

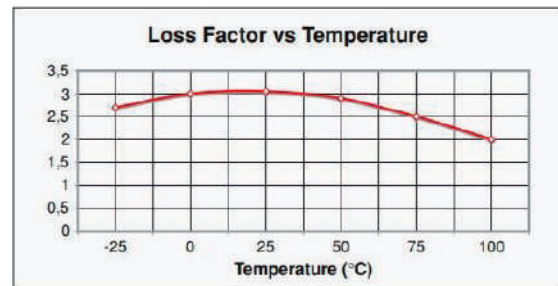
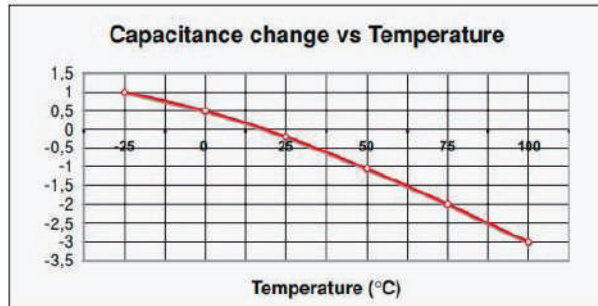
Data sheet:

Motor Capacitors



GENERAL INFORMATIONS:

The capacitors produced by COMAR CONDENSATORI S.p.A. are made with a self-healing metallized polypropylene film dielectric. The selection of raw materials and the use of state-of-the-art automatic machines ensure the high reliability of COMAR products.



Applications:

Thanks to their wide choice of types and numerous constructive versions, capacitors in the "MOTOR" line offer the ideal solution for any application involving single-phase motors or three-phase motors with single-phase power supply. Single-phase or three-phase electric motors with single-phase power supply require a capacitor to start them up, producing a phase-shifted current that induces a rotating magnetic field.

The capacitor can also be used for continuous operation, in which case the capacitor will maintain the magnetic field and produce a rephasing effect for the motor. There are two types of capacitors used for these applications:

- **Motor starting capacitors**, they are electrolytic capacitors with a high capacitance value (in μF), able to provide high starting torque to the motor, they are disconnected after starting in order to avoid overload to the motor winding.

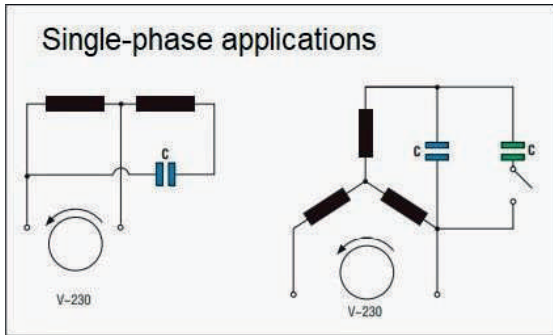
- **Permanent capacitor for motor**, they are used to improve the value of the $\cos \varphi$ when motor is working at rated load conditions, they are permanently connected to the motor.

When using single-phase motors, the permanent capacitor maintains the rotating magnetic field. For single-phase motors supplied at 230Vac 50Hz, the capacitance required for the permanent capacitor varies between 30 and 50 μF per kW of motor power.

When using single-phase, three-phase motors, the permanent capacitor ensures the presence of the third phase. For single-phase, 230Vac 50Hz, three-phase motors, the capacitance required for the permanent capacitor is around 70 μF per kW of motor power.

Typical applications:

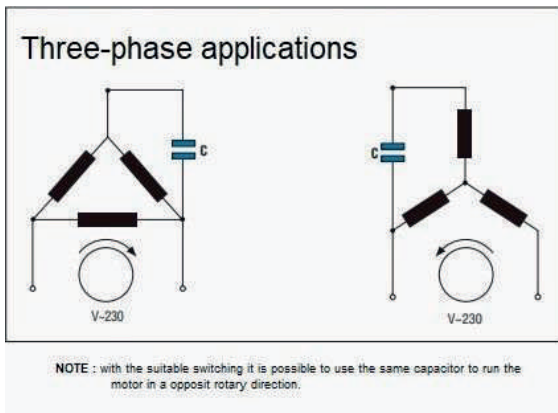
Single-phase motor applications:



Typical value for single-phase motor

Motor Power	0,075 Kw	0,18 Kw	0,37 Kw	0,55 Kw	0,75 Kw	0,92 Kw	1,1 Kw	1,5 Kw
	0,1 CV	0,25 CV	0,5 CV	0,75 CV	1 CV	1,25 CV	1,5 CV	2 CV
3000'/min 50 Hz - 2 poles	6,3	10	16	20	25	30	32	40
1500'/min 50 Hz - 4 poles	6,3	12,5	16	20	25	28	32	40
1000'/min 50 Hz - 6 poles	-	10	20	25	25	30	36	50

