

# Components

Power Capacitors and accessories



1

## LKT Power Capacitors

**FRAKO Power Capacitors are installed in power factor correction systems and in passive filters.**

FRAKO Power Capacitors have been developed and manufactured for decades solely at the company's Teningen production site in Germany. This has resulted in a consistently high product quality being maintained, the basis for assured operational reliability and a long service life.

### Application Recommendations

FRAKO offers Power Capacitors for a variety of applications. They are divided into four separate categories with different specifications:

- Basic Capacitors
- Standard Capacitors
- Premium Capacitors
- Heavy Duty Capacitors

FRAKO Power Capacitors with **UL/CSA certification:**

Please contact us if you require information on our UL/CSA series of Power Capacitors.

FRAKO Power Capacitors are available as single-phase and 3-phase versions.

Voltage and power ranges:

- Nominal voltage: 240–800 V, 50 / 60 Hz
- Nominal power: 1.0–40.0 kvar

# Components

Power Capacitors and accessories

1

## Design & quality

FRAKO Power Capacitors are manufactured in a unique dry design. Each comprises up to three interconnected capacitor coils wound in a low-loss, metallized polypropylene film and enclosed in a cylindrical aluminium casing provided with an M12 mounting stud. In addition to a PCB-free, flame-resistant mineral filler material, the casings also contain an adhesive stabilizer. Discharge resistors, permanently connected in the factory, guarantee that the residual voltage falls to <math>< 50\text{ V}</math> within one minute after the capacitor has been disconnected. The electrical connections are by means of female slide connectors (IP00) or a patented spring-clamp connector (IP20) available separately.

The use of rigorously inspected materials and their careful processing guarantee excellent quality and a long product service life. FRAKO manufactures its Power Capacitors to its own in-house specifications, which are far more exacting than the requirements of the applicable standards.

Quality control inspections after each individual manufacturing step ensure that the final product is of a high quality. These demanding quality standards, together with specially developed manufacturing technology, enable FRAKO Power Capacitors to achieve a longer-than-average service life. At the end of the manufacturing process, each capacitor is inspected individually. The in-house requirements for this special inspection are considerably more stringent than those of the routine tests specified by the relevant standards.

## Standards

All FRAKO Power Capacitors comply with the international standards IEC 60831-1 and -2, and of course with EN 60831 1 and -2. In addition, a special series developed for the North American market complies with the requirements of UL 810 and CSA 22.2 No. 190.

## Four safety features ensure uninterrupted operation

The reliability of Power Capacitors is crucially important for the problem-free operation of power factor correction systems and passive filters. FRAKO's measures to ensure this are now fourfold: Power Capacitors nowadays usually use polypropylene as the dielectric material, its surfaces being metallized. This design has the important property that if local overloading occurs and punctures the substrate film, the fault automatically isolates itself, a phenomenon known as **self-healing**.

**Self-healing** is due to the heavy short-circuit current that flows between the films immediately vaporizing the very thin metal coating at the damaged location, thus ending the flow of current.



If several punctures occur in a small area of metallized film, the amount of energy involved might be too much for the **self-healing** action alone to cope with. This could lead to complete failure of the capacitor. However, in this case the second fail-safe function of the fourfold safety design comes into play: the **segmented metallization**.

In the manufacturing process, the polypropylene film for FRAKO Power Capacitors is metallized by vapour deposition to form a pattern of separate individual segments. Each segment is connected to the power supply by slender contact bridges, these being so dimensioned that when severely overloaded (several substrate punctures within one segment), they act as fuses by simply vaporizing, thereby securely isolating the damaged segment from the power supply.



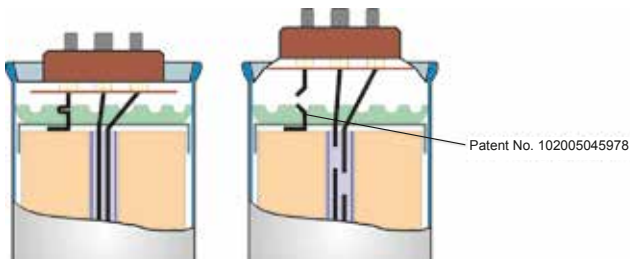
The **segmented metallization** technique increases the reliability of the capacitors and prolongs their service life.

# Components

## Power Capacitors and accessories

The third design feature for increases product safety is the three-phase **overpressure disconnecter**, a mechanical fuse included in every FRAKO capacitor.

If an excessive internal pressure develops due to overloading, or at the end of the capacitor's service life, the mechanical fuse isolates the capacitor safely from the power supply by disconnecting all poles. Should puncturing of the dielectric occur on a major scale, this results in the substrate film melting and generating gases inside the casing, thus building up pressure in the capacitor. This causes the diaphragm lid to bulge outwards, thereby tensioning the internal leads to the coils until they act as mechanical fuses, breaking cleanly at defined locations. The bulging of the lid also increases the internal volume, therefore reducing the pressure inside the capacitor.



Principle of the overpressure disconnection system

In 2015, FRAKO added the patented **contact ring** to the other safety and reliability features, thus making them fourfold.

These patented rings are stamped from a special alloy and are formed with a number of pointed teeth that press into the zinc end-face contact layers on the windings to make electrical contact. The internal connecting leads are spot-welded to the **contact rings** before final assembly of the capacitor.



The great advantage of this solder-free design: it has completely excluded the risk of damaging the capacitor windings at the manufacturing stage due to overheating during soldering of the connecting leads. The quality of the winding connection is significantly increased, and the reliability of the mechanical fuse that protects against excessive internal pressure is improved by its being securely spot-welded in place.

The **contact ring** also enables FRAKO to produce completely lead-free capacitors and make yet another improvement to their operating reliability.

### Special technical features

In our ongoing development work on FRAKO Power Capacitors, we always focus on those attributes that are called for in present-day applications. The three following factors are especially important:

- Overvoltage tolerance
- Current-carrying capacity
- Thermal endurance

### Overvoltage tolerance

As required by the standards IEC 60831-1 & -2, as with EN 60831-1 & -2, all FRAKO Power Capacitors are designed to withstand the following overvoltages:

|                   |                                  |
|-------------------|----------------------------------|
| 8 hours daily:    | 1.10 × capacitor nominal voltage |
| 30 minutes daily: | 1.15 × capacitor nominal voltage |
| 5 minutes:        | 1.20 × capacitor nominal voltage |
| 1 minute:         | 1.30 × capacitor nominal voltage |

The following table shows a selection of nominal voltage ratings and maximum overvoltages:

| Capacitor nominal voltage | 240 | 400 | 440 | 480 | 525 | 600 | 690 | 760 | 800  |
|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 8 hours daily             | 264 | 440 | 484 | 528 | 578 | 660 | 759 | 836 | 880  |
| 30 min daily              | 276 | 460 | 506 | 552 | 604 | 690 | 794 | 874 | 920  |
| 5 minutes                 | 288 | 480 | 528 | 576 | 630 | 720 | 828 | 912 | 960  |
| 1 minute                  | 312 | 520 | 572 | 624 | 683 | 780 | 897 | 988 | 1040 |

All voltages in volts [V]

### Current-carrying capacity

All over the modern world, harmonics are polluting the electricity supply networks. The increasing use of devices such as frequency converters has a growing impact on capacitors. If these are operated in a power supply network contaminated by harmonics, dangerous resonances can result, which can again significantly increase the currents that the capacitors must withstand.

# Components

## Power Capacitors and accessories

1

The applicable standards call for a continuous current-carrying capacity of at least 1.3 times the nominal current to be designed for in Power Capacitors. In reality, however, even this value can be exceeded under conditions with extreme levels of harmonics.

For this reason, all FRAKO Power Capacitors are designed for a continuous current-carrying capacity of at least 1.5 times the nominal current. More information on ampacity is given in the specifications table on the following page.

