

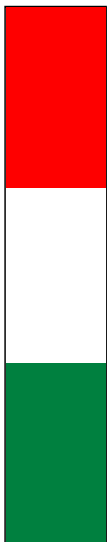


# Filters Catalog

RFI suppression filters  
CMC chokes  
Induction coils  
PFC toroidal chokes  
Custom solution

# D.E.M. S.p.A.

The best choice for your EMC needs and solutions





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## WHO ARE WE

DEM was founded in 1987 as a manufacturer of RFI interference suppression filters for the home appliance and related industries.

The company is totally private and the production facilities of Pakrac in Croatia and administrative / management of Longarone (Belluno) are owned.

With a production of over 10 million filters per year, DEM is the European leader in the sector.

Experience, innovation, product quality and service have allowed DEM to reach a leadership position, with a constantly growing turnover and the employment of more than 300 employees.

The "custom oriented" policy of DEM allows us to consider our customers as true partners of our success.

The Laboratory for Electromagnetic Compatibility (EMC) measures is located at the Longarone site, recognized as a suitable structure for the release of test reports and tests for compliance with the standards.

DEM, already a leading company in the production of components wound on toroidal magnetic cores, has been on the market for years with its own complete line of noise filters dedicated to small and large appliances, lighting, industrial, IT, scientific and medical equipment and professional.

The constant innovation has led DEM to introduce the filtering solution integrated to the power cable through co-molding first and to develop a filter made without the use of impregnating resins, fully respecting the WEEE / Raee directives on environmental protection.

Through the study of the fastening system we have created a bracket with integrated earth clamps that drastically reduces the time required to assemble the filter and cable on the equipment, simplifying the electrical connections and consequently reducing costs.

Among the latest objectives achieved, the production of filters and coils for induction cooking tops.

DEM is able to produce special filters for industrial uses, high power equipment, electrical panels (DIN connections) and switching power supplies.

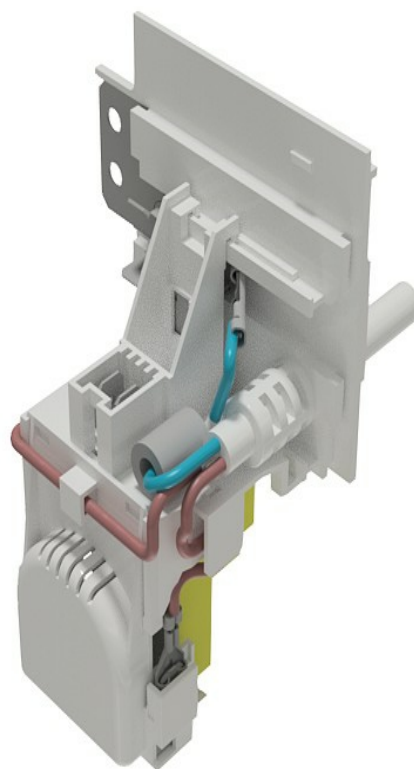
We develop and produce electronic boards for third parties. Our flexibility and ability allows us to solve the productive and qualitative problems of our customers, through the use of automatic machines followed by qualified personnel that guarantees a quality standard at the highest market levels.

Our production capacity, with offices in Longarone (IT) and Pakrac (HR), reaches more than 50,000 electronic boards a week.

## QUALITY INSURANCE

All DEM filters are designed and produced in compliance with the standards in force and approved by the major international safety institutes.

- 100% of production is tested for both electrical and mechanical parameters.
- 100% of the lots are statistically controlled.
- The quality and reliability requirements of the product (ppm) and self-certified supplies are agreed with the customer.



**We share the value of our work with you.**

## EMC LABORATORY

DEM studies and develops anti-interference filters in the laboratory located at the main factory in Longarone (BL): the thirty-year experience of its technicians allows us to define the optimal filtering solutions.

The DEM laboratory is equipped to perform electromagnetic compatibility measurements **according to the EMC 2014/30/EU directive** on the various equipment affected by EU legislation (small and large appliances, electromedical devices, electronic products, portable tools, vending machines, lighting, etc.) .

The DEM laboratory is recognized as a suitable structure for performing EMC tests by releasing the relevant test reports. Compliance with the standards allows the customer to be able to affix the CE marking on their equipment.

The technical support to the customer is guaranteed from the equipment design phase, to continue during the set-up phase through the study and definition, in real time, of the optimal filtering solutions (network filters) and the indication of any optimizations of the circuits, of the wiring and also of the components that may generate EMC problems.



## RADIO INTERFERENCE

**Radio disturbances (RFI) are undesirable phenomena of electromagnetic energy** included in the frequency range generally used for radio communications.

They are generated both from electrical equipment built specifically to produce high-frequency energy (microwave ovens, medical devices, telecommunications tools, etc.) and from equipment and machines using electromechanical and electronic switching devices or motors (such as washing machines, portable tools, kitchens, gas lighters, boilers, "switch-mode" power supplies, etc). The disturbances between 10 kHz and 30 MHz are conventionally considered to be conducted, and those between 30 MHz and 1 GHz are radiated.

The laboratory is also equipped for tests concerning the measurement of magnetic fields with reference to human exposure CEI EN 62233.

A climatic chamber is available at the laboratory where tests are performed on electronic components according to specific procedures.

## ATTENUATION AND MEASUREMENT OF RADIO INTERFERENCE

The international standards impose measurement criteria and limits on the emission of radio interference, to which all the equipment placed on the market must comply: in all EU countries from 20 April 2016 is in force the **EEC 2014/30 / EU directive** on **electromagnetic compatibility**. Compliance with this legislation has been made **obligatory** for the CE marking of electronic and **electromechanical equipment**. The most effective and at the same time most economical method to overcome the problem consists in isolating the equipment from the supply network by using appropriate passive circuits (capacitors and inductances) called **anti-interference filters**.

These filters perform a dual action:

- Limit the interference **issued** from the equipment to the network.
- **Immunize** the same equipment from **disturbances** coming from the network.

## REFERENCE STANDARDS: EMISSION MEASURES

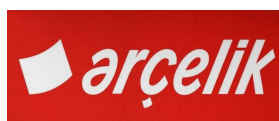
<b>CEI EN 62233</b>	Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure
<b>CEI EN 55011</b>	Industrial, scientific and medical (ISM) radio-frequency equipment Radio disturbance characteristics Limits and methods of measurement
<b>CEI EN 55032</b>	Electromagnetic compatibility of multimedia equipment - emission requirements
<b>CEI EN 55014-1</b>	Electromagnetic compatibility - requirements for household appliances, electric tools and similar apparatus part 1: emission
<b>CEI EN 55015</b>	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
<b>CEI EN 55022</b>	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
<b>CEI EN 61000-3-2</b>	Electromagnetic compatibility (EMC) Part 3-2: Limits - Limits for harmonic current emissions (equipment input current $\leq 16$ A per phase)
<b>CEI EN 61000-3-3</b>	Electromagnetic compatibility (EMC) Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current $\leq 16$ A per phase and not subject to conditional connection

## REFERENCE STANDARDS: MEASURES OF IMMUNITY

<b>CEI EN 61000-4-2</b>	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
<b>CEI EN 61000-4-3</b>	Electromagnetic compatibility (EMC) Part 4-3: Test and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test
<b>CEI EN 61000-4-4</b>	Electromagnetic compatibility (EMC) Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test
<b>CEI EN 61000-4-5</b>	Electromagnetic compatibility (EMC) Part 4-5: Testing and measurement techniques - Surge immunity test
<b>CEI EN 61000-4-6</b>	Electromagnetic compatibility (EMC) Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
<b>CEI EN 61000-4-8</b>	Electromagnetic compatibility (EMC) Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test
<b>CEI EN 61000-4-11</b>	Electromagnetic compatibility (EMC) Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests
<b>CEI EN 61000-4-13</b>	Electromagnetic compatibility (EMC) Part 4-13: Testing and measurement techniques -
<b>CEI EN 61000-4-13/A1</b>	Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests
<b>CEI EN 61000-4-14</b>	Electromagnetic compatibility (EMC) Part 4-11: Testing and measurement techniques - Voltage fluctuations, immunity test
<b>CEI EN 61000-4-17</b>	Electromagnetic compatibility (EMC) - Part 4-17: Testing and measurement techniques - Ripple on d.c. input power port immunity test

# MAIN CUSTOMERS - MARKETS - R&D

## HOME APPLIANCES



## INDUSTRIAL AND ELECTRONIC APPLIANCES

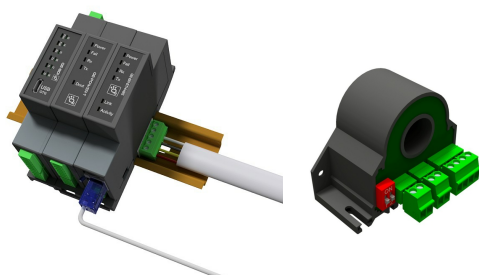


## BRAND R&S OF DEM S.P.A.

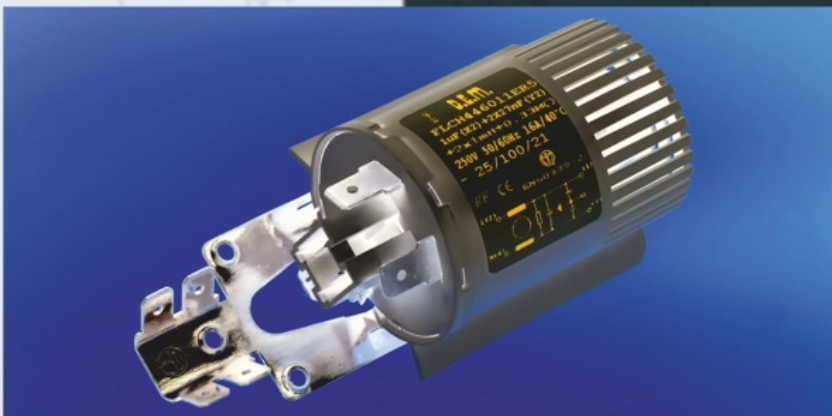
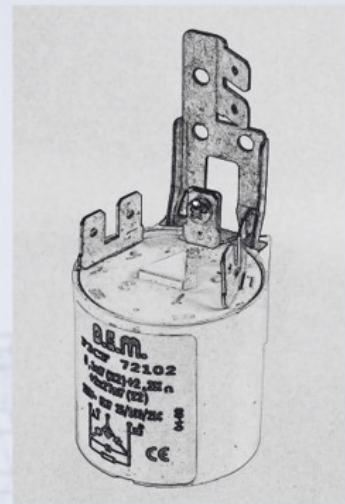


QUALITY ELECTRONIC DESIGN

**QEED is a trademark owned by DEM S.p.A.** and is a technical supplier of electronic solutions mainly dedicated to the world of industrial automation. Always attentive to research and innovation, QEED also proposes itself as a partner for the development of IoT technologies for network connection of devices and consequent access to the Industry 4.0 Plan.



