Customer : **MIKROCAP SDN.BHD (MALAYSIA)** **Date of Issue :** **17 Feb 14**

L-02-13-040(Rev.4)

SPECIFICATION
(for Approval)

Commodity	**Low Voltage Power Capacitor (DRY-TYPE)**
Rating	**690VAC 3P 50Hz**
Ambient air temperature	**55 ℃ (Symbol : D)**
Part NO.	**MKC-SERIES**

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	MKC-SERIES
Rated voltage [V]	690
Rated capacity [kvar]	SEE DRAWING
Phase [Φ]	3
Frequency [Hz]	50
Installation	INDOOR
Impregnation	EPOXY

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

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

Unless otherwise specified for a particular test or measurement, the temperature of the capacitor dielectric shall be in the range +5 ℃ to +35 ℃.

4-2. Routine tests

a) Capacitance measurement

The capacitance shall be measured at 0.9 to 1.1 times the rated voltage and rated frequency.

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

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.

Dielectric loss	less than 0.35 W/kvar
Power loss with discharge device	less than 1.0 W/kvar

c) Voltage test between 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)

U_N is rated voltage of the capacitor.

T_T is testing time.

During the test, neither puncture nor flashover shall occur.

d) AC voltage test between terminals and container

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.

T_T is testing time.

During the test, neither puncture nor flashover shall occur.

e) Test of internal discharge device

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.

f) Sealing test

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.

5. Overloads

5-1. Maximum permissible voltage

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

Type	Volt factor ×Un(r.m.s)	Maximum Duration
Power Frequency	1.00	Continuous
	1.10	8 h in every 24h
	1.15	30 min in every 24h
	1.20	5 min
	1.30	1 min

5-2. Maximum permissible current

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.

