\frac{3}{4}$  A with inside cone and counter geometries), e.g. under the designation “eurocone”, is commonly used. These geometries, however, are compatible with each other only to a limited degree. Therefore, this European Standard is intended to achieve a unification of detachable connections with outside threaded pipe G  $\frac{3}{4}$  A and inside cone.

Significant known applications are:

- connection geometries of radiators with integrated valves;
- connection geometries of connection fittings and bypass connection fittings on radiators with integrated valves;
- connection geometries of ascension pipe valves for standard radiators;
- connection geometries of heating circuit distributors to underfloor heatings and radiator connection systems;
- interface between radiator nipple and thermostatic valve or lockshield valve.

Detachable connections with the outside threaded pipe G  $\frac{3}{4}$  A are normally made of metallic materials. Further variants are possible.

So far, the designation “eurocone” has conveyed the impression that there is a standardised geometry. However, this is not the case, i.e. the screw in or thread lengths, the cone angles and diameters, as well as the diameter of the inner cylinder differ frequently. Furthermore, the following variants are commonly used:

- spherical or tapered cone;
- cones with and without inserted sealing material;
- sealing principles inside the cylindrical part of the geometry comprising O rings;
- O rings within the slope of the cone (O rings offered by different providers are designed for different press fits); and
- sealings without additional sealing material (metallic sealing).

## 1 Scope

This European Standard applies to detachable connections with outside threaded pipe G  $\frac{3}{4}$  A in accordance with EN ISO 228-1. These are used in the field of heating and cooling emission systems at the following hydraulic connection points: connection between radiators or circuit distributors and the respective pipe. Another connection point, for radiators with integrated valve sets, is the screw connection to the connection fitting or to the screw connection itself.

This European Standard specifies the dimensions for the single and the double connection.

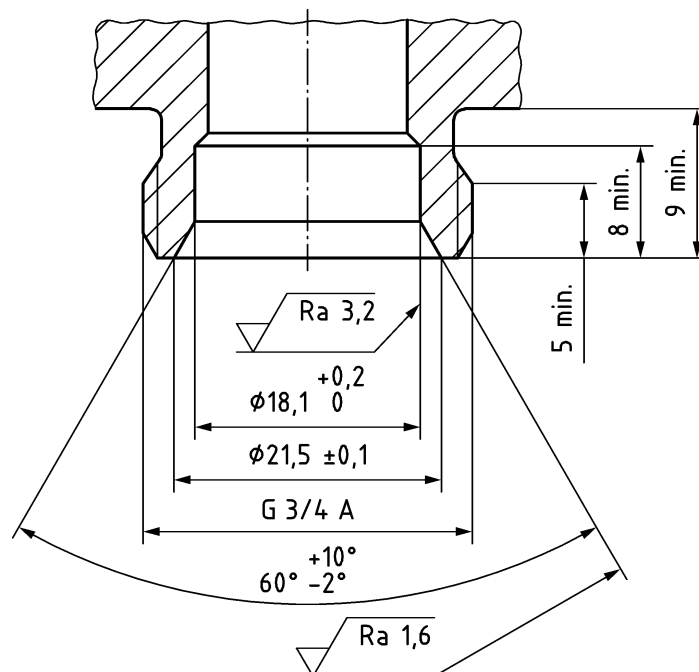
## 2 Normative references

Not applicable.

## 3 Dimensions and designs

Dimensions in millimetres

Surface roughness in micrometres



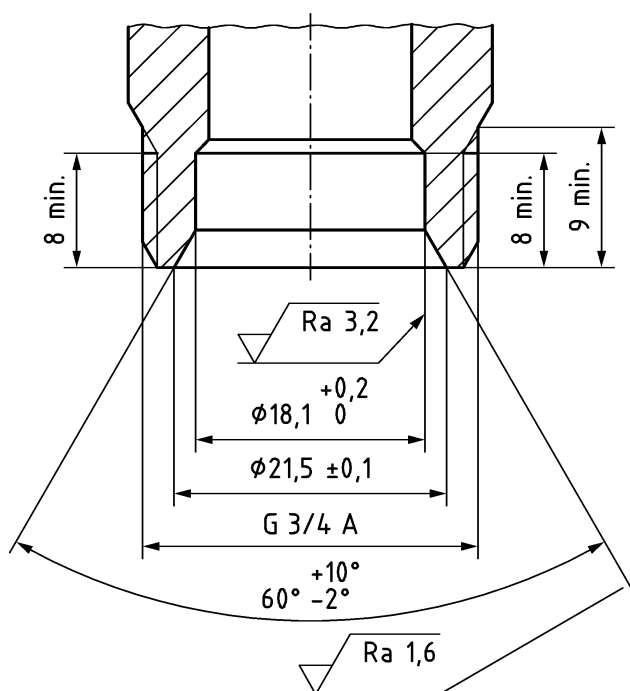
### Key

Ra = roughness

Figure 1 — Detachable connections with outside threaded pipe G  $\frac{3}{4}$  A and thread undercut

Dimensions in millimetres

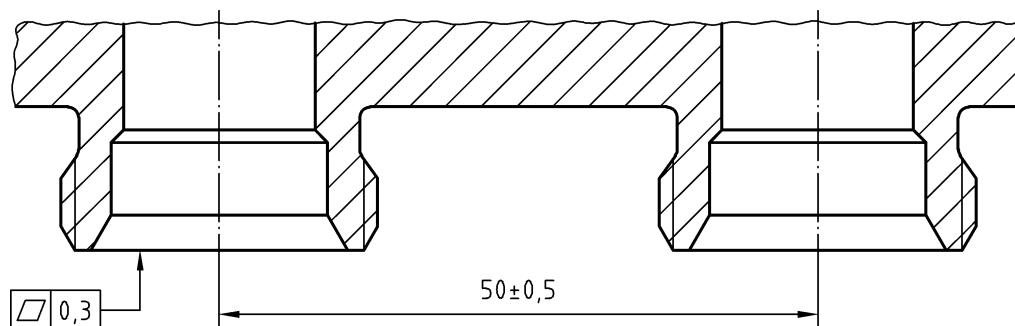
Surface roughness in micrometres



**Key**  
Ra = roughness

**Figure 2 — Detachable connections with outside threaded pipe G  $\frac{3}{4}$  A and thread run out without undercut**

Dimensions in millimetres



**Figure 3 — Detachable double connections according to Figure 1 or Figure 2**

## 4 Functions and requirements

In the use case, the companion pieces and the connection geometries, as standardised in this document, have to ensure a permanent leak tight connection.



## Bibliography

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- [3] 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)*
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- [5] EN ISO 1302, *Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation (ISO 1302)*
- [6] EN 22768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768-1)*
- [7] EN 22768-2, *General tolerances — Part 2: Geometrical tolerances for features without individual tolerance indications (ISO 2768-2)*





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