# CATALOG PRODUCTS





# CLASS FILTERS X<sub>2</sub> Y<sub>2</sub>

Series **F C 7 - - - - F**



**CAPACITIVE FILTERS ON CYLINDRICAL CONTAINER ENCLOSED IN RESIN WITH CABLES FOR CABLING.**

**LENGTH OF CONDUCTORS AND COMPLETELY CUSTOMIZABLE TERMINATIONS ON CUSTOMER REQUEST. IMQ VALUES APPROVED SERIES FOR VALUES AS TABLE.**

**CE CERTIFICATIONS FOR VALUES NOT INCLUDED IN THE IMQ APPROVAL.**

	ELECTRICAL SPECIFICATIONS
<b>RATED VOLTAGE (V<sub>R</sub>)</b>	250 VAC, 50/60 Hz
<b>CLIMATIC CATEGORY</b>	HMF (25/100/21c)
<b>STANDARDS</b>	EN 60384-14:2013, IEC 60384-14:2013
<b>APPROVALS CA08.00137</b>	capacity (X <sub>2</sub> ): 0,1 - 0,47 uF capacity (Y <sub>2</sub> ): 2x2,7 nF - 27 nF resistance: 0,68 - 10 MΩ optional

	MECHANICAL SPECIFICATIONS
<b>HOUSING</b>	CYLINDRICAL SHAPE IN SEALED PLASTIC WITH SELF-EXTINGUISHING RESIN UL-94V0
<b>CONNECTIONS</b>	N°3 COMPLETE ISOLATED FLEXIBLE CABLES, ON REQUEST, DI TERMINALI TIPO FASTON OF FASTON TYPE TERMINALS OR EYELET TERMINALS

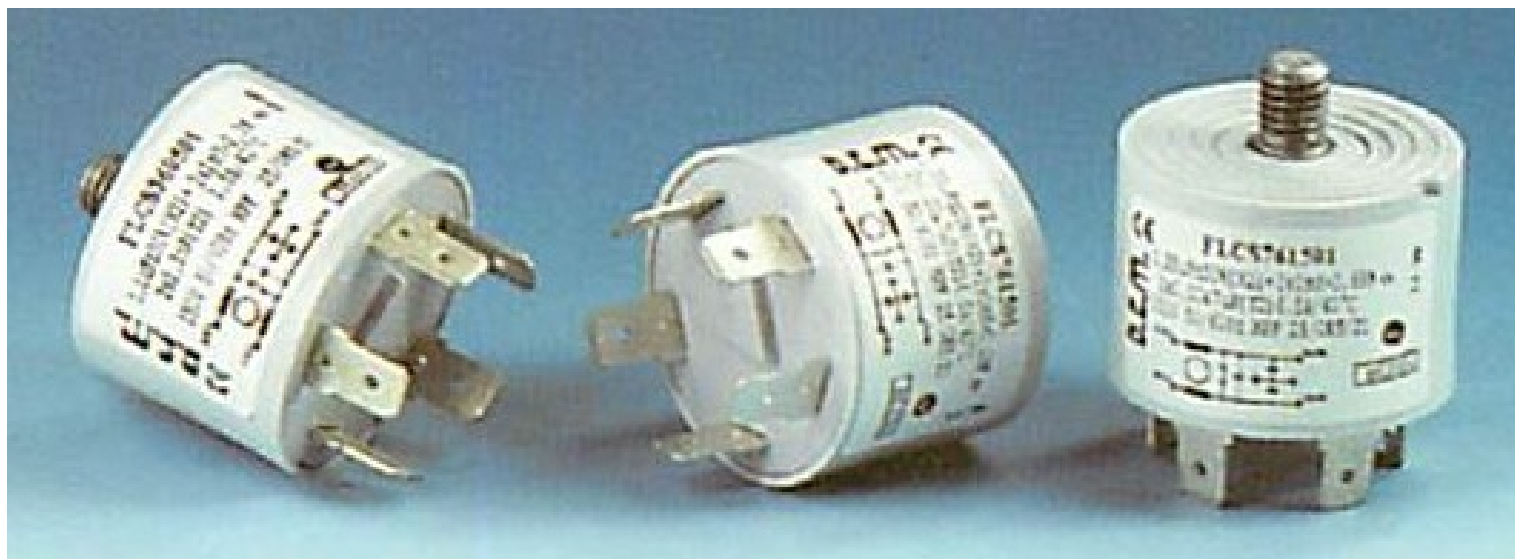
MAIN APPLICATIONS
LIGHTING EQUIPMENT, SMALL AND LARGE HOUSEHOLD APPLIANCES, VACUUM CLEANERS, BOILERS, COMMUNITY APPLIANCES, ETC.

ELECTRICAL CIRCUIT	MECHANICAL DRAWING
	<p><b>NOTE:</b> housing with diameter from 16 to 30 mm and lenght 41 mm.</p>

# TYPE FILTER LC

Series **F L C S**       **5 0 1**

SERIES OF FILTERS CHARACTERIZED BY THE REDUCED HOUSING SIZE. IMQ VALUES APPROVED SERIES FOR VALUES AS TABLE. CE CERTIFICATIONS FOR VALUES NOT INCLUDED IN THE IMQ APPROVAL.



## MAIN APPLICATION

LIGHTING EQUIPMENT, SMALL AND LARGE HOUSEHOLD APPLIANCES, VACUUM CLEANERS, BOILERS, COMMUNITY APPLIANCES, ETC.

ELECTRICAL SPECIFICATIONS	
<b>RATED VOLTAGE (V<sub>R</sub>)</b>	250 VAC, 50/60 Hz
<b>RATED CURRENT (I<sub>R</sub>) @ 40°C</b>	0,5 ÷ 7 A
<b>CLIMATIC CATEGORY</b>	HMF (25/085/21c)
<b>STANDARDS</b>	EN 60939-2:2005, IEC 60939-2:2005
<b>APPROVALS V4289</b>	capacity (X <sub>2</sub> ): 0,1 - 0,33 uF capacity (Y <sub>2</sub> ): 2x4,7 nF - 10 nF inductance: 2x0,5 - 40 mH resistance: 0,68 - 10 MΩ optional

MECHANICAL SPECIFICATIONS	
<b>HOUSING</b>	CYLINDRICAL CASE IN PLASTIC WITH M8 FIXING CODE IN ALUMINUM. INTERNAL COMPONENTS IMMERSSED IN SELF-EXTINGUISHING UL-94V0 RESIN
<b>TERMINALS</b>	N°5 FASTON 6,3 x 0,8 mm ALTERNATIVELY: UNIPOLAR CABLES, FLEXIBLE, ISOLATED

ELECTRICAL CIRCUIT	MECHANICAL DRAWING

# TYPE FILTER LC


Series **F** **L** **C** **B** **5** **6** **1** **F**

FAMILY OF FILTERS CHARACTERIZED BY PARTICULAR VALUES OF THE COMPONENTS SUCH AS TO ALLOW VERY LOW VALUES OF THE LEAKAGE CURRENT (EVEN 10 TIMES LOWER THAN THE FILTERS COMMONLY USED). ON DEMAND THESE FILTERS ARE AVAILABLE WITH CAPACITORS IN CLASS CX1. IMQ VALUES APPROVED SERIES FOR VALUES AS TABLE. CE CERTIFICATIONS FOR VALUES NOT INCLUDED IN THE IMQ APPROVAL.



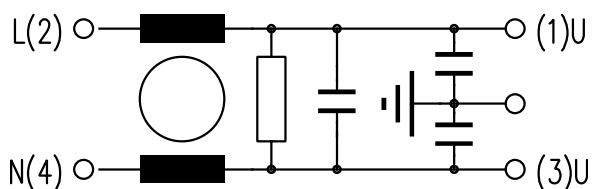
## MAIN APPLICATIONS

ELECTRONICALLY CONTROLLED APPLIANCES, MICROWAVE OVENS, PHOTOCOPIERS, ETC.

	ELECTRICAL SPECIFICATIONS
<b>RATED VOLTAGE (V<sub>R</sub>)</b>	250 VAC, 50/60 Hz
<b>RATED CURRENT (I<sub>R</sub>) @ 40°C</b>	10 A
<b>CLIMATIC CATEGORY</b>	HMF (25/100/21c)
<b>STANDARDS</b>	EN 60939-2:2005, IEC 60939-2:2005
<b>APPROVALS V4682</b> 	capacity (X <sub>2</sub> ): 0,1 - 0,47 uF capacity (Y <sub>2</sub> ): 2x2,7 nF - 27 nF inductance: 2x0,3 - 2 mH resistance: 0,68 - 10 MΩ optional

	MECHANICAL SPECIFICATIONS
<b>HOUSING</b>	SELF-EXTINGUISHING PLASTIC CYLINDRICAL CASE COMPLETE WITH M8 ALUMINUM FIXING TUBE, OR PREPARED FOR QUICK ASSEMBLY OF THE FILTER ON THE EQUIPMENT. THE FILTER CAN BE SUPPLIED WITH A METALLIC BRACKET (AVAILABLE IN MULTIPLE VERSIONS) THAT ALLOWS THE FIXING ON THE EQUIPMENT AND THE DIRECT CONNECTION OF THE POWER SUPPLY CABLE TO THE FILTER. INTERNAL COMPONENTS SEALED WITH SELF-EXTINGUISHING RESIN
<b>TERMINALS</b>	FASTON 6,3 x 0,8 mm

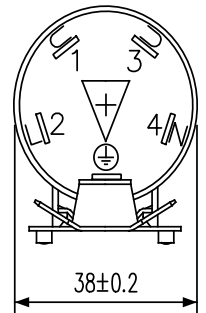
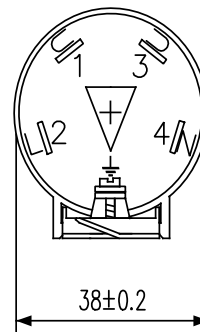
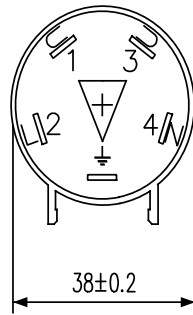
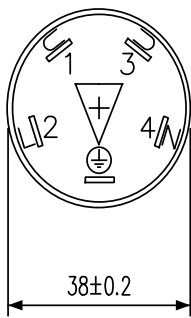
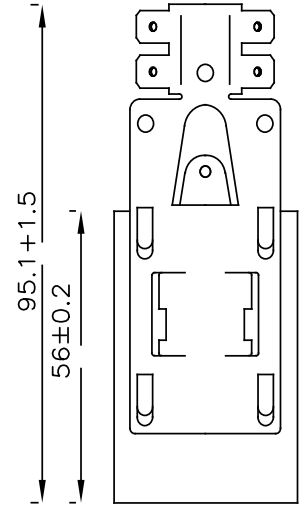
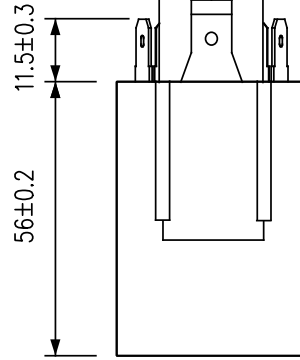
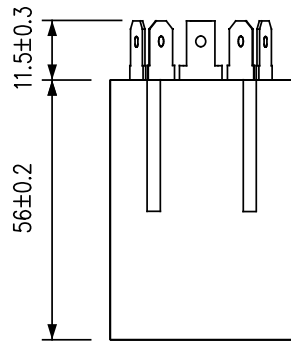
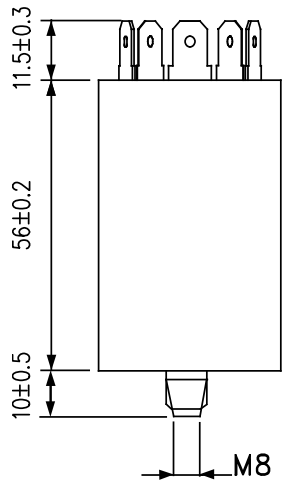
## ELECTRICAL CIRCUIT



