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Cordless and electric screwdrivers for industry



Summary of contents

Big in performance – Product features Online support for production tools	4 5
1 Electric screwdrivers for industry	6
C-EXACT electric screwdrivers and PUC-EXACT power supply	10
2 Cordless shut-off screwdrivers for industry	12
NEW! Wireless Charging	14
EXACT ION	18
EXACT ION WK	20
ANGLE EXACT ION	22
3 The generation of SEC-EXACT cordless screwdrivers	24
SEC-EXACT cordless center grip screwdrivers	28
SEC-ANGLE EXACT cordless angle wrenches	30
4 Cordless screwdrivers for industry	32
EXACT cordless center grip screwdrivers	36
ANGLE EXACT cordless angle wrenches	38
ANGLE EXACT CF cordless angle wrenches	40
5 Cordless screwdrivers with Bluetooth connection	42
System software	46
EXAConnecT screwdriver controller	47
Digital I/O module	48
BT-EXACT cordless center grip screwdrivers	50
BT-ANGLE EXACT cordless angle wrenches	52
6 Accessories	54
NEW! Wireless Charging	56
Li-Ion batteries + chargers	57
Battery packs and smart chargers	59
4-EXACT power supply	60
Accessories and dimensional drawings	61

Big in performance, compact in size

E	X	А	С	т
Ergonomic	E X tremely Light	Accurate	C mk proven	T ool



The **EXACT** and **ANGLE EXACT** tools from BOSCH are cordless shut-off screwdrivers for industry – offering the greatest accuracy, longevity and energy efficiency.

In assembly situations where cables or pneumatic hoses get in the way, the **EXACT** series enables you to optimise processes, build better products and reduce your costs.

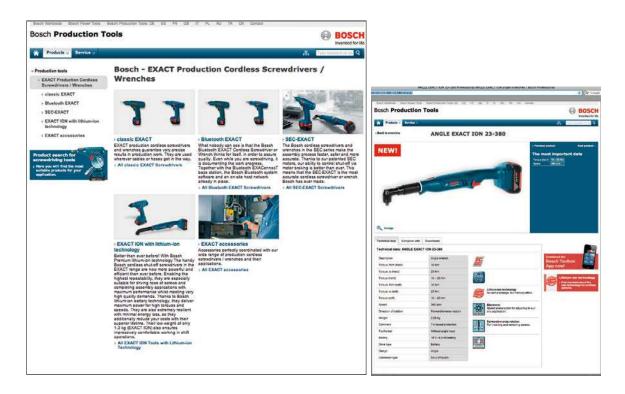
- Bright LED light for illuminating the work area
- Colored marking rings for easy identification
- ▶ Right-hand/left-hand rotation change with one hand
- Repeat protection
- Low weight, balanced weight distribution for better ergonomics
- Industrial battery design for longest lifetime
- ► Torque setting only with a special tool
- ▶ Highest repeatability due to Bosch clutch design
- **Easy service** due to plug connectors and common parts
- Bosch SEC motor: brushless motor technology
- Visual and audible signals provide information about battery status and screwdriving quality
- Cordless quality control with the Bosch Bluetooth wireless system

(€ Conformity UL Approved

All electric, measuring and air tools in this catalog meet the following standards: EN 60745, EN 50144, EN 61029, EN 60335-1, EN 60825-1 or EN 792 or ISO EN 11148 (depending on model), EN 55014, EN 61000-3-2, -3-3 or -3-11 in accordance with EU directives 2011/65/EU, 2006/95/EC, 2006/42/EC, 2004/108/EC, 1999/5/EC.



An overview with a single click: All production tools online

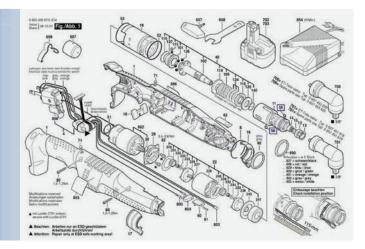


An extensive online catalog including applications is available at www.boschproductiontools.com.

The tool selection is made easier by the ability to run comparisons between screwdrivers. For example, you can create a display of different tools and compare data such as power output or rpm. Furthermore, you will find the latest information about measurement data, innovations and new developments from Bosch Production Tools. You can quickly obtain all relevant information needed to select the correct tools for your production.

Dimensional drawings, 3D data, homologation data, user manuals, pictures and exploded drawings can be downloaded directly from the internet.

A spare parts service informs users about which spare parts they need.



1 **C-EXACT** Production screwdrivers



Hopefully, you will not run out of screws

C-EXACT and PUC-EXACT. The production screwdriver system from Bosch. The C-EXACT electric screwdrivers offer much more than just a robust housing. High accuracy and repeatability are guaranteed, even after driving 1 million* screws.



Never lets you down even after 1 million screws

Robust, efficient and user-friendly

Low-voltage operation, brushless EC motor technology and key components from the EXACT cordless screwdriver series make the C-EXACT electric screwdrivers cost-effective tools with innovative performance features. When required, the clutch offers 15% more torque in left-hand rotation for loosening screws. The clutch is adjusted using a special tool. If the adjustment tool is stored in a location inaccessible to the user, the torque cannot be adjusted unintentionally. Color marking rings enable quick identification of different screwdrivers in the assembly line.

Precise and stable under load

Whether assembling computer drives, electronics or precision mechanical equipment, the C-EXACT is the right choice when precision is what matters most.

Bosch quality testing for the C-EXACT family is extremely rigorous. In endurance testing, the C-EXACT tools must survive 1 million* cycles without failure before being released for production. During continuous operation, they must maintain an ISO 5393 standard Cmk value greater than 1.67 with a tolerance of \pm 10%.

Our production tools are therefore among the most accurate on the planet.

C-EXACT electric screwdrivers

The C-EXACT screwdrivers are the first in a family of electric straight screwdrivers. They are equipped with a combination of great features and therefore set new standards for accuracy and longevity.

- Brushless EC motor technology
- Right-hand/left-hand rotation change with one hand
- ESD (ElectroStatic Discharge) compliant

PUC-EXACT power supplies

The C-EXACT electric screwdrivers use the PUC-EXACT power supply unit as a clean, silent energy source for the brushless EC motor.

The power supply unit contributes to a reduction in operating costs by efficiently supplying the tool with low voltage.

The electric screwdrivers in the C-EXACT series (electric screwdrivers with 3.5 Nm or 31 in/lbs of maximum torque) are available as a lever start or push start driver.

The PUC-EXACT power supply safely generates the low-voltage electricity needed for efficient operation.





C-EXACT Electric screwdrivers

- Bosch proves robustness and longevity by means of endurance tests with over one million work cycles
- Bosch SEC motor All models feature brushless EC motor technology
- High shut-off accuracy with very low tolerance
- Large torque range
- Visual and audible shut-off signals

C-EXACT	Part number	Torque, hard as per ISO 5393 Nm (in-Ibs)	Torque, soft as per ISO 5393 Nm (in-Ibs)
Electric screwdrivers C-EXACT 1	0 602 495 202	0.2 - 0.8 (1.8 - 7.1)	0.2 - 0.8 (1.8 - 7.1)
	0 602 495 207	0.2 - 0.8 (1.8 - 7.1)	0.2 - 0.8 (1.8 - 7.1)
Electric screwdrivers C-EXACT 2	0 602 495 203	0.5 - 2.0 (4.4 - 17.7)	0.5 - 2.0 (4.4 - 17.7)
	0 602 495 208	0.5 - 2.0 (4.4 - 17.7)	0.5 - 2.0 (4.4 - 17.7)
Electric screwdrivers C-EXACT 4	0 602 495 200	0.5 - 3.5 (4.4 - 31.0)	0.5 - 3.5 (4.4 - 31.0)
	0 602 495 205	0.5 - 3.5 (4.4 - 31.0)	0.5 - 3.5 (4.4 - 31.0)

- Robust and durable design
- Indicators for operational readiness and overload
- Available with connections for 1-3 screwdrivers simultaneously
- Temperature-controlled cooling fan

	Part number	Input voltage V	Input frequency Hz
Power supply PUC-EXACT 3	0 602 495 003	100 - 240 AC	50 - 60

No-load speed rpm	Voltage V	Power W	Direction of rotation	Weight as per EPTA kg (lbs)	Features and functions	Included accessories
1,000	36 DC	360	R/L	0.65(1.4)	Lever start	Connecting cable 2.5 m (8.2 ft) Suspension hook Green color ring Torque adjustment tool
1,000	36 DC	360	R/L	0.65(1.4)	Push start	
500	36 DC	360	R/L	0.65 (1.4)	Lever start	Connecting cable 2.5 m (8.2 (ft) Suspension hook White color ring Torque adjustment tool
500	36 DC	360	R/L	0.65(1.4)	Push start	
1,000	36 DC	360	R/L	0.65(1.4)	Lever start	Connecting cable 2.5 m (8.2 ft) Suspension hook Grey color ring Torque adjustment tool
1,000	36 DC	360	R/L	0.65 (1.4)	Push start	

Power input W	Output voltage V	Features and functions	Included accessories
400	36 DC	Power supply for up to three C-EXACT tools	Power cable 3 m (9.8 ft)

2

EXACT ION and ANGLE EXACT ION Now with lithium-ion technology



Now also with:

Wireless

Better than ever before! With Bosch Premium lithium-ion technology and Wireless Charging

The handy Bosch cordless shut-off screwdrivers in the EXACT range are now more powerful and efficient than ever before.

Enabling the highest repeatability, they are especially suitable for driving rows of screws and completing assembly applications with maximum performance while meeting very high quality demands. Thanks to Bosch lithium-ion battery technology, they deliver maximum power for high torques and speeds. They are also extremely resilient with minimal energy loss, so they additionally reduce your costs with their superior lifetime. Their low weight of only 1.3 kg (2.9 lbs)[EXACT ION] also ensures impressively comfortable working in shift operations.



WORLD'S FIRST: Wireless Charging Always power ready



- ▶ Just put the cordless tool down and the battery will charge.
- ▶ Your tool is always ready to use with only one battery.
- You save time and the extra costs for a second battery to alternate with.
- The worldwide unique Bosch Wireless Charging System consists of the charging station and a special battery.

