IS 1439 : 1990
(Reaffirmed 1998)

Indian Standard

STEELYARDS — SPECIFICATION

(*First Revision*)

भारतीय मानक

इस्पात यार्ड — विशिष्टि

(पहला पुनरीक्षण)

UDC 681·262

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

July 1990

Price Group 1

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards on 5 January 1990 after the draft finalized by the Commercial Weights and Measures Sectional Committee had been approved by the Light Mechanical Engineering Division Council.

This standard is one of a series of Indian Standards relating to commercial weighing instruments. This standard was originally published in 1959. This revision is based on the further experience gained in manufacture of commercial weighing instruments and other developments in this field.

In this revision requirements of 5 kg, 500 kg and 1 000 kg capacity steelyards have been included and steelyards of capacity 150 kg and 250 kg have been deleted.

This standard is intended chiefly to cover the technical provisions relating to steelyards and it does not include all the necessary provisions of the contract.

In the preparation of this standard assistance has been derived from the weights and measures rules and acts prevailing in the country.

Indian Standard

STEELYARDS — SPECIFICATION

(*First Revision*)

1 SCOPE

1.1 This standard covers the requirements for steelyards.

2 REFERENCES

2.1 The following Indian Standards are necessary adjuncts to this standard:

IS No.	*Title*
226 : 1975	Structural steel (standard quality) (*fifth revision*)
1432 : 1959	General requirements for weighing instruments.

3 DEFINITION

3.1 For the purpose of this standard, a steelyard shall mean an unequal armed balance.

4 CAPACITIES

4.1 Steelyards shall be of the following capacities:

5 kg, 10 kg, 20 kg, 50 kg, 100 kg, 200 kg, 300 kg, 500 kg, and 1 000 kg.

5 DESIGN AND CONSTRUCTION

5.1 The nomenclature and general design of steelyards shall be as given in Fig. 1.

5.2 Steelyards shall be made of either mild steel conforming to IS 226 : 1975 or stainless steel.

5.3 The steelyard blade shall be perfectly straight but its cross-section need not necessarily be uniform throughout. Notches or graduations on the blade shall be cut in one plane and at right angles to the blade.

5.4 The design of the sliding poise shall be such that the nib remains secure in the notch.

5.5 Steelyards shall be provided with a stop or other suitable arrangement to prevent excessive oscillation of the blade.

5.6 The sliding poise and suspending hooks shall be securely attached to the instrument. All end-fittings such as the nut attached to prevent the poise-carrier riding off the steelyard, shall be securely fixed to the blade. The sliding poise shall be freely moveable and there shall be a stop to prevent it from travelling behind the zero mark. Steelyards having counter-poise, or travelling poise shall be provided with a hole or other suitable means for the future adjustment of the counter-poise or travelling poise, such hole being undercut. Wherever loose material is used in the travelling poise, it shall be securely enclosed.

