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Mechanical pencils —

Part 1 :

Classification, dimensions, performance requirements
and testing

Porte-mine —

Partie 1 : Classification, dimensions, caractéristiques de fonctionnement et essais



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 9177-1 was prepared by Technical Committee ISO/TC 10, *Technical drawings*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Part 1 :

Classification, dimensions, performance requirements and testing

1 Scope and field of application

This part of ISO 9177 specifies a classification, dimensions, performance requirements and testing for hand-held mechanical pencils used for draughting and writing.

2 References

ISO 128, *Technical drawings — General principles of presentation*.

ISO 9177-2, *Mechanical pencils — Part 2 : Black leads — Classification and dimensions*.

3 Definition

For the purposes of this part of ISO 9177, the following definition applies.

mechanical pencil : Hand-held line-producing tool which holds and feeds out a lead, for draughting and/or writing.

4 Classification

Mechanical pencils shall be classified according to the type of mechanism (see table 1) and to the nominal diameter (see table 2). For the classification and dimensions of the leads (diameter and length), see ISO 9177-2.

Table 1 — Classification according to type of mechanism

Mechanism	Type classification letter	Description	Relevant figure
Push-type	F 1)	Mechanical pencil in which the lead, housed in a barrel, is fed out by actuating a push mechanism	1
	L 2)		2
Screw-type	S	Mechanical pencil in which the lead, housed in a barrel, is fed out by actuating a propelling screw mechanism	3

1) Mainly polymer leads having a nominal diameter of 0,35 to 1 mm.

2) Mainly ceramic leads having a nominal diameter of 2 mm (see ISO 9177-2).

