

FILM CAPACITORS – Power Factor Correction

PART NO.: YHC5511006J103HW

YUHUA ELECTRICAL

YHC Series, 550VAC, 100 μ F, $\pm$ 5 %, -25°C~70°C , Radial, D86*H180mm, Screw Terminals

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AUTHORIZED DISTRIBUTOR

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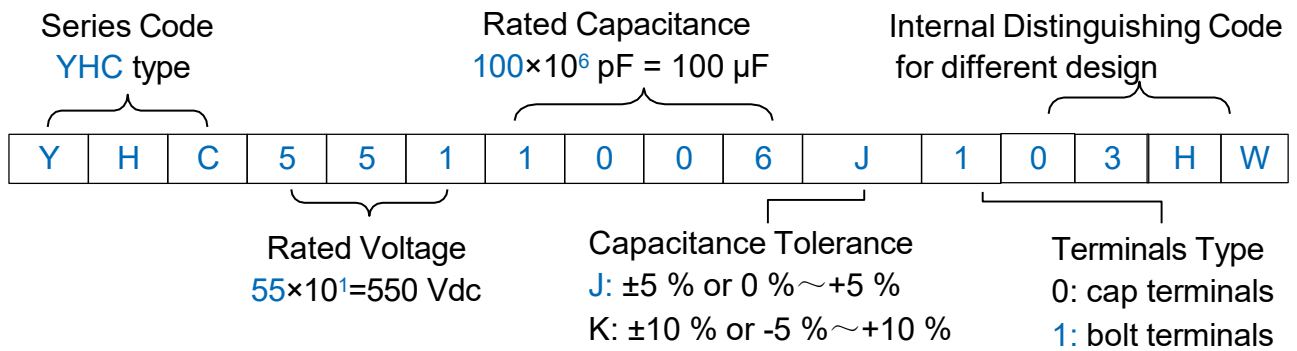
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■ PART NUMBER GUIDE

The 14 digits part number is formed as follow:



■ PRODUCT PICTURE



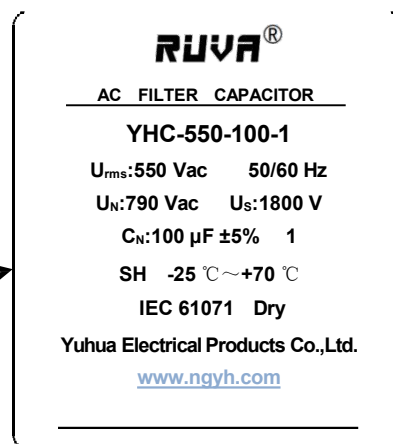
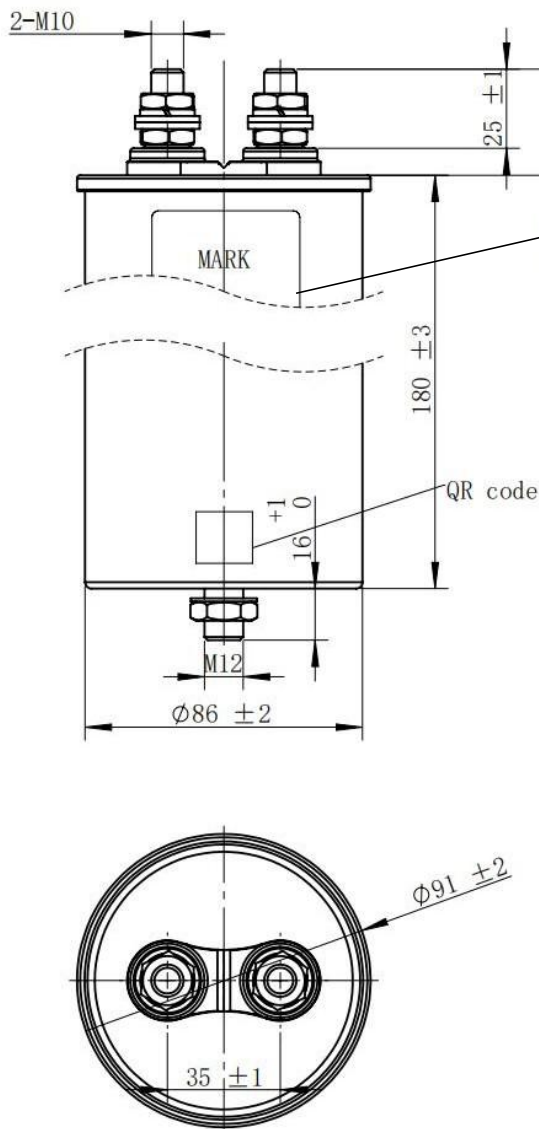
■ Typical Application

For reactive power compensation or AC filter circuit, to increase power factor and harmonic filtering.

