



FABRYKA TRANSFORMATORÓW w Żychlinie

Spółka z ograniczoną odpowiedzialnością

99-320 Żychlin, ul. Narutowicza 70

www.ftz.pl

ISO 9001:2000
ISO 14001:2004
PN-N-18001:2004

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OIL-IMMERSED THREE-PHASE DISTRIBUTION TRANSFORMERS

WITH VOLTAGE REGULATION IN DE-ENERGISED STATE

40-2500 kVA

0.4÷37 kV



Applications

Oil-immersed transformers are used for transmission of electric energy in industrial, municipal and rural distribution grids.

Operating conditions

The transformers in standard version are designed for operation in the conditions of moderate climate.

Maximum installation height for the transformer: 1000 m a.s.l.

Operating place: Open space or the room with sufficient ventilation; atmosphere free of dust and chemically active or explosive gases.

Ambient temperature range: -25°C up to +40°C (248°K up to 313°K), average annual temperature not exceeding +20°C (293°K).

Rated frequency: 50 Hz

NOTE:

Transformer in special version complying with other requirements is available on request.

Design

Transformer cores: Three-legged cores made of cold-rolled transformer plates covered with inorganic insulating material.

Transformer windings: The windings of transformers are made of electrolytic copper. The windings are wound from round wire with enamel insulation or shaped wire with paper insulation.

Voltage regulation: Upper voltage winding is equipped with taps for voltage regulation. Voltage regulation can be effected within the range of $\pm 5\%$. The tap changer is located inside transformer tank. Tap changer manual drive is located on the cover. The transformer ratio can be changed by selecting of desired taps after de-energizing of the

transformer. Each tap of the tap changer is equipped with locking mechanism.

Tanks:

Tanks are made of steel. Tanks are made in the form of welded steel structure reinforced with stiffening members which ensure the required level of mechanical strength. The heat generated during transformer operation is carried away by radiators made of sheet steel and fixed to tank jacket or by corrugated walls. The tank is equipped with the undercarriage with adjustable wheels that can be positioned for longitudinal and transversal travel.

Tolerances:

- no-load losses +15%
- load losses +15%
- total losses +10%
- no-load current +30%
- short-circuit voltage +10%

International standards and requirements:

- | | |
|---------------|---|
| PN-EN 60076-1 | - Power transformers. General requirements |
| PN-83/E-06040 | - Oil-immersed transformers with rated power of 25kVA or higher.
Basic equipment |

Exemplary specifications:

Item	Type	Power	Upper side voltage	Lower side voltage	Short-circuit voltage	Vector group	No-load losses	Load losses	Mass, total	Oil mass	Length	Width	Height
		kVA	V	V	%	-	W	W	kg	kg	mm	mm	mm
1.	TOd 63/15	63	15750	400	4,5	Yzn5	150	1200	550	100	860	680	1050
2.	TOd 63/30	63	31500	400	4,5	Yzn5	170	1300	580	120	970	680	1380
3.	TOd 100/10	100	10000	400	4,5	Yzn5	200	1500	830	150	1020	740	1280
4.	TOd 400/6	400	6300	400	4,5	Dyn5	650	4600	1500	270	1590	910	1450
5.	TOd 400/15	400	15750	400	4,5	Dyn5	700	4800	1650	250	1590	910	1450
6.	TOd 630/6	630	6300	400	5	Dyn5	800	6750	2900	900	1820	1200	2130
7.	TOd 630/15	630	15750	400	6	Dyn5	800	6750	2900	900	1820	1200	2070
8.	TOd 800/6	800	6300	400	6	Dyn5	1050	8500	1680	450	1690	930	1500
9.	TOd 800/15	800	15750	400	6	Dyn5	1050	8500	1680	450	1690	930	1570
10.	TOd 1000/15	1000	15750	400	6	Dyn5	1500	8500	3300	750	1820	1200	2070
11.	TOd 2500/15	2500	15750	6300	6	YNd11	2200	23000	6200	1400	2480	1720	2690

NOTE:

- The transformer can be made for the voltage complying with the standard: 6, 10, 15, and 20kV or other (from the range of 1-37kV), as well as for various short-circuit voltages, no-load losses and load losses.
- It is also possible to build the transformer equipped with:
 - connector bushings
 - accessories (connector heads, surge arresters, transformer terminals, anti-vibration pads and so on)
- Transformers in air-tight version and in the version equipped with oil conservator are available on request.
- The manufacturer reserves the right to change specifications presented in the catalogue and resulting from technical progress.