

*We mean energy efficiency*



## LECON ENERGETICS

*Discovering wasted energy in your operations*



### Motor Starting Solutions for Every application

Range:  
50 KW/415 V  
to  
20MW/13.2 KV

Customised Motor starting solutions for Induction and Synchronous Motors for starting Pumps, Compressors, Blowers, Fans.

Optimise power plant size  
Achieve better life for motor and driven equipment

Quality manufacturer of MSR Reactor Type Soft Starters

- Drinking water and Irrigation
- Steel & Power
- Sugar
- Automobile
- Textiles
- Cement
- Chemical and Fertilizers
- Process Industries
- Refineries
- Engineering Industries

*We will customise our soft starter to suit your power system*

Lecon Systems was started with a mission of “adding value to customers through technically sound products and services”. We are known for our services in “energy saving and motor starting solutions”. Lecon Systems promoters now launches manufacturing of MSR Soft Starter under new venture Lecon Energetics Pvt. Ltd. to offer complete solution in starting of Induction motors and synchronous motors for all applications. Detailed pre-engineering, customisation, excellent manufacturing and good customer services are our strengths.

### Standards and technology adopted:

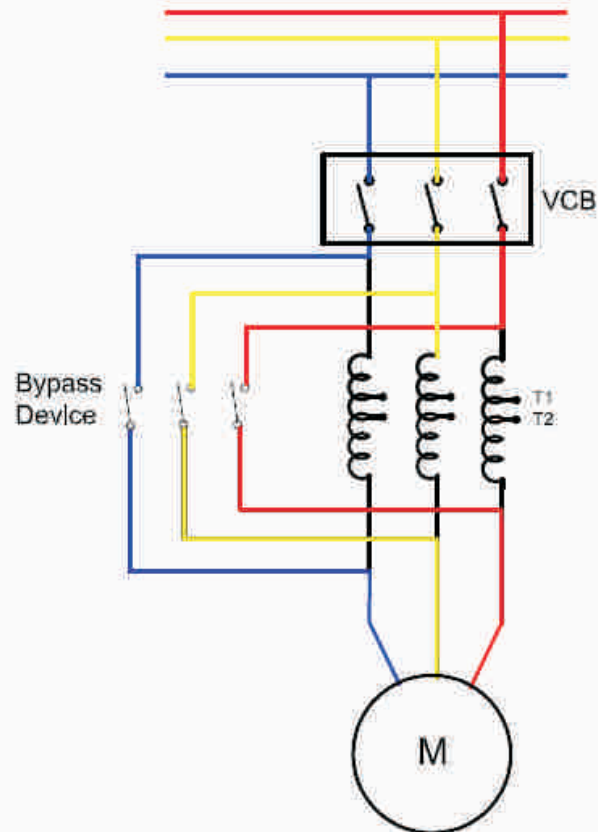
We offer Motor Starting Reactor (MSR) as per IS 5553 Part -3 and IEC-60076-6 standards. Standards specifies different technologies :-

1. Gapped Iron core (AIR CORE PLUS IRON CORE) technology based MSR. This is popularised under FCMA technology by some manufacturers.
2. Air core technology based MSR. This is popularised under HFSR technology by some manufacturers.

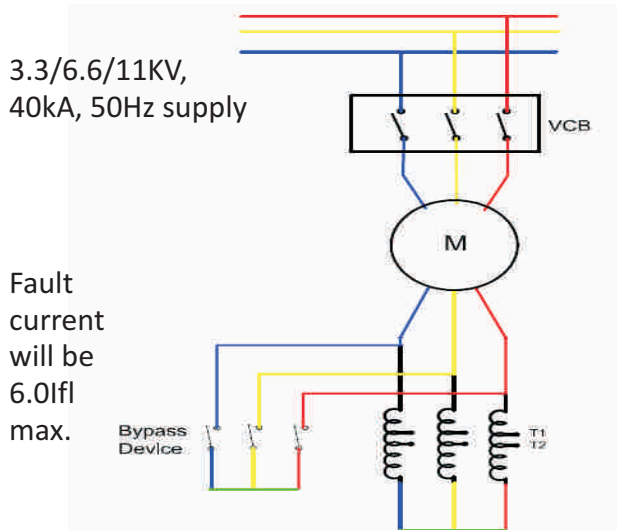
Both the technologies are classified under MSR in IEC 60076-6 clause 3.1.5. Hence anyone who complies with IEC 60076-6 complies automatically with FCMA, HFSR which are different brand names for achieving the same common result i.e. REDUCTION OF MOTOR STARTING CURRENT AND SMOOTH ACCELERATION.

3.3/6.6/11KV , 50Hz supply

Large fault currents 25kA/ 40kA



Line Side Soft Starter



3.3/6.6/11KV,  
40kA, 50Hz supply

Fault  
current  
will be  
6.0IfI  
max.

Neutral Side Soft Starter

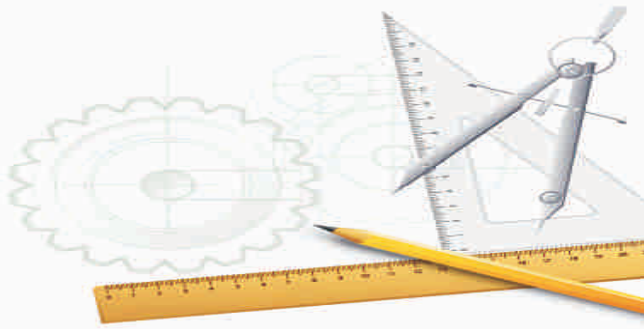
### Which model suits you Line Side or Neutral side?

