

**BUREAU OF INDIAN STANDARDS**

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भारतीय मानक मसौदा  
**लेम्पर्ट्स पैटर्न का एंडौरल रिट्रैक्टर — विशिष्टि**  
(IS 5747 का पहला पुनरीक्षण)

*Draft Indian Standard*  
**Lempert's Pattern Endaural Retractor — Specification**  
(First Revision of IS 5747)

[ICS 11.040.30]

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

Last date for comments: 21 October, 2023

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**FOREWORD**

*(Formal clauses will be added later)*

This standard was originally published in 1970. The first revision of this standard has been brought out to align it with the recent developments and to bring the standard in line with the latest style and format of Indian Standards. The grade designation of stainless steel 316 has also been included.

This revision incorporates all the amendments issued till date.

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.

## 1 SCOPE

This standard specifies requirements for Endaural Retractor (Lempert's pattern) 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.

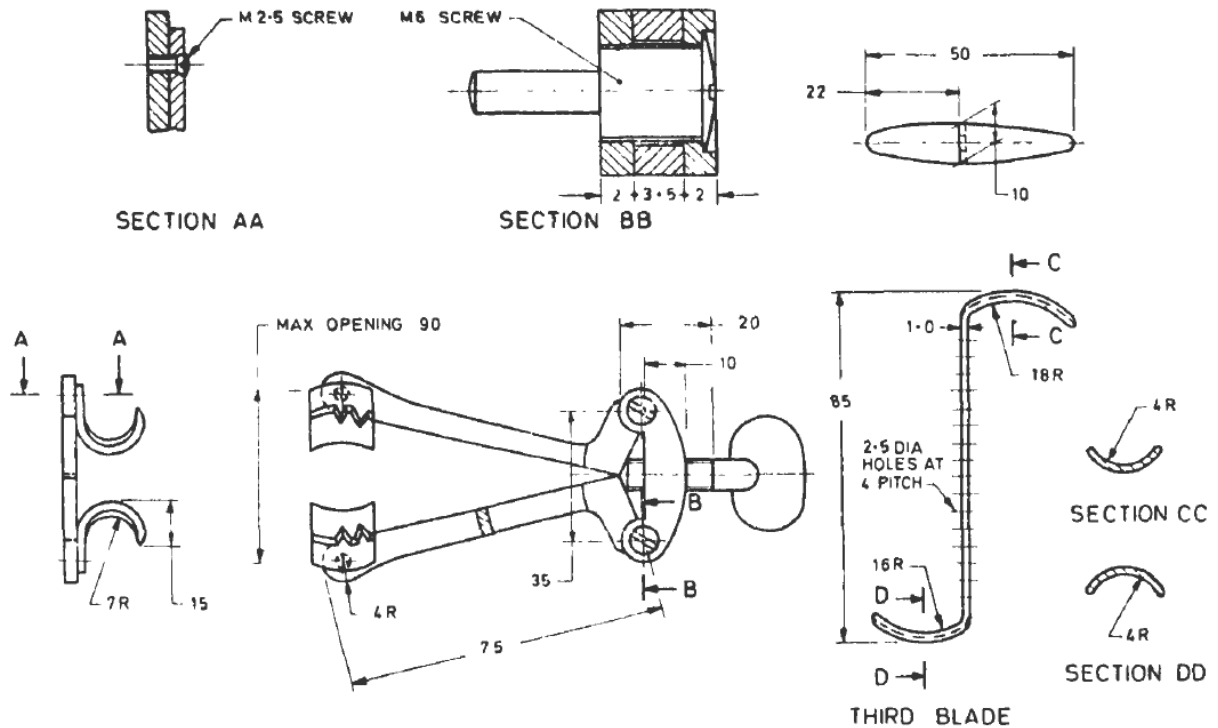
IS No.	Title
IS 1501 (Part 1): 2020/ ISO 6507-1: 2018	Metallic materials – Vickers hardness test Part 1 Test method
IS 4218 (Part 3): 1999/ ISO 724: 1993	ISO general purpose metric screw threads Part 3 Basic dimensions ( <i>second revision</i> )
IS 6603: 2001	Stainless steel bars and flats – Specification ( <i>first revision</i> )
IS 6911: 2017	Stainless steel plate, sheet and strip — Specification ( <i>second revision</i> )
IS 7531: 1990	Surgical instruments – Corrosion resistance of stainless steel surgical instruments – Methods of tests ( <i>first revision</i> )

## 3 MATERIAL

The material shall be stainless steel of grade X 30Cr13 as per IS 6603 or 04Cr17Ni12Mo2 (Alloy 316) as per IS 6911.

## 4 SHAPE AND DIMENSIONS

The shape and dimensions of retractor shall be as per Fig. 1. The screws M2.5 and M6 shall be as per IS 4218 (Part 3).



All dimensions in millimetres

**Fig. 1 ENDAURAL RETRACTOR (LEMPERT'S PATTERN)**

## 5 WORKMANSHIP AND FINISH

- 5.1 All surfaces shall be smooth and free from burrs, pits, cracks and other surface flaws.
- 5.2 All sharp edges shall be rounded.
- 5.3 The retracting arms shall not be loose at the pivots.
- 5.4 The retractor shall be passivated and finished dull.

## 6 HEAT TREATMENT

The retractor shall be hardened and tempered to a hardness of 400 to 500 *HV*. The hardness shall be tested in accordance with IS 1501 (Part 1).

## 7 CORROSION RESISTANCE

The instrument shall satisfy the boiling and autoclaving test as specified in IS 7531.

## 8 MARKING

- 8.1 Each retractor shall be marked with the following:
  - a. Manufacturer's name, initials or recognized trade-mark;
  - b. Country of manufacture
  - c. The words 'Stainless Steel'.

## **8.2 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 thereunder, and the product(s) may be marked with the Standard Mark.

## **9 PACKING**

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