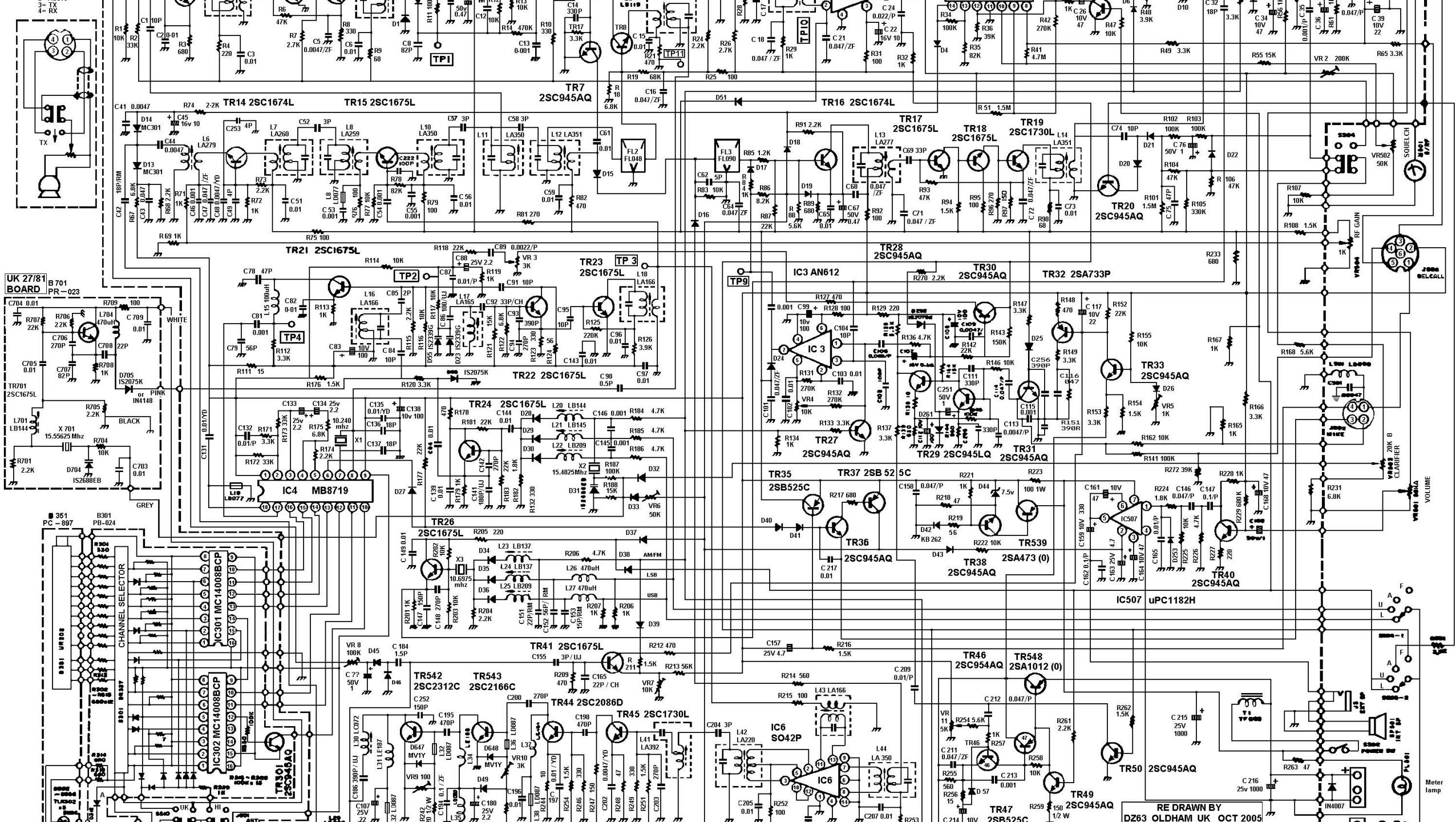
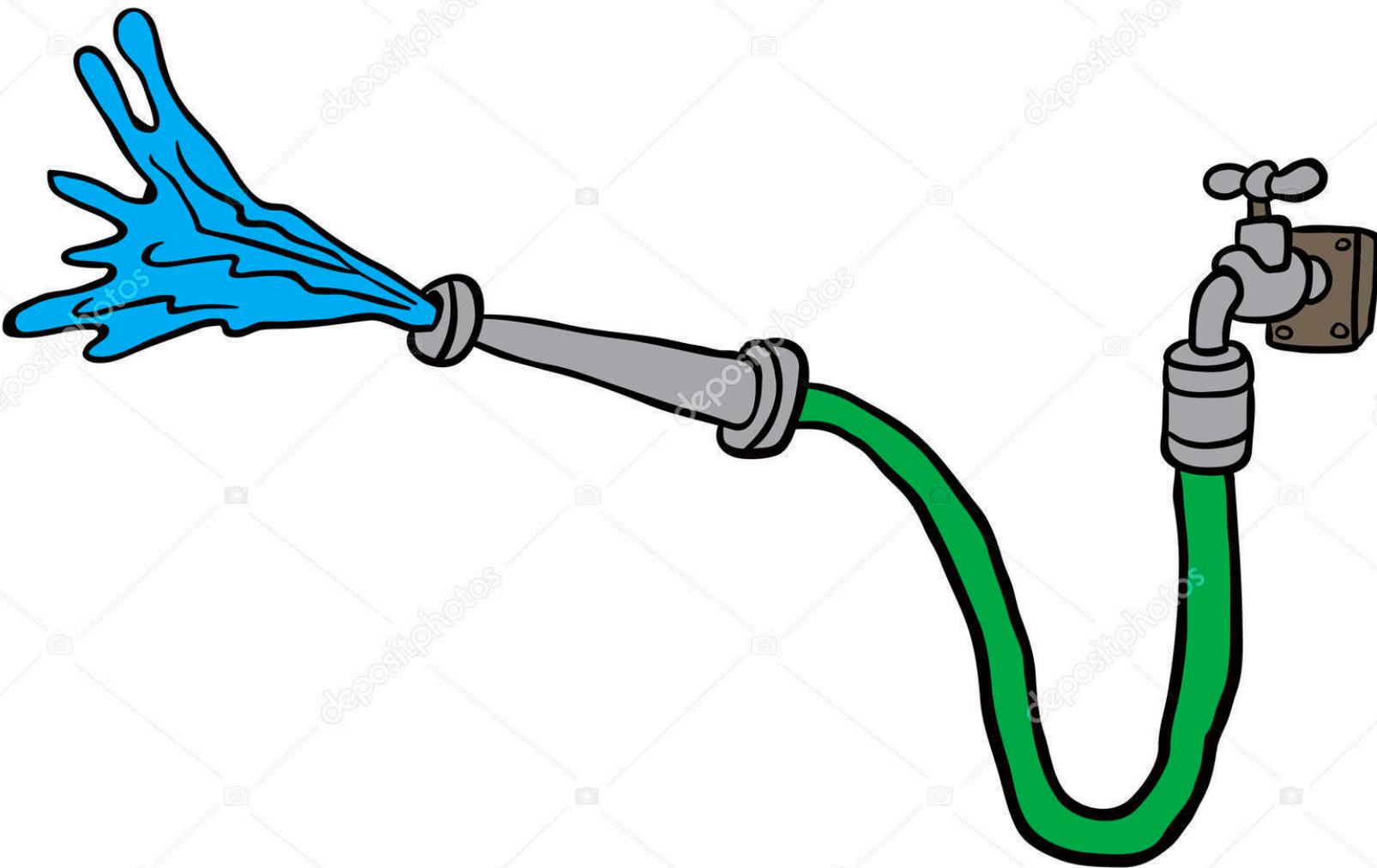


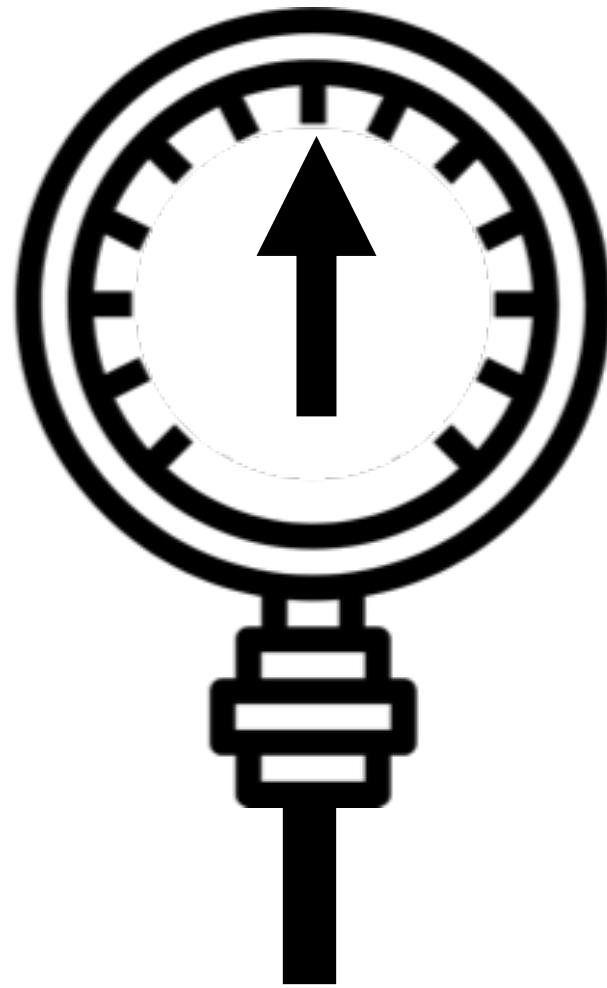
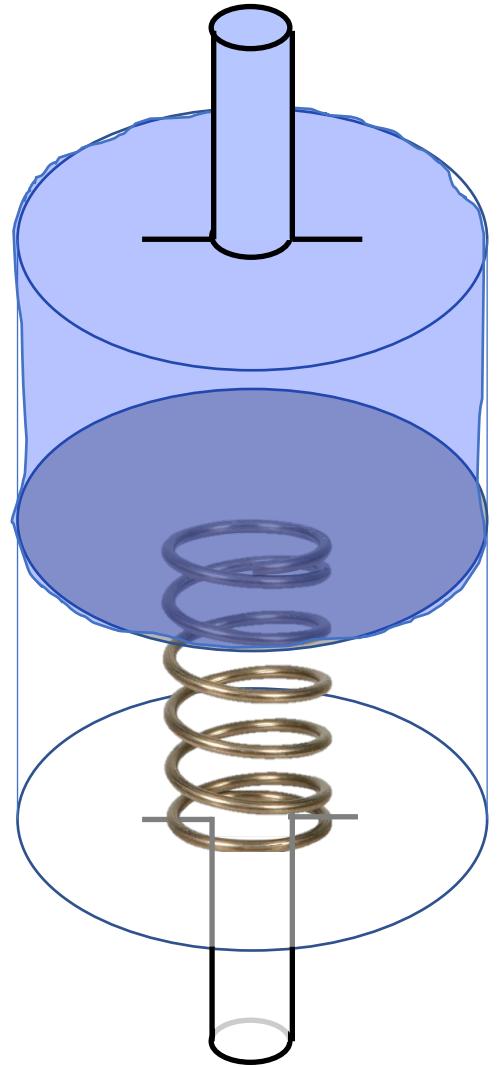
# Electro Workshop

