
International Standard



6218

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Shipbuilding — Inland navigation — Coupling winches for push tows — Main dimensions

Construction navale — Navigation intérieure — Treuils d'accouplement pour les convois poussés — Dimensions principales

First edition — 1981-03-01

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UDC 621.864 : 629.122

Ref. No. ISO 6218-1981 (E)

Descriptors : shipbuilding, inland navigation, coupling, winches, mechanical couplings, dimensions, specifications, designations, marking.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6218 was developed by Technical Committee ISO/TC 8, *Shipbuilding*, and was circulated to the member bodies in June 1979.

It has been approved by the member bodies of the following countries :

Austria	Germany, F.R.	Netherlands
Belgium	India	Poland
Bulgaria	Italy	Romania
China	Korea, Dem. P. Rep. of	Spain
Czechoslovakia	Korea, Rep. of	United Kingdom
France	Mexico	USSR

No member body expressed disapproval of the document.

Shipbuilding — Inland navigation — Coupling winches for push tows — Main dimensions

1 Scope and field of application

This International Standard specifies the dimensions of and requirements for manual coupling winches for push tows necessary to allow their interchangeability. This International Standard does not specify the types of vessels on which the coupling winches may be installed; the decision being left to the shipowner.

2 Reference

ISO 1035/3, *Hot-rolled steel bars — Part 3: Dimensions of flat bars.*¹⁾

3 Safety requirements

- 3.1 Each coupling winch shall be covered with a protection plate for the gearwheels.
- 3.2 The winch has to be completely operable from one side.
- 3.3 The winch shall be fitted with a reliable system of braking and holding.
- 3.4 The steel wire rope shall be fixed on the drum in a clamping device and have three safety turns.

4 Definitions

- 4.1 **left-hand model, L**: A winch which has the handwheel and the drum on the left side of the gearing, when looking in the direction in which the rope is paid out (see figure 1).
- 4.2 **right-hand model, R**: A winch which has the handwheel and the drum on the right side of the gearing, when looking in the direction in which the rope is paid out (see figure 2).

4.3 Winch with or without foundation

- a) **Type A**: Winch with foundation bars and fastening bolts.
- b) **Type B**: Winch without foundation bars and fastening bolts.

5 Design of drum

5.1 Drum capacity

The drum capacity given in table 1 is with respect to the maximum steel wire rope diameter.

5.2 Drum diameter

The drum diameter shall be not less than twelve times the diameter of the maximum diameter of a steel wire rope and it shall provide a rope capacity as specified in table 1.

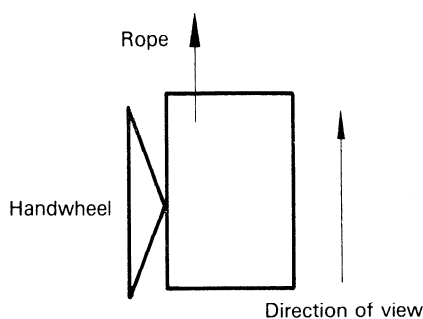


Figure 1 — Left-hand model (L)

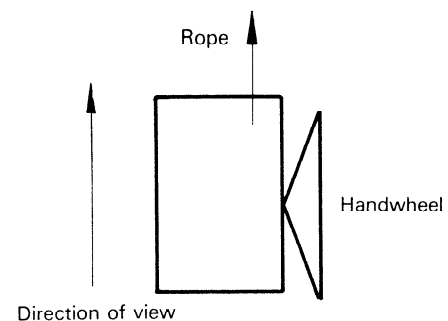


Figure 2 — Right-hand model (R)

1) At present at the stage of draft. (Revision of ISO/R 1035/3-1969.)

6 Dimensions

6.1 Main dimensions of the winch

h : overall height

b : width (distance from the inner to the outer side of the check plates)

l_1 : overall length

l_2 : connecting length

t : maximum distance from the steel wire rope to the deck

d : diameter of the handwheel

NOTE – The figures do not define the construction; they are only intended to indicate the standardized dimensions.

