
**Gas cylinders — Residual pressure
valves — General requirements and type
testing**

*Bouteilles à gaz — Robinets à pression résiduelle — Exigences
générales et essais de type*



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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.

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The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15996 was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 2, *Cylinder fittings*.

Introduction

Gas cylinders are fitted with valves, to contain and control the discharge of their contents.

Increased requirements about avoidance of contamination of gases and gas cylinders has led to the development of gas cylinder valves incorporating residual pressure devices.

These devices are designed to maintain a small positive differential pressure between the inlet and the outlet of the cylinder valve. This prevents the gas cylinder from being completely empty in customer use and stops ingress of atmospheric contamination.

Many of these devices include a non-return function that protects the cylinder from back flow from downstream processes.

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Gas cylinders — Residual pressure valves — General requirements and type testing

1 Scope

This International Standard specifies requirements for residual pressure valves, with or without a non-return function, for gas cylinders and the methods of testing such valves, for type approval.

This International Standard is applicable to valves to be fitted to gas cylinders of up to 150 l water capacity, intended to contain compressed, liquefied or dissolved gases.

This International Standard does not cover valves for fire extinguishers, cryogenic equipment or liquefied petroleum gas.

These requirements are in addition to those laid down in ISO 10297.

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.

ISO 10156, *Gases and gas mixtures — Determination of fire potential and oxidizing ability for the selection of cylinder valve outlets*

ISO 10297:1999, *Gas cylinders — Refillable gas cylinder valves — Specification and type testing*.

3 Terms and definitions

For the purposes of this document the following terms and definitions apply.

3.1

working pressure

p_w

settled pressure, at a uniform temperature of 15 °C, for a full gas cylinder

3.2

valve test pressure

p_{vt}

for compressed gases $p_{vt} = 1,2 \times p_w$ and for liquefied gases and dissolved gases under pressure (e.g. acetylene), p_{vt} is greater or equal to the minimum test pressure of the cylinder quoted in the relevant transportation regulation for that gas or gas group and filling ratio

3.3

flow direction

path taken through the valve by the gas when flowing out of the cylinder through the outlet