

BOSCH SERVICE QUALITY



The Bosch CD-ROM service info system

provides information on Bosch power tools – including spare parts lists and exploded drawings – and therefore saves time and money with regard to spare parts management.



The Bosch online catalogue

includes everything that the customer needs to know about Bosch industrial tools. Here, the customer can also find out the latest news and interesting facts about trade fair dates and innovations from the Bosch industrial tools division.



The Bosch spare parts service

guarantees in 99% of all cases that the required spare part is available direct from the warehouse, allowing work to resume quickly.



The Bosch recycling service

is a form of environmental protection that people can actively contribute to. Bosch industrial tools, cordless devices and battery packs that have reached the end of their service life can be returned free of charge via a specialist retailer or directly, and



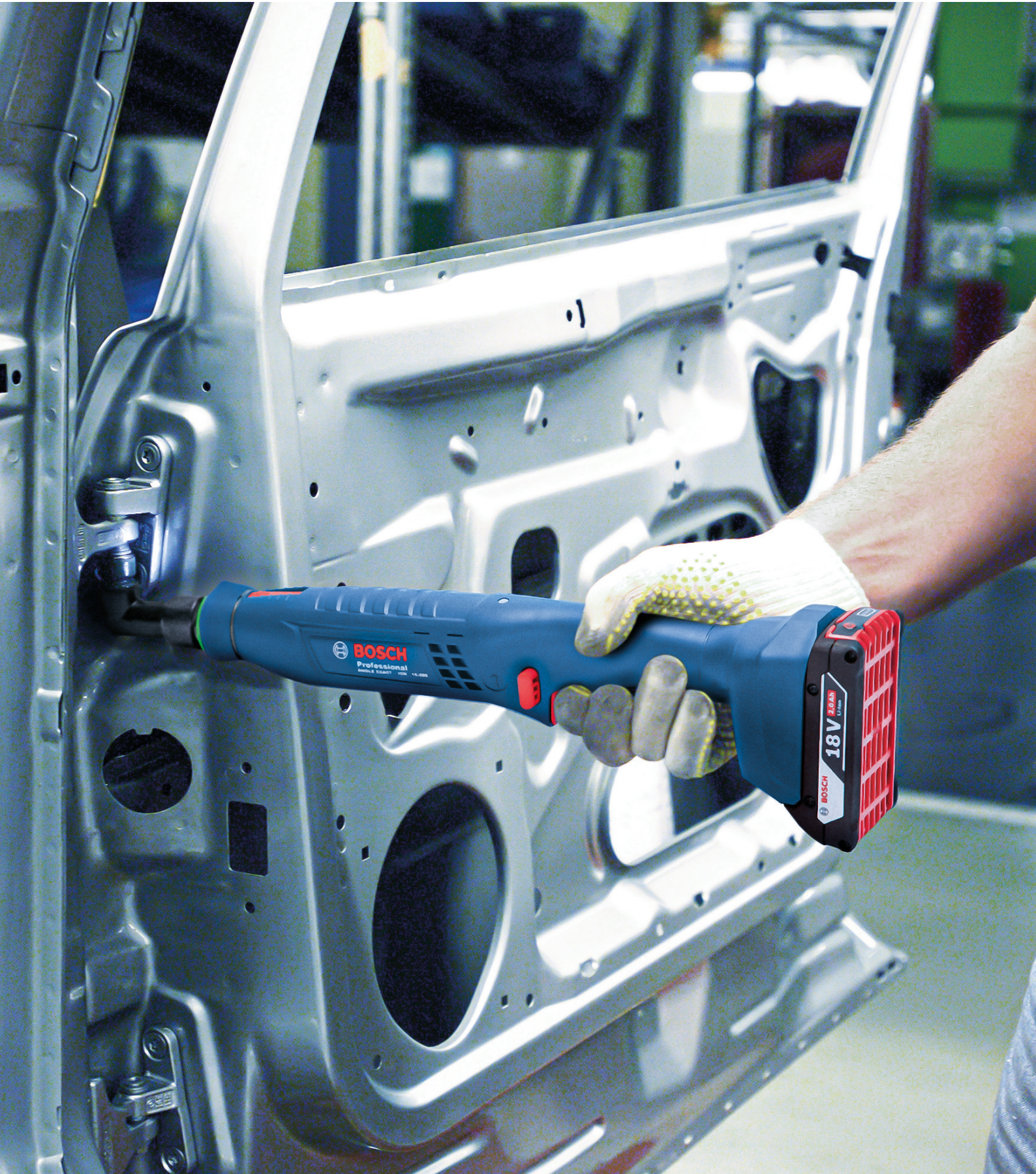
BOSCH



EXACT

Cordless
screwdrivers for
industry

CORDLESS SCREWDRIVERS FOR INDUSTRY





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PEAK PERFORMANCE IN A COMPACT FORMAT

E	X	A	C	T
Ergonomic	EXtremely Light	Accurate	Cmk proven	Tool



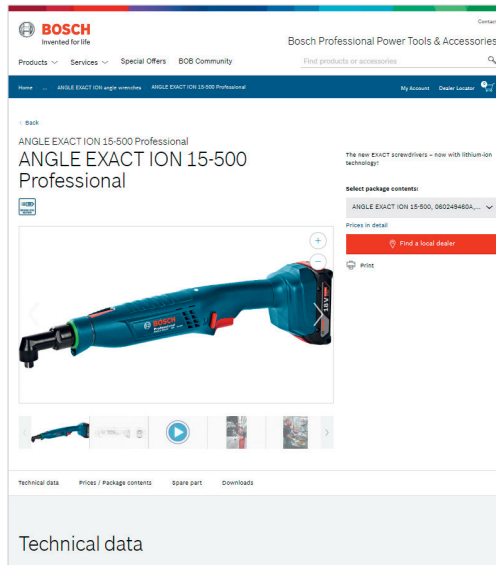
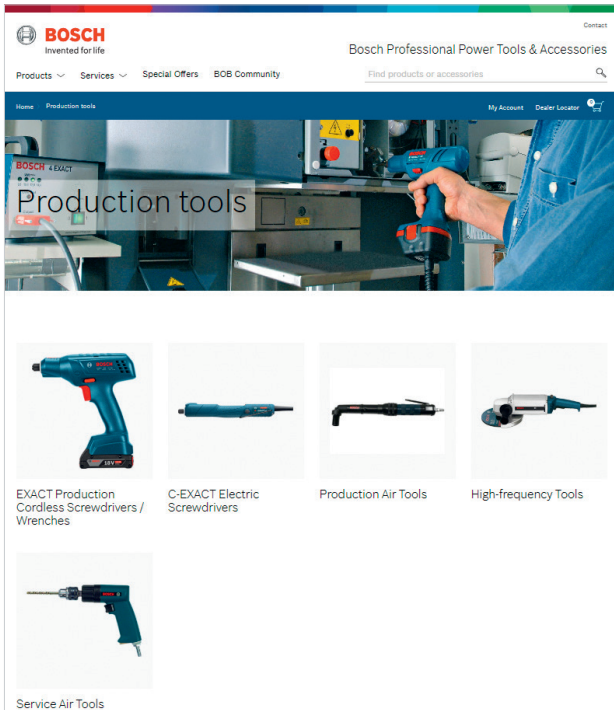
The **EXACT** and **ANGLE EXACT** cordless shut-off screwdrivers from Bosch have been designed for industrial use – and are distinguished by maximum accuracy, durability and energy efficiency.