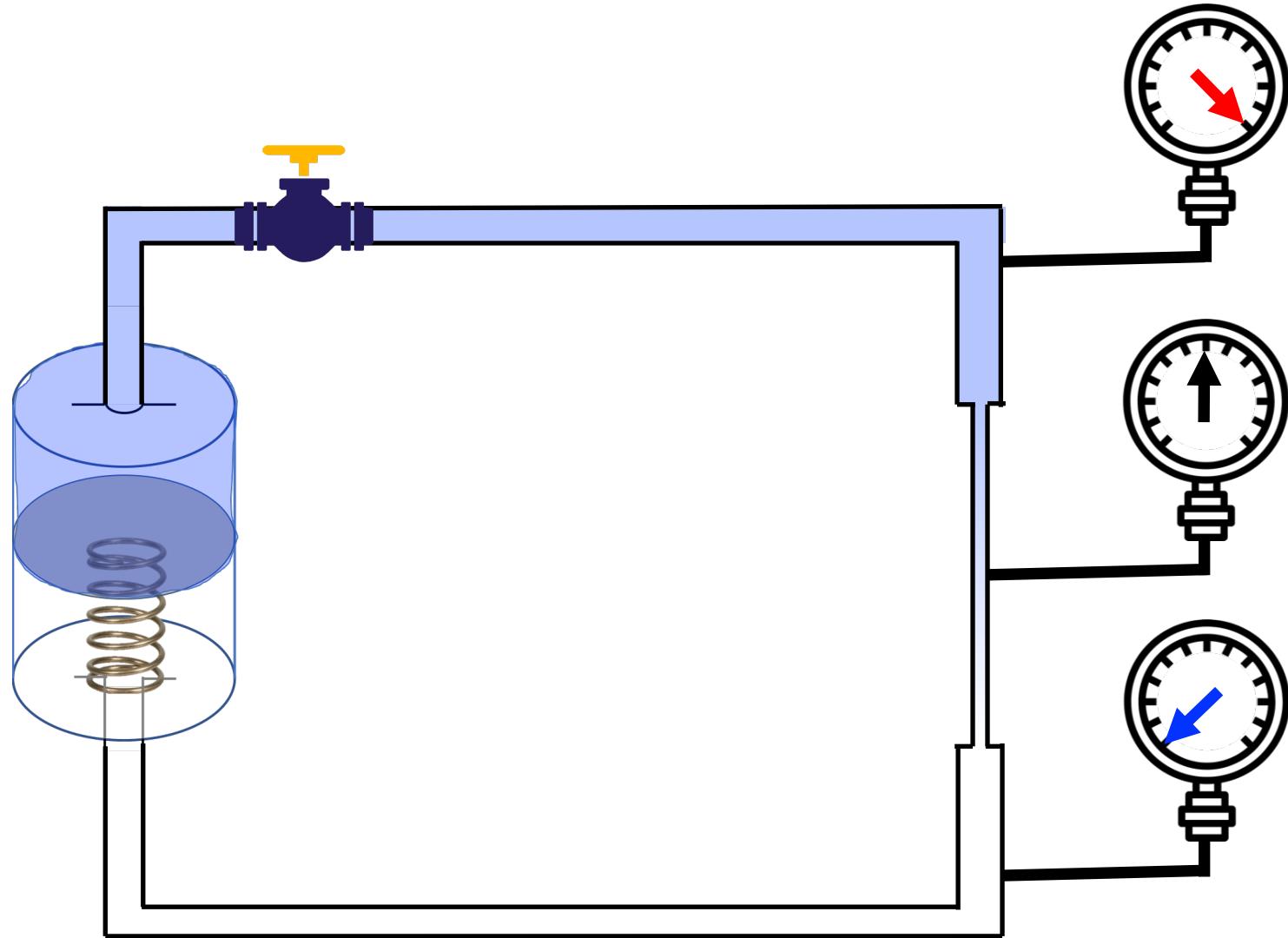
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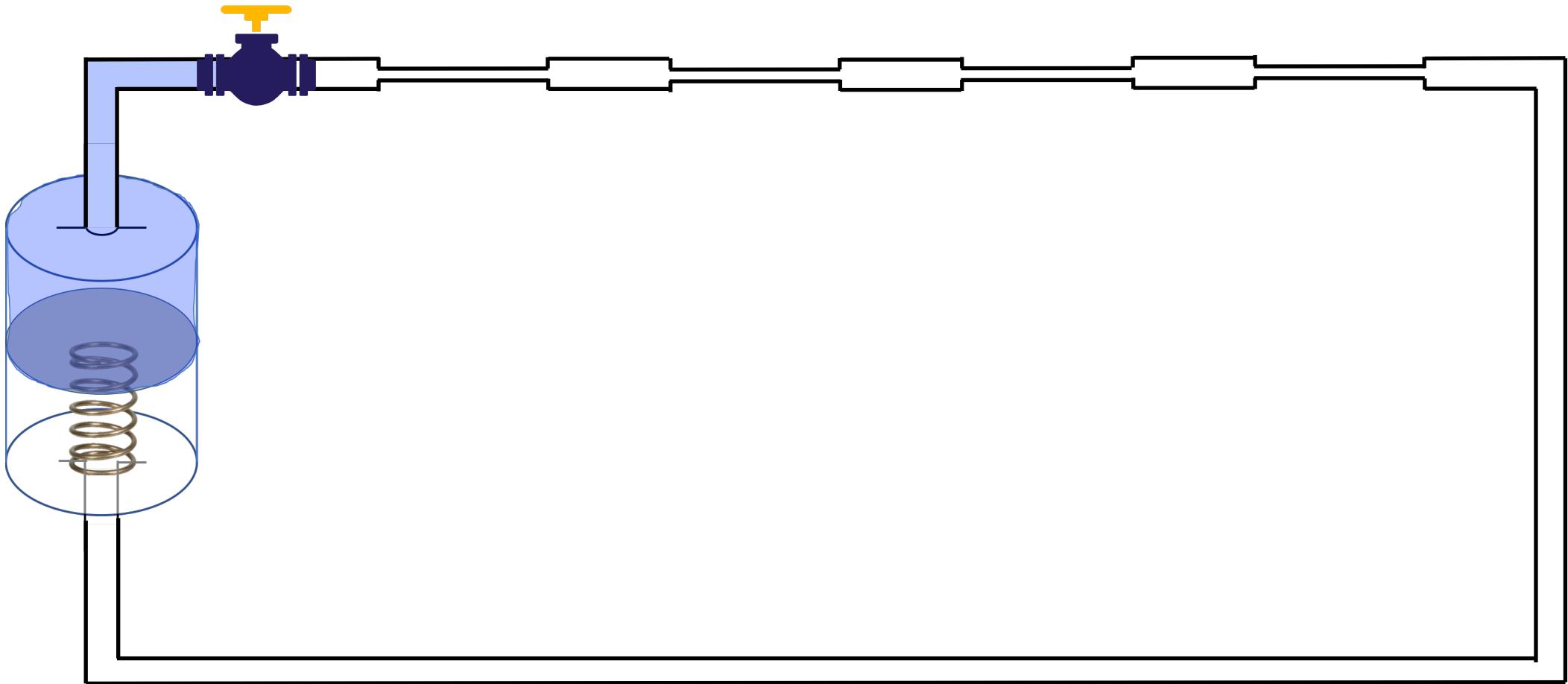
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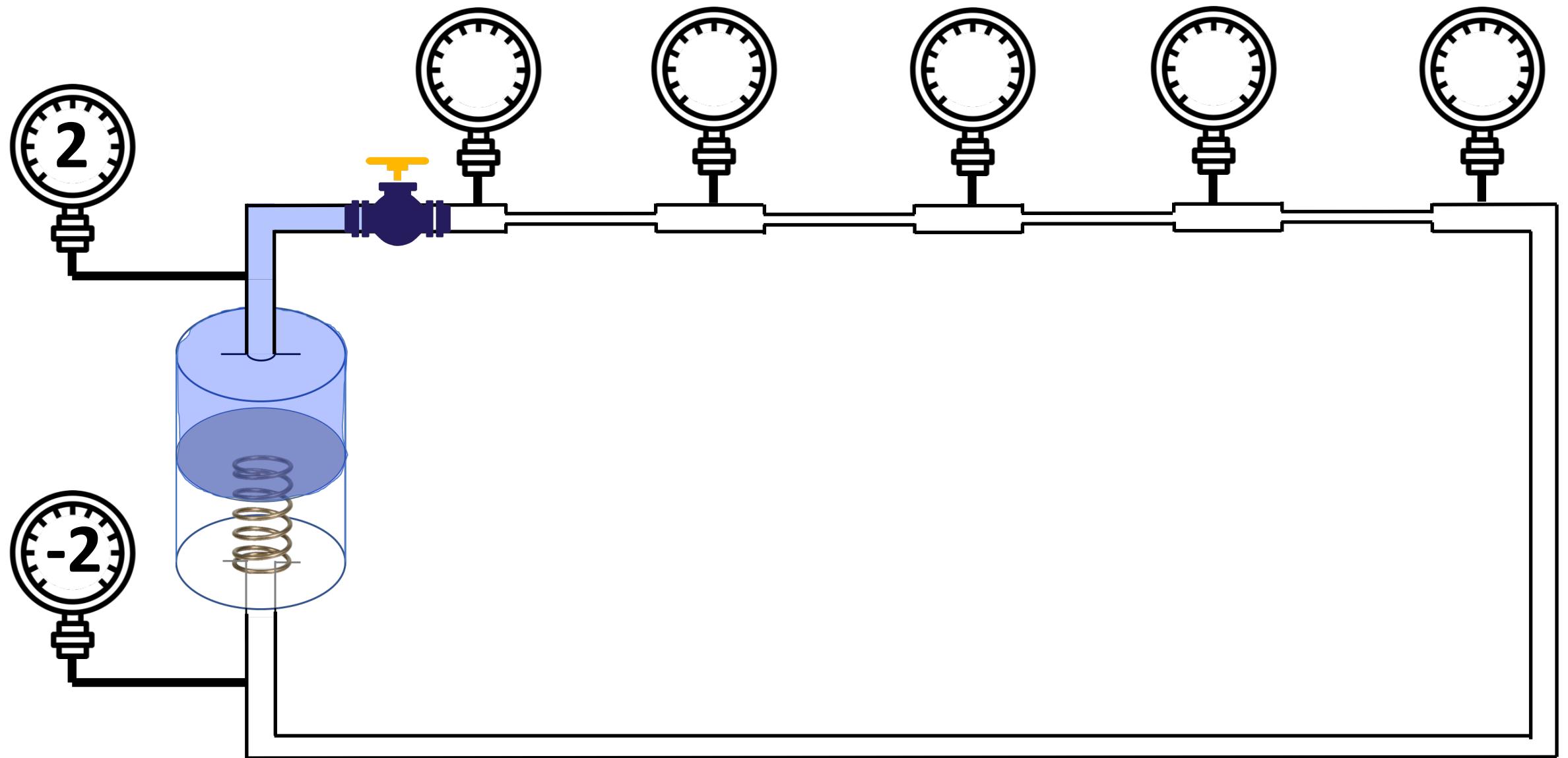


