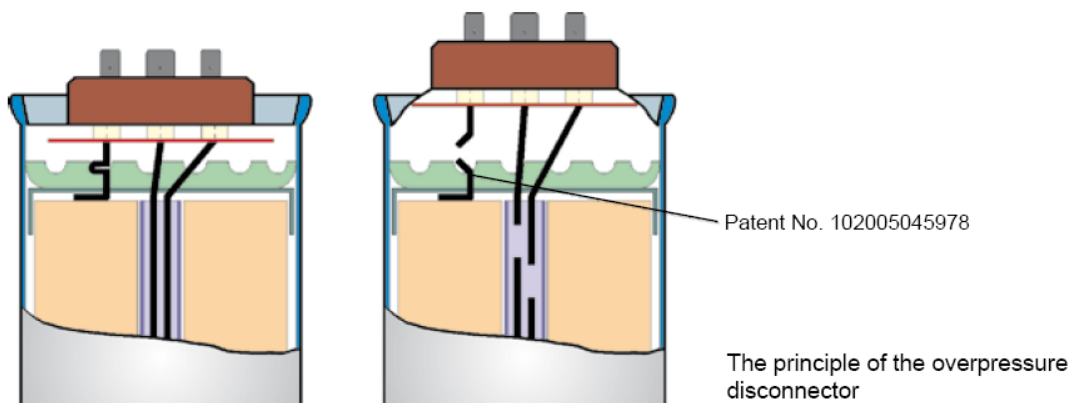


Power Factor Correction Capacitors Type LKT



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.

/ Voltage Load Capacity

FRAKO Power Factor Correction Capacitors have a load capacity in accordance with EN 60831-1 and -2 as well as IEC 831-1 and -2.

Rated voltage	300 VAC	400 VAC	440 VAC	480 VAC	525 VAC	610 VAC
8 hours daily	330 VAC	440 VAC	484 VAC	528 VAC	578 VAC	671 VAC
30 min. daily	345 VAC	460 VAC	506 VAC	552 VAC	604 VAC	702 VAC
5 min.	360 VAC	480 VAC	528 VAC	576 VAC	630 VAC	732 VAC
1 min.	390 VAC	520 VAC	572 VAC	624 VAC	683 VAC	794 VAC

/ Application

FRAKO manufactures three series of Power Factor Correction Capacitors: Basic, Standard and Premium. We recommend Basic Capacitors for standard automatic Power Factor Correction Systems without detuning and for fixed capacitors. Standard capacitors are recommended for automatic detuned Power Factor Correction Systems and fixed capacitors. Premium capacitors should be used for tuned and detuned filter circuits and for dynamic Power Factor Correction Systems. All three series of capacitors are of excellent **FRAKO** quality. **FRAKO** holds the Management System Certificate **ISO 9001** and the Environmental Management System **ISO 14001**.

/ Mechanical Construction

Cylindrical aluminium case with mounting stud M12 x 12, low loss self-healing dielectric made from segmented metallized polypropylene film. Filled with a PCB-free, flame inhibiting, mineral filler with adhesive stabilizer and integrated mechanical overpressure disconnector. Permanently connected external discharge resistors at the terminals. The connecting terminal, which is available as an accessory, protects against direct contact of the fast-on terminals and meets the protection class IP 20.

Power Factor Correction Capacitors

Type LKT



Technical Data

Technical Data	Basic Capacitor	Standard Capacitor	Premium Capacitor	
			operated with DL-specification	operated with DP-specification
Type	LKT...-DB	LKT...-DP	LKT...-DL	LKT...-DL
Rated reactive power	1.7 - 30 kvar	1.1 - 30 kvar	1.4 - 20 kvar	1.4 - 24.2 kvar
Rated voltage	230 - 525 V	230 - 525 V	400 - 525 V	400 - 610 V
Rated frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Max. overcurrent	$1.5 \times I_N$ (at rated voltage, 50 Hz)	$1.8 \times I_N$ (at rated voltage, 50 Hz)	$2.2 \times I_N$ (at rated voltage, 50 Hz)	$2.0 \times I_N$ (at rated voltage, 50 Hz)
Max. inrush current	$200 \times I_N$ (at rated voltage, 50 Hz)	$250 \times I_N$ (at rated voltage, 50 Hz)	$300 \times I_N$ (at rated voltage, 50 Hz)	$300 \times I_N$ (at rated voltage, 50 Hz)
Temperature class	-25/D	-40/+60°C continuous	-40/+65°C continuous	-40/+60°C continuous
Max./min. temperature	+55°C/-25°C	+60°C/-40°C	+65°C/-40°C	+60°C/-40°C
Max. case temperature	+70°C	+75°C	+78°C	+75°C
Test voltage terminal/terminal	$2.15 \times U_N$ for 2 sec. $1.85 \times U_N$ for 18 sec.	$2.15 \times U_N$ for 2 sec. $1.85 \times U_N$ for 18 sec.	$2.15 \times U_N$ for 2 sec. $1.85 \times U_N$ for 18 sec.	$2.15 \times U_N$ for 2 sec. $1.85 \times U_N$ for 18 sec.
Test voltage terminal/case	3,900 V, 2 sec.	3,900 V, 2 sec.	3,900 V, 2 sec.	3,900 V, 2 sec.
Isolation level	3/8 kV	3/8 kV	3/8 kV	3/8 kV
Mean Life expectancy	100,000 h	130,000 h	170,000 h	130,000 h
Max. humidity	95%	95%	95%	95%
Max. altitude	4,000 m	4,000 m	4,000 m	4,000 m
Number of annual switching operations	20,000	40,000	60,000	60,000
Discharging level in 60 sec.	≤50 V	≤50 V	≤50 V	≤50 V
Recommended for	Networks with low harmonic content and normal ambient temperature	Networks with higher harmonic levels and/or high ambient temperature	Demanding networks (i. e. very high harmonic levels and/or very high ambient temperature)	Networks with higher harmonic levels and/or high ambient temperature

