

---

---

**Circular knitting machines —  
Vocabulary**

*Métiers circulaires — Vocabulaire*

**iTeh STANDARD PREVIEW  
(standards.iteh.ai)**

[ISO 12912:2014](https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014)

<https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014>



**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

ISO 12912:2014

<https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2014

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Terms and definitions</b> .....	<b>1</b>
2.1 Terms for circular knitting machines.....	1
2.2 Terms for construction features of circular knitting machine (according to number and classification of needle carrier).....	2
2.3 Dimensions.....	5
2.4 Terms for rotation.....	8
2.5 Machine frame and drive.....	9
2.6 Stitch forming elements, holder for needles and other stitch forming elements.....	9
2.7 Needle control.....	11
2.8 Cam system.....	11
2.9 Yarn feed and monitoring system.....	15
2.10 Fabric take-down.....	15
2.11 Pattern equipment.....	17
2.12 Machine control system and monitoring.....	18
2.13 Lubrication and cleaning system, safety device and special attachments.....	18
<b>Bibliography</b> .....	<b>19</b>

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO 12912:2014](https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014)

<https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014>

## 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](http://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](http://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 72, *Textile machinery and accessories*, Subcommittee SC 3, *Machinery for fabric manufacturing including preparatory machinery and accessories*.

<https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014>

# Circular knitting machines — Vocabulary

## 1 Scope

This International Standard establishes a vocabulary of terms and a system of classification for circular knitting machines used in the textile industry for the production of weft-knitted fabrics.

NOTE See also the ISO online browsing platform (OBP): <https://www.iso.org/obp/ui/>

## 2 Terms and definitions

### 2.1 Terms for circular knitting machines

#### 2.1.1

##### **circular knitting machine**

machine for the production of knitted fabrics with independent needles, longitudinally movable, in circular arrangement, with stitches formed one after the other within every course from yarn fed crosswise to the length of the fabric

[SOURCE: ISO 7839:2005, 2.1.2]

Note 1 to entry: The circular knitting machine can be specified more precisely with the following details:

— model (e.g. small, large);

[ISO 12912:2014](https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014)

[https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-](https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014)

— construction features (e.g. single jersey, double jersey, plain interlock, purl);

— needle type (e.g. latch or slide needle);

— number of feeders (e.g. 48 stitch feeders);

— patterning mechanism (e.g. jacquard unit).

#### 2.1.2

##### **small-diameter circular knitting machine**

circular knitting machine with nominal diameter up to 165 mm

#### 2.1.3

##### **large-diameter circular knitting machine**

circular knitting machine with nominal diameter of over 165 mm

**2.2 Terms for construction features of circular knitting machine (according to number and classification of needle carrier)**

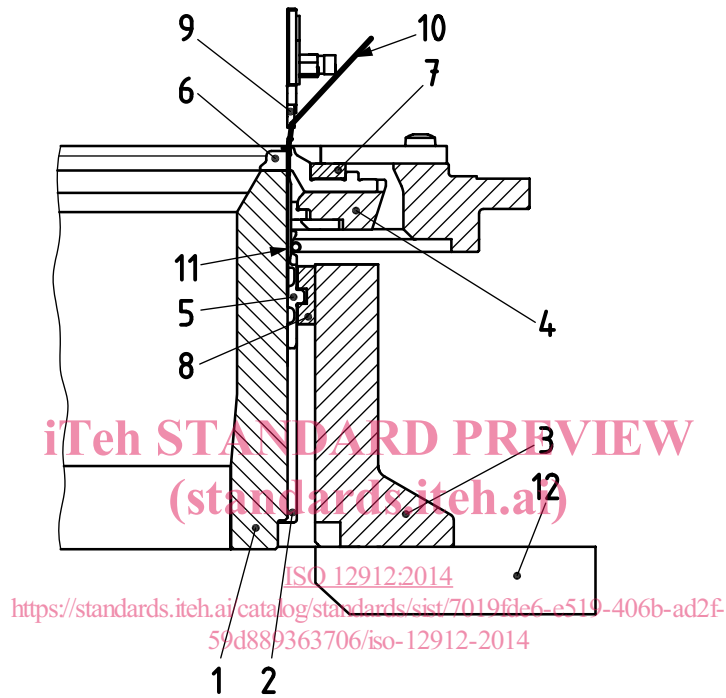
**2.2.1**

**RL circular knitting machine**

circular knitting machine for the production of single-face fabrics (RL) by means of needles arranged in grooves of one carrier

[SOURCE: ISO 7839:2005, 2.1.2.1]

Note 1 to entry: See [Figure 1](#).



