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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

ICS: 25.160.30; 29.180

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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 10656 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 6, *Resistance welding*.

This second edition cancels and replaces the first edition (ISO 10656:1996).

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.

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 for a.c. welding.

The requirements of ISO 5826 shall be followed unless amended by this International Standard.

Annex A of this International Standard is for information only.

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, *Resistance welding equipment — Transformers — General specifications applicable to all transformers*

IEC 60417-DB:2011, *Graphical symbols for use on equipment*

3 Dimensions and characteristics of transformers

The dimensions and characteristics of the transformers shall be in accordance with:

— Table 1a for 50 Hz transformers;

— Table 1b for 60 Hz transformers;

— Type H transformers – Figures 1 and 2;

— Type J transformers – Figures 3 and 4.

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

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

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

Type[a]	a.c. no-load voltage U_{20} V	Overall length l_{1max} 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

[a] See ISO 5826, Annex D

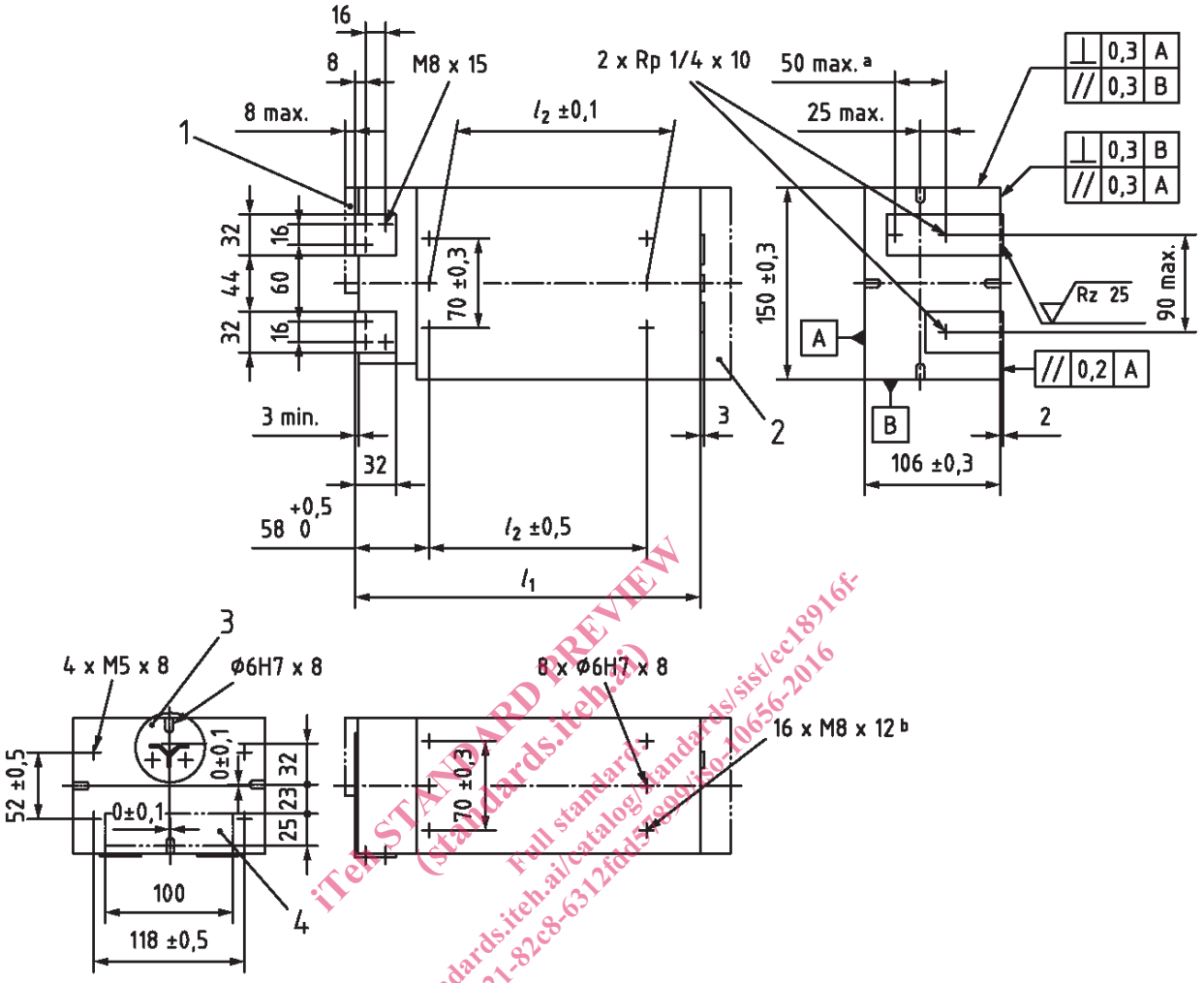
Table 1a *(continued)*

Type[a]	a.c. no-load voltage	Overall length	Mounting hole spacing	Minimum permanent output current	Mass (approximate)
	U_{20}	l_{1max}	l_2	I_{2p}	m
	V	mm	mm	kA	kg
J	10	370	260	5,4	39
J	13,5	460	350	5,4	52
[a] See ISO 5826, Annex D					

Table 1b — 60Hz transformer types, lengths and electrical characteristics

Type[a]	a.c. no-load voltage	Overall length	Mounting hole spacing	Minimum permanent output current	Mass (approximate)
	U_{20}	l_{1max}	l_2	I_{2p}	m
	V	mm	mm	kA	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
[a] See ISO 5826, Annex D					

Dimensions in millimetres



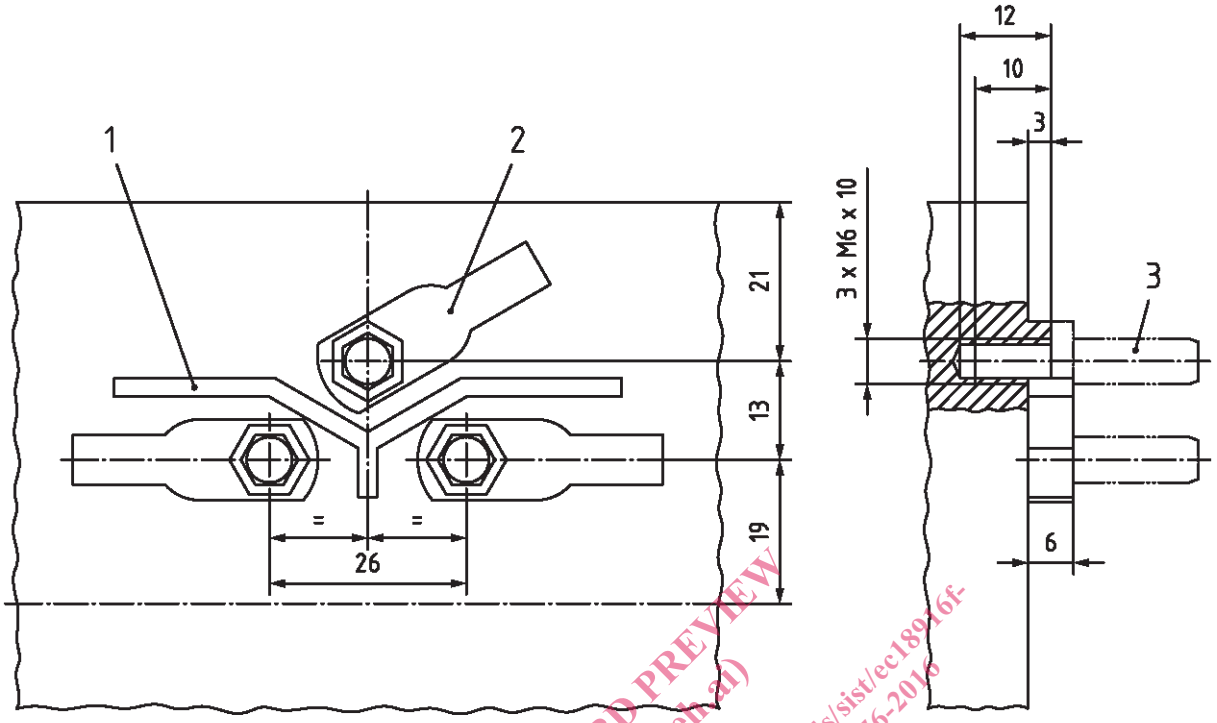
Key

1 maximum permissible protuberance for measuring coil
2 connection box
3 for detailed view see Figure 2
4 output area for M and T
a water holes can be positioned anywhere along this dimension
b fitted with steel inserts - wire type inserts are not acceptable
l_1 and l_2 see Tables 1a and 1b

