



SLOVENSKI STANDARD SIST ISO 7121:2000

01-september-2000

Jekleni krogelni ventili s prirobnicami

Flanged steel ball valves

Robinets à tournant sphérique en acier, à brides

Ta slovenski standard je istoveten z: **ISO 7121:1986**

[SIST ISO 7121:2000](https://standards.iteh.ai/catalog/standards/sist/1a7be83b-1fee-4876-aacd-2b05ca60a122/sist-iso-7121-2000)

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ICS:

23.060.20	Zapirni ventili (kroglasti in pipe)	Ball and plug valves
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International Standard



7121

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Flanged steel ball valves

Robinets à tournant sphérique en acier, à brides

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Ref. No. ISO 7121-1986 (E)

Descriptors : steel products, valves, flanged valves, plug- and ball valves, specifications, dimensions, marking.

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.

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 7121 was prepared by Technical Committee ISO/TC 153, *Valves*.

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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Flanged steel ball valves

0 Introduction

The intent of this International Standard is the establishment of basic requirements for flanged steel ball valves.

1 Scope and field of application

This International Standard specifies requirements for flanged steel ball valves ISO PN10 to ISO PN100, sizes DN10 to DN500.

2 References

ISO 7/1, *Pipe threads where pressure tight joints are made on the threads — Part 1: Designation, dimensions and tolerances.*

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

ISO 263, *ISO inch screw threads — General plan and selection for screws, bolts and nuts — Diameter range 0.06 to 6 in.*

ISO 5208, *Industrial valves — Pressure testing for valves.*

ISO 5209, *General purpose industrial valves — Marking.*

ISO 5752, *Metal valves for use in flanged pipe systems — Face-to-face and centre-to-face dimensions.*

ISO 6708, *Pipe components — Definition of nominal size.*

ISO 7005/1, *Metallic flanges — Part 1: Steel flanges.*¹⁾

ISO 7268, *Pipe components — Definition of nominal pressure.*

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 6708 and ISO 7268 and the following definitions apply.

3.1 face-to-face dimensions: Distance between the two planes perpendicular to the body axis located at the extremities of the body ends.

3.2 anti-static design: Design which ensures electrical continuity between the body, ball and stem of the valve.

3.3 anti-blow-out stem: Design that ensures the valve stem cannot be blown out of the body in the event of the gland being removed while the valve is under pressure.

3.4 effective diameter: Manufacturer's minimum diameter through the flow passage of the valve when in the fully open position.

4 Patterns

Valves shall be "full-bore" or "reduced bore" (see figure 1) with face-to-face dimensions in accordance with ISO 5752.

NOTE — In certain large ISO PN10, and ISO PN16 and ISO PN20 short series valves, the ball in the fully or partially closed position may protrude beyond the end of the flange faces.

5 Nominal sizes

The nominal sizes, in DN values, shall be as follows:

10; 15; 20; 25; 32; 40; 50; 65; 80; 100; (125); 150; 200; 250; 300; 350; 400; 450; 500.

The size enclosed in brackets should be avoided in new constructions.

6 Nominal pressure range

The range of nominal pressures, in ISO PN values, is as follows:

10; 16; 20; 25; 40; 50; 100.

7 Pressure/temperature ratings

Pressure/temperature ratings for the shell shall be as specified in the appropriate material tables of ISO 7005/1 but may be limited by any seat material pressure/temperature limitation.

1) At present at the stage of draft.

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These pressure/temperature limitations shall be determined by the manufacturer and shall be shown on the identification plate (see 12.3).

8 Design

Terminology used is shown in figure 3.

8.1 Body

8.1.1 General

Bodies can be of one piece or split construction [see figure 2 b)]

In the case of split body type valves, the design strength of the split body joint or joints shall at least correspond to that of the body end flange.

