

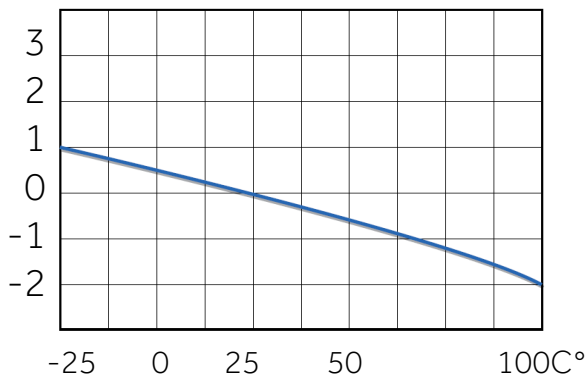
COMAR Condensatori S.p.A.

Since 1968 we provide standard products, as well as tailor-made solutions, depending on the needs of the Customer. We are leaders in the production of single-phase and three-phase **capacitors**, as well as power factor correction equipment.

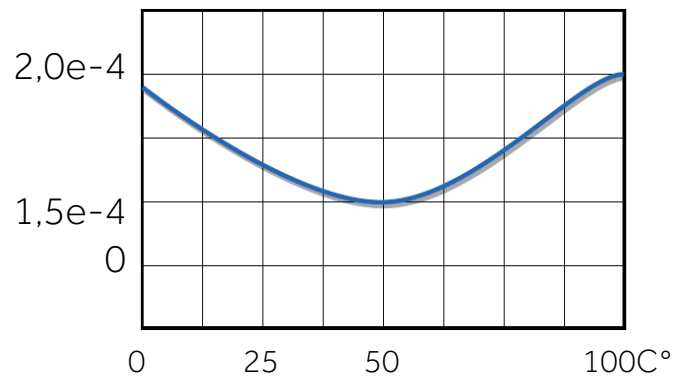
The production began with the oil-paper dielectric capacitors and has evolved into the current **metallized polypropylene** capacitors. Our **MKP** capacitors are made of a bi-oriented polypropylene dielectric with low shrinkage and high mechanical properties.

The most relevant feature of this type of film is the **self-healing of the dielectric** that allows the restoration of the electrical functionality, while the stability over time is guaranteed by the technological and methodological measures adopted during the construction of each capacitor. Below are summarized the key characteristics when temperature changes:

Delta C/C %



Tang. Delta



Thanks to the continual replacement and upgrading of production equipment, the quality and reliability levels are always improving and at the highest international standard. Indeed, several homologations have been achieved during the years, such as:

Motor Capacitors



Lighting Capacitors



The excellence of COMAR Condensatori products is possible thanks to Italian supply chain, fully under control in our factory located near Bologna. The path to ensure the quality of the methods of design, procurement, production, testing and delivery sees the achievement of the **ISO 9001**, **ISO 14001** and **OHSAS 18001** certifications.

All COMAR capacitors, displayed in this catalog, are labelled with **CE marking**.

Insights on Motor Capacitors

This catalogue includes standard single-phase capacitors currently provided by COMAR Condensatori. Capacitors for **motor applications**, thanks to a very wide choice of models and construction options, offer the ideal solution for any type of application with **single or three-phase motors** supplied as single-phase. Single and three-phase electrical motors need, for their starting, a capacitor which generates a displaced current creating a rotating magnetic field. The capacitor can be used also for permanent operation, it maintains the required magnetic field and it compensates the motor's inductive load.

There are two types of capacitors used for those applications:

- motor starting capacitors, they are electrolytic capacitors with high capacitance value (μF), able to provide an high starting torque to the motor. They are disconnected at the end of the starting in order to avoid overload to the motor winding;
- motor running capacitors, they are used to improve the value of the $\cos\phi$ when motor is working at rated load conditions, they are permanently connected to the motor.

When using **single-phase** motors, the motor running capacitor also maintains the rotating magnetic field. For single-phase motors supplied at 230Vac 50Hz, the value of required motor running capacitors is 30 - 50 μF for kW of motor power.

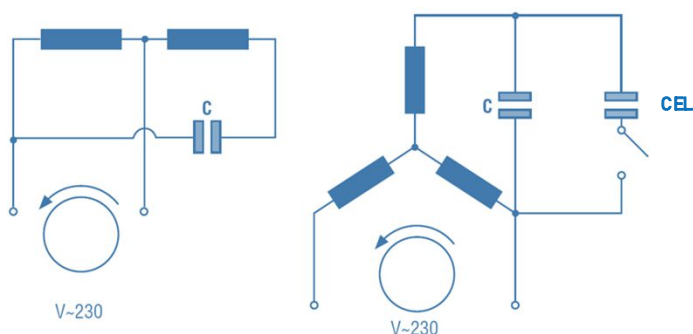
Typical values for Single-phase applications	<i>kW</i>	0,18	0,37	0,55	0,75	0,92	1,1	1,5
	<i>HP</i>	0,25	0,5	0,75	1	1,25	1,5	2
3000'/min 50 Hz – 2 Poles		10	16	20	25	30	32	40
1500'/min 50 Hz – 4 Poles		12,5	16	20	25	28	32	40
1000'/min 50 Hz – 6 Poles		10	20	25	25	30	36	50

When using **three-phase** motors with single-phase supply, the motor running capacitor ensures the presence of the third phase.

