

This is a preview of "BS 341-1:2022". [Click here to purchase the full version from the ANSI store.](#)

BS 341-1:2022



BSI Standards Publication

Gas cylinders — Cylinder valves

Part 1: Threads for connection of valves to gas cylinders —
Specification

This is a preview of "BS 341-1:2022". [Click here to purchase the full version from the ANSI store.](#)

Publishing and copyright information

The BSI copyright notice displayed in this document indicates when the document was last issued.

© The British Standards Institution 2022

Published by BSI Standards Limited 2022

ISBN 978 0 539 17607 0

ICS 23.060.40

The following BSI references relate to the work on this document:

Committee reference PVE/3/1

Draft for comment 21/30437019 DC

Amendments/corrigenda issued since publication

Date

Text affected

This is a preview of "BS 341-1:2022". [Click here to purchase the full version from the ANSI store.](#)

CONTENTS

	Page
Foreword	iii
Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
<i>Figure 1 — Hand wheel operated valve</i>	3
<i>Figure 2 — Key operated valve</i>	3
4 General requirements	4
4.1 Spindle ends for key operated valves	4
4.2 Use of pressure relief devices	4
5 Valve inlet and cylinder neck connections	4
5.1 Tapered	4
5.2 Oversized tapered	4
5.3 Parallel	4
<i>Figure 3 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 16T Type</i>	5
<i>Table 1 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 16T Type</i>	6
<i>Figure 4 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 17T Type</i>	7
<i>Table 2 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 17T Type</i>	8
<i>Figure 5 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 18T Type</i>	9
<i>Table 3 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 18T Type</i>	10
<i>Figure 6 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 19T Type</i>	11
<i>Table 4 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 19T Type</i>	12
<i>Figure 7 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 26T Type</i>	13
<i>Table 5 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 26T Type</i>	14
<i>Figure 8 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 32T Type</i>	15
<i>Table 6 — Dimensions and manufacturing tolerances of valve body tapered stem/cylinder neck threads – 32T Type</i>	16
6 Inspection gauges	16
7 Marking	16
Annex A (informative) Comparison between valve tapered inlet connections in this British Standard and the nominal sizes in BS 341-1:1962	17
<i>Table A.1 — Comparison between valve tapered inlet connections in this British Standard and the nominal sizes in BS 341-1:1962</i>	17
Annex B (informative) Guidance on the calculation of thread data given in Figure 3 to Figure 8	17
Annex C (normative) Gauging for taper threads	19
<i>Figure C.1 — Thread form for 16T plug and ring gauges</i>	20

This is a preview of "BS 341-1:2022". [Click here to purchase the full version from the ANSI store.](#)

<i>Figure C.3 — Thread form for 18T, 19T and 26T plug and ring gauges</i>	22
<i>Figure C.4 — Thread form for 32T plug and ring gauges</i>	23
<i>Table C.1 — Thread taper ratios and angles</i>	23
<i>Figure C.5 — Inspection plug gauges for 16T, 18T, 19T, 26T and 32T</i>	24
<i>Table C.2 — Inspection plug gauges for 16T, 18T, 19T, 26T and 32T</i>	24
<i>Figure C.6 — Inspection plug gauges for 17T</i>	25
<i>Table C.3 — Inspection plug gauges for 17T</i>	25
<i>Figure C.7 — Inspection ring gauges for 16T, 18T, 19T, 26T and 32T</i>	26
<i>Table C.4 — Inspection ring gauges for 16T, 18T, 19T, 26T and 32T</i>	26
<i>Figure C.8 — Inspection ring gauges for 17T</i>	27
<i>Table C.5 — Inspection ring gauges for 17T</i>	27
<i>Figure C.9 — Check gauges for inspection ring gauges for 16T, 18T, 19T, 26T and 32T</i>	28
<i>Table C.6 — Check gauges for inspection ring gauges for 16T, 18T, 19T, 26T and 32T</i>	28
<i>Figure C.10 — Check gauges for inspection ring gauges for 17T</i>	29
<i>Table C.7 — Check gauges for inspection ring gauges for 17T</i>	29
<i>Figure C.11 — Use of inspection plug gauges</i>	31
<i>Figure C.12 — Use of inspection ring gauges</i>	32
<i>Figure C.13 — Use of check gauges</i>	34
Bibliography	35

Summary of pages

This document comprises a front cover, an inside front cover, pages I to IV, pages 1 to 35, an inside back cover and a back cover.

