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Tyre valves for aircraft — Interchangeability dimensions

Valves pour pneumatiques d'aéronefs — Dimensions d'interchangeabilité

Reference number
ISO 7295:1988 (E)

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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 7295 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*.

This second edition cancels and replaces the first edition (ISO 7295: 1982), of which it constitutes a minor revision.

Annex A forms an integral part of this International Standard.

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Tyre valves for aircraft — Interchangeability dimensions

1 Scope

This International Standard specifies the basic dimensional requirements for interchangeability of tyre valve core with the tyre valve stem and to permit assembly of the cap and ground inflation connection of the source of compressed air or nitrogen supply to the tyre.

Functional requirements of the valve core or valve cap are not covered by this International Standard.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were 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 editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4570-1: 1977, *Tyre valve threads — Part 1 : Threads 5V1, 5V2, 6V1 and 8V1.*

ISO 7442: 1982, *Tyre valves — ISO core chamber No. 1.*

3 Dimensions and tolerances

3.1 The dimensions ensuring interchangeability between the tyre valve stem, core and cap shall be in accordance with the normal commercial design of the tyre valve manufacturer.

3.2 Figures 1 and 2 illustrate the general assembly of the stem, core and cap for both long and short cores.

3.3 Figures 3 and 4 present dimensions essential for interchangeability between stem and cap, and stem and core. The core chamber in the valve stem shall accommodate the long valve core to ensure that both the long and short valve cores may be used as required.

3.4 Figures 5, 6 and 7 specify the interchangeability dimensions for short and long cores of the tyre valve.

3.5 Figure 8 specifies the dimensions necessary for the cap assembly intended for a sealable connection on valves having a thread as given in figure 3 and a valve mouth as described in note 2 of figure 3.

3.6 A tyre valve assembled in an aircraft wheel fitted to an aircraft shall have an access space sufficient to enable connection of the ground inflation hose and connector, and also for assembly of the valve core and valve cap, when arctic gloves are worn. This access space shall conform to the dimensions given in annex A.

ISO 7295: 1988 (E)

