

A SYMBOL OF



QUALITY RELIABILITY

NGEF

CAPACITORS

“ TO BE A PARTNER IN REDUCING POWER LOSS TO A REASONABLE LEVEL IN LINE WITH INTERNATIONAL STANDARDS IN THE TRANSMISSION AND DISTRIBUTION SYSTEM “



POWER SAVERS TO THE NATION

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INTRODUCTION

We have great pleasure in introducing ourselves as one of the leading manufacturers of L.T. Shunt Power Capacitors for power factor correction application and capacitors used for fans, motors, pumps, discharge lamp circuits, industrial furnaces, air conditioning and refrigeration, washing machines, UPS systems etc. We are manufacturing Capacitors since 1993 and are based in Bangalore.

We manufacture capacitors with state-of-art technology using Zinc Aluminum alloy high edge metallised polypropylene film (MPP) under controlled environmental conditions. Our capacitors are very compact in size with modular construction.

We have three ranges in our products namely a) Standard Duty Power Capacitors, b) Heavy Duty Power Capacitors and c) Special Heavy Duty Power Capacitors.

Our **Special Heavy-duty** capacitors incorporating double di-electric design have been used in place of mixed di-electric and All PP capacitors successfully in Steel, Cement, Textiles, Sugar Mills, Rolling Mills etc. and also in Wind Mill Application.

We have been supplying our Capacitors to various Industrial sectors like Textile, Steel, Cement, Software etc. and all our customers are happy with our Quality, Performance and Service. We would like to inform you that, our products are ISI marked and approved by many Central and State Government departments / PSU's and major private sector companies.

We list below a few of them.

* Central Power Research Institute * Bureau of Indian Standards * Dept. of Telecommunications * Dept. of Space * State Electricity Boards including TNEB * Larsen & Turbo Ltd. (L&T) * Wheel & Axle Plant * Indian Telephone Industries Ltd. * Hindustan Aeronautics Ltd. * ACC Cements * Wipro * BPL * Karnataka Milk Federation. * BESCO. *BEML, * Karnataka Urban Water Supply & Drainage Board etc.

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POWER FACTOR

Power factor is the ratio of actual power being used in a Circuit expressed in watts or kilowatts (KW) to the power which is apparently being drawn from the line expressed in volt-amperes or kilovolt-amperes. To find the power required by an electrical load device, a wattmeter is used which will show the actual power, which can never exceed the apparent power but often is less.

For load device containing only resistance such as ovens, etc., the actual and apparent power are the same and the power factor is 100%.

But in many devices such as A.C. motors and transformers there will be inductance or iron effects and these type of devices consume less actual or useful power than shown by the products of their operating currents and voltages. The inductance of these devices causes inequalities between true and apparent power resulting in lower power factor.

HIGH AND LOW POWER FACTOR

When true power and the apparent power are equal, i.e., their ratio is 1:1 or 1.0 or 100%, then it is called highest power factor or unity power factor that can be obtained. But if for example in an inductive load device such as motors or transformers, if the actual power consumption is 400 watts in contrast with the apparent power demand of 1000 watts then their ratio is 400:1000 or 0.4 or 40% is low with respect to 100%.

DISADVANTAGES OF LOW POWER FACTOR

Having a low power factor means poor electrical efficiency, which is always costlier because the actual power consumption is less than the volt ampere product. It is volt-amperes which the electrical circuit sees but it the watts that the load uses. The Voltage in the system remains nearly constant. Therefore if the volt ampere value exceeds the watts consumption, extra current is being drawn through the power lines, which causes the volt-amperes to rise above the watts.

Low power factor increases the power company's cost of supplying actual power, because more current must be transmitted and this higher cost is directly billed to the industrial consumer by means of power factor clauses in the power tariff schedule.

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RANGE OF MANUFACTURE OF KVAR

The following standardized KVAR ratings are manufactured at our works:

Mettalised Film Capacitors (both Cylindrical and Box type)

Rated Voltage: 230/415/440 V AC

50 Hz Single/Three Phase

Delta Connected.

Kvar Ratings: 1, 2, 3, 4, 5, 6, 7, 7.5, 8, 9, 10, 12, 12.5, 15, 20, 25.

Capacitor Banks:

Capacitor Banks are made when large ratings of capacitors are required for which single units are not available. Some of the standard capacitor banks being manufactured are as follows:

KVAR Rating: 30/40/50/60/75/100/125/150/175/200/250/300

POWER-FACTOR CORRECTION

The apparent power (KVA) in the a.c. circuit can be resolved into two components viz. the in phase component which supplies useful power (Kw) and the wattles component (KVAR) which does no useful work. The phase sum of the two is the KVA drawn from the supply. The cosine of the phase angle between the KVA and the KW represents the power factor of the load.

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**Recommended rating / size of control gear to be used –
AC 50 Hz 3 phase delta connected capacitors.**

KVAR	Current Drawn (Amps)		Cable size (sq mm)		Fuse rating (Amps)	Contactor rating (Amps)
	415V	440V	Al.	Cu.		
5.0	7.0	6.5	10.0	6.0	10	16
6.0	8.4	7.8	10.0	6.0	20	22
8.0	11.2	10.4	16.0	8.0	25	32
10.0	14.0	13.1	16.0	10.0	20	32
12.5	17.5	16.3	25.0	10.0	25	40
15.0	21.0	19.5	25.0	16.0	32	63
20.0	28.0	26.2	35.0	20.0	50	63
25.0	35.0	32.7	35.0	25.0	63	63
50.0	70.0	65.5	95.0	70.0	125	160
75.0	105.0	98.2	185	150	200	200
100.0	140.0	131.0	240	185	250	200

Contactor rating recommendation is for individual unit switching.

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