**BUREAU OF INDIAN STANDARDS**

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*भारतीय मानक मसौदा*

# विशिष्टता रिट्रैक्टर, लाइट मॉडल, वीसलैंडर पैटर्न के लिए

*(IS 7713 का पहला पुनरीक्षण)*

*Draft Indian Standard*

# Specification For retractor, Light Model, Weislander's Pattern

*(First Revision of IS 7713)*

**[ICS 11.040.30]**

Ear, Nose and Throat Surgery Instruments Sectional Committee, MHD 04

Last date for comments: 30 May, 2024

FOREWORD

*(Formal clause will be added later)*

This standard was originally published in 1975. The First revision of this standard has been brought out to align it with recent developments and to bring the standard in line with the latest style and format of Indian Standards.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2: 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded-off value should be same as that of the specified value in this standard.

*Indian Standard*

# SPECIFICATION FOR RETRACTOR, LIGHT MODEL, WEISLANDER'S PATTERN

## 1. SCOPE

Dimensional and other requirements for light model Weislander's pattern retractor used in ENT surgery.

## 2. REFERENCES

The standards given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

| *IS No* | *Title* |
|---|---|
| IS 7531 : 1990 | Surgical instruments - Corrosion resistance of stainless steel surgical instruments - Methods of tests (First Revision) |
| IS 6603 : 2001 | Stainless steel bars and flats - Specification (First Revision) |
| IS 1570 (Part 5) : 1985 | Schedules for wrought steels: Part 5 stainless and heat - Resisting steels (Second Revision) |

