

# AIR CORE REACTORS

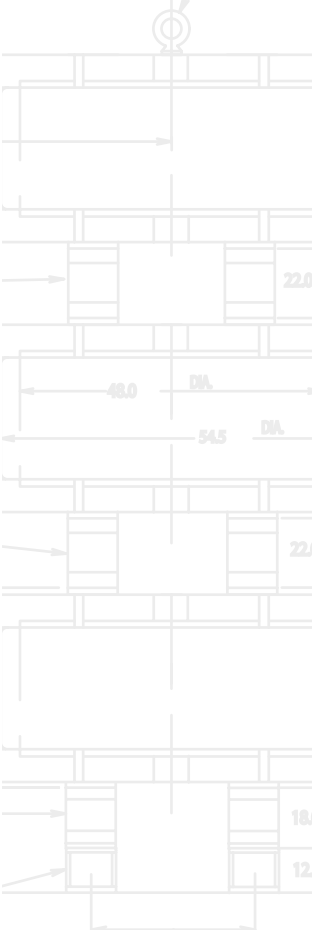


PHOENIX ELECTRIC CORPORATION

PHOENIX ELECTRIC CORPORATION designs and manufactures Dry Type Air Core Reactors for operation on systems rated through 800 kV. All reactors are custom designed for each application, taking into account the voltage, current, inductance, size constraints, and loss characteristics required to provide the most efficient design at the most economical price. Phoenix reactors can be designed to North American or International standards. The reactors are suitable for use outdoors or indoors.



MULTI-LAYER UNIT



## Reactor Types:

### CURRENT LIMITING REACTORS

Reduce short circuit levels to meet the system needs and reduce stresses on buses, insulators, circuit breakers, and other high voltage devices.

### FILTER REACTORS

Provide tuned series resonant LC circuits to meet specified harmonic requirements and minimize the effects of dangerous harmonics on power systems.

### NEUTRAL GROUNDING REACTORS

Limit line-to-ground fault currents and reduce stresses on power equipment.

### TRANSIENT LIMITING REACTORS

Connected to capacitor banks to limit inrush currents on energization or limit resonant system frequencies. These reactors also reduce overvoltages due to energization or restrike and reduce the magnitude and frequency of induced or secondary transients in control cables and ground grid step voltage.

## Special Reactor Types:

### BALANCING REACTORS

Balance current flow in parallel circuits.

### MOTOR STARTING REACTORS

Limit inrush current.

### HVDC APPLICATIONS

Control harmonic currents.

### SHUNT REACTORS (size permitting)

Compensate capacitive voltages.







## REACTOR INSTALLATION WITH SUPPORT STANDS

### INSTALLATION

The height and diameter of a reactor can be adjusted to meet various necessary physical needs or unusual space requirements.

Connections to standard NEMA type pads can be provided vertically or horizontally. Special drilling for unusual connections can also be provided to meet any incoming or outgoing line direction.

### SUPPORT STANDS

Phoenix Electric can provide support stands and/or pedestals, which are custom designed for each application. Aluminum or hot dip galvanized steel stands can be provided. Special designs are used in order to avoid loop currents.

### LOSSES

All Phoenix Electric Reactors are computer designed to minimize initial cost and operating losses.

### CLEARANCES

Minimum installation clearances must be maintained. The user should be aware of any limiting dimensions or clearances involving structural steel or reinforcing steel that may be used in nearby building or supporting structures. Non-magnetic supports can also be furnished by Phoenix Electric.

### ENCLOSURES

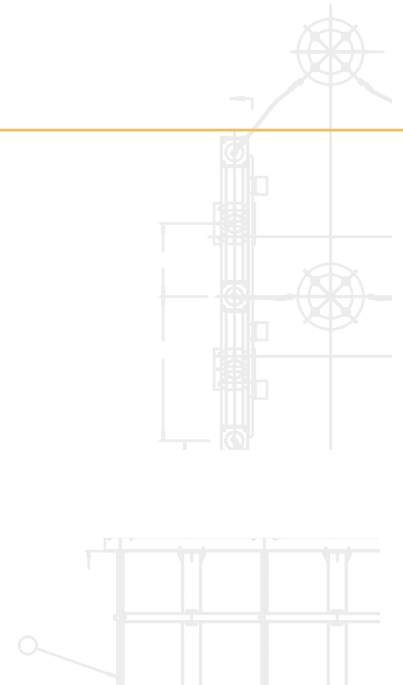
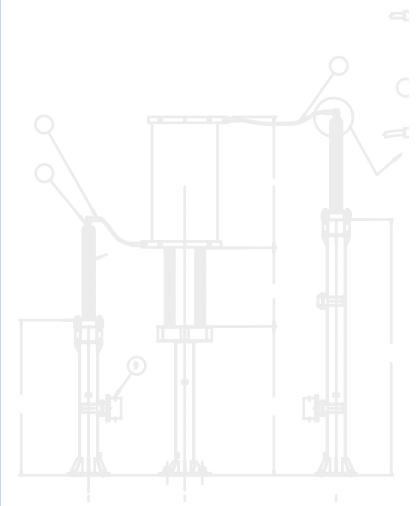
Phoenix Electric can provide custom enclosures for indoor or outdoor applications when required. Special designs are used in order to avoid loop currents and eddy currents.

Internal buswork can also be provided for ease of interfacing with external connection points.

### TECHNICAL SUPPORT

Phoenix Electric will provide technical support for applications, design calculations, engineering, and field installation assistance.

Don't hesitate to contact us.



LOUVERED PANEL ENCLOSURE



FILTER REACTORS SERVING  
AN INDUSTRIAL COMPLEX

**Serving the Industry since 1973 and with over  
15,000 reactors in successful service,  
Phoenix Electric Corporation is known for strong  
engineering, experience and a commitment to excellence.**

- Medium and High Voltage Cable Connectors
- Air Core Reactors
- Specialty Switchgear and Engineered Control Systems
- Specialty Retrofits

### TESTING

Phoenix Reactors are qualified per ANSI and IEC standards or special tests depending on customer requirements.

The basic program of testing includes some or all of the following tests:

- Routine Tests
- Impulse Tests
- Thermal Current Calculation
- Mechanical Strength Test
- Impedance and Loss Test
- Temperature Rise Test
- Sound Level Test
- Seismic Analysis

500kV REACTOR  
UNDER IMPULSE TEST



### QUALITY ASSURANCE PROGRAM

Phoenix Electric has established and maintains a comprehensive Quality Assurance Program. This program encompasses the major industry recognized standards including the International Standard ISO 9001 of Quality Management and Quality Assurance Standards.



Phoenix  
Electric  
Corporation

[www.phoenixelectric-usa.com](http://www.phoenixelectric-usa.com)

## AIR CORE REACTORS

### DATA REQUIRED WITH ORDER OR FOR BID PURPOSES

1. System Voltage (kV)
2. Frequency (Hz)
3. Basic Impulse Level (kV)
4. Reactance/Inductance (Ohms/Microhenries)
5. Continuous Current (A)
6. Short Circuit Levels (kA) - Time Duration (Sec)
7. Fundamental/Harmonic Frequency Levels(Hz)
8. Q Required for Filter Reactors
9. Insulators supplied or not supplied and TR No. or type to be used  
if not supplied by Phoenix Electric
10. Vertical or Horizontal Mounting
11. Three phase side by side or vertical stack mounting
12. Terminal configuration if not NEMA SG1
13. Dimensional Limitations
14. Number of Units

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Canton, MA 02021 USA

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