INTERNATIONAL STANDARD

ISO 10787-1

First edition
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Textile machinery and accessories — Heald frames —

Part 1:
Heald-carrying rod fixed to the frame stave by rod support — Coordinated dimensions

Matériel pour l'industrie textile — Cadres de lisses —

Partie 1: Tringles porte-lisses fixées aux liteaux par porte-tringles — Dimensions interdépendantes

Reference number
ISO 10787-1:1994(E)

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.

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.

International Standard ISO 10787-1 was prepared by Technical Committee ISO/TC 72, *Textile machinery and allied machinery and accessories*, Subcommittee SC 3, *Machinery for fabric manufacture*.

This first edition of ISO 10787-1 cancels and partially replaces ISO 568:1976 and ISO 569:1982, which have been technically revised and expanded.

ISO 10787 consists of the following parts, under the general title *Textile machinery and accessories — Heald frames*:

— *Part 1: Heald-carrying rod fixed to the frame stave by rod support — Coordinated dimensions*

— *Part 2: Heald-carrying rod fixed directly on the frame stave — Coordinated dimensions*

— *Part 3: Guides for heald frames*

Annex A of this part of ISO 10787 is for information only.

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Textile machinery and accessories — Heald frames —

Part 1:
Heald-carrying rod fixed to the frame stave by rod support — Coordinated dimensions

1 Scope

This part of ISO 10787 specifies the coordinated dimensions of heald frames on which the heald-carrying rod is fixed to the frame stave by rod support.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 10787. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 10787 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2768-1:1989, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications.*

3 Heald frame

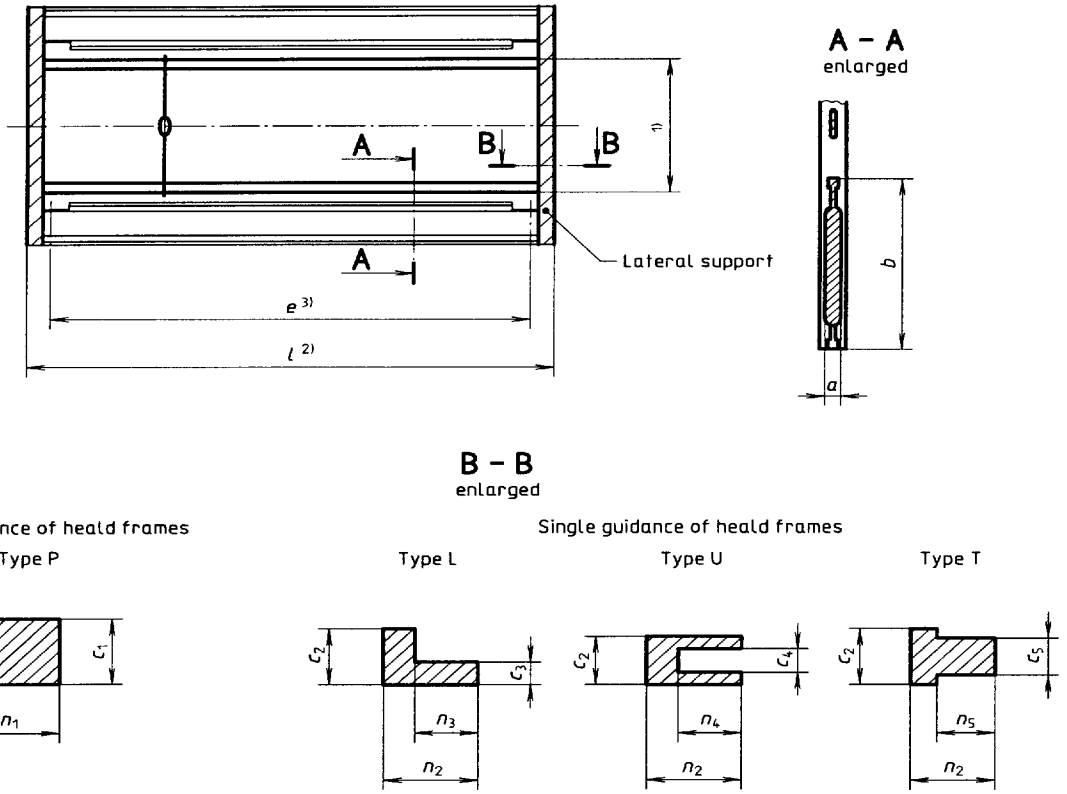
Figures 1 and 2 and table 1 define and specify the dimensions of heald frames on which the heald-carrying rod is fixed to the frame stave by rod support.

4 Bushes

4.1 Bushes inside the upper and lower frame staves are shown in figures 3 and 4 respectively. Their position is given in tables 2 and 3.

4.2 Bushes outside the upper and lower frame staves are shown in figures 5 and 6 respectively. Their position is given in tables 2 and 3.

4.3 The construction of bushes is shown in figures 7 and 8 and bush dimensions are specified in table 4.



1) The distance between heald-carrying rods depends on the distance L between end loops of healds.
2) The width l of the heald frame depends on the construction of the weaving machine and should therefore be agreed upon between machine manufacturer and purchaser.
3) The working width e of the heald frame is equal to the working length of the heald-carrying rods on which the healds are strung.

