

An abstract painting with bold, expressive brushstrokes in blue, yellow, orange, and green. The composition is dynamic, with various geometric shapes and lines. A small, stylized eye-like shape is visible in the upper left quadrant. The overall style is reminiscent of modern abstract art.

MTS

automation
components

SKRUTKOVACIE SYSTÉMY A PRIEMYSELNÉ NÁRADIE



Od roku 1996 pomáhame firmám inovovať výrobu pomocou moderných a inteligentných technológií.

Takých, ktoré umožňujú vyrábať technologicky najnáročnejšie produkty. Popritom zefektívňujú výrobné procesy, šetria ľuďom čas a uľahčujú im život.

Naším cieľom sú kvalitné výrobky, spokojní ľudia a dobré prostredie v priemyselnej výrobe.

Prostriedkom sú naša odbornosť a skúsenosti, férové vzťahy a starostlivo vybrané spoľahlivé technológie.

Chceme ukázať, že je možné úspešne podnikáť aj férovo, ľudsky a s pevnými hodnotami. Že spoločnosť z Oravy môže byť kľúčovým partnerom pre veľké firmy z celého sveta.

Vybavíme vašu výrobu osvedčenými komponentmi od našich dlhoročných partnerov.

Poradíme vám s ich výberom a aj s tým, ako vybrané komponenty do vašej linky čo najlepšie a cenovo najvýhodnejšie implementovať a využiť na maximum. Vieme sa postarať aj o celú vašu výrobu od A po Z.



Vyrobiť kvalitný výrobok si vyžaduje aj jeho kvalitnú montáž. Súčasťou takejto montáže je bežne skrutkovací proces, pri ktorom je potrebné zaskrutkovať skrutku alebo maticu na predpísaný krútiaci moment. No nielen to.

Častokrát je požadované sledovať aj uhol pootočenia skrutky, čas a rýchlosť skrutkovania, či mať možnosť archivovať výsledky, zobraziť skrutkovací priebeh a ďalšie parametre. Dôležité je, aby skrutkovací proces bol nielen presný, ale aj stabilný.

Preto je potrebné použiť skrutkovací systém, ktorý je schopný splniť vyššie uvedené požiadavky.

A jedným z mála takýchto systémov sú elektrické **skrutkovacie systémy od firmy Bosch Rexroth**, s ktorou v tejto oblasti už dlhodobo spolupracujeme.



Marek Bučka
obchodno-technický poradca
pre skrutkovacie systémy





SKRUTKOVACIE SYSTÉMY A PRIEMYSELNÉ NÁRADIE BOSCH REXROTH



Máme všetko, čo potrebujete na ľahké montáže, ale aj na skrutkovanie vo výrobe – od automobilového priemyslu po výrobu spotrebičov. Vyberte si ručné skrutkovacie vretená alebo vretená osadené do manipulátorov a do automatizovaných staníc.

A k tomu poctivé náradie od spoľahlivého výrobcu Bosch, ktoré je konštruované špeciálne na nasadenie v priemyselnej výrobe.

Máme pre vás...

- **Skrutkovacie vretená** pre automatické stanice s rozsahom krútiacich momentov 0,6–1000 Nm.
- **Ručné skrutkovacie vretená** s rozsahom krútiacich momentov 1–220 Nm a v uhlovom alebo pištoľovom prevedení.
- **Priemyselné akumulátorové náradie**, ktoré vám pomôže všade tam, kde by prekážal kábel alebo hadice.
- **Vysokofrekvenčné náradie** s dobrou životnosťou a energetickou nenáročnosťou, ktoré využijete najmä na brúsenie.
- **Servisné vzduchové náradie** užitočné v remeselníckych dielňach a opravovniach.

Keď ide o skrutkovanie alebo priemyselné náradie, spoliehame sa na výrobky Bosch Rexroth.

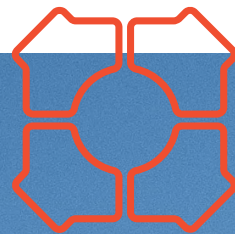
- Ich techniku máme odskúšanú vo vlastnej výrobe. Nekazí sa a dá sa na ňu spoľahnúť.
- So skrutkovacími systémami Rexroth vytvoríte pevné a precízne spoje, ktoré nezlyhajú.
- Náradie vám dobre padne do ruky a ľahko sa s ním pracuje.
- Ručné výrobky sú ľahké, ale znesú aj extrémne zaťaženie.
- Všetky produkty majú tichý chod.

Zistite viac na mts.sk/skrutkovacie-systemy

OBSAH KATALÓGU

Priemyselné náradie 5

Kontakt 27



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 new C-EXACT electric screwdrivers offer much more than just a robust housing.
High accuracy and repeatability are guaranteed, even after driving 1 million* screws.



* according to Bosch endurance tests

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. Colour 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.



ElectroStatic Discharge (ESD) compliant means the screwdriving system is ideal for use in the electronics and electrical industries.



* according to Bosch endurance tests


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 brush-less EC motor technology
- High shut-off accuracy with very low tolerance
- Large torque range
- Visual and audible shut-off signals

	Part number	Torque, hard as per ISO 5393 (Nm)	Torque, soft as per ISO 5393 (Nm)
Electric screwdrivers C-EXACT 1 	0 602 495 202	0.2 – 0.8	0.2 – 0.8
	0 602 495 207	0.2 – 0.8	0.2 – 0.8
Electric screwdrivers C-EXACT 2 	0 602 495 203	0.5 – 2	0.5 – 2
	0 602 495 208	0.5 – 2	0.5 – 2
Electric screwdrivers C-EXACT 4 	0 602 495 200	0.5 – 3.5	0.5 – 3.5
	0 602 495 205	0.5 – 3.5	0.5 – 3.5
Electric screwdrivers C-EXACT 6 	0 602 495 210	1 – 6	1 – 6
	0 602 495 211	1 – 6	1 – 6
Electric screwdrivers C-EXACT 6 	0 602 495 215	1 – 6	1 – 6
	0 602 495 216	1 – 6	1 – 6

- 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)	Features and functions	Included accessories
1,000	36 DC	360	R/L	0.65	Lever start	Connecting cable 2.5 m Suspension hook Green colour ring Torque adjustment tool
1,000	36 DC	360	R/L	0.65	Push start	
500	36 DC	360	R/L	0.65	Lever start	Connecting cable 2.5 m Suspension hook White colour ring Torque adjustment tool
500	36 DC	360	R/L	0.65	Push start	
1,000	36 DC	360	R/L	0.65	Lever start	Connecting cable 2.5 m Suspension hook Grey colour ring Torque adjustment tool
1,000	36 DC	360	R/L	0.65	Push start	
1,000	36 DC	360	R/L	0.65	Lever start	Connecting cable 2.5 m Suspension hook Black colour ring Torque adjustment tool
500	36 DC	360	R/L	0.65	Lever start	
1,000	36 DC	360	R/L	0.65	Push start	Connecting cable 2.5 m Suspension hook Black colour ring Torque adjustment tool
500	36 DC	360	R/L	0.65	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

2

EXACT ION and ANGLE EXACT ION

Now with lithium-ion technology



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 whilst 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 (EXACT ION) also ensures impressively comfortable working in shift operations.

Now also with:



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.



Greater user-friendliness and productivity:

