

SquareCap Capacitor



Rectangular box type, self standing units. Modular construction with sheet metal enclosure.

Specification:

- Conformance to Standards IS 13340.

Range:

- Single units up to 50 KVAR.
- Voltage: 415V to 525V.

Available in three designs:

- ENDC: EPCOS Normal Duty Capacitor for normal inductive loads.
- EHDLL: EPCOS Heavy Duty Long Life Capacitor for loads exhibiting some amount of non-linearity, medium size industries.
- ESHDC: EPCOS Super Heavy Duty Capacitor for non-linear arduous and fluctuating loads.

Features:

- Manufactured using state-of-art metalisation process for MPP film with heavy edge.
- Self healing property.
- Low energy consumption.
- PU resin as impregnant.
- Safety device in the form of pressure sensitive (over pressure) mechanical interrupter.
- Simplified modular construction using hermetically sealed single phase basic capacitor cells.
- Easy and quick reparability at site.
- Temp class: -10/D.

PhiCap Capacitor



Stud mounting cylindrical type having very good KVAR to volume ratio.

Specification :

- Conformance to Standards IEC 60831-1 & 2 IS 13340

Range :

- Single unit up to 33.1 KVAR
- Voltage: 220V to 525V

Available in two designs :

- Normal duty for linear loads.
- Heavy duty for non-linear loads (up to 525V)

Features :

- Manufactured using state-of-art metalisation process for MPP film with heavy edge
- Self healing property
- Low energy consumption
- Soft biodegradable resin as impregnant
- Safety device in the form of pressure sensitive (over pressure) mechanical interrupter
- Temp class : -10/D.

PhaseCap Capacitor



A hi-tech capacitor with stud mounting Cylindrical construction with inert gas impregnated winding having very good inrush current capability and over current capability (up to 1.8 IR).

Specification :

- Conformance to Standards IEC 60831-1 & 2

Range :

- PhaseCap Energy Heavy Duty : Single units from 5 to 33 KVAR PhaseCap up to 56 KVAR
- Voltage : 230V to 690V (800/1000V on request)

Features :

- Manufactured using state-of-art wavecut technology for MPP film with heavy edge
- Self healing property
- Low energy consumption
- Capable of withstanding high inrush current up to **400.IR**
- **Dry-type**, freedom from oil leakage
- **Three phase safety device** in the form of pressure sensitive (over pressure) mechanical interrupter
- Compact size and light weight
- Temp class: -40/D

PoleCap Capacitor :

A modified version of PhaseCap capacitor with connection cable, suitable for long-term outdoor applications and for mounting on the pole.

Important Information: 1

Benefits of Power Factor Correction

- Fast return on investment through lower power costs.
 - Power factor correction reduces the reactive power in a system.
 - Power consumption and thus power costs drop in proportion.
- Effective use of installation
An improved power factor means that an electrical installation operates more economically (higher effective power for the same apparent power).
- Improved voltage quality.
- Reduced voltage drops.
- Optimum cable design.
 - Cable cross-sections can be reduced with improvement of power factor (less current). In existing installations for instance, extra or higher power can be transmitted.
- Reduced transmission losses.
 - The transmission and switching devices carry less current, i.e. only the effective power, meaning that the ohmic losses in the leads are reduced.

SquareCap PFC Capacitors

Semi-dry biodegradable resin • Modular construction • Triple safety system

General

The SquareCap box type capacitor is self standing in nature and is having modular construction (above 6KVAR) in a sheet metal enclosure.

It is a very popular capacitor design in India for many decades.

The SquareCap series is especially intended for use in industrial applications and locations such as commercial complexes, malls etc. The internal construction comprises of single phase basic capacitors cells connected to form delta construction externally within the enclosure. The terminal arrangement is of stud type.

SquareCap series is available in three designs:

ENDC: EPCOS Normal Duty Capacitor for normal inductive loads.

EHDLL: EPCOS Heavy Duty Long life Capacitor for loads exhibiting some amount of non-linearity. (Preferably with detuning reactor).

ESHDC: EPCOS Super Heavy Duty Capacitor for non linear arduous and fluctuating loads and systems containing higher degree of harmonics. (Preferably with detuning reactor).



