

DEWALT's radical new FLEXVOLT battery and tool platform changes voltage depending on the needs of the tool, from 20 to 60 volts individually, or up to a whopping 120 volts when combined. Wow.



CORDLESS POWER TOOLS

2016: THE YEAR CORDLESS BECOMES KING?

You say you want a revolution? Ten years from now, 2016 may be remembered as the year that the scale finally tipped and cordless power tools began to take over the job site. Although there is no clear winner among these competing platforms, and maybe never will be, each of these companies is bringing serious power and value to users in their own way.

And there is no end in sight. Coming generations of battery-powered tools — now in development — will bring significantly higher voltages

(more than 300 percent higher than today's limit) to the market. But for now, it is certain safe to say that cordless power tool users have never had it so good. The best is here today *and* is yet to come.

DEWALT

DeWalt continues to advance cordless power tools with the FLEXVOLT system, which features the world's first batteries that automatically change voltage when the user changes tools. Two FLEXVOLT batteries, a 6.0-Ah battery and a 9.0-Ah battery, power the lineup of brushless 60V MAX* and 120V MAX* FLEXVOLT tools.

"What makes these two FLEXVOLT batteries extremely innovative are their patent-pending technology that is backwards compatible with most existing DeWalt 20V MAX* tools and chargers," states Ward Smith, product manager for professional power tools. "The key to this technology is the ability of the FLEXVOLT batteries to switch between DeWalt tools of varying voltages. The FLEXVOLT batteries automatically change voltage depending on whether they're being used in a 20V MAX* or 60V MAX* tool."



Two FLEXVOLT batteries (of same amp-hour) together power the new DEWALT 120V MAX* tools. This means that high-power tool applications that previously could only be accomplished by corded tools, can now be performed with the DeWalt FLEXVOLT system of cordless tools. As a result of this advanced battery technology, job sites can now fully transition from corded to the freedom of cordless.

"The new 60V MAX* FLEXVOLT brushless tools include a 7 1/4-inch circular saw (DCS575), 4 1/2- to 6-inch grinder (DCG414), reciprocating saw (DCS388), 1/2-inch VSR stud and joist drill (DCD460), and an 8 1/4-inch table saw (DCS7485)," Smith says. "The new 120V MAX* FLEXVOLT tools are a 12-inch fixed-head compound miter saw (DHS716) and a 12-inch sliding compound miter saw (DHS790)."

HOUGEN

Hougen Manufacturing's new battery-powered Hougen-Ogura Punch-Pro Electro-hydraulic portable hole puncher is a perfect example of a cordless tool that was unthinkable a few years ago. The model 76000PR can

The new battery powered Hougen-Ogura model 76000PR Punch-Pro can be easily operated on-site or anywhere electric power may not be available.



be easily operated on-site where electric power may not be available or up on a man-lift where power is not readily accessible. Although it is battery powered, it packs enough punch to generate 11 tons punching force and can punch round or oblong holes up to 19/32 inches diameter in 1/4 inch mild steel in 4.5 seconds. The unit's throat depth is .98 inches and it can punch flat bar or angle iron.

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"Weighing just 17.4 pounds, the 76000PR cordless hole puncher is ideally suited for applications typically done with electric hand-held twist drills," says Greg Londrigan, marketing coordinator for Hougen. "The operator can easily position the tool when working in narrow or awkward positions by rotating the motor 360 degrees in either direction during operation. The punch can be jogged down to the center mark to confirm hole location accuracy."



LONDRIGAN

The model includes Hougen's new Power Retractable punch system which allows the user to power reverse the punch back out of the hole. This improves productivity in harder, more elastic materials which tend to grip the punch (not allowing it to auto-return to the home position) after the hole is produced.

Its motor is powered by an 18V DC Lithium-ion battery that can be fully charged in 22 minutes using the included battery charger. It can punch approximately 150 holes through 1/4-inch mild steel on a single battery charge. Hougen offers other models of Electro-hydraulic portable hole punchers for making holes from 1/4 up to 15/16 inches in material 5/64 up to 1/2 inch in thickness.

BOSCH TOOLS

One of the most significant changes in the power tool segment is moving from the mechanical motor design to brushless technology. A brushless motor offers both increased torque efficiency and greater reliability because there are no brushes to deteriorate, which means less maintenance. In addition, brushless motors are conduction cooled, which means less concern about airflow and dirt in the motor.



Bosch battery innovations include Electronic Cell Protection (ECP) which prevents cells from overheating, overloading and deep discharging. The HDS183-02 18V EC Compact Tough brushless 1/2-inch hammer drill/driver features KickBack Control.

No discussion of power tools is complete without a mention of battery technology," observes Tim Truesdale, product manager, cordless, for Robert Bosch Tool Corporation. "Lithium-ion batteries make ultra-compact and heavy-duty tools the norm, not an exception. And the three inherent benefits — more power, runtime increase and no weight penalty — are the basic building blocks behind the technology."

