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**1000 kVA transformers** are essential components in medium-voltage electrical systems, ensuring efficient voltage transformation for large commercial and industrial facilities. Their price varies depending on type, specification, and region. This guide offers a detailed look at pricing, applications, and technical factors influencing purchase decisions.







# What is a 1000 kVA Transformer?

A 1000 kVA transformer is an electrical device capable of handling 1000 kilovolt-amperes of apparent power. It converts voltage between two levels—for example, from 11kV down to 400V—while maintaining consistent performance and safety standards. These transformers are available in two main types:

- Oil-immersed transformers: Durable and cost-effective, commonly used outdoors.
- Dry-type transformers: Safer for indoor use, especially in fire-sensitive environments.



The 1000 kVA transformer is widely deployed in sectors that require reliable power delivery at medium to low voltage levels:

- Industrial plants: Operating heavy machinery and automation lines.
- Hospitals and data centers: Power continuity is mission-critical.
- Commercial buildings and shopping malls: Distribute power across multiple floors or units.
- Renewable energy systems: Connect wind or solar farms to grid infrastructure.

## **Market Trends and Industry Background**

According to **IEEE** and **IEEMA** industry reports, the demand for 1000 kVA transformers is growing in regions with rapid industrialization and infrastructure expansion. Additionally, smart grid integration and IoT-based monitoring have introduced a shift toward transformers with embedded sensors and remote diagnostics.

**Wikipedia** defines transformers as "passive components that transfer electrical energy between two or more circuits through electromagnetic induction," emphasizing their role in energy efficiency across power networks.

The global transformer market, valued at over USD 60 billion, is expected to grow at a CAGR of 6.5% by 2030, driven by increased demand in India, Southeast Asia, and Africa.

# **Technical Specifications**

PARAMETER	VALUE	
Rated Power	1000 kVA	
Primary Voltage	11kV / 22kV / 33kV (customizable)	
Secondary Voltage	400V / 415V	
Frequency	50Hz / 60Hz	
Cooling Type	ONAN (Oil Natural Air Natural) or AN (Air Natural for dry type)	
Insulation Class	Class F or H (for dry type)	
Vector Group	Dyn11 (common configuration)	
Efficiency	≥98.5%	
Standards	IEC 60076, IS 1180, ANSI C57	

# **Price Range and Factors**

The price of a 1000 kVA transformer can range from USD 8,000 to USD 25,000, depending on:

- Pry-type is typically more expensive than oil-filled models.
- and origin: Products from ABB, Schneider Electric, or Siemens cost more due to quality and certification.
- Customization: Special protection, temperature sensors, or surge arrestors add cost.
- Material choices: Copper windings are costlier than aluminum but offer better conductivity and durability.

## Oil vs. Dry Type: Which One to Choose?

FEATURE	OIL-IMMERSED	DRY-TYPE
Installation	Outdoor / Indoor (with protection)	Indoor only
Cost	Lower	Higher
Maintenance	Requires periodic oil checks	Minimal maintenance
Fire Safety	Moderate (oil is flammable)	Excellent (self-extinguishing resin)
Size	More compact	Bulkier

If your project is indoors (e.g., hospital, mall), **dry-type** is safer. For outdoor or budget-conscious applications, **oil-immersed** is more economical.

# Selection and Purchasing Advice

Before buying a 1000 kVA transformer, consider the following:

- Voltage compatibility: Match primary and secondary voltage to your grid and load.
- Ambient conditions: Ensure the transformer can handle local temperatures and humidity.
- Load profile: Analyze your peak and continuous load to avoid under/oversizing.
- Compliance: Look for IEC, ANSI, or IS certified equipment for reliability.
- Supplier support: After-sales service, availability of spare parts, and installation guidance can significantly affect longterm costs.

Ask for a type test report, routine test certificate, and factory inspection availability from manufacturers.

### **Authoritative Sources**

For deeper technical insights, you may refer to:

- IEEE Standards on Transformers
- Wikipedia Transformer (Electrical)
- ABB Distribution Transformers
- Schneider Electric Transformer Solutions

Typources reinforce industry best practices and up-to-date compliance norms.

# **FAQ - Frequently Asked Questions**

#### 1. What is the lead time for a 1000 kVA transformer?

Lead time typically ranges from **6 to 10 weeks**, depending on production capacity, customization level, and logistics arrangements.

### 2. How long does a 1000 kVA transformer last?

With proper maintenance, a transformer can last **20 to 30 years**. Oil-filled transformers may require periodic oil analysis and insulation testing to maintain longevity.

### 3. Can 1000 kVA transformers be connected in parallel?

Yes, parallel operation is possible if both units share the same impedance, vector group, and voltage ratings. This setup helps share load in high-demand facilities.

A **1000 kVA transformer** is a major investment in electrical infrastructure. Choosing the right type, understanding cost drivers, and considering long-term operation conditions are key to making the best purchasing decision. Whether you're an EPC contractor, electrical engineer, or procurement officer, this guide provides a technical yet accessible framework for navigating your transformer project with confidence.

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