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

- **Bright LED lights**
for illuminating the work area
- **Coloured marking rings and protectors**
for easy identification
- **Right/left switchover**
can be activated with one hand
- **Repeat protection**
- **Lightweight with a balanced weight distribution**
for better ergonomics
- **Batteries in an industrial design**
for maximum service life
- **Torque adjustment**
(only with a special tool)
- **Maximum repeat accuracy**
due to the design of the Bosch clutch
- **Easy to service**
thanks to the connectors and identical parts
- **Visual and acoustic signals**
provide information about the battery condition and the quality of the screw connection

All technical data in this catalogue is based on the exclusive use of Bosch IW battery packs. All weight data is provided in accordance with EPTA 01/2003.

GET AN OVERVIEW WITH JUST ONE CLICK: VIEW ALL INDUSTRIAL TOOLS ONLINE



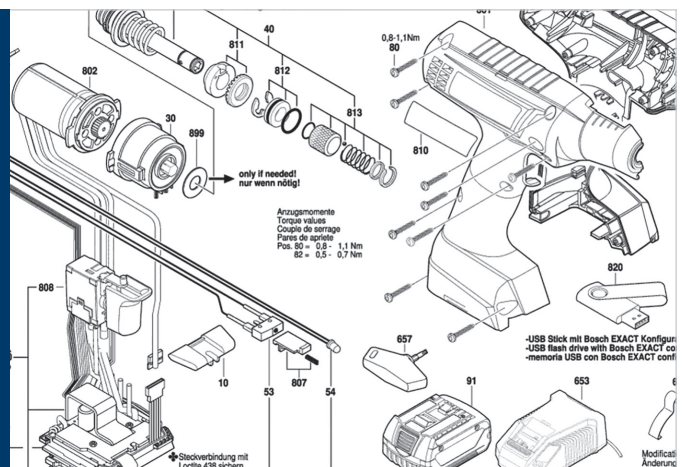
A comprehensive online catalogue with applications can be found at boschproductiontools.com.

The option to compare screwdrivers makes it easier to select the most suitable tool. For example, you can view and compare the power and speed of different tools.

In addition, you can obtain up-to-date information regarding measurement data, innovations and new developments from the Bosch industrial tools division. You can quickly find all the relevant information that you need to select the right tools for your production facilities.

Dimensional drawings, 3D data, homologation data, operating instructions, images and exploded drawings can be downloaded directly from the Internet.

Our spare parts service informs users about which spare parts are required.

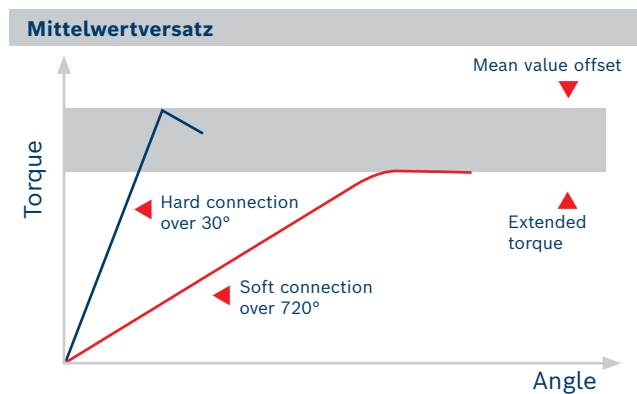


THE BOSCH SHUT-OFF CLUTCH: A PROVEN SOLUTION FOR INDUSTRIAL APPLICATIONS

Our shut-off clutch is designed to minimise operator influences on the screwdriving process. Bosch clutches are some of the most precise clutches available worldwide, providing an extremely high degree of repeat accuracy. This repeat accuracy even matches the level 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 guarantees a high level of repeat accuracy and precision of the torque. Regardless of whether the screwdriving application in question is hard (30 degrees) or soft (720 degrees), the clutch guarantees an extremely low mean value offset and a consistent torque. The shut-off corresponds to the requirements of VDI 2647.



User-friendly functions

The EXACT clutch provides approx. 10 % more torque in the anticlockwise direction for loosening screws. The specified torque is always achieved, regardless of the battery voltage. The electronics prevent the tool from being operated if the battery voltage drops below a minimum threshold. 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. Coloured marking rings enable quick identification of different screwdrivers in the assembly line.

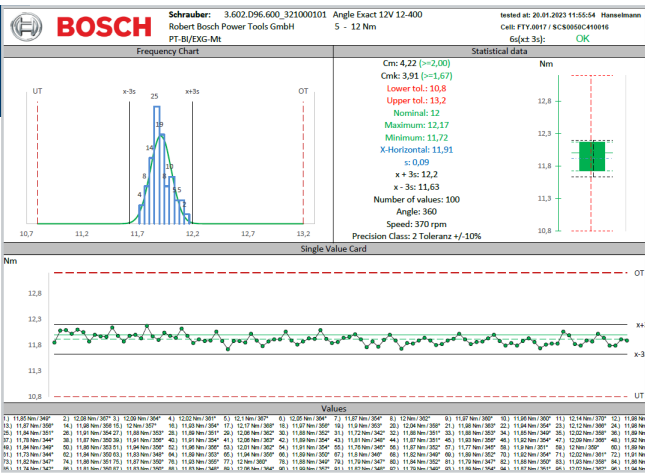
Precise and consistent under load

Bosch subjects the EXACT family to extremely stringent quality checks. The shut-off clutch of the EXACT must withstand 500,000 cycles* without failure before approval for production is granted. During the endurance run, compliance with the machine's capabilities is monitored.

A tried-and-tested module

The shut-off clutch used in the EXACT cordless screwdriver family is identical to the clutch used in our pneumatic industrial tools. This clutch has already been used for a number of years in a wide variety of applications, and has proven itself countless times in many of our customers' manufacturing facilities.

Machine capability study
ANGLE EXACT 12V-12-400



NOTE
Machine capability investigations are usually carried out at a maximum of 600 rpm as per VDI 2647.

Modifications to the speed and/or the torque can influence the accuracy. Particularly with regard to Power Boost, this may have an impact on the shut-off characteristics. This can cause the clutch to over-engage.

The machine capability must be checked with the respective setting.

* in Bosch endurance tests



The EXACT and ANGLE EXACT cordless shut-off screwdrivers from Bosch are suitable for virtually any screwdriving application.

1

EXACT AND ANGLE EXACT WITH LITHIUM-ION TECHNOLOGY

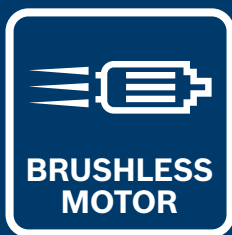


BETTER THAN EVER BEFORE! WITH BOSCH PREMIUM LITHIUM-ION TECHNOLOGY

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

Thanks to their extremely high degree of repeat accuracy, they are particularly suitable for standard screw connections and assembly work, providing peak performance that adheres to the highest quality standards. The Bosch lithium-ion battery technology used in the tools delivers maximum power for high torques and speeds. What's more, they remain highly capable under extreme load with minimal energy loss, and also reduce your costs thanks to their superior service life. In addition, their low weight of only 0.8 kg (EXACT 12V) ensures that they are comfortable to work with over the course of a shift.

Now also with:



EXACT 12V AND ANGLE EXACT 12V

Smaller, shorter, lighter – the cordless industrial screwdriver with optimised ergonomics!



