

# Efficiency Report



## SUMMARY

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Pumps----  
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5 pumps with a  
-\$120,859.22  
Annual Savings  
Potential

## ASSESSMENTS

Export to CSV

Print Report

Pumps

## Example PSAT Report

- Example PSAT
- New Assessment
- Plant A Pump 1
- Plant B

### Report Summary

Base	Modification	Modification	Modification	Modification
Optimization Rating	Optimization Rating	Optimization Rating	Optimization Rating	Optimization Rating
-\$227,939.14	\$39,505.93	\$3,110.18	\$1,611.24	\$24851.14
Annual Savings	Annual Savings	Annual Savings	Annual Savings	Annual Savings

# Report Details

	Existing	Optimal	Modification 4	Modification 3	Modification 2
Pump efficiency (%)	00.03	86.75	06.25	94.32	63.88
Motor rated power (hp)	200.00	100.00	200.00	200.00	200.00
Motor shaft power (hp)	285,601.67	93.61	127.13	127.13	127.13
Pump shaft power (hp)	285,601.67	93.61	127.13	127.13	127.13
Motor efficiency (%)	-47,674.74	95.03	94.84	94.84	94.84
Motor power factor (%)	-∞	85.98	81.11	81.11	81.11
Motor current (amps)	00.00	102.81	148.29	148.29	148.29
Motor power (hp)	-446.90	73.49	100.00	100.00	100.00
Annual Energy (MWh)	-3,914.85	643.78	876.00	876.00	876.00
Annual Cost	-195,742.59	32,188.86	43,800.00	43,800.00	43,800.00

# Input Data

	Baseline	Modification 4	Modification 3	Modification 2	Modification 1
<b>PUMP / FLUID</b>					
Pump Type	End Suction ANSI/API	End Suction ANSI/API	End Suction ANSI/API	End Suction ANSI/API	End Suction ANSI/API
Pump RPM	1,780.00	1,780.00	1,780.00	1,780.00	1,780.00
Drive	Direct Drive	Direct Drive	Direct Drive	Direct Drive	Direct Drive
Kinematic Viscosity (cST)	01.00	01.00	01.00	01.00	01.00
Specific Gravity	01.00	01.00	01.00	01.00	01.00
Stages	02.00	02.00	02.00	02.00	02.00
Fixed specific speed?	No	No	No	No	No
<b>MOTOR</b>					
Line Frequency	60 Hz	60 Hz	60 Hz	60 Hz	60 Hz
Horse Power	200.00 hp	200.00	200.00	200.00	200.00
Motor (RPM)	1,780.00	1,780.00	1,780.00	1,780.00	1,780.00
Efficiency Class	Specified	Specified	Specified	Specified	Specified
Voltage	460.00	460.00	460.00	460.00	460.00
Full-Load Amps	225.00	225.00	225.00	225.00	225.00
Size Margin	00.00	00.00	00.00	00.00	00.00
<b>FIELD DATA</b>					
Operating Fraction	01.00	01.00	01.00	01.00	01.00

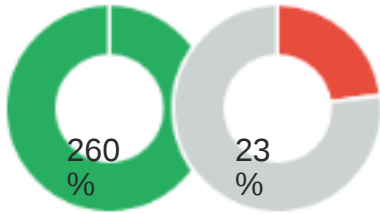
	Baseline	Modification 4	Modification 3	Modification 2	Modification 1
Cost (kW/hr)	00.05	00.05	00.05	00.05	00.05
Flow Rate (gpm)	1,840.00	180.00	2,500.00	1,840.00	1,840.00
Head (ft)	174.85	174.85	190.00	174.85	174.85
Load Estimated Method	Current	Power	Power	Power	Power
Motor Power (amps)					
Voltage	480.00	480.00	480.00	480.00	480.00

# New Assessment Report

This assessment has not been completed, please complete this assessment to see the resulting data.

## Plant A Pump 1 Report

### Report Summary



BaselineModification 1

Optimization Optimization  
Rating Rating

-\$32,625-\$290,088.91

Annual Annual  
Savings Savings  
Potential Potential

Report Details

	Existing	Optimal	Modification 1
Pump efficiency (%)	00.62	67.31	17.87
Motor rated power (hp)	200.00	300.00	200.00
Motor shaft power (hp)	13,997.65	128.20	482.88
Pump shaft power (hp)	13,997.65	128.20	482.88
Motor efficiency (%)	26,931.51	94.83	83.39
Motor power factor (%)	270.36	64.78	91.49
Motor current (amps)	18.00	195.39	592.66
Motor power (hp)	38.77	100.85	432.00
Annual Energy (MWh)	339.65	883.43	3,784.32
Annual Cost	20,379.27	53,005.85	378,432.00

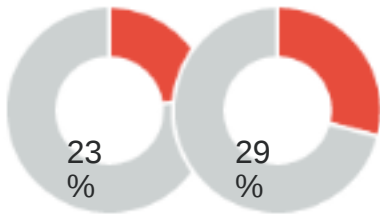
Input Data

	Baseline	Modification 1
PUMP / FLUID		
Pump Type	End Suction Slurry	End Suction Slurry
Pump RPM	1,780.00	1,780.00
Drive	Direct Drive	Direct Drive
Kinematic Viscosity (cST)	01.00	01.00
Specific Gravity	01.00	01.00

