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<u>APTH series bushings – resin</u>

Application

The APTH series bushings are manufactured as part of the IT3Sm flameproof transformer stations and other transformer stations, and can also be used as spare parts for the refurbished and repaired flameproof transformer stations IT3Sb, IT3Sd, IT3Sc manufactured by Mikołowska Fabryka Transformatorów "MEFTA" (Alstom) in Mikołów, built in the HiC insulation class, or they can be used in other devices.

The APTH insulator consists of the following elements:

- 1. Insulator pin made of a copper rod. A metric thread is cut on the opposite ends of the pin. Part of the pin is poured in the form with ARALDITE insulating compound, which provides the insulators with the appropriate shape and parameters of electrical and mechanical strength.
- 2. Insulator fitting made entirely of stainless steel. The fitting consists of two elements: a mounting flange with an internal thread and a sleeve placed on the insulating part of the insulator and screwed into the flange. The sleeve is mounted on the glue on the insulating part of the insulator and forms a tight welded joint, which also meets the requirements of a flameproof joint over a length of 12.5 mm. The outer part of the sleeve connected to the mounting flange forms a flameproof cylindrical joint in the device wall.
- Connection clamps (depending on the type) these are screw clamps formed on both sides of the insulator as a result of screwing a set of nuts and washers onto the insulator pin or screw clamps on one side of the insulator pin and on the other side special clamps with a mounting bracket.

The insulator pin and the mounting flange with the sleeve are protected against rotation of the insulator when connecting or disconnecting wires.

Technical parameters of the PATH insulators series:

- rated voltage : 1250 V to 7000 V
- rated current: 200 A to 800 A
- nominal diameter of the clamps : M10, M16, M20 i M24
- the outer diameter of the insulator sleeve: Ø40, Ø50, Ø70, Ø116
- operating temperature range of insulators: -15°C to +100°C

Special conditions of use:

- The bushings used in the device are subject to thermal tests in order to check whether the technical parameters have been exceeded.

- Acceptable openings of flameproof joints must not exceed the value given in the manufacturer's instructions.

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Insulator type	Rated voltage [kV]	Rated intensity [A]	Quantity of pins [pcs]	Rated diameter of clamps	Outer diameter of insulator's sleeve[mm]
APTH 1/500	1,25	500	1	M16	Ø40
APTH 1/500N	1,25	500	1	M16	Ø40
APTH 1/500II	1,25	500	1	M16	Ø50
APTH 1/500N-II	1,25	500	1	M16	Ø50
APTH 1/600	1,25	600	1	M20	Ø50
APTH 1/600N	1,25	600	1	M20	Ø50
APTH 1/800	1,25	800	1	M24	Ø50
APTH 1/800N	1,25	800	1	M24	Ø50
APTH 6/200N	7,00	200	1	M10	Ø70
APTH 3-6/200	*	200	3	M10	Ø116

* - permissible voltage between the pins of the insulator - 4000 [V]

- permissible voltage between the insulator pin and the mounting flange - 7000 $\left[V \right]$

Certificate:

APTH series bushings have the EU type examination certificate: **KDB 08ATEX020U / 1** of **23.05.2011**. made by the Central Mining Institute, the Certification Body of the Experimental Mine "Barbara" as a supplement to the EU-type examination certificate **KDB 08ATEX020U** of **February 19, 2008**. and meets the requirements of the following standards:

- PN-EN 60079-0:2013,

- PN-EN 60079-1:2014.

The APTH series bushing is marked in accordance with the EU-type examination certificate as follows:



KDB 08ATEX020U I M2 Ex d I Mb