Wireless 🗢 Chargin

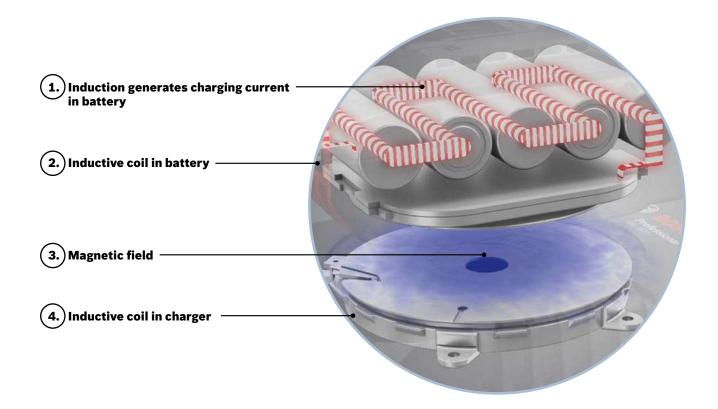
Greater user-friendliness and productivity:

- ▶ Batteries can stay in the tool
- Charging takes place automatically when the tool is placed on the charger, so it requires no effort
- Flexible mounting frame on the charger allows for a wide range of ergonomic positions – easy to mount at the workplace



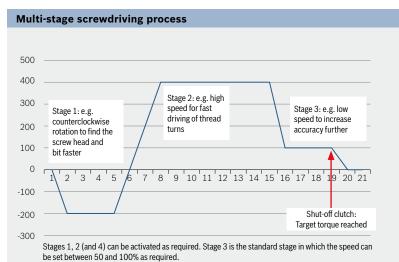
Complete flexibility: Wireless Charging battery GBA (18 V 2.0 Ah MW-B) is compatible with all 18 volt Bosch cordless tools

Very robust charging station: No contact points and durable against water, dust and dirt



EXACT ION and ANGLE EXACT ION Now with lithium-ion technology





Greater process reliability:

- Precision shut-off clutch with Cmk > 1.67 (at a tolerance of ± 10% in accordance with ISO 5393)
- **NEW!** Multi-stage screwdriving process, adjustable to your individual application via USB interface

Greater efficiency:

- **NEW!** Bosch Premium lithium-ion technology for long lifetime and runtime
- **NEW!** Brushless (EC) motor for 30% more efficiency (compared to conventional DC motors) and extremely long lifetime

Greater comfort:

• **NEW!** New ergonomic design and lower weight for even more comfortable working

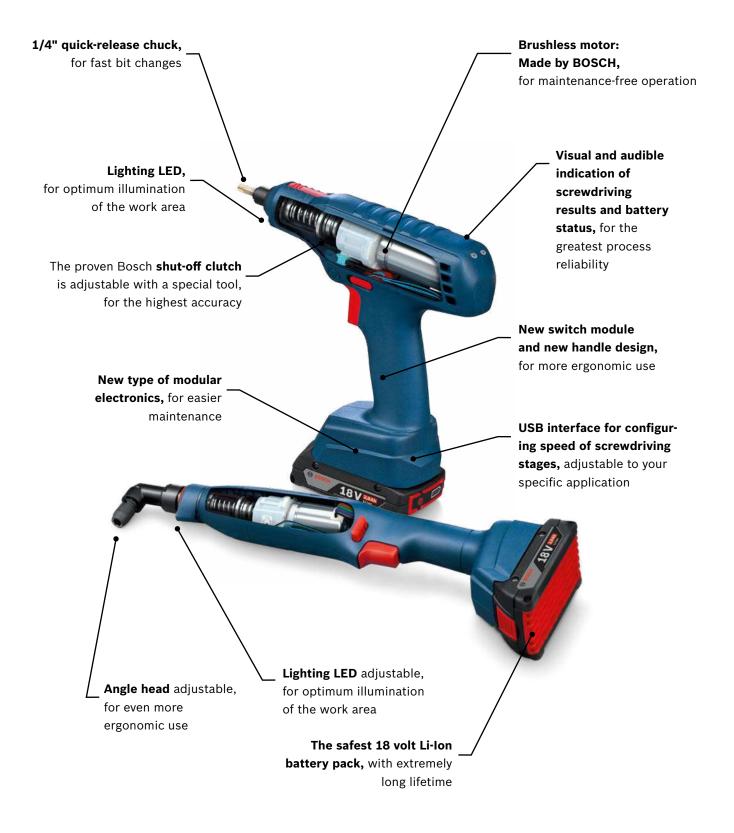
Lower costs:

• **NEW!** Higher rotational speeds (compared to SEC-EXACT) and the screwdriving stages reduce production times and improve quality





- Patented new interface, to prevent mix-ups
- Temperature monitoring and overload protection, for extremely long lifetime
- **Double locking,** to prevent falling out
- Charge level indicator, to identify the charging state
- Bosch high-performance battery cells, with low energy loss, for the highest speeds and torques
- Integrated cooling, for extremely long lifetime



EXACT ION Now with lithium-ion technology

- Precision shut-off clutch with Cmk > 1.67 (at a tolerance of ± 10% in accordance with ISO 5393)
- Multi-stage screwdriving process, adjustable to your individual application via USB interface
- Bosch Premium lithium-ion technology for long lifetime and runtime
- Brushless (EC) motor for 30% more efficiency (compared to conventional DC motors) and extremely long lifetime
- New ergonomic design and lower weight for more comfort
- Higher rotational speeds (compared to SEC-EXACT) and the screwdriving stages reduce production times and improve quality

	Part number	Torque, hard/soft as per ISO 5393 Nm (ft-Ibs)	Speed (no-load)
EXACT ION 2-700	0 602 494 400 Euro version	0.5 - 2.0 (0.2 - 1.5)	70 – 700
	0 602 494 410 US version		
EXACT ION 4-2000	0 602 494 401 Euro version	1.0 - 4.0 (0.7 - 3.0)	200 - 2,000
	0 602 494 411 US version		
EXACT ION 6-1500	0 602 494 402 Euro version	1.0 - 6.0 (0.7 - 4.4)	150 - 1,500
	0 602 494 412 US version		
EXACT ION 8-1100	0 602 494 403 Euro version	1.5 - 8.0 (1.1 - 5.9)	110 - 1,100
	0 602 494 413 US version		
EXACT ION 12-700	0 602 494 404 Euro version	1.5 - 12.0 (1.1 - 9.0)	70 – 700
	0 602 494 414 US version		
EXACT ION 12-450	0 602 494 405 Euro version	1.5 - 12.0 (1.1 - 9.0)	45 - 450
	0 602 494 415 US version		

Bit holder	Battery specifications V	Direction of rotation	Weight as per EPTA kg (lbs)	Included accessories
1/4" quick-release chuck	18 V/2.0 Ah * possible Charging System	R/L	1.3 (2.9) including battery	Light green color ring Torque adjustment tool Suspension hook
1/4" quick-release chuck	18 V/2.0 Ah * possible writese Chargene System	R/L	1.3 (2.9) including battery	Grey color ring Torque adjustment tool Suspension hook
1/4" quick-release chuck	18 V/2.0 Ah * possible chargene System	R/L	1.3 (2.9) including battery	Black color ring Torque adjustment tool Suspension hook
1/4" quick-release chuck	18 V/2.0 Ah * possible charging System	R/L	1.3 (2.9) including battery	Orange color ring Torque adjustment tool Suspension hook
1/4" quick-release chuck	18 V/2.0 Ah * possible charging System	R/L	1.3 (2.9) including battery	Red color ring Torque adjustment tool Suspension hook
1/4" quick-release chuck	18 V/2.0 Ah * possible possible * Battery not included	R/L	1.3 (2.9) including battery	Black color ring Torque adjustment tool Suspension hook

* Battery not included in scope of delivery

EXACT ION WK Now with lithium-ion technology

- Precision shut-off clutch with Cmk > 1.67 (at a tolerance of ±10% in accordance with ISO 5393)
- Multi-stage screwdriving process, adjustable to your individual application via USB interface
- Bosch Premium lithium-ion technology for long lifetime and runtime
- Brushless (EC) motor for 30% more efficiency (compared to conventional DC motors) and extremely long lifetime
- New ergonomic design and lower weight for more comfort
- Higher rotational speeds (compared to SEC-EXACT) and the screwdriving stages reduce production times and improve quality

	Part number	Torque, hard/soft as per ISO 5393 Nm (ft-lbs)*	Speed (no-load)*
EXACT ION 6-1500 WK	0 602 494 406 Euro version 0 602 494 416 US version	2.0 - 8.0 (1.5 -5.9)	105 – 1050
EXACT ION 8-1100 WK	0 602 494 407 Euro version 0 602 494 417 US version	2.0 - 11.0 (1.5 - 8.1)	75 – 750
EXACT ION 12-700 WK	0 602 494 408 Euro version 0 602 494 418 US version	2.0 - 16.0 (1.5 - 11.8)	50 – 500
EXACT ION 12-450 WK	0 602 494 409 Euro version 0 602 494 419 US version	2.0 - 16.0 (1.5 - 11.8)	32 - 320

* measured with Bosch angle screwdriving head

Bit holder	Battery specifications V	Direction of rotation	Weight as per EPTA kg (lbs)	Included accessories
Flange for angle head or geared attachment**	18 V/2.0 Ah *** possible possible possible possible	R/L	1.4 (3.1) including battery	Black color ring Torque adjustment tool Suspension hook
Flange for angle head or geared attachment**	18 V/2.0 Ah *** possible charging System	R/L	1.4 (3.1) including battery	Orange color ring Torque adjustment tool Suspension hook
Flange for angle head or geared attachment**	18 V/2.0 Ah *** possible charging System	R/L	1.4 (3.1) including battery	Red color ring Torque adjustment tool Suspension hook
Flange for angle head or geared attachment**	18 V/2.0 Ah *** possible possible charging System	R/L	1.4 (3.1)including battery	Light blue color ring Torque adjustment tool Suspension hook
** Angle head not included in scope of delivery	*** Battery not included in scope of delivery			

ANGLE EXACT ION Now with lithium-ion technology

- Precision shut-off clutch with Cmk > 1.67 (at a tolerance of ±10% in accordance with ISO 5393)
- Multi-stage screwdriving process, adjustable to your individual application via USB interface
- Bosch Premium lithium-ion technology for long lifetime and runtime
- Brushless (EC) motor for 30% more efficiency (compared to conventional DC motors) and extremely long lifetime
- New ergonomic design and lower weight for even more comfortable working
- Higher rotational speeds (compared to SEC-EXACT) and the screwdriving stages reduce production times and improve quality

