

SIMPLY PRODUCTIVE
WITH CONNECTIVITY.



CORDLESS PRECISION FASTENING SYSTEMS

QX CONNECT SERIES™

Taking total control of your fastening process doesn't have to be complicated. Our comprehensive QX Connect Series™ family of fastening systems deliver simple, flexible and capable solutions for all of your assembly requirements. No matter the industry or application, you can count on Ingersoll Rand as a trusted partner to help you get the job done right.

DIFFERENT, BY DESIGN

WHAT DOES THIS MEAN TO ME?	SIMPLE	FLEXIBLE	CAPABLE
	<p>EXPERTISE NOT REQUIRED</p> <ul style="list-style-type: none"> Save on selection, training and installation costs Easy to use, ergonomic designs Simple to order, fast delivery 	<p>EASILY IMPLEMENT CHANGE</p> <ul style="list-style-type: none"> Easy line integration and rebalancing Multiple product options Connectivity options enable fast programming 	<p>MEET YOUR REQUIREMENTS</p> <ul style="list-style-type: none"> Performance that optimizes your productivity Durable designs, lower cost of ownership Advanced diagnostics identify problems and enhance safety

ICON IDENTIFIERS

Compatibility Reference



USB compatible



Insight Connect App



ETS
(Ergonomic Tightening System)



Wireless



Bluetooth compatible

SIMPLY PRODUCTIVE WITH CONNECTIVITY

The innovative QX Connect Series™ is simple for anyone to use. It offers flexibility because of its feature-rich configurations, and can manage everything from data and fast programming to modifications on your line. The QX Connect Series™ increases productivity and lowers costs — all at a price you can afford.

SIMPLE

- Multi-function display module for quick setup and feedback
- Compact, lightweight and ergonomically balanced so the operator can work without restraints
- The intuitive INSIGHT Connect app will help you stay productive & mobile on the plant floor via Bluetooth or wired connection.

FLEXIBLE

- Provides up to 32 fully programmable configurations on a single tool, reducing costs and workspace clutter
- Fast and intuitive programming makes the tool easily adaptable to any needed changes on your assembly line
- Cordless and portable, allowing for effortless movement around your facility

CAPABLE

- At the heart of every tool is the closed-loop transducer control that delivers precise torque and accurate, traceable results
- Available in a variety of configurations, including pistol grip, angle wrench, multiplied, and ETS
- Wireless & Bluetooth communication options enable flexible line integration, remote monitoring and simple system programming across a plant-wide network
- Manage cycle data, control the process, receive system status alerts and implement configuration adjustments in real time with INSIGHTqcx™ using Ethernet, Fieldbus and digital I/O



QX CONNECT SERIES™ FEATURES



* Not available on all models

HOW TO SELECT THE RIGHT TOOL

When it comes to fastening, non-transducerized tools don't stand a chance. The QX Connect Series™ line of products give you closed-loop control of your fastening process, and the ease of mobility with different connectivity options. Each and every tool allows for programmable tightening strategies to deliver higher quality fastened joints and a level of control that is unmatched by other solutions. The diversity of the QX Series™ lineup offers a simple, flexible and capable solution for any fastening need.

FEATURES	USB		Bluetooth		Zigbee & Bluetooth	
	QXFN	QXFD	QXBN	QXBD	QXXN	QXXD
Display & Keypad		Included		Included	Included	Included
Bluetooth			Included	Included	Included	Included
QXW Limitless Wireless Radio Connectivity to INSIGHTqcx™					Included	Included
Wireless Zigbee 802.15.4 Capability					Included	Included
Programmable with INSIGHT Connect via Bluetooth			Included	Included	Included	Included
Programmable with INSIGHT Connect and INSIGHT qcx via USB	Included	Included	Included	Included	Included	Included
ETS Optional	Included	Included	Included	Included	Included	Included
Number of PSETs	32*	32*	32	32	32*	32

Symbol Key:
 USB symbol = USB Communication
 Bluetooth symbol = Bluetooth Communication
 Wifi Symbol = Zigbee Communication

All models available in the following configuration:
 QXF-USB Communication, No Wireless Functionality
 QXB-Bluetooth Only
 QXX- 802.15.4 Zigbee & Bluetooth
 QXW-Wifi

QXF SERIES CORDLESS TOOLS

QXF offers superior transducerized control and operator feedback in a way that is easy to use and simple to setup. This unique series features 32 tightening configuration that can be programmed via USB using the INSIGHT Connect app. All QXF tools have no wireless communication and can only be programmed via USB using the INSIGHT Connect app.



