CONDENSER AND APPLICATION



Flat condenser

2

Spherical condenser



Cylindrical condenser



and there are several types: by an empty space.

can avoid a charging passage.

- A capacitor is a device that unites charges,
- -flat condenser \rightarrow consisting of two flat plates separated by an empty space;
- -flat condenser \rightarrow consisting of a hollow sphere containing a solid inside always
- separated by an empty space;
- cylindrical condenser \rightarrow cylinders one full and one concentric cable always separated
- Main function: store charge and keep it so that the empty space that separates them

1. Flat condenser

 ΔV

Two flat plates are applied to the two ends of a circuit with potential differences. On one plate the electrons of the current accumulate by charging it negatively, while the other plate acquires a positive charge. The device accumulates the charges until the difference in potential between the two plates does not exceed the insulating capacity of the medium that separates them.

So what happens?

that an electric field is created between the two plates straight lines of force. (if I approach the edges these lines of force are no longer straight but will be deformed)

• Defines capacitance of a capacitor the maximum amount of charge that a given capacitor can accumulate and is calculated doing.



• -the capacitance of a capacitor is measured in farad, that is equivalent to a Colum over a volt:

1C**1**V

• what happens when the accumulated charge exceeds the capacitance of a capacitor? We have the drain.



2.Spherical condenser

Hollow sphere containing a smaller sphere inside, potential difference is generated between the inner space that separates these two spheres. FORMULA:



Greater radius difference minus smaller radius

3. Cylindrical condenser

An external hollow cylinder, contains a full internal cylinder, separated by a empty space where electric field is generated and potential difference.

Q, $2\pi r L \epsilon O$ 2**πrLε**0 **C**= ------ = ------- \rightarrow 2 pigreco for the length of the capacitor for Epsilon 0 divides $In(R_2/R_2)$ the natural logarithm of the ratio between the greater ΔV radius and the lesser radius **R**2 Q. ΔV =------ In (-----) \rightarrow accumulated charge / 2 pigreco for the length of the capacitor for Epsilon 0 multiplying the natural logarithm of the ratio of $2\pi rL\epsilon o$ **R1** r2 over r1



CONDENSATORE CILINDRICO

