



BSI Standards Publication

Medical suction equipment

Part 1: Electrically powered suction equipment

National foreword

This British Standard is the UK implementation of EN ISO 10079-1:2015+A1:2019. It is identical to ISO 10079-1:2015, incorporating amendment 1:2018. It supersedes BS EN ISO 10079-1:2015, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment A1 is indicated by A1 A1.

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A list of organizations represented on this committee can be obtained on request to its secretary.

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28 February 2019	Implementation of ISO amendment 1:2018 with CEN endorsement A1:2019

English Version

Medical suction equipment - Part 1: Electrically powered suction equipment (ISO 10079-1:2015)

Appareils d'aspiration médicale - Partie 1: Appareils
électriques d'aspiration (ISO 10079-1:2015)

Medizinische Absauggeräte - Teil 1: Elektrisch
betriebene Absauggeräte (ISO 10079-1:2015)

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European foreword

This document (EN ISO 10079-1:2015) has been prepared by Technical Committee ISO/TC 121 "Anaesthetic and respiratory equipment" in collaboration with Technical Committee CEN/TC 215 "Respiratory and anaesthetic equipment" the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by May 2016, and conflicting national standards shall be withdrawn at the latest by November 2018.

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.

This document supersedes EN ISO 10079-1:2009.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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Endorsement notice

The text of ISO 10079-1:2015 has been approved by CEN as EN ISO 10079-1:2015 without any modification.

Foreword to amendment A1

This document (EN ISO 10079-1:2015/A1:2019) has been prepared by Technical Committee ISO/TC 121 "Anaesthetic and respiratory equipment" in collaboration with Technical Committee CEN/TC 215 "Respiratory and anaesthetic equipment" the secretariat of which is held by BSI.

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 July 2019, and conflicting national standards shall be withdrawn at the latest by July 2019.

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Endorsement notice

The text of ISO 10079-1:2015 has been approved by CEN as EN ISO 10079-1:2015 without any modification.

Annex ZA (informative)

Relationship between this European Standard and the essential requirements of Directive 93/42/EEC [OJ L 169] aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/023 concerning the development of European Standards related to medical devices to provide one voluntary means of conforming to essential requirements of Council Directive 93/42/EEC of 14 June 1993 concerning medical devices [OJ L 169].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

NOTE 1 Where a reference from a clause of this standard to the risk management process is made, the risk management process needs to be in compliance with Directive 93/42/EEC as amended by 2007/47/EC. This means that risks have to be reduced 'as far as possible', 'to a minimum', 'to the lowest possible level', 'minimized' or 'removed', according to the wording of the corresponding essential requirement.

NOTE 2 The manufacturer's policy for determining acceptable risk must be in compliance with Essential Requirements 1, 2, 5, 6, 7, 8, 9, 11 and 12 of the Directive.

NOTE 3 When an Essential Requirement does not appear in Table ZA.1, it means that it is not addressed by this European Standard.

Table ZA.1 — Correspondence between this European Standard and Annex I of Directive 93/42/EEC [OJ L 169]

Essential Requirements of Directive 93/42/EEC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
7.1 Third indent only	4.4	
7.2	5; 7.5	Partly covered There are no requirements for packaging.
7.3 First part only	6.1.3	
7.6	6.2.3; 6.5; 7.5.1; 7.5.2	
8.1	4.2; 5; 7.5.1	
8.7	11.3 c)	
9.1 First sentence only	6.2; 6.3	
9.2	4; 6.1.3	Partly covered Electrical safety is by ref to IEC 60601-1 and risk management by ref to ISO 14971.

