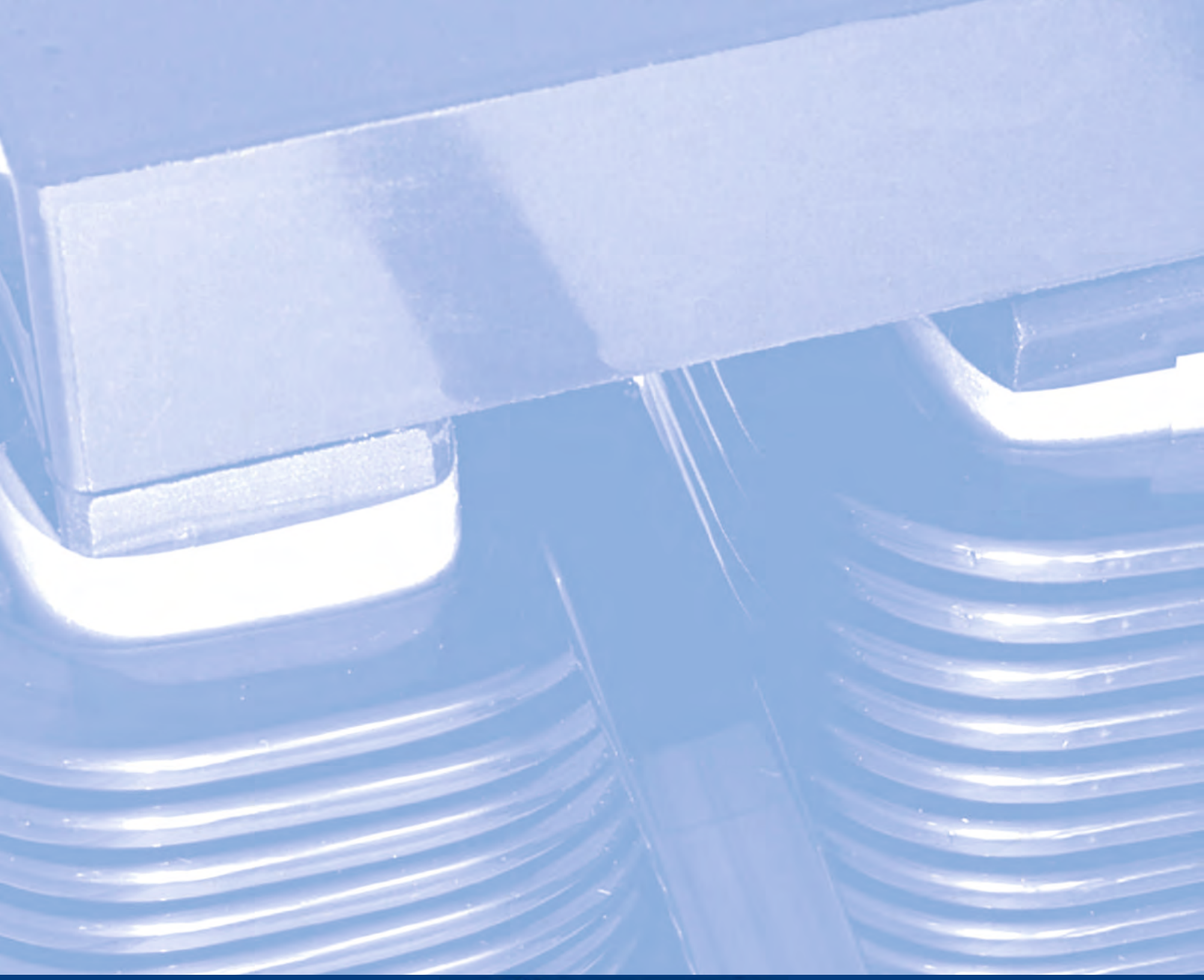


FEEM

FLAT WINDING

Dear Customer,

I founded F.E.M. in 1996 after ten years' experience in power electronics, realizing the expressed needs of this market for the production of magnetic components.

In subsequent years I have invested in the organization implementing the desing department exclusively to electromagnetic components. This choice has made productivity gains by acquiring more and more customers among which the most important companies in the world operating in the sectors: civil and industrial power electronics, automotive, railway, military, naval, renewable energy, electric motors and components.

