

# Trifazni kondenzatorji KNK

## Features



→ Vezava profile  
 $\Phi$  90 and 116 mm<sup>2</sup> - 16 mm<sup>2</sup>,  
 $\Phi$  136 mm<sup>2</sup> - 25 mm<sup>2</sup>

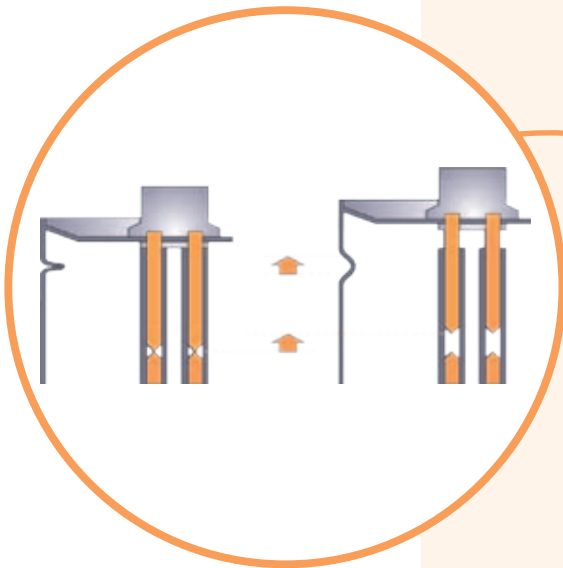
\*Use of flexible conductors only with ferrules



→ Capacitors equipped with discharge resistors



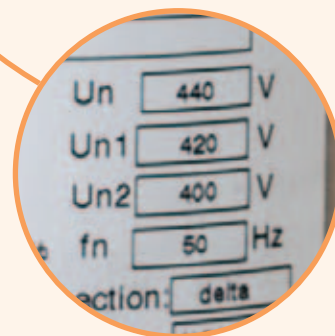
→ Nazivna moč from 2,5kVAr to 50 kVAr



→ Overpressure protection



→ The possibility of mounting a capacitor bank in a horizontal position (only KNK 1053)



→ Nazivna napetosts[V]: 400, 440, 460, 480, 525

## Trifazni kondenzatorji KNK

**Applications** - The KNK capacitors are used for power factor correction of inductive consumers (transformers, electric motors, rectifiers, fluorescent lamps and many others in industrial networks).

### Available Versions of KNK Capacitors

Indoor mounting:

KNK 5065 - three-phase in cylindrical housing

KNK 1053 - three-phase in cylindrical housing - DRY tip

### Design

Cylindrical aluminium housing with metallized three-layer polypropylene film dielectric, especially treated for better contact. the capacitors are:

- a. impregnated with polymerized a vegetable oil which is PCB-free and biologically degradable,
- b. DRY tip - patented

### Ordering:

- capacitor tip
- capacitor power
- nazivna napetost
- rated frequency
- quantity and delivery terms

Ordering primer for three-phase 25 kvar capacitor at 400 V:

KNK1053, 25 kvar, 400 V, 50 Hz.

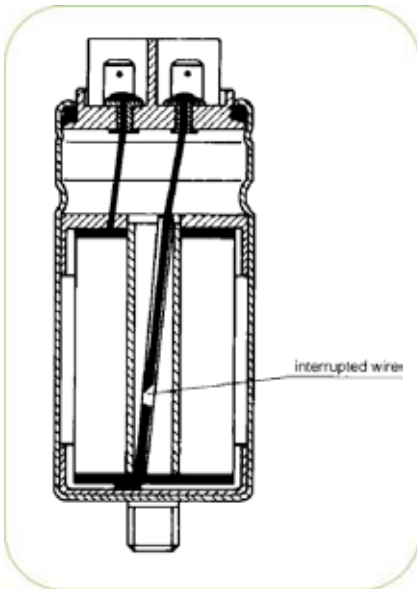
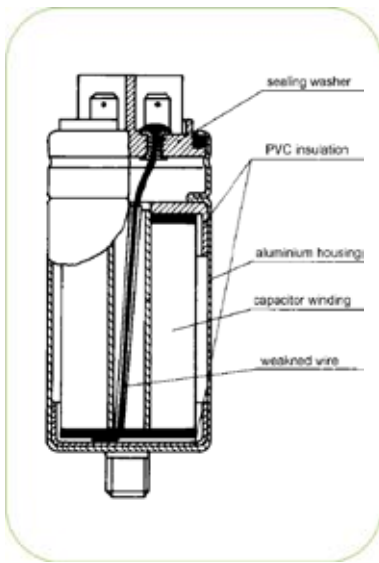


