

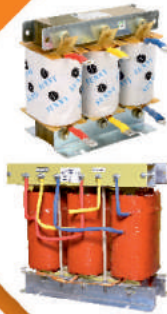
# SUNNY CAPACITORS



# CAPACITORS



PFC (KVAR)



REACTOR



MOTOR STAR/  
AIR CON



TRANSFORMER



MOTOR RUN  
& FAN  
CAPACITOR





**Sunny Capacitors** offer reliable and Hyper Heavy Duty Technology innovative products and solutions in the fields of Reactive Power Compensation, Power Quality Energy Management to customers worldwide.

The founders and key personnel have over 40 years of consolidated international experience in design, development and manufacturing of Power Factor Capacitors, Harmonic Filters reactors, Power Factor Correction Equipment, Measuring devices and Energy Management Systems.

Our innovative products are designed and built on sound engineering principles with total quality and customer satisfaction as a guiding rule.

We are committed to delivering a positive value to each and every client, backed by our dedication to the highest standards of client satisfaction, reliability and integrity.

All our products are manufactured to the highest prevailing international standards & the manufacturing locations are certified according to ISO 9001-2015

Certificate :- BIS  
CE Marking  
ISO 9001-2015



**HIGH PERFORMANCE CAPACITORS** The Hyper Heavy Duty Capacitor (HHDC) type Power Capacitor represents reliable and optimized Solution for Power Factor Correction. The output of these capacitors ranges from 0.5 kVAr to 50 kVAr.

The HHDC series is a 3 Phase integrated capacitor design particularly made for Power Factor Correction in Commercial & Industrial applications. These Capacitors feature the use of a unique Metalized Polypropylene film as the dielectric to ensure a long working life with low losses.

The HHDC series are Self healing Capacitors, where the Electrode layer which is a special metal alloy is vacuum deposited on to the Polypropylene film dielectric. The 3 Phase Capacitor is internally composed of 3 Single Phase Capacitor windings assembled in an optimized geometric design. The electrode of the capacitor i.e., the special Metal alloy layer is connected in parallel using a special purpose Metal Spraying technology.



This special process combined with the design of the electrode enables the capacitor to have high peak current withstand levels. The Capacitor elements are processed under high vacuum to eliminate all moisture as well as to impart the correct level of thermal stability. This is an extremely critical process by which oxidation and partial discharges can be avoided during the working life of the capacitor and thus ensure better capacitance stability. The Capacitor elements are encapsulated in a special purpose synthetic material which ensures better dimensional stability and thermal conduction of heat from the insides of the capacitor.





## TECHNICAL SPECIFICATION

Standards	-	IEC 60831- Part -1 &2      IS 13340 - 1&2
Rated Reactive Power	KVAr	0.25- 50 KVAr (Single & Three Phase)
Rated voltage	V <sub>AC</sub>	230-690V AC
Type	-	Cylindrical
Temperature Category	°C	-25°C to 55°C
Protection Class	-	IP20
Tolerance on Capacitance	%	± 5% as per standards
Over current	I <sub>n</sub>	1.3 x I <sub>n</sub>
Rated Frequency	Hz	50/60Hz
Over Voltage	V <sub>max</sub>	V <sub>n</sub> + 10% (Upto 8 Hrs in 24 Hrs) / V <sub>n</sub> + 15% (Upto 30 min in 24 Hrs) V <sub>n</sub> + 20% (Upto 5 min in 24 Hrs) / V <sub>n</sub> + 30% (Upto 1 min in 24 Hrs)
Over Current	I <sub>max</sub>	Upto 1.3 * I <sub>n</sub> (Upto 1.5*IR including combined effects of harmonics, overvoltages and capacitance)
Peak Inrush Current	I <sub>p</sub>	200 X I <sub>n</sub>
In Operating Losses	-	≤ 0.5 W/kVAr, excluding discharge resistor Loss
Test Voltage (Terminal to Terminal)	V <sub>TT</sub>	2.15 x U <sub>n</sub> (AC), 2 sec
Test Voltage (Terminal & Casing)	V <sub>AC</sub>	3000 V AC for 10 Sec
Mean Life Expectancy	-	1,50,000 operating hours at 55°C
Cooling	-	Naturally air cooled (or forced cooled)
Permissible Relative Humidity	-	Max.95%
Maximum Allowed Altitude	-	Max.4000m above sea level
Mounting Position	-	Vertically (Preffered)
Mounting & Grounding	-	With Threaded M 8 /M12 Stud
Protection Type	-	Self Healing, Over Pressure Sensitive 3 Phase Disconnecter
Discharge Resistors / Time Resistor	-	Special Design Internal Discharge Resistance 50V in less than 75 Sec
Casing	-	Extruded Aluminum Type
Dielectric	-	Metalized Polypropylene Film (MPP Film)
Impregnation	-	Biodegradable soft Jelly form Resin, Non PCB
Terminal	-	Screw Terminals connections from 75mm to 100mm and Stud Terminals connections 116mm & 136 mm
Number of Switching Operations	-	I <sub>max</sub> . 5000 switching per year according to IEC 60831 - Part 1 & 2.
Installation	-	Indoor



## What is Power Factor

Power factor (PF) is the ratio of working power, measured in kilowatts (kW), to apparent power, measured in kilovolt amperes (kVA). Apparent power, also known as demand, is the measure of the amount of power used to run machinery and equipment during a certain period. It is found by multiplying (kVA = V x A). The result is expressed as kVA units.