Lithium-ion cells can either hold more power in the same-size package or maintain the same power in a smaller package. Bosch has advanced the design of Lithium-ion batteries with its CoolPack heat-sink design that keeps power cells cooler, which increases battery life. Bosch-exclusive Electronic Cell Protection (ECP) prevents cells from overheating, overloading and deep discharging.

"Bosch's success in the power tool market has always hinged on listening to the customer," Truesdale says. "It's important to know what trade pros are really seeing on the ground. From this effort we get better insight into new technologies, performance criteria — things that show up in longer-life Lithium-ion batteries and new safety features like KickBack Control. Business owners want to protect their biggest asset — and that's their workforce. Technology that's more efficient and offers greater safety does just that."

FEIN POWER TOOLS

Currently in the market, the demand is for more powerful, longer lasting cordless drill drivers, but with higher capacity comes added size and weight.

"Fein Power Tools has recently launched a new series of 12v drill drivers that offer an alternative to the increasingly heavier and more cumbersome drills in the market," explains Joshua Henze, Fein's digital communications and event specialist.



HENZE



The Fein ASCM 12 drill driver features a four-speed brushless motor for optimal drilling speed control, a removable all-metal drill chuck and weighs less than three pounds.

"The Fein 12v drill drivers are lighter, more maneuverable and offer reliable performance in a wide range of applications — along with being the most powerful in their class."

The model ASCM 12 features a four-speed brushless motor and an all-metal drill chuck. The chuck of the ASCM 12 is removable, allowing the use of standard hex bits by directly inserting them into the drive shaft. The ASCM 12 provides the optimal cutting speed for each drill diameter and offers 1/2-inch capacity when drilling steel.

The model ASBU 12 features a two-speed motor and an all metal chuck. The ABSU 12 is the universal option for drilling and fastening in almost any material.

"In addition to being light weight, the ASCM 12 and the ABSU 12 are compact, weighing less than three pounds, and measuring less than 8 1/2 inches in length. These units excel in hard-to-reach areas where reliable performance is required."

With the Fein 12v drill drivers, a wide range of drilling and fastening tasks can be efficiently and effortlessly accomplished.

Hitachi's new 18V Lithium-ion brushless cordless 18 gauge brad nailer, model NT1850DE, features the company's new compact 3.0-Ah battery, which is 3/4-inch smaller and 0.6 pounds lighter than its predecessor.



HITACHI POWER TOOLS

"Now more than ever, we are seeing job sites incorporate cordless tools where corded tools used to be present," begins Brett Bishop, product manager, Hitachi Power Tools. "New technology, whether it be with brushless motors, batteries or tool design itself, has given cordless tools a leg up to replace their corded counterparts on the job, thus resulting in greater expansion throughout all markets. Hitachi is following suit, while incorporating innovation of our own."



BISHOP

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The Hitachi WH18DBDL2 18V brushless impact driver with triple hammer is a prime example of innovation in a small, powerful and lightweight package.

"Hitachi has altered the traditional impact design of a two-anvil system and incorporated a third," Bishop explains. "By doing so, the tool is able to achieve higher torque, more BPM, less vibration and jaw-dropping fast tightening speed that has blown our customers away. With the option of four different speed settings, this triple hammer impact driver can tackle a vast array of jobs with just the push of a button."

Included with this innovative tool comes Hitachi's new compact 3.0 battery technology. With the idea of keeping the user comfortable and tools lighter weight, Hitachi has produced a more compact and lightweight 3.0-Ah battery which is (3/4 inch smaller and 0.6 pounds lighter than Hitachi's current 3.0Ah battery, model BSL1830. This new battery is sold individually, but is included with the WH18DBDL2 triple hammer impact kit, and also powers Hitachi's new line of cordless nailer kits.

"Hitachi's pneumatic and cordless engineers collaborated to produce a top of the line cordless finish and framing nailer series that is sure to leave other 18V cordless nailers in the dust," Bishop enthuses. "Over the next six months, Hitachi will be launching over 10 new tools to the market, all backed by Hitachi's Lifetime Li-ion tool warranty (two-year battery warranty, one-year charger, grinder and rotary hammer warranty). And Hitachi is not stopping there! More innovation and jaw-dropping tool advancements are planned for the near future."

MAKITA USA

"Makita LXT is the world's largest 18V Lithium-ion cordless tool line-up giving users one 18V system, 150-plus tools and the industry's most versatile battery platform," states Carlos Quintana, senior product manager, cordless tools, Makita U.S.A. "With high amp-hour batteries, efficient brushless and brushed motors, 18V X2 LXT (36-volt) technology, and new 18V Sub-Compact tools — all powered by the industry's fastest-charging 18V batteries — Makita 18V LXT is a total solution in one 18V system."

Freedom from the cord should not require multiple battery platforms, so for the most demanding applications Makita created 18V X2 LXT (36-volt) tools powered by two 18V batteries. Makita offers 18V X2 tools for cutting, trimming, demolition, clean-ups, dust extraction, concrete drilling and more.

