


PFC CAPACITORS FOR LOW VOLTAGE (THREE-PHASE)

KNK3053, KNK4053 - CYLINDRICAL ALUMINIUM HOUSING

| TECHNICAL DATA | | KNK3053 |  | KNK4053 |
|--|--------|---------|--|---|
| TYPE | SYMBOL | UNIT | | |
| STANDARDS | | | IEC/EN 60831-1/2 | |
| CONNECTION | | | DELTA (THREE-PHASE) | |
| RATED REACTIVE POWER | Q_n | kVar | UP TO 50 | |
| RATED VOLTAGE | U_n | V | 220 ~ 800 | |
| 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 | | | -40/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 (NORMAL DUTY) OR 2 x I_n (HEAVY DUTY) (INCLUDING COMBINED EFFECTS OF OVERVOLTAGES, HARMONICS AND CAPACITANCE TOLERANCE) | |
| INRUSH CURRENT | | | 200 x I_n | |
| EXPECTED LIFE TIME | | | > 120000 h (NORMAL DUTY) > 150000 h (HEAVY DUTY) | |
| DISCHARGE RESISTOR | | | TO 75 V ≤ 3 min | |
| ALTITUDE | | | UP TO 4000 m | |
| INSULATION LEVEL | | kV | 4/- | |
| ROUTINE TESTS | | | | |
| TERMINAL TO TERMINAL | | | 2.15 x U_n , 2 s | |
| TERMINAL TO CASE | | | 4000 V, 10 s | |
| SEALING TEST | | | N/A | 2.15 x U_n 10 s |
| MECHANICAL PARAMETERS | | | | |
| TERMINAL PER PHASE / TERMINAL HEIGHT (TH) / MAX. TORQUE / MAX. CURRENT | | | 2 x 25 mm ² / 35 mm / 3 Nm / 60 A for D ≥ 90 mm 2 x 16 mm ² / 30 mm / 2 Nm / 35 A for D = 75 mm | |
| 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 (FILLED WITH NON PCB POLYURETHANE RESIN) | NON PCB BIODEGRADABLE VEGETABLE OIL |
| CASE | | | ALUMINIUM | |
| REFERENCE STANDARD | | | | |
| | | | UL-CSA APPROVED (FILE NO. 163120) | |



VDE approved (Certificate No. 40052154)

PFC CAPACITORS FOR LOW VOLTAGE (THREE-PHASE)

KNK3053, KNK4053 - CYLINDRICAL ALUMINIUM HOUSING

$f_n = 60 \text{ Hz}$ - NORMAL DUTY

| C_n (μF) | Q_n (kVar) | I_n (A) | Q_n (kVar) | I_n (A) | Q_n (kVar) | I_n (A) | D (mm) | H (mm) | Weight (kg) | | Packing unit (pcs) | Approval cALus C22.2 No. 190 PROTECTED: 10 000 A/C |
|---|--------------|-----------|--------------|-----------|--------------|-----------|--------|--------|-------------|---------|--------------------|---|
| | | | | | | | | | KNK3053 | KNK4053 | | |
| $U_n = 690 \text{ V}$ | | | | | | | | | | | | |
| 3 x 9.3 | 5 | 4.2 | | | | | 75 | 165 | 0.9 | 0.8 | 16 | |
| 3 x 13.9 | 7.5 | 6.3 | | | | | 75 | 165 | 0.9 | 0.8 | 16 | |
| 3 x 18.6 | 10 | 8.4 | | | | | 75 | 210 | 1.1 | 1.0 | 16 | |
| 3 x 23.2 | 12.5 | 10.5 | | | | | 75 | 245 | 1.4 | 1.2 | 16 | |
| 3 x 27.9 | 15 | 12.6 | | | | | 75 | 245 | 1.4 | 1.2 | 16 | |
| 3 x 37.1 | 20 | 16.7 | | | | | 90 | 245 | 1.8 | 1.5 | 16 | |
| 3 x 46.4 | 25 | 20.9 | | | | | 90 | 245 | 1.8 | 1.5 | 16 | |
| 3 x 55.7 | 30 | 25.1 | | | | | 90 | 285 | 2.1 | 1.8 | 16 | |
| 3 x 74.3 | 40 | 33.5 | | | | | 116 | 245 | 3.0 | 2.6 | 9 | |
| $U_n = 800 \text{ V}$ | | | | | | | | | | | | |
| 3 x 6.9 | 5 | 3.6 | | | | | 75 | 165 | 0.9 | 0.8 | 16 | |
| 3 x 10.4 | 7.5 | 5.4 | | | | | 75 | 165 | 0.9 | 0.8 | 16 | |
| 3 x 13.8 | 10 | 7.2 | | | | | 75 | 210 | 1.1 | 1.0 | 16 | |
| 3 x 17.3 | 12.5 | 9 | | | | | 75 | 245 | 1.4 | 1.2 | 16 | |
| 3 x 20.7 | 15 | 10.8 | | | | | 90 | 210 | 1.5 | 1.3 | 16 | |
| 3 x 27.6 | 20 | 14.4 | | | | | 90 | 245 | 1.8 | 1.5 | 16 | |
| 3 x 34.5 | 25 | 18 | | | | | 90 | 285 | 2.1 | 1.8 | 16 | |
| 3 x 41.6 | 30 | 21.7 | | | | | 116 | 210 | 2.5 | 2.2 | 9 | |
| 3 x 55.3 | 40 | 28.9 | | | | | 116 | 245 | 3.0 | 2.6 | 9 | |