**Real Power (kW)** is the power that actually powers the equipment and performs useful, productive work. It is also called Actual Power, Active Power or Working Power.

**Reactive Power (kVAR)** is the power required by some equipment (eg. transformers & motors) to produce a magnetic field to enable real work to be done. It's necessary to energise this equipment however it does not perform any productive work.

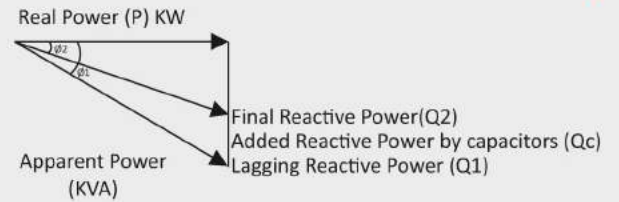
**Apparent Power (kVA)** is the vector sum of Real Power (kW) and Reactive Power (kVAR) and is the total power supplied through the mains that is required to produce the required amount of Real Power for the load. The ideal power factor is unity, or one (1.0) which means that all the energy supplied by the source is consumed by the load. Anything less than one means that extra power is required to achieve the actual task at hand. Power factors are usually stated as "leading" or "lagging" to show the sign of the phase angle. Capacitive loads are leading (current leads voltage), and inductive loads are lagging (current lags voltage).

### Advantages of power factor corrections:

Reduction of reactive power in system  
Low cost of energy levied at better pf  
Improved voltage quality  
Reduced voltage drops  
Optimum cable design  
Reduced transmission losses

### How to calculate power factor

To calculate power factor, you need a power quality analyzer or power analyzer that measures both working power (kW) and apparent power (kVA), and to calculate the ratio of kW/kVA.



$\phi_1$  = Actual Angle of Cos  $\phi$

$\phi_2$  target Angle of Cos  $\phi$

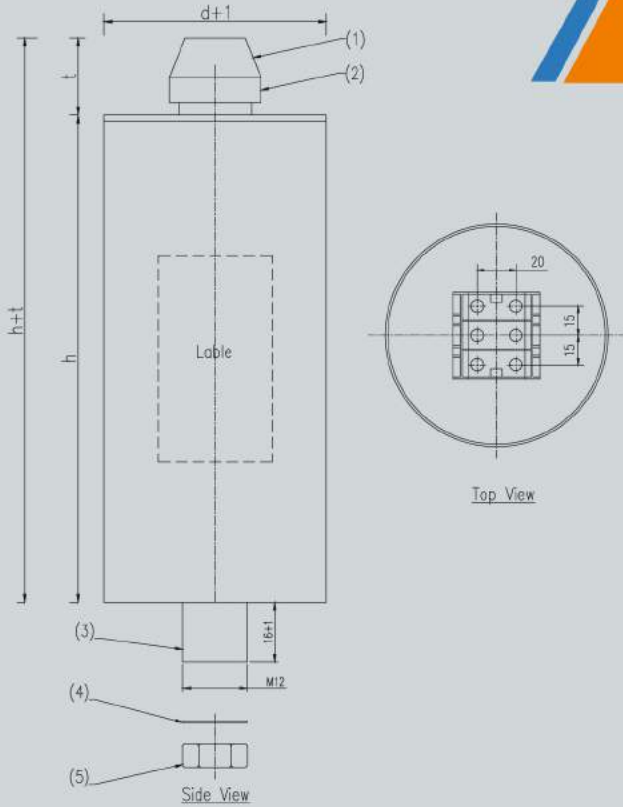
$Q_c(\text{KVAR}) = P(\text{KW}) \cdot (\tan \phi_1 - \tan \phi_2)$

## Cautions:-

1. The use of Capacitors in Electrical networks with Harmonic presence can result in overloads on the capacitor which are beyond the permissible levels. In addition there could also be the risk of resonance type effects which can cause amplification of electrical parameters. Consequently, care must be taken during the process of selecting and using capacitors in such networks as it may be necessary to install Reactor protected capacitor lines or Harmonic filters. Contact your nearest dealer-



# DRAWING

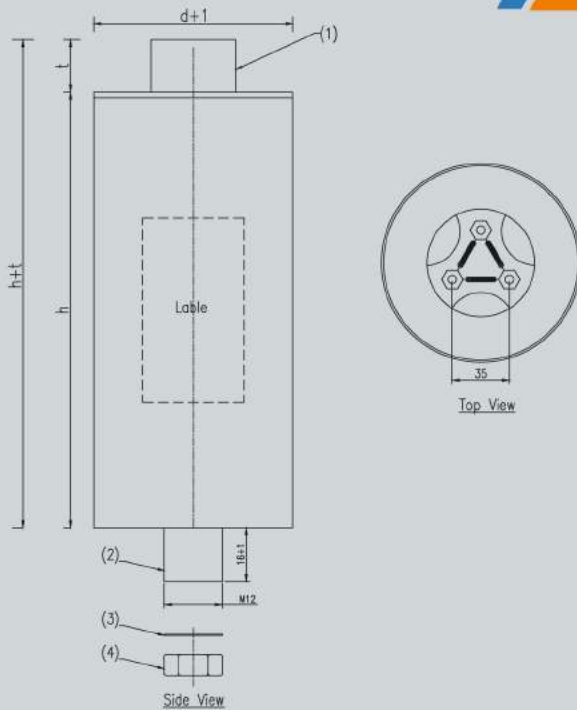


## Screw Type Connector

SR. NO	PARAMETERS	SPECIFICATION
1	CREEPAGE DISTANCE	12 mm
2	CLEARANCE	10 mm
3	TORQUE M5	2.5 Nm
4	TORQUE M12	10 Nm
5	TERMINAL ASSEMBLY Ht	t = 44 mm