Applications

- Stand alone capacitors (Fixed Compensation)
- Capacitor banks
- Detuned capacitor banks
- Dynamic PFC

Features

- Box Type self standing Design
- Voltage Range: 415V ... 525V
- Range: 1kVAr to 60kVAr
- Resin Impregnated
- Available in three designs Viz. ENDC, EHDLL and ESHDC

Electrical

- High pulse current withstand capability
- Very high life expectancy

Mechanical and maintenance

- Reduced mounting costs
- Maintenance-free

Safety

- Self-healing
- Overpressure disconnecter
- Sheet metal enclosure

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Technical data : SquareCap PFC Capacitors			
	SquareCap-ENDC	SquareCap-EHDLL	SquareCap-ESHDC
Series type	B32457L	B32459L	B32455L
Power-KVAr	1...50 KVAr	1...50 KVAr	1...50 KVAr
Rated voltage-V (AC)	415...440 V*	415...525 V*	415...525 V*
Frequency	50 Hz	50 Hz	50 Hz
Transient peak current maximum permissible	upto $200 \cdot I_R$	upto $250 \cdot I_R$	upto $350 \cdot I_R$
Maximum permissible temperature category	-10/D	-10/D	-10/D
Losses (without discharge resistors)	0.5 W/KVAr	0.5 W/KVAr	0.5 W/KVAr
Maximum permissible voltage	$V_R + 10\%$ (up to 8 h daily)/ $V_R + 15\%$ (up to 30 min daily)** $V_R + 20\%$ (up to 5 min daily)/ $V_R + 30\%$ (up to 1 min daily)**	$V_R + 10\%$ (up to 8 h daily)/ $V_R + 15\%$ (up to 30 min daily)** $V_R + 20\%$ (up to 5 min daily)/ $V_R + 30\%$ (up to 1 min daily)**	$V_R + 10\%$ (up to 8 h daily)/ $V_R + 15\%$ (up to 30 min daily)** $V_R + 20\%$ (up to 5 min daily)/ $V_R + 30\%$ (up to 1 min daily)**
Maximum permissible current	$1.3 \cdot I_R^{***}$	$1.5 \cdot I_R^{***}$	$1.6 \cdot I_R^{***}$
Safety	Self-healing, overpressure disconnecter	Self-healing, overpressure disconnecter	Self-healing, overpressure disconnecter
Impregnation	Non PCB, semi-dry biodegradable resin	Non PCB, semi-dry biodegradable resin	Non PCB, semi-dry biodegradable resin
Life expectancy	Up to 100 000 hours	Up to 125 000 hours	Up to 150 000 hours
Cooling	Natural or forced	Natural or forced	Natural or forced
Case shape/finish	Rectangular/powder coated Siemens grey colour	Rectangular/powder coated Siemens grey colour	Rectangular/powder coated Siemens grey colour
Terminal	Threaded stud terminals with ceramic bushing	Threaded stud terminals with ceramic bushing	Threaded stud terminals with ceramic bushing
Mounting and grounding	Self standing with mounting plates and screws for grounding	Self standing with mounting plates and screws for grounding	Self standing with mounting plates and screws for grounding
Enclosure	IP 20	IP 20	IP 20
Discharge resistor	PCB mounted -included	PCB mounted -Included	PCB mounted -included
Connection	Delta	Delta	Delta
Casing of capacitor cell	Extruded aluminium can (hermetically sealed)	Extruded aluminium can (hermetically sealed)	Extruded aluminium can (hermetically sealed)
Dielectric	Polypropylene film (metallised)	Polypropylene film (metallised)	Polypropylene film (metallised)
No. of switching per annum	Max. 5000 switching	Max. 6000 switching	Max. 7500 switching
Reference standard	IS: 13340/41 (ISI mark applicable for 415 and 440V)	IS: 13340/41 (ISI mark applicable for 415 and 440V)	IS: 13340/41 (ISI mark applicable for 415 and 440V)

* other voltages available on request

** V_R rated voltage

*** I_R : RMS line current that occurs at rated sinusoidal voltage and rated frequency, excluding transients.

Note : for capacitors with different features/parameters than above, please check with our nearest sales office

