इंटरनेट मानक

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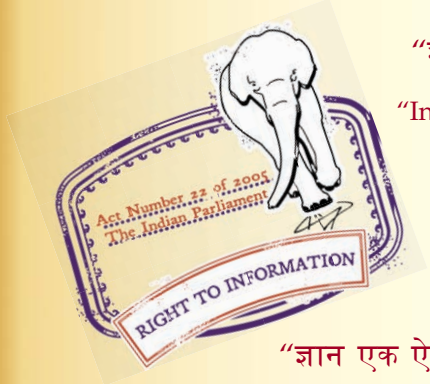
Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 2588 (1975): Blacksmith's Vices [PGD 6: Earth, Metal And Wood Working Hand Tools]



"ज्ञान से एक नये भारत का निर्माण"
Satyanarayan Gangaram Pitroda
"Invent a New India Using Knowledge"

"ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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(Reaffirmed 2003)

Indian Standard

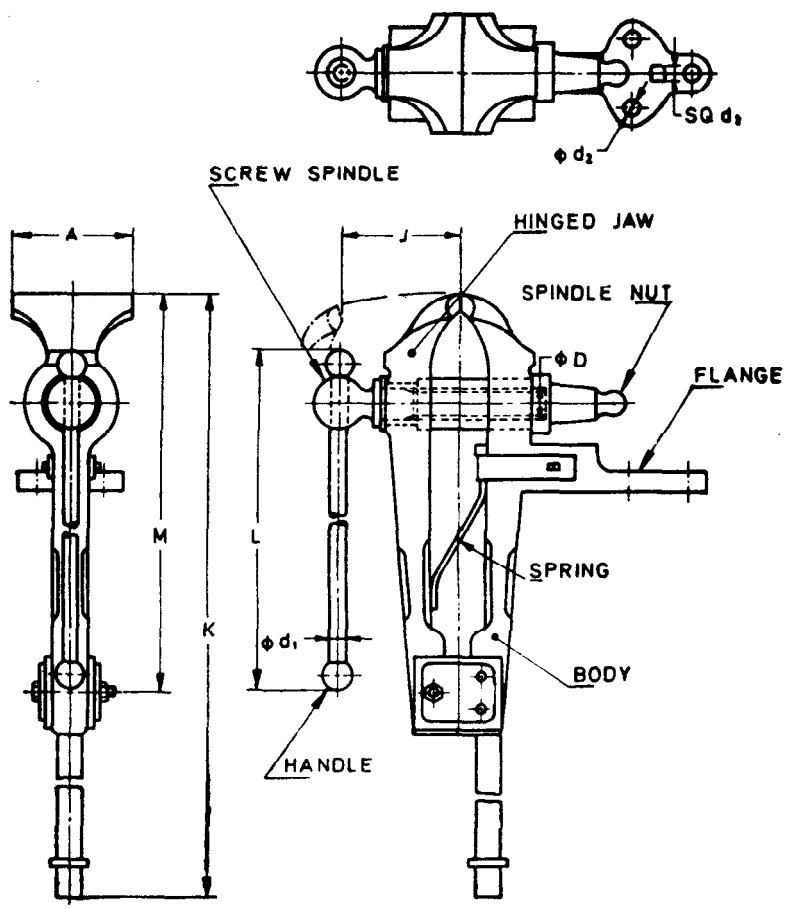
SPECIFICATION FOR BLACKSMITH'S VICES

(First Revision)

Hand Tools Sectional Committee, EDC 12; Metal Workers' Tools Subcommittee, EDC 12:2 [Ref: Doc: EDC 12 (2165)]

1. Scope — Covers the requirements for blacksmith's vices commonly used in smithy shops for simple forging or other manual operations.

2. Dimensions



All dimensions in millimetres.

Nominal Size (Width of Jaw) A	J	K	L	M	d_1	d_2	D
75	75	950	350	400	16	15	SQ 28×3* or ST 28×3† or Tr 28×3‡
100	100	1000	400	450	16	15	SQ 30×3* or ST 30×3† or Tr 30×3‡
125	125	1 000	450	450	18	19	SQ 32×3* or ST 32×3† or Tr 32×3‡
150	150	1 000	500	450	22	19	SQ 40×3* or ST 40×3† or Tr 40×3‡
175	175	1 100	600	500	22	21	SQ 44×3* or ST 44×3† or Tr 44×3‡
200	200	1 100	700	500	22	21	SQ 44×3* or ST 44×3† or Tr 44×3‡

*According to IS: 4694-1968 'Basic dimensions for square threads'.
†According to IS: 4696-1968 'Basic dimensions for saw tooth threads'.
‡According to IS: 7008-1973 'ISO metric trapezoidal screw threads'.