"My philosophy of life is not to give up in front of any goal", the same one that I sent to my company facing new challenges with commitment and professionalism of the market.

Benedetto Astelfo

OUR WORK

We design and produce transformers and inductors operating in power electronics applications at frequencies from 50 Hz to 500 kHz.

DESIGN & SERVICES

F.E.EM. offers the following services:

- Complete electromagnetic design, prototyping and components production
- Production of custom electromagnetic components based on customer's specification
- Design and production of cabinets related to electromagnetic components
- Electromagnetic products trading

ORGANIZATION, QUALITY & COMPANY METHODOLOGY

Our team checks the technical requirements for the realization of each product from the electromagnetic calculation and the design of the mechanical parts. The business organization is structured according to the ISO certification guidelines, for monitoring the quality and documentation of business processes (from technical department, purchasing, production and commercial and administrative management) to ensure the traceability of components, maximize the effectiveness of each stage in the management of the order.

OFFICER R&D

R & D manager, in accordance to the company philosophy, has matured during last 20 years of collaboration with F.E.EM. lot of experience thanks to his dedication to work and the masters obtained at KG Magnetics USA directed by Prof. McLyman and others achieved in the USA. The insertion of new engineers has provided a more complete service for every customer request.

PRODUCTION

We grow with the most common systems, such as KAN–BAN and BUFFER STOCK, adapting them to the needs of each customer.
Headquartered in Varazze (IT) handles all special products, great power items and prototyping.
The plant in Bulgaria manages the production of all small–sized components for massive productions and is connected to our headquarters by raw materials and finished items direct flows.

COLLABORATIONS

F.E.EM. actually co–operates with many customers; among the most popular: ABB, DANIELI AUTOMATION, GENERAL ELECTRIC, MITSUBISHI Electric, LEONARDO and ST Microelectronics.

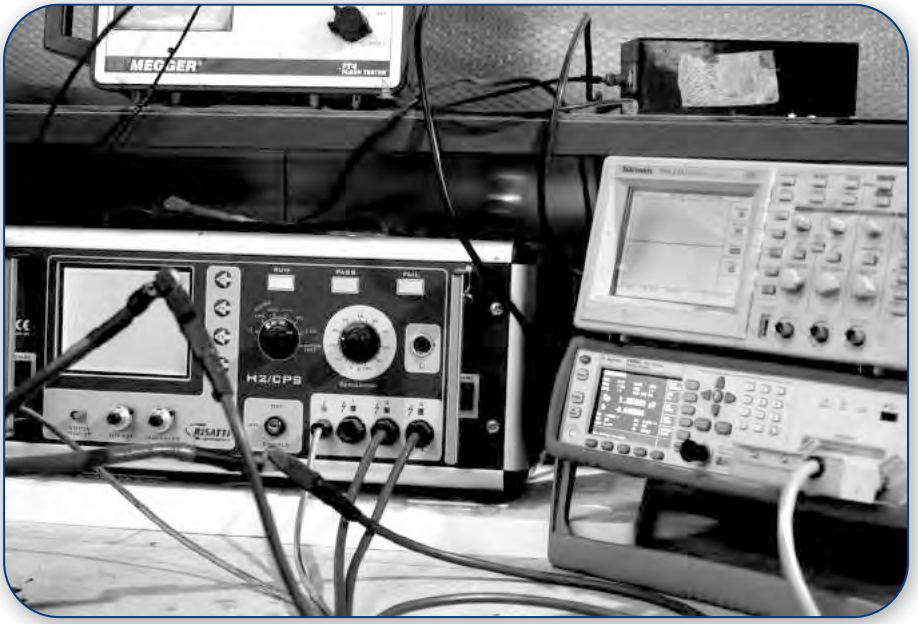
COMMERCIAL

Our commericial agent are present in:

- Italy
- Germany
- Austria
- Switzerland
- Spain
- Portugal
- Poland
- Russia
- Ukraine
- Brasil
- Bulgaria
- France
- Belgium
- Holland