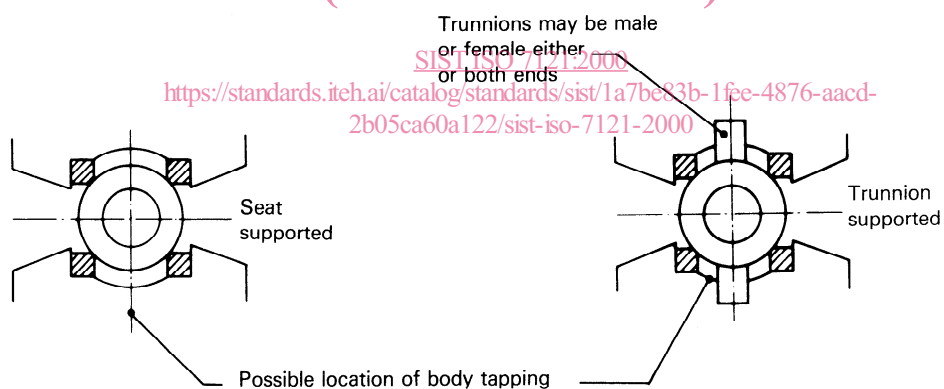
When so specified by the purchaser, arrangements shall be made to provide overpressure protection for the body cavity.

8.1.2 Body wall thickness (see figure 4)

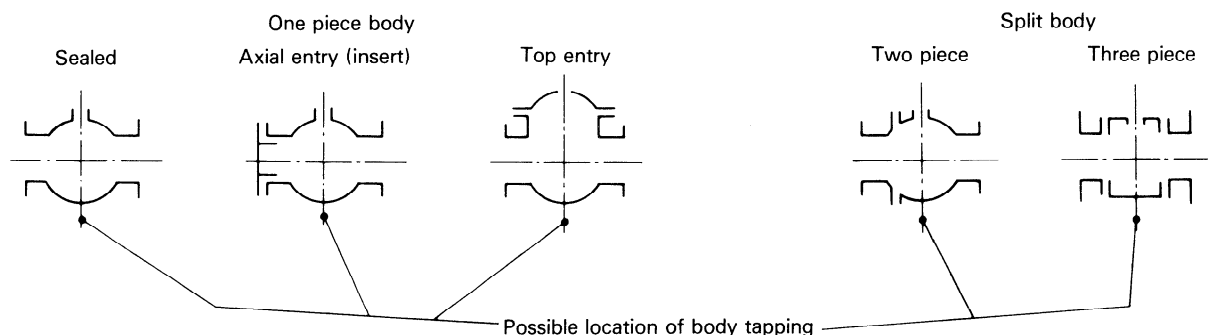
8.1.2.1 The minimum wall thickness, t_m , at the time of manufacture shall be as given in table 1, except as indicated in 8.1.2.2 and 8.1.2.3.



Figure 1 — Valve patterns
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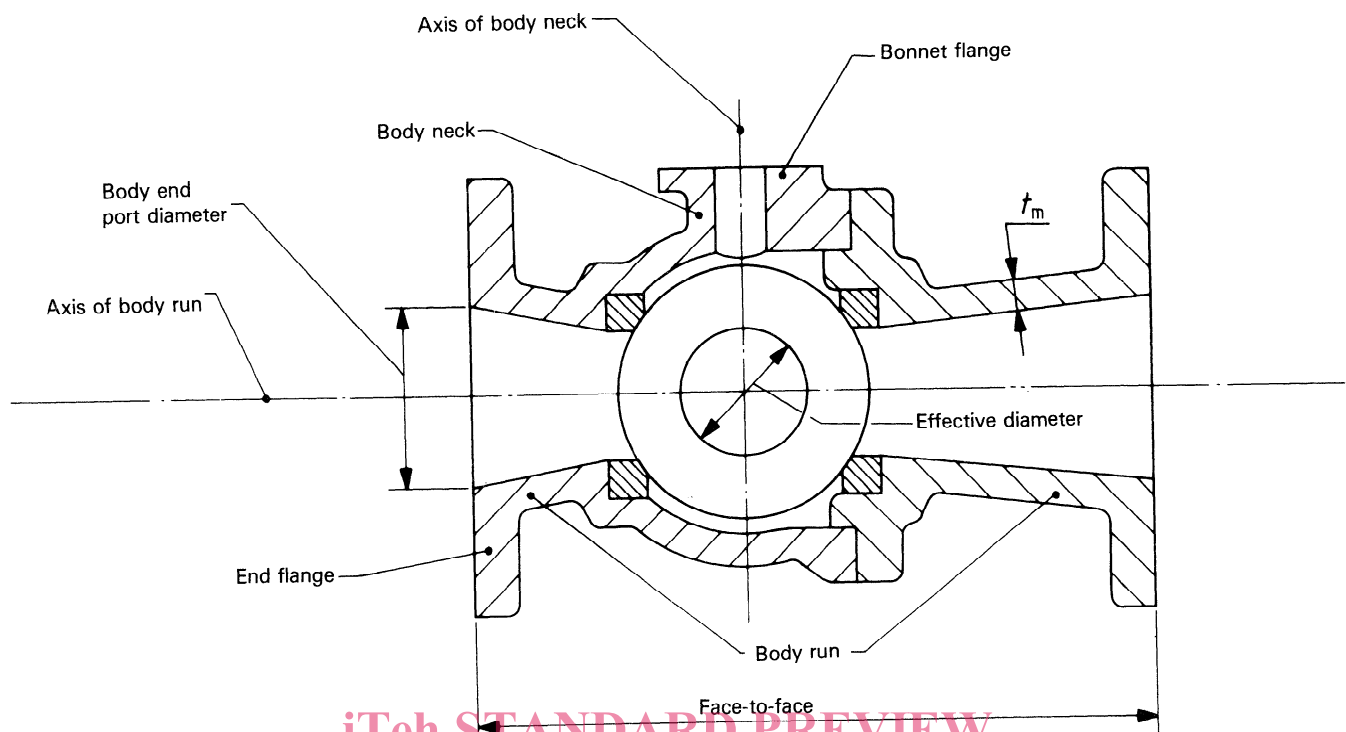


