

# Innovation Alley

## 五金新品大道

### Simplified Welded Steel Fastening With FX 3-A Cordless Stud Fusion System

#### FX 3-A無線螺柱融接鎖緊工具簡化焊接鋼的固定作業

The new FX 3-A cordless stud fusion system introduced by Hilti cuts welding time significantly. Covering higher loads and thinner base materials than previous Hilti products, cordless stud fusion is up to 75% faster than traditional welding methods and is a fully mobile and autonomous system with no power cables needed.

This fastening method is also safer than traditional welding methods as it helps shield users from heat and gas. With virtually no sparks, splatters fumes and no angle grinder needed for surface preparation, it offers more significant advantages from a health and safety perspective.



Compared to welding and other methods like bolting and clamping, cordless stud fusion allows more speed and flexibility in engineering, procurement, and construction.

Engineers know they will get more reliable loads—through repeatable and consistent fastenings—as well as more flexibility for design changes. Procurement can choose from a wide portfolio of studs with international approvals and corrosion resistance (up to C5 in highly corrosive environments). As a result, construction becomes not only faster than traditional methods, but it can also be done by almost anyone—with minimal training—helping to reduce the risk of installation error.

### New Screw Driving Machine with 2.5 Times More Fastening Locations to Support Various Products

#### 新螺絲鎖緊機，擰緊點增加 2.5 倍，可處理各種產品

On October 1, Nitto Seiko released the new SR580/RC7000 screw fastening robot that can handle a wide variety of products. The number of screw fastening locations on a workpiece that can be registered per robot has been increased to 100, which is 2.5 times the number of conventional models, and the number of screw fastening conditions has been increased to 20, which is 4 times the number of conventional models. Flexible settings enable the robot to handle a wide range of products with many threads or products with different screw fastening conditions.

Two robot models are available: the SR580Y $\theta$  with two simultaneous control axes and the SR580Y $\theta$ -Z with three simultaneous axes, each of which comes with the RC7000-S controller and a screw supply unit. A two-step motion has been added to the robot, which descends to a position away from the screw fastening position, stops once, and then moves to a position above the screw fastening location. This enables fastening of screws at fastening locations that are difficult to approach from directly above, reducing the possibility of workpiece damage.



## Next-Gen M18 FUEL Impact Wrenches

### 次世代M18 FUEL系列衝擊扳手

The M18 FUEL ½” High Torque Impact Wrench with Friction Ring by Milwaukee provides users with the best combination of power and size to maximize productivity. A PowerState Brushless Motor delivers nut-busting torque up to 1,500 ft.-lbs. with a M18 RedLithium XC5.0 Battery and up to 1,600 ft.-lbs. with Milwaukee’s new M18 RedLithium Forge XC6.0 Battery. The Wrench is capable of removing stubborn bolts and nuts. Standing as the lightest and most compact high torque impact wrench on the market, it allows more access in tight spaces and offers increased ease of use in application, with the fastest removal speeds in class.

The M18 FUEL ½” High Torque Impact Wrench with Pin Detent provides professional users with up to 900 ft.-lbs. of fastening torque and delivers up to 1,100 ft.-lbs. of nut-busting torque when paired with a M18 RedLithium XC5.0 Battery pack. Offering more access in tight spaces, this cordless impact wrench measures at the shortest length in its class to deliver the lightest and most compact solution for users.



## Simulated Assembly Workstation to Increase Torque Testing Range Up to 350Nm

### 模擬裝配工作站將測試扭矩提昇至350Nm



This assembly simulation system by Bossard (Shanghai) is equipped with a robotic arm that simulates actual assembly conditions to obtain the torque and angle relationships of the assembly setup, thus verifying the accuracy of the assembly process.

“The accuracy of the high torque assembly process is important for critical applications in industries such as rail

- transportation and automobiles. The introduction of the simulated
- assembly workstation means that we are in a position to help these
- customers solve the problems they may encounter in high torque
- threaded connection applications by helping them to find and
- validate suitable solutions,” said the engineering department of
- Bossard Fastening Solutions (Shanghai).