# TYPE FILTER LC

Series **F** **L** **C** **B** **5** **6** **1** **F**

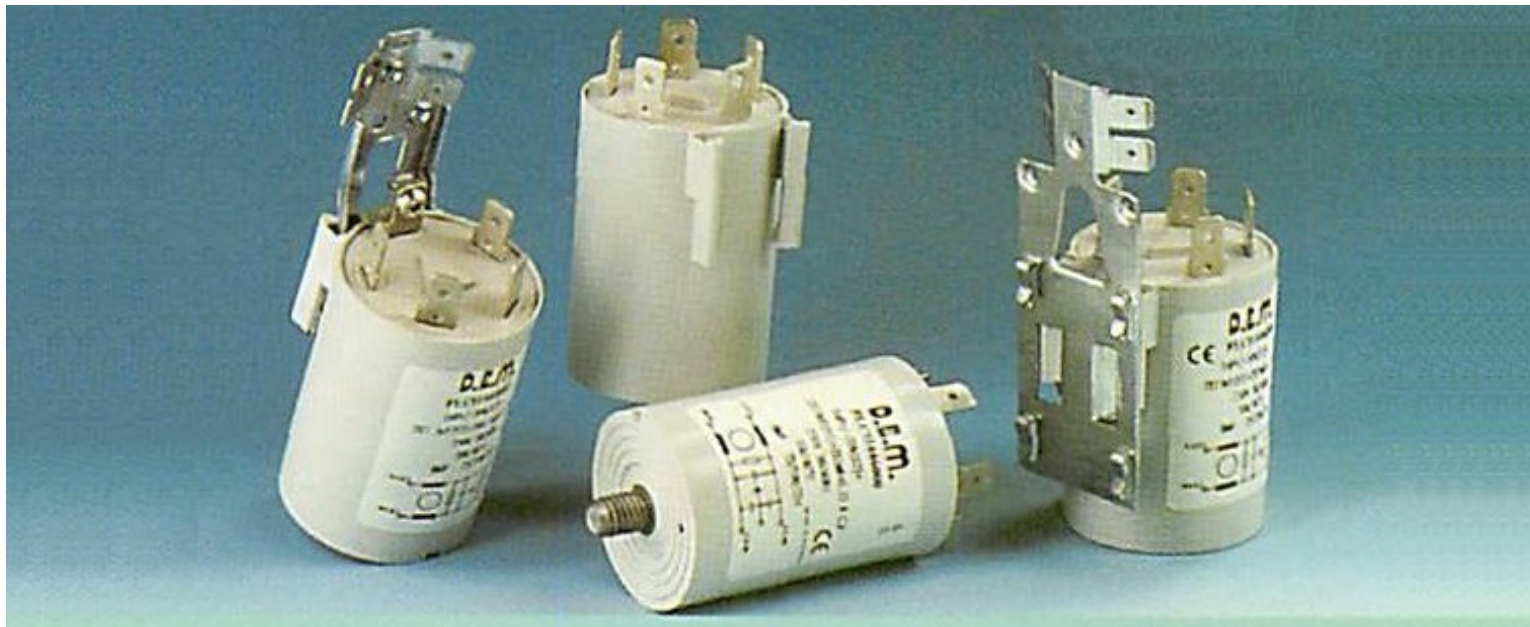
## MECHANICAL DRAWING



# TYPE FILTER LC

Series F L C H            

FAMILY OF FILTERS CHARACTERIZED BY PARTICULAR VALUES OF THE COMPONENTS SUCH AS TO ALLOW LOW VALUES OF THE ESCAPE CURRENT AND SIMULTANEOUSLY HIGH LEVELS OF DISTURBANCE OF THE DISORDERS. IMQ VALUES APPROVED SERIES FOR VALUES AS TABLE. CE CERTIFICATIONS FOR VALUES NOT INCLUDED IN THE IMQ APPROVALS.



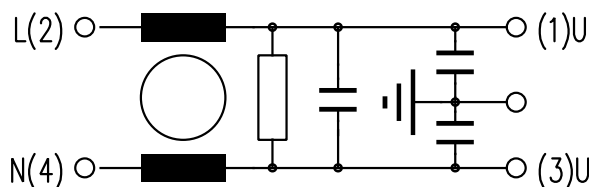
## MAIN APPLICATIONS

ELECTRONICALLY CONTROLLED APPLIANCES, CENTRIFUGAL HIGH SPEED WASHING MACHINE (WITH "BRUSH-LESS" TYPE MOTORS), PROFESSIONAL MACHINES, ETC.

ELECTRICAL SPECIFICATIONS	
RATED VOLTAGE (V <sub>R</sub> )	250 VAC, 50/60 Hz
RATED CURRENT (I <sub>R</sub> ) @ 40°C	10 ÷ 16 A
CLIMATIC CATEGORY	HMF (25/100/21c)
STANDARDS	EN 60939-2:2005, IEC 60939-2:2005
APPROVALS CA08.00039	capacity: 0,1 uF (X <sub>2</sub> ) + 2x2,7 nF - 27 nf (Y <sub>2</sub> ) inductance: 2x0,5 - 2x2 mH resistance: 0,33 - 10 MΩ optional

MECHANICAL SPECIFICATIONS	
HOUSING	SELF-EXTINGUISHING PLASTIC CYLINDRICAL CASE COMPLETE WITH M8 ALUMINUM FIXING TUBE, OR PREPARED FOR QUICK ASSEMBLY OF THE FILTER ON THE EQUIPMENT. THE FILTER CAN BE SUPPLIED WITH A METALLIC BRACKET (AVAILABLE IN MULTIPLE VERSIONS) THAT ALLOWS THE FIXING ON THE EQUIPMENT AND THE DIRECT CONNECTION OF THE POWER SUPPLY CABLE TO THE FILTER. INTERNAL COMPONENTS SEALED WITH SELF-EXTINGUISHING RESIN
TERMINALS	FASTON 6,3 x 0,8 mm

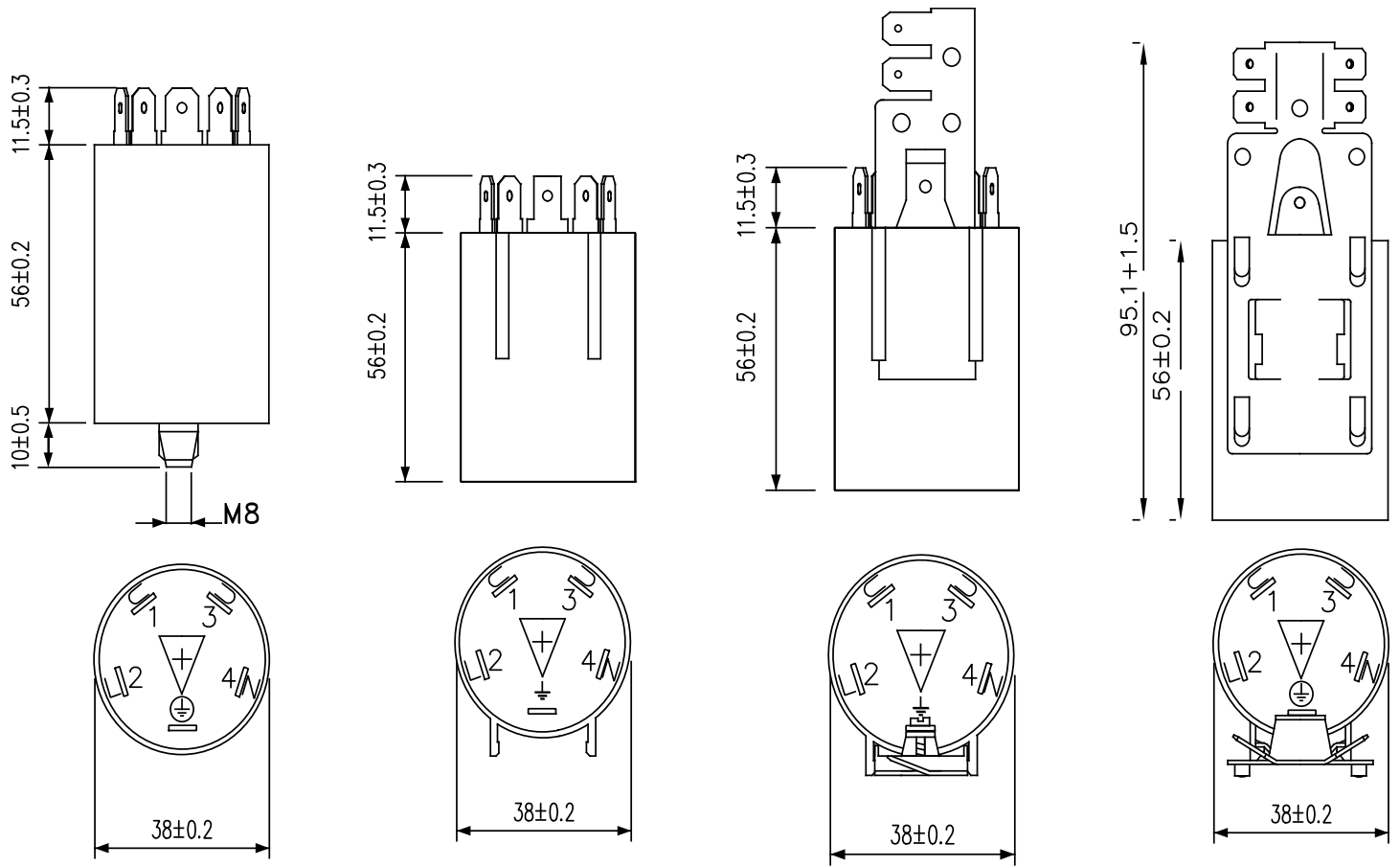
## ELECTRICAL CIRCUIT



# TYPE FILTER LC

Series **F** **L** **C** **H**

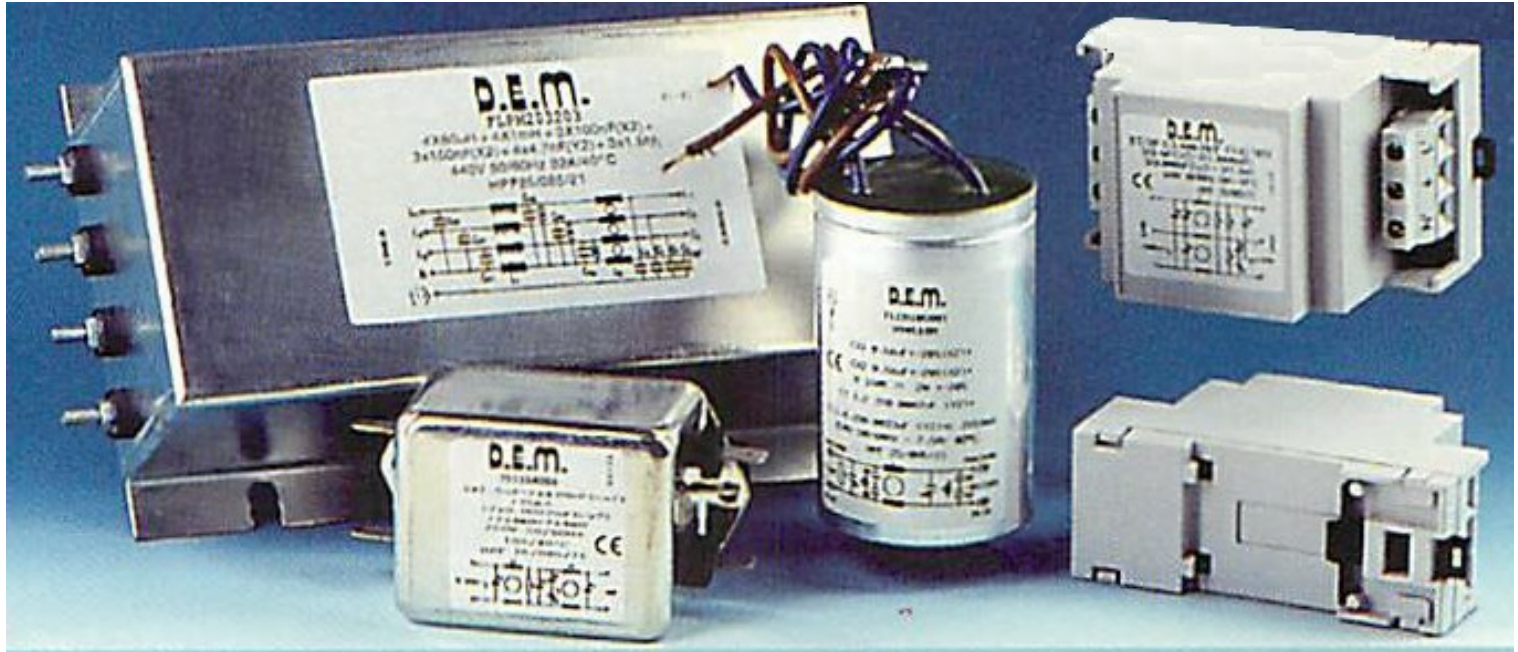
## MECHANICAL DRAWING



# TYPE FILTER LC

Series **F** **L** **C** **P** and **F** **L** **C** - DIN

THESE SPECIAL FILTERS ARE MANUFACTURED IN ACCORDANCE WITH THE CUSTOMER'S REQUEST AND ON THE BASIS OF ITS SPECIFIC ELECTRICAL AND MECHANICAL NEEDS, OR FOLLOWING THE RESULTS OF THE RFI / EMC MEASURES CARRIED OUT AT THE DEM LABORATORY ON THE SINGLE EQUIPMENT.



