



**SLOVENSKI STANDARD**  
**oSIST prEN ISO 10656:2020**

**01-oktober-2020**

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**Oprema za uporovno varjenje - Transformatorji - Integrirani transformatorji za varilne aparate/pištrole (ISO 10656:2016)**

Resistance welding Equipment - Transformers - Integrated transformers for welding guns (ISO 10656:2016)

Widerstandsschweißeinrichtungen - Transformatoren - Integrierte Transformatoren für Schweißzangen (ISO 10656:2016)

Matériel de soudage par résistance - Transformateurs - Transformateurs incorporés pour pinces à souder (ISO 10656:2016)

**Ta slovenski standard je istoveten z: prEN ISO 10656**

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**ICS:**

25.160.30	Varilna oprema	Welding equipment
29.180	Transformatorji. Dušilke	Transformers. Reactors

**oSIST prEN ISO 10656:2020**

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STANDARD

ISO  
10656

Second edition  
2016-05-01

Corrected version  
2016-08-15

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**Resistance welding equipment —  
Transformers — Integrated  
transformers for welding guns**

*Matériel de soudage par résistance — Transformateurs —  
Transformateurs incorporés pour pinces à souder*

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## ISO 10656:2016(E)

### 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](http://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](http://www.iso.org/patents)).

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For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is ISO/TC 44, *Welding and allied processes*, Subcommittee SC 6, *Resistance Welding and allied mechanical joining*.

This second edition cancels and replaces the first edition (ISO 10656:1996), which has been technically revised. It also incorporates the Technical Corrigendum ISO 10656:1996/Cor. 1:2000.

This corrected version of ISO 10656:2016 incorporates the following corrections:

- the example of a designation in [Clause 6](#) has been dated with the year of publication;
- a key has been added to [Figure A.1](#).

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 6 via your national standards body. A complete listing of these bodies can be found at [www.iso.org](http://www.iso.org).

# Resistance welding equipment — Transformers — Integrated transformers for welding guns

## 1 Scope

This International Standard specifies additional requirements to those given in ISO 5826 for single-phase transformers used in AC welding. It is intended to be used in conjunction with ISO 5826, whose requirements it amends.

## 2 Normative references

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

ISO 5826:2014, *Resistance welding equipment — Transformers — General specifications applicable to all transformers*

IEC 60417-DB, *Graphical symbols for use on equipment*<sup>1)</sup>

## 3 Dimensions and characteristics of transformers

The dimensions and characteristics of transformers shall be in accordance with

- [Table 1](#) for 50 Hz transformers,
- [Table 2](#) for 60 Hz transformers,
- [Figures 1](#) and [2](#) for type H transformers, and
- [Figures 3](#) and [4](#) for type J transformers.

The cooling water flow rate,  $Q$ , shall be 4 l/min.

The transformers are suitable for duty cycles up to 20 % (see [Annex A](#)).

1) See the ISO Online browsing platform: available at <http://www.iso.org/obp>

## ISO 10656:2016(E)

Table 1 — 50 Hz transformer types, lengths and electrical characteristics

Type <sup>a</sup>	AC no-load voltage $U_{20}$ V	Overall length $l_{1\max}$ mm	Mounting hole spacing $l_2$ mm	Minimum permanent output current $I_{2p}$ kA	Mass (approximate) $m$ kg
H	4,5	245	170	4	18
H	5,6	270	170	4	23
J	6,3	275	190	5,4	26
J	7,1	295	190	5,4	29
J	8	310	230	5,4	32
J	10	370	260	5,4	39
J	13,5	460	350	5,4	52

