# The RM Line Reactor . . .

## CORE

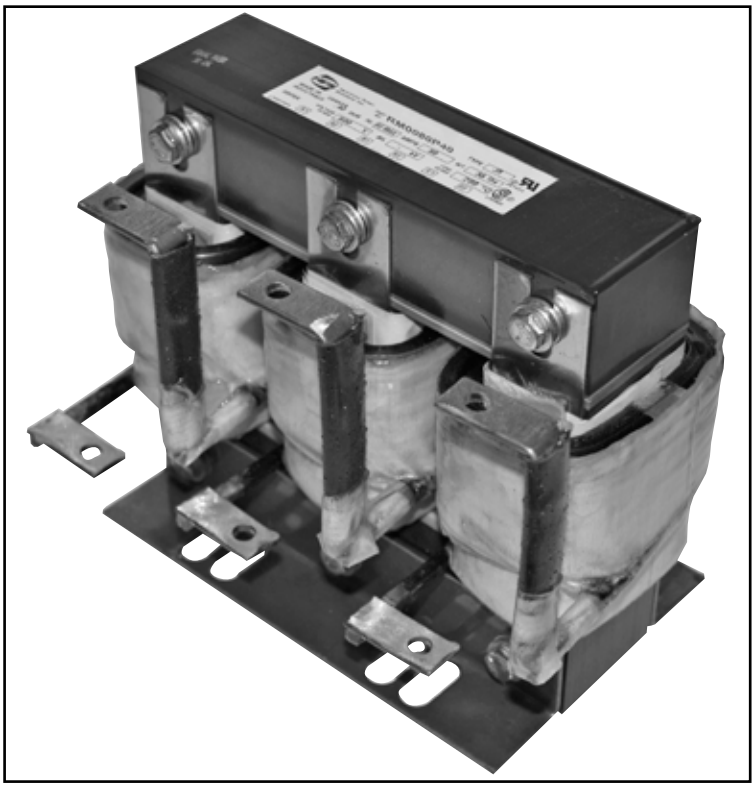
The quality and performance of a line reactor is fundamentally dependant on its ability to withstand harmonics and transients in what is clearly a difficult environment. The bonding and clamping techniques of the gapped core also significantly impacts its performance characteristics.

HPS has paid particular attention to these basics to ensure both reliable and consistent performance.

Core materials, manufacturing and assembly processes have been carefully evaluated to produce optimum losses and sound levels necessary for this product.

## COILS

Conductors are precision wound for optimum short circuit withstandability and electrical balance are used throughout the RM line. Choice of conductors, winding techniques and cooling ducts are precisely selected to assure the highest continuous, reliable performance.



## INSULATION SYSTEM

HPS Line Reactors are designed to meet the most difficult temperature environments. On units up to 160 amps, RM line reactors have a 115°C temperature rise designed for 200°C Insulation Class. This results in a permissible 24 hour maximum ambient of 50°C and an average of 40°C continuously.

On units larger than 160 amps, Class 220 Insulation is used throughout with a maximum permissible continuous ambient temperature of 60°C. These temperature tests are all measured at 150% rated 60 Hz current. For further information on temperature rises, please consult our sales offices.

## VPI IMPREGNATION

Every reactor is fully VPI vacuum and pressure processed with VT (vinyl-toluene) Polyester Resin. This modern, vinyl-toluene based resin with its thicker build, offers significant benefits for electrical, mechanical and thermal properties.

This impregnation process and material results in a much improved dielectric constant, dissipation factor, bonding strength and dielectric breakdown (volts per mil) than any other impregnation material including the more traditional oil modified epoxies and varnishes.

Vacuum impregnation is considered vital for the integrity of electrical equipment located in such sensitive locations. The core and coil assembly is finished with a clear resin.

## TERMINATIONS

Custom connections are provided for in several ways. Finger-proof-terminal blocks are provided on three model ranges, and terminal pads are supplied on higher current ratings. Refer to the dimensional summary for details. All connections are brazed to ensure electrical integrity.

# . . . Features of Construction



## ENCLOSURES

Enclosed reactors are standard as either NEMA 2 or 3R. Units in NEMA 3R enclosures are suitable for floor or wall mounting. Wall mounting is available on NEMA 3R units up to 600 lbs. Please consult customer service for details.

Enclosures are finished with a 7 stage phosphate process with baked enamel ANSI 61 grey.

## QUALITY CONTROL

Every reactor is production line tested in accordance with the requirements for UL, ANSI, NEMA and CSA. This confirms that every unit meets our highest expectations for Quality Assurance.

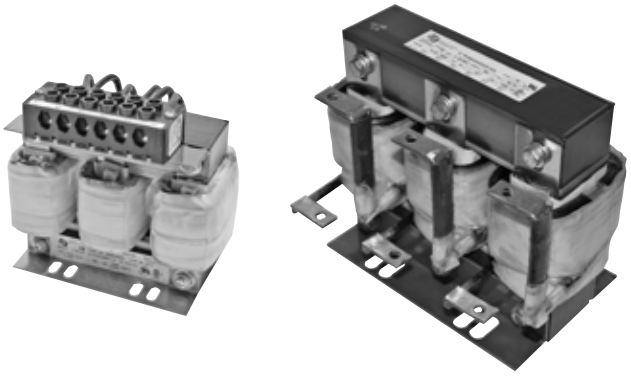
Additionally, line reactors have been short circuit tested at a certified laboratory to confirm the withstandability of our reactors to short circuits that may be present in a distribution system. Tests were done in accordance with ANSI C57.12.91 at 25 times rated current for 2 seconds. Those test results are available upon request successfully withstanding this test ensured that the RM line reactor will survive power stresses such as short circuits that may be present in a distribution circuit.

## UL and CSA CERTIFICATION

A vital assurance for our customers is the approval of this product line to national standards.

Our open and enclosed style reactors are recognized by UL and certified by CSA as follows:

UL File No.: E61431
CSA File No.: LR3902



This approval is inclusive to 2000 amps and 8.6 kV class, and may be of interest for any special applications.

Our products are built in accordance with and meet UL 508, UL 506 and CSA C22.2 NO.66 standards.

## INPUT AND OUTPUT SIDE REACTORS

HPS three phase Line Reactors are designed for both the input and output side of variable speed drives including Insulated Gate Bipolar Transistor (IGBT) type inverters.

## SPECIALS

For special applications or for any features that you may require beyond the standard line listed, please contact our sales offices.