

ELLESS

WATER SAVING SYSTEM

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EXAMPLE OF THE WATER AND ENERGY SAVINGS OF A BUSINESS HOTEL AFTER INSTALLATION OF SPARLATOR®

Sparlator® water saving products are installed in a hotel in Sweden with 100 room. The hotel has approximately 1.2 guests per day on a yearly basis.

Energy: SEK 0.70 per kWh (average price in Sweden)

Water: SEK 17.50 per m³ (median price in Sweden)

The year-average temperature of cold water in Sweden is 8 degrees Celsius. It takes 40 Wh to heat 1 liter of 8-degree water to 40 degrees Celsius (average water temperature when taking a shower). The heating and distribution losses are 10 %. To increase the temperature of 1 m³ of water by 1 degrees Celsius, approximately 1.16 kWh are needed.

$(40 - 8 \text{ degrees}) \times 1.16 \times 100/90 = 41.24 \text{ kWh}$.

The average price of 1 m³ of 40-degree hot water is according to this

$41.24 \times 0.70 + 17.5 = \text{SEK } 46.37 /\text{m}^3$ (VAT not included)

The average water savings with Sparlator® faucet aerators are approx. 4 liters/minute (sink). Time in use approx. 6* minutes per person and day.

The average water savings with Sparlator® showers are approx. 6 liters/minute.

Time in use approx. 7** minutes per person and day.

* We have estimated the time of use for sink and shower to 7.2 minutes/day (6*1.2) Other calculations say 10 minutes. In addition, cleaners use the sink when they clean the bathroom.

** Statistically, an average Swedish person showers approximately 7 minutes/day.



Savings (sink): $100 \times 1.2 \times 4 \text{ liters/minute} \times 6^* \times 365 \times 0.8 \times 46.37$ = **SEK 38.995**

Savings (shower): $100 \times 1.2 \times 6 \text{ liters/minute} \times 7^{**} \times 365 \times 0.8 \times 46.37$ = **SEK 68.242**

Savings with Sparlator® shower hose or reducing valve SPAR-900:
 $100 \times 1.2 \times 1.5 \text{ liters/minute} \times 7 \times 365 \times 0.8 \times 46.37$ = **SEK 17.060**

Total savings $38.995 + 68.242 + 17.060$ = **SEK 124.297**

VAT (25 %) = **SEK 24.859**

Sum including VAT = **SEK 99.438**

Cost of investment from **SEK 18.300 + VAT (25%) = SEK 22.875**

1 faucet aerator SPAR-005/6 (sink) +

1 hand shower SPAR-113 +

1 saving hose (PVC-free) SPAR-2117UV, 1.7 m

Pay-back time

$22.875 / (124.297 / 365) =$ **63 DAYS**