Figure 1 — Heald frame

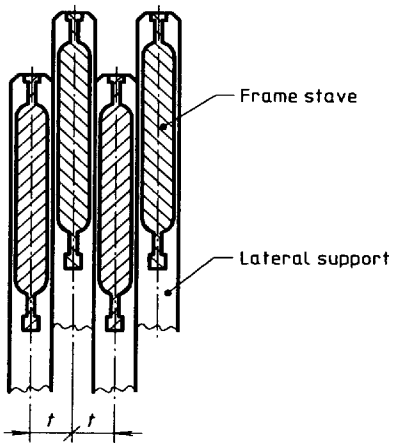


Figure 2 — Pitch t of the harness

Table 1 — Heald frame dimensions

Dimensions in millimetres

Pitch of harness	Thickness of frame stave	Height of frame stave	Heald frame lateral support															
			For group guidance of heald frames		For single guidance of heald frames													
			Type P		Type L				Type U				Type T					
t [1]	a	b	c_1	n_1	c_2	c_3	n_2	n_3	c_2	c_4	n_2	n_4	c_2	c_5	n_2	n_5		
nom.	nom.	nom.	0 −0,2		0 −0,2	0 −0,2			0 −0,2	+0,2 0			0 −0,2	0 −0,2				
12	9	72 84 96	11,8	18 20 30 40	11,8	4,8	16	11	10,2	5 6,7	15	12	10	4,8 7,8	16	10 11		
											16	11						
							18	12			18	12						
(14)	9 11		13,8				16	11			15	12	12	7,8				
											16	11						
							18	12			18	12						
(16)	11 12		15,8				16	11			15	12						
											16	11						
							18	12			18	12						
18	9 11 12		17,8				16	11			15	12						
											16	11						
							18	12			18	12						
24	16 18		23,8		—	—	—	—	—	—	—	—	—	—	—	—		

1) Pitch t of the harness: distance between the midpoints of two adjacent heald frames of a harness in a weaving machine. Normally the pitch of the harness is equal to the pitch of the shedding motion, i.e. the distance between the midpoints of the needles in the dobby or other driving mechanism of the heald frames. Dimensions shown in parentheses should be avoided for new constructions.

