INTERNATIONAL STANDARD

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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

Reference number
ISO 9177-1 : 1989 (E)

Foreword

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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

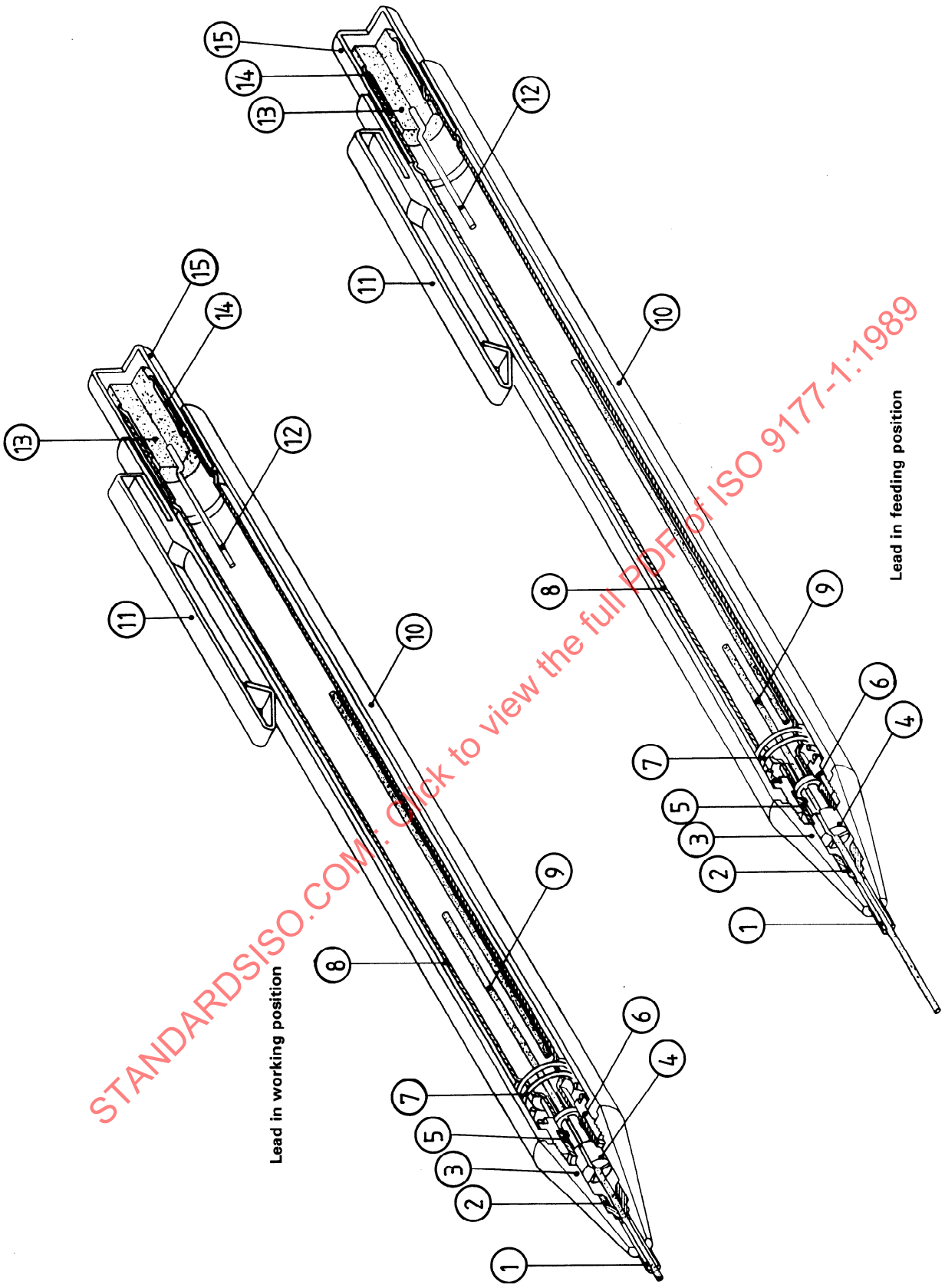
Mechanical pencils shall be classified according to the type of mechanism (see table 1) and to the nominal diameter (see table 2). For the classification and dimensions of the leads (diameter and length), see ISO 9177-2.