■ Optimised ergonomics

With a head length of 154 mm and a weight of 0.8 kg, including the 12 V 3.0 Ah rechargeable battery

■ Optimised process control

With six different screwdriving stages, which can be adjusted according to time, speed, direction and angle, as well as torque

■ Maximum service life and durability

Thanks to the brushless EC motor and high-quality, wear-free components

Flexible Power System



- Compact 2.0 Ah and 3.0 Ah rechargeable batteries from the 12 V class

- The compact design is ideal for 12 V tools

- The optimised battery capacity makes it suitable for most 12 V applications

- 6.0 Ah battery with maximum runtime in Bosch's 12 V category

- Extremely high battery capacity allows for an approx. 300% longer runtime than that of the 12 V 2.0 Ah Professional model

- Compact and with perfect balance between size and capacity for ultimate performance with 12 V power tools

- Compatible since 2005: All of our batteries are compatible with new and existing Bosch Professional tools in the same voltage class.

Handling and ergonomics of the EXACT 12V

- Extremely light tool that weighs just 0.65 kg without the battery
- Very short head length (154 mm) and low height (179 mm)

1/4" quick-change chuck

- For a quick tool change

LED ring light

- For perfect illumination in dark and enclosed spaces
- Can be adjusted via USB connection

New, extremely small angled head

- With 1/4" quick-change chuck or 3/8" square, freely rotatable

Handling and ergonomics of the ANGLE EXACT 12V

- Extremely light tool that weighs just 0.9 kg without the battery
- Short head length (346 mm)

Maximum process reliability

- Visual and acoustic indication of the results of the screwdriving operation, as well as the battery status

Flexible Power System

- Compatible with all 12 V batteries from Bosch Professional upwards of 2.0 Ah (and chargers)

USB port for screw-driving stage speed parametrisation

- Adjustable to your specific application
- Adjustable according to switch-off, angle and time

Reliability

- Reliable 12 V lithium-ion battery pack with an extremely long service life

Can be adjusted to special applications

- USB interface for the parametrisation of speed for screwdriving stages

Durable, with a long service life

- High-power brushless motor
- Maintenance-free components
- An extremely robust and high-quality tool with an exceptionally long service life



Optimised tool control

- Can be adjusted via USB connection
- Different tightening phases
- Adjustments can be made with regard to shut-off, angle and time



1 EXACT 12V

Smaller, shorter, lighter – the cordless industrial screwdriver with optimised ergonomics!

- **Optimised ergonomics:** With a head length of 154 mm and a weight of 0.8 kg, including the 12 V 3.0 Ah rechargeable battery
- **Optimised process control:** With six different screwdriving stages, which can be adjusted according to time, speed, direction and angle, as well as torque
- **Maximum service life and durability:** Thanks to high-quality, wear-free components
- Brushless (EC) motor for 30% more efficiency (compared to conventional DC motors) and an extremely long service life
- LED ring light for optimal illumination of the working area; can be adjusted via USB connection
- Precision shut-off clutch with $C_{mk} > 1.67$ (im +/-10% – tolerance range as per VDI 2647)
- Visual and acoustic indication of the results of the screwdriving operation, as well as the battery status, for maximum process reliability
- Bosch Premium lithium-ion technology for a long service life and runtime

EXACT		Order number
EXACT 12V-6-670		0 602 496 400 5-pack: 0 602 496 500
EXACT 12V-4-1100		0 602 496 404 5-pack: 0 602 496 504
EXACT 12V-2-670		0 602 496 402 5er-5-pack: 0 602 496 502

Torque hard/soft as per ISO 5393 (Nm)	Speed (idle)	Tool holder	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)
1,5 – 6	134–670* with Power Boost maximum 900	1/4" quick-change chuck	12 V 3.0 Ah**	R/L	0.85 (incl. battery)
1 – 4	220–1100* with Power Boost maximum 1500	1/4" quick-change chuck	12 V 3.0 Ah**	R/L	0.85 (incl. battery)
0,5 - 2	134–670* with Power Boost maximum 900	1/4" quick-change chuck	12 V 3.0 Ah**	R/L	0.85 (incl. battery)

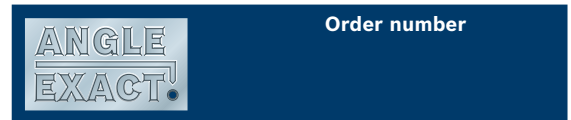
* limited power at speeds < 50%

** Battery not included in
scope of delivery

ANGLE EXACT 12V

Smaller, shorter, lighter – the cordless industrial screwdriver with optimised ergonomics!

- **Optimised ergonomics:** With a head length of 346 mm and a weight of 1.1 kg, including the 12 V 3.0 Ah rechargeable battery
- LED ring light for optimal illumination of the working area; can be adjusted via USB connection
- New, extremely small angled head with ¼" quick-change chuck or 3/8" square, freely rotatable
- Precision shut-off clutch with $C_{mk} > 1.67$ (im +/-10% – tolerance range as per VDI 2647)
- Visual and acoustic indication of the results of the screwdriving operation, as well as the battery status, for maximum process reliability
- Bosch Premium lithium-ion technology for a long service life and runtime



Order number

**ANGLE EXACT
12V-12-400**

0 602 496 600



**ANGLE EXACT
12V-6-600**

0 602 496 601



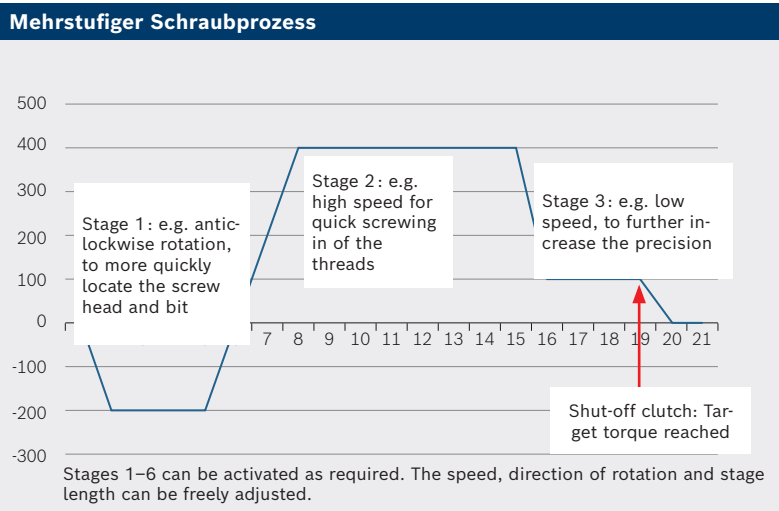
**ANGLE EXACT
12V-3-600**

0 602 496 602



Configuration	Torque hard/soft as per ISO 5393 (Nm)	Speed (idle speed)	Battery specifications	Direction of rotation	Weight as per EPTA (kg)
with 12 V angled head (please order separately)	3–10 Nm maximum 12*	74–370** with a maximum Power Boost of 500	12 V 3.0 Ah***	R/L	1.1****
with adapter 0 602 496 022 and straight screw head 0 607 453 631 (please order separately)	1.5–6 maximum 6.5*	34–670** with Power Boost maximum 910	12 V 3.0 Ah***	R/L	1.2****
with adapter 0 602 496 022 and 180W straight screw head (please order separately)	2.5–8 maximum 9*	95–480** with a maximum Power Boost of 650	12 V 3.0 Ah***	R/L	1.2****
with 12 V angled head (please order separately)	2.0–6.0	120–600** with a maximum Power Boost of 800	12 V 3.0 Ah***	R/L	1.1****
with 12 V angled head (please order separately)	1.0–3.5	120–600** with a maximum Power Boost of 800	12 V 3.0 Ah***	R/L	1.1****
	* Only possible in cyclic operation: < 5 screwdriving operations per minute	** limited power at speeds <50%	*** Battery not included in scope of delivery		**** incl. battery 3.0 Ah and angled head