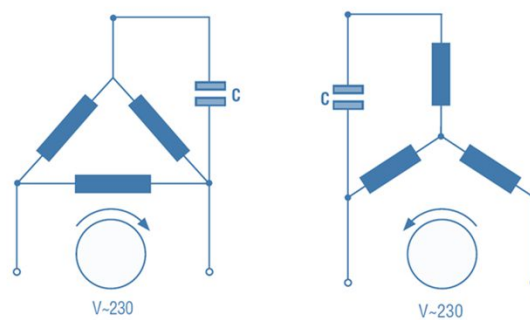
Typical values for Three-phase motor	<i>kW</i>	0,18	0,37	0,55	0,75	0,92	1,1	1,5
	<i>HP</i>	0,25	0,5	0,75	1	1,25	1,5	2
Full Load		12,5	25	38	50	60	75	100

The above data are obtained from the catalogue of motor manufacturers; they have indicative value and they are not binding for COMAR Condensatori.

Single-phase applications



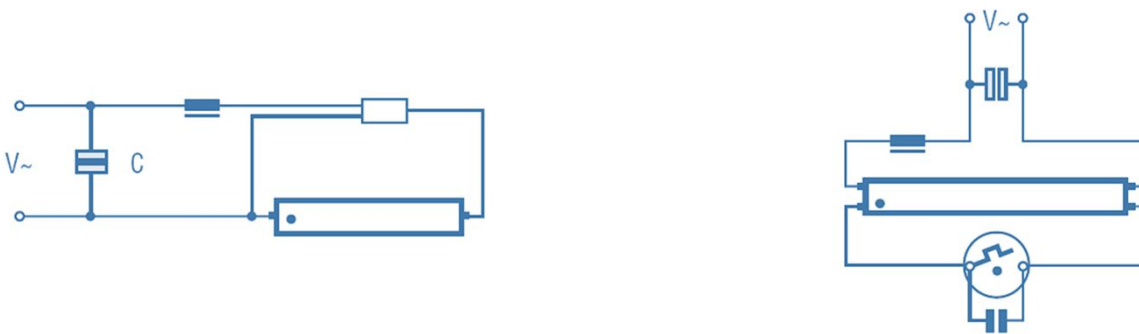
Three-phase applications with single-phase supply



Insights on Lighting Capacitors

The capacitors for **lighting applications**, thanks to a very wide choice of models and constructions options, offer the ideal solution to compensate **fluorescent and discharge lamps**. All fluorescent and discharge lamps need a reactor to switch and keep on the electric arc. This kind of load is very inductive ($\cos\phi \leq 0.5$) and it generates very high value of absorbed current. In order to decrease the absorbed current (optimizing the cable section of the supply cables) and to improve the value of the $\cos\phi$; it is necessary to add a capacitor in the circuit. The national regulation of many countries impose the use of the compensation capacitors in lighting installations.

COMAR provides capacitors to be used in **parallel** (see beside examples): one capacitor can compensate one or more lamps supplied in parallel;



Typical capacitors values used in lighting equipment are reported below.

Fluorescent Lamps

Electronic		Preheated				Rapid		Rapid Start		Slimline	
W	μF	W	μF	W	μF	W	μF	W	μF	W	μF
5	2	4	2	30	4,5	14	4	20	4	42" T6 25W	5
7	2	6	2	32	4,5	16	4	22	4	48" T12 25W	12,5
9	2,5	8	2	40	4,5	20	4	32	5	64" T6 38W	8
10	2,5	10	2	65	7	22	4	40	5	72" T8 37W	8
11	2,5	14	4	85	8	25	4	65	10	72" T12 57W	16
13	3	16	4	115	16	30	5	115	16	96" T8 50W	10
18	3	20	4	140	18	32	5	140	18	96" T12 75W	16
24	4	22	4			40	5	215	30		
26	4	25	4,5								
36	4,5										

Discharge Lamps

High Pressure Sodium		Low Pressure Sodium		Mercury		Metal Halide	
W	μF	W	μF	W	μF	W	μF
50	10	18	5	50	8	70	12
70	12,5	35	20	80	9	150	20
100	18,5	55	20	125	10	250	30
125	20	90	30	250	20	400	35
150	20	135	35	400	25	1000	70
250	30	180	40	700	40	2000	125
400	50			1000	60	2000/380	60
1000	100						
2000	125						

The above data are obtained from the catalogue of lamp manufacturers; they have indicative value and they are not binding for COMAR Condensatori.