5-3. Maximum permissible reactive power

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

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

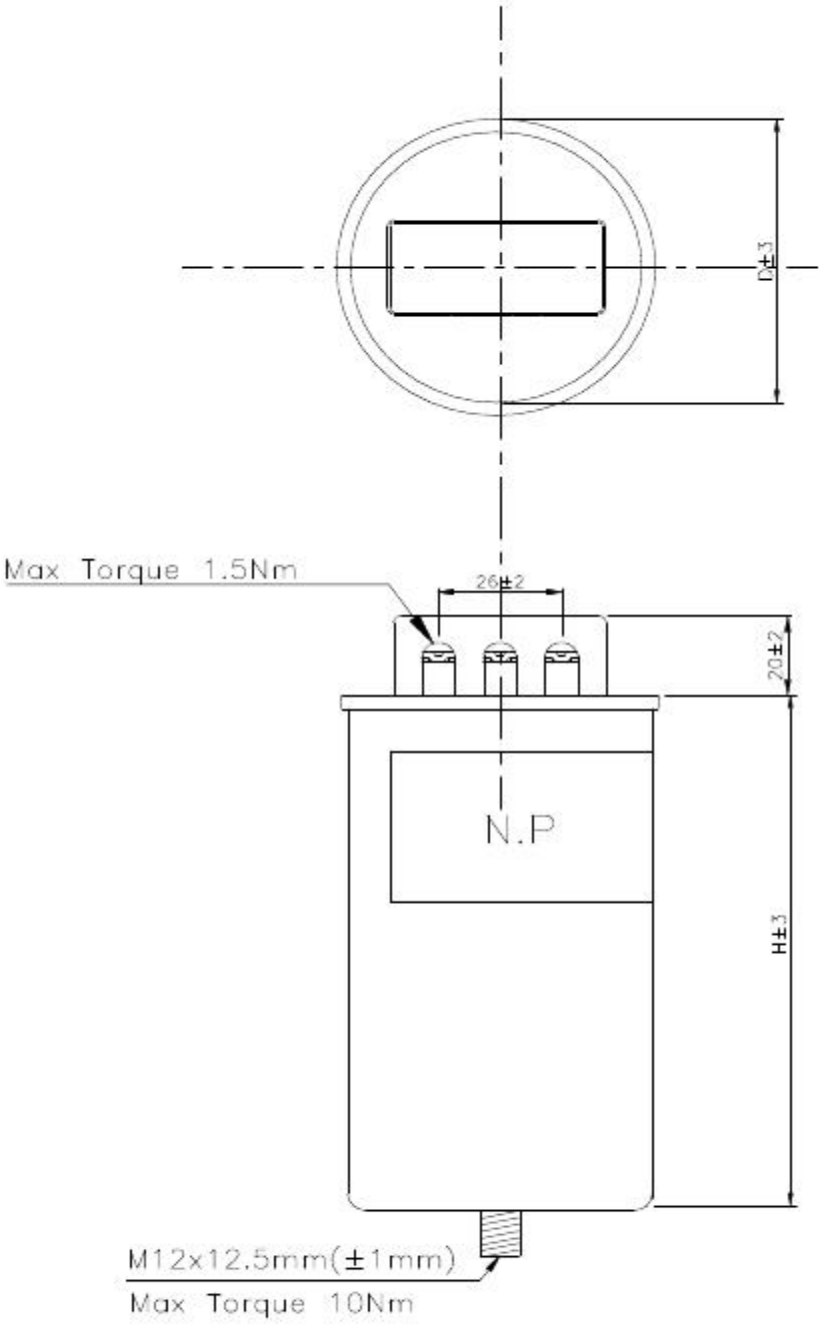
7. Application Standard

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

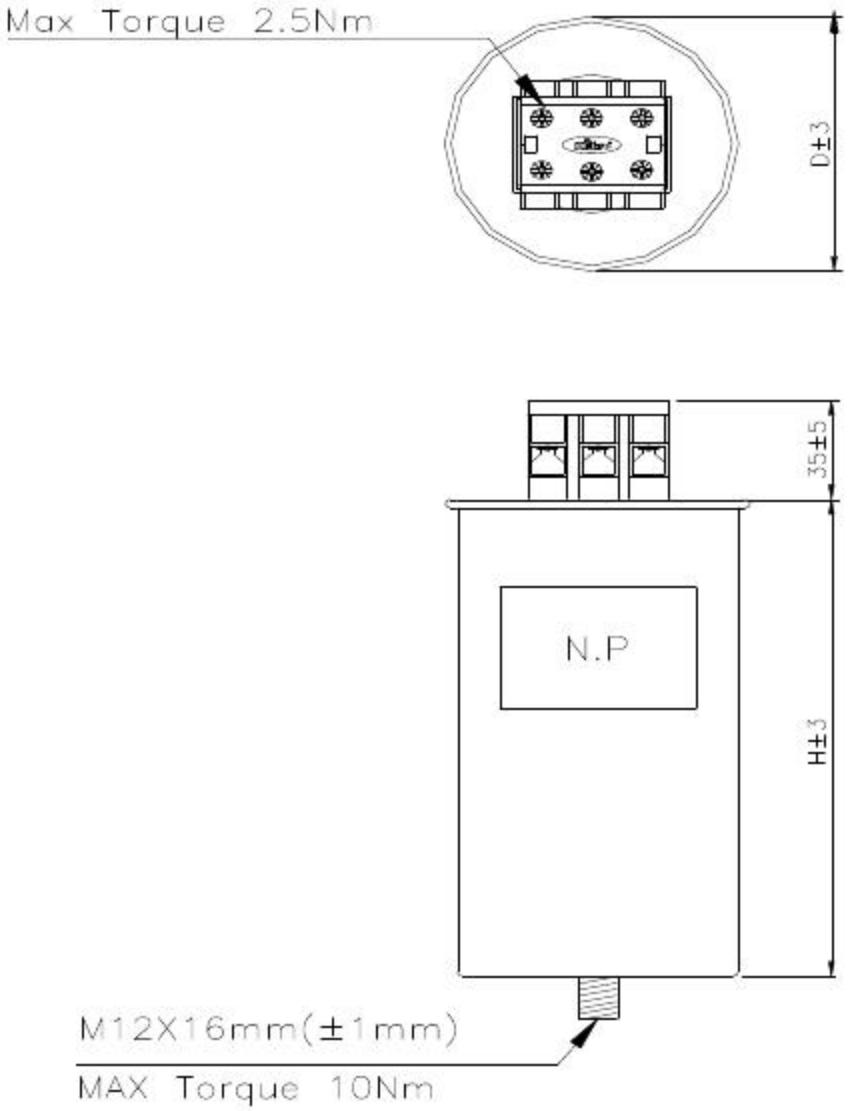
8. Warranty

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 two years 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