### Thermal endurance

Excessive temperatures also have a negative impact on the service life of a capacitor. Storage or operation of capacitors above their permitted temperature limits results in a drastic shortening of their service life. Power Capacitors are assigned to different temperature classes according to the permitted ambient temperature as follows:

| Temperature class | Maximum ambient temperature |                               |                          |
|-------------------|-----------------------------|-------------------------------|--------------------------|
|                   | Absolute maximum temp.      | Max. average temp. over 1 day | Max. average over 1 year |
| B                 | 45 °C                       | 35 °C                         | 25 °C                    |
| C                 | 50 °C                       | 40 °C                         | 30 °C                    |
| D                 | 55 °C                       | 45 °C                         | 35 °C                    |

The temperatures stated above refer to the direct environment of the capacitors. This means the internal temperature in the enclosure or control cabinet that houses them. Experience shows that the limits given in the table for the temperature classes can easily be exceeded in practice. Higher temperatures are to be expected in particular in the case of power factor correction systems fitted with filter reactors.

Power Capacitors in the Standard, Premium and Heavy Duty categories are therefore designed for continuous ambient temperatures of at least 60 °C.

This continuously rated thermal endurance is helped by the compact construction of the capacitors, which is conducive to optimum heat dissipation.

### Patented capacitor connections

FRAKO Power Capacitors can be fitted either with standard slide connectors or, as optional extra, WAGO CAGE CLAMP® (AKD) connectors.

These patented, tried-and-tested connectors use special spring clamps that ensure a simple, vibration-resistant and maintenance-free electrical contact with the capacitor. They can be used to connect single-core, stranded or fine-filament copper cables. AKD connectors meet IP20 requirements and therefore provide protection against objects such as fingers inadvertently touching live conductors.

| Article No. | Designation | Capacitor type and diameter          |
|-------------|-------------|--------------------------------------|
| 31-08000    | AKD 25/3    | 3-phase, 60/70 mm                    |
| 31-08002    | AKD 25/2    | 1-phase, 60/70 mm                    |
| 31-08003    | AKD 30/3    | 3-phase, 85 mm                       |
| 31-08004    | AKD 30/2    | 1-phase, 85 mm                       |
| 31-08005    | AKD-UL      | 3-phase, 85 mm (specified as per UL) |



### Accessories

FRAKO Power Capacitors with 60 and 70 mm diameters that use standard slide connectors can be provided with an insulating cap to cover their terminals. Using the insulating cap then increases ingress protection to IP54.

| Article No. | Designation | Description                                 |
|-------------|-------------|---|
| 69-00352    | LKK 60      | Insulating cap for Ø 60 mm Power Capacitors |
| 69-00350    | LKK 70      | Insulating cap for Ø 70 mm Power Capacitors |
| 69-00353    | LKK         | Cable sleeve for insulating caps LKK 60/70  |

# Components

Power Capacitors and accessories

## Specifications of FRAKO Power Capacitors

| Category   | Basic  | Standard             | Premium              | Heavy Duty                                   |
|--|--|----------------------|----------------------|--|
| Type designation   | LKT ...-DB   | LKT ...-DP           | LKT ...-DL           | LKT ...-HD                                   |
| Nominal voltage  | 400–525 V  | 280–800 V            | 400–525 V            | 440–615 V <sup>1)</sup><br>480–525 V         |
| Nominal frequency  | 50/60 Hz   |                      |                      |  |
| Power rating   | 5.0–36 kvar  | 5.0–40 kvar          | 1.0–24 kvar          | 1.2–29 kvar<br>16.8–21.6 kvar                |
| Capacitance tolerance <sup>2)</sup>                                | -5 / +5 %  |                      |                      |  |
| Dielectric losses  | 0.2 W / kvar   |                      |                      |  |
| Power loss   | 0.5 W / kvar   |                      |                      |  |
| Residual voltage after 60 seconds discharge time                   | ≤50 V  |                      |                      |  |
| Maximum overvoltage  | 1.10 x V <sub>N</sub> – 8 hours daily<br>1.15 x V <sub>N</sub> – 30 minutes daily<br>1.20 x V <sub>N</sub> – 5 minutes<br>1.30 x V <sub>N</sub> – 1 minute |                      |                      |  |
| Maximum continuous overcurrent at nominal voltage (50 Hz)          | 1.5 x I <sub>N</sub>   | 1.8 x I <sub>N</sub> | 2.2 x I <sub>N</sub> | 2.0 x I <sub>N</sub><br>2.7 x I <sub>N</sub> |
| Maximum inrush current at nominal voltage (50 Hz)                  | 200 x I <sub>N</sub>   | 250 x I <sub>N</sub> | 300 x I <sub>N</sub> | 272 x I <sub>N</sub><br>450 x I <sub>N</sub> |
| Test voltage (metal film–metal film)                               | 2.15 x V <sub>N</sub> , 2 seconds<br>1.85 x V <sub>N</sub> , 18 seconds  |                      |                      |  |
| Test voltage (metal film–casing)                                   | V <sub>N</sub> < 600 V = 3.9 kV, 2 seconds<br>V <sub>N</sub> > 600 V = 4.3 kV, 2 seconds   |                      |                      |  |
| Insulation voltage rating dependent on V <sub>N</sub> and diameter | 3.9 / 8 kV<br>3.9 / 12 kV<br>4.3 / 8 kV<br>4.3 / 12 kV   |                      |                      |  |
| Temperature class  | -25 / D  | -40 / 60             | -40 / 65             | -40 / 60<br>-40 / 68                         |
| Min. / max. temperature <sup>3)</sup>                              | -25 / +55 °C   | -40 / +60 °C         | -40 / +65 °C         | -40 / +60 °C<br>-40 / +68 °C                 |
| Max. casing temperature  | +70 °C   | +75 °C               | +78 °C               | +75 °C<br>+78 °C                             |
| Min. / max. storage temperature                                    | -25 / +85 °C   | -40 / +85 °C         |                      |  |
| Max. humidity  | 95 % non-condensing  |                      |                      |  |
| Max. site altitude   | 4 000 metres   |                      |                      |  |
| Service life   | 100 000 h  | 130 000 h            | 170 000 h            | 130 000 h<br>200 000 h                       |
| Max. number of switching cycles per year                           | 20 000   | 40 000               | 60 000               | 40 000<br>100 000                            |

<sup>1)</sup> Capacitors of the Premium category can be operated above their nominal voltage if a reduced specification is acceptable. The tables on pages 18 and 19 give the maximum permissible continuous overvoltage for each capacitor type.

<sup>2)</sup> Other tolerances on request

<sup>3)</sup> The table of temperature classes on the previous page applies to capacitors of the Basic category. Capacitors of the categories Standard, Premium and Heavy Duty are specified for continuous operation at the stated maximum temperature.