Essential Requirements of Directive 93/42/EEC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
10.1	6.4.6	Partly covered. There are no requirements for the manufacturer to disclose the accuracy of the vacuum level indicator.
10.2	6.4	
10.3	11.3 i)	Covered for volume measurements only
12.1	4	Covered by ref to IEC 60601-1
12.1a)	4	Covered by ref to IEC 60601-1
12.2	4	Covered by ref to IEC 60601-1 although suction equipment is not considered life-support equipment.
12.5	4	Covered by ref to IEC 60601-1 and thereby to IEC 60601-1-2
12.6	4; 6.5	Covered by ref to IEC 60601-1
12.7.1	6.1.3; 7.4	
12.7.2	4	Covered by ref to IEC 60601-1
12.7.3	7.6	
12.7.4	4	Covered by ref to IEC 60601-1
12.7.5	4	Covered by ref to IEC 60601-1
12.8.2 Second sentence only	7.5.3.2	
12.9	11.3 i); j); k); l); m); n); o); p); q); r)	
13.1	11	
13.2	11.2	
13.3a)	11.3 a)	
13.3b)	11.3 b)	
13.3c)	11.3 c)	
13.3d)	11.3 d)	
13.3e)	11.3 e)	
13.3 f)	11.3 f)	
13.3 k)	11.4 c); q); y)	
13.3 l)	11.3 d)	
13.3 m)	11.4 i)	
13.4	11.4 b)	
13.6 a)	11.4	Not covered for the requirement of ER 13.3b)
13.6 b)	11.4 d); e)	

Essential Requirements of Directive 93/42/EEC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
13.6 c)	11.4 d) ;k)	
13.6 d)	11.4 d); j); v)	Calibration is not covered
13.6 f)	11.4 x)	
13.6 h) First two paragraphs only	11.4 i)	
13.6 i)	11.4 j)	
13.6 q)	11.4 z)	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the products falling within the scope of this standard.

Contents

Page

Foreword	ix
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 General requirements	4
4.1 Risk management	4
4.2 Usability	5
4.3 Clinical investigation	5
4.4 Biophysical or modelling research	5
4.5 Test methods	5
5 Cleaning, disinfection and sterilization	5
6 Design requirements	6
6.1 Collection container	6
6.1.1 General	6
6.1.2 Container capacity	6
6.1.3 Container strength	6
6.2 Connections	6
6.2.1 Tubing connectors for collection containers	6
6.2.2 Inlet port	7
6.2.3 Exhaust port	7
6.3 Suction tubing	7
6.4 Vacuum level indicators	7
6.5 Spillage on electrical suction equipment	8
7 Operational requirements	8
7.1 Ease of operation	8
7.2 Dismantling and reassembly	8
7.3 Mechanical shock	8
7.4 Stability	9
7.5 Protective devices	9
7.5.1 Contamination protection	9
7.5.2 Overfill protection devices	9
7.5.3 Pressure protection	9
7.6 Noise	9
7.6.1 Low vacuum/low flowrate equipment	9
7.6.2 Suction equipment other than that specified in 7.6.1	9
7.7 Air leakage	10
7.7.1 Collection containers for general use	10
7.7.2 Collection containers for thoracic drainage	10
8 Physical requirements for suction equipment for field use	10
8.1 (*) Dimensions	10
8.2 Mass	10
9 Performance requirements for vacuum level and flowrate	10
9.1 High vacuum/high flowrate equipment	10
9.2 Medium vacuum equipment	11
9.3 Low vacuum/low flowrate equipment	11
9.4 Low vacuum/high flowrate equipment	11
9.5 Thoracic drainage equipment for adults	11
9.6 Intermittent vacuum equipment	11
9.7 Vacuum regulators with fixed setting	11
9.8 Vacuum regulators with variable setting	12
9.9 Equipment intended for pharyngeal suction	12

9.10	Battery powered transportable suction equipment.....	12
9.11	Interruption of the power supply.....	12
10	(*) Resistance to environment of suction equipment for field and/or transport use.....	12
10.1	Operating conditions.....	12
10.2	Storage.....	12
11	Information to be supplied by the manufacturer (labelling and instructions for use).....	13
11.1	Information supplied by the manufacturer shall comply with EN 1041.....	13
11.3	Labelling of equipment.....	13
11.4	Instructions for use.....	14
Annex A (normative) Test methods.....		16
Annex B (informative) Rationale statement.....		27
Annex C (informative) Lumen size and its effect on flowrate.....		28
Annex D (informative) Schematic of suction equipment.....		29
Bibliography.....		30

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 121, *Anaesthetic and respiratory equipment*, Subcommittee SC 8, *Suction devices for hospital and emergency care use*.

This third edition cancels and replaces the second edition (ISO 10079-1:1999), which has been technically revised.