## MAIN APPLICATIONS

INDUSTRIAL USES, EQUIPMENT WITH HIGH POWER, SWITCHBOARD (IN PARTICULAR THE FLC-DIN SERIES), SWITCHING POWER SUPPLIES, EQUIPMENT OPERATING IN VERY DISTURBED ENVIRONMENTS AND WITH EMC PROBLEMS

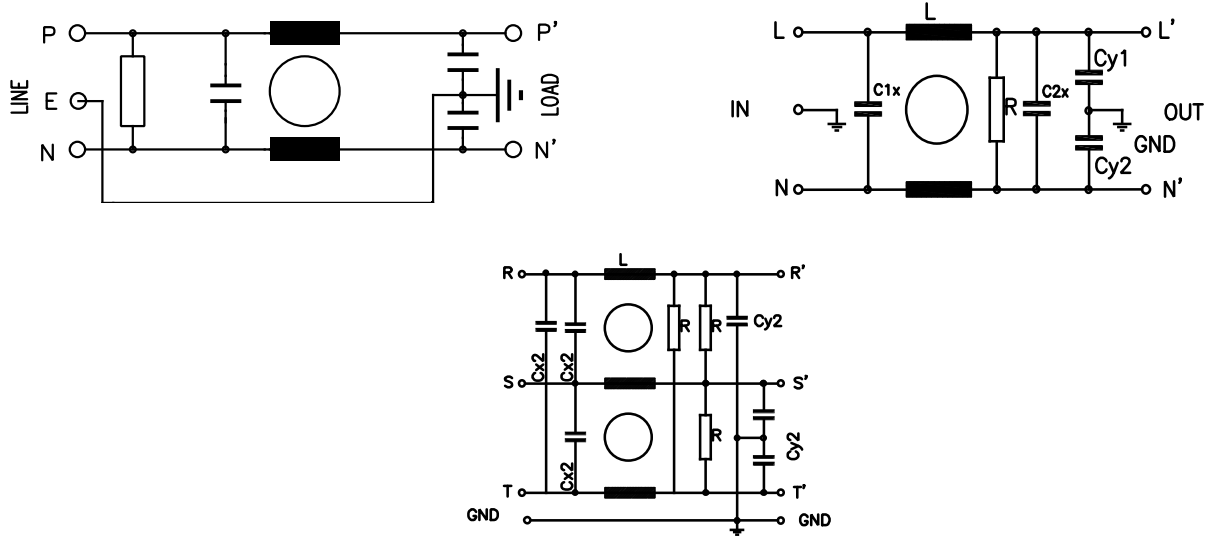
	ELECTRICAL SPECIFICATIONS
<b>RATED VOLTAGE (V<sub>R</sub>)</b>	250 VAC or 440 VAC, 50/60 Hz
<b>RATED CURRENT (I<sub>R</sub>)</b>	1 ÷ 200 A
<b>CLIMATIC CATEGORY</b>	HPF (25/085/21c) or HMF (25/100/21c)
<b>STANDARDS</b>	EN 60384-14:2013, IEC 60384-14:2013, EN 60939-2:2005, IEC 60939-2:2005
<b>APPROVALS</b>	ON CUSTOMER REQUEST
<b>TYPE OF CIRCUIT</b>	FILTERS CAN USE SINGLE-PHASE, THREE-PHASE OR THREE-PHASE CIRCUITS WITH NEUTRAL. THEY MAY ALSO CONTAIN ONE, TWO OR ALSO THREE CELLS

	MECHANICAL SPECIFICATIONS
<b>HOUSING</b>	THE FILTERS MAY USE DIFFERENT TYPES OF CYLINDRICAL OR RECTANGULAR METAL HOUSINGS, RESPECTIVELY WITH M8 TANG OR WITH HOLES FOR FIXING. THESE FILTERS ARE ALSO AVAILABLE IN A SELF-EXTINGUISHING PLASTIC CASE SUITABLE FOR MOUNTING ON A DIN RAIL (FLC-DIN SERIES)
<b>ACCESSORIES</b>	FAST-ON TERMINALS 6,3 x 0,8 mm (LIMITS 16 A) ISOLATED FLEXIBLE CABLES BOLTS WITH Ø > 4 mm STANDARD TERMINALS MULTIPOLAR CABLE CON O SENZA WITH (OR NOT) PLUG

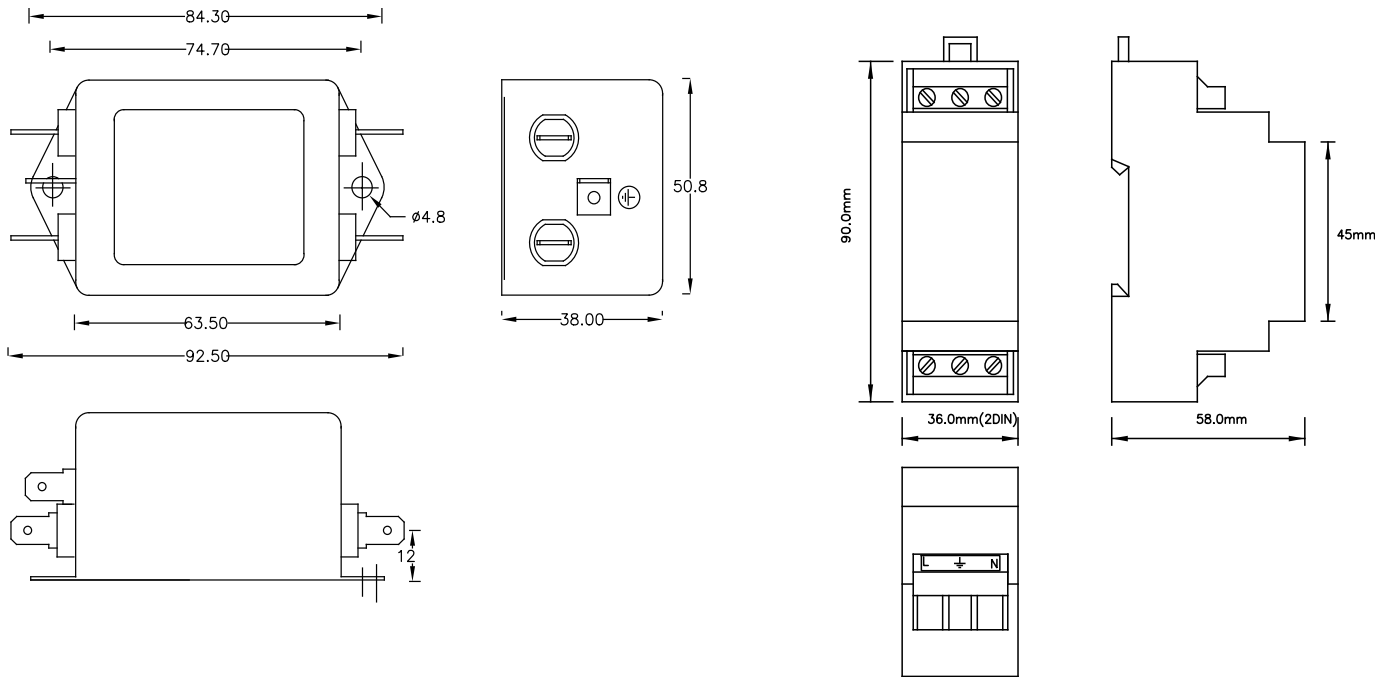
# TYPE FILTER LC

Series **F L C P** and **F L C** - DIN

## ELECTRICAL CIRCUIT



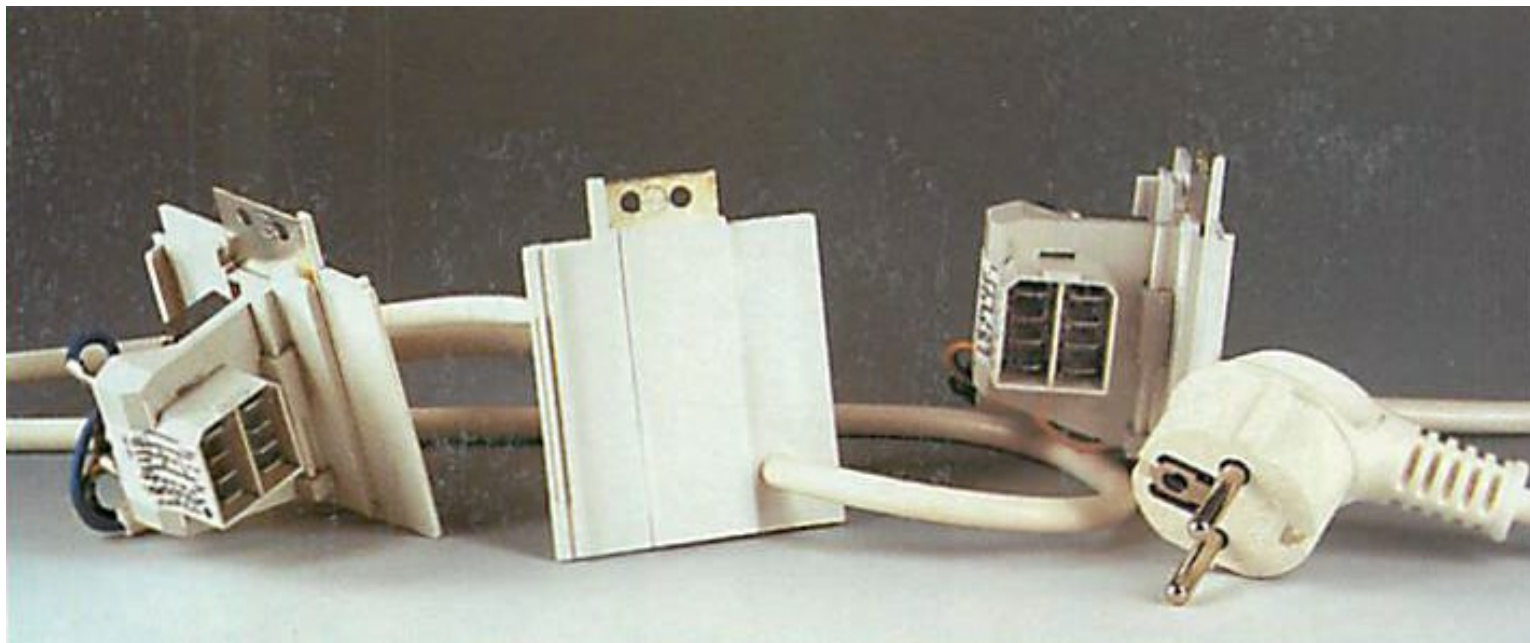
## MECHANICAL DRAWING






# FILTERS WITH CABLE

THE NEW DEM FILTER SOLUTION IS CHARACTERIZED BY THE "NETWORK FILTER AND POWER CABLE MOLDED WITH THE SAME FILTER". IT HAS BEEN DEVELOPED IN PARTICULAR TO BE USED ON SMALL AND LARGE HOUSEHOLD APPLIANCES AND IT ALLOWS THE USER TO DRASTICALLY REDUCE THE FILTER AND CABLE ASSEMBLY TIMES ON THE EQUIPMENT, SIMPLIFYING THE ELECTRICAL CONNECTIONS AT THE TIME. DEM SOLUTION IN A SINGLE COMPONENT (AND IN A SINGLE PRODUCT CODE) AT LEAST FOUR DIFFERENT FUNCTIONS: NETWORK FILTER, POWER CABLE, INPUT TERMINAL AND PASS-CABLE BLOCK. THE DEM FILTER IS ALSO REALIZED WITHOUT THE USE OF IMPREGNATING RESINS, CONSEQUENTLY REDUCING THE ENVIRONMENTAL IMPACT PROBLEMS. IMQ VALUES APPROVED SERIES FOR VALUES AS TABLE. CE CERTIFICATIONS FOR VALUES NOT INCLUDED IN THE IMQ APPROVAL.



## MAIN APPLICATIONS

ELECTRONICALLY CONTROLLED APPLIANCES, HIGH SPEED CENTRIFUGAL WASHING MACHINE (WITH "BRUSH-LESS" TYPE MOTORS), PROFESSIONAL MACHINES, ETC.

