

TRAFOMECH INDUSTRIES

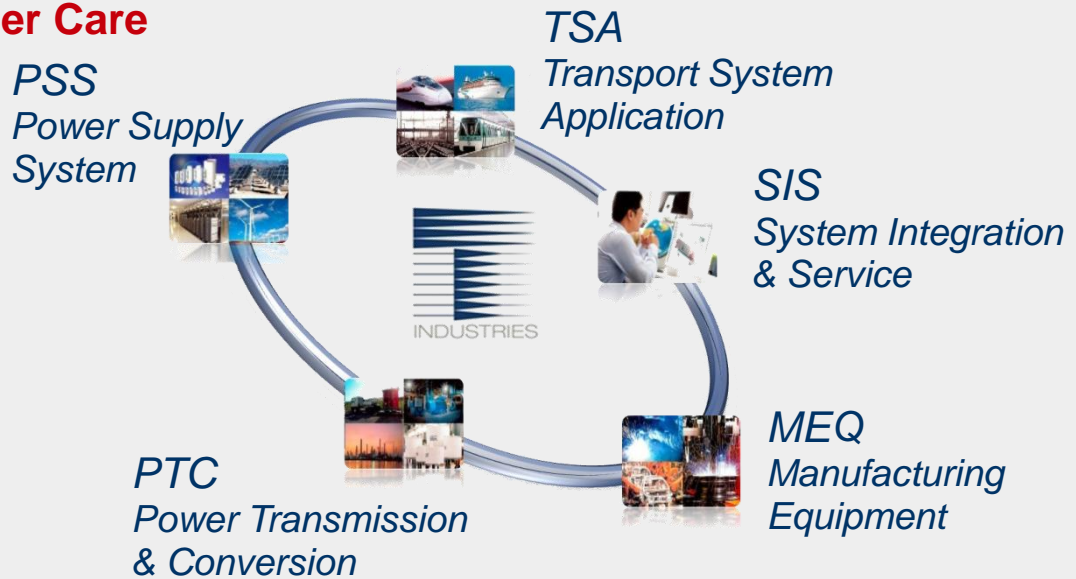
“a leading producer of Transformers, Reactors and Electromagnetic assemblies for a wide range of applications”



Organization

Trafomec Industries is a leading producer of Transformers, Reactors and Magnetic assemblies for a wide range of applications supported by an international organization that combines a true global presence with strong technology knowledge owed by qualified local manufacturing and service capabilities.

Our strengths:
Quality
Reliability
Customer Care



The production portfolio of Trafomec Group is composed of four main product lines supported by a further division dedicated to the products design as well as the technical assistance to the Group customers worldwide. In Trafomec Industries hundreds of people work



together proudly, to serve customers throughout the world in a constant process of renewal, creating added value by fulfilling our commitment to the customers, the employees, the communities and the societies in which we operate.



Transport Systems Applications - TSA

The TSA division is specialized in design and manufacture of traction transformers, reactors and magnetic assembly for all types of transport, railway and marine applications.

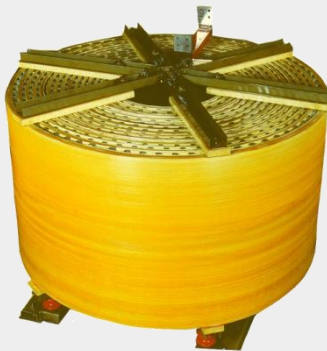


Main applications

Railway “on board” system:

- Filtering DC current from superposed harmonics (Line filter reactors);
- Filtering AC currents in order to have the right shaped current for the final load (Filter for on board electronics);
- Transformers for auxiliary services.

→



Railway installation:

- Filtering DC current from the line (Substation filter reactors);
- Filtering disturb on the signaling (Rail path reactors – impedance bound).





On board Auxiliary Transformer

Auxiliary transformer purpose is to feed light, ventilation and heating system as well as power line on board.

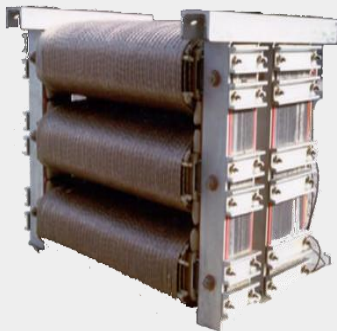
Trafomec designs and produces a large range of transformers that are used as auxiliary services. Each of these products is based on customer's specification in order to comply the technical requirements of different installations Worldwide.

Product scope:

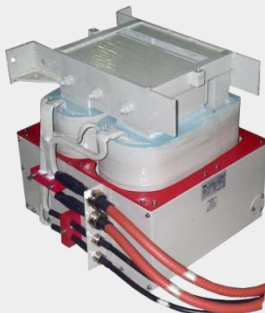
- Single or three phase
- Rated Power up to 1000 kVA
- VPI Dry-type
- Natural or forced air cooling system
- Copper or Aluminum conductors
- Insulation Class H
- Treated against corrosion
- Tests according to Railway standards:
IEC, NF and DIN
- Integrated reactor on request



Technical Portfolio



Rated power 1 MVA @ 60 Hz
Primary Winding 800 V / 730 A
Secondary Winding 480 V / 1148 A
Connection Dyn11
Isolation voltage 3.2/6.75 kV
Insulation class H
Dimensions 960x990x640 mm
Weight 1660 kg



Transformer with integrated reactor
Rated power 85 kVA @ 50 Hz
Primary Winding 1000 V / 49 A
Secondary voltage 345 V / 143 A
Insulation Class H
Dimensions 450x380x430 mm
Weight 235kg



On board Line Filter

Inductors mounted on-board of Direct Current locomotives to reduce the harmonic content of the line current and to limit transients and surges. Winding manufactured using specially insulated conductors in order to withstand the full test voltage, when the presence of water, moisture or condensation could cause a deterioration in the insulation of active parts (which are ensured by creepage distance).

