

PRODUCT SHEET

Type ACR Air Core Reactor Cast Coil & Resin Impregnated Construction Up to 45kV, 200kV BIL

APPLICATION

- **Shunt Reactors** – To Compensate for Capacitive VARS
- **Current Limiting Reactors** – To reduce short-circuit levels to meet the system needs and reduce stresses on buses, insulators, circuit breakers, and other high voltage devices.
- **Filtering Reactors** – Provide tuned series resonant LC circuits to meet specified harmonic requirements and minimize the effects of dangerous harmonics on power systems.
- **Transient Limiting Reactors** – Connected to capacitor banks to limit inrush currents on energization or limit resonant system frequencies. These reactors also reduce overvoltage due to energization or restrike and reduce the magnitude and frequency of induced or secondary transients in control cables and ground grid step voltage.
- **Neutral Grounding Reactors** – Limit line-to-ground fault currents and reduce stresses on power equipment.
- **Balancing Reactors** – Balance current flow in parallel circuits.
- **Motor Starting Reactors** – To limit inrush current.
- **Motor Drive Reactors** – To control harmonic currents.

Designed Utilizing Specifically Developed Finite Analysis Software



Air Core Grounding Reactor.



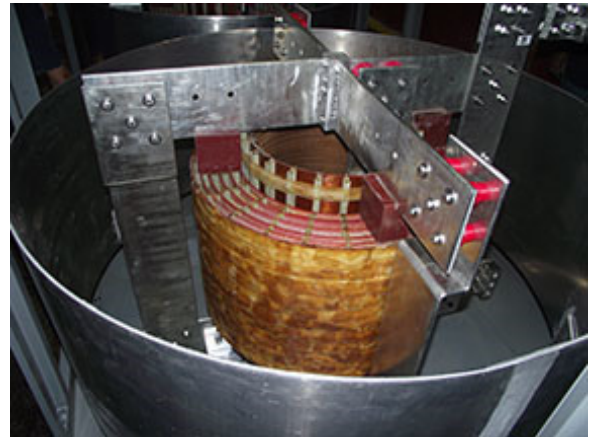
CONSTRUCTION

Windings are manufactured with aluminum or copper, (strip or shaped conductors in parallel where necessary) arranged in layers or discs with special consideration given to minimize eddy current losses. The insulating materials used during production are always UL listed systems.

To suit various applications and environmental conditions PQI Dry Type Air Core Reactors are manufactured using our multiple VPI and Epoxy Impregnation system. For harsh conditions PQI offers Reactors that are solidly cast in epoxy in special molds filled under vacuum.

Reactors can be supplied either as single coils individually supported on insulators or as three-phase coils stacked vertically.

A variety of custom enclosure designs are available to shield and protect the reactors magnetically and environmentally as shown in *Figure 1*.



Single Reactor with Magnetic Shielding in an Enclosure
Figure 1

QUALITY ASSURANCE PROGRAM

PQI 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.

TESTS

All tests are made in our CSA, UL & Seismic Qualified & Certified Facility to ANSI and IEC Standards and/or customer requirements.

Routine Factory Tests:

- Winding Resistance with Direct Current
- Impedance and Losses
- Dielectric (HV Voltage Withstand) to ground between turns

Type Tests:

- Temperature Rise
- Thermal Capability Calculation
- Impulse
- Mechanical Strength
- Sound Level
- Seismic Analysis

DATA REQUIRED WITH ORDER OR FOR BID PURPOSES

- System Voltage (kV)
- Frequency (Hz)
- Basic Impulse Level (kV)
- Reactance/Inductance (Ohms/Microhenries)
- Continuous Current (A)
- Short Circuit Levels (kA) - Time Duration (Sec)
- Fundamental/Harmonic Frequency Levels(Hz)
- Q Required for Filter Reactors
- Insulators supplied or not supplied (Give type to be used if not supplied by PQI)
- Vertical or Horizontal Mounting
- Three phase side by side or vertical stack mounting
- Terminal configuration if not NEMA SG1
- Dimensional Limitations
- Number of Units



Medium Voltage Class Three-Phase Air Core Reactor



All Specifications are subject to change without notice.
All contents © 2014, Power Quality International, LLC, All Rights Reserved