INTERNATIONAL STANDARD

ISO 9902-5

First edition
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Textile machinery — Noise test code —

Part 5: Weaving and knitting preparatory machinery

Matériel pour l'industrie textile — Code d'essai acoustique —

Partie 5: Machines de préparation au tissage et au tricotage

Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this part of ISO 9902 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 9902-5 was prepared by Technical Committee ISO/TC 72, *Textile machinery and machinery for dry-cleaning and industrial laundering*, Subcommittee SC 8, *Safety requirements for textile machinery*.

This first edition of ISO 9902-5, together with ISO 9902-1, ISO 9902-2, ISO 9902-3, ISO 9902-4, ISO 9902-6 and ISO 9902-7, cancels and replaces ISO 9902:1993, which has been technically revised.

ISO 9902 consists of the following parts, under the general title *Textile machinery — Noise test code*:

— *Part 1: Common requirements*

— *Part 2: Spinning preparatory and spinning machinery*

— *Part 3: Nonwoven machinery*

— *Part 4: Yarn processing, cordage and rope manufacturing machinery*

— *Part 5: Weaving and knitting preparatory machinery*

— *Part 6: Fabric manufacturing machinery*

— *Part 7: Dyeing and finishing machinery*

Textile machinery — Noise test code —

Part 5:
Weaving and knitting preparatory machinery

1 Scope

This part of ISO 9902, taken together with ISO 9902-1, specifies the mounting, operating and measuring conditions required for the measurement, declaration and verification of noise emitted by weaving and knitting preparatory machinery.

It is applicable to engineering (grade 2) and survey (grade 3) methods, in accordance with the International Standards to which it makes normative reference, and to machines of different types used as defined in ISO 2544 for warping, beaming and sizing.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 9902. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 9902 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 2544, *Textile machinery and accessories — Warping machinery — Preparation of warp for weaving — Vocabulary.*

ISO 3744:1994, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane.*

ISO 3746:1995, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane.*

ISO 3747:2000, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Comparison method for use* in situ*.*

ISO 9614-1:1993, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 1: Measurement at discrete points.*

ISO 9614-2:1996, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 2: Measurement by scanning.*

ISO 9902-1:2001, *Textile machinery — Noise test code — Part 1: Common requirements.*

ISO 11201:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Engineering method in an essentially free field over a reflecting plane.*

ISO 11202:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Survey method* in situ*.*

ISO 11204:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Method requiring environmental corrections.*

3 Terms and definitions

For the purposes of this part of ISO 9902, the terms and definitions given in ISO 9902-1 apply.

4 Defining the test object

See Table 1 of this part of ISO 9902 and clause 4 of ISO 9902-1:2001.

5 Sound power level determination

5.1 International Standards required for basic measurements

5.1.1 General

See 5.1 of ISO 9902-1:2001.

5.1.2 Determination by measuring sound intensity

Determination of the A-weighted sound power level, L_{WA}, using sound intensity measurements shall be in accordance with ISO 9614-1 (discrete points) or ISO 9614-2 (scanning).

5.1.3 Determination using emission sound pressure levels on a measurement surface

Determination of the A-weighted sound power level, L_{WA}, by measurement of A-weighted emission sound pressure levels on a prescribed measurement surface shall be in accordance with one of the following:

— ISO 3744,

— ISO 3747, or

— ISO 3746, but only where use of ISO 3744 or ISO 3747 is not practicable.

5.2 Very large machines

See 5.2 of ISO 9902-1:2001. Very large machines are designated by the letter “L” in Table 1 of this part of ISO 9902.

6 Emission sound pressure level determination

6.1 International Standards required for basic measurements

See 6.1 of ISO 9902-1:2001.

The A-weighted emission sound pressure level, L_{pA}, shall be determined in accordance with one of the following:

— ISO 11201,

— ISO 11204, or

— ISO 11202, but only where use of ISO 11201 or 11204 is not practicable.

6.2 Selection of work station and other specified positions

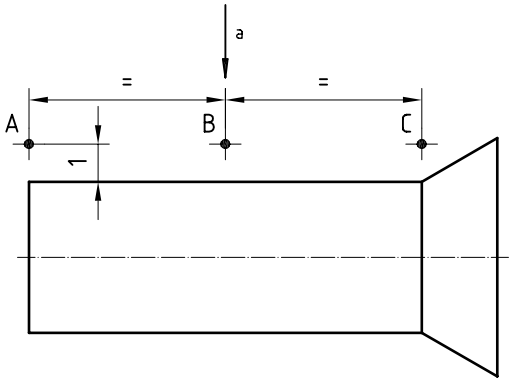
See 6.2 of ISO 9902-1:2001.