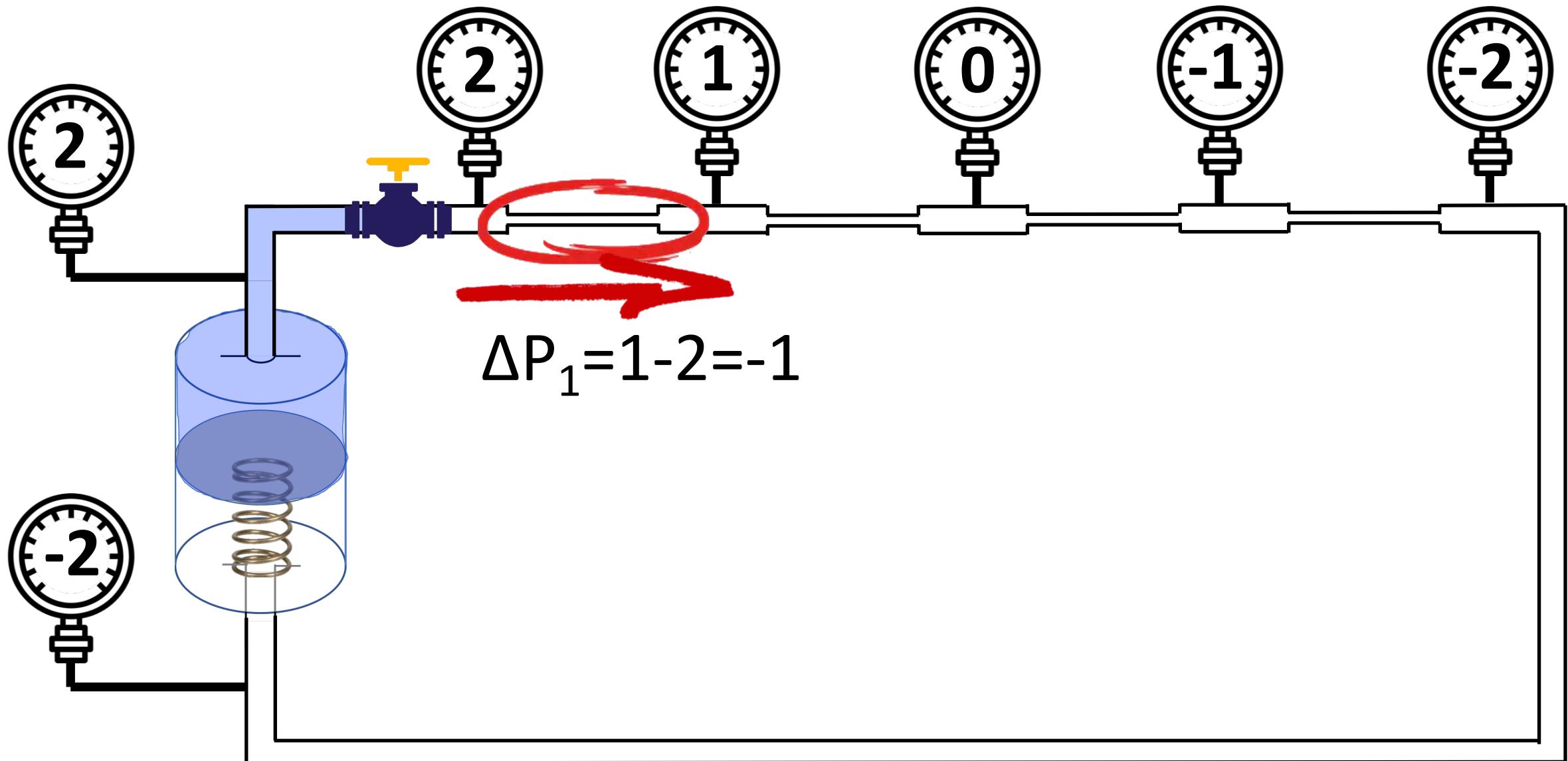


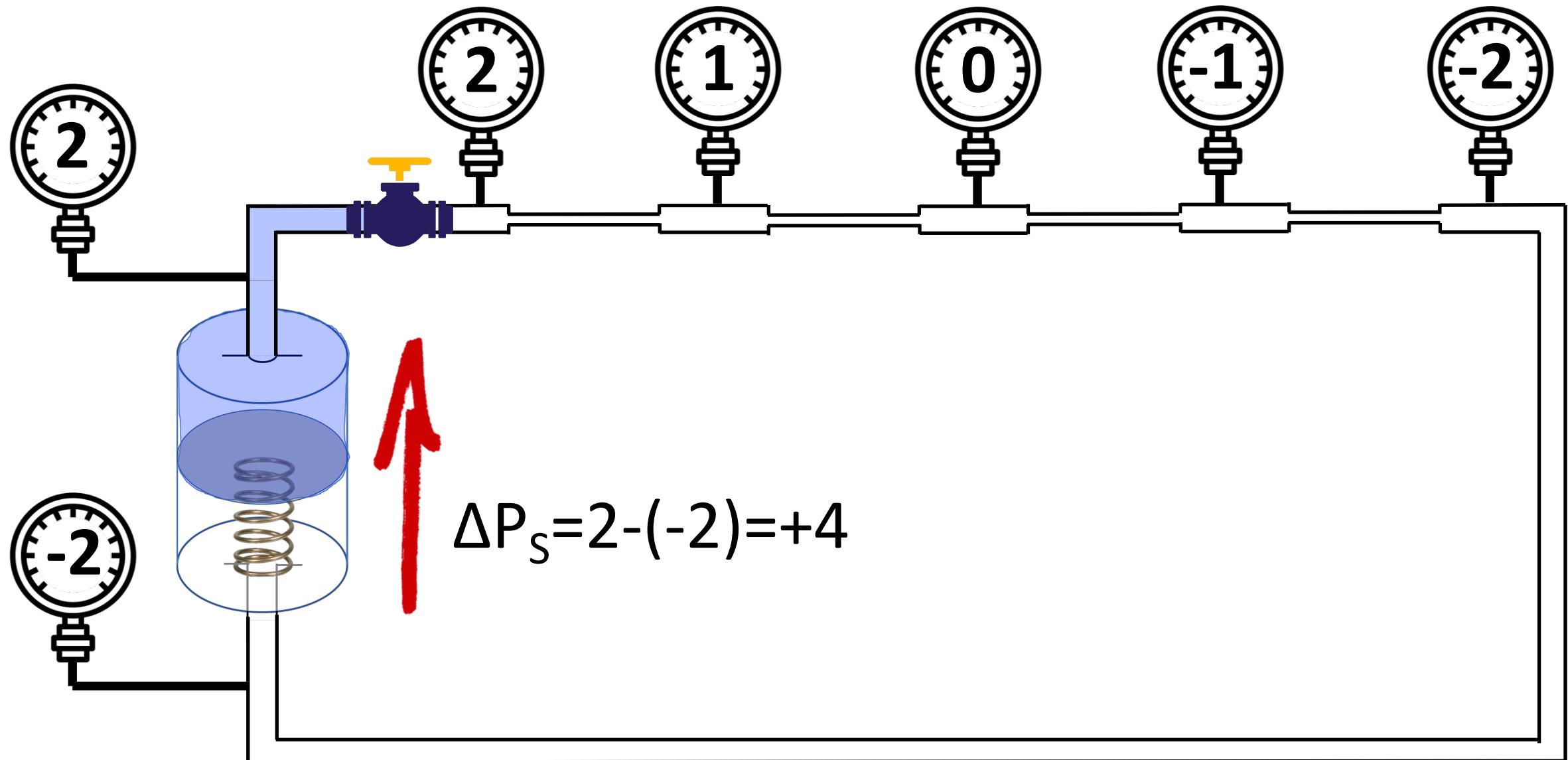


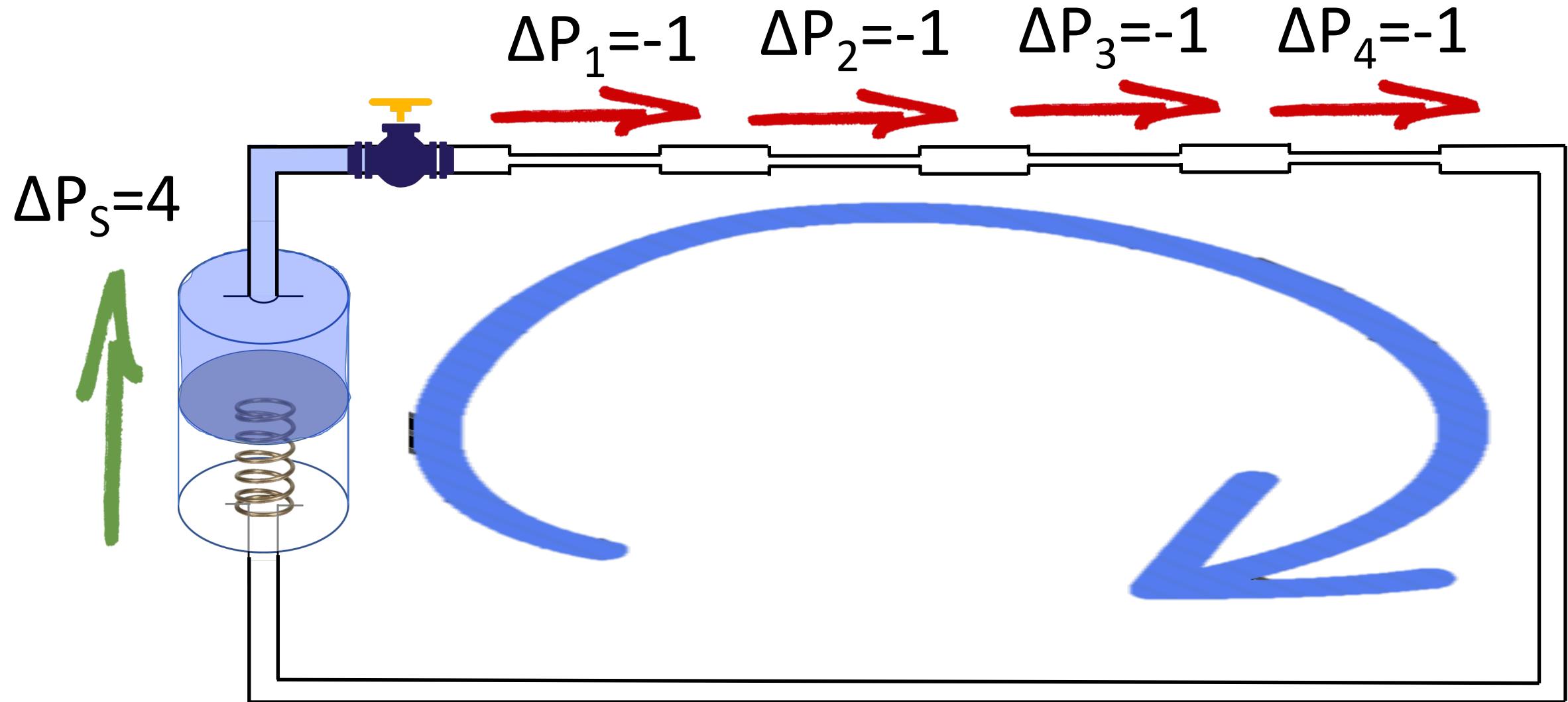




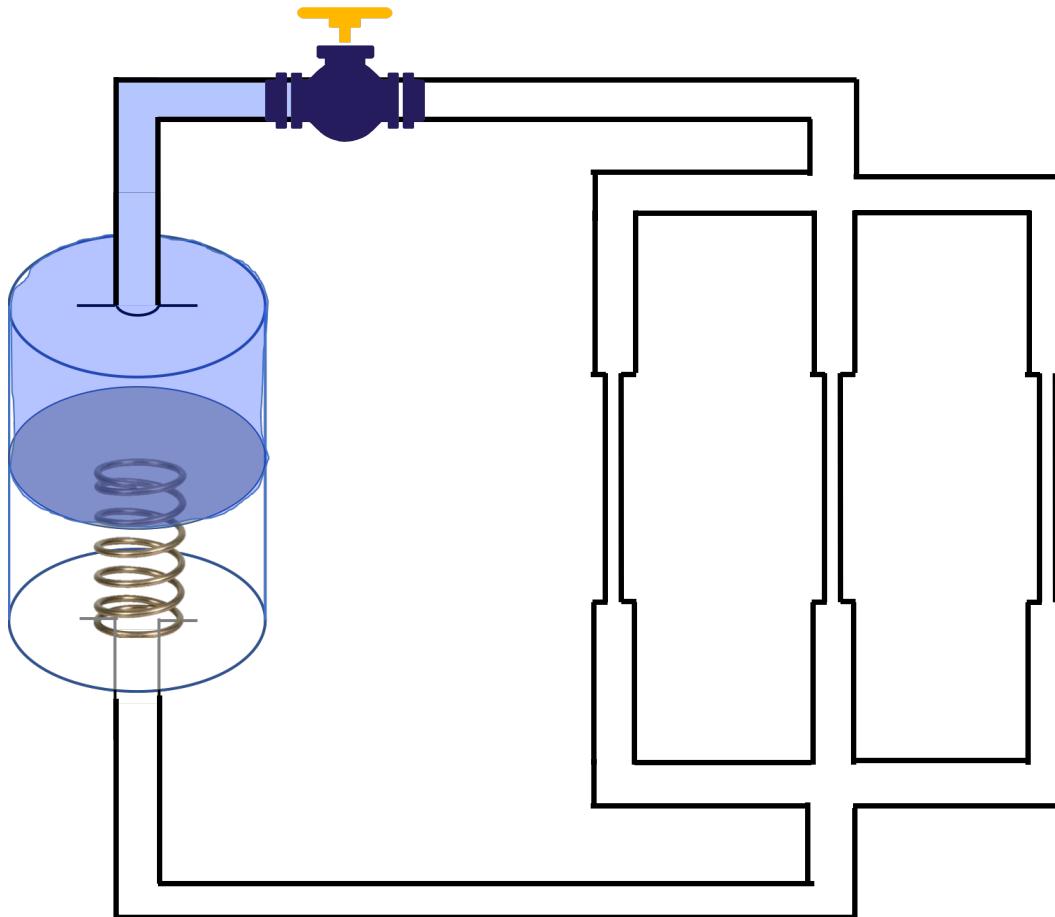


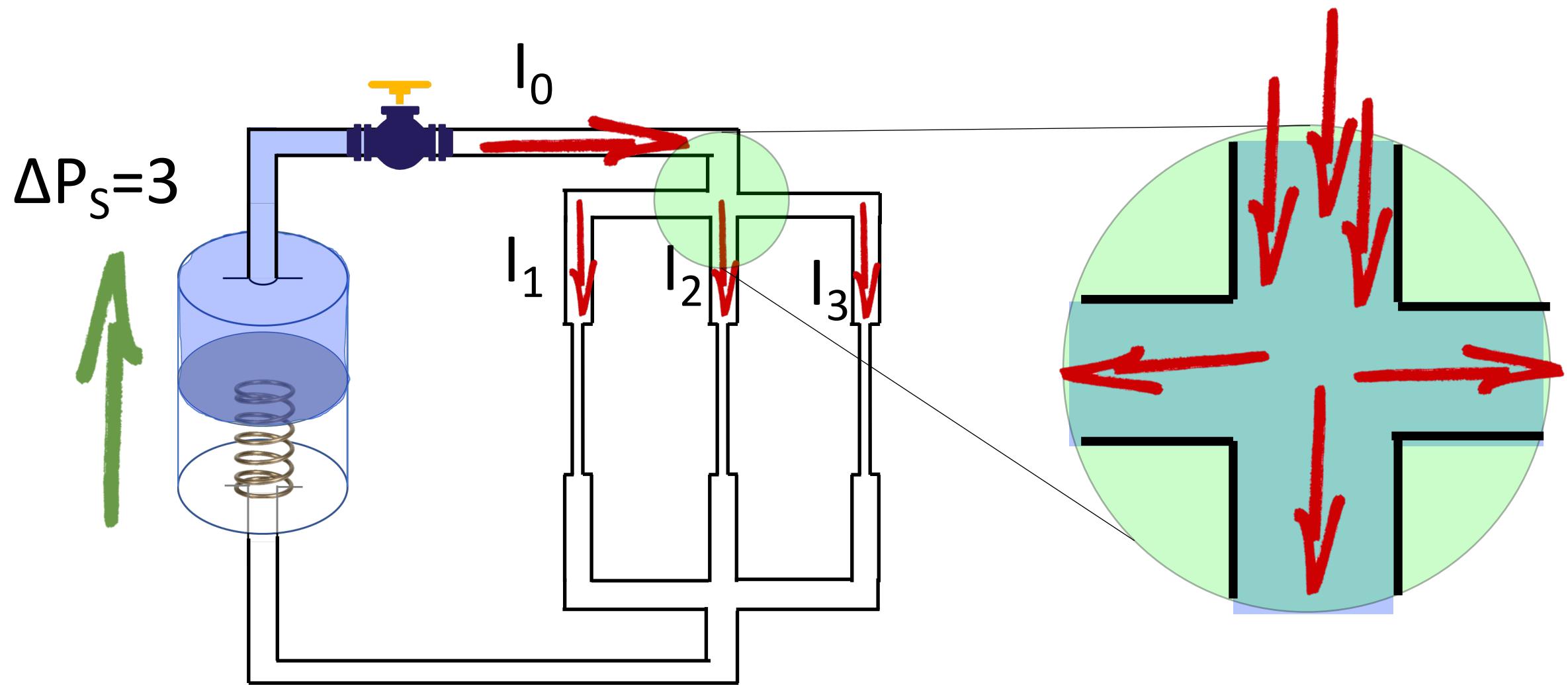




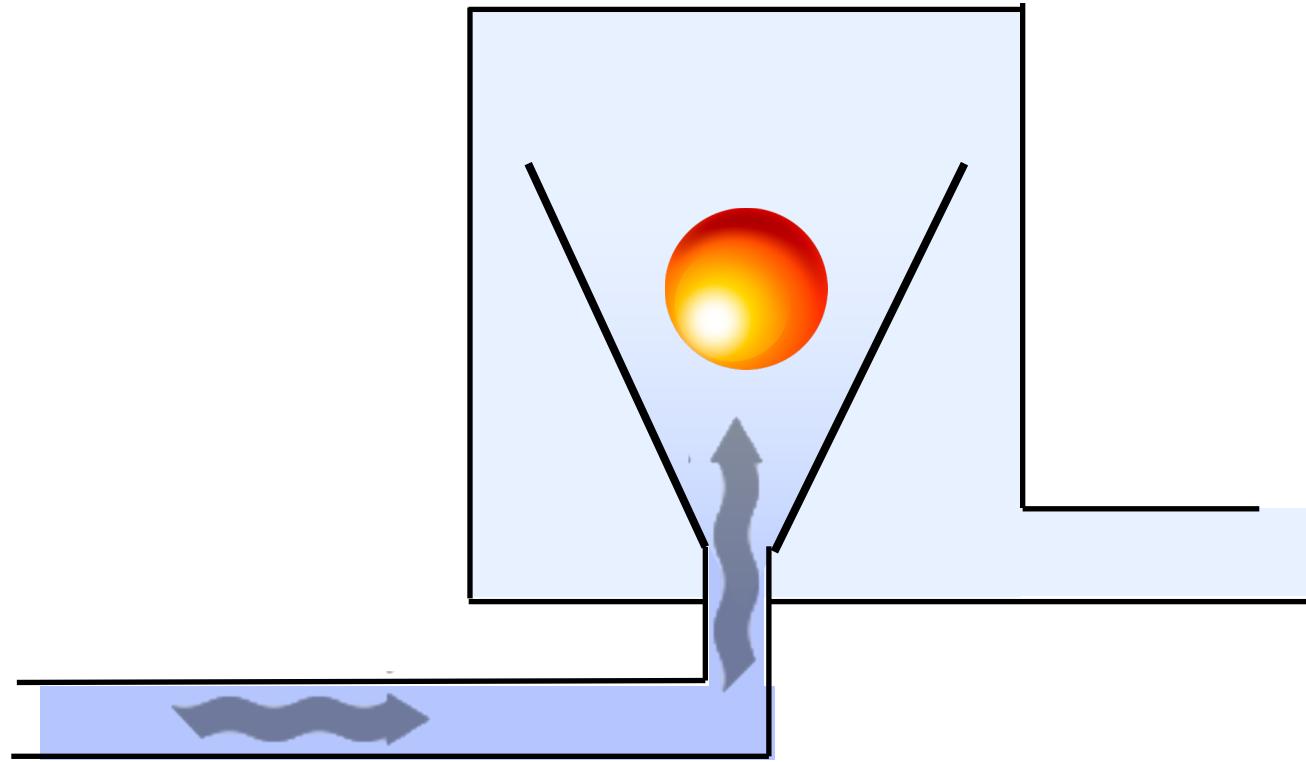


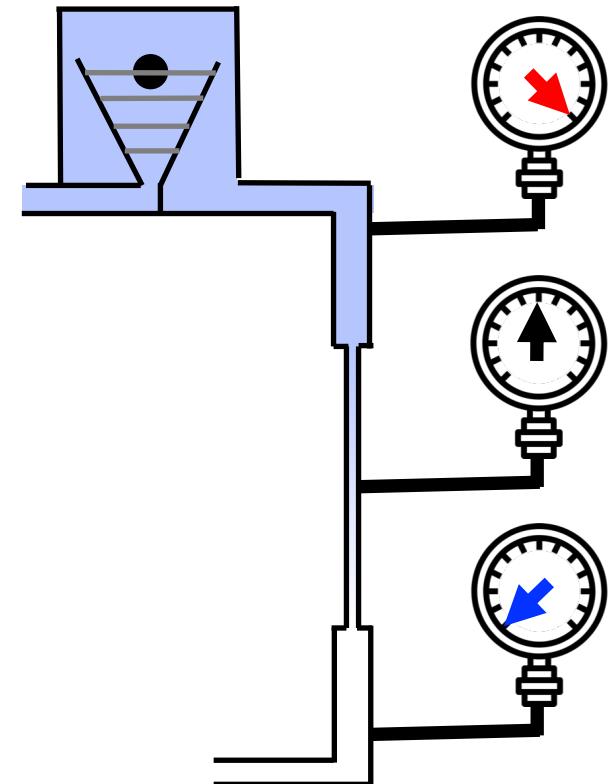
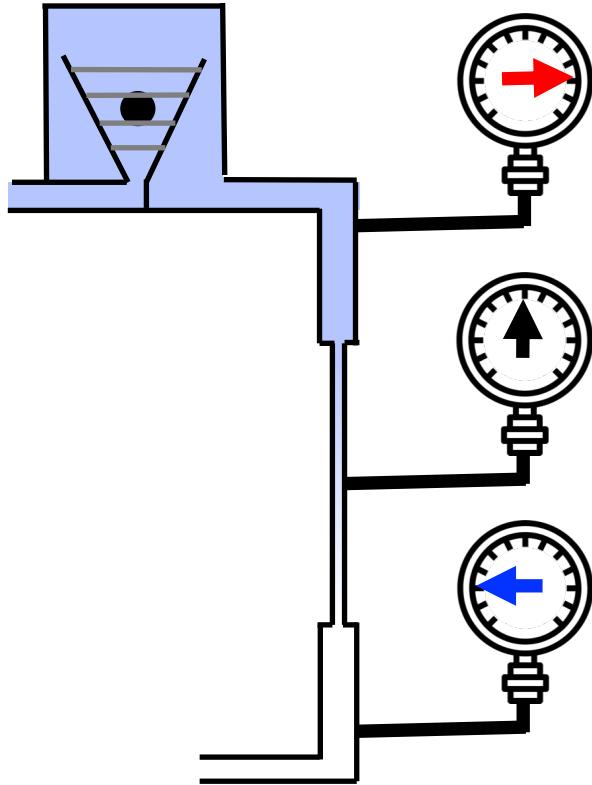
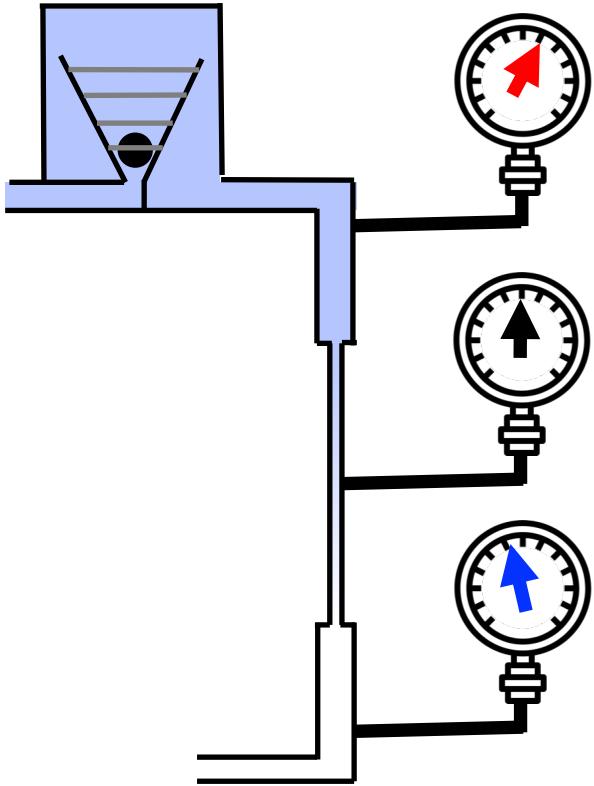
$$\Delta P_1 + \Delta P_2 + \Delta P_3 + \Delta P_4 + \Delta P_S = 0$$

