
**Gas cylinders — Parallel threads for
connection of valves to gas cylinders —**

**Part 2:
Gauge inspection**

*Bouteilles à gaz — Filetages parallèles pour le raccordement des robinets
sur les bouteilles à gaz —*

Partie 2: Contrôle par calibre



Reference number
ISO 15245-2:2001(E)

© ISO 2001

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2001

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Contents

Page

Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions.....	1
4 Requirements	2
4.1 Materials.....	2
4.2 Thread profile	2
4.3 Thread rotation.....	2
4.4 Pitch	2
5 Gauge dimensions.....	3
6 Inspection gauges	3
7 Use of inspection gauges	5
7.1 Plain gauges.....	5
7.2 Accept or reject criteria using plug gauges.....	5
8 Verification of inspection gauges	6
8.1 General.....	6
8.2 Plug gauges.....	6
9 Identification.....	6
Bibliography	7

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this part of ISO 15245 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15245-2 was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 2, *Cylinder fittings*.

ISO 15245 consists of the following parts, under the general title *Gas cylinders — Parallel threads for connection of valves to gas cylinders*:

- *Part 1: Specification*
- *Part 2: Gauge inspection*

Gas cylinders — Parallel threads for connection of valves to gas cylinders —

Part 2: Gauge inspection

1 Scope

This part of ISO 15245 specifies types, dimensions and principles of use of gauges to be used in conjunction with the sealing systems of the parallel threads specified in ISO 15245-1.

The threads themselves are gauged using GO and NOT GO gauges as described in ISO Recommendation 1502.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 15245. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 15245 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 68-1, *ISO general purpose screw threads — Basic profile — Part 1: Metric screw threads*

ISO 724, *ISO general-purpose metric screw threads — Basic dimensions*

ISO 15245-1, *Gas cylinders — Parallel threads for connection of valves to gas cylinders — Part 1: Specification*

3 Terms and definitions

General definitions for parallel thread gauging are given in ISO 1502.

For the purposes of this part of ISO 15245, the following terms and definitions apply.

3.1

GO and NOT GO plain plug gauges

3.1.1

GO gauge

gauge designed to advance into or over a component in order to witness that the component is within its correct dimension and tolerance band

NOTE Failure to advance into or over the component is reason for rejection.

3.1.2

NOT GO gauge

gauge designed not to advance into or over a component if the component is outside its correct dimension and tolerance band

NOTE 1 If the gauge does advance into or over the component this is reason for rejection.

NOTE 2 Both GO and NOT GO gauges are used to assess the conformity of the component.

3.2

recess depth plug gauge

GO and NOT GO plain plug gauge used for checking the depth of the sealing recess

See Figure 1.

3.3

recess diameter plug gauge

plain plug gauge used for checking the diameter of the sealing recess

See Figure 2.

3.4

thread relief plug gauge

GO and NOT GO plain plug gauge used for checking the dimensions of the thread relief

See Figure 3.

4 Requirements

4.1 Materials

All gauges shall be manufactured from material of suitable strength, stability and hardness.

4.2 Thread profile

The thread profile shall be in accordance with the basic profile of metric screw threads (see ISO 68-1) with a 60° angle. The form and thread height measurements are perpendicular to the axis of the thread.

4.3 Thread rotation

The thread shall be a right hand thread such that it moves away from an observer when rotated clockwise.

4.4 Pitch

The pitches of the threads are as follows:

- M18: 1,5 mm (see ISO 724);
- M25: 2 mm (see ISO 724);
- M30: 2 mm (see ISO 724).

5 Gauge dimensions

The dimensional requirements shown in Tables 1 to 3 apply to the gauges shown in Figures 1 to 3 respectively.

All dimensions are given in millimetres.

Unspecified dimensions shall be chosen by the manufacturer of the gauges.

6 Inspection gauges

Three typical plain plug gauges are shown in Figures 1 to 3 and their dimensions and tolerances in Tables 1 to 3.

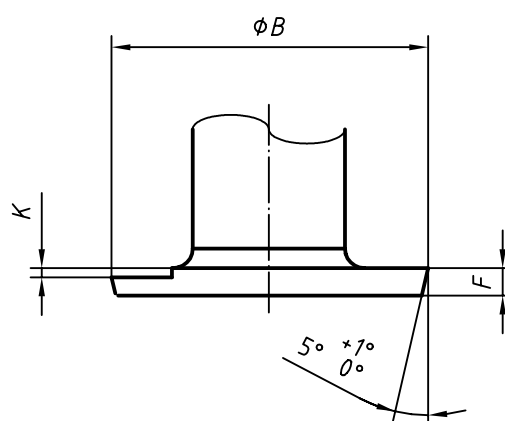


Figure 1 — Recess depth plug gauge (gauge No. 1)

Table 1 — Dimensions of recess depth plug gauge

Thread size	Dimensions		
	B 0 -0,05	F 0 -0,014	K $\pm 0,01$
M18 × 1,5	23,5	2,3	0,4
M25 × 2	32,1	3,2	0,5
M30 × 2	37,1	3,2	0,5

