

FILM CAPACITORS – Power Factor Correction

PART NO.: YHD4416905J001HW

YUHUA ELECTRICAL

YHD Series, 440VAC, 3×69μF, ±5 %, -25°C~55°C , Radial, D86*H200mm, Clamp Terminals

Date: 08/24/2026

Version: 2.0

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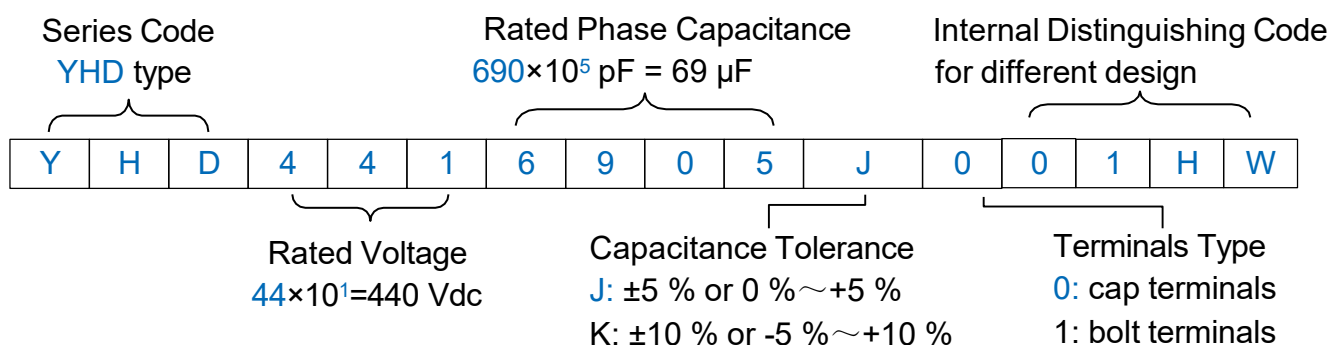
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■ PART NUMBER GUIDE

The 14 digits part number is formed as follow:



■ PRODUCT PICTURE



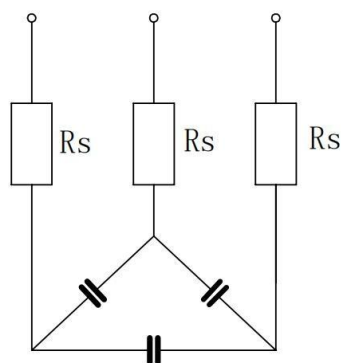
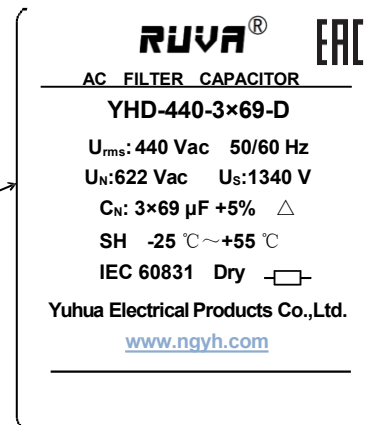
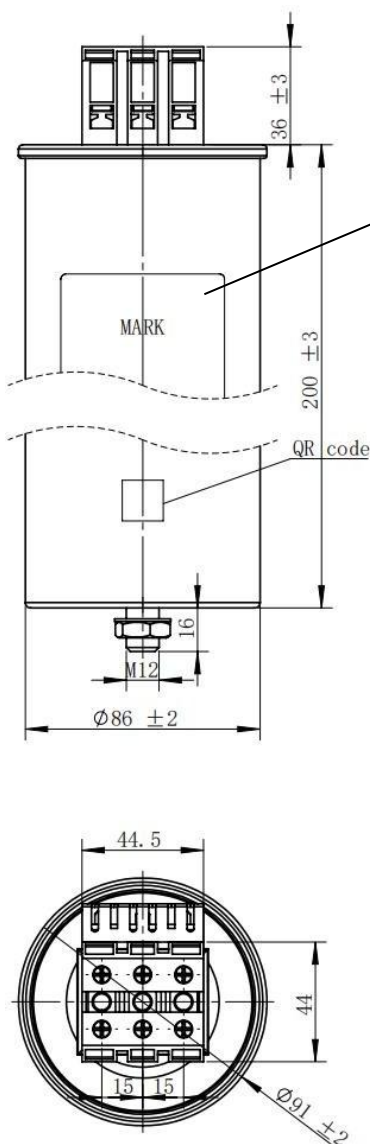
■ Typical Application