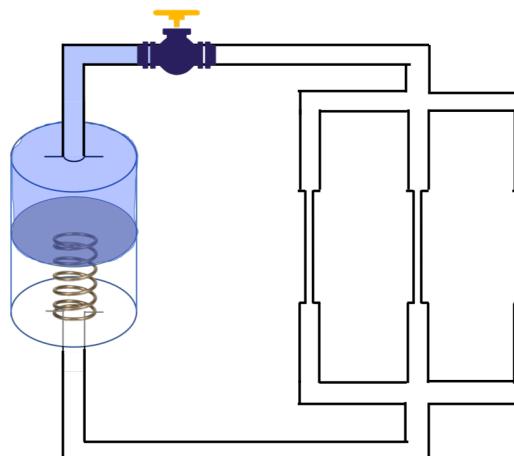
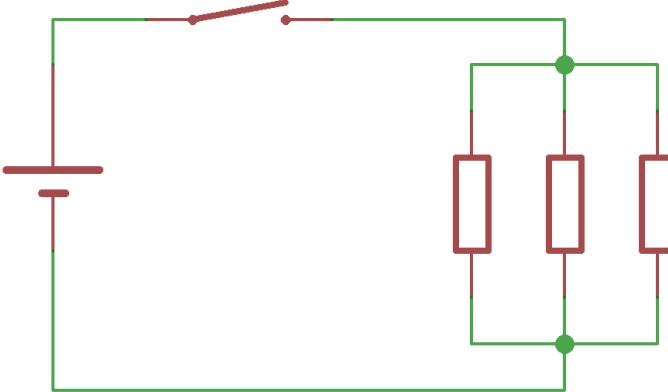
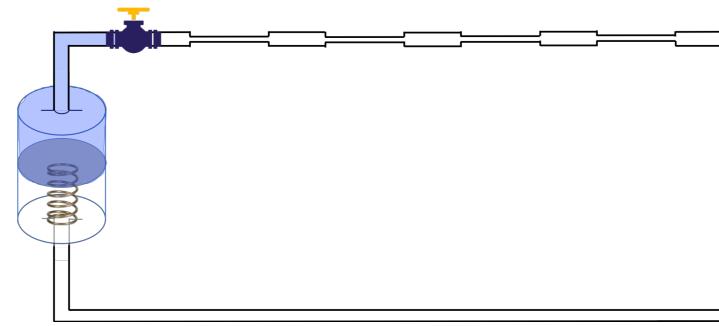
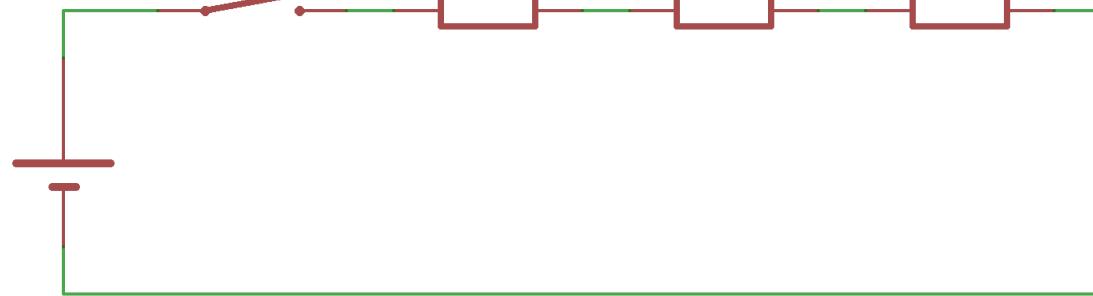
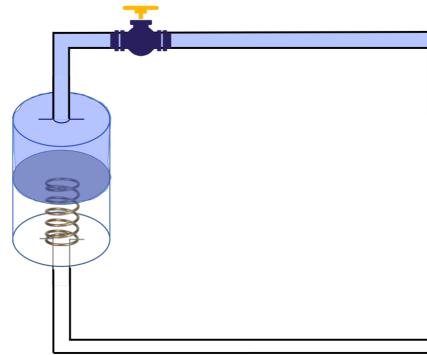


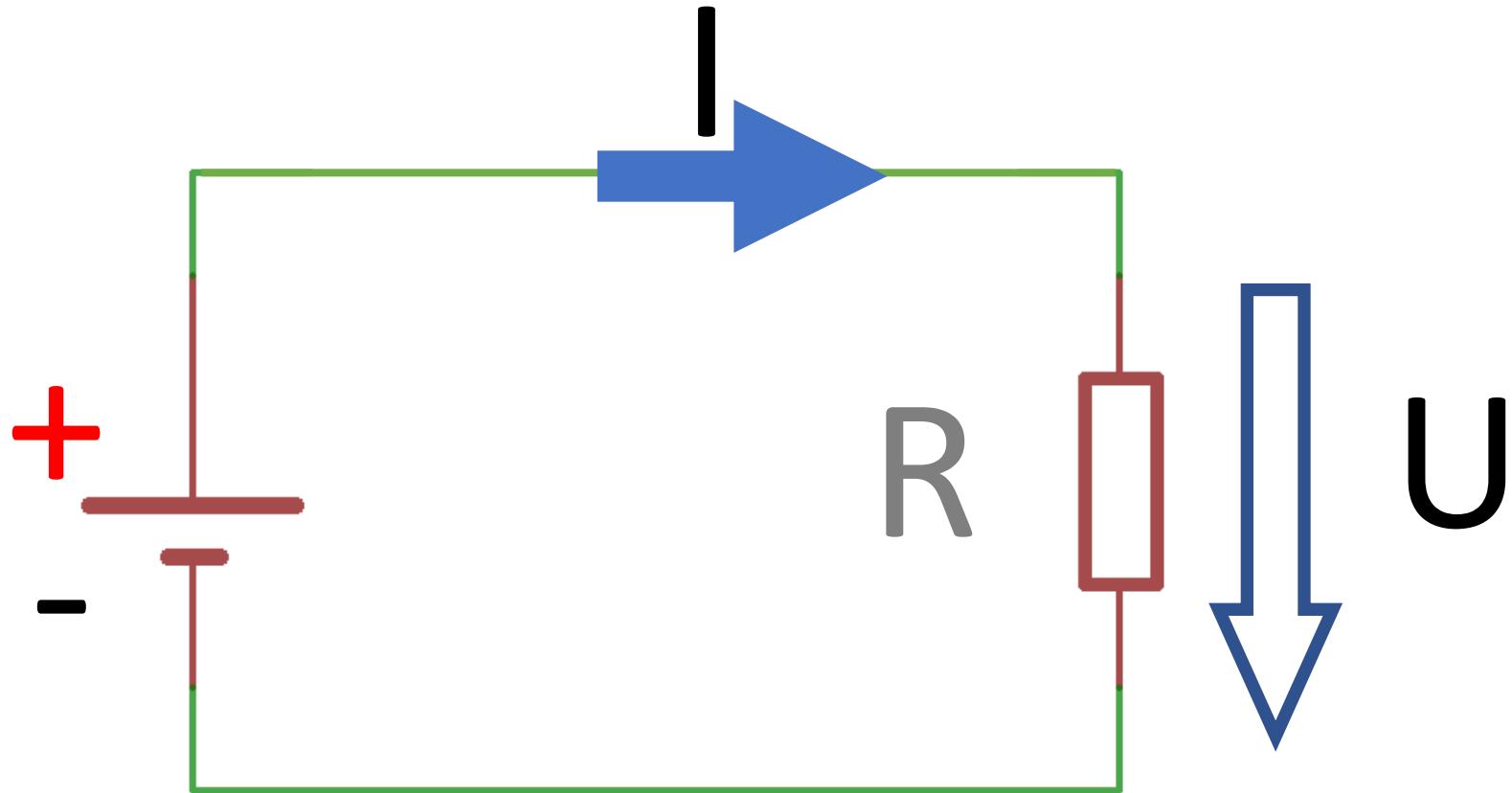


$$I_0 = I_1 + I_2 + I_3$$





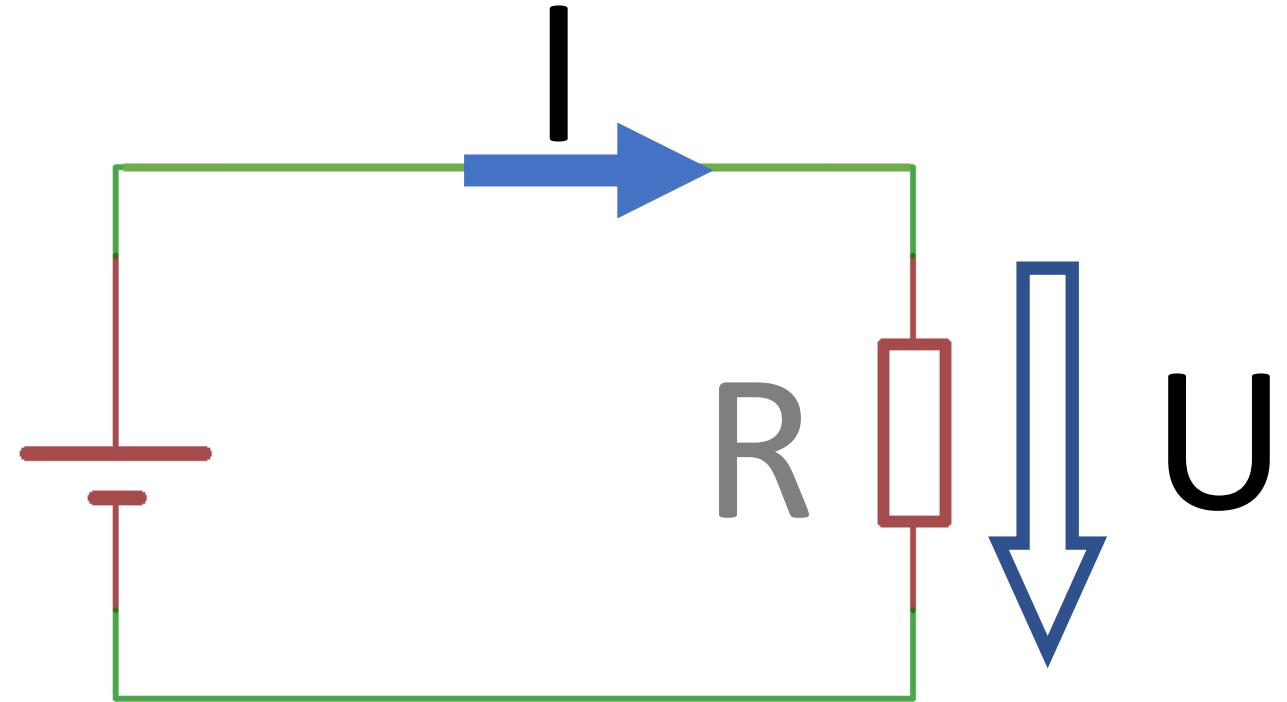




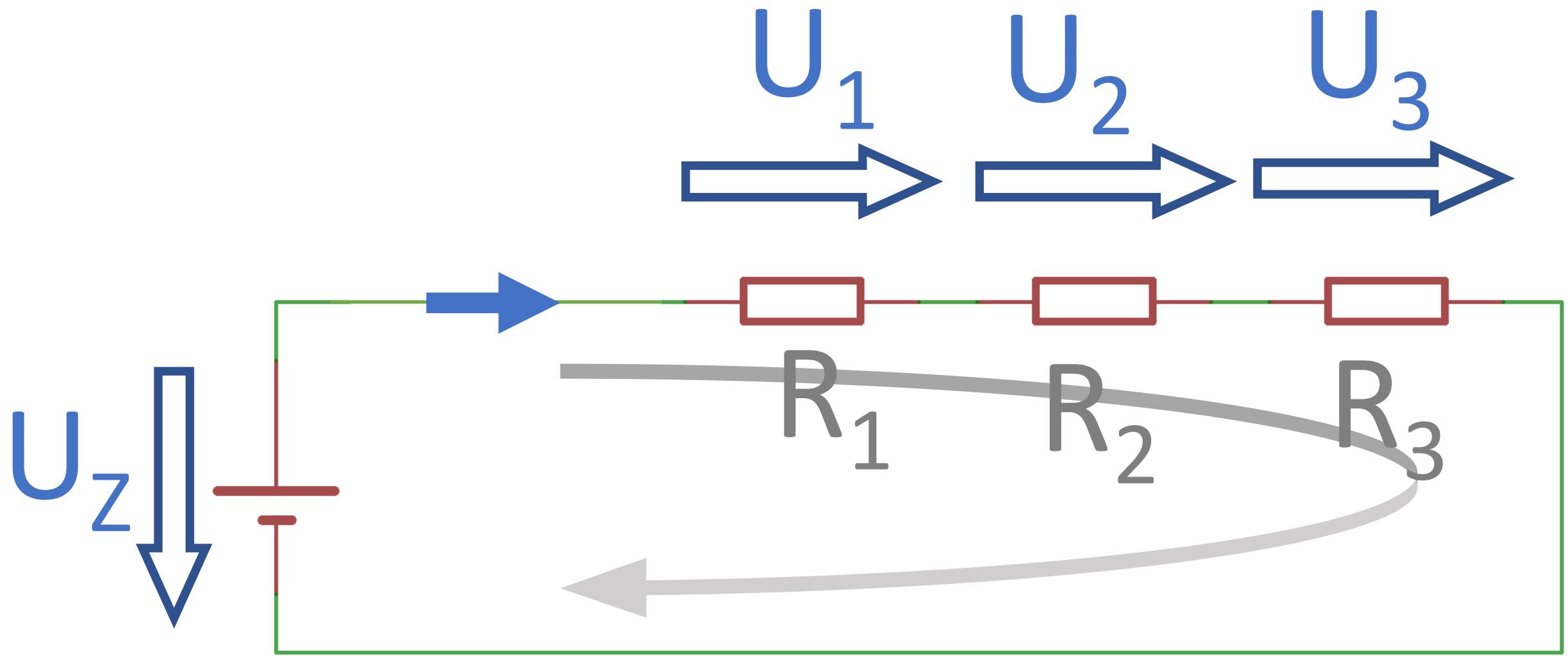
I - Prúd [Ampér, A, mA]

