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Textile machinery — Draw frame for cotton spinning — Vocabulary and principles of construction

Matériel pour l'industrie textile — Cadre pour la filature du coton — Vocabulaire et principes de construction

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Foreword

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The committee responsible for this document is ISO/TC 72, *Textile machinery and machinery and accessories*, Subcommittee SC 1, *Spinning preparatory, spinning, twisting and winding machinery and accessories*.

This second edition cancels and replaces the first edition (ISO 21485:2006), which has been technically revised.

Textile machinery — Draw frame for cotton spinning — Vocabulary and principles of construction

Scope

This International Standard establishes a vocabulary of terms related to, and the principles of construction of, draw frames and their components, used for cotton spinning in the textile industry.

NOTE 1 The draw frame design is not required to conform with the figures shown in this International Standard, which are given only as examples of the different types.

NOTE 2 In addition to terms used in English, one of the three official ISO languages, this International Standard gives the equivalent terms in German; these are published under the responsibility of the member body for Germany (DIN). However, only the terms and definitions given in the official language can be considered as ISO terms and definitions.

Terms and definitions

1 Basic terms

1.1
draw frame
textile machinery consisting of a *delivery unit* (1.3) employed to straighten and parallelize the fibres by drafting, to homogenize the sliver by means of *doubling* (4.1) and to blend and de-dust the fibres

1.2
autoleveller draw frame
textile machinery consisting of a *delivery unit* (1.3) employed to straighten and parallelize the fibres by drafting, to homogenize the sliver by *doubling* (4.1), to blend and de-dust, if applicable, the fibres and to compensate any measured deviation of the fibre mass by means of a variable draft superimposed on the nominal *draft* (4.2)

1.3
delivery unit
working point for filling a *sliver can* (3.1)

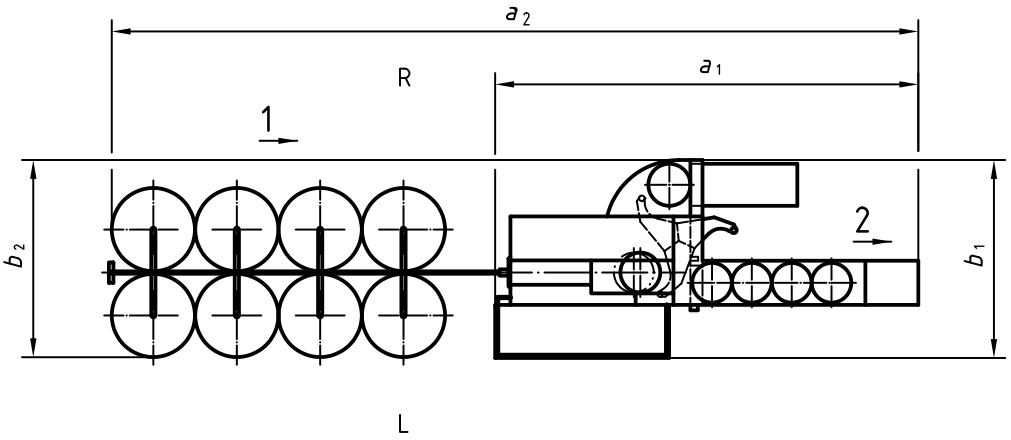
2 Machine sides, dimensions (see Figure 1)

2.1
right side
R
textile machine side located to the right as seen facing toward the direction of fibre flow

Note 1 to entry: See ISO 92.

2.2
left side
L
textile machine side located to the left as seen facing toward the direction of fibre flow

Note 1 to entry: See ISO 92.



Key

a_1 machine depth (without space requirement for deposited sliver cans)
a_2 overall machine depth (including space requirement for deposited sliver cans)
b_1 machine width (without space requirement for deposited sliver cans)
b_2 overall width (including space requirement for deposited sliver cans)
R right side
L left side
1 feed
2 delivery

Space requirement: $a_2 \times b_1$ for $b_2 \leq b_1$
$a_2 \times b_2$ for $b_2 > b_1$

Figure 1 — Machine sides, dimensions

3 Machine components (see Figures 2 and 3)

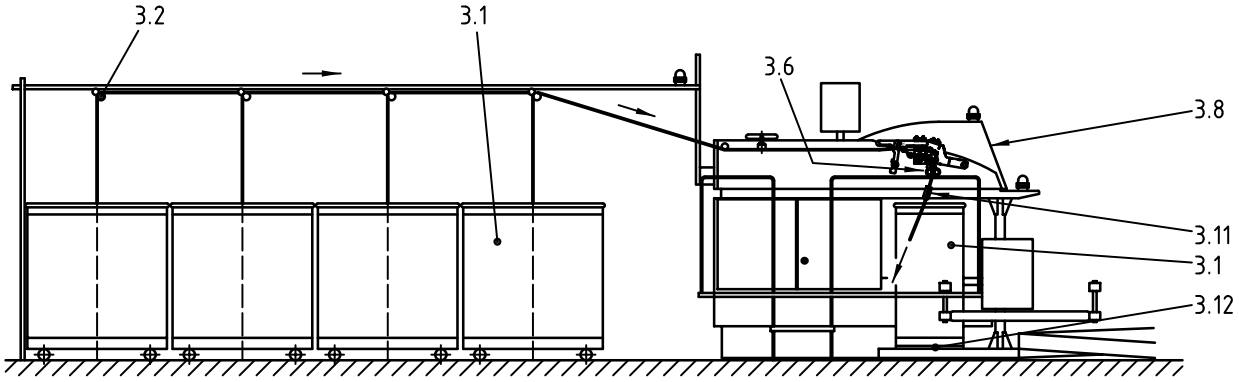


Figure 2 — Machine components (I)

