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Information technology – Office equipment – Minimum information to be included in specification sheets – Copying machines

*Technologies de l'information – Équipements de bureau – Information minimale
devant figurer dans les notices techniques – Machines à reproduire*



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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for world-wide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 11159 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

Annex A of this International Standard is for information only.

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Introduction

Copying machines of many different types and capacities are now available and their specifications vary so widely that it is difficult for potential users to assess which machine might best meet their requirements.

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Information technology – Office equipment – Minimum information to be included in specification sheets – Copying machines

1 Scope

This International Standard is intended to facilitate the users in selecting a copying machine which meets their requirements.

This International Standard specifies the minimum information that shall be included in the specification sheets of copying machines so that users may compare the characteristics of different machines.

This International Standard applies to copying machines that could be operated in an office environment. Copying machines requiring specially equipped rooms or specially instructed operators are not considered in this International Standard.

2 Normative references

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

ISO 3066:1986, *Duplicating machines - Registration*

ISO 7779:1988, *Acoustics - Measurement of airborne noise emitted by computer and business equipment*

ISO 9295:1988, *Acoustics - Measurement of high-frequency noise emitted by computer and business equipment*

ISO 9296:1988, *Acoustics - Declared noise emission values of computer and business equipment*

IEC 950:1986, *Safety of information technology equipment including electrical business equipment*

3 Conformance

In order to comply with this International Standard, specification sheets shall contain, in the order shown, all items listed in clause 4 which are relevant to the machine being described.

4 Information to be included in the specification sheets

The following table defines, for each parameter, the number and name of the parameter and a short description of the entry. These constitute the information to be included in the specification sheet.

The heading of the specification sheet shall indicate that it has been prepared in accordance with this International Standard. The numbers and headings of the table in clause 4 shall be used. Not applicable parameters may be ignored, without changing the number of other parameters.

The "Remarks and examples" column is provided for the persons who prepare the information sheet, and it is not intended to appear in the specification sheet.

Whenever a capacity is given in sheets, the reference paper weight shall be specified.

Parameter	Description of the entry	Remarks and examples
1 General data		
1.1 Machine name, model and/or model number	Product name, model number.	
1.2 Type		State if the machine is console, desk-top, portable.
1.3 Type of platen	Moving or stationary.	If moving, state the maximum permissible weight on the platen. If no platen is provided, and the original is to be fed into the machine, indicate "feed-through type".
2 Copying method		
2.1 Imaging method	Digital, analogue or hybrid.	State if imaging method is analogue or digital or possibly a hybrid involving characteristics of both analogue and digital.
2.2 Copying process		Electrostatic process, electrophotographic process, direct or indirect method, ink-jet, thermal transfer.
2.3 Developing process		Wet process, dry process, type of developer (mono or dual components).
2.4 Fusing or fixing system		Heat roller fusing, flash fusing, heat and pressure fusing. Not applicable in the case of wet developing process.
2.5 Type of photoreceptor		Selenium, organic material. Applicable only for indirect electrostatic process.
3 Colour copying		
3.1 Monochrome	Available / not available.	Specify black or alternate single colours.

Parameter	Description of the entry	Remarks and examples
3.2 Multi-colour	Available / not available.	Also known as functional colour, spot colour, highlight or accent colour. Indicate if colour can be added to a copy, or changed across a copy. State the number of discrete colours that can be reproduced by colorants residing in the machine.
3.3 Full colour	Available / not available.	State if the machine can reproduce full colour originals, continuous tone, half-tone or both.
4 Copying margins	In millimetres, from the top, bottom, left and right edges of the paper.	Indicates the areas in which copying is not possible.
5 Performance data		
5.1 Copying speed	Number of copies per minute.	Continuous copying, A4 paper size, 1:1 magnification, steady state. If the copy speed varies with the copy size, specify the speed for minimum and maximum copy size. Specify for monochrome and colour if different.
5.2 First copy-out time	In seconds.	Time from the "copy" command to completing delivery of the first copy. Same conditions as in 5.1. State if time corresponds to document on platen or to automatic document handling device.
5.3 Warm-up time	1) Time in minutes and/or seconds from power up to ready state. 2) Time in minutes and/or seconds from power saver mode to ready state.	Measured at a room temperature of 18 °C to 25 °C. If the machine is pre-heated, this should be indicated.
5.4 Recommended monthly copy volume	Number of copies per month.	Manufacturers recommended range of use.