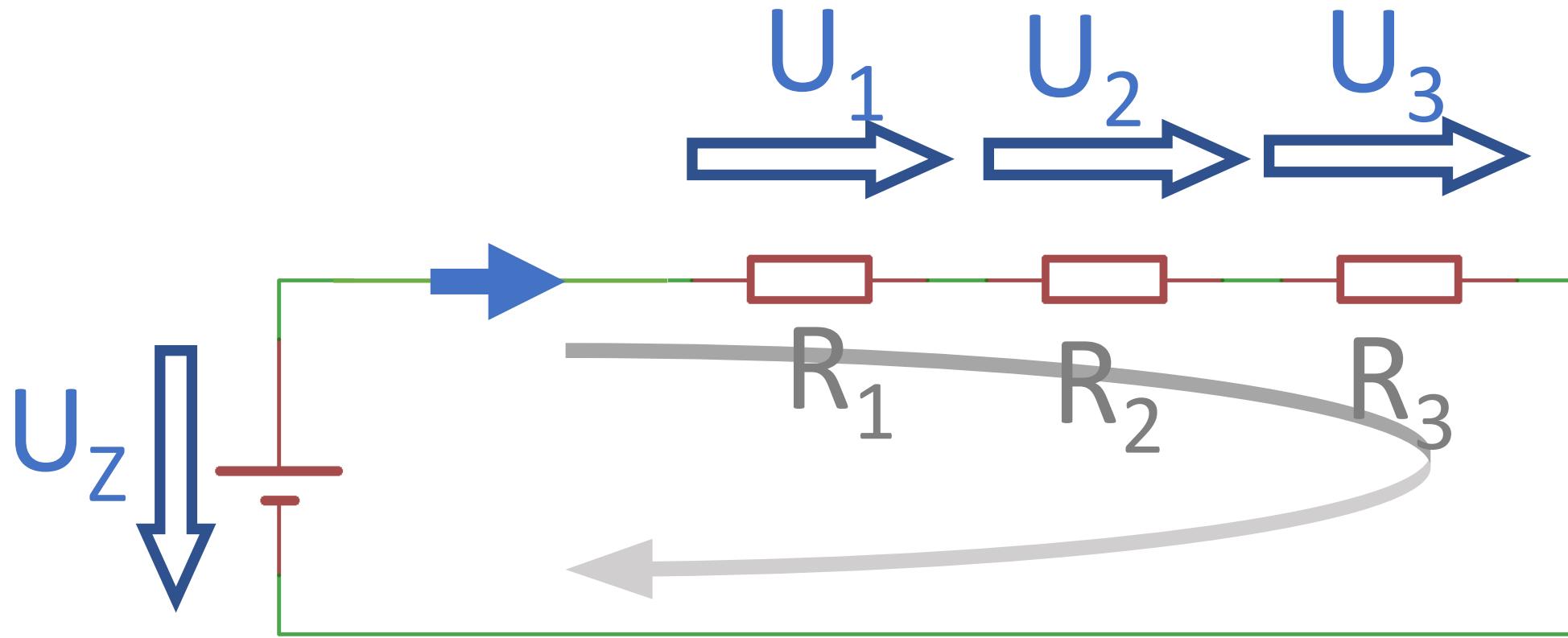
U - Napätie [Volt, V]

R – Odpór [Ohm,  $\Omega$ ]

