

RL Reactor Specification

1. GENERAL

- 1.1 The reactor shall be three-phase, 600 V class, consisting of suitable values of inductance.
- 1.2 The reactor shall be listed per UL-508, marked per CE, and certified per CSA C22.2
- 1.3 The reactor shall be as manufactured by MTE Corporation, RL series.

2. PERFORMANCE

- 2.1 The reactor shall be rated for nominal system voltage (690 V max), fundamental system frequency (50 Hz or 60 Hz) and current.
- 2.2 The reactor impedance shall be 5% (or 1.5% or 2% or 3% or 4%) at full rated system current and at the fundamental system frequency.
- 2.3 The reactor shall be rated to operate in ambient temperatures from -40°C to 50°C under open air conditions, or from -40°C to 45°C under enclosed conditions.
- 2.4 The reactor shall operate at rated current with a maximum average winding temperature rise of 135°C.
- 2.5 Reactors rated less than 750 A shall be capable of continuously operating at 150% of rated current. Reactors rated more than 750 A shall be capable of continuously operating at 125% of rated current.
- 2.6 The reactor shall be capable of 30 minutes of operation at 200% of rated current, and 1 minute of operation at 300% of rated current.
- 2.7 The reactor shall function properly for switching frequencies up to 20 kHz.
- 2.8 The reactor shall function as rated at altitudes up to 1000 m.
- 2.9 The reactor shall have an insulation system to provide 3000 V RMS of dielectric strength coil-to-coil and coil-to-core.

3. CONSTRUCTION

- 3.1 The reactor construction shall utilize copper wire or copper foil for the windings.
- 3.2 The reactor shall utilize a class N insulation system, maximum temperature 200°C. Sheet insulation shall be Dupont Nomex 410.
- 3.3 The reactor shall have a core to carry the magnetic flux comprised of laminations of electrical grade silicon steel.
- 3.4 The core of the reactor shall be locked in place using steel banding.
- 3.5 All terminations shall be copper alloy taps or UL-recognized terminal blocks.
- 3.6 The reactor shall be vacuum-dipped and baked with epoxy resin.
- 3.7 The reactor shall be suitable for mounting within a low-voltage variable frequency drive enclosure or shall be mounted inside a NEMA 1/2/3R enclosure. Mounting brackets shall be painted ASTM structural steel or structural aluminum.



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- 3.8 If the reactor is mounted inside a NEMA 1/2/3R enclosure, the reactor enclosure shall be constructed of steel with a baked enamel finish. Openings shall be provided for sufficient convective air flow for cooling. Forced air cooling shall not be required to provide adequate cooling.