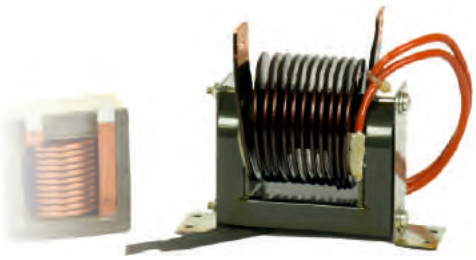
STAFF

3D modeling



3D MODEL & INSTRUMENTS

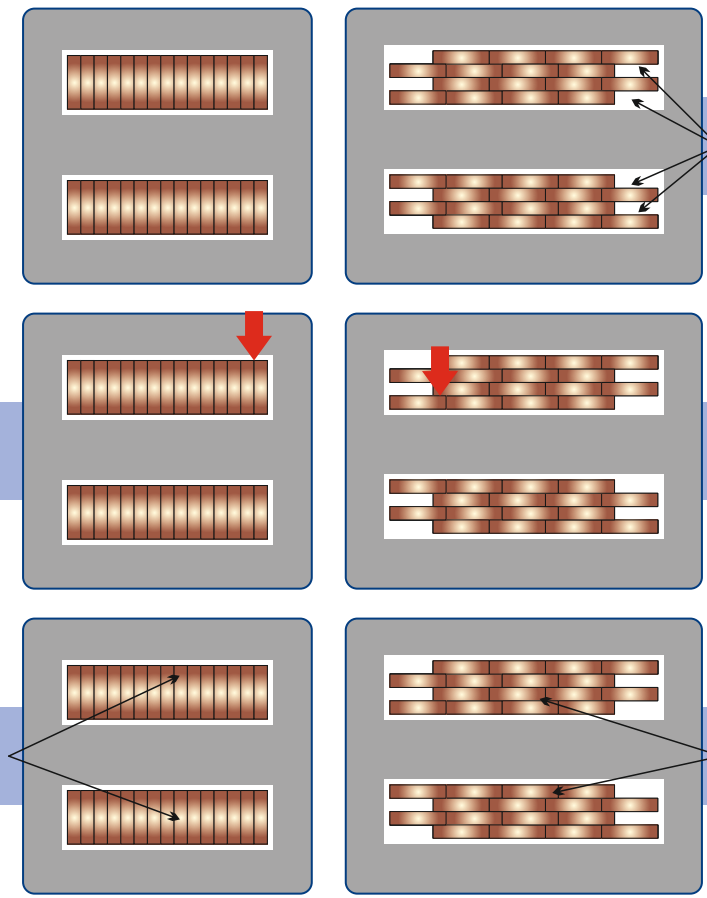
FLAT WINDING



WHY FLAT WINDING TECHNIQUE IS A CHEAPER ?

Flat winding coil use up to 40% less of the winding area, it involves also less core material, lower dimensions and less weight.

Its semi quasi planar structure aids to fit much better the space.



NO MORE SPACE FOR ANOTHER TURN

VOLTAGE TURN TO TURN VMAX / N° TURN

VOLTAGE TURN TO TURN VMAX / 2

ALL SURFACES COOLED

HOTTEST POINT NO COOLING

Using flat winding technique:

- LOWER DC RESISTANCE (DCR)

- LOWER AC RESISTANCE (SKIN EFFECT LOSS)