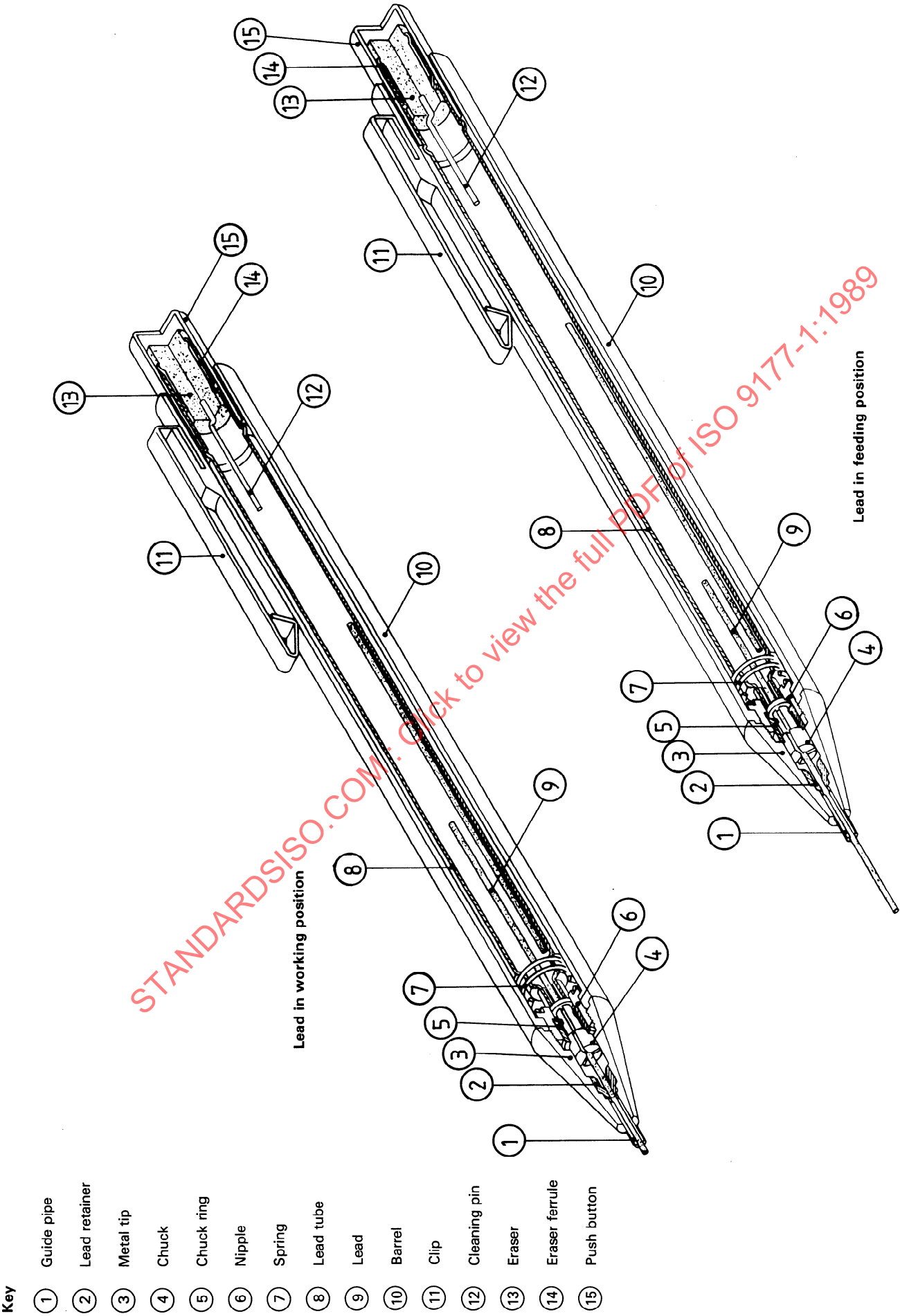


Figure 1 — Mechanical pencil of push-type F

- Key**
- ① Metal tip
 - ② Chuck
 - ③ Lead tube
 - ④ Barrel
 - ⑤ Push button
 - ⑥ Spring
 - ⑦ Clip
 - ⑧ Lead