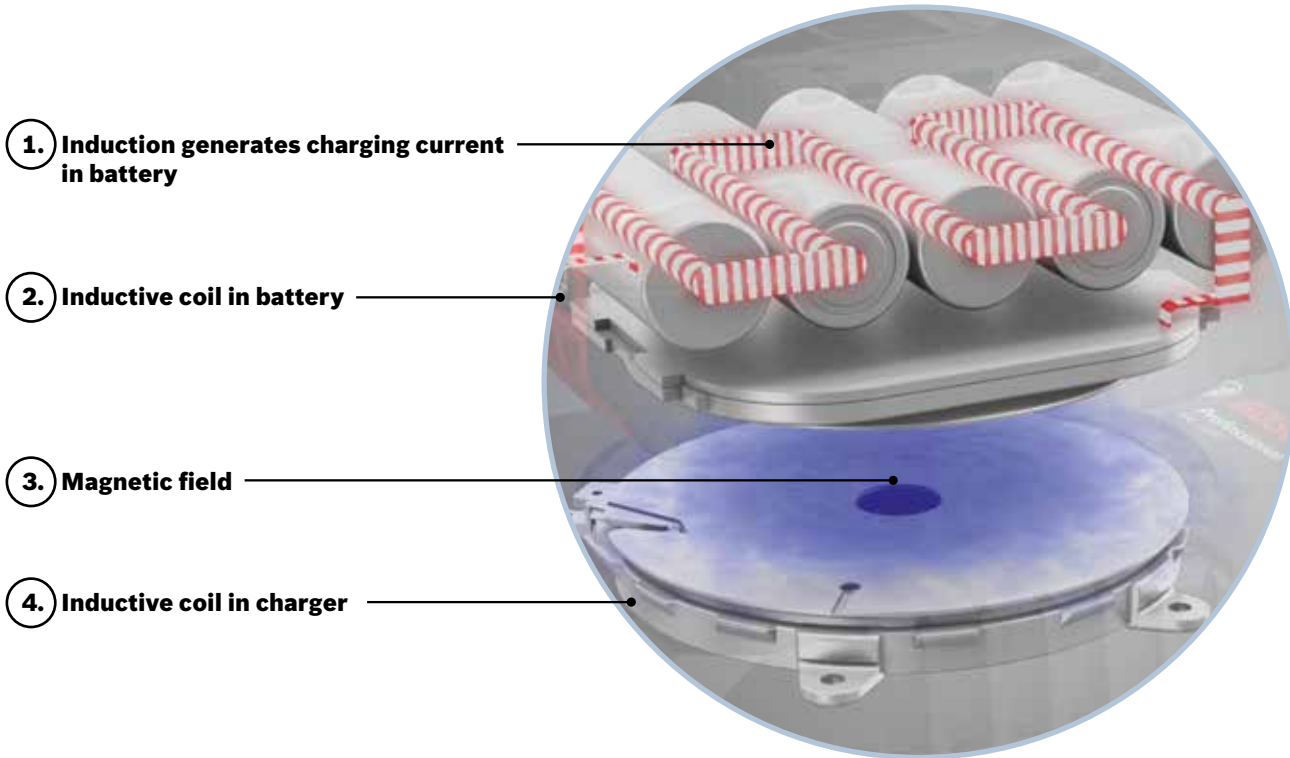
- ▶ Batteries can stay in the tool
- ▶ Charging takes place automatically when the tool is placed on the charger, so it requires no effort
- ▶ Flexible mounting frame on the charger allows for a wide range of ergonomic positions – easy to mount at the workplace



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

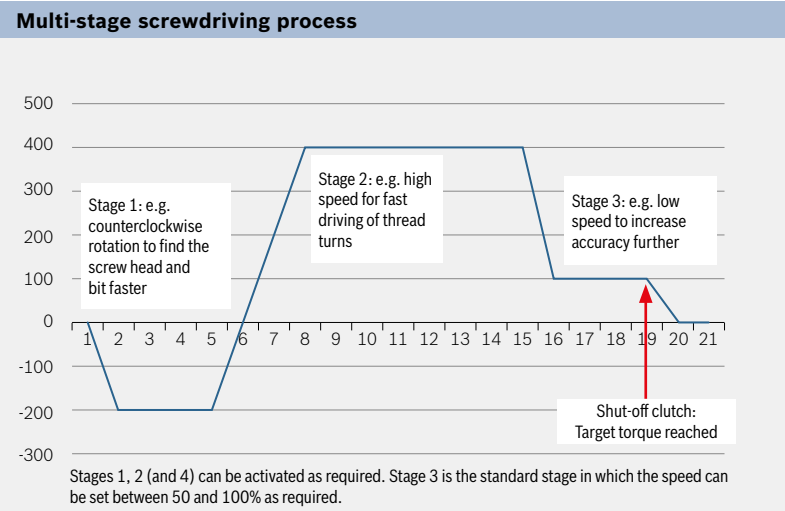


Wireless Charging packs of 5

Pack of 5 chargers	Part number	Description	Voltage (V)	Weight as per EPTA (kg)	
 GAL 1830 W Professional + mounting frame	0 602 494 024	Pack of 5 chargers	230	5 x 0.55	
Pack of 5 batteries	Part number	Description	Voltage (V)	Capacity (Ah)	Weight as per EPTA (kg)
 GBA 18 V 2,0 Ah MW-B Professional	0 602 494 021	Pack of 5 batteries	18	2.0	5 x 0.5
 GBA 18 V 4,0 Ah MW-B Professional	0 602 494 027	Pack of 5 batteries	18	4.0	5 x 0.8

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 $\pm 10\%$ 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

Flexible Power System



- ▶ **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



1/4" quick-release chuck, for fast bit changes

Lighting LED, for optimum illumination of the work area

The proven Bosch **shut-off clutch** is adjustable with a special tool, for the highest accuracy

New type of modular electronics, for even easier maintenance

Angle head adjustable, for even more ergonomic use

Lighting LED adjustable, for optimum illumination of the work area

The safest 18 volt Li-Ion battery pack, with extremely long lifetime

Brushless motor: Made by BOSCH, for maintenance-free operation

Visual and audible indication of screwdriving results and battery status, for the greatest process reliability

New switch module and new handle design, for even more ergonomic use







USB interface for configuring speed of screwdriving stages, adjustable to your specific application








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)	Speed (no-load)
EXACT ION 2-700 	0 602 494 400	0.5 – 2	70 – 700
EXACT ION 4-2000 	0 602 494 401	1 – 4	200 – 2,000
EXACT ION 6-1500 	0 602 494 402	1 – 6	150 – 1,500
EXACT ION 8-1100 	0 602 494 403	1.5 – 8	110 – 1,100
EXACT ION 12-700 	0 602 494 404	1.5 – 12	70 – 700
EXACT ION 12-450 	0 602 494 405	1.5 – 12	45 – 450





Bit holder	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Included accessories
1/4" quick-release chuck	18 V/2.0 Ah *  possible	R/L	1.3 (including battery)	Light green colour ring Torque adjustment tool Suspension hook
1/4" quick-release chuck	18 V/2.0 Ah *  possible	R/L	1.3 (including battery)	Grey colour ring Torque adjustment tool Suspension hook
1/4" quick-release chuck	18 V/2.0 Ah *  possible	R/L	1.3 (including battery)	Black colour ring Torque adjustment tool Suspension hook
1/4" quick-release chuck	18 V/2.0 Ah *  possible	R/L	1.3 (including battery)	Orange colour ring Torque adjustment tool Suspension hook
1/4" quick-release chuck	18 V/2.0 Ah *  possible	R/L	1.3 (including battery)	Red colour ring Torque adjustment tool Suspension hook
1/4" quick-release chuck	18 V/2.0 Ah *  possible	R/L	1.3 (including battery)	Black colour 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 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)*	Speed (no-load)*
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 angle screwdriving head

Bit holder	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Included accessories
Flange for angle head **	18 V/2.0 Ah ***  possible	R/L	1.4 (including battery)	Black colour ring Torque adjustment tool Suspension hook
Flange for angle head **	18 V/2.0 Ah ***  possible	R/L	1.4 (including battery)	Orange colour ring Torque adjustment tool Suspension hook
Flange for angle head **	18 V/2.0 Ah ***  possible	R/L	1.4 (including battery)	Red colour ring Torque adjustment tool Suspension hook
Flange for angle head **	18 V/2.0 Ah ***  possible	R/L	1.4 (including battery)	Light blue colour 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)	Speed (no-load)
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

Bit holder	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Included accessories
Flange for angle head*	18 V/2.0 Ah **  possible	R/L	1.7 (including battery)	Light green colour ring Torque adjustment tool Suspension hook
Flange for angle head*	18 V/2.0 Ah **  possible	R/L	1.7 (including battery)	Light blue colour ring Torque adjustment tool Suspension hook
Flange for angle head*	18 V/2.0 Ah **  possible	R/L	1.7 (including battery)	Light green colour ring Torque adjustment tool Suspension hook
3/8" square	18 V/2.0 Ah **  possible	R/L	1.7 (including battery)	Light green colour ring Torque adjustment tool Suspension hook Angle screwdriving head 3/8"
Flange for angle head*	18 V/4.0 Ah **  possible	R/L	2.2 (including battery)	White colour ring Torque adjustment tool Suspension hook
Flange for angle head*	18 V/4.0 Ah **  possible	R/L	2.2 (including battery)	Grey colour ring Torque adjustment tool Suspension hook
3/8" square	18 V/4.0 Ah **  possible	R/L	2.2 (including battery)	Grey colour ring Torque adjustment tool Suspension hook Angle screwdriving head 3/8"
3/8" square	18 V/4.0 Ah **  possible	R/L	2.4 (including battery)	Light grey colour ring Torque adjustment tool Suspension hook Angle screwdriving head 3/8"
3/8" square	18 V/4.0 Ah **  possible	R/L	2.4 (including battery)	Orange colour ring Torque adjustment tool Suspension hook Angle screwdriving head 3/8"
3/8" square	18 V/4.0 Ah **  possible	R/L	2.4 (including battery)	Red colour ring Torque adjustment tool Suspension hook Angle screwdriving head 3/8"
3/8" square	18 V/4.0 Ah **  possible	R/L	2.4 (including battery)	Black colour ring Torque adjustment tool Suspension hook Angle screwdriving head 3/8"

* Angle head not included in scope of delivery

** Battery not included in scope of delivery

3

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 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.

