

Assessments Efficiency Report

Report Summary

Pumps

3 pumps with a

\$49,455.00

ANNUAL SAVINGS POTENTIAL

July 13th, 2017



Example PSAT

Last Modified Jul 13, 2017, 1:37:18 PM

<div><div>Baseline</div><div>109 %</div><div>OPTIMIZATION RATING</div><div>-\$3,001</div><div>ANNUAL SAVINGS POTENTIAL</div></div>	<div><div>Modification 4</div><div>119 %</div><div>OPTIMIZATION RATING</div><div>-\$6,584</div><div>ANNUAL SAVINGS POTENTIAL</div></div>
<div><div>Modification 3</div><div>109 %</div><div>OPTIMIZATION RATING</div><div>-\$3,001</div><div>ANNUAL SAVINGS POTENTIAL</div></div>	<div><div>Modification 2</div><div>109 %</div><div>OPTIMIZATION RATING</div><div>-\$3,001</div><div>ANNUAL SAVINGS POTENTIAL</div></div>
<div><div>Opportunities Modification</div><div>108 %</div><div>OPTIMIZATION RATING</div><div>-\$2,922</div><div>ANNUAL SAVINGS POTENTIAL</div></div>	

ASSESSMENT RESULT DATA

	Existing	Optimal	Modification 4	Modification 3	Modification 2	Opportunities Modification
Pump efficiency (%)	81.84	75.09	89.52	81.84	81.84	81.64
Motor rated power (kW)	111.86	93.21	111.86	111.86	111.86	111.86
Motor shaft power (kW)	75.95	82.77	75.95	75.95	75.95	75.95
Pump shaft power (kW)	75.95	82.77	75.95	75.95	75.95	75.95
Motor efficiency (%)	94.97	95.34	94.97	94.97	94.97	94.97
Motor power factor (%)	61.60	85.36	61.60	61.60	61.60	61.60
Motor current (amps)	156.21	122.38	156.21	156.21	156.21	156.21
Motor power (kW)	80.00	86.85	80.00	80.00	80.00	80.00
Annual Energy (MWh)	700.80	760.83	700.80	700.80	700.80	700.80
Annual Cost	35,040.00	38,041.31	35,040.00	35,040.00	35,040.00	35,040.00

ASSESSMENT INPUT DATA

	Baseline	Modification 4	Modification 3	Modification 2	Opportunities Modification
Pump & Fluid					
Pump Type	End Suction Slurry	End Suction Slurry	End Suction Slurry	End Suction Slurry	End Suction Slurry
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
Motor					
Line Frequency	60 Hz	60 Hz	60 Hz	60 Hz	60 Hz
Horse Power	150.00 kW	150.00 kW	150.00 kW	150.00 kW	150.00 kW
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
Field Data					
Operating Fraction	01.00	01.00	01.00	01.00	01.00
Cost (kW/hr)	00.05	00.05	00.05	00.05	00.05
Flow Rate (m3/h)	1,888.43	1,888.43	1,888.43	1,888.43	1,883.99
Head (m)	174.84	191.25	174.84	174.84	174.84
Load Estimated Method	Power	Power	Power	Power	Power
Motor Power (kW)	80.00	80.00	80.00	80.00	80.00
Voltage	480.00	480.00	480.00	480.00	480.00

New Assessment

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Baseline 122 % OPTIMIZATION RATING -\$5,789 ANNUAL SAVINGS POTENTIAL	Opportunities Modification 122 % OPTIMIZATION RATING -\$5,789 ANNUAL SAVINGS POTENTIAL
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ASSESSMENT RESULT DATA

	Existing	Optimal	Opportunities Modification
Pump efficiency (%)	40.09	70.42	40.09
Motor rated power (hp)	200.00	4,000.00	200.00
Motor shaft power (hp)	62.79	35.75	62.79
Pump shaft power (hp)	62.79	35.75	62.79
Motor efficiency (%)	93.68	41.52	93.68
Motor power factor (%)	67.86	06.59	67.86
Motor current (amps)	92.48	1,162.47	92.48
Motor power (hp)	50.00	61.01	50.00
Annual Energy (MWh)	438.00	534.48	438.00
Annual Cost	26,280.00	32,069.00	26,280.00

ASSESSMENT INPUT DATA

	Baseline	Opportunities Modification
Pump & Fluid		
Pump Type	End Suction ANSI/API	End Suction ANSI/API
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
Stages	01.00	01.00
Fixed specfic speed?	Yes	Yes
Motor		
Line Frequency	60 Hz	60 Hz
Horse Power	200.00 hp	200.00 hp
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	100.00	100.00
Field Data		
Operating Fraction	01.00	01.00
Cost (kW/hr)	00.06	00.06
Flow Rate (gpm)	360.00	360.00
Head (ft)	277.00	277.00
Load Estimated Method	Power	Power
Motor Power (kW)	50.00	50.00
Voltage	460.00	460.00

Baseline 10 % OPTIMIZATION RATING \$58,245 ANNUAL SAVINGS POTENTIAL	Opportunities Modification 10 % OPTIMIZATION RATING \$58,245 ANNUAL SAVINGS POTENTIAL
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ASSESSMENT RESULT DATA

	Existing	Optimal	Opportunities Modification
Pump efficiency (%)	05.45	56.90	06.39
Motor rated power (hp)	200.00	40.00	50.00
Motor shaft power (hp)	157.84	15.12	134.63
Pump shaft power (hp)	157.84	15.12	134.63
Motor efficiency (%)	95.73	92.54	81.65
Motor power factor (%)	85.30	68.11	87.12
Motor current (amps)	180.99	22.45	177.20
Motor power (hp)	123.00	12.18	123.00
Annual Energy (MWh)	1,077.48	106.73	1,077.48
Annual Cost	64,648.80	6,404.04	64,648.80

ASSESSMENT INPUT DATA

	Baseline	Opportunities Modification
Pump & Fluid		
Pump Type	End Suction ANSI/API	End Suction ANSI/API
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
Stages	01.00	01.00
Fixed specific speed?	Yes	Yes
Motor		
Line Frequency	60 Hz	60 Hz
Horse Power	200.00 hp	50.00 hp
Motor (RPM)	1,780.00	1,780.00
Efficiency Class	Energy Efficient	Energy Efficient
Voltage	460.00	460.00
Full-Load Amps	225.80	58.16
Size Margin	01.00	01.00
Field Data		
Operating Fraction	01.00	01.00
Cost (kW/hr)	00.06	00.06
Flow Rate (gpm)	123.00	123.00
Head (ft)	277.00	277.00
Load Estimated Method	Power	Power
Motor Power (kW)	123.00	123.00
Voltage	460.00	460.00