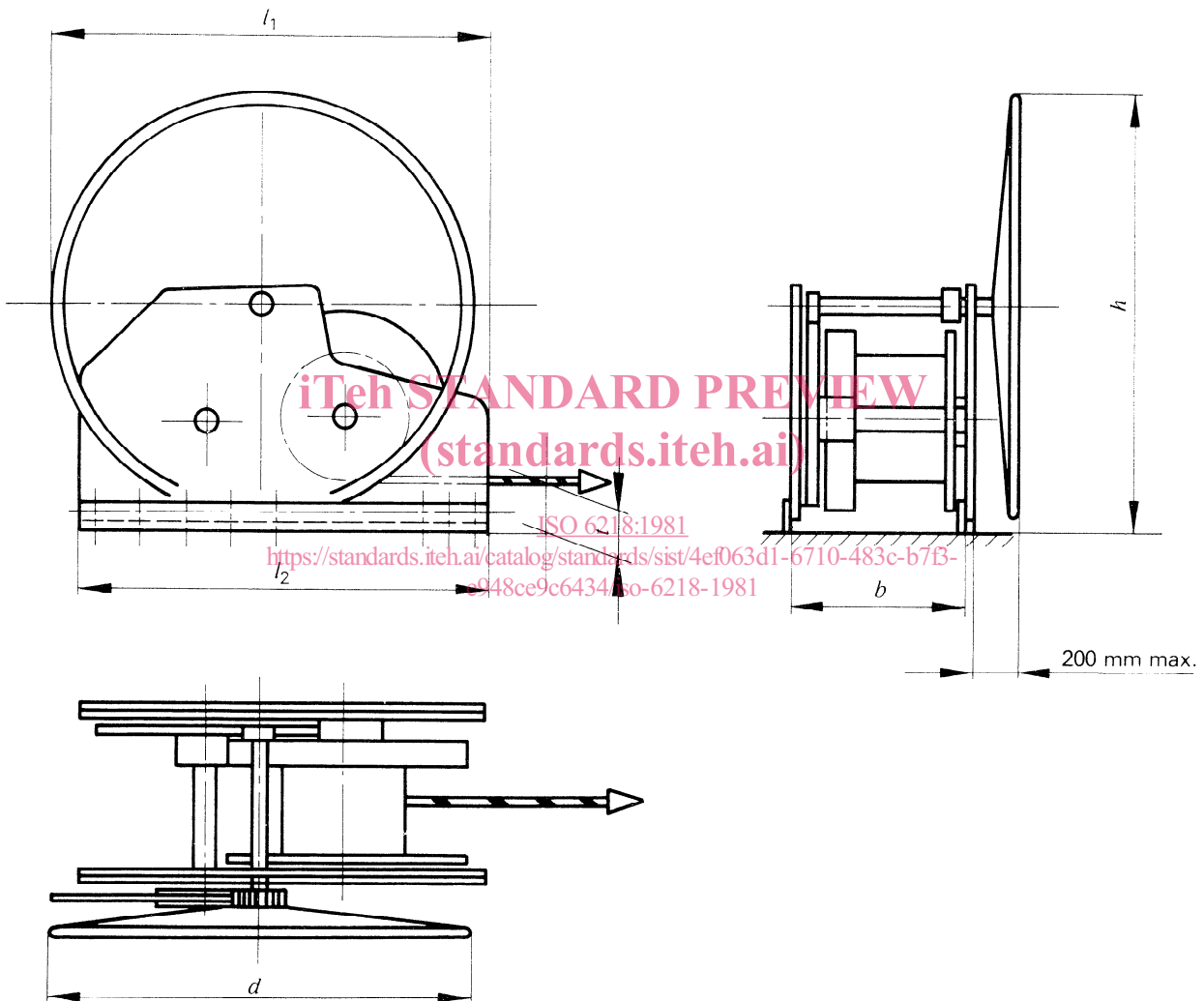


Figure 3 – Coupling winch (the drawing shows a right-hand model)

Table 1 – Winch characteristics and main dimensions

Nominal size	Admissible holding load kN max.	Coupling load, kN min.	Main dimensions, mm						Usual steel wire rope diameter mm	Minimum drum capacity ¹⁾ m
			b	h max.	l_1 max.	l_2	t max.	d max.		
25	250	40	374	900	850	800	120	825	20	35
40	400	45	492	1 250	1 250	1 000	150	1 175	26	35
60	600	65	492	1 350	1 300	1 200	180	1 300	32	35

1) The three safety turns around the drum are excluded.