	ELECTRICAL SPECIFICATIONS
<b>RATED VOLTAGE (V<sub>R</sub>)</b>	250 VAC, 50/60 Hz
<b>RATED CURRENT (I<sub>R</sub>) @ 40°C</b>	UP TO 16 A
<b>CLIMATIC CATEGORY</b>	HMF (25/100/21)
<b>STANDARDS</b>	EN 60939-2:2005, IEC 60939-2:2005
<b>APPROVALS CA08.00093</b> 	capacity (X <sub>2</sub> ): 0,1 uF - 1 uF capacity (Y <sub>2</sub> ): 2x0,0027 uF - 0,027 uF resistance: 0,33 - 10 MΩ optional

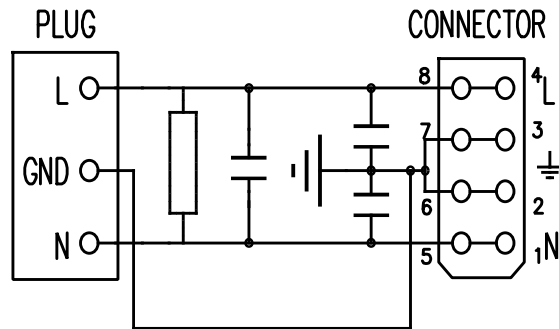
## MECHANICAL SPECIFICATIONS

- THE HOUSING IS MADE OF SELF-EXTINGUISHING PLASTIC MATERIAL
- THE POWER CABLE IS MOLDED TO THE FILTER HOUSING AND ALREADY ELECTRICALLY CONNECTED TO THE SAME
- THE CONNECTION TO THE LAND OF THE EQUIPMENT IS OBTAINED BY USING A AUTOMATIC OR TWO SELF-THREADING SCREW
- FOR THE CONNECTION TO THE REST OF THE EQUIPMENT THE SOLUTION HAS A "RAST 5" TYPE CONNECTOR A N° 8 TERMINALS (N° 4 FOR THE GROUND AND 2+2 FOR PHASE AND NEUTRAL)
- THE TERMINALS ARE OF THE FASTON TYPE 6,3 x 0,8 mm
- THE CABLE IS SUPPLIED WITH THE MOST DIFFUSED TYPES OF PLUGS TODAY USED BY THE MARKET (SCHUKO, UK, ETC.)

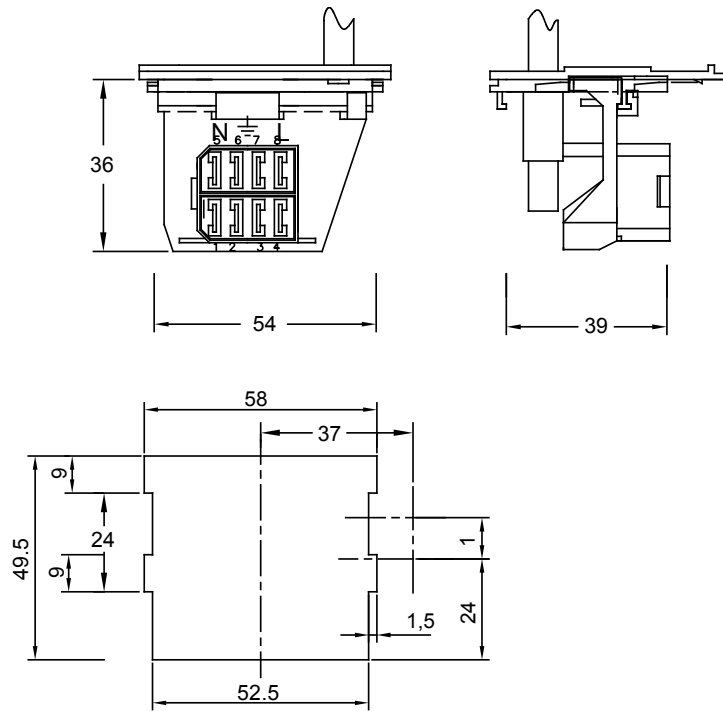
**NOTE: DEM** IS AVAILABLE TO DEVELOP AND BUILD **CUSTOM** SOLUTIONS IN CO-DESIGN WITH THE CUSTOMER, DEDICATED TO THE SPECIFIC EQUIPMENT

# FILTERS WITH CABLE

## ELECTRICAL CIRCUIT



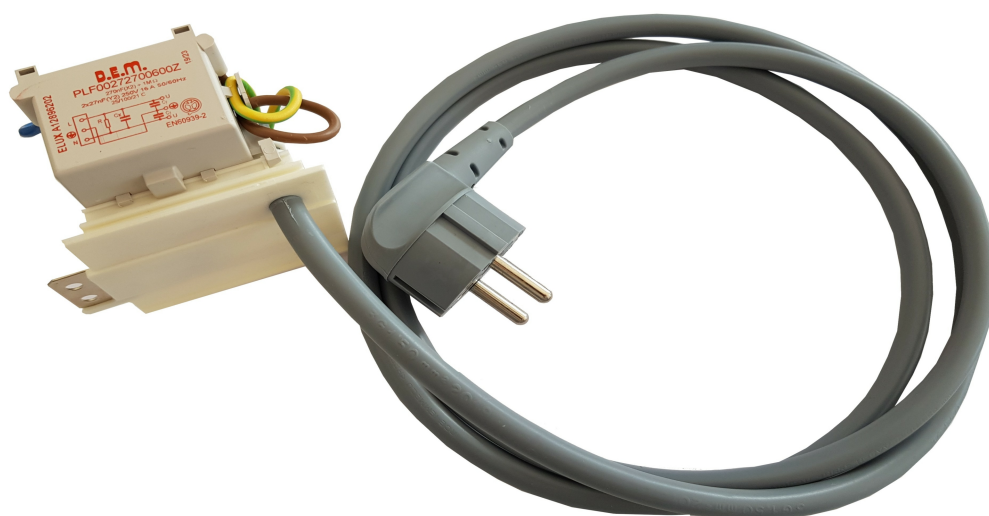
## MECHANICAL DRAWING



# FILTERS WITH CABLE

THE NEW DEM FILTER SOLUTION IS CHARACTERIZED BY THE "NETWORK FILTER AND POWER CABLE MOLDED WITH THE SAME FILTER". IT HAS BEEN DEVELOPED IN PARTICULAR TO BE USED ON SMALL AND LARGE HOUSEHOLD APPLIANCES AND IT ALLOWS THE USER TO DRASTICALLY REDUCE THE FILTER AND CABLE ASSEMBLY TIMES ON THE EQUIPMENT, SIMPLIFYING THE ELECTRICAL CONNECTIONS AT THE TIME. THE DEM SOLUTION IN A SINGLE COMPONENT (AND IN A SINGLE PRODUCT CODE) AT LEAST FOUR DIFFERENT FUNCTIONS: NETWORK FILTER, POWER CABLE, INPUT TERMINAL AND PASS-CABLE BLOCK.


THE DEM FILTER IS ALSO REALIZED WITHOUT THE USE OF IMPREGNATING RESINS, CONSEQUENTLY REDUCING THE ENVIRONMENTAL IMPACT PROBLEMS. IMQ VALUES APPROVED SERIES FOR VALUES AS TABLE. CE CERTIFICATIONS FOR VALUES NOT INCLUDED IN THE IMQ APPROVAL.



## MAIN APPLICATIONS

ELECTRONICALLY CONTROLLED APPLIANCES, HIGH SPEED CENTRIFUGAL WASHING MACHINE (WITH "BRUSH-LESS" TYPE MOTORS), PROFESSIONAL MACHINES, ETC.

## ELECTRICAL SPECIFICATIONS

RATED CURRENT (V <sub>R</sub> )	250 VAC, 50/60 Hz
RATED CURRENT (I <sub>R</sub> ) @ 40°C	UP TO 16 A
CLIMATIC CATEGORY	HMF (25/100/21)
STANDARDS	EN 60939-2:2005, IEC 60939-2:2005
APPROVALS CA08.00145 	capacity (X <sub>2</sub> ): 0,1 uF - 1,5 uF capacity (Y <sub>2</sub> ): 2x0,0027 uF - 0,027 uF inductance: 2x0,5 mH (16 A); 2x0,5 - 2,5 mH (10 A) optional resistance: 0,33 - 10 MΩ optional

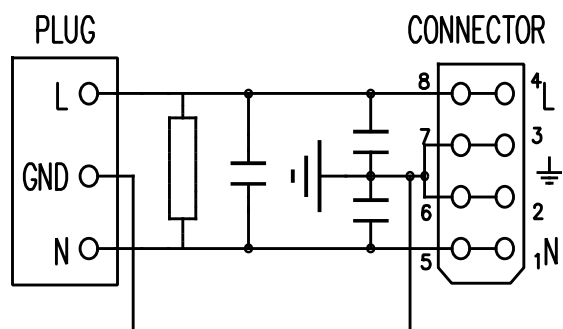
## MECHANICAL SPECIFICATIONS

- THE HOUSING IS MADE OF SELF-EXTINGUISHING PLASTIC MATERIAL
- THE POWER CABLE IS MOLDED TO THE FILTER HOUSING AND ALREADY ELECTRICALLY CONNECTED TO THE SAME
- THE CONNECTION TO THE LAND OF THE EQUIPMENT IS OBTAINED BY USING A AUTOMATIC OR TWO SELF-THREADING SCREW
- FOR THE CONNECTION TO THE REST OF THE EQUIPMENT THE SOLUTION HAS A "RAST 5" TYPE CONNECTOR A N° 8 TERMINALS (N° 4 FOR THE GROUND AND 2+2 FOR PHASE AND NEUTRAL)
- THE TERMINALS ARE OF THE FASTON TYPE 6,3 x 0,8 mm
- THE CABLE IS SUPPLIED WITH THE MOST DIFFUSED TYPES OF PLUGS TODAY USED BY THE MARKET (SCHUKO, UK, ETC.)

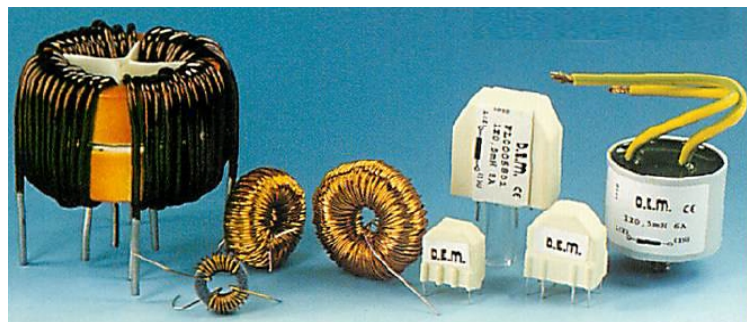
**NOTE:** DEM IS AVAILABLE TO DEVELOP AND BUILD **CUSTOM** SOLUTIONS IN CO-DESIGN WITH THE CUSTOMER, DEDICATED TO THE SPECIFIC EQUIPMENT

# FILTERS WITH CABLE

## ELECTRICAL CIRCUIT



# COIL WRAPPED ON TOROIDAL CORE



THE COMPONENTS OF THIS FAMILY ARE MADE ACCORDING TO THE CLIENT'S REQUEST ON THE BASIS OF ITS SPECIFIC ELECTRICAL AND MECHANICAL NEEDS, OR FOLLOWING THE RESULTS OF THE RFI / EMC MEASURES CARRIED OUT AT THE DEM LABORATORY ON THE SINGLE EQUIPMENT.

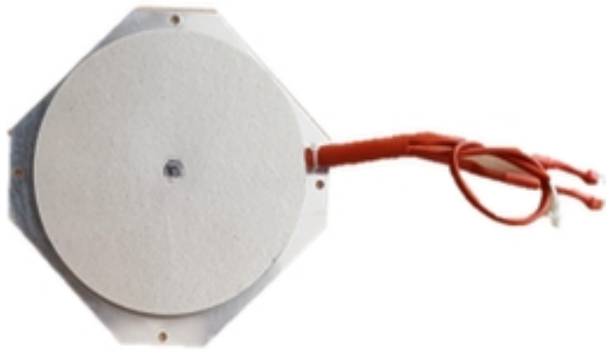
	ELECTRICAL SPECIFICATIONS
<b>RATED VOLTAGE (V<sub>R</sub>)</b>	250 or 450 VAC, 50/60 Hz
<b>RATED CURRENT (I<sub>R</sub>) @ 40°C</b>	0,5 ÷ 100 A
<b>CLIMATIC CATEGORY</b>	HMF (25/100/21)
<b>STANDARDS</b>	EN 60938-2
<b>APPROVALS</b>	<b>CE</b>
<b>CORE MATERIAL</b>	FERRITE, IRON POWDER
<b>WINDING MATERIAL</b>	DOBBLE ENAMEL COPPER
<b>TYPE OF WINDING</b>	ACCORDING TO THEIR USE, THE ROLLS ARE MADE OF A SINGLE WINDING, DOUBLE-WHEEL-WINDING (COMPENSATED CURRENT), THREE-PHASE WINDING WITH OR WITHOUT NEUTRAL

	MECHANICAL SPECIFICATIONS
<b>HOUSING</b>	THE COILS CAN BE PROVIDED WITHOUT A HOUSING OR IN A RESIN-PLASTIC PLASTIC CASE
<b>MOUNTING</b>	THE COILS CAN BE REALIZED BOTH FOR HORIZONTAL AND VERTICAL MOUNTING
<b>TERMINALS</b>	n°2 OR MORE FASTON 6,3 x 0,8 mm; FLEXIBLE ISOLATED CABLES WITH OR WITHOUT TERMINAL; DIRECT OUTPUT OF THE COPPER WIRE OF THE WRAPPED (PREFORMED AND PRE-TINNED); PIN PER C.S.

