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JAPANESE INDUSTRIAL STANDARD

**Metallic knee joints for lower
extremity orthoses**

JIS T 9216—1991

Translated and Published

by

Japanese Standards Association

Printed in Japan



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Metallic knee joints for lower extremity
orthoses

T 9216-1991

1. Scope

This Japanese Industrial Standard specifies metallic knee joints for lower extremity orthoses (attached with lock) (hereafter referred to as the "knee joints").

Remarks 1. Applicable Standards to this Standard are shown as follows:

JIS B 0205-Metric Coarse Screw Threads

JIS B 0207-Metric Fine Screw Threads

2. The units and numerical values given in { } in this Standard are based on the traditional units and are appended for informative reference.

2. Definitions

For the purposes of this Standard, the following definitions apply:

- (1) joint part The part of knee joint excluding the upright bar.
- (2) above-knee upright bar The upright bar to be attached to above knee of human body.
- (3) below-knee upright bar The upright bar to be attached to below-knee of human body.
- (4) ring lock type The system of knee joint to fix completely both parts by fitting the ring to the parts overlapped with the above-knee and below-knee upright bars to each other (Refer to Attached Fig. 1).
- (5) lever lock type The system of knee joint to fix completely the above-knee and below-knee upright bars with the claws at top end part of lever (Refer to Attached Fig. 2).
- (6) plunger lock type The system of knee joint to fix completely both parts by inserting the rod attached to the above-knee upright bar into the groove of below-knee upright bar (Refer to Attached Fig. 3).

3. Classification and symbols

The classification and symbols shall be as given in Table 1.

Reference Standard:

JIS T 0101-Glossary of Terms in Prosthetics and Orthotics

Table 1. Classification and symbols

Classification	Upright bar material	Symbol
Ring lock type	Steel system	SR
	Light alloy system	ALR
Lever lock type	Steel system	SL
	Light alloy system	ALL
Plunger lock type	Steel system	SP
	Light alloy system	ALP

4. Performances

The performances shall be as follows. However, the plunger lock type applies only to the side having a lock mechanism.

- (1) General conditions In the case where the lock of joint part is detached and the knee joint is bent and extended, it must work smoothly and not generate abnormal sounds during working.

Further, at the time of complete extension, the lock mechanism must work smoothly.
- (2) Initial play (clatter) quantity The initial play (clatter) quantity, when measured according to 9.1, must be not more than 0.2 mm.
- (3) Static strength The knee joint, when tested according to 9.2, is to be free from remarkable abnormalities such as large play (clatter), permanent set, rupture, etc.
- (4) Endurance The knee joint, after tested according to the method specified in 9.3, must satisfy the following specifications.
 - (a) To be free from remarkable abnormalities such as large play (clatter), permanent set, rupture, etc.
 - (b) When tested according to 9.1, the play (clatter) quantity difference must be not more than 0.2 mm.
 - (c) When the knee joint is bent and extended, it is to be free from abnormal sound.

5. Shape and dimensions

5.1 Width and thickness of upright bar The width (w) and thickness (t) of upright bar shall as shown in Fig. 1 and by oblique lines of Table 2.

Further, allow the dimensional permissible deviation to be ± 0.3 mm.