# Components

Power Capacitors and accessories

## Basic Capacitors (three-phase, $V_N$ : 400 V...525 V)

### Type LKT...-DB for 50 Hz / 60 Hz

| Article-No. | Type            | Capacitance<br>[ $\mu$ F] | Rated Reactive Power in kvar at<br>Rated Voltage ( $V_N$ )<br>50 Hz / 60 Hz |              |              |              |              |              |              | Rated<br>current at $V_N$<br>50 Hz / 60 Hz<br>[A] | Dimensions<br>(d x h)<br>Weight (net)<br>[mm]<br>[kg] | Packing<br>Unit<br>(pcs.) |
|-------------|-----------------|---------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|---|---|---------------------------|
|             |                 |                           | 230V  | 300V         | 400V         | 415V         | 440V         | 480V         | 525V         |   |   |                           |
| 31-10414    | LKT 5-400-DB    | 3 x 33.2                  | 1.66<br>2.0   | 2.8<br>3.33  | 5.0<br>6.0   |              |              |              |              | 7.2<br>8.7  | 60 x 150<br>0.550                                     | 9                         |
| 31-10400    | LKT 6,25-400-DB | 3 x 41.4                  | 2.1<br>2.5  | 3.5<br>4.2   | 6.25<br>7.5  |              |              |              |              | 9.0<br>10.8                                       | 60 x 150<br>0.550                                     | 9                         |
| 31-10415    | LKT 7,5-400-DB  | 3 x 49.7                  | 2.5<br>3.0  | 4.2<br>5.1   | 7.5<br>9.0   |              |              |              |              | 10.8<br>13.0                                      | 60 x 150<br>0.550                                     | 9                         |
| 31-10416    | LKT 10-400-DB   | 3 x 66.3                  | 3.33<br>4.0   | 5.6<br>6.8   | 10.0<br>12.0 |              |              |              |              | 14.4<br>17.3                                      | 60 x 225<br>0.800                                     | 9                         |
| 31-10401    | LKT 12,5-400-DB | 3 x 82.9                  | 4.17<br>5.0   | 7.0<br>8.4   | 12.5<br>15.0 |              |              |              |              | 18.0<br>21.7                                      | 60 x 225<br>0.800                                     | 9                         |
| 31-10417    | LKT 15-400-DB   | 3 x 99.5                  | 5.0<br>6.0  | 8.4<br>10.1  | 15.0<br>18.0 |              |              |              |              | 21.7<br>26.0                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10418    | LKT 20-400-DB   | 3 x 132.6                 | 6.66<br>7.9   | 11.3<br>13.5 | 20.0<br>24.0 |              |              |              |              | 28.9<br>34.6                                      | 85 x 215<br>1.500                                     | 4                         |
| 31-10402    | LKT 25-400-DB   | 3 x 165.8                 | 8.33<br>9.9   | 14.1<br>16.9 | 25.0<br>30.0 |              |              |              |              | 36.1<br>43.3                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10403    | LKT 30-400-DB   | 3 x 198.9                 | 9.9<br>11.9   | 16.9<br>20.3 | 30.0<br>36.0 |              |              |              |              | 43.3<br>52.0                                      | 85 x 320<br>2.150                                     | 4                         |
| 31-10404    | LKT 6,25-440-DB | 3 x 34.3                  | 1.7<br>2.0  | 2.9<br>3.5   | 5.2<br>6.2   | 5.6<br>6.7   | 6.25<br>7.5  |              |              | 8.2<br>9.8  | 60 x 150<br>0.550                                     | 9                         |
| 31-10412    | LKT 10-440-DB   | 3 x 54.8                  | 2.7<br>3.33   | 4.7<br>5.6   | 8.33<br>9.9  | 8.9<br>10.7  | 10.0<br>12.0 |              |              | 13.1<br>15.7                                      | 60 x 225<br>0.800                                     | 9                         |
| 31-10379    | LKT 12,5-440-DB | 3 x 68.5                  | 3.4<br>4.1  | 5.8<br>7.0   | 10.3<br>12.4 | 11.1<br>13.3 | 12.5<br>15.0 |              |              | 16.4<br>19.7                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10406    | LKT 15-440-DB   | 3 x 82.2                  | 4.1<br>4.9  | 7.0<br>8.4   | 12.4<br>14.9 | 13.3<br>16.0 | 15.0<br>18.0 |              |              | 19.7<br>23.6                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10436    | LKT 20-440-DB   | 3 x 109.6                 | 5.5<br>6.66   | 9.3<br>11.2  | 16.5<br>19.8 | 17.8<br>21.4 | 20.0<br>24.0 |              |              | 26.2<br>31.5                                      | 85 x 215<br>1.500                                     | 4                         |
| 31-10407    | LKT 25-440-DB   | 3 x 137.0                 | 6.8<br>8.2  | 11.6<br>14.0 | 20.7<br>24.8 | 22.2<br>26.7 | 25.0<br>30.0 |              |              | 32.8<br>39.4                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10437    | LKT 28,2-440-DB | 3 x 154.6                 | 7.7<br>9.2  | 13.1<br>15.7 | 23.3<br>27.9 | 25.0<br>30.0 | 28.2<br>33.8 |              |              | 37.0<br>44.4                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10408    | LKT 30-440-DB   | 3 x 164.4                 | 8.2<br>9.8  | 14.0<br>16.7 | 24.8<br>29.8 | 26.7<br>32.0 | 30.0<br>36.0 |              |              | 39.4<br>47.2                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10438    | LKT 33,3-480-DB | 3 x 153.4                 | 7.7<br>9.2  | 13.0<br>15.6 | 23.1<br>27.8 | 24.9<br>29.9 | 28.0<br>33.6 | 33.3<br>40.0 |              | 40.1<br>48.1                                      | 85 x 320<br>2.150                                     | 4                         |
| 31-10409    | LKT 6,25-525-DB | 3 x 24.1                  | 1.2<br>1.4  | 2.0<br>2.4   | 3.6<br>4.4   | 3.9<br>4.7   | 4.4<br>5.3   | 5.2<br>6.3   | 6.25<br>7.5  | 6.9<br>8.2  | 60 x 150<br>0.550                                     | 9                         |
| 31-10435    | LKT 10-525-DB   | 3 x 38.5                  | 1.9<br>2.3  | 3.3<br>3.9   | 5.8<br>7.0   | 6.3<br>7.5   | 7.0<br>8.4   | 8.4<br>10.0  | 10.0<br>12.0 | 11.0<br>13.2                                      | 60 x 225<br>0.800                                     | 9                         |
| 31-10410    | LKT 12,5-525-DB | 3 x 48.1                  | 2.4<br>2.9  | 4.1<br>4.9   | 7.3<br>8.7   | 7.8<br>9.4   | 8.8<br>10.5  | 10.4<br>12.5 | 12.5<br>15.0 | 13.7<br>16.5                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10419    | LKT 15-525-DB   | 3 x 57.7                  | 2.9<br>3.5  | 4.9<br>5.9   | 8.7<br>10.5  | 9.4<br>11.3  | 10.5<br>12.6 | 12.5<br>15.1 | 15.0<br>18.0 | 16.5<br>19.8                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10434    | LKT 17,2-525-DB | 3 x 66.2                  | 3.3<br>4.0  | 5.6<br>6.7   | 10.0<br>12.0 | 10.8<br>12.9 | 12.1<br>14.5 | 14.4<br>17.3 | 17.2<br>20.6 | 18.9<br>22.7                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10420    | LKT 20-525-DB   | 3 x 77.0                  | 3.8<br>4.6  | 6.5<br>7.8   | 11.6<br>13.9 | 12.5<br>15.0 | 14.1<br>16.9 | 16.7<br>20.1 | 20.0<br>24.0 | 22.0<br>26.4                                      | 70 x 265<br>1.200                                     | 9                         |
| 31-10411    | LKT 25-525-DB   | 3 x 96.2                  | 4.8<br>5.8  | 8.2<br>9.8   | 14.5<br>17.4 | 15.6<br>18.8 | 17.6<br>21.1 | 20.9<br>25.1 | 25.0<br>30.0 | 27.5<br>33.0                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10439    | LKT 30-525-DB   | 3 x 115.5                 | 5.8<br>6.9  | 9.8<br>11.8  | 17.4<br>20.9 | 18.8<br>22.5 | 21.1<br>25.3 | 25.1<br>30.1 | 30.0<br>36.0 | 33.0<br>39.6                                      | 85 x 278<br>1.850                                     | 4                         |