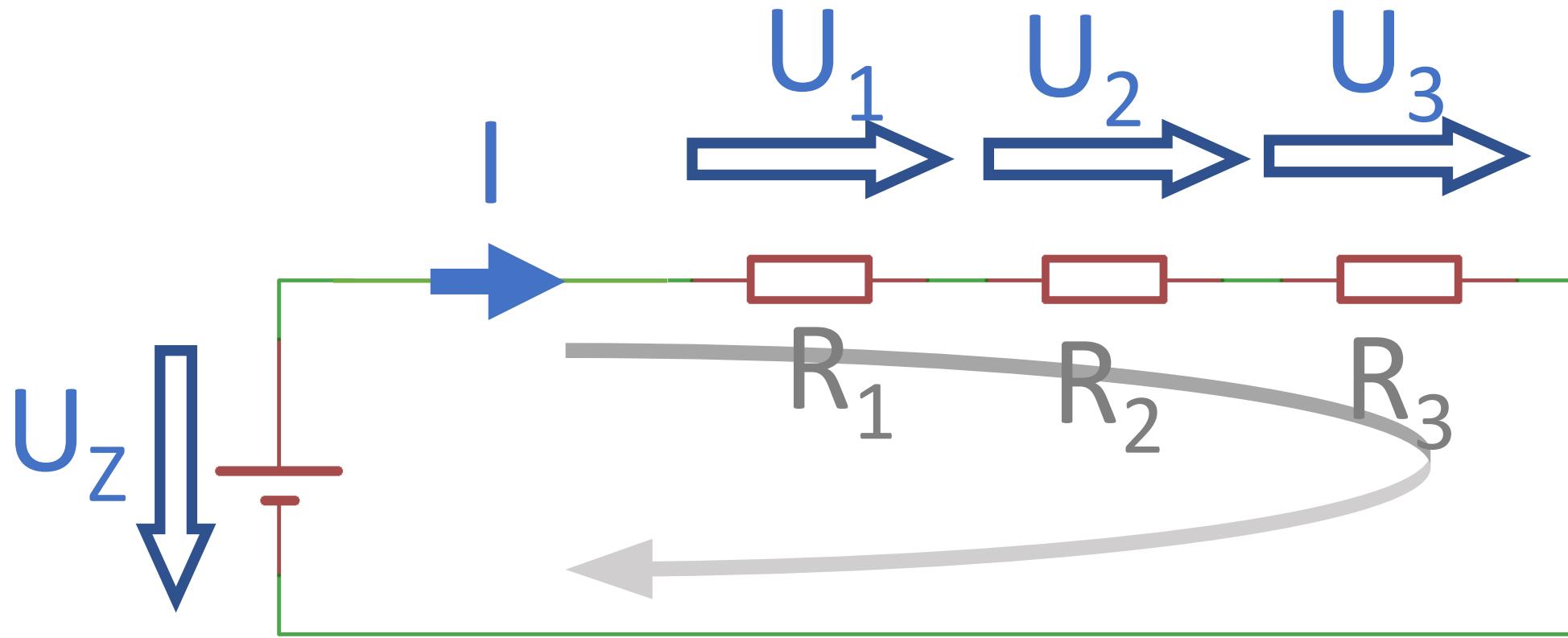


$$U = R * I$$

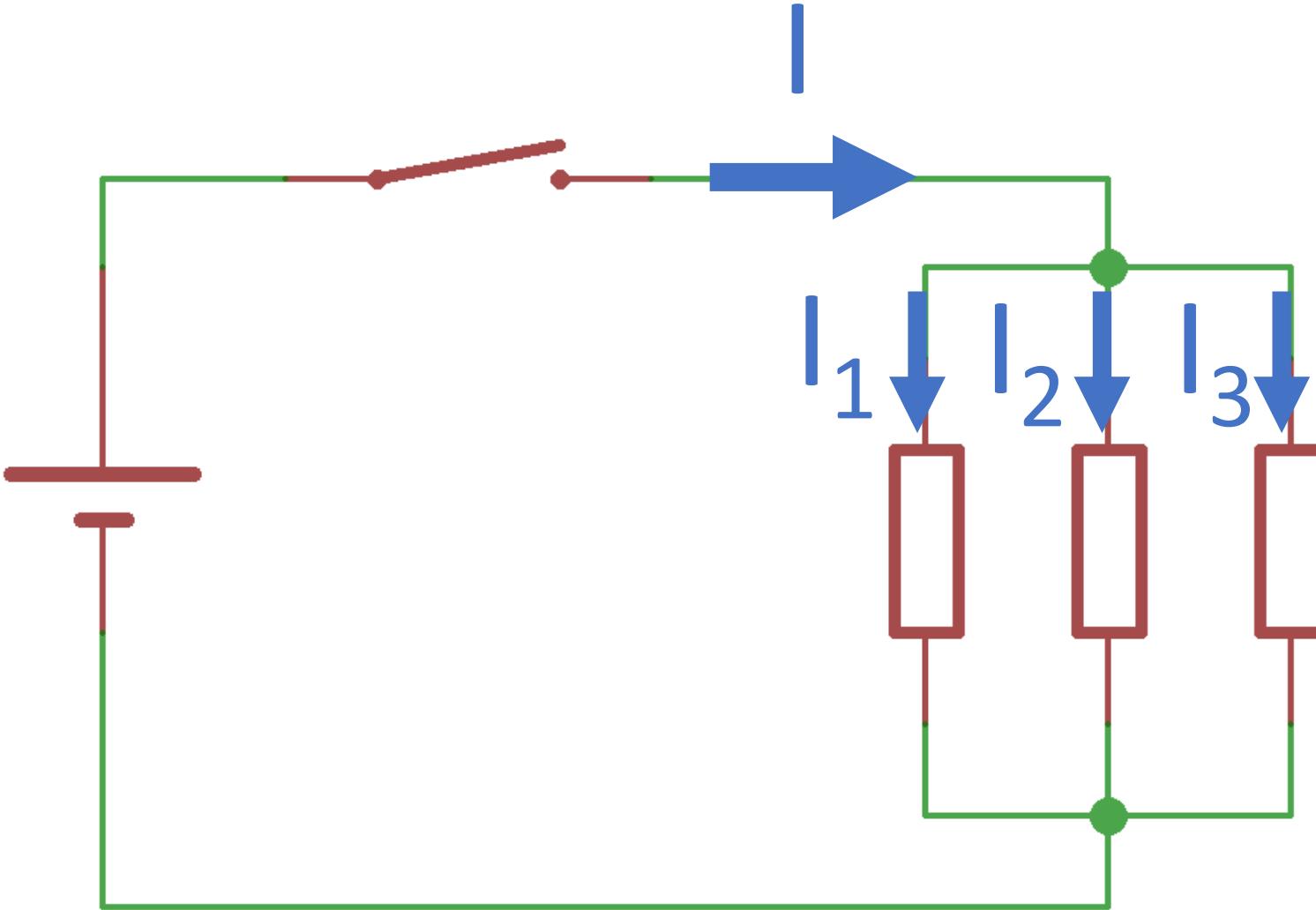




$$U_z = U_1 + U_2 + U_3$$



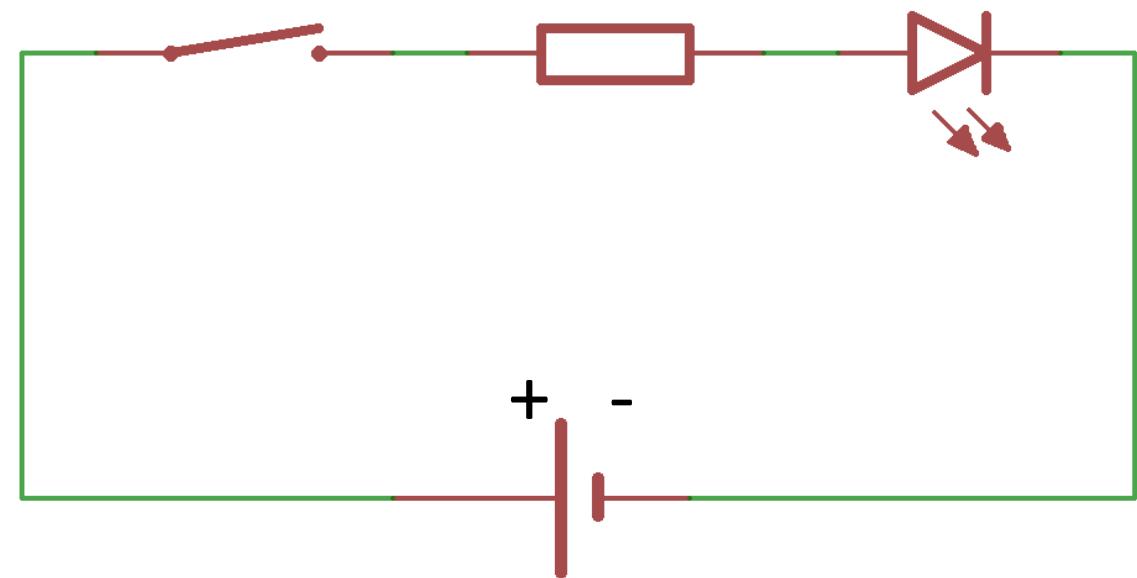
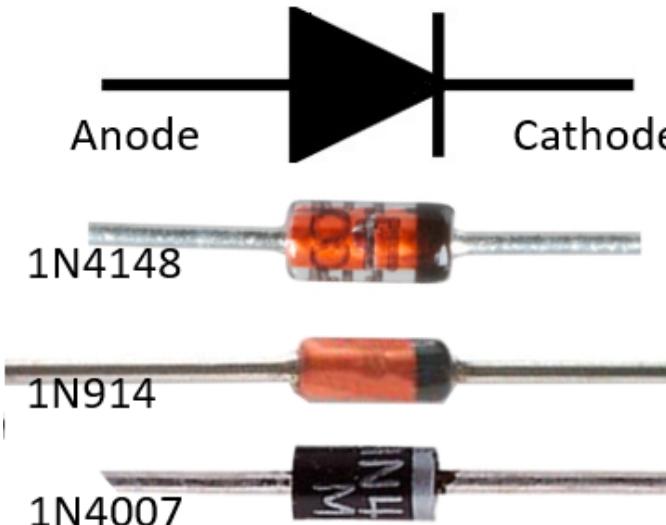
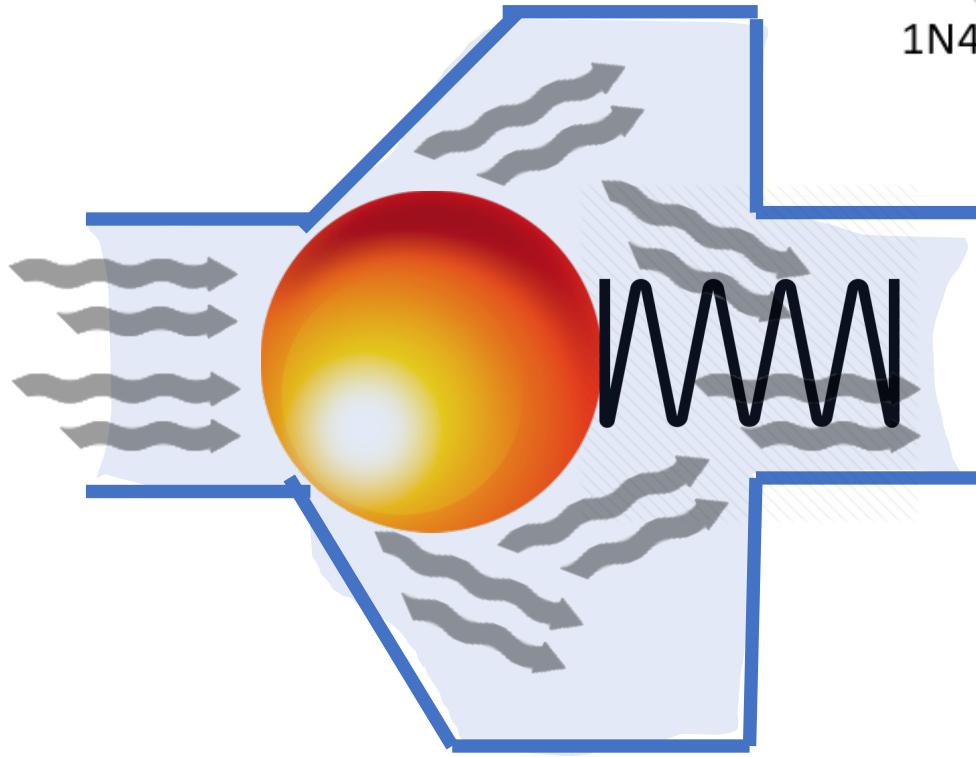
$$U_z = I * R_1 + I * R_2 + I * R_3$$



$$I = I_1 + I_2 + I_3$$