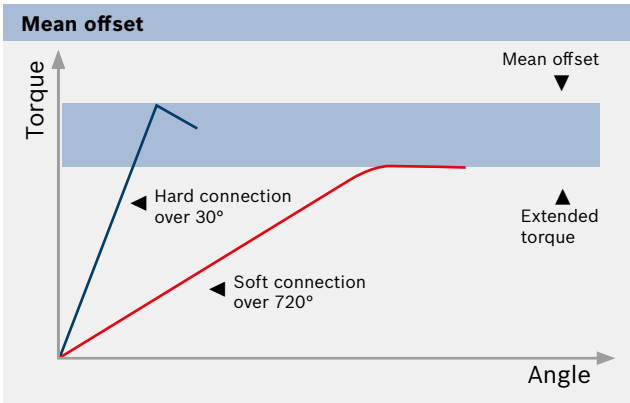


The Bosch shut-off clutch proven in industry

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. Colour 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.



Capability study of the
ANGLE EXACT 15









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

* according to Bosch endurance tests

EXACT

Cordless centre 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
- Colour marking rings for easy identification
- Protective cap for quick-release chuck
- Tool holder available
- Suspension hook available

	Part number	Torque, hard as per ISO 5393 (Nm)	Torque, soft as per ISO 5393 (Nm)
EXACT 2 Very precise in the lower torque range 	0 602 490433	0.6 – 2	0.6 – 2
EXACT 4 High speed for short cycle times 	0 602 490 437	1 – 4	1 – 4
EXACT 6 Combination of speed and torque 	0 602 490 431	1 – 6	1 – 6
EXACT 7 Slow screwdriver e.g. for hose clamps 	0 602 490 439	1.5 – 7	1.5 – 7
EXACT 8 Performance and speed 	0 602 490 443	1.5 – 8	1.5 – 8
EXACT 9 High torque and low weight 	0 602 490 435	1.5 – 9	1.5 – 9
EXACT 12 Highest torques 	0 602 490 441	1.5 – 12	1.5 – 12
EXACT 60 Extremely low speeds of 60 rpm 	0 602 490 469	1.5 – 5.5	1.5 – 5.5
EXACT 700 High speed and high torque 	0 602 490 447	1.5 – 8	1.5 – 8
EXACT 1100 Highest speed 	0 602 490 471	1 – 4	1 – 4







No-load speed (rpm)	Bit holder	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Features and functions	Included accessories
600	1/4"	9.6 V *	R/L	0.8	0.7 s repeat protection	Torque adjustment tool Light green colour ring
900	1/4"	9.6 V *	R/L	0.8	0.7 s repeat protection	Torque adjustment tool Grey colour ring
600	1/4"	9.6 V *	R/L	0.8	0.7 s repeat protection	Torque adjustment tool Black colour ring
150	1/4"	9.6 V *	R/L	0.8	0.7 s repeat protection	Torque adjustment tool White colour ring
650	1/4"	12 V *	R/L	0.9	0.7 s repeat protection	Torque adjustment tool Orange colour ring
350	1/4"	9.6 V *	R/L	0.8	0.7 s repeat protection	Torque adjustment tool Light blue colour ring
400	1/4"	12 V *	R/L	0.9	0.7 s repeat protection	Torque adjustment tool Red colour ring
60	1/4"	9.6 V *	R/L	0.8	0.7 s repeat protection	Torque adjustment tool White colour ring
700	1/4"	12 V *	R/L	0.9	0.7 s repeat protection	Torque adjustment tool Orange colour ring
1,100	1/4"	9.6 V *	R/L	0.8	0.7 s repeat protection	Torque adjustment tool Grey colour 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 centre grip
- Visual and audible signals for the shut-off signal as with centre 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
- Colour marking rings for easy identification
- Protective caps available for angle heads
- Use of the same batteries/chargers as for models with centre grip
- All models with suspension hook
- Tool weight with angle head and battery is 1.6 kg

<div>ANGLE EXACT!</div>	Part number	Torque, hard as per ISO 5393 (Nm)	Torque, soft as per ISO 5393 (Nm)
<div>ANGLE EXACT 2</div> <div>Low torques and low speed: suitable for titanium screws</div> <div></div>	0 602 490 647	0.7 – 2	0.7 – 2
<div>ANGLE EXACT 3</div> <div>Very precise in the lower torque range</div> <div></div>	0 602 490 656	0.7 – 3	0.7 – 3
<div>ANGLE EXACT 6</div> <div>High speed</div> <div></div>	0 602 490 652	1.5 – 6	1.5 – 6
<div>ANGLE EXACT 7</div> <div>Very low speed: suitable for titanium screws</div> <div></div>	0 602 490 669	2 – 7	2 – 7
<div>ANGLE EXACT 8</div> <div>Combination of speed and torque</div> <div></div>	0 602 490 651	2 – 9	2 – 8
<div>ANGLE EXACT 15</div> <div>High torque and very low weight</div> <div></div>	0 602 490 635	2 – 15	2 – 15
	0 602 490 650	2 – 15	2 – 15





No-load speed (rpm)	Angle head	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Features and functions	Included accessories
110	–	9.6 V *	R/L	1.0	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Light green colour ring
420	–	9.6 V *	R/L	1.0	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Light green colour ring
650	–	9.6 V *	R/L	1.0	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Black colour ring
110	–	9.6 V *	R/L	1.0	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Orange colour ring
420	–	9.6 V *	R/L	1.0	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Orange colour ring
250	3/8" square	9.6 V *	R/L	1.2	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Red colour ring
250	–	9.6 V *	R/L	1.0		

* 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

	Part number	Torque, hard as per ISO 5393 (Nm)	Torque, soft as per ISO 5393 (Nm)
ANGLE EXACT 17 High speed 	0 602 490 675	6 – 17	6 – 13
ANGLE EXACT 23 Good combination of torque and speed 	0 602 490 673	7 – 23	7 – 20
ANGLE EXACT 30 High torque 	0 602 490 671	8 – 30	8 – 28

No-load speed (rpm)	Angle head	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Features and functions	Included accessories
560	Flange for angle head (angle head not included)	14.4 V *	R/L	1.5	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook White colour ring
320	Flange for angle head (angle head not included)	14.4 V *	R/L	1.5	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Orange colour ring
220	requires HD angle head	14.4 V *	R/L	1.5	0.7 s repeat protection	Torque adjustment tool Open-ended spanner Suspension hook Red colour ring

* Battery not included in scope of delivery

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.

	Part number	Torque, hard as per ISO 5393 (Nm)	Torque, soft as per ISO 5393 (Nm)
ANGLE EXACT 14 CF Low weight and the highest performance 	0 602 490 690	1.4 – 10 (without head)	1.4 – 10 (without head)
ANGLE EXACT 22 CF Good combination of torque and speed 	0 602 490 693	5 – 16 (without head)	5 – 14.3 (without head)
ANGLE EXACT 29 CF High torque 	0 602 490 691	5.7 – 21 (without head)	5.7 – 20 (without head)

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

* Battery not included in scope of delivery

4

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 cost-effective. 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.

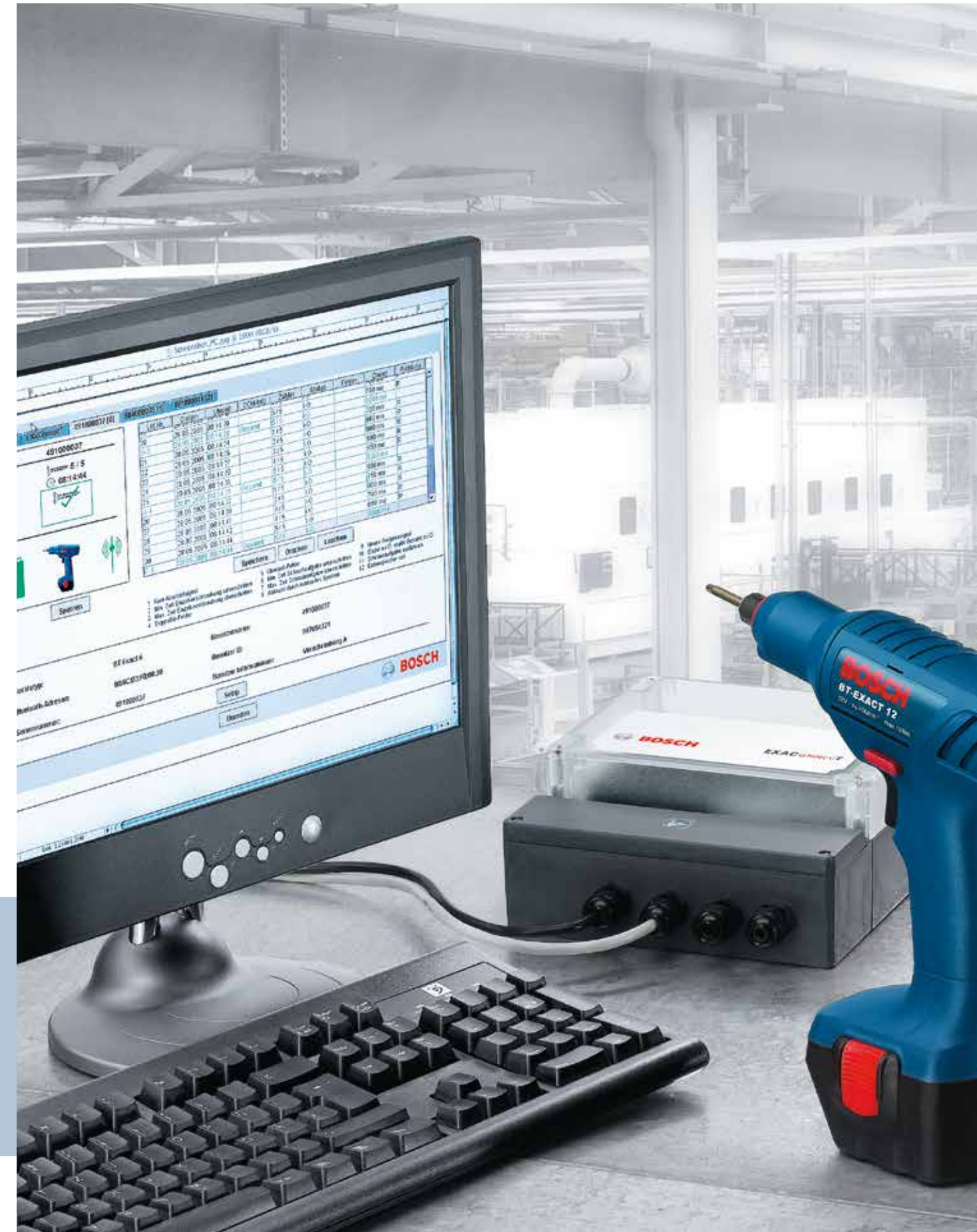
The system is unique compared to other products; it does not require additional software to communicate with a network or computer. All information in the