# Components

Power Capacitors and accessories

## Standard Capacitors (three-phase, $V_N$ : 300 V...480 V)

### Type LKT...-DP for 50 Hz / 60 Hz

| Article-No. | Type            | Capacitance<br>[ $\mu$ F] | Rated Reactive Power in kvar at<br>Rated Voltage ( $V_N$ )<br>50 Hz / 60 Hz |              |              |              |              |              |              | Rated<br>current at $V_N$<br>50 Hz / 60 Hz<br>[A] | Dimensions<br>(d x h)<br>Weight (net)<br>[mm]<br>[kg] | Packing<br>Unit<br>(pcs.) |
|-------------|-----------------|---------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|---|---|---------------------------|
|             |                 |                           | 230V  | 300V         | 400V         | 415V         | 440V         | 460V         | 480V         |   |   |                           |
| 31-10523    | LKT 7,1-300-DP  | 3 x 83.7                  | 4.17<br>5.0   | 7.1<br>8.5   |              |              |              |              |              | 13.7<br>16.4                                      | 60 x 225<br>0.800                                     | 9                         |
| 31-10553    | LKT 14,2-300-DP | 3 x 167.1                 | 8.33<br>10.0  | 14.2<br>17.0 |              |              |              |              |              | 27.3<br>32.7                                      | 85 x 215<br>1.500                                     | 4                         |
| 31-10525    | LKT 21,3-300-DP | 3 x 251.1                 | 12.5<br>15.0  | 21.3<br>25.5 |              |              |              |              |              | 41.0<br>49.2                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10500    | LKT 5-400-DP    | 3 x 33.2                  | 1.66<br>2.0   | 2.8<br>3.33  | 5.0<br>6.0   |              |              |              |              | 7.2<br>8.7  | 60 x 150<br>0.550                                     | 9                         |
| 31-10380    | LKT 10-400-DP   | 3 x 66.3                  | 3.33<br>4.0   | 5.6<br>6.8   | 10.0<br>12.0 |              |              |              |              | 14.4<br>17.3                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10502    | LKT 12,5-400-DP | 3 x 82.9                  | 4.17<br>5.0   | 7.0<br>8.4   | 12.5<br>15.0 |              |              |              |              | 18.0<br>21.7                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10503    | LKT 15-400-DP   | 3 x 99.5                  | 5.0<br>6.0  | 8.4<br>10.1  | 15.0<br>18.0 |              |              |              |              | 21.7<br>26.0                                      | 70 x 265<br>1.200                                     | 9                         |
| 31-10504    | LKT 20-400-DP   | 3 x 132.6                 | 6.66<br>8.0   | 11.3<br>13.5 | 20.0<br>24.0 |              |              |              |              | 28.9<br>34.6                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10505    | LKT 25-400-DP   | 3 x 165.8                 | 8.33<br>9.9   | 14.1<br>16.9 | 25.0<br>30.0 |              |              |              |              | 36.1<br>43.3                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10534    | LKT 3,8-440-DP  | 3 x 20.8                  | 1.0<br>1.25   | 1.8<br>2.1   | 3.1<br>3.8   | 3.4<br>4.1   | 3.8<br>4.6   |              |              | 5.0<br>6.0  | 60 x 150<br>0.550                                     | 9                         |
| 31-10508    | LKT 10-440-DP   | 3 x 54.8                  | 2.7<br>3.33   | 4.7<br>5.6   | 8.33<br>9.9  | 8.9<br>10.7  | 10.0<br>12.0 |              |              | 13.1<br>15.7                                      | 60 x 225<br>0.800                                     | 9                         |
| 31-10507    | LKT 12,5-440-DP | 3 x 68.5                  | 3.4<br>4.1  | 5.8<br>7.0   | 10.3<br>12.4 | 11.1<br>13.3 | 12.5<br>15.0 |              |              | 16.4<br>19.1                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10381    | LKT 15-440-DP   | 3 x 82.2                  | 4.1<br>4.9  | 7.0<br>8.33  | 12.4<br>14.9 | 13.3<br>16.0 | 15.0<br>18.0 |              |              | 19.7<br>23.6                                      | 70 x 265<br>1.200                                     | 9                         |
| 31-10512    | LKT 20-440-DP   | 3 x 109.6                 | 5.5<br>6.66   | 9.3<br>11.2  | 16.5<br>19.8 | 17.8<br>21.4 | 20.0<br>24.0 |              |              | 26.2<br>31.5                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10510    | LKT 25-440-DP   | 3 x 137.0                 | 6.8<br>8.2  | 11.6<br>14.0 | 20.7<br>24.8 | 22.2<br>26.7 | 25.0<br>30.0 |              |              | 32.8<br>39.4                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10535    | LKT 28,2-440-DP | 3 x 154.6                 | 7.7<br>9.2  | 13.1<br>15.7 | 23.3<br>27.9 | 25.0<br>30.0 | 28.2<br>33.8 |              |              | 37.0<br>44.4                                      | 85 x 320<br>2.150                                     | 4                         |
| 31-10509    | LKT 30-440-DP   | 3 x 164.4                 | 8.2<br>9.8  | 14.0<br>16.7 | 24.8<br>29.8 | 26.7<br>32.0 | 30.0<br>36.0 |              |              | 39.4<br>47.2                                      | 85 x 320<br>2.150                                     | 4                         |
| 31-10390    | LKT 12,5-480-DP | 3 x 57.6                  | 2.9<br>3.4  | 4.9<br>5.9   | 8.7<br>10.4  | 9.3<br>11.2  | 10.5<br>12.6 | 11.5<br>13.8 | 12.5<br>15.0 | 15.0<br>18.0                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10382    | LKT 15,5-480-DP | 3 x 71.4                  | 3.6<br>4.3  | 6.1<br>7.3   | 10.8<br>13.0 | 11.6<br>13.9 | 13.1<br>15.7 | 14.2<br>17.1 | 15.5<br>18.6 | 18.6<br>22.4                                      | 70 x 265<br>1.200                                     | 9                         |
| 31-10522    | LKT 18-480-DP   | 3 x 82.9                  | 4.17<br>5.0   | 7.0<br>8.4   | 12.5<br>15.0 | 13.5<br>16.2 | 15.1<br>18.2 | 16.5<br>19.8 | 18.0<br>21.6 | 21.7<br>26.0                                      | 70 x 265<br>1.200                                     | 9                         |
| 31-10559    | LKT 31-480-DP   | 3 x 142.8                 | 7.1<br>8.5  | 12.1<br>14.5 | 21.5<br>25.8 | 23.2<br>27.8 | 26.1<br>31.3 | 28.5<br>34.2 | 31.0<br>37.2 | 37.3<br>44.7                                      | 85 x 320<br>2.150                                     | 4                         |
| 31-10558    | LKT 33,3-480-DP | 3 x 153.4                 | 7.7<br>9.2  | 13.0<br>15.6 | 23.1<br>27.8 | 24.9<br>29.9 | 28.0<br>33.6 | 30.6<br>36.7 | 33.3<br>40.0 | 40.1<br>48.1                                      | 85 x 320<br>2.150                                     | 4                         |