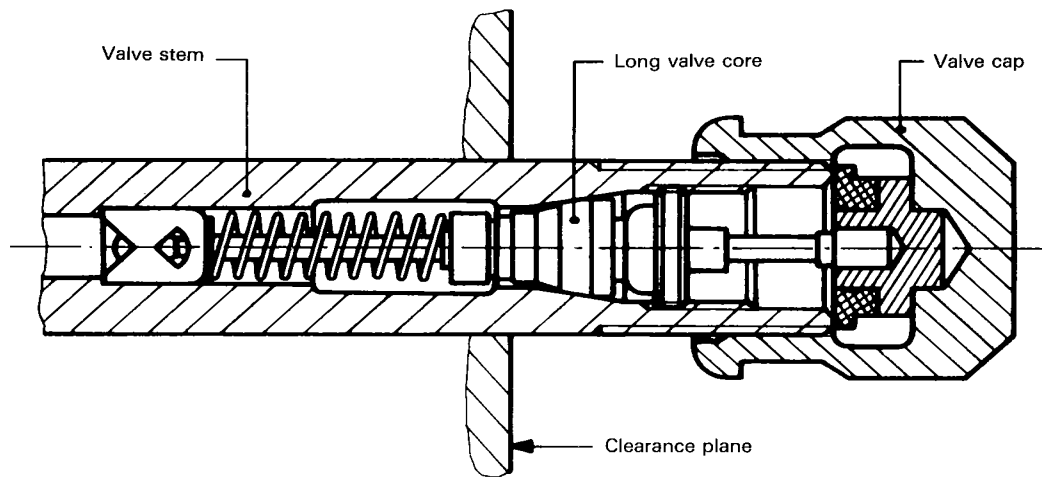


Figure 1 — General assembly for long core

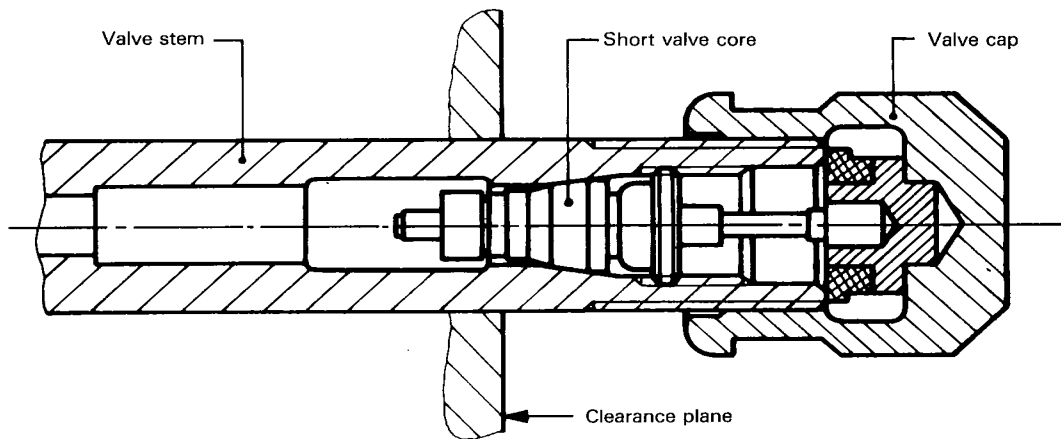
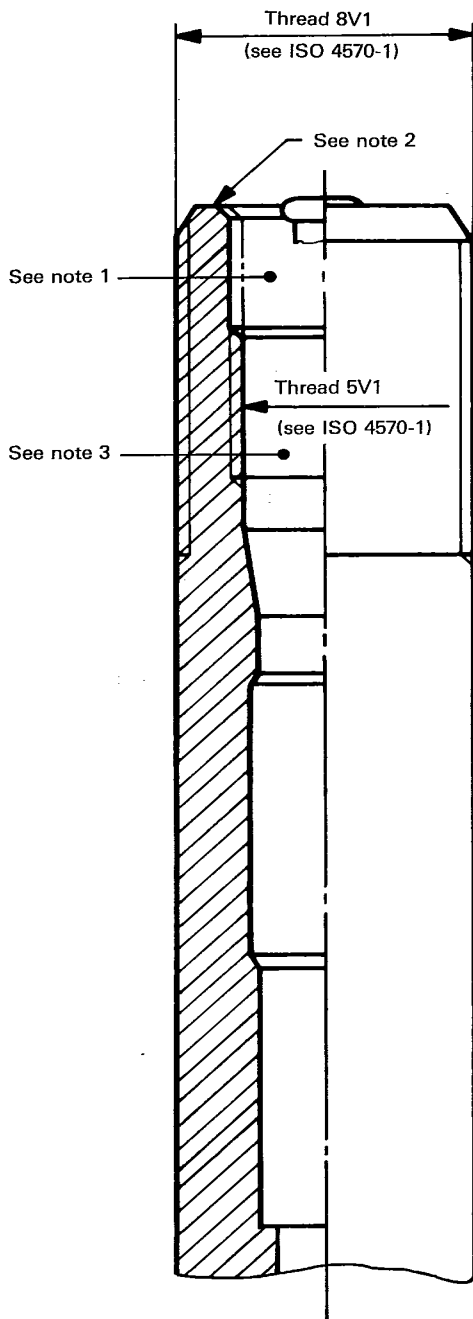


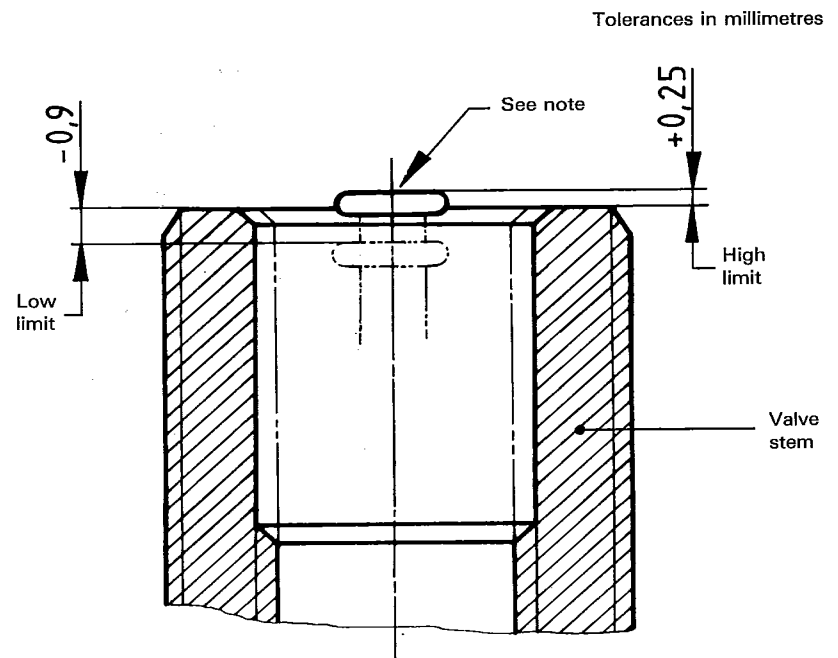
Figure 2 — General assembly for short core