	Part number	Torque, hard / soft as per ISO 5393 Nm (ft-lbs)	Speed (no-load)
ANGLE EXACT ION 8-1100	0 602 494 600 Euro version	2.0 - 8.0 (1.5 - 5.9)	110 - 1,100
	0 602 494 610 US version		
ANGLE EXACT ION 15-500	0 602 494 601 Euro version	2.0 - 15.0 (1.5 - 11.1)	52 - 520
	0 602 494 611 US version		
ANGLE EXACT ION 23-380	0 602 494 602 Euro version	10.0 - 23.0 (7.4 - 17.0)	38 - 380
	0 602 494 612 US version		
ANGLE EXACT ION 30-290	0 602 494 607 Euro version	10.0 - 30.0 (7.4 - 22.1)	29 – 290
	0 602 494 617 US version		
ANGLE EXACT ION 30-300	0 602 494 603 Euro version	10.0 - 30.0 (7.4 - 22.1)	30 - 300
	0 602 494 613 US version		
ANGLE EXACT ION 40-220	0 602 494 604 Euro version	15.0 - 40.0 (11.1 - 29.5)	22 - 220
	0 602 494 614 US version		
ANGLE EXACT ION 50-210	0 602 494 605 Euro version	15.0 - 50.0 (11.1 - 36.9)	18 - 180
	0 602 494 615 US version		
ANGLE EXACT ION 60-120	0 602 494 606 Euro version	15.0 - 60.0 (11.1 - 44.3)	12 - 120
	0 602 494 616 US version		

Bit holder	Battery specifications V	Direction of rotation	Weight as per EPTA kg (lbs)	Included accessories
Flange for angle head or geared attachment*	18 V/2.0 Ah ** possible provides charging System	R/L	1.7 (3.75) including battery	Light blue color ring Torque adjustment tool Suspension hook
Flange for angle head or geared attachment*	18 V/2.0 Ah ** possible Charging System	R/L	1.7 (3.75) including battery	Light green color ring Torque adjustment tool Suspension hook
Flange for angle head or geared attachment*	18 V/4.0 Ah ** possible writes Charging System	R/L	2.2 (4.85) including battery	White color ring Torque adjustment tool Suspension hook
Flange for angle head or geared attachment*	18 V/4.0 Ah ** possible Charging System	R/L	2.2 (4.85) including battery	Grey color ring Torque adjustment tool Suspension hook
3/8" square	18 V/4.0 Ah ** possible Vicies Charging System	R/L	2.4 (5.3) including battery	Light grey color ring Torque adjustment tool Suspension hook Angle screwdriving head 3/8"
3/8" square	18 V/4.0 Ah ** possible Vicies Charging System	R/L	2.4 (5.3) including battery	Orange color ring Torque adjustment tool Suspension hook Angle screwdriving head 3/8"
3/8" square	18 V/4.0 Ah ** possible Vicies Charging System	R/L	2.4 (5.3) including battery	Red color ring Torque adjustment tool Suspension hook Angle screwdriving head 3/8"
3/8" square	18 V/4.0 Ah ** possible charging System	R/L	2.4 (5.3) including battery	Black color ring Torque adjustment tool Suspension hook Angle screwdriving head 3/8"
* Angle head not	** Battery not included			

* Angle head not included in scope of delivery * Battery not included in scope of delivery 3

SEC-EXACT – Brushless motor and conventional battery technology



The SEC-EXACT

Time and cost advantages guaranteed with the SEC motor from Bosch

A greater degree of efficiency was the main aim when developing the series of Bosch production cordless screwdrivers with SEC motor. This sensorless and brushless motor technology once again set the standard: the lowest energy consumption, lowest weight and highest levels of torque and speed. In addition to this, we were also able to increase the accuracy even further.



Faster and lighter, longer lifetime and higher accuracy

The Bosch cordless screwdrivers in the SEC series make the assembly process faster, safer and more accurate. Shut-off is better than ever thanks to our patented SEC motors. SEC-EXACT is therefore one of the most accurate cordless screwdrivers that Bosch manufactures. Making the best clutch in the world better was not easy, but we know you expect nothing less from the world's leading manufacturer of battery-operated assembly tools.

Bosch SEC-EXACT cordless screwdrivers improve your productivity.

The cordless screwdrivers in the SEC-EXACT series provide a 50 to 100% speed increase over the EXACT range. Couple that with a weight reduction in select models that provides a 70% better power-to-weight ratio, and your productivity is sure to improve. For example, the SEC-EXACT 412 weighs 300 grams less than the EXACT 12. This weight reduction was achieved by using the 9.6 V battery pack in the entire SEC range.

The Bosch SEC motor has no brushes to wear out. But the most important feature is that this technology developed and patented by Bosch does not need a sensor to detect rotor speed and position! This provides a very efficient, wear-free motor system compared to all other brushless motors. Bosch developed and manufactures this 3-phase, brushless and sensorless motor in Europe, thus ensuring the highest quality standards are met and maintained.

To sum it all up in a word: SEC = M²!

- Faster line speeds and shorter screwdriving cycles thanks to speed increases of up to 100%
- Improved ergonomics, weight and reaction torque translates into satisfied, productive workers who like using the SEC-EXACT screwdrivers
- Reduced lifecycle costs due to wear-free components
- Bosch SEC motors are the most efficient, durable and economical motors of their type in the world



* M² = The faster, more efficient and more economical Bosch motor!



SEC-EXACT Cordless center grip screwdrivers

Cordless center grip screwdrivers SEC-EXACT

- ▶ Highest repeatability: Cmk ≥ 2.0 Reduction in reaction torques
- Lowest weight in their class: using the 9.6 volt battery pack in the new series leads to a weight reduction of up to 300 grams!
- High speed range of the entire series
- ► Large torque range
- Illumination of the work area
- Overload protection for electronics, motor and battery pack
- Best ergonomics: compact and very well balanced. One-handed operation for on/off and left-hand/right-hand rotation
- Robust and durable screwdrivers with proven components from the EXACT series
- Proven and highly efficient battery technology in industrial quality. Existing charging technology, battery packs and protective caps can continue to be used

SEC-EXACT	Part number	Torque, hard as per ISO 5393 Nm (ft-lbs)	Torque, soft as per ISO 5393 Nm (ft-lbs)
SEC-EXACT 1106 Highest speed for short cycle times	0 602 492 431	1.0 - 6.0 (0.7 - 4.4)	1.0 - 6.0 (0.7 - 4.4)
SEC-EXACT 908 Combination of speed and torque	0 602 492 443	2.0 - 8.0 (1.5 - 5.9)	2.0 - 8.0 (1.5 - 5.9)
SEC-EXACT 610 Performance and speed	0 602 492 445	2.0 - 10.0 (1.5 - 7.4)	2.0 - 10.0 (1.5 - 7.4)
SEC-EXACT 459 The model for every application	0 602 492 435	2.0 - 9.0 (1.5 - 6.6)	2.0 - 9.0 (1.5 - 6.6)
SEC-EXACT 412 High torque and low weight	0 602 492 441	2.0 - 12.0 (1.5 - 9.0)	2.0 - 12.0 (1.5 - 9.0)
SEC-EXACT 402 Very precise in the lower torque range	0 602 492 433	0.5 - 2.0 (0.2 - 1.5)	0.5 - 2.0 (0.2 - 1.5)
SEC-EXACT 212 Slow screwdriver e.g. for hose clamps	0 602 492 439	2.0 - 12.0 (1.5 - 9.0)	2.0 - 12.0 (1.5 - 9.0)

No-load speed rpm	Bit holder	Battery specifications V	Direction of rotation	Weight as per EPTA kg (lbs)	Features and functions	Included accessories
1,100	1/4"	9.6 V *	R/L	1.2 (2.6) including battery	0.7 s repeat protection	Torque adjustment tool Black color ring
900	1/4"	9.6 V *	R/L	1.2 (2.6) including battery	0.7 s repeat protection	Torque adjustment tool Orange color ring
600	1/4"	9.6 V *	R/L	1.2 (2.6) including battery	0.7 s repeat protection	Torque adjustment tool Grey color ring
450	1/4"	9.6 V *	R/L	1.2 (2.6) including battery	0.7 s repeat protection	Torque adjustment tool Light blue color ring
400	1/4"	9.6 V *	R/L	1.2 (2.6) including battery	0.7 s repeat protection	Torque adjustment tool Red color ring
400	1/4"	9.6 V *	R/L	1.2 (2.6) including battery	0.7 s repeat protection	Torque adjustment tool Light green color ring
275	1/4"	9.6 V *	R/L	1.2 (2.6) including battery	0.7 s repeat protection	Torque adjustment tool White color ring

* Battery not included in scope of delivery

SEC-ANGLE EXACT Cordless angle wrenches

Cordless angle wrenches SEC-ANGLE EXACT

- ▶ Highest repeatability: Cmk ≥ 2.0 Reduction in reaction torques
- Lowest weight in their class: using the 9.6 volt battery pack in the 25 Nm class leads to a weight reduction of up to 400 grams!
- High speed range of the entire series
- Large torque range
- Angle heads and work light adjustable for the best ergonomics
- Illumination of the work area
- Overload protection for electronics, motor and battery pack
- Best ergonomics: compact and very well balanced. One-handed operation for on/off and left-hand/right-hand rotation
- Robust and durable screwdrivers with proven components from the ANGLE EXACT series
- Proven and highly efficient battery technology in industrial quality. Existing charging technology, battery packs and protective caps can continue to be used

sec-Angle Exact.	Part number	Torque, hard as per ISO 5393 Nm (ft-lbs)	Torque, soft as per ISO 5393 Nm (ft-Ibs)
SEC-ANGLE EXACT 7-900	0 602 492 611	2.0 - 7.0 (1.5 - 5.2)	2.0 - 6.5 (1.5 - 4.8)
SEC-ANGLE EXACT 10-650	0 602 492 609	2.0 - 10.0 (1.5 - 7.4)	2.0 - 9.0 (1.5 - 6.6)
SEC-ANGLE EXACT 14-420	0 602 492 607	2.0 - 14.0 (1.5 - 10.3)	2.0 - 14.0 (1.5 - 10.3)
SEC-ANGLE EXACT 25-250	0 602 492 605	10.0 - 25.0 (7.4 - 18.4)	10.0 - 20.0 (7.4 - 14.7)
SEC-ANGLE EXACT 25-200	0 602 492 615	10.0 - 25.0 (7.4 - 18.4)	10.0 - 25.0 (7.4 - 18.4)
SEC-ANGLE EXACT 30-380	0 602 492 603	10.0 - 30.0 (7.4 - 22.1)	10.0 - 25.0 (7.4 - 18.4)
SEC-ANGLE EXACT 30-300	0 602 492 621	10.0 - 30.0 (7.4 - 22.1)	10.0 - 30.0 (7.4 - 22.1)
SEC-ANGLE EXACT 40-280	0 602 492 601	10.0 - 40.0 (7.4 - 29.5)	10.0 - 35.0 (7.4 - 25.8)
SEC-ANGLE EXACT 50-210	0 602 492 613	10.0 - 50.0 (7.4 - 36.9)	10.0 - 45.0 (7.4 - 33.2)
SEC-ANGLE EXACT 60-170	0 602 492 617	15.0 - 60.0 (11.1 - 44.3)	15.0 - 60.0 (11.1 - 44.3)