# Components

Power Capacitors and accessories

1

## Standard Capacitors (three-phase, $V_N = 525 \text{ V}$ )

### Type LKT...-DP for 50 Hz / 60 Hz

| Article-No. | Type            | Capacitance<br>[ $\mu\text{F}$ ] | Rated Reactive Power in kvar at<br>Rated Voltage ( $V_N$ )<br>50 Hz / 60 Hz |            |              |              |              |              |              | Rated<br>current at $V_N$<br>50 Hz / 60 Hz<br>[A] | Dimensions<br>(d x h)<br>Weight (net)<br>[mm]<br>[kg] | Packing<br>Unit<br>(pcs.) |
|-------------|-----------------|----------------------------------|---|------------|--------------|--------------|--------------|--------------|--------------|---|---|---------------------------|
|             |                 |                                  | 230V  | 300V       | 400V         | 415V         | 440V         | 480V         | 525V         |   |   |                           |
| 31-10517    | LKT 10-525-DP   | 3 x 38.5                         | 1.9<br>2.3  | 3.3<br>3.9 | 5.8<br>7.0   | 6.3<br>7.5   | 7.0<br>8.33  | 8.33<br>10.0 | 10.0<br>12.0 | 11.0<br>13.2                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10516    | LKT 12,5-525-DP | 3 x 48.1                         | 2.4<br>2.9  | 4.1<br>4.9 | 7.3<br>8.7   | 7.8<br>9.4   | 8.8<br>10.5  | 10.4<br>12.5 | 12.5<br>15.0 | 13.7<br>16.5                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10520    | LKT 15-525-DP   | 3 x 57.7                         | 2.9<br>3.5  | 4.9<br>5.9 | 8.7<br>10.4  | 9.4<br>11.3  | 10.5<br>12.6 | 12.5<br>15.0 | 15.0<br>18.0 | 16.5<br>19.8                                      | 70 x 265<br>1.200                                     | 9                         |
| 31-10521    | LKT 20-525-DP   | 3 x 77.0                         | 3.8<br>4.6  | 6.5<br>7.8 | 11.6<br>13.9 | 12.5<br>15.0 | 14.1<br>16.9 | 16.7<br>20.1 | 20.0<br>24.0 | 22.0<br>26.4                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10519    | LKT 25-525-DP   | 3 x 96.2                         | 4.8<br>5.8  | 8.2<br>9.8 | 14.5<br>17.4 | 15.6<br>18.8 | 17.6<br>21.1 | 20.9<br>25.1 | 25.0<br>30.0 | 27.5<br>33.0                                      | 85 x 278<br>1.850                                     | 4                         |

## Standard Capacitors (three-phase, $V_N: 690 \text{ V} \dots 800 \text{ V}$ )

### Type LKT...-DP for 50 Hz / 60 Hz

| Article-No. | Type            | Capacitance<br>[ $\mu\text{F}$ ] | Rated Reactive Power in kvar at<br>Rated Voltage ( $V_N$ )<br>50 Hz / 60 Hz |              |              |              |              |              |              | Rated<br>current at $V_N$<br>50 Hz / 60 Hz<br>[A] | Dimensions<br>(d x h)<br>Weight (net)<br>[mm]<br>[kg] | Packing<br>Unit<br>(pcs.) |
|-------------|-----------------|----------------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|---|---|---------------------------|
|             |                 |                                  | 525V  | 570V         | 600V         | 615V         | 690V         | 760V         | 800V         |   |   |                           |
| 31-10560    | LKT 5-690-DP    | 3 x 11.1                         | 2.9<br>3.5  | 3.4<br>4.1   | 3.8<br>4.5   | 4.0<br>4.8   | 5.0<br>6.0   |              |              | 4.2<br>5.0  | 60 x 225<br>0.800                                     | 9                         |
| 31-10561    | LKT 10-690-DP   | 3 x 22.3                         | 5.8<br>7.0  | 6.8<br>8.2   | 7.6<br>9.1   | 7.9<br>9.5   | 10.0<br>12.0 |              |              | 8.4<br>10.0                                       | 70 x 225<br>1.050                                     | 9                         |
| 31-10562    | LKT 12,5-690-DP | 3 x 27.9                         | 7.2<br>8.7  | 8.5<br>10.2  | 9.5<br>11.3  | 9.9<br>11.9  | 12.5<br>15.0 |              |              | 10.5<br>12.6                                      | 70 x 265<br>1.200                                     | 9                         |
| 31-10563    | LKT 15-690-DP   | 3 x 33.4                         | 8.7<br>10.4   | 10.2<br>12.3 | 11.3<br>13.6 | 11.9<br>14.3 | 15.0<br>18.0 |              |              | 12.6<br>15.1                                      | 70 x 265<br>1.200                                     | 9                         |
| 31-10564    | LKT 20-690-DP   | 3 x 44.6                         | 11.6<br>13.9  | 13.7<br>16.4 | 15.1<br>18.2 | 15.9<br>19.1 | 20.0<br>24.0 |              |              | 16.7<br>20.1                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10565    | LKT 25-690-DP   | 3 x 55.7                         | 14.5<br>17.4  | 17.1<br>20.5 | 18.9<br>22.7 | 19.9<br>23.8 | 25.0<br>30.0 |              |              | 20.9<br>25.1                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10569    | LKT 28,2-760-DP | 3 x 51.8                         | 13.5<br>16.1  | 15.9<br>19.0 | 17.6<br>21.1 | 18.5<br>22.2 | 23.2<br>27.9 | 28.2<br>33.8 |              | 21.4<br>25.7                                      | 85 x 320<br>2.150                                     | 4                         |
| 31-10570    | LKT 6,7-800-DP  | 3 x 11.1                         | 2.9<br>3.5  | 3.4<br>4.1   | 3.8<br>4.5   | 4.0<br>4.8   | 5.0<br>6.0   | 6.0<br>7.3   | 6.7<br>8.0   | 4.8<br>5.8  | 60 x 225<br>0.800                                     | 9                         |
| 31-10571    | LKT 10,5-800-DP | 3 x 17.4                         | 4.5<br>5.4  | 5.3<br>6.4   | 5.9<br>7.1   | 6.2<br>7.5   | 7.8<br>9.4   | 9.5<br>11.4  | 10.5<br>12.6 | 7.6<br>9.1  | 70 x 225<br>1.050                                     | 9                         |
| 31-10572    | LKT 13,3-800-DP | 3 x 22.0                         | 5.7<br>6.9  | 6.8<br>8.1   | 7.5<br>9.0   | 7.9<br>9.4   | 9.9<br>11.9  | 12.0<br>14.4 | 13.3<br>16.0 | 9.6<br>11.5                                       | 85 x 215<br>1.500                                     | 4                         |
| 31-10573    | LKT 21-800-DP   | 3 x 34.8                         | 9.0<br>10.9   | 10.7<br>12.8 | 11.8<br>14.2 | 12.4<br>14.9 | 15.6<br>18.8 | 19.0<br>22.7 | 21.0<br>25.2 | 15.2<br>18.2                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10574    | LKT 26,7-800-DP | 3 x 44.3                         | 11.5<br>13.8  | 13.6<br>16.3 | 15.0<br>18.0 | 15.8<br>18.9 | 19.9<br>23.8 | 24.1<br>28.9 | 26.7<br>32.0 | 19.3<br>23.1                                      | 85 x 320<br>2.150                                     | 4                         |



