



UNiGY ©
High Efficiency Pump System
Energy Evaluation Energy Model ©
Ver 1.0

Company Data



Company Name	[REDACTED]
Facility Location	[REDACTED]
System type & machine I.D.	<i>HP water supply</i>
Mold/Tool ID	-
Part ID	-
Date	07/31/06
Evaluator	PTC
Plant Contact	[REDACTED]

Equipment Data

Pump style	Roto-Jet
Displacement (rev or gpm)	80 gpm
Second stage style (if any)	None
Displacement (rev or gpm)	none
Pump Efficiency (total)	48.0%
Oil Reservoir Volume GAL	2
Motor hp	50
RPM	1760
Motor efficiency	91.0%
Full load amps (data plate)	50
Power Factor from data logger ave	0.890
Voltage	460

Current Situation

HP water supply, Mold/Tool: -, Part ID: -

07/31/06

Existing Process Cycle

Observed pressure	850		
		Time (Sec.)	Watts Measured
<u>Total Duty Cycle Time</u>		60	
Minimum flow Time		42	33678
Full flow time		4	41532
1/2 flow time		12	41532
Idle Time		2	29654
System leakage		46	30
Idle minutes per shift		20	29654

Heat Energy Waste

Resultant gpm of coolant loop	0.00
Temperature differential RISE °F:	18.00
Resultant waste kWh	0.00
Resultant waste Btu/hr	0
Resultant waste HP=	0.00
kW rate for chiller type	0.60
Water cost per hour	0.00
Cooling cost per hour	0.00

Power Cost

Total cost minus demand (month)	\$	99,879
Demand per kW	\$	7.95
Reactive charge (rkvah weighted)	\$	0.0002
Service charge,demand,reactivity,ect	\$	17,636.26
Enter total kWh used (month)		1,005,000
Resultant operating cost per kWh	\$	0.082

Energy Usage Summary



Machine Energy Consumption Rate		35.39 kWh
Cooling System kWh Consumption Rate		0.00 kWh
Annual kWh op's & cooling		310,007 kWh
Machine Use Cost	\$	25,369
Cooling Cost	\$	-
Demand Charge Expense	\$	3,376
Reactivity Charge Expense	\$	74

Annual Total	\$ 28,819	Per machine
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Proposed UNiGY Solution

HP water supply

07/31/06

UNiGY Approximate size

Gpm Of System During Partial Delivery	5
Observed Psi During Partial Flow	850
Parasitic Losses At .99 Pf	180.00
Equals Typical Flow (Watts)	21,817.64
Total HEPS Energy Rate	5.57 kWh
Power Saved	84%

Anticipated non-cooled reservoir temperature rise
AFTER UNiGY installation na F

Impact Summary



Number of shifts per year		1095
kW SAVED		29.82
\$\$\$ SAVED per HOUR	\$	2.44
\$\$\$ SAVED per 8 hr SHIFT	\$	19.52
\$\$\$ Per Year	\$	21,379
Cooling Kw Saved		0.00
Cooling Per Hour Saved	\$	-
Cooling Per Shift Saved	\$	-
Cooling Per Year Saved	\$	-
Total Kwh Saved (Yr.)		261,251
Power Factor Improvement		0.10
Idle Time Cost	\$	6
Total Power Saved (Yr.)	\$	21,385
Annual Demand Reduction		\$2,845
Annual Reactivity Charge Reduction		\$74

Total Annual Savings	\$ 24,305	Per machine
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