

Creative Technology Provider-

SAMWHA CAPACITOR



**Low Voltage Power Capacitor
(Cylinder Type)**



Capacitor benefits to

- Improve Power Factor
- Reduce Line Losses
- Decrease Voltage Drop

Through that it helps greater Energy Efficiency

Authorized Dealer :



SAMWHA CAPACITOR CO.,LTD.

www.samwha.com , www.samwha.co.th

Company Profile

SAMWHA CAPACITOR CO.,LTD. Was established in 1956. The factory is located in Yongin in Korea. Since our humble beginning in 1956, we have steadily grown to become the sole general manufacturer of Capacitors in Korea. During the past half-century, Samwha Capacitor has been providing High & Low Voltage Power Capacitors to the customers including overseas customers.

Quality & Environment System Certification



Product Certification



Low Voltage Power Capacitor – Dry (Aluminum cylinder type)

The power range varies from 2.5 to 50kVar , depending on a three-phase or single-phase capacitor design. Samwha dry type capacitor is especially intended for power factor correction in industrial and semi-industrial application. The capacitors are manufactured using metalized polypropylene film as the dielectric and housed in a cylindrical aluminum case. The three-phase capacitor is composed of the single-phase element stacks. The electrodes are connected by metal spraying the face ends of the winding elements. The winding elements are encapsulated in cylindrical aluminum case hermetically sealed either by a press-rolled metal lid or plastic disk with fast-on terminals.



PRODUCT SCOPE

Type	: Dry type (Cylinder type)
Voltage Range	: 220V to 1,000V
Frequency	: 50Hz , 60Hz
Power Range	: 2.5Kvar to 50Kvar
Capacitor Loss	: Total 0.45W/Kvar
Capacity Tolerance	: -5% ~ 10% (at 20°C)
Max Overvoltage	: Un + 10% [up to 8 hours daily] Un + 15% [up to 30 mins daily] Un + 20% [up to 5 mins monthly] Un + 30% [up to 1 mins monthly]
Max Overcurrent	: 1.3 x In
Withstand Voltage	: 2.15 x Un (10 seconds)
Connection	: 3 Phase (Single phase on request)
Insulation level	: 3/15Kv
Dielectric	: Polypropylene
Ambient Temp	: -25°C ~ 55°C
Discharge	: Internal / External discharge module
Cooling	: Natural forced
Impregnation	: Epoxy resin
Safety	: Self-healing technology Overpressure disconnecter
Installation Place	: Indoor
Applicable Standards	: IEC60831-1,2





PROTECTION OF THE CAPACITOR

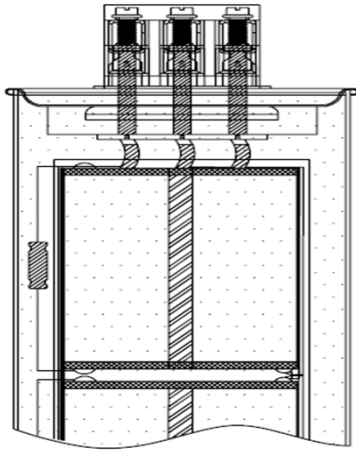
To prevent damage caused by defective electrical system or the capacitor itself if things go.

Disorders of the capacitor will cause the gas inside the capacitor. This pressure will cover the top of the capacitor.

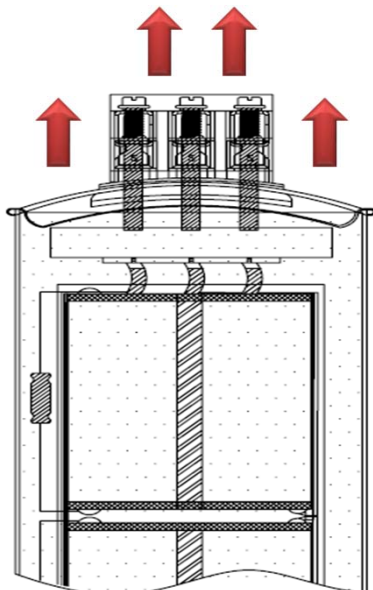
Swelling (due to a design where some of the most) when the lid was swollen. Will need to get the link sent to power.

