



Industrial Vacuum Systems

case study

IGT Cleans Up its Las Vegas Assembly Line with Energy-Efficient Central Vacuum System

Manufacturing giant International Game Technology (IGT) is a world leader in manufacturing processes and profitability. When the Las Vegas, NV division began designing its new 850,000-square foot facility, management realized it was time for change. Staff members were ready to trade in their brooms, dustpans, and portable vacuums for a powerful central vacuum system.

Client Challenge

IGT's Production Division in Las Vegas runs two shifts of technicians who deconstruct slot machines then reassemble the components with new materials to produce functional gaming devices. The process results in a multitude of loose screws, metal shavings, nuts, bolts and plastic fittings.



Debris littered workstations and the existing decentralized debris collection process resulted in costly workflow inefficiencies. Debris worked its way into slot machines and into the conveyor system. Technicians hand picked wayward parts out of machines and brushed debris away from the conveyor. The result: expensive workflow stoppages and increased finished goods cycle time.

Their quick-fix solution consisting of shop-vac style vacuums proved costly and ineffective. These portable off-the-shelf units required frequent personal maintenance, offered a very short life expectancy and required cumbersome electrical cords.

Our Solution

The AutoVac Industrial team worked closely with IGT engineers and end users to identify process inefficiencies and determine the source of work stoppage. AutoVac then engineered a central vacuum system that would integrate with individual assembly line stations and enhance IGT's existing production process.

The system was custom engineered, manufactured and installed by AutoVac and includes: two 25hp centrifugal exhausters, four separators, 2,000+ linear feet of piping, 33 vacuum stations, Vacuum IQ™ motor controls, and Vacuum Logic™ remote monitoring software.

Suction is piped from the exhausters to individual vacuum stations to provide vacuum on demand at the point of process. As air returns to the exhausters, debris is filtered from the airstream by two primary separators on the assembly line floor and two additional hopper-style separators at the exhausters.



CHALLENGE

Design and implement a cost effective method of removing debris from multiple work stations along 2,000+ linear feet of assembly line.

SOLUTION

Install an energy-conscious 50hp central vacuum system that provides powerful suction to 33 vacuum stations at the point of process.

RESULTS

- Increased worker efficiency and improved manufacturing cycle time
- Visibly increased employee focus and productivity
- Reduced man hours required to collect, relocate and remove debris
- Created cleaner, safer work environment
- Improved quality control
- Enhanced overall plant efficiency through simplified housekeeping

To ensure maximum energy efficiency, the vacuum producers are controlled by AutoVac's Vacuum IQ™ program. Its variable frequency drive technology and customized software work dynamically with the exhausters' motors to ensure optimum energy efficiency. The software constantly monitors demand for suction along the assembly line and adjusts the frequency of the motors so the suction produced always matches vacuum demand, thereby maximizing the system's electrical efficiency.

Vacuum Logic™ management software allows authorized personnel to monitor and manipulate the entire system remotely via internet connection. Parameters can be set for multiple shifts so the system runs during designated hours and then automatically powers off. Vacuum Logic™'s proactive maintenance software notifies personnel in real time whenever the system requires attention.

Features and Equipment

Two 600Series AutoVac centrifugal exhausters, 25hp each

One 600Series Pulse Jet Filter Separator (hopper style) with 50 gallon debris collector fitted with quick disconnect and self-cleaning pulse-jet technology

One 600Series Centrifugal Primary Separator with 50 gallon debris collector and quick disconnect

Two Primary Pre-Filter Separators at each disassembly conveyor for large debris removal before air enters main overhead piping

Custom engineered piping system with No-Clog™ technology, consisting of more than 2,000 linear feet

33 Vacuum Stations located along assembly line consisting of ergonomic hose assemblies, nozzles and custom hangers designed and manufactured by AutoVac engineering team

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

Vacuum Logic™ remote monitoring software program

System operates at 74 decibels at 10 feet while operating full speed, 50 decibels at idle

“AutoVac’s central vacuum system seamlessly integrated with our manufacturing process, I couldn’t imagine running our assembly line without it.”

- Diego Montoya,
IGT Senior Manufacturing Engineer

Built for Today, Ready for Tomorrow . . .

AutoVac designs its systems with an eye on the future. 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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For more information please contact us:

phone 888.628.8682

web www.autovacinc.com

e-mail sales@autovacinc.com