No-load speed rpm	Angle head	Battery specifica- tions V	Direction of rotation	Weight as per EPTA kg (lbs)	Features and functions	Included accessories
900	Flange for angle head*	9.6 V **	R/L	1.4 (3.1) including battery	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Light blue color ring
650	Flange for angle head*	9.6 V **	R/L	1.4 (3.1) including battery	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Light green color ring
420	Flange for angle head*	9.6 V **	R/L	1.4 (3.1) including battery	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook White color ring
245	3/8" square	9.6 V **	R/L	2.0 (4.4) including battery	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Grey color ring
200	Flange for angle head*	9.6 V **	R/L	1.9 (4.2) including battery	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Grey color ring
380	3/8" square	14.4 V **	R/L	2.3 (5.1) including battery	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Orange color ring
300	Flange for angle head*	14.4 V **	R/L	2.3 (5.1) including battery	0.7 s repeat protection	Torque adjustment tool, Open-ended spanner, Suspension hook, Grey color ring
280	3/8" square	14.4 V **	R/L	2.3 (5.1) inclding battery	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Red color ring
210	3/8" square	14.4 V **	R/L	2.3 (5.1) including battery	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Black color ring
170	3/8" square	14.4 V **	R/L	2.3 (5.1) including battery	0.7 s repeat protection	Torque adjustment tool, Open-ended spanner Suspension hook Black color ring

4

EXACT Cordless screwdrivers for industry





Cordless assembly with exceptional precision

The EXACT and ANGLE EXACT tools from BOSCH are cordless shut-off screwdrivers for industry – offering accuracy, longevity and energy efficiency. In assembly situations where cables or pneumatic hoses get in the way, the EXACT series enables you to optimise processes, build better products and reduce your costs.

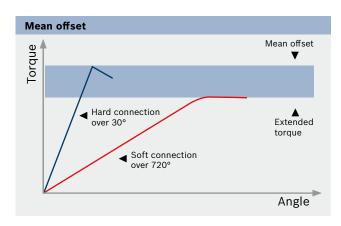


The Bosch shut-off clutch proven in industry

Our shut-off clutch is designed to minimise user influence on the screwdriving process. Bosch clutches are among the most precise and repeatable in the world. Our repeatability rivals that of some controlled EC tools which cost more than ten times as much as our EXACT cordless tools.

Precise and accurate shut-off

The EXACT clutch ensures high torque repeatability and accuracy. Whether in a hard screwdriving application of 30 degrees or a soft screwdriving application of 720 degrees, the clutch guarantees an extremely low mean value offset and consistent torque. Shut-off meets ISO 5393 requirements.



User-friendly features

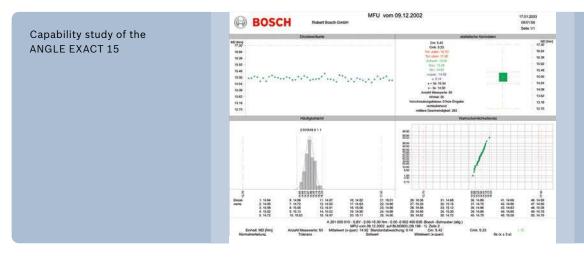
The EXACT clutch offers 15% more torque in left-hand rotation for loosening screws. Specified torque is always reached regardless of battery voltage. The electronics prevent the tool from running if the battery falls below a minimum voltage. The clutch is adjusted using a special tool. If the adjustment tool is stored in a location inaccessible to the user, the torque cannot be adjusted unintentionally. Color marking rings enable quick identification of different screwdrivers in the assembly line.

Precise and stable under load

Bosch quality testing for the EXACT family is extremely rigorous. The shut-off clutch of the EXACT tools must survive 500,000 cycles* without failure before being released for production. During continuous operation, they must maintain an ISO 5393 standard Cmk value greater than 1.67 with a tolerance of \pm 10%.

A proven module

The shut-off clutch used in the EXACT cordless screwdriver family is the identical clutch used in our line of production air tools. This clutch has been used in many applications over the years and has proven itself a million times over at many of our customers' facilities.





EXACT Cordless center grip screwdrivers

- Precision shut-off clutch with Cmk > 1.67
- Low weight
- ► Large torque range
- Repeat protection
- Visual and audible signals inform the worker about the battery status
- A visual and audible signal informs the worker about the screwdriving result
- Bright LED light for illuminating the work area
- One-handed operation for right-hand/left-hand rotation change
- Modular design with many common parts
- Color marking rings for easy identification
- Protective cap for quick-release chuck
- ► Tool holder available
- Suspension hook available

EXACT	Part number	Torque, hard as per ISO 5393 Nm (ft-lbs)	Torque, soft as per ISO 5393 Nm (ft-Ibs)
EXACT 2 Very precise in the lower	0 602 490 433 Euro version	0.6 - 2.0 (0.4 - 1.5)	0.6 - 2.0 (0.4 - 1.5)
torque range	0 602 490 460 US version		
EXACT 4 High speed	0 602 490 437 Euro version	1.0 - 4.0 (0.7 - 3.0)	1.0 - 4.0 (0.7 - 3.0)
for short cycle times	0 602 490 461 US version		
EXACT 6 Combination	0 602 490 431 Euro version	1.0 - 6.0 (0.7 - 4.4)	1.0 - 6.0 (0.7 - 4.4)
of speed and torque	0 602 490 462 US version		
EXACT 7 Slow	0 602 490 439 Euro version	1.5 - 7.0 (1.1 - 5.2)	1.5 - 7.0 (1.1 - 5.2)
screwdriver e.g. for hose clamps	0 602 490 464 US version		
EXACT 8 Performance	0 602 490 443 Euro version	1.5 - 8.0 (1.1 - 5.9)	1.5 - 8.0 (1.1 - 5.9)
and speed	0 602 490 466 US version		
EXACT 9 High torque	0 602 490 435 Euro version	1.5 - 9.0 (1.1 - 6.7)	1.5 - 9.0 (1.1 - 6.7)
and low weight	0 602 490 463 US version		
EXACT 12 Highest	0 602 490 441 Euro version	1.5 - 12.0 (1.1 - 9.0)	1.5 - 12.0 (1.1 - 9.0)
torques	0 602 490 467 US version		
EXACT 60 Extremely low	0 602 490 469 Euro version	1.5 - 5.5 (1.1 - 4.1)	1.5 - 5.5 (1.1 - 4.1)
speeds of 60 rpm	0 602 490 470 US version		
EXACT 700 High speed and high torque	0 602 490 447	1.5 - 8.0 (1.1 - 5.9)	1.5 - 8.0 (1.1 - 5.9)
EXACT 1100 Highest speed	0 602 490 471	1.0 - 4.0 (0.7 - 3.0)	1.0 - 4.0 (0.7 - 3.0)

No-load speed rpm	Bit holder	Battery specifications V	Direction of rotation	Weight as per EPTA kg (lbs)	Features and functions	Included accessories
600	1/4"	9.6 V *	R/L	1.2 (2.7) including battery	0.7 s repeat protection	Torque adjustment tool Light green color ring
900	1/4"	9.6 V *	R/L	1.2 (2.7) including battery	0.7 s repeat protection	Torque adjustment tool Grey color ring
600	1/4"	9.6 V *	R/L	1.2 (2.7) including battery	0.7 s repeat protection	Torque adjustment tool Black color ring
150	1/4"	9.6 V *	R/L	1.2 (2.7) including battery	0.7 s repeat protection	Torque adjustment tool White color ring
650	1/4"	12 V *	R/L	1.6 (3.5) including battery	0.7 s repeat protection	Torque adjustment tool Orange color ring
350	1/4"	9.6 V *	R/L	1.2 (2.7) including battery	0.7 s repeat protection	Torque adjustment tool Light blue color ring
400	1/4"	12 V *	R/L	1.6 (3.5) including battery	0.7 s repeat protection	Torque adjustment tool Red color ring
60	1/4"	9.6 V *	R/L	1.2 (2.7) including battery	0.7 s repeat protection	Torque adjustment tool White color ring
700	1/4"	12 V *	R/L	1.6 (3.5) including battery	0.7 s repeat protection	Torque adjustment tool Orange color ring
1,100	1/4"	9.6 V *	R/L	1.2 (2.7) including battery	0.7 s repeat protection	Torque adjustment tool Grey color ring

* Battery not included in scope of delivery

ANGLE EXACT Cordless angle wrenches

- Precision shut-off clutch with Cmk > 1.67
- Low weight
- Large torque range
- Repeat protection
- Visual and audible signals for the battery status as with center grip
- Visual and audible signals for the shut-off signal as with center grip
- Bright LED light for illuminating the work area
- All models with right-hand/ left-hand rotation change function on the switch
- Modular design with many common parts
- Color marking rings for easy identification
- Protective caps available for angle heads
- Use of the same batteries/ chargers as for models with center grip
- All models with suspension hook
- Tool weight with angle head and battery is 1.6 kg