FEATURES

- 32 tightening configuration
- Transducerized for precise torque measurement
- Closed-loop control of torque, speed and degrees of rotation
- Simple to program via USB using the INSIGHT Connect app
- Visual operator feedback using green, yellow and red lights
- Programmable preventative maintenance alarms
- Maintenance indicator for troubleshooting and diagnostics
- 1200 cycles of data storage – accessible via the INSIGHT Connect app
- Comes with a Display and a No-display option
- Visual torque validation on display tool models



QXB SERIES CORDLESS TOOLS

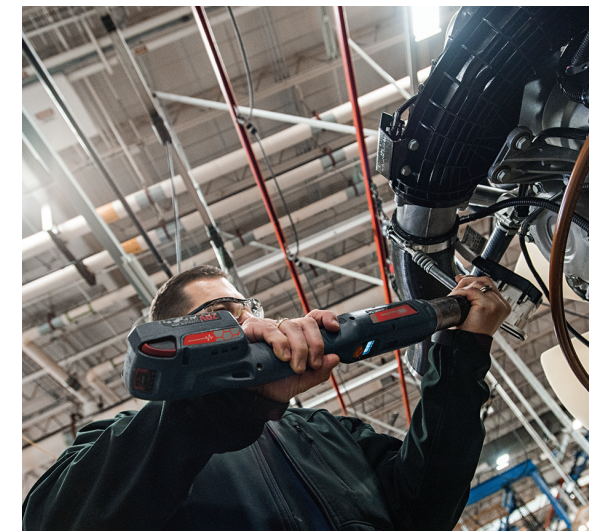
The versatile QXB series feature 32 tightening configurations, offering the ability to consolidate the number of tools needed in your bag or bench. The series also enhances the feedback provided from the tool by displaying the measured torque or angle results to the operator. The QXB models further add Bluetooth connectivity & program the tools via USB or wireless using the INSIGHT™ Connect app.



32

FEATURES

- Flexibility to utilize the same tool on multiple applications
- Program 32 PSETs configurations into one tool
- Visual torque validation on display
- Transducerized for precise torque measurement
- Closed-loop control of torque, speed and degrees of rotation
- Flexible Connectivity options with Bluetooth for simple programming using the INSIGHT Connect app or back of tool programming.
- Visual operator feedback using green, yellow and red lights
- Programmable preventative maintenance alarms
- Maintenance indicator for troubleshooting and diagnostics
- 1200 cycles of data storage



QXX CORDLESS

The easy to use QXX has the unique ability to integrate with line control systems for error proofing and data collection. The series also allows remote monitoring and integration with standard fastening system accessories. The QXX models communicate utilizing Zigbee wireless connectivity & tool programming may also utilize the INSIGHT™ Connect App.



FEATURES

- With INSIGHTqcx™, complete integration into plant wide Ethernet network, for increased productivity and control
- Remote access and integrated data collection capability
- Use of INSIGHTqcx™ enables transmission of tightening data and line control integration via Ethernet, Fieldbus or I/O
- Flexibility to utilize the same tool on multiple applications
- Program 32 configurations into one tool
- Visual torque validation on display
- Transducerized for precise torque measurement
- Closed-loop control of torque, speed and degrees of rotation
- Simple to program via USB cable or back of tool programming
- Visual operator feedback using display screen and green and red lights
- Programmable preventative maintenance alarms
- Maintenance indicator for troubleshooting and diagnostics



QX CONNECT ETS SERIES

Reducing the torque reaction in your fastening process doesn't have to be complicated. Control and ergonomics, not compromise - that is what the QX ETS is all about. The QX ETS offers all the capabilities found in the QX Connect Series™ platform, with less the torque reaction.

What is ETS (Ergonomic Tightening System)

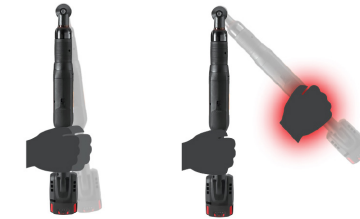
ETS stands for "Ergonomic Tightening System". QX + ETS delivers all the performance and control features of the standard QX Series™ precision fastening tools, with an improved ergonomic benefit. It significantly reduces the average amount of force experienced by the operator during the tightening process.