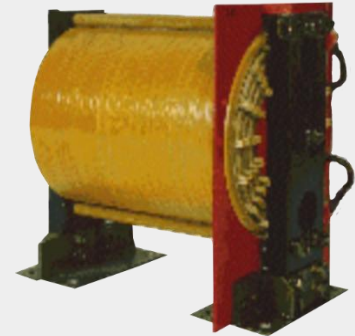


Air Core Construction

Components used often as intermediate circuit chokes in chopper-based power system.

Straight Rod Construction

Reactors used for smoothing or filtering DC currents; preferred to air-type chokes for their smaller size and holding sufficient high residual inductance values even in short circuit conditions



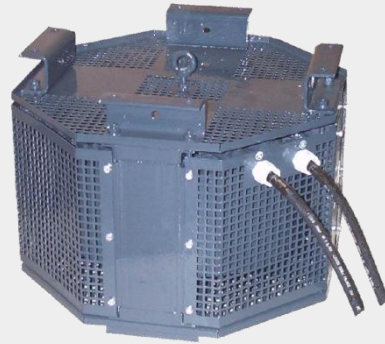
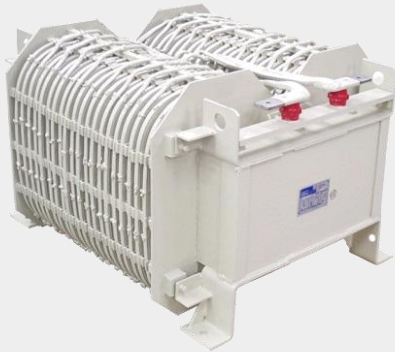
Frame Construction

A special design combines the advantages of the air core with the iron core constructions, granting high residual inductance (good linearity) with low stray flux.



On board customized construction

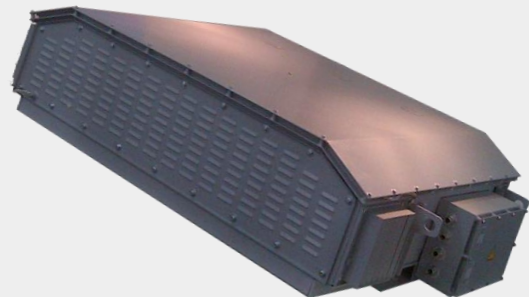
Special surface treatments and enclosures



Under frame Installation, even with integrated motorfans



Roof Top Container with integrated motorfans





On board di/dt AC current limitation Reactor



Components used for filters and transient current limiters for traction converters, di/dt limitation for natural or forced switching.

Nominal value and frequency spectrum as per technical specifications with wide range of solutions.

Toroidal air core reactors

Toroid coils are a suitable alternative to concentric-type coils whenever a low dispersion of flux in air is required.



Multistrand Litze Conductor

In case of relevant high frequency harmonic contents of the current, in order to achieve a high quality factor and reduce additional losses, is common the use of medium-frequency multistrand (LITZE) conductors. Trafomec is able to manufacture this kind of conductor internally.



Railways Installation Reactors

Trafomec also operates in Railways Installation field providing several kind of reactors for filtering, fault current limiting and signaling purpose.



Filtering chokes for railway substation

High power reactors with aluminium foil winding and air core for large DC filtering systems to reduce all perturbations originating from rectifiers and to prevent interferences with the signaling frequencies to the lines when downstreaming to the rectifying installations.



Inductive connections for rails and substation

Special reactors characterized by a mid-winding tap and allowing the flow of line current between adjacent sections of tracks or between one section of tracks and the substation, to ensure the proper operation of power and reception circuits of encoded signals even in the presence of unbalanced line currents between the tracks. To be located between the railway tracks and installed at the end of each section of track, or at each railway substation, the magnetic components are housed in a fully enclosed cabinet (IP 54) with cooling fins; complete protection of active parts and optimal heat dissipation is obtained through a special resin.

Current [A]	Dimension [mm]	Weight [kg]
300	300X555x275	110
500	370x640x365	220
750	580x750x540	560
1000	660x750x690	960



Certification

- ISO 9001:2008 Quality Management System
- OHSAS 18001: Occupational Safety & Health Administration
- UL Listed Mark: Underwriters Laboratories Mark
- ETL Listed Mark: Intertek's Safety Mark recognized all over North America
- EN15085: compliance with Railway application requirement
- 5S: Methodology for work space efficiency and effectiveness
- ISO 14001: Environmental Management in progress



Contacts

Email europe@trafomec.com
Phone +41 91 8505400
Website www.trafomec.com

