



# **AIR CORE REACTORS**

## **FOR MEDIUM VOLTAGE NETWORKS**



**Meher Mangoldt™**

**MEHER MANGOLDT INDUCTORS PVT LTD**

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A **MEHER** +  **HANS VON MANGOLDT** Joint Venture



## Company Presentation

**MEHER MANGOLDT INDUCTORS PVT LTD** located in Bangalore is a joint venture between HANS VON MANGOLDT, Germany and MEHER Group, India for design & manufacture of Iron Core & Air Core Reactors. The joint venture will focus on addressing the Indian market needs & will expand into other targeted regions.

The combination of R&D activities across Europe & India will reinforce capabilities that are critical for developing contemporary products & enhance long term competitiveness. The unique experience of over four decades of Mangoldt combined with three decades of strong presence of Meher's in this field in India will offer a distinctly superior long term value proposition to customers in India and across selected geographies.

INDFARAD Technologies the business unit of Meher Group which manufactures reactors under the brand name of INDFARAD transferred its entire business to Meher Mangoldt.

### **About HANS VON MANGOLDT GMBH & CO. KG (HvM)**

HvM is leading producer of iron core reactors for all applications like power factor control, power inverters such as wind & solar, industrial drives, UPS battery charger for more than 45 years. The focus of production is the application of correct manufacturing of iron core reactors and inductors for the right application.

HvM certified products meet the highest quality standards and are in use worldwide. Through continuous improvement in measurement technology and the development of our products, we are a reliable partner for our customers and the market leader in many countries.

<http://www.mangoldt.com>

### **About MEHER GROUP, India**

Headquartered in Bangalore, India, since 1977, MEHER Group has business interests in strategically selected areas in energy domain such as Aluminum Electrolytic Capacitors, Reactors/Inductors, Thin Film Dielectrics and Dynamic Braking Systems.

Meher group has presence across wide range of customers in the energy domain such as Power Electronic & Electrical OEM's, Distributors, Trade, Panel Builders & Solution providers as well as Large Industrial Groups.

[www.meher.com](http://www.meher.com)

Visit our website: [www.meher-mangoldt.com](http://www.meher-mangoldt.com)

# AIR CORE REACTORS

**Meher Mangoldt Inductors Pvt Limited** (MMIPL) offers a proven range of thermo dynamically designed, reliable medium-voltage air-core reactors for application in reactive power compensation.

Reactors have a very wide spectrum of applications, from power system stabilization at the high end to motor starting at the basic level, as well as in power electronic equipment. However, the most common applications are

## 1. Damping Air Core Reactors

*for limiting switching current surges in capacitor circuits*

The reactor values range between 0.2 to 1% calculated as the ratio of inductive impedance( $X_L$ ) to capacitive impedance( $X_C$ ) at the nominal system frequency of 50 Hz.

## 2. Detuned Filter Air Core Reactors

*for protecting capacitors from the harmful effects of harmonics in electrical networks*

The reactor values range between 6 to 7%, calculated as the ratio of inductive impedance( $X_L$ ) to capacitive impedance( $X_C$ ) at the nominal system frequency of 50 Hz.

## 3. Tuned Filter Air Core Reactors

*for harmonic suppression*

MMIPL can custom-design tuned reactors taking into account the amount of harmonic currents flowing thru these reactors

MMIPL's experience in the design and production of reactors dates back to 2002 when iron-cored reactors were developed for current limiting and detuning functions for LV applications.

MEHER Group's deep involvement in the field of MV and HV reactive power compensation on turn-key basis gave a natural impetus to the in-house development of air-cored reactors. Several deliveries made over the years have stood the test of time, thanks to the exacting demands of discerning users.



*Damping Air Core Reactor*



*Filter Air Core Reactor*

## THE PRODUCT

The present range of MMIPL air core reactors covers 3.3kV, 6.6kV, 11kV and 33kV. Windings are manufactured out of electrical grade aluminum or copper to suit the application.

The characteristics which distinguish the MMIPL air core reactors are

- Close tolerance to the design XI value
- Low dissipation loss
- Class F insulation
- Robustness of design
- Flame-retardant construction
- Specific designs for indoor and outdoor installation

## Specifications

|                        |  |
|------------------------|--|
| Rated voltage          | 3.3/6.6/11/33 kV, 50 Hz  |
| Highest system voltage | 3.6/7.2/12/36 kV   |
| Rated current          | Customer specific  |
| Detuning factor        | 0.2 % to 6 %   |
| Overvoltage factors    | 1.05 Un continuous<br>1.1 Un for 8 hrs   |
| Overcurrent factor     | 1.3 In continuous  |
| Insulation Class       | F  |
| Impulse withstand      | 40 kV for 3.3 kV reactors<br>60 kV for 6.6 kV reactors<br>75 kV for 11 kV reactors<br>170 kV for 33kV reactors |
| Service temperature    | -10°C to + 50°C  |
| Applicable standards   | IS 5553 – 4 & 5: 1989<br>IEC 60076 – 6 : 2007  |

## Additional Offerings

Meher Mangoldt also offers high performance reactors for low and medium voltage with superior quality for:

- Alternative power
- Motor drives
- PWM inverters
- Active filters
- Current limiting
- Current smoothing
- Frequency-Blocking Filters

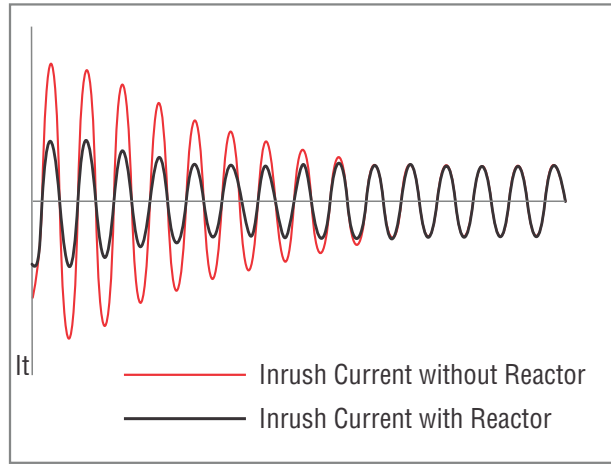
## Meher Mangoldt Inductors Pvt. Ltd.

Regd Office: #52, Basappa Road, Shantinagar, Bangalore - 560 027

Plant: Attibele Industrial Area, Bangalore - 562 107, Phone +91 92436 04609

E-Mail: [info@meher-mangoldt.com](mailto:info@meher-mangoldt.com)

[www.meher-mangoldt.com](http://www.meher-mangoldt.com)



*Reduction in Switching Current*



*Three single phase reactors assembled in a cubicle in vertically stacked arrangement*