

Capacitor defect or not can judge from measuring method of electrical characteristic and external appearance checking.

1) Capacitance [μF] measurement.

It can judge a capacitor defect or not from capacitance measurement.

If capacitor is out of order, internal capacitance will be changed.

It can judge a capacitor defect or not from capacitance measurement with measuring instrument and compare a capacitance value with name plate of product showed.

- 1P capacitor : Measure a capacitance between capacitor terminal both.

Compare a capacitance value with name plate of product showed.

- 3P capacitor : Measure a capacitance between capacitor terminal(R-S, S-T, R-T) both.

And confirm an equilibrium for 3P(less than 108% for each phase) or not.

Compare a capacitance value with name plate of product showed after conversion a measuring value from below formula.

▶ Capacitance [μF] = measuring capacitance [μF] \times 2 times

If measuring capacitance value of capacitance is within the range of allowable tolerance, it can judge a capacitor in normal.(However, it can be difference in no case of power capacitor)

▶ High voltage capacitor : allowable tolerance -5% ~ 10%

▶ Low voltage Capacitor :

- less than 100kvar allowable tolerance -5% ~ 10%

- over 100kvar allowable tolerance -5% ~ 5%

2) Rated current[A] measurement

The current of each capacitor is measured as much a value which is showed on name plate.

If measuring current is decreased more than rated current(less than -5%) and occur an unstable equilibrium to measuring value for each phase, it can judge a capacitor defect and replace new one.

> High voltage power capacitor can check a current from ammeter on panel.

> Low voltage power capacitor can check a current from ammeter on panel or hook meter.

Reference) In no case of ammeter on high voltage panel.

After separation a capacitor from main circuit and power on to low voltage side and measure a current with current measuring instrument.

At this time, living current to capacitor is showed as follows.

$$\text{Capacitor current [A]} = \text{Rated current [A]} \times \frac{\text{Actual input voltage [V]}}{\text{Capacitor rated voltage [V]}}$$

Must to leave a capacitor in enough(high voltage \rightarrow over 5min, low voltage \rightarrow over 3min) in order to discharge completely after power off.

And when terminal connect, it has to be grounded for each phase with grounding wire after check a discharging or not surely with electroscope