SR. NO	DESCRIPTION	
1	FINGER PROOF TERMINAL	Yes
2	RESISTOR ASSEMBLY	Yes
3	STUDE	M 12
4	TOOTHED WASHER	M 12
5	HEX NUT	M 12

## Bold Type Connector



SR. NO	PARAMETERS	SPECIFICATION
1	CREEPAGE DISTANCE	18 mm
2	CLEARANCE	26 mm
3	TORQUE M8	10 Nm
4	TORQUE M12	10 Nm
5	TERMINAL ASSEMBLY Ht	t = 39 mm

SR. NO	DESCRIPTION	
1	TERMINAL WITH RESISTOR ASSEMBLY	Yes
2	STUDE	M 12
3	TOOTHED WASHER	M 12
4	HEX NUT	M 12



Freq.	Operating Voltage						Current of Max. Voltage	Rated Capacitance	Dimension (dxh)	Appro. Weight	YCPL Part Number	AL CAN
	400V	415V	440V	480V	525V	690V						
Hz	KVAr	KVAr	KVAr	KVAr	KVAr	KVAr	Amp	µF	mm	Kg	Code	Type
50	5	-	-	-	-	-	7.2	3x33.2	75X170	0.8	CAP/05/400SUN	S
50	7.5	-	-	-	-	-	10.8	3x49.8	75X170	0.8	CAP/7.5/400SUN	S
50	10	-	-	-	-	-	14.4	3x66.3	75X200	1.1	CAP/10/400SUN	S
50	12.5	-	-	-	-	-	18.0	3x82.9	85X200	1.3	CAP/12.5/400SUN	S
50	15	-	-	-	-	-	21.7	3x99.5	85X200	1.4	CAP/15/400SUN	S
50	20	-	-	-	-	-	28.9	3x132.7	95X210	1.7	CAP/20/400SUN	S
50	25	-	-	-	-	-	36.1	3x165.9	95X247	1.9	CAP/25/400SUN	S
50	30	-	-	-	-	-	43.3	3x199	116X210	2.4	CAP/30/400SUN	B
50	40	-	-	-	-	-	57.7	3x265.4	116X247	2.9	CAP/40/400SUN	B
50	50	-	-	-	-	-	72.2	3x331.7	136X247	3.9	CAP/50/400SUN	B
Hz	KVAr	KVAr	KVAr	KVAr	KVAr	KVAr	Amp	µF	mm	Kg	Code	Type
50	4.6	5	-	-	-	-	7.0	3x30.8	75X170	0.8	CAP/05/415SUN	S
50	7.0	7.5	-	-	-	-	10.4	3x46.2	75X170	1	CAP/7.5/415SUN	S
50	9.3	10	-	-	-	-	13.9	3x61.6	75X200	1.2	CAP/10/415SUN	S
50	11.6	12.5	-	-	-	-	17.4	3 x 7 7	85X200	1.4	CAP/12.5/415SUN	S
50	13.9	15	-	-	-	-	20.9	3x92.5	85X200	1.6	CAP/15/415SUN	S
50	18.6	20	-	-	-	-	27.8	3x123.3	95X210	1.9	CAP/20/415SUN	S
50	23.2	25	-	-	-	-	34.8	3x154.1	95X247	2	CAP/25/415SUN	S
50	27.9	30	-	-	-	-	41.7	3x184.9	116X210	2.5	CAP/30/415SUN	B
50	37.2	40	-	-	-	-	55.6	3x246.6	116X247	3.1	CAP/40/415SUN	B
50	46.5	50	-	-	-	-	69.6	3x308.2	136X247	3.5	CAP/50/415SUN	B
Hz	KVAr	KVAr	KVAr	KVAr	KVAr	KVAr	Amp	µF	mm	Kg	Code	Type
50	4.1	4.4	5	-	-	-	6.6	3x27.4	75X170	0.8	CAP/05/440SUN	S
50	6.2	6.7	7.5	-	-	-	9.8	3x41.1	75X170	1	CAP/7.5/440SUN	S
50	8.3	8.9	10	-	-	-	13.1	3x54.8	75X200	1.2	CAP/10/440SUN	S
50	10.3	11.1	12.5	-	-	-	16.4	3x68.5	85X200	1.4	CAP/12.5/440SUN	S
50	12.4	13.3	15	-	-	-	19.7	3x82.2	75X254	1.6	CAP/15/440SUN	S
50	16.5	17.8	20	-	-	-	26.2	3x109.7	85X254	1.9	CAP/20/440SUN	S
50	13.8	14.8	25	-	-	-	32.8	3x137.1	95X247	2	CAP/25/440SUN	S
50	24.8	26.7	30	-	-	-	39.4	3x164.5	116X247	2.5	CAP/30/440SUN	B
50	33.1	35.6	40	-	-	-	52.5	3x219.3	136X247	3.1	CAP/40/440SUN	B
50	41.3	44.5	50	-	-	-	65.6	3x247.2	136X247	3.5	CAP/50/440SUN	B

