
**Gas welding equipment — Quick-action
couplings with shut-off valves for
welding, cutting and allied processes**

*Matériel de soudage aux gaz — Raccords rapides à obturation pour
soudage, coupage et techniques connexes*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO 7289:2010](https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-eabb8d9cddb6/iso-7289-2010)

[https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-
eabb8d9cddb6/iso-7289-2010](https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-eabb8d9cddb6/iso-7289-2010)



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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 7289:2010

<https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-eabb8d9cbdb6/iso-7289-2010>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2010

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.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Types of coupling.....	2
5 Installation.....	2
6 Design requirement.....	2
7 Working requirements	4
8 General test conditions.....	5
9 Test procedure.....	7
10 Marking	9
11 Instructions for use	9
Bibliography.....	10

iTeH STANDARD PREVIEW
(standards.iteh.ai)

ISO 7289:2010
<https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-eabb8d9cddb6/iso-7289-2010>

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 2.

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 7289 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 8, *Equipment for gas welding, cutting and allied processes*.

This third edition cancels and replaces the second edition (ISO 7289:1996) which has been technically revised.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 8 via your national standards body, a complete listing which can be found at <http://www.iso.org>.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
ISO 7289:2010
<https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-eabb8d9cbdb6/iso-7289-2010>

Introduction

Quick-action couplings with shut-off valves are used in equipment for gas welding, cutting and allied processes to connect the hoses used between the regulator and the torch, either to one another or to the regulators and the torches themselves.

These couplings are fitted with shut-off devices that interrupt the gas flow when the two elements are disconnected, so that coupling and uncoupling operations can be performed manually while the equipment is under pressure.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO 7289:2010](https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-eabb8d9cbdb6/iso-7289-2010)

<https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-eabb8d9cbdb6/iso-7289-2010>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 7289:2010

<https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-eabb8d9cddb6/iso-7289-2010>

Gas welding equipment — Quick-action couplings with shut-off valves for welding, cutting and allied processes

1 Scope

This International Standard defines the specifications and the type tests for quick-action couplings with shut-off valves. It applies to quick-action couplings used between the regulator and the torch in equipment for gas welding, cutting and allied processes.

This International Standard applies to cases where these couplings are used with hoses in accordance with ISO 3821 or threaded unions in accordance with ISO 3253.

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 3253, *Gas welding equipment — Hose connections for equipment for welding, cutting and allied processes*

ISO 7289:2010

ISO 5175:1987, *Equipment used in gas welding, cutting and allied processes — Safety devices for fuel gases and oxygen or compressed air — General specifications, requirements and tests*

ISO 6150, *Pneumatic fluid power — Cylindrical quick-action couplings for maximum working pressures of 10 bar, 16 bar and 25 bar (1 MPa, 1,6 MPa, and 2,5 MPa) — Plug connecting dimensions, specifications, application guidelines and testing*

ISO 9090, *Gas tightness of equipment for gas welding and allied processes*

ISO 9539, *Gas welding equipment — Materials for equipment used in gas welding, cutting and allied processes*

3 Terms and definitions

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

3.1

quick-action coupling with shut-off valve

device enabling rapid coupling or uncoupling under pressure, of equipment and/or hoses, and preventing the mutual connection of two lines containing incompatible gases (e.g. oxygen and fuel gas)

3.2

element

device comprising two elements, a male and a female element, of which the female element is fitted with an automatic shut-off system that prevents gas leakage when the two elements are uncoupled

4 Types of coupling

This International Standard deals with three types of quick-action coupling with shut-off valves, according to the gases for which they are intended.

These three types are the following:

- a) type O – oxygen;
- b) type F – fuel gas;
- c) type N – other gases specific for welding processes.

5 Installation

The quick-action couplings with shut-off valves shall be installed so that the element with the shut-off device is located upstream in terms of the gas flow from the source.

6 Design requirement

6.1 Dimensions, non-interchangeability and interchangeability

In order to ensure that:

iTeh STANDARD PREVIEW
(standards.iteh.ai)

- a) elements of different types and
- b) elements of different types and couplings for compressed air, in accordance with ISO 6150 <https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-208206682020/iso-6150-2010> are not interchangeable, quick-action couplings with shut-off valves in accordance with this International Standard shall have the dimensions specified in Figure 1 and Table 1 for couplings of types O, F and N.

