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**Gas cylinders — Outlet connections for gas  
cylinder valves for compressed breathable  
air —**

Part 3:  
**Adaptor for 230 bar valves**

*Bouteilles à gaz — Raccords de sortie pour robinets de bouteilles à gaz  
pour air comprimé respirable —*

*Partie 3: Adaptateur pour robinets 230 bar*



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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.

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 12209 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 12209-3 was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 2, *Cylinder fittings*.

ISO 12209 consists of the following parts, under the general title *Gas cylinders — Outlet connections for gas cylinder valves for compressed breathable air*:

- *Part 1: Yoke type connections*
- *Part 2: Threaded connections*
- *Part 3: Adaptor for 230 bar valves*



# Gas cylinders — Outlet connections for gas cylinder valves for compressed breathable air —

## Part 3: Adaptor for 230 bar valves

### 1 Scope

This part of ISO 12209 specifies the characteristics of the adaptors converting the outlet of a threaded type cylinder valve for regulator of compressed breathable air into a yoke type outlet. It states the fundamental requirements for both the connection and its components and specifies basic dimensions.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 12209. 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 12209 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 228-1:2000, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation.*

ISO 2768-1: 1989, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications.*

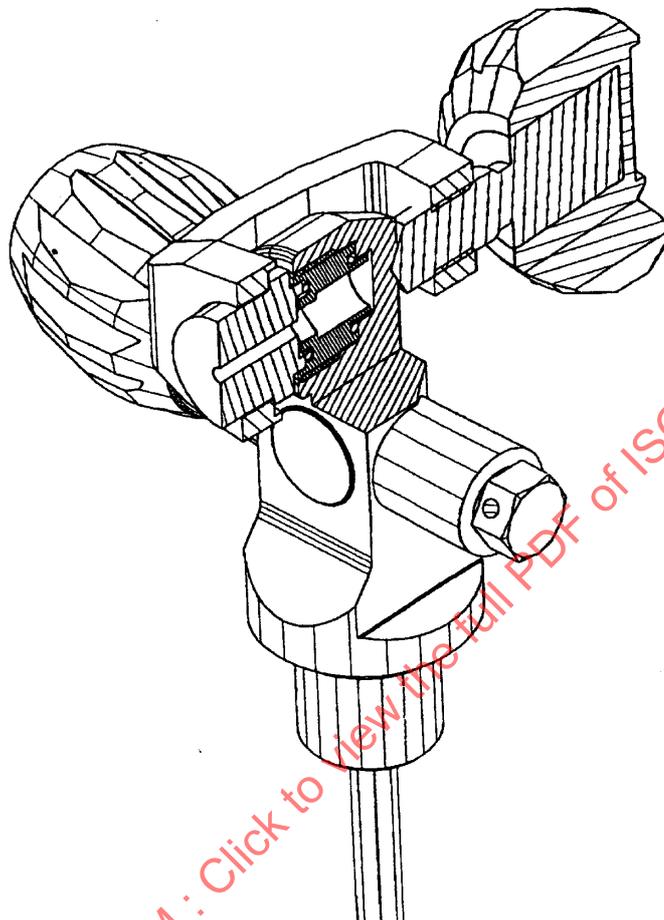
ISO 10297, *Gas cylinders — Refillable gas cylinder valves — Specification and type testing.*

ISO 11114-1, *Transportable gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 1: Metallic materials.*

ISO 12209-1, *Gas cylinders — Outlet connections for gas cylinder valves for compressed breathable air — Part 1: Yoke type connections.*

### 3 General characteristics

This device shall only be used up to a maximum cylinder working pressure of 230 bar. Figure 1 is an assembly drawing of the adaptor connection.



**Figure 1 — Adaptor connection 230 bar — Assembly drawing**

Basic dimensions for the valve are shown on Figure 2 and given in Table 1.

Basic dimensions for the adaptor are shown on Figure 3 and given in Table 2. For the yoke, see ISO 12209-1.

Unless otherwise specified, the general tolerances of form and position shall be in accordance with class m of ISO 2768-1:1994.

The requirements for material specifications, gas/material compatibility and valve prototype testing are covered in the relevant standards, for example ISO 10297 and ISO 11114-1.

Table 1 — Dimensions of threaded valve outlet for the adaptor connection

Dimensions in millimetres

Symbol	Dimension	Tolerance	Symbol	Dimension	Tolerance
$l_1$	15	${}^0_{-0,5}$	$d_2$	13	$\pm 0,3$
$l_2$	19	${}^{+0,5}_{-0,2}$	$d_3$	G 5/8 <sup>a</sup>	—
$l_3$	25,5	${}^0_{-3}$	$d_4$ max.	30	—
$\alpha$	120°	$\pm 5^\circ$	$d_5$	22,5	${}^0_{-1,5}$
—	—	—	$d_6$ min.	3	—
—	—	—	$d_7$	6,3	${}^{+0,8}_0$

<sup>a</sup> For thread dimensions, see ISO 228-1.

