
# Are you tired of changing your dry vanes and cleaning up oil?

**The solution could be closer than you think.**

Vacuum pumps are a common requirement in the woodworking industry and when the smallest slipups can turn into the costliest mistakes, it's important to know which technology is best – *and why.*

**atlascopco.com**

## Atlas Copco

Founded in 1873, we've been turning industrial ideas into customized solutions for our customers and OEM's since before the lightbulb was invented.

*In the United States, we are proud to have:*

- 4,000+ employees at over 100 locations
- A custom-built logistics center with a vast stock of parts, machines and accessories
- Dedicated remote monitoring center for installations
- Range of vacuum and compressed air solutions
- Genuine replacement parts and local service


## How many times will you rebuild?

*Has it been longer than 6 months?* If you worked with a CNC system provider, you may have been sold or recommended a dry vane vacuum pump. While the initial cost may be less up front, they are loud and require countless rebuilds.

*How much do you pay for a vane repair or rebuild?* Consider the cost of the kit, labor and your lost production and maintenance down time.

> *We met one customer who was paying between $800 - $1,000 per year plus labor for a vane change twice a year.*
>
> **$1,000/rebuild x 2 pumps (typical per CNC) x 2 rebuilds/ year = up to $4,000 per year maintenance plus labor**

Over 5 years, that's $20,000 in dry vane maintenance. This is due to the rapid wear of dry vanes, and doesn't even take into consideration the performance loss (often 15% or more within the first few months alone).

Contrast that with non-contact vacuum technologies which do not experience performance element wear. For example, a DZS dry claw vacuum pump will only require a gear lubricant change (drain and refill) every 20,000 hours of operation.

If you've rebuilt more than three times or more than once a year, it's time to compare the allocated cost for your rebuilds versus the initial cost of a new vacuum pump. The cost of ownership will also begin to increase in ways other than the vanes. After a handful of rebuilds, it is more cost efficient to purchase a new unit.


## What *wood* be better?

**A rotary screw vacuum pump or dry claw vacuum pump are good alternatives.**

**Rotary Screw**—You can replace one or more multiple dry vane pumps with a rotary screw like Atlas Copco's GHS VSD+ pump. Rotary screw pumps offer the option to centralize the unit, reduce rebuild maintenance and increased machine reliability.

Based on proven compressor screw technology, they provide significantly higher performance levels and reduced maintenance, noise and heat emissions compared to conventional oil-sealed and dry vane vacuum pumps.

This technology has been designed for specific industries and is optimized to perform at 18"HgV and below.

Rotary screw vacuum pumps are usually equipped with electronic process controllers and variable speed drive making them extremely economical to run. Additionally, a pressure set point control function ensures the pumps deliver the lowest possible vacuum flow with which the required vacuum can be maintained. As a result, no excess energy is wasted, and life cycle operating expenses are significantly reduced.

**Remote Monitoring—**It's worth considering the merits of remote monitoring when specifying an industrial vacuum pump. Recent advances in connectivity technology mean central vacuum systems and individual machines can transmit live performance data to a company via their smartphone, PC or tablet.

From machine alarms and faults to visualized representations of demand and load for complete site installations.


**Dry Claw—**Dry claw vacuum pumps offer the advantage that there is no lubrication in the main pumping chamber eliminating the possibility of contamination.

These types of vacuum pump employ two claw-shaped rotors running in opposite directions that don't touch each other or the pump chamber. The non-contact prevents wear and is extremely durable. They're also serviceable and even cleanable.

Multiple system units are also available, which combine between two and four dry claw vacuum pumps, depending on the application, in a single compact turn-key system. In this configuration one of the pumps in each multiple unit features variable speed drive, allowing the vacuum to be adapted precisely to the application requirements. This results in improved efficiency and economy by reducing the power required.

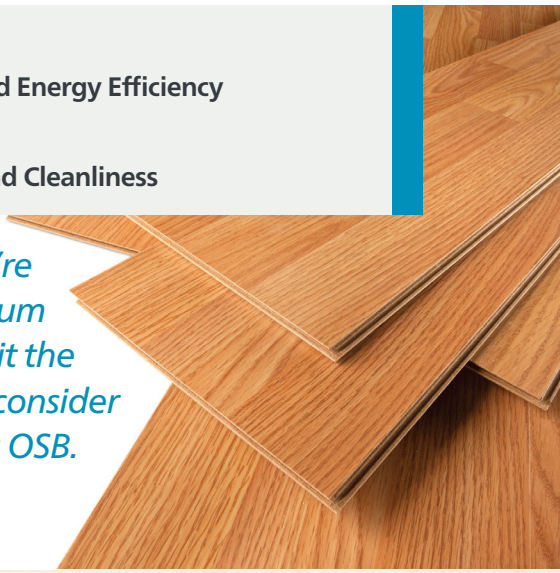

Volume flows for dry claw vacuum pumps vary between 38 and 816 acfm and units typically have an ultimate vacuum of 25.8"HgV in larger units and as deep as 28.4"HgV in medium-sized and smaller units.