For reactive power compensation , to increase power factor.

■ Features

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

■ Outline Drawing



Circuit diagram



■ Specifications

No.	Item	Requirements
1	Reference standards	GB/T 12747.1-2017 (idt IEC60831-1:2014) GB/T 12747.2-2017 (idt IEC60831-2:2014)
2	Rated capacitance	$C_N=3 \times 69 \mu F$
3	Capacitance tolerance	$\pm 5\%$
4	Operating voltage	$U_{rms}=440 \text{ Vac } 50/60 \text{ Hz}$, $U_N=622 \text{ Vac}$
5	Rated line current of capacitor	$I_N=3 \times 16.5 \text{ A}$
6	Maximum peak current	$\hat{I}=1.5 \text{ kA}$
7	Maximum surge current	$\hat{I}_S=4.5 \text{ kA}$
8	Thermal resistance (hot to shell)	$R_{th}=2.0 \text{ K/W}$
9	Series resistor @ 1kHz (typical)	$3 \times 0.9 \text{ m}\Omega$
10	Self-inductance L_s	$\leq 130 \text{ nH}$
11	Dielectric dissipation factor	$\tan \delta_0=2 \times 10^{-4}$
12	Dissipation factor @ 100Hz (optional)	$\tan \delta_{(100\text{Hz})} \leq 1.0 \times 10^{-3}$
13	Time constant	$\tau \geq 5,000 \text{ s}$
14	Test voltage between terminals	$U_{T-T}=946 \text{ Vac/50 Hz } 10 \text{ s}$
15	Test voltage between terminal and case	$U_{T-C}=3600 \text{ Vac/50 Hz } 10 \text{ s}$
16	Permissible voltage overload	1.01 U_N : $\leq 8\text{h/day}$ 1.065 U_N : $\leq 30\text{min/day}$ 1. U_N : $\leq 5\text{min}$, 200 times 2. U_N : $\leq 1\text{min}$, 200 times
17	Working temperature range	$-25 \text{ }^\circ\text{C} \sim +55 \text{ }^\circ\text{C}$
18	Maximum hot spot temperature	$+85 \text{ }^\circ\text{C}$
19	Storage temperature	$-40 \text{ }^\circ\text{C} \sim +85 \text{ }^\circ\text{C}$
20	Cooling method	forced cooling
21	Life Expectancy	150,000 h (U_{rms} , $\theta_{at} \leq 55 \text{ }^\circ\text{C}$, air speed $\geq 2\text{m/s}$)
22	Failure rate	$\leq 300 \text{ fit}$
23	Climatic Category (IEC60068-1)	40/55/21
24	Discharge method	External discharge resistance, 1.5 min to 75 V or less
25	Assembling construction	Al. case, PU resin filled
26	Weight	About 1.4 kg
27	Explosion-proof method	Overpressure disconnecter
28	Mounting method	Vertically, M12 bolt, max torque 10 N·m
29	Connection method, Max. Torque	Δ , 2.5 N·m
30	Maximum altitude	2,000 m

■ 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 clamp 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 maximum service life of capacitor depends on its working conditions (such as working voltage, hot spot temperature, etc.).
2. It is recommended that the grounding point of capacitor should be kept reliable through the bolt.
3. 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.
4. 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.
5. Use current clamp table or other on-line measuring tools of current measurement capacitor current every six mouth.