	Baseline	Modification 1
Stages	01.00	01.00
Fixed specific speed?	Yes	Yes
<b>MOTOR</b>		
Line Frequency	50 Hz Hz	60 Hz
Horse Power	200.00 hp	200.00
Motor (RPM)	1,485.00	1,780.00
Efficiency Class	Energy Efficient	Energy Efficient
Voltage	208.00	460.00
Full-Load Amps	225.80	225.80
Size Margin	01.00	01.00
<b>FIELD DATA</b>		
Operating Fraction	01.00	01.00
Cost (kW/hr)	00.06	00.10
Flow Rate (gpm)	1,234.00	1,234.00
Head (ft)	277.00	277.00
Load Estimated Method	Current	Power
Motor Power (amps)	18.00	
Voltage	460.00	460.00

# Plant B Pump 1 Report

## Report Summary



BaselineModification 1

Optimization Optimization  
Rating Rating

\$60,711\$58,053.22

Annual Annual  
Savings Savings  
Potential Potential

Report Details

	Existing	Optimal	Modification 1
Pump efficiency (%)	03.63	30.21	05.45
Motor rated power (hp)	200.00	2,000.00	200.00
Motor shaft power (hp)	192.40	23.15	192.40
Pump shaft power (hp)	192.40	23.15	192.40
Motor efficiency (%)	95.69	49.10	95.69
Motor power factor (%)	82.48	07.39	82.48
Motor current (amps)	228.26	585.56	228.26
Motor power (hp)	150.00	34.49	150.00
Annual Energy (MWh)	1,314.00	302.14	1,314.00
Annual Cost	78,840.00	18,128.62	78,840.00

Input Data

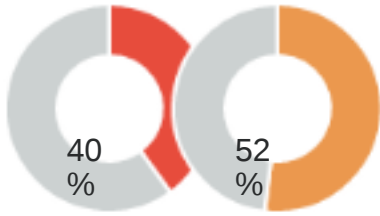
	Baseline	Modification 1
PUMP / FLUID		
Pump Type	End Suction Slurry	End Suction Slurry
Pump RPM	1,780.00	1,780.00
Drive	Direct Drive	Direct Drive
Kinematic Viscosity (cST)	01.00	01.00
Specific Gravity	01.00	01.00

	Baseline	Modification 1
Stages	01.00	01.00
Fixed specific speed?	Yes	Yes
<b>MOTOR</b>		
Line Frequency	60 Hz Hz	60 Hz
Horse Power	200.00 hp	200.00
Motor (RPM)	1,780.00	1,780.00
Efficiency Class	Energy Efficient	Energy Efficient
Voltage	460.00	460.00
Full-Load Amps	237.00	237.00
Size Margin	80.00	80.00
<b>FIELD DATA</b>		
Operating Fraction	01.00	01.00
Cost (kW/hr)	00.06	00.06
Flow Rate (gpm)	100.00	150.00
Head (ft)	277.00	277.00
Load Estimated Method	Power	Power
Motor Power (kW)	150.00	150.00
Voltage	460.00	460.00

# Plant B Pump 2 Report

## Report Summary





Baseline Pump 2 Flow Rate Increase

Optimization Rating

\$78,987.62

Annual Savings Potential

Optimization Rating

\$62,760.33

Annual Savings Potential

Report Details

	Existing	Optimal	Pump 2 Flow Rate Increase
Pump efficiency (%)	11.29	54.22	15.81
Motor rated power (hp)	200.00	6,000.00	200.00
Motor shaft power (hp)	309.59	64.48	309.59
Pump shaft power (hp)	309.59	64.48	309.59
Motor efficiency (%)	92.38	47.71	92.38
Motor power factor (%)	88.36	07.17	88.36
Motor current (amps)	355.11	1,744.44	355.11
Motor power (hp)	250.00	99.72	250.00
Annual Energy (MWh)	2,190.00	873.54	2,190.00
Annual Cost	131,400.00	52,412.56	131,400.00

Input Data

	Baseline	Pump 2 Flow Rate Increase
PUMP / FLUID		
Pump Type	End Suction Slurry	End Suction Slurry
Pump RPM	1,780.00	1,780.00
Drive	Direct Drive	Direct Drive
Kinematic Viscosity (cST)	01.00	01.00
Specific Gravity	01.00	01.00

	Baseline	Pump 2 Flow Rate Increase
Stages	01.00	01.00
Fixed specifc speed?	Yes	Yes
<b>MOTOR</b>		
Line Frequency	60 Hz Hz	60 Hz
Horse Power	200.00 hp	200.00
Motor (RPM)	1,780.00	1,780.00
Efficiency Class	Energy Efficient	Energy Efficient
Voltage	460.00	460.00
Full-Load Amps	225.80	225.80
Size Margin	90.00	90.00
<b>FIELD DATA</b>		
Operating Fraction	01.00	01.00
Cost (kW/hr)	00.06	00.06
Flow Rate (gpm)	500.00	700.00
Head (ft)	277.00	277.00
Load Estimated Method	Power	Power
Motor Power (kW)	250.00	250.00
Voltage	460.00	460.00