MAIN APPLICATIONS	
THE INDUCTORS ARE USED ON NOISE FUNCTION IN DIFFERENT TYPES OF CIRCUITS AND EQUIPMENT, BETWEEN DIMMERS, SMALL AND LARGE HOUSEHOLD APPLIANCES, NETWORK FILTERS, TV AND MONITOR, COMPUTERS, COMMUNITY EQUIPMENT, HIGH-POWER MACHINES (ES. ELEVATORS), WELDERS, ETC. OTHER USES: COILS WITH ACTIVE PFC FOR MEDIUM / LOW POWER INVERTER.	

# INDUCTION COILS

**TYPE: 150 mm**

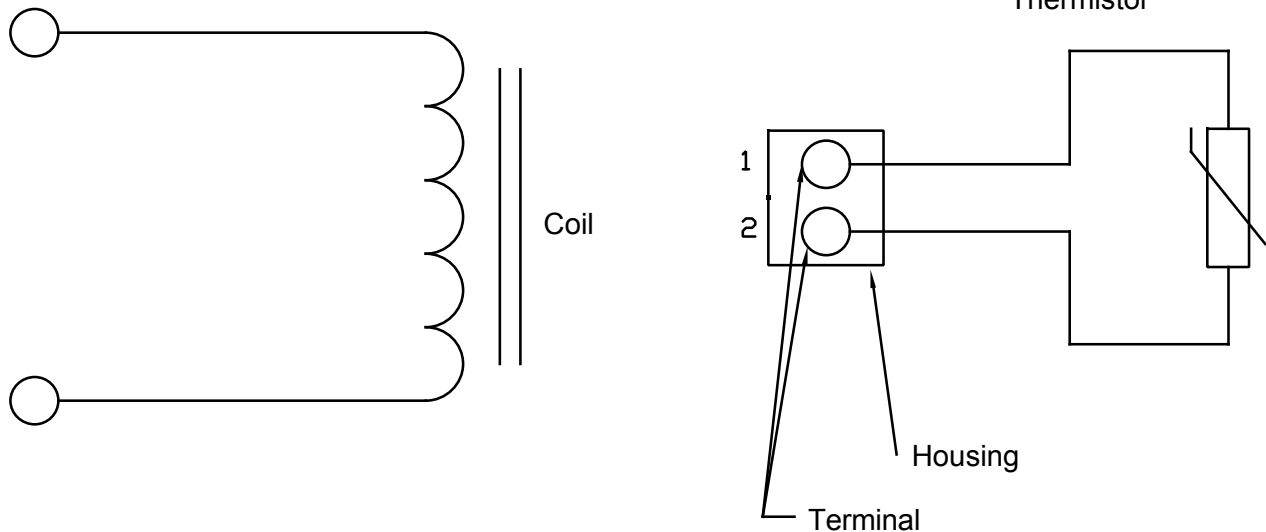


## MAIN APPLICATIONS

**INDUSTRIAL AND DOMESTIC COOKING PLANS.  
ASSEMBLY OF THE COOKING PLAN BASED ON THE  
CUSTOMER'S NEEDS.**

MECHANICAL CHARACTERISTICS	MIN	MAX
WEIGHT (563 g ± 10%)	506 g	619 g
OPERATING TEMPERATURE (°C)	250 °C	

## ELECTRIC CIRCUIT



THERMISTOR	VALUE	MIN (kΩ)	RATED (kΩ)	MAX (kΩ)
RESISTANCE @ 25°C (kΩ)	Ta (25 ± 0,05)°C / P = 0,1 mW	95	100	105
RESISTANCE @ 85°C (kΩ)	Ta (85 ± 0,05)°C / P = 0,1 mW		10,7	
BETA VALUE		3920	3960	3999

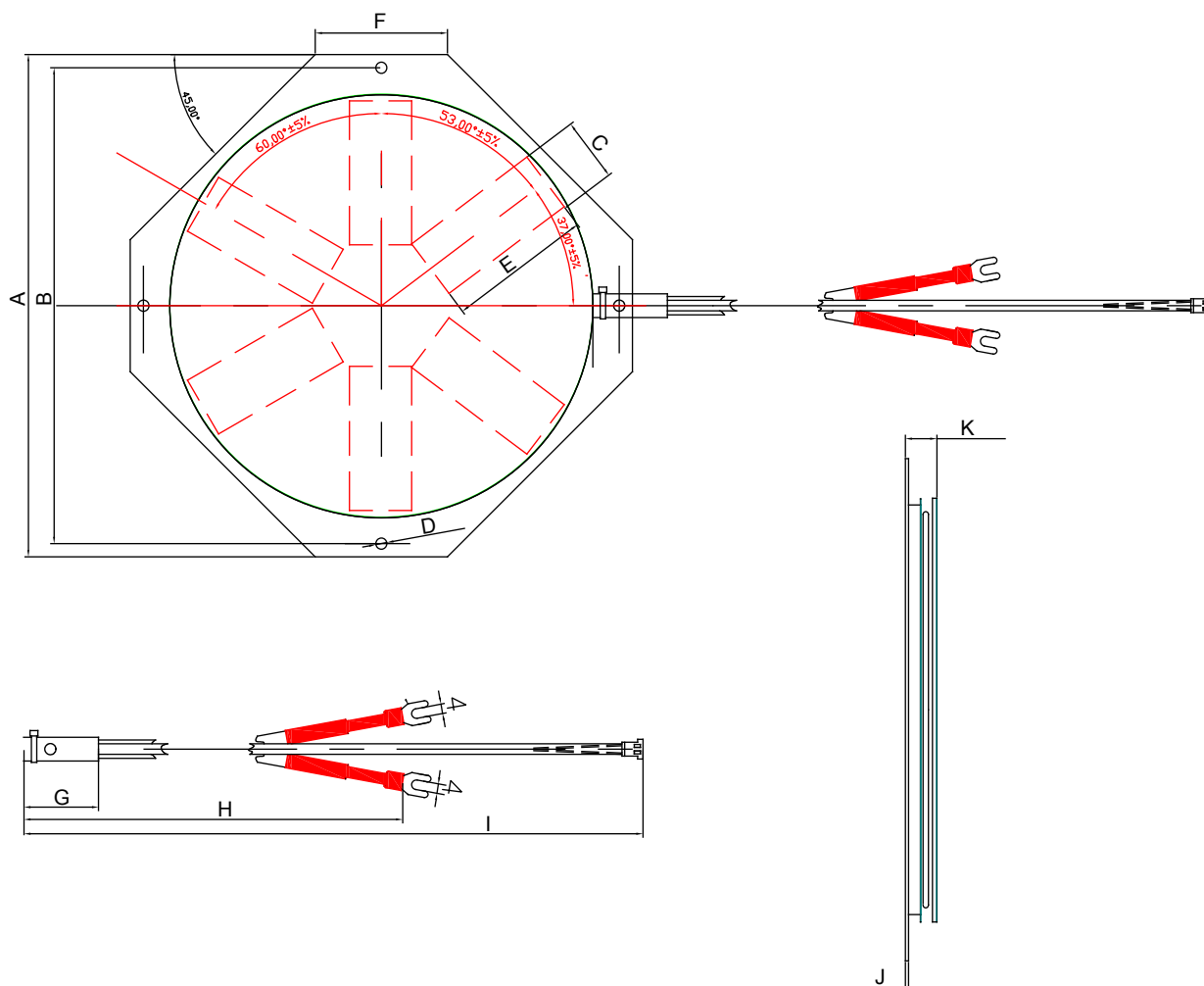
## ELECTRICAL SPECIFICATIONS

PARAMETRERS	U.M.	MIN	MAX
Inductance 120 μH ± 15% @ 10 kHz, 600 mV, 25°C	μH	102	138
Resistance on DC 70 mΩ ± 10 mΩ @ 25°C	mΩ	60	80
Resistance on AC 180 mΩ ± 20% @ 10 kHz, 25°C	mΩ	160	200
Hi-POT over current sense [mA] @2750 VAC 2 sec coil copper/Al base	mA		5
Hi-POT over current sense [mA] @2750 VAC 2 sec coil copper/thermistor	mA		5
Hi-POT over current sense [mA] @2750 VAC 2 sec Al base/thermistor	mA		5

# INDUCTION COILS

TYPE: 150 mm

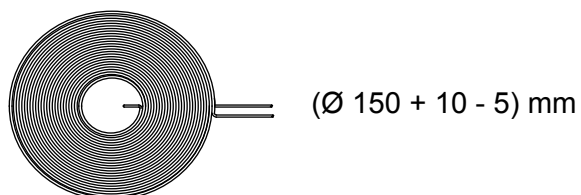
## DIMENSIONS



## TABLE OF QUOTAS

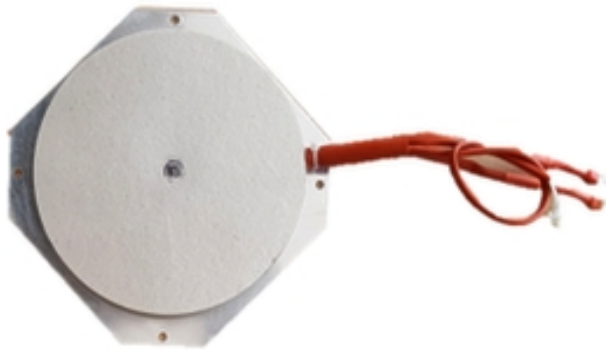
A (mm)	B (mm)	C (mm)	D (Ø mm)	E (mm)	F (mm)	G (mm)
190 ± 0,5	180 ± 1	23 ± 0,4	5 ± 0,1	54,5 ± 0,7	50	70 - 0
H (mm)	I (mm)	J (mm)	K (mm)			
200 + 20	380 ± 30	1,2 ± 0,1	12,5 ± 0,5			

## WINDING DIAMETER



# INDUCTION COILS

TYPE: 200 mm

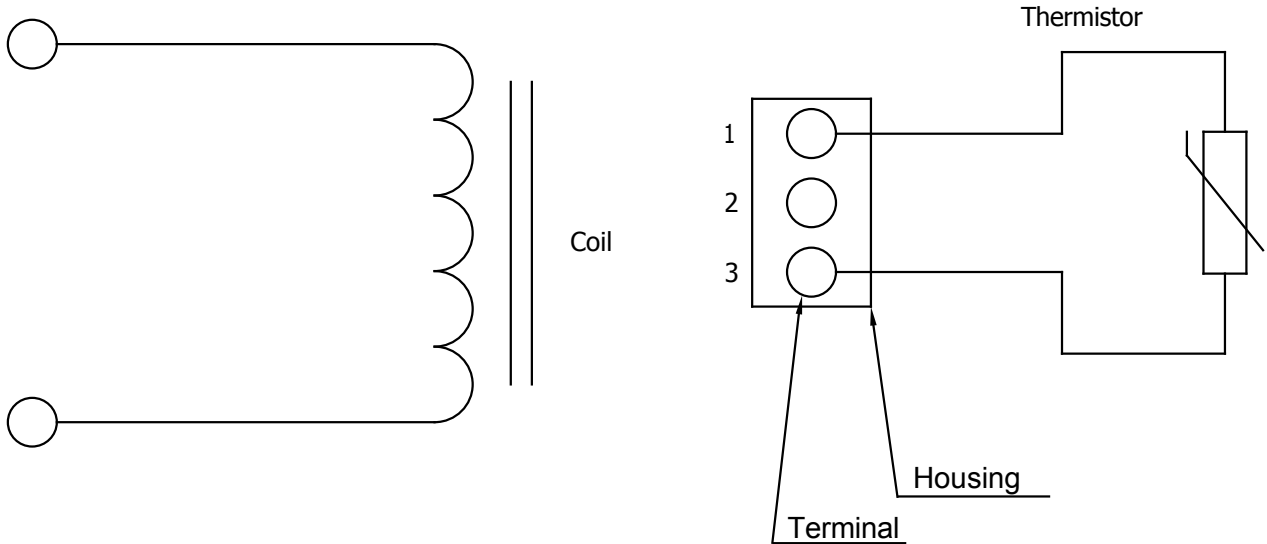


## MAIN APPLICATIONS

INDUSTRIAL AND DOMESTIC COOKING PLANS.  
ASSEMBLY OF THE COOKING PLAN BASED ON THE CUSTOMER'S NEEDS.