ANGLE EXACT.	Part number	Torque, hard as per ISO 5393 Nm (ft-lbs)	Torque, soft as per ISO 5393 Nm (ft-lbs)
ANGLE EXACT 2 Low torques and low speed: suitable for titanium screws	0 602 490 647	0.7 - 2.0 (0.5 - 1.5)	0.7 - 2.0 (0.5 - 1.5)
ANGLE EXACT 3 Very precise in the lower torque range	0 602 490 656	0.7 - 3.0 (0.5 - 2.2)	0.7 - 3.0 (0.5 - 2.2)
ANGLE EXACT 6 High speed	0 602 490 652	1.5 - 6.0 (1.1 - 4.4)	1.5 - 6.0 (1.1 - 4.4)
ANGLE EXACT 7 Very low speed: suitable for titanium screws	0 602 490 669	2.0 - 7.0 (1.5 - 5.1)	2.0 - 7.0 (1.5 - 5.1)
ANGLE EXACT 8 Combination of speed and torque	0 602 490 651	2.0 - 9.0 (1.5 - 6.8)	2.0 - 8.0 (1.5 - 5.9)
ANGLE EXACT 15 High torque and very low weight	0 602 490 635	2.0 - 15.0 (1.5 - 11.1)	2.0 - 15.0 (1.5 - 11.1)
	0 602 490 650	2.0 - 15.0 (1.5 - 11.1)	2.0 - 15.0 (1.5 - 11.1)

No-load speed rpm	Angle head	Battery specifications V	Direction of rotation	Weight as per EPTA kg (lbs)	Features and functions	Included accessories
110	-	9.6 V *	R/L	1.6 (3.5) including battery & angle head	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Light green color ring
420	_	9.6 V *	R/L	1.6 (3.5) including battery & angle head	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Light green color ring
650	_	9.6 V *	R/L	1.6 (3.5) including battery & angle head	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Black color ring
110	_	9.6 V *	R/L	1.6 (3.5) including battery & angle head	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Orange color ring
420	_	9.6 V *	R/L	1.6 (3.5) including battery & angle head	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Orange color ring
250	3/8" square	9.6 V *	R/L	1.6 (3.5) including battery & angle head	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Red color ring
250	_	9.6 V * * Battery not includ	R/L	1.6 (3.5) including battery & angle head		

* Battery not included in scope of delivery

ANGLE EXACT and ANGLE EXACT CF Cordless angle wrenches

- See page 38 for features
- Tool weight with angle head and battery is 2.6 kg (5.7 lbs)

ANGLE EXACT.	Part number	Torque, hard as per ISO 5393 Nm (ft-lbs)	Torque, soft as per ISO 5393 Nm (ft-lbs)
ANGLE EXACT 17	0 602 490 675	6.0 - 17.0	6.0 - 13.0
High speed		(4.4 - 12.5)	(4.4 - 9.6)
ANGLE EXACT 23 Good combination of torque and speed	0 602 490 673	7.0 – 23.0 (5.1 – 17.0)	7.0 - 20.0 (5.1 - 14.8)
ANGLE EXACT 30	0 602 490 671	8.0 - 30.0	8.0 - 28.0
High torque		(5.9 - 22.1)	(5.9 - 20.7)

The ANGLE EXACT CF models are suitable for tube nut or crowfoot heads due to their speed and torque limitation in left-hand rotation. This special technology prevents damage to the screwdriving head. The screwdriving heads are not manufactured by Bosch.

ANGLE EXACT:	Part number	Torque, hard as per ISO 5393 Nm (ft-Ibs)	Torque, soft as per ISO 5393 Nm (ft-lbs)
ANGLE EXACT 14 CF	0 602 490 690	1.4 - 10.0	1.4 - 10.0
Low weight and the highest		(1.0 - 7.4)	(1.0 - 7.4)
performance		[without head]	[without head]
ANGLE EXACT 22 CF	0 602 490 693	5.0 – 16.0	5.0 – 14.3
Good combination of torque		(3.7 – 12.0)	(3.7 – 10.5)
and speed		[without head]	[without head]
ANGLE EXACT 29 CF High torque	0 602 490 691	5.7 – 21.0 (4.2 – 15.4) [without head]	5.7 – 20.0 (4.2 – 14.8) [without head]

No-load speed rpm	Angle head	Battery specifications V	Direction of rotation	Weight as per EPTA kg (lbs)	Features and functions	Included accessories
560	Flange for angle head (angle head not included)	14.4 V *	R/L	2.6 (5.7) including battery & angle head	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook White color ring
320	Flange for angle head (angle head not included)	14.4 V *	R/L	2.6 (5.7) including battery & angle head	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Orange color ring
220	requires HD angle head	14.4 V *	R/L	2.6 (5.7) including battery & angle head	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Red color ring

Battery not included in scope of delivery

No-load speed rpm	Angle head	Battery specifications V	Direction of rotation	Weight as per EPTA kg (lbs)	Features and functions	Included accessories
350 (without head)	Custom head, not supplied by Bosch	9.6 V *	R/L	1.0 (2.2)	0.7 s repeat protection Same specifica- tions as ANGLE EXACT 15 in right-hand rotation, reduced perfor- mance in left- hand rotation	Torque adjustment tool Open-ended spanner Suspension hook Red color ring
440 (without head)	Custom head, not supplied by Bosch	14.4 V *	R/L	1.5 (3.3)	0.7 s repeat protection Same specifica- tions as ANGLE EXACT 23 in right-hand rotation, reduced perfor- mance in left- hand rotation	Torque adjustment tool Open-ended spanner Suspension hook Orange color ring
300 (without head)	Custom head, not supplied by Bosch	14.4 V *	R/L	1.5 (3.3)	0.7 s repeat protection Same specifica- tions as ANGLE EXACT 30 in right-hand rotation, reduced perfor- mance in left- hand rotation	Torque adjustment tool Open-ended spanner Suspension hook Red color ring

* Battery not included in scope of delivery

5 **BT-EXACT** Bluetooth cordless screwdrivers





Who says there are no screws loose here?

The Bluetooth EXACT cordless screwdriver system thinks for itself. The BT-EXACT screwdrivers take their commands from the EXAConnecT controller, which stores the work progress in real time. The system can talk to and take commands from external devices like a PLC, barcode scanner or host network if desired. Improve your assembly process and never forget to drive a screw again.



Higher production quality due to Bluetooth EXACT

Quality control with cordless screwdrivers: Higher production quality due to Bluetooth EXACT

The BT-EXACT screwdriver sends radio signals (screw joint OK or not OK) to the EXAConnecT controller, which also sends commands back to the BT-EXACT screwdriver. An EXAConnecT can control seven screwdrivers simultaneously, making the system very costeffective. A class 2 Bluetooth module ensures uncompromising data transfer with a 56-Bit encryption and security mode 3 in accordance with Bluetooth Standard 1.2. Screwdrivers and controllers use proprietary communication only. The software can be configured to prevent Bluetooth from disturbing other wireless systems to ensure interference-free communication. An adjustable antenna power output function allows the system to limit its electromagnetic emissions to virtually zero.

Barcode scanners, PLCs, stack lights and host network systems can be easily connected to the EXAConnecT via the built-in I/O ports, RS 422 interfaces and the network connection. The system can also run as a stand-alone without additional hardware. The screwdriver is prevented from operating outside of the range of the EXAConnecT.

The system is unique compared to other products; it does not require additional software to communicate with a network or computer. All information in the EXAConnecT controller is accessed by using a web browser. All software and firmware is stored within the EXAConnecT controller.

The Bosch Bluetooth system: Quality control redefined

The EXAConnecT can control a BT-EXACT screwdriver by workpiece, screw and number of screwdriving applications. The OK/NOK monitoring can be enhanced if desired using runtime and other parameters to accurately determine cross-threading of screws or missing screws, and it can detect the direction of rotation to detect screw removal.

The system can be programmed to count and report only individual screwdriving applications or the entire screwdriving task. Three LED lights on the BT-EXACT screwdriver tell the worker the battery status and show whether the screw was properly tightened and whether the tool is locked, unlocked or out of range of the EXAConnecT. The system collects and reports all this data to ensure that your assembly process always runs perfectly.



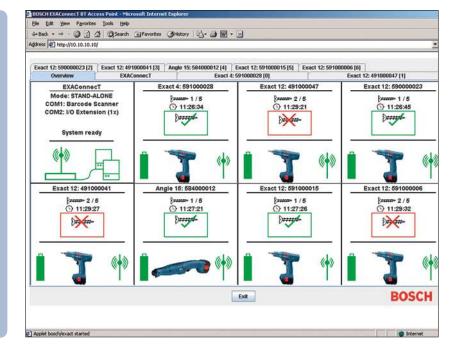


Seven screwdrivers at a single glance: Powerful system software

Quality control should be easy, not complicated. Our software combines powerful control, great flexibility and easy-to-use programming to give you the capability to control the BT-EXACT screwdrivers, the EXAConnecT controller and your assembly line from anywhere. The system runs in a web browser without the need for additional user interface software. It is password protected to ensure data security of the system.

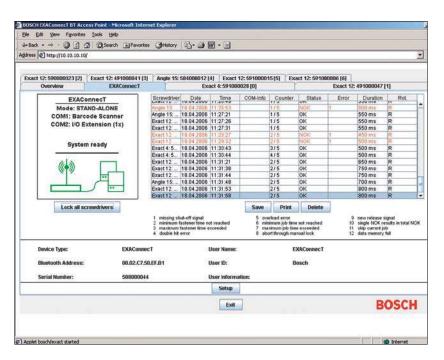
Clicking on the "Overview" tab lets you view and control up to seven BT-EXACT screwdrivers running on one EXAConnecT controller. Each BT-EXACT screwdriver displays antenna signal strength, battery status, work progress and joint condition (OK/NOK shown in green or red).

The serial number and name of each BT-EXACT screwdriver are also displayed. The name of each BT-EXACT screwdriver can be customised for specific applications or locations within the assembly process.



Clicking on the 'EXAConnecT' tab shows the detailed data for up to seven BT-EXACT screwdrivers in real time. The system can display extensive data such as BT-EXACT screwdriver name, date, time of event, screw runtime, direction of rotation, error messages, work progress and additional input data (such as barcode scans or sequence numbers).

The system also displays the status of the EXAConnecT controller and lists the BT-EXACT screwdrivers that are connected. System error messages are displayed here, along with detailed information about the configuration.



Fine tuning for seven precision instruments: A symphony of data control

Configuration of the system is easy. All functions of the EXAConnecT controller are programmed from only one user-friendly configuration screen. Standard protocols including Profibus, Ethernet TCP/IP, DeviceNet and FTP, serial interfaces, stack lights and RS 422 ports are managed from there. Each individual BT-EXACT screwdriver can be programmed to send data to different outputs simultaneously. Each BT-EXACT screwdriver can accept data from a variety of inputs. All this capability is managed by only one setup screen for each BT-EXACT screwdriver.