Three options, designated d), e) and f)[1)], are used to define a work station for wearing and knitting preparatory machinery. For each machine family, select the option indicated in Table 1.

d) This option consists of several positions on a measurement line around the machine at a distance of 1 m from the surface of the machine and a height of 1,6 m above the floor or working platform. Where a centreline can be defined, both intersections between the centreline and the measurement line shall serve as measurement positions. In addition, sufficient further measurement positions equally spaced around the measurement line shall be used to ensure that the distance between any adjacent measurement positions does not exceed 2 m.

e) This option consists of three measurement positions at a height of 1,6 m on the feed side, as shown in Figure 1.

Dimensions in metres



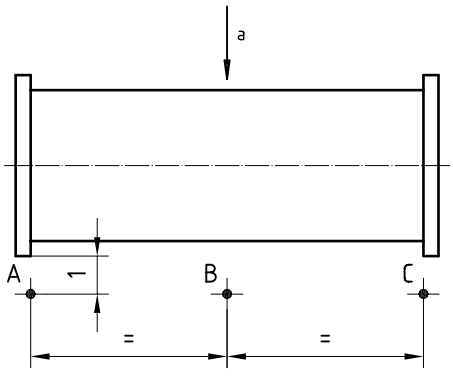
A, B and C are the measurement positions.

a Warp thread entry.

Figure 1 — Option e)

f) This option consists of three positions opposite the feed side, as shown in Figure 2.

Dimensions in metres



A, B and C are the measurement positions.

a Warp thread entry.

Figure 2 — Option f)

1) Continues the numeration begun in clause 4 of ISO 9902-1:2001.

For each of the three options, L_{pA} shall be calculated from the values measured at the defined positions (see 6.1 of ISO 9902-1:2001).

7 Installation and mounting conditions

See clause 7 of ISO 9902-1:2001.

8 Operating conditions

See clause 8 of ISO 9902-1:2001 and Table 1 of this part of ISO 9902.

9 Measurement uncertainties

See clause 9 of ISO 9902-1:2001.

10 Information to be recorded

See clause 10 of ISO 9902-1:2001.

11 Information to be reported

See clause 11 of ISO 9902-1:2001. The information required to be reported includes that contained in Table 1 of this part of ISO 9902.

12 Declaration and verification of noise emission values

See clause 12 of ISO 9902-1:2001.

Table 1 — Measurement conditions for weaving and knitting preparatory machinery

Machine family	**Test object definition** (see clause 4)				**Very large machinery** L (5.2)	**Work station** (see 6.2)	**Operating conditions** (see ISO 9902-1:2001, clause 8)		
	Equipment included for the test if applicable	Equipment excluded from the test[a]	Machine configuration (see ISO 9902-1:2001, clause 4)	Design features to be reported			Prescribed parameters	Variable parameters	Parameters to be reported
Section warping machine (warping process)	—	creel with non-rotating packages	b)	maximum warping speed in metres per minute diameter of the drum in millimetres usable width in millimetres type of drive (e.g. hydraulic, electric)	—	e)	without material	warping speed in metres per minute	—
Section warping machine (beaming process)	—	creel	b)	maximum beaming speed in metres per minute maximum beaming tension in centinewtons diameter of the beam tube in millimetres type of drive (e.g. hydraulic, electric) warp beam (shaft driven or contact drum driven)	—	f)	without material	beaming speed in metres per minute	—
Direct beaming machine and direct warping machine	—	creel with non-rotating packages	a)	maximum beaming speed in metres per minute beam flange diameter in millimetres diameter of the beam tube in millimetres usable width in millimetres type of drive (e.g. hydraulic or electric) beam (shaft-driven or contact drum driven)	—	f)	with material approx. 10 mm thickness of material	beaming speed in metres per minute	material data single thread tension in centinewtons total number of threads contact load of the drive roller or press roller in newtons

Table 1 *(continued)*

Machine family	**Test object definition** (see clause 4)				**Very large machinery** L (5.2)	**Work station** (see 6.2)	**Operating conditions** (see ISO 9902-1:2001, clause 8)		
	Equipment included for the test if applicable	Equipment excluded from the test[a]	Machine configuration (see ISO 9902-1:2001, clause 4)	Design features to be reported			Prescribed parameters	Variable parameters	Parameters to be reported
Sizing machine	—	feeding device (beam rack or creel)	a)	maximum beaming speed in metres per minute diameter of the beam tube in millimetres flange diameter in millimetres usable width in millimetres type of drive (e.g. hydraulic, electric)	L	d)	with material approx. 10 mm thickness of material	beaming speed in metres per minute	material data single thread tension in centinewtons total number of threads contact load of the press roller in newtons
Creel with rotating yarn packages	—	associated machine	c)	—	L	d)	with material packages approx. half-full	off running speed in metres per minute	package diameter in millimetres package weight in kilograms

[a] However, such equipment may be necessary for running the machine with material.

ICS 17.140.20; 59.120.30; 59.120.40

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