S - Screw Type Connector Ref. page No. - 7  
B - Bolt Type Connector Ref. page No. - 7

Freq.	Operating Voltage						Current of Max. Voltage	Rated Capacitance	Dimension (dxh)	Approx. Weight	YCPL Part Number	AL CAN
	400V	415V	440V	480V	525V	690V						
Hz	KVAr	KVAr	KVAr	KVAr	KVAr	KVAr	Amp	µF	mm	Kg	Code	Type
50	3.7	4.0	4.5	5	-	-	6.0	3x23	75x170	0.75	CAP/05/480SUN	S
50	5.2	5.6	6.3	7.5	-	-	9.0	3x34.6	75x170	0.825	CAP/7.5/480SUN	S
50	6.9	7.5	8.4	10	-	-	12.0	3x46.1	75x200	1.1	CAP/10/480SUN	S
50	8.7	9.3	10.5	12.5	-	-	15.0	3x57.6	85x200	1.3	CAP/12.5/480SUN	S
50	10.4	11.2	12.6	15	-	-	18.0	3x69.1	85x200	1.4	CAP/15/480SUN	S
50	13.9	14.9	16.8	20	-	-	24.1	3x92.2	95x210	1.7	CAP/20/480SUN	S
50	17.4	18.7	21.0	25	-	-	30.1	3x115.2	95x247	1.9	CAP/25/480SUN	S
50	20.8	22.4	25.2	30	-	-	36.1	3x138.2	116x210	2.4	CAP/30/480SUN	B
50	27.8	29.9	33.6	40	-	-	48.1	3x184.3	136x247	2.9	CAP/40/480SUN	B
50	34.7	37.4	42.0	50	-	-	60.1	3x230.4	136x247	3.9	CAP/50/480SUN	B
Hz	KVAr	KVAr	KVAr	KVAr	KVAr	KVAr	Amp	µF	mm	Kg	Code	Type
50	2.9	3.1	3.5	4.2	5	-	5.5	3x19.3	75x170	0.9	CAP/05/525SUN	S
50	4.4	4.7	5.3	6.3	7.5	-	8.2	3x28.9	75x170	1	CAP/7.5/525SUN	S
50	5.8	6.2	7.0	8.4	10	-	11.0	3x38.5	75x200	1.2	CAP/10/525SUN	S
50	7.3	7.8	8.8	10.5	12.5	-	13.7	3x48.1	85x200	1.4	CAP/12.5/525SUN	S
50	8.7	9.4	10.5	12.6	15	-	16.5	3x57.8	85x200	1.6	CAP/15/525SUN	S
50	11.6	12.5	14.1	16.7	20	-	22.0	3x77	95x247	1.9	CAP/20/525SUN	S
50	14.5	15.6	17.6	20.9	25	-	27.5	3x96.3	116x210	2.7	CAP/25/525SUN	S
50	17.4	18.7	21.1	25.1	30	-	33.0	3x115.5	116x250	3.1	CAP/30/525SUN	B
50	23.2	25.0	28.1	33.5	40	-	44.0	3x154.1	136x250	3.7	CAP/40/525SUN	B
50	29.0	31.2	35.1	41.9	50	-	55.0	3x192.6	136x250	3.9	CAP/50/525SUN	B
Hz	KVAr	KVAr	KVAr	KVAr	KVAr	KVAr	Amp	µF	mm	Kg	Code	Type
50	1.7	1.8	2.0	2.4	2.9	5	4.2	3x11.1	75X170	1.2	CAP/05/690SUN	S
50	2.5	2.7	3.1	3.6	4.3	7.5	6.3	3x16.7	75X170	1.4	CAP/7.5/690SUN	S
50	3.4	3.6	4.1	4.8	5.8	10	8.4	3x22.3	75X200	1.7	CAP/10/690SUN	S
50	4.2	4.5	5.1	6.1	7.2	12.5	10.5	3x27.9	85X200	2	CAP/12.5/690SUN	S
50	5.0	5.4	6.1	7.3	8.7	15	12.6	3x33.4	85X200	2.3	CAP/15/690SUN	S
50	6.7	7.2	8.1	9.7	11.5	20	16.7	3x44.6	95X247	2.5	CAP/20/690SUN	S
50	8.4	9.0	10.2	12.1	14.4	25	20.9	3x55.7	136X247	3.4	CAP/25/690SUN	S
50	10.1	10.8	12.2	14.5	17.3	30	25.1	3x66.9	136X247	3.7	CAP/30/690SUN	B
50	13.4	14.5	16.3	19.4	23.1	40	33.5	3x89.2	136X247	4	CAP/40/690SUN	B
50	16.8	18.1	20.3	24.2	28.8	50	41.8	3x111.5	136X247	4.3	CAP/50/690SUN	B

S - Screw Type Connector Ref. page No. - 7  
B - Bolt Type Connector Ref. page No. - 7



## A.C. Motor Start, Capacitor Motor Run & Fan Capacitor

Our Capacitors are made of highly efficient and innovative technology which helps to deliver best quality and reliable performance to our valued customers. These Capacitors are made of MPP Film with dry impregnates which gives long lasting performance and longer life.