EXACT ION AND ANGLE EXACT ION 18V WITH LITHIUM-ION TECHNOLOGY



Greater process reliability:

- Precision shut-off clutch with $C_{mk} > 1.67$ (im $\pm 10\%$ – tolerance range as per VDI 2647)
- NEW! Multi-stage screwdriving process that can be adjusted to your individual screwdriving application via USB connection

Greater efficiency:

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

Greater comfort:

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

Reduced costs:

- NEW! Quicker speeds (in comparison to its predecessor) and screwdriving stages allow for a reduction in manufacturing times and improved quality

Flexible Power System



Innovative, patented interface to prevent confusion

Temperature monitoring and overload protection for an extremely long service life

Double locking mechanism that prevents the unit from falling out

Battery charge indicator for ease of discerning the state of charge

Bosch high-performance battery cells with minimal energy loss, for maximum speed and torque

Integrated cooling for an extremely long service life



1/4" quick-change chuck
for fast tool changeover

Brushless motor:
for maintenance-free operation

LED lighting for optimal
illumination of the work
area

**Visual and acoustic
indication of the results
of the screwdriving
operation, as well as
the battery status,** for a
high degree of process
reliability

The proven Bosch **shut-off clutch**
– which can be adjusted with a
special tool – for maximum preci-
sion

**New switch module and
new handle design**
for even more ergonomic
working

Innovative modular electronics
for even easier servicing

**USB interface for config-
uring speed of screwdriving
stages,** adjustable to your
specific application









Adjustable angled head
for even more ergonomic
working

Adjustable LED lighting for
optimal illumination of the work
area

**Reliable 18 V lithium-ion
battery pack** with an
extremely long service life

EXACT ION 18V WITH LITHIUM-ION TECHNOLOGY

- Precision shut-off clutch with $C_{mk} > 1.67$ (im $\pm 10\%$ – tolerance range as per VDI 2647)
- Multi-stage screwdriving process that can be adjusted to your individual screwdriving application via USB connection
- Bosch Premium lithium-ion technology for a long service life and runtime
- Brushless (EC) motor for 30% more efficiency (compared to conventional DC motors) and an extremely long service life
- New ergonomic design and lower weight for even more comfortable working
- Quicker speeds and screwdriving stages allow for a reduction in manufacturing times and improved quality

	Order number	Torque hard/soft as per ISO 5393 (Nm)	Speed (idle)
EXACT ION 2-700 	0 602 494 400	0,5 - 2	70 – 700*
EXACT ION 4-2000 	0 602 494 401	1,5 - 4	200 – 2.000*
EXACT ION 6-1500 	0 602 494 402	1,5 - 6	150 – 1.500*
EXACT ION 8-1100 	0 602 494 403	2 - 8	110 – 1.100*
EXACT ION 12-700 	0 602 494 404	2 - 12	70 – 700*
EXACT ION 12-450 	0 602 494 405	2 - 12	45 – 450*

* Below 50% speed, there may be less power

Tool holder	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Accessories included in scope of delivery
1/4" quick-change chuck	18 V/2.0 Ah **	R/L	1.3 (incl. battery)	Light-green colour ring
1/4" quick-change chuck	18 V/2.0 Ah **	R/L	1.3 (incl. battery)	Grey colour ring
1/4" quick-change chuck	18 V/2.0 Ah **	R/L	1.3 (incl. battery)	Black colour ring
1/4" quick-change chuck	18 V/2.0 Ah **	R/L	1.3 (incl. battery)	Orange colour ring
1/4" quick-change chuck	18 V/2.0 Ah **	R/L	1.3 (incl. battery)	Red colour ring
1/4" quick-change chuck	18 V/2.0 Ah **	R/L	1.3 (incl. battery)	Black colour ring

** Battery not included in scope of delivery

EXACT ION WK 18V WITH LITHIUM-ION TECHNOLOGY

- Precision shut-off clutch with $C_{mk} > 1.67$ (im $\pm 10\%$ – tolerance range as per VDI 2647)
- Multi-stage screwdriving process that can be adjusted to your individual screwdriving application via USB connection
- Bosch Premium lithium-ion technology for a long service life and runtime
- Brushless (EC) motor for 30% more efficiency (compared to conventional DC motors) and an extremely long service life
- New ergonomic design and lower weight for even more comfortable working
- Quicker speeds and screwdriving stages allow for a reduction in manufacturing times and improved quality

	Order number	Torque hard/soft as per ISO 5393 (Nm)*	Speed (idle)*
EXACT ION 6-1500 WK 	0 602 494 406	2 – 8	105 – 1.050**
EXACT ION 8-1100 WK 	0 602 494 407	2 – 11	75 – 750**
EXACT ION 12-700 WK 	0 602 494 408	2 – 16	50 – 500**
EXACT ION 12-450 WK 	0 602 494 409	2 – 16	32 – 320**

* Measured with Bosch angled screw head

** Below 50% speed, there may be less power

Tool holder	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Accessories included in scope of delivery
Flange for angled head ***	18 V/2.0 Ah ****	R/L	1.4 (incl. battery)	Black colour ring
Flange for angled head ***	18 V/2.0 Ah ****	R/L	1.4 (incl. battery)	Orange colour ring
Flange for angled head ***	18 V/2.0 Ah ****	R/L	1.4 (incl. battery)	Red colour ring
Flange for angled head ***	18 V/2.0 Ah ****	R/L	1.4 (incl. battery)	Light blue colour ring

*** Angled head not included in scope of

**** Battery not included in scope of delivery

ANGLE EXACT ION 18V WITH LITHIUM-ION TECHNOLOGY

- Precision shut-off clutch with $C_{mk} > 1.67$ (im $\pm 10\%$ – tolerance range as per VDI 2647)
- Multi-stage screwdriving process that can be adjusted to your individual screwdriving application via USB connection
- Bosch Premium lithium-ion technology for a long service life and runtime
- Brushless (EC) motor for 30% more efficiency (compared to conventional DC motors) and an extremely long service life
- New ergonomic design and lower weight for even more comfortable working
- Quicker speeds and screwdriving stages allow for a reduction in manufacturing times and improved quality

	Order number	Torque hard/soft as per ISO 5393 (Nm)	Speed (idle)
ANGLE EXACT ION 3-500 	0 602 494 608	0,7 – 3	50 – 520*
ANGLE EXACT ION 8-1100 	0 602 494 600	2 – 8	110 – 1.100*
ANGLE EXACT ION 15-500 	0 602 494 601	2 – 15	50 – 520*
	0 602 494 60A	2 – 15	50 – 520*
ANGLE EXACT ION 23-380 	0 602 494 602	10 – 23	38 – 380*
ANGLE EXACT ION 30-290 	0 602 494 607	10 – 30	29 – 290*
	0 602 494 60B	10 – 30	29 – 290*
ANGLE EXACT ION 30-300 	0 602 494 603	10 – 30	30 – 300*
ANGLE EXACT ION 40-220 	0 602 494 604	15 – 40	22 – 220*
ANGLE EXACT ION 50-210 	0 602 494 605	15 – 50	21 – 180*
ANGLE EXACT ION 60-120 	0 602 494 606	15 – 60	12 – 120*