QX + ETS reduces average reaction force experienced by the QX Series™ user up to

63%

When ETS is Active, the operator's arm movement is limited to a series of smaller movements instead of one large movement.



ETS Active ETS Not Active

This enables the operator to stay in control and in the "power zone", reducing the chance for injury caused by quick, excessive movement.

FEATURES

- Ergonomically enhanced motor control algorithm significantly reduces the average force experienced by the operator during the tightening process
- Red foot label provides clear indication of ETS tool identity vs standard QX tool
- Continuously flashing purple light above keypad provides operator assurance that ETS is ACTIVE
- All the capability of the QX platform, without the torque reaction
- Common software and battery platform for simple integration
- ETS features are available for all QX Connect models and available in pistol grip, low torque angle and high torque angle
- Onboard 'pulse' counter supports proper optimization and application of ETS tools on ideal applications (10 pulses or less per cycle)



SIMPLE SETUP

In addition to standard direct drive mode, each tool configuration can be independently programmed to utilize one of the three available single-parameter ETS modes, simplifying setup:

Ergonomic Mode, with the lowest energy pulses, is ideal for hard joints or when arm, wrist or tool angles are most difficult.

Performance Mode, with medium energy pulses, is the best all-purpose mode.

Productivity Mode, with the highest energy pulses, is the fastest mode. Ideal for soft joints or when high production rates are required.

QX LIMITLESS SERIES

CONTINUOUS CONNECTIVITY. CORDLESS CONTROL.

Ingersoll Rand's QX Connect Series™ has been instrumental in helping more organizations take control of their fastening processes through its simple, flexible, and capable performance. Now, with the introduction of the QX Limitless platform we're adding 'connected, controlled, and compliant' to the bottom line. Dual-band communication technology deliver a seamless, uninterrupted connection—and across a greater communication range than other cordless fastening systems can offer.

**NEW
PRODUCT**



Connectivity • Complete Control • Confidently Secure

- Up to 10 Tools connected to Controller • Security Authentication
- Dual Band Communication • Extended Coverage on Mesh Networks



FEATURES

- Dual Band Communication 2.4Ghz and 5 Ghz
- 2.4 Ghz and 5Ghz Auto Switching
- Multiple Cybersecurity authentication
- Setup WIFI configuration using INSIGHT Net Desktop APP or INSIGHT™ Connect App
- Transducerized for Precise torque measurement
- Closed- loop control of torque, speed and degree of rotation
- Program 32 Configuration on one tool
- Visual Torque validation on display
- With INSIGHTqcx™ complete integration to plant wide Ethernet network, for increased productivity and control
- Connect up to 10 Tools with INSIGHTqcx™ Controller

QXWD LIMITLESS SERIES

WHY QX Limitless?

CONNECTIVITY

The QX Limitless platform enhances seamless, plant-wide connectivity across a broader range where access points share the same SSID and password. Incorporating dual band communication technology, the system helps to eliminate communication breakdowns in high-traffic work zones to ensure no loss in production.

- Dual Band Communication seamlessly switches between 2.4 and 5 Ghz Band
- Reduces Limitation of Communication distance between Tools and Controller

CONFIDENTLY SECURE

QX Limitless delivers greater confidence, connecting with the devices you need and, just as importantly, NOT the ones you don't need. As a single product, it complies with multiple IT cybersecurity regulations, increasing data protection, restricting access to non-authorized devices, and providing ease of adoption across more systems.

