

LL-M Long Life Capacitors

NEPTUNE-DUCATI Double Metalized Paper and Polypropylene technology (Mixed Dielectric) series LL-M for use in the power factor correction of Industrial & Office electrical networks is a series of quality products which has been designed to cater to the most demanding users where operating conditions are particularly critical and where reliability is of prime importance. The Long Life range also satisfies the demand for a product with durability features that are far superior to those provided by the usual metallized polypropylene technology presently in the market.

The capacitors used are characterized by the dielectric impregnated with a biodegradable synthetic oil. In this respect they differ from metallized polypropylene capacitors in which during operation, the air contained between the plates leads to the production of partial discharge which in turn cause the dielectric to age rapidly. Impregnation with oil as well as the total lack of air between the capacitor plates ensures that the dielectric-and hence the capacitor too- lasts a long time.

The dielectric consists of films of polypropylene and paper

The function of the paper is conduct the oil inwards to ensure that the dielectric is perfectly impregnated. Following a long period at a high temperature and in a vacuum, the impregnation treatment takes place in an autoclave. This ensures the elimination of all traces of humidity as well as the total absence of air between the capacitor plates thereby putting the dielectric in optimal conditions and granting the capacitor the longest possible life.

The capacitor are of the self-healing type with a very low loss dielectric. They combine these high-tech advantages with the safety and reliability of the traditional technology of impregnation used for Medium Voltage Capacitors. The capacitive elements are housed in a cylindrical container made of aluminium, equipped with an individual over pressure protection device.



- Mixed Dielectric
- Low Losses
- Withstand Harmonics Overloads
- Upto 4 In Maximum Current
- Power Coated Metal Enclosure
- Long Operational Life >2,00,000 hrs.

All of the materials employed are non-toxic and biodegradable. Thanks to the above characteristics, the capacitor has an expected life which greatly exceeds 2,00,000 hours. It is characterized by the capability of bearing high harmonic components up to R.M.S. Current level in excess of 4 In.

In last few years there has been increase of non-linear loads like variable speed drives, UPS and computers in many industrial and Office electrical network. These non-linear loads generate current and voltage harmonics. P.F. improvement in these conditions become difficult as capacitors get overloaded because of harmonics and their application also may result in resonance conditions, making the condition further worse.

There is often felt a need of a very reliable P.F. correction capacitor which shall not only withstand high RMS current but also offer long operational life under sustained harmonics overloads. The LL-M modular series is best suited for this application.

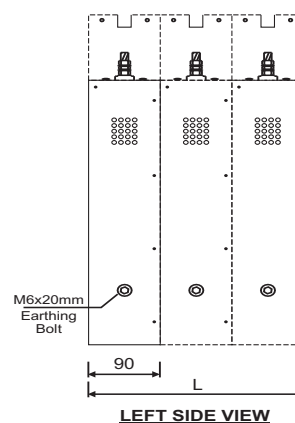
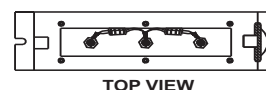
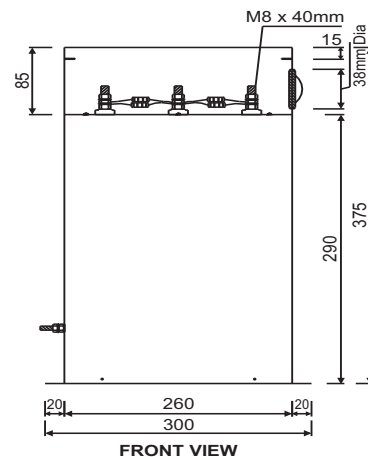
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Un (V)	Qn (KVAR)	In (A)	Cn (uF)	L (mm)	Code 415.01.
450V	5	6,4	3x26.3	90	1610
	10	12,8	3x52.4	90	1620
	15	19,2	3x78.6	180	1630
	20	25,6	3x105	180	1640
	25	32	3x131	180	1650
500V	50	64	3x157	360	1660
	5	5,8	3x21.3	90	1710
	10	11,6	3x42.4	90	1720
	15	17,3	3x63.7	180	1730
	20	23	3x84.8	180	1740
525V	25	28,8	3x106.2	180	1750
	50	58	3x127.2	360	1760
	5	5,2	3x17.6	90	1810
	10	10,5	3x25.1	180	1820
	15	15,8	3x52.7	180	1830
525V	20	21	3x70.2	180	1840
	25	26,2	3x87.8	180	1850
	50	52,5	3x105.3	360	1860

It is recommended to use oversized capacitors in terms of Voltage in presence of a moderate Harmonic loads. Capacitor voltage to be selected for use in detuned filter circuits depends upon filtering factor of Reactors.

TECHNICAL SPECIFICATIONS

Voltage (Un)	: 450 V - 550 V
Rated frequency	: 50 Hz
Capacitance tolerance	: -5 + 10%
A.C. test voltage bet. terminals	: 2, 15 Un per 10"
A.C. test voltage bet. terminals & case	: 3 kV per 10"
Installation	: Internal
Operating Temperature	: -25 + 70°C
Altitude	: ≤ 2000 m
Service	: Continuous
Protection degree	: IP 30
Discharge resistor	: Internal (50V after 1 min)
Maximum permissible current	: 4 In maximum
Maximum Inrush Current	: 450 In
Terminals	: 3 x M 8
Dielectric losses	: ≤ 0.2 W/kvar
Reference standard	: EN 60831-1/2; IEC 831-1/2



For Dimensions above 50 kVAR
Contact our Sales Office

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