Veličina	Analógia	Jednotka	Označenie
Napätie	Tlak vody	Volt (V)	U
Prúd	Prietok vody	Ampér (A)	I
Odpor	Odpor prekážky	Ohm ( $\Omega$ )	R





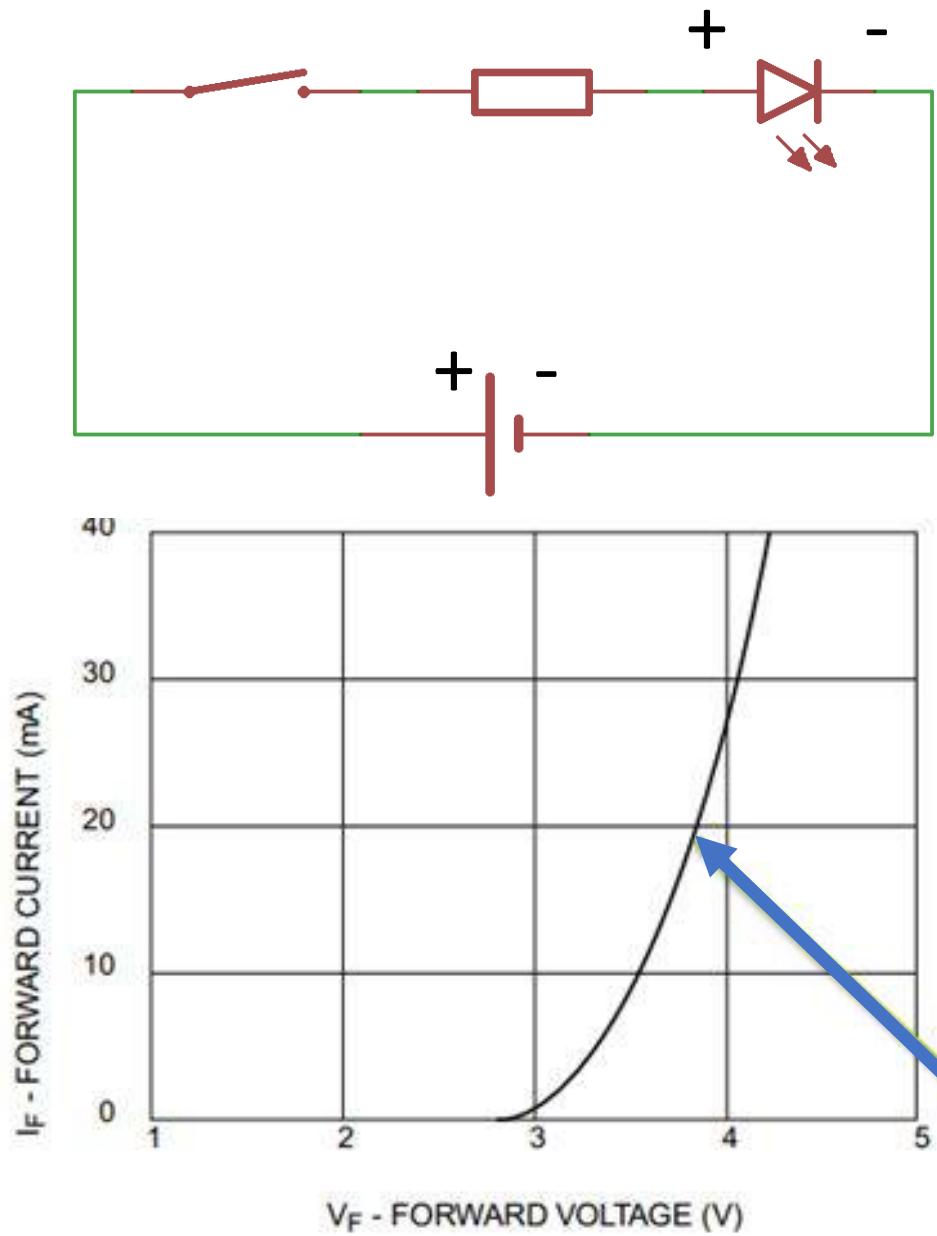
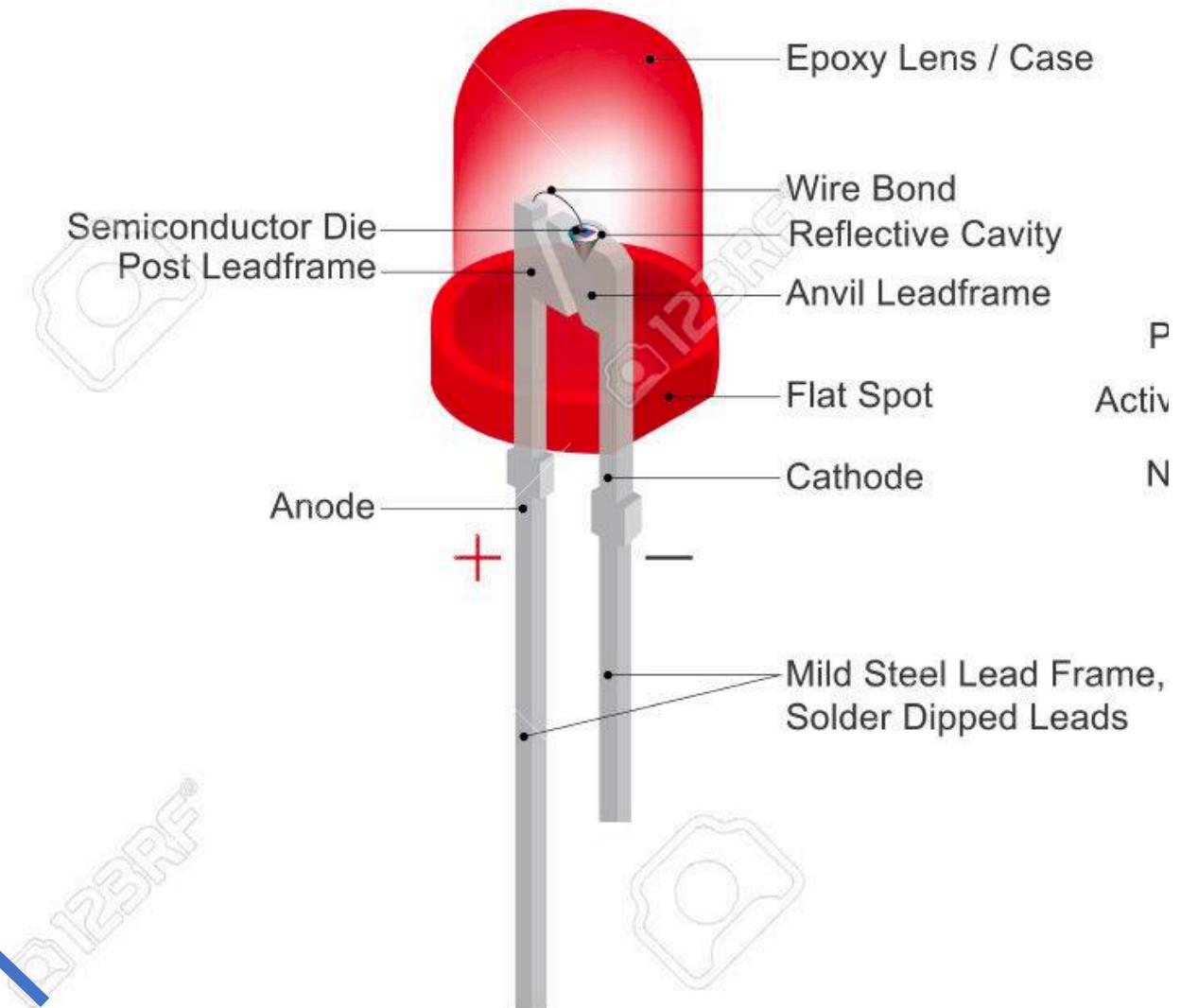
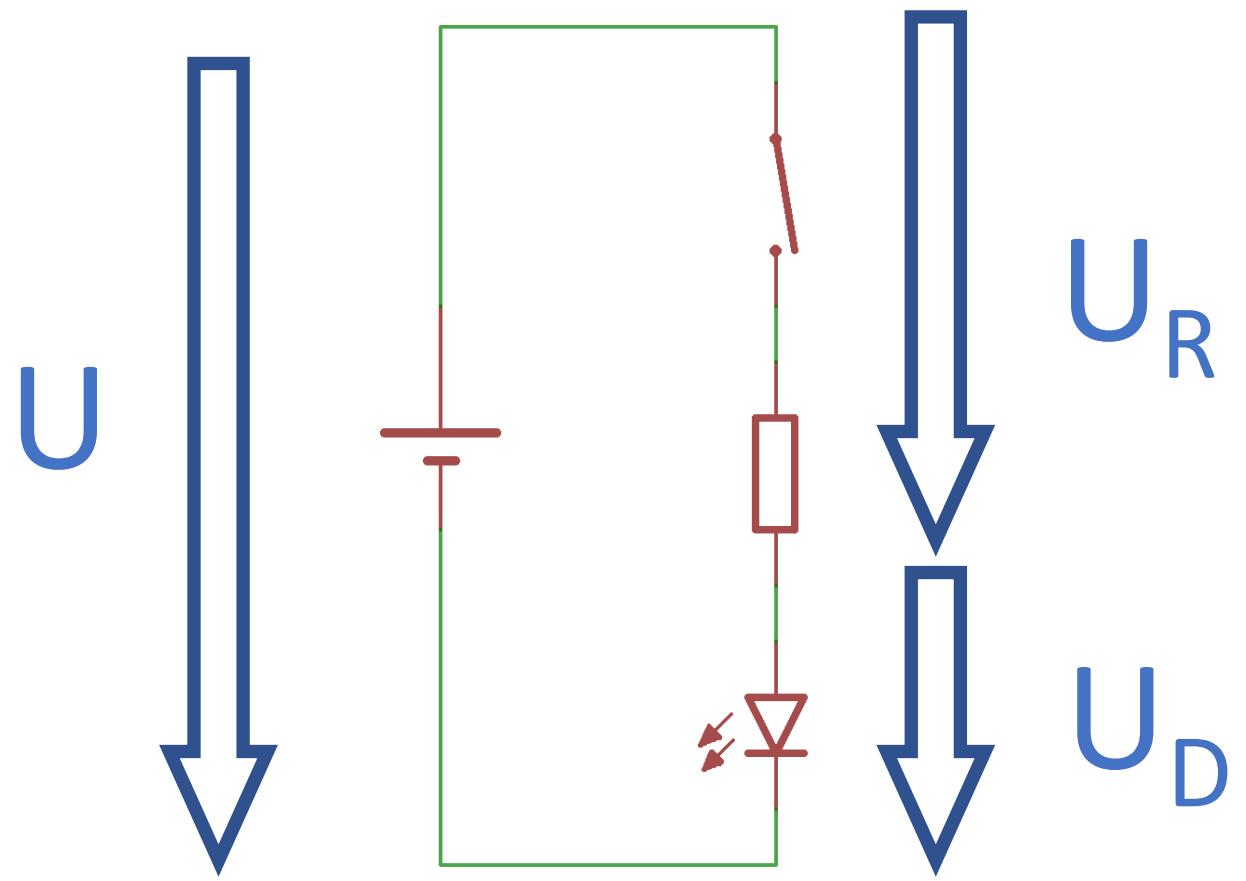
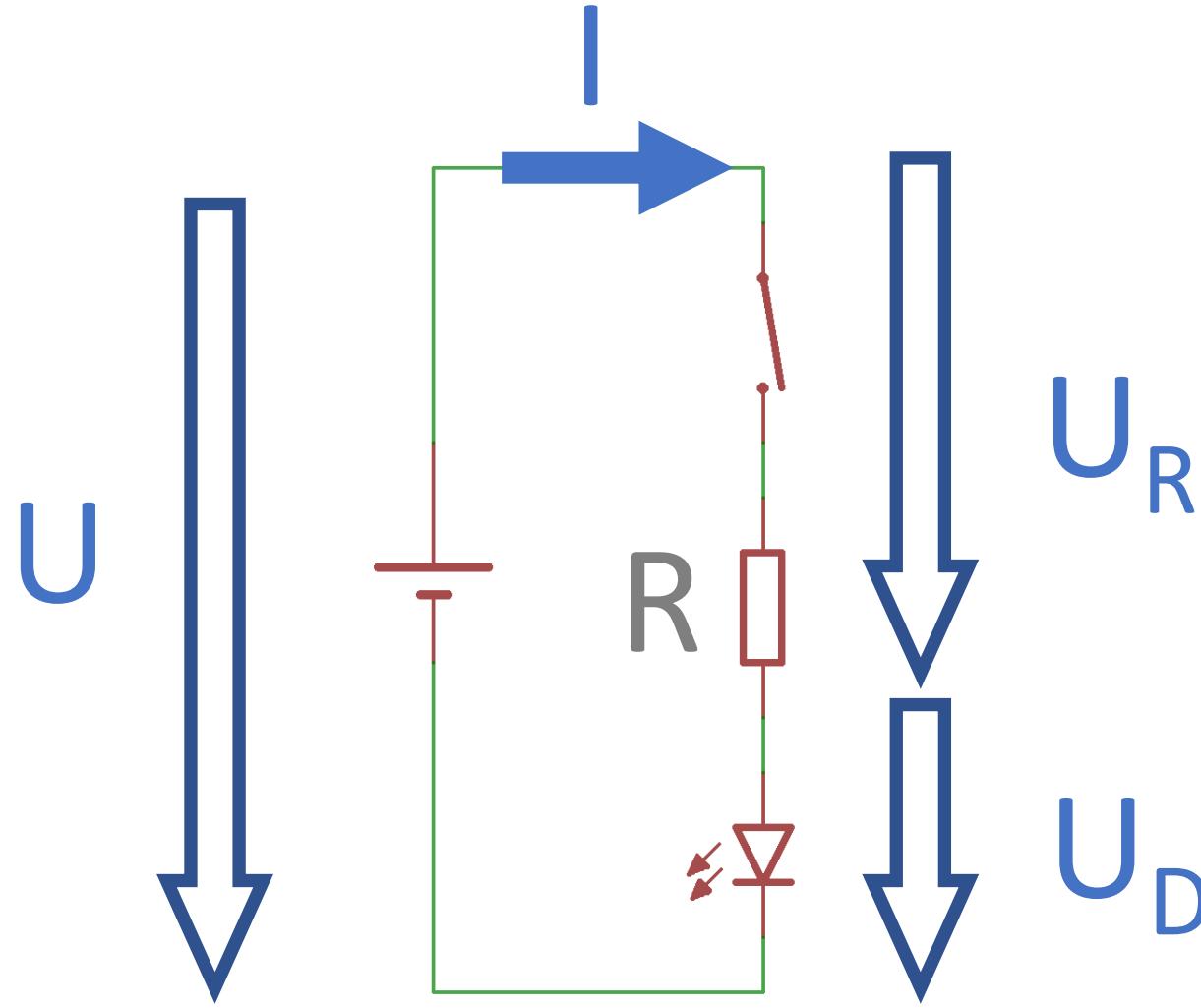


