



FABRYKA TRANSFORMATORÓW w Żychlinie

Spółka z ograniczoną odpowiedzialnością

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

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OIL-IMMERSED SHUNT REACTORS

50-11200 kVAr

0.4-115 kV



Applications

Shunt reactors are designed for compensation of capacitive reactive power resulting from operation of synchronous machines and wide LV and MV cable networks operating under insufficient load. The reactors are used for protecting the electric power system against temporary excess production of capacitive-type reactive power.

Operating conditions

The shunt reactors 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:

Reactors in special versions meeting other requirements are available on request.

Design

Reactor cores: Made of cold-rolled transformer plates covered with inorganic insulating material. In core fixing structure the tie rods located in central part of the yoke are used, thus ensuring uniform distribution of clamping force over both core legs.

Reactor windings: The windings of reactors are made of electrolytic copper. The windings are wound from round wire with enamel insulation or shaped wire with paper insulation. Between individual windings the oil channels are provided that ensure the necessary oil circulation and suitable cooling. The windings are pressed by clamping bolts which eliminate vibrations during operation. Both the design and fixing structure of windings ensure very good

dielectric strength and high resistance against lightning surges and very good short-circuit strength. To avoid overvoltages the earthing diagram for all structural elements of shunt reactors was drawn up.

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 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.

International standards and requirements:

- PN-EN 60076-6 - Power transformers. Reactors
- PN-EN 60076-2 - Power transformers. Temperature rise for liquid-immersed transformers
- PN-EN 60076-1 - Power transformers. General requirements

Specifications:

Item	Type	Compensated power	System voltage
		kVA	V
1.	DOKa 75/6,3	75	6300
2.	DOKa 250/6,3	250	6300
3.	DOKa 400/6,3	400	6300
4.	DOKa 630/6,3	630	6300
5.	DOKa 800/6,3	800	6300
6.	DOKa 1000/6,3	1000	6300
7.	DOKa 1600/6,3	1600	6300
8.	DOKa 2000/6,3	2000	6300
9.	DOKa 75/15,75	75	15750
10.	DOKa 250/15,75	250	15750
11.	DOKa 400/15,75	400	15750
12.	DOKa 630/15,75	630	15750
13.	DOKa 800/15,75	800	15750
14.	DOKa 1000/15,75	1000	15750
15.	DOKa 1600/15,75	1600	15750
16.	DOKa 2000/15,75	2000	15750
17.	DOKa 75/21	75	21000
18.	DOKa 250/21	250	21000
19.	DOKa 400/21	400	21000
20.	DOKa 630/21	630	21000
21.	DOKa 800/21	800	21000
22.	DOKa 1000/21	1000	21000
23.	DOKa 1600/21	1600	21000
24.	DOKa 2000/21	2000	21000
25.	DOKa 3400/21	3400	21000
26.	DOKa 4000/21	4000	21000

27	DOKa 5000/21	5000	21000
28	DOKa 8000/115	8000	115000
29	DOKRa 11200/110	11200	110000

NOTE:

- *Shunt reactors are built as customised devices; their characteristics and equipment are to be agreed with the Customer.*
- *The reactors can be equipped with system voltage regulation and/or compensated power regulation. As standard, the value of system voltage is regulated by manual operation of tap changer drive which is located on the cover. Changing of system voltage (selection of suitable taps) can be effected only after de-energizing of the reactor. Each tap of the tap changer is equipped with locking mechanism. It is also possible to built a reactor equipped with on-load regulation (series DOKRa instead of DOKa).*
- *On request, the reactors can be equipped with auxiliary winding designated for 100kVA, 160kVA, 250kVA, 315kVA, or other power.*
- *The suppressing coil can be made for the voltage complying with the standard: 6.3, 10, 15.75, and 21kV or other (from the range of 0.4-115kV).*
- *It is also possible to built the suppression coils equipped with:*
 - *connector bushings*
 - *accessories (connector heads, transformer terminals, anti-vibration pads and so on)*

NOTE:

The manufacturer reserves the right to change specifications presented in the catalogue and resulting from technical progress.