$f_n = 60 \text{ Hz}$ - HEAVY DUTY

| C_n (μF) | Q_n (kVar) | I_n (A) | Q_n (kVar) | I_n (A) | Q_n (kVar) | I_n (A) | D (mm) | H (mm) | Weight (kg) | | Packing unit (pcs) | Approval cALus C22.2 No. 190 PROTECTED: 10 000 A/C |
|---|--------------|-----------|--------------|-----------|--------------|-----------|--------|--------|-------------|---------|--------------------|---|
| | | | | | | | | | KNK3053 | KNK4053 | | |
| $U_n = 400 \text{ V}$ | | | | | | | | | | | | |
| 3 x 27.6 | 5 | 7.2 | 4.5 | 6.8 | | | 75 | 165 | 0.9 | 0.8 | 16 | ● |
| 3 x 41.5 | 7.5 | 10.8 | 6.7 | 10.2 | | | 75 | 210 | 1.1 | 1.0 | 16 | ● |
| 3 x 55.3 | 10 | 14.4 | 9 | 13.7 | | | 75 | 245 | 1.4 | 1.2 | 16 | ● |
| 3 x 69.1 | 12.5 | 18 | 11.3 | 17.2 | | | 90 | 210 | 1.5 | 1.3 | 16 | ● |
| 3 x 82.9 | 15 | 21.7 | 13.5 | 20.5 | | | 90 | 245 | 1.8 | 1.5 | 16 | ● |
| 3 x 110.5 | 20 | 28.9 | 18 | 27.3 | | | 90 | 285 | 2.1 | 1.8 | 16 | ● |
| 3 x 138.2 | 25 | 36.1 | 22.6 | 34.3 | | | 116 | 210 | 2.5 | 2.2 | 16 | ● |
| 3 x 165.8 | 30 | 43.1 | 27 | 41 | | | 116 | 245 | 3.0 | 2.6 | 9 | ● |
| 3 x 221.1 | 40 | 57.7 | 36.1 | 54.8 | | | 136 | 245 | 4.0 | 3.6 | 9 | ● |
| 3 x 276.3 | 50 | 72.2 | 45.1 | 68.6 | | | 136 | 285 | 4.6 | 4.1 | 2 | ● |
| $U_n = 440 \text{ V}$ | | | | | | | | | | | | |
| 3 x 22.8 | 5 | 6.6 | 4.1 | 5.9 | 3.7 | 5.6 | 75 | 165 | 0.9 | 0.8 | 16 | ● |
| 3 x 34.3 | 7.5 | 9.8 | 6.2 | 8.9 | 5.6 | 8.5 | 75 | 210 | 1.1 | 1.0 | 16 | ● |
| 3 x 45.7 | 10 | 13.1 | 8.3 | 12 | 7.5 | 11.4 | 75 | 245 | 1.4 | 1.2 | 16 | ● |
| 3 x 57.1 | 12.5 | 16.4 | 10.3 | 14.9 | 9.3 | 14.1 | 90 | 210 | 1.5 | 1.3 | 16 | ● |
| 3 x 68.5 | 15 | 19.7 | 12.4 | 17.9 | 11.2 | 17 | 90 | 245 | 1.8 | 1.5 | 16 | ● |
| 3 x 91.3 | 20 | 26.2 | 16.5 | 23.8 | 14.9 | 22.6 | 90 | 285 | 2.1 | 1.8 | 16 | ● |
| 3 x 114.2 | 25 | 32.8 | 20.7 | 29.9 | 18.7 | 28.4 | 116 | 245 | 3.0 | 2.6 | 9 | ● |
| 3 x 137 | 30 | 39.4 | 24.8 | 35.8 | 22.4 | 34 | 116 | 245 | 3.0 | 2.6 | 9 | ● |
