CUSTOMER : **SAMWHA KOREA** **Date of Issue :**

End customer : MONZAVI IN DUBAI

SPECIFICATION

(for Approval)

Commodity	**Low Voltage Power Capacitor (Oil Type)**
Rating	**415VAC 3P 50Hz**
PART NO.	**See drawing**

Tu dien the thap (loai dau)

Approved

SAMWHA CAPACITOR CO., LTD.

Prepared	**Checked**	**Approved**

1. Scope

This specification covers the design, manufacture and test of low voltage power capacitor unit intended to be used particular for power factor correction AC Power System.

2. Type and Ratings

Type	SEE DRAWING
Rated voltage[V]	415
Rated capacity[kvar]	SEE DRAWING
Phase [Φ]	3
Frequency [Hz]	50
Installation	INDOOR
Impregnation	CAPACITOR Oil (Non PCB)

3. Service Conditions

Residual voltage at energization	Not to exceed 10% of rated voltage
Altitude	Not exceeding 1,000m
Location	Indoor
Ambient air temperature	Please see following Table

khong qua 10% dien the dinh muc

loai lap trong nha

Symbol	Ambient air temperature [℃]			
	Maximum	Minimum	Highest mean over any period of	
			24 h	1 year
D	+55	-25	+45	+35

Attention should be paid to the upper operating temperature of the capacitor, because this has a great influence on its life.

When the capacitor dielectric reaches a temperature below the lower limit of its category, there may be the danger of initiating partial discharges in the dielectric when the capacitor is initially energized.

4. Tests and Electrical performances

4-1. Test conditions Dieu kien thu nghiem

Unless otherwise specified for a particular test or measurement, the temperature of the capacitor dielectric shall be in the range +5 ℃ to +35 ℃. Nhiet do dien moi cua tu tu 5C den 35C

4-2. Routine tests

a) Capacitance measurement do dien dung

The capacitance shall be measured at 0.9 to 1.1 times the rated voltage and rated frequency. Do o 0.9 den 1.1 lan dien the va tan so dinh muc

The capacitance tolerance : -5% to +10% of rated capacity. Dung sai -5% den +10%

b) Capacitor loss tangent (tan δ) measurement

The capacitor loss tangent (tan δ) shall be measured at 0.9 to 1.1 times the rated voltage and rated frequency. Do hut TAN o 0.9 den 1.1 lan dien the va tan so dinh muc

Dielectric loss Do hut dien moi	less than 0.35 W/kvar thap hon
Power loss with discharge device	less than 1.0 W/kvar thap hon

Ton that dien nang voi thiet bi xa

c) Voltage test between terminals thu nghiem dien the giua cac terminals

Voltage test between terminals shall be carried out with a voltage of :

U_T = 2.15 U_N

T_T = 10 seconds

where

U_T is testing voltage (AC) dien the thu nghiem AC

U_N is rated voltage of the capacitor dien the dinh muc cua tu

T_T is testing time. thoi gian thu nghiem

During the test, neither puncture nor flashover shall occur. khong phong dien, khong thung trong qua trinh thu nghiem

d) AC voltage test between terminals and container thu nghiem dien the giua cac terminals va containder

Voltage test between terminals and container shall be carried out with a substantially sinusoidal voltage of :

U_T = 3 kV

T_T = 10 seconds

where U_T is testing voltage. dien the thu nghiem

T_T is testing time. thoi gian thu nghiem

During the test, neither puncture nor flashover shall occur. khong phong dien, khong thung trong qua trinh thu nghiem

e) Test of internal discharge device thu nghiem xa dien ben trong

The resistance of the internal discharge device shall be checked by a resistance measurement.

The capacitors shall be provided with a means for reducing the residual voltage to 75 volts or less within three(3) minutes after the capacitor is disconnected from the source of supply.

kiem tra bang thiet bi tro khang. Su dung thiet bi lam giam dien the con lai de 75v hoac thap hon trong vong 3phut sau khi ngat tu khoi nguon cap

f) Sealing test Thu nghiem seal

Unenergized capacitor units shall be heated throughout so that all parts reach a temperature of at least equal to the maximum operating internal mean temperature,

but less than 65℃. This internal temperature shall be maintained for 3 h.

No leakage shall occur.

