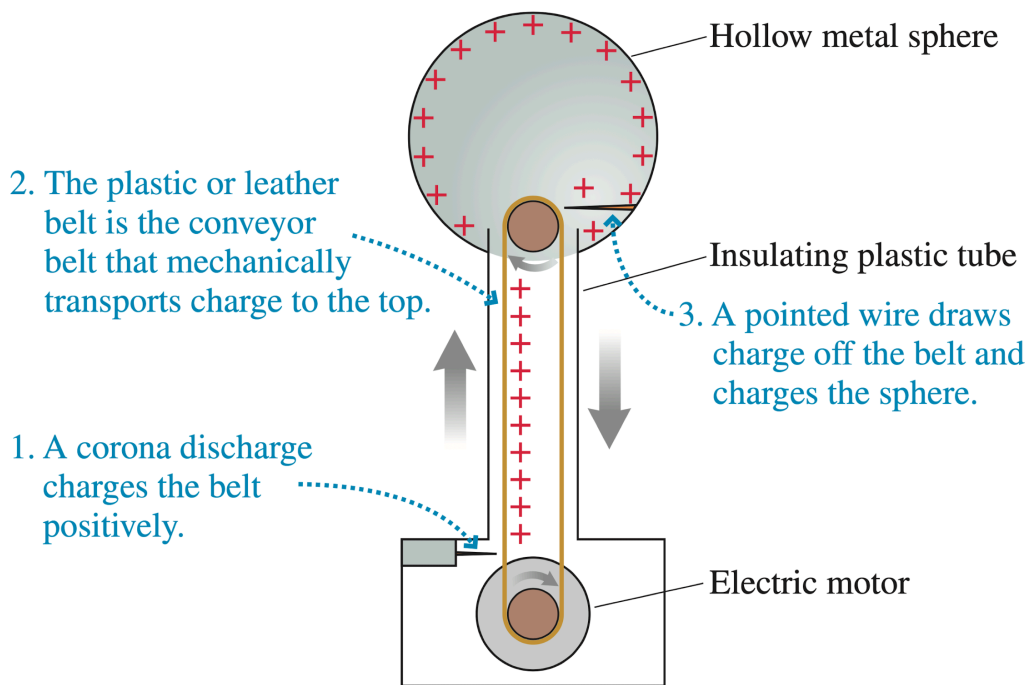


# Van de Graaff Generator



- **Electrical breakdown** occurs when an electrical insulating material is subjected to a high enough electric field such that it suddenly becomes an electrical conductor and current flows through it.
- The amount of charge that can be transferred to the dome of the Van de Graaff generator is limited only by the breakdown voltage of air,  $3 \times 10^6$  V/m.

What is the maximum charge we can place on the spherical Van de Graaf dome of radius  $R = 10$  cm?

What is the maximum potential it can reach?



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