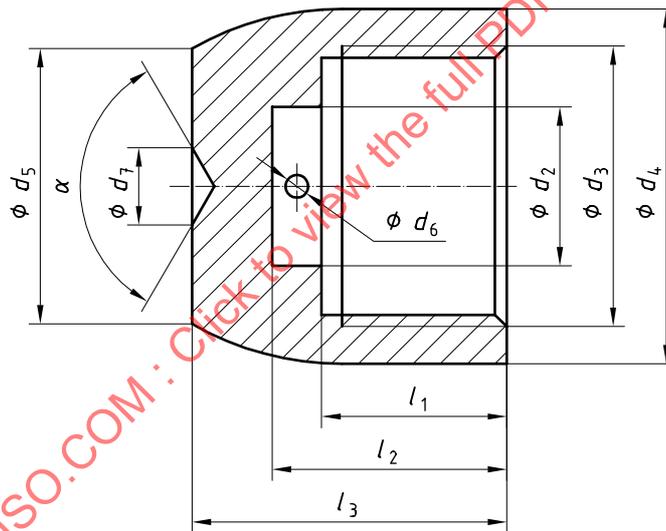


Figure 2 — Threaded valve outlet for the adaptor connection

Table 2 — Dimensions of adaptor and O-rings for 230 bar

Dimensions in millimetres

Symbol	Dimension	Tolerance	Symbol	Dimension	Tolerance
$l_1$	15	—	$d_1$	11,2	—
$l_2$ max.	11	—	$d_2$	2,65	—
$l_3$	5	—	$d_3$	20	—
$l_4$	1,9	$\begin{matrix} 0 \\ -0,1 \end{matrix}$	$d_4$	17	—
$l_5$	1,2	$\begin{matrix} +0,2 \\ 0 \end{matrix}$	$d_5$	12	$\begin{matrix} +0,1 \\ 0 \end{matrix}$
$l_6$	2	$\begin{matrix} 0 \\ -0,3 \end{matrix}$	$d_6$	9,5	—
$l_7$	1,6	$\begin{matrix} 0 \\ -0,1 \end{matrix}$	$d_7$	11	$\begin{matrix} 0 \\ -0,25 \end{matrix}$
$l_8$	18	—	$d_8$	15,6	$\begin{matrix} +0,1 \\ 0 \end{matrix}$
$l_9$ min. width across flats	5	—	$d_9$	18,1	$\begin{matrix} +0,2 \\ 0 \end{matrix}$
$\alpha$	15°	$\pm 1^\circ$	$d_{10}$	G 5/8 <sup>a</sup>	—
$\beta$	15°	$\pm 1^\circ$	$d_{11}$	12,5	—
$\gamma$	5°	$\begin{matrix} 0 \\ -5^\circ \end{matrix}$	$d_{12}$	1,8	—
NOTE O-ring dimensions are in conformity with ISO 3601-1 <sup>[1]</sup> .					
<sup>a</sup> For thread dimensions, see ISO 228-1.					

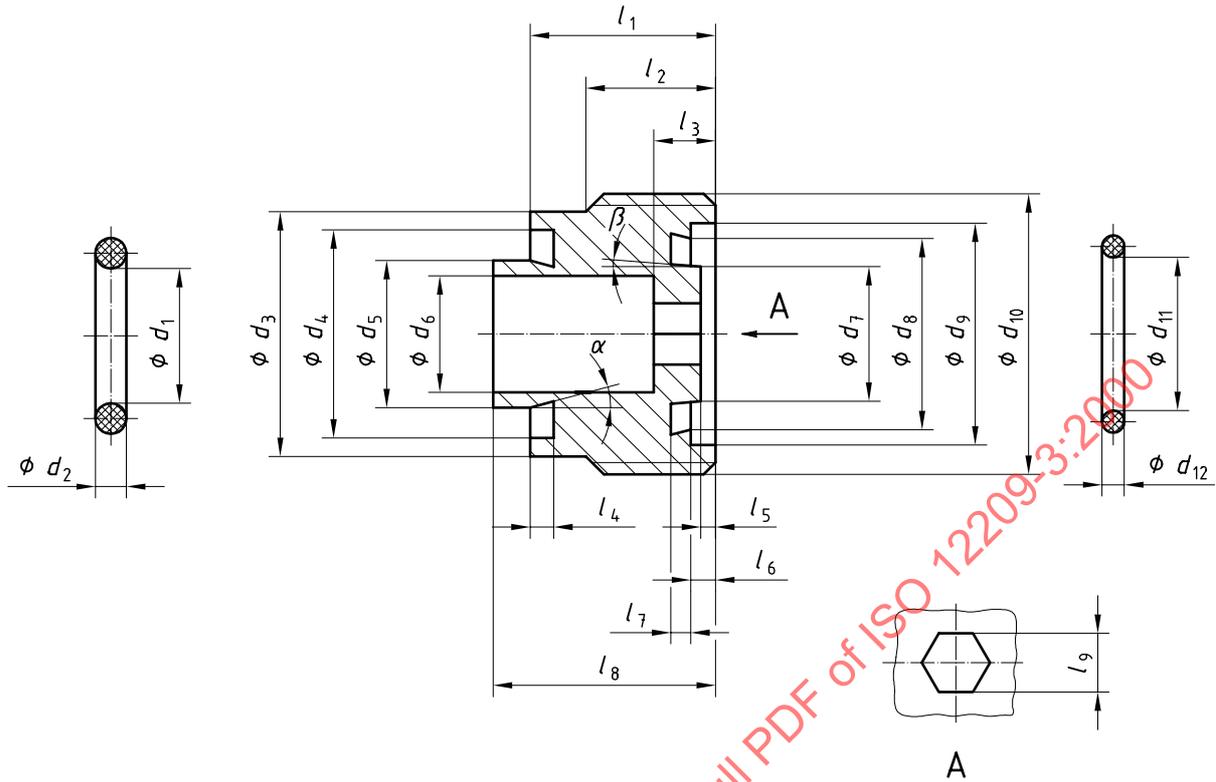


Figure 3 — Adaptor and O-rings for 230 bar

#### 4 Marking

The adaptor shall be permanently marked with the letters "ISO".