MECHANICAL CHARACTERISTICS	MIN	MAX
WEIGHT (850 g ± 10%)	765 g	935 g
OPERATING TEMPERATURE (°C)	250 °C	

## ELECTRIC CIRCUIT



THERMISTOR	VALUE	MIN (kΩ)	RATED (kΩ)	MAX (kΩ)
RESISTANCE @ 25°C (kΩ)	Ta (25 ± 0,05)°C / P = 0,1 mW	95	100	105
RESISTANCE @ 85°C (kΩ)	Ta (85 ± 0,05)°C / P = 0,1 mW		10,7	
BETA VALUE		3920	3960	3999

## ELECTRICAL SPECIFICATIONS

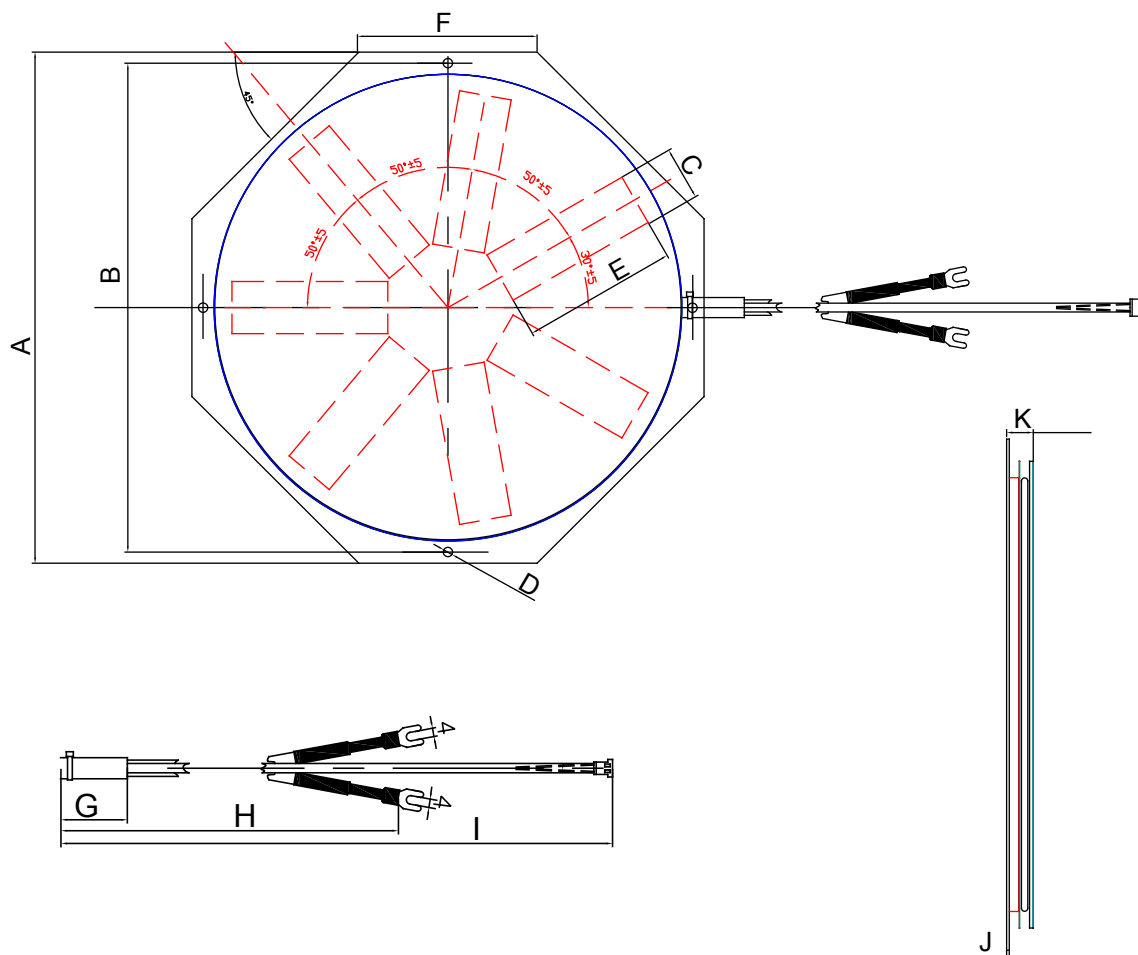
PARAMETERS	U.M.	MIN	MAX
Inductance 80 μH ± 15% @ 10 kHz, 600 mV, 25°C	μH	68	92
Resistance on DC 45 mΩ ± 10 mΩ @ 25°C	mΩ	35	55
Resistance on AC 110 mΩ ± 20% @ 10 kHz, 25°C	mΩ	90	130
Hi-POT over current sense [mA] @2750 VAC 2 sec coil copper/Al base	mA		5
Hi-POT over current sense [mA] @2750 VAC 2 sec coil copper/thermistor	mA		5
Hi-POT over current sense [mA] @2750 VAC 2 sec Al base/thermistor	mA		5



# INDUCTION COILS

TYPE: 200 mm

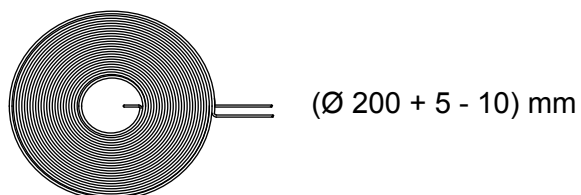
## DIMENSIONS



## TABLE OF QUOTAS

A (mm)	B (mm)	C (mm)	D (Ø)	E (mm)	F (mm)	G (mm)
230 ± 0,5	220 ± 1	23 ± 0,4	5 ± 0,1	72 ± 1	80	70 - 0
H (mm)	I (mm)	J (mm)	K (mm)			
160 + 20	260 ± 30	1,2 ± 0,1	12,5 ± 0,5			

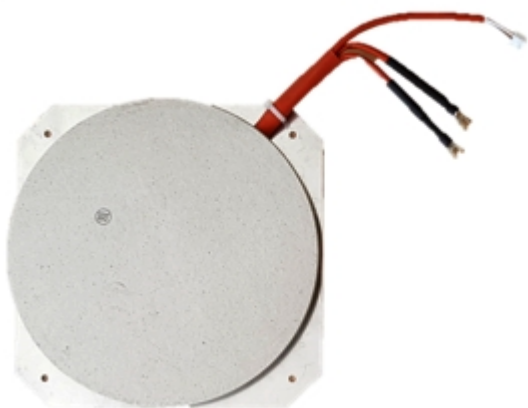
## WINDING DIAMETER



(Ø 200 + 5 - 10) mm

# INDUCTION COILS

**TYPE: 210 mm (4 kW)**

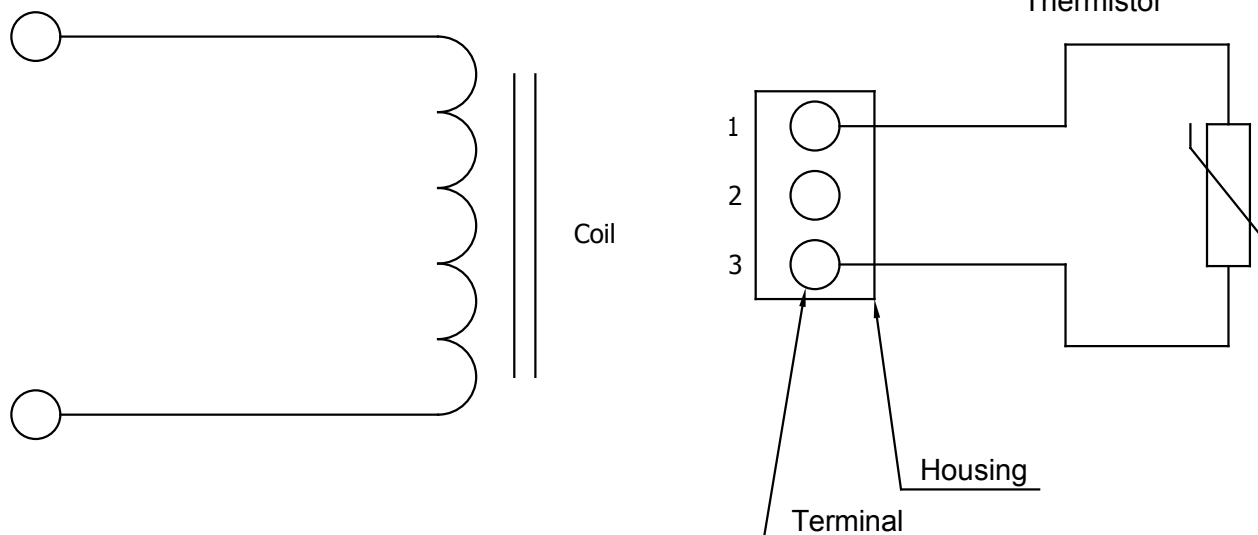


## MAIN APPLICATIONS

**INDUSTRIAL AND DOMESTIC COOKING PLANS.  
ASSEMBLY OF THE COOKING PLAN BASED ON THE  
CUSTOMER'S NEEDS.**

MECHANICAL CHARACTERISTICS	MIN	MAX
WEIGHT (1108 g ± 10%)	997 g	1219 g
OPERATING TEMPERATURE (°C)	250 °C	

## ELECTRIC CIRCUIT



THERMISTOR	VALUE	MIN (kΩ)	RATED (kΩ)	MAX (kΩ)
RESISTANCE @ 25°C (kΩ)	Ta (25 ± 0,05)°C / P = 0,1 mW	95	100	105
RESISTANCE @ 85°C (kΩ)	Ta (85 ± 0,05)°C / P = 0,1 mW		10,7	
BETA VALUE		3920	3960	3999