ISO 10079 consists of the following parts, under the general title *Medical suction equipment*:

- *Part 1: Electrically powered suction equipment*
- *Part 2: Manually powered suction equipment*
- *Part 3: Suction equipment powered from a vacuum or positive pressure gas source*

[Annex A](#) forms a normative part of this part of ISO 10079 while [Annex B](#), [Annex C](#), and [Annex D](#) are for information only.

[Annex B](#) contains rationale statements for some of the requirements of this part of ISO 10079. The clauses and subclauses marked with an asterisk (*) at the beginning of the paragraph have corresponding rationale contained in [Annex B](#) included to provide additional insight into the reasoning that led to the requirements and recommendations that have been incorporated into this part of ISO 10079. It is considered that knowledge of the reasons for the requirements will not only facilitate the proper application of this part of ISO 10079, but will expedite any subsequent revisions.

[Annex D](#) illustrates the three parts of ISO 10079 by providing a schematic for typical systems.

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Medical suction equipment —

Part 1:

Electrically powered suction equipment

1 Scope

This part of ISO 10079 specifies safety and performance requirements for electrically powered medical and surgical suction equipment. It applies to equipment used in health care facilities such as hospitals, for domiciliary care of patients and for field and transport use.

This part of ISO 10079 does not apply to the following:

- a) central power supply (by vacuum/compressed air generation), piping systems of vehicles and buildings, and wall connectors;
- b) end-pieces such as suction catheters, drains, curettes, Yankauer suckers and suction tips;
- c) syringes;
- d) dental suction equipment;
- e) anaesthetic gas scavenging systems;
- f) laboratory suction;
- g) autotransfusion systems;
- h) mucus extractors including neonatal mucus extractors;
- i) suction equipment where the collection container is downstream of the vacuum pump;
- j) ventouse (obstetric) equipment;
- k) suction equipment marked for endoscopic use only;
- l) plume evacuation systems.

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.

ISO 3744, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane*

ISO 5356-1, *Anaesthetic and respiratory equipment — Conical connectors — Part 1: Cones and sockets*

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*¹⁾

ISO 14155, *Clinical investigation of medical devices for human subjects — Good clinical practice*

ISO 14971, *Medical devices — Application of risk management to medical devices*

1) The graphical symbol collections of ISO 7000, ISO 7001, and ISO 7010 are also available on the Online Browsing Platform <http://www.iso.org/obp>.

ISO 15223-1, *Medical devices — Symbols to be used with medical device labels, labelling and information to be supplied — Part 1: General requirements*

ISO 80369 (all parts), *Small-bore connectors for liquids and gases in healthcare applications*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60601-1:2005+A1:2012, *Medical electrical equipment — Part 1: General requirements for safety*

IEC 60601-1-6, *Medical electrical equipment — Part 1-6: General requirements for basic safety and essential performance — Collateral standard: Usability*

IEC 60601-1-11:2010, *Medical electrical equipment — Part 1-11: General requirements for basic safety and essential performance — Collateral Standard: Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment*

IEC 60601-1-12:2014, *Medical electrical equipment — Part 1-12: General requirements for basic safety and essential performance — Collateral Standard: Requirements for medical electrical equipment and medical electrical systems intended for use in the emergency medical services environment*

IEC/TR 60878, *Graphical symbols for electrical equipment in medical practice*

IEC 61672-1, *Electroacoustics - Sound level meters — Part 1: Specifications*

IEC 62366, *Medical devices — Application of usability engineering to medical devices*

EN 1041, *Information supplied by the manufacturer of medical devices*

3 Terms and definitions

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

3.1 collection container

container in which liquids and solid particles are collected

3.2 drainage

removal of liquid, solid particles or gas from a body cavity or wound

3.3 end-piece

part of the suction equipment applied to the patient which begins at the site where material is drawn in and ends at the first detachable connection

Note 1 to entry: Examples of commonly used end-pieces are a Yankauer sucker and a suction catheter.

3.4 exhaust port

opening through which exhaust gas is discharged

3.5 field use

use of suction equipment in situations outside of the health care facility and home environment

3.6 filter

device for retention of particulate matter

3.7 free air flowrate

rate of unrestricted flow of air through a designated inlet