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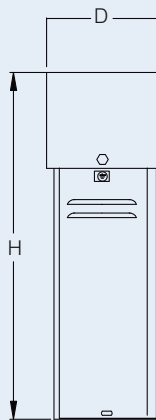
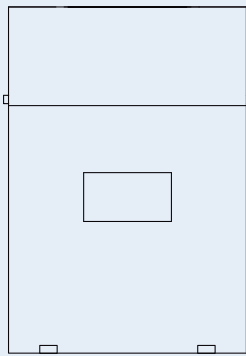
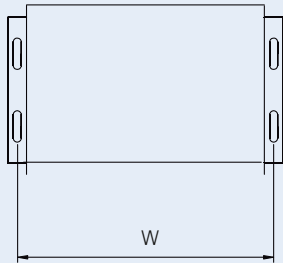
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SquareCap ENDC Capacitors - 3 Phase								
Rating KVAR	Voltage V (AC)	Material code	I _r A	C _N μF (Basic cells x μF)	H x W x D mm	Packing units	MOQ	Approx. weight Kg
SquareCap ENDC - 415 V(AC) 3PH, 50Hz (Series B32457)								
1	415	B32457P4001A 11	1.3	3 x 6.3	95 x 125 x 45	1	25	0.8
2	415	B32457P4002A 11	2.7	3 x 12.5	120 x 125 x 45	1	25	0.8
3	415	B32457P4003A 11	4.1	3 x 19	120 x 145 x 55	1	25	1.4
4	415	B32457P4004A 11	5.5	3 x 25	140 x 145 x 55	1	25	1.5
5	415	B32457L4005A 11	6.9	3 x 31	215 x 185 x 60	1	1	1.6
6	415	B32457L4006A 11	8.3	3 x 37.5	285 x 185 x 60	1	1	2.4
7	415	B32457L4007A 11	9.7	3 x 44	285 x 185 x 60	1	1	2.6
7.5	415	B32457L4007A511	10.4	3 x 46.5	285 x 185 x 60	1	1	2.7
8	415	B32457L4008A 11	11.1	3 x 49.5	285 x 185 x 60	1	1	2.8
9	415	B32457L4009A 11	12.5	3 x 56	285 x 185 x 60	1	1	3.0
10	415	B32457L4010A 11	13.9	3 x 62	285 x 185 x 60	1	1	3.1
12.5	415	B32457L4012A511	17.3	3 x 77	300 x 240 x 80	1	1	3.6
15	415	B32457L4015A 11	20.8	3 x 92.5	300 x 240 x 80	1	1	3.8
20	415	B32457L4020A 11	27.8	6 x 62	300 x 240 x 160	1	1	6.5
25	415	B32457L4025A 11	34.7	6 x 77	300 x 240 x 160	1	1	7.2
30	415	B32457L4030A 11	41.7	6 x 92.5	300 x 240 x 160	1	1	7.9
50	415	B32457L4050A 11	69.5	12 x 77	350 x 240 x 320	1	1	12.5
SquareCap ENDC - 440 V(AC) 3PH, 50Hz (Series B32457)								
1	440	B32457P5001A 11	1.3	3 x 5.5	95 x 125 x 45	1	25	0.8
2	440	B32457P5002A 11	2.6	3 x 11	120 x 125 x 45	1	25	0.8
3	440	B32457P5003A 11	3.9	3 x 16.5	120 x 145 x 55	1	25	1.4
4	440	B32457P5004A 11	5.2	3 x 22	140 x 145 x 55	1	25	1.5
5	440	B32457L5005A 11	6.6	3 x 27.5	215 x 185 x 60	1	1	1.6
6	440	B32457L5006A 11	7.9	3 x 33	285 x 185 x 60	1	1	2.2
7	440	B32457L5007A 11	9.2	3 x 38.5	285 x 185 x 60	1	1	2.4
7.5	440	B32457L5007A511	9.84	3 x 41.5	285 x 185 x 60	1	1	2.5
8	440	B32457L5008A 11	10.5	3 x 44	285 x 185 x 60	1	1	2.6
9	440	B32457L5009A 11	11.8	3 x 49.5	285 x 185 x 60	1	1	2.8
10	440	B32457L5010A 11	13.1	3 x 55	285 x 185 x 60	1	1	3.0
12	440	B32457L5012A 11	15.7	3 x 66	300 x 240 x 80	1	1	3.2
12.5	440	B32457L5012A511	16.4	3 x 69	300 x 240 x 80	1	1	3.3
15	440	B32457L5015A 11	19.6	3 x 82.5	300 x 240 x 80	1	1	3.8
20	440	B32457L5020A 11	26.2	6 x 55	300 x 240 x 160	1	1	6.1
25	440	B32457L5025A 11	32.8	6 x 69	300 x 240 x 160	1	1	7.0
35	440	B32457L5035A 11	45.9	12 x 48	350 x 240 x 320	1	1	8.0
40	440	B32457L5040A 11	52.5	12 x 54.8	350 x 240 x 320	1	1	8.8
50	440	B32457L5050A 11	65.6	12 x 69	350 x 240 x 320	1	1	12.4

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SquareCap : Overall dimensions and information table



KVAr rating	Mounting brackets fixed/ separate/ sliding	Louvers/ holes	Basic cell	Mounting
ENDC/EHDLL				
1 to 2	fixed bracket	no	3	- - - -
3 to 5	fixed bracket	no	3	2 holes
6 to 15	seperate bracket	holes	3	2 slot
16 to 30	sliding bracket	2 louvers	6	4 slot
31 to 60	sliding bracket	8 louvers	6	12 slot
ESHDC				
1 to 2	fixed bracket	no	3	- - - -
3 to 5	fixed bracket	holes	3	2 slot
6 to 13	seperate bracket	holes	3	2 slot
14 to 25	sliding bracket	4 louvers	6	4 slot
26 to 50	sliding bracket	8 louvers	12	4 slot

SquareCap : Exploded view

