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भारतीय मानक मसौदा
डेंटल फ्लास्क क्लैंप — विशिष्टि
[IS 5217 का पहला पुनरीक्षण]

Draft Indian Standard
Dental Flask Clamp — Specification
[First Revision of IS 5217]

[ICS 11.060.20]

Dentistry Sectional Committee, MHD 08

Last date for comments:
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FOREWORD

(Formal clause will be added later)

This standard was originally published in 1969 as ‘Specification for Clamp, Flask, and Dental’. This revision aligns the cross references to the latest standards, incorporates revised designations for steel and revised certification clause.

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 the same as that of the specified value in this standard.

1 SCOPE

This standard specifies dimensions and requirements of dental flask clamps capable of holding two metallic flasks in position under constant pressure.

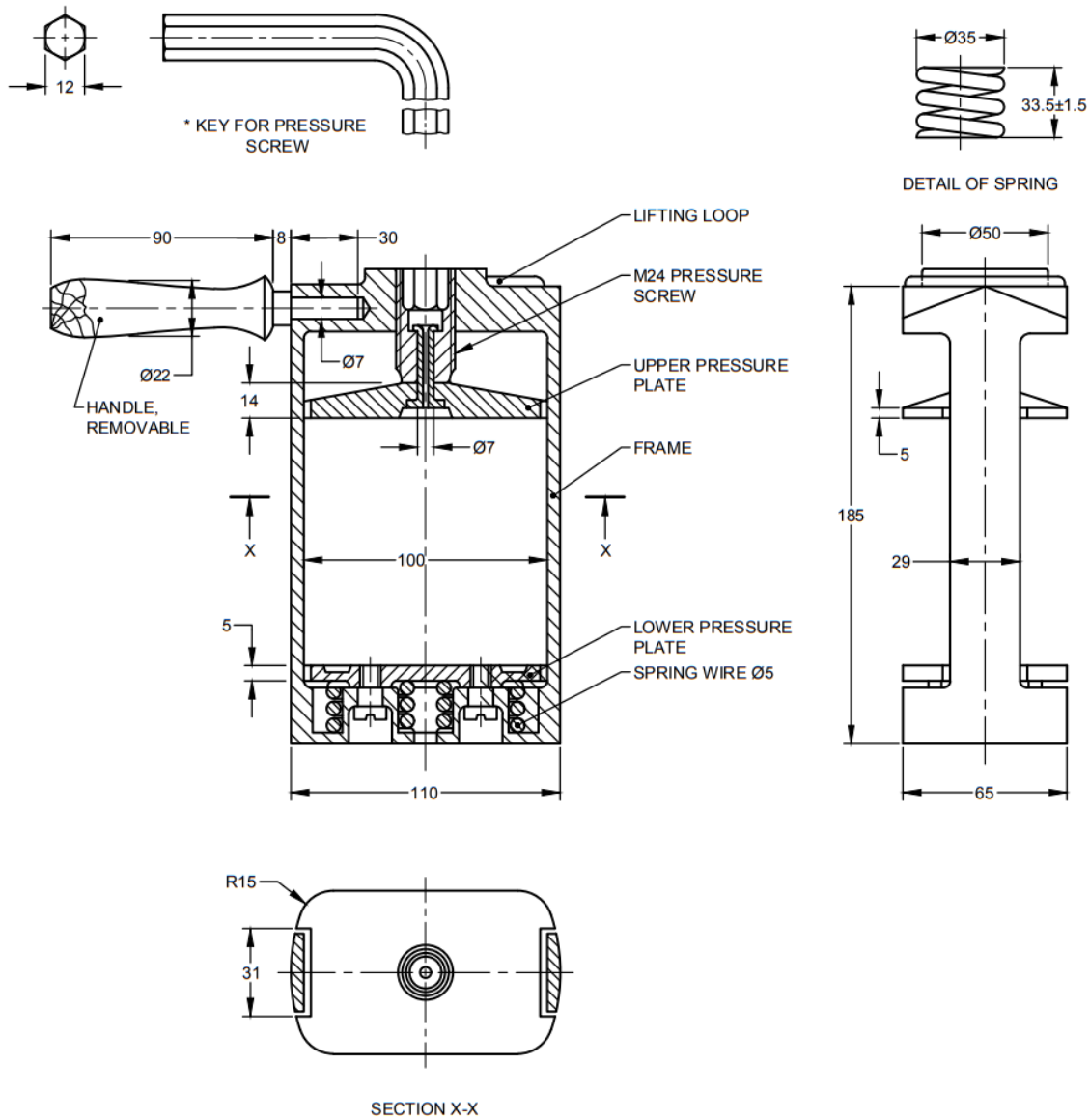
2 REFERENCES

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.