- HIGHER INDUCTANCE

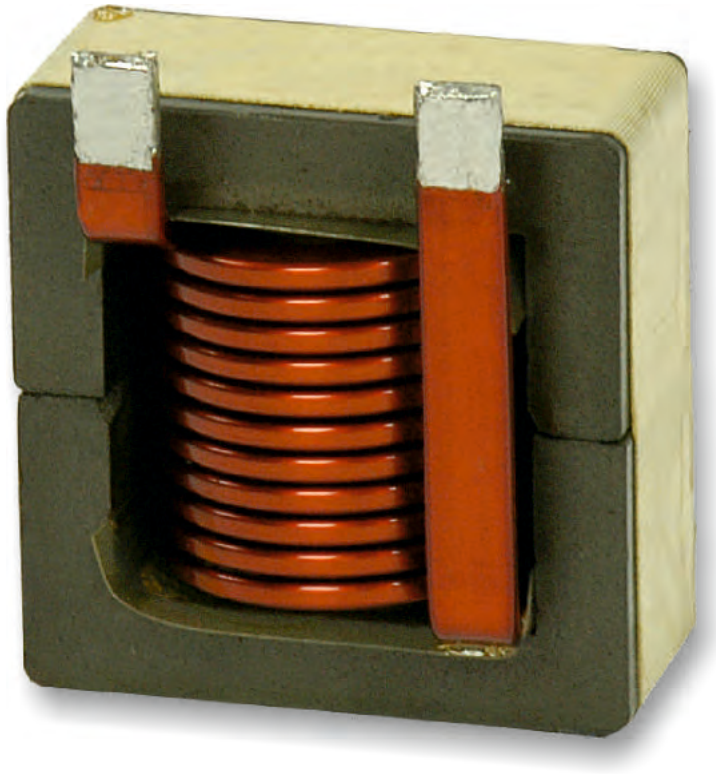
- LOWER VOLTAGE TURN TO TURN

- HEAT REDUCTION

The flat winding coils are capable of handling high DC bias current, high energy storage and high energy swing due to higher mass and higher saturation flux densities of the core used.

APPLICATION:

- Industrial High Current Filter Inductors
- Switching Regulation Inductors
- In-Line Noise Filter
- Differential Mode Chike
- Boost Power Factor Correction Choke and Welding Machine Output Inductor



OUR STANDARD PRODUCTS

PART NUMBER	INDUCTANCE AT NO LOAD (µH)	INDUCTANCE AT THE RATED CURRENT (µH)	RATED CURRENT	DCR (mΩ)	DIMENSION WxHxD (mm)	CORE MATERIAL
FFWT330025	330	100	25	14	58 x 58 x 36	Sendust
FFWT210040	210	75	40	10	58 x 58 x 36	Sendust
FFWT100060	100	40	60	4	58 x 58 x 36	Sendust
FFWT075075	75	28	75	3,5	58 x 58 x 36	Sendust
FFWT055090	55	18	90	3,5	58 x 58 x 36	Sendust
FFWT025160	25	15	160	1,5	58 x 58 x 36	Sendust
FFWT020180	20	12	180	1,3	58 x 58 x 36	Sendust
FFWT015200	15	10	200	1,2	58 x 58 x 36	Sendust
FFWT100100	100	75	100	5	66 x 66 x 42	Sendust
FFWT100150	100	75	150	3	74 x 57 x 69	Sendust
FFWT100200	100	70	200	2,5	74 x 57 x 88	Sendust
FFWT100250	100	60	250	2	81 x 78 x 98	Sendust
FFWT100300	100	50	300	1,8	81 x 78 x 118	Sendust
FFWT100400	100	35	400	1,5	81 x 78 x 138	Sendust