Tu khong co dien se duoc dua den nhiet do van hanh toi da nhung khong qua 65C, duy tri trong vong 3h. khong co ro ri xay ra

5. Overloads qua tai

5-1. Maximum permissible voltage Dien the cho phep toi da

Capacitor units shall be suitable for operation at voltage levels according to table.

dien the thich hop de tu van hanh

Type	Volt factor ×Un(r.m.s)	Maximum Duration quang thoi gian toi da
Power Frequency tan so dien	1.00	Continuous lien tuc
	1.10	8 h in every 24h 8tieng trong moi 24tieng
	1.15	30 min in every 24h 30 phut trong moi 24tieng
	1.20	5 min 5phut
	1.30	1 min 1phut

5-2. Maximum permissible current Dong cho phep toi da

A capacitor unit shall be suitable for continuous operation at an r.m.s current of 1.3 times the current that occurs at rated sinusoidal voltage and rated frequency, excluding transients. phu hop voi hoat dong lien tuc tai dong rms bang 1.3lan dong xay ra dien the&tan so dinh muc, khong bao gom transients.

5-3. Maximum permissible reactive power Cs phan khang cho phep toi da

A capacitor unit shall be suitable for continuous operation at 1.35 Qn.

phu hop voi hoat dong lien tuc tai 1.35Qn

6. Markings

a) Name of manufacturer
b) Identification number and manufacturing year
c) Rated output Q_N in kilovars
d) Rated voltage U_N in volts
e) Rated frequency f_N in hertz
f) Application standard
g) Discharge device
h) Insulation level
i) Chemical or trade name of impregnation

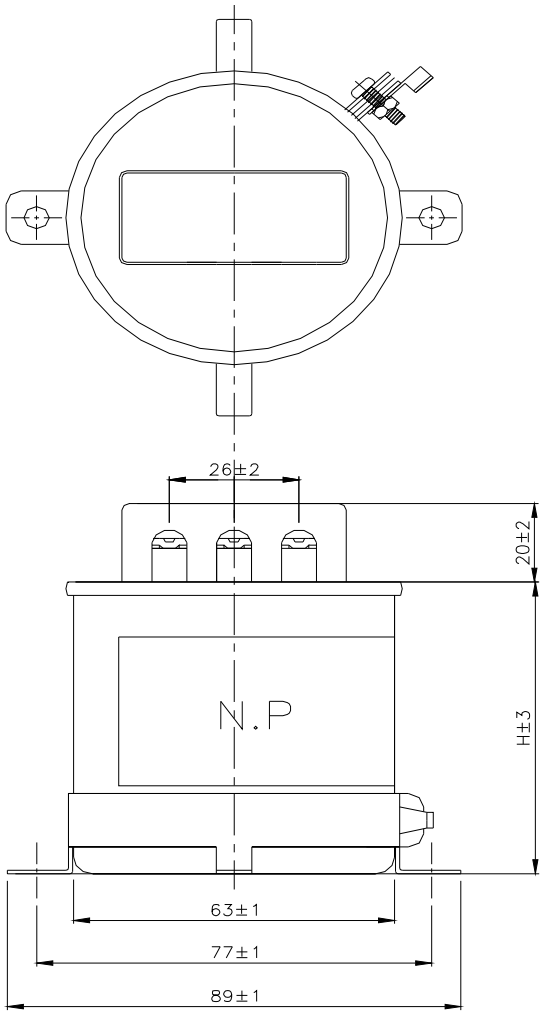
7. Application Standard

All capacitor furnished under this specification shall meet the design and testing requirement of IEC 60831-1

8. Warranty

We, the manufacturers, guarantee the quality and satisfactory operating when operated and maintained properly of the equipment supplied by us under this specification for the period of one year following the delivery date The guarantee shall be restricted to any damage on the equipment arising out of faulty materials or bad design or poor workmanship under proper use of equipment but not otherwise