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

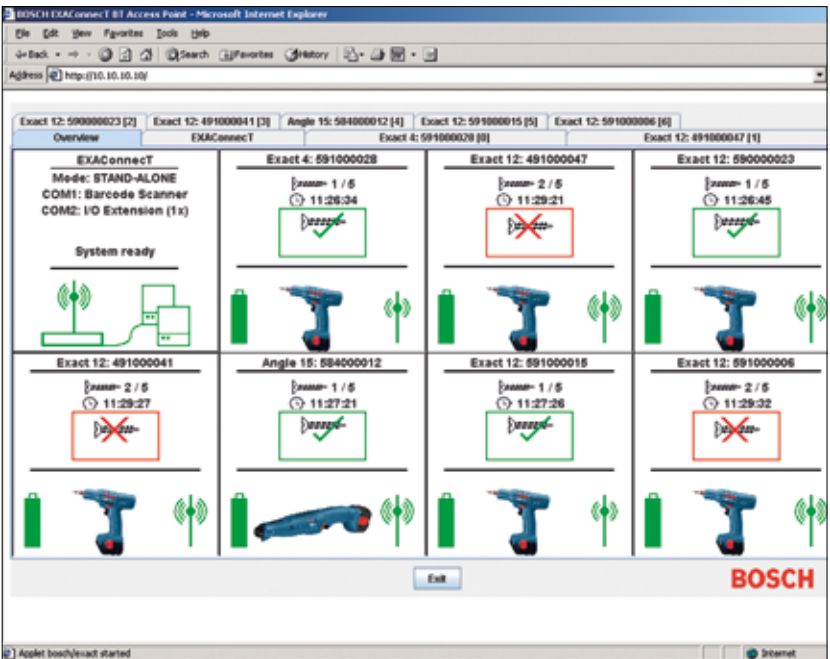
Quality control should be easy, not complicated. Our software combines powerful control, great flexibility and easy-to-use programming to give you the capability to control the BT-EXACT screwdrivers, the EXAConnect controller and your assembly line from anywhere.

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.

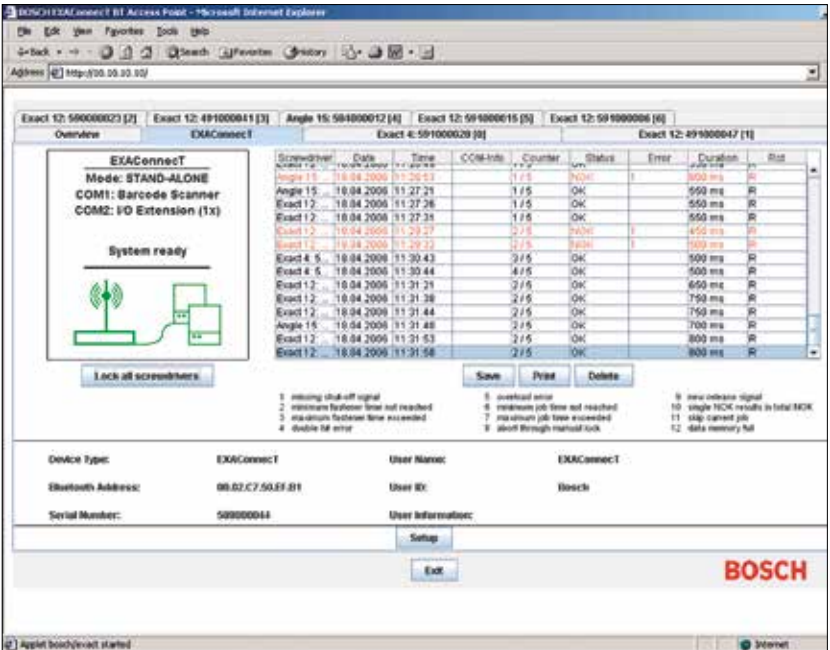
Each BT-EXACT screwdriver displays antenna signal strength, battery status, work progress and joint condition (OK/NOK shown in green or red).

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).

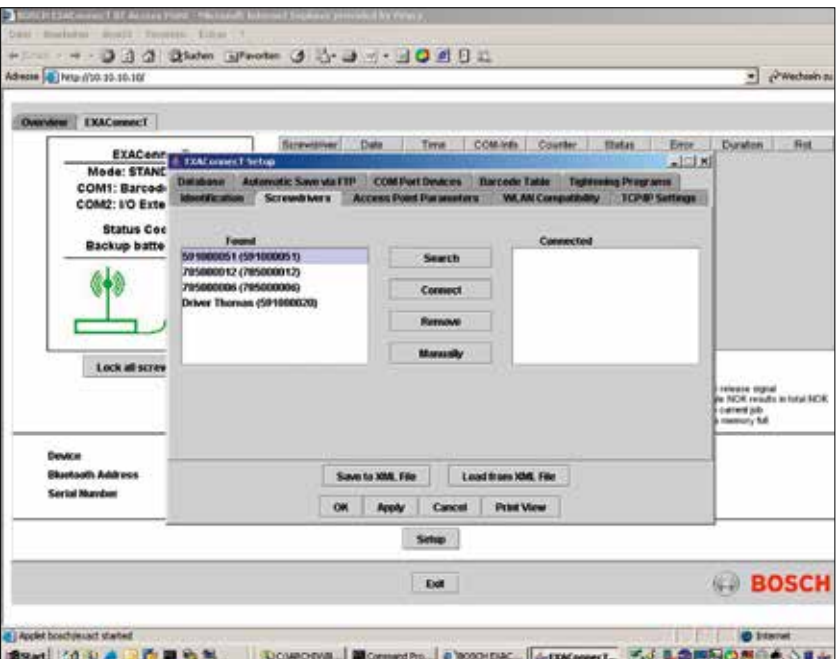
The system also displays the status of the EXAConnect controller and lists the BT-EXACT screwdrivers that are connected. System error messages are displayed here, along with detailed information about the configuration.



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 differ-

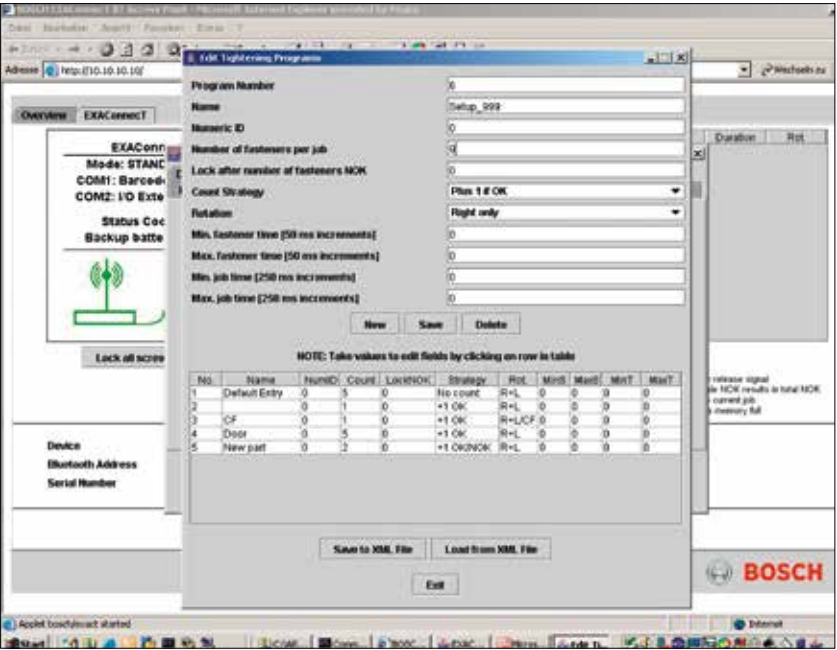
ent outputs simultaneously. Each BT-EXACT screwdriver can accept data from a variety of inputs. All this capability is managed by only one setup screen for each BT-EXACT screwdriver.