Temperature class	admissible ambient temperature		
	maximum	mean over 24 h	highest mean over 1 year
D	55°C	45°C	35°C

Power Factor Correction Capacitors

Type LKT...-DB for 50 Hz and 60 Hz



Basic Capacitors

Capacitor Type	Dimensions mm	Article-No.	Rated Reactive Power in kvar at Rated Voltage 50 Hz								
			230 V	250 V	300 V	400 V	415 V	440 V	460 V	480 V	525 V
Three-phase capacitors											
LKT 5.0-400-DB	60×150	31-10414	1.7	2.0	2.8	5.0					
LKT 6.25-400-DB	60×150	31-10400	2.1	2.4	3.5	6.25					
LKT 7.5-400-DB	60×150	31-10415	2.5	2.9	4.2	7.5					
LKT 10.0-400-DB	60×225	31-10416	3.3	3.9	5.6	10.0					
LKT 12.5-400-DB	60×225	31-10401	4.2	4.9	7.0	12.5					
LKT 15.0-400-DB	70×225	31-10417	5.0	5.9	8.4	15.0					
LKT 20.0-400-DB	85×215	31-10418	6.7	7.8	11.3	20.0					
LKT 25.0-400-DB	85×278	31-10402	8.3	9.8	14.1	25.0					
LKT 30.0-400-DB	85×320	31-10403	9.9	11.7	16.9	30.0					
LKT 6.25-440-DB	60×150	31-10404	1.7			5.2	5.6	6.25			
LKT 10.0-440-DB	60×225	31-10412	2.7			8.3	8.9	10.0			
LKT 12.5-440-DB	60×225	31-10405	3.4			10.3	11.1	12.5			
LKT 15.0-440-DB	70×225	31-10406	4.1			12.4	13.3	15.0			
LKT 20.0-440-DB	85×278	31-10413	5.5			16.5	17.8	20.0			
LKT 25.0-440-DB	85×278	31-10407	6.8			20.7	22.2	25.0			
LKT 30.0-440-DB	85×278	31-10408	8.2			24.8	26.7	30.0			
LKT 6.25-525-DB	60×225	31-10409				3.6	3.9	4.4	5.2	6.25	
LKT 12.5-525-DB	70×225	31-10410				7.3	7.8	8.8	10.4	12.5	
LKT 15.0-525-DB	70×225	31-10419				8.7	9.4	10.5	12.5	15.0	
LKT 20.0-525-DB	70×265	31-10420				11.6	12.5	14.1	16.7	20.0	
LKT 25.0-525-DB	85×278	31-10411				14.5	15.6	17.6	20.9	25.0	