Adopted 29 September 1975

[redacted] Gr 2

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

2.1 The dimensions may have a variation of ±2 percent.

3. Material — The material for the manufacture of different components shall be such as to meet the requirements laid down in **4** and **9**. Following are the recommended materials for different components of vices:

Component	*Material*
Body and hinged jaw	Steel conforming to designation C45 of IS : 1570-1961 'Schedules for wrought steels for general engineering purposes' or Steel casting conforming to Grade 3 of *IS: 1030-1962 'Specification for steel castings for general engineering purposes (*revised*)'
Screw spindle and handle	Steel conforming to designation St42 of IS : 1570-1961
Spindle nut	Steel casting conforming to Grade 3 of *IS: 1030-1962
Springs	Steel conforming to designation C55 of IS : 1570-1961

4. Hardness

Jaws	390 to 445 *HV* (≈40 to 45 *HRC*)
Springs	500 to 550 *HV* (≈49 to 52 *HRC*)

5. Manufacture

5.1 *Body* — The body shall have the fixed jaw and the flange cast or forged in one piece. The flange shall have at least three round holes and one square hole for mounting. The central mounting holes, that is, one square and one round hole, shall be on a line perpendicular to the jaws and the other two round holes parallel to the jaw and equidistant from the central mounting hole.

Note — Bolts and nuts conforming to IS : 1363-1967 'Specification for black hexagon bolts, nuts (dia 6 to 39 mm) and black hexagon screws (dia 6 to 24 mm) (*first revision*)' may be employed for mounting the vices on the work benches.

5.2 *Hinged Jaw* — The hinged jaw shall be of solid construction and shall move freely around the pin.

5.3 *Screw Spindle* — The screw spindle shall have square saw tooth or trapezoidal threads. It shall be so designed that it does not come out of the nut at the maximum opening position of the jaws. The backlash while tightening or opening the vice shall not exceed one-eighth of the pitch of the screw. The threads on the screw spindle shall be properly and accurately cut.

5.4 *Spindle Nut* — The threads in the spindle nut shall be properly and accurately cut.

5.5 *Handle* — The handle shall be straight and shall slide freely in hole provided at the end of the screw spindle and shall not slide out of the hole during use.

6. Workmanship and Finish — The vices shall be finished smooth all over, and shall be free from burrs, cracks or other manufacturing defects. The hinged jaw shall provide for proper alignment of the jaws. The jaws shall close in a vertical plane and provide equal pressure over the entire width of the jaw. The hinged jaw shall operate smoothly throughout the jaw opening.

7. Designation — A blacksmith's vice of nominal size 75 mm shall be designated as:

Blacksmith's Vice 75 IS : 2588

8. Sampling — Refer IS: 2586-1975 'Specification for bench vices (machinist's vices) (*first revision*)' for sampling of vices.

9. Clamping Test — A turning moment as given below shall be applied to the screw spindle when the jaws are in closed position:

Nominal Size, mm	75	100	125	150	175	200
Moment, N.m	175	200	225	250	300	350

9.1 The vices shall not show any deformation or damage at the end of the test.

*Since revised.

10. Preservative Treatment — The vices shall be painted on all non-working surfaces including the underside of the base. The working surfaces shall be covered with a rust-proofing material.

11. Marking — The vices shall be marked with the nominal size and the manufacturer's name, initials or trade-mark.

11.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

EXPLANATORY NOTE

This standard was first issued in 1964. The present revision has been taken up to incorporate certain changes in order to bring the standard in line with the modern manufacturing practices.

Blacksmith's vices which are also called leg vices are commonly used in smithy shops. These vices are usually of rugged construction and have to withstand rough handling. The shape given in the figure is only to illustrate the dimensions, the actual shape and other design details are left to the discretion of the manufacturer.

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