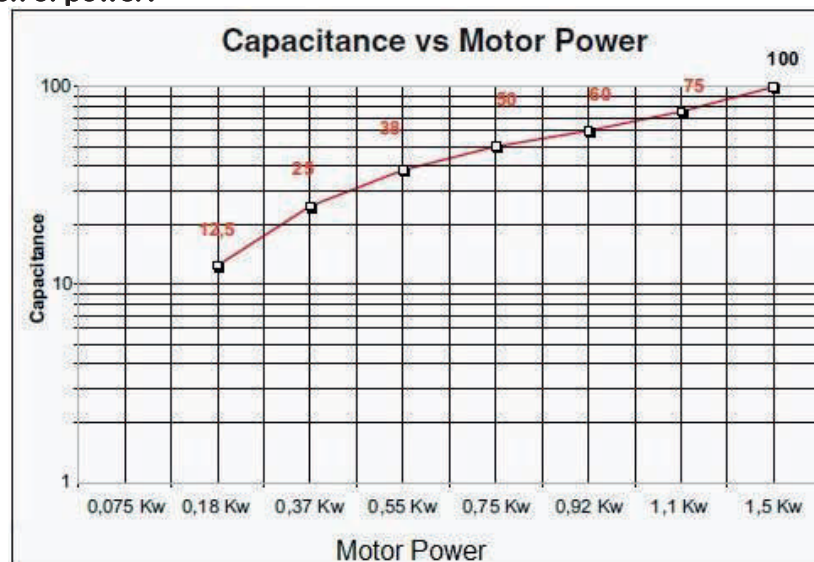
three-phase motor applications:



Three-phase applications in single-phase

Motor power	0,18 Kw	0,37 Kw	0,55 Kw	0,75 Kw	0,92 Kw	1,1 Kw	1,5 Kw
	0,25 CV	0,5 CV	0,75 CV	1 CV	1,25 CV	1,5 CV	2 CV
Full Load	12,5	25	38	50	60	75	100

Capacity as a function of power:



Motor starting capacitors



Technical data

Rated Voltage	320 Vac (capacitance \leq 315 μ F) 250 Vac (capacitance \geq 315 μ F)
Rated Frequency	50 / 60 Hz
Operating class	1,67%
Operating Temperature	-45 °C / +65 °C (higher temperatures on request)
Protection level	IP00 (IP54 option)
Dissipation Loss Angle	0,10 typical value
Test voltage between terminals	1.4Vn x 1 sec
Test voltage between terminals and case	1.5kV x 5 sec
Endurance test 500 h	
Capacitance Range from	25 μ F to 550 μ F
Capacitance Tolerance	-0% + 25% or +/- 10%
Storage Temperature	-40 °C / +70 °C

Reference standards

EN60252-2

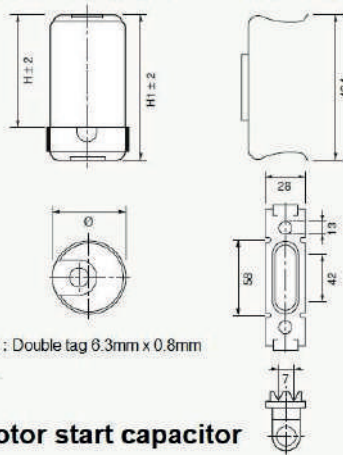
Description

These electrolytic capacitors have high capacitance (in μ F value), able to provide an high starting torque to motor.

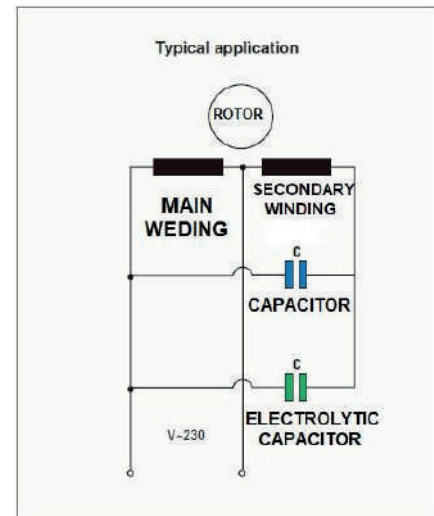
Executions

Caser	Pla-PB
Terminals	FD ($\varnothing \geq$ 30mm)

Pla-PB : Plane base self-extinguishing (V2) plastic case



Motor start capacitor



References table

Motor starting capacitors

Model 250 V	Capacitance (μ F)	Case : Pla-PB FD	
		\varnothing x H (mm)	
C40/50	40/50	46	85
C50/63	50/63	46	85
C63/80	63/80	46	85
C80/100	80/100	46	85
C100/125	100/125	46	85
C125/160	125/160	46	85
C160/200	160/200	46	85
C200/250	200/250	46	85
C250/315	250/315	46	85
C315/400	315/400	46	85