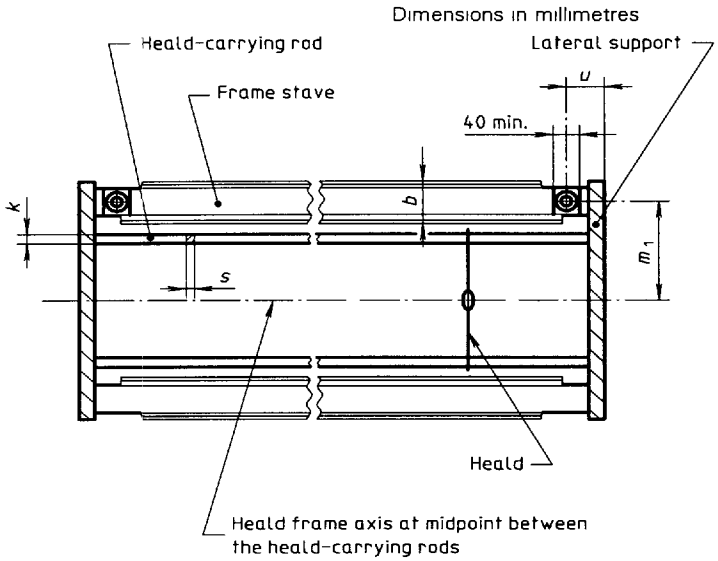


Figure 3 — Bushes inside upper frame stave

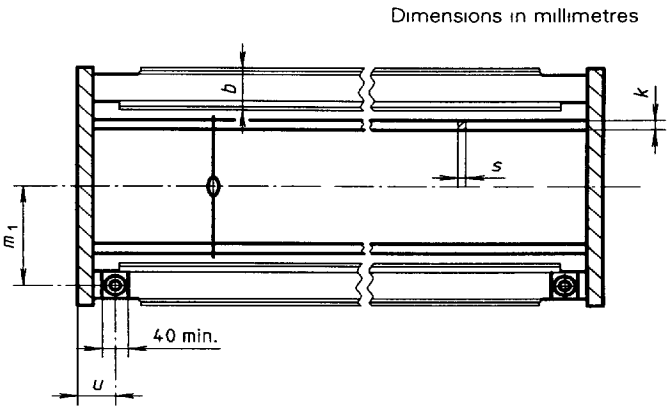


Figure 4 — Bushes inside lower frame stave

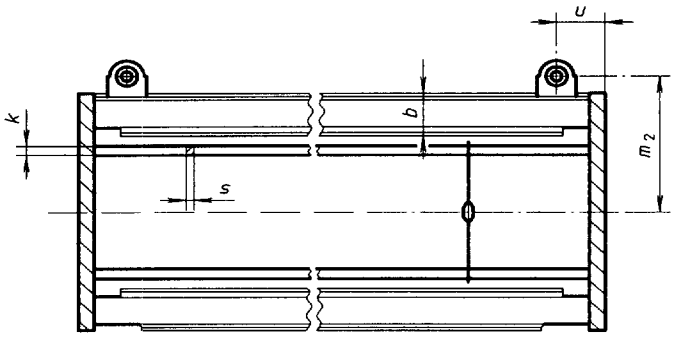


Figure 5 — Bushes outside upper frame stave

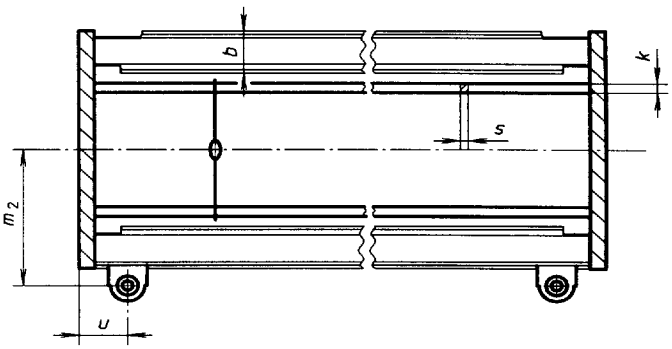


Figure 6 — Bushes outside lower frame stave

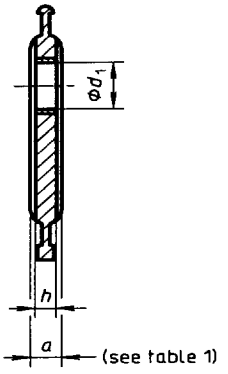


Figure 7 — Bush inside heald stave

Dimensions in millimetres

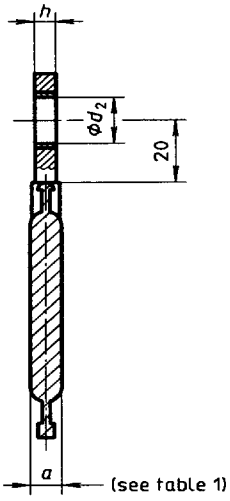


Figure 8 — Bush outside heald stave

Table 2 — Heald frames with rider as rail guide for healds with O-shaped closed end loops

Dimensions in millimetres

Cross-section of heald-carrying rod				Positions of bushes									
k [1]	s [1]	b	u	m_1	m_2	m_1	m_2	m_1	m_2	m_1	m_2	m_1	m_2
		nom.	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5
				Nominal distance L between end loops of healds									
				280		330		380		420		520	
9	1,5	72	72 75 80	192	245	217	270	242	295	262	315	312	370
		84		204	257	229	282	254	307	274	327	324	382
		96		216	269	241	294	266	319	286	339	336	394

1) Tolerances are given in ISO 2768-1, tolerance class fine.

Table 3 — Heald frames with rail guide without rider

Dimensions in millimetres

Cross-section of heald-carrying rod			Positions of bushes												
k [1]	s [1]	b	u	m_1	m_2	m_1	m_2	m_1	m_2	m_1	m_2	m_1	m_2	m_1	m_2
		nom.	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5	± 0,5
				Nominal distance L between end loops of healds[2]											
				280		(306)		331		(356)		382		407	
22	1,7	72	72 75 80	197	250	210	263	222	275	235	288	247	300	260	313
16	2,1														
22	1,7	84		209	262	222	275	234	287	247	300	259	312	272	325
16	2,1														
22	1,7	96		221	274	234	287	246	299	259	312	271	324	284	337
16	2,1														

1) Tolerances are given in ISO 2768-1, tolerance class fine. Heald-carrying rods 22 mm × 1,7 mm are suitable for healds with C-shaped end loops; heald-carrying rods 16 mm × 2,1 mm are suitable for healds with J-shaped end loops.

2) Dimensions shown in parentheses should be avoided. The distances between end loops are derived from inch dimensions.

Table 4 — Bush dimensions

Dimensions in millimetres

Bush			Pitch of harness
d_1 [1]	d_2 [1]	h	t
C9	C9	± 0,1	nom.
16	20	7,5	12, 14 or 18
20	20	7,5	12 or 14
		10	14, 16 or 18
20	20	12	18
20	20	16	24

1) Tolerance for the corresponding bolt: f7.

Annex A
(informative)

Bibliography

[1] ISO 286-2:1988, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts.*

[2] ISO 363:1992, *Textile machinery and accessories — Flat steel healds with closed end loops — Dimensions.*

[3] ISO 364:1983, *Textile machinery and accessories — Twin wire healds for weaving machines with heald frames.*

[4] ISO 11677-1:1994, *Textile machinery and accessories — Main dimensions of flat steel healds with open end loops — Part 1: C-shaped end loops.*

[5] ISO 11677-2:1994, *Textile machinery and accessories — Main dimensions of flat steel healds with open end loops — Part 2: J-shaped end loops.*

ICS 59.120.30

Descriptors: textile machinery, healds, heald frames, dimensions, dimensional coordination.

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