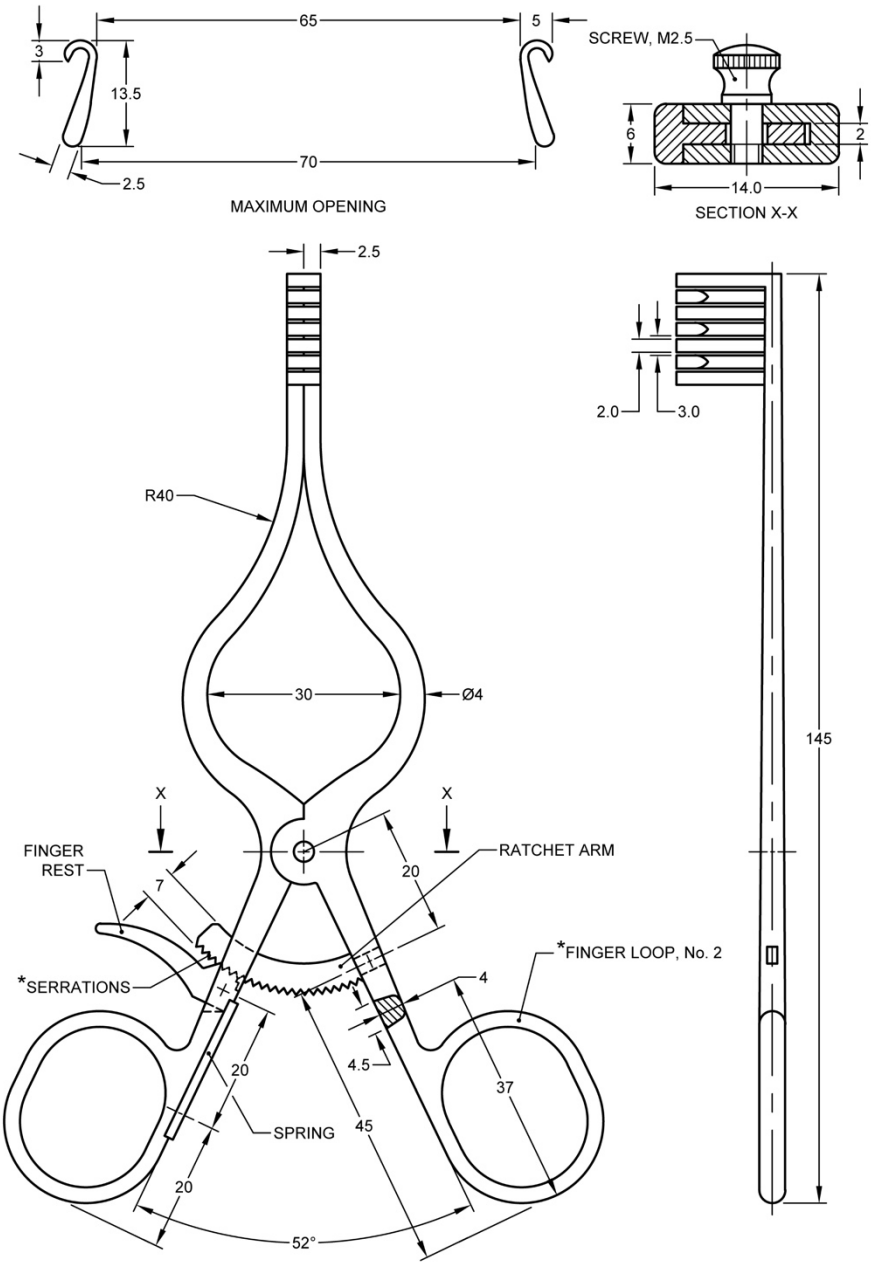
## 3. SHAPE AND DIMENSIONS

As shown in Fig. 1.

**3.1.**Tolerance -Deviation of ±2.5 percent shall be allowed.

## 4. MATERIAL

| Component | Material | Conforming to |
|---|---|---|
| Arms | Stainless steel | Designation 20Cr13 or 30Crl3 of IS : 6603 |
| Ratchet arrangement and pivot screw | Stainless steel | Designation 20Crl3 or 30Crl3 or 02Crl8 Ni11 of IS : 6603 |
| Spring | Stainless steel | Designation 30Crl3 of Table 1 of IS : 1570 |




* See IS 3642 (Part 1) : 1990 'SURGICAL INSTRUMENTS - SPECIFICATION : PART 1 NON-CUTTING, ARTICULATED INSTRUMENTS'.

All dimensions in millimetres.

FIG. 1 RETRACTOR (WEISLANDER'S PATTERN)

## 5. WORKMANSHIP AND FINISH

**5.1.** All the surfaces, except the ratchet teeth, shall be smooth and free from pits, and the edges shall

**5.2.** The edges of the retracting prongs shall taper to a blunt point.

**5.3.** The retractor arms shall open and close smoothly without any friction or undue resistance or play at the joint.

**5.4.** The ratchet teeth shall be well cut, clean, uniform, regular and evenly spaced.

**5.5.** The ratchet teeth shall engage accurately and securely and shall effectively lock the retractor at any desired position.

**5.6.** The ratchet arm with the finger rest pressed shall swivel freely, the spring shall not be too stiff.

**5.7.** The retractor shall be finished bright and passivated.

## 6. Heat Treatment

The retractor, except the spring shall be hardened and tempered to a hardness of 380 to 430 HV. The spring shall be hardened and tempered to a hardness of 420 to 470 HV.

## 7. TESTS

**7.1.** Open the arms of the retractor tar. about 65 mm measured at the tip. Grip the retractor at the retracting blades and apply a compressive force of 100 N (10 kgf approximately) for two minutes trying to close the blades. The ratchet shall not slip under the force and shall show no sign of damage on removal of the force. Repeat the test with two different arms openings.

**7.2. Corrosion Resistance -** The instrument shall satisfy the boiling and autoclaving test as mentioned in IS: 7531

**7.3.** Subject to agreement between the purchaser and the supplier the instrument may be put to the following test:

**7.4. Copper Sulphate Test -** Scrub the sample with soap and warm water, rinse in hot water and then dip in 95 percent ethyl alcohol. Dry the sample. Immerse in copper sulphate solution at room temperature for 6 minutes and wash off with fresh water or wet cotton wool. The composition of the solution shall be as follows:

| | |
|---|---|
| Copper Sulphate ($CuSo_4.5H_2O$ | 4.0g |
| Sulphuric acid ( $H_2O$,) ( sp gr 1.84 ) | 10.0 g |
| Distilled water [see IS : 1070-l 960 Specification for 90.0 ml water, distilled quality ( revised ) ] | 90.0 ml |

No red stains or spots on the sample shall be allowed but dulling of the polished surface may be permitted.

## 8. MARKING

Each retractor shall be marked with the following:

a) Manufacturer's name, initials or recognized trade-mark; and
b) The words' stainless steel' or letters' SS '.

## 9. BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act,* 2016 and the Rules and Regulations framed there under, and the product(s) may be marked with the Standard Mark.

## 10. PACKING

Each retractor shall be wrapped in moisture-proof paper or put in a polyethylene bag. Each such retractor shall be packed in an individual cardboard carton. The retractor may also be packed as agreed to between the purchaser and the supplier,