



# TOOL MANUFACTURER TAKES ROOFTOP UNITS TO A HIGHER LEVEL

**ADVANCED CONTROLS ALLOW LEATHERMAN TOOL GROUP TO MONITOR AND FINE-TUNE HVAC UNITS, DELIVERING ESTIMATED ANNUAL SAVINGS OF \$62,900**

Leatherman Tool Group prides itself on creating multi-tools, pocket tools and knives that prepare people for the expected and unexpected. But when it came to controlling the heating, ventilating and air conditioning units on its own roof, the Portland manufacturer was continually reacting to the unexpected.

“The antiquated DOS-based controls were at the end of their life and becoming increasingly difficult to repair,” said Scott Bacon, facilities maintenance manager at Leatherman. “At first, we thought our only options were to install Windows-based controls, which would still leave us unable to optimize the efficiency of the constant-volume rooftop units, or to completely replace the units, which was quite expensive.”

Fortunately, another option presented itself when Leatherman connected with Energy Trust of Oregon. Leatherman had worked with Energy Trust on previous energy-efficiency projects. So when Energy 350—Leatherman’s Energy Trust Program Delivery Contractor\*—recommended something called advanced HVAC controls, the company’s facilities personnel were all ears.

Advanced HVAC controls turn constant-volume rooftop units, which are basically either on or off, into dynamic part-load systems that automatically adjust according to temperature, occupancy, airflow and other parameters. The advanced controls include a wireless network on the roof that connects all the units to web-based software.

## PROJECT-AT-A-GLANCE

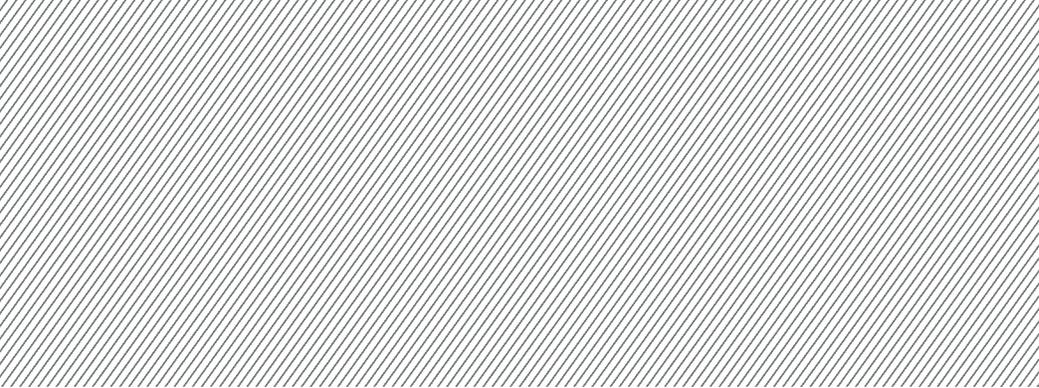
- Advanced HVAC controls on 29 rooftop units
- Advanced HVAC controls with variable frequency drive on 30 rooftop units
- Scheduling controls for exhaust fans
- Web-based software interface

## Financial analysis

- \$323,588 project cost
- \$210,332 cash incentive from Energy Trust
- \$62,900 estimated annual energy cost savings

## Estimated annual savings

- 623,832 kilowatt hours saved
- 28,862 therms saved
- 406 tons of carbon dioxide



By installing advanced HVAC controls on all 59 rooftop units, Leatherman was able to trim its annual energy costs by an estimated \$62,900. With a \$210,332 cash incentive from Energy Trust helping to offset the project cost, Leatherman expects its investment to pay for itself in just under two years.

The advanced HVAC controls give Leatherman much more visibility and flexibility in the performance of its rooftop units. Facilities personnel can monitor the units in real-time using any computer or tablet. Yellow warning lights alert personnel that something will soon need attention; green lights indicate all is well. Personnel easily can adjust set points, schedules and sequencing, even remotely.

“By giving us the ability to monitor and fine-tune our rooftop units, these advanced controls took us from a reactive to a proactive mode,” said Bacon. “Before, we typically didn’t know there was a problem with a unit until we received complaints from employees. Now, facilities personnel often identify issues and resolve them before occupants even arrive. We’re not only cutting operating costs, we’re improving comfort.”

Over the years Leatherman has saved a total of 2.2 million kilowatt hours working with Energy Trust on seven projects. But the company doesn’t think it’s done. “Our Program Delivery Contractor is good about bouncing new energy-saving ideas off of us,” said Bacon. “And I do the same with them. I intend to keep taking advantage of Energy Trust help.”

*\*Energy Trust Program Delivery Contractors are highly skilled, industrial energy experts, located throughout Oregon, who specialize in energy-saving opportunities in specific industries.*



**We’ve completed several successful Energy Trust projects. Energy Trust makes the process simple. They truly want to help businesses offset the costs of energy-efficiency improvements.**



Scott Bacon  
facilities maintenance manager



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