

# INTERNATIONAL STANDARD

**ISO**  
**9168**

Second edition  
1991-09-01

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## Dental handpieces — Hose connectors

*Pièces à main dentaires — Connexions*

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Reference number  
ISO 9168:1991(E)

## 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 voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 9168 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Sub-Committee SC 4, *Dental instruments*.

This second edition cancels and replaces the first edition (ISO 9168:1988), incorporating Draft Addendum 1:1989.

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## Dental handpieces — Hose connectors

### 1 Scope

This International Standard specifies four types of standard connectors for use between dental handpieces and the flexible hoses of the equipment which supply the handpieces with water, air and light, and provide for the exhaust. The purpose of this International Standard is to achieve reliable interchangeability between hoses and handpieces.

### 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 261:1973, *ISO general purpose metric screw threads — General plan.*

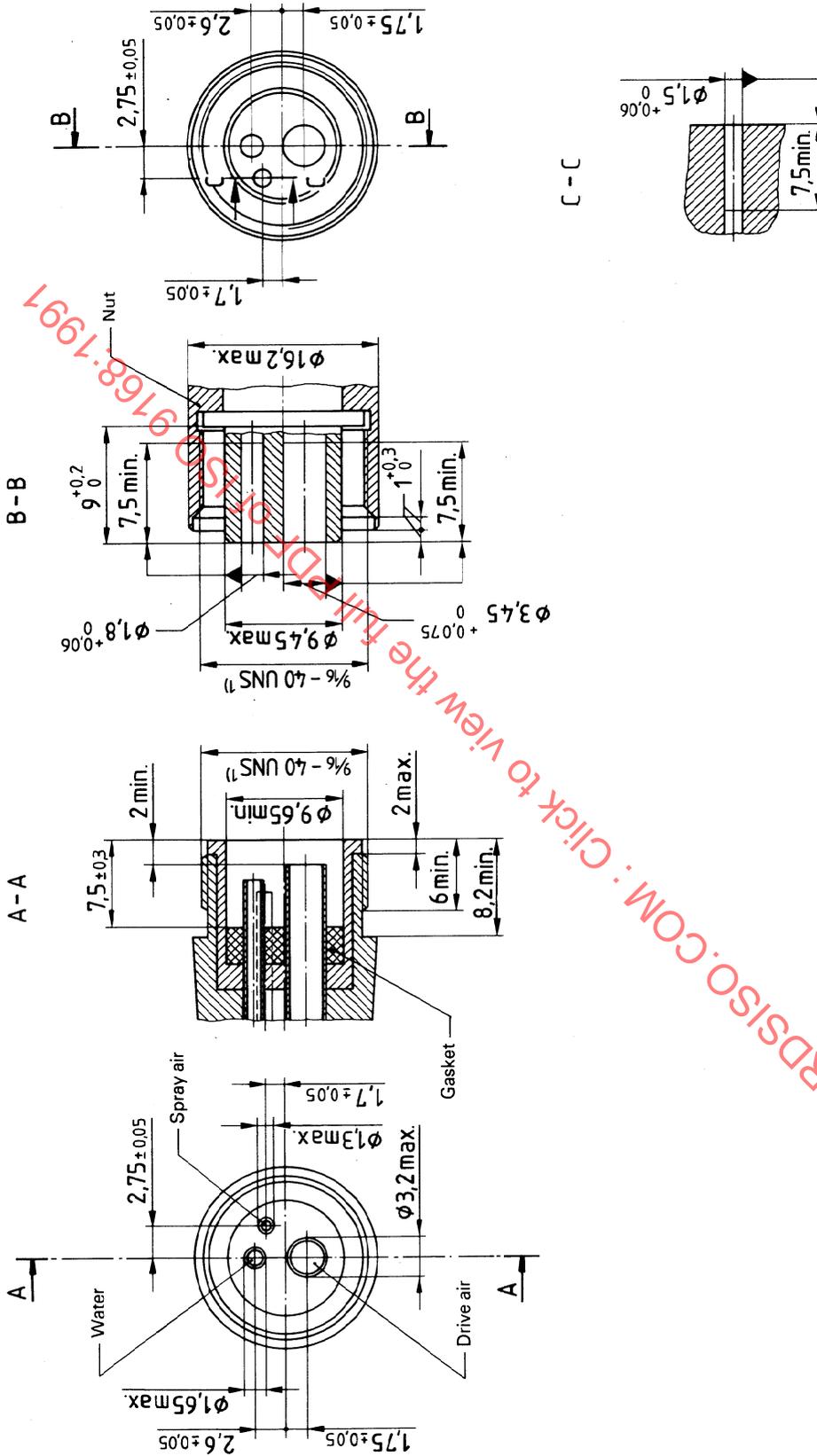
### 3 Classification

For the purposes of this International Standard, hose connectors are designated as the following four types:

- Type A: connector with two or three outlets;
- Type B: connector with four or five outlets;
- Type C: connector with four outlets and electrical contacts;
- Type D: connector with three outlets and connection thread M12 × 0,5.