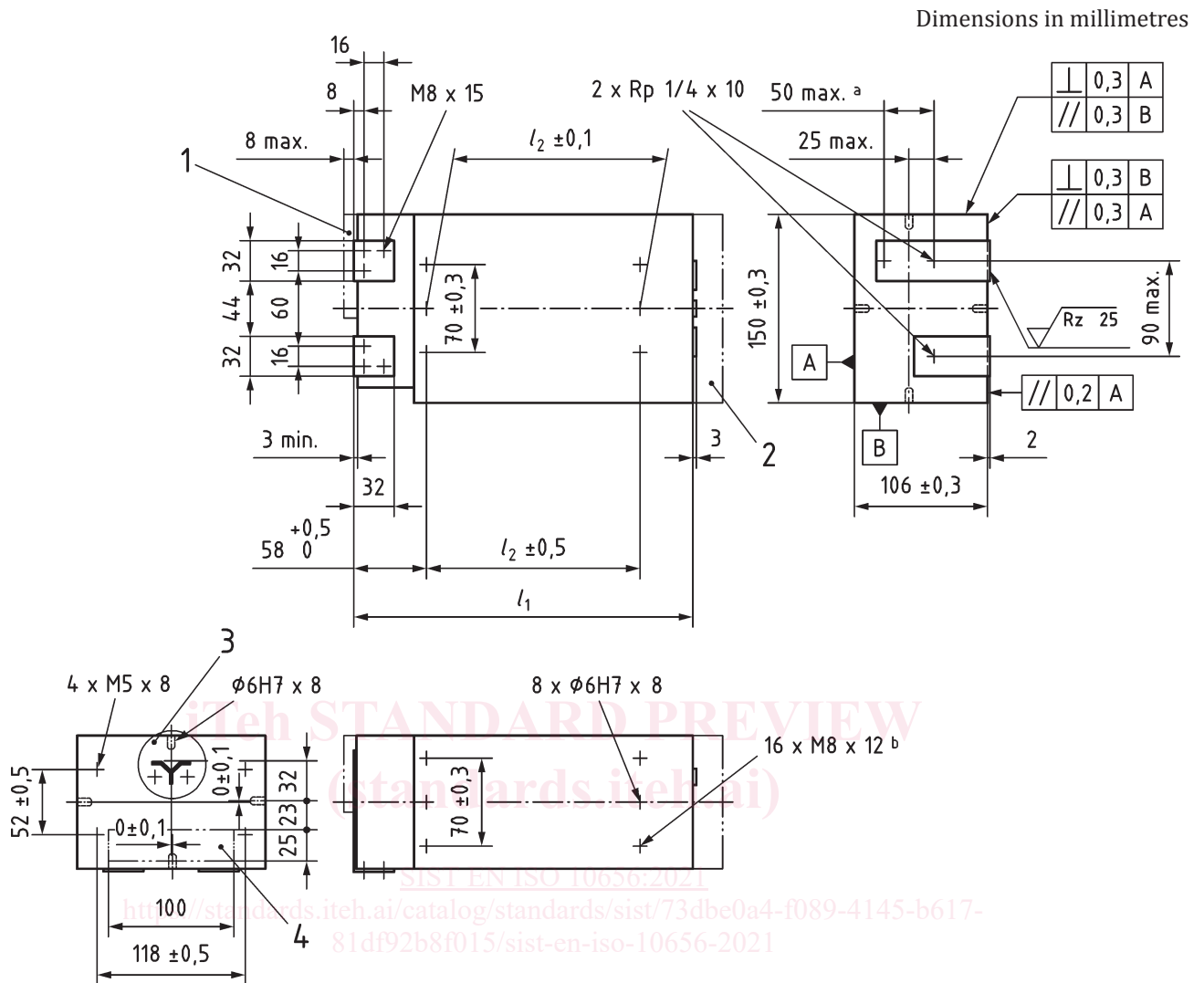
<sup>a</sup> See ISO 5826:2014, Annex D.

Table 2 — 60 Hz transformer types, lengths and electrical characteristics

Type <sup>a</sup>	AC no-load voltage $U_{20}$ V	Overall length $l_{1\max}$ mm	Mounting hole spacing $l_2$ mm	Minimum permanent output current $I_{2p}$ kA	Mass (approximate) $m$ kg
H	5,4	245	170	4	18
H	6,7	270	170	4	23
J	7,6	275	190	5,4	26
J	8,5	295	190	5,4	29
J	9,6	310	230	5,4	32
J	12	370	260	5,4	39
J	16,2	460	350	5,4	52

<sup>a</sup> See ISO 5826:2014, Annex D.