Capacitor from the same deficiency. Cause a circuit cut-off.

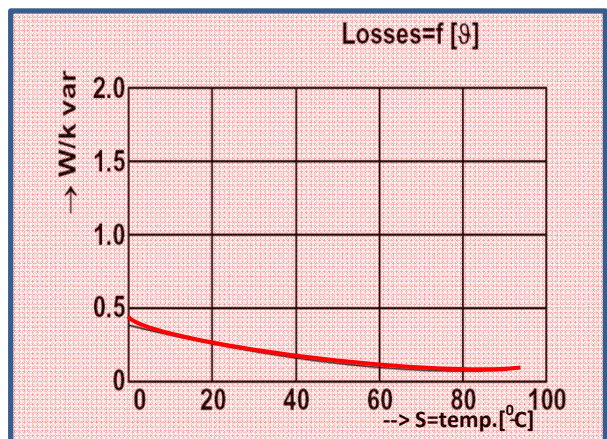
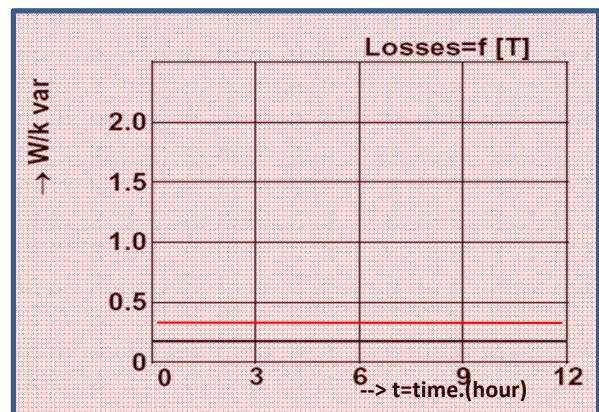
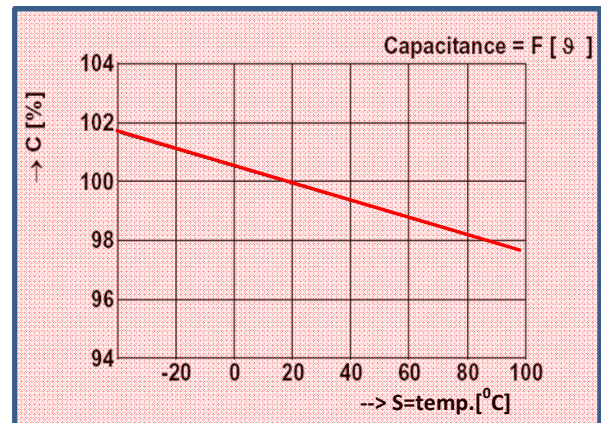
OPERATING CONDITION



TORN-OFF CONDITION



CHARACTERISTICS OF DIELECTRIC POLYPROPYLENT METALIZED

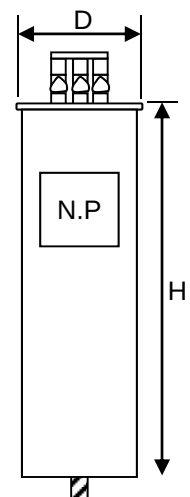




LOW VOLTAGE POWER CAPACITOR DRY TYPE (CYLINDER)



