CONFIRMED DECEMBER 2007

# Transportable gas container valves —

Part 3: Valve outlet connections

 $ICS\ 23.060.40$ 



## Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee PVE/3, Gas containers, to Subcommittee PVE/3/1, Valve fittings for gas cylinders, upon which the following bodies were represented:

British Compressed Gases Association
Department of Health — Medical Devices Agency
Health and Safety Executive
Home Office
L P Gas Association
Ministry of Defence
Personal Safety Manufacturer's Association
Scuba Industries Trade Association Ltd.

This British Standard, having been prepared under the direction of the Engineering Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 17 May 2002

© BSI 17 May 2002

First published as BS 341-1 October 1962 Second edition September 1991 First published as BS 341-3 May 2002

The following BSI references relate to work on this British Standard: Committee reference PVE/3/1 Draft for comment 00/716618 DC

#### Amendments issued since publication

	Amd. No.	Date	Comments
C			

ISBN 0 580 39493 X

### Contents

P	age
Committees responsible Inside front co	over
Foreword	ii
1 Scope	1
2 Normative references	1
Valve outlet connections for pressures up to 250 bar	2
Valve outlet connections for pressures from 250 bar up to 300 bar	2
5 Tolerances	2
Annex A (informative) American (CGA) valve outlet connections used in the UK	25
Bibliography	26
Figure 1 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection number 1	9
Figure 2 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connections 2 and 4	10
Figure 3 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection 3	11
Figure 4 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection 6	12
Figure 5 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection 7	13
Figure 6 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection 8 Figure 7 — Dimensions and tolerances of outlet connections for pressures	14
up to 250 bar — Outlet connection 10  Figure 8 — Dimensions and tolerances of outlet connections for pressures	15
up to 250 bar — Outlet connection 11	16
Figure 9 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection 13	17
Figure 10 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection 14	18
Figure 11 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection 15	19
Figure 12 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection 16	20
Figure 13 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection 17	21
Figure 14 — Dimensions and tolerances of outlet connections for pressures up to 250 bar — Outlet connection 18	22
Figure 15 — Dimensions and tolerances of outlet connections for pressures from 250 bar up to 300 bar	23
Table 1 — Outlet connections for use with gases up to pressures of 250 bar	3
Table 2 — Outlet connections for use with gases for pressures from 250 bar	Q

#### **Foreword**

This part of BS 341 has been prepared by Subcommittee PVE/3/1 on behalf of Technical Committee PVE/3 and along with BS EN 849, BS EN ISO 13340 and BS EN ISO 14246 partially supersedes BS 341-1:1991, which is declared obsolescent.

The 1991 version of BS 341-1 detailed all aspects of the design, manufacture and testing of valves fitted to containers used for the conveyance of permanent, liquefiable and dissolved gases, except those for liquefied petroleum gas (LPG) applications. The 1991 version has been progressively superseded by a series of standards originating in the European Committee for Standardization (CEN) (see Bibliography).

BS 341 Transportable gas container valves is published in four parts:

- Part 1: Specification for industrial valves for working pressures up to and including 300 bar (obsolescent);
- Part 2: Valves with taper stems for use with breathing apparatus (obsolescent);
- Part 3: Valve outlet connections;
- Part 4: Pressure relief devices.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

#### Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 27 and a back cover.

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

#### 1 Scope

This part of BS 341 specifies requirements for the selection and dimensions of outlet connections, for valves used with transportable gas cylinders manufactured for the conveyance and storage of permanent, liquefied and dissolved gases for industrial applications.

This part of BS 341 does not include requirements for the selection of valve outlets for liquefied petroleum gas (LPG), medical applications conforming to BS EN 850 or for ultra-high-purity gases used in the micro-electronics industry.

This part of BS 341 applies to outlets for valves limited to a charging pressure of 300 bar<sup>1)</sup> (developed pressures for particular gases might exceed this pressure).

A list of alternative outlets for the less commonly used gases imported into the United Kingdom is given in Annex A.

#### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 84:1956, Specification for parallel screw threads of Whitworth form.

BS 2779:1986, Specification for pipe threads for tubes and fittings where pressure-tight joints are not made on the threads (metric dimensions).

BS 3643-1:1981, Specification for ISO metric screw threads — Part 1: Principles and basic data.

BS 3643-2:1981, ISO metric screw threads — Part 2: Specification for selected limits of size.

BS 4500-4:1985, ISO limits and fits — Part 4: Specification for system of cone (taper) fits for cones from C=1:3 to 1:500, lengths from 6 mm to 630 mm and diameters up to 500 mm (ISO 5166:1982).

BS 4500-5:1988, ISO limits and fits — Part 5: Specification for system of cone tolerances for conical work pieces from C=1:3 to 1:500 and lengths from 6 mm to 630 mm (ISO 1947:1973).

BS EN 20286-1:1993, ISO system of limits and fits — Part 1: Bases of tolerances, deviations and fits (ISO 286-1:1988).

BS EN 20286-2:1993, ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts (ISO 286-2:1988).

BS EN 22768-1:1993, General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768-1:1989).

BS EN ISO 7083:1995, Technical drawings — Symbols for geometrical tolerancing — Proportions and dimensions (BS 308-3.6:1995).

ISO 5145, Cylinder valve outlets for gases and gas mixtures — Selection and dimensioning.

DIN 477-1:1990, Gas cylinder valves rated for test pressures up to 300 bar — Part 1: Types, sizes and outlets.

 $<sup>^{1)}</sup>$  1 bar =  $10^5$  N/m<sup>2</sup> = 100 kPa.