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EXACopra	- I	Screwdriver	Date	Time	COM-Info	Counter	Status	Error	Duration	Rot
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The system has separate configuration windows for the EXAConnecT controller and the BT-EXACT screwdrivers. The configuration screen shows part of the EXAConnecT configuration menu. The system can be password protected to prevent unauthorised use.

Each BT-EXACT screwdriver must be "found" and "connected" by the controller only one time; it will remain "connected" until removed by reprogramming.

Our unique system software can be configured to effectively stop the system from interfering with specific Wi-Fi channels.

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The screwdriver configuration menu on the left controls everything from screw count to rework strategy to data output choices. The BT-EXACT screwdriver and the EXAConnecT controller can be configured to send and receive data from a variety of systems, including a host ethernet system, PLC systems, barcode scanners or our digital I/O module.

The system can also monitor screw runtime to accurately determine crossthreading or missing screws.

Rework strategies to evaluate the assembly process can be defined in detail, including customer-specific programming that is created by Bosch.

EXAConnecT – the controller The core of the quality control system

The EXAConnecT Bluetooth controller packs a lot of firepower in a small, easy to install package. The enclosure is IP54 (NEMA 12) rated for dust and moisture resistance.

The controller has its own processor, flash memory and operating system, so it can run as a stand-alone unit or connect to a variety of controls.

Various status LEDs and a two-digit display that can be seen through the clear cover alert you of connection status or system notifications.



The EXAConnecT controller forms the link between your process control network and the Bluetoothconnected BT-EXACT cordless screwdriver. Information about the screwdriving process can be exchanged bidirectionally in real time to ensure that each BT-EXACT cordless screwdriver knows exactly what it has to do and when to do it. One EXAConnecT controller can run seven BT-EXACT screwdrivers simultaneously, making it very cost-effective compared to other systems. The EXAConnecT controller can output data from up to seven BT-EXACT screwdrivers via the Ethernet connection (up to four BT-EXACT screwdrivers to a PLC via the 24-volt inputs and outputs). When controlling seven BT-EXACT screwdrivers via a PLC, an additional digital I/O module is required. Refer to page 49 for details.

A wide-range power supply ensures the system works anywhere in the world without the need for additional power transformers. An internal backup memory and real-time clock ensure that critical data is always saved, even in the event of a power loss.

	Part number	Voltage supply	24-V power supply (output)	Standard interfaces
EXAConnecT Bluetooth screwdriver controller	0 602 491 003	100 – 240 V, 50/60 Hz	max. 4.8 W	Ethernet (TCP/IP) 1 x RS-232 2 x RS-422 4 x 24-V inputs 4 x 24-V outputs

Software requirements:

Operating system: Microsoft Windows XP, Windows 7

Browser: Internet Explorer, Netscape Navigator, Mozilla Firefox

Required plugin (freeware): Java Runtime Environment 1.4.2 or higher

Digital I/O module Expansion module for up to 7 BT-EXACT screwdrivers

The digital I/O module is used with the EXAConnecT controller. It allows 24-volt signals from up to seven BT-EXACT screwdrivers to be sent to a PLC. The module is IP54 (NEMA 12) rated for dust and moisture resistance.



The digital I/O module takes its power from the EXAConnecT controller and receives its screwdriving data from the controller's RS 422 interface. The module has 16 inputs and outputs for exchanging data with a PLC. Configuration is done via the EXAConnecT software (in a web browser).

The EXAConnecT controller is capable of supporting up to four BT-EXACT screwdrivers (via a PLC) with limited data transmission. The digital I/O module is needed when 2 to 7 BT-EXACT screwdrivers have to communicate detailed information with a PLC.

The I/O module is not required when using an ethernet connection to a host network. There are different possible PLC configurations for any given situation. Contact your distributor for details.

	Part number	Power input	Standard interfaces
Bluetooth digital I/O module	0 602 491 004	24 V	Ethernet (TCP/IP) 2 x RS-422 16 x 24-V inputs 16 x 24-V outputs

BT-EXACT Cordless center grip screwdrivers

- Precision shut-off clutch with Cmk > 1.67
- Low weight
- Large torque range
- Repeat protection
- A visual and audible signal informs the worker about the battery status
- Visual and audible signals inform the worker about the screwdriving result
- Bright LED light for illuminating the work area
- One-handed operation for right-hand/left-hand rotation change
- Modular design with many common parts
- Color marking rings for easy identification
- Protective cap for quick-release chuck
- ► Tool holder
- Suspension hook available
- All models require the EXAConnecT wireless controller

EXACT	Part number	Torque, hard as per ISO 5393 Nm (ft-lbs)	Torque, soft as per ISO 5393 Nm (ft-lbs)
BT-EXACT 2 Bluetooth- capable	0 602 491 433	0.6 - 2.0 (0.4 - 1.5)	0.6 - 2.0 (0.4 - 1.5)
BT-EXACT 4 Bluetooth- capable	0 602 491 437	1.0 - 4.0 (0.7 - 3.0	1.0 - 4.0 (0.7 - 3.0
BT-EXACT 6 Bluetooth- capable	0 602 491 431	1.0 - 6.0 (0.7 - 4.4)	1.0 - 6.0 (0.7 - 4.4)
BT-EXACT 7 Bluetooth- capable	0 602 491 439	1.5 - 7.0 (1.1 - 5.2)	1.5 - 7.0 (1.1 - 5.2)
BT-EXACT 8 Bluetooth- capable	0 602 491 443	1.5 - 8.0 (1.1 - 5.9)	1.5 - 8.0 (1.1 - 5.9)
BT-EXACT 9 Bluetooth- capable	0 602 491 435	1.5 - 9.0 (1.1 - 6.7)	1.5 - 9.0 (1.1 - 6.7)
BT-EXACT 12 Bluetooth- capable	0 602 491 441	1.5 - 12.0 (1.1 - 9.0)	1.5 - 12.0 (1.1 - 9.0)

No-load speed rpm	Bit holder	Battery specifications V	Direction of rotation	Weight as per EPTA kg (lbs)	Features and functions	Included accessories
600	1/4"	9.6 V *	R/L	0.8 (1.8)	Class 2 Bluetooth module	Torque adjustment tool Light green color ring
900	1/4"	9.6 V *	R/L	0.8 (1.8)	Class 2 Bluetooth module	Torque adjustment tool Grey color ring
600	1/4"	9.6 V *	R/L	0.8 (1.8)	Class 2 Bluetooth module	Torque adjustment tool Black color ring
150	1/4"	9.6 V *	R/L	0.8 (1.8)	Class 2 Bluetooth module	Torque adjustment tool White color ring
650	1/4"	12 V *	R/L	0.9 (2.0)	Class 2 Bluetooth module	Torque adjustment tool Orange color ring
350	1/4"	9.6 V *	R/L	0.8 (1.8)	Class 2 Bluetooth module	Torque adjustment tool Light blue color ring
400	1/4"	12 V *	R/L	0.9 (2.0)	Class 2 Bluetooth module	Torque adjustment tool Red color ring

* Battery not included in scope of delivery

BT-ANGLE EXACT Cordless angle wrenches

- Precision shut-off clutch with Cmk > 1.67
- Low weight
- Large torque range
- Repeat protection
- Visual and audible signals for the charging state
- Visual and audible signals for the shut-off
- Bright LED light for illuminating the work area
- One-handed operation for right-hand/left-hand rotation change
- Modular design with many common parts
- Color marking rings for easy identification
- Protective cap available for angle heads
- Angle heads and batteries are not included in scope of delivery
- Use of the same batteries/ chargers as for models with center grip
- Suspension hook available
- All Bluetooth models require the EXAConnecT wireless controller
- Tool weight with angle head and battery is
 1.6 kg (3.5 lbs)
 (BT-ANGLE EXACT 17, 23, 30: 2.6 kg [5.7 lbs])

	Part number	T	T
ANGLE EXACT.	Part number	Torque, hard as per ISO 5393 (Nm)	Torque, soft as per ISO 5393 (Nm)
BT-ANGLE EXACT 2	0 602 491 647	0.7 - 2.0	0.7 - 2.0
Bluetooth-capable		(0.5 - 1.5)	(0.5 - 1.5)
BT-ANGLE EXACT 3	0 602 491 656	0.7 - 3.0	0.7 - 3.0
Bluetooth-capable		(0.5 - 2.2)	(0.5 - 2.2)
BT-ANGLE EXACT 6	0 602 491 652	1.5 - 6.0	1.5 - 6.0
Bluetooth-capable		(1.1 -4.4)	(1.1 -4.4)
BT-ANGLE EXACT 7	0 602 491 669	2.0 - 7.0	2.0 - 7.0
Bluetooth-capable		(1.5 - 5.1)	(1.5 - 5.1)
BT-ANGLE EXACT 8	0 602 491 651	2.0 - 9.0	2.0 - 8.0
Bluetooth-capable		(1.5 - 6.7)	(1.5 - 5.9)
BT-ANGLE EXACT 15	0 602 491 650	2.0 - 15.0	2.0 - 15.0
Bluetooth-capable		(1.5 - 11.1)	(1.5 - 11.1)
		(1.5 11.1)	(1.5 11.1)
BT-ANGLE EXACT 17	0 602 491 675	6.0 - 17.0	6.0 - 13.0
Bluetooth-capable		(4.4 - 12.5)	(4.4 - 9.6)
BT-ANGLE EXACT 23	0 602 491 673	7.0 - 23.0	7.0 - 20.0
Bluetooth-capable		(5.1 - 17.0)	(5.1 - 14.8)
BT-ANGLE EXACT 30	0 602 491 671	8.0 - 30.0	8.0 - 28.0
Bluetooth-capable		(5.9 - 22.1)	(5.9 - 20.7)

No-load speed (rpm)	Angle head	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Features and functions	Included accessories
110	Flange for angle head *	9.6 V **	R/L	1.0 (2.2)	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Light green color ring
420	Flange for angle head *	9.6 V **	R/L	1.0 (2.2)	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Light green color ring
650	Flange for angle head *	9.6 V **	R/L	1.0 (2.2)	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Black color ring
110	Flange for angle head *	9.6 V **	R/L	1.0 (2.2)	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Orange color ring
420	Flange for angle head *	9.6 V **	R/L	1.0 (2.2)	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Orange color ring
250	Flange for angle head *	9.6 V **	R/L	1.0 (2.2)	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Red color ring
560	Flange for angle head *	14.4 V **	R/L	1.5 (3.3)	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook White color ring
320	Flange for angle head *	14.4 V **	R/L	1.5 (3.3)	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Orange color ring
220	Requires HD angle head Flange for HD angle head (HD angle head not included)	14.4 V **	R/L	1.5 (3.3)	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Red color ring
	* Angle head not included in scope of delivery	** Battery not inclu in scope of deliv				

6 Accessories EXACT original accessories



Function ensured: EXACT original accessories

The new Wireless Charging System, intelligent battery chargers, original BOSCH battery packs, 4-EXACT power supply unit, general accessories and dimensional drawings.