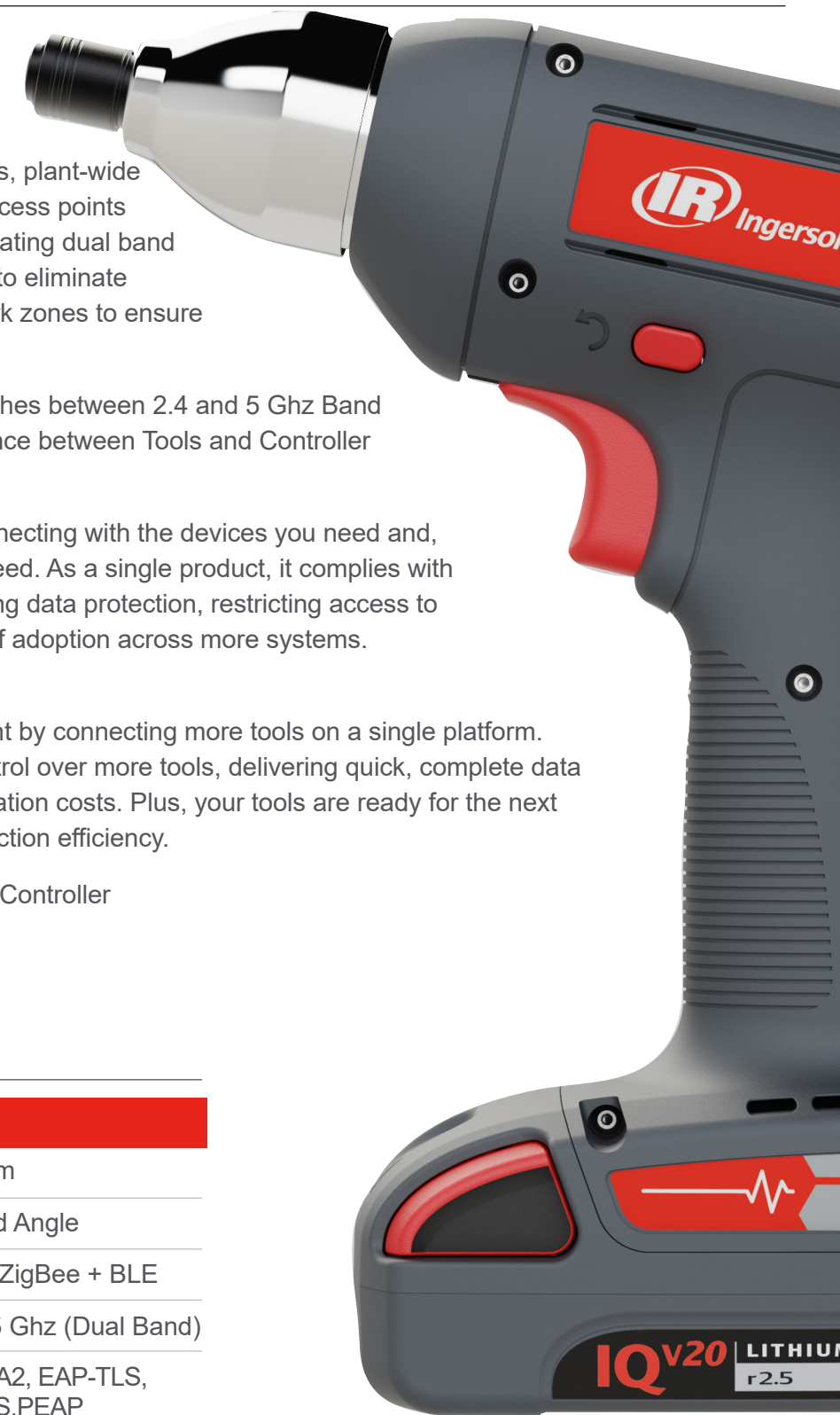
COMPLETE CONTROL

The QX Limitless limits your hardware footprint by connecting more tools on a single platform. This fast, reliable system delivers greater control over more tools, delivering quick, complete data transfer between devices and reducing installation costs. Plus, your tools are ready for the next cycle much sooner, ensuring increased production efficiency.

- Connect Up to 10 Tools with INSIGHTqcx™ Controller
- Upto 40% reduction in Hardware footprint
- Faster data Transfer

SPECIFICATIONS

Product Family	QXWD
Torque Range	0.8-80 Nm
Tool Configuration	Pistol and Angle
Wireless Communication	WLAN + ZigBee + BLE
Band	2.4 and 5 Ghz (Dual Band)
Security Authentication	WPA/WPA2, EAP-TLS, EAP TTLS, PEAP
Ergonomic Tightening System	Optional
Tool Display	Available
Communication Range	50 Meters + on 2.4 Ghz
Tools on INSIGHTqcx™	Upto 10 Tools



QX MULTIPLIER GEN 1

The innovative QX Series™ Cordless Torque Multiplier will reduce your fastening time and cost, while ensuring repeatable accuracy for all torque-critical joints. Designed with a premium gearbox and an efficient, time-tested closed-loop transducer, the Torque Multiplier is world-class in quality, control and programmable configurations to maximize your productivity.