## Don't just go with the *grain.*

***Know what to research – the different technologies are anything but** plane.*

Vacuum pumps have advanced greatly in the past decade. Consider these 4 factors when researching which industrial vacuum pump is best for your woodworking application:

1. **Reliability**
2. **Performance and Energy Efficiency**
3. **Quiet Operation**
4. **Serviceability and Cleanliness**



*So next time you're considering vacuum pumps, consider it the same way you'd consider hardwood verses OSB.*

CUSTOMER STORY | MODERN WOODCRAFT

# FASTER, BETTER, QUIETER:

## High-End Woodworker Improves Productivity and Work Environment Using **Atlas Copco Intelligent Vacuum Pumps**

Based in Plainville, Connecticut, Modern Woodcrafts manufactures high-end architectural millwork components for building interiors. They have developed a reputation for exacting quality synonymous with the iconic New York City properties which feature its products. The unusual paneling on the 101st floor of the Freedom Tower was milled by Modern Woodcrafts. So were the display cases for Tiffany's and the famous oval bar in the Plaza Hotel.

Their system for sanding and polishing results in a perfect high-gloss finish that is repeatable on every panel. This precision process relies on vacuum pressure to keep each work piece absolutely still while an automated cutting tool moves around it. The work pieces are secured by vacuum pressure pulled from below, through a panel of MDF (medium density fiberboard) which looks solid but is actually porous. Since MDF has uniform density, vacuum can be pulled evenly across the entire sheet, improving quality and productivity.

"Modern Woodcrafts had been running two router tables, each equipped with a pair of dry vane pumps, for a total of four pumps," according to Todd Galpin, Regional Sales Manager for Atlas Copco. "The vane pumps either ran at full speed or were turned off. Though that's still a common approach for managing vacuum, it's not efficient. Modern Woodcrafts was looking for better efficiency, better overall performance, and lower noise levels. The project heated up quickly when one of the existing vane pumps failed."

"One way we're staying at the leading edge in our market is by researching and choosing the best machine for each process," says Joe Legere, Executive Vice President for Modern Woodcrafts. This focus on continuous improvement led Modern Woodcrafts to upgrade its

vacuum production with a pair of Atlas Copco's intelligent vacuum pumps with Variable Speed Drive (VSD).

Now one model GHS 1300 VSD+ and one GHS 730 VSD+ work cooperatively to provide the required pressure. Both feature Atlas Copco's patented inlet valve that provides modulating vacuum control working in conjunction with VSD vacuum production. The result is a leap forward in energy efficiency compared to oil-sealed and dry vane vacuum pumps. In addition to this, the Atlas Copco pumps are much quieter.

"Much of the energy savings occurs when vacuum to the router table is valved off," Galpin explains. "While the vane pumps would continue to run, drawing full power, Atlas Copco's VSD pumps turn down automatically whenever demand drops. They will even shut themselves down and soft restart as needed.

Reduced sound levels provided an additional benefit. "We're always taking steps to reduce noise pollution in our work environment," says Scott Thibodeau, Production Manager for Modern Woodcrafts. "The Atlas Copco pumps are much quieter than the vane pumps to begin with and because we centralized our vacuum system, we were able to locate them in a dedicated room directly adjacent to sawdust producing machines. That keeps our work environment quieter and our vacuum equipment cleaner."

"I love the vacuum project," says Legere. "Everything works as we hoped and anticipated, especially the efficiency, dependability and quietness of equipment. I appreciate that Atlas Copco assisted us in securing a financial incentive from our power utility for investing in more efficient production machinery. From where I stand, Atlas Copco is the best for vacuum and also compressed air. Their variable speed technology is just fantastic because you only make what you need."

CONTACT US

**If you have questions on how your woodworking operation can benefit from compressed air, gas or vacuum, arrange an applications assessment.**

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