Bosch cordless technology Maximum efficiency hard-wired





Bosch CoolPack for up to 100% more lifetime





100% compatibility within the 18 volt range

WORLD'S FIRST! Wireless Charging System

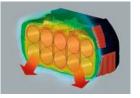
Greater user-friendliness and productivity:

- Batteries can stay in the tool
- Charging takes place automatically when the tool is placed on the charger, so it requires no effort
- Flexible mounting frame on the charger allows for a wide range of ergonomic positions – easy to mount at the workplace

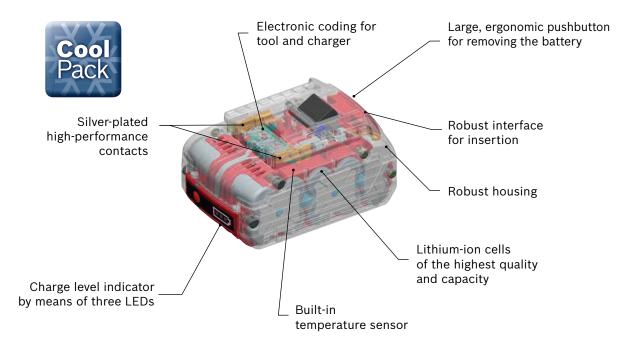


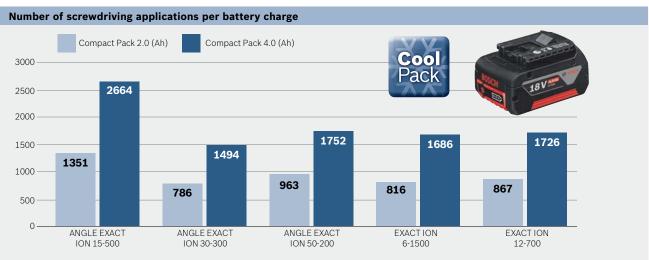
Bosch cordless technology Maximum efficiency hard-wired

Exceptional runtime and lifetime thanks to CoolPack



Red **Cool**Pack housing made of heat-conductive material for up to 100% more lifetime compared to a Bosch battery without **Cool**Pack. Bosch **Cool**Pack ensures balanced warming and reduces heat build-up!





Results of endurance test 02/2013, at maximum torque and a medium-hard screwdriving application at 80° rotation angle, measured from a threshold torque of 50%, at screw size M8

Battery packs and chargers for EXACT ION and ANGLE EXACT ION

Wireless Charging battery packs and chargers

Lithium-ion	Part number	Description	Voltage V	Capacity Ah	Weight as per EPTA kg (lbs)
18 V/2.0 Ah	2 607 337 123	Cool pack battery with wireless charging surface	18	2.0	0.6 (1.3)
18 V/4.0 Ah	2 607 336 725	Cool pack battery with wireless charging surface	18	4.0	0.86 (1.9)

Wireless Charging quick charger	Part number	Description	Voltage V	Weight as per EPTA kg (lbs)
GAL 1830 W + mounting frame 100% fully charges the Wireless Charging battery 18 V/2.0 Ah in 30 mins!	2 607 225 849 6 082 710 639	Charging plate only Charging frame only	110	0.9 (2.0)

Li-ion battery packs and chargers

Lithium-ion		Part number	Description	Voltage V	Capacity Ah	Weight as per EPTA kg (lbs)
18 V/2.0 Ah		2 607 336 875	Compact battery pack	18	2.0	0.41 (0.91)
18 V/4.0 Ah		2 607 336 819	Premium battery pack	18	4.0	0.7 (1.5)
18 V/5.0 Ah	10/201	2 607 337 105	Ultra-premium battery pack	18	5.0	0.69 (1.52)

Li-Ion quick charger	Part number	Description	Voltage V	Weight as per EPTA kg (lbs)
AL 1860 CV 100% fully charges the Bosch Li-lon batteries 18 V/2.0 Ah in 30 mins, 18 V/4.0 Ah in 45 mins and 18 V/5.0 Ah in 65 mins!	2 607 225 429	BC660 – 60 min	120	0.64 (1.42)

Battery packs and chargers for EXACT, SEC-EXACT and BT-EXACT

Nickel cadmium	Part number	Description	Voltage V	Capacity Ah	Weight as per EPTA kg (lbs)
9.6 V batteries	2 607 335 877	Battery pack	9.6	1.8	0.4 (0.9)
	0 602 490 022	Pack of 10 batteries	9.6	1.8	4.0 (9.0)
	2 607 335 659	Battery pack	9.6	2.4	0.5 (1.0)
	0 602 490 009	Pack of 10 batteries	9.6	2.4	5.0 (10.0)
12 V batteries	2 607 335 879	Battery pack	12	1.8	0.6 (1.3)
	0 602 490 023	Pack of 10 batteries	12	1.8	6.0 (13.0)
	2 607 335 375	Battery pack	12	2.4	0.7 (1.5)
	0 602 490 004	Pack of 10 batteries	12	2.4	7.0 (15.0)
14.4 V batteries	2 607 335 881	Battery pack	14.4	1.8	0.7 (1.5)
	0 602 490 024	Pack of 10 batteries	14.4	1.8	7.0 (15.0)
	2 607 335 655	Battery pack	14.4	2.4	0.8 (1.8)
	0 602 490 007	Pack of 10 batteries	14.4	2.4	8.0 (18.0)

Quick charger	Part number	Voltage V	Weight as per EPTA kg (lbs)
AL 2450 DV Multivolt charger. Charges all Bosch NTC battery packs from 7.2 to 14.4 volts with APT insertion end.	2 607 225 029	120	1.0 (2.2)

The 4-EXACT power supply – constant power for work stations

Constant power supply for the EXACT and ANGLE EXACT tools. Cannot be used for SEC-EXACT and SEC-ANGLE EXACT tools. Cannot be used for EXACT ION and ANGLE EXACT ION tools.

The 4-EXACT power supply unit is designed to be a constant voltage source for all screwdrivers in the EXACT and ANGLE EXACT series. The 4-EXACT is ideal for assembly situations in which the mobility of cordless tools is not necessary (or not wanted). It uses an "empty" battery housing as an adapter for a 5 metre long cable that is plugged directly into the tool.

Now you can use the same screwdrivers for mobile and stationary applications and simultaneously reduce your maintenance and spare parts costs. The system can also be used in conjunction with our Bluetooth EXACT screwdrivers.

- Automatically detects the correct voltage for the screwdriver connected
- Limits worker movement to 5 metres
- ▶ Power supply weight is 13.6 kg

	Part number		Part number
Bosch 4-EXACT power supply 230 V	0 602 490 507	Adapter cable 9.6 V	0 602 490 503
		Adapter cable 12 V	0 602 490 504
		Adapter cable 14.4 V	0 602 490 505

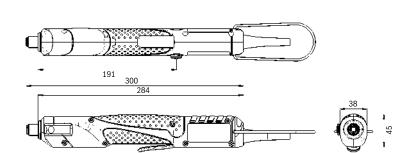
A 5 metre long cable connects any EXACT or ANGLE EXACT screwdriver to the power supply. The cable and adapter allow for easy conversion of a cordless tool to an "electric screwdriver".



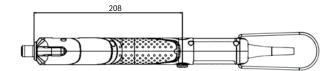
C-EXACT and PUC-EXACT Accessories and dimensional drawings

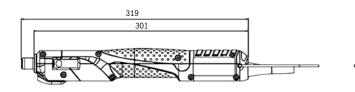
Accessories			Part number	Quantity
Protective cap For all 1/4" quick-release chucks Prevents damage to the workpiece			3 605 500 210	5
Color rings For quick identification of the torque range Suitable for all C-EXACT straight screwdrivers and	0	black	3 600 106 010	5
all EXACT cordless screwdrivers with center grip	\bigcirc	red	3 600 106 011	5
	\bigcirc	light blue	3 600 106 012	5
	0	light green	3 600 106 013	5
	\bigcirc	orange	3 600 106 014	5
	0	grey	3 600 106 017	5
	0	white	3 600 106 019	5
		mixed (1 of each: black, red, blue, green, orange)	3 600 106 015	5

C-EXACT lever start Dimensions in mm



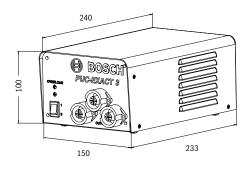
C-EXACT push start Dimensions in mm





PUC-EXACT 3

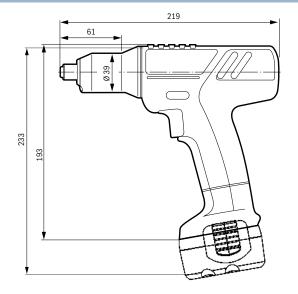
Dimensions in mm



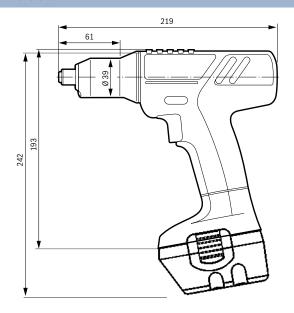
EXACT and SEC-EXACT Accessories and dimensional drawings

Accessories			Part number	Quantity
Protective cap For all ¼" quick-release chucks Prevents damage to the workpiece			3 605 500 210	5
Color rings For quick identification of the torque range Suitable for all C-EXACT straight screwdrivers and	Q	black	3 600 106 010	5
all EXACT cordless screwdrivers with center grip	ŏ	red	3 600 106 011	5
	0	light blue	3 600 106 012	5
	0	light green	3 600 106 013	5
	\bigcirc	orange	3 600 106 014	5
	0	grey	3 600 106 017	5
	0	white	3 600 106 019	5
		mixed (1 of each: black, red, blue, green, orange)	3 600 106 015	5
Tool holder (for center grip EXACT & SEC only)	0		0 602 490 001	10
Protectors Prevent damage to the workpiece Suitable for all EXACT cordless screwdrivers		transparent	0 602 490 011	10
with center grip Will not block motor air vents Available only as a pack of 10		red	0 602 490 012	10
		blue	0 602 490 013	10
		green	0 602 490 014	10