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.



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 cross-threading 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 Bluetooth-connected BT-EXACT cordless screwdriver. Information about the screwdriving process can be exchanged bi-directionally 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 centre 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
- Colour marking rings for easy identification
- Protective cap for quick-release chuck
- Tool holder
- Suspension hook available
- All models require the EXAConnect wireless controller

	Part number	Torque, hard as per ISO 5393 (Nm)	Torque, soft as per ISO 5393 (Nm)
BT-EXACT 2 Bluetooth-capable 	0 602 491 433	0.6 – 2	0.6 – 2
BT-EXACT 4 Bluetooth-capable 	0 602 491 437	1 – 4	1 – 4
BT-EXACT 6 Bluetooth-capable 	0 602 491 431	1 – 6	1 – 6
BT-EXACT 7 Bluetooth-capable 	0 602 491 439	1.5 – 7	1.5 – 7
BT-EXACT 8 Bluetooth-capable 	0 602 491 443	1.5 – 8	1.5 – 8
BT-EXACT 9 Bluetooth-capable 	0 602 491 435	1.5 – 9	1.5 – 9
BT-EXACT 12 Bluetooth-capable 	0 602 491 441	1.5 – 12	1.5 – 12











No-load speed (rpm)	Bit holder	Battery specifications (V)	Direction of rotation	Weight as per EPTA (kg)	Features and functions	Included accessories
600	1/4"	9.6 V *	R/L	0.8	Class 2 Bluetooth module	Torque adjustment tool Light green colour ring
900	1/4"	9.6 V *	R/L	0.8	Class 2 Bluetooth module	Torque adjustment tool Grey colour ring
600	1/4"	9.6 V *	R/L	0.8	Class 2 Bluetooth module	Torque adjustment tool Black colour ring
150	1/4"	9.6 V *	R/L	0.8	Class 2 Bluetooth module	Torque adjustment tool White colour ring
650	1/4"	12 V *	R/L	0.9	Class 2 Bluetooth module	Torque adjustment tool Orange colour ring
350	1/4"	9.6 V *	R/L	0.8	Class 2 Bluetooth module	Torque adjustment tool Light blue colour ring
400	1/4"	12 V *	R/L	0.9	Class 2 Bluetooth module	Torque adjustment tool Red colour 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
- ▶ Colour 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 centre grip
- ▶ Suspension hook available
- ▶ All Bluetooth models require the EXAConnect wireless controller
- ▶ Tool weight with angle head and battery is 1.6 kg (BT-ANGLE EXACT 17, 23, 30: 2.6 kg)

	Part number	Torque, hard as per ISO 5393 (Nm)	Torque, soft as per ISO 5393 (Nm)
BT-ANGLE EXACT 2 Bluetooth-capable 	0 602 491 647	0.7 – 2	0.7 – 2
BT-ANGLE EXACT 3 Bluetooth-capable 	0 602 491 656	0.7 – 3	0.7 – 3
BT-ANGLE EXACT 6 Bluetooth-capable 	0 602 491 652	1.5 – 6	1.5 – 6
BT-ANGLE EXACT 7 Bluetooth-capable 	0 602 491 669	2 – 7	2 – 7
BT-ANGLE EXACT 8 Bluetooth-capable 	0 602 491 651	2 – 9	2 – 8
BT-ANGLE EXACT 15 Bluetooth-capable 	0 602 491 650	2 – 15	2 – 15
BT-ANGLE EXACT 17 Bluetooth-capable 	0 602 491 675	6 – 17	6 – 13
BT-ANGLE EXACT 23 Bluetooth-capable 	0 602 491 673	7 – 23	7 – 20
BT-ANGLE EXACT 30 Bluetooth-capable 	0 602 491 671	8 – 30	8 – 28

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	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Light green colour ring
420	Flange for angle head *	9.6 V **	R/L	1.0	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Light green colour ring
650	Flange for angle head *	9.6 V **	R/L	1.0	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Black colour ring
110	Flange for angle head *	9.6 V **	R/L	1.0	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Orange colour ring
420	Flange for angle head *	9.6 V **	R/L	1.0	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Orange colour ring
250	Flange for angle head *	9.6 V **	R/L	1.0	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Red colour ring
560	Flange for angle head *	14.4 V **	R/L	1.5	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook White colour ring
320	Flange for angle head *	14.4 V **	R/L	1.5	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Orange colour ring
220	Requires HD angle head Flange for HD angle head (HD angle head not included)	14.4 V **	R/L	1.5	Class 2 Bluetooth module	Torque adjustment tool Open-ended spanner Suspension hook Red colour ring

* Angle head not included in scope of delivery

** Battery not included in scope of delivery

5

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



Always
power ready



Bosch CoolPack for
up to 100% more
lifetime



100% compatibility
within the 18 volt range

Wireless Charging System

**Greater user-friendliness
and productivity:**

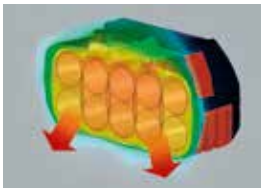
- ▶ Batteries can stay in the tool
- ▶ Charging takes place automatically when the tool is placed on the charger, so it requires no effort
- ▶ Flexible mounting frame on the charger allows for a wide range of ergonomic positions – easy to mount at the workplace



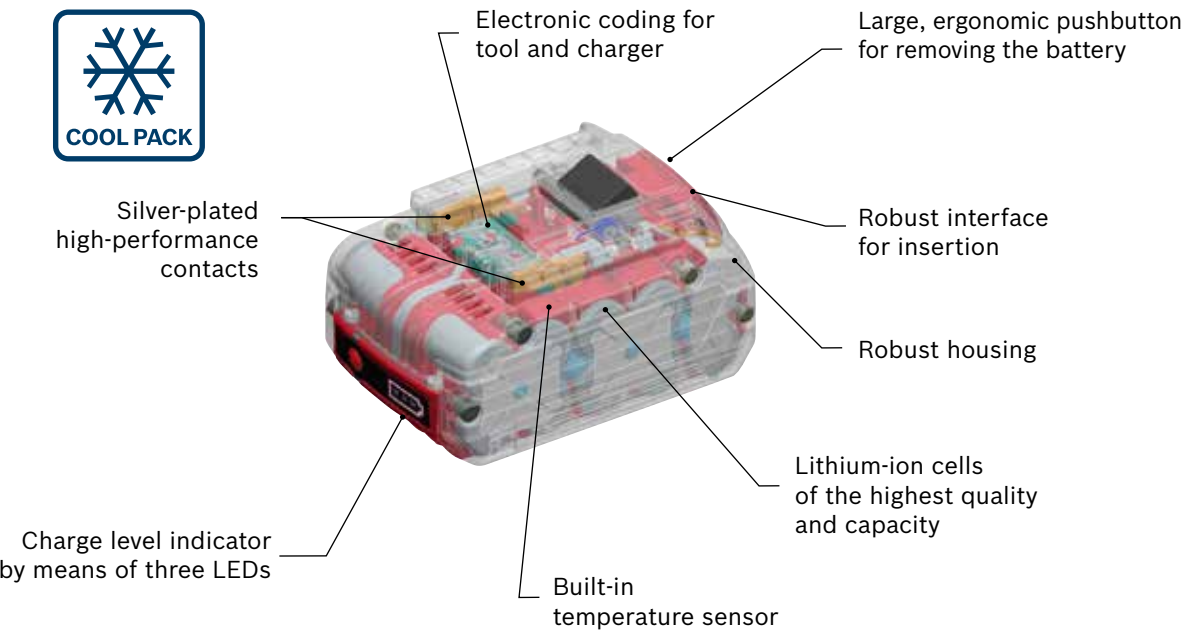
Bosch cordless technology

Maximum efficiency hard-wired

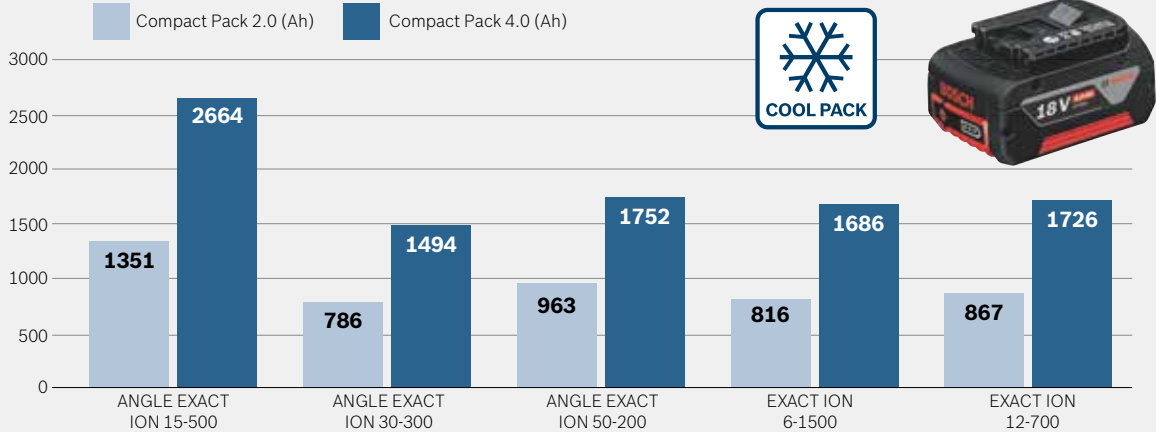
Exceptional runtime and lifetime thanks to CoolPack