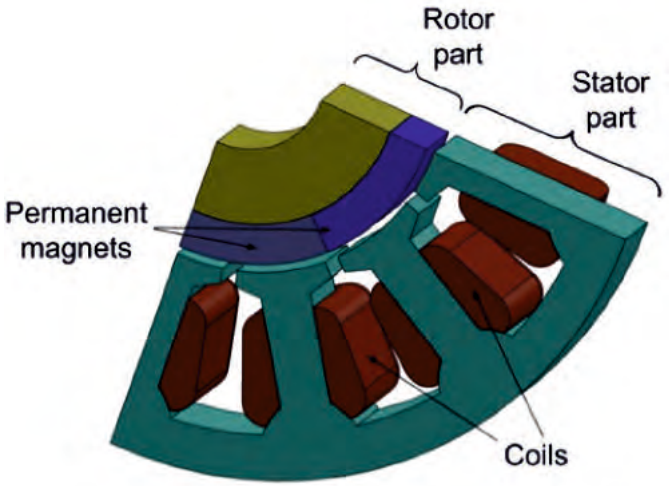
OUR STANDARD PRODUCTS

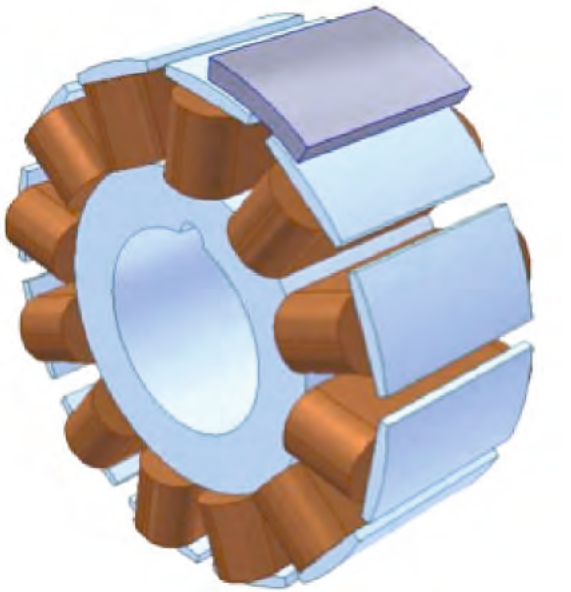
SPECIAL
FLAT WINDINGS
FOR DC
BRUSHLESS MOTORS

SPECIAL WINDINGS FOR BIG BRUSHLESS MOTORS

F.E.EM. has developed a new revolutionary flat coil suitable for brushless electric motors, power range up to 1 MW, 25% size reduction, 25 % weight reduction, 15 % cost reduction.

The cross section area of the conductor rise up to 100 mm2, the available width up to 50 mm and the thickness from 1,9 up to 3,2 mm.