All 9.6 volt EXACT, BT-EXACT and SEC-EXACT models Dimensions in mm



All 12 volt EXACT and BT-EXACT models Dimensions in mm



ANGLE EXACT and ANGLE EXACT CF Accessories

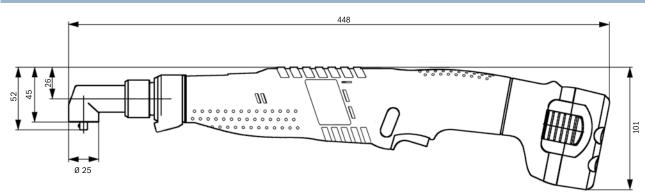
Accessories			Part number	Quantity
Color rings				
For quick identification of the torque range	0	black	3 600 106 027	5
Suitable for all ANGLE EXACT tools	0	red	3 600 106 028	5
	0	light blue	3 600 106 029	5
	0	light green	3 600 106 030	5
	\bigcirc	orange	3 600 106 031	5
	0	grey	3 600 106 032	5
	0	white	3 600 106 033	5
Protectors Prevent damage to the workpiece Suitable for all ANGLE EXACT tools Will not block motor air vents Available only as a pack of 10		transparent	0 602 490 015	10
		blue	0 602 490 017	10
		green	0 602 490 018	10
	C. S. S. S.	red	0 602 490 019	10

		Part number	Max. torque Nm (ft-lbs)	Drive end	Weight kg (lbs)	Quantity
Straight head		0 607 453 631	6.0 (4.4)	1/4" QRC	0.2 (0.44)	1
Angle head For ANGLE EXACT 2, 3, 6, 7, 8, 15, 17, 23 7-900, 10-650, 14-420 Gear ratio 1.4:1	₽	0 607 453 617	27.0 (19.9)	1/4" square	0.2 (0.44)	1
	₽ 6-	0 607 453 618	27.0 (19.9)	1/4" internal hex	0.2 (0.44)	1
	ŗ− ₽-	0 607 453 620	27.0 (19.9)	3/8" square	0.2 (0.44)	1
		0 607 453 630	27.0 (19.9)	1/4" QRC	0.2 (0.44)	1
HD angle head Required for ANGLE EXACT 30 (gear ratio 1.4:1)		0 607 451 618	35 (25.8)	3/8" square	0.22 (0.49)	1
Protective cap For angle heads	Suitable for 0 607 453 617, -618, -620, -630	3 605 500 171		-	-	1
	Suitable for 0 607 451 618	3 605 500 175		-	-	1
Protective cap Prevents damage to the work Suitable for SEC-ANGLE EXAC 40-280, 50-210, 60-170		3 609 202 A29	-	-	_	1

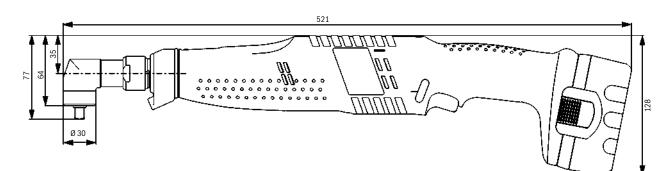
ANGLE EXACT, - CF and BT-ANGLE EXACT Dimensional drawings

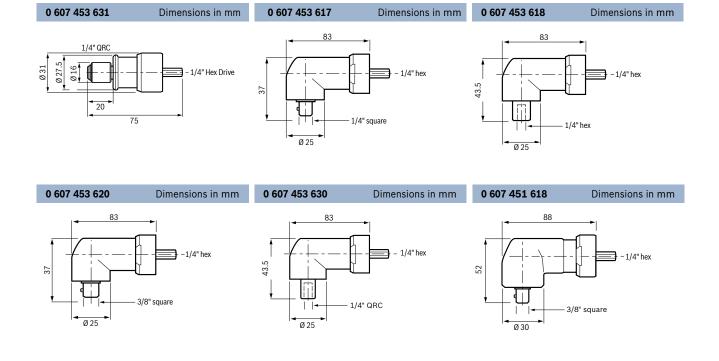
ANGLE EXACT models 2, 3, 6, 7, 8, 15, 14 CF

Dimensions in mm

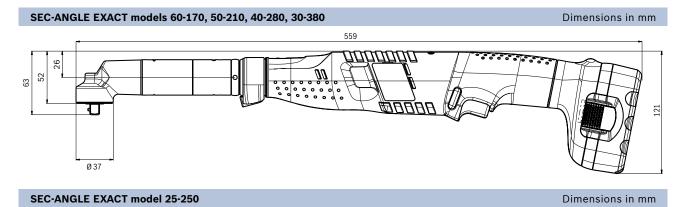


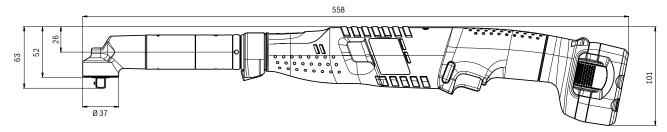
ANGLE EXACT models 17, 23, 30, 22 CF, 29 CF Dimensions in mm

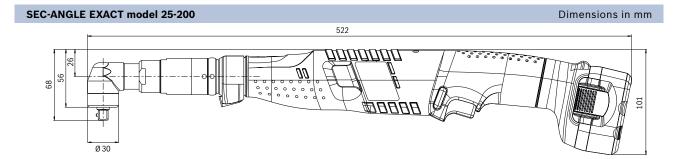




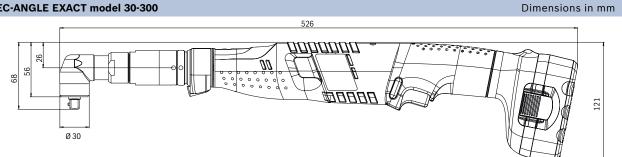
SEC-ANGLE EXACT Dimensional drawings

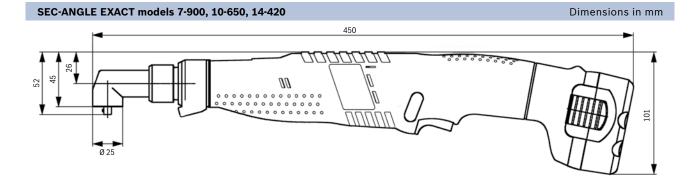






SEC-ANGLE EXACT model 30-300



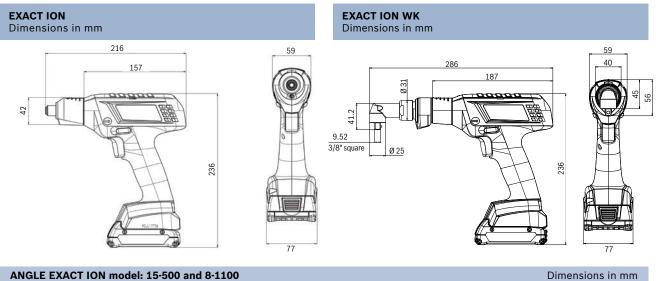


EXACT ION and ANGLE EXACT ION Accessories

EXACT ION accessories			Part number	Quantity
Color rings				
For quick identification of the torque range Suitable for all EXACT ION center grip screwdrivers	0	black	3 600 106 010	5
	0	red	3 600 106 011	5
	0	light blue	3 600 106 012	5
	0	light green	3 600 106 013	5
		orange	3 600 106 014	5
	0	grey	3 600 106 017	5
	0	white	3 600 106 019	5
Protectors Prevent damage to the workpiece Suitable for all EXACT ION center grip screwdrivers Will not block motor air vents Available only as a pack of 10		transparent	0 602 494 016	10
		red	0 602 494 018	10
		blue	0 602 494 017	10
		green	0 602 494 019	10
Battery pack protectors Prevent damage to the battery Will not block the CoolPack housing Suitable for 18 volt Li-Ion battery packs Available only as a pack of 10		transparent – for the 2.0 Ah Compact battery pack	0 602 494 014	10
		transparent – for the 4.0 Ah Premium battery pack	0 602 494 015	10

ANGLE EXACT ION accessories			Part number	Quantity
Color rings For quick identification	0	black	3 600 106 027	5
of the torque range Suitable for all ANGLE EXACT ION center grip screwdrivers		red	3 600 106 027	5
	<u> </u>			
		light blue	3 600 106 029	5
	\bigcirc	light green	3 600 106 030	5
	\bigcirc	orange	3 600 106 031	5
	0	grey	3 600 106 032	5
	\bigcirc	white	3 600 106 033	5
Protectors Prevent damage to the workpiece Suitable for all ANGLE EXACT ION center grip screwdrivers Will not block motor air vents Available only as a pack of 10		transparent	0 602 494 010	10
		red	0 602 494 012	10
	and the second with the	blue	0 602 494 011	10
		green	0 602 494 013	10
Battery pack protectors Prevent damage to the battery Will not block the CoolPack housing Suitable for 18 volt Li-Ion battery packs Available only as a pack of 10		transparent – for the 2.0 Ah Compact battery pack	0 602 494 014	10
		transparent – for the 4.0 Ah Premium battery pack	0 602 494 015	10

EXACT ION, -WK and ANGLE EXACT ION Accessories and dimensional drawings



ANGLE EXACT ION model: 15-500 and 8-1100

468 77 397 59 Ø31 47 8 2 E C M 3/8" square Ø 25

ANGLE EXACT ION model: 23-380 and 30-290

543 472 77 413 59 Ø 35 57 2 70 55 *B*(1) 3/8" square Ø 29.8

ANGLE EXACT ION model: 30-300, 40-220, 50-210 and 60-120

577 77 413 59 Ø 35 111111 53 54.4 20 14 3/8" square Ø 36.8

Dimensions in mm

114

Dimensions in mm

Bosch Service Quality



The Bosch CD-ROM service information system

provides information on Bosch power tools – including spare parts lists and exploded drawings and saves you time and money in spare parts management.



The Bosch online catalog

offers everything that customers need to know about Bosch production tools. Furthermore, they can find out the latest news about trade-fair dates and innovations from the Bosch Production Tools Division.



The Bosch spare parts service

guarantees, in 99% of all cases, that the spare part you require is in stock, ensuring you can quickly return to your work.



The Bosch recycling service

offers environmental protection that anybody can actively take part in. Bosch production tools, cordless tools and battery packs that are past their lifetime are taken back at no charge via specialist retailers or directly and sent for recycling.

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