Capacitance Range ( $\mu\text{F}$ ) <b>Motor Start</b>	From 20-30 $\mu\text{F}$ to 250-300 $\mu\text{F}$
Capacitance Range (%) <b>Motor Run</b>	2 $\mu\text{F}$ to 108 $\mu\text{F}$
Capacitance Tolerance(%)	+5 %
Duty Cycle <b>Motor Start</b>	20 times Start per Hrs Max. each of duration not exceeding 3 Sec. and every discharge 3 min.
Insulation	2KV withstood for 10 sec.
Rated Voltage <b>Motor Start</b>	230V RMS
Voltage VTT <b>Motor Start</b>	275 V RMS
Rated Voltage (Vac) <b>Motor Run</b>	250 V AC & 440V AC ,50Hz also upto 1KV AC as per requirement.
H.V. test between Terminal	2.0 Times Rated Voltage. For 2 Sec
Temperature Limit	-25 $^{\circ}\text{C}$ to 85 $^{\circ}\text{C}$
Climate Category	25/85/21
Reference standard	IS 2993/IEC60252-1 & 2

## Dimension for Motor Start

Capacitance( $\mu\text{F}$ )	Motor HP	Rated Voltage	Surge Voltage	Dimension	
				D	L
40-60 (30 $\mu\text{F}$ )	0.25	230	275	40	76
60-80(45 $\mu\text{F}$ )	0.33	230	275	40	76
80-100(60 $\mu\text{F}$ )	0.5	230	275	40	96
100-120(75 $\mu\text{F}$ )	0.75	230	275	40	96
120-150(90 $\mu\text{F}$ )	1	230	275	45	96
150-200(105 $\mu\text{F}$ )	1.5	230	275	50	96
200-250(120 $\mu\text{F}$ )	2	230	275	50	96
250-300(135 $\mu\text{F}$ )	2.5	230	275	50	96



## Dimension for Motor Run & Fan Capacitor

I.S	Voltage(V)	Capacitance Value( $\mu$ F)	Dimension	
			D	H
IS 1709	400/440V	1.85	27/30	52
		2	27/30	52
		2.25	27/30	52
		2.50	27/30	52
IS 1569	250	4	30	52
		8	35	72
		10	35	72
		15	40	72
		20	45	76
		33	45	96
	400/440	3.15	30	52
		3.5	30	52
		6.3	35	72
		4 to 8	30	52
		10 to 15	35	71
		20 & 25	40	71
IS 2993/ IEC60252 1 & 2	400/440	30	40	96
		36 to 45	45	96
		50 to 72	50	96

## Air Conditioning Capacitor .

The dual Capacitors has three terminal ,labeled C for Common ,F-FAN and H-HERM for hermetically-sealed compressor .we manufactured Dual Capacitors in Variety of Sizes ,depending on the Capacitances. (Measured in  $\mu$ F , )

## Technical Specification

Capacitance Range ( $\mu$ F)	5 to 65 $\mu$ F-Two terminal Capacitor(i.e. 4+4) 25+5 to 65+5 $\mu$ F-Three terminal Capacitor (i.e. 4+4+4)
Capacitance Tolerance	$\pm$ 5%.
Rated Voltage	250 V AC & 400V AC ,50Hz.
H.V test between Terminal & Container	3 KV for 10 sec
Dissipation Factor	0.2 %
Insulation Resistance	More than 3000 M $\Omega$ at 500V DC.
H.V test between Terminal	2.0 Times Rated Voltage. For 2 Sec
Temperature Limit	-25°C to 85°C
Climate Category	25/85/21
Reference standard	IS 2993/IEC60252- 1 & 2





## SUNNY LOW VOLTAGE DETUNED REACTOR

SUNNY Detuned reactors are used to protect the shunt Capacitors bank from Harmonic Amplification & Harmonic Overloading of Capacitors. De-Tuning reactors are used to tune the capacitors Bank to know desirable Frequency to avoid the probability of resonance or harmonic amplification & thus protect the capacitors from Harmonic overloading.

SUNNY offers a wide range of reactors for Capacitors banks rated from 5 KVAR to 100 KVAR with % impedance of 5.67%, 7% & 14%.



These reactors are available with following types:

- ▶ Aluminum Flat,
- ▶ Aluminum Foil &
- ▶ Copper Conductor.

### Features:

1. High Harmonic Loading Capacity.
2. Low Losses.
3. Convenient Mounting
4. Temperature protection (NC Contact)
5. High Class Copper ,AL Flat & AL Foil used
6. Vacuum Impregnation which ensures they can withstand high Voltage, have Low noise & offer a long operating Time.
7. High Class Iron Core with multiple Air Gaps as well as staid design approach. Guarantee high Current Linearity & Low heat dissipation Losses.

### Technical Data:

▶ Description	:	Three-Phase Dry Type Magnetic Circuit Impregnated
▶ Standard	:	IS 5553-5 IEC60076-6
▶ Degree of protection	:	IP00
▶ Insulation Class	:	F & H
▶ Rated Voltage	:	400 to 690 Volt- 50 Hz. 400 to 690 Volt- 60 Hz.
▶ Detuning	:	5.67 %, 7 %, 14%
▶ Cooling Type	:	Natural
▶ Ambient Temp.	:	55°C
▶ Temperature protection	:	Thermal Switch (NC)
▶ Inductance Tolerance	:	± 5%
▶ Dielectric Test 50Hz / 60Hz Bet. Winding & Winding to body	:	3KV for 1 Min.