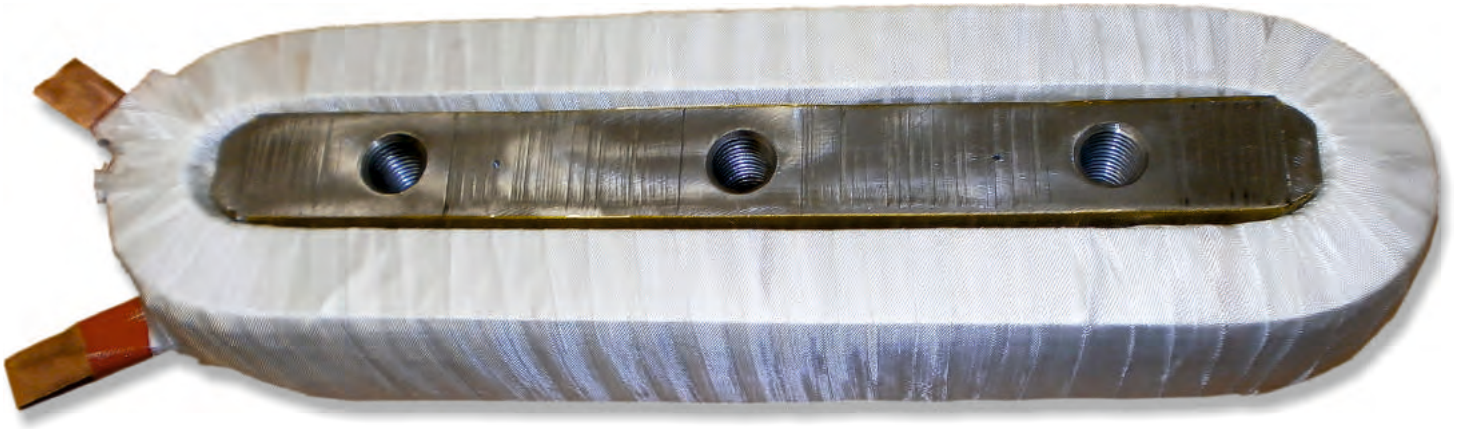
BRUSHLESS MOTORS

UP TO 20%
LOWER COST

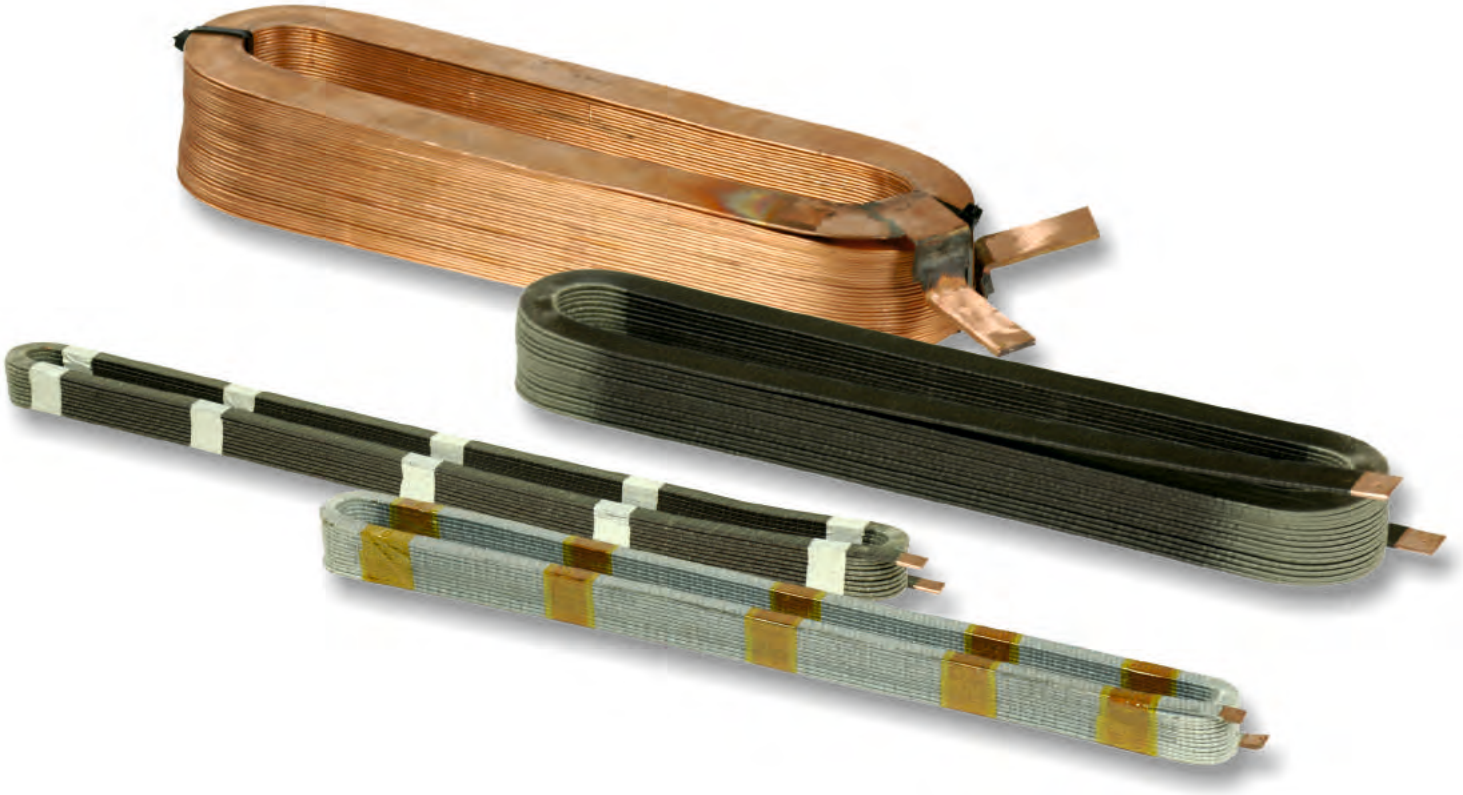
UP TO 50%
SMALLER AND LIGHTER

UP TO 98%
HIGHER EFFICIENCY

NAKED WINDING



INSULATED WINDINGS



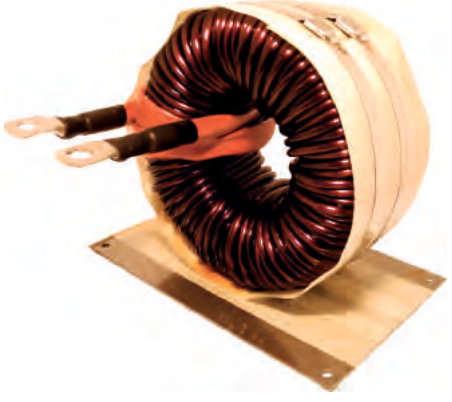
DIFFERENT SIZES FOR BRUSHLESS MOTORS

