

TC3P SERIES TRANSFORMERS

TC3P series transformers (three-phase, dry-type, protected, isolating), rating 1.6...40 kVA, are intended for supply of three-phase voltage to rectifier circuits, semiconductor converters of machine-tools and elevators, electrically operated tools and others devices, where separation of circuits by means of reinforced insulation and not less than IP21 protection degree against external influence for power supply is required.



Transformers comply with the requirements of STB IEC 61558-1-2007 standard.

Isolating transformers of general use with secondary rated voltage over 50 V comply with the requirements of IEC 6158-2-4 standard.

Safety isolating transformers – the transformers with secondary rated voltage up to 50 V – shall comply with the requirements of STB IEC 61558-2-6-2006.

Winding connection / vector group – Yn/Yn-0.

Climatic version – C as in accordance with IEC 60721-2-1:2002 standard.

Nominal working values for externally induced mechanical stresses – in accordance with GOST 30631 for M1 mechanical performance group, however, the requirements for vibration resistance, vibration strength and shock resistance are only for vertical direction.

Operable altitude elevation above sea level is not more than 1000 m.

Transformers versions: as to the installation conditions on worksite the transformers are **independent** ones, as to the short-circuit withstandability they are **non-short-circuit proof** transformers.

Insulation thermal-endurance class – in accordance with GOST 8865-93:

- for transformers rating 1,6 up to 10 kVA – B class;
- for transformers rating 16 up to 40 kVA – F class.

As to protection against electric-shock hazard the transformers belong to I class in accordance with GOST 12.2.007.0-75 and have IP21 protection degree in accordance with GOST 14254-96.

For transformers of 1.6 to 4.0 kVA power, of 220-400 V primary voltage, and with fuse amperage up to 6.3 A inclusive as protective devices shall be used slow-action fuse-links with “T” symbol as in accordance with IEC 60127 – miniature fuse-links of high breaking capacity.

For transformers with fuse amperage over 6.3 A as protective devices should be used time delay fuse-links with breaking capacity within “gD”-type range in accordance with IEC 60269-1. The fuse-link current rating and time-current characteristic should correspond to the ratings indicated by the transformer marking.

Corrected sound power level of transformers both under no-load run and under rated load shall not exceed 60 dBA.

Basic specifications of the transformers

Transformer type	P nom., kVA	Winding voltage, V		Short-circuit voltage, %	Efficiency factor, %
		U _{HV}	U _{LV}		
TC3P-1.6 YXJ12	1.6	220; 230; 380; 400	12; 19; 22; 24; 36; 42; 85; 127; 133; 170; 220; 230*; 380**; 400***	4.5	94.5
TC3P-2.5 YXJ12	2.5		19; 22; 24; 36; 42; 85; 127; 133; 170; 220; 230*; 380**; 400***	3.4	94.0
TC3P-4.0 YXJ12	4.0		36; 42; 85; 127; 133; 170; 220; 230*; 380**; 400***	2.8	95.5
TC3P-6.3 YXJ12	6.3		220****; 230*; 380**; 400***	2.4	96.0
TC3P-10 YXJ12	10			1.9	97.0
TC3P-16 YXJ12	16			2.6	97.0
TC3P-25 YXJ12	25			2.34	97.2
TC3P-40 YXJ12	40			2.0	97.8

* Only in case of 230 and 400 V primary winding rated voltage.
 ** Only in case of 380 V primary winding rated voltage.
 *** Only in case of 400 V primary winding rated voltage.
 **** Only in case of 220 and 380 V primary winding rated voltage.

