
Machine tools safety — Presses —
Part 4:
Safety requirements for pneumatic presses

Sécurité des machines outils — Presses —

Partie 4: Exigences de sécurité pour les presses pneumatiques



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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 List of significant hazards	2
5 Safety requirements and/or measures	2
5.1 General	2
5.2 Basic design considerations	2
5.2.1 Hydraulic and pneumatic systems — Common features	2
5.2.2 Pneumatic systems	2
5.2.3 Hydraulic systems	2
5.2.4 Electric systems	2
5.3 Mechanical hazards in the tools area	2
5.3.1 Major danger zone	2
5.3.2 Safeguarding measures	2
5.3.3 Other safety requirements	2
5.3.4 Release of trapped persons between the tools	2
5.3.5 Release of persons trapped inside enclosed areas	3
5.3.6 Prevention of gravity fall during maintenance or repair	3
5.3.7 Prevention of unintended gravity fall during production (down-stroking press)	3
5.4 Control and monitoring system	3
5.4.1 Control and monitoring functions	3
5.4.2 Muting	4
5.4.3 Selection devices	4
5.4.4 Position sensors	4
5.4.5 Control devices	4
5.4.6 Valves	4
5.4.7 Performance level of safety functions	4
5.5 Tool-setting, trial strokes, maintenance and lubrication	19
5.6 Mechanical hazards — Other	19
5.7 Slips, trips and falls	19
5.8 Protection against other hazards	19
6 Verification of the safety requirements and/or measures	19
7 Information for use	20
7.1 General	20
7.2 Marking	20
7.3 Warnings	21
7.4 Instruction handbook	21
Annex A (informative) Additional significant hazards, hazardous situations and protective measures	22
Annex B (normative) Calculation of minimum distances	23
Annex C (informative) Examples and principles of pneumatic press and power interlocking	24
Bibliography	27

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 39, *Machine tools*, Subcommittee SC 10, *Safety*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

A list of all parts in the ISO 16092 series can be found on the ISO website.

Introduction

This document is a type-C standard as stated in ISO 12100.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers (small, medium and large enterprises);
- health and safety bodies (regulators, accident prevention organisations, market surveillance etc.)

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- machine users/employers (small, medium and large enterprises);
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. for maintenance (small, medium and large enterprises);
- consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

Machine tools safety — Presses —

Part 4: Safety requirements for pneumatic presses

1 Scope

This document, in addition to ISO 16092-1, specifies the technical safety requirements and measures to be adopted by persons undertaking the design, manufacture and supply of pneumatic presses which are intended to work cold metal or material partly of cold metal.

This document deals with all significant hazards relevant for pneumatic presses, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see [Clause 4](#)). All the phases of the lifetime of the machinery as described in ISO 12100:2010, 5.4, have been taken into consideration.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 4413:2010, *Hydraulic fluid power — General rules and safety requirements for systems and their components*

ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 13849-1:2015, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

ISO 16092-1:2017, *Machine tools safety — Presses — Part 1: General safety requirements*

ISO 13851:2019, *Safety of machinery — Two-hand control devices — Functional aspects and design principles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12100:2010, ISO 13849-1:2015, ISO 16092-1:2017 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

restraint valve

device which protects against a gravity fall of the slide/ram

3.2

overall closing time

time interval from the initiation of a slide movement at TDC to the termination of the movement (the closing of tools) at BDC