Fig. 1

**Routine Testing of Capacitors**

Capacitors are subjected to the following tests during the production process:

- sealing test (90 °C, 6 hrs)
- voltage tests between layers with AC voltage equal to  $2,15 \times U_n$ , 2 s
- voltage test between layers and the housing with AC voltage 3600 V, 2 s
- measurement of loss angle  $\tan \delta$  at a nazivna napetost, frequency of 50 Hz, and room temperature
- measurement of capacitance at a nazivna napetost, frequency of 50 Hz, and room temperature

**Over-Pressure Disconnecter**

Every capacitor incorporates a mechanical over-pressure disconnector which disconnects the capacitor in case of overloading or other internal damages. Operation is shown in figure 1.

**Discharge Resistor**

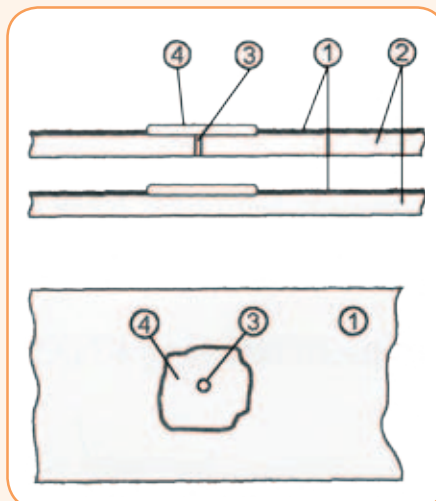
Every capacitor incorporates a resistor which serves for capacitor discharging after network disconnection to 75 V in 3 minutes.

**Self-Healing Capacity**

Damage may occur on the dielectric due to fatigue which results in local breakdowns on certain points. the resultant electric current devaporises the thin metallized layer and isolates the damaged spot from the rest of the capacitor. Capacitance loss is almost negligible (some pF) during this process. this self-healing property guarantees operating reliability and long life expectancy of the capacitor.

**Self-healing of KNK capacitors**

1. metallized layer
2. polypropylene film
3. breakdown point
4. devaporised metallized layer



## Three-phase capacitors KNK 5065

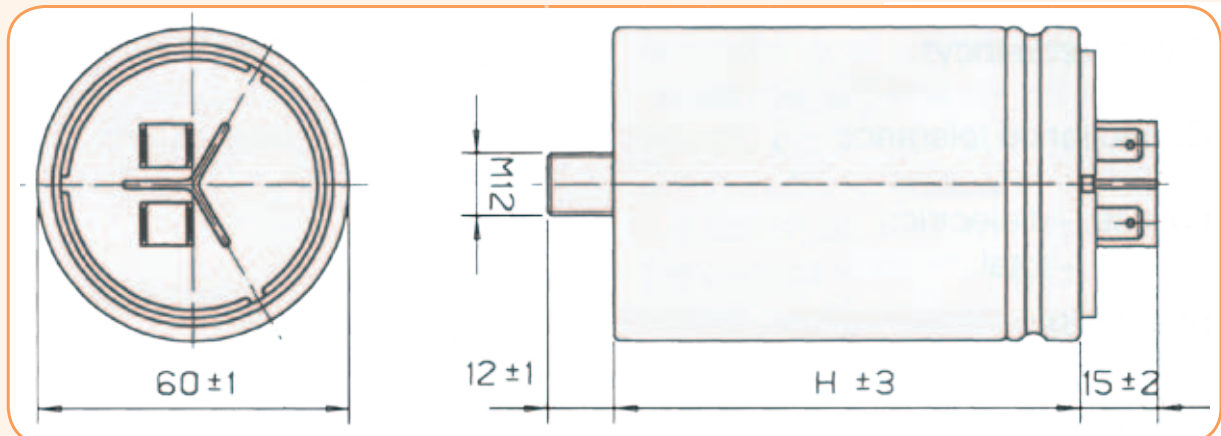
### Tehnični podatki:

Nazivna napetost Un	400, 440, 460, 480, 525 V
Rated frequency	50 Hz
Toleranca kapacitivnosti	- 5% ... + 15%
Losses:	
- Dielektrik	< 0,2 W/kVAr
- Total	< 0,5 W/kVAr
Safety	self-healing, overpressure disconnecter
Discharge	≤ 3 min. ... 75 V
Standard	IEC 60831 - 1/2
Dielektrik and filling	metallized polypropylene film sealed with plant oil; PCB-free
Permitted ambient temperature	-25 °C ... + 55 °C
Permitted storage temperature	-40 °C .. + 70 °C
Max. allowable operating voltage and current	1,1 × Un (8 h / day) 1,5 × In
In-rush current (max.)	150 × In
Test conditions	- between layers 2.15 x Un AC 2 s - layers-housing 3.6 kV AC 2 s



Nazivna napetost and frequency	Nazivna moč (kVAr)	Šifra	Nazivna kapacitivnost (μF)	Nazivni tok (A)	Height H (mm)	Teža (kg)	Pakiranje unit(kos)
400 V 50 Hz	2,5	004656501	3 x 16,6	3,6	145	0,45	1/36
	3	004656502	3 x 19,9	4,3	145	0,45	1/36
	4	004656503	3 x 26,5	5,8	185	0,55	1/36
	5	004656504	3 x 33,2	7,2	185	0,55	1/36
440 V 50 Hz	2,5	004656518	3 x 13,7	3,3	145	0,45	1/36
	3	004656519	3 x 16,5	3,9	145	0,45	1/36
	4	004656520	3 x 21,9	5,3	185	0,55	1/36
460 V 50 Hz	2,5	004656640	3 x 12,5	3,1	145	0,45	1/36
	3	004656641	3 x 15,0	3,7	145	0,45	1/36
	4	004656642	3 x 20,0	5	185	0,55	1/36
480 V 50 Hz	2,5	004656644	3 x 11,5	3	145	0,45	1/36
	3	004656645	3 x 13,8	3,6	145	0,45	1/36
	4	004656646	3 x 18,4	4,8	185	0,55	1/36
525 V 50 Hz	2,5	004656648	3 x 9,6	2,7	145	0,45	1/36
	3	004656649	3 x 11,5	3,3	145	0,45	1/36
	4	004656650	3 x 15,4	4,4	185	0,55	1/36
	5	004656651	3 x 19,3	5,5	185	0,55	1/36

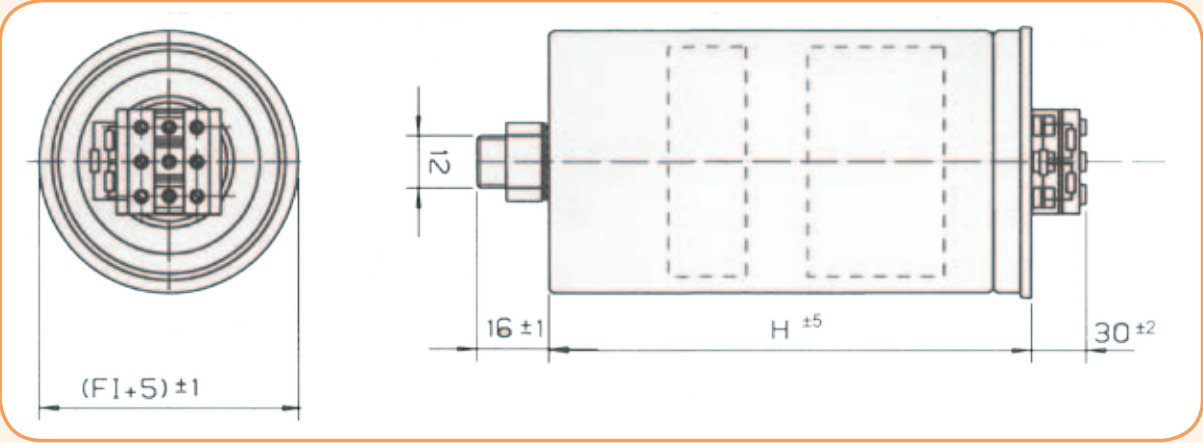
\*60 Hz on request



Three-phase capacitors KNK 1053 (dry)