<i>IS No.</i>	<i>Title</i>
IS 304 : 1981	Specification for high tensile brass ingots and castings (<i>Second Revision</i>)
IS 319 : 2007	Free cutting brass bars, rods and section - Specification (<i>Fifth Revision</i>)
IS 1570 (Part 5) : 1985	Schedules for wrought steels Part 5 stainless and heat-resisting steels (<i>Second Revision</i>)
IS 1572 : 1986	Specification for electroplated coatings of cadmium on iron and steel (<i>Second Revision</i>)
IS 1068 : 1993	Electroplated coatings of nickel plus chromium and copper plus nickel plus chromium — Specification (<i>Third Revision</i>)
IS 3082 : 2008/ISO 2936 : 2001	Assembly tools for screws and nuts - hexagon socket screw keys (<i>Third Revision</i>)

3 SHAPE AND DIMENSIONS

The shape and dimensions shall be as Shown in Fig. 1.



*See IS 3082

All dimensions in millimetres.

Fig. 1 Clamp, Flask, Dental

4 MATERIAL

	Component	Material
i)	Frame and lower pressure plate	Brass casting, Grade 3 of IS 304
ii)	Upper pressure plate	Brass casting Grade 2 of IS 304
iii)	Pressure screw	Brass rod, round, of IS 319
iv)	Spring, coil	Stainless steel, Designation X04Cr19Ni9 of IS 1570 (Part 5)
v) X	Lifting loop	Brass wire
vi)	Holding handle	

	a) Rod	Cold rolled steel, cadmium plated (for cadmium plating, see IS 1572)
	b) Ferrule	Steel, chromium-over-nickel plated (for chromium-over-nickel plating, see IS 1068)
	c) Handle	Hardwood
vii)	Hexagonal Key	Steel

5 CONSTRUCTION

The flask clamp shall satisfactorily accommodate two metallic denture flasks or one such flask together with a spacer under pressure during the curing process. The flask clamp shall consist of a frame, pressure screw, upper and lower pressure plates, hexagonal key, holding handle and two springs. The frame base, top, and sides shall be a one-piece construction. The top shall be equipped with a lifting loop for transporting the unit. The top of the frame shall be drilled to receive the steel rod of the holding handle. The pressure screw shall be broached at the top for insertion and actuation by a hexagonal key. The lower half of the pressure screw shall be attached to the pressure plate. The upper pressure plate shall be a one-piece casting. The upper pressure plate shall be notched on ends to fit the sides of the frame. The lower pressure plate shall be notched on the ends to fit the sides of the frame and shall be tapped to receive two screws, inserted as guides for the coil springs, through base of the frame. Two replaceable coiled springs shall be positioned over two bosses integrally cast in the frame base. The lower pressure plate shall be a one-piece construction. The springs shall serve to suspend the lower pressure plate over the frame bottom, serving as spring clamp.

6 WORKMANSHIP AND FINISH

6.1 All castings shall be free from blowholes, porosity, hard spots, shrinkage defects, cracks and other defects.

6.2 External surfaces of castings shall be smooth. All other components shall be smoothly finished.

6.3 All sharp edges shall be rounded.

6.4 In all respects the hexagonal key shall conform to IS 3082.

7 SPRING COMPRESSION

Each spring shall be capable of sustaining a compression load of 90 kgf so that its free length of 33.5 ± 1.5 mm shall be compressed to a height of 21.5 ± 0.8 mm, when tested 'as given in 8.

8 COMPRESSION TEST

The stainless steel coil springs shall be disengaged by removing the two screws from the lower pressure plate assembly. Each spring shall be tested individually by mounting in a suitable apparatus, so that when a compressive force of 90 kgf is applied the height of the compressed spring shall conform to that given in 7.

9 MARKING

9.1 Each flask clamp shall be marked with the manufacturer's name, identification mark or trade-mark and the country of manufacture.

9.2 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 there under, and the product(s) may be marked with the Standard Mark.

10 PACKING

The flask clamp shall be kept in a polyethylene bag and packed in a wooden case. The empty space should be filled by paper cuttings. The flask clamp may also be packed as agreed to between the purchaser and the supplier.