Fig.1 Forward Current vs. Forward Voltage



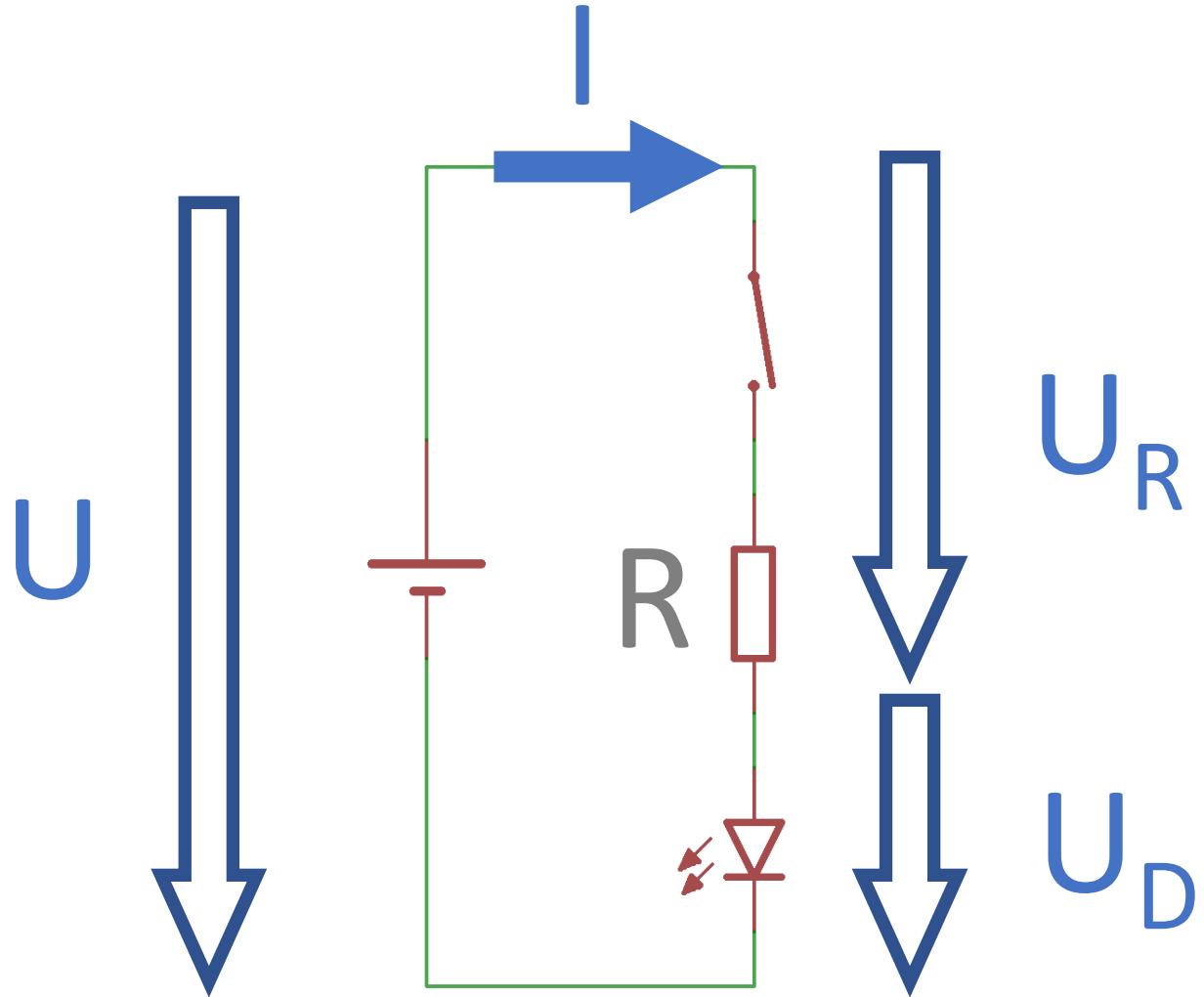


$$U = U_R + U_D$$



$$U = U_R + U_D$$

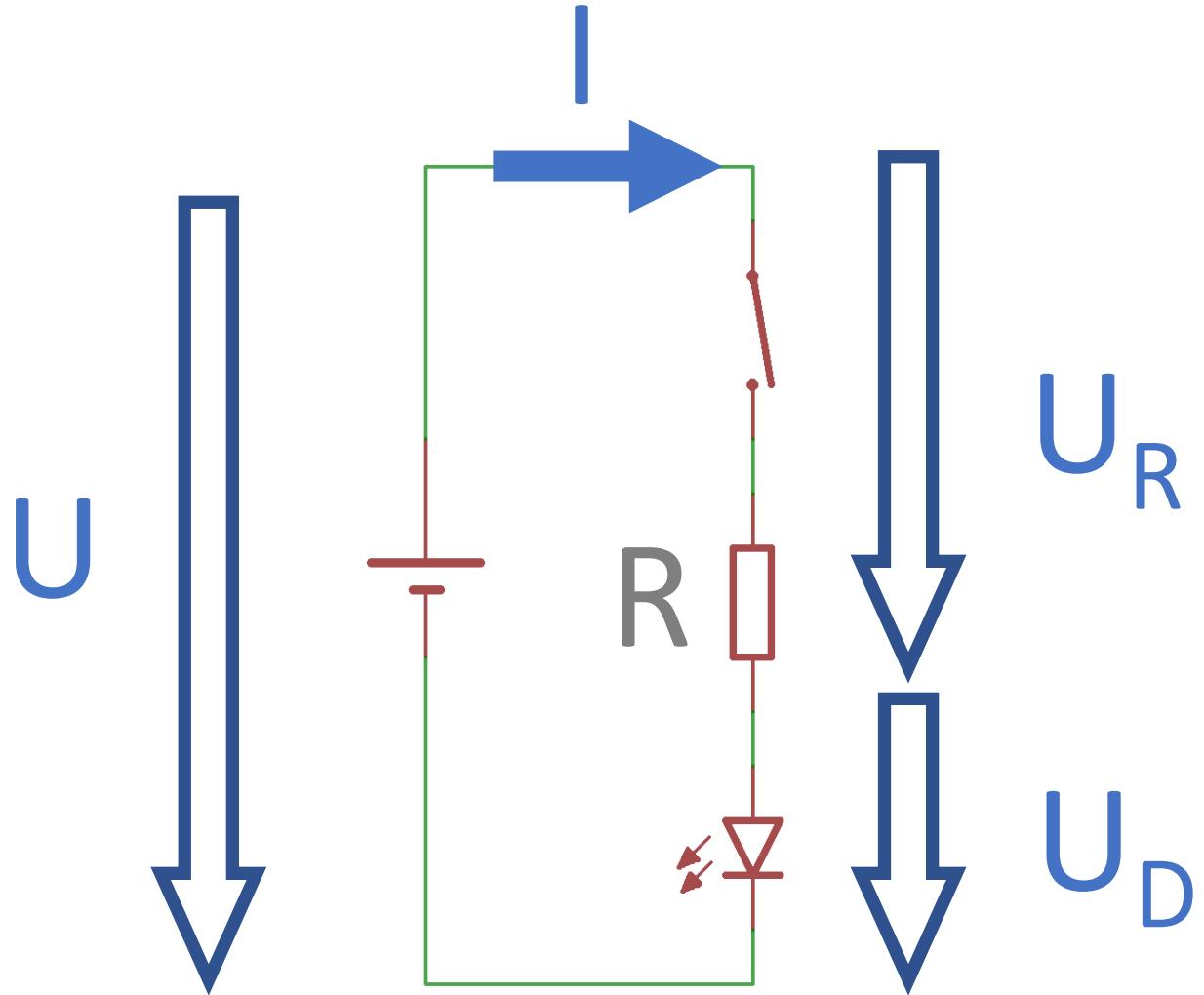
$$U = I \cdot R + U_D$$



$$U = U_R + U_D$$

$$U = I * R + U_D$$

$$5V = 20mA * R + 3.8V$$



$$U = U_R + U_D$$

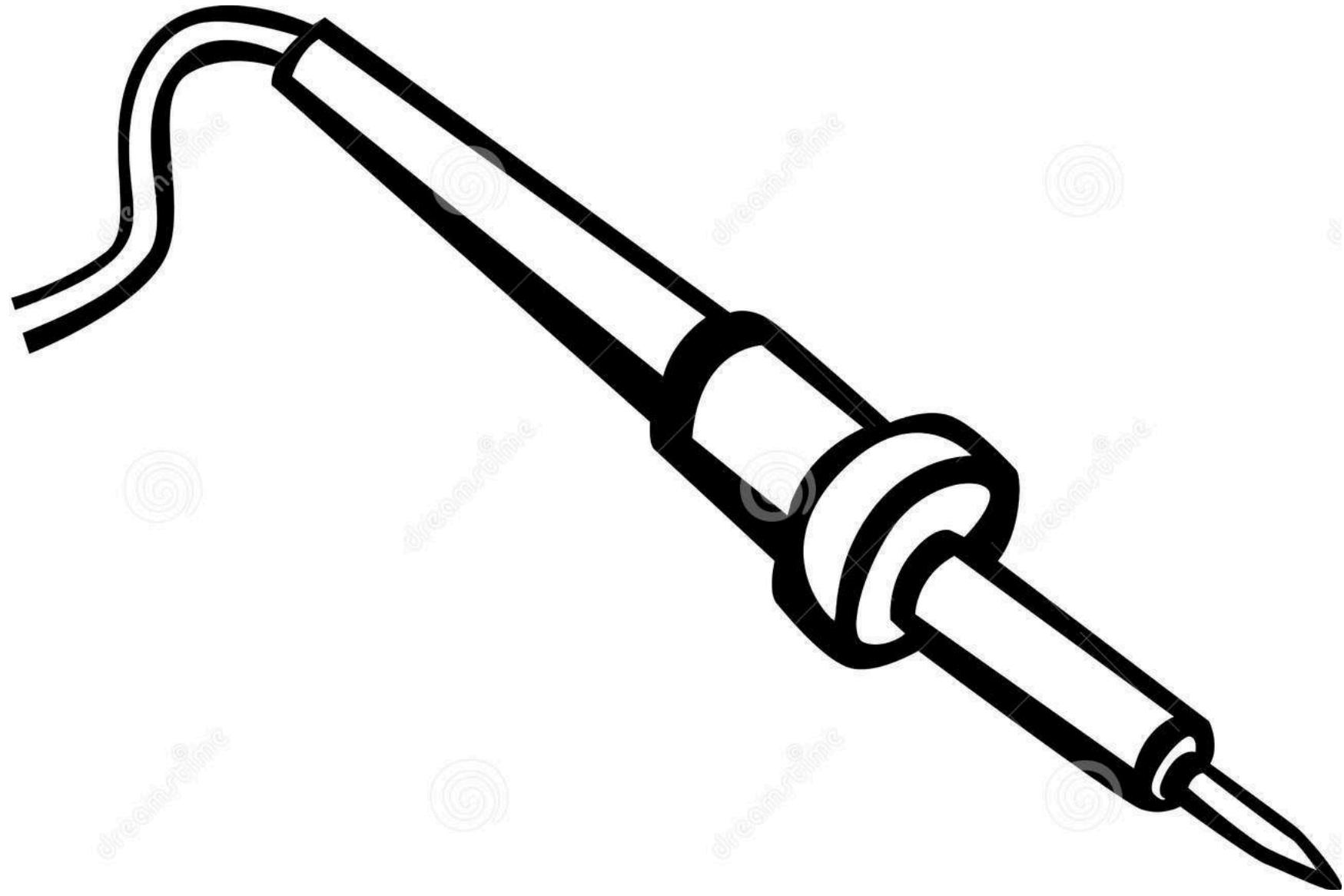
$$U = I * R + U_D$$

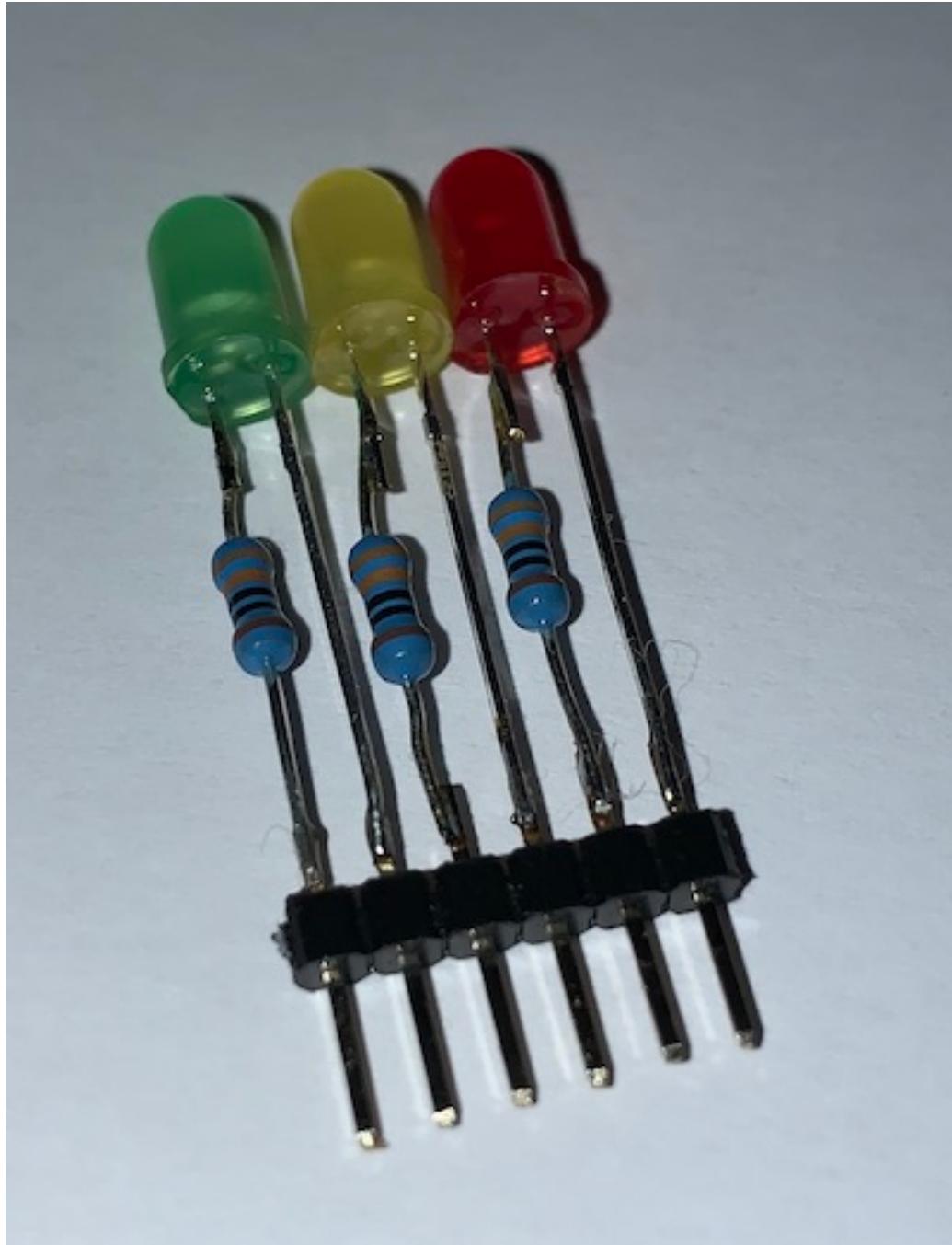
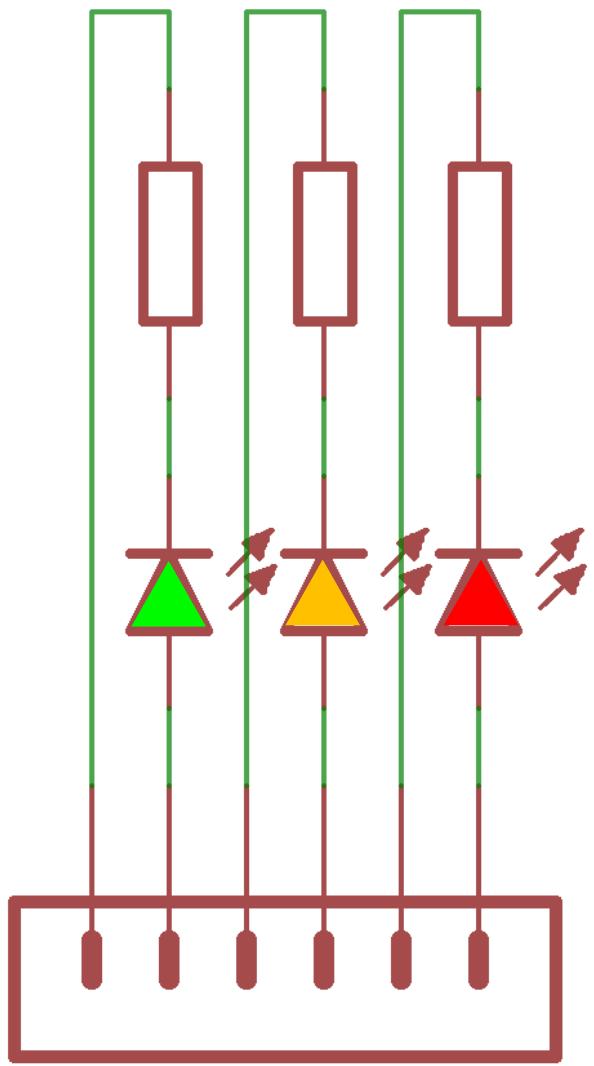
$$5V = 20mA * R + 2.7V$$

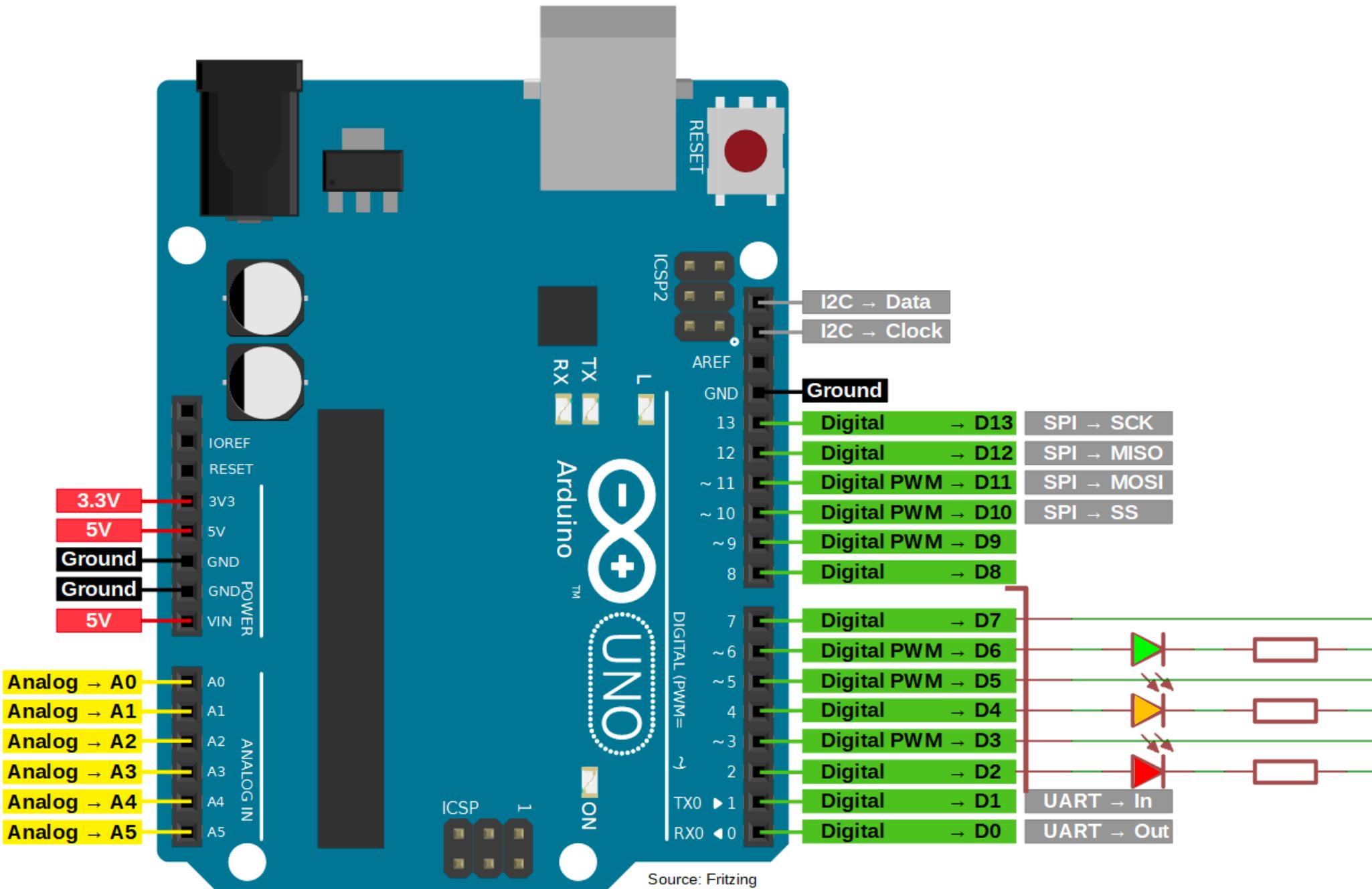
$$R = (5V - 3.8V) / 20mA$$

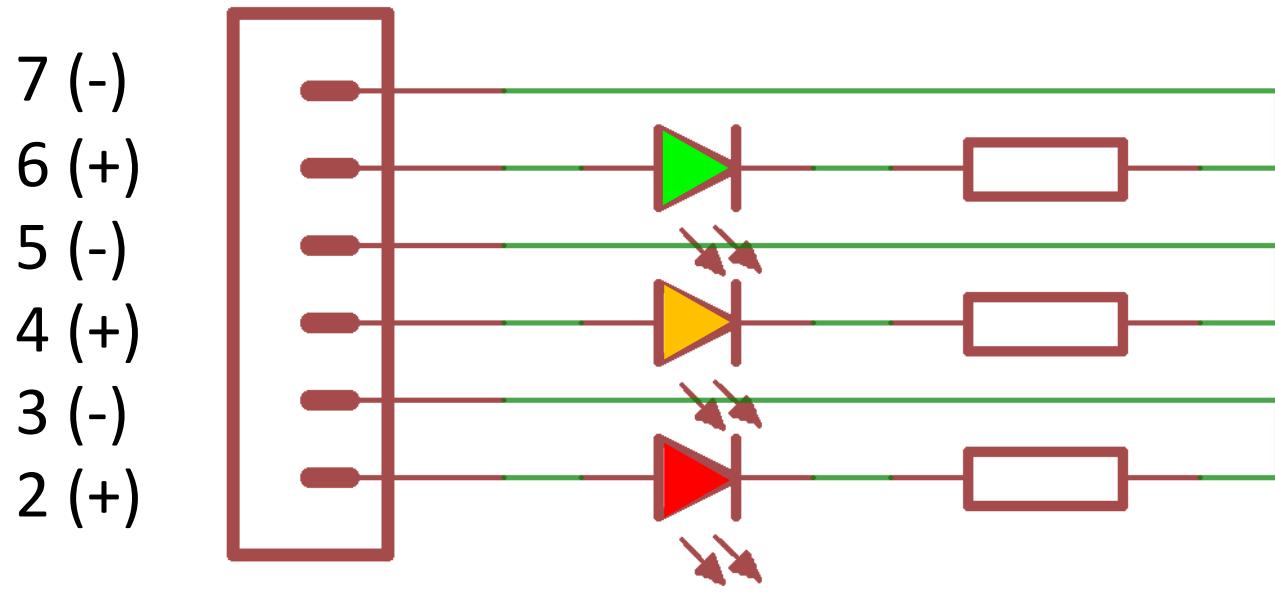
$$R = 1.2 / 0.02$$

$$R = 60 \Omega$$

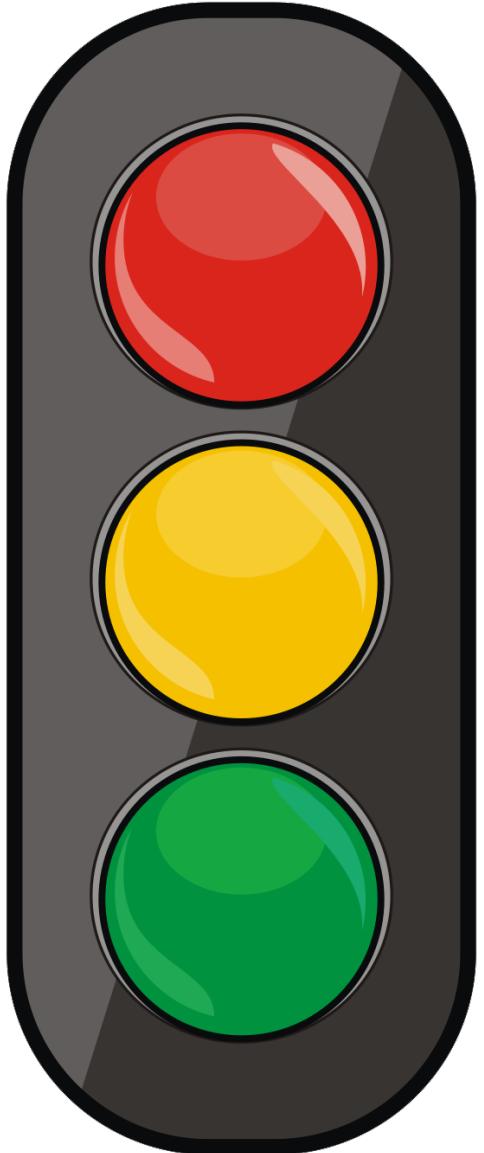








```
void setup() {  
    // put your setup code here...  
    pinMode(7, OUTPUT);  
    pinMode(6, OUTPUT);  
    pinMode(5, OUTPUT);  
    pinMode(4, OUTPUT);  
    pinMode(3, OUTPUT);  
    pinMode(2, OUTPUT);  
  
    digitalWrite(7, LOW);  
    digitalWrite(5, LOW);  
    digitalWrite(3, LOW);  
}  
  
void loop() {  
    // put your main code here...  
    digitalWrite(6, HIGH);  
    digitalWrite(4, HIGH);  
    digitalWrite(2, HIGH);  
}
```



```
void loop() {  
    // put your main code here, to run repeatedly:  
    digitalWrite(6, HIGH);  
    delay(1000);  
    digitalWrite(6, LOW);  
    digitalWrite(2, HIGH);  
    delay(1000);  
    digitalWrite(2, LOW);  
}
```

# Ďakujem za pozornosť

Ing. Gabriel Války, PhD.

<http://x.valky.eu/elec1>