# Components

Power Capacitors and accessories

1

## Standard Capacitors (single-phase, $V_N$ : 280 V...525 V)

Type LKT...-EP for 50 Hz / 60 Hz

| Article-No. | Type            | Capacitance<br>[ $\mu$ F] | Rated Reactive Power in kvar at<br>Rated Voltage ( $V_N$ )<br>50 Hz / 60 Hz |              |             |             |             |             |              | Rated<br>current at $V_N$<br>50 Hz / 60 Hz<br>[A] | Dimensions<br>(d x h)<br>Weight (net)<br>[mm]<br>[kg] | Packing<br>Unit<br>(pcs.) |
|-------------|-----------------|---------------------------|---|--------------|-------------|-------------|-------------|-------------|--------------|---|---|---------------------------|
|             |                 |                           | 230V  | 280V         | 400V        | 415V        | 440V        | 480V        | 525V         |   |   |                           |
| 31-10547    | LKT 5-280-EP    | 1 x 203.7                 | 3.4<br>4.1  | 5.0<br>6.0   |             |             |             |             |              | 17.9<br>21.5                                      | 60 x 138<br>0.500                                     | 9                         |
| 31-10548    | LKT 10-280-EP   | 1 x 407.4                 | 6.8<br>8.1  | 10.0<br>12.0 |             |             |             |             |              | 35.8<br>43.0                                      | 85 x 131<br>1.150                                     | 4                         |
| 31-10526    | LKT 3,33-440-EP | 1 x 54.8                  | 0.9<br>1.1  | 1.4<br>1.6   | 2.8<br>3.3  | 3.0<br>3.6  | 3.33<br>4.0 |             |              | 7.6<br>9.1  | 60 x 90<br>0.325                                      | 9                         |
| 31-10527    | LKT 4,17-440-EP | 1 x 68.6                  | 1.1<br>1.4  | 1.7<br>2.0   | 3.4<br>4.1  | 3.7<br>4.5  | 4.17<br>5.0 |             |              | 9.5<br>11.4                                       | 60 x 138<br>0.500                                     | 9                         |
| 31-10528    | LKT 5-440-EP    | 1 x 82.2                  | 1.4<br>1.6  | 2.0<br>2.4   | 4.1<br>5.0  | 4.4<br>5.33 | 5.0<br>6.0  |             |              | 11.4<br>13.6                                      | 60 x 138<br>0.500                                     | 9                         |
| 31-10384    | LKT 9,4-440-EP  | 1 x 154.6                 | 2.6<br>3.1  | 3.6<br>4.3   | 7.8<br>9.3  | 8.4<br>10.0 | 9.4<br>11.3 |             |              | 21.4<br>25.6                                      | 70 x 153<br>0.650                                     | 9                         |
| 31-10529    | LKT 2,4-480-EP  | 1 x 33.2                  | 0.6<br>0.7  | 0.8<br>1.0   | 1.7<br>2.0  | 1.8<br>2.15 | 2.0<br>2.4  | 2.4<br>2.9  |              | 5.0<br>6.0  | 60 x 90<br>0.325                                      | 9                         |
| 31-10530    | LKT 3,33-480-EP | 1 x 46.0                  | 0.8<br>0.9  | 1.1<br>1.4   | 2.3<br>2.8  | 2.5<br>3.0  | 2.8<br>3.4  | 3.33<br>4.0 |              | 6.9<br>8.3  | 60 x 90<br>0.325                                      | 9                         |
| 31-10531    | LKT 3,6-480-EP  | 1 x 49.7                  | 0.8<br>1.0  | 1.2<br>1.5   | 2.5<br>3.0  | 2.7<br>3.2  | 3.0<br>3.6  | 3.6<br>4.3  |              | 7.5<br>9.0  | 60 x 138<br>0.500                                     | 9                         |
| 31-10515    | LKT 4,8-480-EP  | 1 x 66.3                  | 1.1<br>1.3  | 1.6<br>2.0   | 3.33<br>4.0 | 3.6<br>4.3  | 4.0<br>4.8  | 4.8<br>5.8  |              | 10.0<br>12.0                                      | 60 x 138<br>0.500                                     | 9                         |
| 31-10514    | LKT 6-480-EP    | 1 x 82.9                  | 1.4<br>1.7  | 2.0<br>2.5   | 4.17<br>5.0 | 4.5<br>5.4  | 5.0<br>6.0  | 6.0<br>7.2  |              | 12.5<br>15.0                                      | 60 x 138<br>0.500                                     | 9                         |
| 31-10532    | LKT 2,8-525-EP  | 1 x 32.3                  | 0.5<br>0.6  | 0.8<br>1.0   | 1.6<br>1.9  | 1.7<br>2.1  | 2.0<br>2.4  | 2.3<br>2.8  | 2.8<br>3.4   | 5.3<br>6.4  | 60 x 90<br>0.325                                      | 9                         |
| 31-10533    | LKT 3,33-525-EP | 1 x 38.5                  | 0.6<br>0.8  | 1.0<br>1.1   | 1.9<br>2.3  | 2.1<br>2.5  | 2.3<br>2.8  | 2.8<br>3.3  | 3.33<br>4.0  | 6.3<br>7.6  | 60 x 138<br>0.500                                     | 9                         |
| 31-10385    | LKT 8,33-525-EP | 1 x 96.2                  | 1.6<br>1.9  | 2.4<br>2.9   | 4.8<br>5.8  | 5.2<br>6.3  | 5.9<br>7.0  | 7.0<br>8.33 | 8.33<br>10.0 | 15.9<br>19.0                                      | 70 x 153<br>0.650                                     | 9                         |