NOTE For marking see Clause 5

Figure 1 — Dimensions of type H transformers

Dimensions in millimetres



Key

1 insulating barrier

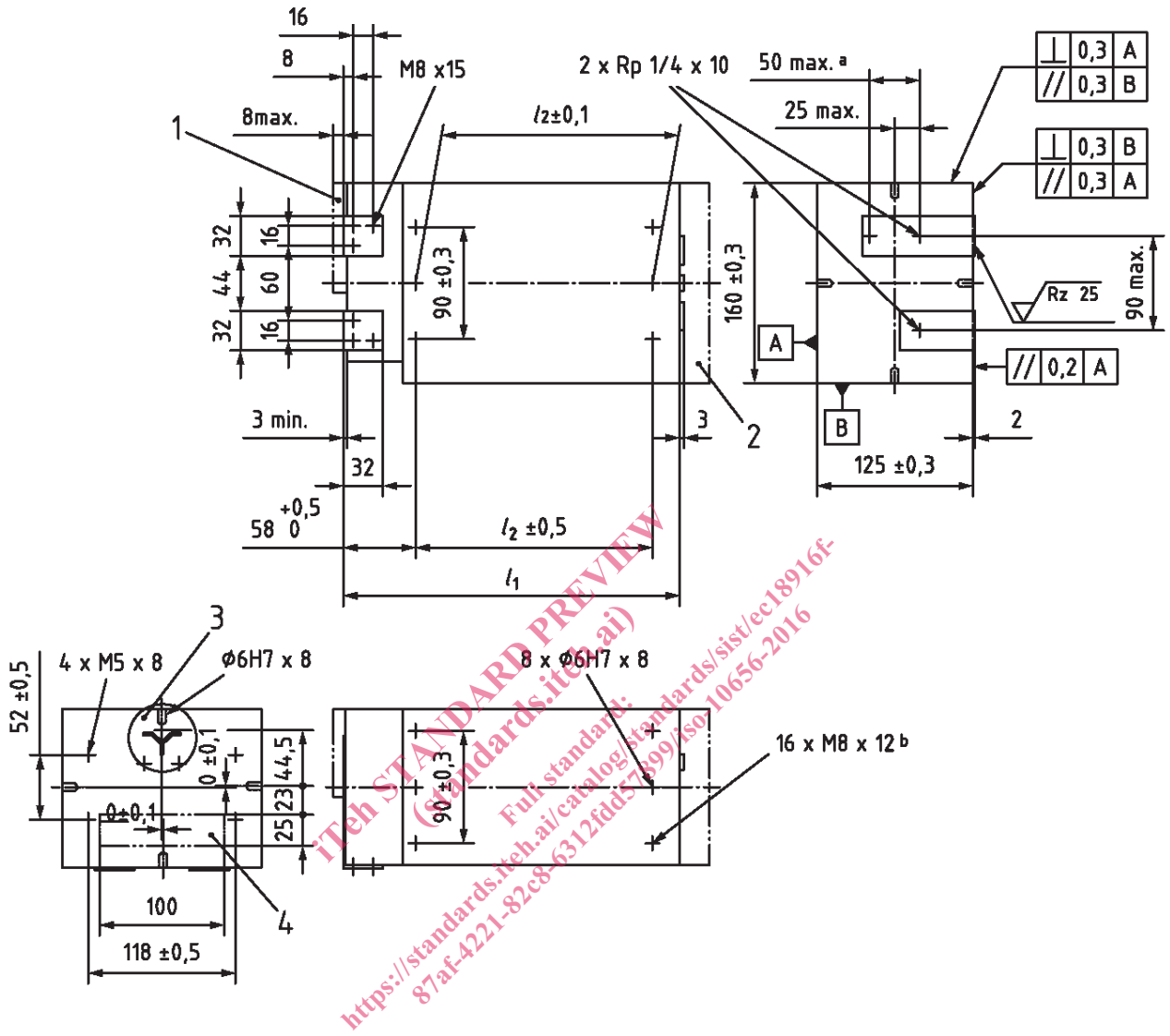
2 ø 6 lug, 10 mm^2 cable

3 ø 6 contact pin

NOTE Figure 2 is a detailed view of Figure 1

Figure 2 — Size and location of the 3 M6 holes intended for supply connection of type H transformers

Dimensions in millimetres



Key

1 maximum permissible protuberance for measuring coil
2 connection box
3 for detailed view see Figure 4
4 output area for M and T
a water holes can be positioned anywhere along this dimension
b 16 x M10 × 15 for U_2 = 13,5 V only: fitted with steel inserts - wire type inserts are not acceptable
l_1 and l_2 see Tables 1a and 1b

NOTE For marking see Clause 5

Figure 3 — Dimensions of type J transformers