a) Type of ball



b) Type of body

Figure 2 — Typical ball valve construction variants with optional body tapping locations



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Figure 3 — Valve terminology

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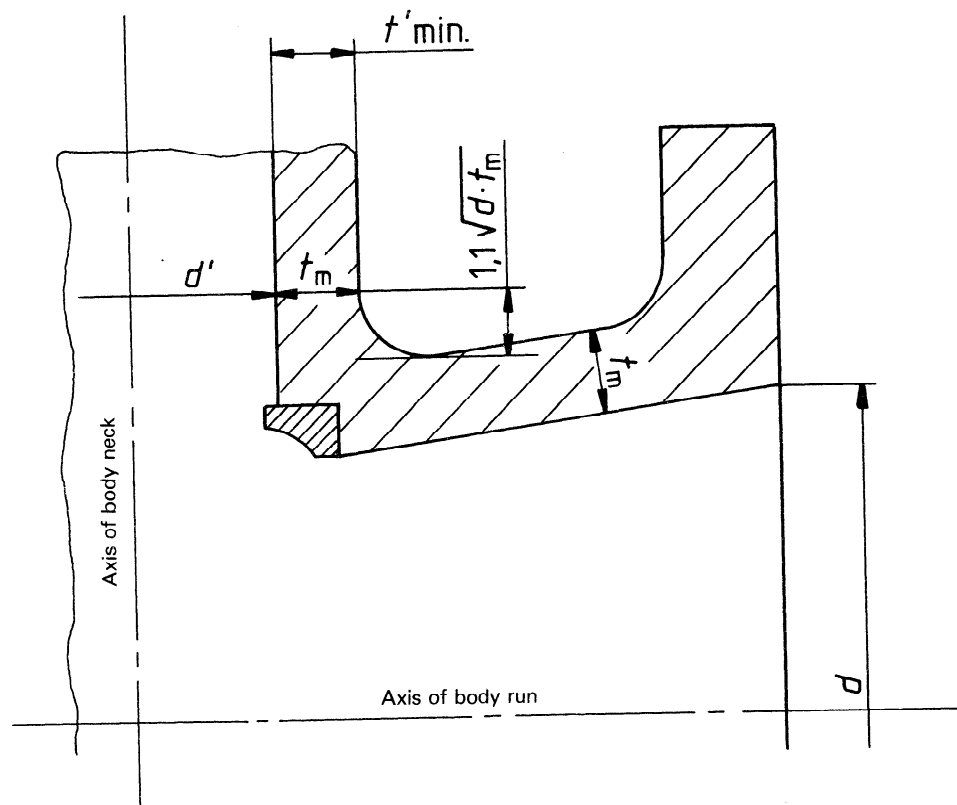


Figure 4 — Wall thickness requirements