This is a preview of "BS 341-1:2022". [Click here to purchase the full version from the ANSI store.](#)

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 March 2022. It was prepared by Subcommittee PVE/3/1, *Valve fittings for gas containers* under the authority of Technical Committee PVE/3, *Gas containers*. A list of organizations represented on these committees can be obtained on request to the committee manager.

Supersession

This British Standard supersedes [BS 341-1:1991](#), which is withdrawn.

Relationship with other publications

BS 341 comprises the following parts:

- Part 1, *Gas cylinders – Cylinder valves – Part 1: Threads for connection of valves to gas cylinders – Specification*;
- Part 2, *Transportable gas container valves – Part 2: Valves with taper stems for use with breathing apparatus*;
- Part 3, *Transportable gas container valves – Part 3: Valve outlet connections*; and
- Part 4, *Transportable gas container valves – Part 4: Pressure relief devices*.

Information about this document

This is a full revision of the standard. The scope has been updated to align with international standards and this standard now concentrates on specific UK valve to cylinder connection threads.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Requirements in this standard are drafted in accordance with the *Rules for the structure and drafting of UK standards:2017*, subclause **G.1.1**, which states, “Requirements should be expressed using wording such as: ‘When tested as described in [Annex A](#), the product shall ...’”. This means that only those products that are capable of passing the specified test will be deemed to conform to this standard.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”). In the case of “sulfur” (and its derivatives), the International Union of Pure and Applied Chemistry (IUPAC) spelling is used.

This is a preview of "BS 341-1:2022". [Click here to purchase the full version from the ANSI store.](#)

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

This is a preview of "BS 341-1:2022". [Click here to purchase the full version from the ANSI store.](#)

Introduction

This British Standard provides requirements for and information on the range of British thread forms that are available for the valve inlet connection to the cylinder, as well as their associated inspection gauges.

Since BS 341-1 was originally written, there are now many international standards that set the requirements for the design, test and manufacture of cylinder valves, including cleaning, marking, assembly, protective finishes, etc. These international standards include:

- a) BS EN ISO 10297;
- b) BS EN ISO 14246; and
- c) BS EN ISO 11363 (all parts).

Valve outlet connections that were referenced in previous editions of this British Standard are now referenced in [BS 341-3](#).

1 Scope

This British Standard specifies the dimensions of:

- a) valve inlet connection threads;
- b) neck threads of gas cylinders and other pressure receptacles;
- c) thread gauges; and
- d) other historic features that continue to be used for cylinder valves;

which are not specified in other European or International standards.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document¹⁾. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

[BS 341-4](#), *Transportable gas container valves – Part 4: Pressure relief devices*

[BS 3643-1](#), *ISO metric screw threads – Part 1: Principles and basic data*

[BS 3643-2](#), *ISO metric screw threads – Part 2: Specification for selected limits of size*

BS EN ISO 10286, *Gas cylinders – Terminology*

BS EN ISO 10297, *Gas cylinders – Cylinder valves – Specification and type testing*²⁾

BS EN ISO 15245 (all parts), *Gas cylinders*

PD ISO/TR 11364, *Gas cylinders – Compilation of national and international valve stem/gas cylinder neck threads and their identification and marking system*

¹⁾ Documents that are referred to solely in an informative manner are listed in the Bibliography.

²⁾ This document also gives an informative reference to BS EN ISO 10297:2014+A1:2017.