### 4 Dimensional requirements

The dimensions, the outlet configuration and the use of the outlets shall be as specified in figure 1, figure 2, figure 3 and figure 4 respectively. The thread characteristics for types A, B and C shall be as specified in table 1. The thread characteristics for type D (M12 × 0,5) shall be in accordance with ISO 261.



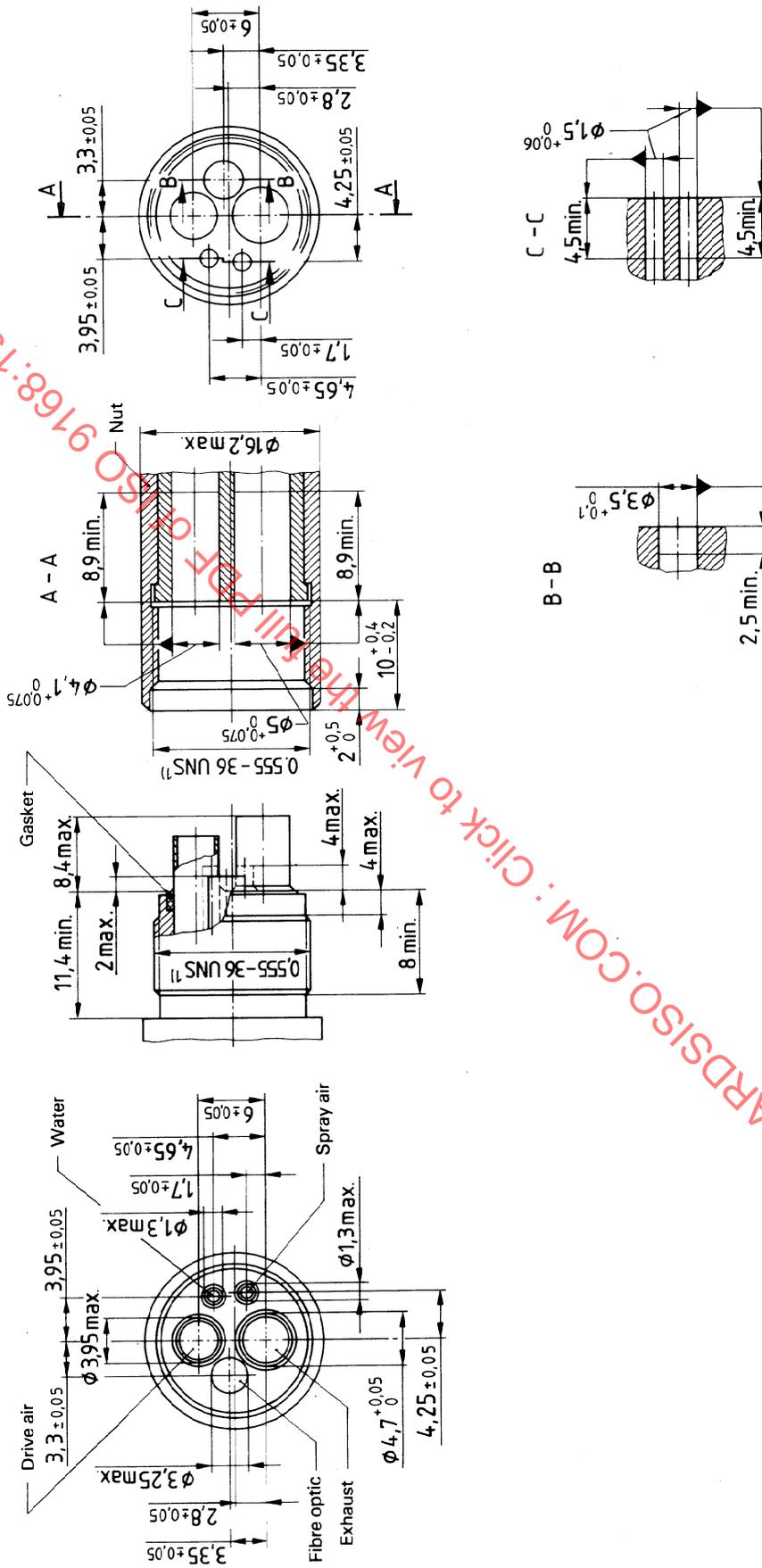
b) Hose part

a) Handpiece part

1) See table 1 for thread characteristics

Figure 1 — Type A connector

Dimensions in millimetres



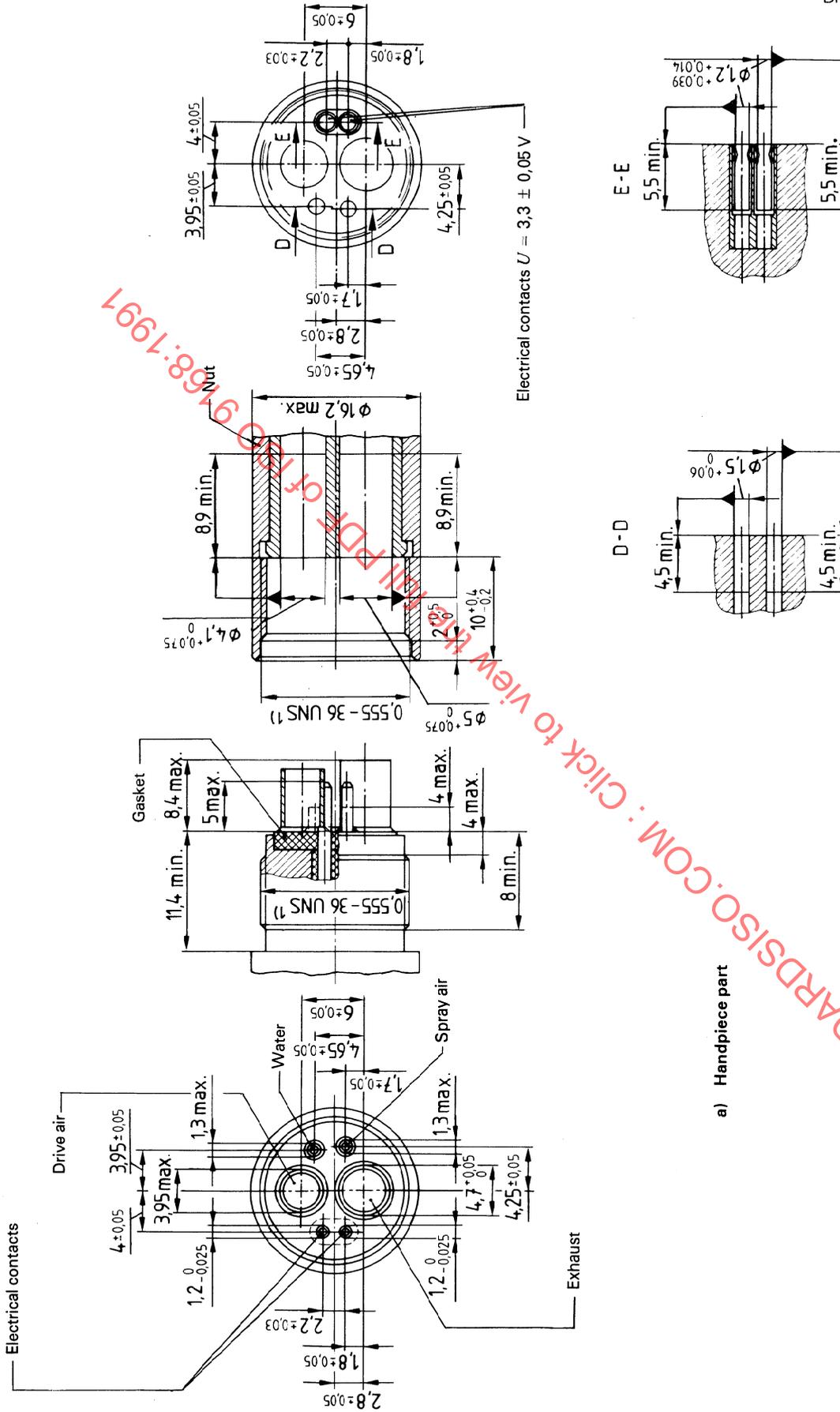
b) Hose part

a) Handpiece part

1) See table 1 for thread characteristics.