■ **TEMP. RISE TEST LIMIT :**

The temp . rise limit is as per IEC 60076-6 & IEC 60076-11

For class F = 100 °C

For class H = 125 °C

Insulation system temperature	Average winding temp. rise limit at rated Current
155 (F)	100
180 (H)	125

**REACTOR SIZING CALCULATION:**

Please measure / check the value of capacitance and inductance & ensure that computed tuning freq. is in a line with design application requirement.

% Reactor Impedance	Tuning Order	Tuning Freq. for a base for 50 Hz	Tuning Freq. for a base for 60 Hz
5.67	4.19	210	252
7	3.77	188.9	226
14	2.67	133.6	160

**Tuning Frequency  $F = 1/(2 \times \pi) \sqrt{LC}$**

**Where, C (μF) –Capacitance**

**L (mH)- Inductance**

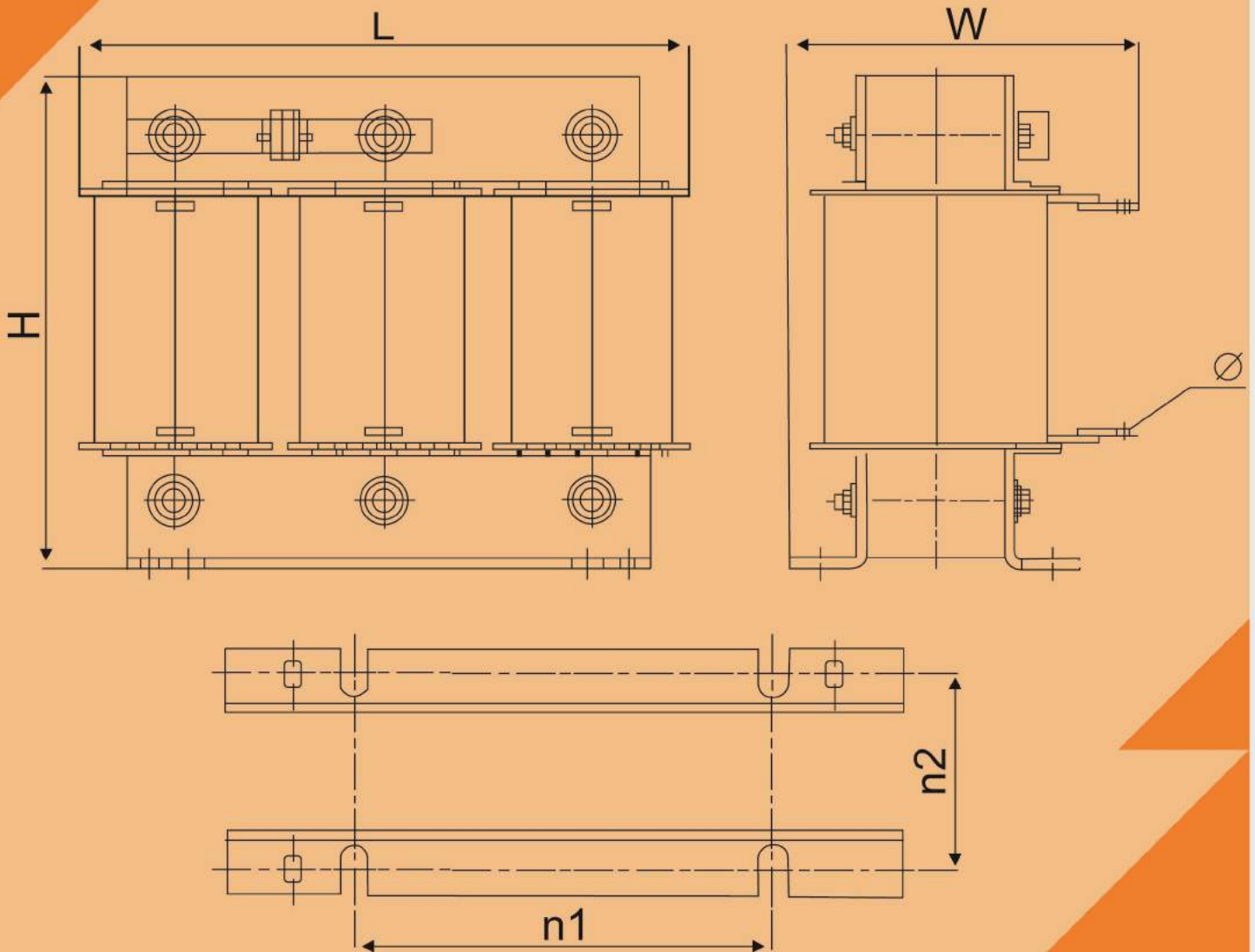
**Installation Guideline:**

1. The detuned reactor always requires forced ventilation system.
2. Mounting of reactor should be in zig zag manner so that heating of one reactor should not affect another reactor.
3. Install the reactor in vertical position.
4. Ensure that the ambient temperature installation does not exceed beyond 55°C (inside the panel).
5. Reactor should be earth to earth point.