NOTES

- 1 The counterbore of the valve mouth is optional. (See annex of ISO 7442.)
- 2 The surface shall be smooth to effect sealing with the swivel gasket of the valve cap.
- 3 The valve core chamber shall conform to ISO 7442.

Figure 3 — Valve stem for both short and long cores



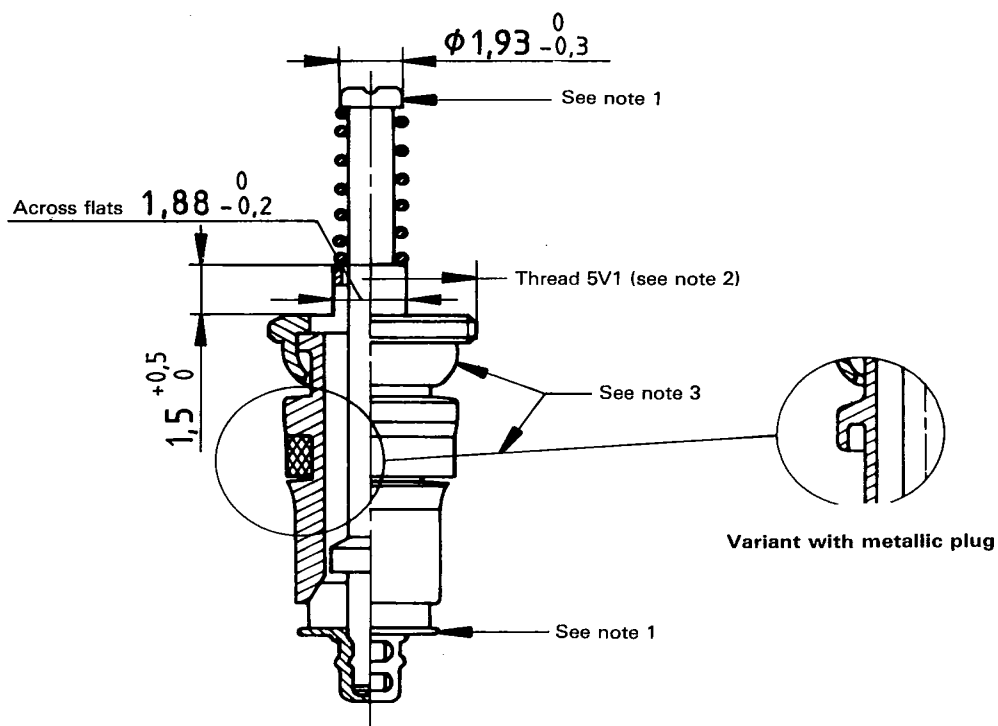
NOTE — The pin head shall not be more than 0,25 mm above or 0,9 mm below the valve mouth after inserting the core at a torque of

- 0,17 N·m to 0,34 N·m for a core with an elastomeric barrel gasket;
- 0,34 N·m to 0,54 N·m for a core with a metallic sealing gasket.

Figure 4 — Core pin head position — Tolerances

ISO 7295: 1988 (E)