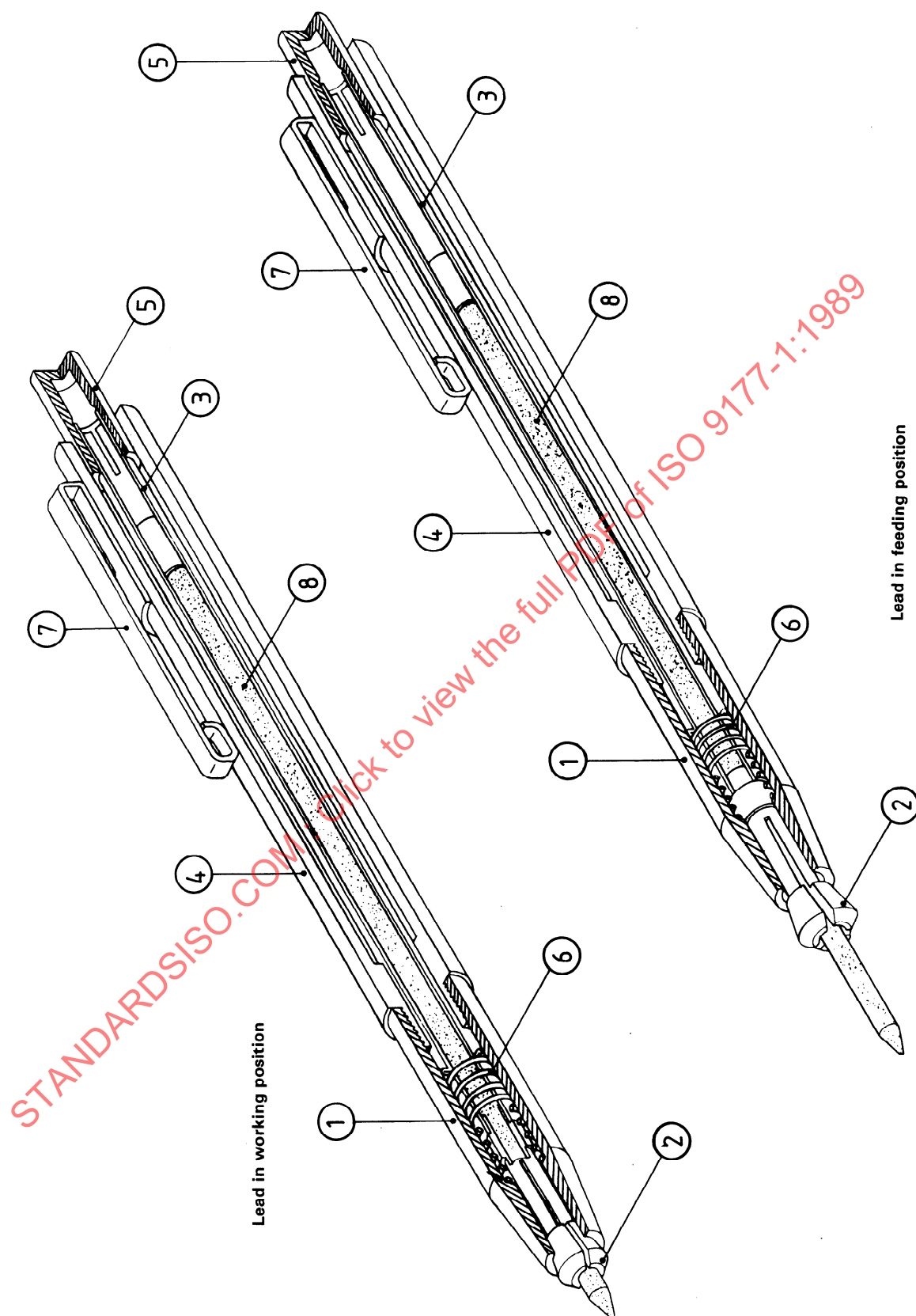


Figure 2 — Mechanical pencil of push-type L

- ① Lead
- ② Guide pipe
- ③ Metal tip
- ④ Nipple
- ⑤ Bushing
- ⑥ Lower barrel
- ⑦ Spiral
- ⑧ Spiral stop
- ⑨ Spiral cover
- ⑩ Sleeve holder
- ⑪ Sleeve
- ⑫ Upper barrel
- ⑬ Eraser ferrule
- ⑭ Lead tube (with guide)
- ⑮ Ejector
- ⑯ Slit tube
- ⑰ Eraser

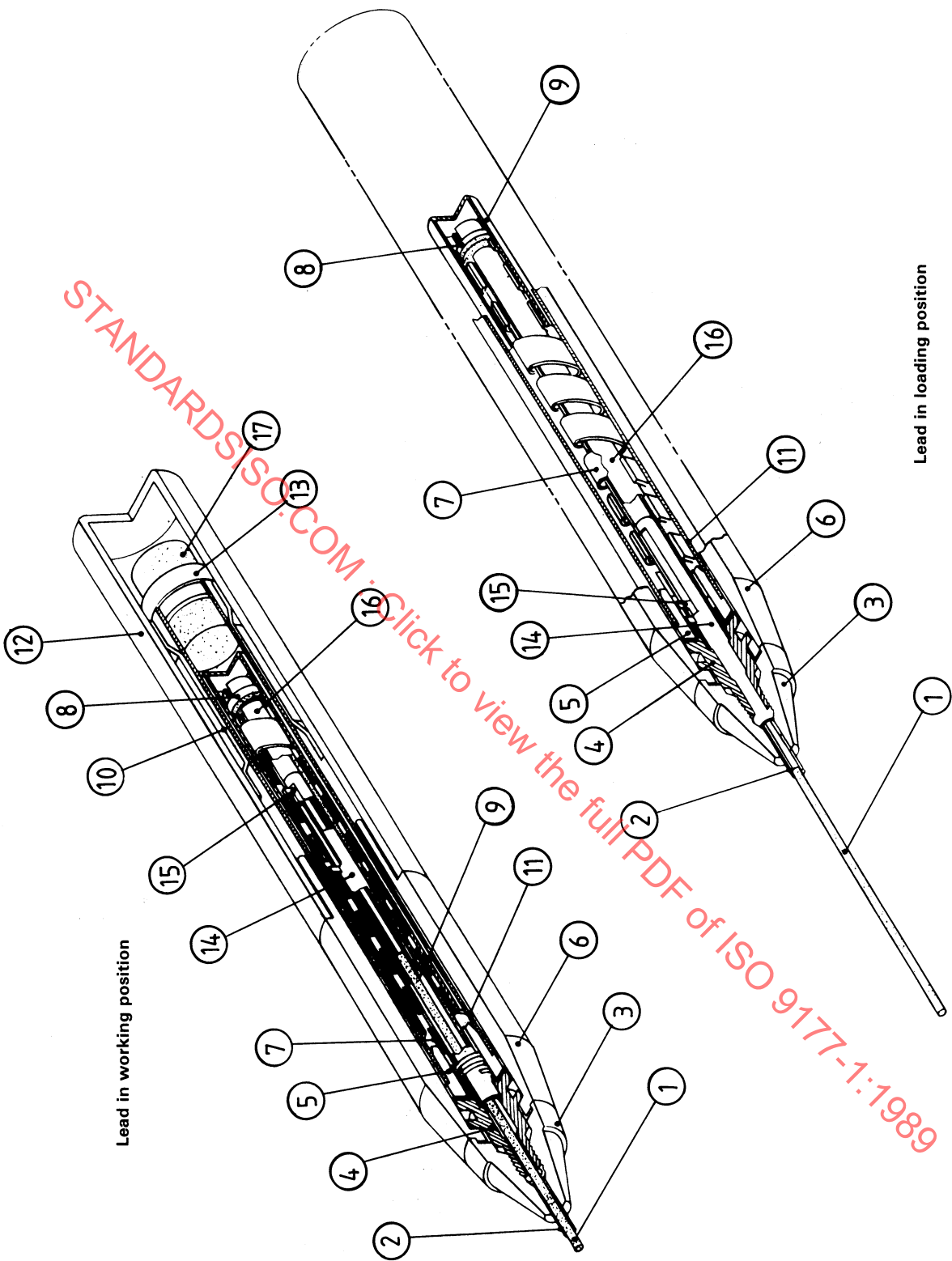


Figure 3 — Mechanical pencil of screw-type S