50 Hz - 400 Hz INDUCTIVE COMPONENTS
(liquid cooled components included)

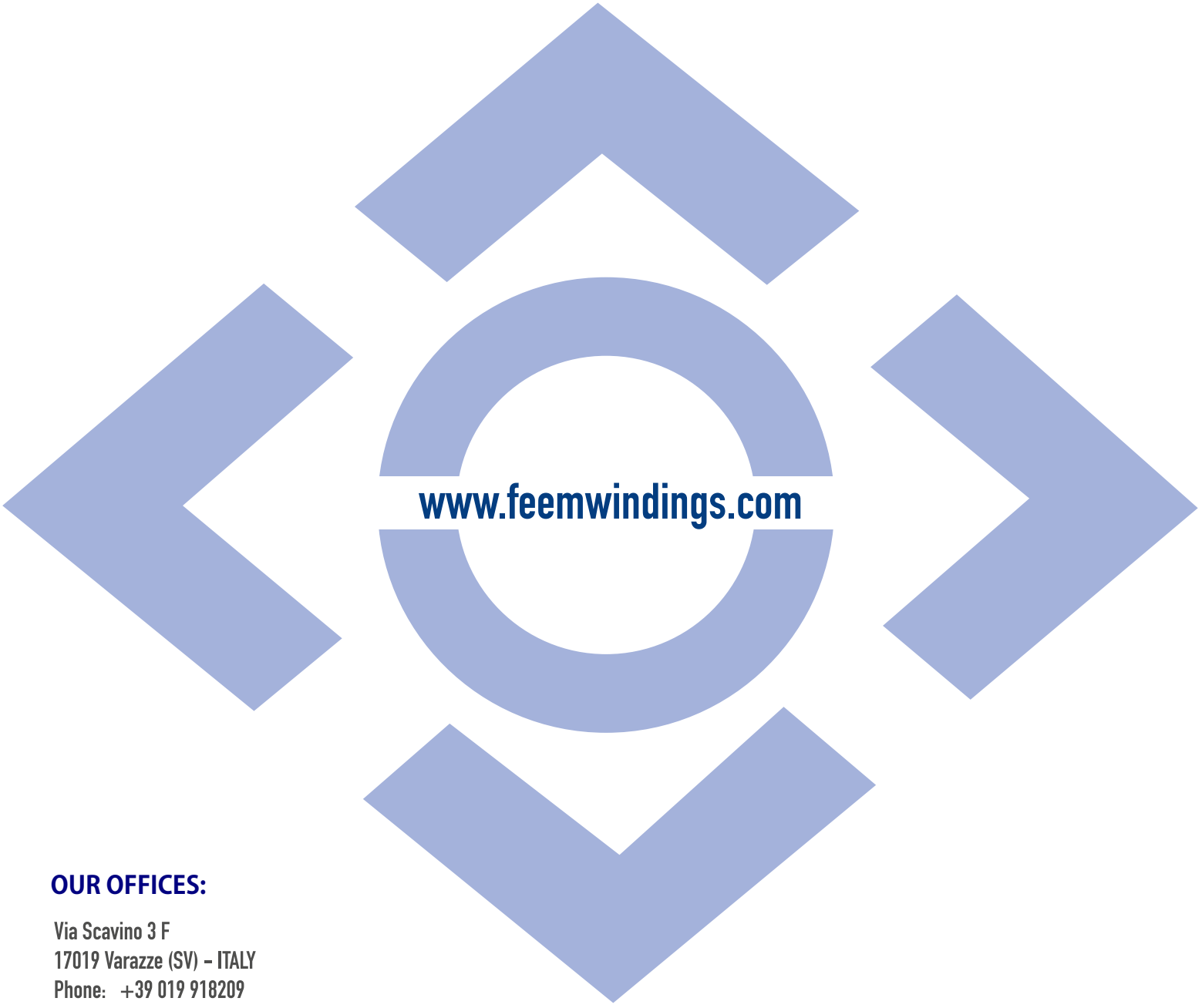
(*available catalogue)

HIGH FREQUENCY INDUCTIVE COMPONENTS
(liquid cooled components included)

(*available catalogue)



OTHER PRODUCTIONS



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