Dimensions in millimetres

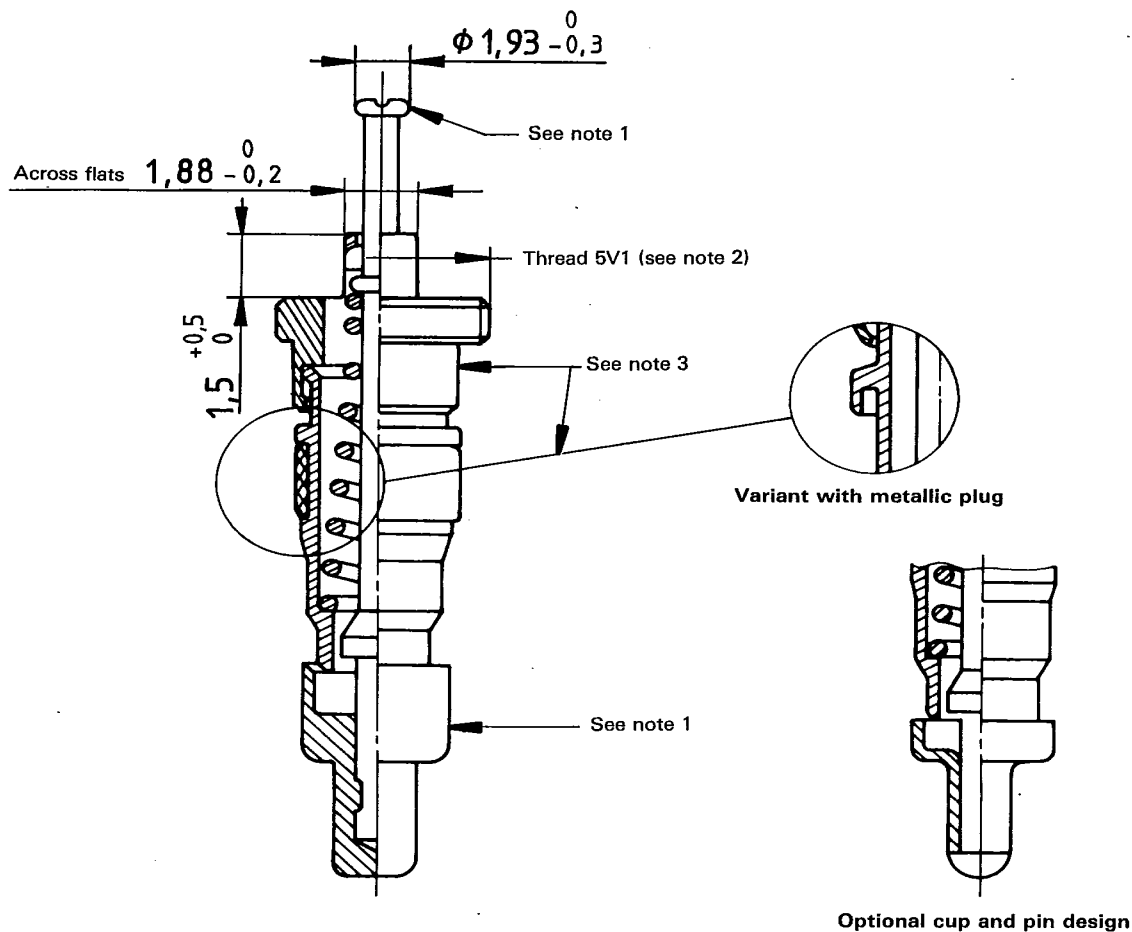


NOTES

- 1 Aircraft valve cores shall be identified by a brass- or copper-coloured core pin with a groove in the pin head and by a brass- or copper-coloured plunger cup.
- 2 For cores with less than four threads, apply "exception a)" of ISO 4570-1 to the 5V1 thread.
- 3 The swivel shall be rotatable in relation to the barrel.