1. Neutral side soft starter is generally preferred by the customers for it is technically superior and yet commercially attractive. Fault currents observed on neutral side are very low and thus this model becomes technically safer.
2. Line side soft starter – suitable for applications where neutral terminal is not available or feasible.

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## Lecon Energetics Advantages

- ✓ World class design and manufacturing setup.
- ✓ Low starting current with amplitude control. Starting current can be designed from 1.5/2.5/3.5 I<sub>fl</sub> with different models.
- ✓ Zero Harmonics.
- ✓ Smooth acceleration of Motor
- ✓ Rugged design. Class F/ Class H insulation as per customer requirement.
- ✓ Highly reliable even in change of frequency or voltage variation.
- ✓ Built in Bypass.
- ✓ In built high temperature cut off. Strict quality control.



## Data request for customisation



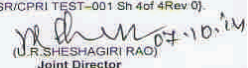
- Motor KW
- Driven equipment
- Supply voltage
- Motor/ load torque speed curve
- Motor/load GD<sup>2</sup>
- Motor current speed curve
- Motor thermal withstand curve
- Transformer / Generator set capacity

## Benefits to the customer

- ✓ Smooth steady operation improves the life of mechanical system like Pump, compressor, fans, blowers etc.
- ✓ Can optimize the transformer and/or Steam turbine/Gas/Diesel Generator size which gives capital saving.
- ✓ Saves revenue expenditure by way of better fuel efficiency when prime mover like Diesel Generator is optimised.
- ✓ Suitable for extreme weather conditions.
- ✓ Can reduce peak demand on power systems
- ✓ Maintenance Free since rugged coils. Available in different models to suit the customer starting current and budget needs.

## CPRI Tested:

Our soft starters are tested as per IS5553 (Part3)/IEC 60076-6 standards in CPRI

CENTRAL POWER RESEARCH INSTITUTE (MEMBER STL)		
TEST REPORT		<b>CPRI</b>
Test Report Number	43/1/2014-HV/2561/LECON/2034	Dated: 30/09/2014.
Name & address of the Customer	M/s. Lecon Systems Appropriate Controls C 25-27, II Floor, Kushal Garden Arcade, 1A Peenya Industrial Area, 2 <sup>nd</sup> Phase, Bangalore -58. Ref.No:Nil. Dated: 12-09-2014	
Name & address of the manufacturer	M/s. Lecon Systems Appropriate Controls C 25-27, II Floor, Kushal Garden Arcade, 1A Peenya Industrial Area, 2 <sup>nd</sup> Phase, Bangalore -58.	
Particulars of sample tested Condition of sample on Receipt.	New; MSR - 500 -6600. Soft Starter - FCMA Reactor Type (500KW/6.6KV)- (1 Coil). LS/001/14-15.	
Type	One.	
Designation	23 & 24-09-2014.	
Serial Number	HVML2014S0903.	
Number of samples tested	1) Lightning Impulse Voltage Withstand Test. 2) Dry Power Frequency Voltage Withstand Test.	
Date(s) of Test(s)	As Per IS 5553(Part 3)/1990 RA 2004, IEC 60076-6/2007.	
CPRI Sample Code Number	Not applicable.	
Particulars of Test Conducted	Nil.	
Test in accordance with standard/ Specification	Nil.	
Sampling plan	Nil.	
Customer's requirement	Nil.	
Deviations if any	Nil.	
Name of the witnessing persons Customer's representatives	Mr. Mukund Kulkarni, Mr. Phaneendra Kumar.	
Other than Customer's representatives	Nil.	
Test subcontracted with address of the laboratory	None.	
Documents constituting this report (in words)	Three.	
Number of sheets	Sixteen.	
Number of oscillograms	Nil.	
Number of graphs	Nil.	
Number of photo/s	Nil.	
Number of Test circuit diagrams	Five [Drawing Nos.: 1) LE12/MSR/CPRI TEST-001 Sh 0of 4 Rev 0 2) LE12/MSR/CPRI TEST-001 Sh 1of 4 Rev 0 3) LE12/MSR/CPRI TEST-001 Sh 2of 4 Rev 0 4) LE12/MSR/CPRI TEST-001 Sh 3of 4 Rev 0 5) LE12/MSR/CPRI TEST-001 Sh 4of 4 Rev 0].	
Number of drawings		
 (R.K. GAJENDRA) Test Engineer		 (U.R. SHESHAGIRI RAO) Joint Director
		Sheet 1 of 3

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## **ESCO Proposals for realising Energy Savings in Fans/Pumps.**

- Scientific study conducted at site to measure exact energy saving potential.
- Analysis of best energy saving service. i.e VFD and/or change of impeller design.
- Preparation of technical specification and DPR for Lease finance.
- Arranging Lease finance.

## **Data Required**

1. Fan performance curves (Pressure developed vs flow rate, Power requirement vs flow rate, Efficiency vs flow rate, Pressure developed, speed vs flow rate)
2. GA drawing of the fan and fan data sheet.
3. GA drawing of the motor and technical data sheet.
4. Inlet and outlet duct drawings for evaluating system

## **Other Products Offered**

- Energy savings products offered thus giving one-stop solution under one roof.
- MV VFD's-TMEIC Make from 200kW/3.3KV to 100MW/11KV.
- Dehumidifiers for Energy Saving -Panasia Make.



**Works**



**MSR Reactor coil being tested at CPRI**

## **LECON ENERGETICS PVT. LTD.**

**Regd. Office:** C25-27, II Floor, Kushal Garden Arcade, 1A, Peenya Industrial Area, 2nd Phase, Bangalore – 560058,  
Phone: 080 – 39283220/21/22/23/24, Email: sales@leconsystem.com, lecongm@gmail.com

**Works:** No.C136/1, 2<sup>nd</sup> C Main, Peenya Industrial Estate, II Stage, Bangalore - 560058