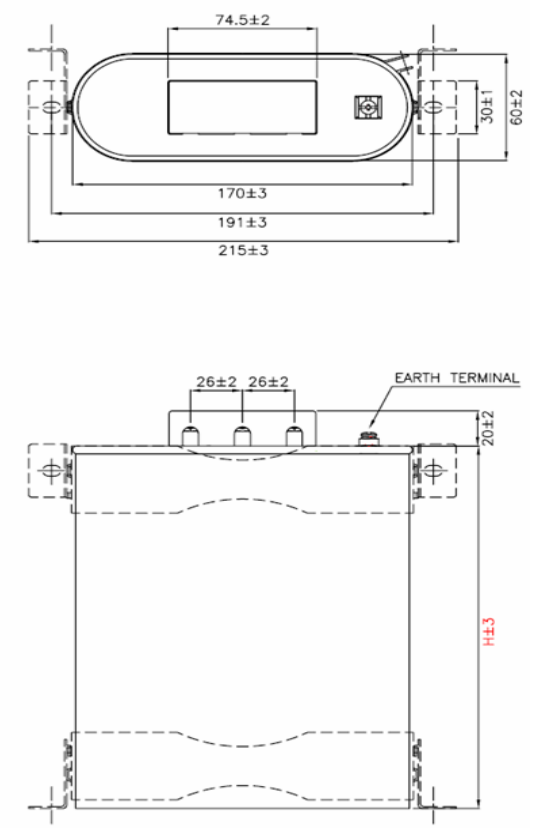
bao hanh 1 nam ke tu ngay giao hang cho thiet bi van hanh va bao duong dung theo spec .



QMM-SERIES

NO.	MODEL	PART NO.	H	Remark
1	415VAC 3P 50Hz 2.5kvar	QMM-45002KT	135	
2	415VAC 3P 50Hz 3.0kvar	QMM-45003KT	135	

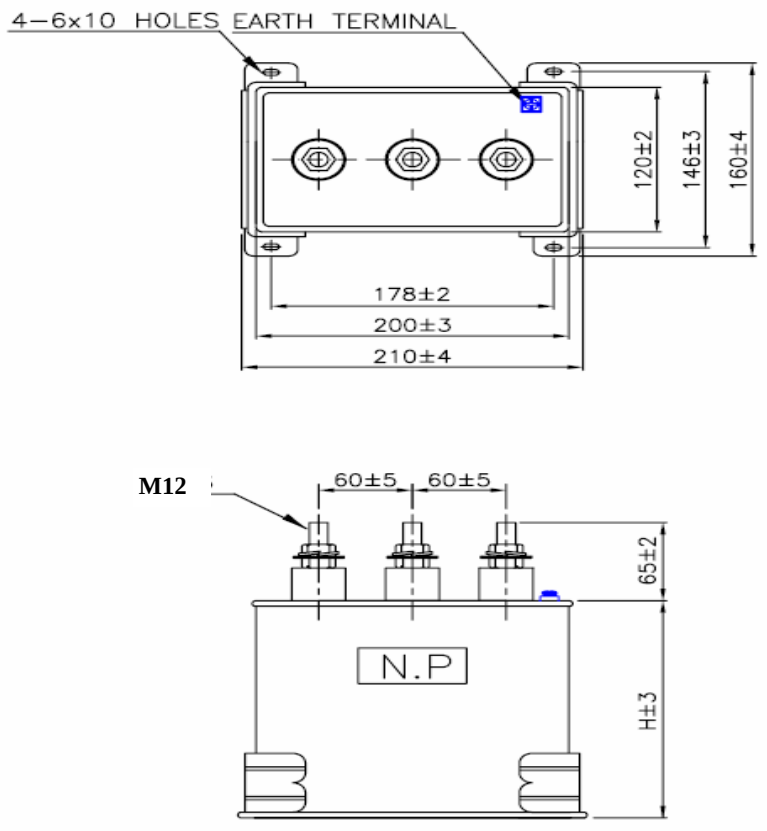
UNIT : mm



SMS-SERIES

NO.	MODEL	PART NO.	H	Remark
1	415VAC 3P 50Hz 5.0kvar	SMS-45005KT	115	
2	415VAC 3P 50Hz 7.5kvar	SMS-45007KT	155	
3	415VAC 3P 50Hz 10.0kvar	SMS-45010KT	175	
4	415VAC 3P 50Hz 12.5kvar	SMS-45012KT	205	
5	415VAC 3P 50Hz 15.0kvar	SMS-45015KT	255	

UNIT : mm



SMB-SERIES

NO.	MODEL	PART NO.	H	Remark
1	415VAC 3P 50Hz 20.0kvar	SMB-45020KT	170	
2	415VAC 3P 50Hz 25.0kvar	SMB-45025KT	180	
3	415VAC 3P 50Hz 30.0kvar	SMB-45030KT	220	
4	415VAC 3P 50Hz 35.0kvar	SMB-45035KT	230	
5	415VAC 3P 50Hz 40.0kvar	SMB-45040KT	280	
6	415VAC 3P 50Hz 50.0kvar	SMB-45050KT	310	
7	415VAC 3P 50Hz 60.0kvar	SMB-45060KT	360	

UNIT : mm