Figure 5 — Short core with outside spring

Dimensions in millimetres

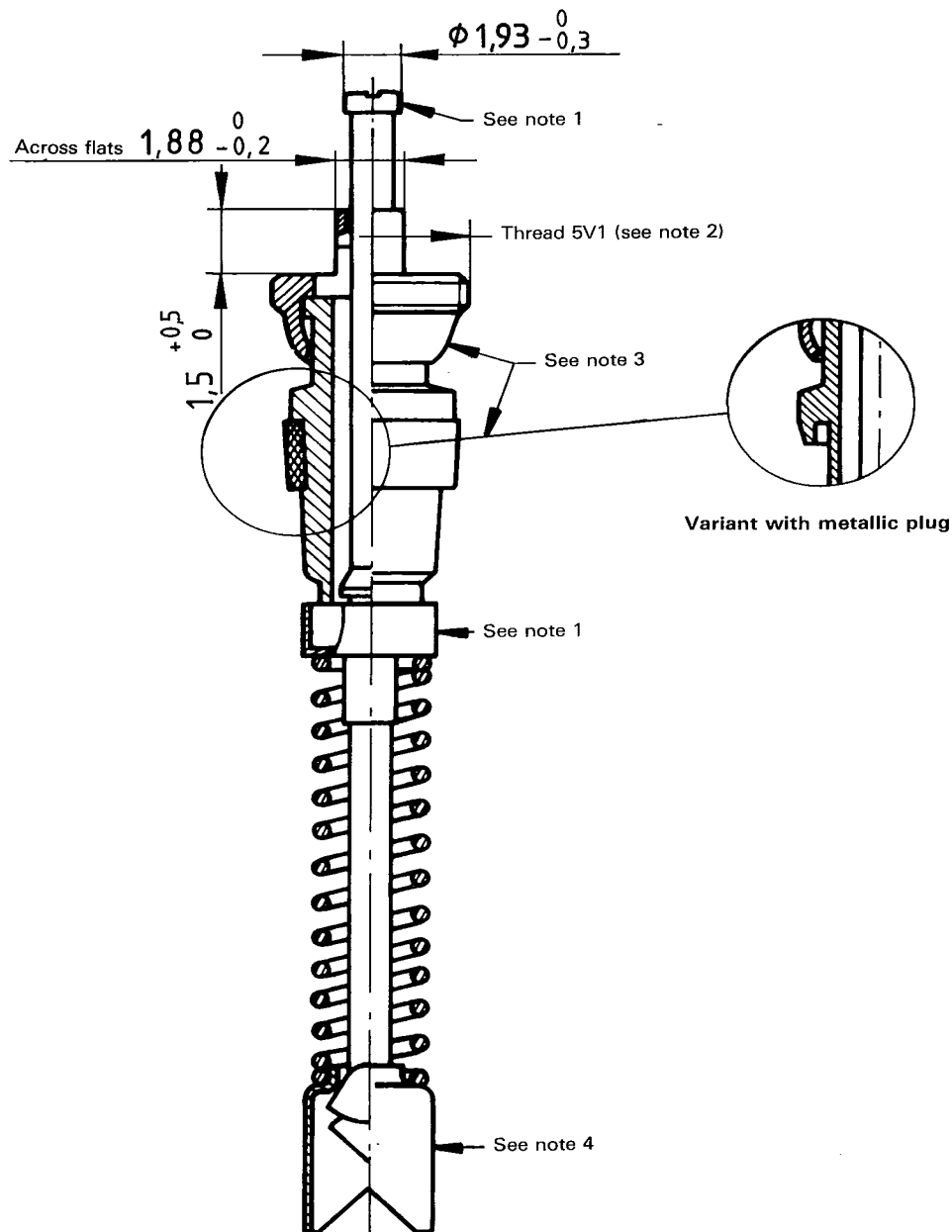


NOTES

- 1 Aircraft valve cores shall be identified by a brass- or copper-coloured core pin with a groove in the pin head and by a brass- or copper-coloured plunger cup.
- 2 For cores with less than four threads, apply "exception a)" of ISO 4570-1 to the 5V1 thread.
- 3 The swivel shall be rotatable in relation to the barrel.

