

# **Closed Core Power Transformer Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented, By Cooling Type (Oil Cooled, Air Cooled, Water Cooled), By Phase (Single Phase, Three Phase), By Core Type (Round Core, Open Core), By End-User Industry (Utilities, Industrial, Commercial, Renewable Energy), By Region, By Competition, 2020-2030F**

<https://marketpublishers.com/r/CA3FDE18833FEN.html>

Date: July 2025

Pages: 180

Price: US\$ 4,500.00 (Single User License)

ID: CA3FDE18833FEN

## **Abstracts**

### Market Overview

The Closed Core Power Transformer Market was valued at USD 20.14 billion in 2024 and is projected to reach USD 25.85 billion by 2030, growing at a CAGR of 4.09%. This market focuses on the design, manufacture, and deployment of power transformers featuring a closed magnetic core structure, which allows for efficient energy transfer via electromagnetic induction. In closed core configurations, the magnetic circuit is continuous—commonly circular or rectangular—helping minimize energy losses and boost operational efficiency. These transformers are critical to both high-voltage and low-voltage power transmission and distribution networks, making them indispensable for modern power infrastructure development.

### Key Market Drivers

#### Rising Global Demand for Reliable Power Infrastructure

A key factor propelling the Closed Core Power Transformer Market is the increasing

global demand for reliable and resilient power systems. Accelerated urbanization, industrial expansion, and the growing footprint of residential and commercial developments have significantly amplified the need for efficient electricity transmission and distribution networks. Closed core power transformers, recognized for their compact form factor, low core losses, and high magnetic efficiency, are instrumental in stabilizing power delivery and minimizing transmission losses.

Emerging economies in Asia Pacific, Latin America, and Africa are investing heavily in power infrastructure to accommodate increasing electricity demand and to reduce outages. Concurrently, developed nations are upgrading outdated systems to meet modern grid standards and to support the integration of renewable energy. Closed core transformers offer the necessary reliability and performance required for both new and upgraded networks, aligning with the global push for energy efficiency and uninterrupted power supply.

## Key Market Challenges

### High Initial Capital Investment and Installation Costs

The Closed Core Power Transformer Market faces a major challenge in the form of high capital expenditure associated with transformer production and deployment. The use of premium materials—such as high-grade electrical steel and copper windings—along with precision engineering significantly raises the manufacturing cost. In addition, the installation process requires specialized infrastructure, skilled personnel, and safety compliance, further escalating total investment requirements.

For smaller utilities or developers operating under tight budgets, these high upfront costs can hinder adoption. This issue is particularly pronounced in developing regions where financial constraints limit infrastructure expansion. Consequently, while these transformers offer long-term operational savings, their cost-intensive nature remains a barrier to widespread market penetration in cost-sensitive areas.

## Key Market Trends

### Rising Demand for Smart Grid-Ready Transformers

A prominent trend in the Closed Core Power Transformer Market is the increasing demand for smart grid-compatible solutions. As power utilities around the world transition to digital grid ecosystems to enable better monitoring and automation,

transformers capable of integrating with smart grid infrastructure are gaining traction. Closed core designs are inherently efficient and can be readily equipped with sensors, communication modules, and intelligent control systems.

These smart transformers allow for real-time performance monitoring, predictive maintenance, and load optimization—key requirements for modern utilities seeking to enhance service reliability and reduce technical losses. Emerging markets are also adopting such technology to leapfrog legacy systems and meet future grid demands. With regulatory agencies emphasizing grid modernization and digital infrastructure, the adoption of smart-ready closed core transformers is expected to increase significantly in the coming years.

### Key Market Players

Siemens Energy AG

ABB Ltd.

General Electric Company (GE Grid Solutions)

Schneider Electric SE

Mitsubishi Electric Corporation

Hyundai Electric & Energy Systems Co., Ltd.

Toshiba Energy Systems & Solutions Corporation

Eaton Corporation plc

CG Power and Industrial Solutions Limited

SPX Transformer Solutions, Inc.

### Report Scope:

In this report, the Global Closed Core Power Transformer Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Closed Core Power Transformer Market, By Cooling Type:

Oil Cooled

Air Cooled

Water Cooled

Closed Core Power Transformer Market, By Phase:

Single Phase

Three Phase

Closed Core Power Transformer Market, By Core Type:

Round Core

Open Core

Closed Core Power Transformer Market, By End-User Industry:

Utilities

Industrial

Commercial

Renewable Energy

## Closed Core Power Transformer Market, By Region:

North America

? United States

? Canada

? Mexico

Europe

? France

? United Kingdom

? Italy

? Germany

? Spain

Asia-Pacific

? China

? India

? Japan

? Australia

? South Korea

### South America

? Brazil

? Argentina

? Colombia

### Middle East & Africa

? South Africa

? Saudi Arabia

? UAE

? Kuwait

? Turkey

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global

*Closed Core Power Transformer Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segment...*

Closed Core Power Transformer Market.