Overall, mounting dimensions and mass of the transformers

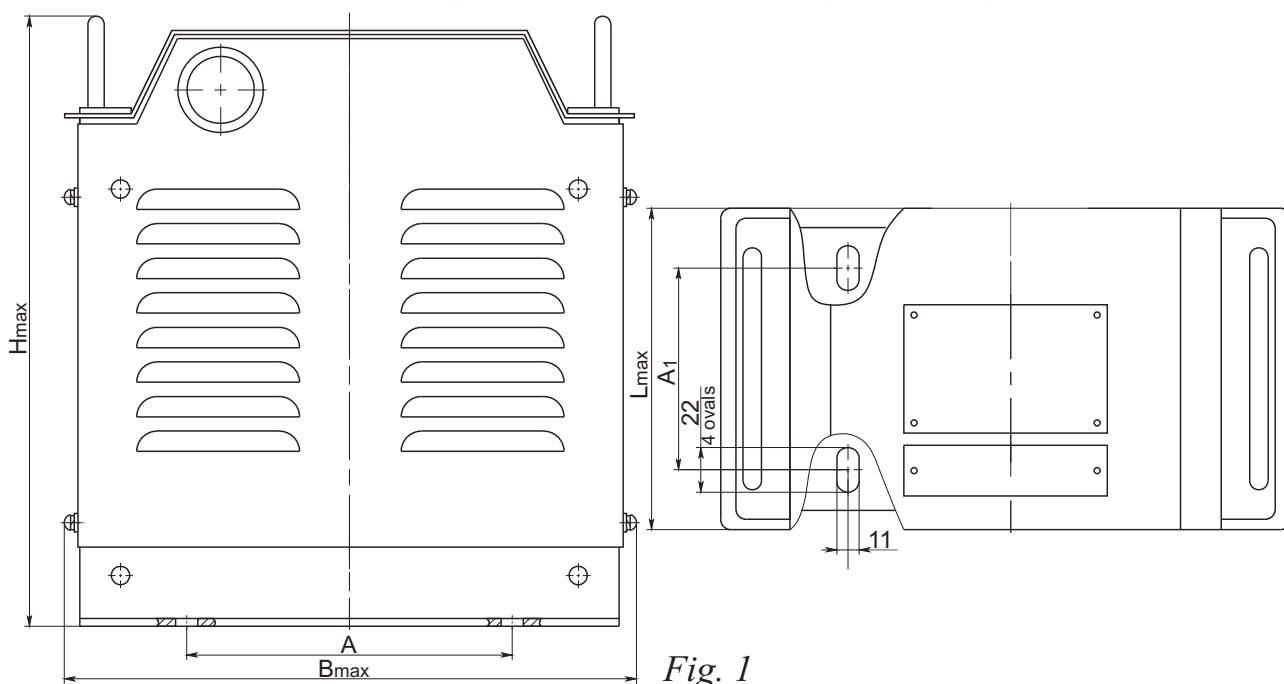


Fig. 1

Overall, mounting dimensions and mass of the transformers

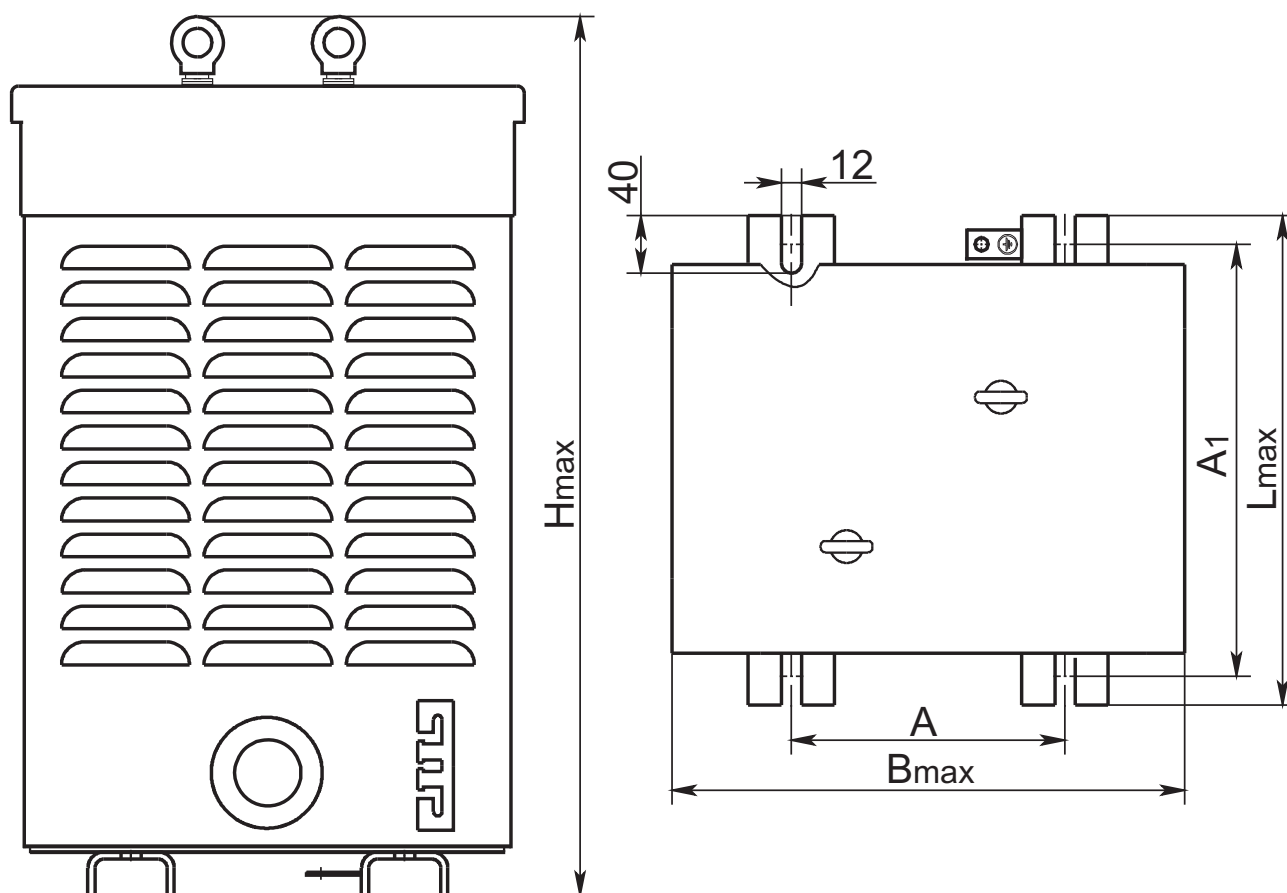


Fig. 2

dimensions in millimeters

Type designation	Fig.	B_{max}	L_{max}	H_{max}	A	A_1	Mass, kg
TC3P-1.6 YXJ2	1	290	177	305	160 ± 1	112 ± 2	24
TC3P-2.5 YXJ2			205			140 ± 2	33
TC3P-4.0 YXJ2		365	200	335	220 ± 1	143 ± 2	47
TC3P-6.3 YXJ2		355		380		152 ± 2	61
TC3P-10 YXJ2		380	230	400		181 ± 2	85
TC3P-16 YXJ2	2	357	342	620	190 ± 2	300 ± 2	114
TC3P-25 YXJ2		420		755	214 ± 2		160
TC3P-40 YXJ2		521		810	276 ± 2		238

Sample of notation (to place an order, or to refer to) for TC3P transformer of 25 kVA power rating, of 220 V primary winding voltage, of 36 V secondary winding voltage, with Yn/Yn-0 winding connection/vector group:

Transformer TC3P-25 YXJ2 220/36 Yн/Ун-0 ТУ РБ 100211261.060-2008
(where ТУ РБ = Technical Specifications of the Republic of Belarus).