* Below 50% speed, there may be less power

Tool holder	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Accessories included in scope of delivery
Flange for angled head**	18 V/2.0 Ah ***	R/L	1.7 (incl. battery and angled head)	Light-green colour ring
Flange for angled head**	18 V/2.0 Ah ***	R/L	1.7 (incl. battery and angled head)	Light blue colour ring
Flange for angled head**	18 V/2.0 Ah ***	R/L	1.7 (incl. battery and angled head)	Light-green colour ring
3/8" square (sq.)	18 V/2.0 Ah ***	R/L	1.7 (incl. battery and angled head)	Light-green colour ring Angled screw head 3/8"
Flange for angled head**	18 V/4.0 Ah ***	R/L	2.2 (incl. battery and angled head)	White colour ring
Flange for angled head**	18 V/4.0 Ah ***	R/L	2.2 (incl. battery and angled head)	Grey colour ring
3/8" square (sq.)	18 V/4.0 Ah ***	R/L	2.2 (incl. battery and angled head)	Grey colour ring Angled screw head 3/8"
3/8" square (sq.)	18 V/4.0 Ah ***	R/L	2.4 (incl. battery and angled head)	Light-grey colour ring Angled screw head 3/8"
3/8" square (sq.)	18 V/4.0 Ah ***	R/L	2.4 (incl. battery and angled head)	Orange colour ring Angled screw head 3/8"
3/8" square (sq.)	18 V/4.0 Ah ***	R/L	2.4 (incl. battery and angled head)	Red colour ring Angled screw head 3/8"
3/8" square (sq.)	18 V/4.0 Ah ***	R/L	2.4 (incl. battery and angled head)	Black colour ring Angled screw head 3/8"

** Angled head not included in scope of delivery

*** Battery not included in scope of delivery

2

ACCESSORIES EXACT ORIGINAL ACCESSORIES



FUNCTION GUARANTEED: EXACT ORIGINAL ACCESSORIES

Intelligent battery chargers, original BOSCH battery packs, general accessories and dimensional drawings.



BOSCH CORDLESS TECHNOLOGY PRE-PROGRAMMED FOR MAXIMUM EFFICIENCY

ProCORE18V 4.0 Ah battery pack

The power of a standard rechargeable battery in a highly compact design with minimal weight:

- The new cell technology delivers the same performance as standard 4.0 Ah batteries, with an optimised size and minimal weight
- Compatible since 2008: All of our batteries are compatible with new and existing Bosch Professional tools in the same voltage class.
- COOLPACK 2.0 technology provides superior heat dissipation for a 135% longer service life than standard batteries

The ProCORE18V 4.0Ah Professional is the lightest and most compact rechargeable battery from the Bosch ProCORE18V range. Designed with optimised dimensions and minimal weight, it features the latest generation of cell technology, which delivers the same performance as a standard 4.0 Ah rechargeable battery. What's more, it's compatible with all new and existing Bosch Professional 18-volt tools and chargers (Professional 18V System), making it a highly flexible solution.

The battery is also equipped with COOLPACK 2.0 technology, which ensures superior heat dissipation from the interior of the battery to its exterior. Because this heat would otherwise damage the cells, this means that the COOLPACK 2.0 technology ensures an impressive 135% battery service life in comparison to standard rechargeable batteries, which in turn allows for longer operating times.

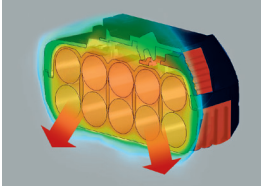


Bosch CoolPack for up to 100% longer service life



100% compatibility within the 18-volt range

Longest runtimes and extended service life thanks to CoolPack



The red **CoolPack** housing is made from thermally conductive material for up to 100% longer service life, in comparison to a Bosch rechargeable battery without **CoolPack**. Bosch **CoolPack** ensures balanced heating and reduces overheating!



Silver-plated high-performance contacts

Battery charge indicator comprising three LEDs

Electronic coding for device and charger

Large, ergonomic push-button for removing the battery

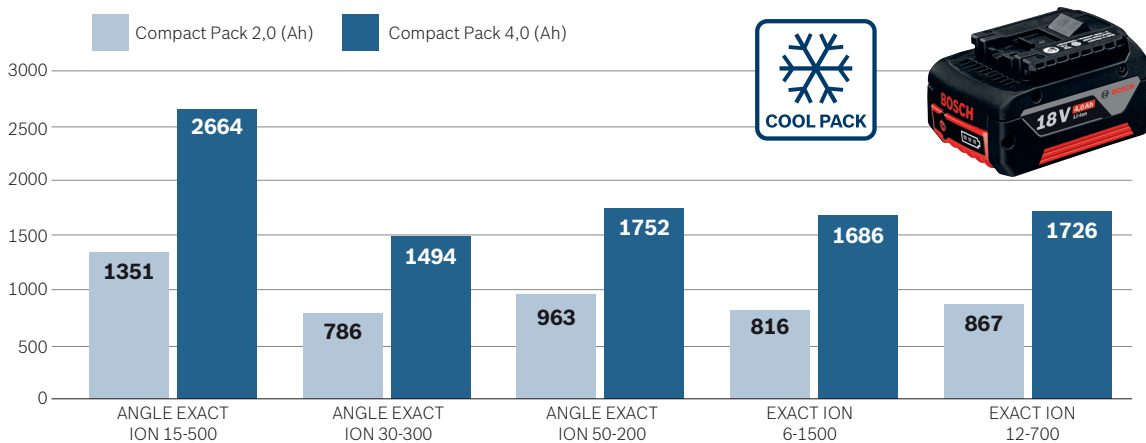
Robust interface for insertion

Robust housing

Superior-quality, superior-capacity lithium-ion cells

Built-in temperature sensor

Anzahl Verschraubungen pro Akkuladung




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

BATTERY PACKS AND CHARGERS FOR EXACT AND ANGLE EXACT LITHIUM-ION





12 V battery packs and chargers



Lithium-ion	Order number	Description	Voltage (V)	Capacity (Ah)	Weight as per EPTA (kg)
GBA 12 V / 2,0 Ah Professional 	0 602 494 020	Battery GBA 12V 2.0 Ah, pack of 27	12	2.0	27 x 0.175
GBA 12 V / 3,0 Ah Professional 	0 602 496 012	Battery GBA 12V 3.0 Ah, pack of 28	12	3.0	28 x 0.18
GBA 12 V / 6,0 Ah Professional 	0 602 496 013	Battery GBA 12V 6.0 Ah, pack of 12	12	6.0	12 x 0.385
Lithium-ion quick charger	Order number	Description	Voltage (V)	Capacity (Ah)	Weight as per EPTA (kg)
GAL 12V-40 Charges the GBA 12V/3.0 Ah in 50 minutes and the GBA 12 V/6.0 Ah in 95 minutes completely to 100%. 	0 602 494 007	Charger GAL 12V-40, pack of 16	230		16 x 0.45
	0 602 496 014	Charger GAL 12V-40, pack of 16 (UK plug)	230		16 x 0.45