**Dimension Details:**  
**DIMENSIONAL DRAWING**



### 400-440V, 7 %, 50/ 60 Hz Aluminum Flat Type Detuned Reactor

KVAr	TERMINAL	L	W	H	n1	n2	φ	Appro. WEIGHT (Kg)	Part no
5	6 sqmm Connector Type.	190	115	210	60	60	—	7	REAC/05/400SUN
10	10 sq.mm Connector Type	190	150	210	60	80	—	9	REAC/10/400SUN
12.5	10 sq.mm Connector Type	190	150	210	60	80	—	9	REAC/12.5/400SUN
15	16 sq.mm Connector Type	240	160	265	150	84	—	13	REAC/15/400SUN
20	25 sqmm. AL Lug	240	175	200	150	98	8	16	REAC/20/400SUN
25	35 sqmm. . AL Lug	240	175	200	150	98	8	17	REAC/25/400SUN
30	50 sqmm. . AL Lug	240	190	200	150	98	8	18	REAC/30/400SUN
40	50 sqmm. . AL Lug	285	220	230	150	148	8	26	REAC/40/400SUN
50	50 sqmm. . AL Lug	285	220	230	150	148	8	26	REAC/50/400SUN
75	50 sqmm. . AL Lug	310	255	268	150	150	10	39	REAC/75/400SUN
100	120 s.mm. . AL Lug	310	290	270	150	174	10	46	REAC/100/400SUN

### 400-440V, 7 %, 50/ 60 Hz Copper Type Detuned Reactor

KVAr	TERMINAL	L	W	H	n1	n2	φ	Appro. WEIGHT (Kg)	Part no
5	6 sq.mm Connector Type.	190	115	210	60	60	—	8	REAC/05/400SUN
10	10 sq.mm Connector Type	190	150	210	60	80	—	10	REAC/10/400SUN
12.5	10 sq.mm Connector Type	190	150	210	60	80	—	11	REAC/12.5/400SUN
15	16 sq.mm Connector Type	240	160	265	150	84	—	15	REAC/15/400SUN
20	16 sqmm. CuLug	240	175	200	150	98	8	17	REAC/20/400SUN
25	16 sqmm Cu Lug	240	175	200	150	98	8	18	REAC/25/400SUN
30	25 sqmm Cu Lug	240	190	200	150	98	8	19	REAC/30/400SUN
40	25 sqmm Cu Lug	285	235	230	150	168	8	27	REAC/40/400SUN
50	25 sqmm Cu Lug	285	235	230	150	168	8	28	REAC/50/400SUN
75	95 qmm Cu Lug	310	255	268	150	150	10	42	REAC/75/400SUN
100	95 sqmm Cu Lug	310	290	270	150	174	10	52	REAC/100/400SUN

### 400-440V, 7 %, 50/ 60 Hz Aluminum Foil Type Detuned Reactor

KVAr	TERMINAL	L	W	H	n1	n2	φ	Appro. WEIGHT (Kg)	Part no
20	20x3 Bus-Bars	225	140	205	150	98	8	16	REAC/20/400SUN
25	20x3 Bus-Bar	240	140	205	150	98	8	17	REAC/25/400SUN
30	20x3 Bus-Bar	240	140	205	150	98	8	18	REAC/30/400SUN
50	20x3 Bus-bar	285	173	210	150	168	8	26	REAC/50/400SUN
60	20x3 Bus-bar	300	173	210	165	168	10	29	REAC/60/400SUN
75	20x3 Bus-Bar	310	250	270	150	150	10	39	REAC/75/400SUN
100	25x3 Bus-Bar	310	250	270	150	174	10	50	REAC/100/400SUN

### 400-440V, 5.67 %,50/ 60 Hz Aluminum Flat Type Detuned Reactor

KAVr	TERMINAL	L	W	H	n1	n2	φ	Appro. WEIGHT (Kg)	Part no
5	6 sq.mm Connector Type.	190	115	210	60	60	—	7	REAC/05/400SUN
10	10 sq.mm Connector Type	190	150	210	60	80	—	9	REAC/10/400SUN
12.5	10 sq.mm Connector Type	190	150	210	60	80	—	10	REAC/12.5/400SUN
15	16 sq.mm Connector Type	240	160	265	150	84	—	13	REAC/15/400SUN
20	25 sqmm. AL Lug	240	175	200	150	98	8	16	REAC/20/400SUN
25	35 sqmm. . AL Lug	240	175	200	150	98	8	17	REAC/25/400SUN
50	50 sqmm. . AL Lug	285	235	230	150	168	8	26	REAC/50/400SUN
75	50 sqmm. . AL Lug	310	255	268	150	150	10	39	REAC/75/400SUN
100	120 s.mm. . AL Lug	310	290	270	150	174	10	46	REAC/100/400SUN



### 400-440V, 5.67 %,50/ 60 Hz Copper Type Detuned Reactor

KAVr	TERMINAL	L	W	H	n1	n2	φ	Appro. WEIGHT (Kg)	Part no
5	6 sq.mm Connector Type.	190	115	210	60	60	—	7	REAC/05/400SUN
10	10 sq.mm Connector Type	190	150	210	60	80	—	9	REAC/10/400SUN
12.5	10 sq.mm Connector Type	190	150	210	60	80	—	9	REAC/12.5/400SUN
15	16 sq.mm Connector Type	240	160	265	150	84	—	13	REAC/15/400SUN
20	16 sqmm. CuLug	240	175	200	150	98	8	16	REAC/20/400SUN
25	16 sqmm Cu Lug	240	175	200	150	98	8	18	REAC/25/400SUN
50	25 sqmm Cu Lug	285	235	230	150	168	8	27	REAC/50/400SUN
75	95 qmm Cu Lug	310	255	268	150	150	10	42	REAC/75/400SUN
100	95 sqmm Cu Lug	310	290	270	150	174	10	52	REAC/100/400SUN