| 3 x 182.7 | 40 | 52.5 | 33.1 | 47.6 | 29.8 | 45.3 | 136 | 245 | 4.0 | 3.6 | 1 | ● |
| 3 x 228.4 | 50 | 65.6 | 41.3 | 59.6 | 37.3 | 56.7 | 136 | 285 | 4.6 | 4.1 | 2 | ● |
| $U_n = 480 \text{ V}$ | | | | | | | | | | | | |
| 3 x 19.2 | 5 | 6 | 4.2 | 5.5 | 3.5 | 5.1 | 75 | 165 | 0.9 | 0.8 | 16 | ● |
| 3 x 28.8 | 7.5 | 9 | 6.3 | 8.3 | 5.2 | 7.5 | 75 | 210 | 1.1 | 1.0 | 16 | ● |
| 3 x 38.4 | 10 | 12 | 8.4 | 11 | 7 | 10.1 | 75 | 245 | 1.4 | 1.2 | 16 | ● |
| 3 x 50 | 12.5 | 15 | 11 | 14.4 | 9 | 13 | 90 | 210 | 1.5 | 1.3 | 16 | ● |
| 3 x 57.6 | 15 | 18 | 12.8 | 16.8 | 10.4 | 15 | 90 | 210 | 1.5 | 1.3 | 16 | ● |
| 3 x 76.8 | 20 | 24.1 | 16.8 | 22 | 13.9 | 20.1 | 90 | 245 | 1.8 | 1.5 | 16 | ● |
| 3 x 95.9 | 25 | 30.1 | 21 | 27.6 | 17.4 | 25.1 | 116 | 210 | 2.5 | 2.2 | 9 | ● |
| 3 x 115.1 | 30 | 36.1 | 25.2 | 33.1 | 20.8 | 30 | 116 | 245 | 3.0 | 2.6 | 9 | ● |
| 3 x 153.5 | 40 | 48.1 | 33.6 | 44.1 | 27.8 | 40.1 | 116 | 285 | 3.6 | 3.2 | 9 | ● |
| 3 x 191.9 | 50 | 60.1 | 42 | 55.1 | 34.7 | 50.1 | 136 | 245 | 4.0 | 3.6 | 2 | ● |
| $U_n = 525 \text{ V}$ | | | | | | | | | | | | |
| 3 x 16 | 5 | 6.5 | 4.2 | 5.1 | 3.5 | 4.6 | 75 | 165 | 0.9 | 0.8 | 16 | ● |
| 3 x 24.1 | 7.5 | 8.2 | 6.3 | 7.6 | 5.3 | 7 | 75 | 210 | 1.1 | 1.0 | 16 | ● |
| 3 x 32.1 | 10 | 11 | 8.4 | 10.1 | 7 | 9.2 | 75 | 245 | 1.4 | 1.2 | 16 | ● |
| 3 x 40.1 | 12.5 | 13.7 | 10.5 | 12.6 | 8.8 | 11.5 | 90 | 210 | 1.5 | 1.3 | 16 | ● |
| 3 x 48.1 | 15 | 16.5 | 12.5 | 15 | 10.5 | 13.8 | 90 | 245 | 1.8 | 1.5 | 16 | ● |
| 3 x 64.2 | 20 | 22 | 16.7 | 20.1 | 14.1 | 18.5 | 90 | 285 | 2.1 | 1.8 | 16 | ● |
| 3 x 80.2 | 25 | 27.5 | 21 | 25.3 | 17.5 | 23 | 116 | 210 | 2.5 | 2.2 | 9 | ● |
| 3 x 96.2 | 30 | 33 | 25.1 | 30.2 | 21 | 27.6 | 116 | 245 | 3.0 | 2.6 | 9 | ● |
| 3 x 128.3 | 40 | 44 | 33.5 | 40.3 | 28.1 | 36.9 | 116 | 285 | 3.6 | 3.2 | 9 | ● |
| 3 x 160.4 | 50 | 55 | 41.8 | 50.3 | 35.1 | 46.1 | 136 | 285 | 4.6 | 4.1 | 2 | ● |