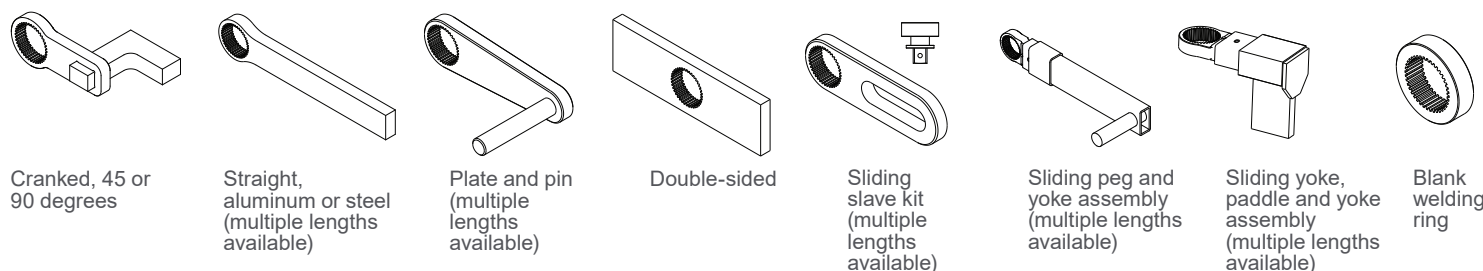


FEATURES

- A multi-function display module allowing for quick setup and feedback on every QX Series™ tool
- User-programmable parameters such as torque, angle and batch count reduce the number of tools needed when multiple applications are required
- Maintenance indicator for troubleshooting and diagnostics
- Simple programming methods make the tool easily adaptable for various applications
- Pistol and angle configurations available

REACTION ARMS

Ingersoll Rand® offers the following variety of reaction arms for different applications. Reaction arms are available in both 52 mm and 72 mm spline drives, depending on the size of the gearbox.



Cranked, 45 or 90 degrees

Straight, aluminum or steel (multiple lengths available)

Plate and pin (multiple lengths available)

Double-sided

Sliding slave kit (multiple lengths available)

Sliding peg and yoke assembly (multiple lengths available)

Sliding yoke, paddle and yoke assembly (multiple lengths available)

Blank welding ring

INSIGHT™ CONNECT APP



The INSIGHT™ Connect app will help you stay productive, mobile and in control of your fastening process. It programs any Ingersoll Rand® QX Connect Series™ tool without the need for additional technical training, special software, plant network permissions or a laptop computer. Working from a smartphone or tablet, operators can use the app to quickly program the torque and angle control configurations on these closed-loop, transducerized tools.

Once installed, the INSIGHT™ Connect app can operate offline, so it functions in large facilities or other locations where Internet signal loss may be a problem, reducing downtime and maximizing ease of use. The INSIGHT Connect App is a perfect companion to complement QX Connect Series™ tools*. With Bluetooth capability, the INSIGHT Connect App can communicate wirelessly via Bluetooth with the QX Connect tools.



You can quickly perform key tasks with your mobile device, including:

SIMPLE

- Common Setting & General Tool Setup
- Multiple Language Support
- Retrieve Cycle Log and Share via Email
- Audit Logs
- Error Codes with Description

FLEXIBLE

- Program All Standard QX Platform Tool
- Clone- Back Up and Restore
- Save and Load Configurations
- Firmware Update
- Virtual tool programming

CAPABLE

- Program Torque, Angle, Speed
- Multiple Configurations
- Multiple Step Programming
- End of Run (EOR) data on App
- Calibration and Cp/Cpk
- Programming via Bluetooth

CUSTOMIZE FOR SPECIAL APPLICATIONS

QX PISTOL SPECIAL HEAD ADAPTER

The QX Pistol Special Head Adapter is the perfect solution to simply increase the flexibility of your QX pistol screwdriver. Using this adapter leverages the closed-loop capability of the QX tool to the most unique applications. The adapter helps manufacturers meet the requirements of applications where restricted access requires a custom head to reach the fastener. Common applications requiring a special head adapter, include assembling aircraft wings or installing door hinges on cars and trucks.



