

Power Capacitors for Low Voltage (three-phase)

KNK1053, KNK9053 - Cylindrical Aluminium Housing



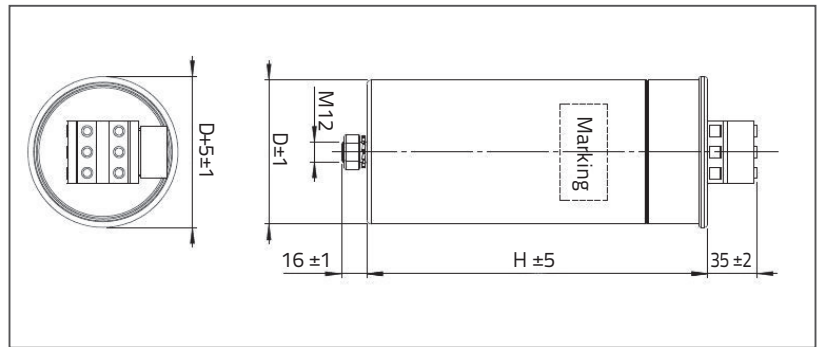
TECHNICAL DATA

Type	Symbol	Unit	KNK1053	KNK9053
Standards			IEC/EN 60831-1/2	
Connection			Delta (Three-phase)	
Rated reactive power	Q_n	kVar	up to 30	
Rated voltage	U_n	V	400 ~ 690	
Rated frequency	f_n	Hz	50 or 60	
Capacitance tolerance			-5/10 % (other on request)	
Dielectric losses		W/kVar	≤ 0.2	
Total losses		W/kVar	≤ 0.45	
Temperature category			-25/D	
Max. humidity			95 %	
Cooling			Forced ventilation or natural air cooled	
Max. overvoltage			1.1 x U_n (8 h/day)	
			1.15 x U_n (30 min/day)	
			1.2 x U_n (5 min - 200 times per life time)	
			1.3 x U_n (1 min - 200 times per life time)	
Max. overcurrent			1.5 x I_n (including combined effects of overvoltages, harmonics and capacitance tolerance)	
Inrush current			200 x I_n	
Expected life time			> 100000 h (temp. category D)	
			> 120000 h (temp. category C)	
Discharge resistor			to 75 V ≤ 3 min	
Altitude			up to 2000 m	
Insulation level			3.6/-	
Routine tests				
Terminal to terminal			2.15 x U_n , 2 s	
Terminal to case			3600 V, 10 s	
Sealing test			N/A	75 °C, 6 h
Mechanical parameters				
Terminal per phase / Max. torque / Max. current			2 x 25 mm ² / 3 Nm / 60 A	
Mounting and grounding / Max. torque			Threaded M12 bolt / 10 Nm	
Mounting position			Vertical with terminal pointing upwards or horizontal	Vertical with terminal pointing upwards
Protection			IP20	
Clearance distance			> 16 mm	
Creepage distance			> 16 mm	
Safety device			Overpressure disconnector (all phases)	
Material parameters				
Dielectric			Self healing metallized polypropylene film	
Filling			Dry	Non PCB biodegradable vegetable oil
Case			Aluminium	

PFC Capacitors for Low Voltage (three-phase)