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



Number of screwdriving applications per battery charge



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

Battery packs and chargers




for EXACT, SEC-EXACT and BT-EXACT


Wireless Charging battery packs and chargers




Lithium-ion	Part number	Description	Voltage (V)	Capacity (Ah)	Weight as per EPTA (kg)
GBA 18 V 2,0 Ah MW-B Professional 	0 602 494 021	Pack of 5 batteries	18	2.0	5 x 0.5
GBA 18 V 4,0 Ah MW-B Professional 	0 602 494 027	Pack of 5 batteries	18	4.0	5 x 0.8


Wireless Charging quick charger	Part number	Description	Voltage (V)	Weight as per EPTA (kg)
GAL 1830 W + mounting frame 100% fully charges the Wireless Charging battery 18 V/2.0 Ah in 30 mins! 	0 602 494 023 0 602 494 024 (UK Plug)	Pack of 5 chargers	230	5 x 0.55

Li-ion battery packs and chargers

Lithium-ion	Part number	Description	Voltage (V)	Capacity (Ah)	Weight as per EPTA (kg)
18 V/2.0 Ah 	0 602 494 002	Pack of 12 batteries	18	2.0	12 x 0.35
18 V/4.0 Ah 	0 602 494 004	Pack of 12 batteries	18	4.0	12 x 0.6
18 V/5.0 Ah 	0 602 494 003	Pack of 12 batteries	18	5.0	12 x 0.6










Li-Ion quick charger	Part number	Description	Voltage (V)	Weight as per EPTA (kg)
AL 1860 CV 100% fully charges the Bosch Li-Ion 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! 	0 602 494 005 0 602 494 006 (UK Plug)	Pack of 8 chargers	230	8 x 0.8

Nickel metal hydride	Part number	Description	Voltage (V)	Capacity (Ah)	Weight as per EPTA (kg)
9.6 V batteries 	2607335681	Battery pack	9.6	2.6	0.55
	0602490025	Pack of 10 batteries	9.6	2.6	5.5
12 V batteries 	2607335683	Battery pack	12	2.6	0.7
	0602490026	Pack of 10 batteries	12	2.6	7
14.4 V batteries 	2607335685	Battery pack	14.4	2.6	0.8
	0602490027	Pack of 10 batteries	14.4	2.6	8

Quick charger	Part number	Voltage (V)	Weight as per EPTA (kg)
AL 2450 DV Multivolt charger. Charges all Bosch NTC battery packs from 7.2 to 14.4 volts with APT insertion end. 	2 607 225 027 2 607 225 029 (UK Plug)	230	1.0

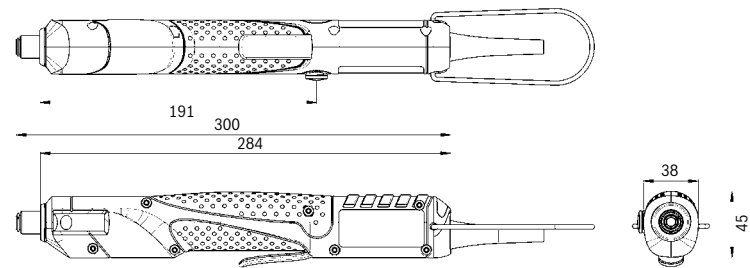
C-EXACT and PUC-EXACT

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
Colour rings For quick identification of the torque range Suitable for all C-EXACT straight screwdrivers and all EXACT cordless screwdrivers with centre grip	 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
	 mixed (1 of each: black, red, blue, green, orange)	3 600 106 015	5

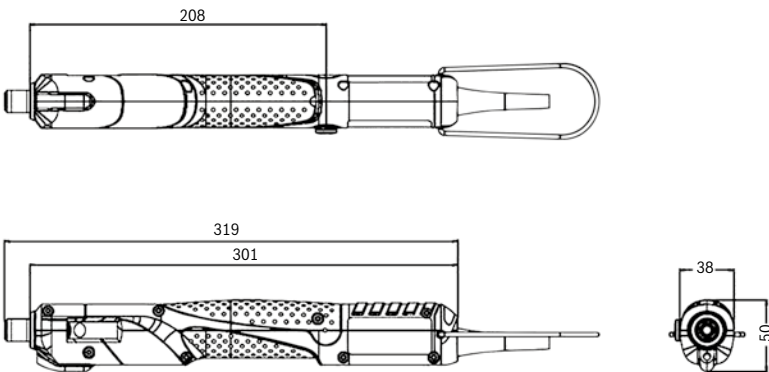
C-EXACT lever start

Dimensions in mm



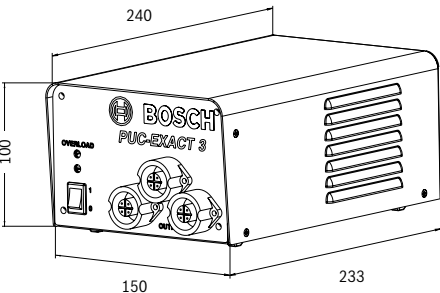
C-EXACT push start

Dimensions in mm

















PUC-EXACT 3

Dimensions in mm



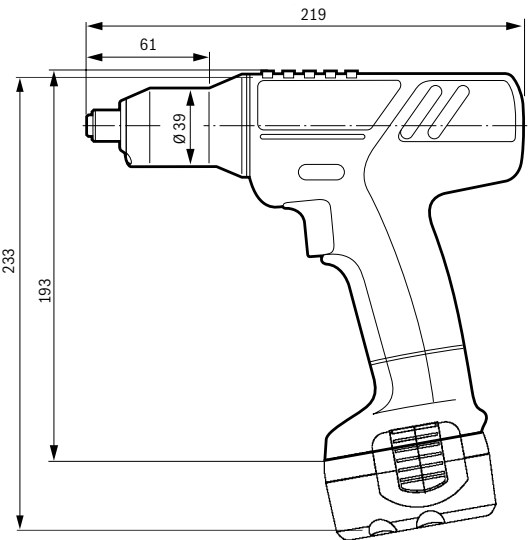
EXACT

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
Colour rings For quick identification of the torque range Suitable for all C-EXACT straight screwdrivers and all EXACT cordless screwdrivers with centre grip	 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
	 mixed (1 of each: black, red, blue, green, orange)	3 600 106 015	5
Tool holder (for all tools with centre grip)		0 602 490 001	10
Protectors Prevent damage to the workpiece Suitable for all EXACT cordless screwdrivers with centre grip Will not block motor air vents Available only as a pack of 10	 transparent	0 602 490 011	10
	 red	0 602 490 012	10
	 blue	0 602 490 013	10
	 green	0 602 490 014	10