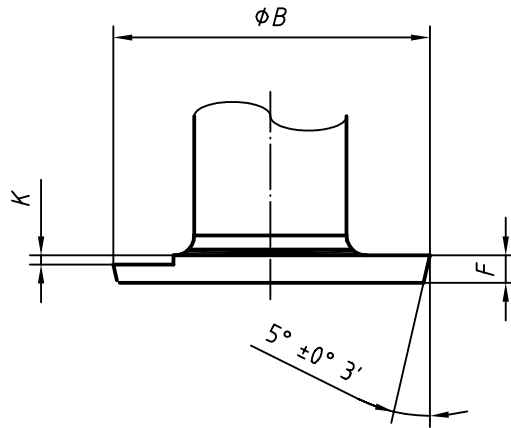
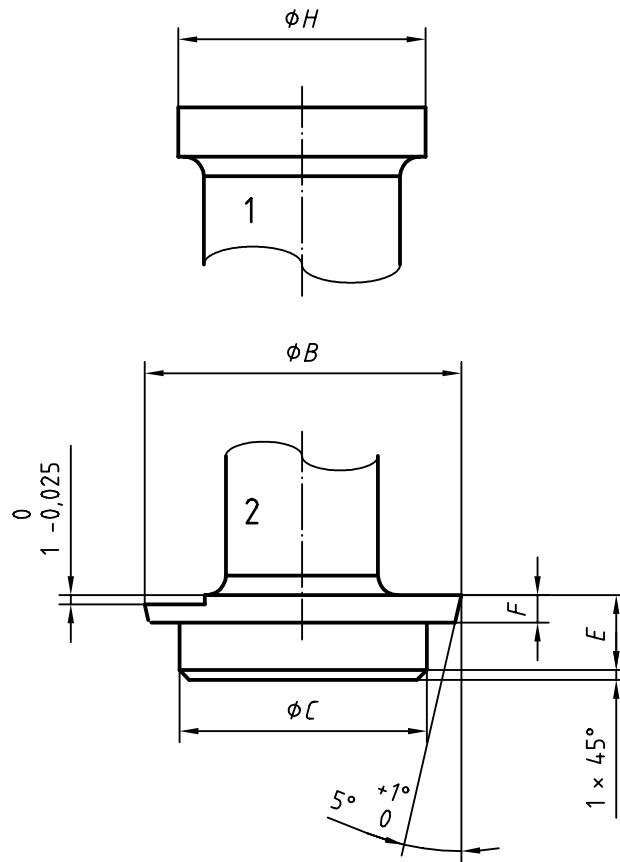


Figure 2 — Recess diameter plug gauge (gauge No. 2)

Table 2 — Dimensions of recess diameter plug gauge

Thread size	Dimensions		
	B +0,013 +0,007	F $\pm 0,03$	K $\pm 0,01$
M18 × 1,5	23,83	1,8	0,97
M25 × 2	32,53	2,5	1,43
M30 × 2	37,53	2,5	1,43



Key

- 1 NOT GO
- 2 GO

Figure 3 — Thread relief plug gauge (gauge No. 3)

Table 3 — Dimensions of thread relief plug gauges

Thread size	Dimensions				
	B 0 -0,05	C +0,021 +0,012	H 0 -0,009	E 0 -0,025	F $\pm 0,03$
M18 \times 1,5	23,5	18,33	18,63	6	1,5
M25 \times 2,0	32,1	25,33	25,63	7	2,16
M30 \times 2,0	37,1	30,33	30,63	8,5	2,16

7 Use of inspection gauges

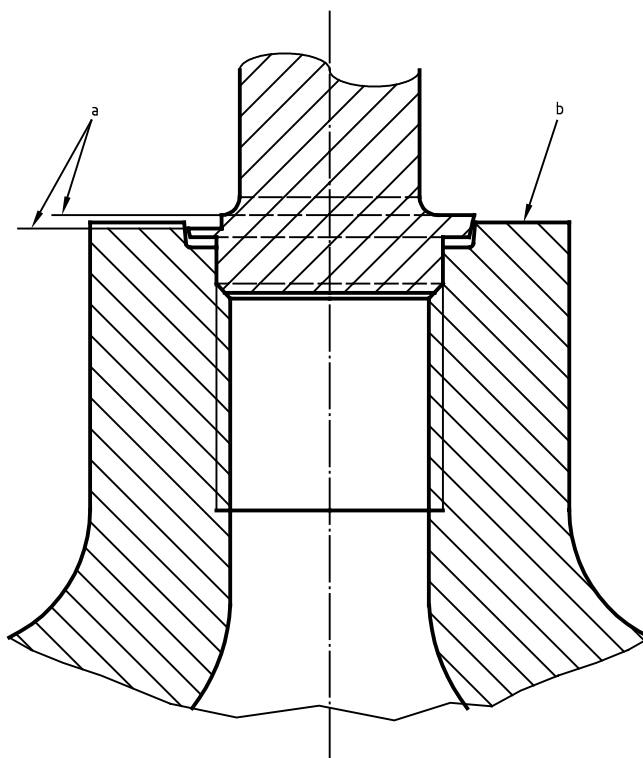
7.1 Plain gauges

Plain gauges shall be installed in position within the areas to be gauged. Undue force shall not be used.

7.2 Accept or reject criteria using plug gauges

The acceptability to gauge is determined by the position of the plane at the mouth of the cylinder neck relative to the test surfaces of the gauge.

The dimension shall be considered acceptable to the gauge if this plane is flush with or falls between the test surfaces of the gauge when the gauge is fitted to the recess (see Figure 4).



- a Test surfaces
- b Reference plane of the cylinder

Figure 4 — Use of plug gauge

8 Verification of inspection gauges

8.1 General

During use, inspection gauges will wear and can be damaged. The user shall ensure that the gauges are examined regularly in order to verify that they remain within the specified dimensions. Frequency of checks required will depend upon usage and shall be the responsibility of the user.

8.2 Plug gauges

Verification of inspection plug gauges shall be carried out directly, using optical or other suitable equipment.

9 Identification

Inspection gauges shall be identified by the following information:

- “ISO 15245”;
- “18P”, “25P”, “30P” as appropriate;
- “I-” (followed by the appropriate number of the gauge for example “I-1”).

Bibliography

- [1] ISO 1502, *ISO general-purpose metric screw threads — Gauges and gauging*

ICS 23.020.30

Price based on 7 pages

© ISO 2001 – All rights reserved