- In addition, when coupled with ultrasonic equipment, the
- simulated assembly system can also obtain fastening parameters
- such as torque, angle, axis force, coefficient of friction, coefficient
- of torque, and a variety of assembly parameter curves of the
- threaded connection during the fastening process, which is
- conducive to a more detailed analysis of threaded connection.

## Cordless 18V Brushless Rivet Nut Gun

### 無線 18V 無刷拉帽槍



- The 18V Brushless Rivet Nut Gun by Metabo has a quickchange
- mandrel system that can rivet up to M10 in aluminum, M8 in steel
- and M6 in stainless steel. It includes an easy setting force adjustment
- with 99 values and 10 memory settings. In addition, it has an auto-
- reverse feature that automatically resets the tool for quick reload.

The 18V Brushless Rivet Nut Gun is available as a bare tool and when paired with a compact 4.0 Ah LiHD (Lithium High Density) battery, it can secure 1,800 M5 rivets on a single charge and has a pulling force of 1,500 N or 337 feet per lb. This one-handed rivet gun is extremely fast, lightweight, and well balanced for maximized ergonomics. It also includes safety features, such as a hand protection guard and balancing loop.

The Metabo NMP 18 LTX BL Cordless Rivet Nut Gun is the ideal solution used by roofers, contractors, HVAC technicians and more when connecting flat stock with threaded connections on any jobsite.

## New 18V Impact Wrench

### 新的18V衝擊扳手



The SSW 18 LTX 800 BL by Metabo provides a maximum tightening torque of 590 ft-lbs., breakaway torque of 885 ft-lbs., no-load speed of 2,575 rpm, and impact rate of 3,300 BPM – all driven by a 1/2" square drive with friction ring. It is available as a bare tool (602403840), or as a 2x8.0 LiHD battery kit complete with ASC 55 charger (US602403620). Both versions come standard with belt hook and metaBOX 145 stackable carrying case.

The SSW 18 LTX 800 BL comes with Metabo's 2nd Generation Brushless Motor which extends run time, maximizes power, and increases motor life. Twelve different speed/torque settings can be easily chosen with a simple push of the thumb dial, including APS Mode (Automatic Power Shift), which automatically downshifts to a lower rpm once breakaway torque is achieved to reduce lug nut spin-off and free-fall. Other safety features include: two integrated LED work lights to illuminate the work area for easier and safer operation, tethering point for lanyard attachment when working at height, and an ergonomic, rubber-coated non-slip grip for impact protection and comfort.

This impact wrench is ideal for nearly every trade, from HVAC, mechanical contractors and carpenters to metalworking,

fabrication, and automotive work. They are well-suited for a variety of fastening and anchoring applications in wood, metal and concrete.

## Nepros neXT 9.5sq. Ratchet Wrench

### Nepros neXT 9.5sq.棘輪扳手



KTC Tools' Nepros neXT 9.5sq. Ratchet Wrench is designed by observing and studying the posture of the person using the tool, and based on an optimization analysis. It has a compact structure that is lightweight and has the necessary strength designed. It takes into account strength, rigidity, lightness, balance, familiar shape, and it is easy-to-use, optimized for different people, and pursues the ultimate in practicality.

#### Product Features:

- \* The handle has been completely remodeled.
- \* Strength and extreme lightness are achieved through an optimized X structure that spreads the load over the entire ratchet.
- \* The handle has no edges, the finger grip is flat and the gripping section is rounded.
- \* The head surface is high-speed shot-peened with ceramic beads to increase surface hardness and strength.
- \* The size of the ratchet head has been reduced, making it lighter and the balance is optimized for easier use.
- \* 90 gears and precision grade 8 pawls achieve lightness and strength.
- \* Total length 180 mm / Head width 25.5 mm / Head thickness 14 mm / Handle Ø23 mm / Weight 210 grams.