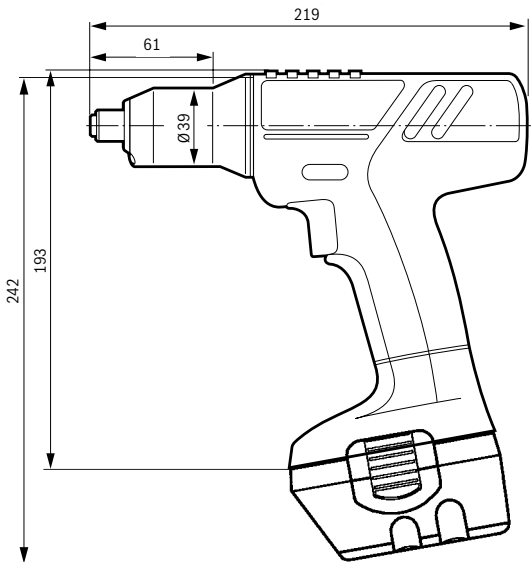
All 9.6 volt EXACT, BT-EXACT models

Dimensions in mm














All 12 volt EXACT and BT-EXACT models








Dimensions in mm



ANGLE EXACT and ANGLE EXACT CF

Accessories

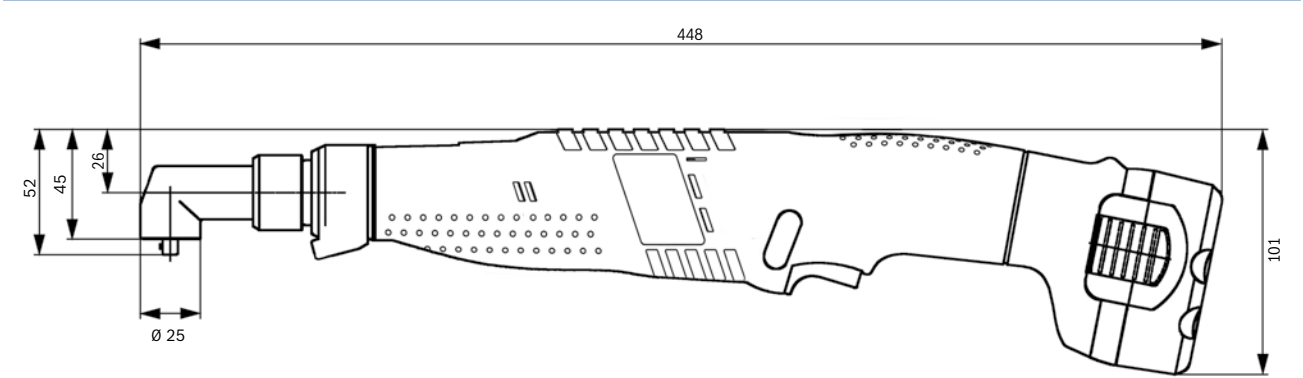
Accessories			Part number	Quantity
Colour rings For quick identification of the torque range Suitable for all ANGLE EXACT tools		black	3 600 106 027	5
		red	3 600 106 028	5
		light blue	3 600 106 029	5
		light green	3 600 106 030	5
		orange	3 600 106 031	5
		grey	3 600 106 032	5
		white	3 600 106 033	5
Protectors Prevent damage to the workpiece Suitable for all ANGLE EXACT 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
		red	0 602 490 016	10

		Part number	Max. torque (Nm)	Drive end	Weight (kg)	Quantity
Straight head 		0 607 453 631	6	1/4" QRC	0.2	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	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
HD angle head Required for ANGLE EXACT 30 (gear ratio 1.4:1) 		0 607 453 630	27	1/4" QRC	0.2	1
		0 607 451 618	35	3/8" square	0.22	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 workpiece Suitable for SEC-ANGLE EXACT 25-250, 30-380, 40-280, 50-210, 60-170		3 609 202 A29	-	-	-	1

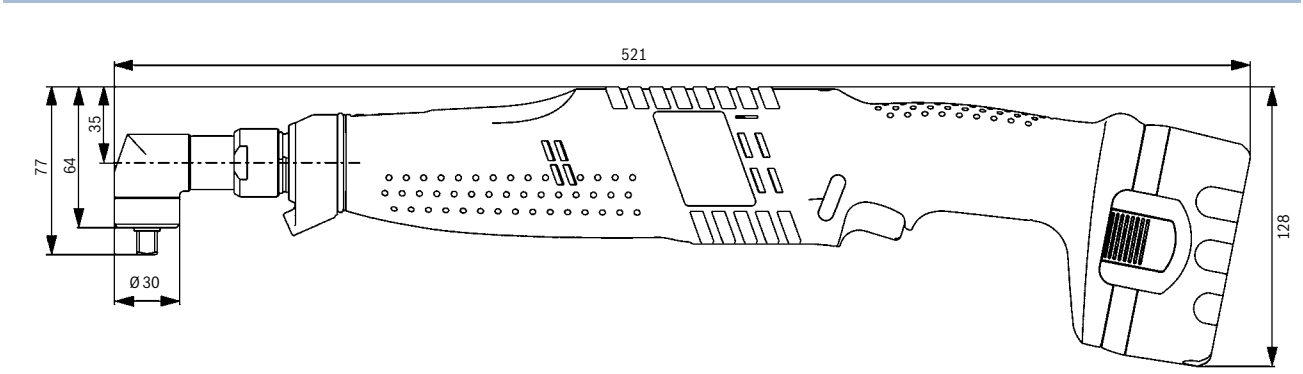
ANGLE EXACT, - CF and BT-ANGLE EXACT

Dimensional drawings

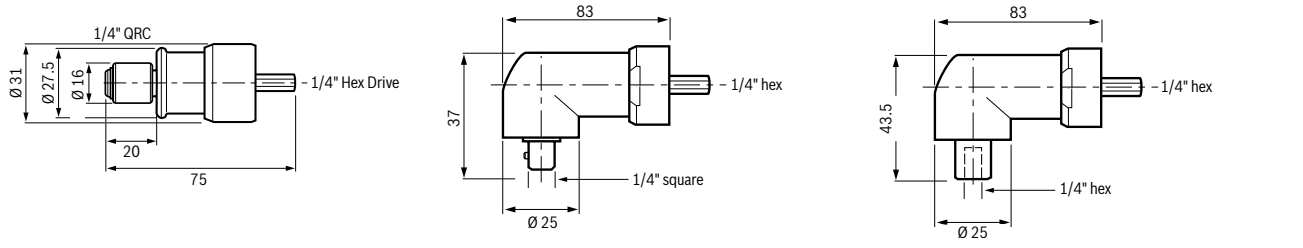
ANGLE EXACT models 2, 3, 6, 7, 8, 15, 14 CF
Dimensions in mm



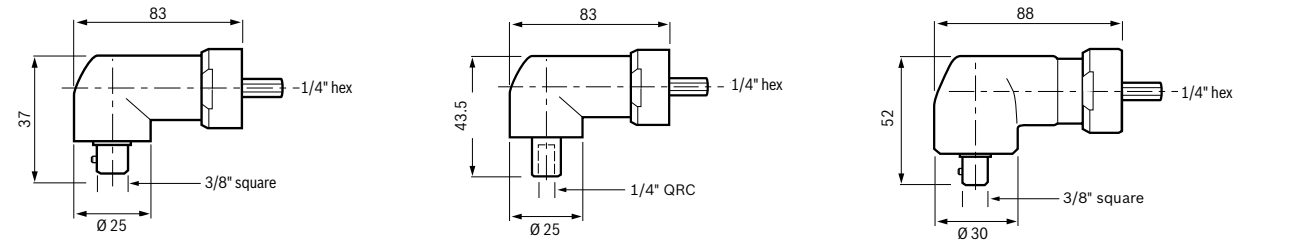
ANGLE EXACT models 17, 23, 30, 22 CF, 29 CF
Dimensions in mm



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



EXACT ION and ANGLE EXACT ION

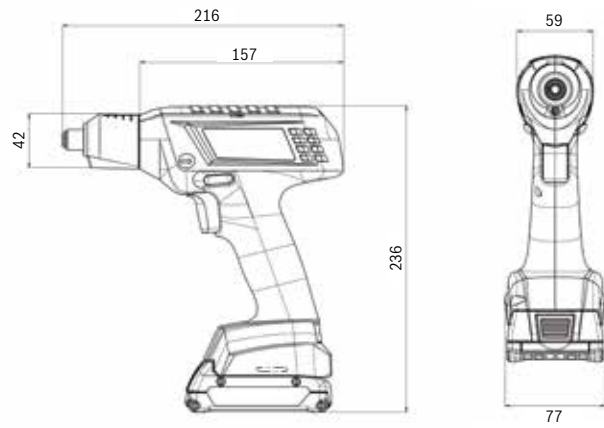
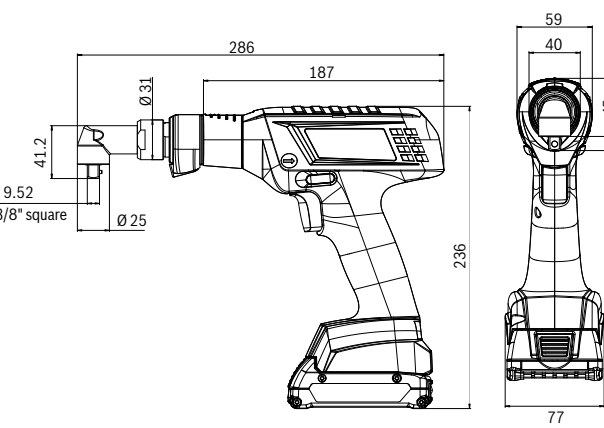
Accessories

