

# 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> 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 16.8–21.6 kvar
Capacitance tolerance <sup>2)</sup>	-5 / +5 %			
Dielectric losses	0.2 W / kvar			
Power loss <sup>3)</sup>	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 1.15 x V <sub>N</sub> – 30 minutes daily 1.20 x V <sub>N</sub> – 5 minutes 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> 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> 450 x I <sub>N</sub>
Test voltage (metal film–metal film)	2.15 x V <sub>N</sub> , 2 seconds 1.85 x V <sub>N</sub> , 10 seconds			
Test voltage (metal film–casing)	V <sub>N</sub> < 600 V = 3.9 kV, 2 seconds 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 3.9 / 12 kV 4.3 / 8 kV 4.3 / 12 kV			
Temperature class	-25 / D	-40 / 60	-40 / 65	-40 / 60 -40 / 68
Min. / max. temperature <sup>4)</sup>	-25 / +55 °C	-40 / +60 °C	-40 / +65 °C	-40 / +60 °C -40 / +68 °C
Max. casing temperature	+70 °C	+75 °C	+78 °C	+75 °C +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	130 000 h	160 000 h	200 000 h	160 000 h 250 000 h
Max. number of switching cycles per year	20 000	40 000	60 000	40 000 100 000

<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> Total power loss incl. discharge resistor

<sup>4)</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 [ $\mu$ F]	Rated Reactive Power in kvar at Rated Voltage ( $V_N$ ) 50 Hz / 60 Hz							Rated current at $V_N$ 50 Hz / 60 Hz [A]	Dimensions (d x h) Weight (net) [mm] [kg]	Packing Unit (pcs.)
			230V	300V	400V	415V	440V	480V	525V			
31-10414	LKT 5-400-DB	3 x 33.2	1.66 2.0	2.8 3.33	5.0 6.0					7.2 8.7	60 x 150 0.590	9
31-10400	LKT 6.25-400-DB	3 x 41.4	2.1 2.5	3.5 4.2	6.25 7.5					9.0 10.8	60 x 150 0.590	9
31-10415	LKT 7.5-400-DB	3 x 49.7	2.5 3.0	4.2 5.1	7.5 9.0					10.8 13.0	60 x 150 0.590	9
31-10416	LKT 10-400-DB	3 x 66.3	3.33 4.0	5.6 6.8	10.0 12.0					14.4 17.3	60 x 225 0.840	9
31-10401	LKT 12.5-400-DB	3 x 82.9	4.17 5.0	7.0 8.4	12.5 15.0					18.0 21.7	60 x 225 0.840	9
31-10417	LKT 15-400-DB	3 x 99.5	5.0 6.0	8.4 10.1	15.0 18.0					21.7 26.0	70 x 225 1.090	9
31-10418	LKT 20-400-DB	3 x 132.6	6.66 7.9	11.3 13.5	20.0 24.0					28.9 34.6	85 x 215 1.550	4
31-10402	LKT 25-400-DB	3 x 165.8	8.33 9.9	14.1 16.9	25.0 30.0					36.1 43.3	85 x 278 1.900	4
31-10403	LKT 30-400-DB	3 x 198.9	9.9 11.9	16.9 20.3	30.0 36.0					43.3 52.0	85 x 320 2.200	4
31-10404	LKT 6.25-440-DB	3 x 34.3	1.7 2.0	2.9 3.5	5.2 6.2	5.6 6.7	6.25 7.5			8.2 9.8	60 x 150 0.590	9
31-10412	LKT 10-440-DB	3 x 54.8	2.7 3.33	4.7 5.6	8.33 9.9	8.9 10.7	10.0 12.0			13.1 15.7	60 x 225 0.840	9
31-10379	LKT 12.5-440-DB	3 x 68.5	3.4 4.1	5.8 7.0	10.3 12.4	11.1 13.3	12.5 15.0			16.4 19.7	70 x 225 1.090	9
31-10406	LKT 15-440-DB	3 x 82.2	4.1 4.9	7.0 8.4	12.4 14.9	13.3 16.0	15.0 18.0			19.7 23.6	70 x 225 1.090	9
31-10436	LKT 20-440-DB	3 x 109.6	5.5 6.66	9.3 11.2	16.5 19.8	17.8 21.4	20.0 24.0			26.2 31.5	85 x 215 1.550	4
31-10407	LKT 25-440-DB	3 x 137.0	6.8 8.2	11.6 14.0	20.7 24.8	22.2 26.7	25.0 30.0			32.8 39.4	85 x 278 1.900	4
31-10437	LKT 28.2-440-DB	3 x 154.6	7.7 9.2	13.1 15.7	23.3 27.9	25.0 30.0	28.2 33.8			37.0 44.4	85 x 278 1.900	4
31-10408	LKT 30-440-DB	3 x 165.8	8.3 9.9	14.1 16.9	25.0 30.0	26.9 32.3	30.3 36.3			39.7 47.6	85 x 278 1.900	4
31-10440	LKT 7.2-480-DB	3 x 33.2	1.7 2.0	2.8 3.4	5.0 6.0	5.4 6.5	6.1 7.3	7.2 8.6		8.7 10.4	60 x 225 0.840	9
31-10441	LKT 14.4-480-DB	3 x 66.3	3.3 4.0	5.6 6.8	10.0 12.0	10.8 12.9	12.1 14.5	14.4 17.3		17.3 20.8	70 x 225 1.090	9
31-10442	LKT 18-480-DB	3 x 82.9	4.17 5.0	7.0 8.4	12.5 15.0	13.5 16.2	15.1 18.2	18.0 21.6		21.7 26.0	70 x 265 1.240	9
31-10443	LKT 28.8-480-DB	3 x 132.6	6.6 7.9	11.3 13.5	20.0 24.0	21.5 25.8	24.2 29.0	28.8 34.6		34.6 41.6	85 x 278 1.900	4
31-10438	LKT 33.3-480-DB	3 x 153.4	7.7 9.2	13.0 15.6	23.1 27.8	24.9 29.9	28.0 33.6	33.3 40.0		40.1 48.1	85 x 320 2.200	4
31-10409	LKT 6.25-525-DB	3 x 24.1	1.2 1.4	2.0 2.4	3.6 4.4	3.9 4.7	4.4 5.3	5.2 6.3	6.25 7.5	6.9 8.2	60 x 150 0.590	9
31-10435	LKT 10-525-DB	3 x 38.5	1.9 2.3	3.3 3.9	5.8 7.0	6.3 7.5	7.0 8.4	8.4 10.0	10.0 12.0	11.0 13.2	60 x 225 0.840	9
31-10410	LKT 12.5-525-DB	3 x 48.1	2.4 2.9	4.1 4.9	7.3 8.7	7.8 9.4	8.8 10.5	10.4 12.5	12.5 15.0	13.7 16.5	70 x 225 1.090	9
31-10419	LKT 15-525-DB	3 x 57.7	2.9 3.5	4.9 5.9	8.7 10.5	9.4 11.3	10.5 12.6	12.5 15.1	15.0 18.0	16.5 19.8	70 x 225 1.090	9