

DGSS[®] case study

Ambulatory Surgery Center

Baptist DeSoto Surgery Center is located just south of Memphis in Southaven, Mississippi. They have three operating rooms; and, as many surgery centers do, use a single vacuum producer for both medical vacuum and waste anesthetic gas disposal (WAGD).

At DeSoto's request, a DGSS distributor procured and installed DGSS scavenger interface units on each anesthesia machine. The single vacuum producer was equipped with a run-time (Hobbs) meter, and total hours of operation for each of the twin pumps were recorded for six weeks – first before, and then after DGSS installation.

| Hours of operation | Before DGSS | After DGSS |
|--------------------|-------------|------------|
| (over 6 weeks) | | |
| Pump 1 | 397 | 133 |
| Pump 2 | 342 | 126 |
| Total | 739 | 259 |
| Percentage change | | -65% |

For a stand-alone WAGD system, the reduction would have been closer to 90%, but medical vacuum demand was not affected by the DGSS. As is typical for surgery centers, the medical vacuum accounts for about 1/3 of the total pump demand. Since the producer demand is now 35% of previous levels, the pump life expectancy is likely to triple, leading to significant savings in both energy use and pump replacement costs.

| Energy cost | Before DGSS | After DGSS |
|-------------|-------------|------------|
| \$0.083/kWh | | |
| Pump 1 | \$93.91 | \$31.46 |
| Pump 2 | \$80.90 | \$29.81 |
| Total | \$174.81 | \$61.27 |

Assumes pumps use 2.85 kW (kVA) each

At present prices, the energy savings are not overwhelming; but, they are significant in the context of a small healthcare operation.