Power Factor Correction Capacitors

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



Standard Capacitors

Capacitor Type	Dimensions mm	Article-No.	Rated Reactive Power in kvar at Rated Voltage 50 Hz							
			230 V	250 V	300 V	400 V	415 V	440 V	480 V	525 V
Three-phase capacitors										
LKT 7.1-300-DP	60×225	31-10523	4.2	4.9	7.1					
LKT 14.2-300-DP	70×265	31-10524	8.3	9.9	14.2					
LKT 21.3-300-DP	85×278	31-10525	12.5	14.8	21.3					
LKT 5.0-400-DP	60×150	31-10500	1.7	2.0	2.8	5.0				
LKT 10.0-400-DP	60×225	31-10501	3.3	3.9	5.6	10.0				
LKT 12.5-400-DP	70×225	31-10502	4.2	4.9	7.0	12.5				
LKT 15.0-400-DP	70×265	31-10503	5.0	5.9	8.4	15.0				
LKT 20.0-400-DP	85×278	31-10504	6.7	7.8	11.3	20.0				
LKT 25.0-400-DP	85×278	31-10505	8.3	9.8	14.1	25.0				
LKT 3.8-440-DP	60×150	31-10534	1.0			3.1	3.4	3.8		
LKT 10.0-440-DP	60×225	31-10508	2.7			8.3	8.9	10.0		
LKT 12.5-440-DP	70×225	31-10507	3.4			10.3	11.1	12.5		
LKT 15.0-440-DP	70×225	31-10506	4.1			12.4	13.3	15.0		
LKT 20.0-440-DP	85×278	31-10512	5.5			16.5	17.8	20.0		
LKT 25.0-440-DP	85×278	31-10510	6.8			20.7	22.2	25.0		
LKT 28.2-440-DP	85×320	31-10535	8.0			23.3	25.0	28.2		
LKT 30.0-440-DP	85×325	31-10509	8.2			24.8	26.7	30.0		
LKT 15.5-480-DP	70×225	31-10513	3.6			10.8	11.6	13.1	15.5	
LKT 18.0-480-DP	70×265	31-10522	4.2			12.5	13.5	15.1	18.0	
LKT 10.0-525-DP	70×225	31-10517				5.8	6.3	7.0	8.3	10.0
LKT 12.5-525-DP	70×225	31-10516				7.3	7.8	8.8	10.4	12.5
LKT 15.0-525-DP	70×265	31-10520				8.7	9.4	10.5	12.5	15.0
LKT 20.0-525-DP	85×278	31-10521				11.6	12.5	14.1	16.7	20.0
LKT 25.0-525-DP	85×278	31-10519				14.5	15.6	17.6	20.9	25.0
Single-phase capacitors										
LKT 3.33-440-EP	60×90	31-10526	0.9			2.8	3.0	3.3		
LKT 4.17-440-EP	60×138	31-10527	1.1			3.4	3.7	4.2		
LKT 5.0-440-EP	60×138	31-10528	1.4			4.1	4.4	5.0		
LKT 9.4-440-EP	70×138	31-10511	2.6			7.8	8.4	9.4		
LKT 2.4-480-EP	60×90	31-10529	0.6			1.7	1.8	2.0	2.4	
LKT 3.33-480-EP	60×90	31-10530	0.8			2.3	2.5	2.8	3.3	
LKT 3.6-480-EP	60×138	31-10531	0.8			2.5	2.7	3.0	3.6	
LKT 4.8-480-EP	60×138	31-10515	1.1			3.3	3.6	4.0	4.8	
LKT 6.0-480-EP	60×138	31-10514	1.4			4.2	4.5	5.0	6.0	
LKT 2.8-525-EP	60×90	31-10532				1.6	1.8	2.0	2.3	2.8
LKT 3.33-525-EP	60×138	31-10533				1.9	2.1	2.3	2.8	3.4
LKT 8.33-525-EP	70×138	31-10518				4.8	5.2	5.9	7.0	8.3

Power Factor Correction Capacitors

Type LKT...-DL for 50Hz and 60Hz



Premium Capacitors

Capacitor Type	Dimensions mm	Article-No.	Rated Reactive Power in kvar at Rated Voltage 50 Hz						
			230V	400V	415V	440V	480V	525V	610V
Three-phase capacitors									
LKT 5.0-400-DL	60×225	31-10600	1.7	5.0	5.4*	6.1*			
LKT 6.25-400-DL	60×225	31-10601	2.1	6.25	6.7*	7.6*			
LKT 9.3-400-DL	70×225	31-10602	3.0	9.3	10.0*	11.3*			
LKT 10.0-400-DL	70×225	31-10603	3.3	10.0	10.8*	12.1*			
LKT 11.7-400-DL	70×225	31-10604	3.9	11.7	12.6*	14.2*			
LKT 12.5-400-DL	70×225	31-10605	4.2	12.5	13.5*	15.1*			
LKT 20.0-400-DL	85×278	31-10606	6.7	20.0	21.5*	24.2*			
LKT 5.0-440-DL	60×225	31-10607	1.4	4.2	4.5	5.0	6.0*		
LKT 7.6-440-DL	60×225	31-10608	2.1	6.25	6.8	7.6	9.0*		
LKT 9.1-440-DL	60×225	31-10609	2.5	7.5	8.1	9.1	10.8*		
LKT 12.1-440-DL	70×225	31-10610	3.3	10.0	10.8	12.1	14.4*		
LKT 17.6-440-DL	85×278	31-10612	4.8	14.5	15.6	17.6	21.0*		
LKT 3.6-480-DL	60×150	31-10613		2.5	2.7	3.0	3.6	4.3*	
LKT 4.5-480-DL	60×150	31-10614		3.1	3.4	3.8	4.5	5.4*	
LKT 7.2-480-DL	60×225	31-10615		5.0	5.4	6.0	7.2	8.6*	
LKT 7.8-480-DL	60×225	31-10616		5.4	5.8	6.5	7.8	9.3*	
LKT 10.4-480-DL	70×225	31-10617		7.3	7.8	8.8	10.4	12.4*	
LKT 12.5-480-DL	70×265	31-10618		8.7	9.4	10.5	12.5	15.0*	
LKT 4.17-525-DL	60×225	31-10619				2.9	3.5	4.2	5.6*
LKT 5.9-525-DL	60×225	31-10620				4.2	5.0	5.9	8.0*
LKT 7.7-525-DL	70×225	31-10621				5.4	6.5	7.7	10.4*
LKT 8.3-525-DL	70×225	31-10622				5.8	7.0	8.3	11.3*