Parameter	Description of the entry	Remarks and examples
5.5 Halftone performance		
5.5.1 Monochrome	Available/not available.	State if the machine can produce monochrome halftones from continuous-tone originals.
5.5.1.1 Screen rulings	Express in lines per millimetre or equivalent.	State the screen ruling or range of screen rulings available.
5.5.2 Colour	Available/not available.	State if the machine can produce colour halftones from continuous-tone originals.
5.5.2.1 Screen rulings	Express in lines per millimetre or equivalent.	State the screen ruling or range of screen rulings available.
6 Characteristics of the originals		
6.1 Acceptable type		Sheets, books, computer forms.
6.2 Maximum sizes	Indicate the applicable standard or give dimensions in millimetres.	A sizes, B sizes, North American sizes. Indicate if the accepted size is different for sheets and books.
7 Input document handling		Refers to "on line" capability integrated with the copier.
7.1 Document handler type	Name.	State if automatic re-circulating (pre-collating), automatic feeding (post-collating), or semiautomatic positioning (single sheet or stream feed).
7.2 Loading (ordering and user aspects)	Specify ordering and user aspects.	State if originals are loaded in natural reading order, and face-up or face-down.
7.3 Original sizes	Minimum and maximum. Indicate applicable standard or give dimensions in millimetres. Specify ability to handle mixed sizes.	A sizes, B sizes, North American sizes; mixed sizes available or unavailable.

Parameter	Description of the entry	Remarks and examples
7.4 Paper weight	Minimum and maximum in g/m ² .	State restrictions on weight of originals.
7.5 Capacity	Number of originals stackable in the handler.	
7.6 Original exchange speed	Sheets per minute.	Specify the exchange speed of A4 originals when one 1:1 copy is made of each A4 original in succession.
7.7 Duplex originals	Yes/no/optional.	Specify any restriction.
7.8 Computer forms feeding	Available/not available; automatic feed or single sheet.	
7.9 Automatic size and position sensing	Standard/optional.	Specify if correct copy paper size for 1:1 reproduction is available and automatically selected; if correct paper size unavailable, is a user warning provided.
8 Output material		
8.1 Paper type required		Plain, coated, thermal paper.
8.2 Special material		Transparent sheets, labels, envelopes and recycled paper.
8.3 Paper size		
8.3.1 Paper in sheet	Available/not available. Minimum and maximum. Indicate the applicable standard or give dimensions in millimetres.	A sizes, B sizes, North American sizes.
8.3.2 Paper in rolls	Available/not available. Width, maximum and minimum in millimetres; length in metres; diameter of the roll, in millimetres.	Indicate if length is manually pre-selectable (maximum and minimum); and if the paper is cut automatically to length of original.
8.4 Paper weight	Minimum and maximum in g/m ² .	Specify if for sheet or roll. Specify if for single copy, duplex mode or both.

Parameter	Description of the entry	Remarks and examples
9 Paper handling		
9.1 Paper supply device	Manual, cassette, tray, drawer.	Indicate which feeding systems are standard and which are optional.
9.2 Paper supply capacity	Number of sheets for each paper supply device.	
9.3 Paper feed direction	Long edge feed or short edge feed.	Indicate the paper size.
10 Output copy handling		Refers to "in line" capability integrated with the copier.
10.1 For machines which post-collate copied sets		
10.1.1 Sorter	Standard/optional/not available.	
10.1.1.1 Acceptable paper sizes	Minimum and maximum. Indicate the applicable standard name and/or give dimensions in millimetres.	A sizes, B sizes, North American sizes.
10.1.1.2 Number of bins		Indicate if non-sort bin is provided.
10.1.1.3 Bin capacity	Number of sheets in each bin.	
10.1.1.4 Stapling	Standard/optional/not available.	Refers to in-bin capability.
10.1.1.4.1 Capacity	Maximum number of staples.	
10.1.1.4.2 Set size	Maximum number of pages per stapled set.	
10.2 For machines which pre-collate copied sets		State which capabilities can be provided together.
10.2.1 Output catch tray	Standard/optional/not available.	
10.2.1.1 Paper sizes	Maximum and minimum standard sizes. Indicate the applicable standard or give dimensions in millimetres.	A sizes, B sizes, North American sizes.
10.2.1.2 Capacity	Maximum number of sheets.	

Parameter	Description of the entry	Remarks and examples
10.2.1.3 Offsetting capability (shifting)	Standard/optional/not available. If available, minimum offset distance between sets in millimetres.	Allows physical separation of copied sets.
10.2.2 Stacker	Standard/optional/not available.	
10.2.2.1 Paper sizes	Maximum and minimum standard sizes. Indicate the applicable standard or give dimensions in millimetres.	A sizes, B sizes, North American sizes.
10.2.2.2 Capacity	Maximum number of sheets.	
10.2.3 Stapler	Standard/optional/not available.	
10.2.3.1 Capacity	Maximum number of staples.	
10.2.3.2 Set size	Maximum number of pages for stapled set.	
10.2.3.3 Offsetting capability (shifting)	Standard/optional/not available. If available, minimum offset distance between sets in millimetres.	Allows physical separation of copied sets.
10.2.4 Folder	Standard/optional/not available.	
10.2.4.1 Paper sizes	Maximum and minimum standard sizes. Indicate the applicable standard or give dimensions in millimetres.	A sizes, B sizes, North American sizes.
10.2.4.2 Set size	Maximum number of folded sets.	
10.2.4.3	Types of fold.	State z-fold, signature, etc.
10.2.5 Binder	Standard/optional/not available.	Indicate details.
10.2.5.1 Process	Describe or name.	On-line, hot or cold, wet or dry.