KNK1053 - Cylindrical Aluminium Housing

400 ... 690 V, 10 ... 40 kVar



$f_n = 50 \text{ Hz}$ - Delta connection

C_n (μF)	Q_n (kVar)	I_n (A)	Q_n (kVar)	I_n (A)	Q_n (kVar)	I_n (A)	H (mm)	D (mm)	Weight (kg)	Packing unit (pcs)
$U_n = 400 \text{ V}$			$U_n = 400 \text{ V}$			$U_n = 380 \text{ V}$				
3 x 66.3	10	14.4	9	13.7			205	90	1.2	16
3 x 83.3	12.5	18	11.3	17.2			205	90	1.2	16
3 x 100	15	21.7	13.6	20.7			240	90	1.4	16
3 x 133	20	28.9	18.1	27.5			205	116	1.6	9
3 x 165.8	25	36.1	22.6	34.3			240	116	1.9	9
3 x 198.9	30	43.3	27.1	41.2			240	116	1.9	9
$U_n = 440 \text{ V}$			$U_n = 440 \text{ V}$			$U_n = 420 \text{ V}$			$U_n = 400 \text{ V}$	
3 x 54.9	10	13.1	9.1	12.5	8.3	12	205	90	1.2	16
3 x 68.6	12.5	16.4	11.5	15.8	10.4	15	205	90	1.2	16
3 x 82.3	15	19.7	13.7	18.8	12.4	17.9	240	90	1.4	16
3 x 110	20	26.2	18.3	25.2	16.6	24	205	116	1.6	9
3 x 137.1	25	32.8	22.8	31.3	20.7	29.9	240	116	1.9	9
3 x 164.4	30	39.4	27.3	37.5	24.8	35.8	280	116	2.3	9
$U_n = 480 \text{ V}$			$U_n = 480 \text{ V}$			$U_n = 440 \text{ V}$			$U_n = 440 \text{ V}$	
3 x 46.1	10	12	8.4	11	7	10.1	160	90	0.9	16
3 x 57.6	12.5	15	10.5	13.8	8.6	12.4	205	90	1.2	16
3 x 69.1	15	18	12.7	16.7	10.5	15.2	205	90	1.2	16
3 x 92.1	20	24	16.9	22.2	13.9	20.1	205	116	1.6	9
3 x 115.1	25	30.1	21	27.6	17.4	25.1	205	116	1.6	9
3 x 138.2	30	36.1	25.2	33.1	20.8	30	240	116	1.9	9
$U_n = 525 \text{ V}$			$U_n = 525 \text{ V}$			$U_n = 460 \text{ V}$			$U_n = 440 \text{ V}$	
3 x 38.5	10	11	7.7	9.7	7	9.2	205	90	1.2	16
3 x 48.2	12.5	13.8	9.6	12	8.8	11.5	240	90	1.4	16
3 x 57.8	15	16.5	11.5	14.4	10.5	13.8	240	90	1.4	16
3 x 77	20	22	15.3	19.2	14	18.4	205	116	1.6	9
3 x 96.3	25	27.5	19.2	24.1	17.6	23.1	240	116	1.9	9
3 x 115.5	30	33	23	28.9	21.1	27.7	240	116	1.9	9
3 x 154	40	44	30.6	38.4	28	36.8	305	136	2.3	1
$U_n = 690 \text{ V}$			$U_n = 690 \text{ V}$			$U_n = 690 \text{ V}$			$U_n = 690 \text{ V}$	
3 x 11.1	5	4.2					160	90	1.1	16
3 x 16.7	7.5	6.3					160	90	1.1	16
3 x 22.3	10	8.4					240	90	1.6	16
3 x 28	12.5	10.5					240	90	1.6	16
3 x 44.6	20	17					240	116	1.9	9
3 x 56	25	21					240	116	1.9	9
3 x 74	33	27.7					280	116	2.5	9

PFC Capacitors for Low Voltage (three-phase)

KNK1053 - Cylindrical Aluminium Housing



$f_n = 60 \text{ Hz}$

C_n (μF)	Q_n (kVar)	I_n (A)	Q_n (kVar)	I_n (A)	Q_n (kVar)	I_n (A)	H (mm)	D (mm)	Weight (kg)	Packing unit (pcs)
$U_n = 400 \text{ V}$		$U_n = 400 \text{ V}$		$U_n = 380 \text{ V}$						
3 x 55.3	10	14.4	9	13.7			160	90	0.9	16
3 x 69.7	12.5	18	11.3	17.2			205	90	1.2	16
3 x 82.9	15	21.7	13.6	20.7			205	90	1.2	16
3 x 110.5	20	28.9	18.1	27.5			240	90	1.4	16
3 x 138.2	25	36.1	22.6	34.3			205	116	1.6	9
3 x 165.8	30	43.3	27.1	41.2			240	116	1.9	9
$U_n = 440 \text{ V}$		$U_n = 440 \text{ V}$		$U_n = 420 \text{ V}$		$U_n = 400 \text{ V}$				
3 x 45.7	10	13.1	9.1	12.5	8.3	12	160	90	0.9	16
3 x 57.1	12.5	16.4	11.5	15.8	10.4	15	205	90	1.2	16
3 x 68.5	15	19.7	13.7	18.8	12.4	17.9	205	90	1.2	16
3 x 91.3	20	26.2	18.3	25.2	16.6	24	240	90	1.4	16
3 x 114.2	25	32.8	22.8	31.3	20.7	29.9	205	116	1.6	9
3 x 137	30	39.4	27.3	37.5	24.8	35.8	205	116	1.6	9
$U_n = 480 \text{ V}$		$U_n = 480 \text{ V}$		$U_n = 440 \text{ V}$		$U_n = 440 \text{ V}$				
3 x 38.4	10	12	8.5	11.1	7	10	160	90	0.9	16
3 x 48	12.5	15	10.7	14	8.8	12.7	205	90	1.2	16
3 x 57.6	15	18	12.8	16.7	10.3	14.9	205	90	1.2	16
3 x 76.7	20	24	17	22.3	14	20.2	240	90	1.4	16
3 x 96	25	30	21	27.6	17.3	25	205	116	1.6	9
3 x 115.1	30	36	25	33	21	30	205	116	1.6	9
$U_n = 525 \text{ V}$		$U_n = 525 \text{ V}$		$U_n = 460 \text{ V}$		$U_n = 440 \text{ V}$				
3 x 21.1	10	11	7.7	9.7	7	9.2	160	90	0.9	16
3 x 40.1	12.5	13.8	9.6	12	8.8	11.5	205	90	1.2	16
3 x 48.1	15	16.5	11.5	14.4	10.5	13.8	205	90	1.2	16
3 x 64.2	20	22	15.3	19.2	14	18.4	240	90	1.4	9
3 x 80.2	25	27.5	19.2	24.1	17.6	23.1	205	116	1.6	9
3 x 96.2	30	33	23	28.9	21.1	27.7	240	116	1.9	9
3 x 128.3	40	44	30.6	38.4	28	36.8	305	136	3.1	1