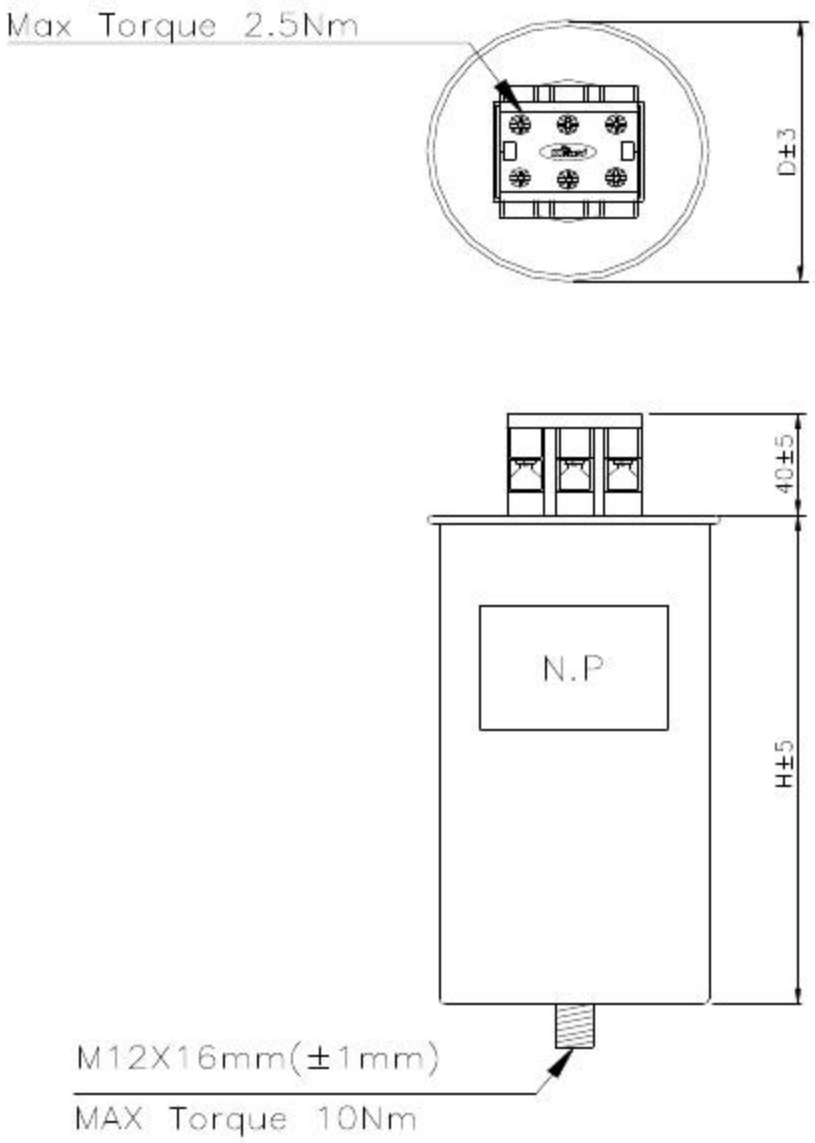
SPECIFICATION	CAPACITOR UNIT	5 / 10



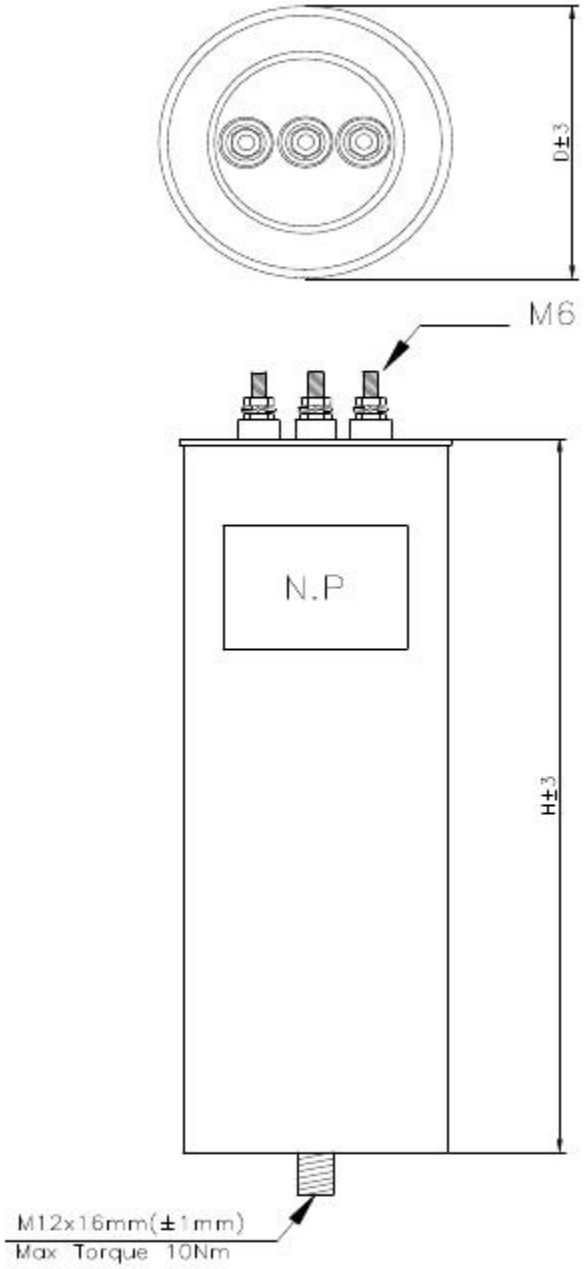
NO	MIKROP/N	MODEL	D (mm)	H (mm)	STUD SIZE	REMARK
1	MKC-695050KT	690VAC 3P 50Hz 5.0kvar	63	165	M12	



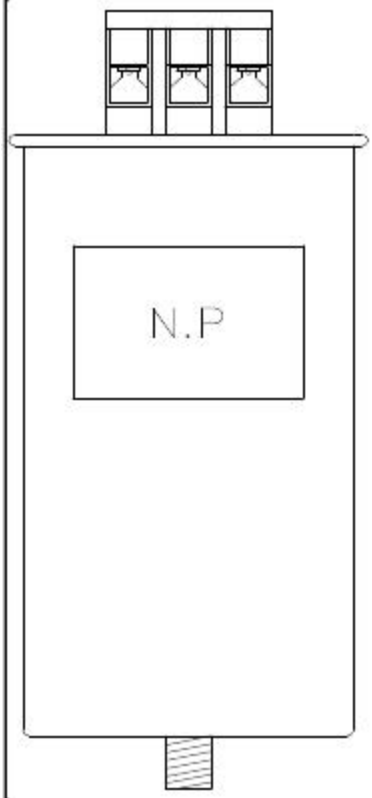
NO	MIKROP/N	MODEL	D (mm)	H (mm)	STUD SIZE	REMARK
1	MKC-695075KT	690VAC 3P 50Hz 7.5kvar	86	170	M12	
2	MKC-695100KT	690VAC 3P 50Hz 10.0kvar	86	230	M12	
3	MKC-695125KT	690VAC 3P 50Hz 12.5kvar	86	230	M12	
4	MKC-695150KT	690VAC 3P 50Hz 15.0kvar	86	275	M12	
5	MKC-695200KT	690VAC 3P 50Hz 20.0kvar	96	275	M12	
6	MKC-695250KT	690VAC 3P 50Hz 25.0kvar	96	275	M12	
7	MKC-695300KT	690VAC 3P 50Hz 30.0kvar	116	275	M12	