Table 1 — Dimensions of male element

Dimensions in millimetres

Gas	Type	A h10	B h10	C ^a JS13
Oxygen	O	6,8	12,8	4,5
Fuel gas	F	7,3	12,3	5
Other gases specific for welding processes	N	6,3	13,3	4

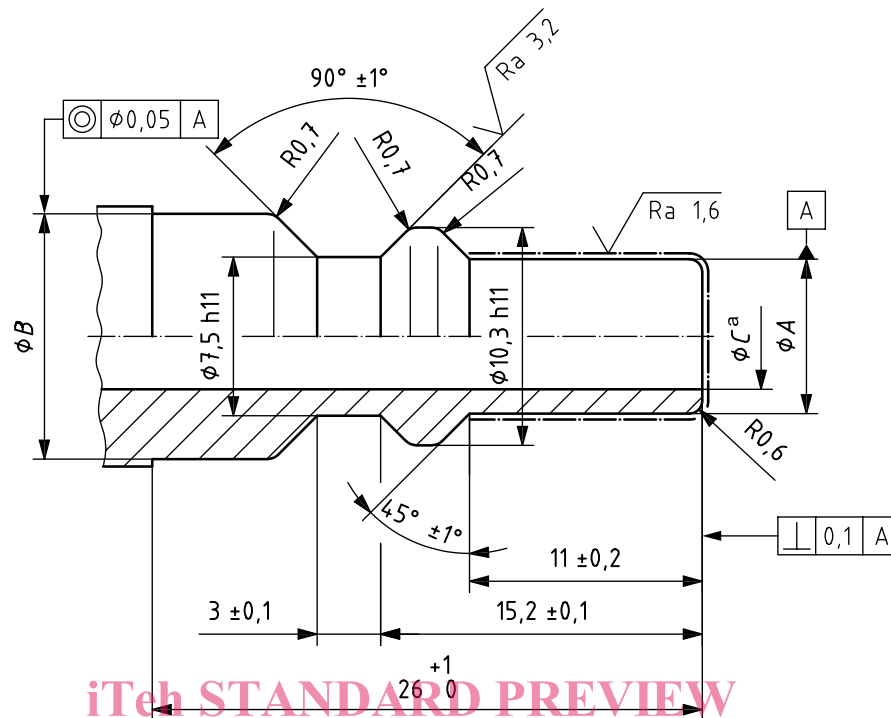
^a Diameter C shall be observed over a length of 20 mm.

The dimensions and fabrication details not specified in Figure 1 and Table 1 are left to the discretion of the manufacturer, with the proviso that quick-action couplings with shut-off valves of the same type shall be interchangeable, regardless of their manufacturer.

6.2 Configuration

The shut-off system shall be located in the female element of the quick-action coupling.

Dimensions and tolerances of coaxiality and perpendicularity in millimetres, surfaces roughness values in micrometers



- a The internal diameter C shall be for a minimum length of 20 mm.

Figure 1 — Male element

<https://standards.iteh.ai/catalog/standards/sist/7f0bac1b-fb10-44ec-8c64-eabb8d9cbdb6/iso-7289-2010>

6.3 Coupling and uncoupling

The choice of the coupling and uncoupling means is left to the discretion of the manufacturer.

Coupling and uncoupling shall be achieved with ease and shall not require the use of tools. It shall not be possible to disengage the two elements by:

- either a simple rotation of one element against the other;
- the application of a longitudinal traction force of less than 1 kN.

Under service conditions, as defined by the manufacturer, no undesired uncoupling shall occur. The opening and closing of the shut-off system shall occur automatically.

6.4 Connections

The outside-threaded connections shall conform to the recommendations given in ISO 3253. A right-hand thread shall be used for couplings of types O and N and a left-hand thread shall be used for couplings of type F.

6.5 Materials

The materials used for the construction of these couplings shall conform to the requirements given in ISO 9539.

The male element shall be constructed from material of a surface hardness not less than 125 HV10. (This specification refers to the surface hardness of the standardized external profile over a length of 15,2 mm.)