SIMPLE
Ready made and easy to install



FLEXIBLE
Use your QX pistol grip tool for unique applications



CAPABLE
Employ closed-loop control capabilities on specialty applications



Special Head Adapter



INSIGHTqcx™ CONTROLLER



THE POWER TO REDUCE COSTS & INCREASE FLEXIBILITY

When trying to achieve simple manufacturing goals in a complex manufacturing world, understanding the fastening process doesn't have to be complicated. The new Ingersoll Rand® INSIGHTqcx™ is different, by design. This cordless controller is designed to be easy to use and integrate, while providing a common platform to meet your assembly requirements worldwide.

With the new Multi Tools Controller (MTC) software option, you also have the ability to control up to 6 tools with just one INSIGHTqcx™ controller. Ingersoll Rand's innovative solution with our QX Series™ & INSIGHTqcx™ MTC controller provides some of the best value available on the market, with one of the lowest total costs of ownership & cost per spindle available.



SIMPLE

EXPERTISE NOT REQUIRED

WHAT DOES THIS MEAN TO ME?

- Save on selection, training and installation costs
- Reduce errors and downtime
- Remove user dependencies

HOW DOES INGERSOLL RAND PROVIDE VALUE?

- Intuitive, visual programming interface
- Plug and play accessories and protocols
- Integrated backup and recovery
- Bundled controller options
- Easy Wireless Pairing (up to 6 tools with MTC option)
- Tightening configurations can be shared between tools (MTC)



FLEXIBLE

EASILY IMPLEMENT CHANGE

- Reduce line rebalancing costs
- Easy line integration
- Remove device dependency

- Web based programming use any operating system via any browser
- Meets current industry communication needs
- Integrated logic controls
- Easy hardware and software upgrades
- Onboard wireless energy scan



CAPABLE

MEET YOUR REQUIREMENTS

- Get the job right, every time
- Assurance via traceability
- Optimize your productivity

- Touch screen interface
- Optimal cycle data storage: 500,000 results & trace
- Robust audit and system logs
- Advanced tightening strategies and features
- Onboard diagnostics
- Integrated statistical process controls

SIMPLY INSIGHTFUL

The controller's web-based software eliminates device dependencies and enables full programming capability with any device that can run an internet browser, including smart phones, tablets or computers. The INSIGHTqcx™ controller is easy to integrate with the manufacturing line, provides flexible logic controls for job sequencing and helps reduce line rebalancing costs through a simple and intuitive user interface.

CONTROL MULTIPLE TOOLS WITH 1 CONTROLLER (with MTC option)

Integrated wall mount

Configure up to 256 jobs & 32 Psets per tool

SSD card

Whiteboard & QR code

Integrated carrying handle

Holds 500,000 records for results & trace

7-in full color touch screen

System indicators

- Factory connection
- Wireless connection
- Link status
- Fault detected

Ethernet ports 10/100/1000

USB 2.0 ports (4)

Fieldbus card slot

- Ethernet IP
- Profinet
- Profibus
- Devicenet
- Others

Sk#	Tools to Pair
MTC-SW-OPT2	2
MTC-SW-OPT4	4
MTC-SW-OPT6	6
MTC-SW-OPT10	10

MTC OPTIONS

- Up to 6 tools per controller
- Unlock Multi tool dashboard view
- Upgradeable software
- Backwards compatibility with INSIGHTqcx™ & QX™ tools

Controller model info on page 23

SIMPLE FLEXIBLE CAPABLE

SYSTEM ACCESSORIES

We offer a wide range of accessories that offer ease of use and flexibility to meet your specific application needs. QX Precision Fastening Systems are compatible with a variety of plug and play accessories to maximize productivity for your manufacturing line.

ACCESSORIES FOR ANY APPLICATION

- Battery chargers
- Battery packs
- Boots
- Bit selector trays
- Socket selector trays
- Suspension bales
- Auxiliary handles
- Selector tray cables
- Torque testers
- Spring balancers
- Socket kits





Learn more at www.ingersollrand.com

Ingersoll Rand driven by an entrepreneurial spirit and ownership mindset, is dedicated to helping make life better for our employees, customers and communities. Customers lean on us for our technology-driven excellence in mission-critical flow creation and industrial solutions across 40+ respected brands where our products and services excel in the most complex and harsh conditions. Our employees develop customers for life through their daily commitment to expertise, productivity and efficiency.

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