

LIGHTING CAPACITORS

These **Technical application notes** try to facilitate to our customers and/or representatives concrete solution to problems and doubts that arise in the use of lighting capacitors in luminaries of fluorescent lamps and other discharge lamps.

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TS 01-010I	Capacitors for fluorescent lamps
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CAPACITORS FOR COMPENSATION OF FLUORESCENT LAMPS

Necessary capacitance in μF for the compensation of fluorescent lamps to $\cos \phi \geq 0.90$

Lamp		Network 50 Hz			Network 60 Hz	
		Compens. in parallel (μF)	Compens. in series (duo) ($\mu\text{F/V}$)		Compens. in parallel (μF)	Compens. in series (duo)
Power (W)	Length/dia.	220 - 240 V	220 V	230 V	220 - 240 V	240 V
5	Compact	2.0			2.0	
7	Compact	2.0			2.0	
9	Compact	2.0			2.0	
10	Compact	2.0			1.7	
11	Compact	2.0			1.7	
13	Compact	2.0			1.7	
18	Compact	4.5	2.9 / 440 V		4.0	
24	Compact	3.5	2.9 / 440 V		3.0	
36	Compact	4.5	3.6 / 420 V		4.0	
4	16 ϕ	2.0			2.0	
6	16 ϕ	2.0			2.0	
8	16 ϕ	2.0			2.0	
10	16 ϕ	2.0			1.7	
13	16 ϕ	2.0			1.7	
18	590/26 ϕ	4.5	2.9 / 440 V		4.0	
20	590/38 ϕ	4.5	2.9 / 440 V		4.0	2.2 / 480 V
36	1200/26 ϕ	4.5	3.6 / 420 V	3.4 / 450 V	4.0	2.9 / 440 V
40	1200/38 ϕ	4.5	3.6 / 420 V	3.4 / 450 V	4.0	2.9 / 440 V
58	1500/26 ϕ	7.0	5.7 / 420 V	5.3 / 450 V	6.0	4.6 / 440 V
65	1500/38 ϕ	7.0	5.7 / 420 V	5.3 / 450 V	6.0	4.6 / 440 V
15	438/26 ϕ	4.5			4.0	
16	720/26 ϕ	2.5	1.7 / 420 V		2.0	
20	310U/38 ϕ	4.5	2.9 / 440 V		4.0	2.2 / 480 V
22	216 ϕ /29 ϕ	5.0	3.2 / 440 V		4.0	2.5 / 480 V
32	311 ϕ /32 ϕ	5.0	3.6 / 420 V		4.0	2.9 / 440 V
40	607U/38 ϕ	4.5	3.6 / 420 V		4.0	2.9 / 440 V
65	570U/38 ϕ	9.0	6.8 / 440 V		8.0	5.3 / 480 V
115	1200/38 ϕ	18.0	12.2 / 440 V		16.0	
140	1500/38 ϕ	18.0	12.7 / 440 V		16.0	

Capacitance values indicated in the table are approximated. Ballast manufacturer can forward exact values duly adapted to its product.

Capacitance tolerance: Capacitor in parallel, $\pm 10\%$. Capacitor in series, $\pm 5\%$ o $\pm 4\%$

CAPACITORS FOR COMPENSATION OF DISCHARGE LAMPS

Necessary capacitance in μF for parallel compensation to $\cos \phi \approx 0.90$

Lamp		Network 50 Hz		Network 60 Hz
Type	Power (W)	220 - 240 V	380 V	220 - 240 V
High pressure mercury vapour lamp	50	7		6
"	80	8		7
"	125	10		9
"	250	18		15
"	400	25		23
"	700	40		38
"	1000	60		50
"	2000 380 V		37	
Low pressure sodium vapour lamp	35	20		16
"	55	20		16
"	90	25		23
"	135	45		40
"	180	40		36
High pressure sodium vapour lamp	50	10		8
"	70	12		11
"	100	12		11
"	150	20		16
"	250	35		30
"	400	50		40
"	1000	100		85
Metal halide mercury vapour lamp	35	6		5
"	70	12		11
"	150	20		16
"	250	32		28
"	400	35		30
"	1000	85		70
"	2000 380 V 8.8 A		37	
"	2000 380 V 10.3 A		60	
"	3500 380 V		100	

Capacitance values indicated in the table are approximated. Ballast manufacturer can forward exact values duly adapted to its product.

Rated voltage of capacitors: for a network 220-240V, $U_{CAP} = 250V$; for a network 380V, $U_{CAP} = 380-400V$
 Capacitance tolerance: $\pm 10\%$