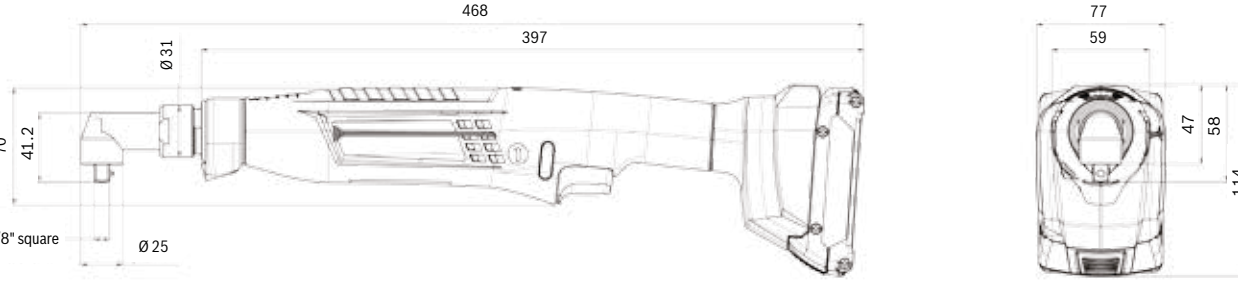
EXACT ION accessories			Part number	Quantity
Colour rings For quick identification of the torque range Suitable for all EXACT ION centre grip screwdrivers		black	3 600 106 010	5
		red	3 600 106 011	5
		light blue	3 600 106 012	5
		light green	3 600 106 013	5
		orange	3 600 106 014	5
		grey	3 600 106 017	5
		white	3 600 106 019	5
Protectors Prevent damage to the workpiece Suitable for all EXACT ION centre grip screwdrivers 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
		yellow	0 602 494 032	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

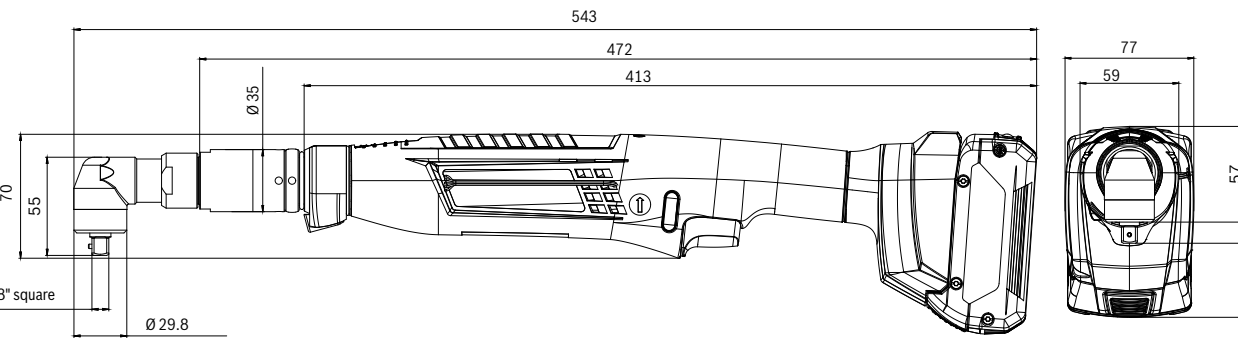
ANGLE EXACT ION accessories			Part number	Quantity
Colour rings For quick identification of the torque range Suitable for all ANGLE EXACT ION centre grip screwdrivers		black	3 600 106 027	5
		red	3 600 106 028	5
		light blue	3 600 106 029	5
		light green	3 600 106 030	5
		orange	3 600 106 031	5
		grey	3 600 106 032	5
		white	3 600 106 033	5
Protectors Prevent damage to the workpiece Suitable for all ANGLE EXACT ION centre 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
		blue	0 602 494 011	10
		yellow	0 602 494 033	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

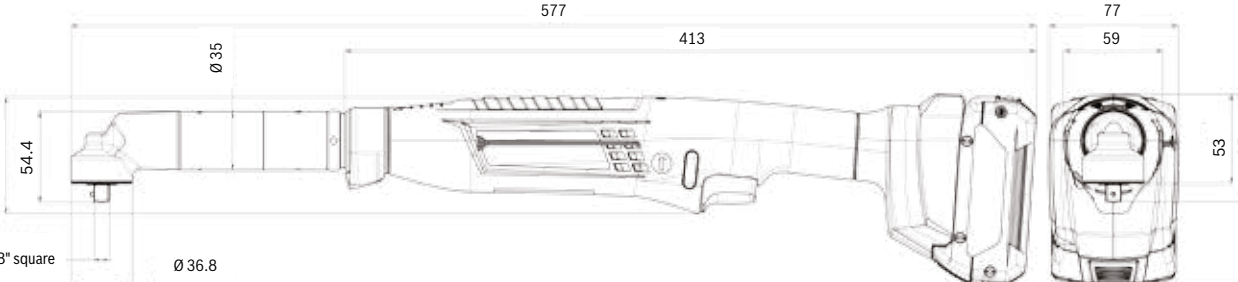
EXACT ION, -WK and ANGLE EXACT ION

Accessories and dimensional drawings

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, 50-210 and 60-120		Dimensions in mm
		

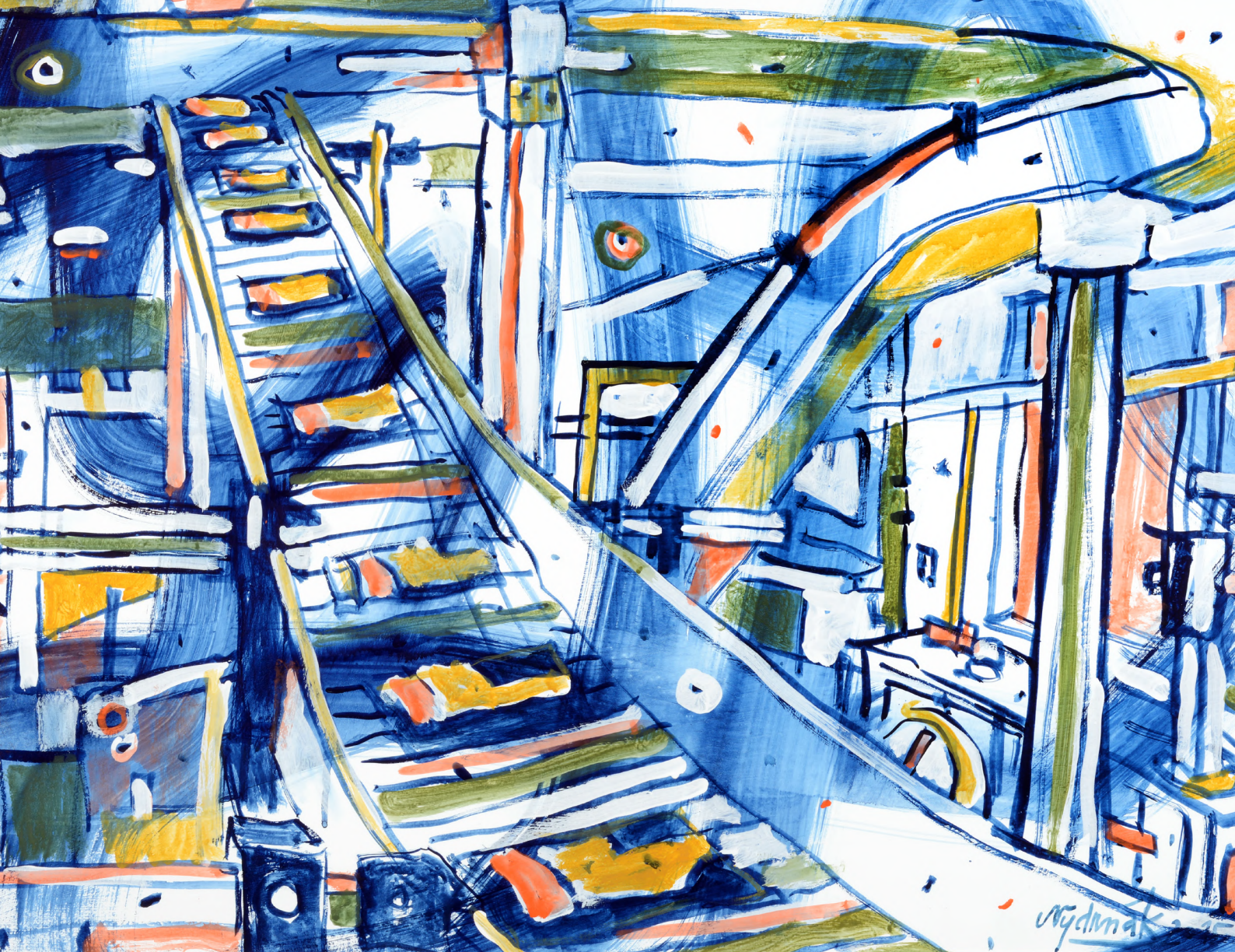
PRÍĎTE SA K NÁM POZRIEŤ

**Ozvite sa nám a prídeme spolu
na to, ako uľahčiť vašim ľuďom
aj tú najnáročnejšiu prácu.**



Marek Bučka
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pre skrutkovacie systémy

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