# Components

Power Capacitors and accessories

## Premium Capacitors (three-phase, $V_N$ : 400 V...480 V)

### Type LKT...-DL for 50 Hz / 60 Hz

| Article-No. | Type            | Capacitance<br>[ $\mu$ F] | Rated Reactive Power in kvar at<br>Rated Voltage ( $V_N$ )<br>50 Hz / 60 Hz |              |              |              |              |              |              | Rated<br>current at $V_N$<br>50 Hz / 60 Hz<br>[A] | Dimensions<br>(d x h)<br>Weight (net)<br>[mm]<br>[kg] | Packing<br>Unit<br>(pcs.) |
|-------------|-----------------|---------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|---|---|---------------------------|
|             |                 |                           | 230V  | 400V         | 415V         | 440V         | 460V         | 480V         | 525V         |   |   |                           |
| 31-10598    | LKT 1-400-DL    | 3 x 6.6                   | 0.3<br>0.4  | 1.0<br>1.2   | 1.1<br>1.3   | 1.2<br>1.5   |              |              |              | 1.4<br>1.7  | 60 x 150<br>0.550                                     | 9                         |
| 31-10599    | LKT 1,5-400-DL  | 3 x 9.9                   | 0.5<br>0.6  | 1.5<br>1.8   | 1.6<br>1.9   | 1.8<br>2.2   |              |              |              | 2.2<br>2.6  | 60 x 150<br>0.550                                     | 9                         |
| 31-10600    | LKT 5-400-DL    | 3 x 33.2                  | 1.66<br>2.0   | 5.0<br>6.0   | 5.4<br>6.5   | 6.1<br>7.3   |              |              |              | 7.2<br>8.7  | 60 x 225<br>0.800                                     | 9                         |
| 31-10601    | LKT 6,25-400-DL | 3 x 41.4                  | 2.1<br>2.5  | 6.25<br>7.5  | 6.7<br>8.1   | 7.6<br>9.1   |              |              |              | 9.0<br>10.8                                       | 60 x 225<br>0.800                                     | 9                         |
| 31-10602    | LKT 9,3-400-DL  | 3 x 61.7                  | 3.0<br>3.7  | 9.3<br>11.1  | 10.0<br>12.0 | 11.3<br>13.5 |              |              |              | 13.4<br>16.1                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10603    | LKT 10-400-DL   | 3 x 66.3                  | 3.33<br>4.0   | 10.0<br>12.0 | 10.8<br>12.9 | 12.1<br>14.5 |              |              |              | 14.4<br>17.3                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10604    | LKT 11,7-400-DL | 3 x 77.6                  | 3.9<br>4.6  | 11.7<br>14.0 | 12.6<br>15.1 | 14.2<br>17.0 |              |              |              | 16.9<br>20.3                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10386    | LKT 12,5-400-DL | 3 x 82.9                  | 4.17<br>5.0   | 12.5<br>15.0 | 13.5<br>16.2 | 15.1<br>18.2 |              |              |              | 18.0<br>21.7                                      | 70 x 265<br>1.200                                     | 9                         |
| 31-10606    | LKT 20-400-DL   | 3 x 132.6                 | 6.6<br>7.9  | 20.0<br>24.0 | 21.5<br>25.8 | 24.2<br>29.0 |              |              |              | 28.9<br>34.6                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10607    | LKT 5,0-440-DL  | 3 x 27.4                  | 1.4<br>1.66   | 4.17<br>5.0  | 4.5<br>5.4   | 5.0<br>6.0   | 5.5<br>6.6   | 6.0<br>7.1   |              | 6.6<br>7.9  | 60 x 225<br>0.800                                     | 9                         |
| 31-10608    | LKT 7,6-440-DL  | 3 x 41.7                  | 2.1<br>2.5  | 6.25<br>7.5  | 6.8<br>8.1   | 7.6<br>9.1   | 8.33<br>10.0 | 9.0<br>10.9  |              | 10.0<br>12.0                                      | 60 x 225<br>0.800                                     | 9                         |
| 31-10387    | LKT 9,1-440-DL  | 3 x 49.9                  | 2.5<br>3.0  | 7.5<br>9.0   | 8.1<br>9.7   | 9.1<br>10.9  | 10.0<br>11.9 | 10.8<br>13.0 |              | 11.9<br>14.3                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10610    | LKT 12,1-440-DL | 3 x 66.3                  | 3.33<br>4.0   | 10.0<br>12.0 | 10.8<br>12.9 | 12.1<br>14.5 | 13.2<br>15.9 | 14.4<br>17.3 |              | 15.9<br>19.1                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10612    | LKT 17,6-440-DL | 3 x 96.5                  | 4.8<br>5.8  | 14.5<br>17.4 | 15.6<br>18.8 | 17.6<br>21.1 | 19.2<br>23.1 | 21.0<br>25.1 |              | 23.1<br>27.7                                      | 85 x 278<br>1.850                                     | 4                         |
| 31-10613    | LKT 3,6-480-DL  | 3 x 16.6                  | 0.8<br>1.0  | 2.5<br>3.0   | 2.7<br>3.2   | 3.0<br>3.6   | 3.33<br>4.0  | 3.6<br>4.3   | 4.3<br>5.2   | 4.3<br>5.2  | 60 x 150<br>0.550                                     | 9                         |
| 31-10388    | LKT 4,5-480-DL  | 3 x 20.7                  | 1.0<br>1.2  | 3.1<br>3.8   | 3.4<br>4.0   | 3.8<br>4.6   | 4.1<br>5.0   | 4.5<br>5.4   | 5.4<br>6.5   | 5.4<br>6.5  | 60 x 225<br>0.800                                     | 9                         |
| 31-10615    | LKT 7,2-480-DL  | 3 x 33.2                  | 1.7<br>2.0  | 5.0<br>6.0   | 5.4<br>6.5   | 6.0<br>7.2   | 6.66<br>7.9  | 7.2<br>8.6   | 8.6<br>10.3  | 8.7<br>10.4                                       | 60 x 225<br>0.800                                     | 9                         |
| 31-10616    | LKT 7,8-480-DL  | 3 x 35.9                  | 1.8<br>2.1  | 5.4<br>6.5   | 5.8<br>7.0   | 6.5<br>7.9   | 7.2<br>8.6   | 7.8<br>9.3   | 9.3<br>11.2  | 9.4<br>11.3                                       | 60 x 225<br>0.800                                     | 9                         |
| 31-10617    | LKT 10,4-480-DL | 3 x 47.9                  | 2.4<br>2.9  | 7.3<br>8.7   | 7.8<br>9.3   | 8.8<br>10.5  | 9.6<br>11.5  | 10.4<br>12.5 | 12.4<br>14.9 | 12.5<br>15.0                                      | 70 x 225<br>1.050                                     | 9                         |
| 31-10618    | LKT 12,5-480-DL | 3 x 57.6                  | 2.9<br>3.4  | 8.7<br>10.4  | 9.4<br>11.2  | 10.5<br>12.6 | 11.5<br>13.8 | 12.5<br>15.0 | 15.0<br>17.9 | 15.0<br>18.0                                      | 70 x 265<br>1.200                                     | 9                         |
| 31-10389    | LKT 15,5-480-DL | 3 x 71.4                  | 3.6<br>4.3  | 10.8<br>12.9 | 11.6<br>13.9 | 13.0<br>15.6 | 14.2<br>17.1 | 15.5<br>18.6 | 18.5<br>22.3 | 18.6<br>22.4                                      | 85 x 278<br>1.850                                     | 4                         |

Generally, "Premium" (DL-type) capacitors can also be operated at higher voltages with the "Standard" (DP-type) specification. Please note that the DP values in the chart are shaded dark grey.

# Components

Power Capacitors and accessories

1

## Premium Capacitors (three-phase, $V_N = 525\text{ V}$ )

Typ LKT...-DL for 50 Hz / 60 Hz

| Article-No. | Type            | Capacitance<br>[ $\mu\text{F}$ ] | Rated Reactive Power in kvar at<br>Rated Voltage ( $V_N$ )<br>50 Hz / 60 Hz |            |              |             |              |             |              |             | Rated<br>current at $V_N$<br>50 Hz / 60 Hz<br>[A] | Dimensions<br>(d x h)<br>Weight (net)<br>[mm]<br>[kg] | Packing<br>Unit<br>(pcs.) |
|-------------|-----------------|----------------------------------|---|------------|--------------|-------------|--------------|-------------|--------------|-------------|---|---|---------------------------|
|             |                 |                                  | 400V  | 415V       | 440V         | 480V        | 525V         | 570V        | 615V         |             |   |   |                           |
| 31-10619    | LKT 4,17-525-DL | 3x 16.1                          | 2.4<br>2.9  | 2.6<br>3.1 | 2.9<br>3.5   | 3.5<br>4.2  | 4.17<br>5.0  | 4.9<br>5.9  | 5.7<br>6.9   | 4.6<br>5.5  | 60 x 225<br>0.800                                 | 9   |                           |
| 31-10620    | LKT 5,9-525-DL  | 3x 22.7                          | 3.4<br>4.1  | 3.7<br>4.4 | 4.17<br>4.97 | 5.0<br>5.9  | 5.9<br>7.1   | 7.0<br>8.4  | 8.1<br>9.7   | 6.5<br>7.8  | 60 x 225<br>0.800                                 | 9   |                           |
| 31-10621    | LKT 7,7-525-DL  | 3x 29.6                          | 4.5<br>5.4  | 4.8<br>5.8 | 5.4<br>6.5   | 6.5<br>7.8  | 7.7<br>9.3   | 9.1<br>10.9 | 10.6<br>12.7 | 8.5<br>10.2 | 70 x 225<br>1.050                                 | 9   |                           |
| 31-10622    | LKT 8,33-525-DL | 3x 32.1                          | 4.8<br>5.8  | 5.2<br>6.2 | 5.8<br>7.0   | 7.0<br>8.33 | 8.33<br>10.0 | 9.8<br>11.8 | 11.4<br>13.7 | 9.2<br>11.0 | 70 x 225<br>1.050                                 | 9   |                           |

Generally, "Premium" (DL-type) capacitors can also be operated at higher voltages with the "Standard" (DP-type) specification. Please note that the DP values in the chart are shaded dark grey.

