Toolbox

Max AKHL1230E 500-psi Compressor

by Michael Davis

I was introduced to the Max PowerLite high-pressure pneumatic fastening system in 2007 while testing framing nailers for *Tools of the Trade* magazine. A Max 400-psi tool was included in the mix, and the company's AKHL1050E 400-psi compressor arrived along with it. Max had introduced the world's first 400-psi system in Japan back in 1994 — and brought it to the U.S. in 2003 — but I had never seen anything like it. Built for efficiency and ease of operation, the system was compact, lightweight, and extremely powerful.

The oilless compressor drew 15 amps, weighed just 51.7 pounds, and had a 2.6-gallon twin-pontoon tank that held as much air as a standard 8.3-gallon tank at 100 psi. It also had two standard and two high-pressure outlets with a separate regulator for each pair so it could operate both types of tools simultaneously.

Max is now replacing that compressor with the even lighter and more efficient AKHL1230E, and that's the version my crew and I recently test-drove. Here's what we learned.

At 500 psi, Max's 2.6 gallon twin-pontoon tank holds more air than the author's standard 9-gallon compressor (shown above, at left), but it doesn't refill the tank as quickly. Since the Max weighs just 46.3 pounds, it's easy to unload from a pickup and move around the job site.

Max AKHL1230E Specs

Size: 14 5/8 inches wide by 21 1/2 inches long by 12 1/2 inches high
Weight: 46.3 pounds
Amps: 13
Decibels: 73 or 68
Air tank: 2.6 gallons
Maximum pressure: 500 psi
Cfm: 3.5 @ 100 psi, 2.8 @ 300 psi
Outlets: Two standard, two high-pressure
Price: $1,790

Max USA
800/223-4293
maxusacorp.com

Power Options

The new 1230E weighs 46.3 pounds — less than a box of 16d sinkers — and is easy to carry with one hand. Like its predecessor, it has two standard and two high-pressure outlets and a 2.6-gallon twin-pontoon air tank. But the new model has three power modes instead of one.

In Normal mode, the 1230E cuts in when the pressure drops to 360 psi and shuts off at 420 psi, providing enough air for most applications. But if you need a boost — such as when you're nailing 23/32-inch subfloor to I-joists — you can switch to High Power. In that mode, the compressor cuts in at 435 psi and keeps pumping until it reaches 500 psi. At 500 psi, the tank stores as much air as a standard 10-gallon compressor at 100 psi.

The unit hums along at only 73 decibels when running full blast. But if you're, say, doing punch work in an occupied home, you can switch to Quiet mode. That drops the speed of the motor from 3,300 to 2,200 rpm and emits no more than 68 decibels, making the compressor about as loud as a common household vacuum cleaner.

The DC brushless motor includes an inverter circuit that measures voltage and adjusts the motor speed accordingly. If you're running a table saw off the same power source,

The Max's convenient control panel (above left) allows you to select the power mode with the push of a button. It also indicates problems and lets you know when it's time to rebuild. To drain air and water from both pontoons, you turn a single easily accessible lever (above right).

The standard hose (at right in photo) and high-pressure hose (at left) have different male fittings to prevent mix-ups. The high-pressure fitting is closed at the end, with two small opposing holes on the sides; this arrangement prevents a pressurized hose from whipping around when it's disconnected from an outlet.

High-pressure pneumatics can really pay off at the business end. The compact tools are lighter and more powerful than their standard counterparts.

for instance, the 1230E won't just kick in and blow the breaker — instead, it'll sense the low-voltage condition and adjust its motor speed to use only the available current, essentially waiting its turn until you've made your cuts.

Most high-volume electric compressors must be plugged directly into the power source to ensure adequate voltage. The 13-amp Max can be powered through a 12-gauge extension cord, and it can be set up as far away as 50 feet from the power source. This feature is especially helpful on crowded construction sites where space around the power pole is limited.

Other Features

The control panel is located on top of the unit between the two regulators and their flush-mounted gauges; you can monitor the compressor at a glance and easily change the power settings with the push of a single button. One LED light tells you the unit is turned on, another (accompanied by beeps) warns of overheating or low voltage, and a third indicates when maintenance is due.

Maintenance is required after the compressor motor runs for 1,000 hours. If you work 40-hour weeks and the motor runs half the time, you might go a year before needing service. At that point the rig needs to go back to the dealer, who will install a rebuild kit that includes new piston rings, gaskets, and other internal wear parts. The kit costs about $70, and a dealer in the Denver area quoted me two hours, or $118, for installation labor. Since the motor logs more hours in High Power mode than in Normal mode, Max recommends using 500 psi only when you need it.

Foolproof hoses. The high-pressure outlets accept high-pressure hoses only, so there's no danger of connecting a standard tool to a high-pressure outlet.

Normally if you disengage a standard hose from a pressurized compressor and let go, it will flail until the air pressure inside the hose is exhausted. Getting smacked in the shin by a metal coupling propelled at 120 psi hurts — so think how much more it would hurt if the hose were pumped up to 320 psi. Max apparently thought about this problem and designed a unique coupling to deal with it. Whereas a standard male hose fitting is open at the end and exhausts all the pressure in line with the hose, Max's high-pressure male fitting is capped at the end and has two small exhaust ports, one on either side, to help cancel out the force. If you release one of these pressurized hoses and let go, it typically falls to the ground and lays still as the air pressure dissipates.

Easy drainage lever. Draining the air and water from compressor tanks each day helps prevent rusting. With my standard twin-tank compressors, I have to reach underneath each tank to find the drain valves. Not only that, but the valves themselves are often inoperable, because they're located in a place where they're vulnerable to damage. The 1230E has an easily accessible and

better-protected ball valve. You simply turn the lever and both tanks drain.

Performance

If you dial high-pressure tools down to the lowest operating pressure that gets the job done — as recommended by Max — standard and high-pressure pneumatic tools will normally draw about the same volume of air from the 1230E's tank. In other words, you can push either type of tool at about the same pace before the tank begins to refill.

However, even though the 2.6-gallon tank holds as much air as a standard 10-gallon tank, it can't power as many tools. The Max delivers 3.5 cfm (cubic feet per minute) of air at 100 psi and 2.8 cfm at 300 psi. My standard Rolair 9-gallon wheelbarrow compressors deliver 6.9 cfm at 100 psi. That means a $700 Rolair can power a bigger crew than the Max can.

We tested the 1230E on a framing project at 5,500 feet above sea level using one standard and one high-pressure nailer. The carpenters worked at a steady, productive pace and didn't challenge the compressor at all. We also ran two standard trim nailers at 7,500 feet. At that altitude the thinner air handicapped the compressor by about 25 percent from its performance at sea level, but even so, we had to work hard to make it power up. Based on our tests and my prior experience with the Max PowerLite system, I'm confident I could run a small framing or siding crew or a production trim crew with the 1230E.

Would I Buy It?

The 1230E is an exceptionally well-designed and solidly built compressor. But it lists for almost $1,800, an investment that makes sense only if you already run high-pressure pneumatics — or plan to convert to them completely. Max's high-pressure air hose costs about $1 per foot, and its 400-psi tools cost about $550 to $1,080 each. If I suddenly lost all of the standard compressors, hoses, and tools I've accumulated over the past three decades in a natural disaster, I'd seriously consider using my insurance money to go 100 percent high-pressure. Barring that, the cost of the PowerLite system puts it out of my reach.

***Michael Davis** owns Framing Square in Conifer, Colo.*