18 V lithium-ion battery packs and chargers



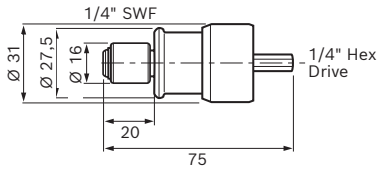
Lithium-ion	Order number	Description	Voltage (V)	Capacity (Ah)	Weight as per EPTA (kg)
18 V/2,0 Ah 	0 602 494 002	Battery, pack of 12	18	2.0	12 x 0.35
18 V/4,0 Ah 	0 602 494 004	Battery, pack of 12	18	4.0	12 x 0.6
18 V/5,0 Ah 	0 602 494 003	Battery, pack of 12	18	5.0	12 x 0.6
ProCORE18V 4,0Ah 	0 602 494 034	Battery, pack of 15	18	4.0	15 x 0.515

Lithium-ion quick charger	Order number	Description	Voltage (V)	Weight as per EPTA (kg)
GAL 1880 CV Charges the GBA 18 V/2.0 Ah in 30 minutes and the GBA 18 V/5.0 Ah in 45 minutes completely to 100%. 	0 602 494 035	Charger GAL 1880 CV, pack of 18	230	18 x 0.7
	0 602 494 036	Charger GAL 1880 CV, pack of 18 (UK plug)	230	18 x 0.7
GAL 18V-40 Charges the GBA 18 V/2.0 Ah in 35 minutes and the GBA 18 V/5.0 Ah in 70 minutes completely to 100%. 	0 602 494 039	Charger GAL 18V-40, pack of 18	230	18 x 0.55
	0 602 494 040	Charger GAL 18V-40, pack of 18 (UK plug)	230	18 x 0.55

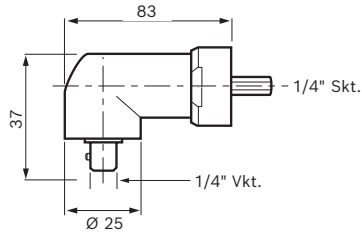
ANGLED HEADS FOR EXACT AND ANGLE EXACT

		Order number	Max. torque (Nm)	Drive end	Weight (kg)	Quantity
Angled heads 12 V		0 602 496 020	15	3/8" square	0.18	1
		0 602 496 021	15	1/4" quick-change chuck	0.18	1
Adapter 12 V ANGLE EXACT 12V-12-400 for use with the straight head and the 180W angled heads		0 602 496 022		Flange for straight head and 180W angled heads	0.1	1
Straight head		0 607 453 631	6	1/4" quick-change chuck	0.2	1
Angled heads 180W Gear ratio 1.4:1		0 607 453 617	27	1/4" square	0.2	1
		0 607 453 618	27	1/4" internal hex.	0.2	1
		0 607 453 620	27	3/8" square	0.2	1
		0 607 453 630	27	1/4" quick-change chuck	0.2	1
HD angled head Gear ratio 1.4:1		0 607 451 618	35	3/8" square	0.22	1
Protective cap For angled heads	suitable for angled heads 180W 0607453617, ...618, ...620 and ...630	3 605 500 171	-	-	-	1
	suitable for HD angled head 0607451618	3 605 500 175	-	-	-	1
	 suitable for angled head 12V 0602496020 and ...021	0 602 496 015				5
Protective cap for large angle head Prevents damage to the workpiece	suitable for ANGLE EXACT ION 30-300, 40-220, 50-210, 60-120	3 609 202 A29	-	-	-	1