**Key**

- 1 maximum permissible protuberance for measuring coil
- 2 connection box
- 3 for detailed view, see [Figure 2](#)
- 4 output area for M and T

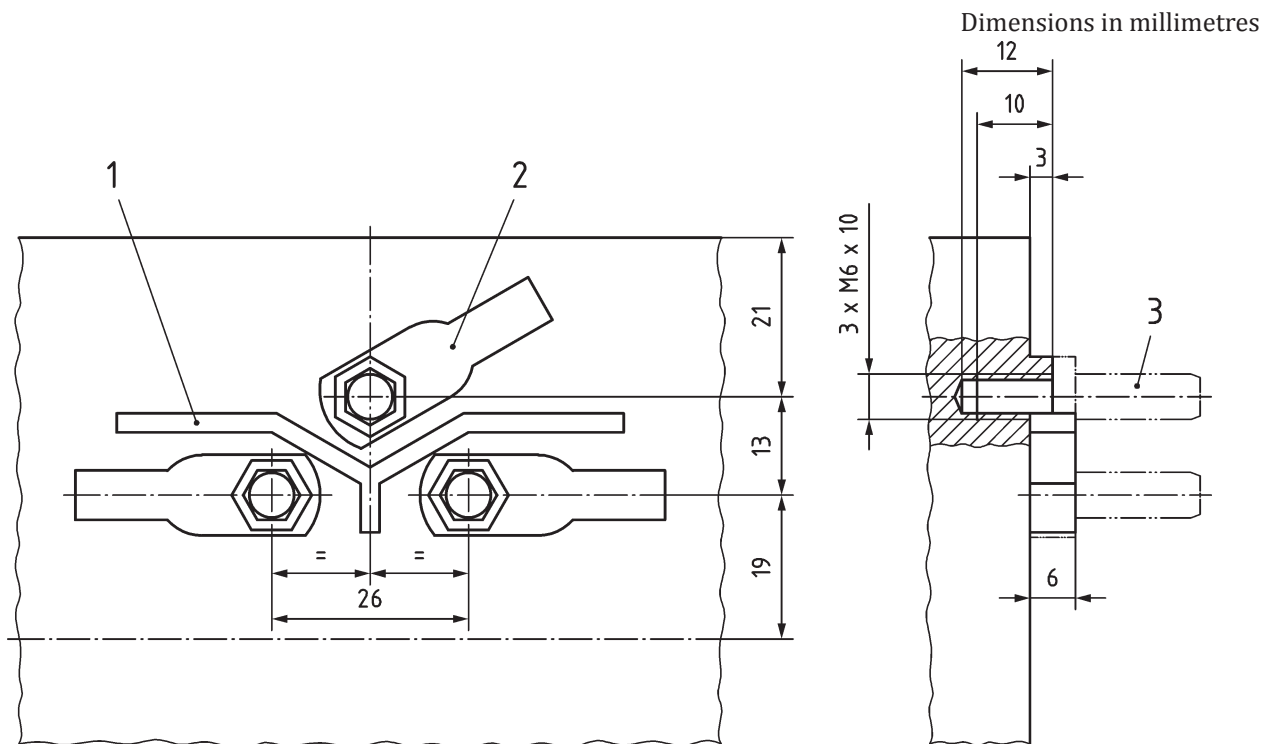
$l_1, l_2$  see [Tables 1](#) and [2](#)

<sup>a</sup> Water holes can be positioned anywhere along this dimension.

<sup>b</sup> Fitted with steel inserts — wire type inserts are not acceptable.

NOTE For marking, see [Clause 5](#).

**Figure 1 — Dimensions of type H transformers**



**Key**

- 1 insulating barrier
- 2  $\varnothing 6$  lug, 10 mm<sup>2</sup> cable
- 3  $\varnothing 6$  contact pin

NOTE This is a detailed view of [Figure 1](#). [SIST EN ISO 10656:2021](#)

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**Figure 2 — Size and location of the three M6 holes intended for supply connection of type H transformers**