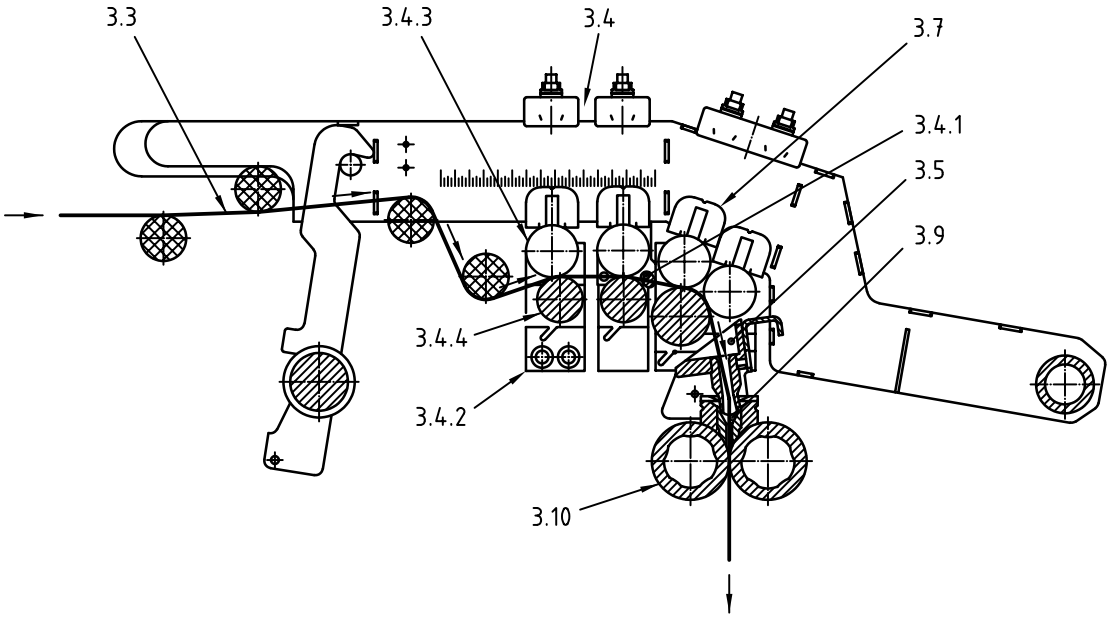


Figure 3 — Machine components (II)

3.1
sliver can
round or rectangular container for the deposit of card, comber or draw frame sliver

Note 1 to entry: Round sliver cans are defined in ISO 93-1 and ISO 93-2, rectangular cans in ISO 16853.

3.2
creel [feed]
positively driven rollers for pulling/feed sliver from the *sliver can* (3.1) or [and] static sliver guides

3.3
sliver guide
device for guiding slivers at the entry to the *drafting system* (3.4)

3.4
drafting system
device with several consecutive roller pairs running at increasing speeds and a *pressure bar* (3.4.1) to draft the infed sliver

3.4.1
pressure bar
static sliver guide component installed in the main drafting zone to guide floating fibres

3.4.2
roll bearing
bearing for the *bottom rollers* (3.4.4) in the *drafting system* (3.4)

3.4.3
top rollers
friction-driven or positively driven rollers, self-weighted or with additional load, resting on the bottom roller and gripping and carrying the sliver

[SOURCE: ISO 2205:1975]

3.4.4
bottom rollers
fluted, knurled or smooth rollers

[SOURCE: ISO 2205:1975]

3.5
web guide
device located at the exit of the *drafting system* (3.4) to guide the web into the *sliver funnel* (3.9)

3.6
drafting system support
drafting roller stand
base (e.g. of cast iron) on which the *drafting system* (3.4) is mounted

3.7
cleaning device with suction system
cleaner lips and wipers operating in conjunction with the suction system for cleaning measuring devices and other elements

3.8
drafting system hood
hood for covering the *drafting system* (3.4)

3.9
sliver funnel
device for compressing the sliver

3.10
draw rollers
positively driven roller pair for drawing off and compressing the sliver

3.11
coiler
deposit plate
device for depositing the drafted sliver into the *sliver can* (3.1)

3.12
can plate
device for supporting and rotating the *sliver can* (3.1)

4 Doubling and drafting

4.1
doubling
D
simultaneous feeding of several slivers in order to bring them near each other and compensate the deviation in the mass

4.2
draft
V
attenuation of a fibre structure consisting of one or more individual slivers gripped between pairs of rollers by drawing off at increasing speed, expressed by the relationship of delivery speed v_A to entry speed v_E (Example 1) or by the relationship of the entry sliver weight of the fibre structure Tt_E to its delivery sliver weight Tt_A (Example 2)

EXAMPLE 1 v_E = 60 m/min, v_A = 360 m/min: $V_{\text{drafting system}} = \frac{v_A}{v_E} = \frac{360}{60} = 6$

EXAMPLE 2 Tt_E of the individual slivers = 6 ktex, D = 6, Tt_A = 6 ktex: $V_{machine} = \frac{Tt_E \times D}{Tt_A} = \frac{6 \times 6}{6} = 6$

4.3
autoleveller
device for measuring and compensating sliver weight variations by superimposing a variable draft on the nominal *draft* (4.2) of the frame

Note 1 to entry: The desired change in draft to compensate sliver weight variations of the incoming slivers takes effect in the main drafting zone.

4.4
measuring instrument
device for continuously registering the sliver weight of the incoming slivers

4.5
actuator
device for calculating and implementing a control speed that effects a change in *draft* (4.2) in the main drafting zone and thus compensates the sliver weight variations of the incoming slivers