**Key**

- |   |                  |    |                |
|---|------------------|----|----------------|
| 1 | needle cylinder  | 7  | sinker cam     |
| 2 | trick            | 8  | needle cam     |
| 3 | cylinder cam box | 9  | yarn guide     |
| 4 | sinker ring      | 10 | yarn           |
| 5 | needle           | 11 | holding spring |
| 6 | sinker           | 12 | cam box plate  |

**Figure 1 — RL circular knitting machine**

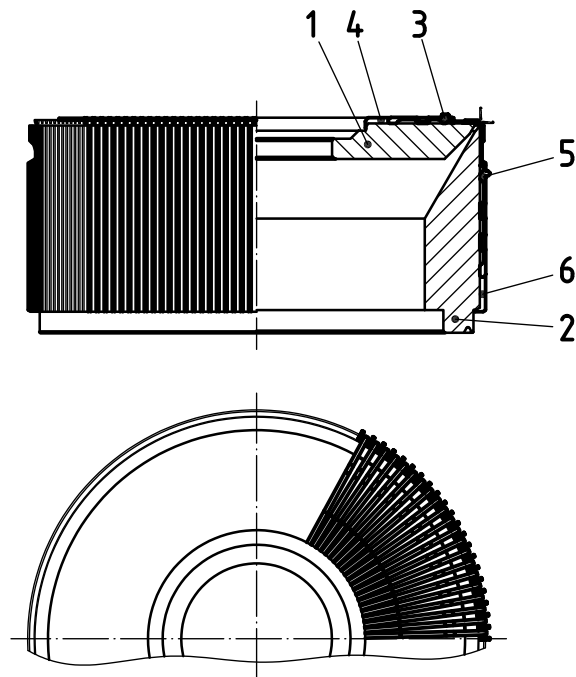
**2.2.2**

**RR circular knitting machine**

circular knitting machine, used mainly for the production of double-face fabrics (RR) by means of needles arranged in an axial direction in grooves of the needle cylinder and radially in grooves of the needle disc (dial) in staggered formation to one another

[SOURCE: ISO 7839:2005, 2.1.2.2]

Note 1 to entry: See [Figure 2](#).

**Key**

- 1 needle disc
- 2 needle cylinder
- 3 disc needle
- 4 trick
- 5 cylinder needle
- 6 trick

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

ISO 12912:2014

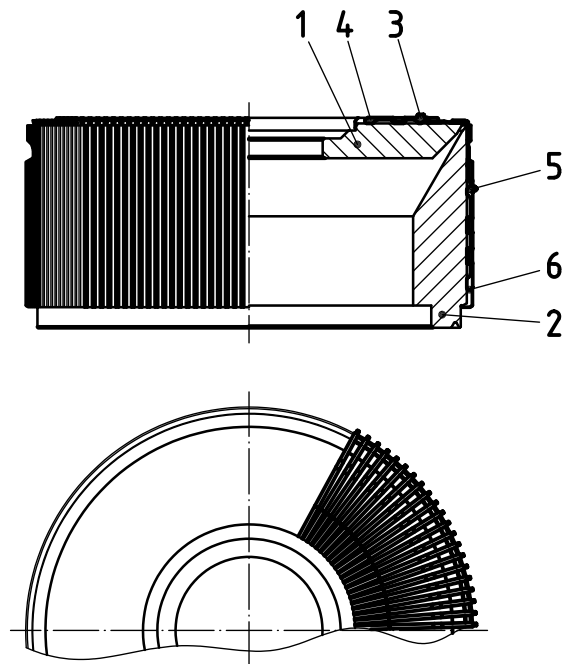
<https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014>

**Figure 2 — Construction features RR circular knitting machine**

**2.2.3****interlock circular knitting machine**

interlock knitting machine used for the production of plain interlock fabric with needles arranged opposite each other in needle cylinder grooves in the axial direction and radial in needle disc (dial) grooves

Note 1 to entry: See [Figure 3](#).



**Key**

- 1 needle disc
- 2 needle cylinder
- 3 disc needle
- 4 trick
- 5 cylinder needle
- 6 trick

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

ISO 12912:2014

<https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014>

**Figure 3 — Construction features interlock circular knitting machine**

**2.2.4**

**LL circular knitting machine**

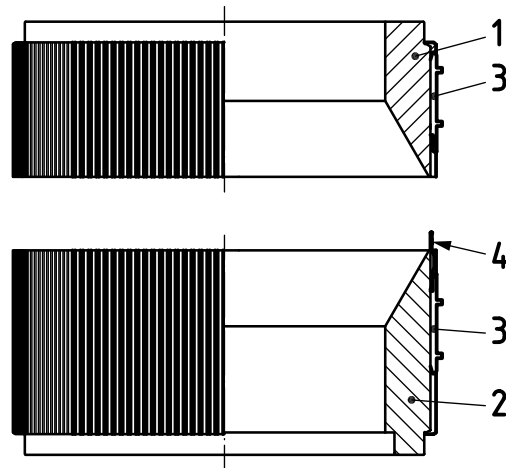
circular knitting machine for the production of purl fabrics (LL) with two needle cylinders, one upon the other, within their grooves, which are arranged flush to each other in an axial direction, the needles moved from one needle cylinder to the other by means of a needle slider

[SOURCE: ISO 7839:2005, 2.1.2.3]

Note 1 to entry: LL fabrics can contain structures like single-face fabric and/or double-face fabric, respectively can be replaced by them completely.