Available Customizations:

Global Closed Core Power Transformer Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

## Contents

### **1. PRODUCT OVERVIEW**

- 1.1. Market Definition
- 1.2. Scope of the Market
  - 1.2.1. Markets Covered
  - 1.2.2. Years Considered for Study
- 1.3. Key Market Segmentations

### **2. RESEARCH METHODOLOGY**

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Formulation of the Scope
- 2.4. Assumptions and Limitations
- 2.5. Sources of Research
  - 2.5.1. Secondary Research
  - 2.5.2. Primary Research
- 2.6. Approach for the Market Study
  - 2.6.1. The Bottom-Up Approach
  - 2.6.2. The Top-Down Approach
- 2.7. Methodology Followed for Calculation of Market Size & Market Shares
- 2.8. Forecasting Methodology
  - 2.8.1. Data Triangulation & Validation

### **3. EXECUTIVE SUMMARY**

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, and Trends

### **4. VOICE OF CUSTOMER**

### **5. GLOBAL CLOSED CORE POWER TRANSFORMER MARKET OUTLOOK**

- 5.1. Market Size & Forecast

- 5.1.1. By Value
- 5.2. Market Share & Forecast
  - 5.2.1. By Cooling Type (Oil Cooled, Air Cooled, Water Cooled)
  - 5.2.2. By Phase (Single Phase, Three Phase)
  - 5.2.3. By Core Type (Round Core, Open Core)
  - 5.2.4. By End-User Industry (Utilities, Industrial, Commercial, Renewable Energy)
  - 5.2.5. By Region
- 5.3. By Company (2024)
- 5.4. Market Map

## **6. NORTH AMERICA CLOSED CORE POWER TRANSFORMER MARKET OUTLOOK**

- 6.1. Market Size & Forecast
  - 6.1.1. By Value
- 6.2. Market Share & Forecast
  - 6.2.1. By Cooling Type
  - 6.2.2. By Phase
  - 6.2.3. By Core Type
  - 6.2.4. By End-User Industry
  - 6.2.5. By Country
- 6.3. North America: Country Analysis
  - 6.3.1. United States Closed Core Power Transformer Market Outlook
    - 6.3.1.1. Market Size & Forecast
      - 6.3.1.1.1. By Value
    - 6.3.1.2. Market Share & Forecast
      - 6.3.1.2.1. By Cooling Type
      - 6.3.1.2.2. By Phase
      - 6.3.1.2.3. By Core Type
      - 6.3.1.2.4. By End-User Industry
  - 6.3.2. Canada Closed Core Power Transformer Market Outlook
    - 6.3.2.1. Market Size & Forecast
      - 6.3.2.1.1. By Value
    - 6.3.2.2. Market Share & Forecast
      - 6.3.2.2.1. By Cooling Type
      - 6.3.2.2.2. By Phase
      - 6.3.2.2.3. By Core Type
      - 6.3.2.2.4. By End-User Industry
  - 6.3.3. Mexico Closed Core Power Transformer Market Outlook

- 6.3.3.1. Market Size & Forecast
  - 6.3.3.1.1. By Value
- 6.3.3.2. Market Share & Forecast
  - 6.3.3.2.1. By Cooling Type
  - 6.3.3.2.2. By Phase
  - 6.3.3.2.3. By Core Type
  - 6.3.3.2.4. By End-User Industry

## **7. EUROPE CLOSED CORE POWER TRANSFORMER MARKET OUTLOOK**

- 7.1. Market Size & Forecast
  - 7.1.1. By Value
- 7.2. Market Share & Forecast
  - 7.2.1. By Cooling Type
  - 7.2.2. By Phase
  - 7.2.3. By Core Type
  - 7.2.4. By End-User Industry
  - 7.2.5. By Country
- 7.3. Europe: Country Analysis
  - 7.3.1. Germany Closed Core Power Transformer Market Outlook
    - 7.3.1.1. Market Size & Forecast
      - 7.3.1.1.1. By Value
    - 7.3.1.2. Market Share & Forecast
      - 7.3.1.2.1. By Cooling Type
      - 7.3.1.2.2. By Phase
      - 7.3.1.2.3. By Core Type
      - 7.3.1.2.4. By End-User Industry
  - 7.3.2. United Kingdom Closed Core Power Transformer Market Outlook
    - 7.3.2.1. Market Size & Forecast
      - 7.3.2.1.1. By Value
    - 7.3.2.2. Market Share & Forecast
      - 7.3.2.2.1. By Cooling Type
      - 7.3.2.2.2. By Phase
      - 7.3.2.2.3. By Core Type
      - 7.3.2.2.4. By End-User Industry
  - 7.3.3. Italy Closed Core Power Transformer Market Outlook
    - 7.3.3.1. Market Size & Forecast
      - 7.3.3.1.1. By Value
    - 7.3.3.2. Market Share & Forecast