### 400-440V, 5.67 %,50/ 60 Hz Aluminum Foil Type Detuned Reactor

KAVr	TERMINAL	L	W	H	n1	n2	φ	Appro. WEIGHT (Kg)	Part no
20	20x3 Bus-Bar	225	175	205	150	98	8.5	17	REAC/20/400SUN
25	20x3 Bus-Bar	240	175	205	150	98	8.5	18	REAC/25/400SUN
50	20x3 Bus-bar	285	235	210	150	168	8.5	25	REAC/50/400SUN
75	20x3 Bus-Bar	310	190	270	150	150	10.5	42	REAC/75/400SUN
100	25x3 Bus-Bar	310	190	270	150	174	10.5	50	REAC/100/400SUN

### 400-440V, 14 %,50/ 60 Hz Aluminum Flat Type Detuned Reactor

KAVr	TERMINAL	L	W	H	n1	n2	φ	Appro. WEIGHT (Kg)	Part no
5	6 sq.mm Connector Type.	190	120	215	60	80	—	9	REAC/05/400SUN
10	10 sq.mm Connector Type	240	175	260	60	84	—	11	REAC/10/400SUN
12.5	10 sq.mm Connector Type	240	175	200	60	84	—	9	REAC/12.5/400SUN
15	16 sq.mm Connector Type	240	175	200	150	98	—	13	REAC/15/400SUN
20	25 sq.mm.	285	235	230	150	168	8	24	REAC/20/400SUN
25	35 sq.mm.	285	235	230	150	168	8	27	REAC/25/400SUN
50	50sqmm AL	310	195	270	150	150	10.5	43	REAC/50/400SUN
75	Lug120 sqmm AL lug	390	300	270	150	174	10.5	82	REAC/75/400SUN
100	120sqmm AL Lug	390	295	290	210	166	10.5	95	REAC/100/400SUN

### 400-440V, 14 %,50/ 60 Hz Copper Type Detuned Reactor

KAVr	TERMINAL	L	W	H	n1	n2	φ	Appro. WEIGHT (Kg)	Part no
5	6 sq.mm Connector Type.	190	120	215	60	80	—	9	REAC/05/400SUN
10	10 sq.mm Connector Type	240	175	200	60	84	—	11	REAC/10/400SUN
12.5	10 sq.mm Connector Type	240	175	200	60	84	—	12	REAC/12.5/400SUN
15	16 sq.mm Connector Type	240	175	200	150	98	—	13	REAC/15/400SUN
20	25 sqmm. AL Lug	285	235	230	150	168	8	24	REAC/20/400SUN
25	35 sqmm. . AL Lug	285	235	230	150	168	8	27	REAC/25/400SUN
50	50 sqmm. . AL Lug	310	268	270	150	150	10.5	43	REAC/50/400SUN
75	50 sqmm. . AL Lug	390	390	270	150	174	10.5	82	REAC/75/400SUN
100	50 sqmm. . AL Lug	390	295	290	210	166	10.5	45	REAC/100/400SUN

### 400-440V, 14 %,50/ 60 Hz Aluminum Foil Type Detuned Reactor

KAVr	TERMINAL	L	W	H	n1	n2	φ	Appro. WEIGHT (Kg)	Part no
20	20x3 Bus-Bars	285	235	230	150	168	8	26	REAC/20/400SUN
25	20x3 Bus-Bar	285	235	230	150	168	8	26	REAC/25/400SUN
50	23x3 Bus-Bar	310	250	270	150	174	10	52	REAC/50/400SUN



# CAPACITORS



**SUNNY**  
POWER CAPACITORS

Qn	Un	fn
20 kVA	440 Vac	50Hz
17.76 kVA	415 Vac	50Hz
16.56 kVA	400 Vac	50Hz

-3% +10% -25 +65°C 3 kV  
Dielectric: PP/PS/PA 3Phase 2.0 (400V)

Warning: Do not touch the capacitor when it is hot. Please observe the correct polarity of each terminal and ground.

MADE IN INDIA

**SUNNY**  
CAPACITORS

15-2993 12.5V 50 Hz  
T.MAX: 85°C  
VISHI CAPACITORS PVT. LTD.  
MADE IN INDIA

60+5 MFD  
440 VAC  
T.MAX: 85°C  
VISHI CAPACITORS PVT. LTD.  
MADE IN INDIA

**SUNNY**  
POWER CAPACITORS

20 kVA	440 Vac	50 Hz
17.76 kVA	415 Vac	50 Hz
16.56 kVA	400 Vac	50 Hz

-3% +10% -25 +65°C 3 kV  
Dielectric: PP/PS/PA 3Phase 2.0 (400V)

Warning: Do not touch the capacitor when it is hot. Please observe the correct polarity of each terminal and ground.

MADE IN INDIA

**SUNNY**  
CAPACITORS

15-2993 50 Hz  
T.MAX: 85°C  
VISHI CAPACITORS PVT. LTD.  
MADE IN INDIA

40 MFD  
440 VAC  
T.MAX: 85°C  
VISHI CAPACITORS PVT. LTD.  
MADE IN INDIA

**SUNNY**  
CAPACITORS

15-2993 50 Hz T.MAX: 85°C  
VISHI CAPACITORS PVT. LTD. MADE IN INDIA

50 MFD  
440 VAC  
T.MAX: 85°C  
VISHI CAPACITORS PVT. LTD.  
MADE IN INDIA



# CAPACITORS