5.7 Steelyards shall be neither reversible nor have three hooks, and shall not be of counter type.

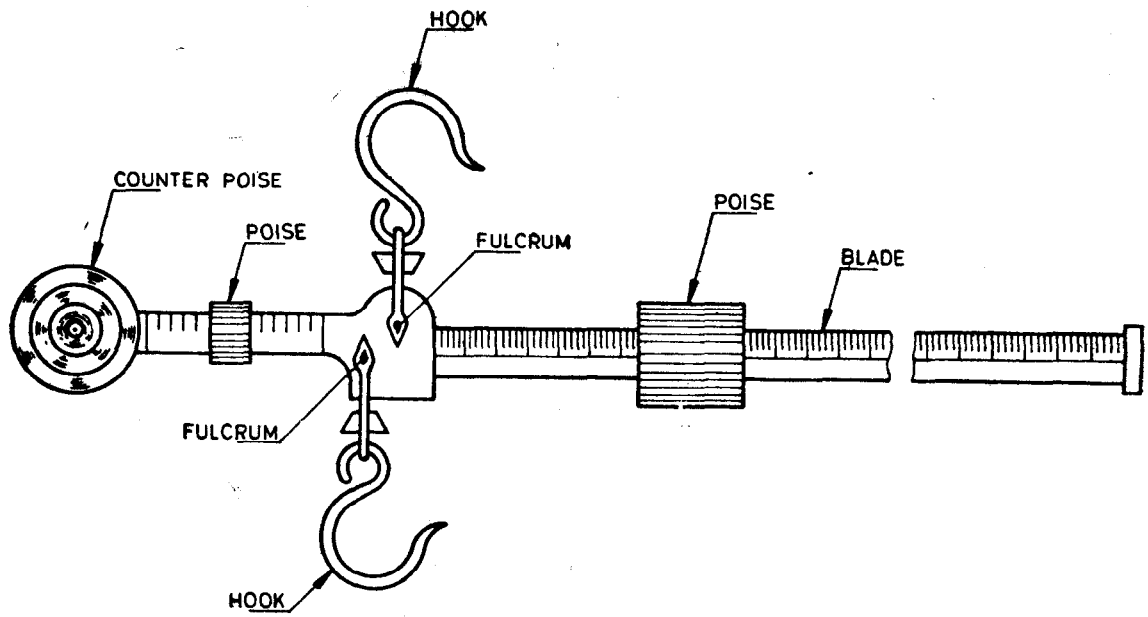

FIG. 1 NOMENCLATURE AND GENERAL DESIGN OF STEELYARD

5.8 Steelyards shall be provided with a vertical pointer directly above the fulcrum to indicate the true equilibrium.

5.9 If a moveable hook, tray or bucket is used it shall form an essential part of the steelyard without which it is not possible to balance the steelyard.

6 GENERAL REQUIREMENTS

6.1 Steelyards shall comply with the general requirements specified in IS 1432 : 1959.

7 TESTS

7.1 Steelyards shall be tested at full load for sensitiveness error, and shall comply with the following requirements given in Table 1:

a) The test for sensitiveness shall be carried out at full load with the steelyard in horizontal position. The addition of the weight specified in col 2 of Table 1 shall make the steelyard turn.

b) The error or the weight, if any, required to bring the steelyard to a horizontal position when fully loaded shall not exceed the limits specified in col 3 of Table 1.

Table 1 Limits for Sensitiveness and Greatest Error for Steelyards

(*Clauses* 7.1 *and* 7.2)

Capacity	Verification Sensitiveness When Fully Loaded	Greatest Error Allowed in Excess or Deficiency When Fully Loaded
(1)	(2)	(3)
kg	g	g
5	2·5	3·8
10	5	7·5
20	10	15
50	25	50
100	40	80
200	80	160
300	120	240
500	200	400
1000	400	800

7.2 Each numbered graduation shall be tested and the instrument shall be corrected within the error specified in col 3 of Table 1, whether the test is carried out with increasing or decreasing loads.

7.3 The intermediate graduations shall also be tested to see that they are correct and are at proper distance apart.

7.4 No test for sensitiveness at a lower load shall be made.

8 MARKING

8.1 All weighing machines shall be prominently, legibly and indelibly marked with the indication of the source of manufacture, model, capacity and class (wherever applicable).

NOTE — The indication of the source of manufacture shall be such as will not be mistaken for the stamp or the seal of the verification authority.

8.2 Weighing instruments shall have inscribed on them their maximum weighing capacity in the following manner as may be appropriate:

'To weigh... ...t' —टन के लिए

'To weigh... ...kg' —किलो के लिए

'To weigh... ...g' —ग्राम के लिए

8.3 All numerals appearing on weighing instruments, beams, steelyards, dials, etc, shall be indicated in Hindu-Arabic only.

9 SEALING

9.1 Each instrument shall be provided with a plug or stud of soft metal on the front face of the shoulder of the steelyard for receiving the seal or the verification authority. Such a plug or stud should be made irremovable by undercutting or by some other suitable method.

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The use of the Standard Mark is governed by the provisions of the *Bureau of the Indian Standards, Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

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BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices :	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002	331 01 31 331 13 75
Eastern : 1/14 C.I.T. Scheme VII M, V.I.P. Road, Maniktola, CALCUTTA 700054	37 86 62
Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036	2 18 43
Southern : C.I.T. Campus, IV Cross Road, MADRAS 600113	41 29 16
Western : Manakalaya, E9 MIDC, Marol, Andheri (East), BOMBAY 400093	6 32 92 95

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