■ Features

1. Metallized Polypropylene, good self-healing property.
2. Cylindrical Al. case, dry construction, bolt terminals.
3. Overpressure disconnecter, more safety.

■ Outline Drawing



■ Specifications

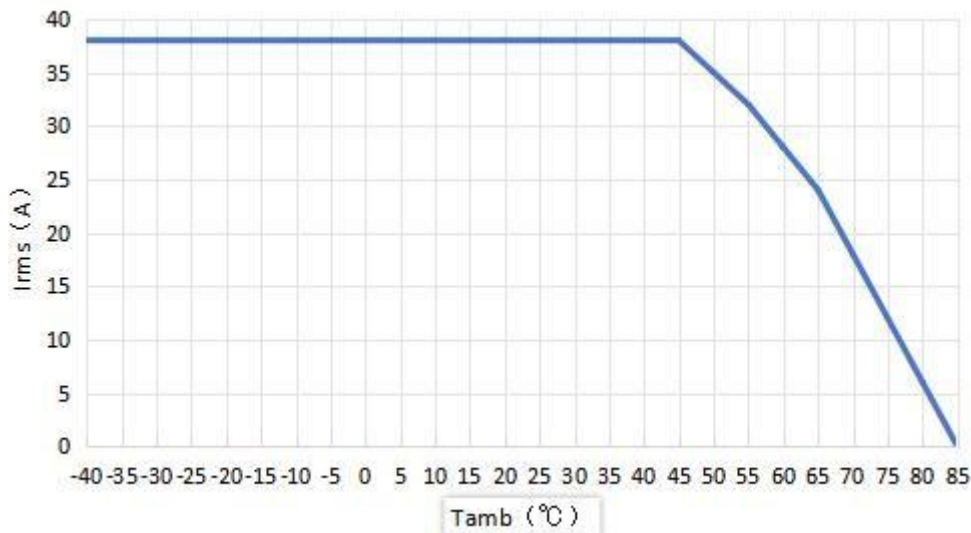
No.	Item	Requirements
1	Reference Standards	GB/T 17702 (idt IEC 61071)
2	Rated Capacitance	100 μ F (100Hz, 1V)
3	Capacitance Tolerance	$\pm 5\%$
4	Operating Voltage	$U_{rms}=550$ Vac 50Hz $U_N=790$ Vac $U_s=1800$ Vdc
5	Rated current	$I_N=17.3$ A 50Hz
6	Terminals Maximum Current	$I_{max}=38$ A $\theta_{amb}=45^\circ\text{C}$
7	Maximum Peak Current	$\hat{I}=2.4$ kA
8	Maximum Surge Current	$\hat{I}_s=7.2$ kA
9	Permissible Voltage Overload	1. U_{rms} : ≤ 8 h/day 1.15 U_{rms} : ≤ 30 min/day 2. U_{rms} : ≤ 5 min/day 1.3 U_{rms} : ≤ 1 min/day
10	Thermal Resistance	$R_{th} \leq 2.1$ K/W (hot spot to shell)
11	Cell E.S.R. (typical value)	≤ 2.1 m Ω (1 kHz, 20 $^\circ\text{C}$)
12	Dielectric Tan δ 0	2×10^{-4}
13	Self Inductance	≤ 110 nH
14	Test voltage between Terminals	2.15 U_{rms} 10 s (20 $^\circ\text{C}$)
15	Test voltage between Terminal and Case	3000 Vac/50 Hz 10s
16	Insulation Resistance between Terminals and Case	$\geq 10,000$ s (20 $^\circ\text{C}$, 500V, 1min)
17	Ambient temperature range	-25 $^\circ\text{C} \sim +70^\circ\text{C}$
18	Maximum Hot Spot Temperature	+85 $^\circ\text{C}$
19	Storage temperature	-25 $^\circ\text{C} \sim +85^\circ\text{C}$
20	Maximum Altitude	2,000 m
21	Cooling Method	Natural air cooling or forced cooling
22	Life Expectancy	100 000 h (0.9 U_{rms} , $\theta_{hs} \leq 70^\circ\text{C}$)
23	Failure rate	≤ 100 fit
24	Discharge Method	Without discharge resistance inside
25	Assembling Construction	Aluminum case, PU filled
26	Explosion-proof Method	Overpressure disconnect
27	Mounting Method	Upright, indoors, M12 bolt Max torque 10 N·m
28	Connection Method	2-M10 bolt, Max torque 6 N·m
29	Weight	About 1.2 kg