"A true measure of the work performed by 18V X2 tools is not simply voltage or amp hours. It is best measured in



Makita has created a new class in cordless with 18V LXT sub-compact brushless tools. The new two-piece combo kit (model CX200RB) includes the most compact and lightest-weight driver-drill and impact driver in the 18V category.

'watt hours,' which is the product of both," Quintana says. "For example, a Makita 18V 6.0-Ah battery has 108 watt hours (18V nominal voltage x 6.0Ah = 108 watt hours). Apply this formula to the 18V X2 LXT (36V) Recipro saw, or any other 18V X2 tool, and it goes up to a full 216 watt hours of capacity; more than any other power tool manufacturer. Users get the same power and run time of a much larger, heavier battery, but they're using the same fast-charging 18V batteries that can also be used with core tools like drills, impact drivers and 150-plus Makita 18V tools."



QUINTANA

For core tools like drills and impact drivers, market preferences are telling manufacturers to go lighter and more compact, so Makita has created a new class of cordless with 18V LXT Sub-Compact. Makita 18V Sub-Compact tools are powered by efficient, purpose-built BL brushless motors that are more compact.

"The 18V driver-drill and impact driver are the most compact and lightest weight in the 18V category, and each carry a new black trade dress to distinguish them from similarly-sized 12V products," Quintana claims. "Users get 12V handling with the compatibility of the world's largest 18V system."

METABO

"2016 is another great year for cordless innovation at Metabo, and every day brings us closer to our vision: the cordless fab shop and cordless job site," begins Antoine Derché, product manager, cordless and concrete tools for Metabo. "In 2015, Metabo revolutionized the industry by being the first to introduce a new generation of Li-ion cells: LiHD (Lithium High Density). These new packs have the ability to deliver 67 percent more amps and, thanks to a significantly



DERCHE



Metabo's WPB 36 LTX BL 230 Quick 9-inch angle grinder features the new 36-volt Ultra LiHD (Lithium High Density) battery which delivers 6.2-Ah capacity and the power of a 15-amp corded tool.

more efficient power transmission, 87 percent more runtime than the best 5.2-Ah battery on the market."

"With the LiHD 18V platform, Metabo for the first time reached true corded industrial power for angle grinders, creating a tool that delivers up to 11-amp equivalent corded power."

This year, Metabo is raising the bar by introducing LiHD 36V! With the same 6.2-Ah capacity and up to 21-amp equivalent corded, this battery pack will have the ability for the first time to power a cordless 9-inch angle grinder, delivering 15-amp equivalent corded power.

"While other competitors took the route of bigger and heavier batteries using old cell technology, Metabo decided to focus on what really matters to its users: power, density and runtime and the ability to drive exceptional results with a compact and lightweight pack," Derché says. "For instance, our compact 18V 3.1-Ah flat pack delivers the power and runtime equivalent of a full-size 4.0-Ah pack; an end-user benefit that is unmatched.

"Based on our Ultra-M cordless platform, LiHD is effectively 100 percent forward- and backward-compatible with all Metabo cordless tools. Also the same charger can take either the 18V or the 36V battery, making it the easiest and most versatile cordless platform when it really counts."

SENCO

The increasing interest in cordless power tool designs is being driven by many factors: increased productivity, cost and the convenience. At the same time, battery pack amp-hours have improved, maximizing run time so that cordless models perform as well as their pneumatic counterparts.

Senco sees the safety advantages from going cordless as the primary motivator for customers, especially in on-site construction applications. Cords on job sites can pose a safety hazard if not properly run and secured, not to mention the OSHA fines that can result from improper use.

"As the manager of DuraSpin auto-feed screw systems for Senco, I see the conversion to cordless models — whether for drywall, subfloor, decking, roofing or framing applications — as a long-term, inevitable development," says Mike Desmond, product manager.



DESMOND

Senco recently introduced a new 18V 3.0 Ah Li-ion battery pack for our cordless tool lines, DuraSpin auto-feed screw systems and Fusion nailers.

Based on user feedback from job sites, pros prefer longer run time for their tools before having to recharge or change batteries. The 3.0-Ah battery delivers up to 2,000 drives per charge, 100 percent more than the 1.5-Ah battery, and comes with the same built-in fuel gauge to easily check the remaining charge.

The batteries are also compatible with Senco DuraSpin models DS215-18V; DS212-18V and DS312-18V and Fusion models F-15; F-18; F-16S and F-16A.

"Senco's Fusion platform has performed well and we believe it's a technology that can be adapted to a wide variety of cordless nailers for pinning, framing and other applications," Desmond concludes. **CS**

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Senco's new 18V 3.0-Ah Lithium-ion battery pack for its DuraSpin auto-feed screw systems and Fusion nailers is compatible with several Senco tools and can deliver up to 2,000 drives per charge.