Tehnični podatki:	
Nazivna napetost Un	400, 440, 460, 480, 525 V
Rated frequency	50Hz
Toleranca kapacitivnosti	- 5 % ... + 15 %
Losses:	
- Dielektrik	< 0,2 W/kVAr
- Total	< 0,5 W/kVAr
Degree of protection	IP 20
Discharge	≤ 3 min. to 75 V
Standard	IEC 60831 - 1/2
Safety	self-healing, overpressure disconnecter
Dielektrik and filling	metallized polypropylene film
Permitted ambient temperature	- 25 °C to + 55 °C
Permitted storage temperature	- 40 °C + 70 °C
Max. allowable operating voltage and current	1,1 × Un (8 h / day) 1,5 × In
In-rush current (max.)	200 × In
Test conditions	- between layers 2.15 x Un AC 2 s - layers-housing 3.6 kV AC 2 s



## Three-phase capacitors KNK 1053 (dry)

Nazivna napetost	Nazivna moč (kVAr)	Šifra	Nazivna kapacitivnost (μF)	Nazivni tok (A)	Dimenzije		Teža (kg)	Pakiranje unit(kos)
					Height(mm)	Ø (mm)		
400 V 50 Hz	10	004656560	3 x 66,3	14,4	205	90	1,20	1/16
	12,5	004656561	3 x 83,3	18	205	90	1,20	1/16
	15	004656562	3 x 100	21,7	240	90	1,40	1/16
	20	004656563	3 x 133	28,9	205	116	1,60	1/9
	25	004656564	3 x 165,8	36,1	240	116	1,90	1/9
	30	004656565	3 x 198,9	43,3	240	116	2,30	1/9
	40	004656566	3 x 265,0	57,8	305	136	3,50	1/9
440 V 50 Hz	50	004656567	3 x 331,5	72,2	370	136	4,50	1/9
	10	004656551	3 x 54,9	13,1	205	90	1,20	1/16
	12,5	004656552	3 x 68,6	16,4	205	90	1,20	1/16
	15	004656553	3 x 82,3	19,7	240	90	1,40	1/16
	20	004656554	3 x 110,0	26,2	205	116	1,60	1/9
	25	004656555	3 x 137,1	32,8	240	116	1,90	1/9
	30	004656556	3 x 164,4	39,4	280	116	2,30	1/9
460 V 50 Hz	40	004656568	3 x 219,0	52,5	305	136	3,50	1/9
	50	004656569	3 x 274,0	65,6	305	136	4,50	1/9
	10	004656615	3 x 50,1	12,6	205	90	1,20	1/16
	12,5	004656616	3 x 62,7	15,7	205	90	1,20	1/16
	15	004656617	3 x 75,2	18,8	240	90	1,40	1/16
	20	004656618	3 x 100,3	25,1	205	116	1,60	1/9
	25	004656619	3 x 125,4	31,3	240	116	1,90	1/9
480 V 50 Hz	30	004656620	3 x 150,4	37,6	240	116	2,30	1/9
	40	004656621	3 x 200,6	50,2	305	136	3,50	1/9
	50	004656622	3 x 250,7	62,5	370	136	4,50	1/9
	10	004656623	3 x 46,1	12	160	90	1,20	1/16
	12,5	004656624	3 x 57,6	15	205	90	1,20	1/16
	15	004656625	3 x 69,1	18	205	90	1,40	1/16
	20	004656626	3 x 92,1	24	205	116	1,60	1/9
525 V 50 Hz	25	004656627	3 x 115,1	30,1	205	116	1,90	1/9
	30	004656628	3 x 138,2	36,1	240	116	2,30	1/9
	40	004656629	3 x 184,2	48	305	136	3,50	1/9
	50	004656630	3 x 230,3	60	370	136	4,50	1/9
	10	004656631	3 x 38,5	11	205	90	1,20	1/16
	12,5	004656632	3 x 48,1	13,8	240	90	1,20	1/16
	15	004656633	3 x 57,7	16,5	240	90	1,40	1/16
525 V 50 Hz	20	004656634	3 x 77,0	22	205	116	1,60	1/9
	25	004656600	3 x 96,2	27,5	240	116	1,90	1/9
	30	004656635	3 x 115,5	33	240	116	2,30	1/9
	40	004656636	3 x 154,0	44	305	136	3,50	1/9
	50	004656637	3 x 192,5	55	370	136	4,50	1/9

\*60 Hz on request