■ Installation requirements

1. The capacitor should be installed in a cool and ventilated place, avoid direct sunlight or close to other heating objects.
2. The capacitor must be mounted vertically with the terminals upwards. The bottom stud should be well grounded.
3. During installation, a gap of at least 10 mm should be left at the side of each product to facilitate the heat dissipation of the product. A gap of at least 20 mm should be left on the upper of the terminal too, and the connection cable shall be of flexible type and keep slack , do not use hard core cable, so as to ensure the explosion-proof function of the product.
4. When multiple capacitors are used in parallel, the current carrying capacity of terminals and wires should be considered. We recommended that each capacitor use independent lead wires, if you have any other connection way please contact us.
5. For the cap type design, recommend to using a slotted screwdriver to install the terminals. For the bolt type design, recommended to connect wires between two nuts, the lower torque wrench is used to ensure the ontology is not passed to the capacitor.
6. Installation & commissioning procedures
 - (1) Unpack Capacitor, don't touch capacitor terminals by hand directly.
 - (2) Check Physically.
 - (3) Fixed capacitors.
 - (4) Ensure for correctness of supply voltage, frequency, temperature, etc.
 - (5) Connect Capacitor.
 - (6) Switch on supply.
 - (7) Check main supply voltage and current.
7. Before operating the capacitors (installation, disassemble, etc.), the capacitor must be fully discharged (discharge through resistance, and then short-circuit discharge and grounding).

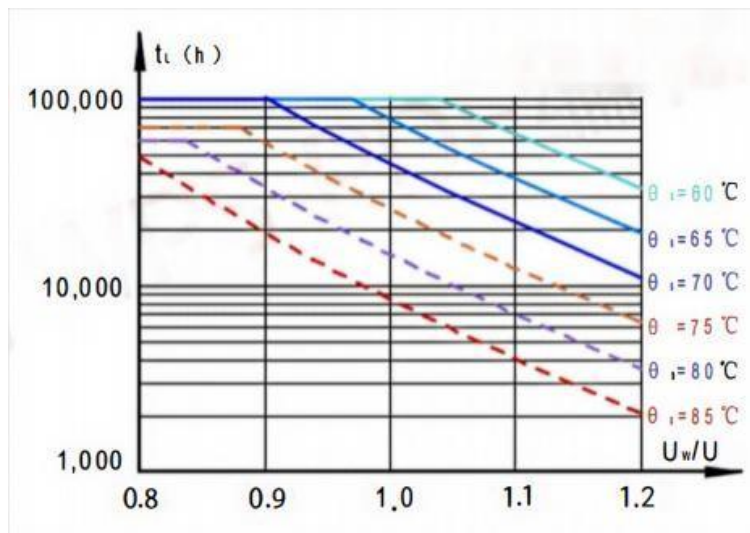
➤ Operation and Maintenance Requirements

1. The allowable internal hot spot temperature of the capacitor during operation is 85°C, to ensure this requirement, with forced cooling, the maximum allowable current under different ambient temperatures can refer to the following figure:



Operating current (I_{rms}) VS. Ambient temperature (T_{amb})

2. The maximum service life of capacitor depends on its working conditions (such as working voltage, hot spot temperature, etc.), which can be referred to the figure below:



Life Expectancy (t_L) on different hot spot temperature (θ_{hs}) VS. Operating Voltage (U_w)
 Lifetime estimations are typical values derived from lifetime tests based on Yuhua internal standards or mutually agreed test methods and are intended for guidance purposes only. The useful life does not constitute a warranty of any kind or a prolongation of the agreed warranty period.

3. It is recommended that the grounding point of capacitor should be kept reliable through the bolt.
4. Current limiting fuse or moulded case circuit breaker must be used for short-circuit protection. Short circuit protection devices and cables must be able to withstand minimum 50 A current for a long time.
5. Check tightness of Connections and terminals periodically, check short circuit protection fuses and the discharge resistance whether normal work. Clean the terminals periodically to avoid dust or other conductive garbage can cause a short-circuit.
6. Use current clamp table or other on-line measuring tools of current measurement capacitor current every six mouth.
