

Power Factor Correction Capacitors

Type LKT

General Remarks

FRAKO Power Factor Correction Capacitors are produced in unique advanced technology and incorporate a triple safety feature. **FRAKO** is the first capacitor manufacturer who succeeded to combine self-healing capacitor film with segmented film and overpressure disconnection. This manufacturing technique guarantees significantly improved operational reliability of capacitors on power factor correction. We reserve the right to make alterations which are based on newly acquired knowledge or which contribute to an improvement in our products.

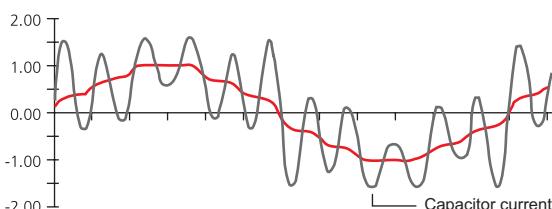
Technical Remarks

For the operation of Power Factor Correction Capacitors three aspects are of utmost importance:

- High overload capacity
- Long life expectancy
- Safe reaction at overload

Overload Capacity

In networks where the pollution with harmonics is permanently increasing, surplus loads in capacitors have to be reckoned with. Apart from the higher voltage load it is especially the higher effective current during network resonances, that can considerably further stress the capacitors:



If, for example, the 11th harmonic is present with 8 % of the rated network voltage, the r.m.s. value of the rated voltage is only increased by some 0.3 %, but the current in the capacitors will exceed its rated value by 33 %. It becomes clear that the ability of a capacitor to withstand excessive current is significantly greater than the ability to withstand excessive voltage.

Therefore **FRAKO** designs its capacitors as follows:

- **Max. overcurrent up to 2.2 times rated current**
- **Max. inrush current up to 300 times rated current**

Life Expectancy

The use of thoroughly tested material as well as careful processing ensures quality and a long life expectancy of the products. **FRAKO** produces its capacitors according to own specifications, which surpass by far the requirements of EN 60831-1/2. Quality tests following each single manufacturing step, verify an outstanding manufacturing quality. Combined with a unique capacitor manufacturing technology, **FRAKO** achieves a worldwide leading durability.

For example, the consistently low power loss over many years is achieved by using a special mineral filler and stabilizer which can avoid permanent partial discharges within the dielectric. Vacuum drying and temperature storage over several days avoid oxygen inclusion, which would accelerate the aging process of a capacitor. This means an extra effort in our production which, however, pays-off with a longer life expectancy.

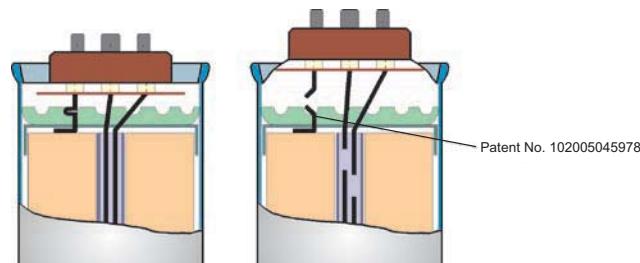
Safety Features

FRAKO Power Factor Correction Capacitors operate with triple safety:

- Self-healing at over-voltage
- Reliable in operation because of segmented film
- An overpressure disconnector disconnects the capacitors from the mains at the end of their lifetime or at dangerous overload



Self-healing segmented capacitor film



The principle of the overpressure disconnector

To verify the correct functioning of the integrated safety systems, **FRAKO** regularly draws sample capacitors from the production line. A constantly outstanding quality can be achieved and maintained only this way.