Note 2 to entry: See [Figure 4](#).



**Key**

- 1 upper needle cylinder
- 2 lower needle cylinder
- 3 needle slider
- 4 double-ended needle

**Figure 4 — Construction features LL circular knitting machine**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

**2.3 Dimensions****2.3.1****machine depth***a*

total depth of machine without space requirement for additional equipment

EXAMPLE Bobbin holders, control cabinets.

Note 1 to entry: See [Figure 5](#).

**2.3.2****machine width***b*

total width of machine without space requirement for additional equipment

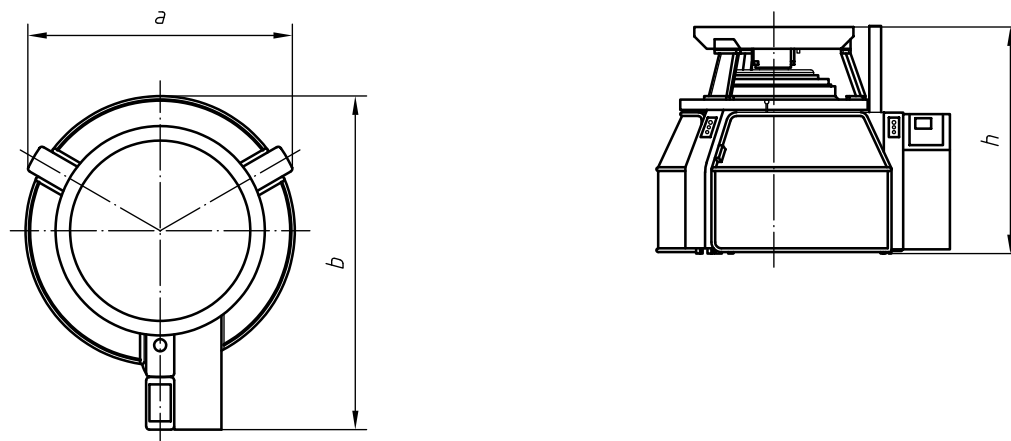
EXAMPLE Bobbin holders, control cabinets.

Note 1 to entry: See [Figure 5](#).

**2.3.3****machine height***h*

total height of machine without space requirement for yarn guide units

Note 1 to entry: See [Figure 5](#).



**Key**

*a* machine depth

*b* machine width

*h* machine height

**Figure 5 — Dimensions RR circular knitting machine**

**2.3.4**

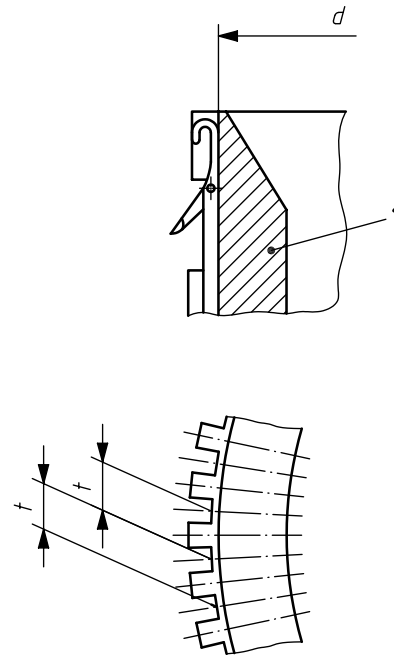
**nominal diameter**

diameter of a circular knitting machine which corresponds to the exact or rounded needle base diameter *d*

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

ISO 12912:2014

Note 1 to entry: See [Figure 6](https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014). <https://standards.iteh.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014>

**Key**

- 1 needle cylinder  
*d* nominal diameter of machine  
*t* pitch

iTech STANDARD PREVIEW  
 (standards.itech.ai)

**Figure 6 — Nominal diameter and pitch of circular knitting machines**

ISO 12912:2014

<https://standards.itech.ai/catalog/standards/sist/7019fde6-e519-406b-ad2f-59d889363706/iso-12912-2014>

**2.3.5**  
**pitch**

*t*

distance between the centres of two adjacent needles in the same needle carrier, in millimetres, with full use of needles

[SOURCE: ISO 8188:2007, 3.1]

Note 1 to entry: The pitch at circular knitting machines is the distance between the centres of two adjacent needles on the circumference of the nominal diameter.

Note 2 to entry: See [Figure 6](#).

**2.3.6**  
**gauge**

*E*

number of needles, *n*, per reference length of 25,4 mm with full use in the needle carrier:

$$n = \frac{n}{25,4 \text{ mm}}$$

[SOURCE: ISO 8188:2007, 3.2.1]

Note 1 to entry: The indication of needle pitch shall be preferred to the indication of needle gauge.

**2.3.7**  
**number of needles**

number of needles present in a needle carrier

Note 1 to entry: The number of needles is equal to the nominal width, *n*, divided by the pitch, plus 1.