## Power transformer and reactor fittings -Part 6: Cooling equipment -Removable radiators for oil-immersed transformers

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## **EESTI STANDARDI EESSÕNA**

## **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 50216-6:2003 sisaldab Euroopa standardi EN 50216-6:2002 ingliskeelset teksti.

Käesolev dokument on jõustatud 15.01.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 50216-6:2003 consists of the English text of the European standard EN 50216-6:2002.

This document is endorsed on 15.01.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

#### Käsitlusala:

This specification for oil pressure gauges and differential pressure gauges forms part 6 of EN 50216 "Power transformer and reactor fittings". This specification does not purport to include all the necessary provisions of a contract. Except where otherwise specified or implied herein, oil pressure gauges and differential pressure gauges shall comply with the requirements of EN 50216-1 "General".

### Scope:

This specification for oil pressure gauges and differential pressure gauges forms part 6 of EN 50216 "Power transformer and reactor fittings". This specification does not purport to include all the necessary provisions of a contract. Except where otherwise specified or implied herein, oil pressure gauges and differential pressure gauges shall comply with the requirements of EN 50216-1 "General".

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**Võtmesõnad:** coolers, cooling systems, electric coils, electrically-opera, indu, oil bath transformers, oil-immersed transformers, operating conditions, power transformers, properties, ratings, reactors, specification (approval), specifications, stationary, testing, transformers

## **EUROPEAN STANDARD**

## EN 50216-6

## NORME EUROPÉENNE

## **EUROPÄISCHE NORM**

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English version

# Power transformer and reactor fittings Part 6: Cooling equipment Removable radiators for oil-immersed transformers

Accessoires pour transformateurs de puissance et bobines d'inductance Partie 6: Appareillage de refroidissement -Radiateurs détachables pour transformateurs immergés dans l'huile Zubehör für Transformatoren und Drosselspulen Teil 6: Kühlungseinrichtungen -Abbaubare Radiatoren für Öltransformatoren

This European Standard was approved by CENELEC on 2001-07-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

## CENELEC

European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

#### **Foreword**

This European Standard was prepared by the Technical Committee CENELEC TC 14, Power transformers.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50216-6 on 2001-07-01.

The following dates were fixed:

 latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement

(dop) 2002-08-01

 latest date by which the national standards conflicting with the EN have to be withdrawn

(dow) 2004-08-01

EN 50216-6 is to be read in conjunction with EN 50216-1. AL CONTRACTOR OF THE STATE OF T

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## 1 Scope

EN 50216-6 covers radiators, i.e. the thermal exchangers for the oil cooling with natural ambient air circulation. Such radiators are made with several elements with cooling channels connected in parallel.

This standard defines the overall dimensions and ensures the mechanical interchangeability achieving the same thermal performances.

#### 2 Normative references

Addition to EN 50216-1:

ISO 4406 1999 Hydraulic fluid power - Fluids - Method for coding the level of

contamination by solid particles

## 3 Manufacturing prescription

## 3.1 Radiator types defined in this document

The designations to identify the types of radiator are

FA radiators with square flanges and elements of unequal length (see Figure 1)

FG radiators with square flanges and elements of equal length (see Figure 2)

FTR radiators with square flanges and elements of equal length and with several elements with reduced width (see Figure 3)

FTTO tangential radiators with oval flanges and elements of equal length (see Figure 4)

FR radiators with square flanges with lowered upper header (see Figure 5)

FTT tangential radiators with square flanges and elements of equal length (see Figure 6)

#### 3.2 General characteristics

The main radiator components are

- headers,
- connection flanges,
- elements.

The headers shall be made in such a way to guarantee a complete filling and a complete draining. Oblique elements or reduced elements are acceptable.

The layout is given in Figures 1 to 6.

The radiators shall be provided with an air vent device on the top header and a draining device on the bottom header.

#### 3.3 Material

The radiator elements shall be made of stamped steel plates or steel pipes (round or ovaled) with a thickness of 1,2 mm, in conformity with ISO, EN or equivalent standards. Other thicknesses may be applicable.