Part No.	Rated (Kvar)	Cn (uF)	Current In (Amp)	Dimensions D * H (mm.)	Stud Screw
Dry type capacitor_Cylinder (1 Phase , 50Hz)					400 VAC
RMC-405050KS	5	99.5	12.5	86*140	M12
RMC-405075KS	7.5	149.2	18.8	86*170	M12
RMC-405100KS	10	198.9	25	86*230	M12
RMC-405125KS	12.5	248.7	31.3	86*230	M12
RMC-405150KS	15	298.4	37.5	86*275	M12
Dry type capacitor_Cylinder (3 Phase , 50Hz)					400 VAC
RMC-405050KT	5	99.5	7.2	86*140	M12
RMC-405075KT	7.5	149.2	10.8	86*170	M12
RMC-405100KT	10	198.9	14.4	86*230	M12
RMC-405125KT	12.5	248.7	18	86*230	M12
RMC-405150KT	15	298.4	21.7	86*275	M12
RMC-405200KT	20	397.9	28.9	86*350	M12
RMC-405250KT	25	497.4	36.1	96*350	M16
RMC-405300KT	30	596.8	43.3	96*350	M16
RMC-405400KT	40	795.8	57.7	136*280	M12
RMC-405500KT	50	994.7	72.2	136*355	M12
Dry type capacitor_Cylinder (3 Phase , 50Hz)					440 VAC
RMC-445050KT	5	82.2	6.6	86*140	M12
RMC-445075KT	7.5	123.3	9.8	86*170	M12
RMC-445100KT	10	164.4	13.1	86*170	M12
RMC-445125KT	12.5	205.5	16.4	86*230	M12
RMC-445150KT	15	246.6	19.7	86*230	M12
RMC-445200KT	20	328.8	26.2	86*275	M12
RMC-445250KT	25	411	32.8	86*350	M12
RMC-445300KT	30	493.2	39.4	96*350	M16
RMC-445400KT	40	657.7	52.5	136*280	M12
RMC-445500KT	50	822.1	65.6	136*280	M12
Dry type capacitor_Cylinder (3 Phase , 50Hz)					480 VAC
RMC-485050KT	5	69.1	6	86*140	M12
RMC-485075KT	7.5	103.6	9	86*170	M12
RMC-485100KT	10	138.2	12	86*230	M12
RMC-485125KT	12.5	172.7	15	86*230	M12
RMC-485150KT	15	207.2	18	86*275	M12
RMC-485200KT	20	276.3	24.1	86*350	M12
RMC-485250KT	25	345.4	30.1	96*350	M16
RMC-485300KT	30	414.5	36.1	116*275	M12
RMC-485400KT	40	552.6	48.1	136*280	M12
RMC-485500KT	50	690.8	60.1	136*355	M12
Dry type capacitor_Cylinder (3 Phase , 50Hz)					525 VAC
RMC-525025KT	2.5	28.9	2.7	63*135	M12
RMC-525050KT	5	57.7	5.5	86*140	M12
RMC-525075KT	7.5	86.6	8.2	86*170	M12
RMC-525100KT	10	115.5	11	86*230	M12
RMC-525125KT	12.5	144.4	13.7	86*230	M12
RMC-525150KT	15	173.2	16.5	86*275	M12
RMC-525200KT	20	231	22	86*350	M12
RMC-525250KT	25	288.7	27.5	96*350	M16
RMC-525300KT	30	346.5	33	116*275	M12
RMC-525400KT	40	461.9	44	136*280	M12
RMC-525500KT	50	577.4	55	136*355	M12



Temperature class of capacitors (IEC 60831-1)

Temperature class	Ambient Temperature		
Category	Maximum	Maximum Average	
		For 24 hours	For 1 year
B	45°C	35°C	25°C
C	50°C	40°C	30°C
D	55°C	45°C	35°C

OPERATING TEMPERATURE

Capacitors are classified for ambient temperature categories, each category being specified by a number followed by a letter. The number represents the lowest ambient-air temperature at which the capacitor may be operate. The letter represents upper limit of operating temperature, having maximum values specified in the table above.

INSTALLATION PLACE

1. Ambient temperature shall not exceed $-25^{\circ}\text{C} \sim +55^{\circ}\text{C}$ (Average temperature per day shall be less than 45°C)
2. Installation place shall be dry and well ventilated. Avoid the places such as where corrosive gases or dust are much or agitation occurs. Capacitor rack shall be install on the base of concrete and tightened with bolt.
3. Use twisted wire for connecting to capacitor.

