

Data Sheet no. 8.12/3

## High-Power Tank-Type Reactors, Types DE

### Description:

High-Power Tank-Type Reactors have been developed for use in Resonant Test Systems with variable frequency for the on-site testing of HV cables or GIL. They are also suited for the HV-side compensation of capacitive test objects to be tested with conventional HV transformers or reactors with tuneable inductance.

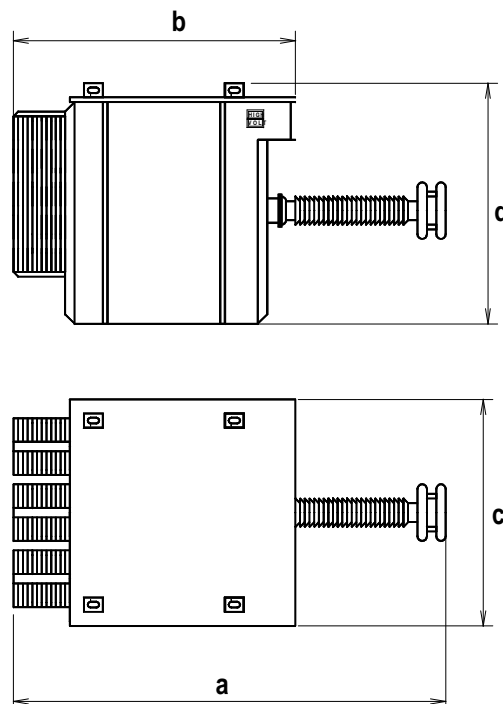
These resonant reactors are realised in conventional tank-type design with oil-paper insulation and natural oil cooling and forced air cooling by fans if necessary. Insulating oil is a mineral transformer oil according to IEC 60296.

The reactors are especially designed for cable on-site testing including frequent truck transportation and outdoor operation. The multi-gap core is made of high-quality grain-oriented transformer sheet and enables together with the layer-type winding a high quality factor of the resonant circuit.

The internal partial discharge (PD) level is lower than 10 pC.

The high voltage is led out through a condenser bushing to the open air or optionally through a SF<sub>6</sub>-immersed cable termination.

The reactors may also be used at lower frequencies than at maximum voltages. In this case the voltage is reduced to avoid that the current exceeds its rated value. The maximum current is available down to the lowest specified frequency (e.g. 20 Hz).



| Type                             |     | DE 30000/110-190                      | DE 20000/150-90                      | DE 12000/160-50 | DE 30000/230-83 | DE 30000/260-83 |
|----------------------------------|-----|---------------------------------------|--------------------------------------|-----------------|-----------------|-----------------|
| Voltage                          | kV  | 110                                   | 150                                  | 160             | 230             | 260             |
| Inductance                       | H   | 2.56                                  | 8,9                                  | 17              | 16.2            | 16.2            |
| Current                          | A   | 190                                   | 90                                   | 50              | 83              | 83              |
| Duty cycle                       | min | 1 hr ON-2 hr OFF,<br>3 cycles per day | 1 hr ON-1 hr OFF<br>3 cycles per day |                 |                 |                 |
| Load capacitance at max. voltage | nF  | 110 - 8080                            | 31 - 3150                            | 17 - 1660       | 18 - 1600       | 18 - 1600       |
| Frequency range                  | Hz  | 20-300                                |                                      |                 |                 |                 |
| Lowest frequency at max. voltage | Hz  | 36                                    | 30                                   | 30              | 27              | 31              |
| Length (a)                       | mm  | 3 770                                 | 5 500                                | 5 000           | 6 000           | 6 000           |
| Partial length (b)               | mm  | 2 800                                 | 2 800                                | 2 500           | 3 000           | 3 000           |
| Width (c)                        | mm  | 2 100                                 | 2 100                                | 2 000           | 2 250           | 2 250           |
| Height (d)                       | mm  | 2 450                                 | 2 450                                | 2 200           | 2 450           | 2 450           |
| Total Weight                     | kg  | 19 200                                | 20 000                               | 14 000          | 23 000          | 23 000          |
| Weight of oil                    | kg  | 4 900                                 | 4 800                                | 4 000           | 5 800           | 5 800           |

Realised examples, modification of the technical data on request.

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