- 7.3.3.2.1. By Cooling Type
- 7.3.3.2.2. By Phase
- 7.3.3.2.3. By Core Type
- 7.3.3.2.4. By End-User Industry
- 7.3.4. France Closed Core Power Transformer Market Outlook
  - 7.3.4.1. Market Size & Forecast
    - 7.3.4.1.1. By Value
  - 7.3.4.2. Market Share & Forecast
    - 7.3.4.2.1. By Cooling Type
    - 7.3.4.2.2. By Phase
    - 7.3.4.2.3. By Core Type
    - 7.3.4.2.4. By End-User Industry
- 7.3.5. Spain Closed Core Power Transformer Market Outlook
  - 7.3.5.1. Market Size & Forecast
    - 7.3.5.1.1. By Value
  - 7.3.5.2. Market Share & Forecast
    - 7.3.5.2.1. By Cooling Type
    - 7.3.5.2.2. By Phase
    - 7.3.5.2.3. By Core Type
    - 7.3.5.2.4. By End-User Industry

## **8. ASIA-PACIFIC CLOSED CORE POWER TRANSFORMER MARKET OUTLOOK**

- 8.1. Market Size & Forecast
  - 8.1.1. By Value
- 8.2. Market Share & Forecast
  - 8.2.1. By Cooling Type
  - 8.2.2. By Phase
  - 8.2.3. By Core Type
  - 8.2.4. By End-User Industry
  - 8.2.5. By Country
- 8.3. Asia-Pacific: Country Analysis
  - 8.3.1. China Closed Core Power Transformer Market Outlook
    - 8.3.1.1. Market Size & Forecast
      - 8.3.1.1.1. By Value
    - 8.3.1.2. Market Share & Forecast
      - 8.3.1.2.1. By Cooling Type
      - 8.3.1.2.2. By Phase
      - 8.3.1.2.3. By Core Type

- 8.3.1.2.4. By End-User Industry
- 8.3.2. India Closed Core Power Transformer Market Outlook
  - 8.3.2.1. Market Size & Forecast
    - 8.3.2.1.1. By Value
  - 8.3.2.2. Market Share & Forecast
    - 8.3.2.2.1. By Cooling Type
    - 8.3.2.2.2. By Phase
    - 8.3.2.2.3. By Core Type
    - 8.3.2.2.4. By End-User Industry
- 8.3.3. Japan Closed Core Power Transformer Market Outlook
  - 8.3.3.1. Market Size & Forecast
    - 8.3.3.1.1. By Value
  - 8.3.3.2. Market Share & Forecast
    - 8.3.3.2.1. By Cooling Type
    - 8.3.3.2.2. By Phase
    - 8.3.3.2.3. By Core Type
    - 8.3.3.2.4. By End-User Industry
- 8.3.4. South Korea Closed Core Power Transformer Market Outlook
  - 8.3.4.1. Market Size & Forecast
    - 8.3.4.1.1. By Value
  - 8.3.4.2. Market Share & Forecast
    - 8.3.4.2.1. By Cooling Type
    - 8.3.4.2.2. By Phase
    - 8.3.4.2.3. By Core Type
    - 8.3.4.2.4. By End-User Industry
- 8.3.5. Australia Closed Core Power Transformer Market Outlook
  - 8.3.5.1. Market Size & Forecast
    - 8.3.5.1.1. By Value
  - 8.3.5.2. Market Share & Forecast
    - 8.3.5.2.1. By Cooling Type
    - 8.3.5.2.2. By Phase
    - 8.3.5.2.3. By Core Type
    - 8.3.5.2.4. By End-User Industry