The square of wire shall be more than 1.35 times of rated current of capacitor.

4. Capacitor has been produced with built in discharge resistance so that when it is opened from the circuit, the residual voltage can be reduced to less than 75V within 3mins.

If the switch is turn on again when the residual voltage is not discharged enough, DC voltage become double and can be the cause of damage to capacitor.

CHECK POINT

1. Allowable over voltage is within 110% of rated voltage. Confirm of the equilibrium on each phase.
Please be careful of circuit voltage rise in slight load at night.
If over voltage is applied to capacitor continuously, kVar quantity is increased relative to 2 square voltage rise which results in the increase of loss and rise of temperature leading to shortening of lifetime.
2. Confirm that current of capacitor is within 130% of rated current.
3. When more than 120% of rated current flows on capacitor, please check the current waveform with oscilloscope to know which harmonics current is the cause and install series reactor to contain harmonics.
4. The temperature of capacitor case is designed to be less than 55°C in mid summer (Ambient temperature 45°C)
5. Always check the current and voltage of capacitor circuit (3 Phase equilibrium). Cleaning of other bushing : more than once per 6 months (According to the state of contamination). Capacity and insulation resistance : measure once a year. But, for measurement of insulation resistance, confirm that DC mega measurement shall be more than $1,000\text{ M}\Omega$ (per unit) between terminal and case.
6. Check the connection part of the electronic switch used in capacitor circuit once a year to a minimum. If the connection is not perfect, single phase operation or harmonics agitation voltage may be applied to the capacitor and it can lead to shortening of lifetime.
7. Open the capacitor from the circuit when leading power factor in slight load at night.

Global Network (www.samwha.com)

Overseas Branches



HEAD OFFICE & FACTORY

124, Buk-Ri, Namsa-Myun, Yongin- Si,
Kyunggi-Do, Korea
Tel. + 82-31-332-6441
Fax. +82-31-332-7661

PT. SAMCON

Jl.Raya Subang Cikumpay Campaka
Purwakarta Jawabarat Indonesia
Tel. +62-264-216-881~3
Fax. +62-264-216-901

SAMWHA USA ICN.(Head Office)

2555 Melksee Street San Diego,
CA 92173, USA.
Tel. +1-619- 671-0870,
Fax. +1-619- 671-0874

SAMWHA EUROPE GmbH

Lyoner str. 30, D-60528, Frankfurt am Main,
Germany
Tel. +49-69-963-765-22
Fax. +49-69-963-765-65

SAMWHA HONGKONG CO.,LTD.

5th Floor, Hi-Tech Center 9, Choi Yuen Rd.,
Sheung Shui, New Territories, Hongkong
Hongkong : Tel. +852-2668-2460
Fax. +852-2668-2420
China : Tel. +86-775-519-0119~20
Fax. +86-755-519-0121

SEOUL OFFICE

Samyoung Bldg, 587-8 Shinsa-Dong,
Gangnam-Ku, Seoul, Korea
Tel. +82-2-2056-1713~9
Fax. +82-2-518-8501

SAMWHA (THAILAND) CO.,LTD.

66 M004, Tumbon Takai Amphur Muang
Chachoungsao, 24000, Thailand
Tel. +66-38-847-571 ~3
Fax. +66-38-847-575

SAMWHA USA INC (Chicago Office)

2700 River Road, Suite #203 Des Plaines,
Illinois 60018
Tel. +1-847- 294-0081,
Fax. +1-847- 294-0082

SAMWHA INDIA

707-708, International Trade Tower
Nehru Place, New Delhi-11001
Tel. +91 -11- 4618-9088~9
Fax. +91-11- 416808002

SAMWHA TIANJIN

NO.22 Xinghua Street Xiqing Economic
Development Zone,Tianjin China
TEL : +86-22-2396-3225
FAX : +86-22-2388-8505