Figure 6 — Short core with inside spring

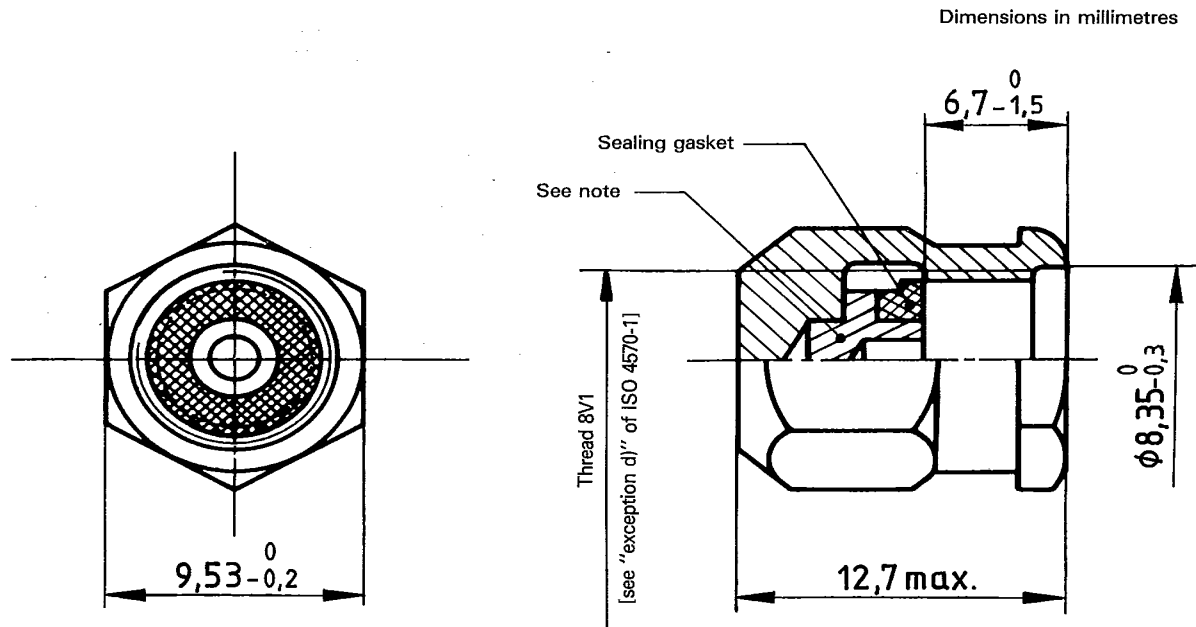
Dimensions in millimetres



NOTES

- 1 Aircraft valve cores shall be identified by a brass- or copper-coloured core pin with a groove in the pin head and by a brass- or copper-coloured plunger cup.
- 2 For cores with less than four threads, apply "exception a)" of ISO 4570-1 to the 5V1 thread.
- 3 The swivel shall be rotatable in relation to the barrel.
- 4 The spring cup of the long core is optional in configuration. However, it shall fit the core chamber of the aircraft tyre valve as defined in figure 3.

Figure 7 — Long core



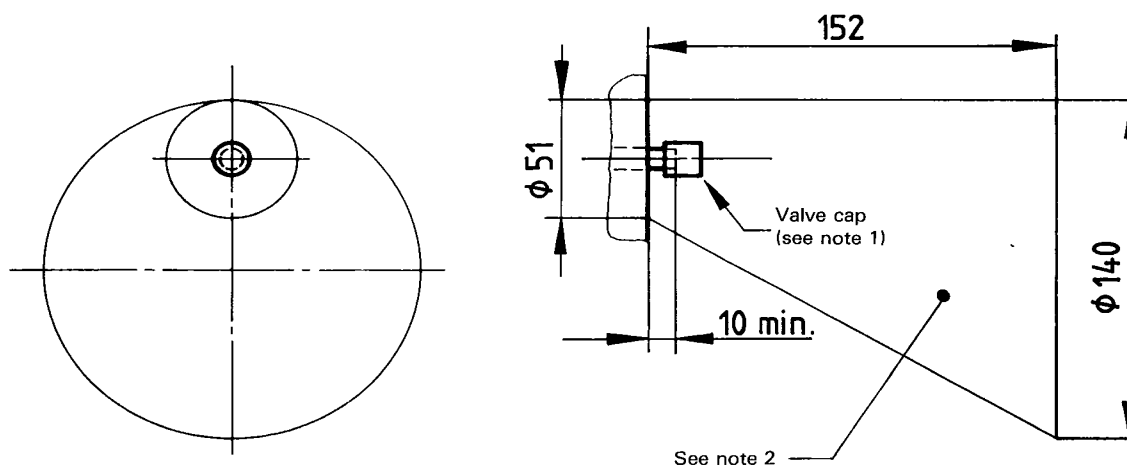
NOTE — The valve cap shall be fitted with a sealing gasket.

Figure 8 — Valve cap

Annex A (normative)

Access space (see 3.6)

Dimensions in millimetres



NOTES

- 1 The valve complete with cap shall not project beyond the width of the wheel.
- 2 To ensure free access to the valve with arctic gloves for inflation, no obstruction by any part of the wheel or aircraft shall be allowed to encroach within the envelope shown above.

Figure A.1 — Dimensions of access space to valve mouth

ISO 7295 : 1988 (E)

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Descriptors : aircraft, aircraft equipment, tyres, pneumatic tyres, tyre-valves, dimensions.

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