## **9. SOUTH AMERICA CLOSED CORE POWER TRANSFORMER MARKET OUTLOOK**

- 9.1. Market Size & Forecast
  - 9.1.1. By Value

## 9.2. Market Share & Forecast

9.2.1. By Cooling Type

9.2.2. By Phase

9.2.3. By Core Type

9.2.4. By End-User Industry

9.2.5. By Country

## 9.3. South America: Country Analysis

9.3.1. Brazil Closed Core Power Transformer Market Outlook

9.3.1.1. Market Size & Forecast

9.3.1.1.1. By Value

9.3.1.2. Market Share & Forecast

9.3.1.2.1. By Cooling Type

9.3.1.2.2. By Phase

9.3.1.2.3. By Core Type

9.3.1.2.4. By End-User Industry

9.3.2. Argentina Closed Core Power Transformer Market Outlook

9.3.2.1. Market Size & Forecast

9.3.2.1.1. By Value

9.3.2.2. Market Share & Forecast

9.3.2.2.1. By Cooling Type

9.3.2.2.2. By Phase

9.3.2.2.3. By Core Type

9.3.2.2.4. By End-User Industry

9.3.3. Colombia Closed Core Power Transformer Market Outlook

9.3.3.1. Market Size & Forecast

9.3.3.1.1. By Value

9.3.3.2. Market Share & Forecast

9.3.3.2.1. By Cooling Type

9.3.3.2.2. By Phase

9.3.3.2.3. By Core Type

9.3.3.2.4. By End-User Industry

## **10. MIDDLE EAST AND AFRICA CLOSED CORE POWER TRANSFORMER MARKET OUTLOOK**

### 10.1. Market Size & Forecast

10.1.1. By Value

### 10.2. Market Share & Forecast

10.2.1. By Cooling Type

- 10.2.2. By Phase
- 10.2.3. By Core Type
- 10.2.4. By End-User Industry
- 10.2.5. By Country
- 10.3. Middle East and Africa: Country Analysis
  - 10.3.1. South Africa Closed Core Power Transformer Market Outlook
    - 10.3.1.1. Market Size & Forecast
      - 10.3.1.1.1. By Value
    - 10.3.1.2. Market Share & Forecast
      - 10.3.1.2.1. By Cooling Type
      - 10.3.1.2.2. By Phase
      - 10.3.1.2.3. By Core Type
      - 10.3.1.2.4. By End-User Industry
  - 10.3.2. Saudi Arabia Closed Core Power Transformer Market Outlook
    - 10.3.2.1. Market Size & Forecast
      - 10.3.2.1.1. By Value
    - 10.3.2.2. Market Share & Forecast
      - 10.3.2.2.1. By Cooling Type
      - 10.3.2.2.2. By Phase
      - 10.3.2.2.3. By Core Type
      - 10.3.2.2.4. By End-User Industry
  - 10.3.3. UAE Closed Core Power Transformer Market Outlook
    - 10.3.3.1. Market Size & Forecast
      - 10.3.3.1.1. By Value
    - 10.3.3.2. Market Share & Forecast
      - 10.3.3.2.1. By Cooling Type
      - 10.3.3.2.2. By Phase
      - 10.3.3.2.3. By Core Type
      - 10.3.3.2.4. By End-User Industry
  - 10.3.4. Kuwait Closed Core Power Transformer Market Outlook
    - 10.3.4.1. Market Size & Forecast
      - 10.3.4.1.1. By Value
    - 10.3.4.2. Market Share & Forecast
      - 10.3.4.2.1. By Cooling Type
      - 10.3.4.2.2. By Phase
      - 10.3.4.2.3. By Core Type
      - 10.3.4.2.4. By End-User Industry
  - 10.3.5. Turkey Closed Core Power Transformer Market Outlook
    - 10.3.5.1. Market Size & Forecast

- 10.3.5.1.1. By Value
- 10.3.5.2. Market Share & Forecast
  - 10.3.5.2.1. By Cooling Type
  - 10.3.5.2.2. By Phase
  - 10.3.5.2.3. By Core Type
  - 10.3.5.2.4. By End-User Industry

## **11. MARKET DYNAMICS**

- 11.1. Drivers
- 11.2. Challenges

## **12. MARKET TRENDS & DEVELOPMENTS**

- 12.1. Merger & Acquisition (If Any)
- 12.2. Product Launches (If Any)
- 12.3. Recent Developments

## **13. COMPANY PROFILES**

- 13.1. Siemens Energy AG
  - 13.1.1. Business Overview
  - 13.1.2. Key Revenue and Financials
  - 13.1.3. Recent Developments
  - 13.1.4. Key Personnel/Key Contact Person
  - 13.1.5. Key Product/Services Offered
- 13.2. ABB Ltd.
- 13.3. General Electric Company (GE Grid Solutions)
- 13.4. Schneider Electric SE
- 13.5. Mitsubishi Electric Corporation
- 13.6. Hyundai Electric & Energy Systems Co., Ltd.
- 13.7. Toshiba Energy Systems & Solutions Corporation
- 13.8. Eaton Corporation plc
- 13.9. CG Power and Industrial Solutions Limited
- 13.10. SPX Transformer Solutions, Inc.

## **14. STRATEGIC RECOMMENDATIONS**

## **15. ABOUT US & DISCLAIMER**

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