

AFTER

BEFORE

Industrial Vacuum Systems

case study

Regal Marine Utilizes Central Vacuum Systems to Streamline Manufacturing, Improve Quality Control and Cut Costs

Regal Marine Industries Inc. (Regal) is a world leader in the design and manufacturing of luxury performance boats. When Regal moved to its state-of-the-art yacht center in Orlando, Florida, they turned to AutoVac for energy-efficient central vacuum systems. AutoVac engineers worked with the Regal team to improve vital areas in the new facilities with central vacuum systems: sanding, rigging and finishing.



Client Challenge

Regal was already using a central vacuum to extract fiberglass dust created during the sanding process. This dustless sanding system was outdated and contributed to unnecessarily high energy costs. The system featured no motor controls – it was simply left on, running at maximum speed during the entire work shift. Because the system was extremely loud, it was located outside the facility where the Florida weather took its toll (see inset, top right).

Regal was also using off-the-shelf portable vacuums in their rigging and finishing areas to remove manufacturing byproducts. These shop-type vacuums were costly, inefficient and ineffective. They offered a very short life expectancy, needed frequent maintenance and were cumbersome to use. And, because the portable vacuums were located at ground level, workers were forced to pull vacuum hoses up and over the sides of the hulls, often creating scratches. The vacuums did not generate enough suction to effectively remove all debris – upholstery scraps, plastic shavings, electrical wire clippings and the like remained in the vessels. All of this in turn led to complaints and costly back-billing from dealers.

Regal was ready for more efficient systems that were consistent with their high standards of excellence.

The AutoVac Solution

Working closely with Regal management and end users, AutoVac engineers designed two energy-efficient central vacuum systems. One system modernized the dustless sanding process – another delivers powerful, convenient suction to the rigging and finishing areas of Regal’s assembly lines.

Both systems feature AutoVac’s proprietary VacuumIQ™ program to ensure maximum energy efficiency. With its variable frequency technology and customized software, VacuumIQ™ constantly monitors demand for suction from Regal’s end users. The program automatically adjusts the frequency of the motors so the suction produced always matches demand. This vacuum-on-demand model maximizes the systems’ electrical efficiency, thereby reducing energy costs. VacuumIQ™ also acts as a soft-starter for each vacuum motor. This reduces costly energy spikes at start-up and extends equipment life.”



Regal Boats

CHALLENGE

Design user-friendly, efficient vacuum systems for Regal’s dustless sanding process and key areas of their assembly lines.

SOLUTION

Install two energy-efficient central vacuum systems capable of delivering 140 hp on demand.

RESULTS / BENEFITS

- Cut energy consumption and lowered operating costs
- Improved throughput
- Increased productivity
- Cleaner, safer work environment
- Reduced costly back-billing from dealers

Both central vacuum systems function at relatively quiet operating levels (74 decibels at 10 feet). This allows all components to be installed indoors which further increases equipment life.

The sanding area is now served by a central vacuum system consisting of two 600 Series vacuum producers (a 25 hp, and a 30 hp), a primary separator and a filter separator. Technicians benefit from cleaner air and safer working conditions through improved suction.

To replace the cumbersome shop-type vacuums in rigging and finishing, AutoVac installed a powerful central vacuum system consisting of two 600 series vacuum producers (a 25 hp and a 30 hp), a primary separator and a filter separator. The system provides more than 25 raised vacuum stations (vacuum drops) along four assembly and rigging lines in two buildings.

Along the assembly lines, custom-designed stanchions deliver suction to the point of use – 20 feet above ground level. These convenient vacuum drops allow Regal team members to clean boats quickly and effectively without the risk of damaging hulls. The result is increased throughput and greater quality control.

Equipment Used:

- Two 600 Series 30 hp Vacuum Producers
- Two 600 Series 25 hp Vacuum Producers
- Two 600 Series Filter Separators
- Two 600 Series Primary Separators

Custom Engineered Piping system with No-Clog technology, consisting of more than 1,500 linear feet
More than 25 vacuum stations along four assembly and rigging lines in two buildings

Custom raised stanchions that deliver vacuum hoses to the point of use

Vacuum IQ™ motor control with variable frequency drive technology and proprietary software

“Our project with AutoVac was a complete success. Now we are more productive and best of all, we cut operating costs and expensive back-billing.”

– Joe Shmoe, Operations Manager

Built for Today, Ready for Tomorrow . . .

AutoVac designs its systems with Room to Grow. IGT’s robust central vacuum system is fully operational at today’s capacity, with the flexibility to grow as throughput demands increase.



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