6.2 Dimensions of the foundation

b : width (distance from the inner to the outer side of the bars)

l_2 : length of the flat bar

p_1, p_2, p_3, p_4 : pitch of the bolts

a : width of the flat bar

s : thickness of the flat bar

e : height of the centreline of the bolts

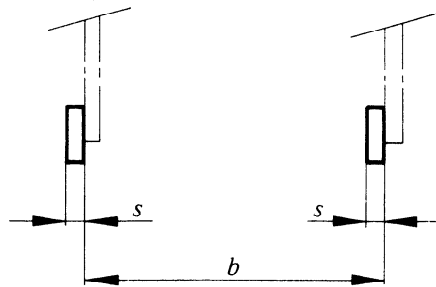


Figure 4 – Location of foundation bars

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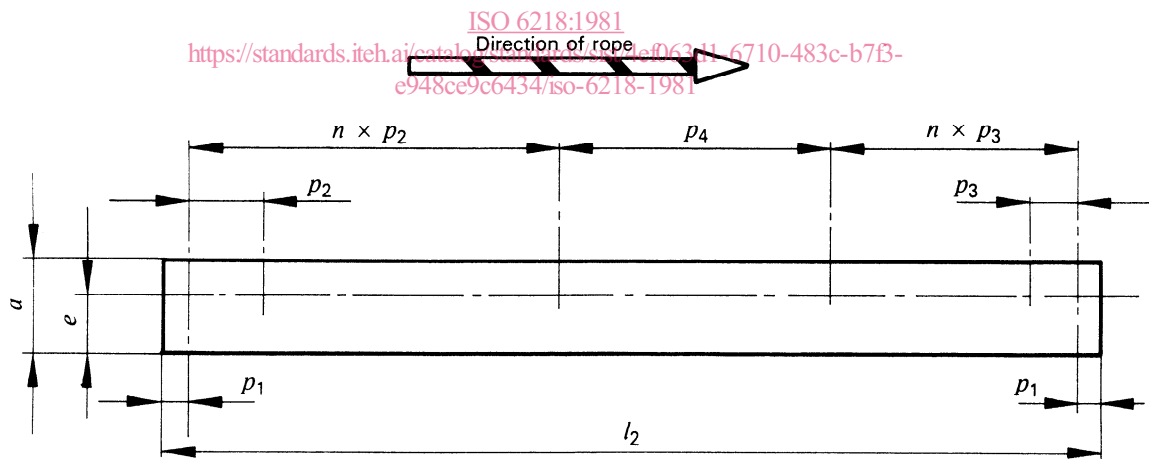


Figure 5 – Foundation bar

Table 2 – Foundation dimensions

Nominal size	b mm	Foundation bar, mm							Fastening bolts	
		Flat bar $a \times s$	l_2	e	p_1	$n^{1)} \times p_2$	$n^{1)} \times p_3$	p_4	Number ²⁾	Dimension
25	374	75 × 15	800	50	30	1 × 100	3 × 120	280	6	M 20
40	492	100 × 20	1 000	65	35	4 × 110	2 × 65	360	8	M 24
60	492	100 × 20	1 200	65	35	4 × 145	2 × 75	400	8	M 24

1) n is the number of pitch.

2) This refers to the number of fastening bolts *per* foundation bar.

6.3 Foundation materials

Steel with minimum tensile strength of 360 N/mm² shall be used for foundation bars.

7 Tests

7.1 Acceptance test

Each winch shall be tested by dynamic hand loading to the "coupling load" given in table 1, for 5 min continuously, with a maximum of three turns of the steel wire rope on the drum. After the test the winch should be checked visually.

7.2 Type testing

7.2.1 One winch of each batch shall be tested to at least the "maximum admissible holding load", given in table 1, for 10 min continuously.

7.2.2 The test according to clause 7.2.1 may be replaced by a prototype test certificate if agreed between purchaser and manufacturer.

8 Designation

Coupling winches conforming to this International Standard shall be designated by the following indication :

- denomination : coupling winch;

- number of this International Standard, ISO 6218;
- left- or right-hand model (L or R), see 4.1 and 4.2;
- with or without foundation bars (A or B), see 4.3;
- nominal size, see clause 6 and table 1.

Example :

Coupling winch ISO 6218 — LA60

This designation means a coupling winch as per ISO 6218, left-hand model (L), type with foundation bars (A), nominal size 60.

9 Marking

9.1 Every winch shall be fitted with a marking-plate of 100 × 50 mm fixed on the frame.

9.2 The marking plate shall contain the following inscriptions :

- designation as per clause 8;
- winch mass;
- name of manufacturer;

ISO 6218:1981 date of manufacture;

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