

## Electrical Quantities

Variable	Quantity	water analogy	Unit	Unit abbreviation	Symbol in Formulas	Named after (important work date)
<b>Voltage</b>	Potential energy difference	Pressure	Volt	V	V	Alesandro Volta 1745-1827 (1800)
<b>Current</b>	Electric charge flow (Coulombs/sec)	Flow	Ampere Amp	A	I	André-Marie Ampere 1775-1836 (1827)
<b>Resistance</b>	Resistance to current	Sand filter in pipe; Partial blockage	Ohm	$\Omega$	R	Georg Simon Ohm 1789-1854 (1827)
<b>Power</b>	Rate of work Energy use per time (Joules/sec)	Pressure x flow	Watt	W	P	James Watt 1827-1854
<b>Charge</b>	How many electrons	Water molecules	Coulomb	C	Q	Charles-Augustin de Coulomb 1736-1806 (1785)
<b>Capacitance</b>	Ability to store electric charge	Stretchable membrane blocking flow	Farad	F	C	Michael Faraday 1791-1867 (1832)
<b>Inductance</b>	Resistance to change in current	Water wheel in the flow (resists a change in the flow)	Henry	H	L	Joseph Henry 1797-1878 (electric relay 1835)