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Foundry machinery - Safety requirements for high pressure die casting machines (ISO 23063:2024)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/25

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English Version

Foundry machinery - Safety requirements for high pressure die casting machines (ISO 23063:2024)

Machines de fonderie - Exigences de sécurité pour les machines à couler sous haute pression (ISO 23063:2024)

Sicherheit von Maschinen - Sicherheitsanforderungen an Metall-Druckgießanlagen (ISO 23063:2024)

This European Standard was approved by CEN on 8 November 2024.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO 23063:2025 E

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European foreword

This document (EN ISO 23063:2025) has been prepared by Technical Committee ISO/TC 306 "Foundry machinery" in collaboration with Technical Committee CEN/TC 202 “Foundry machinery” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2026, and conflicting national standards shall be withdrawn at the latest by January 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 869:2006+A1:2009.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 23063:2024 has been approved by CEN as EN ISO 23063:2025 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered

This European Standard has been prepared under a Commission's standardization request "M/396 Mandate to CEN and CENELEC for Standardisation in the field of machinery" to provide one voluntary means of conforming to essential requirements of Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast)

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Annex I of Directive 2006/42/EC

The relevant Essential Requirements of Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1.2. a) Principles of safety integration	5, 6, 7	
1.1.2. c) Principles of safety integration	5, 6, 7	
1.1.2. d) Principles of safety integration	5, 6, 7	
1.1.2. e) Principles of safety integration	5, 6, 7	
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1.2.1. Safety and reliability of control systems	5.3.	
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1.2.3. Starting	7.3.1, 5.2.3a, 5.2.3 b, 5.2.4 f, 5.2.4g	
1.2.4.3. Emergency stop	5.3.3, 5.2.5, 7.3.1	

1.2.4.4. Assembly of machinery		Not covered (only informative in 5.2.5, 7.3.1)
1.2.5. Selection of control or operating modes	5.2.2, 5.2.3, 5.2.4, 5.9.1, 5.9.2	
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1.5.7. Explosion		Not covered (only informative in 7.3.1)
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1.6.2. Access to operating positions and servicing points	4.8, 5.2.4	
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1.6.5. Cleaning of internal parts		Not covered
1.7.1. Information and warnings on the machinery	7.2	
1.7.1.2. Warning devices	7.2	
1.7.2. Warning of residual risks	7.2	
1.7.3. Marking of machinery	7.4	
1.7.4. Instructions	7.3.1	
1.7.4.1. General principles for the drafting of instructions	7.3.1	
1.7.4.2. Contents of the instructions	7.3.1	
1.7.4.2 u)		Not covered (EN 1265:1999+A1:2008 is not harmonized under 2006/42/EC)
1.7.4.3. Sales literature		Not covered

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

International Standard

ISO 23063

Foundry machinery — Safety requirements for high pressure die casting machines

Machines de fonderie — Exigences de sécurité pour les machines à couler sous haute pression

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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.

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 306, *Foundry machinery*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 202, *Foundry machinery,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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.

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 (e.g. regulators, accident prevention organisations, market surveillance).

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, for example, 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.

Where, for clarity, an example of a preventive measure is given in this document, this should not be considered as the only possible solution. Any other solution leading to the same risk reduction is permissible if an equivalent level of safety is achieved.

It is assumed that the machinery according to the scope is operated and maintained by trained personnel.

International Standard **ISO 23063:2024(en)**

Foundry machinery — Safety requirements for high pressure die casting machines

1 Scope

This document applies to high pressure die casting machines:

a) hot-chamber die casting machines (horizontal die closing system);

b) horizontal cold-chamber die casting machines (horizontal die closing system).

This document applies to high pressure die casting units, i.e. high pressure die casting machines (HPDCM), and their interfaces with the following ancillary equipment:

a) die;

b) melting, holding and dosing furnaces (see ISO 13577-1:2016);

c) metal feeding equipment;

d) inserting and removal devices;

e) spraying appliances;

f) heating and cooling devices for the die.

This ancillary equipment itself is not covered.

Additional risks arising from the material being cast are not covered.

This document does not apply to either low pressure die casting machines or gravity die casting machines, or both.

This document deals with all significant hazards, hazardous situations and events relevant to pressure die casting machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

This includes hazards coming from intentional interactions as well as unintentional but foreseeable interactions between movable parts of the machine and persons.

This document provides the requirements to be met by the manufacturer to ensure the safety of persons and property during transport, commissioning, use, de-commissioning and maintenance periods, as well as in the event of foreseeable failures or malfunctions that can occur in the equipment.

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 3864-1:2011, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs and safety markings*

ISO 4413:2010, *Hydraulic fluid power — General rules and safety requirements for systems and their components*

ISO 4414:2010, *Pneumatic fluid power — General rules and safety requirements for systems and their components*

ISO 7000:2019, *Graphical symbols for use on equipment — Registered symbols*

ISO 7731:2003, *Ergonomics — Danger signals for public and work areas — Auditory danger signals*

ISO 7745:2024, *Hydraulic fluid power — Fire-resistant fluids — Requirements and guidelines for use*

ISO 11201:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections*

ISO 11202:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections*

ISO 11204:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying accurate environmental corrections*

ISO 11429:1996, *Ergonomics — System of auditory and visual danger and information signals*

ISO/TR 11688-1:1995, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning*

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

ISO 13732-1:2006, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces*

ISO 13849-1:2023, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

ISO 13850:2015, *Safety of machinery — Emergency stop function — Principles for design*

ISO 13851:2019, *Safety of machinery — Two-hand control devices — Principles for design and selection*

ISO 13854:2017, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

ISO 13855:2010, *Safety of machinery — Positioning of safeguards with respect to the approach speeds of parts of the human body*

ISO 13856-2:2013, *Safety of machinery — Pressure-sensitive protective devices — Part 2: General principles for design and testing of pressure-sensitive edges and pressure-sensitive bars*

ISO 13857:2019, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*

ISO 14119:2024, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

ISO 14120:2015, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*

ISO 14122-1:2016, *Safety of machinery — Permanent means of access to machinery — Part 1: Choice of fixed means and general requirements of access*

ISO 14122-2:2016, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways*

ISO 14122-3:2016, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails*

IEC 60204-1:2016, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements*

IEC 61310-1:2007, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals*

IEC 61310-2:2007, *Safety of machinery — Indication, marking and actuation — Part 2: Requirements for marking*