# IEC 60154-1

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

## Flanges for waveguides – Part 1: General requirements

## Brides pour guides d'ondes – Partie 1: Exigences générales

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

# FLANGES FOR WAVEGUIDES –

## Part 1: General requirements

## FOREWORD

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International Standard IEC 60154-1 has been prepared by subcommittee 46F: RF and microwave passive components, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories.

This third edition cancels and replaces the second edition published in 1982. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) define the alignment pin and hole for waveguide alignment;
b) specify the dimensions in the metric system.

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The text of this standard is based on the following documents:

| CDV | Report on voting |
|---|---|
| 46F/304/CDV | 46F/318/RVC |

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60154 series, published under the general title *Flanges for waveguides*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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# INTRODUCTION

This International Standard relates to straight hollow metallic tubing for use as waveguides in electronic equipment. In recent years, the operation frequency of waveguide components and systems has been extended to 1 THz and above. However, the IEC 60154 series of standards for flanges for waveguides, currently specifies the interface design up to 40 GHz for rectangular waveguides. In addition to this, the current issues of the IEC 60154 series of standards were issued in the 1970's and do not meet the needs of current applications. This new edition of IEC 60154-1 addresses these two issues.

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# FLANGES FOR WAVEGUIDES –

## Part 1: General requirements

## 1 Scope

This part of IEC 60154 specifies the dimensions of waveguide flanges for use in electronic equipment.

It covers requirements for flanges drilled before or after mounting on waveguides. It should be noted that for optimum electrical performance, post-drilling of the alignment holes after mounting is recommended.

The aim of this standard is to specify for waveguide flanges the mechanical requirements necessary to ensure compatibility and, as far as practicable, interchangeability as well as to ensure adequate electrical performance.

## 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.

IEC 60050 (all parts), *International Electrotechnical Vocabulary* (available at <http://www.electropedia.org/)

IEC 60068 (all parts), *Environmental testing*

IEC 60153 (all parts), *Hollow metallic waveguides*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-726 apply.

## 4 General

### 4.1 Flange designation

Waveguide flanges covered by this standard shall be indicated by a reference number comprising the following information:

a) the number of the present IEC publication (60154);

b) the letters “IEC";

c) a dash;

d) a letter relating to the basic construction of the flange style, i.e.:

P = a flange having a gasket groove but no choke groove (formerly called pressurizable);

C = a choke flange with a gasket groove (formerly called choke, pressurizable);

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