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).



Key

1 Guide pipe
2 Lead retainer
3 Metal tip
4 Chuck
5 Chuck ring
6 Nipple
7 Spring
8 Lead tube
9 Lead
10 Barrel
11 Clip
12 Cleaning pin
13 Eraser
14 Eraser ferrule
15 Push button

Figure 1 — Mechanical pencil of push-type F

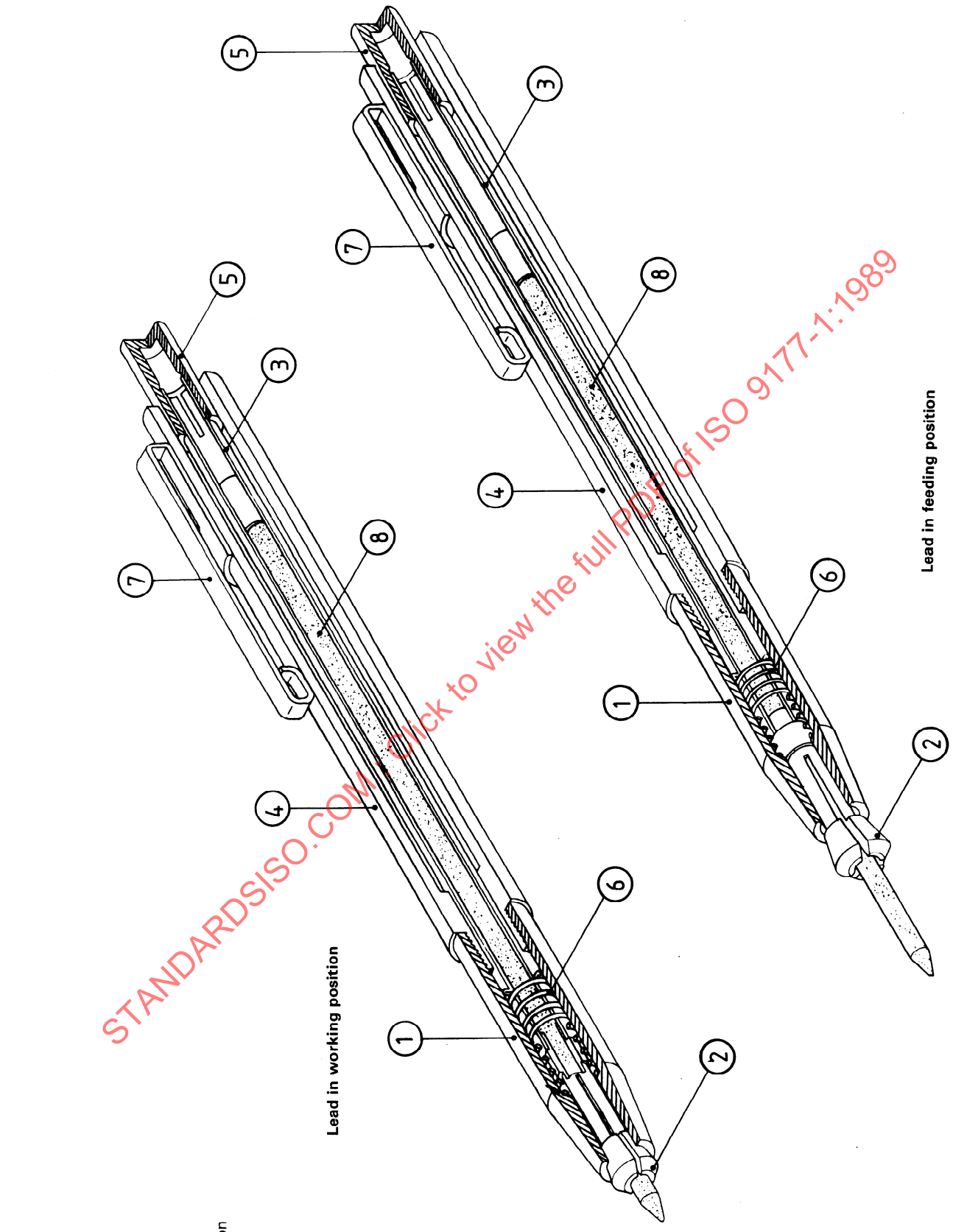


Figure 2 — Mechanical pencil of push-type L

Key

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

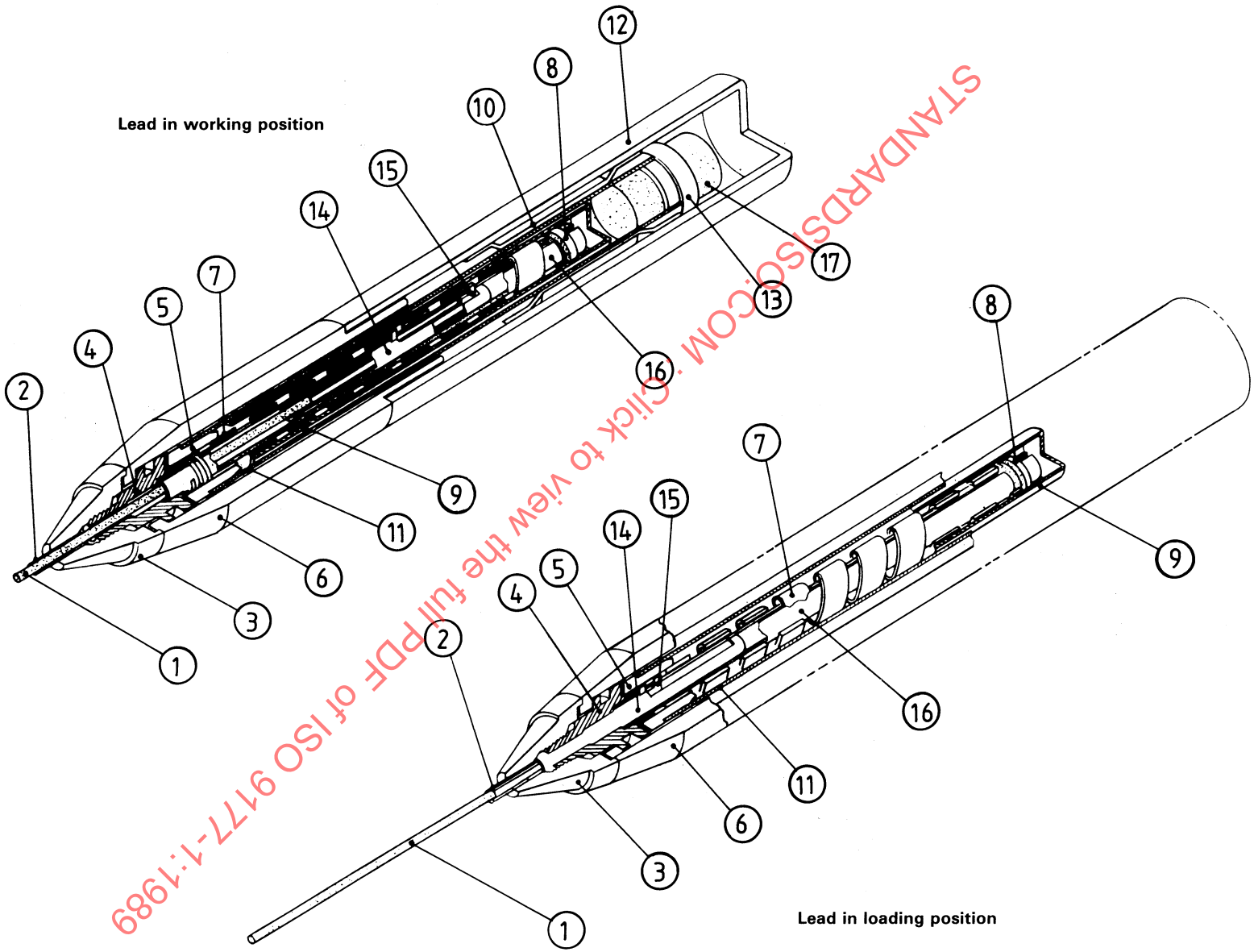


Figure 3 — Mechanical pencil of screw-type S