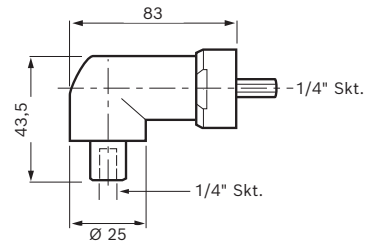
0 607 453 631 Dimensions in mm



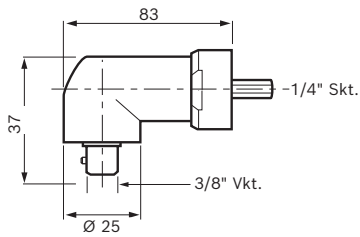
0 607 453 617 Dimensions in mm



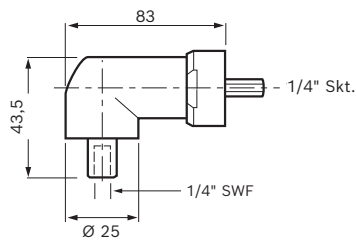
0 607 453 618 Dimensions in mm



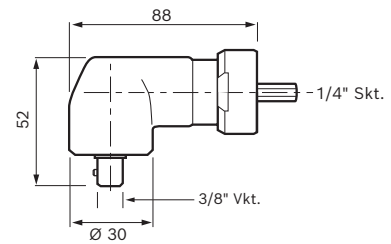
0 607 453 620 Dimensions in mm



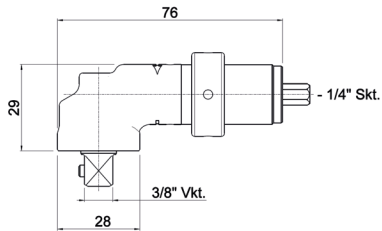
0 607 453 630 Dimensions in mm



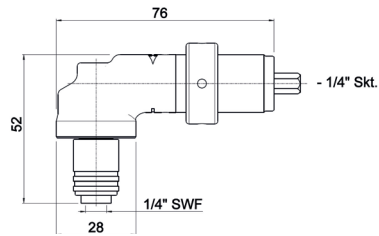
0 607 451 618 Dimensions in mm



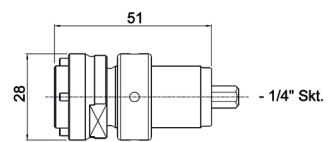
0 602 496 020 Dimensions in mm



0 602 496 021 Dimensions in mm



0 602 496 022 Dimensions in mm

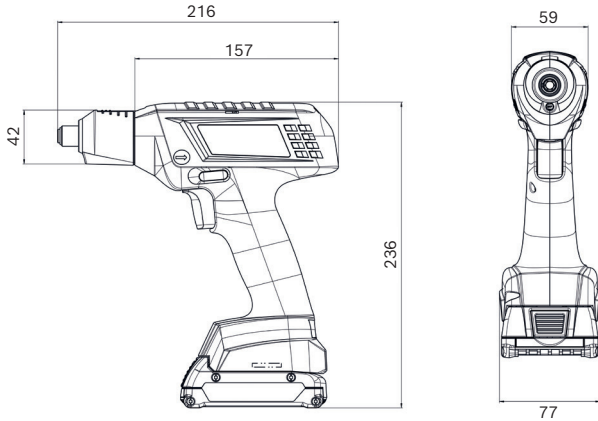


EXACT ION AND ANGLE EXACT ION 18V ACCESSORIES

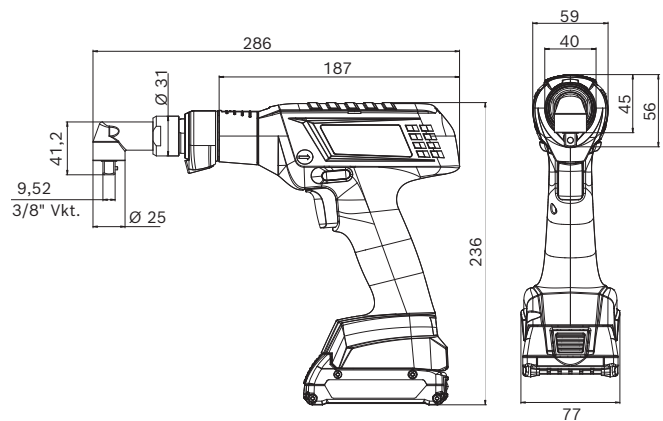
EXACT ION accessories		Order number	Quantity	
Colour rings For quick identification of the torque range Suitable for all EXACT ION centre-grip screwdrivers		Black	3 600 106 010	5
		Red	3 600 106 011	5
		Light-blue	3 600 106 012	5
		Light-green	3 600 106 013	5
		Orange	3 600 106 014	5
		Grey	3 600 106 017	5
		White	3 600 106 019	5
Protectors Prevent damage to the workpiece Suitable for all EXACT ION centre-grip screwdrivers Not a cover for the motor ventilation openings Only available as a pack of 10		Transparent	0 602 494 016	10
		Red	0 602 494 018	10
		Blue	0 602 494 017	10
		Yellow	0 602 494 032	10
		Green	0 602 494 019	10
ANGLE EXACT ION accessories		Order number	Quantity	
Colour rings For quick identification of the torque range Suitable for all ANGLE EXACT ION centre-grip screwdrivers		Black	3 600 106 027	5
		Red	3 600 106 028	5
		Light-blue	3 600 106 029	5
		Light-green	3 600 106 030	5
		Orange	3 600 106 031	5
		Grey	3 600 106 032	5
		White	3 600 106 033	5
Protectors Prevent damage to the workpiece Suitable for all ANGLE EXACT angled screwdrivers Not a cover for the motor ventilation openings Only available as a pack of 10		Transparent	0 602 494 010	10
		Red	0 602 494 012	10
		Blue	0 602 494 011	10
		Yellow	0 602 494 033	10
		Green	0 602 494 013	10
Battery pack accessories				
Battery pack protectors Prevent damage to the battery Not a cover for the CoolPack housing Suitable for 18-volt lithium-ion battery packs Only available as a pack of 10		Transparent – for the Pro-CORE18V 4.0 Ah battery pack	0 602 494 038	10
		Transparent – for the Compact battery pack 2.0 Ah	0 602 494 014	10
		Transparent – for the Premium battery pack 4.0 Ah	0 602 494 015	10

EXACT ION, -WK AND ANGLE EXACT ION ACCESSORIES AND DIMENSIONAL DRAWINGS

EXACT ION Dimensions in mm

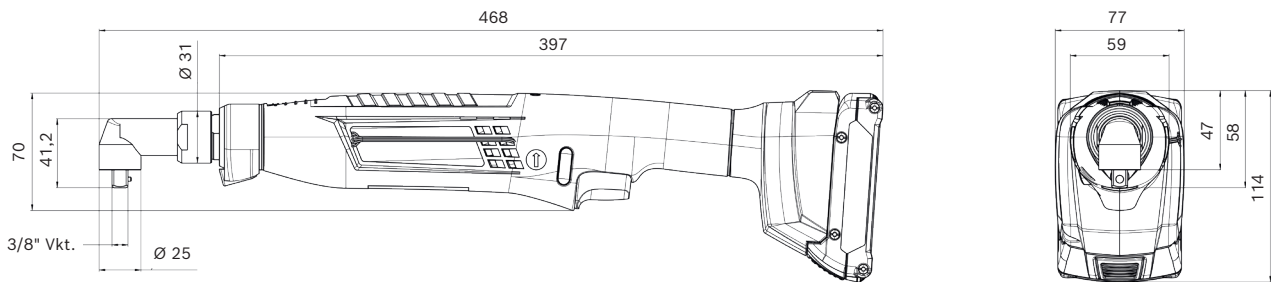


EXACT ION WK Dimensions in mm



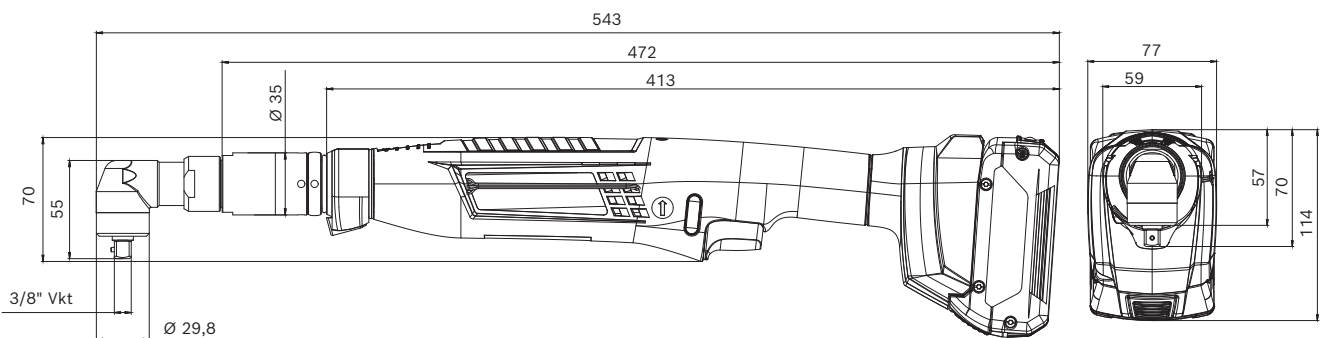
ANGLE EXACT ION model: 15-500 and 8-1100

Dimensions in mm



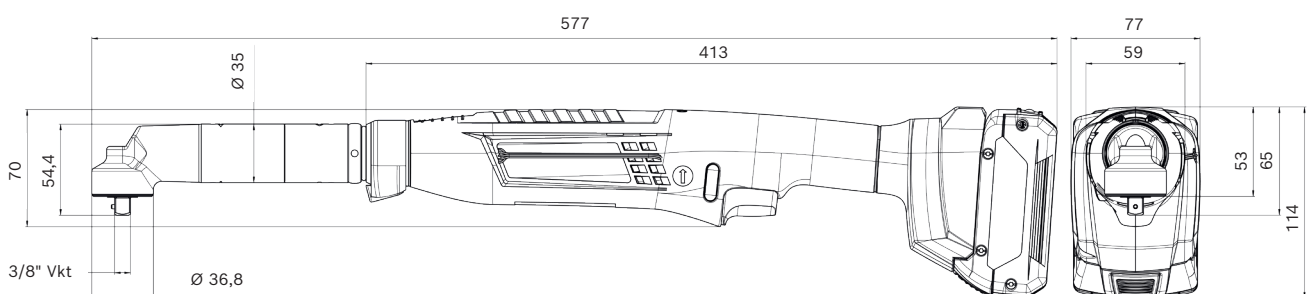
ANGLE EXACT ION model: 23-380 and 30-290

Dimensions in mm










ANGLE EXACT ION model: 30-300, 40-220, 50-200 and 60-120

Dimensions in mm



EXACT 12V AND ANGLE EXACT 12V ACCESSORIES

EXACT 12V and ANGLE EXACT 12V accessories		Order number	Quantity	
Coloured covers For quick identification of the torque range, with an extra-large adhesive surface Suitable for all EXACT 12V and ANGLE EXACT 12V devices		Black	0 602 497 008	5
		Blue	0 602 497 004	5
		Red	0 602 497 005	5
		Green	0 602 497 006	5
		Yellow	0 602 497 007	5
RFID attachment Black cover with NFC chip for wireless identification of the screwdriver. Suitable for all EXACT 12V and ANGLE EXACT 12V devices		Black (Chip: NXP NTAG 216 – 924 Byte)	0 602 496 011	5
Torque adjustment tool For adjusting the clutch			3 607 950 027	1

