

# INTERNATIONAL STANDARD

**ISO**  
**9959-1**

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## **Numerically controlled draughting machines — Drawing test for the evaluation of performance —**

### **Part 1: Vector plotters**

*Machines à dessiner à commande numérique — Essai de traçage pour  
l'évaluation des performances —*

*Partie 1: Traceurs de vecteurs*



Reference number  
ISO 9959-1:1992(E)

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 9959-1 was prepared by Technical Committee ISO/TC 10, *Technical drawings, product definition and related documentation*, Sub-Committee SC 9, *Media and equipment for drawing and related documentation*.

ISO 9959 consists of the following parts, under the general title *Numerically controlled draughting machines — Drawing test for the evaluation of performance*:

- *Part 1: Vector plotters*

The drawing test for the evaluation of the performance of raster plotters will form the subject of ISO 9959-2.

# Numerically controlled draughting machines — Drawing test for the evaluation of performance —

## Part 1: Vector plotters

### 1 Scope

This part of ISO 9959 specifies a drawing test for vector plotters (electromechanical plotters<sup>1)</sup> as defined in ISO 9179-1) for evaluating the graphical quality capabilities, for example the dynamic accuracy and the required drawing time, independently of the machine type.

It does not permit the evaluation of the static drawing accuracy which is normally determined at the place where a drawing is made because dimensional changes of the drawing media under different climatic conditions can influence the test results.

### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9959. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9959 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 554:1976, *Standard atmospheres for conditioning and/or testing — Specifications*.

ISO 5457:1980, *Technical drawings — Sizes and layout of drawing sheets*.

ISO 9179-1:1988, *Technical drawings — Numerically controlled draughting machines — Part 1: Vocabulary*.

### 3 Drawing test method

#### 3.1 Principle

Plotting of a standard drawing, preferably of A4 size (see for example figure 1).

For A4 plotters, the area within the border lines (zone 0) shall be the usable plotting area.

#### 3.2 Plotting time

The plotting time starts at zone 0 with a cross and ends, after completion of zone 11, at zone 0 with a cross superimposed on the first one.

#### 3.3 Test conditions

For evaluating a test drawing, the following test criteria are required and shall be specified in the title block of the test drawing (see for example figure 14), together with the plotter type and manufacturer, the name of the person who carried out the test drawing and the date.

- Draughting tool (with the manufacturer's reference)
- Draughting media
- Draughting speed, in millimetres per second, if selectable
- Draughting acceleration, expressed relative to the acceleration of free fall, if selectable

1) An International Standard on raster plotters is in preparation.