
**Tools for pressing — Gas springs —
Part 1:
General specifications**

Outils de presse — Ressorts à gaz —

Partie 1: Spécifications générales

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ISO 11901-1:2003

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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 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 11901-1 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 8, *Tools for pressing and moulding*.

This second edition cancels and replaces the first edition (ISO 11901-1:1995), Clauses 4 and 5 of which have been technically revised.

ISO 11901 consists of the following parts, under the general title *Tools for pressing — Gas springs*:

Part 1: General specifications <https://standards.iteh.ai/catalog/standards/sist/9d911e61-98ab-473d-9fd3-b8ba80d565a8/iso-11901-1-2003>

Part 2: Specification of accessories

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Introduction

The attention of the user of ISO 11901 is drawn to the fact that gas springs will have to conform to the national regulations of the user country.

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Tools for pressing — Gas springs —

Part 1: General specifications

1 Scope

This part of ISO 11901 specifies the dimensions, in millimetres, nominal initial forces and type of gas springs.

It applies to gas springs of type 900 to 100 000, pressurized with nitrogen with a nominal initial force of between $900 \text{ N} \pm 5 \%$ and $100\,600 \text{ N} \pm 5 \%$, for use in press tools.

It also specifies marking, technical delivery conditions and designation.

NOTE Specifications of mounting accessories for gas springs are given in ISO 11901-2.

2 Normative references (standards.iteh.ai)

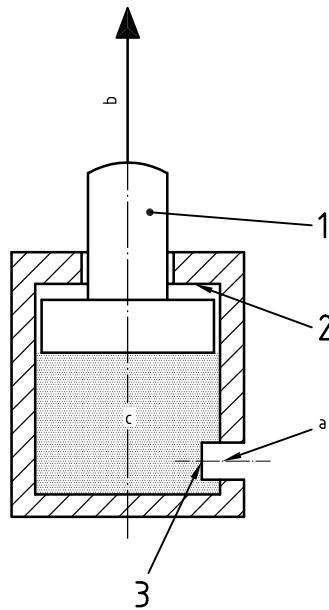
The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

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

3 Description and terminology

See Figure 1.



Key

- 1 rod
- 2 positive stop
- 3 valve
- a Pressure filling inlet.
- b Force.
- c Nitrogen.

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Figure 1 — Terminology

The gas spring is an autonomous spring pressurized with nitrogen.

At rest position, the rod is pushed out.

This gas spring feature has a gas inlet for pressurization or depressurization. The inlet is located on the casing or on the bottom and is capped.

For gas spring of type 1 500 and 2 500, the pressure filling inlet may be located at the end of the rod. In this case, the rod end is not spherical.

The pressure filling inlet of gas springs of type of at least 2 500 includes a pipe thread ISO 7 - Rp 1/8 in accordance with ISO 7-1, and the pressure filling inlet of gas springs of type equal or less than 2 500 includes an M6 thread.

4 Interchangeability dimensions and characteristics

4.1 General nominal specifications

See Table 1

Table 1 — General nominal specifications

Type	Nominal initial force N	Maximum filling pressure MPa	End of stroke nominal force increase coefficient
900	900	18	1,5
1 500	1 700	15	1,3
2 000	2 000	18	1,5
2 500	2 600	15	1,3
5 000	4 700		1,5
7 500	7 400		
15 000	15 000		
30 000	30 000		
50 000	50 000		
75 000	75 000		
100 000	100 000		

$\pm 5\%$

4.2 Gas springs of type 900 and 2 000

See Figure 2 and Table 2

4.3 Gas springs of type 1 500 and 2 500

See Figure 3 and Table 3.

4.4 Gas springs of type 5 000 to 7 500

See Figure 4 and Table 3.

4.5 Gas springs of type 15 000 to 100 000

See Figure 5 and Table 3.