



**GRUNDFOS  
ACADEMY**

**HEATING SYSTEMS IN COMMERCIAL BUILDINGS**

**CALCULATE SAVINGS WHEN USING  
FLOWLIMIT FUNCTIONALITY**

# Quantifying savings when using intelligent pumps with FLOWLIMIT functionality

This value calculation quantifies the cost saved by making a pump throttling valve redundant, when you install Grundfos pumps with FLOWLIMIT functionality in your heating system.

## Key questions and data points

Key questions	Value	In formula
? What is the CAPEX of a DN40 pump throttling valve?	€	<i>CAPEX</i>
? What the cost of installing and commissioning a pump throttling valve?	€	<i>Install_cost</i>
? What is the annual cost for service & maintenance of the throttling valve?	€/year	<i>S&amp;M_cost</i>
? What the flow across the pump throttling valve?	m <sup>3</sup> /h	<i>Q</i>
? What is the pressure loss over the pump throttling valve?	mwc	<i>mwc</i>
? What is your cost per kWh electricity?	€/kWh	<i>kWh_price</i>
✓ Assuming the throttling valve has a lifetime of 20 years	Years	<i>20yr</i>

### Value calculation

Annual pump power spend due to pump throttling valve = $((Q * mwc * 2.72) / 1000) * 8760$	kWh	<i>kWh</i>
Savings = $CAPEX + Install\_cost + (S\&M\_cost * 20yr) + (kWh\_price * kWh * 20yr)$	€	<i>Savings</i>



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