Parameter	Description of the entry	Remarks and examples
10.2.5.2 Paper sizes	Maximum and minimum standard sizes. Indicate the applicable standard or give dimensions in millimetres.	A sizes, B sizes, North American sizes.
10.2.5.3 Set size	Maximum number of bound sets.	
10.2.6 Other capabilities		State other finishing capabilities, e.g. insertion, shrink wrap, punching, drilling, stitching, etc.
11 Reduction/enlargement		
11.1 Possible reduction	Minimum copy size as a percent of the original.	Indicate if in discrete steps and/or continuous.
11.2 Possible enlargement	Maximum copy size as a percent of the original.	Indicate if in discrete steps and/or continuous.
11.3 Precision of 1:1 ratio	Percent deviation between original and copy dimensions.	Indicate for the paper feeding direction and the perpendicular direction.
12 Manufacturer-declared copying features		
12.1 Duplex copying	Available/not available/optional.	
12.2 Others		List available copying features (automatic paper size selection, automatic magnification selection, trimming, masking, page separation copying, image density control, job interrupt).
13 Maximum pre-selectable number of copies	Number of copies.	Specify any continuous use limitations.
14 Physical characteristics		
14.1 Dimensions	Width x depth x height (all expressed in centimetres or millimetres).	Indicate if it is the envelope around or if trays, knobs etc. are not included.

Parameter	Description of the entry	Remarks and examples
14.2 Space required - operation	Width x depth (both expressed in centimetres or millimetres).	Varies with options. This parameter includes space for operator functions such as paper handling and jam removal. Indicate if it is with or without accessories.
14.3 Space required - maintenance	Width x depth (both expressed in centimetres or millimetres).	The parameter includes space for access to all service areas and the use of required tools. Indicate if it is with or without accessories.
14.4 Weight	Installed weight in kilograms.	Indicate if it is with or without accessories. For console machines, indicate if the machine is with wheels or rollers.
15 Operating environment	Minimum and maximum ambient temperature, and related range of relative humidity.	This indication is intended to give the user a guide to the expected machine operating environment.
16 Power source	Power rating plate as per IEC 950.	
16.1 Rated voltage or voltage range	Expressed in volts.	Indicate if AC or DC. AC power: indicate the number of phases. DC power: indicate if built-in battery. Indicate tolerances.
16.2 Rated frequency or frequency range	Expressed in hertz.	For AC power only. Indicate tolerance.
16.3 Current	Maximum current in amperes.	Indicate if special mains fuses are required. Specify for both basic and maximum configuration.
16.4 Power	Maximum power in kilowatts - operating - standby.	Indicate the value at the rated input voltage.

Parameter	Description of the entry	Remarks and examples
16.5 Power consumption	Power consumption in kilowatts - operating - standby - power saver mode.	For operating mode, indicate the average power consumption for continuous copying on A4 paper, 1:1 ratio, of a document with 4 % to 7 % coverage. Useful for estimating air conditioning requirements.
17 Safety		
17.1 Safety regulations	Applicable standards.	Indicate the applicable national deviations.
17.2 Safety data sheets	Available/not available.	Indicate the possible hazardous material and the way to dispose of it, if required.
18 Electromagnetic compatibility (EMC)	Applicable standards.	Emission and susceptibility to be considered.
19 Emissions		
19.1 Acoustical noise	Sound power levels and sound pressure levels.	Measured according to ISO 7779 and ISO 9295. Declared according to ISO 9296. Specify for basic and maximum configuration.
19.2 Heat emission		Can be derived from power consumption.
20 Consumable supplies		Customer replacement and material reclaiming dispositions: List the consumable items and the packaging.
21 Optional equipment		Peripheral equipment that changes the functionality of the machine (e.g. a sorter, a document handler, a 35 mm slides projector, a fanfold paper feeder).
22 Accessory equipment		Peripheral equipment that does not change the functionality of the machine (e.g. paper cabinet).

Parameter	Description of the entry	Remarks and examples
23 Others	An entry category for the supplier to highlight features or functionality that does not fit in any of the previous listed parameters.	Remote diagnostic capability, user interfaces, connectivity from a communication perspective.

5 Additional information

All the data listed in the specification sheet of clause 4 shall be measured at a temperature of 18 °C to 25 °C with a relative humidity of 30% to 70%, at the rated input voltage and rated frequency.

When weight of paper (g/m²) is given, it is assumed that the paper has been conditioned in the standard atmosphere defined in ISO 3066 (temperature 20 °C ± 2 °C; relative humidity 60 % to 70 %).

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Annexe A

(informative)

Bibliography

- [1] ISO 216:1975, *Writing paper and certain classes of printed matter – Trimmed sizes – A and B series.*
- [2] ISO 825:1984, *Radiation safety of laser products, equipment classification, requirements and user's guide.*

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