## Heavy Duty Capacitors (three-phase, $V_N: 480\text{ V}..525\text{ V}$ )

Typ LKT...-HD for 50 Hz / 60 Hz

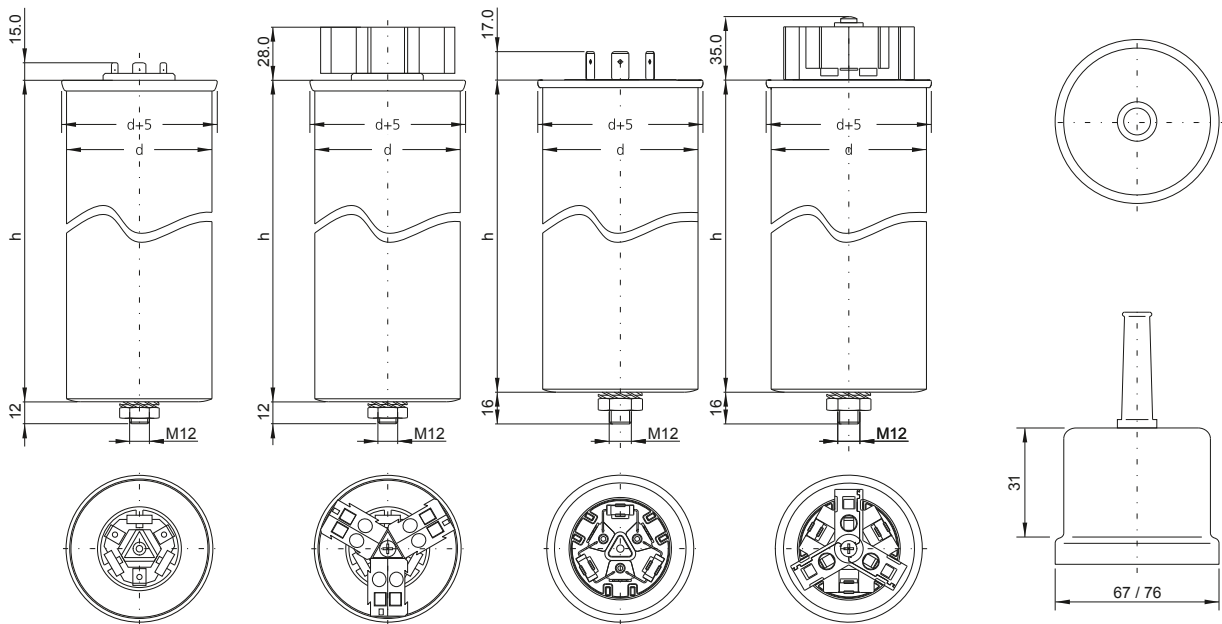
| Article-No. | Type            | Capacitance<br>[ $\mu\text{F}$ ] | Rated Reactive Power in kvar at<br>Rated Voltage ( $V_N$ )<br>50 Hz / 60 Hz |              |              |              |              |              |              |              | Rated<br>current at $V_N$<br>50 Hz / 60 Hz<br>[A] | Dimensions<br>(d x h)<br>Weight (net)<br>[mm]<br>[kg] | Packing<br>Unit<br>(pcs.) |
|-------------|-----------------|----------------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---|---|---------------------------|
|             |                 |                                  | 400V  | 415V         | 440V         | 460V         | 480V         | 500V         | 525V         |              |   |   |                           |
| 31-10580    | LKT 16,8-480-HD | 3 x 77.4                         | 11.7<br>14.0  | 12.6<br>15.1 | 14.1<br>16.9 | 15.4<br>18.5 | 16.8<br>20.2 |              |              | 20.2<br>24.2 | 85 x 215<br>1.500                                 | 4   |                           |
| 31-10581    | LKT 18,0-480-HD | 3 x 82.9                         | 12.5<br>15.0  | 13.5<br>16.2 | 15.1<br>18.2 | 16.5<br>19.8 | 18.0<br>21.6 |              |              | 21.7<br>26.0 | 85 x 215<br>1.500                                 | 4   |                           |
| 31-10582    | LKT 15,6-500-HD | 3 x 66.2                         | 10.0<br>12.0  | 10.8<br>12.9 | 12.1<br>14.5 | 13.2<br>15.8 | 14.4<br>17.3 | 15.6<br>18.7 |              | 18.0<br>21.6 | 85 x 215<br>1.500                                 | 4   |                           |
| 31-10583    | LKT 16,1-500-HD | 3 x 68.3                         | 10.3<br>12.4  | 11.1<br>13.3 | 12.5<br>15.0 | 13.6<br>16.4 | 14.8<br>17.8 | 16.1<br>19.3 |              | 18.6<br>22.3 | 85 x 215<br>1.500                                 | 4   |                           |
| 31-10584    | LKT 16,8-500-HD | 3 x 71.3                         | 10.8<br>12.9  | 11.6<br>13.9 | 13.0<br>15.6 | 14.2<br>17.1 | 15.5<br>18.6 | 16.8<br>20.2 |              | 19.4<br>23.3 | 85 x 215<br>1.500                                 | 4   |                           |
| 31-10585    | LKT 18,0-525-HD | 3 x 69.3                         | 10.5<br>12.5  | 11.3<br>13.5 | 12.6<br>15.2 | 13.8<br>16.6 | 15.1<br>18.1 | 16.3<br>19.6 | 18.0<br>21.6 | 19.8<br>23.8 | 85 x 215<br>1.500                                 | 4   |                           |

# Components

Power Capacitors and accessories

1

## Dimensions



**Three-phase capacitor with d = 60/70 mm**

For connection with flat cable plug 6.3 × 0.8 mm

**Three-phase capacitor with d = 60/70 mm**

Spring tension terminal AKD 25/3 for 2 × 6 mm<sup>2</sup>  
Art.-No. 31-08000

**Three-phase capacitor with d = 85 mm**

For connection with flat cable plug 9.5 × 1.2 mm

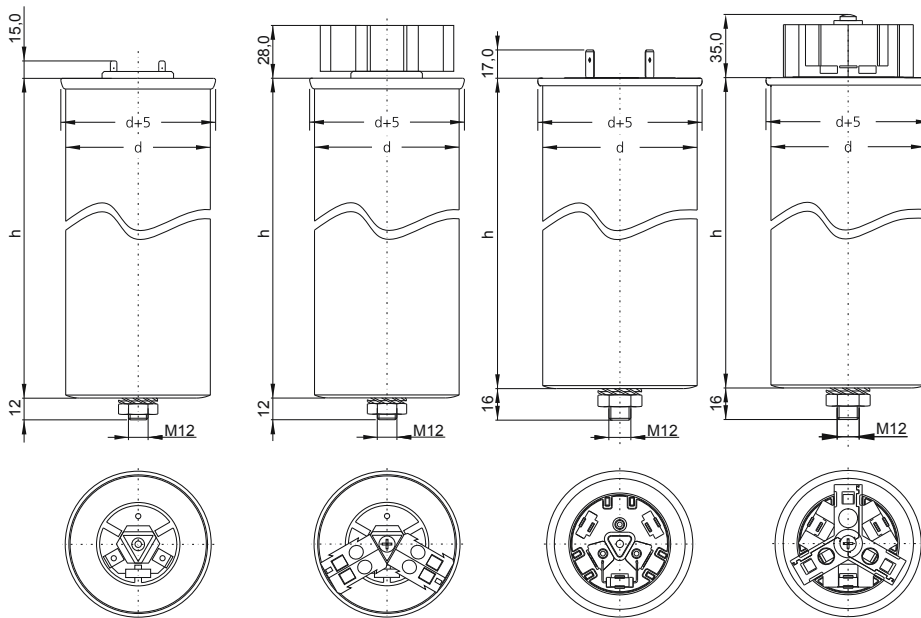
**Three-phase capacitor with d = 85 mm**

Spring tension terminal AKD 30/3 for 16 mm<sup>2</sup>  
Art.-No. 31-08003

**Plastic cap and rubber sleeve LKK 60/70 for capacitors with:**

d = 60 mm (Art.-No. 69-00352) / d = 70 mm (Art.-No. 69-00350) (not available for capacitors with d = 85 mm)

Rubber sleeve for insulating cap Art.-No. 69-00353



**Single-phase capacitor with d = 60/70 mm**

For connection with flat cable plug 6.3 × 0.8 mm

**Single-phase capacitor with d = 60/70 mm**

Spring tension terminal AKD 25/2 for 2 × 6 mm<sup>2</sup>  
Art.-No. 31-08002

**Single-phase capacitor with d = 85 mm**

For connection with flat cable plug 9.5 × 1.2 mm

**Single-phase capacitor with d = 85 mm**

Spring tension terminal AKD 30/2 for 16 mm<sup>2</sup>  
Art.-No. 31-08004