Figure 2 — Type B connector

Dimensions in millimetres



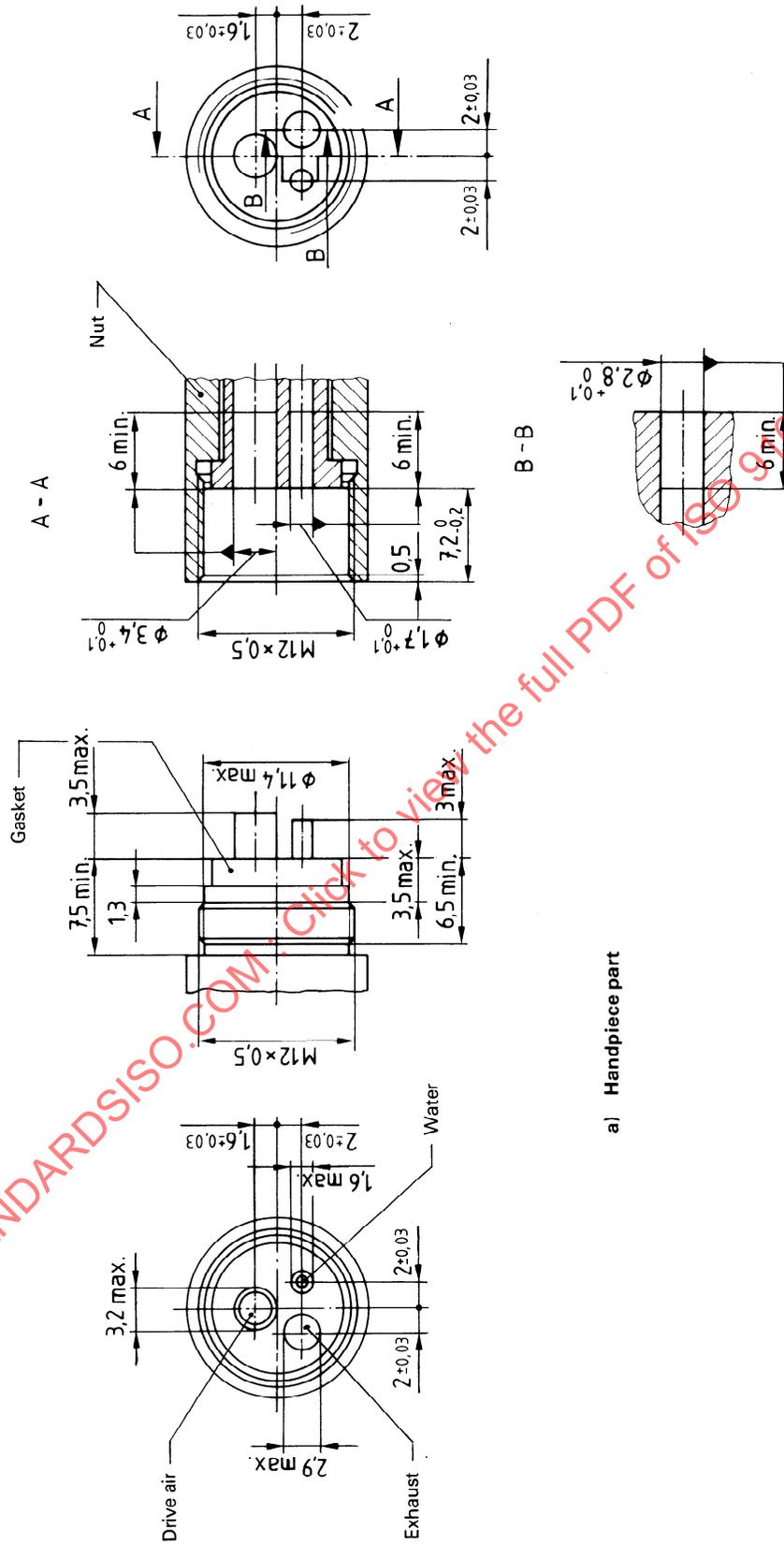
b) Hose part

a) Handpiece part

1) See table 1 for thread characteristics

Figure 3 — Type C connector

Dimensions in millimetres



a) Handpiece part

b) Hose part

Figure 4 — Type D connector

Table 1 — Thread characteristics

Dimensions in millimetres

Thread characteristics			Dimensions of single-start right-hand thread for		
			type A connectors	type B connectors	type C connectors
Thread designation <sup>1)</sup>			9/16 - 40 UNS	0,555 - 36 UNS	0,555 - 36 UNS
Pitch			0,635	0,706	0,706
Thread angle			60°	60°	60°
Major diameter	Internal thread	max.	14,379	14,198	14,198
		min.	14,287	14,097	14,097
	External thread	max.	14,262	14,071	14,071
		min.	14,133	13,932	13,932
Basic major diameter			14,289	14,097	14,097
Pitch diameter	Internal thread	max.	13,980	13,777	13,777
		min.	13,876	13,640	13,640
	External thread	max.	13,851	13,614	13,614
		min.	13,769	13,530	13,530
Basic pitch diameter			13,876	13,640	13,640
Minor diameter	Internal thread	max.	13,767	13,512	13,512
		min.	13,589	13,335	13,335
	External thread	max.	13,482	13,208	13,208
		min.	13,437	13,157	13,157
<p>1) The screw threads 9/16 - 40 UNS and 0.555 - 36 UNS used for the connectors are based on ANSI B1.1-1982, <i>Unified inch screw threads (UN and UNR thread form)</i>. The diameter/pitch combinations specified in this International Standard are not, however, included in ANSI B1.1; the necessary thread characteristics are, therefore, specified in this table.</p>					

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