

Fluidics Water-Energy Savings Calculation Worksheet

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	2.50 GPM Shower Head		1.85 GPM Shower Head				1.75 GPM Shower Head				1.60 GPM Shower Head			
	Annual Use		Annual Use		Annual Savings		Annual Use		Annual Savings		Annual Use		Annual Savings	
	1 Room	Rooms	1 Room	Rooms	1 Room	Rooms	1 Room	Rooms	1 Room	Rooms	1 Room	Rooms	1 Room	Rooms
Water Usage														
Gallons per Year	11,863	23,725	8,778	17,557	3,084	6,169	8,304	16,608	3,559	7,118	7,592	15,184	4,271	8,541
Annual Water Cost	\$ 47.45	\$ 94.90	\$ 35.11	\$ 70.23	\$ 12.34	\$ 24.67	\$ 33.22	\$ 66.43	\$ 14.24	\$ 28.47	\$ 30.37	\$ 60.74	\$ 17.08	\$ 34.16
Electric Heating														
Annual Energy Usage (kWh)	1,542	3,083	1,141	2,282	401	802	1,079	2,158	462	925	987	1,973	555	1,110
Annual Energy Cost	\$ 160.32	\$ 320.65	\$ 118.64	\$ 237.28	\$ 41.68	\$ 83.37	\$ 112.23	\$ 224.45	\$ 48.10	\$ 96.19	\$ 102.61	\$ 205.22	\$ 57.72	\$ 115.43
OR														
Gas Heating														
Annual Energy Usage (therms)	85.4	171	63.2	126	22.2	44	59.8	120	25.6	51	54.6	109	30.7	61
Annual Energy Cost	\$ 130.61	\$ 261.22	\$ 96.65	\$ 193.30	\$ 33.96	\$ 67.92	\$ 91.43	\$ 182.85	\$ 39.18	\$ 78.37	\$ 83.59	\$ 167.18	\$ 47.02	\$ 94.04

- Notes:** 1. Electricity = \$.104/ kWh; Gas = \$1.53/ therm (Source Energy Information Administration - Official Energy Statistics for the US Government - October 2006)
 2. Water = \$4/ 1000 gallons (Source U.S Department of Energy - March 2006)
 3. Average shower usage per hotel room - 13 min./day
 4. Average shower usage per household of four - 30 min./day (7.5 minutes per person)

Calculations:

Annual Water Usage = (Shower Head GPM) X (Average Shower Time/ Day) X (365 Days)

Annual Water Cost = (Annual Water Usage) X ((\$4/1000 gallons)

Annual Electric Energy Cost = ((Annual Water Usage)/ (7.695 gallons/ kWh)) X (\$0.104)

Annual Gas Energy Cost = ((Annual Water Usage)/ (138.96 gallons/ therm)) X (\$1.53)