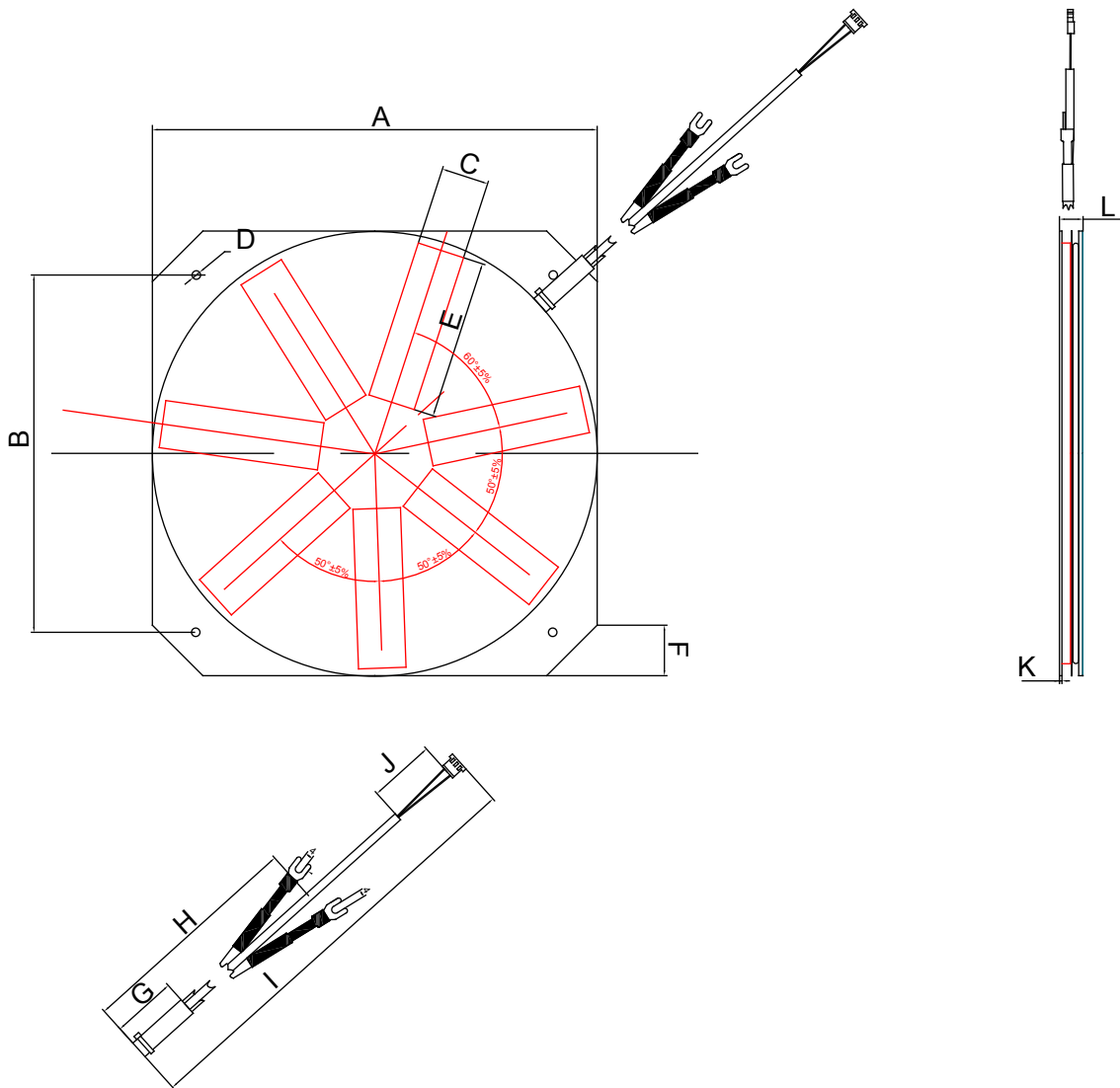
## ELECTRICAL SPECIFICATIONS

PARAMETERS	U.M.	MIN	MAX
Inductance 250 μH ± 25% @ 10 kHz, 600 mV, 25°C	μH	187,5	312,5
Resistance on DC 75 mΩ ± 20 mΩ @ 25°C	mΩ	55	95
Resistance on AC 310 mΩ ± 10% @ 10 kHz, 25°C	mΩ	279	341
Hi-POT over current sense [mA] @2750 VAC 2 sec coil copper/Al base	mA		5
Hi-POT over current sense [mA] @2750 VAC 2 sec coil copper/thermistor	mA		5
Hi-POT over current sense [mA] @2750 VAC 2 sec Al base/thermistor	mA		5

# INDUCTION COILS

## TYPE: 210 mm (4 kW)

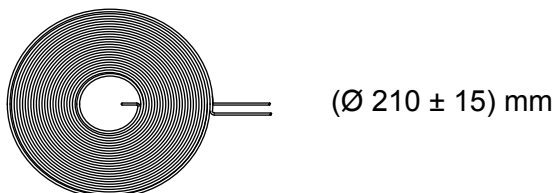
### DIMENSIONS



### TABLE OF QUOTAS

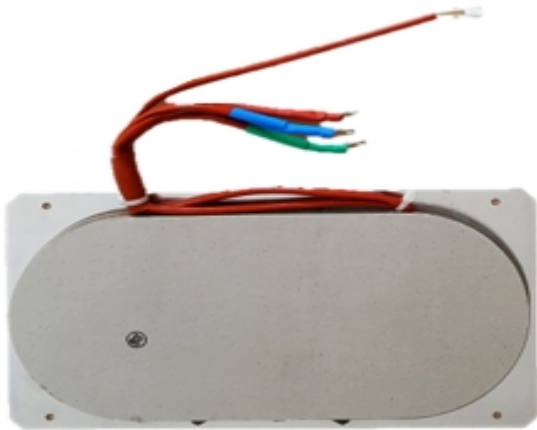
A (mm)	B (mm)	C (mm)	D (Ø)	E (mm)	F (mm)	G (mm)
$220 \pm 0,5$	$176,75 \pm 0,5$	$23 \pm 0,4$	4	$79 \pm 1$	25	70 - 0
H (mm)	I (mm)	J (mm)	K (mm)	L (mm)		
$170 + 20$	$220 \pm 30$	$50 + 0 - 20$	$1,2 \pm 0,1$	$12,5 \pm 0,5$		

### WINDING DIAMETER



# INDUCTION COILS

## TYPE: OVAL

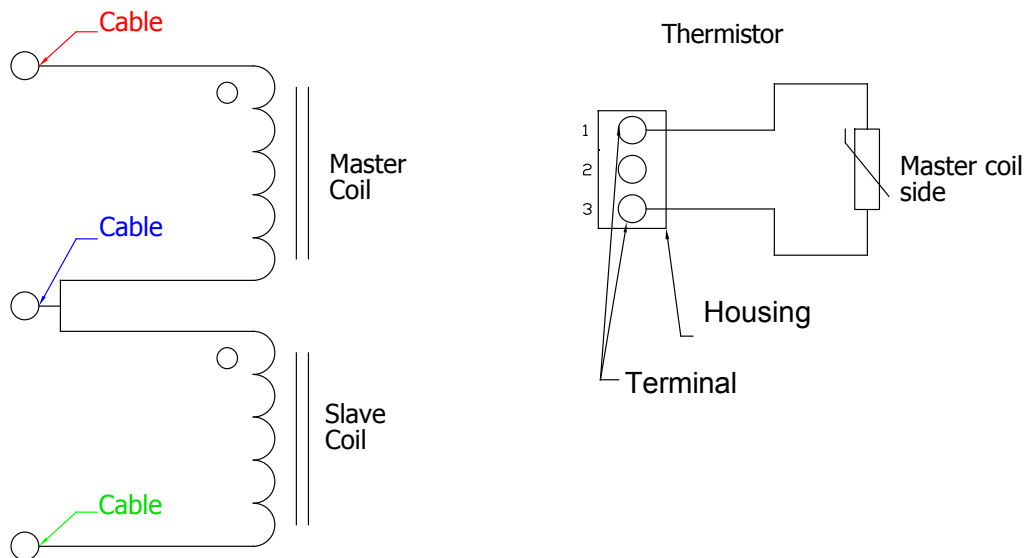


### PRINCIPALI APPLICAZIONI

**COOKING PLAN FOR FISH.  
ASSEMBLY OF THE COOKING PLAN BASED ON THE  
CUSTOMER'S NEEDS.**

MECHANICAL CHARACTERISTICS	MIN	MAX
WEIGHT (1067 g ± 10%)	960 g	1174 g
OPERATING TEMPERATURE (°C)	250 °C	

### ELECTRIC CIRCUIT



THERMISTOR	VALUE	MIN (kΩ)	RATED (kΩ)	MAX (kΩ)
RESISTANCE @ 25°C (kΩ)	Ta (25 ± 0,05)°C / P = 0,1 mW	95	100	105
RESISTANCE @ 85°C (kΩ)	Ta (85 ± 0,05)°C / P = 0,1 mW		10,7	
BETA VALUE		3920	3960	3999

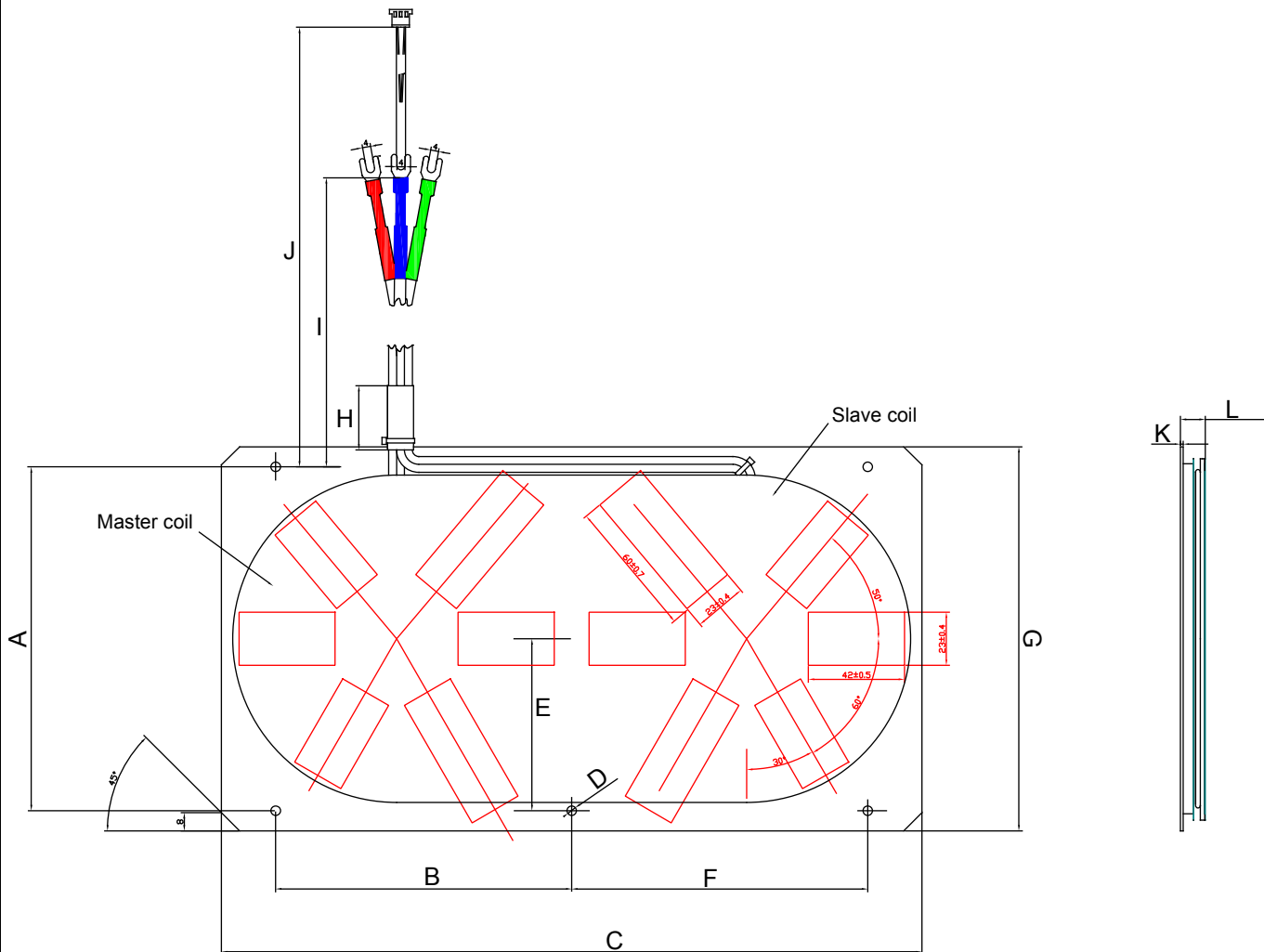
### ELECTRICAL SPECIFICATIONS

PARAMETRERS	U.M.	MIN	MAX
Inductance 150 μH ± 25% @ 10 kHz, 600 mV, 25°C	μH	112,5	187,5
Resistance on DC 70 mΩ ± 10 mΩ @ 25°C	mΩ	60	100
Resistance on AC 225 mΩ ± 20% @10 kHz, 25°C (master and slave coil)	mΩ	205	245
Hi-POT over current sense [mA] @2750 VAC 2 sec coil copper/Al base	mA		5
Hi-POT over current sense [mA] @2750 VAC 2 sec coil copper/thermistor	mA		5
Hi-POT over current sense [mA] @2750 VAC 2 sec Al base/thermistor	mA		5

# INDUCTION COILS

## TYPE: OVAL

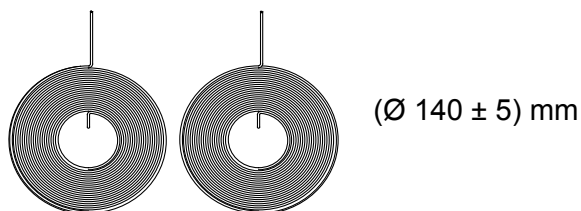
### DIMENSIONS



### WINDINGS DIAMETER

A (mm)	B (mm)	C (mm)	D (Ø)	E (mm)	F (mm)	G (mm)
152,2 ± 0,5	131 ± 0,5	310 ± 0,8	5 ± 0,1	76,1 ± 0,5	131 ± 0,5	170 ± 0,5
H (mm)	I (mm)	J (mm)	K (mm)	L (mm)		
70 - 0	220 + 20 - 0	310 + 20 - 0	1,2 ± 0,1	12,5 ± 0,5		

### WINDINGS DIAMETER





## CONTACTS:

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