EXACT 12V accessories		Order number	Quantity	
Protectors Prevent damage to the workpiece Suitable for all EXACT 12V centre-grip screwdrivers Not a cover for the motor ventilation openings Only available as a pack of 5		Clear	0 602 496 000	5
		Blue	0 602 496 001	5
		Red	0 602 496 002	5
		Green	0 602 496 003	5
		Yellow	0 602 496 004	5

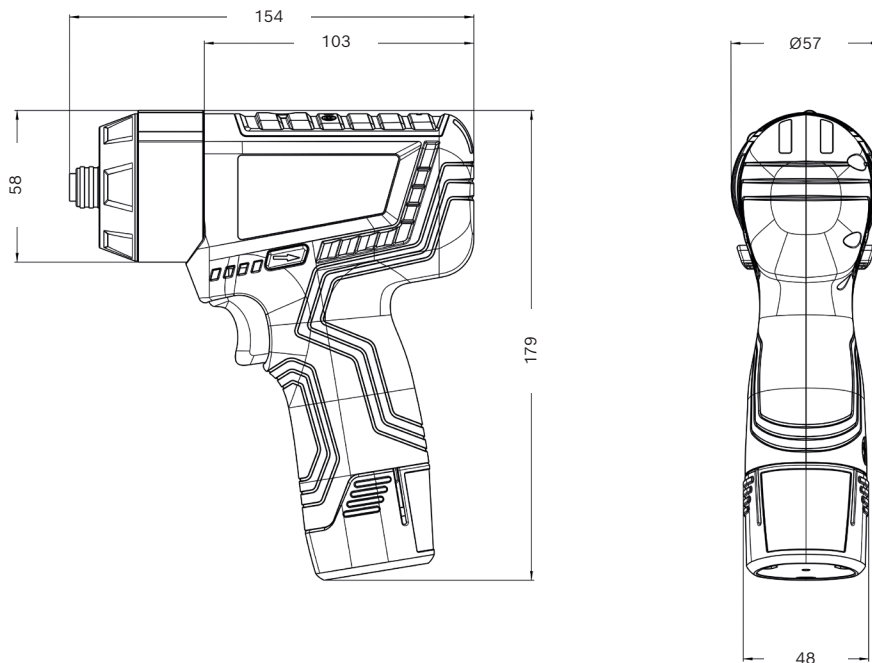
ANGLE EXACT 12V accessories		Order number	Quantity	
Protectors Prevent damage to the workpiece Suitable for all ANGLE EXACT 12V angled screwdrivers Not a cover for the motor ventilation openings Only available as a pack of 5		Clear	0 602 496 005	5
		Blue	0 602 496 006	5
		Red	0 602 496 007	5
		Green	0 602 496 008	5
		Yellow	0 602 496 009	5

Battery pack accessories		Order number	Quantity	
Battery pack protectors Prevent damage to the battery Only available as a pack of 5		Clear For the GBA 12V 6.0 Ah	0 602 496 010	5

EXACT 12V AND ANGLE EXACT 12V ACCESSORIES AND DIMENSIONAL DRAWINGS

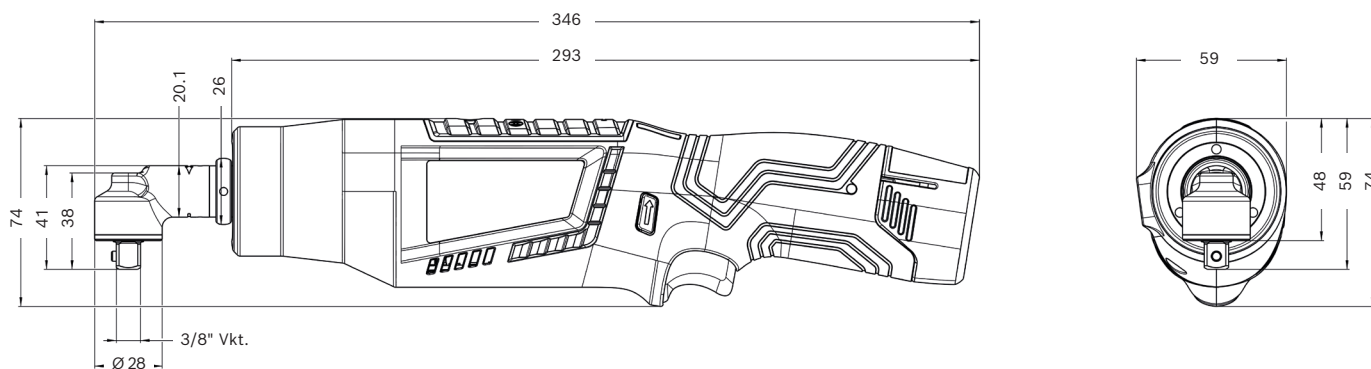
EXACT 12V

Dimensions in mm



ANGLE EXACT 12V

Dimensions in mm



ACCESSORIES FOR ALL EXACT AND ANGLE EXACT DEVICES

Accessories for all EXACT and ANGLE EXACT	Order number	Quantity	
Torque adjustment tool For adjusting the clutch		3 607 950 027	1
Protective cap For all 1/4" quick-change chucks For adjusting the clutch		3 605 500 210	5

REFERENCE VALUES FOR TIGHTENING TORQUES

Reference values for maximum screw tightening torques in Nm. Assumed underhead friction $\mu_{\text{tot}} = 0.125$, calculated from the stressed cross-section; valid for shaft screws with a metric standard thread as per DIN 13, sheet 13, head contacts as per DIN 931, 933.

Strength classes as per DIN 267	5.8	6.8	6.9	8.8	10.9	12.9	14.9
M 1	0.0239	0.0287	0.0322	0.0382	0.0539	0.0646	0.0755
M 1.2	0.0456	0.0547	0.0618	0.0732	0.103	0.123	0.144
M 1.4	0.074	0.088	0.099	0.118	0.166	0.199	0.232
M 1.6	0.106	0.128	0.144	0.17	0.238	0.288	0.336
M 1.8	0.166	0.2	0.225	0.265	0.373	0.45	0.52
M 2	0.22	0.264	0.297	0.35	0.5	0.595	0.635
M 2.5	0.444	0.54	0.608	0.72	1.02	1.21	1.42
M 3	0.78	0.935	1.05	1.24	1.75	2.1	2.45
M 4	1.78	2.14	2.4	2.9	4	4.8	5.6
M 5	3.5	4.21	4.73	5.5	8	9.4	11
M 6	6.02	7.22	8.13	9.7	13.6	16.2	18.9
M 8	14.6	17.5	19.7	23	33	39	46
M 10	29	35	39	47	65	78	92
M 12	50	60	67	80	113	135	158
M 14	79	95	107	130	180	215	251
M 16	122	147	165	196	275	330	336
M 18	168	202	227	270	380	450	530
M 20	238	286	320	385	540	635	750
M 22	320	385	430	510	715	855	1010
M 24	410	490	455	650	910	1100	1290
M 27	605	725	815	960	1345	1615	1900
M 30	820	990	1110	1300	1830	2200	2600
M 33	1110	1340	1500	1770	2480	2980	3500
M 36	1430	1720	1930	2260	3170	3810	4500
M 39	1850	2220	2500	2970	4170	5000	5800
M 42	2290	2750	3100	3670	5170	6200	7230