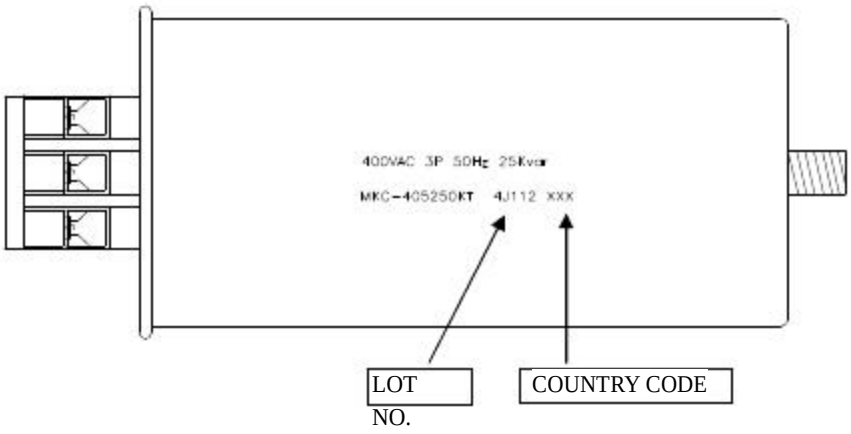


NO	MIKROP/N	MODEL	D (mm)	H (mm)	STUD SIZE	REMARK
1	MKC-695400KT	690VAC 3P 50Hz 40.0kvar	136	305	M12	
2	MKC-695500KT	690VAC 3P 50Hz 50.0kvar	136	305	M12	



NO	MIKROP/N	MODEL	D (mm)	H (mm)	STUD SIZE	REMARK
1	MKC-695400BKT	690VAC 3P 50Hz 40.0kvar	136	305	M12	
2	MKC-695500BKT	690VAC 3P 50Hz 50.0kvar	136	305	M12	





POWER CAPACITOR

SH IEC-60831:1996 NO PCB'S

Mikro®

Mikrocap Sdn.Bhd.Malaysia
Tel : 603-5192 7155 Fax: 603-5192 7166
www.itmikro.com

⚠ WARNING

1. A well-ventilated and dry place for installation.
2. Surrounding temperature maintains less than the average 35 degree for 24hours (the average 25 degree for a year).
3. Must be provided ventilator for forced air cooling when installing in the cubicle.
4. Please keep the distance more than 60mm when multiple unit capacitor installs at a certain place.
5. Must be used the permissible wire which endures more than 1.5times of rated current.
6. Please check a complete electric discharge before reswitching. (don't reswitch within 3 minutes).
7. Please check out a line connection to prevent from a loose.
8. When capacitors are connected by parallel, please make a room of cable length to protect a bushing from heat expansion and contraction. (don't connect with a copper bus bar).
9. Please fix a screw carefully.
10. Please install a exclusive breaker for capacitor.

We don't have any responsibility for problems casued by your ignorance of above rules.

STICKER
ON BOX

Mikro®

POWER CAPACITOR

Voltage _____ VAC

Cap. _____ kvar

_____ uF

Phase _____ ∅

Freq. _____ Hz

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